MICROFILMED
MAY 25 1970
REPRODUCTION

MICROFILMED
NOV 5 1979
REPRODUCTION

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

1 / 383

SUMMIT COUNTY
SUM-277-0.46

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

SUM-277-0.46

CITY OF AKRON
COVENTRY TOWNSHIP
SUMMIT COUNTY

1965 SPECIFICATIONS
I-277-6-(1)124

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

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

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

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

APPROVED Robert E. Talley
DATE 4-9-65 DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON

APPROVED Clifton M. Stanfield
DATE 4-8-65 DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE _____ ENGINEER OF BRIDGES

APPROVED R.D. Ricketts
DATE 8-17-66 ENGINEER OF LOCATION AND DESIGN

APPROVED R.E. Shultz
DATE 8-17-66 DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED T.N. Boland
DATE 8-24-66 DEPUTY DIRECTOR OF RIGHT OF WAY

APPROVED S.W. Wilson
DATE 8-24-66 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

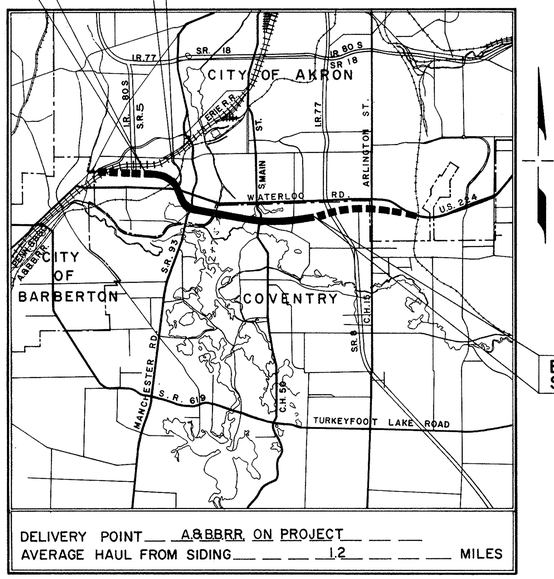
APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED P.E. Manahan
DATE 8-24-66 DIRECTOR OF HIGHWAYS

BEGIN WORK
STA. 79+00 E.B.L.

BEGIN PROJECT
STA. 115+75

Sheets 15, 16, 17, 21, 22, 23
23A, 23B, 23C, 150 and 251
revised 10-25-66 C.E.H.
Sheet No. 316A added 3-10-67 E.B.L.



END PROJECT
STA. 228+68.84

DELIVERY POINT A&BBRR ON PROJECT
AVERAGE HAUL FROM SIDING 1.2 MILES

LOCATION MAP
0 2
SCALE OF MILES

OTHER EXPRESSWAYS
STATE & MAJOR ROADS
OTHER ROADS

PLAN 1" = 50'
PROFILE HORIZONTAL 1" = 50'
PROFILE VERTICAL 1" = 5'
CROSS SECTIONS: HORIZONTAL & VERTICAL 1" = 10'

DESIGN DESIGNATION

Current A.D.T.	(1968)	24,650
Design Year A.D.T.	(1975)	47,400
D.H.V.		5,210
D. (Directional Distribution)		55%
H. (Percent B and C Trucks)		4%
V. (Design Speed)		60 M.P.H.

CONVENTIONAL SIGNS

- Township Line
- Tract Line
- Center Line
- Corporation Line
- Fence Line
- Guard Rail (existing)
- Guard Rail (proposed)
- Railroad
- Power Poles
- Telephone Poles
- Power or Telephone Poles with guys
- Tower Line
- Trees or Stumps (existing)
- Limited Access
- Right of Way
- Limited Access & Right of Way
- Exist. Luminaire Light Standards
- Exist & Prop. Fire Hydrant

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NOTE: THERE IS NO SHEET #224, 264, 265

LINE DATA

TOTAL LENGTH OF PROJECT = 2.241 MILES 11,834.06 FT.
TOTAL LENGTH OF WORK = 4.786 MILES 25,271.99 FT.

NOTE: SEE SHT. # 11 FOR LINE DATA SUMMARY

FILE NO.	SUMMIT COUNTY SUM-277-0.46
	DATE OF LETTING _____ 196
	CONTRACT NO. _____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BD-1	G-1-65	F-1	G-1-65	CB-5	G-1-65	AR-1-57 4-2-62
BD-2	G-1-65	F-2	G-1-65	CB-6	G-1-65	BR-1-65 11-24-65
BD-3	G-1-65	F-3	G-1-65	I-2	G-1-65	CS-1-65 6-1-65
BD-4	G-1-65	FACI-1	G-1-65	I-2A	G-1-65	FSB-1-62 1-15-63
BD-5	G-1-65	FACI-2	G-1-65	MH-1	G-1-65	SD-1-63
BD-6	G-1-65	HW-1	G-1-65	MH-1A	8-1-66	Sheets 1,2,3,4 11-12-63
BD-7	1-1-66	HW-2	G-1-65	GR-1	G-1-65	SD-2-64 11-25-64
MC-1	G-1-65	HW-3	G-1-65	GR-2A	G-1-65	HL-1 11-1-65
MC-2	G-1-65	HW-E	G-1-65	GR-6	G-1-65	HL-2 11-1-65
MC-3	5-1-66	CB-2-2-A&B	G-1-65	L-1	G-1-65	HL-3 11-1-65
MC-4	G-1-65	I-8 MH No. 3	1-26-59	SP-53	G-30-61	HL-4 1-1-66
MC-5	G-1-65	CD-3	G-1-65	AS-1-54	8-10-65	
MC-7	3-1-66	CB-3A	G-1-65	I-21-23	8-1-56	

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808	2-7-66
811	3-29-65
814	9-16-66
815	8-6-65
816	8-6-65
825	4-22-65
828	3-21-66
1001	3-21-66

SEE SHEET 12 FOR LIST OF 1963 AND SUPERSEDING 1965 STANDARD CONSTRUCTION DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS.

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ARNOLD, CONSULTING ENGINEERS
AKRON OHIO CLEVELAND

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ DIVISION ENGINEER

_____ DATE

4x50

FED. RD.	STATE	PROJECT	
2	OHIO	1-277-6-(1)124	

2
383

SUMMIT COUNTY
SUM-277-0.46

MICROFILMED
MAY 23 1978
RECORDATION

BEGIN WORK
SUM-277-0.46
STA. 76+75

EXISTING & SURVEY CURVE DATA:
P.I. STA. 105+94.00
Δ = 61°15' RT.
Dc = 3°30'
R = 1637.02
Ls = 400'
Lc = 1350.00'
Ts = 1171.40'
θs = 7°00'
Es = 270.07'
L.T. = 266.88'
S.T. = 133.52'

MATCH LINE STA. 105+00

AKRON & BARBERTON BELT LINE R.R.

C.S. STA. 111+72.60

S.T. STA. 115+72.60

SUM-224-5.00
U-UG-458-(20)

SUM-0.46
TRIPOINT
STA. 115+72.00
1-277-6-(1)-124

T.S. STA. 94+22.60

S.C. STA. 98+22.60

MATCH LINE STA. 105+00

BEGIN WORK
STA. 37+61.75

TWP.

39+00.87
COVENTRY

POWER CO. SERVICE RD.

LEY DR.

EXIST. U.S. 224

WATERLOO RD.

F.A.C.I. SIGN
STA. 10+00 RT.

STA. 121+01.64 SUM-277=
STA. 13+15.84 WATERLOO RD.
BRIDGE No. SUM-277-0250

T.S. STA. 122+48.06

F.A.C.I. SIGN
STA. 11+20 LT.

END WORK
STA. 47+91

S.C. STA. 125+48.06

45°18'12"

MANCHESTER

END S-15 TEMP. PAV'T STA. 41+76

F.A.C.I. SIGN
STA. 45+40 LT.

℄ CURVE DATA:
P.I. STA. 135+23.91
Δ = 52°13'00" LT.
Dc = 2°30'
R = 2291.83'
Ls = 300'
Lc = 1788.67'
Ts = 1273.95'
θs = 3°45'
L.T. = 200.04'
S.T. = 100.04'
Es = 262.24'
L.C. = 293.94'
Xc = 292.87'
Yc = 6.54'

FRITCH AVE.

RAMP "A"

125°02'33"
TO LOCAL TAN

STA. 130+86.48 SUM-277=
STA. 41+69.20 MANCH'TR
BRIDGE No. SUM-277-0240

STA. 143+38.63

STA. 144+50.00 SUM-277
STA. 50+00 PROP. BRIDGE
STA. TEST TRENCH
P.B. SUM-277-0210

P.T. STA. 146+38.63

NESMITH LAKE BLVD.

RELOC. DRIVE

CORPORATION LINE

CANAL

45

150+06

150

60

65

MATCH LINE
STA. 170+00

CHANGE IN PARTICIPATION
STA. 43+69.47

CITY & STATE	CITY, STATE, FEDERAL

CHANGE IN PARTICIPATION
STA. 35+00.00

CITY & STATE	CITY, STATE, FEDERAL

P.T. STA. 39+61.34

RAMP "B"

CURVE DATA:
Δ = 10°43'58" LT.
Dc = 3°00'
R = 1905.86'
T = 179.40'
Lc = 357.76'
E = 8.41'

P.C. STA. 36+03.56

P.T. STA. 35+75.79

CURVE DATA:
Δ = 5°02'15"
Dc = 1°00'
R = 5729.58'
T = 252.05'
Lc = 503.75'
E = 5.54'

NOTE: FOR S-15 TEMPORARY PAVEMENT DETAILS SEE SH'T 225.

BEGIN S-15 TEMP. PAV'T STA. 32+00

P.C. STA. 30+72.04

S.R. 93

NESMITH LAKE

178°38'

STA. 29+04.50
ANGLE PT.

F.A.C.I. SIGN
STA. 23+00 RT

STA. 21+48.83
AKRON CORP LINE

CARNEGIE AVE.

AKRON CORP LINE

BEGIN WORK
STA. 21+81

BRENNEMAN ACCESS DR.

NESBITT AVE.

DELTON AVE.

RELOC.

BRENNEMAN BLVD.

CONRAD AVE.

EDWIN AVE.

CHRISTENSEN AVE.

CITY OF AKRON

OHIO

NESMITH LAKE BLVD.

STA. 153+25.00 SUM-277
STA. 50+00 ACCESS RD.

STA. 152+75.00 SUM-277=
STA. 50+00 OHIO CANAL
BRIDGE No. SUM-277-0150

TEMPORARY ROAD

END WORK
STA. 67+52.52

SCHEMATIC PLAN
SCALE: 1" = 200'

MICROFILMED
MAY 23 1973
RECORDS ADMINISTRATION

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

3
388

SUMMIT COUNTY
SUM-277-0.46

WATERLOO ROAD — EXIST. U.S. 224

CITY OF AKRON — CORPORATION LINE
COVENTRY TOWNSHIP

END WORK
G1+55

F.A.C.I. SIGN
STA. 59+50
LT.

BREWSTER RUN Nº 1

RELOC. BREWSTER RUN Nº 1

RAMP "C"

RAMP "C-1"

RAMP "C-2"

EXIST. S. MAIN ST.

℄ RELOC. S. MAIN

CEMETERY DR.

HOLY CROSS CEMETERY

CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37' 30" LT.
D_c = 1° 00'
R = 5729.58'
T = 532.78'
L_c = 1062.50'
E = 24.72'

P.C. STA. 195+34.48

P.T. STA. 205+96.98

MATCH LINE STA. 170+00

ACCESS ROAD
OHIO EDISON CO.

ACCESS RD.
FIRESTONE TIRE &
RUBBER CO.

RAMP "D-2"

RAMP "D-1"

RAMP "D-3"

RAMP "D"

STA. 189+66.35 SUM-224-
STA. 50+00.00 S. MAIN ST.
BRIDGE Nº SUM-277-0181

BEGIN WORK
0+33

SWARTZ RD.

END WORK
6+00

STA. 44+25.40 RELOC. S. MAIN
= STA. 0+00 SWARTZ RD.

BEGIN
WORK 37+11

F.A.C.I. SIGN
STA. 38+50 RT.

TUSCARAWAS RIVER

N. TURKEYFOOT LAKE RD.

END WORK
STA. 54+50

℄ TEMPORARY RUN-AROUND

AVE.

P.C. STA. 215+19.45

NAOMI ST.

GLENMOUNT

SLM 2.70

END PROJECT	BEGIN PROJECT
SUM-277-0.46	SUM-277-0.00
I-277-G-(1)-124	I-277-G-(3)-123

CURVE DATA:
P.I. STA. 223+49.46
Δ = 4°00'41" LT.
D = 0° 28'
R = 12,277.67'
T = 429.07'
L = 859.58'
E = 7.53'

STA. 51+27.16 GLENMOUNT
STA. 21+02.8 RELOC.
BREWSTER RUN BRIDGE
Nº SUM-277-0070
RELOC. BREWSTER RUN Nº 2

P.T. STA. 227+10.07

STA. 225+00 AHD.

STA. 228+69.84

HINE ST.

STA. 220+78.29 SUM-277
STA. 50+01.05 GLENMOUNT
BRIDGE Nº SUM-277-0071

BREWSTER RUN

MATCH LINE

STA. 228+00 BK. = STA. 222+50.78 AHD.
EQUATION

BEGIN WORK
STA 46+27

MATCH LINE STA. 225+00 AHD.

BREWSTER RUN

END WORK
SUM-277-0.46
STA. 220+82

SCHEMATIC PLAN
SCALE: 1" = 200'

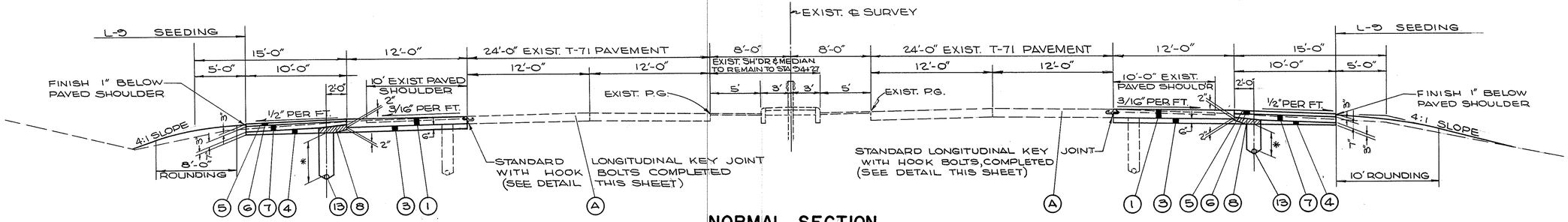
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

4 / 383

SUMMIT COUNTY
SUM-277-0.46

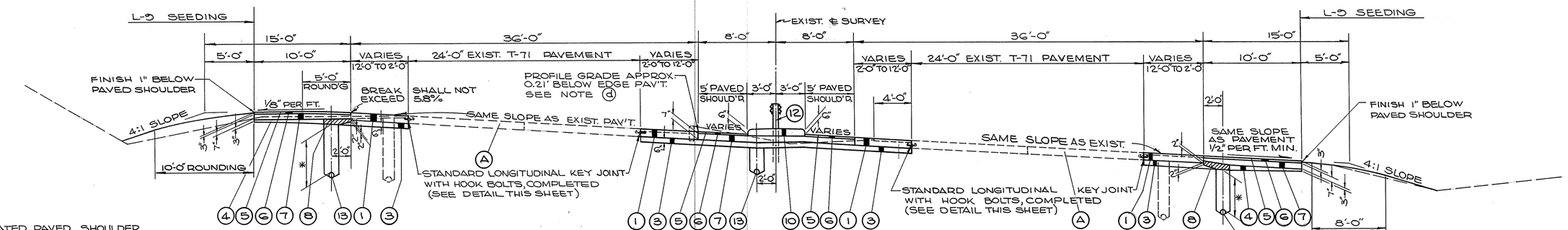
TYPICAL SECTIONS

TYPE - T-71
CODE TYPE - 7221
SCALE : 3/16 = 1' 0"



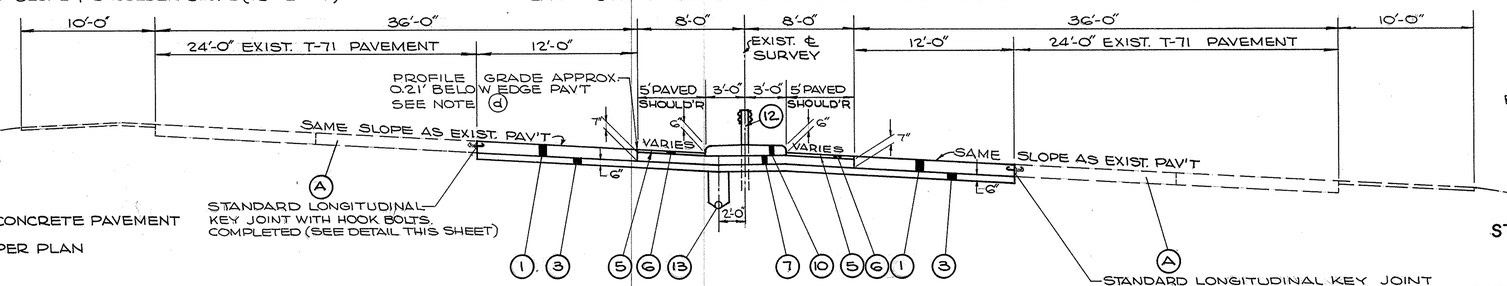
NORMAL SECTION
LIMITING STATIONS

WEST BOUND LANE - STA 86+00 TO STA.94+27
EAST BOUND LANE - STA. 79+00 TO STA.92+88.37



SUPERELEVATED TRANSITION SECTION
LIMITING STATIONS

WEST BOUND LANE ~ STA. 94+27 TO STA.100+53.61 = STA.100+46.14 ℄ SURVEY
EAST BOUND LANE ~ STA. 92+88.37 TO STA 99+39.04 = STA. 99+44.50 ℄ SURVEY



SUPERELEVATED SECTION
LIMITING STATIONS

EAST BOUND LANE - STA. 99+39.04 = STA. 99+44.50 ℄ SURVEY TO STA. 115+75
WEST BOUND LANE - STA. 100+53.61 = STA. 100+46.14 ℄ SURVEY TO STA. 115+75

(a) NOTE:
SUPERELEVATED PAVED SHOULDER
IN SUPERELEVATED SECTIONS THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE LOW SIDE AS INDICATED. AT THE HIGH SIDE THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE RATE OF 1/2" PER FT. UNTIL THE BREAK BETWEEN SHOULDER & PAVEMENT REACHES 5.8% AFTER WHICH THE SAME ANGLE SHALL BE MAINTAINED UNTIL THE SLOPE OF THE SHOULDER WOULD BE LESS THAN 1/8" PER FT. WHERE THE SLOPE WOULD BE LESS THAN 1/8" PER FT. THE PAVEMENT SLOPE & SHOULDER SLOPE (1/8" PER FT.) SHALL BE JOINED BY A GENTLE 5' ROUNDING.

(b) NOTE:
OMIT HIGH SIDE UNDERDRAIN IN EXISTING FILL SECTIONS.

(c) NOTE:
A 6" EXPOSURE SHALL BE MAINTAINED ON EACH FACE OF THE MEDIAN PAV'T BY SLOPING THE MEDIAN PAV'T WHERE NECESSARY.

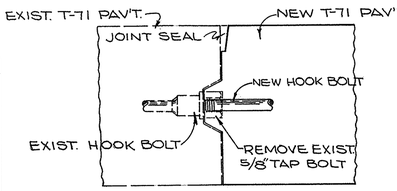
(d) NOTE:
FOR PAVEMENT ELEVATIONS, SEE SUPERELEVATION TABLES SHEET 41.

LEGEND

(1) T-71 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(3) I-22 6" SUBBASE, GRADING "A" OR "B" AS PER PLAN
(4) I-22 SUBBASE, (THICKNESS AS SHOWN)
(5) T-31 BITUMINOUS SURFACE TREATMENT USING 0.008 CU. YD. NO 6 AGGREGATE PER SQ. YD. AND 0.30 GAL BITUMINOUS MATERIAL PER SQ. YD. (SEE NOTE IN PROPOSAL)
(6) B-21 3" WATERPROOFED AGGREGATE BASE COURSE (SEE NOTE IN PROPOSAL)
(7) B-19 AGGREGATE BASE COURSE
(8) ITEM SPECIAL DRAINAGE CONNECTION, USING NO 6 AGGREGATE (SEE NOTE IN PROPOSAL)
(10) I-21 STANDARD TYPE 2 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT
(12) I-15 GUARD RAIL, STEELBEAM BARRIER TYPE (DEEP) WITH SQUARE SAWED 6"x8" WOOD POSTS
(13) I-1 6" PIPE, CLASS I-3 UNDERDRAIN
(A) EXIST. 10" T-71 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

* DENOTES 50" COVER IN CUT (DEEP); 30" COVER IN FILL (SHALLOW)
** THICKNESS SHOWN IS "DESIGNED" THICKNESS AS DESCRIBED IN SECTION B-21.01, OR T-35.01 IF USED IN LIEU OF B-21.01.

NOTE:
SEQUENCE OF OPERATIONS: (1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. INSTALLATION OF SHALLOW UNDERDRAIN IN MEDIAN MAY BE DEFERRED UNTIL T-71 IS PLACED, (2) PLACE SUBBASE OUT TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT, (3) CONSTRUCT T-71, (4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH NO 6 AGGREGATE AS SHOWN BY (8); (5) COMPLETE SHOULDER CONSTRUCTION.



DETAIL

STANDARD LONGITUDINAL KEY JOINT WITH HOOK BOLTS, COMPLETED
LOCATION

EAST BOUND LANE - SOUTH EDGE - STA. 79+00 TO STA. 99+44.5
EAST BOUND LANE - NORTH EDGE - STA. 92+88.37 TO STA 115+75
WEST BOUND LANE - NORTH EDGE - STA. 86+00 TO STA. 100+46.14
WEST BOUND LANE - SOUTH EDGE - STA. 94+22.6 TO STA. 115+75

Payment for the above shall be included in the unit price bid for (T-71) 451.

TYPICAL SECTIONS

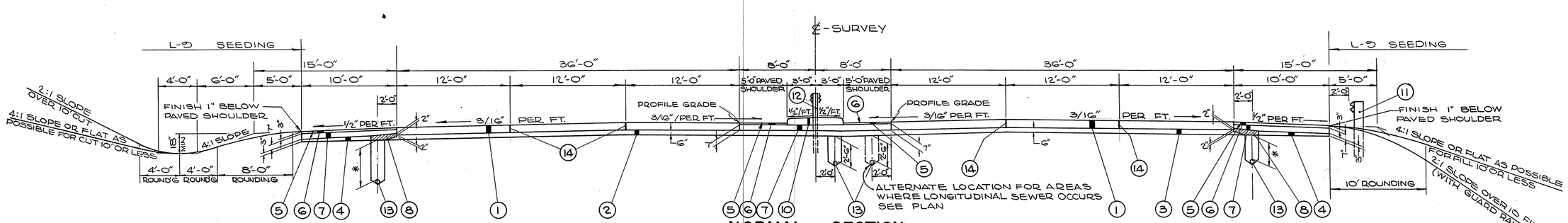
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

5 / 383

SUMMIT COUNTY
SUM – 277 – 0.46

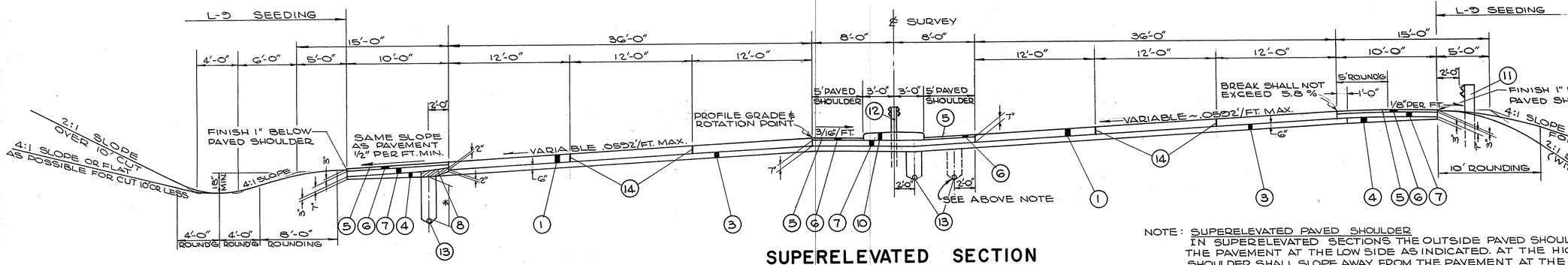
TYPE - T-71
CODE TYPE - 7221
SCALE: 3/16" = 1'0"



NORMAL SECTION

LIMITING STATIONS

STA. 117+50.00 TO STA. 119+91.47 STA. 148+00.00 TO STA. 151+78.05
STA. 153+78.05 TO STA. 193+26.48 STA. 208+04.58 TO STA. 219+94.05
STA. 221+62.50 TO STA. 228+68.86 AHEAD



SUPERELEVATED SECTION

LIMITING STATIONS

STA. 115+75.00 TO STA. 117+50.00 STA. 122+11.81 TO STA. 129+77.38
STA. 131+54.64 TO STA. 148+00.00 STA. 193+26.48 TO STA. 208+04.58

NOTE: SUPERELEVATED PAVED SHOULDER
IN SUPERELEVATED SECTIONS THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE LOW SIDE AS INDICATED. AT THE HIGH SIDE THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE RATE OF 1/2" PER FT. UNTIL THE BREAK BETWEEN SHOULDER & PAVEMENT REACHES 5.8% AFTER WHICH THE SAME ANGLE SHALL BE MAINTAINED UNTIL THE SLOPE OF THE SHOULDER WOULD BE LESS THAN 1/8" PER FT. WHERE THE SLOPE WOULD BE LESS THAN 1/8" PER FT. THE PAVEMENT SLOPE & SHOULDER SLOPE (1/8" PER FT.) SHALL BE JOINED BY A GENTLE 5' ROUNDING.

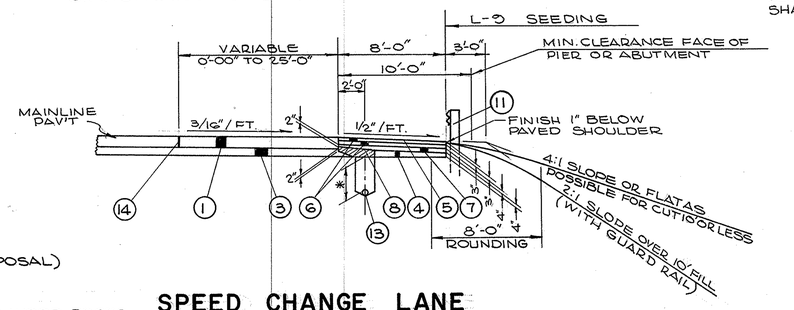
LEGEND

(1)	T-71	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(3)	I-22	6" SUBBASE, GRADING "A" OR "B" AS PER PLAN
(4)	I-22	SUBBASE, (THICKNESS AS SHOWN)
(5)	T-31	BITUMINOUS SURFACE TREATMENT USING 0.008 CU. YD. Nº 6 AGGREGATE PER SQ. YD. AND 0.30 GAL. BITUMINOUS MATERIAL PER SQ. YD. (SEE NOTE IN PROPOSAL.)
** (6)	B-21	3" WATERPROOFED AGGREGATE BASE COURSE (SEE NOTE IN PROPOSAL)
(7)	B-19	AGGREGATE BASE COURSE
(8)	ITEM	SPECIAL DRAINAGE CONNECTION, USING Nº 6 AGGREGATE (SEE NOTE IN PROPOSAL)
(10)	I-21	STANDARD TYPE 2 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT.
(11)	I-15	GUARD RAIL, STEEL BEAM STANDARD TYPE (DEEP) USING 6" X 8" SQ. SAWED WOOD POSTS.
(12)	I-15	GUARD RAIL, STEEL BEAM BARRIER TYPE (DEEP) USING 6" X 8" SQ. SAWED WOOD POSTS.
(13)	I-1	6" PIPE, CLASS I-3 UNDERDRAIN
(14)		STANDARD LONGITUDINAL JOINT

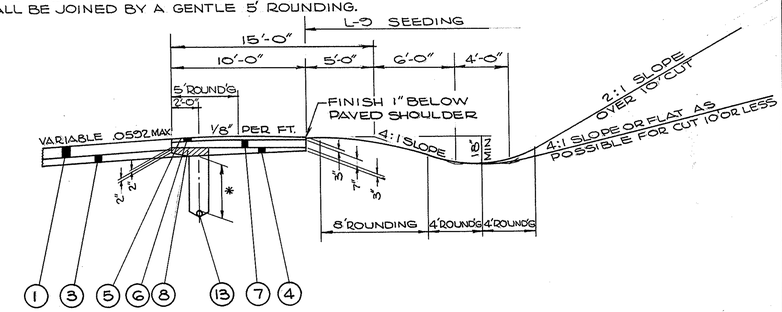
NOTE:
SEQUENCE OF OPERATIONS: (1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. INSTALLATION OF SHALLOW UNDERDRAIN IN MEDIAN MAY BE DEFERRED UNTIL T-71 IS PLACED, (2) PLACE SUBBASE OUT TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT, (3) CONSTRUCT T-71, (4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH Nº 6 AGGREGATE AS SHOWN BY (8) (5) COMPLETE SHOULDER CONSTRUCTION.

* DENOTES 50" COVER IN CUT (DEEP); 30" COVER IN FILL (SHALLOW); 12" COVER IN CUT

** THICKNESS SHOWN IS "DESIGNED" THICKNESS AS DESCRIBED IN SECTION B-21.01, OR T-35.01 IF USED IN LIEU OF B-21.01.



SPEED CHANGE LANE



HIGH SIDE CUT SECTION

TYPICAL SECTIONS

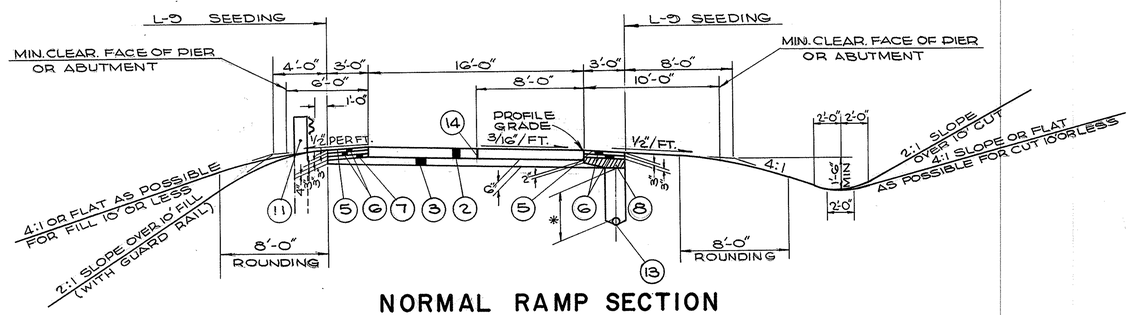
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

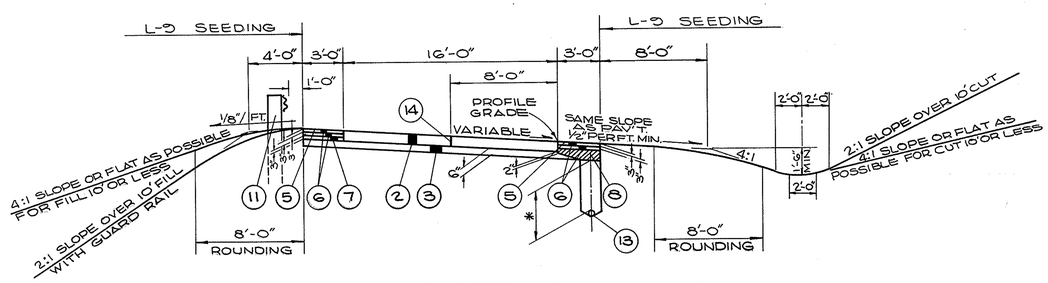
G 383

SUMMIT COUNTY
SUM-277-0.46

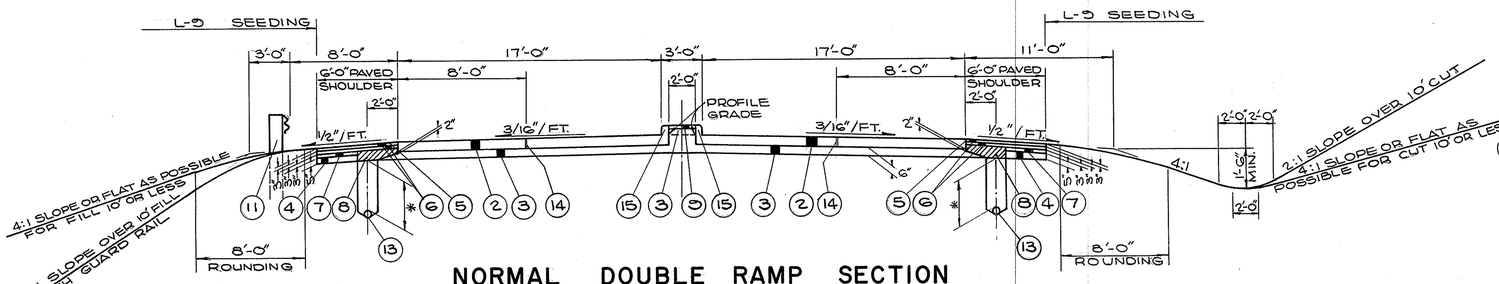
TYPE - T-71
CODE TYPE - 7221
SCALE: 3/16" = 1'0"



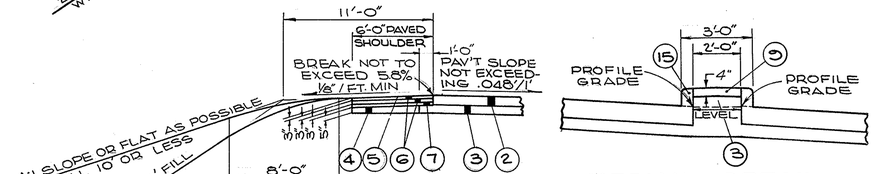
NORMAL RAMP SECTION



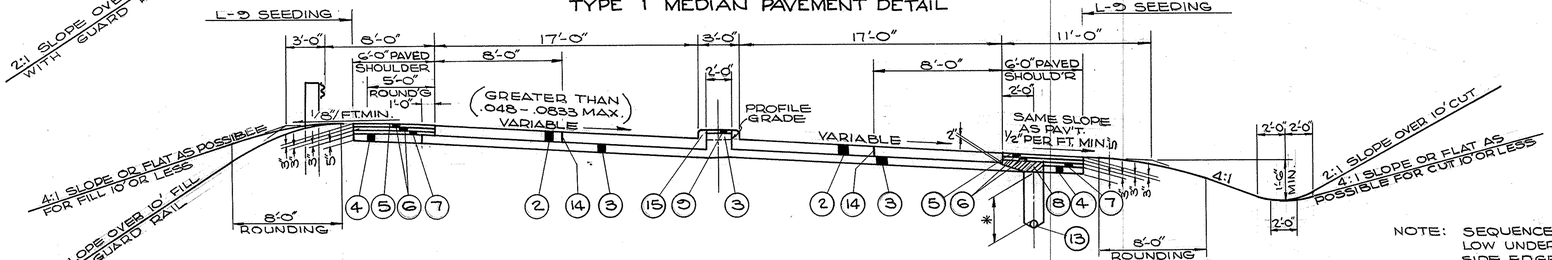
SUPERELEVATED RAMP SECTION



NORMAL DOUBLE RAMP SECTION

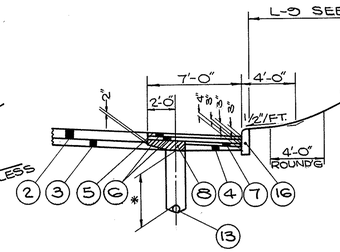


MEDIAN DETAIL
TYPE 1 MEDIAN PAVEMENT DETAIL

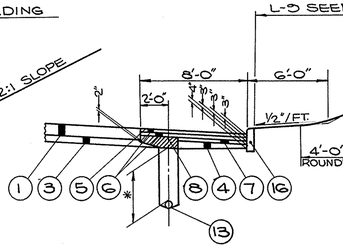


SUPERELEVATED DOUBLE RAMP SECTION

NOTE: SUPERELEVATED PAVED SHOULDER
IN SUPERELEVATED SECTIONS THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE LOW SIDE AS INDICATED. AT THE HIGH SIDE THE OUTSIDE PAVED SHOULDER SHALL SLOPE AWAY FROM THE PAVEMENT AT THE RATE OF 1/2" PER FT. UNTIL THE BREAK. BETWEEN SHOULDER & PAVEMENT REACHES 5.8% AFTER WHICH THE SAME ANGLE SHALL BE MAINTAINED UNTIL THE SLOPE OF THE SHOULDER WOULD BE LESS THAN 1/8" PER FT. WHERE THE SLOPE WOULD BE LESS THAN 1/8" PER FT. THE PAVEMENT SLOPE & SHOULDER SLOPE (1/8" PER FT.) SHALL BE JOINED BY A GENTLE 5' ROUNDING.



CURBED RAMP
RIGHT OF TRAFFIC



CURBED SPEED CHANGE LANE
RIGHT OF TRAFFIC

NOTE: ALL SLOPES TYPICAL OR AS SHOWN ON CROSS SECTIONS.

* DENOTES 50" COVER IN CUT (DEEP); 30" COVER IN FILL (SHALLOW)

** THICKNESS SHOWN IS "DESIGNED" THICKNESS AS DESCRIBED IN SECTION B-21.01, OR T-35.01 IF USED IN LIEU OF B-21.01.

LEGEND

(1)	T - 71	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(2)	T - 71	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(3)	I - 22	6" SUBBASE, GRADING "A" OR "B" AS PER PLAN
(4)	I - 22	SUBBASE, (THICKNESS AS SHOWN)
(5)	T - 31	BITUMINOUS SURFACE TREATMENT USING 0.008 CU.YD. Nº 6 AGGREGATE PER SQ.YD. AND 0.30 GAL. BITUMINOUS MATERIAL PER SQ.YD. (SEE NOTE IN PROPOSAL)
**(6)	B-21	3" WATERPROOFED AGGREGATE BASE COURSE (SEE NOTE IN PROPOSAL)
(7)	B-10	AGGREGATE BASE COURSE
(8)	ITEM	SPECIAL DRAINAGE CONNECTION, USING Nº 6 AGGREGATE (SEE NOTE IN PROPOSAL)
(9)	I - 21	STANDARD TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT
(11)	I - 15	GUARD RAIL STEELBEAM STANDARD TYPE (DEEP)
(13)	I - 1	6" PIPE, CLASS I-3 UNDERDRAIN
(14)		STANDARD LONGITUDINAL JOINT
(15)	I - 12	STANDARD TYPE 2A CONCRETE CURB
(16)	I - 12	STANDARD TYPE 6 CONCRETE CURB

NOTE: SEQUENCE OF OPERATIONS: (1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. INSTALLATION OF SHALLOW UNDERDRAIN IN MEDIAN MAY BE DEFERRED UNTIL T-71 IS PLACED, (2) PLACE SUBBASE OUT TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT, (3) CONSTRUCT T-71, (4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH Nº 6 AGGREGATE AS SHOWN BY (8) (5) COMPLETE SHOULDER CONSTRUCTION.

RAMP TYPICAL SECTIONS

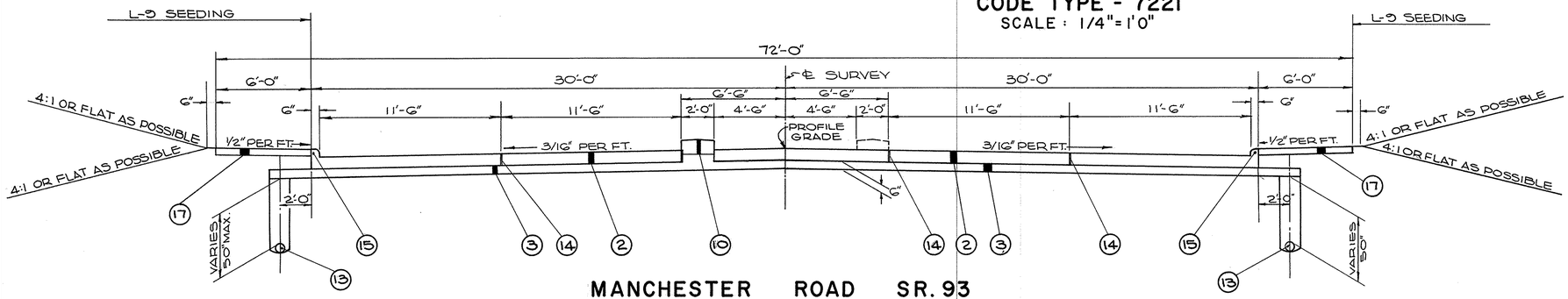
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

7
383

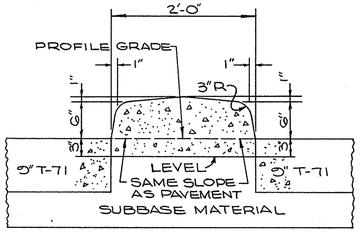
SUMMIT COUNTY
SUM-277-0.46

TYPICAL SECTIONS

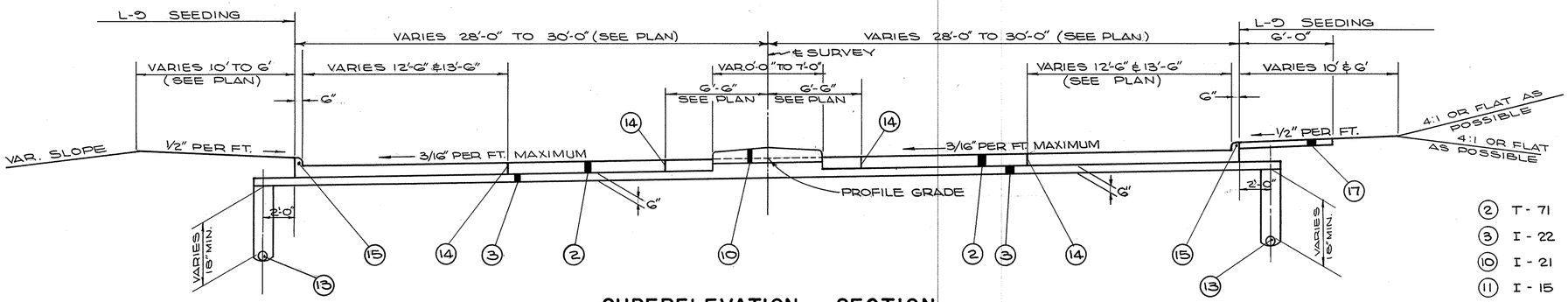
TYPE - T-71
CODE TYPE - 7221
SCALE : 1/4"=1'0"



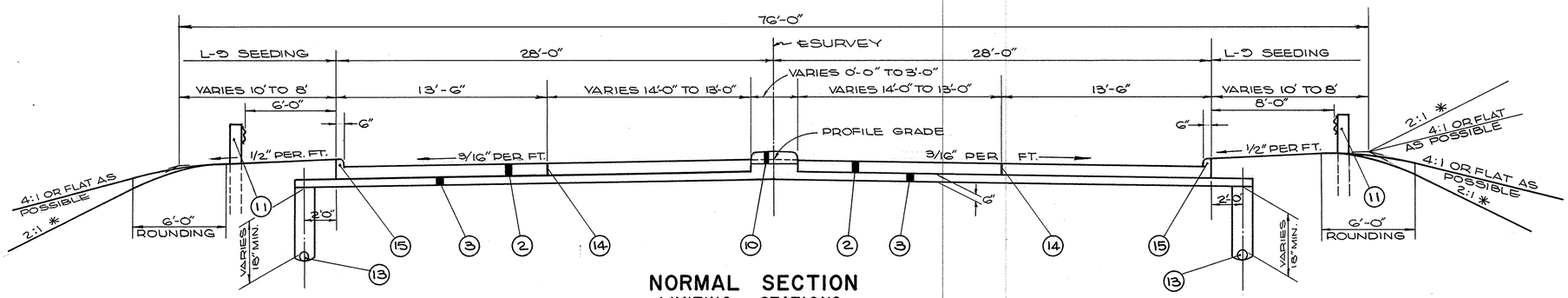
MANCHESTER ROAD SR. 93
NORMAL SECTION
LIMITING STATIONS
STA. 41+00 TO STA. 47+20



STD. TYPE-2 MEDIAN PAVEMENT



SUPERELEVATION SECTION
LIMITING STATIONS
STA. 31+25 TO STA. 41+00



NORMAL SECTION
LIMITING STATIONS
STA. 22+18.45 TO STA. 31+25

LEGEND

(2)	T - 71	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(3)	I - 22	SUBBASE, DEPTH AS SHOWN, GRADING "A" OR "B" AS PER PLAN
(10)	I - 21	STANDARD TYPE 2 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT
(11)	I - 15	GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)
(13)	I - 1	6" PIPE CLASS I-3 UNDERDRAIN
(14)		STANDARD LONGITUDINAL JOINT
(15)	I - 12	STANDARD TYPE 2A CONCRETE CURB
(17)	I - 13	4" CONCRETE SIDEWALK

* - SEE CROSS SECTIONS

TYPICAL SECTIONS

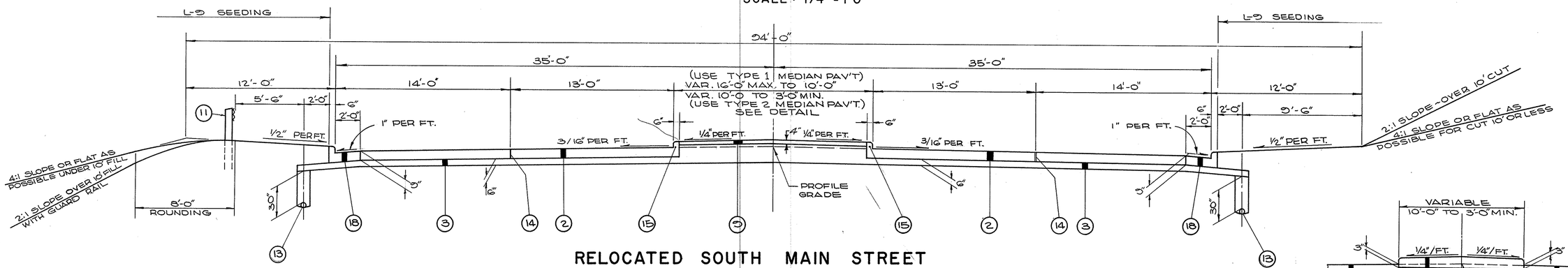
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

8 / 383

SUMMIT COUNTY
SUM-277-0.46

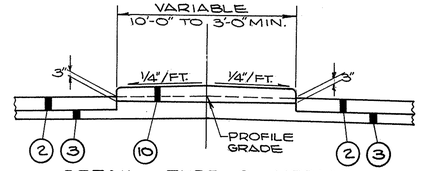
TYPE - T-71 & T-35
CODE TYPE - 7221
SCALE: 1/4" = 1'0"



RELOCATED SOUTH MAIN STREET
NORMAL SECTION

LIMITING STATIONS

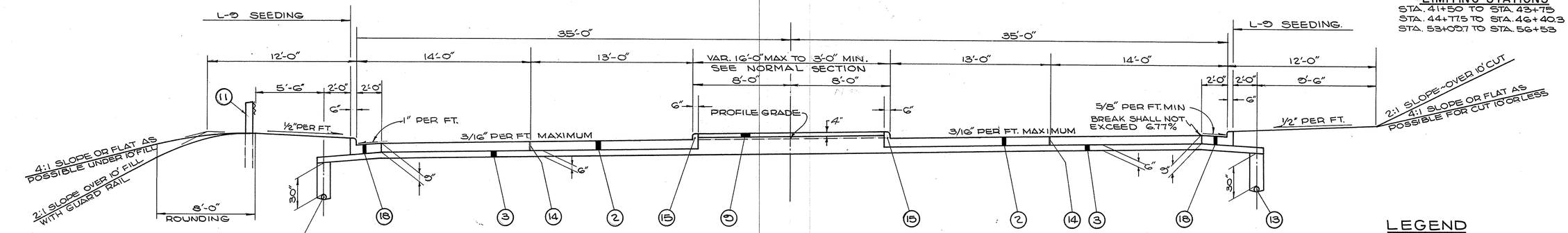
STA. 37+59.44 TO STA. 40+00.00
STA. 47+00.00 TO STA. 48+59.14
STA. 51+23.11 TO STA. 57+75.00



DETAIL TYPE-2 MEDIAN

LIMITING STATIONS

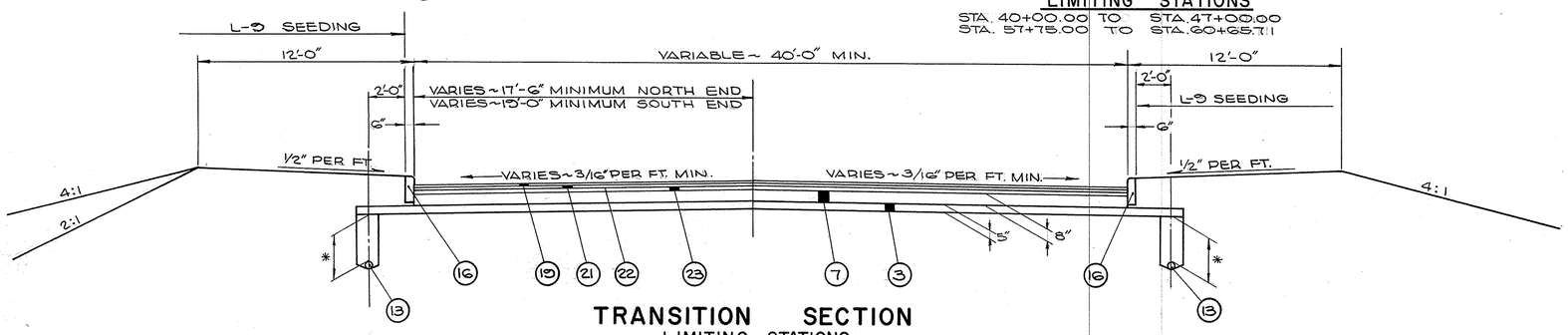
STA. 41+50 TO STA. 43+75
STA. 44+77.5 TO STA. 46+40.3
STA. 53+09.7 TO STA. 56+53



SUPERELEVATED SECTION

LIMITING STATIONS

STA. 40+00.00 TO STA. 47+00.00
STA. 57+75.00 TO STA. 60+65.71



TRANSITION SECTION

LIMITING STATIONS

STA. 37+25.00 TO STA. 37+59.44
STA. 60+65.71 TO STA. 61+35.00

NOTE: ALL SLOPES TYPICAL UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

* VARIABLE DEPTH ~ 21" MINIMUM ; 30" MAXIMUM

LEGEND

(2)	T-71	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(3)	I-22	SUBBASE, GRADING "A" OR "B" AS PER PLAN~THICKNESS AS SHOWN
(7)	B-19	AGGREGATE BASE COURSE
(9)	I-21	STANDARD TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT
(10)	I-21	STANDARD TYPE 2 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT
(11)	I-15	GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)
(13)	I-1	6" PIPE, CLASS I-3 UNDERDRAIN
(14)		STANDARD LONGITUDINAL JOINT
(15)	I-12	STANDARD TYPE 2-A CONCRETE CURB
(16)	I-12	STANDARD TYPE 6 CONCRETE CURB
(18)	I-12	STANDARD TYPE 2 COMBINATION CONCRETE CURB & GUTTER
(19)	T-35	1 1/4" ASPHALTIC CONCRETE SURFACE COURSE, TYPE C (70-85)
(21)	B-35	1 1/4" ASPHALTIC CONCRETE LEVELING COURSE (70-85)
(22)	T-30	BITUMINOUS PRIME COAT, SEC. M-5.7, RT. 2 OR 3 APPLIED AT THE RATE OF 0.40 GAL. PER SQ. YD.
(23)	B-35	3" ASPHALTIC CONCRETE BASE COURSE (70-85)

TYPICAL SECTIONS

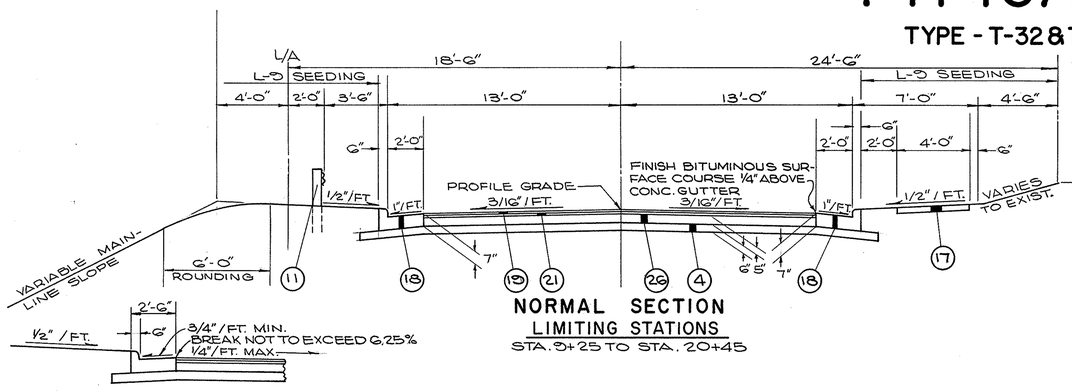
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

2 / 383

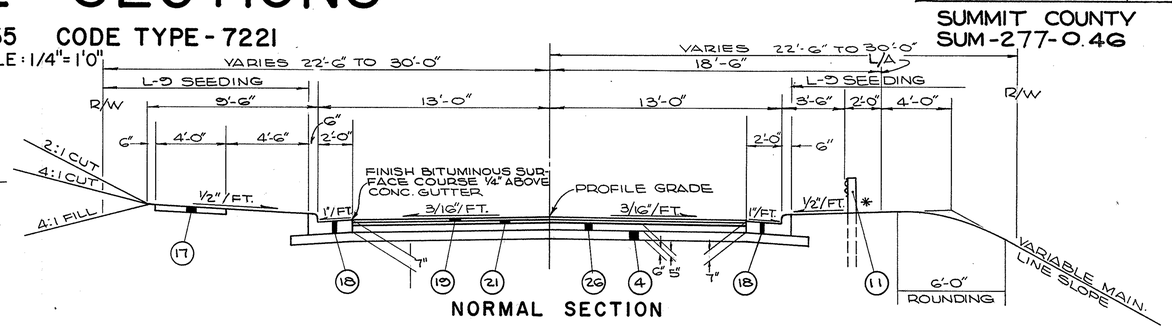
SUMMIT COUNTY
SUM-277-0.46

TYPE - T-32 & T-35 CODE TYPE - 7221
SCALE : 1/4" = 1'0"



NORMAL SECTION
LIMITING STATIONS
STA. 9+25 TO STA. 20+45

SUPERELEVATED SECTION
LIMITING STATIONS
STA. 20+45 TO STA. 22+10

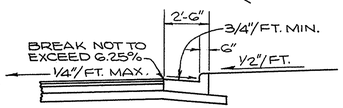


NORMAL SECTION

FRITCH AVE. EXTENSION & CHRISTENSEN AVE.

LIMITING STATIONS
STA. 9+00 TO STA. 9+30
STA. 10+95 TO STA. 14+00
STA. 15+85 TO STA. 17+10

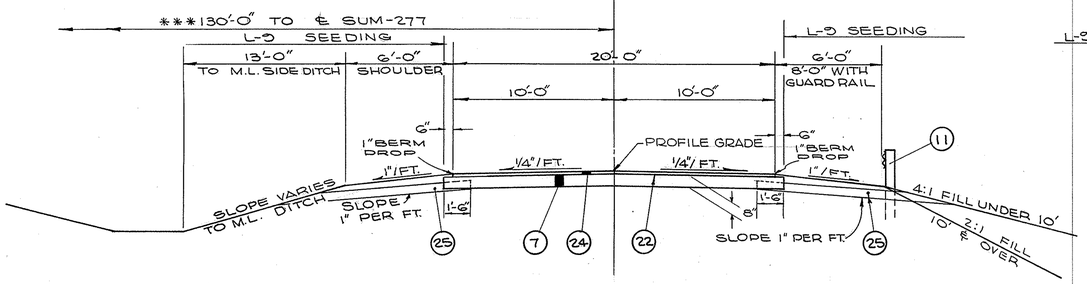
LIMITING STATIONS
STA. 21+21 TO STA. 23+70
STA. 17+60 TO STA. 18+78.82



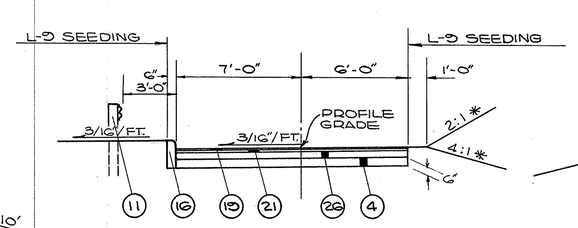
SUPERELEVATED SECTION
FRITCH AVENUE
LIMITING STATIONS
STA. 9+30 TO STA. 10+95
STA. 14+00 TO STA. 15+85

RELOCATED BRENNEMAN BLVD.

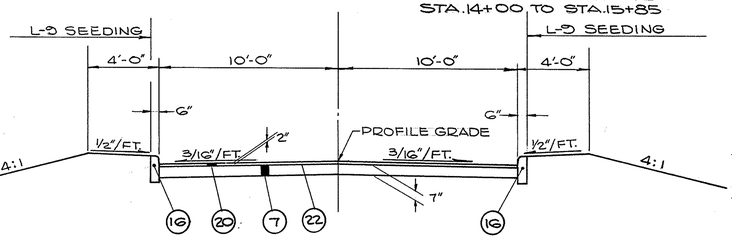
PAVEMENT DESIGN TO BE USED FOR APPROACHES AND INTERSECTIONS DETAILED ON SHEET Nº 183



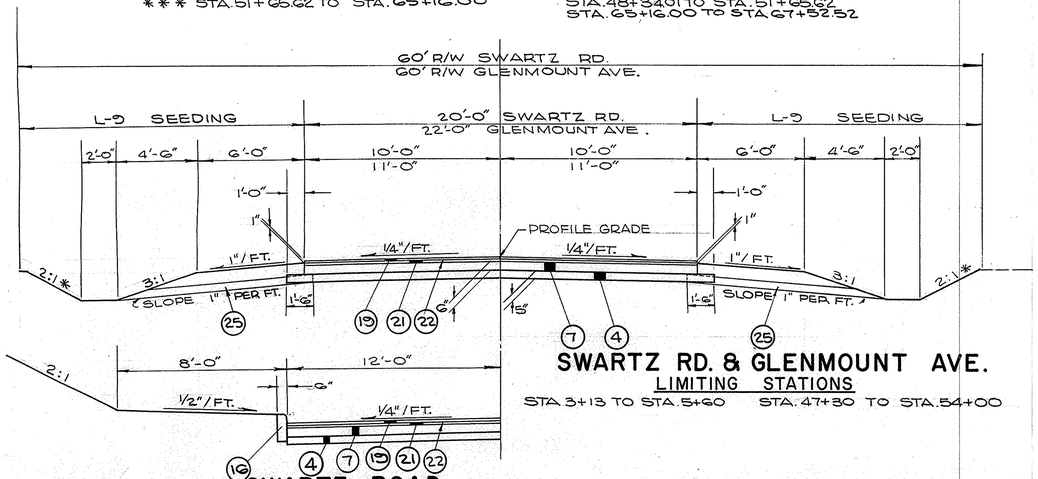
LEY DRIVE
LIMITING STATIONS
*** STA. 44+72.15 TO STA. 48+34.01
*** STA. 51+65.62 TO STA. 65+16.00
STA. 37+62 TO STA. 44+72.15
STA. 48+34.01 TO STA. 51+65.62
STA. 65+16.00 TO STA. 67+52.52



ACCESS DRIVE @ NESBITT AVE.
LIMITING STATIONS
STA. 23+70 TO STA. 24+83



CEMETERY DRIVE
LIMITING STATIONS
STA. 0+86.25 TO STA. 2+20



SWARTZ RD. & GLENMOUNT AVE.
LIMITING STATIONS
STA. 3+13 TO STA. 5+60
STA. 47+30 TO STA. 54+00

SWARTZ ROAD
LIMITING STATIONS
STA. 0+83.89 TO STA. 3+13

LEGEND

(4)	I-22	SUBBASE, THICKNESS AS SHOWN
(7)	B-19	AGGREGATE BASE COURSE, THICKNESS AS SHOWN
(11)	I-15	GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)
(16)	I-12	STANDARD TYPE G CONCRETE CURB
(17)	I-13	4" CONCRETE SIDEWALK
(18)	I-12	STANDARD TYPE 2 COMBINATION, CONCRETE CURB & GUTTER
** (19)	T-35	1¼" ASPHALTIC CONCRETE SURFACE COURSE, TYPE C (70-85)
** (20)	T-35	2" ASPHALTIC CONCRETE SURFACE COURSE, TYPE C (70-85) 2-1" COURSES
** (21)	B-35	1¼" ASPHALTIC CONCRETE LEVELING COURSE (70-85) USING TYPE C SURFACE COURSE COMPOSITION
(22)	T-30	BITUMINOUS PRIME COAT, SEC. M-5.7, RT. 2 OR 3 APPLIED AT THE RATE OF 0.40 GAL. PER SQ.YD.
(24)	T-32	BITUMINOUS ROAD MIX SURFACE COURSE METHOD "B" OR "C" ROAD MIX BITUMINOUS MATERIAL SEC. M-5.7, RT. 8 OR 9 APPLIED AT THE RATE OF 1.1 GAL. PER SQ.YD. Nº 46 AGGREGATE FOR ROAD MIX APPLIED AT THE RATE OF 0.056 CU.YD. PER SQ.YD. Nº 9 AGGREGATE FOR CHOKE APPLIED AT THE RATE OF 0.004 CU.YD. PER SQ.YD. Nº 6 AGGREGATE FOR SEAL COAT APPLIED AT THE RATE OF 0.008 CU.YD. PER SQ.YD. SEAL COAT BITUMINOUS MATERIAL SEC. M-5.7, RT. 9 OR 10 APPLIED AT THE RATE OF 0.25 GAL. PER SQ.YD.
(25)	I-9	STONE UNDERDRAIN Nº 2 ~ NOTE: SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS.
(26)	B-21	5" WATERPROOFED AGGREGATE BASE COURSE

* TYPICAL, UNLESS SHOWN OTHERWISE ON CROSS SECTIONS

** THICKNESSES SHOWN ARE "DESIGNED THICKNESSES" AS DESCRIBED IN SECTIONS T-35.01 AND B-35.01

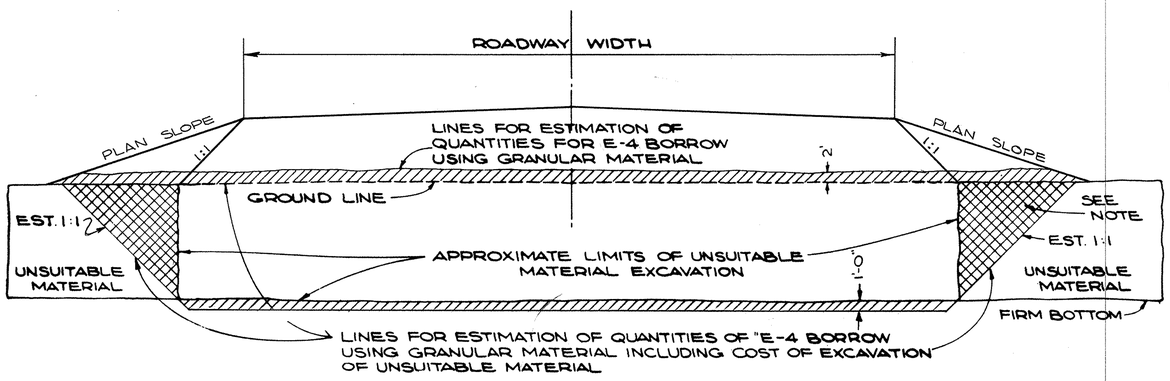
TYPICAL SECTIONS

UNSUITABLE MATERIAL EXCAVATION

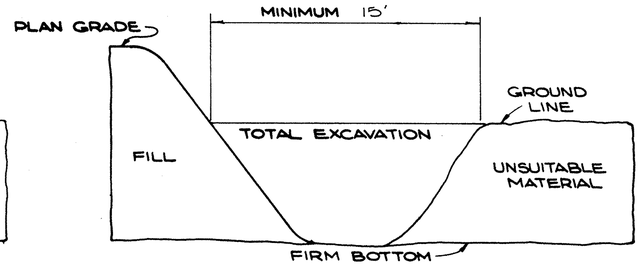
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

10 / 383

SUMMIT COUNTY
SUM -277-0.46



CROSS SECTION



LONGITUDINAL SECTION

TOTAL EXCAVATION

	LIMITING	STATIONS	
STA.	151+53	TO	STA. 152+25
STA.	153+50	TO	STA. 154+25
STA.	155+50	TO	STA. 155+90
STA.	158+25	TO	STA. 166+15
STA.	167+25	TO	STA. 167+75
STA.	168+75	TO	STA. 169+25
STA.	186+75	TO	STA. 187+75
STA.	222+75	TO	STA. 223+40
STA.	228+12	TO	STA. 228+50
RAMP C-2 STA.	0+75	TO	STA. 2+25
RAMP D-1 STA.	11+25	TO	STA. 12+00
RELOC. LEY DR. STA.	43+75	TO	STA. 46+25
RELOC. LEY DR. STA.	48+75	TO	STA. 51+25

NOTES:

TRENCHING AND BACKFILLING SHALL BE CARRIED PROGRESSIVELY ACROSS THE SWAMP AND SO COORDINATED AS TO LEAVE AN OPEN TRENCH NOT TO EXCEED IN LENGTH AT ANY TIME THE WORKING REACH OF THE EQUIPMENT USED FOR SWAMP EXCAVATION.

FILL SHALL BE CONSTRUCTED BY THE METHOD OF END DUMPING USING GRANULAR MATERIAL, UP TO THE ELEVATIONS DESIGNATED ON THE PLAN. EMBANKMENT REQUIRED ABOVE THIS ELEVATION, IF ANY, SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEC.E-1.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

EXCAVATION OF UNSUITABLE MATERIAL AHEAD OF THE FILL AND END DUMPING OF GRANULAR MATERIAL ACROSS THE BOG AREA SHALL BE ADVANCED IN A STRAIGHT LINE FOR THE FULL EMBANKMENT WIDTH TO AVOID ENTRAPMENT OF UNSUITABLE MATERIAL BENEATH ANY PORTION OF THE FILL.

GRANULAR MATERIAL REQUIRED FOR SWAMP TREATMENT SHALL BE SPECIFIED AS "E-4 BORROW USING GRANULAR MATERIAL AS PER PLAN". THE GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SEC.E-1.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS MODIFIED TO REQUIRE AT LEAST 75 PER CENT BY WEIGHT OF THE GRAINS OR PARTICLES TO BE RETAINED ON THE NO. 200 SIEVE.

EXCAVATED UNSUITABLE MATERIAL WHICH IS TO BE USED ADJACENT TO FILLS FOR SLOPE FLATTENING OR WHICH IS PILED ADJACENT TO THE FILL TO BE DISPOSED OF LATER IN ACCORDANCE WITH SEC.E-1.06, SHALL BE SHAPED TO ITS FINAL POSITION OR REMOVED FROM THE AREA AT LEAST TWO WEEKS PRIOR TO PAVING OPERATIONS ON THE FILL.

EQUIPMENT USED FOR EXCAVATION OF UNSUITABLE MATERIALS SHALL BE LOCATED AHEAD OF THE EXCAVATION UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR.

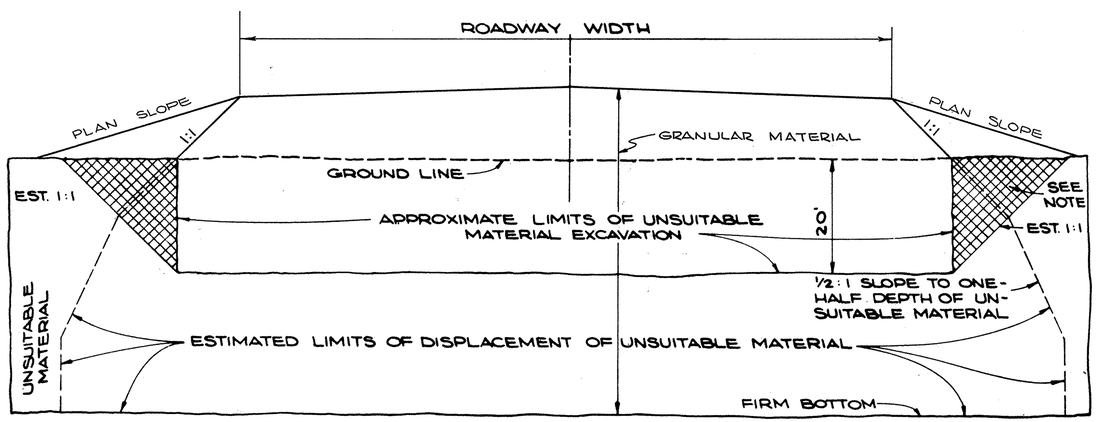
THE COST OF EXCAVATING THE UNSUITABLE MATERIAL WITHIN DESIGNATED STATION LIMITS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR GRANULAR BORROW USED AS BACKFILL TO REPLACE THE UNSUITABLE MATERIAL.

THE TOTAL QUANTITY OF E-4 BORROW USING GRANULAR MATERIAL SHALL BE DETERMINED IN ACCORDANCE WITH SEC. E-4.04, METHOD OF MEASUREMENT, OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

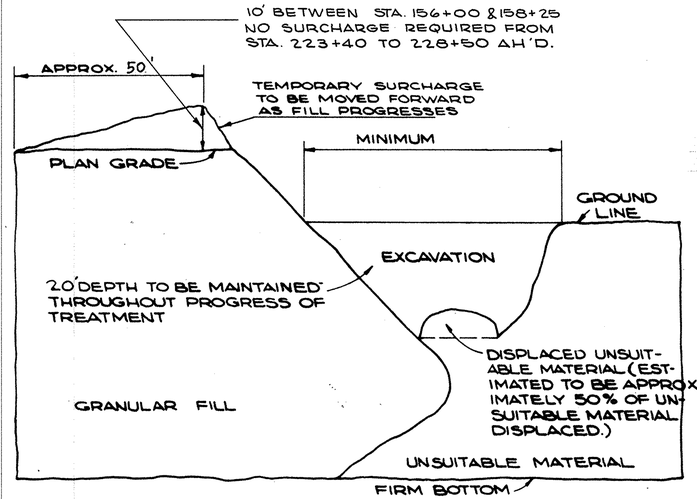
THE QUANTITY OF "E-4 BORROW, USING GRANULAR MATERIAL" WHICH DOES NOT INCLUDE THE COST OF EXCAVATION SHALL BE THE VOLUME MEASURED IN FINAL POSITION BY THE END AREA METHOD PLUS 5 PER CENT FOR COMPACTION, USING PROJECT CROSS SECTIONS.

THE QUANTITY OF "E-4 BORROW USING GRANULAR MATERIAL, INCLUDING THE COST OF EXCAVATION OF UNSUITABLE MATERIAL" SHALL BE THE TOTAL QUANTITY OF GRANULAR MATERIAL AS MEASURED BY SEC.E-4.04 MINUS THE QUANTITY WHICH DOES NOT INCLUDE THE COST OF EXCAVATION, AS DETERMINED IN THE IMMEDIATELY PRECEDING PARAGRAPH.

CROSS HATCHED AREAS SHOWN ON THIS SHEET ARE INCLUDED IN QUANTITIES TO ALLOW FOR POSSIBLE SLOUGHING AND UNDERCUTTING.



CROSS SECTION



LONGITUDINAL SECTION

PARTIAL EXCAVATION & DISPLACEMENT

LIMITING STATIONS		
STA. 155+90	TO	STA. 158.50
STA. 223+40	TO	STA. 228+12

EMBANKMENT TREATMENT FOR LEY DRIVE

THE RECOMMENDED TREATMENT TO BE APPLIED FROM STA. 31+00 TO 44+00. CONSISTS OF CLEARING & GRUBBING BUT NOT SCALPING OR COMPACTING THE EMBANKMENT FOUNDATION AND CONSTRUCTING THE EMANKMENT OF GRANULAR MATERIAL PLACED BY THE METHOD OF END-DUMPING.

FROM STA. 53+00 TO 67+52 THE EMBANKMENT SHALL BE CONSTRUCTED OF GRANULAR MATERIAL. SUCH MATERIAL MAY BE END DUMPED TO ELEV. 966.00. THE REMAINING GRANULAR EMBANKMENT SHALL BE FORMED IN ACCORDANCE WITH THE REQUIREMENTS OF E-1.08 OF THE CONSTRUCTION & MATERIAL SPECIFICATIONS.

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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SUMMIT COUNTY
SUM-277-0.46

ROAD NAME SIGNS

ALL COUNTY, TOWNSHIP, CITY OR VILLAGE ROAD OR STREET NAME SIGNS THAT WILL BE DISTURBED BY THE CONSTRUCTION SHALL BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR FOR DISPOSAL BY THEIR RESPECTIVE OWNERS. PAYMENTS FOR THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EXCAVATION, INCLUDING EMBANKMENT CONSTRUCTION.

FIELD OFFICE

THE CONTRACTOR SHALL IN ADDITION TO THE REQUIREMENTS OF 105.152 PROVIDE, FOR THE EXCLUSIVE USE OF THE STATE'S EMPLOYEES, A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 500 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL WIRING AND OUTLETS SUITABLE FOR CONNECTING ELECTRIC LIGHTS AND OFFICE EQUIPMENT IN THE FIELD OFFICE AND PROVIDE 110 VOLT ALTERNATING CURRENT TO THE OFFICE DURING THE ENTIRE PERIOD OF CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN SANITARY PROVISION AS PER 107.06. ALL OF THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR FIELD OFFICE.

DESIGN SPEED

THE GEOMETRICS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 60 MILES PER HOUR.

RIGHT-OF-WAY FENCE

FOR LOCATION AND TYPE OF RIGHT-OF-WAY FENCE SEE RIGHT-OF-WAY SHEETS.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U. S. G. S. DATUM.

CONSTRUCTION LAYOUT STAKES

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

ROUNDING OF CORNERS ON CROSS SECTIONS

THE ROUNDED CORNERS, AS SHOWN ON STANDARD DWG. MC-1 , APPLY TO ALL CROSS SECTIONS UNLESS OTHERWISE SHOWN ON THE TYPICAL SECTIONS.

ESTIMATED QUANTITIES

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

REPLACEMENT

THE CONTRACTOR SHALL REPLACE AT HIS OWN EXPENSE ANY ITEM NOT SPECIFICALLY LISTED FOR REMOVAL THAT IS DAMAGED OR DESTROYED BY HIS OPERATIONS.

SECTION 310.02 SUBBASE, *GRADING A or B, AS PER PLAN*

IN ADDITION TO THE SUBBASE MATERIAL MEETING THE REQUIREMENTS OF GRADING "A" OR "B" SECTION 310.02 IT IS FURTHER STIPULATED THAT THE ALLOWABLE PER CENT PASSING THE No. 200 SIEVE SHALL BE NOT GREATER THAN 10 FOR EITHER GRADING AFTER ALL OPERATIONS OF PLACEMENT AND COMPACTION HAVE BEEN COMPLETED.

ITEM 410 AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING No. 4 OR No.467 AGGREGATE, AS DIRECTED BY THE ENGINEER, IN LIEU OF THE GRADING SPECIFIED UNDER ITEM 410. ALL OTHER PROVISIONS OF ITEM 410 SHALL APPLY. THE WEIGHT TO BE USED IN CALCULATING THE YARDAGE TO BE PAID FOR UNDER THIS ITEM SHALL BE THE SAME AS THOSE INDICATED IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR CRUSHER RUN OR BANK RUN MATERIALS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 410, TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC, USING No. 4 OR No.467 AGGREGATE, AS PER PLAN 400 CU.YDS.

SPECIFICATIONS

ALL ITEMS APPEARING THROUGHOUT THE PLANS THAT ARE INDICATIVE OF THE 1965 STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE TO BE USED FOR REFERENCE PURPOSES ONLY. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1965 STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CROSS REFERENCES TO THE 1965 SPECIFICATIONS ARE SHOWN ON THE GENERAL SUMMARY SHEETS NO. 23A, 23B, & 23C.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

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

1. WATERLOO ROAD
2. SOUTH MAIN STREET } *FOR LOCATIONS SEE SHEET NOS. 2 & 3*
3. MANCHESTER ROAD

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1 CODE N-55 (1)-132 (3).

THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

REMOVAL OF TREES AND STUMPS

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

SIZES	CITY STATE & FED.	NO. TREES	STATE & FED.	CITY STATE & FED.	NO. STUMPS	STATE & FED.
12"-18"	40		292			
18"-24"	5		43			
24"-30"			21			
30"-36"	1					
36"-42"			11			
42"-48"			1			
OVER 48"					1	

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

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER OR CALCIUM CHLORIDE FOR DUST CONTROL PURPOSES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 CALCIUM CHLORIDE FOR DUST CONTROL - 10 TONS
ITEM 616 WATER FOR DUST CONTROL 100 M. GALS

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTIONS LIMITS

AFTER THE EXISTING PAVEMENT AS INDICATED ON THE PLANS HAS BEEN REMOVED, THE OLD ROADWAY SHALL BE PLOWED, HARROWED, AND DRAGGED TO A SMOOTH GRADE, THE OLD DITCHES FILLED, AND THE ENTIRE AREA SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT REMOVED, ITEM 202 SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 659 SEEDING AND MULCHING.

~~NON-RIGID PAVEMENT REMOVAL~~

~~REMOVAL AND DISPOSAL OF EXISTING NON-RIGID PAVEMENT, UNLESS OTHERWISE INDICATED ON THESE PLANS, SHALL BE MEASURED AND PAID FOR AS ITEM E - 1, ROADWAY EXCAVATION.~~

~~EXISTING PAVEMENT~~

~~WITHIN THE LIMITS OF CONSTRUCTION WHERE THE EXISTING FLEXIBLE PAVEMENT WILL HAVE LESS THAN THREE (3.0') OF FILL PLACED UPON IT. THE PAVEMENT SHALL BE THOROUGHLY SCARIFIED FOR ITS FULL DEPTH, MIXED WITH SUFFICIENT SOIL AND PROPERLY RECOMPACTED TO INSURE THE ELIMINATION OF ANY PLANE OF SEPARATION BETWEEN IT AND THE EMBANKMENT PLACED THEREON. OUTSIDE THE LIMITS OF CONSTRUCTION THE EXISTING FLEXIBLE PAVEMENT SHALL BE THOROUGHLY SCARIFIED, MIXED WITH SUFFICIENT SOIL AND SHAPED TO FIT THE SURROUNDING TERRAIN IN SUCH A MANNER AS TO INSURE THE GROWTH OF SEED PLANTED THEREON. PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION.~~

ITEM 203 PROOF ROLLING

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

88 HOURS OF PROOF ROLLING HAS BEEN CARRIED TO THE GENERAL SUMMARY.

~~GUARD RAIL ADJACENT TO BRIDGE~~

~~ONE (1) ADDITIONAL GUARD RAIL POST SHALL BE PROVIDED IN THE CENTER OF EACH PANEL OF GUARD RAIL ADJACENT TO THE BRIDGE, PAYMENT FOR WHICH SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 1-15 GUARD RAIL. A STANDARD GUARD RAIL TERMINAL ASSEMBLY SHALL BE PROVIDED ADJACENT TO BRIDGES AT THE END OF EACH RUN OF GUARD RAIL.~~

~~GUARD RAIL FLARES~~

~~WHERE PROPOSED GUARD RAIL FLARES ARE CONSTRUCTED OF RAIL ELEMENTS WHICH HAVE NOT BEEN FABRICATED EXACTLY TO FIT THE CURVATURE SHOWN ON THE PLANS, THE TWO END POSTS OF EACH FLARED SECTION SHALL BE ENCASED IN A MINIMUM 4" INCH THICKNESS OF CLASS "E" CONCRETE FOR THE FULL DEPTH OF THE POST BELOW THE GROUND LINE. PAYMENT FOR ENCASEMENT, IF REQUIRED, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE "GUARD RAIL".~~

~~EROSION CONTROL AT BRIDGES~~

~~SODDED CHANNELS SHALL BE PROVIDED AT ENDS OF BRIDGES WHERE REQUIRED BY THE PLANS. COST OF ALL WORK NECESSARY TO COMPLETE THE ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 1 - 10. SODDING FOR SPECIAL BERM AND SLOPE PROTECTION.~~

~~ITEMS L-10 SODDING, 1-10 DUMPED ROCK CHANNEL PROTECTION, L-14 PAVED GUTTER AND L-120 JUTE MATTING~~

~~THESE ITEMS ARE PROVIDED ON THE PLANS FOR EROSION CONTROL. THE ENGINEER SHALL CHECK AND MAKE ADJUSTMENTS IN LOCATION AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.~~

~~ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. WHERE ITEM 1-14 IS CALLED FOR ON THE PLAN, EIGHTEEN (18") INCH SOD STRIP WILL BE PLACED ON BOTH SIDES. PAYMENTS FOR THE SOD STRIP SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM L-10 SODDING.~~

~~1-10 DUMPED ROCK CHANNEL PROTECTION SHALL HAVE A STANDARD DEPTH OF 18" UNLESS OTHERWISE NOTED IN THE PLANS.~~

CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS (AND THE SPECIFICATIONS,). JOINTS IN THE WIDENING (STA. 78+00 TO 115+75) *SHALL* COINCIDE WITH THE JOINTS IN THE EXISTING PAVEMENT.

CENTERLINE REFERENCE MONUMENTS, AS PER PLAN

MONUMENTS SHALL BE CONSTRUCTED OF CLASS "C" CONCRETE, CAST-IN-PLACE IN A CIRCULAR HOLE EIGHT (8) INCHES IN DIAMETER AND FORTY-FOUR (44) INCHES IN DEPTH. TOP OF CONCRETE SHALL BE FINISHED AT A DEPTH OF TWO (2) INCHES BELOW GROUND LEVEL AND THE UPPER SIX (6) INCH PORTION OF THE CONCRETE SHALL BE FORMED. A ONE-HALF (1/2) INCH STEEL ROD SIX (6) INCHES LONG SHALL BE EMBEDDED IN THE WET CONCRETE AS DIRECTED BY THE ENGINEER TO MARK THE CENTERLINE AND STATION.

LINE DATA

CITY, STATE & FEDERAL (MUNICIPAL)

		PROJECT LENGTH	WORK LENGTH
BEGIN WORK	STA. 76+75.00		
BEGIN PROJECT	STA. 115+75.00		
CORPORATION LINE	STA. 152+75.00		
LENGTH		3700.00 ft. = 0.700 Miles	7600.00 ft.
MANCHESTER ROAD	STA. 21+81.00 to STA. 47+81.00		2600.00 ft.
LEY DRIVE	STA 37+61.75 to STA 38+00.87		139.12 ft.
LENGTH			10,339.12 ft. = 1.958 MILES

STATE & FEDERAL (RURAL)

CORPORATION LINE	STA. 152+75.00		
STATION EQUATION	STA. 228+00.00 BACK = STA. 222+59.78 AHEAD	7525.00 ft.	
END PROJECT	STA. 228+68.84	609.06 ft.	
LENGTH		8134.06 ft. = 1.540 Miles	8134.06
END WORK	STA. 229+82.00		
INCREASED LENGTH			113.16
LEY DRIVE	STA. 38+00.87 to STA. 67+52.52		2851.65
SOUTH MAIN ST.	STA. 37+11.00 to STA. 61+55.00		2444.00
SWARTZ ROAD	STA. 0+33.00 to STA. 6+00.00		567.00
GLENMOUNT AVE.	STA. 46+27.00 to STA. 54+50.00		823.00
LENGTH			14,932.87 = 2.828 Miles

TOTAL LENGTH OF PROJECT = 11,834.06' = 2.241 MILES
TOTAL LENGTH OF WORK = 25,271.99' = 4.786 MILES

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM.-277-0.46

UNDERGROUND UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO MAKES NO GUARANTEES AS TO THEIR ACCURACY OR COMPLETENESS.

UTILITIES

THE CONTRACTOR SHALL NOTIFY, IN WRITING, AT LEAST 48 HOURS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE CORPORATIONS HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND SHOWN ON THESE PLANS. ANY AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS. ALL UTILITES ARE LISTED:

OHIO EDISON CO.	47 N. MAIN STREET	AKRON, OHIO
OHIO BELL TELEPHONE CO.	50 W. BOWERY ST.	AKRON, OHIO
EAST OHIO GAS COMPANY	1717 E. 9th STREET	CLEVELAND 14, O.
CITY OF AKRON (SEWER DEPT)	MUNICIPAL BLDG.	AKRON 8, OHIO
CITY OF AKRON (WATER DEPT.)	63 S. HIGH STREET	AKRON 8, OHIO

ITEM 605 AGGREGATE DRAINS

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

~~PLUGGING PIPE~~

~~THE UPSTREAM~~ ENDS OF ALL PIPE OR TILE LINES INTERCEPTED BY EARTHWORK OPERATIONS ~~(AND, WHERE INDICATED, THE ENDS OF~~ PIPE LINES TO BE ABANDONED IN PLACE) ~~SHALL~~ BE EFFECTIVELY BLOCKED AND COVERED. ~~BROKEN PIECES AND PORTIONS OF PIPE~~ OR TILE SHALL BE REMOVED UNTIL A WHOLE UNDAMAGED LENGTH IS ~~ENCOUNTERED. THIS~~ PIPE SHALL THEN BE BLOCKED WITH CONCRETE FLAT STONE ~~OR BRICK LAID~~ IN MORTAR, OR A PRECAST ~~CLAY OR CONCRETE~~ STOPPER. PAYMENT ~~FOR THE ABOVE~~ WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM ~~E-1, ROADWAY~~ EXCAVATION.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WITHIN THE LIMITS OF PROPOSED EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

ITEM SPECIAL, DRILLED WATER WELLS ABANDONED

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

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

FARM DRAINS

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

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

THE LOCATION, TYPE, SIZE, AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE. THESE ESTIMATED QUANTITIES SHALL NOT BE ORDERED UNTIL SO DIRECTED BY THE ENGINEER.

ITEM 603	6" CONDUIT TYPE E	200 LIN.FT.
ITEM 603	8" CONDUIT TYPE E	100 LIN.FT.
ITEM 603	8" CONDUIT TYPE F	50 LIN.FT.
ITEM 603	6" CONDUIT TYPE B WITH CL. B BEDDING	400 LIN.FT.
ITEM 603	8" CONDUIT TYPE B WITH CL. B BEDDING	200 LIN.FT.

ITEM SPECIAL - CLEANING AND DISPOSAL OF SEPTIC TANKS

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

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

WHEN THE SEPTIC TANKS ARE LOCATED ABOVE THE FINISHED PAVEMENT OR GROUND LINES, THEY SHALL BE ENTIRELY REMOVED AND DISPOSED OF IN ACCORDANCE WITH .202.02.

WHEN THE TANKS ARE LOCATED BELOW THE FINISHED PAVEMENT OR GROUND LINES, THE TOPS OF THE TANKS SHALL BE REMOVED, AND THE WALLS SHALL BE REMOVED TO A DEPTH OF 3 FEET BELOW THE FINISHED SUBGRADE OR GROUND LINES. THE REMOVED MATERIAL SHALL BE DISPOSED OF AS EXPLAINED ABOVE. THE TANKS SHALL BE BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL IN ACCORDANCE WITH .203.12.

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

SIDE ROADS NOT WITHIN LIMITED ACCESS RIGHT-OF-WAY

ALL EXISTING SANITARY SEWERS ENCOUNTERED DURING CONSTRUCTION OPERATIONS THAT ARE NOW OUTLETTING INTO THE HIGHWAY DRAINAGE SYSTEM MAY BE CONNECTED TO THE HIGHWAY DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER, PROVIDED THE PROPERTY OWNER OBTAINS WRITTEN APPROVAL FROM THE LOCAL BOARD OF HEALTH OF SATISFACTORY EFFLUENT. IF THE PROPERTY OWNER FAILS TO SHOW PROOF FROM THE HEALTH BOARD OF SATISFACTORY EFFLUENT, THE DRAIN SHALL BE PLUGGED AT THE RIGHT-OF-WAY LINE AND QUANTITIES SHALL BE NON-PERFORMED. COST OF PLUGGING DRAINS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION INCLUDING EMBANKMENT.

IN EACH CASE WHERE A PERMIT HAS BEEN ISSUED FOR A SANITARY CONNECTION TO BE MADE, IT SHALL BE PROVIDED WITH AN INSPECTION WELL LOCATED APPROXIMATELY ONE-FOOT (1) INSIDE THE RIGHT-OF-WAY LINE. SEE SHEET NO. 233 FOR DETAIL OF INSPECTION WELL.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE. THESE ESTIMATED QUANTITIES SHALL NOT BE ORDERED UNTIL SO DIRECTED BY THE ENGINEER.

ITEM 603	6" CONDUIT TYPE C	500 LIN.FT.
Item 603	8" CONDUIT TYPE C	100 LIN.FT.
ITEM 604	INSPECTION WELLS, AS PER PLAN	3 EACH

PRIVATE SEWER TAPS WITHIN THE INTERSTATE LIMITED ACCESS RIGHT-OF-WAY

NO PRIVATE SANITARY SEWER CONNECTIONS SHALL BE MADE TO HIGHWAY DRAINAGE FACILITIES WITHIN THE LIMITED ACCESS RIGHT-OF-WAY.

SHEET PILING LEFT-IN-PLACE

SHEET PILING SHALL BE LEFT-IN-PLACE ONLY IN AREAS WHERE SOIL CONDITIONS INDICATE THAT LATERAL DISPLACEMENT WILL TAKE PLACE, AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL LEAVE IN PLACE, SEWER TRENCH SHEETING, NOT TO EXCEED ONE (1) FOOT ABOVE THE CROWN OF THE SEWER.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE PLANS TO BE USED AS DIRECTED BY THE ENGINEER.

504	SHEET PILING LEFT-IN-PLACE	12,000 SQ.FT.

THE ACTUAL LOCATIONS OF SHEET PILING LEFT-IN-PLACE WILL BE DETERMINED BY THE PROJECT ENGINEER, AND PAYMENT WILL BE MADE ON FINAL MEASUREMENT.

REMOVAL OF EXISTING DELINEATORS

THE EXISTING DELINEATORS & 12' SIGN SHALL BE REMOVED AND DISPOSED OF WITHIN THE LIMITS AS DESCRIBED ON SHEETS 24, 25 AND 26. THE COST OF THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION. THESE REMOVAL ITEMS SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF RIGHT OF WAY.

LIMITS OF SEEDING

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

"SIDEROADS" QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE WORK LIMITS AS SHOWN ON THE CROSS SECTIONS.

SEEDING FORMULA

THE FOLLOWING SEED MIXTURE SHALL, IN LIEU OF THE MIXTURES LISTED IN SECTION 659.09, BE USED THROUGHOUT THE PROJECT.

20%	KENTUCKY BLUE GRASS (POA PRATENSIS)
25%	CREEPING RED FESCUE (FESTUCA RUBRA)
45%	KENTUCKY 31 FESCUE (FESTUCA ELATIOR, VAR. KY. 31) OR ALTA FESCUE (FESTUCA ELATIOR, VAR. ARUNDINACEA)
10%	RED TOP (AGROSTIS ALBA)

SPECIAL SEEDING PREPARATION AREAS

THE REFERENCE IN THE FIRST PARAGRAPH OF SECTION 659.09 TO PREPARATION OF THE SEED BED IN FRONT OF RESIDENCES, ETC. SHALL ON THIS PROJECT BE CONSIDERED TO BE PARTICULARLY APPLICABLE TO THE AREAS LISTED ON SHEET NO. 20

659 COMMERCIAL FERTILIZER

ALL AREAS TO BE SEEDED UNDER ITEM 659 OR SODDED UNDER ITEM 660 SHALL HAVE COMMERCIAL FERTILIZER (12-12-12) APPLIED AT THE RATE OF TWENTY POUNDS PER ONE THOUSAND SQUARE FEET.

AGRICULTURAL LIMING MATERIAL

THE LOCATION AND NEED FOR AGRICULTURAL LIMING MATERIALS WILL BE DETERMINED BY THE ENGINEER ON THE BASIS OF LABORATORY TEST AFTER ROUGH GRADING OPERATIONS HAVE BEEN PERFORMED. THE QUANTITY OF AGRICULTURAL LIMING MATERIALS SHOWN ON THE PLANS IS SUFFICIENT FOR APPLICATION TO THE ENTIRE EXPOSED SOIL AREA OF THE CONTRACT BUT MAY BE PARTIALLY OR COMPLETELY OMITTED, AS MAY BE DIRECTED BY THE ENGINEER IF LABORATORY TESTS INDICATE THE ITEM IS NOT NEEDED. AGRICULTURAL LIMING MATERIAL SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA.

THE QUANTITY OF AGRICULTURAL LIMING MATERIAL IS ESTIMATED AND IS INCLUDED FOR USE ONLY WHEN AND IN AMOUNTS AS DIRECTED BY THE ENGINEER. THE AMOUNT OF THIS ITEM AND ITS LOCATION SHALL BE RECORDED AS USED, AND PAYMENT WILL BE INCLUDED IN THE FINAL PAYMENT ESTIMATE.

SPRING DRAIN

№ 467 AGGREGATE SHALL BE USED WITH A 6" LAYER OF №8 AGGREGATE OVER THE TOP AND SEALED WITH TARRED PAPER OR TARRED BURLAP

AGGREGATES, BITUMINOUS MATERIAL & NECESSARY EXCAVATION FOR SPRING DRAINS SHALL BE PAID FOR AT THE UNIT PRICE BID PER LIN.FT. OF ITEM 605 AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN. SPRING DRAINS ARE TO BE PLACED AT LOCATIONS DESIGNATED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE. A SPRING DRAIN CONSTITUTES 3 LIN.FT.

	CITY	RURAL	TOTAL
ITEM 605 AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN	3	6	9 LIN.FT.
ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS, 707.06 or 707.12, AS PER PLAN	100	200	300 LIN.FT.

THE ABOVE MATERIAL SHALL NOT BE ORDERED WITHOUT PRIOR APPROVAL OF THE PROJECT ENGINEER.

FOR DETAIL SEE SHEET № 229.

STANDARD DRAWINGS CROSS REFERENCE

1965	1963	1965	1963	1965	1963
BP-1	B-T-70-71	F-1	F-1	CB-5	I-8 CB No.5
BP-2	B-T-71-R	F-2	F-2	CB-6	I-8 CB No.6
BP-3	L.U. 1	F-3	F-3	I-2	I-8 I. No.2
BP-4	T-U	FACI-1	FACI-1	I-2A	I-8 I. No.2A
BP-5	T-55	FACI-2	FACI-2	MH-1	I-8 M.H. No.1
BP-6	DR-1	HW-1	HW No.1	MH-1A	I-8 M.H. No.1A
BP-7	P-12	HW-2	HW No.2	GR-1	I-15 No.1
MC-1	RT-1	HW-3	HW No.3	GR-2A	I-15 No.2A
MC-2	RT-2	HW-E	HW-E	GR-6	I-15 No.6
MC-3	G-7.07	CB-2-2-A & B	I-8 CB-2-2-A & B	L-1	L-1
MC-4	I-1			SD-53	SD-53
MC-5	I-14G	CB-3	I-8 CB No.3	AS-1-54	AS-1-54
MC-7	None	CB-3A	I-8 CB No.3A		I-21-23 I-8 M.H. No.3

SUPPLEMENTAL SPECIFICATIONS CROSS REFERENCE

1965	1963	1965	1963	1965	1963
801 - 9-2-65	CE-101.04	815 - 8-6-65	I-128	1001 - 3-21-66	—
808 - 2-7-66	S-101	816 - 8-6-65	I-129	SPEC. 667	L-120
811 - 3-29-65	S-307	825 - 4-2-65	—		
814 - 3-16-66	I-124	828 - 3-1-66	—		

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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604 MANHOLE NO. 3

THE 604NO. 3 MANHOLE CALLED FOR ON THESE PLANS ARE CITY OF AKRON STANDARD MANHOLES AS PER DETAILS ON SHEET NO. 252

ITEM 604 MANHOLE REBUILT

THIS ITEM SHALL CONSIST OF THE CAREFULL REMOVAL OF THE EXISTING MANHOLE TO A DEPTH SUFFICIENT TO ALLOW RECONSTRUCTION TO THE NEW GRADE USING THE SALVAGED MANHOLE FRAME AND COVER. THE RECONSTRUCTION SHALL CONFORM TO THE EXISTING DIMENSIONS AND TYPE OF CONSTRUCTION.

PAYMENT FOR THE REMOVAL, RECORBELLING AND RESETTING OF THE FRAME AND COVER SHALL BE AT THE UNIT BID PRICE OF ITEM 604 "MANHOLES REBUILT", AS PER PLANS.

ITEM 604 MANHOLES ALTERED

THIS ITEM SHALL CONSIST OF PLUGGING ABANDONED PIPES, AND RESHAPING THE BOTTOM CHANNELS OF THE EXISTING MANHOLE TO CONFORM TO THE NEW CONNECTIONS. SEE SHEET NO. 252 FOR THE METHOD OF CONSTRUCTING THE BOTTOM CHANNELS.

202 MANHOLES ABANDONED

CASTINGS REMOVED UNDER 202 " MANHOLES ABANDONED" SHALL BE DISPOSED OF BY THE CONTRACTOR.

INSPECTION

THE CITY OF AKRON SEWER DEPARTMENT SHALL BE NOTIFIED TWENTY-FOUR (24) HOURS PRIOR TO THE MAKING OF ANY CONNECTION TO EXISTING SANITARY SEWER LINES IN ORDER TO HAVE AN OPPORTUNITY TO INSPECT THESE CONNECTIONS.

SANITARY SERVICE LINES

EXISTING SANITARY SEWER SERVICE LINES ENCOUNTERED DURING CONSTRUCTION WHICH REQUIRE CONTINUED SERVICE SHALL BE CONNECTED SO AS TO PROVIDE AN UNOBSTRUCTED FLOW. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID OF THE PERTINENT REPLACEMENT SEWER.

GENERAL DRAINAGE

WHERE EXISTING SEWERS ARE TO BE REMOVED OR WHERE ABANDONED SEWER PIPES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL BE CUT AND PLUGGED IN ACCORDANCE WITH THE METHODS OUTLINED IN 202.08 PAYMENT FOR CUTTING, PLUGGING AND THE REMOVAL OF THE PIPE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 203 OR 202 AS SHOWN ON THE PLANS.

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 FOR ITEM 603 "PIPE CULVERTS, SEWERS AND DRAINS."

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

MANHOLES, INLETS AND CATCH BASINS ARE STATIONED AND LOCATED AS FOLLOWS:

MANHOLES - CENTER LINE COVER
NO. 2-6 to 2-10 AND NO. 2-A TO 2-A-14 INLETS CENTER LINE COVER
CITY OF AKRON TYPE "D" INLET CENTER LINE TOP
NO. 2-2-A AND NO. 2-2-B CATCH BASINS CENTER LINE GRATE
NO. 3, NO. 3-A AND NO. 6 CATCH BASINS, CENTER LINE GRATE AT FACE OF CURB.
NO. 5 CATCH BASIN CENTER LINE GRATE

ALL ELEVATIONS SHOWN ON THE PLANS FOR MANHOLES, INLETS AND CATCH BASINS ARE ACTUAL FINISH GRADE ELEVATIONS. ALL MANHOLE COVERS SHALL BE SET TO CONFORM TO ALL LOCAL GRADES OR AS DIRECTED BY THE ENGINEER.

MANHOLES, CATCH BASINS AND INLETS

STRUCTURES, NOT SPECIFICALLY REMOVED OR ABANDONED UNDER ITEM 202 SHALL BE PAID FOR UNDER ITEM 203 EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION.

202 PIPE REMOVED

WHERE SEGMENTAL BLOCK OR BRICK SEWERS ARE ENCOUNTERED, IN LIEU OF TOTAL REMOVAL SET FORTH UNDER 202 THE UPPER PORTION MAY BE BROKEN AND PROPER BACKFILLING PERFORMED AS REQUIRED IN ACCORDANCE WITH ITEM 203.08 OF THE SPECIFICATIONS.

STORM AND SANITARY CONSTRUCTION AND PROTECTION

WHERE PROPOSED STORM AND SANITARY SEWERS ARE TO BE CONSTRUCTED ADJACENT TO EXISTING PRIVATE AND PUBLIC UNDERGROUND LINES. THE CONTRACTOR SHALL PROVIDE SUITABLE PROTECTIVE DEVICES SO AS TO PREVENT ANY DAMAGE OR CREATE A SITUATION THAT WOULD CAUSE SUSPENSION OF SERVICES.

DRAIN PIPES

APPROXIMATE LOCATIONS OF EXISTING DOWNSPOUT DRAIN PIPES ARE SHOWN ON SHEET NOS. 172 AND 178 THESE ARE TO BE REPLACED FROM THE CURB OPENING TO THE RIGHT-OF-WAY LINE WITH 3 INCH PIPE USING "CARLON-D" PLASTIC SEWER PIPE TYPE NO. 23013, "YARDLEY" ABS DWV PLASTIC PIPE TYPE NO. H 946 OR APPROVED EQUAL. ANY OTHER EXISTING DOWNSPOUT DRAIN PIPES ENCOUNTERED DURING CONSTRUCTION ARE TO BE REPLACED AS ABOVE.

THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED FOR THIS PURPOSE. THIS ESTIMATED QUANTITY SHALL NOT BE ORDERED UNTIL SO DIRECTED BY THE ENGINEER.

ITEM I-1	3" PIPE, AS PER PLAN	200 LIN.FT.

MAINTAINING TRAFFIC

10 DAYS PRIOR TO ANY INTERRUPTION OF NORMAL TRAFFIC FLOW WITHIN THE LIMITS OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT IN WRITING HIS PROPOSED METHODS AND PROCEDURES PLANNED FOR THE MAINTENANCE OF TRAFFIC THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF HIS PLAN FROM THE ENGINEER AND THE CITY OF AKRON TRAFFIC DEPARTMENT BEFORE CAUSING ANY INTERRUPTIONS IN THE TRAFFIC FLOW.

THE CONTRACTOR SHALL IN ADDITION TO THE GENERAL REQUIREMENTS OF 614 PERFORM THE FLOWING:

A. PROVIDE, ERECT AND MAINTAIN MOVEABLE GATES ON INTERSECTING STREETS CLOSED TO TRAFFIC AT ALL POINTS WHERE LOCAL MOVEMENT TERMINATES.

B. PROVIDE, ERECT AND MAINTAIN LIGHTS, SIGNS AND BARRICADES AT THE WORK LIMITS ON ALL INTERSECTING STREETS WHICH REMAIN OPEN TO TRAFFIC.

SUM 277 (U.S. 224) STATION 79 + 00 TO 115 + 75

ALL DRAINAGE, PAVEMENT, PAVED SHOULDERS, MEDIAN PAVEMENT AND BERMS PROPOSED BETWEEN THE LIMITS GIVEN ABOVE SHALL BE CONSTRUCTED AND OPENED TO TRAFFIC PRIOR TO AUGUST 1, 1967. DURING THE CONSTRUCTION OF THE PAVEMENT WIDENING IN THIS AREA, TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. THE WIDENING WORK SHALL NOT BE IN PROGRESS ON BOTH SIDES OF A DIRECTIONAL PAIR OF LANES AT THE SAME TIME.

WATERLOO ROAD

TWO-WAY TRAFFIC SHALL BE MAINTAINED ON WATERLOO ROAD AT ALL TIMES.

NESBITT AVE., PELTON AVE., CONRAD AVE., EDWIN AVE.

THE ABOVE NAMED ROADS MAY BE CLOSED TO THRU TRAFFIC. ROAD CLOSED SIGNS Shall BE ERECTED AT THE CORRESPONDING INTERSECTIONS WITH FRITCH AVE. AND NESMITH LAKE BLVD. BARRICADES Shall BE ERECTED OUTSIDE THE CONSTRUCTION LIMITS OF THE MAIN LINE ON EACH ROAD.

NESMITH LAKE BLVD.

NESMITH LAKE BLVD. MAY BE CLOSED TO THRU TRAFFIC. ROAD CLOSED SIGNS Shall BE ERECTED AT WATERLOO ROAD AND MANCHESTER ROAD. BARRICADES Shall BE ERECTED OUTSIDE THE CONSTRUCTION LIMITS OF THE MAIN LINE.

CHRISTENSEN AVENUE

CHRISTENSEN AVENUE MAY NOT BE CLOSED UNTIL THE INTERSECTION OF NESMITH LAKE BLVD. AT MANCHESTER ROAD IS OPEN TO TRAFFIC. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED ACROSS THE PROPOSED EXPRESSWAY UNTIL THE PERMANENT PEDESTRIAN OVERPASS AT EDWIN AVENUE IS COMPLETED.

A TEMPORARY CONCRETE SIDEWALK TEN INCHES (10") THICK AND FOUR FOOT (4') WIDE EXTENDING 15' NORTH AND SOUTH OF THE MAINLINE SHALL BE PROVIDED TO MAINTAIN THE TEMPORARY PEDESTRIAN TRAFFIC.

THE CONTRACTOR SHALL LIMIT HIS VEHICULAR TRAFFIC MOVEMENT WITHIN THIS THIRTY FOOT (30') CORRIDOR OF CONCRETE WALK AND PROVIDE A FLAGMAN DURING SCHOOL HOUR CROSSINGS. THE WALK SHALL BE MAINTAINED AND KEPT FREE OF MUD AND DEBRIS.

TEMPORARY WALK CONSISTING OF FIVE (5") INCHES OF COMPACTED CINDERS SHALL ALSO BE PLACED, IN CONJUNCTION WITH THE CONCRETE WALK, TO THE NORTHERLY AND SOUTHERLY LIMITS OF WORK ON CHRISTENSEN AVENUE THUS PROVIDING A CONTINUOUS WALKWAY.

TEMPORARY WALKS SHALL BE PROVIDED, MAINTAINED AND REMOVED AS DIRECTED BY THE ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR THIS PURPOSE:

ITEM 608 2,203 Sq.Ft. . 5" TEMPORARY SIDEWALK, AS PER PLAN
ITEM 452 13.3 Sq.Yds. 10" PORTLAND CEMENT CONCRETE PAVEMENT FOR TEMP. SIDEWALK

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR. ALTERNATES SHALL NOT BE USED WHERE 615 TEMPORARY ROADS AND PAVEMENTS HAS DESIGNATED.

POWER COMPANY SERVICE ROAD, FIRESTONE DRIVE (PRIVATE).

ACCESS Shall BE MAINTAINED ON ONE OF THESE DRIVES AT ALL TIMES UNTIL RELOCATED LEY DRIVE HAS BEEN COMPLETED.

SWARTZ ROAD

SWARTZ ROAD MAY BE CLOSED DURING THE TIME THAT THE TRAFFIC IS USING THE NEWLY CONSTRUCTED SOUTHBOUND LANES ON S. MAIN STREET. SWARTZ ROAD SHALL BE CONSTRUCTED AT THE SAME TIME THAT THE NORTHBOUND LANES ON S. MAIN STREET ARE BEING COMPLETED. WHILE CLOSED, A ROAD CLOSED SIGN SHALL BE ERECTED AT GLENMOUNT AVENUE.

MANCHESTER ROAD

TWO-WAY TRAFFIC Shall BE MAINTAINED AT ALL TIMES. THE PROPOSED NORTHBOUND LANES ARE TO BE CONSTRUCTED FIRST. DURING THIS TIME TRAFFIC WILL BE MAINTAINED ON THE SOUTHBOUND PORTION OF THE EXISTING PAVEMENT LEFT OF THE NEW CENTER LINE FROM STATION 421 + 65 TO STATION 32 + 00. FROM STATION 32 + 00 TO STATION 47 + 76 IT WILL BE NECESSARY TO CONSTRUCT A VARYING WIDTH STRIP OF CLASS "A" TEMPORARY PAVEMENT, ADJACENT TO THE WEST EDGE OF THE EXISTING PAVEMENT AS SHOWN ON THE PLANS, TO BE USED IN CONJUNCTION WITH THE PORTION OF THE EXISTING PAVEMENT LEFT OF THE NEW CENTER LINE. THE TEMPORARY PAVEMENT SHALL BE CONSTRUCTED NEXT TO THE EXISTING PAVEMENT IN SUCH A MANNER AS TO ALLOW FREE MOVEMENT OF TRAFFIC OVER THE JOINT BETWEEN THE TWO. FOR THIS FIRST PHASE OF CONSTRUCTION, NORTHBOUND TRAFFIC WILL BE DIRECTED ONTO THE EAST HALF OF THE SOUTHBOUND LANES AT THE MEDIAN OPENING JUST SOUTH OF THE CANAL BRIDGE.

WHEN THE NEW NORTHBOUND LANES ARE COMPLETE TRAFFIC WILL BE DIRECTED ONTO THEM WHILE THE PROPOSED SOUTHBOUND LANES ARE BUILT. THE MEDIAN OPENING SOUTH OF THE CANAL BRIDGE WILL BE USED TO DIRECT SOUTHBOUND TRAFFIC OFF THE NEW LANES AND ONTO THE EXISTING SOUTHBOUND LANES.

COST OF THE ABOVE SHALL BE INCLUDED IN ITEM 615 Sq. Yds. TEMPORARY PAVEMENT, USING CLASS "A" PAVEMENT, FOR MANCHESTER ROAD. FOR PLAN & TYPICAL SECTION OF MANCHESTER ROAD TEMPORARY PAVEMENT SEE SHEET Nº 225.

SOUTH MAIN STREET

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF EITHER THE EXISTING PAVEMENT, THE PROPOSED PAVEMENT, OR TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH ITEM 616 CALCIUM CHLORIDE.

BECAUSE OF THE NECESSITY OF BUILDING PORTIONS OF THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE PAVEMENT PART AT A TIME, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE 304 AND/OR 310 COURSES ON CENTERLINE OR JOINT LINES.

THIS SHALL BE ACCOMPLISHED BY BUILDING THE 304 AND 310 COURSES, PLACED WITH THE FIRST PORTION OF THE PAVEMENT BUILT, AT LEAST EIGHTEEN (18) INCHES BEYOND THE CENTERLINE OR JOINT LINE AND BY SURFACING NO CLOSER THAN EIGHTEEN (18) INCHES TO THIS EDGE OF THE ABOVE COURSES. WHEN THE SECOND PORTION OF THE PAVEMENT IS BUILT, AT LEAST TWELVE (12) INCHES OF THESE PROJECTING COURSES SHALL BE BROKEN DOWN AND THOROUGHLY KEYED IN WITH THE NEWLY PLACED CORRESPONDING COURSES IN THE SECOND PORTION OF THE PAVEMENT BUILT. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PERTINENT PAVEMENT ITEMS.

GLENMOUNT AVENUE

TWO-WAY TRAFFIC WILL BE MAINTAINED ON GLENMOUNT BY MEANS OF A TEMPORARY Road , AS SHOWN ON THE PLANS, WHILE THE STRUCTURE OVER THE PROPOSED CHANNEL IS BUILT. DURING THIS SAME PERIOD THE PIERS FOR THE MAIN LINE STRUCTURE WILL BE BUILT AND THE STEEL ERECTED ACROSS GLENMOUNT. WHILE THE RUNAROUND IS IN USE, THE PROPOSED PAVEMENT FOR GLENMOUNT WILL BE COMPLETED FROM STATION 48 + 80 TO STATION 53 + 00. THE TIE INTO EXISTING PAVEMENT WILL BE MADE IN SINGLE LANE WIDTHS AND TRAFFIC WILL BECOME ONE-WAY DURING THIS PERIOD.

THE SOUTHBOUND LANE WILL BE TIED IN FIRST WHILE THE RUNAROUND IS STILL IN USE. THE TRAFFIC WILL THEN LEAVE THE TEMPORARY ROAD AND USE THE NEW SOUTHBOUND LANE WHILE THE NORTHBOUND LANE IS TIED IN.

COST OF THE ABOVE SHALL BE INCLUDED IN ITEM 615 LUMP SUM, TEMPORARY ROADS USING A TRAFFIC COMPACTED SURFACE COURSE FOR GLENMOUNT AVENUE. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR USE IN CONSTRUCTING AND MAINTAINING THE SURFACE OF THIS RUNAROUND.

410 TRAFFIC COMPACTED SURFACE		550 CU. YDS.
616 CALCIUM CHLORIDE	11.0 TONS	

LEY DRIVE

Traffic shall be maintained on Ley Dr. at all times by use of either existing pavement, the proposed pavement, or temporary roads surfaced with 410 Aggregate and stabilized with 616 Calcium Chloride. Prior to construction of the temporary road the unsuitable material in the area of the temporary road shall be excavated and replaced as shown on sh. 10. After the temporary road is constructed and open to traffic the unsuitable material remaining shall excavated and the mainline embankments shall be constructed with the exception of the portion in the area of the temporary road which shall remain in use until the Proposed Ley Dr. (Access Rd.) is opened to traffic. Construction of Proposed Ley Dr. (Access Rd.) shall be deferred until work on the mainline embankments except the portion occupied by the temporary road, has been completed.

The following quantities have been included for use in constructing and maintaining the surface of the temporary road

410 Traffic Compacted Surface Type A or B 320C.Y.
616 Calcium Chloride 6.4 Ton

Rev. 9-16-66

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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WATER MAINS

EXISTING HYDRANTS TO BE REMOVED AND DISPOSED OF, WILL NOT BE SALVAGED, BUT WILL BECOME THE CONTRACTOR'S PROPERTY TO BE DISPOSED OF OUTSIDE THE LIMITS OF CONSTRUCTION.

THE EXISTING WATER MAINS INDICATED FOR REMOVAL OR ABANDONMENT, AS SHOWN ON THE UTILITIES PLAN SHEETS, WILL BE CUT AND PLUGGED BY THE CITY OF AKRON OUTSIDE THE LIMITS OF EXPRESSWAY CONSTRUCTION AT LOCATIONS INDICATED ON THE PLANS. NECESSARY EXCAVATION FOR CUTTING AND PLUGGING WILL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE MAINS, WHERE INDICATED ON THE PLANS, WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION. THE COST OF REMOVING THESE MAINS WILL BE PAID FOR UNDER ITEM 203 EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION.

THE CITY'S CHARGE TO THE CONTRACTOR FOR CUTTING AND PLUGGING EXISTING WATERMAINS WILL BE $50.00 EACH.

THE CONTRACTOR SHALL INSTALL AND TEST RELOCATED WATER HYDRANTS AT THE LOCATIONS SHOWN ON THE PLANS.

THE MAINS SHALL BE CONSTRUCTED IN THE LOCATION AND TO THE GRADE INDICATED ON THE UTILITIES PLAN SHEETS. WHERE THE GRADES ARE NOT SHOWN, THE AXIS OF THE PIPE SHALL BE IN GENERAL 5'-0" BELOW THE FINISHED GRADE.

CONNECTIONS TO EXISTING MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT. THE CONTRACTOR WILL BE CHARGED FOR MAKING THESE CONNECTIONS IN THE AMOUNTS GIVEN BELOW:

4"	$150.00	10"	$175.00
6"	$150.00	12"	$200.00
8"	$175.00	16"	$225.00

THESE CHARGES INCLUDE ALL LABOR, BRAIDED HEMP AND LEAD NECESSARY TO MAKE THE CONNECTION. PIPE AND FITTINGS WILL BE SUPPLIED BY THE CONTRACTOR. NECESSARY EXCAVATION FOR CONNECTIONS WILL BE PERFORMED BY THE CONTRACTOR, THE COST OF WHICH TO BE INCLUDED IN THE PRICE BID FOR WATER MAINS.

INSTALLATION OF THE PIPE AND HYDRANTS, INCLUDING EXCAVATION, FURNISHING LEAD AND BRAIDED HEMP, FURNISHING AND PLACING SAND CUSHION, BACKFILLING, BLOCKS, ALL FITTINGS, VALVES, ETC. DISPOSAL OF SURPLUS EXCAVATION AND ALL INCIDENTALS WILL BE PAID FOR UNDER "ITEM 814.21.

THESE BID ITEMS AS COVERED IN 814.21 ARE TO INCLUDE THOSE CHARGES GIVEN ABOVE FOR PORTIONS OF WORK PERFORMED BY THE CITY OF AKRON.

CEMENT LINED PIPE (814.02)

CEMENT LINED PIPE 4-INCHES THROUGH 12-INCHES SHALL BE LINED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS. SPECIALS WILL NOT REQUIRE CEMENT LINING.

CEMENT LINED PIPE AND SPECIALS 16-INCHES THROUGH 24-INCHES SHALL BE LINED IN ACCORDANCE WITH AMERICAN STANDARD SPECIFICATIONS FOR CEMENT MORTAR LINING FOR CAST IRON PIPE AND FITTINGS ASA A 21.4 - 1939, OR LATEST REVISION THREOF.

VALVES (814.02)

THE VALVES SHALL CONFORM TO THE LATEST REVISION OF AWWA SPECIFICATIONS C-500 FOR GATE VALVES FOR ORDINARY WATER WORKS SERVICE, EXCEPT AS HEREINAFTER SPECIFIED.

THE VALVES SHALL BE IRON-BODY BELL END, BRONZE MOUNTED, DOUBLE DISC, PARALLEL SEAT, GATE VALVES WITH INSIDE NON-RISING STEM INTENDED FOR ORDINARY WATER WORKS PURPOSES. VALVES WILL BE INSTALLED IN A VERTICAL POSITION AND DESIGNED TO OPERATE EQUALLY WELL WITH PRESSURE ON EITHER SIDE OF THE GATE. VALVES SHALL BE DESIGNED FOR 300 POUND TEST AND 175 POUND WORKING PRESSURE AND ARE TO OPEN BY TURNING THE OPERATING NUT TO THE RIGHT OR CLOCKWISE.

VALVES TO BE FURNISHED SHALL BE KENNEDY VALVE COMPANY, FIGURE 56; DARLING VALVE COMPANY, FIGURE 53; OR APPROVED EQUAL.

O-RING SEAL STUFFING BOX SHALL BE DESIGNED SO THAT THE VALVE CAN BE PACKED UNDER PRESSURE WHEN THE VALVE IS FULLY OPENED.

ALL PARTS OF THE WEDGING MECHANIZM SHALL BE OF BRONZE OR BRONZE MOUNTED.

ALL BOLTS AND NUTS SHALL BE CADMIUM-PLATED STEEL EXCEPT THAT THE NUTS FOR THE STUFFING BOX BOLTS SHALL BE OF BRONZE.

CERTIFIED COPIES OF INSPECTION AND TEST REPORTS FOR ALL VALVES SHALL BE FURNISHED THE CITY.

AFTER INSPECTION AND TESTING, THE VALVES SHALL BE PAINTED WITH TWO (2) COATS OF PAINT MEETING THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION.

WATER LINE RELOCATIONS SPECIFICATIONS

ALL WATER LINE RELOCATIONS SHALL BE MADE IN ACCORDANCE WITH DEPARTMENT OF HIGHWAYS SUPPLEMENTAL SPECIFICATIONS No. 814, " WATER MAINS AND SERVICE BRANCHES," REVISED APRIL 24, 1965, EXCEPT AS MODIFIED BY THE FOLLOWING SPECIAL PROVISIONS. IN ALL CASES OF CONFLICT WITH SUPPLEMENTAL SPECIFICATION 814, THESE NOTES SHALL GOVERN, THE FIGURE IN PARENTHESIS IN THESE NOTES REFER TO THE SECTION OF SUPPLEMENTAL SPECIFICATIONS 814, WHICH IS BEING MODIFIED.

CAST-IRON WATER MAIN PIPE AND FITTINGS, (814.02 a)

CAST-IRON PIPE FOR 6 INCH TO 12 INCH WATER MAINS SHALL BE CLASS 24 BELL AND SPIGOT MEETING THE REQUIREMENTS OF ASA A21.6 OR ASA A21.8 CAST-IRON PIPE 16 INCHES AND OVER SHALL BE CLASS 25 PIPE AND SHALL BE OF THE BELL AND SPIGOT TYPE MEETING THE REQUIREMENTS OF ASA A21.6 OR ASA A21.8. ALL CAST IRON PIPE SHALL BE CEMENT MORTAR LINED AND OUTSIDE BITUMINOUS COATED AS SPECIFIED IN ASA A21.4 OR AS NOTED IN THESE PLANS. CAST-IRON PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS MAY BE PURCHASED FROM THE CITY OF AKRON WATER DEPARTMENT. IF THIS MATERIAL IS PURCHASED ELSEWHERE, CERTIFIED COPIES OF INSPECTIONS AND TESTS REPORTS BY AN A.W.W.A. APPROVED TESTING LABORATORY SHALL BE FURNISHED TO THE CITY OF AKRON WATER DEPARTMENT AND THE ENGINEER PRIOR TO INSTALLATION. PIPE AND FITTINGS FURNISHED FOR THIS PROJECT MUST HAVE BEEN MANUFACTURED WITHIN 2 YEARS OF THE TIME IT IS TO BE INSTALLED.

VALVES (814.02 d)

AKRON STANDARD VALVE BOXES SHALL BE USED WITH EACH VALVE. SEE SHEET No. 253 FOR DETAILS.

VALVE BOXES ADJUSTED TO GRADE

ALL WORK REQUIRED UNDER THIS ITEM SHALL BE PERFORMED BY THE CONTRACTOR with payment included in unit price bid for Conduit.

SERVICE LINES AND FITTINGS (814.02 e),

SERVICE LINES AND FITTINGS FROM THE MAIN TO AND INCLUDING THE STOP AND BOX INCLUDING EXCAVATION AND INSTALLATION WILL BE FURNISHED AND PERFORMED BY THE CITY OF AKRON AT THE CONTRACTOR'S EXPENSE. BACKFILLING SHALL BE PERFORMED BY THE CONTRACTOR. THE COST TO THE CONTRACTOR FOR INSTALLATION OF EACH 1" SERVICE LINE WILL BE $95.00 EACH.

REACTION BLOCKING (814.06),

PAYMENT FOR CONCRETE BLOCKING SHALL BE INCLUDED IN THE PRICE BID FOR THE PERTINENT PIPE ITEM. FOR BLOCKING DETAILS SEE SHEET No. 254

ADJUSTMENT OF WATER MAINS

WATER MAINS SHALL BE ADJUSTED TO MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 6" BETWEEN ALL SEWERS AND CULVERTS.

SERVICE STOPS AND BOXES REMOVED AND RESET (814.16),

ALL WORK REQUIRED UNDER THIS ITEM WILL BE PERFORMED BY THE CITY OF AKRON WATER DEPARTMENT AT THE CONTRACTOR'S EXPENSE, EXCEPT BACKFILLING WHICH SHALL BE PERFORMED BY THE CONTRACTOR. THE COST TO THE CONTRACTOR FOR PERFORMING THIS WORK SHALL BE $45.00 FOR EACH SERVICE STOP AND BOX REMOVED AND RESET.

SERVICE BOXES ADJUSTED TO GRADE (814.18),

ALL WORK REQUIRED UNDER THIS ITEM WILL BE PERFORMED BY THE CITY OF AKRON WATER DEPARTMENT AT NO COST TO THE CONTRACTOR.

WATER METERS AND BOXES REMOVED AND RESET (814.19 ,

ALL WORK REQUIRED UNDER THIS ITEM WILL BE PERFORMED BY THE CITY OF AKRON WATER DEPARTMENT AT CONTRACTOR'S EXPENSE, EXCEPT BACKFILLING WHICH SHALL BE DONE BY THE CONTRACTOR. THE COST OF PERFORMING THIS WORK TO THE CONTRACTOR SHALL BE $55.00 FOR EACH WATER METER AND BOX REMOVED AND RESET.

FIRE HYDRANTS (814.02)

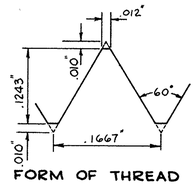
THE HYDRANTS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST REVISION OF AWWA SPECIFICATIONS C 502 FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE, EXCEPT AS HEREINAFTER SPECIFICALLY MODIFIED.

THE HYDRANTS SHALL BE OF THE POST TYPE WITH COMPRESSION TYPE OF SHUT OFF; DESIGNED FOR A WORKING PRESSURE OF 150 POUNDS PER SQUARE INCH IN ORDINARY WATER WORKS SERVICE.

THE DISTANCE FROM THE CENTER OF THE INLET CONNECTION TO THE GROUND LINE SHALL BE 5 FEET 0 INCHES (5'-0").

THE TYPE OF SHUT OFF SHALL BE COMPRESSION TYPE EITHER WITH OR AGAINST PRESSURE.

EACH HYDRANT SHALL HAVE TWO-2-1/2 INCH AND ONE-4 INCH BRONZE NOZZLE NIPPLES THREADED TO CONFORM WITH AKRON, OHIO FIRE DEPARTMENT STANDARD HOSE COUPLING AS FOLLOWS:



FORM OF THREAD

DATA FOR NOZZLE THREADS

DIAMETER OF NOZZLE	4 IN.	2-1/2 IN.
OUTSIDE DIAMETER OF THREAD	4.875 IN.	3.250 IN.
ROOT DIAMETER	4.627 IN.	2.962 IN.
TOTAL LENGTH THREADED	1-1/8 IN.	15/16 IN.
FLAT TOP AND VALLEY OF THREAD	.010 IN.	.010 IN.
THREADS PER INCH	6 IN.	6 IN.

OUTER END OF THREAD LEFT BLANK FOR 1/8 INCH AND TERMINATED BY "HIGBEE CUT" TO AVOID CROSSING AND MUTILATION OF OTHERWISE FINELY DRAWN OUT THREAD.

NIPPLES SHALL BE THREADED DIRECTLY INTO THE HYDRANT BARREL WITH LEFT-HAND THREAD. BUSHINGS WILL NOT BE PERMITTED. NOZZLE GASKETS AND CHAINS WILL NOT BE REQUIRED.

HYDRANTS SHALL OPEN BY TURNING TO THE LEFT (COUNTER CLOCKWISE). THERE SHALL BE CAST ON TOP OF THE HYDRANT IN CHARACTERS RAISED 1/8", AN ARROW AT LEAST 2-1/2 INCHES LONG, AND THE WORD "OPEN" IN LETTERS 1/2" HIGH AND 1/8" IN RELIEF, INDICATING DIRECTION TO TURN TO OPEN THE HYDRANT.

THE HYDRANT BARREL SHALL BE DESIGNED TO PERMIT THE VALVE, AND OPERATING MECHANISM TO BE REMOVED WITHOUT DISTURBING THE BARREL.

THE HYDRANTS SHALL BE SO CONSTRUCTED THAT IF THE BARREL IS BROKEN, THE VALVE WILL REMAIN CLOSED.

HYDRANT BARRELS SHALL BE IN TWO SECTIONS. THE FLANGED JOINT SHALL BE TWO (2) INCHES ABOVE GRADE LINE. THE BARREL SHALL BE SO DESIGNED AS TO PERMIT THE USE OF ONE OR MORE STANDARD FLANGED EXTENSIONS, WHICH EXTENSIONS ARE TO BE AVAILABLE FROM THE HYDRANT MANUFACTURER, IN LENGTHS OF 6 INCHES TO 60-INCHES IN 6-INCH INCREMENTS.

VALVE AND DRAIN SHALL BE OPERATED BY A SINGLE STEM. AN AUXILIARY STEM OR ROD FOR OPERATING THE DRAIN WILL NOT BE PERMITTED. THE STEM SHALL BE SO DESIGNED TO PERMIT THE USE OF STANDARD STEM EXTENSIONS WHICH EXTENSIONS ARE TO BE AVAILABLE FROM THE HYDRANT MANUFACTURER IN LENGTHS OF 6-INCHES TO 60-INCHES IN 6-INCH INCREMENTS.

O-RING SEAL SHALL BE USED FOR PACKING IN STUFFING BOX. FLANGED JOINTS SHALL HAVE APPROVED PAPER-TREATED GASKETS.

ALL HYDRANTS SHALL HAVE A MAIN VALVE OPENING OF AT LEAST 5 INCHES IN DIAMETER. THE VALVE SHALL BE OF SYNTHETIC RUBBER AT LEAST 1-1/8 INCHES THICK. THE BRONZE VALVE SEAT SHALL BE SECURELY FASTENED IN PLACE.

ALL HYDRANTS SHALL BE FULLY BRONZE MOUNTED. ALL BOLTS AND NUTS SHALL BE CADMIUM PLATED.

ALL IRON WORK SHALL BE THOROUGHLY CLEANED AND THE VALVE RODS AND THE INSIDE OF ALL IRON PARTS AND THE OUTSIDE OF THE HYDRANT BELOW THE GROUND LINE SHALL BE THOROUGHLY PAINTED WITH TWO COATS OF AN APPROVED ASPHALTUM PAINT. THE OUTSIDE OF THE HYDRANTS ABOVE THE GROUND LINE SHALL BE PAINTED WITH TWO COATS OF AN APPROVED RED PAINT.

ALL HYDRANTS SHALL BE TESTED AT PRESSURE 300 POUNDS PER SQUARE INCH BEFORE LEAVING THE FACTORY AS SPECIFIED IN AWWA SPECIFICATION C 502.

THE CONTRACTOR SHALL SUBMIT A SWORN STATEMENT OF THE RESULTS OF THE TESTS OF THE HYDRANTS.

IN ADDITION TO THE GENERAL REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION No. 814 ALL HYDRANTS SHALL BE SET ON A STANDARD CONCRETE HYDRANT BLOCK AS DETAILED ON THE PLANS AND ALL HYDRANTS SHALL BE PROVIDED WITH A DRAINAGE PIT AS PER SECTION 814.05 THE COST OF THE HYDRANT BLOCK AND DRAINAGE PIT IS INCLUDED IN THE UNIT PRICE BID FOR EACH PERTINENT HYDRANT ITEM.

PIPE AND SPECIAL CASTINGS (814.02)

ALL PIPE, FITTINGS, VALVES, ETC. SHALL BE BELL AND SPIGOT LEAD JOINTS. THE JOINTS SHALL BE MADE WITH A BRAIDED HEMP PACKING.

ALL CENTRIFUGALLY CAST, CAST-IRON PIPE SHALL BE MANUFACTURED IN STRICT CONFORMITY WITH THE AMERICAN ASSOCIATION SPECIFICATIONS ASA 21.6 1952 OR A 21.8 1952 AS APPROVED BY THE AWWA, AWWA C-106-53 OR C-108-53 RESPECTIVELY.

CENTRIFUGALLY CAST BELL AND SPIGOT PIPE SHALL HAVE THE FOLLOWING BARREL DIMENSIONS:

NOMINAL INSIDE DIAMETER	CLASS	BARREL O.D.	THICKNESS OF PIPE
6 INCHES	24	6.90 INCHES	0.44 INCHES
8	24	9.05	0.48
10	24	11.10	0.52
12	24	13.20	0.56
16	25	17.80	0.68
20	25	22.06	0.78
24	25	26.32	0.85

EVERY PIPE SHALL BE MARKED FOR IDENTIFICATION WITH THE LETTERS AWW, THE INITIAL OF THE MAKER'S NAME AND FIGURES SHOWING THE YEAR IN WHICH IT WAS CAST, THE NUMBER SIGNIFYING THE ORDER IN POINT OF TIME IN WHICH IT WAS CAST, THE FIGURES DENOTING THE YEAR ABOVE AND THE NUMBER BELOW. THE WEIGHT AND THE CLASS LETTER SHALL BE CONSPICUOUSLY PAINTED IN WHITE ON THE INSIDE OF EACH PIPE AFTER THE COATING HAS BECOME HARD.

FOR CEMENT LINING REQUIREMENTS SEE NOTE ABOVE.

EVERY PIPE SHALL BE COATED ON THE OUTSIDE WITH A BITUMINOUS COATING.

ALL STANDARD SPECIAL CASTINGS SHALL BE MANUFACTURED IN STRICT CONFORMITY WITH THE AMERICAN WATER WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR CAST IRON PRESSURE FITTINGS AWWA C-100.08.

ALL CASTINGS TO BE MARKED WITH AWW AS FOR PIPE.

SPECIAL CASTINGS 4-INCHES THROUGH 12-INCHES SHALL BE COATED ON THE INSIDE AND OUTSIDE WITH BITUMINOUS COATING. SPECIAL CASTINGS 16-INCHES THROUGH 24-INCHES SHALL BE COATED ON THE OUTSIDE WITH A BITUMINOUS COATING.

SUMMARY OF TABLES

PAVEMENT & ROADWAY

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

SUMMIT COUNTY
SUM-277-0.46

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SHEET Nº	T-71 9" REINF P.C.C. PAV'T. SQ. YD.	T-71 10" REINF P.C.C. PAV'T. SQ. YD.	T-70 7" P.C.C. PAV'T. S.Y.	T-35 ASPH. CONC. SURFACE COURSE TYPE "C" (70-85) C.Y.	B-35 ASPH. CONC. LEVELING COURSE TYPE "C" (70-85) CU. YD.	B-35 ASPH. CONC. BASE COURSE (70-85) CU. YD.	B-70 P.C.C. BASE COURSE S.Y.	I-22 SUBBASE GRADING "A" OR "B" AS PER PLAN CU. YD.	I-22 SUB-BASE CU. YD.	E-1 COMPACTED SUB-GRADE S.Y.	T-30 BIT. TACK COAT GAL.	T-30 BIT. PRIME COAT GAL.	T-31 BITUMINOUS SURFACE TREATMENT Nº 6 AGG. C.Y.	T-31 BIT. MAT'L. GAL.	T-32 BITUMINOUS ROAD MIX SURFACE COURSE BIT. MAT'L. GAL.	T-32 Nº 46 AGG. CU. YD.	T-32 Nº 89 AGG. CU. YD.	T-32 Nº 6 AGG. CU. YD.	T-32 SEAL COAT GAL.	B-19 AGGREGATE BASE COURSE CU. YD.	B-21 WATER-PERVIOUS AGGREGATE BASE COURSE CU. YD.	SPECIAL DRAINAGE CONNECTION USING Nº 8 AGGREGATE CU YD	SPECIAL STD. EXPANSION BOLT EACH	I-7 REINF. CONC. APPR. SLAB T=13" S.Y.	I-13 4" CONC. SIDE-WALK S.F.	I-13 TYPE B CONC. STEPS LIN. FT.	I-12 CONCRETE CURB STD. TYPE 2 COMB. CURB & GUTTER LIN. FT.	I-12 CONCRETE CURB STD. TYPE 2A LIN. FT.	I-12 CONCRETE CURB STD. TYPE 6 LIN. FT.	I-12 CONCRETE CURB STD. TYPE 7 LIN. FT.	I-12 CONCRETE CURB MOD. TYPE 7 LIN. FT.	I-12 CONCRETE CURB STD. TYPE 8 LIN. FT.	I-21 CONC. MED. PAVEMENT STD. TYPE 1 SQ. YD.	I-21 CONC. MED. PAVEMENT STD. TYPE 2 SQ. YD.	I-23 PRE-CAST CONC. DIVIDER STD. EACH	I-15 GUARD RAIL TEMP. REMOVED & DISPOSED LIN. FT.	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE DEEP LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE DEEP LIN. FT.	I-15 GUARD RAIL BARRIER REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL TEMP. REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL REMOVED & DISPOSED LIN. FT.	I-15 GUARD RAIL CONC. POSTS REMOVED & DISPOSED EACH	SHEET Nº
24										385		183			411	26	1.8	3.6	114	99																								24
25																																											25
26																																											26
27																									133.3																		27
28																									400																		28
29																									400																		29
30																																											30
31																									218.1																		31
114	4623.3	921.2						1145.9	137.1	8155			20.6	694.6							118.8	421.9	203.0			972			653.8	2307.1	122		214.7	21.4	31.9							114
*147	1688.9			2.7			12.4	328.3		1764	2												40				32.5		507.0						463.0							*147
*148	6019.8							1210.4		6345																12	80		2000						325							*148
*149	849 / 5650							162 / 1076		870 / 5797																686 / 3743			262 / 1462						29 / 310 / 146							*149
*150	1921.1			4.2				362.7		1973																2651			508.7			49			51.7							*150
167	109.8			10.4	15			101.3		503												62.4						201.6	78.2	186												167
172			10# / 341	128.9	128.9				801.5	4491												515.6				3970	42	2802.5														172
178				900	900				565.6	3796												3500				**3346	12	2045.8														178
*226 226	10479 / 10383		379 / 556.5	12 / 27.4																	49 / 126					32+ / 6885	8/84		65.2													*226 226
	29861.4	921.2	179 / 556	1260.7	233.9	0	*12.4	2063.4 / *323.2	1504.2	10358 / 25,217	2*	183	20.6	694.6	411	26	1.8	3.6	114	49 / 245	1350.8	203.0	40*	1151.4	15,280	134	325	5049.0	3433 / 2194	3315.8	122	49*	214.7	21.4	469* / 3632	0	412.5	6645.5	5187.0	385	1012.5	437.5*	0	
	SUB TOTAL (IN CITY)																			394																						
31																									204.2																		31
32			194 / 341																															81.3			240	122				32
33																																		GGG.7			2000	1000				33
34																																		GGG.7			2000	1000				34
35																																		GGG.7			1110	1000				35
36																														G39.8				GGG.7			362.5	1000				36
37																																		GGG.7				1000				37
38																																		GGG.7			501.5	1000				38
39																									400									587.6				1708	881				39
124	4486.5	671.6						1133.2	74.6	6791			11.9	372.3							82.3	248.2	125.4						1049.0	265.3	65		179.4	120.9	606.0				1803	909				124
133	5945.4	671.6						1396.0	79.2	8686			14.8	461.7							98.2	307.8	177.6						1749.0	259.0	61.4		138.6	108.3	23.3				2132.8					133
184										6709		2716			6112	380	27.2	54.4	1698	157.0														23.3			3410.5					184
191	4972.6			7.9	7.9	10.0		1012.5		5626		91								506								1212.8	66.3	98.9							300					191
192	4358.2							1241.9		5777																								83.4	24		475					192
193	3738.0			11.7	11.7	28.2		820.9		4485		135								75.1								1160.1	874.1				642.5	146.2			945.5			175		193
209	500.3			58.3	41.8			271.8		2020		601								258.4								675.5	187.6	138.6				210.6	7/1		338.5				43	209
213				55.6	55.6			261.3		1723		640								267.4									297.8	516.6							50.0					213
226			93.9	24.6																97.4				122.2						96.6											226
	24001.0	13432	93.9	158.1	117.0	47.2	0	6137.6	153.8	41,826	0	4183	25.7	834.0	6112	380	27.2	54.4	1698	2505.4	556.0	303.0	0	1034.6	0	0	0	3048.4	4223.8	2014.8	126.4	0	318.0	961.7	5761.9	35	0	17,386.3	7012.0	0	0	175	43	
	SUB TOTAL (RURAL)																																									

* = STATE & CITY PARTICIPATION ONLY
** = 100 % CITY PARTICIPATION

+ = NO ADDITIONAL MEDIAN OPENINGS ARE TO BE PROVIDED WITHOUT OBTAINING PRIOR APPROVAL OF THE CHANGE ORDER.

SHEET Nº	E-8 REMOVAL & DISPOSAL EXIST. PAV'T. SQ. YD.	EXIST. SURFACE COURSE SQ. YD.	EXIST. CURB, CURB & GUTTER LIN. FT.	EXIST. SIDE-WALK SQ. FT.	S-24 REMOVAL OF EXIST. STONE WALL LUMP		
25			73				
26			300				
29			660				
30			2710				
31			1720				
*147		64.6	251				
*148	1070		251		LUMP		
149	~~1656~~ 802* / 1353						
*150	431	76	432	1760			
167			454				
172	1704* / 1353		1058				
178			1340 / 314* / 5310				
	~~3057~~	140.6*	~~3248~~	1769*	LUMP*		
	SUB TOTAL (CITY)						
191	3511		1543				
192	4706		2086				
193	2867		1165				
	11,084		4704				
	SUB TOTAL (RURAL)						

T-10 TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC

LOCATION	CITY STATE	CITY STATE FEDERAL	STATE FEDERAL
	C.Y.		
MISC. USE	50	100	550
LEY DR.			320
GLENMOUNT AVE.			550
TOTAL	50	100	1420

$I-4 CALCIUM CHLORIDE FOR DUST CONTROL

LOCATION	CITY STATE	CITY STATE FEDERAL	STATE FEDERAL
	TONS		
MISC. USE	1	6	17
LEY DR.			6.4
GLENMOUNT AVE.			11.0
TOTAL	1	6	34.4

$ = INCLUDES QUANTITY FOR MAINTAINING TRAFFIC

DRILLED WELLS ABANDONED & CLEANING & DISPOSING OF EXIST. SEPTIC TANKS

LOCATION	SIDE	PARCEL Nº	WELLS ABAND. EACH	CLEAN & DISPOS OF EXIST. SEPTIC TANKS EACH
SUM. 277 ~ STA. 154+00	LT.	73WL	1	1
S. MAIN ST. ~ STA. 45+55	LT.	100WL	1	2
S. MAIN ST. ~ STA. 46+50	RT.	99WL	1	
S. MAIN ST. ~ STA. 47+27	LT.	97WL	1	1
S. MAIN ST. ~ STA. 48+20±	RT.	96WL	1	1
S. MAIN ST. ~ STA. 51+60±	RT.	93WL	1	1
SUM. 277 ~ STA. 100+51	LT.	94WL	1	1
SUM. 277 ~ STA. 103+00±	RT.	101 WL	1	1
SUM. 277 ~ STA. 220+00±	RT.	121WL	1	
SUM. 277 ~ STA. 221+72	RT.	127WL	1	1
SUM. 277 ~ STA. 222+00	LT.	123WL	1	1
SUM. 277 ~ STA. 222+58	RT.	132WL	1	1
SUM. 277 ~ STA. 222+95	LT.	124WL	1	1
SUM. 277 ~ STA. 222+95±	RT.	133WL	1	
SUM. 277 ~ STA. 223+30±	RT.	134AWL	1	
SUM. 277 ~ STA. 224+20±	RT.	134WL	1	
SUM. 277 ~ STA. 225+00±	℄	126WL	1	
TOTAL			17+	12+

LENGTH REDUCTION IN BARRIER GUARD RAIL (IN CITY)

5187.0 L.F. (LENGTH REQ'D) I-15 GUARD RAIL-STEEL BEAM-BARRIER TYPE (DEEP)
- 385.0 L.F. I-15 GUARD RAIL-BARRIER REMOVED & REBUILT

4802.0 L.F. NET LENGTH - I-15 GUARD RAIL-STEEL BEAM-BARRIER TYPE (DEEP) CARRIED TO GEN'L. SUMMARY

+ = THE VALUES SHOWN ARE ONLY ESTIMATED QUANTITIES. WHERE LOCATIONS HAVE BEEN SHOWN AS ± IT WAS NOT POSSIBLE TO LOCATE EITHER ITEM IN THE FIELD.

Rev 10-25-66 C.E.H.

SUMMARY OF TABLES

E.S.E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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SUMMIT COUNTY
SUM-277-6.68

SUMMARY OF TABLES

I - 1 PIPE (LIN. FT.)

SHEET NO.	CLASS A-1								CL. G-1	CL. B-1			CL. D-1	CLASS E-1								CLASS F-4				CLASS I-3			CLASS J-1						I-2	I-5 PIPE SPECIALS (EACH)																		I-8	SHEET NO.
																																					CLASS I-3								CL. F-4	CL. J-1	CL. E-1							
	21" M-6.4(d) 14 GAGE	30" M-6.6(b)	30" M-6.6(c)	36" M-6.6(b) M-6.4(d) M-6.8(b)	36" M-6.6(d) M-6.4(d)	48" M-6.4(d)	54" M-6.6(c)	108" M-6.6(e)	23"x14" ELLIP. M-6.7(a)	12"	15"	21"	12"	12"	15"	21"	27"	27" M-6.6(b) M-6.8(b)	33" M-6.6(b)	36"	42"	RADIUS PIPE	24"	6"	M-6.4(c) R"	12"	15"	M-6.4(b) 6"	6" SHALLOW	6" DEEP	6" M-6.4 (h)	6"	12"	15"	18"	21"	27"	36"	42"	MASONRY	90° BEND M-6.4(g) 6"	6" 30° M-6.4	6" 45° M-6.4	6" 60° M-6.4	6" 90° M-6.4	6" 90° M-6.4	6" 90° M-6.4	6" 90° M-6.4	12" 25° M-6.4	12" 22½° M-6.4	12" 15° M-6.4	18"x12" TEE M-6.6(b)	33"x15" TEE M-6.6(b)	33"x12" TEE M-6.6(b)	12" 45° WYE M-6.6(b)	12" 45° WYE M-6.6(b)	12" 60° WYE M-6.6(b)	12"x12" TEE M-6.6(b)	12" STD.	
*149														*149																																								*149
24																										10			520																										24
25																													246	1636																										25
26																								20					976	430																									26
27										100														10					841																									27
28										275														90	40		161		1779				253								1.04															28
29																								20					1504				108								0.26															29
30																								30			62		980	318	920		618		150						0.26				2				2							30
31												300					138							40	40		44		1326	658	146		124		116						0.62		2				3	3		2						31
114														196	16									60						190	3658		259				40					2		1													114
147														* 34															*475			* 54																								147
148										*110				* 72	*26						272	27		*60	*10				*1730		* 60	*107								0.76		1*		* 2			* 2									148
149														59					360	202									100	1478	160	522		94			158	60																		149
150														*158																*470		*175																								150
178										52				31																		110							0.46															178
167										150	38			27																						75																		167
172														30																																								172
234																							44																															234
235	252													*135	*36	*26								60*	10*				324*	732*		104*								440															235
144																								270	60				8272	4470		641																						144
SUB-TOTAL (CITY)	252	0	0	0	0	0	0	0	0	577	148	300	0	0	456	42	138	0	0	360	202	272	27	44	630	100	0	267	0	10486	5442	4884	60	1401	1362	114	266	115	158	60	7.80	0	1/5	0	1	1/5	2	2	3	1/6	0	2	8	0	1	0	1	1	1*	0	0	
31																													342																										31
32										76														20	20				2092				178								0.52						2									32
33										402														30	70			556	2483												0.78	2					3	2								33
34																								60					2680				218								0.78							2								34
35														6	76			390	180					40	10				1334	1278	214		170			120				0.73			1			1		2								35
36																								20					986	1082		225	325		66	450										1									36
37																								10	20				1474	1558		150	70							0.26				1		1								37
38																								40	20		64		2546				122								0.52						1			2	2				38
39																								40			92		2680				128								0.52										4				39
184																										38																												184
124																								20	60				1979	52			64								0.26				1		2	1	2						1	124
133														96										90	30		122		2460	264	18	20	160								0.78				1		3	2	2		6					133
191														68										30	10				1338		174		384	526							0.72		1													191
192																													1202				100																						192
193														78		254								40	20	32			968		240	54	106		266						0.23				1		2		2		1			1		193
209										204			6	178																			34								0.23															209
213														231												48																1.71															213
236							274																																			47.8															236
237							282																																			47.8															237
238									428																																	22.0															238
239				82																																					13.0															239
240		76																																							9.4															240
241			100																																						9.4															241
242					118																																				13.0															242
243								188																																	20.0															243
244									92																																	1.6															244
SUB-TOTAL (RURAL)	0	76	100	82	118	556	188	428	92	682	0	0	0	6	657	76	254	390	180	0	0	0	0	0	440	260	118	278	556	25554	5134	646	74	909	1961	266	66	570	0	0	192.04	2	1	1	0	4	0	12	11	6	2	2	12	1	0	0	0	0	1	1	

* DENOTES CITY & STATE PARTICIPATION ONLY

REV. 10-25-66 C.E.H.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SUMMARY OF TABLES

SHEET NO.	I-8 (EACH) INLETS: Nº 2-8 STD.	2-A-6 STD.	2-A-6 MOD.	Nº 2-A-8 STD.	Nº 2-A-8 MOD.	Nº 2-A-10 STD.	Nº 2-A-10 MOD.	Nº 2-A-12 STD.	Nº 2-A-14 STD.	CITY OF AKRON TYPE "D"	I-8 (EACH) CATCH BASINS: Nº 3 STD.	Nº 2-2-A STD.	Nº 2-2-B STD.	Nº 3-A STD.	Nº 5 STD.	Nº 6 STD.	MAN-HOLES Nº 1 STD.	INLET MAN-HOLES Nº 3 STD.	INLETS ADJ. TO GRADE	MAN-HOLES ADJ. TO GRADE	CATCH BASINS ADJUSTED TO GRADE	MAN-HOLES REBUILT AS PER PLAN	I-9 Nº 2 STONE UNDER DRAINS LIN. FT.	I-10 DUMPED ROCK CHANNEL PROT'N CU. YDS	RIP RAP USING CONC. REIF. SQ. YDS	GROUTED RIP RAP SQ. YDS	I-14 TYPE-1 LIN. FT. PAVED GUTTER MOD. A	B	I-16 (EACH) MAN-HOLES ABANDONED	INLETS ABANDONED	CATCH BASINS ABANDONED	L-10 SPEC. BERM & SLOPE PROT'N SQ. YDS.	SOD SQ. YDS.	L-120 JUTE MATTING SQ. YDS.	E-12 PIPE REMOVED 15" & UNDER LIN. FT.	OVER 15" LIN. FT.	SHEET NO.
*149											3*						2*																				*149
24																																				24
25																																				25
26		1				1																								3						26
27						1																														27
28			4		1		1																	5.2								117.9				28
29		1																						1.3								41.9				29
30			1		1		1		1							2	1							1.3										802		30
31						1	3	1									1							48.9				20						325		31
114		1						2			1	2		1		1	1																			114
147											2*						1*							3.6*												147
148											12*					2*	2*							128.2*		80*										148
149											6					4	5												2	6					49* 161	273* 757	149
150											4*						1*		1*	2*																	150
178														5										5.5													178
167										6							2																				167
172														1																							172
234																																				234
235																								16.1								4.3					235
144											2/1* 28	1				2/1* 5	1* 15				1			132* 118			10								49* 41	273* 45	144
SUB-TOTAL CITY	0	3	5	0	2	3	5	3	1	6	28	3	0	7	0	5	15	0	*1	*2	1	0	0	210 10		*8.0	30	0	2	11* 15	3	159.8	43	1127	210	1030	
31																																74.0					31
32			1		2																			2.6													32
33			2		1		1																	3.0													33
34					2											1								3.0													34
35				1	3	1									1		3							13.8				125					42	G11			35
36					1		2								1																		1045			36
37					2																			1.8													37
38					1		1																	2.6								84.6					38
39					2																			5.8													39
184																							352	2.2												184
124																								8.6				101				34					124
133	1											1	1	1		1								3.0								37.5		428			133
191											2			7			3		1					8.1					1	3					120		191
192											1																		1	3							192
193											2	1		4		1	1		1					1.3				10			3					288	193
209											2	1		2			2						242													209
213												1	2										352	20.1				10							534		213
221																								441													221
236																																41.2					236
237																																41.2					237
238																																					238
239																																16.2					239
240																																14.4					240
241																									38.5							14.4					241
242																								6.5	81.8							22.7					242
243																																16.9					243
244																								1.3													244
SUB TOTAL RURAL	1	0	3	1	14	1	4	0	0	0	7	4	3	14	2	3	9	1	1	0	0	0	946	527.4	120.3	0	20	226	2	9	0	196.1	243.0	2084	654	288	

* - DENOTES CITY & STATE PARTICIPATION ONLY

REV. 10-25-66 C.E.H.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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SUMMIT COUNTY
SUM-277-0.46

PAVEMENT CALCULATIONS

LINE Nº			
	T-71 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT		
1	One lane on Rt. from Sta. 70+00 to Sta. 86+00 = 700 ft.		
2	Area = 700 x 12 ÷ 9 = 933.33 S.Y.	933.33	S.Y.
3	Two outside lanes from Sta. 86+00 to Sta. 92+88.37 = 688.37 ft.		
4	Area = 688.37 x 2 x 12 ÷ 9 = 1835.66 S.Y.	1835.66	S.Y.
5	Variable width pav't. placed from ℄ Survey Sta. 92+88.37 to Sta. 100+46.41. Area calc. by subtracting		
6	the exist pav't. area from the completed 6 lane pav't area between the limits given above.		
7	Area of completed 6 lanes: Sta. 92+88.37 to Sta. 100+46.41 = 758.04 ft.		
8	Area = 758.04 x 6 x 12 ÷ 9 = 6064.32 S.Y. + *47.47 = 6111.79 S.Y.		
9	Area of existing pavement: E.B. Lanes Sta. 92+88.37 to 99+39.04 & 99+44.50 to 100+46.41 = 752.58 ft.		
10	W.B. Lanes Sta. 92+88.37 to 100+53.61 = 765.24 ft.		
11	Total length of exist. E.B.L. & W.B.L. = 752.58 + 765.24 = 1517.82 ft.		
12	Total area exist. pav't. = 1517.82 x 12 x 2 ÷ 9 = 4047.52 S.Y.		
13	Area of variable width pav't. = Line 8 minus Line 12 = 6111.79 - 4047.52 = 2064.27 S.Y.	2064.27	S.Y.
14	Two inside lanes from ℄ Survey Sta. 100+46.41 to Sta. 115+75.00 = 1528.59 ft.		
15	Deduct for Struct. = 181.54 ft. Net length = 1347.05 ft.		
16	Area of two inside lanes = 1347.05 x 2 x 12 ÷ 9 = 3592.13 S.Y.	3592.13	S.Y.
17	Six lane pav't. Sta. 115+75.00 to Sta. 151+54.55 = 3579.55 ft.		
18	Deduct for Structure & App. Slab: SUM-277-0250(270.34) & SUM-277-0240(267.26) = 537.60 ft.		
19	Net length = 3579.55 - 537.60 = 3042.35 ft.		
20	Area = 3042.35 x 12 x 6 ÷ 9 = 24,338.80 S.Y.	24,338.80	S.Y.
21	Area of Deceleration & Acceleration Pav't. for Ramps "A" & "B" = 494.00 + 1390.45 = 1884.35 S.Y.	1884.35	S.Y.
22	Area for Ramp "A" Sta. 0+00 to Sta. 3+67.76 = 921.17 S.Y. from sheet Nº 15	921.17	S.Y.
23	Total Area 10" T-71 in City of Akron = Sum of lines 2, 4, 13, 16, 20, 21, & 22 ⟶	35,560.71	S.Y.
24	Six lane pav't. Sta. 154+03.05 to Sta. 228+00 BK. = 7396.05 ft. & Sta. 222+50.78 Ahd. to Sta. 228+68.84 = 609.06 ft.		
25	Gross length = 7396.05 + 609.06 = 8006.01 ft. , Deduct for Struct. & App. Slab SUM-277-0071 (168.54)		
26	Net length = 8006.01 - 168.54 = 7837.47 ft.		
27	Area = 7837.47 x 12 x 6 ÷ 9 = 62,699.76 S.Y.	62,699.76	S.Y.
28	Area of Deceleration & Acceleration lanes for Ramp "B" C-2, D-2, C-1 & D-1 = 55.91 + 2(658.23) + 2(1307.78) = 4167.03	4167.03	S.Y.
29	Area of Ramp C-2 & D-2 from Sta. 0+00 to Sta. 2+54.00 = 2 x 671.61 = 1343.22 S.Y. from sheet Nº 15	1343.22	S.Y.
30	Total Area Rural - Sum of lines 27, 28 & 29 ⟶	68,210.01	S.Y.
31	Grand Total 10" T-71 = Sum of lines 23 & 30 ⟶	103,780.62	S.Y.
	* (Depressed concrete taper to be paved with ½" layer of T-31)		
	T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT		
32	Areas from Tabulated Summary of Ramp & Side Rd. Pav't. Sht. Nº 15		
33	Area in City of Akron = 20,861.4 S.Y.	20,861.4	S.Y.
34	Area Rural = 24,001.0 S.Y.	24,001.0	S.Y.
35	Grand Total 9" T-71 = Sum of lines 33 & 34 ⟶	44,862.4	S.Y.
	I-22 SUBBASE GRADING "A" OR "B" MODIFIED AS PER PLAN		
36	Sta. 70+00 to Sta. 86+00 = 700 ft. End Area Rt. = 7.3333 S.F.		
37	Vol. = 700 x 7.3333 ÷ 27 = 190.12 C.Y.	190.12	C.Y.
38	Sta. 86+00 to Sta. 92+88.37 = 688.37 ft. End Area Lt. & Rt. = 14.6667 S.F.		
39	Vol. = 688.37 x 14.6667 ÷ 27 = 373.93 C.Y.	373.93	C.Y.
40	Sta. 92+88.37 to 100+46.41 (W.B. Sta. 100+53.61) Area of T-71 from line 13 = 2064.27 S.Y.		
41	Vol. = 2064.27 x 6 ÷ 36 = 344.04 C.Y.	344.04	C.Y.
42	Area of 16' Median 94+27 to 100+46.41 = 619.41 x 16 = 9910.56 S.F.		
43	Area under Rt. Shoulder E.B.L. Sta. 92+88.37 to 99+39.04 = 650.67 x 2.67 = 1737.29 S.F.		
44	Area under Lt. Shoulder W.B.L. Sta. 92+88.37 to 100+53.61 = 765.24 x 2.67 = 2043.19 S.F.		
45	Area under Median Shoulder Rt. Sta. 92+88.37 to 94+27 = 138.63 x 5 = 693.15 S.F.		
46	Total area outside T-71 = Sum of lines 33 thru 36 = 9910.56 + 1737.29 + 2043.19 + 693.15 = 14,384.19 S.F.		
47	Vol. = 14,384.19 x .5 ÷ 27 = 266.37 C.Y.	266.37	C.Y.
48	Sta. 100+46.41 to Sta. 115+75.00 = 1528.59 - 191.54 (Struct) = 1337.05 ft. Under 16' Med. & Two inside lanes E. A. = 20.00 S.F.		
49	Vol. = 1337.05 x 20.00 ÷ 27 = 1034.85 C.Y.	1034.85	C.Y.
50	Sta. 115+75 to 119+91.47 = 416.47 ft. End Area = 46.6667 S.F.		
51	Vol. = 416.47 x 46.6667 ÷ 27 = 719.82 C.Y.	719.82	C.Y.
52	Sta. 122+11.81 to 138+50 = 1638.19 (Superelevated Section with underdrain on low side only)		
53	Deduct for Structure = 217.26 Net Length = 1638.19 - 217.26 = 1420.93 ft. End Area = 45.833 S.F.		
54	Vol. = 1420.93 x 45.833 ÷ 27 = 2412.05 C.Y.	2412.05	C.Y.
55	Sta. 138+50 to Sta. 151+70.05 = 1320.05 ft. End Area = 46.6667 S.F.		
56	Vol. = 1320.05 x 46.6667 ÷ 27 = 2298.68 C.Y.	2298.68	C.Y.

LINE Nº			
	I-22 SUBBASE GRADING "A" OR "B" MODIFIED AS PER PLAN (Continued)		
57	For Ramp "A" & "B" Decel. & Accel. lanes Area from line 21 = 1884.35 S.Y.		
58	Vol. = 1884.35 x 6 ÷ 36 = 314.06 C.Y.	314.06	C.Y.
59	From Tabulated Summary of Ramp & Side Rd. Pav't. Sht. Nº 15		
60	Vol. in City of Akron = 4386.5 C.Y.	4386.5	C.Y.
61	Total Volume City of Akron = Sum of lines 37, 39, 41, 47, 49, 51, 54, 56, 58 & 60 ⟶	12,340.42	C.Y.
62	Sta. 153+78.05 to Sta. 228+00 BK. = 7421.95 & Sta. 222+50.78 Ahd. to Sta. 228+68.84 = 609.06 ft.		
63	Gross length = 7421.95 + 609.06 = 8031.01 ft. Deduct for Structure SUM-277-0071 (118.54)		
64	Net length = 8031.01 - 118.54 = 7912.47 ft. End Area = 46.6667 S.F.		
65	Vol. = 7912.47 x 46.6667 ÷ 27 = 13,675.88 C.Y.	13,675.88	C.Y.
66	For Ramp B, C-1, D-1, C-2 & D-2 Accel. & Decel. lanes. Area from line 28 = 4167.03 S.Y.		
67	Vol. = 4167.03 x 6 ÷ 36 = 694.66 C.Y.	694.66	C.Y.
68	From Tabulated Summary of Ramp & Side Rd. Pav't. Sht. Nº 15		
69	Vol. Rural = 6137.6 C.Y.	6137.6	C.Y.
70	Total Vol. Rural Sum of lines 65, 67 & 69 ⟶	20,508.14	C.Y.
71	Grand Total I-22 Grading "A" or "B" As Per Plan = Sum of lines 61 & 70 ⟶	32,848.56	C.Y.
	T-31 BITUMINOUS SURFACE TREATMENT		
72	Length & Area 10' Shoulders		
73	In City = Sum of lines 186 & 191 = 6178.43 + 1015.82 = 8080.25 ft.		
74	Area = 8080.25 x 10 ÷ 9 = 8988.06 S.Y.		
75	Rural = Line 188 = 11,937.57 ft.		
76	Area = 11,937.57 x 10 ÷ 9 = 13,263.97 S.Y.		
77	Length & Area Median Shoulders		
78	In City = Sum of lines 102 & 104 = 1966.46 + 3167.35 = 5133.81 ft.		
79	Area = 5133.81 x 2 x 5 ÷ 9 = 5704.23 S.Y.		
80	Rural = Net length from line 196 = 7912.47 ft.		
81	Area = 7912.47 x 2 x 5 ÷ 9 = 8791.63 S.Y.		
82	Total Area in City = Sum of lines 74 & 79 = 8988.06 + 5704.23 = 14,692.29 S.Y.		
83	Total Area Rural = Sum of lines 76 & 81 = 13,263.97 + 8791.63 = 22,055.60 S.Y.		
84	Nº 6 Aggregate: In City		
85	Vol. = 14,692.29 x .008 = 117.54 C.Y.	117.54	C.Y.
86	Additional Vol. Ramp "A" & "B" Decel. & Accel Lanes = 3.07 + 5.88 = 8.95 C.Y.	8.95	C.Y.
87	Additional Vol. from Pavement Summary Sht. Nº 15 = 20.6 C.Y.	20.6	C.Y.
88	Total Vol. = Sum of lines 85, 86 & 87 ⟶	147.09	C.Y.
89	Rural		
90	Vol. = 22,055.60 x .008 = 176.44 C.Y.	176.44	C.Y.
91	Additional Vol. Ramp B, C-1, D-1, C-2 & D-2 Accel. & Decel. Lanes = .70 + 2(7.18) + 2(3.04) = 22.94 C.Y.	22.94	C.Y.
92	Additional Vol. from Pavement Summary Sht. Nº 15 = 25.7 C.Y.	25.70	C.Y.
93	Total Vol. = Sum of lines 90, 91 & 92 ⟶	225.08	C.Y.
94	Grand Total Nº 6 Aggregate for T-31 = Sum of lines 88 & 93 ⟶	372.17	C.Y.
95	Bituminous Material: In City		
96	Vol. = 14,692.29 x .25 = 3673.07 Gal.	3673.07	Gal.
97	Additional Vol. Ramp "A" & "B" Decel. & Accel. Lanes = 96.06 + 183.36 = 279.42 Gal.	279.42	Gal.
98	Additional Vol. from Pavement Summary Sht. Nº 15 = 694.6	694.6	Gal.
99	Total Vol. = Sum of lines 96, 97 & 98 = 4647.09 Gal.	4647.09	Gal.
100	Rural		
101	Vol. = 22,055.60 x .25 = 5513.90 Gal.	5513.90	Gal.
102	Additional Vol. Ramp B, C-1, D-1, C-2 & D-2 Accel. & Decel. Lanes = 21.75 + 2(224.44) + 2(123.28) = 717.19 Gal.	717.19	Gal.
103	Additional Vol. from Pavement Summary Sht. Nº 15 = 834.0 Gal.	834.0	Gal.
104	Total Vol. = Sum of lines 101, 102 & 103 = 7065.09 Gal	7065.09	Gal.
105	Grand Total Bituminous Material for T-31 = Sum of lines 99 & 104 ⟶ @ 0.25 Gal/Sq. Yd. 11,712.18 Gal		Gal.
106	Convert From 0.25 Gal/Sq. Yd. to 0.30 Gal/Sq. Yd. = 11,712.18 x 0.30 ÷ 0.25 = 14,054 Gal.	14,054	Gal.

E. & E.

FED. RD.	STATE	PROJECT	
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PAVEMENT CALCULATIONS

	I-22 SUBBASE		
	(Used Only Under Outside Shoulders Lt. & Rt.)		
106	Normal Section With Underdrain ~ End Area = 2.4055 Sq. Ft. (One Shoulder)		
107	Rt. Sta. 79+00 to Sta. 86+00 = 700 Ft.		
108	Rt. & Lt. Sta. 86+00 to Sta. 92+88.37 = 688.37 x 2 = 1376.74 Ft.		
109	Rt. & Lt. Sta. 115+75 to 119+91.47 = 416.47 x 2 = 832.94 Ft.		
110	Lt. Sta. 147+58.42 to 151+90.37 = 431.95 Ft.		
111	Total length in City = 3341.63 Ft. Vol. = 3341.63 x 2.4055 ÷ 27 = 308.85 C.Y.	308.85	C.Y.
112	Lt. Sta. 153+88.47 to Sta. 166+94.20 = 1305.73 Ft.		
113	Rt. Sta. 154+55.0 to Sta. 171+32.73 = 1677.73 Ft.		
114	Lt. Sta. 176+94.2 to Sta. 185+17.28 = 823.08 Ft.		
115	Rt. Sta. 180+32.73 to Sta. 188+40.20 = 807.47 Ft.		
116	Lt. Sta. 194+17.28 to Sta. 195+34.48 = 117.20 Ft.		
117	Rt. & Lt. Sta. 205+96.98 to Sta. 228+68.84 Ahd. = 2603.54 x 2 = 5387.08 Ft.		
118	Total length Rural = 10,118.20 Ft. Vol. = 10,118.20 x 2.4055 ÷ 27 = 935.10 C.Y.	935.10	C.Y.
119	Low Side Superelevation With Underdrain ~ End Area = 2.6092 Sq. Ft. (One Shoulder)		
120	Rt. Sta. 92+88.37 to Sta. 99+30.04 (E.B.L.) = 650.67 Ft.		
121	Lt. Sta. 122+60.20 to Sta. 138+58.42 = 1598.13 Ft. Ded. for Struct. = 217.26 Net length = 1598.13-217.26=1380.87		
122	Total length in City = 2031.54 Vol. = 2031.54 x 2.6092 ÷ 27 = 196.32 C.Y.	196.32	C.Y.
123	Lt. Sta. 195+34.48 to Sta. 205+96.98 = 1062.50 Ft.		
124	Total length Rural = 1062.50 Ft. Vol. = 1062.50 x 2.6092 ÷ 27 = 102.68 C.Y.	102.68	C.Y.
125	High Side Superelevation Without Underdrain ~ End Area = 3.8885 S.F.		
126	Lt. Sta. 96+00 to Sta. 100+46.41 = 446.41 Ft.		
127	Rt. Sta. 121+63.33 to Sta. 138+50 = 1686.67 ~ Ded. for Struct. = 217.26 ft. ~ Net length = 1686.67-217.26=1469.41'		
128	Total length in City = 1915.82 Ft. Vol. = 1915.82 x 3.8885 ÷ 27 = 275.94 C.Y.	275.94	C.Y.
129	High Side Superelevation With Underdrain ~ End Area = 2.0736 S.F.		
130	Lt. Sta. 92+88.37 to Sta. 96+00 = 311.63 Ft.		
131			
132	Rt. Sta. 138+50 to Sta. 143+38.63 = 488.63 Ft.		
133	Total length in City = 800.26 Ft. Vol. = 800.26 x 2.0736 ÷ 27 = 88.14 C.Y.	88.14	C.Y.
134	Rt. Sta. 158+40.20 to Sta. 205+96.98 = 756.78		
135	Total length Rural = 1756.78 Ft. Vol. = 756.78 x 2.0736 ÷ 27 = 83.35 C.Y.	83.35	C.Y.
136	Additional Vol. in City from Pavement Summary on Sht. No 15 = 1504.2 C.Y.	1504.2	C.Y.
137	Additional Vol. for Ramp A & B Decel. & Accel. Lanes = 62.67 + 32.82 = 95.49 C.Y.	95.49	C.Y.
138	Total Vol. in City of Akron = Sum of lines 111, 122, 128, 133, 136 & 137 = 2468.04	2468.04	C.Y.
139	Additional Vol. Rural from Pavement Summary on Sht. No 15 = 153.8 C.Y.	153.8	
140	Additional Vol. for Ramp B, C-1, D-1, C-2 & D-2 Accel. & Decel. Lanes = 7.46 + 2(76.27) + 2(42.16) = 244.32 C.Y.	244.32	C.Y.
141	Total Vol. Rural = Sum of lines 118, 124, 135, 139, & 140 = 1513.34 C.Y.	1513.34	C.Y.
142	Grand Total I-22 Subbase Regular Grading = Sum of Lines 138 & 141 ⟶	3988.28	C.Y.
	B-21 WATERPROOFED AGGREGATE BASE COURSE AS PER PLAN		
143	Total Area of Shoulders in City from line 82 = 14,602.20 S.Y.		
144	Vol. = 14,602.20 x 3 ÷ 36 = 1,224.36 C.Y.	1224.36	C.Y.
145	Additional Vol. for Ramps A & B Decel & Accel. Lanes = 64.05 + 122.25 = 186.30 C.Y.	186.30	C.Y.
146	Additional Vol. from Pavement Summary Sht. No 15 = 1359.8 C.Y.	1359.80	C.Y.
147	Total Vol. in City = Sum of lines 144, 145, & 146 = 2770.46 C.Y.	2770.46	C.Y.
148	Total Area of Shoulders Rural from line 83 = 22,055.60 S.Y.		
149	Vol. = 22,055.60 x 3 ÷ 36 = 1837.97 C.Y.	1837.97	C.Y.
150	Additional Vol. for Ramps B, C-1, D-1, C-2 & D-2 Accel. & Decel lanes = 14.50 + 2(148.15) + 2(82.15) = 475.18 C.Y.	475.18	C.Y.
151	Additional Vol. from Pavement Summary Sht. No 15 = 556.0 C.Y.	556.0	C.Y.
152	Total Vol. Rural = Sum of lines 149, 150 & 151 = 2869.15 C.Y.	2869.15	C.Y.
153	Grand Total B-21 Waterproofed Aggregate Base Course = Sum of Lines 147 & 152 ⟶	5639.61	C.Y.

	SPECIAL DRAINAGE CONNECTOR USING Nº 6 AGGREGATE		
154	Normal Section - End Area = 1.2406 S.F.		
155	Length in City from line 111 = 3341.63 ft. Vol. = 3341.63 x 1.2406 ÷ 27 = 153.54 C.Y.	153.54	C.Y.
156	Length Rural from line 118 = 10,118.20 ft. Vol. = 10,118.20 x 1.2406 ÷ 27 = 464.92 C.Y.	464.92	C.Y.
157	Low Side Superelevation - End Area = 1.3075 S.F		
158	Length in City from line 122 = 2031.54 ft. Vol. = 2031.54 x 1.3075 ÷ 27 = 98.38 C.Y.	98.38	C.Y.
159	Length Rural from line 124 = 1062.50 ft. Vol. = 1062.50 x 1.3075 ÷ 27 = 51.45 C.Y.	51.45	C.Y.
160	High Side Superelevation - End Area = 1.4281 S.F.		
161	Length in City from line 138 = 800.26 ft. Vol. = 800.26 x 1.4281 ÷ 27 = 42.33 C.Y.	42.33	C.Y.
162	Length Rural from line 135 = 756.78 ft. Vol. = 756.78 x 1.4281 ÷ 27 = 40.03 C.Y.	40.03	C.Y.
163	Additional Vol. in City for Ramps A & B Decel. & Accel. Lanes = 19.37 + 38.37 = 57.74 C.Y.	57.74	C.Y.
164	Additional Vol. in City from Pavement Summary Sht. No 15 = 203.0 C.Y.	203.0	C.Y.
165	Additional Vol. Rural for Ramps B, C-1, D-1, C-2 & D-2 Accel. & Decel Lanes = 4.02 + 2(46.15) + 2(25.03) = 146.38 C.Y.	146.38	C.Y.
166	Additional Vol. Rural from Pavement Summary Sht. No 15 = 303.0 C.Y.	303.0	C.Y.
167	Total Vol. in City = Sum of lines 155, 158, 161, 163 & 164 = 554.99	554.99	C.Y.
168	Total Vol. Rural = Sum of lines 156, 159, 162, 165 & 166 = 1005.78	1005.78	C.Y.
169	Grand Total Special Drainage Connector Using Nº 6 Aggregate = Sum of Lines 167 & 168 ⟶	1560.77	C.Y.
	E-1 COMPACTED SUBGRADE		
170	In City: Area 10" T-71 from line 23 = 35,570 S.Y.	35,570	S.Y.
171	Area of Shoulders from line 82 = 14,602 S.Y.	14,602	S.Y.
172	Area of Shoulders for Ramps A & B Decel. & Accel. Lanes = 384 + 734 = 1118 S.Y.	1118	S.Y.
173	Area of Type 2 Median Pavement from Pavement Summary Sht. No 15 = 4102 S.Y.	4102	S.Y.
174	Additional Area From Pavement Summary Sht. No 15 = 34,169 S.Y.	34,169	S.Y.
175	Total Area in City = Sum of Lines 170 thru 174 = 89,651 S.Y.	89,651	S.Y.
176	Rural: Area 10" T-71 from Line 30 = 68,211 S.Y.	68,211	S.Y.
177	Area of Shoulders From line 83 = 22,056 S.Y.	22,056	S.Y.
178	Area of Shoulders for Ramps B, C-1, D-1, C-2 & D-2 Accel. & Decel. Lanes = 87 + 2(888) + 2(403) = 2851 S.Y.	2851	S.Y.
179	Area of Type 2 Median Pavement from Pavement Summary Sht. No 15 = 5762 S.Y.	5762	S.Y.
180	Additional Area From Pavement Summary Sht. No 15 = 41,826 S.Y.	41,826	S.Y.
181	Total Area Rural = Sum of Lines 176 thru 180 = 140,706 S.Y.	140,706	S.Y.
182	Grand Total E-1 Compacted Subgrade = Sum of Lines 176 & 181 ⟶	230,357	S.Y.
	B-19 AGGREGATE BASE COURSE		
183	OUTSIDE SHOULDERS LT. & RT.		
184	Normal Section with Underdrain - End Area = 5.6109 S.F. (One Shoulder)		
185	Low & High Side of Superelevated Section with Underdrain - End Area = 5.6109 S.F.		
186	Length in City = Sum of Lines 111, 122, & 133 = 3341.63 + 2031.54 + 800.26 = 6173.43 ft.		
187	Vol. = 6173.43 x 5.6109 ÷ 27 = 1282.91 C.Y.	1282.91	C.Y.
188	Length Rural = Sum of Lines 118, 124 & 135 = 10,118.20 + 1062.50 + 756.78 = 11,937.57 ft.		
189	Vol. = 11,937.57 x 5.6109 ÷ 27 = 2,480.76 C.Y.	2480.76	C.Y.
190	High Side Superelevated Section Without Underdrain - End Area = 5.8333 S.F.		
191	Length in City = Line 128 = 1915.82 ~ Vol. = 1915.82 x 5.8333 ÷ 27 = 413.91 C.Y.	413.91	C.Y.
192	MEDIAN SHOULDERS IN CITY STA. 94+27 to STA. 115+75 = 2148 ft. minus deduct for Struct. = 2148.00-181.54 = 1966.46 ft.		
193	E.A. = 9.5761 S.F. Vol. = 1966.46 x 9.5761 S.F. ÷ 27 = 697.44 C.Y. +14.98 C.Y. (Sta. 92+88.37 to 94+27 Median*	712.42	C.Y.
194	STA. 115+75 to STA. 151+79.95 = 3604.95 ft. minus deduct for Struct = 3604.95 - 437.60 = 3167.35 ft.		
195	End Area = 9.5677 S.F. Vol. = 3167.35 x 9.5677 ÷ 27 = 1122.38 C.Y.	1122.38	C.Y.
196	Rural: STA. 153+78.05 to STA. 228+68.84 Ahd. ~ Net Length = 7912.47 ft.		
197	End Area = 9.5677 S.F. Vol. = 7912.47 x 9.5677 ÷ 27 = 2803.86 C.Y.	2803.86	C.Y.
198	Additional Vol. in City from Pavement Summary Sht. No 15 = 392.8 C.Y.	392.8	C.Y.
199	Additional Vol. in City for Ramp A & B Decel. & Accel. Lanes = 39.24 + 74.66 = 113.90 C.Y.	113.90	C.Y.
200	Total Vol. in City = Sum of Lines 187, 191, 193, 195, 198 & 199 = 4038.32 C.Y.	4038.32	C.Y.
201	Additional Vol. Rural from Pavement Summary Sht. No 15 = 2,505.4 C.Y.	2,505.4	C.Y.
202	Additional Vol. for Ramps B, C-1, D-1, C-2 & D-2 Accel. & Decel. Lanes = 805 + 2(80.53) + 2(50.33) = 290.67 C.Y.	290.67	C.Y.
203	Total Vol. Rural = Sum of Lines 189, 197, 201 & 202 = 8,080.69 C.Y.	8,080.69	C.Y.
204	Grand Total B-19 Aggregate Base Course = Sum of Lines 200 & 203 ⟶	12,119.01	C.Y.

* Shoulder Rt. Side only)

K.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	1-277-6(1)124	

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SUMMIT COUNTY
SUM-277-0.46

CALCULATIONS

	E-4 BORROW		
205	In City: Excavation + Channel Excavation = 124,031 C.Y. + 877 C.Y. = 124,908 C.Y.		
206	Embankment +20% = 317,044 C.Y.		
207	Borrow = line 206 minus line 205 = 317,044 - 124,908 = 192,136 C.Y.	192,136	C.Y.
208	Rural: Excavation + Channel Excavation = 352,122. C.Y. + 11,856 C.Y. = 363,978 C.Y.		
209	Embankment +20% = 690,893 C.Y.		
210	Borrow = line 209 minus line 208 = 690,893 - 363,978 = 326,915 C.Y.	326,915	C.Y.
211	Grand Total = Sum of Lines 207 & 210 ⟶	519,051	C.Y.
	L-9 SEEDING & PROTECTING		
212	City: Seeding from this Sheet = 93,503 C.Y.		
213	Area Sodded from Sht Nº 17 = 160+4 = 164 S.Y.		
214	Net Area = line 212 minus line 213 = 93,503 - 164 = 93,339 S.Y.	93,339	S.Y.
215	Rural: Seeding from this Sheet = 247,264 S.Y.		
216	Area Sodded from Sht Nº 17 = 196 + 243 = 439 S.Y.		
217	Net Area = line 215 minus line 216 = 247,264 - 439 = 246,825 S.Y.	246,825	S.Y.
218	Grand Total = Sum of Lines 214 & 217 ⟶	340,164	S.Y.
	L-9 COMMERIAL FERTILIZER (12-12-12) Applied at rate of 20 lbs. per 1000 S.F.		
219	City: Area Seeded from line 212 = 93,503 S.Y.		
220	Vol. Commercial Fertilizer = 93,503 x 9 x 20 ÷ (1000 x 2000) = 8.42 Tons	8.42	Tons
221	Rural: Area Seeded from line 215 = 247,264 S.Y.		
222	Vol. Commercial Fertilizer = 247,264 x 9 x 20 ÷ (1000 x 2000) = 22.25 Tons	22.25	Tons
223	Grand Total = Sum of Lines 220 & 222 = ⟶	30.67	Tons
	L-9 AGRICULTURAL LIMING MATERIAL		
224	City: Area Limed = 93,503 S.Y. (Same as area fertilized)		
225	Vol. = 93,503 x 100 x 9 ÷ (1000 x 2000) = 42.08 Tons	42.08	Tons
226	Rural: Area = 247,264 S.Y.		
227	Vol. = 247,264 x 100 x 9 ÷ (1000 x 2000) = 111.27 Tons	111.27	Tons
228	Grand Total = Sum of Lines 225 & 227 ⟶	153.35	Tons
	E-11 WATER		
229	City: Embankment +20% = 317,044 C.Y. ~ This Sheet		
230	Granular Borrow +5% = 13,777 C.Y. ~ This Sheet		
231	B-19 Aggregate Base Course = 4038 C.Y. ~ Line 200		
232	I-22 Subbase Grading A or B = 12,340 C.Y. ~ Line 61		
233	Sum of Lines 229 thru 232 = 334,799 C.Y. Vol. = 334,799 x 5 ÷ 1000 = 1,674 M-Gal.	1,674	M.Gal.
234	Rural: Embankment +20% = 690,893 C.Y. This Sheet		
235	Granular Borrow +5% = 189,542 C.Y. This Sheet		
236	B-19 Aggregate Base Course = 8081 C.Y. ~ Line 203		
237	I-22 Subbase Grading A or B = 20,508 C.Y. ~ Line 70		
238	Sum of Lines 234 thru 237 = 909,024 C.Y. Vol. = 909,024 x 5 ÷ 1000 = 4,545.1 M-Gal.	4545	M.Gal.
239	Grand Total = Sum of Lines 233 & 238 ⟶	6219	M.Gal.
	S.S.C.E. 101.04 COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER		
240	City: Area Compacted Subgrade for Mainline & Speed Change Lanes = Sum of Lines 170 thru 173 = 55,482 S.Y.		
241	Additional Area for Ramps A & B from Sheet Nº 114 = 8155 S.Y.		
242	Total Area = Sum of Lines 240 & 241 = 63,637 S.Y. Hrs. = 63,637 ÷ 2000 = 31.8 Hrs.	31.8	Hrs.
243	Rural: Area Compacted Subgrade Mainline & Speed Change Lanes = Sum of lines 176 thru 179 = 98,880 S.Y.		
244	Additional Area for Ramps C, C-1, C-2, D, D-1, D-2 & D-3 = 6791 + 8686 = 15,477 S.Y.		
245	Total Area = Sum of Lines 243 & 244 = 114,357 S.Y. Hrs. = 114,357 ÷ 2000 = 57.2	57.2	Hrs.
246	Grand Total = Sum of Lines 242 & 245 ⟶	89.0	Hrs.

FROM SHEET Nº.	LOCATION FROM	LOCATION TO	E-1 EXCAVATION METHOD "B" CU.YDS.	E-1 EMBANKMENT CU.YDS.	E-1 EMBANKMENT +20% CU.YDS.	E-4 BORROW USING GRAN MATERIAL INCLUDING COST OF EXCAVATION OF UNSUITABLE MAT'L CU.YDS.	E-4 BORROW USING GRANULAR MATERIAL CU.YDS.	E-4 BORROW USING GRANULAR MATERIAL +5% CU.YDS.	E-3 CHANNEL EXCAVATION CU.YDS.	L-9 SEEDING SQ.YDS.
24	75+00	85+00	476	176	211					1,734
25	85+00	95+00	1,783	1,057	1,268					5,733
26	95+00	105+00	1,734	562	674					2,707
27	105+00	115+00	991	65	78					0
28	115+00	125+00	935	92,235	110,682					12,721
29	125+00	135+00	6,964	127,164	152,597					23,087
30	135+00	145+00	37,122	4,795	5,754					6,144
31	145+00	155+00	15,610	35,858	43,030	1,293	1,104	1,159	11	9,752
114	RAMPS A, B & B-1		36,652	17	20					13,260
	MANCHESTER RD.									
* 147	22+00	25+00	764 *	626 *	751 *					2,036*
* 148	25+00	35+00	5,286 *	684 *	821 *					5,057*
149	35+00	45+00	5840 | 901 *	21 | 39 *	35 | 47 *					1932 | 805*
* 150	45+00	55+00	412 *	33 *	40 *					500*
178	FRITCH AVE. EXT.		3,581	609	731					3,643
172	RELOC. BRENNEMAN		4,593	192	230					3,522
167	FRITCH, BRENN, NES. LK.		312	16	20					377
167	ACCESS DRIVE									
234	CHANNEL RELOC @ RENNER								845	
237	CULVERT C-1								21	
184	LEY DRIVE		75	46	55		208	218		493
226	*Drive Ways*		146 | 79 *							
	SUB TOTAL (IN CITY)		116,814 | 7,442 *	264,203	317,044	1,293	1,312	1,377	877	85,105 | 8398*
32	145+00	155+00	127	9,748	11,698	2,192	935	982		1,410
33	155+00	165+00	129	23,726	28,471	54,620	26,461	27,784		9,797
34	165+00	175+00	1,819	30,568	36,682	3,233	4,210	4,421		12,111
35	175+00	185+00	5,349	64,949	77,939					10,378
36	185+00	195+00	89,669	26,687	32,024	1,501	258	270		9,901
37	195+00	205+00	118,700	0	0					17,062
38	205+00	215+00	44,638	18,491	22,189					16,024
39	215+00	225+00	2,310	64,052	76,862					14,358
40	225+00	230+00AH	1,039	67,126	80,551	66,358	138,255	145,168		20,288
124	RAMPS C, C-1, & C-2		330	63,829	76,595	3,352				19,001
133	RAMPS D, D-1, D-2 & D-3		48,784	101,734	122,082	594	751	789		30,400
184	RELOC. LEY DRIVE		1,943	846	1,015	4,346	9,646	10,128		11,763
	RELOC. S. MAIN ST.									
191	35+00	45+00	4,038	1,683	2,020					4,173
192	45+00	55+00	25,991	75,229	90,265					37,706
193	55+00	63+00	711	12,690	15,228					4,231
209	SWARTZ RD. &		3,372	1,074	1,288					2,677
209	CEMETERY EXT.									
213	GLENMOUNT AVE		3,173	203	244					3,562
217	RELOC. BREWSTER RUN #1			11,411	13,693				632	10,945
221	RELOC. BREWSTER RUN #2			1,706	2,047				10,859	11,477
243	CULVERT C-9								9	
244	CULVERT C-10								101	
245	CULVERT C-11								255	
226	*Driveways*		350							
	SUB TOTAL (RURAL)		352,472	575,752	690,893	136,196	180,516	189,542	11,856	247,264

* CITY & STATE PARTICIPATION ONLY

SPECIAL SEEDING PREPARATION AREAS

Manchester Rd.	Sta 35+50	to 37+45	Rt.
Reloc. Brenneman Blvd.	Sta. 9+25	to 22+00	Rt.
	Sta. 9+25	to 10+00	Lt.
	Sta. 21+50	to 22+10	Lt.
Conrad Ave.	Sta. 18+00	to 18+60	Rt. & Lt.
Edwin Ave.	Sta. 18+30	to 18+60	Rt. & Lt.
Christensen. Ave.	Sta. 17+80	to 18+60	Rt. & Lt.
	Sta. 21+45	to 23+70	Rt. & Lt.
Fritch Ave. Extension	Sta. 9+	to 17+05	Lt.
	Sta. 16+00	to 17+05	Rt.
Access Dr. off Brenneman	Sta. 23+50	to 24+80	Rt.
Swartz Rd.	Sta. 1+50	to 2+20	Lt.
Glenmount Ave.	Sta. 47+80	to 48+60	Rt.
Neebitt Ave.	Sta. 19+50	to 19+75	Rt. & Lt.
Drive off Reloc. Fritch Ave	Sta. 0+15	to 1+25	Lt.

K. & E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(11)12.4	

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SUMMIT COUNTY
SUM - 277 - 0.46

GENERAL SUMMARY

ROADWAY

** 100% CITY
* - EROSION CONTROL ITEMS - TYPE CODE Y005

TYPE CODE 7221

LINE NO.	CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	SHEET No.
1								
2								
3								
4								
5	7,442	116,814	352,472	476,728	E-1	CU.YD.	ROADWAY EXCAVATION - METHOD "B", AS PER PLAN	20
6	10,952	78,699	140,706	230,357	E-1	SQ.YD.	COMPACTED SUBGRADE	19
7		192,136	326,915	519,051	E-4	CU.YD.	BORROW	20
8								
9		1,377	189,542	190,919	E-4	CU.YD.	BORROW, USING GRANULAR MATERIAL, AS PER PLAN	20
10								
11		1,293	136,196	137,489	E-4	CU.YD.	BORROW, USING GRANULAR MATERIAL, AS PER PLAN INCLUDING THE COST OF EXCAVATION OF	20
12							UNSUITABLE MATERIAL	
13								
14	1904 ~~1,070~~	1553 ~~1,987~~	11,084	14,141	E-8	SQ.YD.	REMOVAL AND DISPOSAL OF EXISTING PAVEMENT	15
15	141 ~~65~~	~~76~~		141	E-8	SQ.YD.	REMOVAL AND DISPOSAL OF EXISTING SURFACE COURSE	15
16	1769	~~1,769~~		1,769	E-8	SQ.FT.	REMOVAL AND DISPOSAL OF EXISTING SIDEWALK	15
17	934 ~~502~~	8310 ~~8,742~~	4,794	14,938 ~~14,043~~	E-8	LIN.FT.	REMOVAL AND DISPOSAL OF EXISTING CURB OR CURB AND GUTTER	15
18	LUMP	LUMP	LUMP	LUMP	E-9	LUMP	REMOVAL OF TREES AND STUMPS	11
19	16	1,658	4,545	6,219	E-11	M.GAL	WATER	20
20	49	161	654	864	E-12	LIN.FT.	PIPE REMOVED 15" AND UNDER	17
21	273	757	288	1,318	E-12	LIN.FT.	PIPE REMOVED OVER 15"	17
22								
23		40	60	100	I-4	M.GAL	WATER FOR DUST CONTROL	11
24	1	6	34.4	41.4	I-4	TONS	CALCIUM CHLORIDE FOR DUST CONTROL	15
25		8	9	17	I-8	EACH	MONUMENT ASSEMBLIES - STANDARD	366
26	4	6	20	30	I-8	EACH	℄ REFERENCE MONUMENTS, AS PER PLAN	366
27								
28	3249	2,203		2,203	I-13	Sq. Ft.	TEMPORARY SIDEWALK, AS PER PLAN	13
29	**3346 ~~72~~	8265 ~~11,922~~		15,280	I-13	SQ.FT.	4" CONCRETE SIDEWALK	15
30	80	54		134	I-13	LIN.FT.	CONCRETE STEPS TYPE "B" STD.	15
31								
32	525	6,121	17,386	24,032	I-15	LIN.FT.	GUARD RAIL - STEEL BEAM - STANDARD TYPE (DEEP)	15
33		4,802	7,912.0	12,714	I-15	LIN.FT.	GUARD RAIL - STEEL BEAM - BARRIER TYPE (DEEP) WITH SQUARE SAWED WOOD POSTS	15
34	438		175	613	I-15	LIN.FT.	GUARD RAIL - STEEL BEAM STANDARD TYPE (DEEP) REMOVED AND DISPOSED OF	15
35			43	43	I-15	EACH	GUARD RAIL REMOVED AND DISPOSED OF	15
36		385		385	I-15	LIN.FT.	GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP), REMOVED AND REBUILT	15
37		1,012.5		1,012.5	I-15	LIN.FT.	GUARD RAIL - TEMPORARY REMOVED AND REBUILT	15
38	7.898	85,441	246,825	340,164*	L-9	SQ.YD.	SEEDING AND PROTECTING, AS PER PLAN	20
39	.71	7.71	22.25	30.67*	L-9	TONS	COMMERCIAL FERTILIZER (12-12-12)	20
40	3.55	38.53	111.27	153.35*	L-9	TONS	AGRICULTURAL LIMING MATERIAL, AS PER PLAN	20
41		4	243	247*	L-10	SQ.YD.	SODDING	17
42		160	196	356*	L-10	SQ.YD.	SODDING FOR SPECIAL BERM AND SLOPE PROTECTION, AS PER PLAN	17
43		1,127	2,084	3,211*	L-120	SQ.YD.	JUTE MATTING	17
44								
45		13		13	T-70	SQ.YD.	10" PORTLAND CEMENT CONCRETE PAVEMENT FOR TEMPORARY SIDEWALK	13
46		31.8	57.2	89.0	101.04	HOURS	COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER	20
47								
48	Lump	LUMP		LUMP	S-15	LUMP	TEMPORARY RUN-AROUND ROAD USING CLASS "A" PAVEMENT, AS PER PLAN (MANCHESTER RD.)	225
49			LUMP	LUMP	S-15	LUMP	TEMPORARY RUN-AROUND ROAD (LEY DRIVE)	184
50			LUMP	LUMP	S-15	LUMP	TEMPORARY RUN-AROUND ROAD (GLENMONT AVE)	213
51			12	12	SPEC.	EACH	CLEANING AND DISPOSING OF EXISTING SEPTIC TANKS,	15
52			17	17	SPEC.	EACH	DRILLED WELLS ABANDONED,	15
53	50	100	1,420	1,570	T-10	CU.YD.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC	15
54		150	250	400	T-10	CU.YD.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC USING No. 3 OR No. 34	11
55							AGGREGATE, AS PER PLAN	
56								
57	LUMP				S-24	LUMP	REMOVAL AND DISPOSAL OF EXISTING STONE WALL	15
58		877	11,856	12,733	E-3	CU.YD.	CHANNEL EXCAVATION	
59								
60			10,267	10,267	I-25	LIN.FT.	WOVEN WIRE FENCE, TYPE 47	371
61			4,347	4,347	I-26	LIN.FT.	CHAIN LINK FENCE	371
62		5,774		5,774	I-26	Lin.Ft.	Chain Link Fence, Aluminum	371
63								
64								
65								
66								
67								
68								
69								
70								

1963 Spec.

TYPE CODE 7221

LINE NO.	CITY STATE	CITY STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	Sheet No.
71								
72								
73		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1 ONE STORY METAL BUILDING PARCEL No. 1 WL~~	~~371~~
74		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-ONE STORY CONCRETE BLOCK BUILDING & 1 FRAME SHED PARCEL No. 6 WL~~	~~371~~
75		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE 1-1/2 STORY FRAME HOUSE & 1 FRAME GARAGE PARCEL No. 19 WL~~	~~372~~
76		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME & STONE HOUSE & ONE FRAME GARAGE PARCEL No. 18 WL~~	~~372~~
77		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-TWO STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 17 WL~~	~~372~~
78		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-2-1/2 STORY FRAME HOUSE PARCEL NO. 10 WD	381
79		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-1STORY FRAME BUILDING PARCEL No. 22 WD	381
80		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-TWO STORY CONCRETE BLOCK HOUSE PARCEL No. 7 WD~~	~~381~~
81		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-TWO STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 28 WL~~	~~372~~
82		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE 1-1/2 STORY BRICK HOUSE & ONE BRICK GARAGE PARCEL NO. 26 WL~~	~~372~~
83		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-ONE STORY FRAME HOUSE PARCEL NO. 25 WL~~	~~372~~
84		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF 1-TWO STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 24 WL~~	~~372~~
85		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE & GARAGE PARCEL NO. 37 WL~~	~~372~~
86		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 36 WL~~	~~372~~
87		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 35 WL~~	~~372~~
88		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY BRICK HOUSE, ONE FRAME SHED & ONE FRAME GARAGE PARCEL NOS. 33 WL & 34 WL~~	~~372~~
89								
90		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1STORY FRAME HOUSE & ATTACHED FRAME GARAGE PARCEL NO. 32 WL & 32-S~~	~~372~~
91		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE AND ATTACHED GARAGE PARCEL NO. 30 WL~~	~~372~~
92		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE FRAME SHED PARCEL NO. 41 WL~~	~~372~~
93		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1STORY STUCCO HOUSE & ONE FRAME GARAGE PARCEL NO. 39 WL~~	~~372~~
94		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE & ONE FRAME GARAGE PARCEL NO. 40 WL~~	~~372~~
95		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 42 WL~~	~~372~~
96		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 43 WL~~	~~372~~
97		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE PARCEL NO. 44 WL~~	~~372~~
98		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 45 WL~~	~~372~~
99		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE PARCEL NO. 48 WL~~	~~372~~
100		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY BRICK AND STUCCO HOUSE PARCEL NO. 49 WL~~	~~372~~
101		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE AND ATTACHED GARAGE PARCEL NO. 52 WL~~	~~372~~
102		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY BRICK HOUSE AND ATTACHED GARAGE PARCEL NO. 55 WL~~	~~372~~
103		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE CONCRETE BLOCK GARAGE PARCEL NO. 57 WD~~	~~372~~
104		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY BRICK HOUSE PARCEL NO. 56 WL~~	~~373~~
105		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE AND ATTACHED GARAGE PARCEL No. 60 WL~~	~~373~~
106		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE & GARAGE AND ONE GREENHOUSE PARCEL NO. 67 WL~~	~~373~~
107		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE PARCEL NO. 68 WL~~	~~373~~
108								
109		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-2 STORY CONCRETE BLOCK HOUSE & ONE CONCRETE BLOCK BUILDING PARCEL No. 73WL	373
110		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2 STORY FRAME & CONCRETE BLOCK BUILDING PARCEL NO. 79 WL~~	~~373~~
111		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF FRAME GARAGE AND TWO FRAME SHEDS PARCEL NO. 90-X AND 92-X~~	~~377~~
112		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-1 STORY FRAME BUILDING PARCEL No. 92 WD AND 92 WA	377
113		LUMP		LUMP	E-10	LUMP	REMOVAL OF 4 FRAME BUILDINGS AND ONE HOUSE TRAILER PARCEL NO. 91 WL	377
114		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE CONCRETE BLOCK AND METAL BUILDING AND ONE 1 STORY FRAME HOUSE~~	
115							~~PARCEL NO. 93 WL~~	~~377~~
116		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 94 WL	377
117		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2 STORY FRAME HOUSE PARCEL No. 96 WL~~	~~376~~
118		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 97 WL~~	~~376~~
119		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2 STORY FRAME HOUSE AND ONE CONCRETE BLOCK GARAGE PARCEL No. 99 WL~~	~~376~~
120		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE 1-1/2 STORY FRAME HOUSE AND ONE FRAME GARAGE AND ONE FRAME SHED~~	
121							~~PARCEL NO. 100 WL~~	~~376~~
122		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE TILE BLOCK SHED PARCEL NO. 102 WL~~	~~376~~
123		LUMP		LUMP	E-10	LUMP	REMOVAL OF ONE-1-1/2 STORY BRICK HOUSE AND ONE FRAME SHED PARCEL NO. 101 WL	376
124		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2 STORY BRICK HOUSE AND ONE BRICK GARAGE & FRAME SHED PARCEL NO. 121 WL~~	~~379~~
125		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE AND ATTACHED FRAME GARAGE PARCEL No. 123 WL~~	~~379~~
126		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY FRAME HOUSE, ONE FRAME GARAGE & ONE CONCRET BLOCK GARAGE~~	
127							~~PARCEL NO. 124 WL~~	~~379~~
128		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-2-1/2 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL No. 127 WL~~	~~379~~
129		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE AND ONE FRAME GARAGE PARCEL NO. 132 WL~~	~~379~~
130		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE AND ATTACHED GARAGE PARCEL NO. 133 WL~~	~~379~~
131		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1 STORY FRAME HOUSE PARCEL NO. 134 A WL~~	~~379~~
132		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY BRICK HOUSE PARCEL NO. 134 WL~~	~~379~~
133		~~LUMP~~		~~LUMP~~	~~E-10~~	~~LUMP~~	~~REMOVAL OF ONE-1-1/2 STORY BRICK HOUSE, ONE BLOCK GARAGE AND ONE FRAME SHED~~	
134							~~PARCEL NO. 126 WL~~	~~380~~
135								
136								
137								
138								
139								
140								

REV. 10-25-66 C.E.H.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

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SUMMIT COUNTY
SUM - 277 - 0.46

GENERAL SUMMARY

DRAINAGE & SANITARY SEWERS

1963 Spec.

TYPE CODE 7221

LINE NO.	CITY & STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	SHEET NO.
1								
2								
3		252		252	I-1	Lin. Ft.	21" PIPE CLASS A-1 SEC M-6.4 (d) 14 GAGE	16
4			76	76	I-1	Lin.Ft.	30" PIPE CLASS A-1 SEC M-6.6 (b), SEC. M-6.8b	16
5			100	100	I-1	Lin.Ft.	30" PIPE CLASS A-1 SEC M-6.6 (c)	16
6			82	82	I-1	Lin.Ft.	36" PIPE CLASS A-1 SEC M-6.6 (b), SEC M-6.4 (d) SEC M-6.8 (b)	16
7			118	118	I-1	Lin.Ft.	36" PIPE CLASS A-1 SEC M-6.6 (d), SEC M-6.4 (d)	16
8			556	556	I-1	Lin.Ft.	48" PIPE CLASS A-1 SEC M-6.4 (d)	16
9			188	188	I-1	Lin.Ft.	54" PIPE CLASS A-1 SEC M-6.6 (c)	16
10			428	428	I-1	Lin.Ft.	108" PIPE CLASS A-1 SEC M-6.6 (a)	16
11			92	92	I-1	Lin.Ft.	23" x 14" ELLIPTICAL PIPE CLASS G-1 SEC M-6.7 (a)	16
12								16
13		577	682	1259	I-1	Lin.Ft.	12" PIPE CLASS B-1	16
14	110	38		148	I-1	Lin.Ft.	15" PIPE CLASS B-1	16
15		300		300	I-1	Lin.Ft.	21" PIPE CLASS B-1	16
16								16
17			6	6	I-1	Lin.Ft.	12" PIPE CLASS D-1	16
18	413	343	657	1413	I-1	Lin.Ft.	12" PIPE CLASS E-1	16
19	26	16	76	118	I-1	Lin.Ft.	15" PIPE CLASS E-1	16
20		138	254	392	I-1	Lin.Ft.	21" PIPE CLASS E-1	16
21			390	390	I-1	Lin.Ft.	27" PIPE CLASS E-1	16
22			180	180	I-1	Lin.Ft.	27" PIPE CLASS E-1 SEC M-6.6 (b) SEC M-6.8 (b)	16
23		360		360	I-1	Lin.Ft.	33" PIPE CLASS E-1 SEC M-6.6 (b)	16
24		202		202	I-1	Lin.Ft.	36" PIPE CLASS E-1	16
25		272		272	I-1	Lin.Ft.	42" PIPE CLASS E-1	16
26		27		27	I-1	Lin.Ft.	42" RADIUS PIPE CLASS E-1	16
27			500	500	I-1	Lin.Ft.	6" PIPE CLASS E-4	12
28			100	100	I-1	Lin.Ft.	8" PIPE CLASS E-4	12
29	60	370	640	1,070	I-1	Lin.Ft.	6" PIPE CLASS F-4	12&16
30			50	50	I-1	Lin.Ft.	8" PIPE CLAS F-4	12
31	10	90	260	360	I-1	Lin.Ft.	8" PIPE CLASS F-4 SEC M-6.4 (c)	16
32			118	118	I-1	Lin.Ft.	12" PIPE CLASS F-4	16
33		267	278	545	I-1	Lin.Ft.	15" PIPE CLASS F-4	16
34		44		44	I-1	Lin.Ft.	24" PIPE CLASS F-4	16
35								
36			200	200	I-1	Lin.Ft.	6" PIPE CLASS H-2	12
37			100	100	I-1	Lin.Ft.	8" PIPE CLASS H-2	12
38								
39			556	556	I-1	Lin.Ft.	6" PIPE CLASS I-3 SEC. M-6.4 (b)	16
40	2946	12,982	30688	46616	I-1	Lin.Ft.	6" PIPE CLASS I-3	16
41		4884	646	5530	I-1	Lin.Ft.	6" PIPE CLASS I-3 SEC M-6.4 (h)	16
42		100	200	300	I-1	Lin.Ft.	6" Pipe Class I-3 Sec. M-6.4(h), as per plan	12
43	60		474	534	I-1	Lin.Ft.	6" PIPE CLASS J-1	12&16
44			200	200	I-1	Lin.Ft.	8" PIPE CLASS J-1	12
45	1060	641	999	2700	I-1	Lin.Ft.	12" PIPE CLASS J-1	16
46		1362	1961	3323	I-1	Lin.Ft.	15" PIPE CLASS J-1	16
47	20	94	266	380	I-1	Lin.Ft.	18" PIPE CLASS J-1	16
48		266	66	332	I-1	Lin.Ft.	21" PIPE CLASS J-1	16
49		115	570	685	I-1	Lin.Ft.	27" PIPE CLASS J-1	16
50		158		158	I-1	Lin.Ft.	36" PIPE CLASS J-1	16
51		60		60	I-1	Lin.Ft.	42" PIPE CLASS J-1	16
52		200		200	I-1	Lin.Ft.	3" PIPE AS PER PLAN	13
53		7.80	192.0	199.8	I-2	Cu.Yd.	MASONRY	16
54			3	3	I-5	Each	8" PIPE SPECIALS CLASS E-4	12
55			12	12	I-5	Each	6" PIPE SPECIALS CLASS E-4	12
56			2	2	I-5	Each	6" PIPE SPECIALSCLASS I-3 SEC. M-6.4 (b)	16
57	5	17	35	57	I-5	Each	6" PIPE SPECIALS CLASS I-3	16
58		2		2	I-5	Each	6" PIPE SPECIALS CLASS I-3 SEC M-6.4 (h)	16
59								
60			2	2	I-5	Each	12" PIPE SPECIALS CLASS F-4	16
61		10	14	24	I-5	Each	15" PIPE SPECIALS CLASS F-4	16
62								
63			1	1	I-5	Each	18" PIPE SPECIAL CLASS J-1	16
64								
65		1		1	I-5	Each	33" PIPE SPECIAL CLASS J-1	16
66			1	1	I-5	Each	21" PIPE SPECIAL CLASS E-1	16
67	1	1		2	I-5	Each	12" PIPE SPECIAL CLASS E-1	16
68		1		1	I-5	Each	33" PIPE SPECIAL CLASS E-1 SEC M-6.6 (b)	16
69								
70								

These items included in the pertinent 603 items

These items included in the pertinent 605 Underdrain Item

These items included in the pertinent 603 Items

TYPE CODE 7221

LINE NO.	CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	SHEET NO.
71								
72								
73			1	1	I-8	Each	STANDARD No. 2-6 MEDIAN INLET	16
74			1	1	I-8	Each	STANDARD No. 2-8 MEDIAN INLET	17
75		3	0	3	I-8	Each	STANDARD No. 2-A-6 PAVED SHOULDER INLET	17
76		5	3	8	I-8	Each	STANDARD No. 2-A-6 PAVED SHOULDER INLET MODIFIED PER PLAN	17
77		0	1	1	I-8	Each	STANDARD No. 2-A-8 PAVED SHOULDER INLET	17
78		2	14	16	I-8	Each	STANDARD No. 2-A-8 PAVED SHOULDER INLET MODIFIED AS PER PLAN	17
79		3	1	4	I-8	Each	STANDARD No. 2-A-10 PAVED SHOULDER INLET	17
80		5	4	9	I-8	Each	STANDARD No. 2-A-10 PAVED SHOULDER INLET MODIFIED AS PER PLAN	17
81		3		3	I-8	Each	STANDARD No. 2-A-12 PAVED SHOULDER INLET	17
82		1		1	I-8	Each	STANDARD No. 2-A-14 PAVED SHOULDER INLET	17
83		6		6	I-8	Each	CITY OF AKRON TYPE "D" INLET	17
84								
85		3	4	7	I-8	Each	STANDARD No. 2-2-A CATCH BASIN	17
86			3	3	I-8	Each	STANDARD No. 2-2-B CATCH BASIN	17
87	1721	1447	7	35	I-8	Each	STANDARD No. 3 CATCH BASIN	17
88		7	14	21	I-8	Each	STANDARD No. 3-A CATCH BASIN	17
89			2	2	I-8	Each	STANDARD No. 5 CATCH BASIN	17
90	2	7	3	12	I-8	Each	STANDARD No. 6 CATCH BASIN	17
91								
92	84	1911	9	24	I-8	Each	STANDARD No. 1 MANHOLE	17
93			1	1	I-8	Each	STANDARD No. 3 INLET MANHOLE	17
94		1		1	I-8	Each	CATCH BASIN ADJUSTED TO GRADE	17
95	1	1	1	2	I-8	Each	INLET ADJUSTED TO GRADE	17
96	2	8		2	I-8	Each	MANHOLES ADJUSTED TO GRADE	17
97			3	3	I-8	Each	INSPECTION WELLS AS PER PLAN	12
98								
99			1881	1881	I-9	Lin.Ft	No. 2 STONE UNDERDRAINS	17
100		3	6	9	I-9	Lin.Ft	No. 1 STONE UNDERDRAINS, AS PER PLAN	12
101	~~132~~ ~~131.8~~	78.2	528 ~~527.4~~	138 ~~737.5~~ *	I-10	Cu.Yd.	DUMPED ROCK CHANNEL PROTECTION	17
102			120.8	120.8 *	I-10	Sq.Yds.	RIP RAP USING 6" REINFORCED CONCRETE	17
103	8.0			8.0 *	I-10	Sq.Yds.	GROUTED RIP RAP	17
104								
105		30	20	50 *	I-14	Lin.Ft	STANDARD PAVED GUTTER TYPE-1 MODIFICATION "A"	17
106			226	226 *	I-14	Lin.Ft	STANDARD PAVED GUTTER TYPE-1 MODIFICATION "B"	17
107								
108		2	2	4	I-16	Each	MANHOLES ABANDONED	17
109	2	6	9	17	I-16	Each	INLETS ABANDONED	17
110		3		3	I-16	Each	CATCH BASINS ABANDONED	17
111		4,000	8,000	12,000	E-2	Sq.Ft.	SHEET PILING 6 FT. LEFT-IN-PLACE	12
112								
113							SANITARY SEWERS (CODE Y060)	
114								
115		230		230	I-1	Lin.Ft	6" CLASS B-1 SEC. M-6.8(b) WITH COMPRESSION JOINTS	250
116	204	393		597	I-1	Lin.Ft	8" CLASS B-1 SEC. M-6.8(b) WITH COMPRESSION JOINTS	250
117								
118	510	325		835	I-1	Lin.Ft	8" CLASS E-1 SEC. M-6.8 (b) WITH COMPRESSION JOINTS	250
119		657	320	977	I-1	Lin.Ft	36" CLASS E-1 SEC. M-6.6 (c) FULL VIT. LINED WITH COMPRESSION JOINTS	250
120								
121		180		180	I-1	Lin.Ft	8" CLASS J-1 SEC. M-6.8 (b) WITH COMPRESSION JOINTS	250
122			320	320	I-1	Lin.Ft	36" CLASS J-1 SEC. M-6.6 (d) FULL VIT. LINED WITH COMPRESSION JOINTS	250
123								
124			174.8	174.8	I-2	Cu.Yd	MASONRY AS PER PLAN	250
125								
126		10	1	11	I-8	Each	CITY OF AKRON TYPE 3 MANHOLE	250
127	3			3	I-8	Each	CITY OF AKRON TYPE 3 MANHOLE MODIFIED AS PER PLAN	250
128	2	3	2	7	I-8	Each	MANHOLES ALTERED	250
129		2		2	I-8	Each	MANHOLES REBUILT, AS PER PLAN	250
130	4	9		13	I-8	Each	MANHOLES ADJUSTED TO GRADE	250
131								
132	1	6	2	9	I-16	Each	MANHOLES ABANDONED	250
133								
134	710			710	E-12	Lin.Ft	PIPE REMOVED 15" & UNDER	250
135			360	360	E-12	Lin.Ft	PIPE REMOVED OVER 15"	250
136								
137								
138			293	293	I-2	Cu.Yd	MASONRY AS PER PLAN	255
139			8123	8123	S-18	Lin.Ft	CAST-IN-PLACE REINFORCED CONCRETE PILES	255
140								

REV. 10-25-66 C.E.H.

* - EROSION CONTROL ITEMS - TYPE CODE Y005

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(11)24	

23
383

SUMMIT COUNTY
SUM - 277 - 0.46

GENERAL SUMMARY

PAVEMENT

TYPE CODE 7221

LINE NO.	CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	Sheet No.
1								
2								
3								
4								
5								
6		1,151.4	1,034.6	2,186	I-7	Sq.Yds.	REINFORCED CONCRETE APPROACH SLABS (T= 13")	15
7		5,050	3,048	8,098	I-12	Lin.Ft.	STANDARD TYPE 2 COMBINATION CURBS AND GUTTER	15
8	3,433	2,194	4,224	9,851	I-12	Lin.Ft.	STANDARD TYPE 2 A CONCRETE CURB	15
9		3,316	2,015	5,331	I-12	Lin.Ft.	STANDARD TYPE 6 CONCRETE CURB	15
10		122	126	248	I-12	Lin.Ft.	STANDARD TYPE 7 CONCRETE CURB	15
11	49	~~49~~		49	I-12	Lin.Ft.	STANDARD TYPE 7 CONCRETE CURB MODIFIED AS PER PLAN	15
12		215	318	533	I-12	Lin.Ft.	STANDARD TYPE 8 CONCRETE CURB	15
13	32			32	I-12	Lin.Ft.	STANDARD TYPE 2-B CONCRETE CURB MODIFIED AS PER PLAN	15
14		21	962	983	I-21	Sq.Yds	STANDARD TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT	15
15	469	3,632	5,762	9,863	I-21	Sq.Yds.	STANDARD TYPE 2 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT	15
16								
17	2,064	10,277	20,508	32,849	I-22	Cu.Yds.	SUBBASE GRADING "A" OR "B" AS PER PLAN	15&18
18		2,469	1,519	3,988	I-22	Cu.Yds.	SUBBASE	19
19			35	35	I-23	Each	PRECAST WHITE PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS	15
20								
21	~~20~~ 49	~~4015~~ 3989	8,081	12,119	B-19	Cu.Yds.	AGGREGATE BASE COURSE	15&19
22		2,771	2,869	5,640	B-21	Cu.Yds.	WATERPROOFED AGGREGATE BASE COURSE AS PER PLAN	19
23			47	47	B-35	Cu.Yds.	ASPHALTIC CONCRETE BASE COURSE (70-85)	15
24		234	117	351	B-35	Cu.Yds.	ASPHALTIC CONCRETE LEVELING COURSE (70-85) USING TYPE C COMPOSITION	15
25	13			13	B-70	Sq.Yds.	11-1/2" PORTLAND CEMENT CONCRETE BASE COURSE	15
26								
27			4,366	4,366	T-30	Gal.	BITUMINOUS PRIME COAT SEC. M-5.7, RT-2 OR RT-3	15
28	2			2	T-30	Gal.	BITUMINOUS TACK COAT, SEC. M-55, MS-2 OR RS-1, OR SEC. M-52, RC-1 OR RC-2 AS PER SEC. T+30.02	15
29								
30		5,576	8,478	14,054	T-31	Gal.	BITUMINOUS SURFACE TREATMENT - BITUMINOUS MATERIAL, AS PER PLAN	18
31		147	225	372	T-31	Cu.Yds.	BITUMINOUS SURFACE TREATMENT No. 6 AGGREGATE	18
32		411	6,112	6,523	T-32	Gal.	ROAD MIX BITUMINOUS MATERIAL SEC. M-5.7, RT-8 OR RT-9	15
33		114	1,698	1,812	T-32	Gal.	SEAL COAT BITUMINOUS MATERIAL SEC. M-5.7, RT-9 OR RT-10	15
34		26	380	406	T-32	Cu.Yds.	No. 46 AGGREGATE FOR ROAD MIX	15
35		1.8	27.2	29	T-32	Cu.Yds.	No. 9 AGGREGATE FOR CHOKE	15
36		3.6	54.4	58	T-32	Cu.Yds.	No. 6 AGGREGATE FOR SEAL COAT	15
37	12	261	158	431	T-35	Cu.Yds.	ASPHALTIC CONCRETE SURFACE COURSE, TYPE C (70-85)	15
38								
39	~~179~~ 194	~~3564~~ 3541	94	~~628~~ 629	T-70	Sq.Yds.	7" PORTLAND CEMENT CONCRETE PAVEMENT	15
40	10,479	10,383	24,001	~~44,863~~ 44,863	T-71	Sq.Yds.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	15&18
41		35,570	68,211	103,781	T-71	Sq.Yds.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	18
42								
43		555	1,006	1,561	Spec.	Cu.Yds.	DRAINAGE CONNECTION USING No. 6 AGGREGATE	19
44	40			40	Spec.	Each	STANDARD EXPANSION BOLT	15
45								
46								
47								
48								
49							BRIDGE No. SUM 277 - 0259 FOR QUANTITIES SEE SHEET 295	
50							BRIDGE No. SUM 277 - 0240 FOR QUANTITIES SEE SHEET 307	
51							BRIDGE No. SUM 277 - 0216 FOR QUANTITIES SEE SHEET 322	
52							BRIDGE No. SUM 277 - 0199 FOR QUANTITIES SEE SHEET 330	
53							BRIDGE No. SUM 277 - 0131 FOR QUANTITIES SEE SHEET 343	
54							BRIDGE No. SUM 277 - 0071 FOR QUANTITIES SEE SHEET 352	
55							BRIDGE No. SUM 277 - 0070 FOR QUANTITIES SEE SHEET 359	
56								
57								
58							FOR LIGHTING QUANTITIES SEE SHEET 258	
59							FOR TRAFFIC CONTROL QUANTITIES SEE SHEET 269	
60								
61								
62	LUMP	LUMP	LUMP	LUMP	I-3	Lump	MAINTAINING TRAFFIC	
63	LUMP	LUMP	LUMP	LUMP		Lump	CONSTRUCTION LAYOUT STAKES	
64	LUMP	LUMP	LUMP	LUMP		Lump	FIELD OFFICE	
65								
66								
67								
68								
69								
70								

WATER LINE

1963 Spec.

TYPE CODE YOGO

LINE NO.	CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	Sheet No.
71								
72								
73								
74								
75	41	1,712		1,753	I-124	Lin.Ft.	6" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
76		2,016		2,016	I-124	Lin.Ft.	8" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
77	33			33	I-124	Lin.Ft.	10" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
78	21	46		67	I-124	Lin.Ft.	12" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
79	30	15		45	I-124	Lin.Ft.	16" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
80	27	815		842	I-124	Lin.Ft.	20" C.I. PIPE CLASS 24 CEMENT LINED BELL AND SPIGOT	251
81			215	215	I-124	Lin.Ft.	6" PIPE C-202 0.312" WALL	251
82			473	473	I-124	Lin.Ft.	36" PIPE B-36.10	251
83		35		35	I-124	Lin.Ft.	1" COPPER PIPE TYPE K	251
84			220	220	I-124	Lin.Ft.	2" COPPER PIPE TYPE K	251
85		1		1	I-124	Each	4" x 4" x 4" TEE CLASS "D" ALL BELL	251
86		1		1	I-124	Each	6" x 6" x 4" TEE CLASS "D" ALL BELL	251
87		1		1	I-124	Each	6" x 6" x 6" TEE CLASS "D" ALL BELL	251
88		3		3	I-124	Each	8" x 8" x 4" TEE CLASS "D" ALL BELL	251
89		3		3	I-124	Each	8" x 8" x 6" TEE CLASS "D" ALL BELL	251
90		2		2	I-124	Each	8" x 8" x 8" TEE CLASS "D" ALL BELL	251
91	1			1	I-124	Each	16" x 16" x 6" TEE CLASS "D" ALL BELL	251
92		1		1	I-124	Each	16" x 16" x 16" TEE CLASS "D" ALL BELL	251
93		1		1	I-124	Each	20" x 20" x 8" TEE CLASS "D" ALL BELL	251
94		1		1	I-124	Each	20" x 20" x 10" TEE CLASS "D" ALL BELL	251
95		1		1	I-124	Each	20" x 20" x 16" TEE CLASS "D" ALL BELL	251
96		1		1	I-124	Each	8" x 8" x 8" x 8" CROSS CLASS "D" ALL BELL	251
97		1		1	I-124	Each	6" 90° BEND CLASS "D" ALL BELL	251
98		1		1	I-124	Each	8" 90° BEND CLASS "D" ALL BELL	251
99		1		1	I-124	Each	10" 90° BEND CLASS "D" ALL BELL	251
100	1			1	I-124	Each	12" 45° BEND CLASS "D" ALL BELL	251
101	1			1	I-124	Each	16" 45° BEND CLASS "D" ALL BELL	251
102		2		2	I-124	Each	6" 45° BEND CLASS "D"	251
103		1		1	I-124	Each	8" 45° BEND CLASS "D"	251
104		1		1	I-124	Each	12" 45° BEND CLASS "D"	251
105	1			1	I-124	Each	16" 45° BEND CLASS "D"	251
106		2		2	I-124	Each	20" 45° BEND CLASS "D"	251
107		1		1	I-124	Each	8" 22-1/2° BEND CLASS "D"	251
108		10		10	I-124	Each	8" 11-1/4° BEND CLASS "D"	251
109		1		1	I-124	Each	6" x 4" REDUCER CLASS "D"	251
110		3		3	I-124	Each	8" x 6" REDUCER CLASS "D"	251
111		1		1	I-124	Each	16" x 6" REDUCER CLASS "D"	251
112		1		1	I-124	Each	20" x 12" REDUCER CLASS "D"	251
113	1			1	I-124	Each	20" x 16" REDUCER CLASS "D"	251
114		1		1	I-124	Each	4" SOLID SLEEVE CLASS "D"	251
115	1			1	I-124	Each	6" SOLID SLEEVE CLASS "D"	251
116		1		1	I-124	Each	8" SOLID SLEEVE CLASS "D"	251
117		1		1	I-124	Each	10" SOLID SLEEVE CLASS "D"	251
118		1		1	I-124	Each	12" SOLID SLEEVE CLASS "D"	251
119	2	1		3	I-124	Each	16" SOLID SLEEVE CLASS "D"	251
120			1	1	I-124	Each	2" VALVE AND BOX	251
121		5		5	I-124	Each	4" VALVE AND BOX	251
122	1	12		13	I-124	Each	6" VALVE AND BOX	251
123		5		5	I-124	Each	8" VALVE AND BOX	251
124		1		1	I-124	Each	10" VALVE AND BOX	251
125		1		1	I-124	Each	16" VALVE AND BOX	251
126					I-124	Each	SERVICE BOXES ADJUST TO GRADE (By City of Akron Forces)	251
127	1			1	I-124	Each	WATER METER AND BOX REMOVE AND RESET	251
128		1		1	I-124	Each	SERVICE CONNECTION RESTORED	251
129		3		3	I-124	Each	6" NEW HYDRANT	251
130	2	~~2~~		2	I-124	Each	HYDRANTS REMOVED AND RESET	251
131		4		4	I-124	Each	HYDRANTS REMOVED AND DISPOSED OF	251
132		1		1	I-124	Each	HYDRANTS ADJUST TO GRADE	251
133	624	869		1493	E-12	Lin.Ft.	PIPE REMOVED OVER 15"	251
134								
135								
136								
137								
138								
139								
140								

ALL OF THESE SPECIALS AND FITTINGS SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT WATER LINE ITEMS

REV. 10-25-66 C.E.H.

Rev. 9-16-'66

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(11)124	

23A
383

SUMMIT COUNTY
SUM -277- 0.46

GENERAL SUMMARY

** 100 % City

* Construction Type Code Y005
Construction Type Code 7221 (Except as noted)

1965 Spec.

Sh. 21 Line No.	City State	City State Federal	State Federal	Item	Grand Total	Unit	DESCRIPTION
							ROADWAY
18	Lump	Lump	Lump	201	Lump	Lump	Clearing and Grubbing
14	~~1,070~~ 1704	~~1,987~~ 1353	11,084	202	14,141	Sq. Yds.	Existing Pavement Removed and Disposed of
15	~~141~~ 65	~~76~~		202	141	Sq. Yds.	Existing Wearing Course Removed and Disposed of
16	1769	~~1,769~~ 8310		202	1,769	Sq. Ft.	Existing Sidewalk Removed and Disposed of
17	~~9~~ 94 ~~502~~	~~8,742~~	4,794	202	14,038	Lin. Ft.	Existing Curb or Curb and Gutter Removed and Disposed of
20	49	161	654	202	864	Lin. Ft.	Pipe Removed, 15" and Under
21	273	757	288	202	1,318	Lin. Ft.	Pipe Removed, Over 15"
36		385		202	385	Lin. Ft.	Guard Rail, Type 4, Barrier Design removed for re-use
37		1,013		202	1,013	Lin. Ft.	Guard Rail, Temporary removed for re-use
5,34,35,58	7,442	117,691	364,328	203	489,461	Cu. Yds.	Excavation Including Embankment Construction
7		192,136	326,915	203	519,051	Cu. Yds.	Borrow
9		1,377	189,542	203	190,919	Cu. Yds.	Borrow, Using Granular Material, as per plan
11, 12		1,293	136,196	203	137,489	Cu. Yds.	Borrow, Using Granular Material, as per plan including the cost of
							Excavation of Unsuitable Material
6	10,952	78,699	140,706	203	230,357	Sq. Yds.	Subgrade Preparation
19	16	1,638	4,504	203	6,158	M. Gals.	Water
46		31.8	57.2	203	89.0	Hours	Proof Rolling
53	50	100	1,420	410	1,570	Cu. Yds.	Traffic Compacted Surface, Type A or B
54, 55		150	250	410	400	Cu. Yds.	Traffic Compacted Surface, as per plan
45		13		452	13	Sq. Yds.	10" Plain Portland Cement Concrete Pavement for Temporary Sidewalk
25		8	9	604	17	Each	Monument Assemblies, Std.
26	4	6	20	604	30	Each	Centerline Reference Monuments, as per plan
36		385		606	385	Lin. Ft.	Guard Rail, Type 4, Barrier Design Rebuilt
37		1,012.5		606	1,012.5	Lin. Ft.	Temporary Guard Rail Rebuilt, as per plan
32	525	6,121	17,386	606	24,032	Lin. Ft.	Guard Rail, Type 4
33		4,802	7,912	606	12,714	Lin. Ft.	Guard Rail, Type 4, Barrier Design with Square Sawed Wood Posts
29	~~3249~~ ~~12~~	~~11,022~~ 8685	**3,346	608	15,280	Sq. Ft.	4" Concrete Walk
30	80	54		608	134	Lin. Ft.	Concrete Steps, Type B, Std.
28		2203		608	2203	Sq. Ft.	5" Temporary Walk, as per plan
48	Lump	Lump		615	Lump	Lump	Temporary Road, (Manchester Rd.)
48	1530	820		615	2350	Sq. Yd.	Class A, Temporary Pavement (Manchester Rd.)
49			Lump	615	Lump	Lump	Temporary Road (Ley Drive)
50			Lump	615	Lump	Lump	Temporary Road (Glenmont Ave.)
23		40	60	616	100	M. Gals.	Water
24	1	6	34.4	616	41.4	Tons	Calcium Chloride
38	7,898	85,441	246,825	659	*340,164	Sq. Yds.	Seeding and Mulching, as per plan
39	0.71	7.71	22.25	659	* 30.67	Tons	Commercial Fertilizer (12-12-12)
40	3.55	38.53	111.27	659	*153.35	Tons	Agricultural Liming, as per plan
41		4	243	660	* 247	Sq. Yds.	Sodding
42		160	196	660	* 356	Sq. Yds.	Sodding for Special Berm and Slope Protection, as per plan
43		1,127	2,084	667	* 3,211	Sq. Yds.	Jute Matting
51			12	Special	12	Each	Cleaning and Disposal of Septic Tanks
52			17	Special	17	Each	Drilled Wells Abandoned
57	Lump			202	Lump	Lump	Existing Stone Wall Removed and Disposed of
60			10,267	607	10,267	Lin. Ft.	Fence, Type 47
61			4,347	607	4,347	Lin. Ft.	Fence, Type CL
62		5,774		607	5,774	Lin. Ft.	Fence, Type CL, Aluminum

Line No.	City State Federal	State Federal	Grand Total	ITEM	UNIT	DESCRIPTION
71						BUILDING REMOVALS
~~73~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 1 WL, Removal of 1 - One Story Metal Building~~
~~74~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 6 WL, Removal of 1 - One Story Concrete Block Building & 1 Frame Shed~~
~~75~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 19 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~76~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 18 WL, Removal of 1 - One & One half Story Frame & Stone House & 1 Frame Garage~~
~~77~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 17 WL, Removal of 1 - Two Story Frame House & 1 Frame Garage~~
78	Lump		Lump	202	Lump	Parcel No. 10 WD, Removal of 1 - Two & One half Story Frame House
79	Lump		Lump	202	Lump	Parcel No. 22 WL, Removal of 1 - One Story Frame Building
~~80~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 7 WD, Removal of 1 - Two Story Concrete Block House~~
~~81~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 23 WL, Removal of 1 - Two Story Frame House & 1 Frame Garage~~
~~82~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 26 WL, Removal of 1 - One & One half Story Brick House & 1 Brick Garage~~
~~83~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 25 WL, Removal of 1 - One Story Frame House~~
~~84~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 24 WL, Removal of 1 - Two Story Frame House & 1 Frame Garage~~
~~85~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 37 WL, Removal of 1 - One & One half Story Frame House & Garage~~
~~86~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 36 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~87~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 35 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~88,89~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No's. 33 WL & 34 WL, Removal of 1 - One & One half Story Brick House, 1 Frame Shed & 1 Frame Garage~~
~~90~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 32 WL & 32 S, Removal of 1 - One Story Frame House & Attached Frame Garage~~
~~91~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 38 WL, Removal of 1 - One Story Frame House & Attached Garage~~
~~92~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 41 WL, Removal of 1 - One Frame Shed~~
~~93~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 39 WL, Removal of 1 - One Story Stucco House & 1 Frame Garage~~
~~94~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 40 WL, Removal of 1 - One Story Frame House & 1 Frame Garage~~
~~95~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 42 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~96~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 43 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~97~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 44 WL, Removal of 1 - One & One half Story Frame House~~
~~98~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 45 WL, Removal of 1 - One & One half Story Frame House & 1 Frame Garage~~
~~99~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 48 WL, Removal of 1 - One Story Frame House~~
~~100~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 49 WL, Removal of 1 - One Story Brick & Stucco House~~
~~101~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 52 WL, Removal of 1 - One Story Frame House and Attached Garage~~
~~102~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 55 WL, Removal of 1 - One Story Brick House and Attached Garage~~
~~103~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 57 WD, Removal of One Concrete Block Garage~~
~~104~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 56 WL, Removal of 1 - One Story Brick House~~
~~105~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 60 WL, Removal of 1 - One & One half Story Frame House & Attached Garage~~
~~106~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 67 WL, Removal of 1 - One & One half Story Frame House & Garage & 1 Green house~~
~~107~~	~~Lump~~		~~Lump~~	~~202~~	~~Lump~~	~~Parcel No. 68 WL, Removal of 1 - One Story Frame House~~
109		Lump	Lump	202	Lump	Parcel No. 73 WL, Removal of 1 - Two Story Concrete Block House & 1 Concrete Block Building & one Shed
~~110~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 70 WL, Removal of 1 - Two Story Frame & Concrete Block Building~~
~~111~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 90 X & 92 X, Removal of Frame Garage & 2 Frame Sheds~~
112	Lump	Lump	202	Lump		Parcel No. 92 WD Removal of 2 - One Story Frame Buildings
113	Lump	Lump	202	Lump		Parcel No. 91 WL, Removal of 1 one Story frame building, 1 frame privy & 2 frame sheds
~~114, 115~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 93 WL, Removal of 1 Concrete Block & Metal Building & 1 - One Story Frame House~~
116	Lump	Lump	202	Lump		Parcel No. 94 WL, Removal of 1 - Two Story Frame House & 1 - Frame Garage
~~117~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 96 WL, Removal of 1 - Two Story Frame House~~
~~118~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 97 WL, Removal of 1 - Two Story Frame House & 1 - Frame Garage~~
~~119~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 99 WL, Removal of 1 - Two Story Frame House & 1 - Concrete Block Garage~~
~~120,121~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 100 WL, Removal of 1 - One & One half Story Frame House & 1 - Frame Garage & 1 - Frame Shed~~
~~122~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 102 WL, Removal of One Tile Block Shed~~
123	Lump	Lump	202	Lump		Parcel No. 101 WL, Removal of 1 - One & One half Story Brick House & 1 - Frame Shed
~~124~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 121 WL, Removal of 1 - Two Story Brick House & 1 - Brick Garage & Frame Shed~~
~~125~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 123 WL, Removal of 1 - One Story Frame House & Attached Frame Garage~~
126,127	Lump*	Lump	202	Lump		Parcel No. 124 WL, Removal of 1 - One & One half Story Frame House, 1 - Frame Garage & 1 - Concrete Block Garage
~~128~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 127 WL, Removal of 1 - Two & One half Story Frame House & 1 - Frame Garage~~
~~129~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 152 WL, Removal of 1 - One Story Frame House & 1 - Frame Garage~~
~~130~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 153 WL, Removal of 1 - One Story Frame House & Attached Garage~~
~~132~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 134 WL, Removal of 1 - One & One half Story Brick House~~
~~133,134~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 126 WL, Removal of 1 - One & One half Brick House, 1 - Block Garage & 1 - Frame Shed~~
~~131~~	~~Lump~~	~~Lump~~	~~202~~	~~Lump~~		~~Parcel No. 154 A WL, Removal of 1 - One Story Frame House~~

REV. 10-25-66 C.E.H.

GENERAL SUMMARY

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GENERAL SUMMARY

*Construction Type Code Y005
Construction Type Code 7221 (Except as Noted)

1965 Spec.

Sheet No. 22 Line No.	City & State	City State & Federal	State Federal	Item	Grand Total	Unit	DESCRIPTION
							DRAINAGE
108		2	2	202	4	Each	Manholes Removed
109	2	6	9	202	17	Each	Inlets Removed
110		3		202	3	Each	Catch Basins Removed
111		4,000	8,000	504	12,000	Sq.Ft.	Sheet Piling 6 Ft. Left in Place
101	132	78	528	601	* 738	Cu.Yds.	Dumped Rock Channel Protection
102			120	601	* 120	Sq.Yds.	Riprap, using 6" Reinforced Concrete Slab, as per plan
103	8			601	* 8	Sq.Yds.	Grouted Riprap
105		30	20	601	* 50	Lin.Ft.	Paved Gutter, Std. Type 1-2 Modification A, as per plan
106			226	601	* 226	Lin.Ft.	Paved Gutter, Std. Type 1-4
53		7.8	192.0	602	199.8	Cu.Yds.	Concrete Masonry
3		252		603	252	Lin.Ft.	21" Conduit, Type A, 707.05, 14 Gage with Class "B" Bedding
4			76	603	76	Lin.Ft.	30" Conduit, Type A, 706.02 Class III or 706.08 with Class B Bedding
5			100	603	100	Lin.Ft.	30" Conduit, Type A, 706.02 Class IV with Class B Bedding
6			82	603	82	Lin.Ft.	36" Conduit, Type A, 706.02 Class III, 707.05 or 706.08 with Class B Bedding
7			118	603	118	Lin.Ft.	36" Conduit, Type A, 706.02 Class V or 707.05, 12Ga. with Cl. B Bedding
8			556	603	556	Lin.Ft.	48" Conduit, Type A, 707.05 with Class "B Bedding
9			188	603	188	Lin.Ft.	54" Conduit, Type A, 706.02 Class IV with Class B Bedding
10			428	603	428	Lin.Ft.	108" Conduit, Type A, 706.02 with Class B Bedding
11			92	603	92	Lin.Ft.	23" x 14" Conduit, Type A, 706.04 Class HE II with Class B Bedding
48	60		474	603	534	Lin.Ft.	6" Conduit, Type B with Class B Bedding
44			200	603	200	Lin.Ft.	8" Conduit, Type B with Class B Bedding
13,45	1060	1218	1681	603	3959	Lin.Ft.	12" Conduit, Type B with Class B Bedding
14,46	110	1400	1961	603	3471	Lin.Ft.	15" Conduit, Type B with Class B Bedding
47,63	20	94	266	603	380	Lin.Ft.	18" Conduit, Type B with Class B Bedding
15,48		566	66	603	632	Lin.Ft.	21" Conduit, Type B with Class B Bedding
49		115	570	603	685	Lin.Ft.	27" Conduit, Type B with Class B Bedding
50,65		158		603	158	Lin.Ft.	36" Conduit, Type B with Class B Bedding
51		60		603	60	Lin.Ft.	42" Conduit, Type B with Class B Bedding
27,55			500	603	500	Lin.Ft.	6" Conduit, Type C
28,54			100	603	100	Lin.Ft.	8" Conduit, Type C
17,18,67	413	343	663	603	1419	Lin.Ft.	12" Conduit, Type C with Class B Bedding
19	26	16	76	603	118	Lin.Ft.	15" Conduit, Type C with Class B Bedding
20,66		138	254	603	392	Lin.Ft.	21" Conduit, Type C with Class B Bedding
21			390	603	390	Lin.Ft.	27" Conduit, Type C with Class B Bedding
22			180	603	180	Lin.Ft.	27" Conduit, Type C, 706.02 Class III or 706.08 Extra Strength with Class B Bedding
23,68		360		603	360	Lin.Ft.	33" Conduit, Type C, 706.02 Class III with Class B Bedding
24		202		603	202	Lin.Ft.	36" Conduit, Type C with Class B Bedding
25		272		603	272	Lin.Ft.	42" Conduit, Type C with Class B Bedding
26		27		603	27	Lin.Ft.	42" Radius Conduit, Type "C with Class B Bedding
32,60			32	603	32	Lin.Ft.	12" Conduit, Type F
32,			86	603	86	Lin.Ft.	12" Conduit, Type D
33,61		267	278	603	545	Lin.Ft.	15" Conduit, Type F
34		44		603	44	Lin.Ft.	24" Conduit, Type D
36			200	603	200	Lin.Ft.	6" Conduit, Type E
37			100	603	100	Lin.Ft.	8" Conduit, Type E
29	60	370	640	603	1,070	Lin.Ft.	6" Conduit, Type F
30&31	10	90	310	603	410	Lin.Ft.	8" Conduit, Type F
52		200		603	200	Lin.Ft.	3" Conduit, as per plan
73			1	604	1	Each	Standard No. 2-6 Median Inlet
74			1	604	1	Each	Standard No. 2-8 Median Inlet
75		3 ✓		604	3	Each	Standard No. 2-A-6 Paved Shoulder Inlet
76		5 ✓	3	604	8	Each	Standard No. 2-A-6 Paved Shoulder Inlet, Modified as per plan
77			1	604	1	Each	Standard No. 2-A-8 Paved Shoulder Inlet,
78		2 ✓	14	604	16	Each	Standard No. 2-A-8 Paved Shoulder Inlet, Modified as per plan
79		3 ✓	1	604	4	Each	Standard No. 2-A-10 Paved Shoulder Inlet
80		5 ✓	4	604	9	Each	Standard No. 2-A-10 Paved Shoulder Inlet, Modified as per plan
81		3 ✓		604	3	Each	Standard No. 2-A-12 Paved Shoulder Inlet
82		1 ✓		604	1	Each	Standard No. 2-A-14 Paved Shoulder Inlet
83		6 ✓		604	6	Each	City of Akron Type D Inlet

Sheet No. 22 Line No.	City & State	City, State & Federal	State Federal	Item	Grand Total	Unit	DESCRIPTION
							DRAINAGE (Continued)
85		3	4	604	7	Each	Standard No. 2-2-A Catch Basin
86			3	604	3	Each	Standard No. 2-2-B Catch Basin
87	247	711	7	604	35	Each	Standard No. 3 Catch Basin
88			14	604	21	Each	Standard No. 3A Catch Basin
89			2	604	2	Each	Standard No. 5 Catch Basin
90	2	7	3	604	12	Each	Standard No. 6 Catch Basin
92	24	1311	9	604	24	Each	Standard No. 1 Manhole
93			1	604	1	Each	Standard No. 3 Inlet Manhole as per plan
94		1		604	1	Each	Catch Basin Adjusted to Grade
95	1	X	1	604	2	Each	Inlet Adjusted to Grade
96	2	8		604	2	Each	Manholes Adjusted to Grade
97			3	604	3	Each	Inspection Wells as per plan
40	2214	8,272	25,554	605	36,040	Lin.Ft.	6" Shallow Pipe Underdrain
40	732	4,710	5,134	605	10,576	Lin.Ft.	6" Deep Pipe Underdrain
39,41		4,884	1,202	605	6,086	Lin.Ft.	6" Shallow Pipe Underdrain, 707.06 or 707.12
99			1,881	605	1,881	Lin.Ft.	Aggregate Drains
100		3	6	605	9	Lin.Ft.	Aggregate Drains for Springs, as per plan
42		100	200	605	300	Lin.Ft.	6" Unclassified Pipe Underdrain, 707.06 or 707.12, as per plan
113							SANITARY SEWERS (Code Y060)
134	710			202	710	Lin.Ft.	Pipe Removed 15" & Under
135			360	202	360	Lin.Ft.	Pipe Removed Over 15"
132	1	6	2	202	9	Each	Manholes Removed
139			8,123	507	8,123	Lin.Ft.	12" Cast-in-Place Reinforced Concrete Piles
124,138			467.8	602	467.8	Cu.Yds.	Concrete Masonry, as per plan
115		230		603	230	Lin.Ft.	6" Conduit, Type B, 706.08 with Compression Joints and Class "B Bedding
116,121	204	573		603	777	Lin.Ft.	8" Conduit, Type B, 706.08 with Compression Joints and Class B Bedding
122			320	603	320	Lin.Ft.	36" Conduit, Type B, 706.02 Class V, Full Vitrified Liner as per 706.05, with Compression Joints and Class "B" Bedding
118	510	325		603	835	Lin.Ft.	8" Conduit, Type C, 706.08 Extra Strength with Compression Joints and Class B Bedding
119		657	320	603	977	Lin.Ft.	36" Conduit, Type C, 706.02 Class IV, Full Vitrified Liner as per 706.05, with Class B Bedding and Compression Joints
126		10	1	604	11	Each	City of Akron Type 3 Manhole
127	3			604	3	Each	City of Akron Type 3 Manhole, Modified as per plan
128	2	3	2	604	7	Each	Manholes Altered
129		2		604	2	Each	Manholes Rebuilt
130	4	9		604	13	Each	Manholes Adjusted to Grade

REV 10-25-66 C.E.H

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
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GENERAL SUMMARY

1965 Spec.

Sh.23 Line No.	City State	City State Federal	State Federal	ITEM	Grand Total	UNIT	DESCRIPTION Construction Type Code 7221
							PAVEMENT
22		2,771	2,869	301	5,640	Cu.Yds.	Bituminous Aggregate Base: 702.01, (85-100); or 702.09, RT-12
23	49	3989	47	302	47	Cu.Yds.	Asphalt Concrete (70-85)
21	~~20~~	~~4,048~~	8,081	304	12,119	Cu.Yds.	Aggregate Base
Sh.21 Line 19		20	41	304	61	M.Gals.	Water
25	13			305	13	Sq.Yds.	Portland Cement Concrete Base, 11½"
17	2,064	10,277	20,508	310	32,849	Cu.Yds.	Subbase Grading "A" or "B" as per plan
18		2,469	1,519	310	3,988	Cu.Yds.	Subbase
24		234	117	403	351	Cu.Yds.	Asphalt Concrete (70-85)
37	12	261	158	404	431	Cu.Yds.	Asphalt Concrete (70-85)
32		411	6,112	405	6,523	Gals.	Mix Bituminous Material: 702.02, MC-800 or MC-3000; or 707.09, RT-8, RT-9 or RT-10
34		26	380	405	406	Cu.Yds.	No. 67 Mix Aggregate
35		1.8	27.2	405	29	Cu.Yds.	No. 9 Aggregate for Choke
28	2			407	2	Gals.	Tack Coat: 702.04 MS-2 or RS-1; or 702.02 RC-70 or RC-250
27			4,366	408	4,366	Gals.	Bituminous Prime Coat, 702.09 RT-2 or RT-3
33		114	1,698	409	1,812	Gals.	Seal Coat Bituminous Material; 702.09, RT-9 or RT-10; or 707.02, RC-800 or RC-3000
31,36		150.6	279.4	409	430	Cu.Yds.	Seal Coat Cover Aggregate, No. 8
30		5,576	8,478	409	14,054	Gals.	Seal Coat Bituminous Material as per plan.
40	10,479	10,383	24,001	451	44,863	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement
41	194	35,570	68,211	451	103,781	Sq.Yds.	10" Reinforced Portland Cement Concrete Pavement
39	~~779~~	~~356~~ 356	94	452	629	Sq.Yds.	7" Plain Portland Cement Concrete Pavement
13	32			609	32	Lin.Ft.	Standard Type 2B Concrete Curb, Modified as per plan
7		5,050	3,048	609	8,098	Lin.Ft.	Standard Type 2 Combination Curb and Gutter
8	3,433	2,194	4,224	609	9851	Lin.Ft.	Standard Type 2A Concrete Curb
9		3,316	2,015	609	5,331	Lin.Ft.	Standard Type 6 Concrete Curb
10		122	126	609	248	Lin.Ft.	Standard Type 7 Concrete Curb
11	49	~~49~~		609	49	Lin.Ft.	Standard Type 7 Concrete Curb Modified as per plan
12		215	318	609	533	Lin.Ft.	Standard Type 8 Concrete Curb
6		1,151.4	1,034.6	611	2,186	Sq.Yds.	Reinforced Concrete Approach Slabs (T=13")
14		21	962	612	983	Sq.Yds.	Type 1 Concrete Median Pavement as per plan
15	469	3,632	5,762	612	9,863	Sq.Yds.	Type 2 Concrete Median Pavement as per plan
19			35	613	35	Each	Traffic Dividers, Std.
43		555	1,006	Special	1,561	Cu.Yds.	Drainage Connection Using No. 8 Aggregate
44	40			Special	40	Each	Expansion Anchor Bolt
	40			510	40	Each	Dowel Holes
							STRUCTURES OVER 20 FT. SPAN For Estimated Quantities
49							Bridge No. SUM-277-0259 See Sheet No. 295
50							Bridge No. SUM-277-0240 See Sheet No. 307
51							Bridge No. SUM-277-0216 See Sheet No. 322
52							Bridge No. SUM-277-0199 See Sheet No. 330
53							Bridge No. SUM-277-0131 See Sheet No. 343
54							Bridge No. SUM-277-0071 See Sheet No. 352
55							Bridge No. SUM-277-0070 See Sheet No. 360
58							FOR LIGHTING QUANTITIES See Sheet No. 258
59							FOR TRAFFIC CONTROL QUANTITIES See Sheet No. 269
62	Lump	Lump	Lump	614	Lump	Lump	Maintaining Traffic
63	Lump	Lump	Lump		Lump	Lump	Construction Layout Stakes
64	Lump	Lump	Lump		Lump	Lump	Field Office
							ALTERNATE ITEMS
62		5,774		607	5,774	Lin.Ft.	Fence, Type CL, Galvanized Steel

City State	Sh.23 Line No.	City State Federal	State Federal	ITEM	Grand Total	UNIT	DESCRIPTION Construction Type Code Y060
							WATER LINE
41	75	1,712		814	1,753	Lin.Ft.	6" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
	76	2,016		814	2,016	Lin.Ft.	8" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
33	77			814	33	Lin.Ft.	10" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
21	78	46		814	67	Lin.Ft.	12" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
30	79	15		814	45	Lin.Ft.	16" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
27	80	815		814	842	Lin.Ft.	20" New Water Main, Cast Iron Pipe Class 24, Cement Lined Bell and Spigot
	81		215	814	215	Lin.Ft.	6" Pipe C-202 0.312" Wall
	82		473	814	473	Lin.Ft.	36" Pipe B-36.10
	83	35		814	35	Lin.Ft.	1" Copper Pipe Type K
	84		220	814	220	Lin.Ft.	2" Copper Pipe Type K
	120		1	814	1	Each	2" Valve and Box
	121	5		814	5	Each	4" Valve and Box
1	122	12		814	13	Each	6" Valve and Box
	123	5		814	5	Each	8" Valve and Box
	124	1		814	1	Each	10" Valve and Box
	125	1		814	1	Each	16" Valve and Box
1	127			814	1	Each	Water Meter and Box Remove and Reset
	128	1		814	1	Each	Service Connection Restored
	129	3		814	3	Each	6" New Hydrant
2	130	~~2~~		814	2	Each	Hydrants Removed and Reset
	131	4		814	4	Each	Hydrants Removed and Disposed of
	132	1		814	1	Each	Hydrants Adjusted to Grade
624	133	869		202	1,493	Lin.Ft.	Pipe Removed Over 15"

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FED. RD. DIVISION	STATE	PROJECT	
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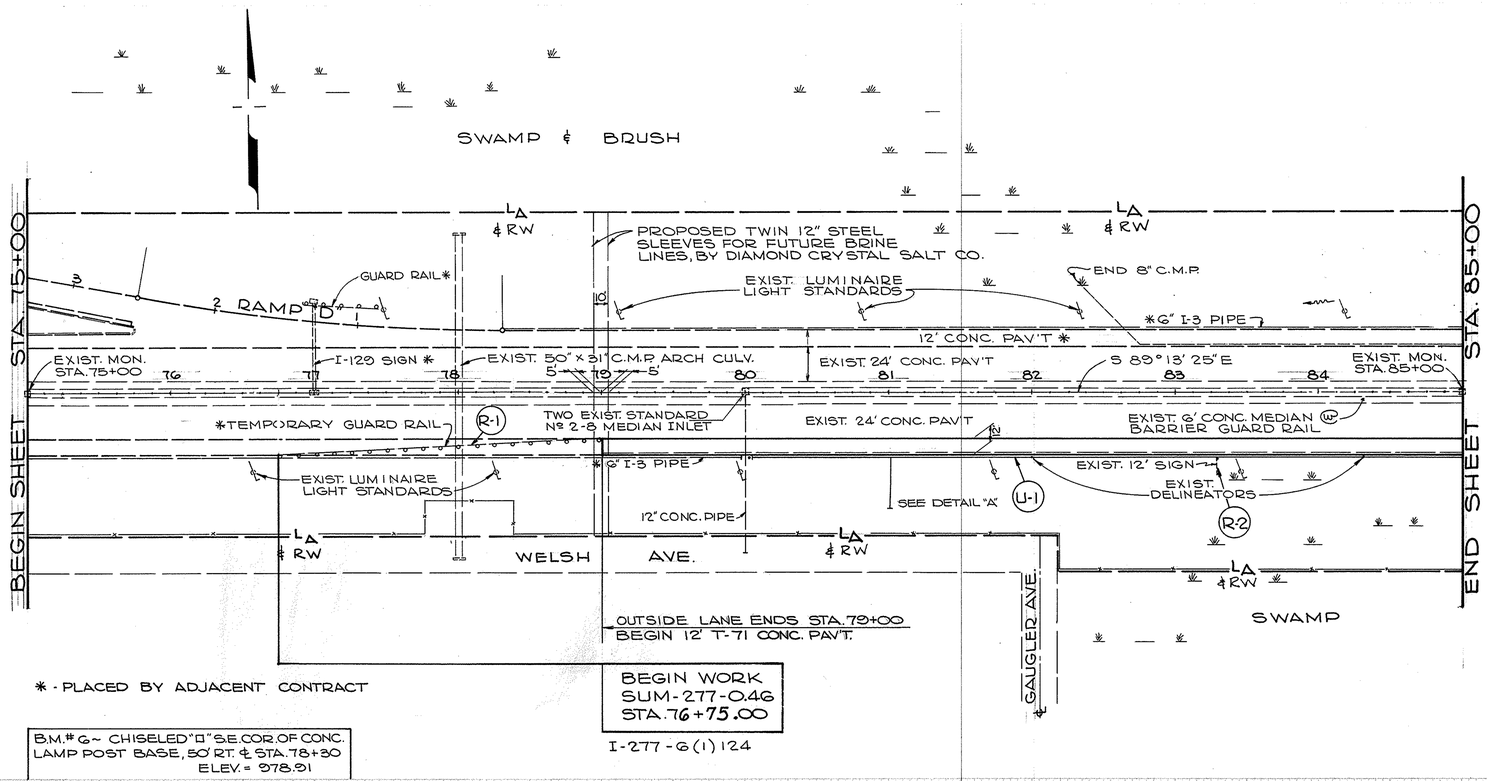


DRAINAGE QUANTITIES

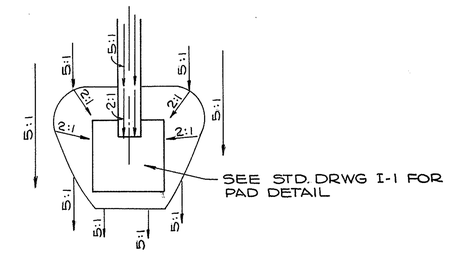
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW LIN. FT.	I-1 PIPE CL. F-4 8" M-6.4(C) LIN. FT.		I-5 PIPE SPECIALS 6" TEE EACH
U-1	80+05	85+00	RT.	520	10		1
R-1	76+75	79+00	RT.				
R-2	80+03	85+00	RT.				
R-3	83+29		RT.				
SHEET TOTAL				520	10		1

ROADWAY

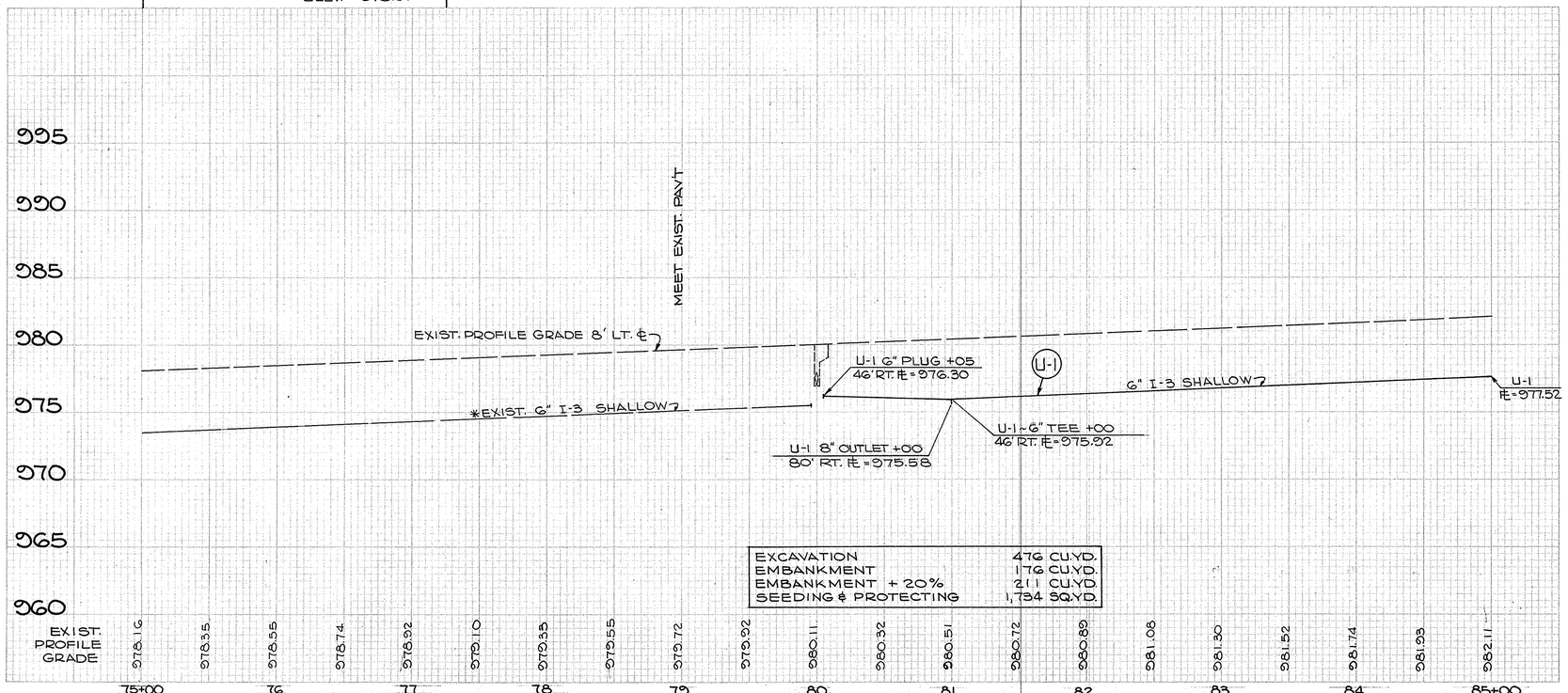
I-15 ** TEMP. GUARD RAIL REMOVED & REBUILT	** EXIST. DELIN-EATORS REMOVED & DISPOSED EACH	** EXIST. 12' SIGN REMOVED & DISPOSED EACH
225		
	3	
		1
225 ⊛	3	1

⊛ - TEMPORARY GUARD RAIL TO BE REBUILT @ THE RELOC. S. MAIN ST. INTERCHANGE.

** - PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION



DETAIL "A" OF SLOPES AT UNDERDRAIN OUTLET STA. 81+00



EXCAVATION	476 CU.YD.
EMBANKMENT	176 CU.YD.
EMBANKMENT + 20%	211 CU.YD.
SEEDING & PROTECTING	1,734 SQ.YD.

STA. 75+00 to STA. 85+00

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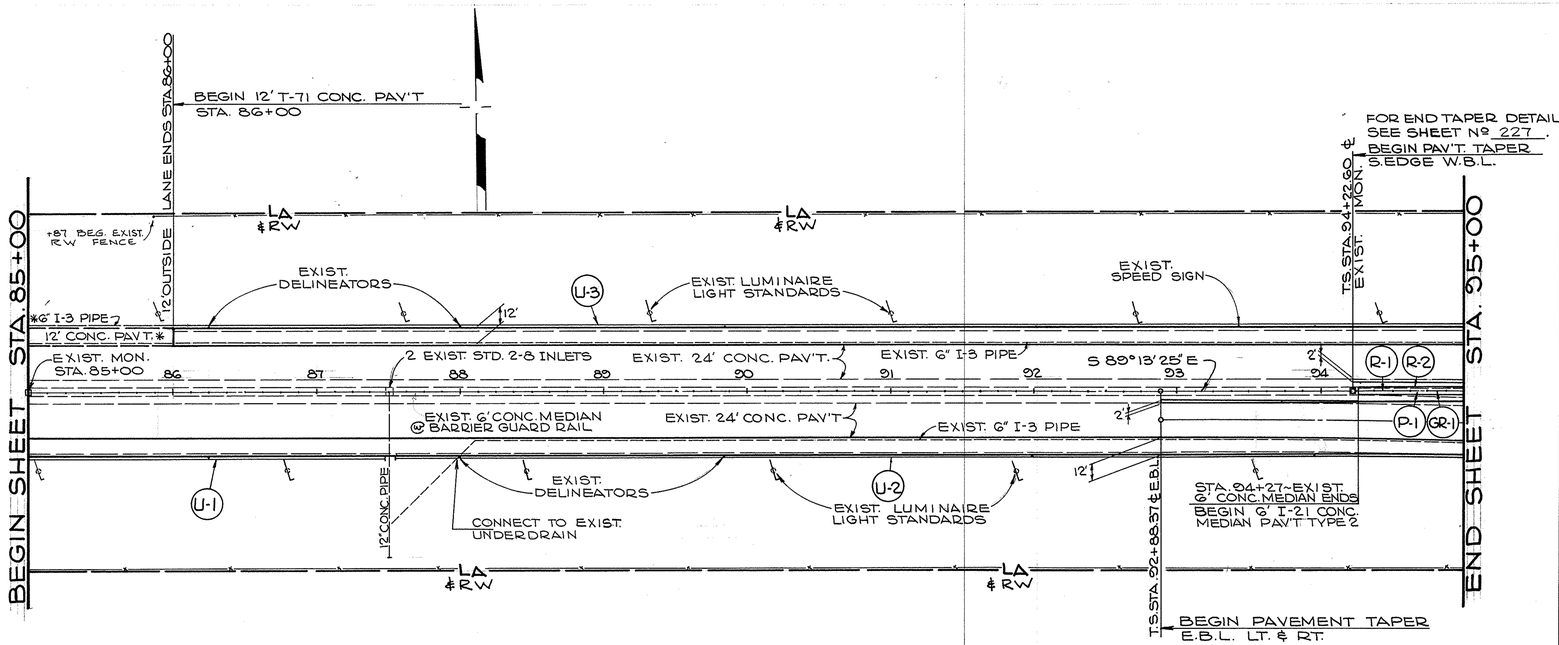


* - PLACED BY ADJACENT CONTRACT.

B.M. # 7 ~ CHISELED "D" S.E. COR. OF CONC. LAMP POST BASE, 50' RT. ℄ STA. 85+07 ELEV. = 981.75

℄ CURVE DATA

P.I. STA. 105+94.00
Δ = 61°15'00"
D_c = 3°30'
R = 1637.02'
T_s = 1171.40'
L_c = 1750.00'
E = 270.07'
L_s = 400'
Θ_s = 7°00'
L.T. = 266.88'
S.T. = 133.52'
X_c = 399.40'
Y_c = 16.27'

E.B.L. CURVE DATA

L_s = 400'
Θ_s = 5°00'
L.T. = 266.77'
S.T. = 133.43'
D_c = 2°30'
L_c = 250.77'

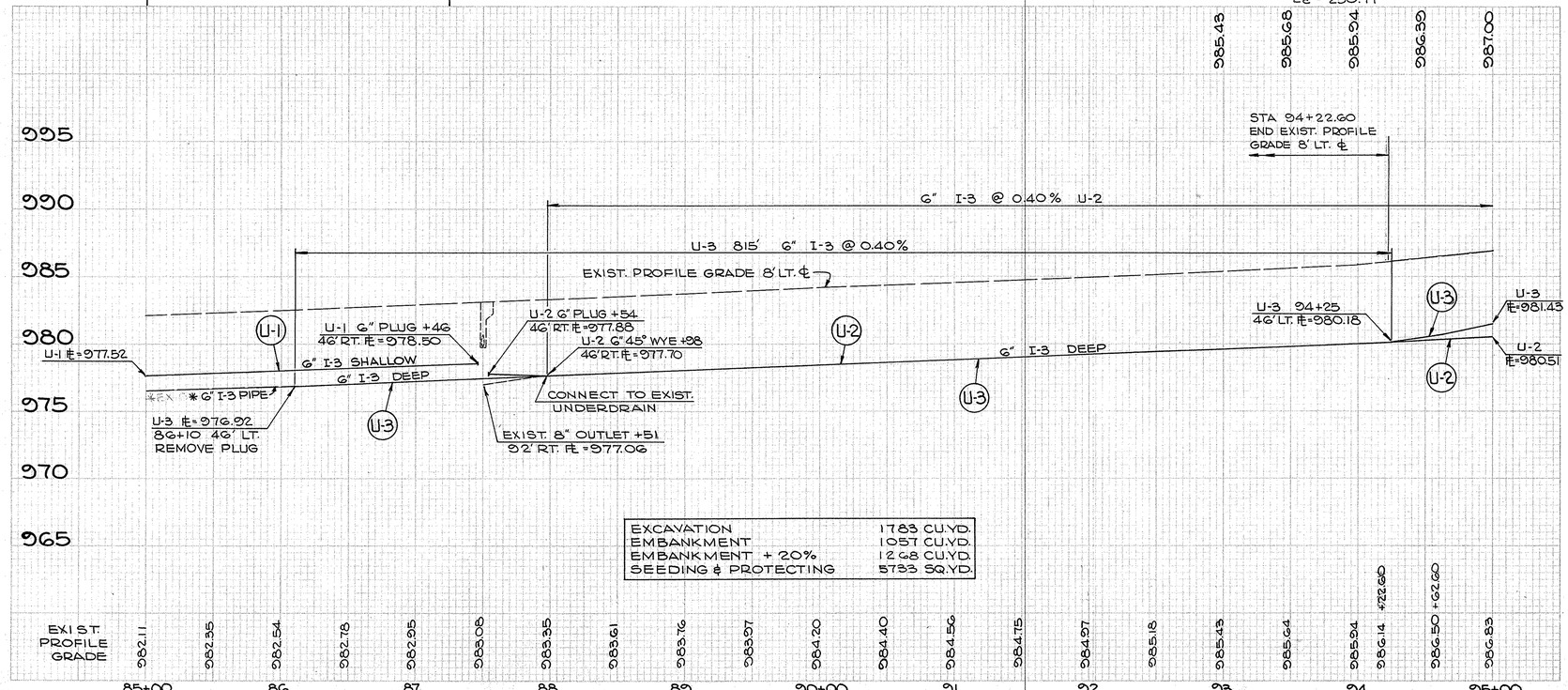
DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CLASS I-3 6" SHALLOW LIN. FT.	I-1 PIPE CLASS I-3 6" DEEP LIN. FT.		I-5 PIPE SPECIALS 6" 45° WYE EACH
U-1	85+00	87+46	RT.	246			
U-2	87+54	95+00	RT.		746		1
U-3	86+10	95+00	LT.		890		
SHEET TOTAL				246	1636		1

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	E-8 REMOVAL OF EXIST. CONCRETE CURB LIN. FT.	I-15 GUARD RAIL BARRIER REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 STD. TYPE 2 CONC. MEDIAN PAVEMENT S.Y.	** EXIST. DELIN-EATORS REMOVED & DISPOSED EACH
GR-1	94+27	95+00	℄			73		
R-1	94+27	95+00	LT.	73				
R-2	94+27	95+00	℄		73			
R-3	85+00	95+00	RT. & LT.					11
P-1	94+27	95+00	℄				48.67	
SHEET TOTAL				73	73	73	48.67	11

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION.



EXCAVATION	1783 CU. YD.
EMBANKMENT	1057 CU. YD.
EMBANKMENT + 20%	1268 CU. YD.
SEEDING & PROTECTING	5783 SQ. YD.

STA. 85+00 to STA. 95+00

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2	OHIO	I-277-G(1)124	

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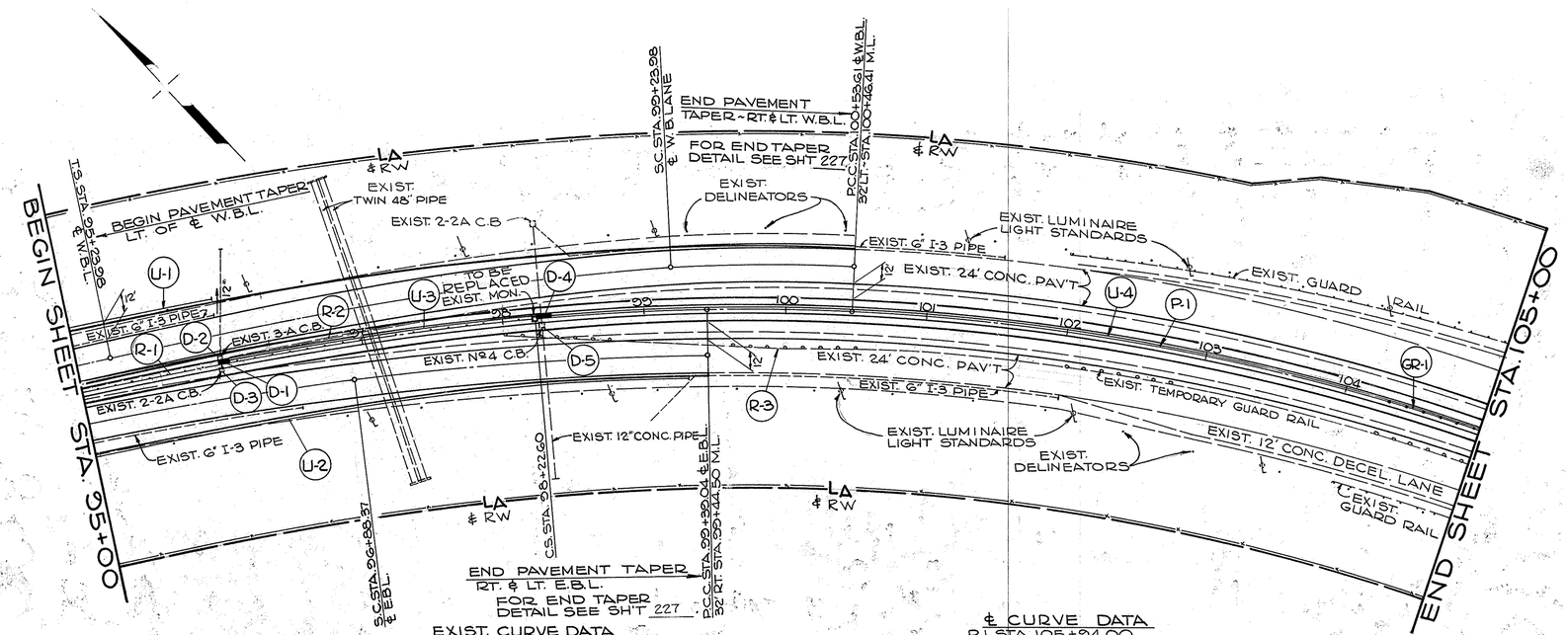
SUMMIT COUNTY
SUM-277-0.46



EXIST. CURVE DATA

W.B. LANE	E.B. LANE
L_S = 400'	L_S = 400'
θ_S = 9°00'	θ_S = 5°00'
L.T. = 267.01'	L.T. = 266.77'
S.T. = 133.65'	S.T. = 133.45'
D_C = 4°30'	D_C = 2°30'
L_C = 129.63'	L_C = 250.77'

℄ CURVE DATA

P.I. STA. 105+94.00
Δ = 61°15'00"
D_C = 3°30'
R = 1637.02'
T_S = 111.40'
L_C = 1350.00'
E = 270.07'

L_S = 400'
θ_S = 7°00'
L.T. = 266.88'
S.T. = 133.52'
X_C = 399.40'
Y_C = 16.27'

B.M. # 8 ~ CHISELED "□" S. SIDE OF CONC. LAMP POST BASE, 50' RT. ℄ STA. 95+30 ELEV. = 985.63

DRAINAGE QUANTITIES

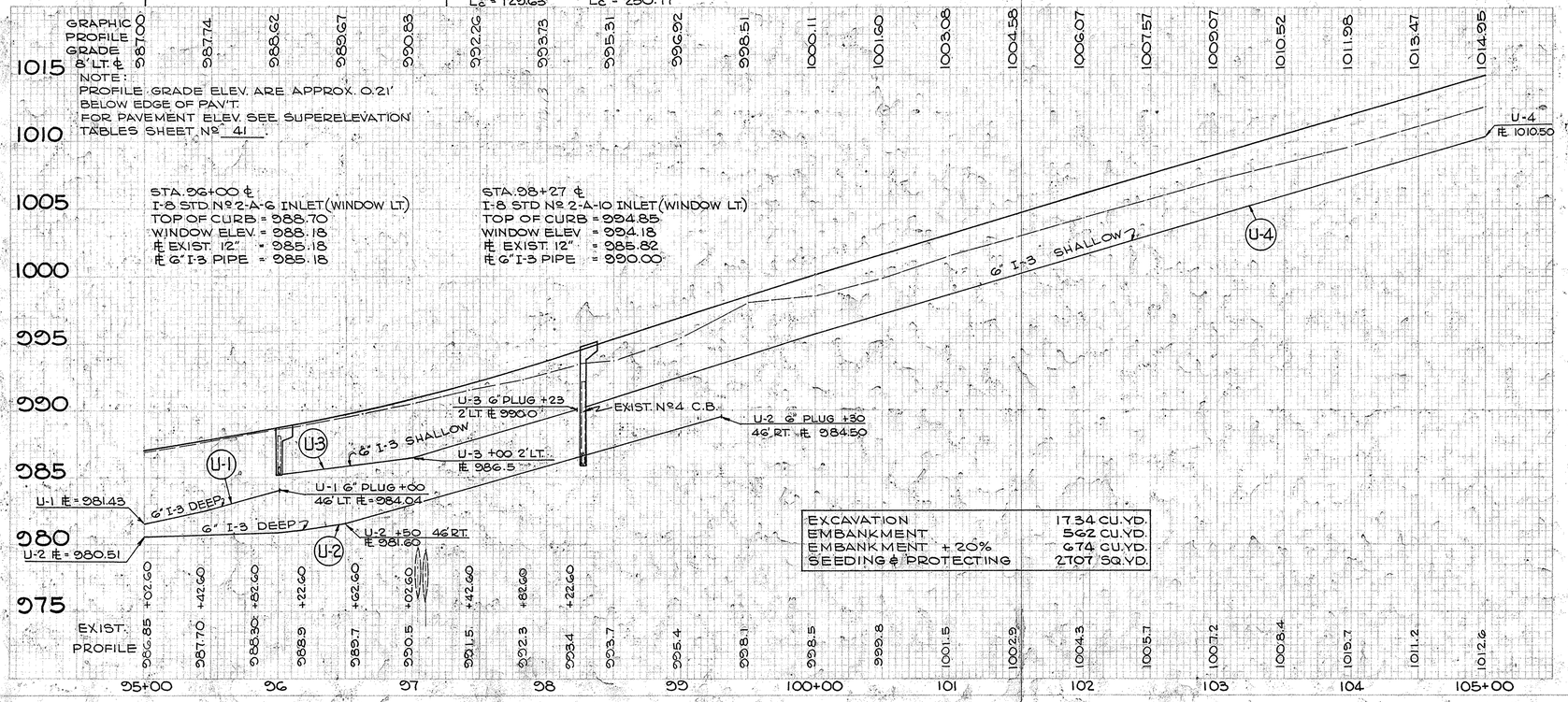
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW LIN. FT.	I-1 PIPE CL. I-3 6" DEEP LIN. FT.	I-1 PIPE CL. F-4 6" LIN. FT.	I-8 Nº 2-A-10 STD. EACH	I-8 Nº 2-A-6 STD. EACH	I-16 CATCH BASINS ABAND. EACH
U-1	95+00	96+00	LT.		100				
U-2	95+00	99+30	RT.	100	330				
U-3	96+00	98+23	℄	213		10			
U-4	98+27	105+00	℄	663		10			
D-1	96+00		℄					1	
D-2	96+00		45° LT.						1
D-3	96+00		6' RT.						1
D-4	98+27		℄				1		
D-5	98+27		5' RT.						1
SHEET TOTAL				976	430	20	1	1	3

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	E-8 REMOVAL OF EXIST. CONCRETE CURB LIN. FT.	I-15 GUARD RAIL TEMPORARY REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL BARRIER REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 STD. TYPE 2 CONC. MEDIAN PAV'T. S.Y.	** EXIST. DELINEATORS REMOVED & DISPOSED EACH
GR-1	95+00	105+00	℄				1000		
R-1	95+00	98+12	℄			312			
R-2	95+00	98+00	LT.	300					
R-3	98+00	105+00			700				
R-4	95+00	100+40	LT.						9
R-5	95+00	99+07	RT.						7
P-1	95+00	105+00	RT. & LT.					666.67	
SHEET TOTAL				300	700 *	312	1000	666.67	16

* - TEMPORARY GUARD RAIL TO BE REBUILT @ THE RELOC. S. MAIN ST. INTERCHANGE.

** PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION



EXCAVATION	1734 CU. YD.
EMBANKMENT	562 CU. YD.
EMBANKMENT + 20%	674 CU. YD.
SEEDING & PROTECTING	2707 SQ. YD.

STA. 95+00 to STA. 105+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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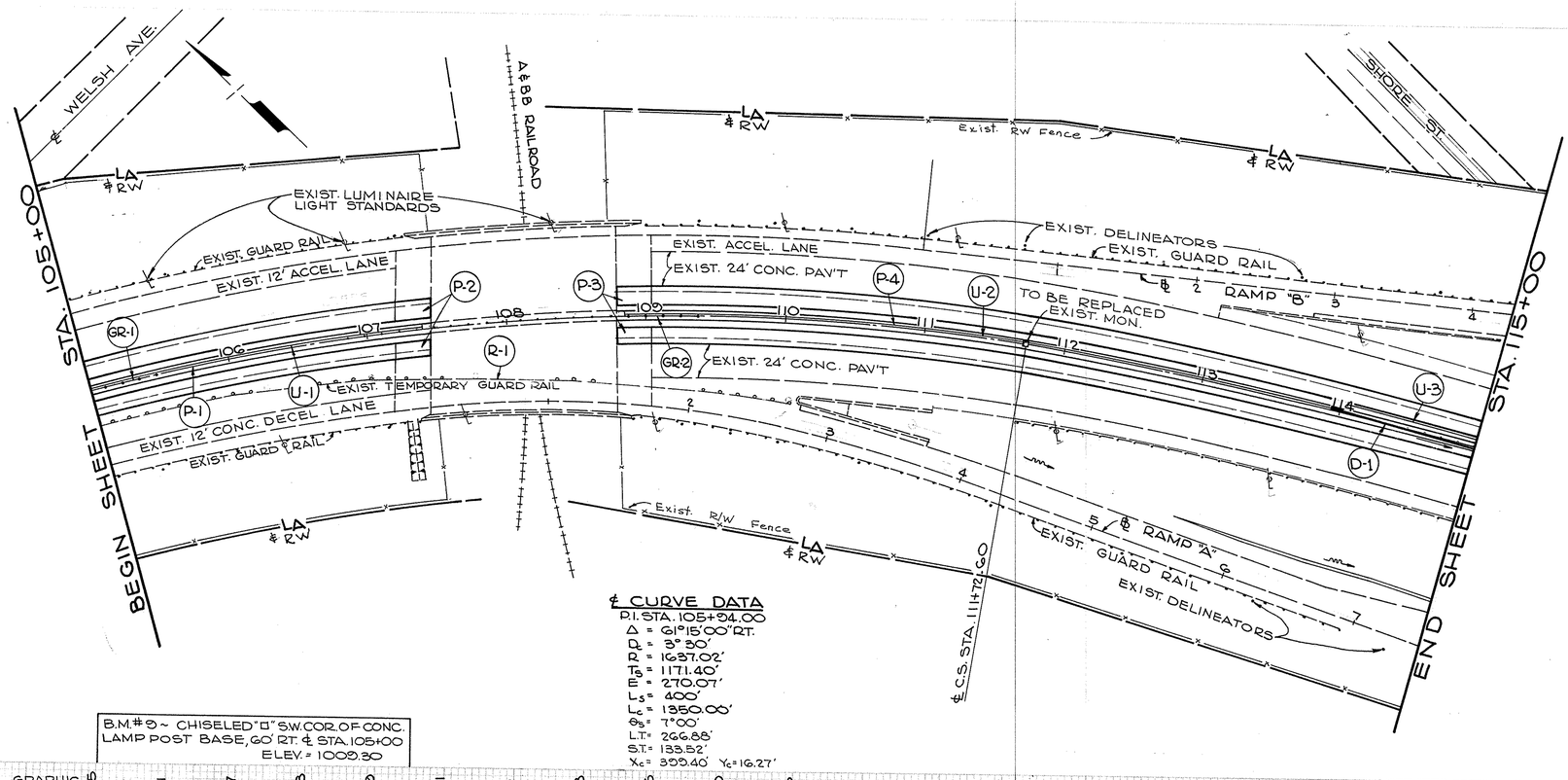


℄ CURVE DATA

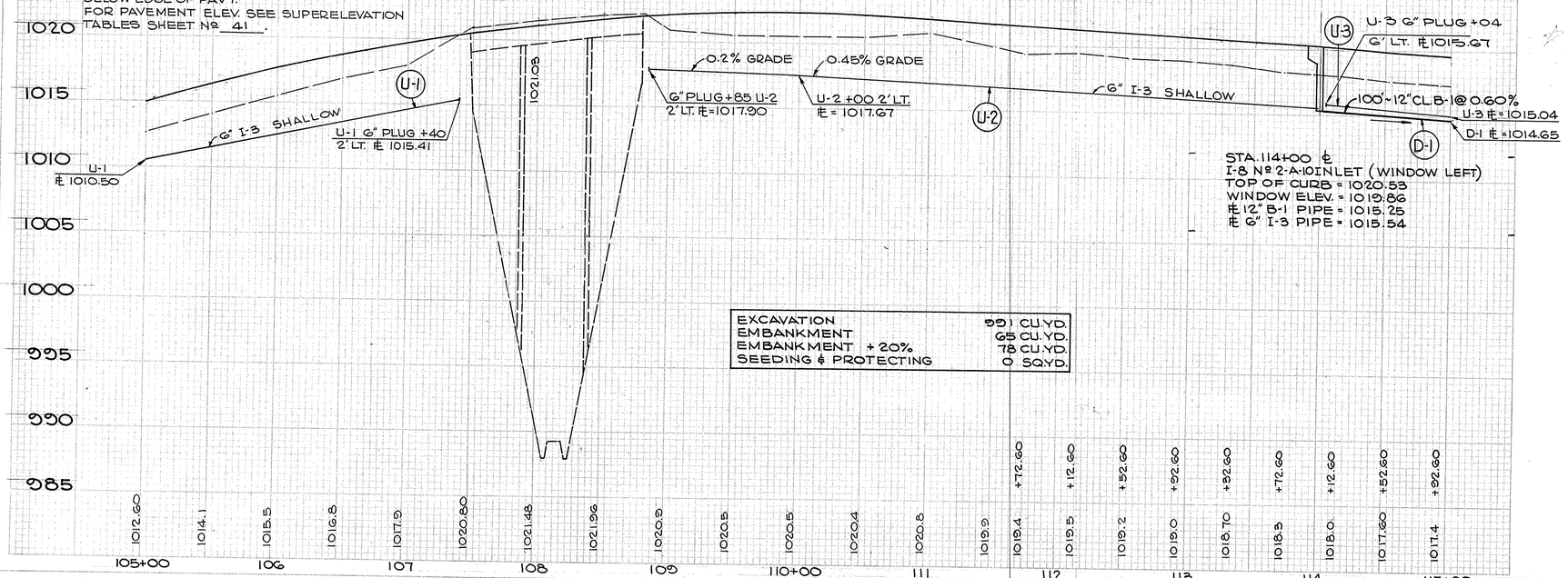
P.I. STA. 105+94.00
Δ = 61°15'00" RT.
D_c = 3° 30'
R_c = 1637.02'
T_s = 1171.40'
E = 270.07'
L_s = 400'
L_c = 1350.00'
θ_s = 7°00'
L.T. = 266.88'
S.T. = 133.52'
X_c = 399.40' Y_c = 16.27'

℄ C.S. STA. 111+72.60

B.M.#9 ~ CHISELED "□" S.W. COR. OF CONC. LAMP POST BASE, 60' RT. ℄ STA. 105+00
ELEV. = 1009.30

GRAPHIC PROFILE GRADE ℄ LT. ℄

NOTE:
PROFILE GRADE ELEV. ARE APPROX. 0.21' BELOW EDGE OF PAV'T.
FOR PAVEMENT ELEV. SEE SUPERELEVATION TABLES SHEET № 41 .



STA. 114+00 ℄
I-8 № 2-A-10 INLET (WINDOW LEFT)
TOP OF CURB = 1020.53
WINDOW ELEV. = 1019.86
℄ 12" B-1 PIPE = 1015.25
℄ 6" I-3 PIPE = 1015.54

EXCAVATION	991 CU. YD.
EMBANKMENT	65 CU. YD.
EMBANKMENT + 20%	78 CU. YD.
SEEDING & PROTECTING	0 SQ. YD.

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW LIN. FT.	I-1 PIPE CL. F-4 6" LIN. FT.	I-1 PIPE CL. F-4 M-64 8" LIN. FT.	I-1 PIPE CL. B-1 12" LIN. FT.	I-5 PIPE SPECIALS CL. I-3 6"X6" TEE EACH	I-8 № 2-A-10 INLET ST'D. EACH
U-1	105+00	107+40	LT.	240					
U-2	108+85	114+00	LT.	505	10				
U-3	114+04	115+00	LT.	96					
D-1	114+00	115+00	℄				100		1
SHEET TOTAL				841	10		100	0	1

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-7 REINF. CONCRETE APPROACH SLABS T=13" S.Y.	I-15 GUARD RAIL TEMPORARY REMOVED & REBUILT LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-15 GUARD RAIL TEMPORARY REMOVED & DISPOSED LIN. FT.	I-21 STD. TYPE 2 CONC. MEDIAN PAV'T S.Y.
GR-1	105+00	107+48.5	℄			248.5		
GR-2	108+76	115+00	℄			624		
P-1	105+00	107+46.6	℄					
P-2	107+21.6	107+46.6	RT & LT	66.67				164.40
P-3	108+78	109+03	RT & LT	66.67				
P-4	108+78	115+00	℄					414.67
R-1	105+00	110+06	RT.		87.5		412.5	
SHEET TOTAL				133.34	87.5 *	872.5	412.5☆	579.07

* - TEMPORARY GUARD RAIL TO BE REBUILT @ THE RELOC. S. MAIN ST. INTERCHANGE.

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO	I-277-G(I)124		

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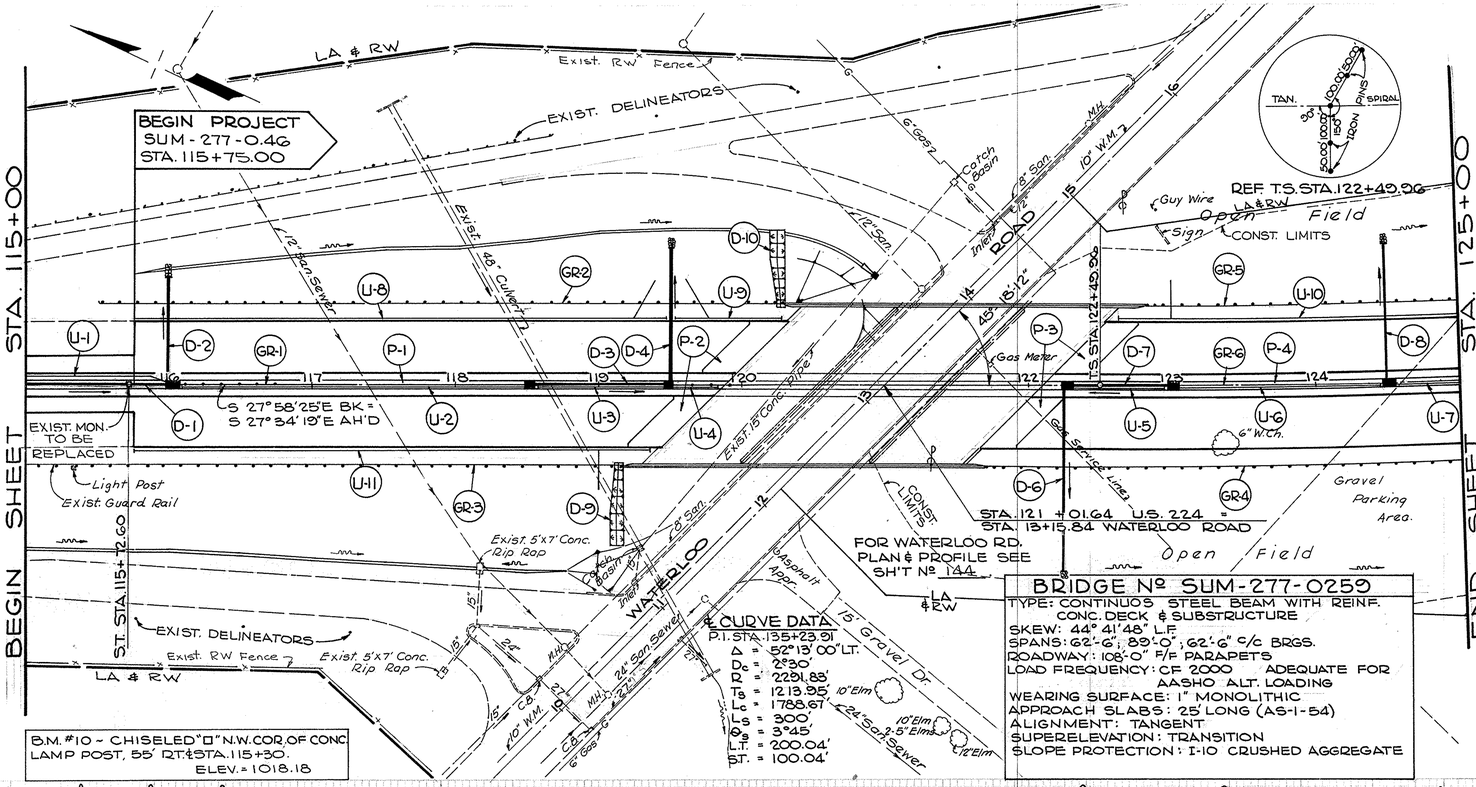


BRIDGE Nº SUM-277-0259

TYPE: CONTINUOS STEEL BEAM WITH REINF. CONC. DECK & SUBSTRUCTURE
SKEW: 44° 41' 48" L.F.
SPANS: 62'-6"; 89'-0"; 62'-6" C/C BRGS.
ROADWAY: 108'-0" F/F PARAPETS
LOAD FREQUENCY: CF 2000 ADEQUATE FOR AASHO ALT. LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE

℄ CURVE DATA

P.I. STA. 135+23.91
Δ = 52°13'00" LT.
D_c = 2°30'
R = 2291.83'
T_s = 1213.95'
L_c = 1788.67'
L_s = 300'
θ_s = 3°45'
L.T. = 200.04'
B.T. = 100.04'

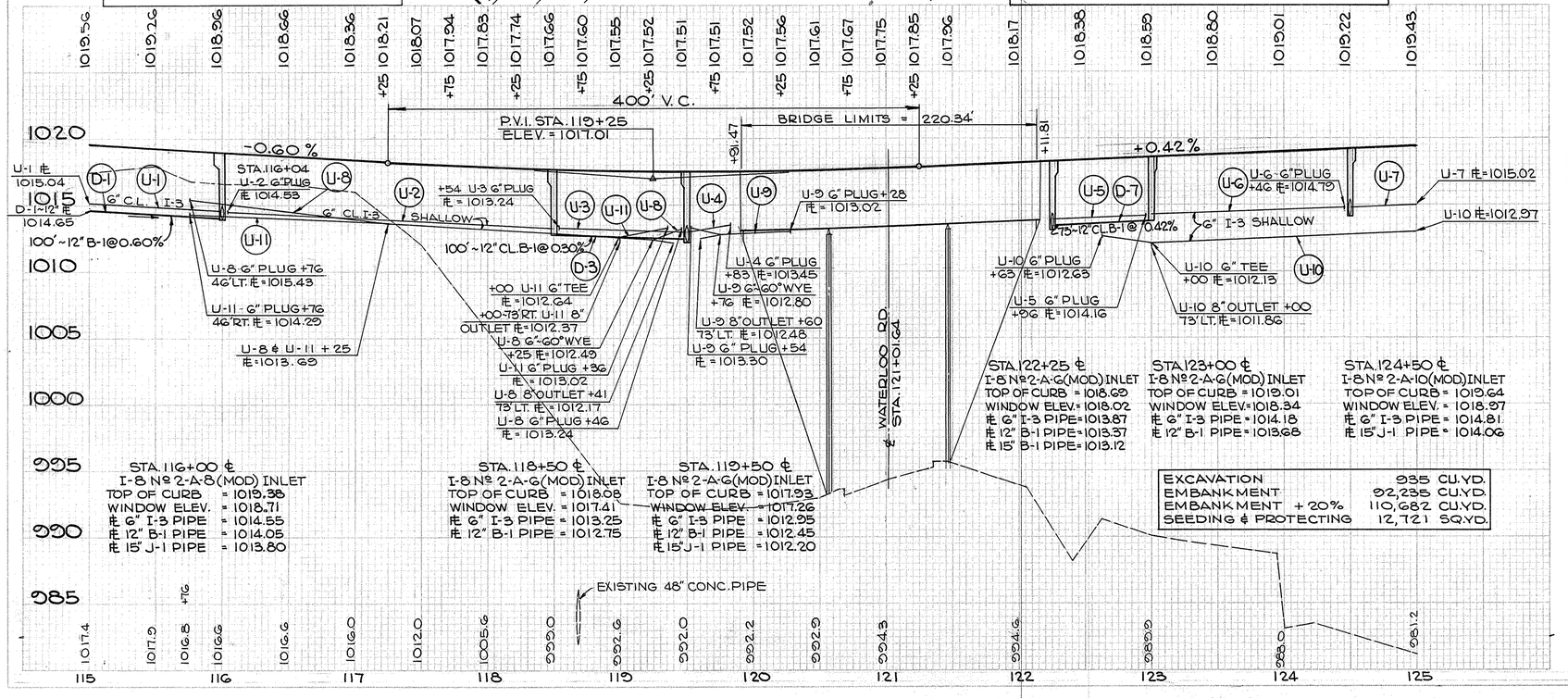
B.M. #10 ~ CHISELED "□" N.W. COR. OF CONC. LAMP POST, 55' RT. & STA. 115+30.
ELEV. = 1018.18

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHAL-LOW	CL. I-3 6" DEEP	CL. F-4 6"	CL. F-4 M-6.46 8"	CL. F-4 M-6.46 15"	CL. B-1 12"	CL. B-1 15"	CL. J-1	I-2 MASN RY	I-5 PIPE SPECIALS I-3 6"x6" TEE	I-3 F-4 6" 60° WYE	I-3 F-4 15" 25° B'ND	I-8 Nº 2-A-8 (MOD)	I-8 Nº 2-A-6 (MOD)	I-8 Nº 2-A-10 (MOD)	I-10 DUMPED ROCK CHAN. PROT.	I-10 SPEC BERM & SLOPE PROT.
				LIN. FT.		LIN. FT.			LIN. FT.		L.FT.	CU.YD.	EACH			EACH			CU.YD.	SQ.YD.
U-1	115+00	116+00	℄	90		10														
U-2	116+04	118+50	℄	236		10														
U-3	118+54	119+50	℄	86		10														
U-4	119+50	119+83	℄	24		10														
U-5	122+25	122+96	℄	62		10														
U-6	123+00	124+46	℄	136		10														
U-7	124+50	125+00	℄	40		10														
U-8	115+75	119+48	LT.	384		10	10							1						
U-9	119+82	120+28	LT.	98			10							1						
U-10	122+63	125+00	LT.	246		10	10						1							
U-11	115+76	119+36	RT.	377			10						1							
D-1	115+00	116+00	℄						100											
D-2	116+00		LT.								78	0.26				1			1.3	
D-3	118+50	119+50	℄						100								1			
D-4	119+50		LT.				39				58	0.26			2		1		1.3	
D-6	122+25		RT.				76				61	0.26			2		1		1.3	
D-7	122+25	123+00	℄						75								1			
D-8	124+50		LT.				46				56	0.26			2			1	1.3	
D-9	119+21		RT.																	61.2
D-10	120+24		LT.																	56.7
SHEET TOTAL				1779		90	40	161	275		253	1.04		2	2	6	1	4	1	5.2	117.9

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-7 REINF. CONCRETE APPROACH SLABS T = 13" S.Y.	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP) LIN.FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 STD. TYPE 2 CONCRETE MEDIAN PAVEMENT S.Y.
GR-1	115+00	119+91.47	℄			491.5	
GR-2	115+51	120+26	LT.		475		
GR-3	115+84	119+23	RT.		339		
GR-4	121+74	125+00	RT.		326		
GR-5	122+79	125+00	LT.		221		
GR-6	122+11.81	125+00	℄			288	
P-1	115+00	119+91.47	℄				327.65
P-2	119+66.47	119+91.47	RT.&LT.	200			
P-3	122+11.81	122+36.81	RT.&LT.	200			
P-4	122+11.81	125+00	℄				192.13
SHEET TOTAL				400	1361	779.5	519.78



EXCAVATION	935 CU.YD.
EMBANKMENT	92,235 CU.YD.
EMBANKMENT + 20%	110,682 CU.YD.
SEEDING & PROTECTING	12,721 SQ.YD.

STA. 115+00 to STA. 125+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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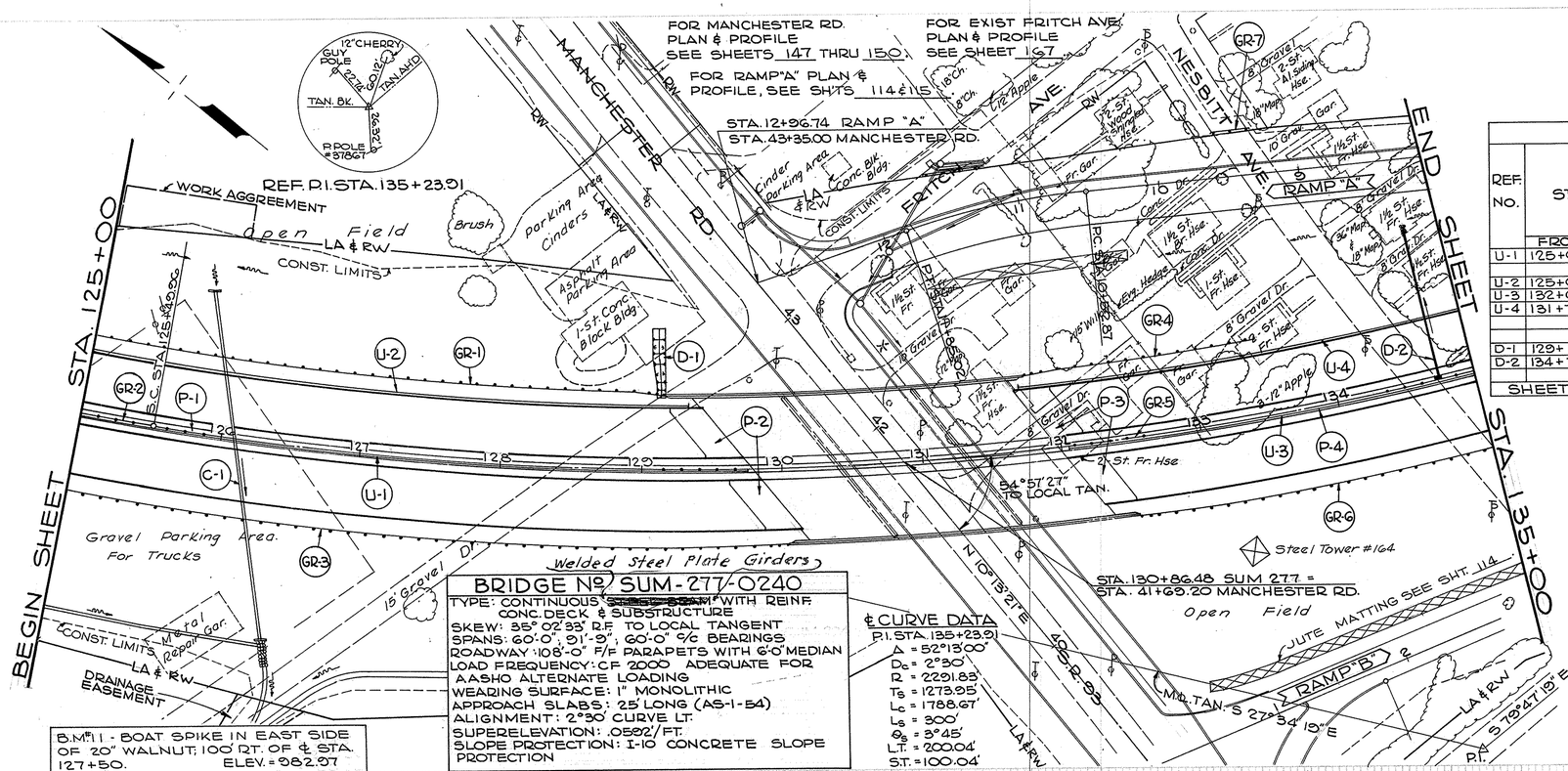


BRIDGE № SUM-277-0240

TYPE: CONTINUOUS ~~STEEL BEAM~~ WITH REINF. CONC. DECK & SUBSTRUCTURE
SKEW: 35° 02' 33" R.F. TO LOCAL TANGENT
SPANS: 60'-0", 91'-9", 60'-0" C/C BEARINGS
ROADWAY: 108'-0" F/F PARAPETS WITH 6'-0" MEDIAN
LOAD FREQUENCY: CF 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: 2°30' CURVE LT.
SUPERELEVATION: .0502'/FT.
SLOPE PROTECTION: I-10 CONCRETE SLOPE PROTECTION

℄ CURVE DATA

P.I. STA. 135+23.91
Δ = 52°13'00"
D_c = 2°30'
R = 2291.83'
T_s = 1273.95'
L_c = 1788.67'
L_s = 300'
Θ_s = 3°45'
L.T. = 200.04'
S.T. = 100.04'

DRAINAGE QUANTITIES

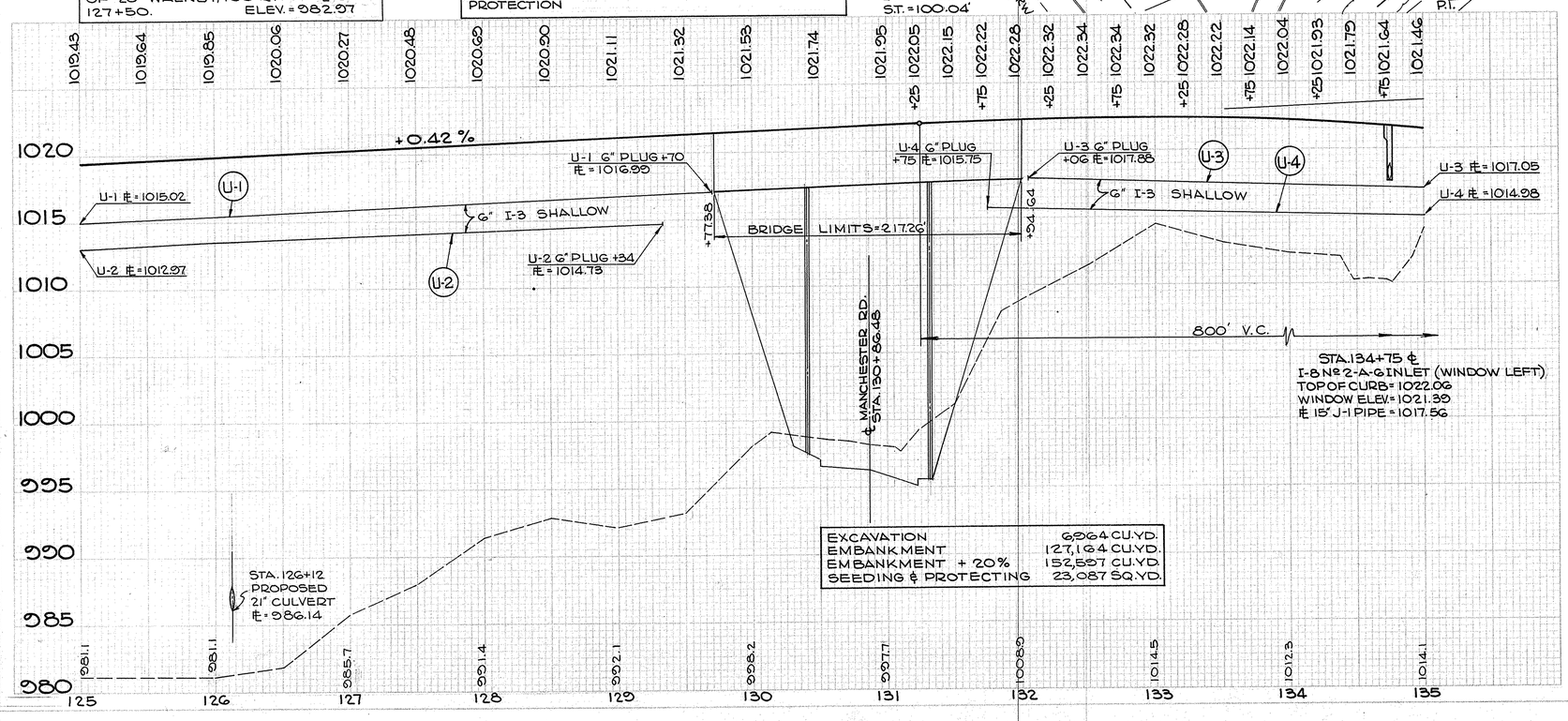
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHAL-LOW	CL. I-3 6" DEEP	CL. F-4 6"	CL. B-1 12"	CL. J-1 15"	I-2 MASONRY	I-8 № 2-A-G	L-10 SPEC. BERM & SLOPE PROT.	I-10 DUMPED ROCK CHAN. PROT.
				LIN. FT.		LIN. FT.	LIN. FT.		CU. YDS.	EACH	S.Y.	C.Y.
U-1	125+00	129+70	℄	470								
U-2	125+00	129+34	LT.	424		10						
U-3	132+06	135+00	℄	294								
U-4	131+75	135+00	LT.	316		10						
D-1	129+11		LT.								41.9	
D-2	134+75		LT.						108	0.26	1	1.3
SHEET TOTAL				1504		20			108	0.26	1	41.9	1.3

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-7 REINF. CONCRETE APPROACH SLABS T = 13"	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	STEEL BEAM BARRIER TYPE (DEEP)	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAVEMENT	E-8 REMOVAL & DISPOSAL EXIST. CURB & GUTTER
				S.Y.	LIN. FT.	LIN. FT.	S.Y.	LIN. FT.
GR-1	125+00	129+15	LT.		415			
GR-2	125+00	129+77.38	℄			477		
GR-3	125+00	130+07	RT.		507			
GR-4	131+75	133+50	LT.		175			
GR-5	131+94.64	135+00	℄			305		
GR-6	132+44	135+00	RT.		256			
GR-7	133+60	℄ NESBITT	LT.		25			
P-1	125+00	129+77.38	℄				318.25	
P-2	129+52.38	129+77.38	LT. & RT.	200				
P-3	131+94.64	132+19.64	LT. & RT.	200				
P-4	131+94.64	135+00	℄				203.57	
	133+40	135+00	LT. & RT.					660
SHEET TOTAL				400	1378	782	521.82	660

STRUCTURES 20' SPAN & UNDER

REF №	STATION	TYPE	SIZE	SHT №
C-1	126+12	CL. A-1 SEC. M-64(d) 14 GAGE	21" X 252'	235



EXCAVATION	69264 CU.YD.
EMBANKMENT	127,164 CU.YD.
EMBANKMENT + 20%	152,597 CU.YD.
SEEDING & PROTECTING	23,087 SQ.YD.

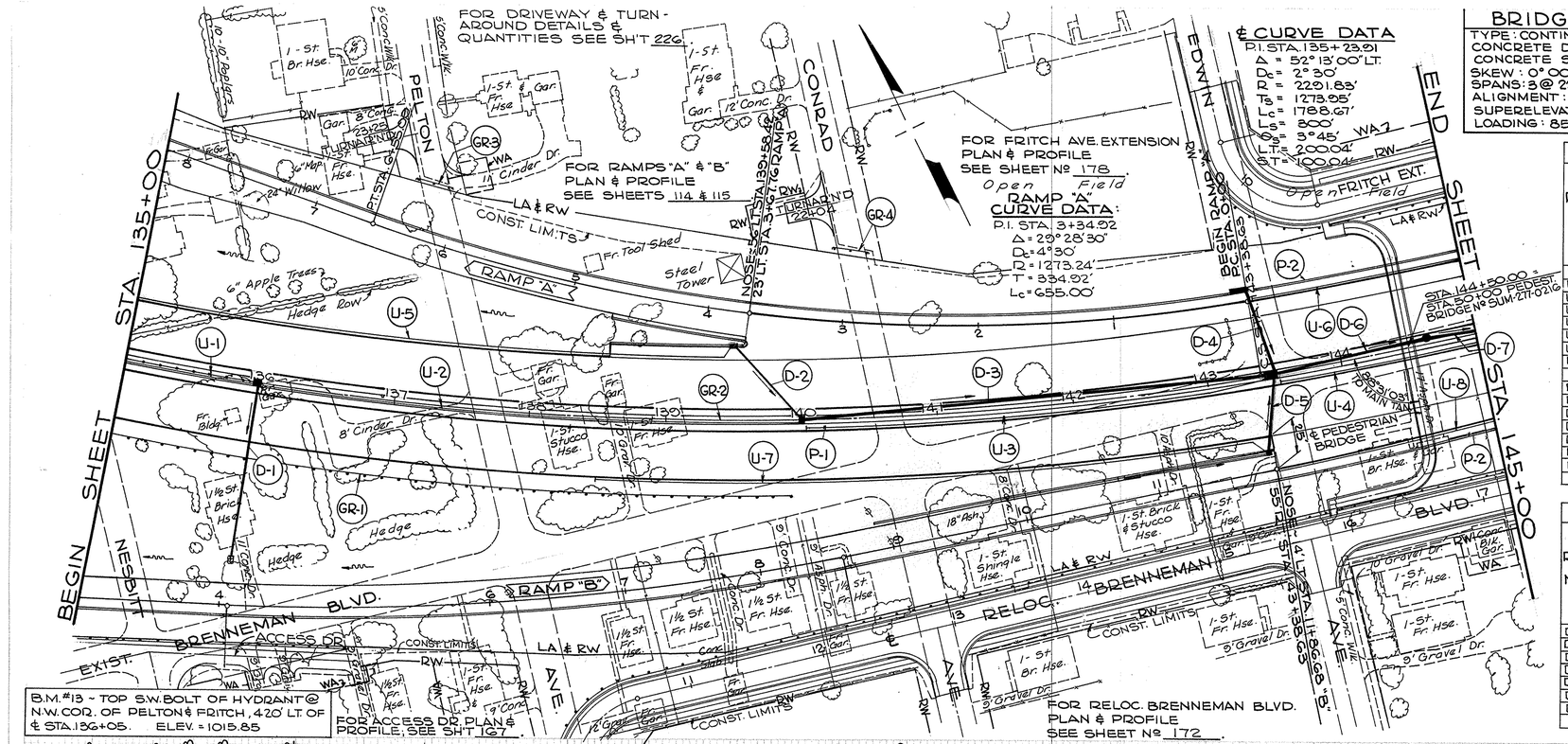
STA. 125+00 to STA. 135+00

FED. RV DIVISION	STATE	PROJECT		30
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46

BRIDGE Nº SUM-277-0216

TYPE: CONTINUOUS STEEL BEAM WITH REINF. CONCRETE DECK & SUBSTRUCTURE, REINFORCED CONCRETE SLAB RAMPS.
SKEW: 0°00'00"
SPANS: 3@ 22'-0"; 78'0"; 67'-6"; 2@ 22'-0"
ALIGNMENT: TANGENT; TAIL SPANS CURVED
SUPERELEVATION: NONE
LOADING: 85 P.S.F. LIVE LOAD



B.M. #13 ~ TOP S.W. BOLT OF HYDRANT @ N.W. COR. OF PELTON & FRITCH, 420' LT. OF ℄ STA. 136+05. ELEV. = 1015.85

FOR ACCESS DR. PLAN & PROFILE, SEE SH'T 167.

FOR RELOC. BRENNEMAN BLVD. PLAN & PROFILE SEE SHEET Nº 172.

DRAINAGE QUANTITIES

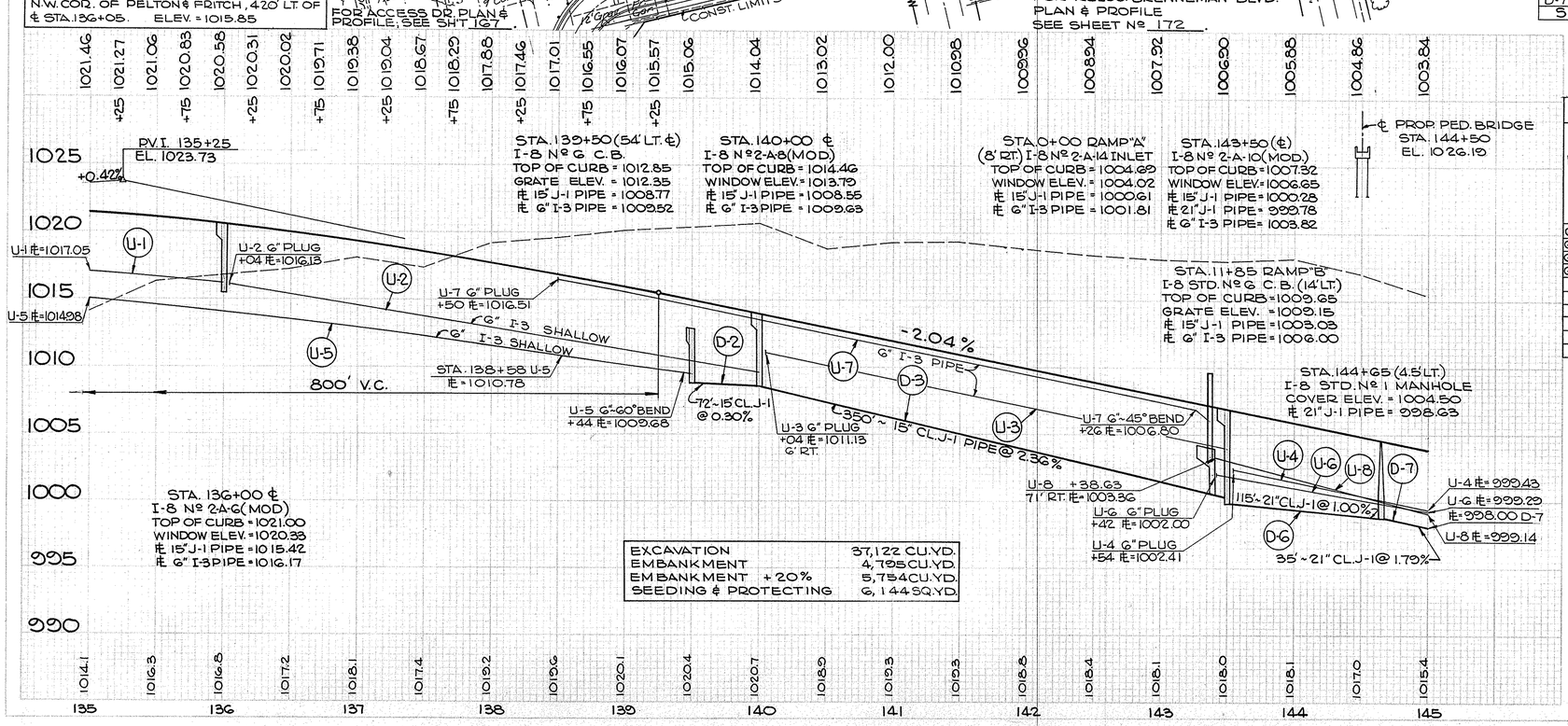
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW LIN. FT.	CL. I-3 6" DEEP LIN. FT.	CL. I-3 6" M-6.4(h) LIN. FT.	CL. F-4 6" M-6.4(E) 6' LIN. FT.	CL. F-4 8" 15" LIN. FT.	CLJ-1 15" LIN. FT.	CLJ-1 21" LIN. FT.	I-2 MASONRY CU. YDS.	I-5 PIPE SPECIALS I-3 6"-90° BEND M-6.4(h) EACH	I-5 PIPE SPECIALS F-4 15" 22½° BEND EACH
U-1	135+00	136+00	℄	90			10						
U-2	136+04	140+00	℄	386			10						
U-3	140+04	143+50	℄			346							
U-4	143+54	145+00	℄	146									
U-5	135+00	139+50	LT.	358		86	10					1	
U-6	143+42	145+00	LT.		158								
U-7	138+50	143+38	RT.			488						1	
U-8	143+41	145+00	RT.		160								
D-1	136+00		RT.					G2	72				
D-2	139+50		LT.						72		0.26		2
D-3	140+00	143+50	℄						350				
D-4	143+50		LT.						GG				
D-5	143+50		RT.						58				
D-6	143+50	144+65	℄							115			
D-7	144+65	145+00	LT.							35			
SHEET TOTAL				980	318	920	30	G2	G72	150	0.26	2	2

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-8 INLETS Nº 2-A-6 MOD. EACH	I-8 INLETS Nº 2-A-8 MOD. EACH	I-8 INLETS Nº 2-A-10 MOD. EACH	I-8 INLETS Nº 2-A-14 STD. EACH	I-8 C.B. Nº 6 ST'D EACH	I-8 M.H. Nº 1 ST'D EACH	I-10 DUMPED ROCK CHANNEL PROTECTN CU. YDS.
D-1	136+00		RT.		1					1.3
D-2	139+50		LT.					1		
D-3	140+00	143+50	℄		1					
D-4	143+50		LT.				1			
D-5	143+50	145+00	RT.					1		
D-6	143+50	144+65	LT.			1				
D-7	144+65	145+00	LT.						1	
SHEET TOTAL					1	1	1	2	1	1.3

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-12 STANDARD CONCRETE CURB TYPE 6 LIN. FT.	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP) LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 STD. TYPE 2 CONCRETE MEDIAN PAVEMENT S.Y.	E-8 REMOVAL & DISPOSAL EXIST. CURB & GUTTER LIN. FT.
GR-1	135+00	139+94	RT.		494			
GR-2	135+00	145+00	℄			1000		
GR-3	137+14	℄PELTON	LT.		25			
GR-4	140+40	℄CONRAD	LT.		25			
P-1	135+00	145+00	℄				GGG.67	
P-2	143+38.63	145+00	RT.	161.37				
P-3	143+38.63	145+00	LT.	161.37				
	135+00	145+00	LT&RT.					2710
SHEET TOTAL				322.74	544	1000	GGG.67	2710

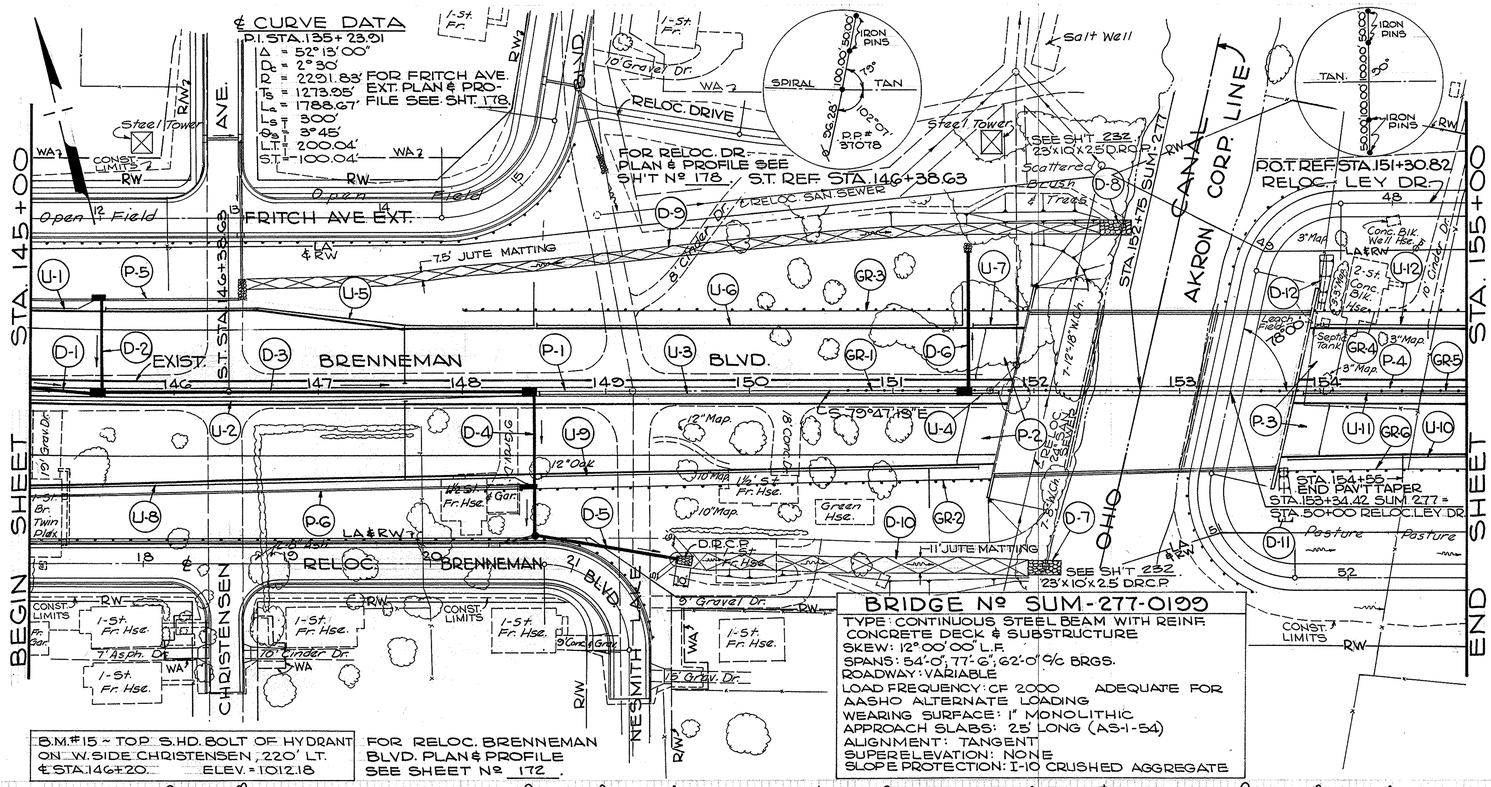


EXCAVATION	37,122 CU. YD.
EMBANKMENT	4,795 CU. YD.
EMBANKMENT +20%	5,754 CU. YD.
SEEDING & PROTECTING	6,144 SQ. YD.

STA. 135+00 to STA. 145+00

SEC. NO. DIVISION	STATE	PROJECT		31 383
2	OHIO	I-277-6(1)124		

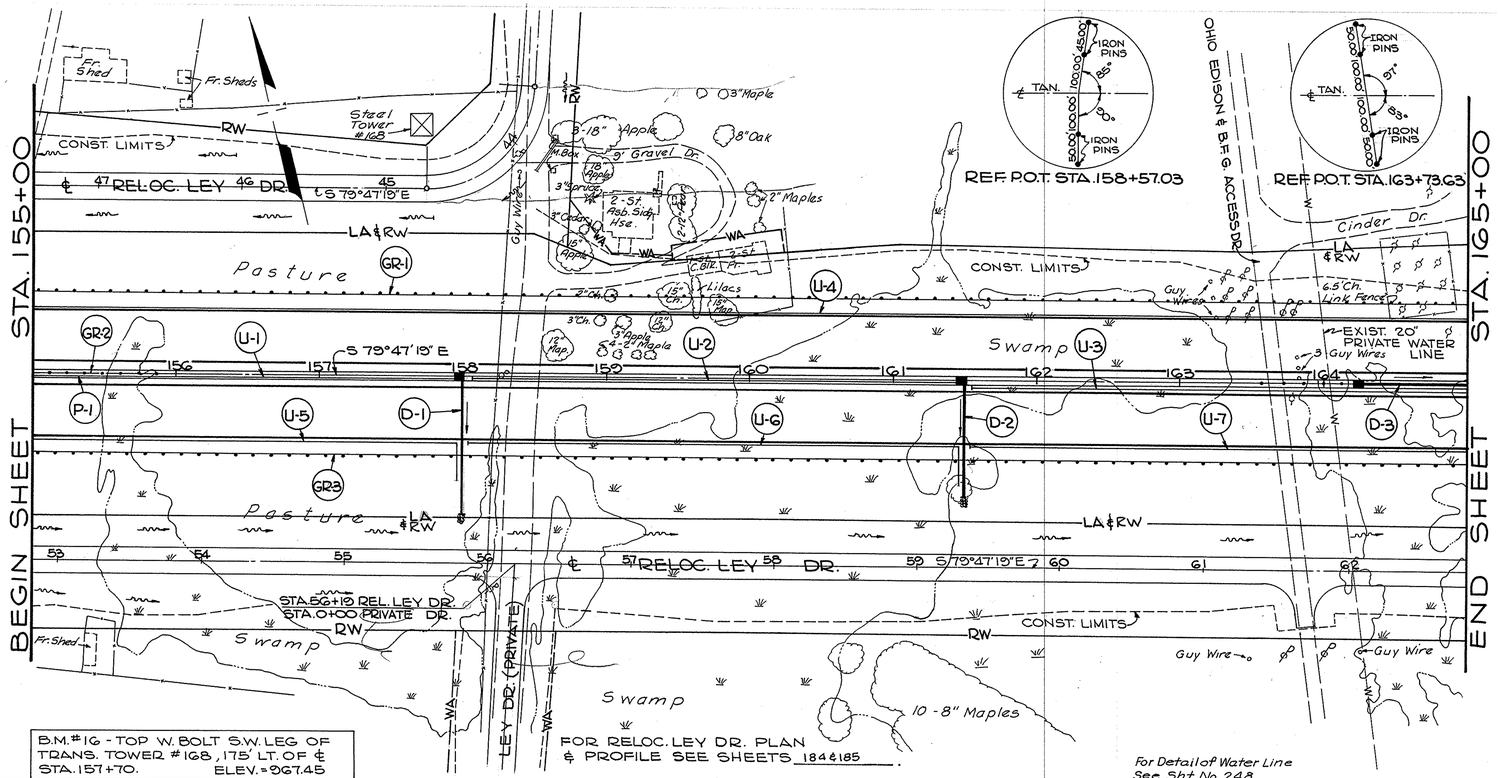
SUMMIT COUNTY
SUM-277-0.46


℄ CURVE DATA
P.I. STA. 135+23.91
Δ = 52° 15' 00"
D = 2° 30'
R = 2291.83' FOR FRITCH AVE.
T = 1273.95' EXT. PLAN & PRO-
L = 1788.67' FILE SEE SHT. 178
L.C. = 1727.00'
e = 3.00'
θ = 3° 45'
L.T. = 200.04'
S.T. = 100.04'
FOR RELOC. DR. PLAN & PROFILE SEE SH'T Nº 178
S.T. REF. STA. 146+38.63
P.O.T. REF. STA. 151+30.82 RELOC. LEY DR.
STA. 145+00
STA. 155+00
BEGIN SHEET
END SHEET
FRITCH AVE. EXT.
BRENNEMAN BLVD.
RELOC. BRENNEMAN BLVD.
CHRISTENSEN AVE.
SMITH RD.
AKRON CORP. LINE
OHIO CANAL
RELOC. DRIVE
RELOC. LEY DR.
SUM 277
EXIST. Br. Twin Plate
Steel Tower
Salt Well
Scattered Brush & Trees
Open Field
Pasture
Green Hse.
SEE SHT 232
23'X10'X2.5' DRC.P.
TAN.
SPIRAL
IRON PINS
P.P.# 37078
7.5' JUTE MATTING
11' JUTE MATTING
CONST. LIMITS
RW
WA 2
1-St. Fr. Hse.
Gar.
Septic Tank
Well Hse.
Conc. Blk. Hse.
Conc. Blk. Well Hse.
Aerw
Loop Field
8" Conc. Dr.
8" Gravel Dr.
70' Cinder Dr.
7' Asph. Dr.
10' Gravel Dr.
5' Gravel Dr.
7'-12"-8" W. Dr.
7'-8" Asph.
7'-6" Asph.
D.R.C.P.
S.D.C.P.
Sanitary Sewer
Reloc. San. Sewer
Reloc. Drive
Steel Tower
Open Field
Pasture
Pasture
Scattered Brush & Trees

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

32
383

SUMMIT COUNTY
SUM-277-0.46



FOR RELOC. LEY DR. PLAN & PROFILE SEE SHEETS 184 & 185.

For Detail of Water Line See Sht. No. 248

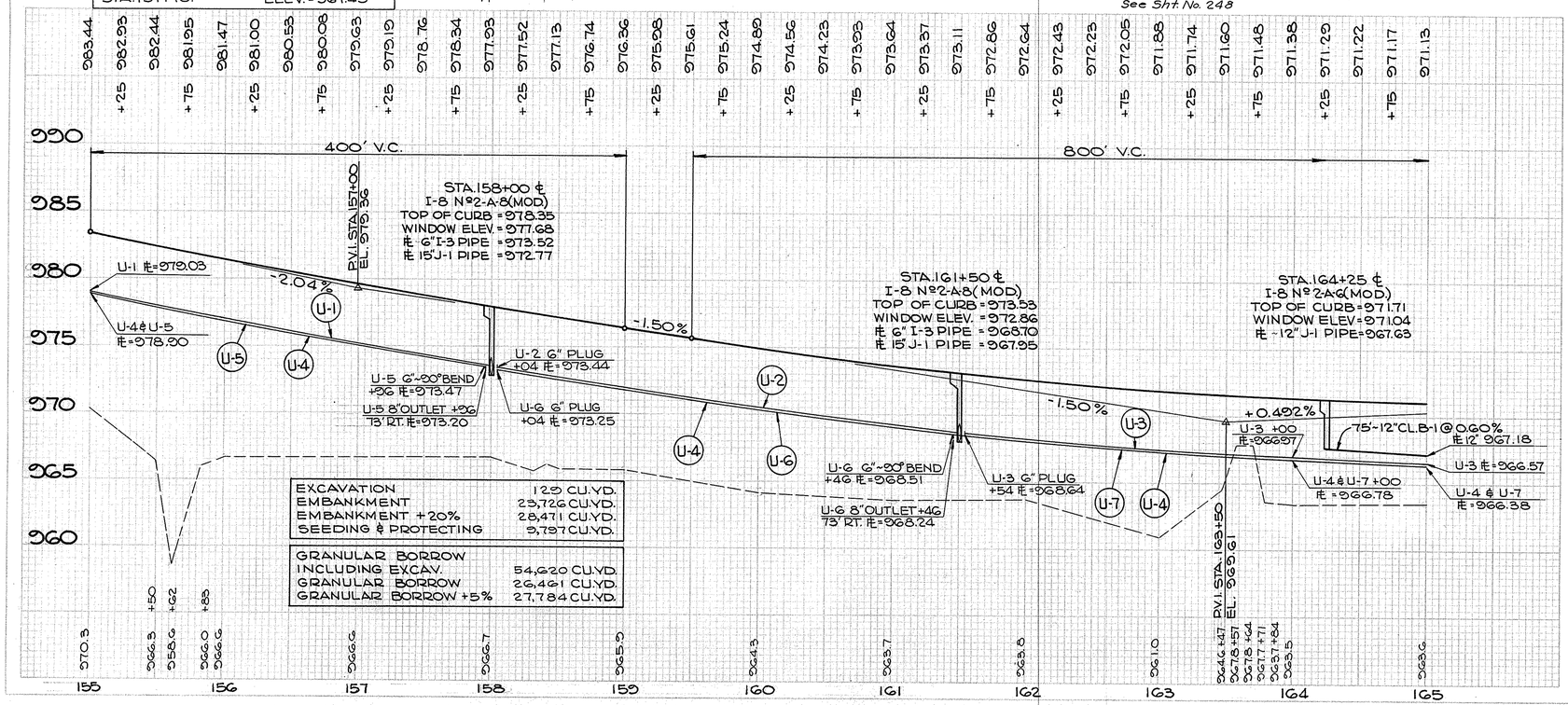
B.M. # 16 - TOP W. BOLT S.W. LEG OF TRANS. TOWER # 168, 175' LT. OF ℄ STA. 157+70. ELEV. = 967.45

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	I-1 PIPE CL. I-3 6" DEEP	I-1 PIPE CL. F-4 6'	I-1 PIPE CL. F-4 8'	I-1 PIPE CL. B-1 12"	I-1 PIPE CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS I-3 6" 90° BEND	I-8 Nº 2-A-6 MOD.	I-8 Nº 2-A-8 MOD.		I-10 DUMPED ROCK CHANNEL PROTECTION
				LIN. FT.		LIN. FT.		LIN. FT.		CU. YDS.	EACH	EACH			CU. YDS.
U-1	155+00	158+00	℄	290		10									
U-2	158+04	161+50	℄	336		10									
U-3	161+54	165+00	℄	346											
U-4	155+00	165+00	LT.	1000											
U-5	155+00	157+96	RT.	314			10				1				
U-6	158+04	161+46	RT.	360			10				1				
U-7	161+54	165+00	RT.	346											
D-1	158+00		RT.						96	0.26			1		1.3
D-2	161+50		RT.						82	0.26			1		1.3
D-3	164+25	165+00	℄					76				1			
SHEET TOTAL				2092		20	20	76	178	0.52	2	1	2		2.6

PAVEMENT & ROADWAY QUANTITIES

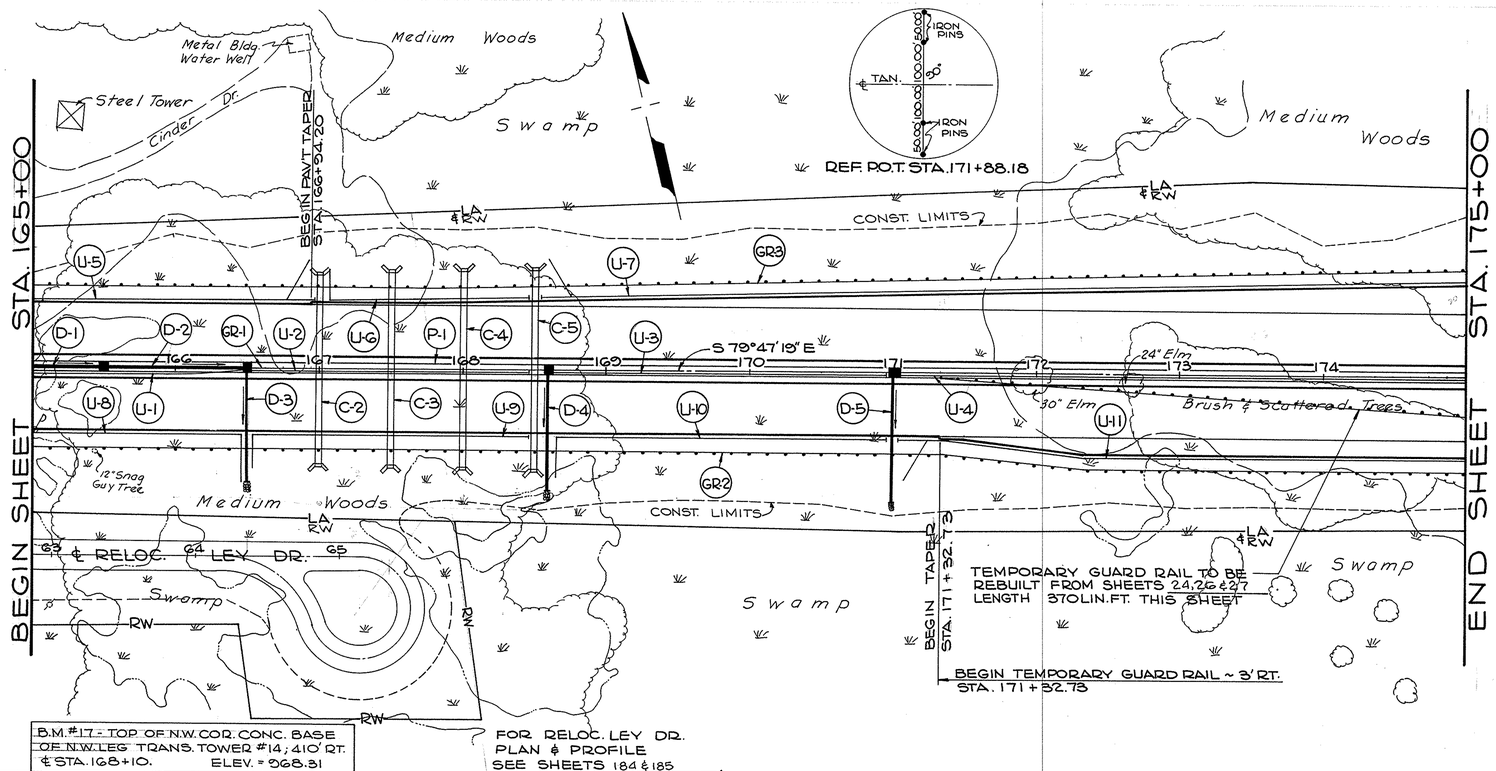
REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP)	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAVEMENT	
	LIN. FT.					S.Y.	
GR-1	155+00	165+00	LT.	1000			
GR-2	155+00	165+00	℄		1000		
GR-3	155+00	165+00	RT.	1000			
P-1	155+00	165+00	℄			666.67	
SHEET TOTAL				2000	1000	666.67	



STA. 155+00 to STA. 165+00

FED. RD. DIVISION	STATE	PROJECT		33
2	OHIO	I-277-6(1)124		383

SUMMIT COUNTY
SUM-277-0.46



DRAINAGE QUANTITIES

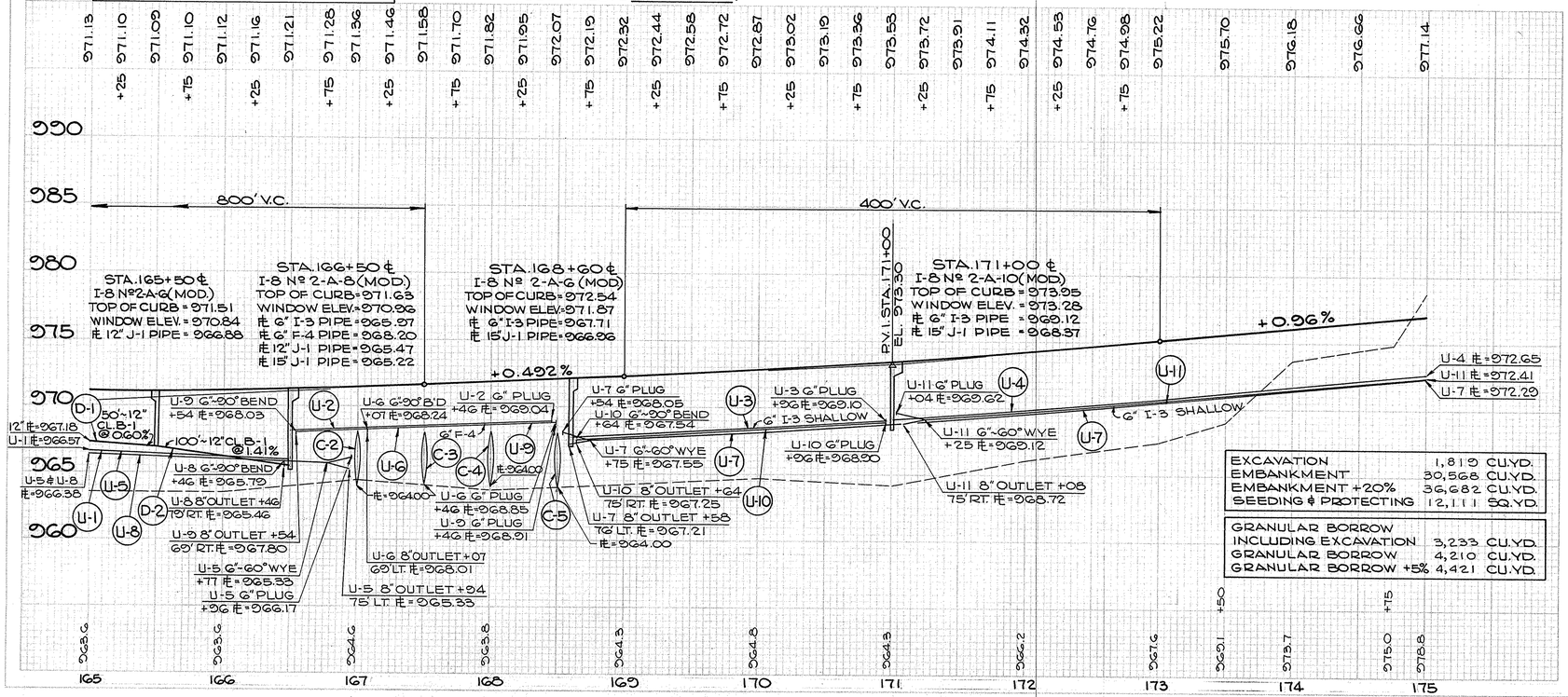
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	CL. I-3 6" M-64 (b)	CL. F-4 6" M-64(c)	CL. F-4 8" M-64(c)	CL. B-1 12"	CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS I-3 6" 60° WYE	I-3 6" 90° B'ND	F-4 6" 90° B'ND	I-8 Nº 2-A-6 MOD.	I-8 Nº 2-A-8 MOD.	I-8 Nº 2-A-10 MOD.	I-10 DUMPED ROCK CHANNEL PROTECT'N
	LIN. FT.			LIN. FT.		LIN. FT.		LIN. FT.		CU. YDS.	EACH			EACH			CU. YDS.
U-1	165+00	166+46	℄	136		10											
U-2	166+50	168+46	℄		196												
U-3	168+60	170+96	℄	226		10											
U-4	171+00	175+00	℄	300		10											
U-5	165+00	166+96	LT.	220			10				1						
U-6	167+07	168+46	LT.		154		10						1				
U-7	168+54	175+00	LT.	670			10				1						
U-8	165+00	166+46	RT.	170			10					1					
U-9	166+54	168+46	RT.		206		10					1					
U-10	168+64	170+96	RT.	251			10										
U-11	171+04	175+00	RT.	420			10				1						
D-1	165+00	165+50	℄					50									
D-2	165+50	166+50	℄					100									
D-3	166+50		RT.					78		0.26				1	1		1.3
D-4	168+60		RT.					84		0.26				1		1	1.3
D-5	171+00		RT.					90		0.26					1		1.3
SHEET TOTAL				2483	556	30	70	402		0.78	3	2	2	2	1	1	3.9

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP) LIN. FT.	STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAV'T S.Y.
GR-1	165+00	175+00	℄		1000	
GR-2	165+00	175+00	RT.	1000		
GR-3	165+00	175+00	RT.	1000		
P-1	165+00	175+00	℄			666.67
SHEET TOTAL				2000	1000	666.67

STRUCTURES 20' SPAN & UNDER

REF. Nº	STATION	TYPE	SIZE	SH'T Nº
C-2	167+00	CLASS A-1	SEC. M-6.4(d) 48"X 136'	236
C-3	167+50	CLASS A-1	SEC. M-6.4(d) 48"X 138'	236
C-4	168+00	CLASS A-1	SEC. M-6.4(d) 48"X 140'	237
C-5	168+50	CLASS A-1	SEC. M-6.4(d) 48"X 142'	237



EXCAVATION	1,819 CU. YD.
EMBANKMENT	30,568 CU. YD.
EMBANKMENT +20%	36,682 CU. YD.
SEEDING & PROTECTING	12,111 SQ. YD.
GRANULAR BORROW INCLUDING EXCAVATION	3,233 CU. YD.
GRANULAR BORROW	4,210 CU. YD.
GRANULAR BORROW +5%	4,421 CU. YD.

STA. 165+00 to STA. 175+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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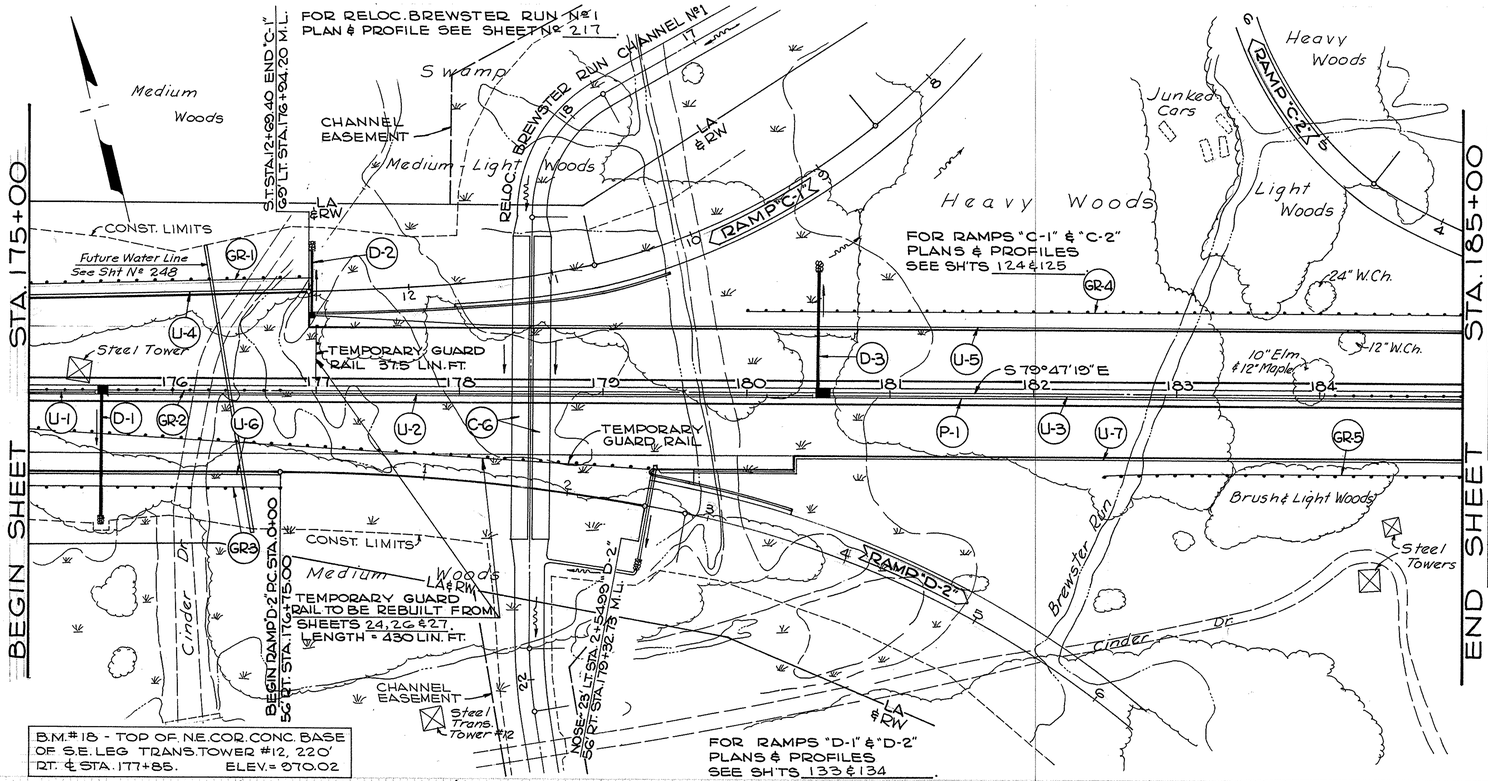
383

SUMMIT COUNTY
SUM-277-0.46



B.M.#18 - TOP OF N.E. COR. CONC. BASE OF S.E. LEG TRANS. TOWER #12, 220' RT. & STA. 177+85. ELEV. = 970.02

DRAINAGE QUANTITIES

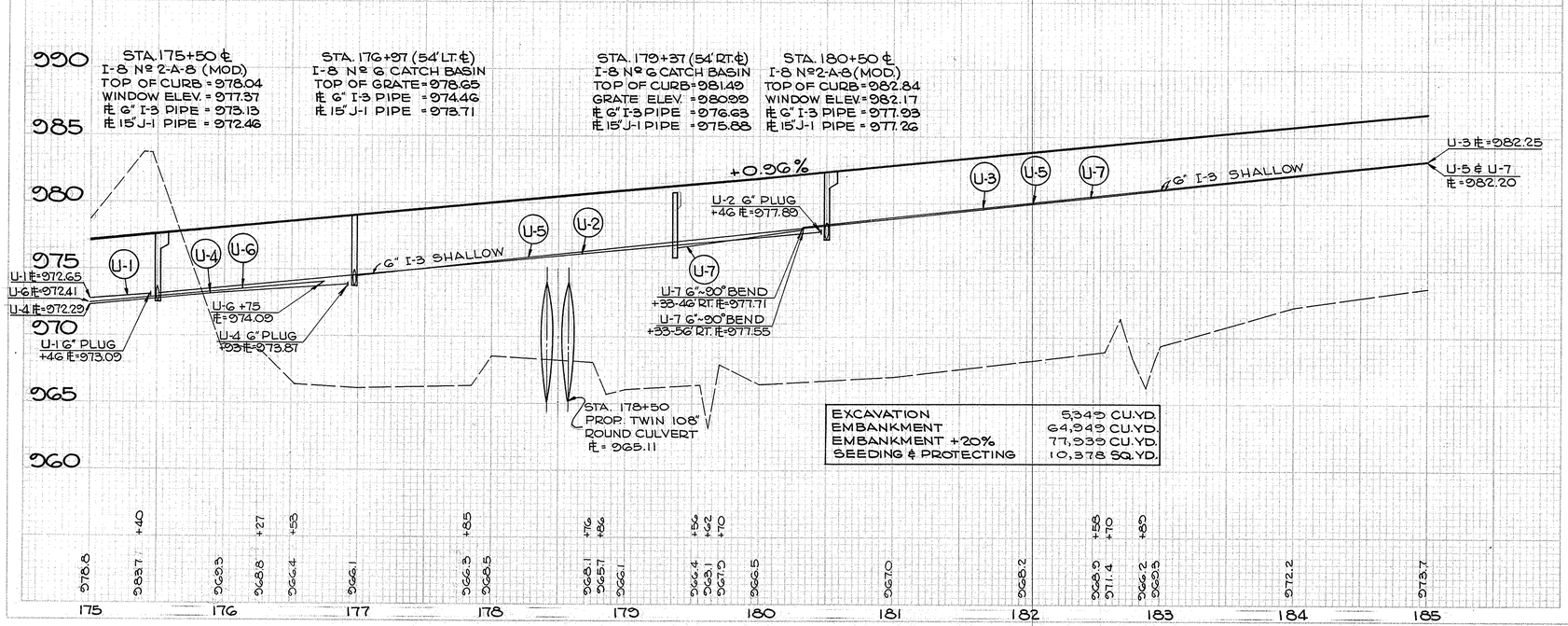
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	I-1 PIPE CL. F-4 6"	I-1 PIPE CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS I-3 6" 90° BEND	I-8 INLET Nº 2-A-8 MOD.	I-8 C.BASIN Nº G STD	I-10 DUMPED ROCK CHAN. PROT.
				LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS.	EACH	EACH	EACH	CU. YDS.
U-1	175+00	175+46	℄	46							
U-2	175+50	180+46	℄	486		10					
U-3	180+50	185+00	℄	440		10					
U-4	175+00	176+93	LT.	194							
U-5	176+97	185+00	LT.	784		20					
U-6	175+00	176+75	RT.	166		10					
U-7	179+33	185+00	RT.	564		10		2			
D-1	175+50		RT.			88	0.26		1		1.3
D-2	176+97		LT.			44	0.26			1	1.3
D-3	180+50		LT.			86	0.26		1		1.3
SHEET TOTAL				2680	60	218	0.78	2	2	1	3.9

STRUCTURES 20' SPAN & UNDER

REF Nº	STATION	TYPE	SIZE	SH'T Nº
C-6	178+50	CLASS A-1 M-6.6(a) TWIN	108" X 214'	238

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP)	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAV'T	
	FROM	TO		LIN. FT.	LIN. FT.	S.Y.	
GR-1	175+00	176+94.20	LT.	194			
GR-2	175+00	185+00	℄		1000		
GR-3	175+00	176+75	RT.	175			
GR-4	180+00	185+00	LT.	500			
GR-5	182+50	185+00	RT.	250			
P-1	175+00	185+00	℄			666.67	
SHEET TOTAL				1119	1000	666.67	



EXCAVATION	5,345 CU.YD.
EMBANKMENT	64,949 CU.YD.
EMBANKMENT +20%	77,939 CU.YD.
SEEDING & PROTECTING	10,378 SQ.YD.

STA. 175+00 to STA. 185+00

FED. HIGHWAY DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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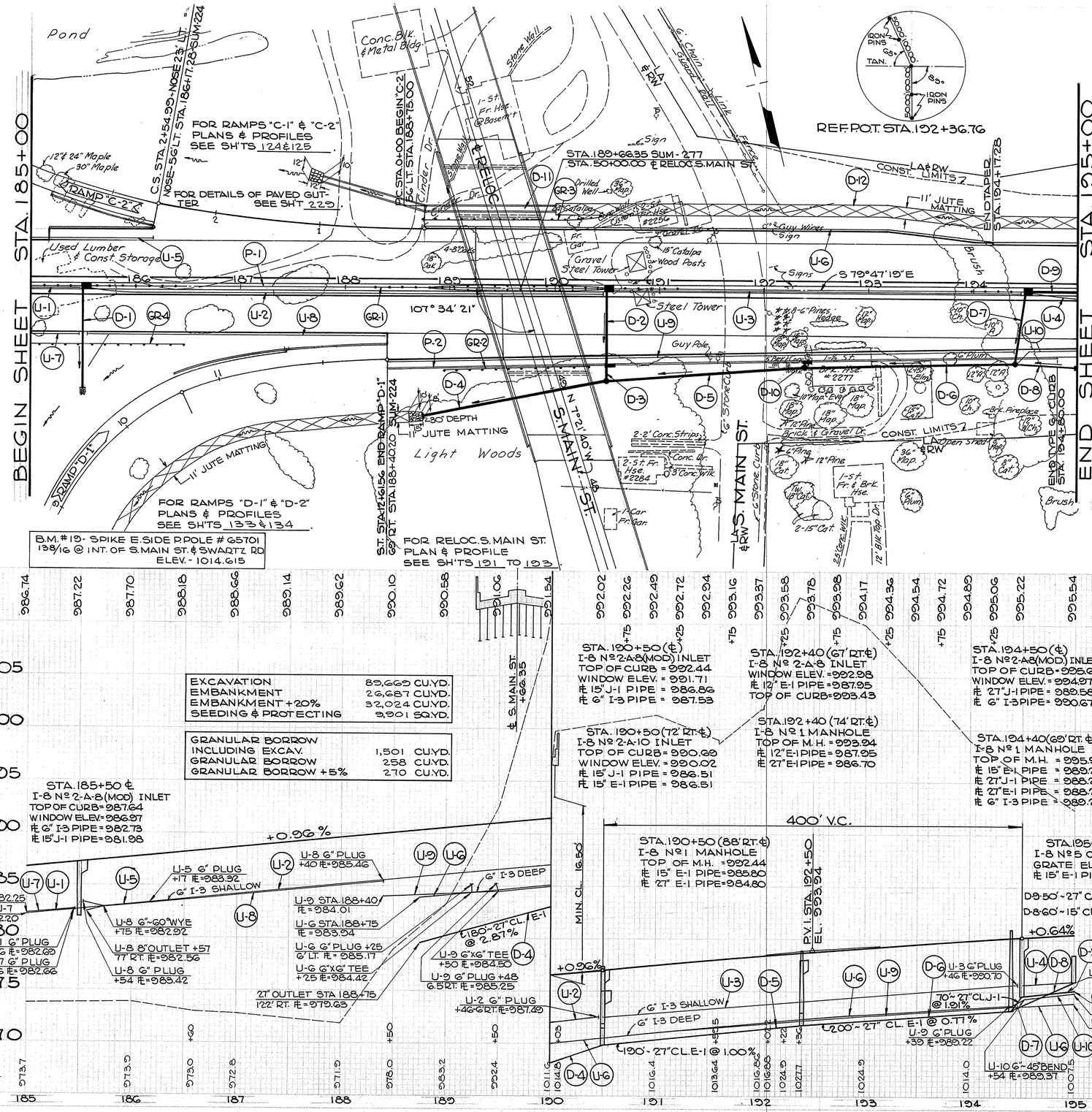
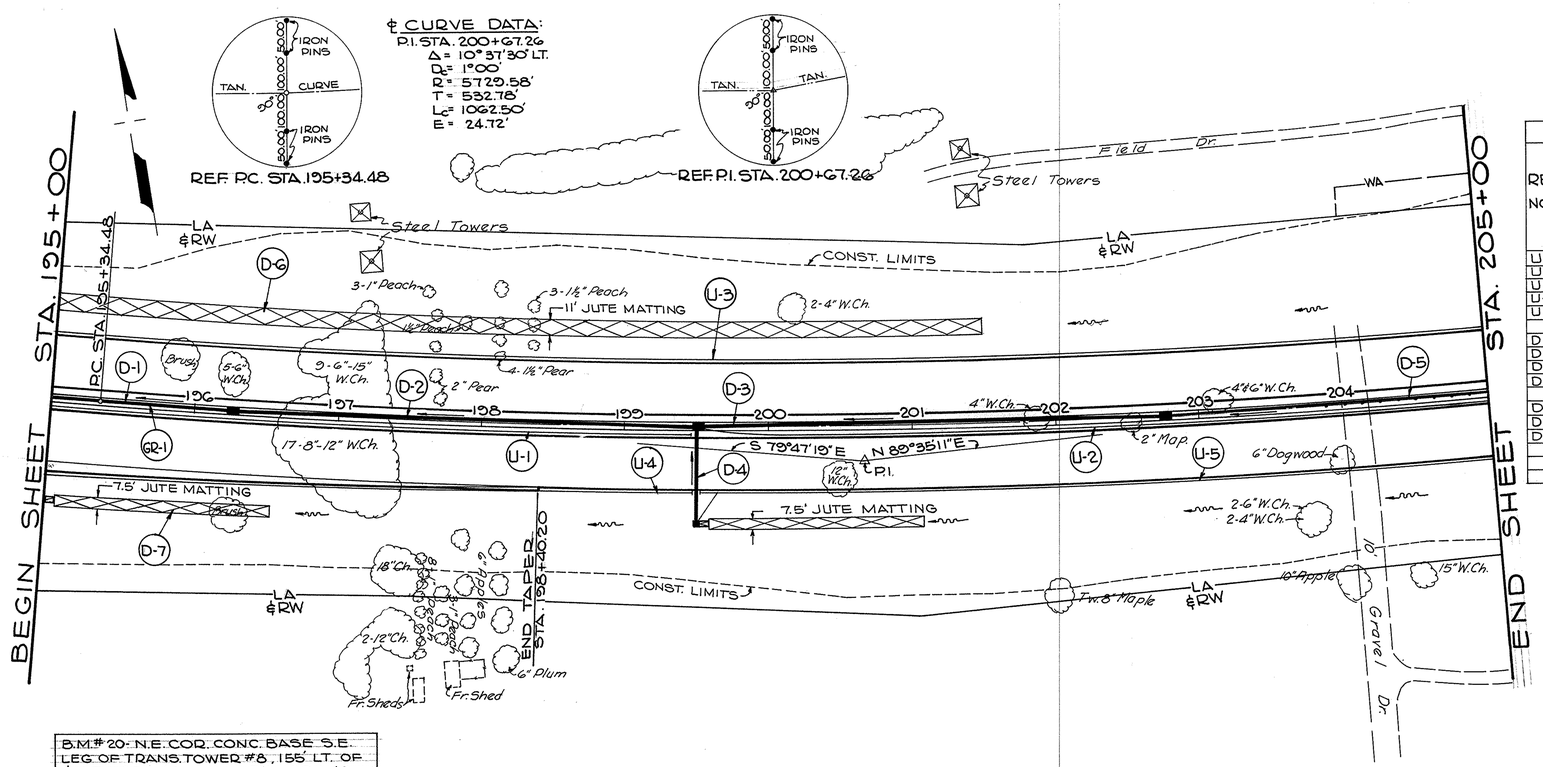
383

SUMMIT COUNTY
SUM-277-0.46

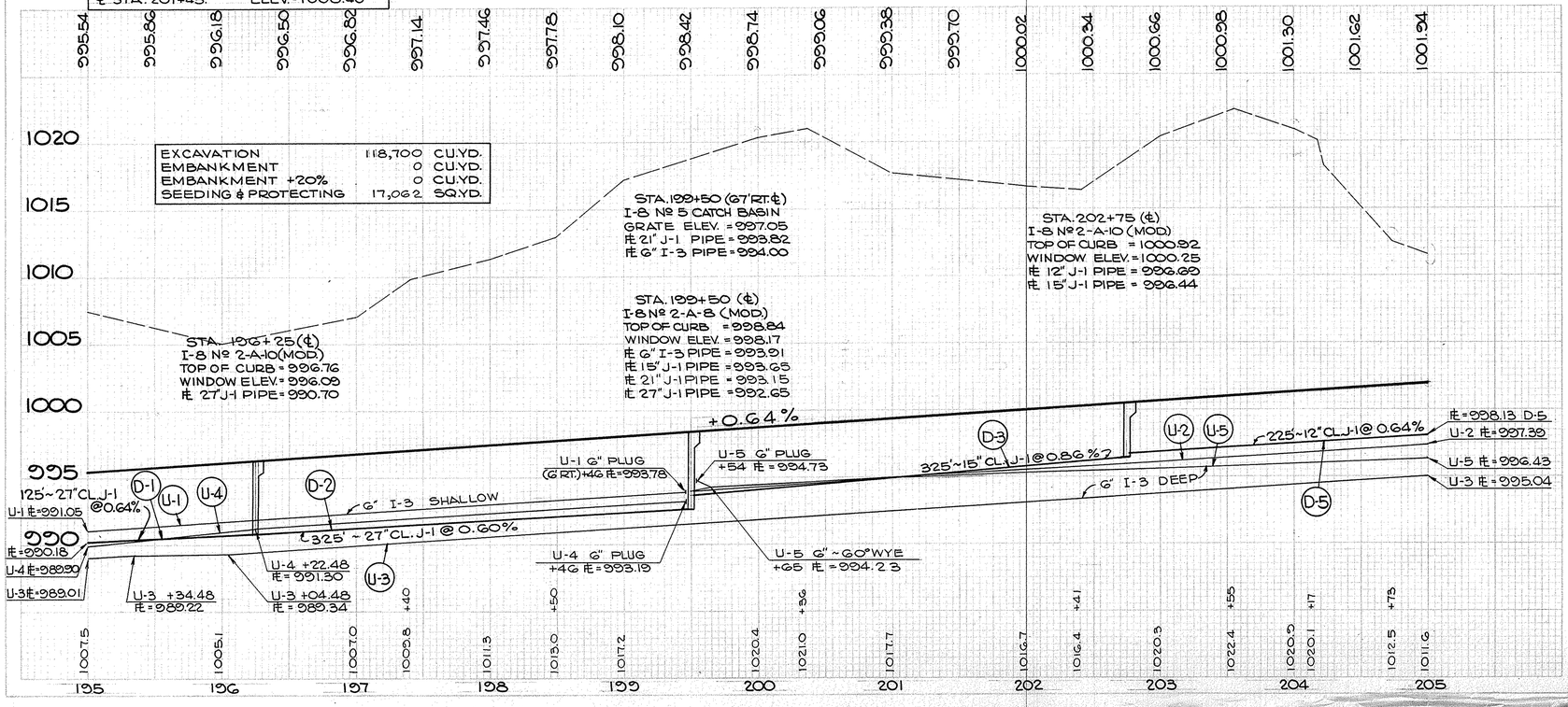

BEGIN SHEET STA. 185+00
END SHEET STA. 195+00
Pond
Conc. Blk. & Metal Bldg
Stone Well
1-St. Fr. Hse. @ Basement
Cinder Dr.
C.S. STA. 2+54.99 - NOSE 25' LT. = NOSE-561' LT. STA. 186+17.28 SUM 224
P.C. STA. 0+00 BEGIN "C-2" 56' LT. STA. 183+75.00
FOR RAMPS "C-1" & "C-2" PLANS & PROFILES SEE SH'TS 124 & 125
FOR DETAILS OF PAVED GUTTER SEE SH'T 225
12"& 24" Maple
30" Maple
RAMP "C-2"
Used Lumber & Const. Storage
U-5
P-1
RELOC.
D-11
GR-3
Drilled Well
36" Map.
Catalpa
Fr. Gar.
Gravel
Steel Tower
18" Catalpa on Wood Posts
STA. 180+66.35 SUM-277
STA. 50+00.00 ℄ RELOC. S. MAIN ST.
REF. P.O.T. STA. 192+36.76
IRON PINS
TAN.
65°
500.00
100.00
D-12
LA & RW
CONST. LIMITS
11' JUTE MATTING
END TAPER STA. 194+17.28
Guy Wires
Sign
Brush
S 79°47'19" E
Signs
U-6
D-9
U-1
D-1
GR-4
U-2
U-8
GR-1
D-2
U-9
U-3
107° 34' 21"
Guy Pole
8-6" Pines Hedge
12" Map.
D-7
U-10
U-4
P-2
GR-2
D-4
D-3
D-5
D-10
D-6
D-8
Drk. Hse. #2277
Evg.
18" Map.
Elm
Fr. Gar.
Fr. Pine
Brick & Gravel Dr.
Open Shed
Fr. Pine
Brick & Gravel Dr.
Fr. Gar.
Fr. Pine
Brick & Gravel Dr.
CONST. LIMITS
LA & RW
Open Shed
Evg.
18" Ash
12" Pine
36" Map.
6" Ext.
Brush
Plum
1-St. Fr. & Brk. Hse.
2-15" Cot.
12" Silo Top
Stone Curb
Stone Curb
Stone Curb

Fed. RD. DIVISION	STATE	PROJECT		36
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46



B.M.# 20- N.E. COR. CONC. BASE S.E. LEG OF TRANS. TOWER #8, 155' LT. OF ℄ STA. 201+45. ELEV. - 1008.40



DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	CL. I-3 6" DEEP	CL. F-4 6"	CL. J-1 12"	15"	21"	27"	I-5 PIPE SPECIALS I-3 6" or 6" WYE	I-8 INLETS Nº 2-A-8 (MOD)	I-8 INLETS Nº 2-A-10 (MOD)	I-8 Nº 5 CATCH BASIN	L-120 JUTE MATTING
	FROM	TO		LIN. FT.		LIN. FT.	LIN. FT.				EACH	EACH			SQ.YD
U-1	195+00	199+46	℄	446											
U-2	199+50	205+00	℄	540		10									
U-3	195+00	205+00	LT.		1000										
U-4	195+00	199+46	RT.		446										
U-5	199+54	205+00	RT.		536	10					1				
D-1	195+00	196+25	℄							125			1		
D-2	196+25	199+50	℄							325		1			
D-3	199+50	202+75	℄					325					1		
D-4	199+50		RT.						66					1	125
D-5	202+75	205+00	℄				225								795
D-6	195+00	201+50	LT.												125
D-7	195+08	196+58	RT.												
SHEET TOTAL				986	1982	20	225	325	66	450	1	1	2	1	1045

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP) LIN. FT.	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP) LIN. FT.	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAVEMENT S.Y.
GR-1	195+00	205+00	℄		1000	
P-1	195+00	205+00	℄			666.67
SHEET TOTAL					1000	666.67

STA. 195+00 to STA. 205+00

SUPPLEMENT 10/14/64

SOIL PROFILE

SUMMIT COUNTY
SUM-277-0.46

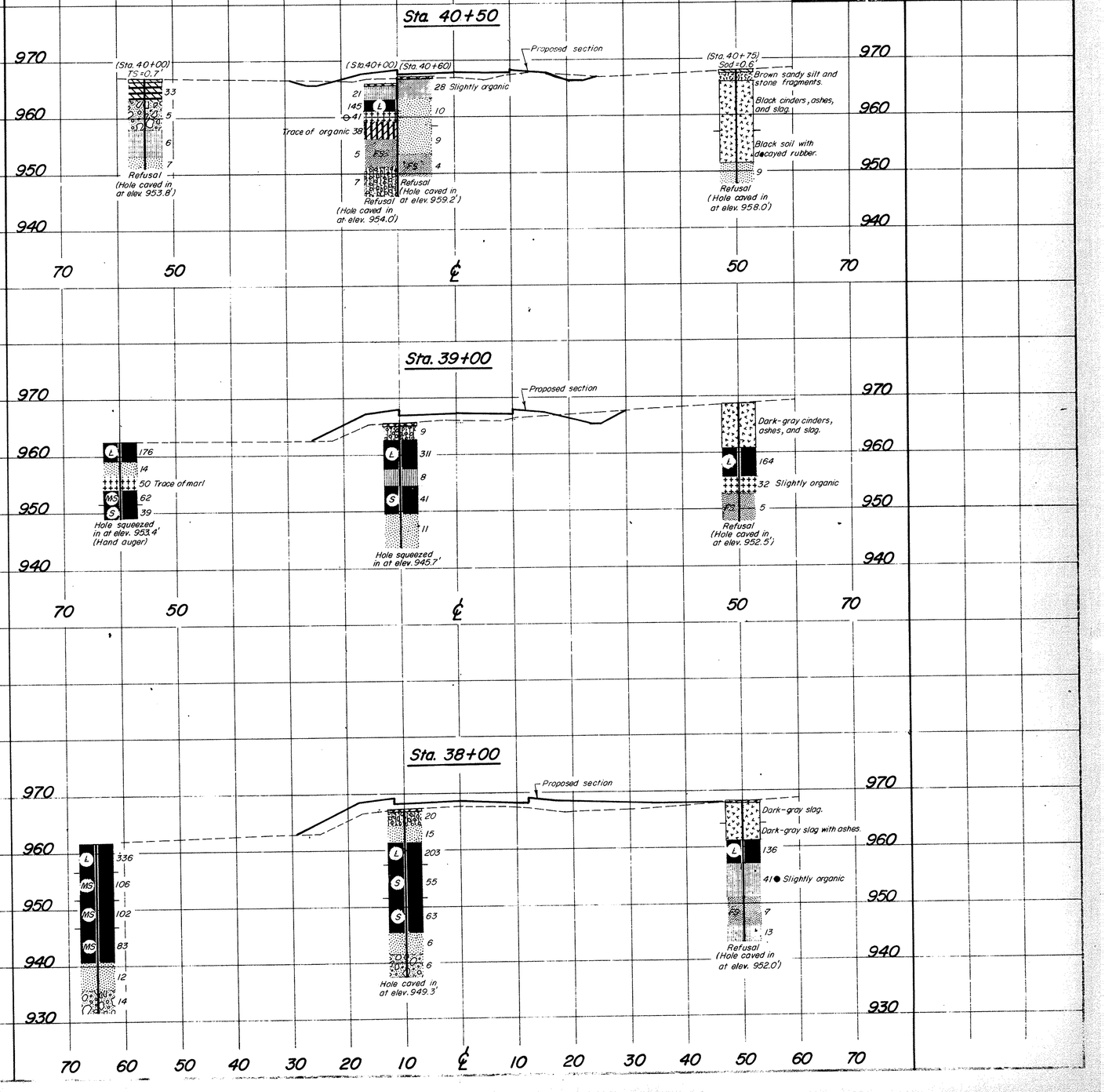
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO

36A / 66

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	Agg.	C.S.	F.S.	SILT	CLAY	L.L.	P.I.	% W.C.	SHTD CLASS.
		PROPOSED ACCESS RD. (LEY DRIVE)									
38+00	65'Lt	0.0-5.0	Black Loamy Peat							336	Visual
		5.0-10.0	Gray Silty Marly Sedimentary Peat							106	Visual
		10.0-15.0	Gray Silty Marly Sedimentary Peat							102	Visual
		15.0-21.0	Gray Silty Marly Sedimentary Peat							83	Visual
		21.0-26.0	0	25	48	15	12	NP	NP	12	A-3a
		26.0-30.0	31	22	30	10	7	NP	NP	14	A-1-b
38+00	10'Lt	0.6-3.0	22	18	31	16	12	NP	NP	20	A-2-4*
		3.0-6.0	18	14	52	6	10	NP	NP	15	A-3a
		6.0-10.0	Black Loamy Peat							203	Visual
		10.0-16.0	Gray Silty Sedimentary Peat							55	Visual
		16.0-22.0	Gray Silty Sedimentary Peat							63	Visual
		22.0-26.0	17	15	50	3	9	NP	NP	6	A-3a
		26.0-30.0	42	14	30	8	6	NP	NP	6	A-1-b
38+00	50'Rt	0.5-4.0	Slag							-	Visual
		4.0-7.0	Slag with Ashes							-	Visual
		7.0-11.0	Dark Brown Loamy Peat							136	Visual
		11.0-17.0	0	6	19	43	32	40	6	41	A-4a
		17.0-22.0	13	23	59	- 5 -		NP	NP	7	A-3
		22.0-25.0	15	10	39	27	9	NP	NP	13	A-4a
39+00	60'Lt	0.0-3.5	Dark Brown Loamy Peat							176	Visual
		3.5-6.0	0	12	76	2	10	NP	NP	14	A-3a
		6.0-8.5	0	1	14	61	24	NP	NP	50	A-4b
		8.5-11.0	Gray Silty Marly Sedimentary Peat							62	Visual
		11.0-13.5	Gray Silty Sedimentary Peat with Sand							39	Visual
39+00	10'Lt	0.6-3.0	32	16	29	15	8	NP	NP	9	A-2-4*
		3.0-8.0	Dark Brown Loamy Peat							311	Visual
		8.0-11.0	0	30	25	40	5	NP	NP	18	A-4a
		11.0-16.0	Gray Silty Sedimentary Peat with Sand							41	Visual
		16.0-22.0	0	13	53	24	10	NP	NP	11	A-3a
39+00	50'Rt	0.0-8.0	Cinders, Ashes and Slag							-	Visual
		8.0-13.0	Black Loamy Peat							164	Visual
		13.0-16.0	0			14	60	25	39	9	32	A-4b
		16.0-21.0	9	20	67	- 4 -		NP	NP	- 5	A-3
40+00	55'Lt	0.7-4.0	18	8	32	32	10	85	6	33	A-5
		4.0-9.0	52	8	31	5	4	NP	NP	5	A-1-b
		9.0-14.0	0	0	63	29	8	NP	NP	6	A-4a
		14.0-16.0	0	3	75	13	9	NP	NP	7	A-3a
40+00	10'Lt	0.6-3.0	15	11	37	22	15	25	4	21	A-4a*
		3.0-5.0	Black Loamy Peat							145	Visual
		5.0-7.0	0	2	13	55	30	NP	NP	41	A-4b
		7.0-10.0	0	3	12	50	35	42	11	38	A-7-5
		10.0-15.0	18	17	56	- 9 -		NP	NP	6	A-3
		15.0-20.0	33	5	38	19	5	NP	NP	7	A-2-4
40+60	10'Lt	0.5-4.0	0	5	27	27	41	37	11	28	A-6a*
		4.0-9.0	19	10	41	20	10	NP	NP	10	A-3a
		9.0-14.0	0	0	76	17	7	NP	NP	9	A-3a
		14.0-18.0	12	34	49	- 5 -		NP	NP	4	A-3
40+75	50'Rt	0.5-2.0	Brown Sandy Silt and Stone Fragments							-	Visual
		2.0-11.0	Cinders, Ashes and Slag							-	Visual
		11.0-16.5	Black Soil with Decayed Rubber							-	Visual
		16.5-20.0	18	7	58	9	8	NP	NP	9	A-3a
42+00	50'Rt	3.0-7.0	0	2	22	47	29	27	6	21	A-4a
		7.0-12.0	2	50	44	- 4 -		NP	NP	3	A-1-b
		12.0-15.0	24	56	16	- 4 -		NP	NP	3	A-1-b
43+60	10'Lt	0.5-5.0	27	16	40	9	8	NP	NP	8	A-3a*
		5.0-10.0	0	1	91	- 8 -		NP	NP	5	A-3
		10.0-14.0	45	6	40	4	5	NP	NP	7	A-1-b

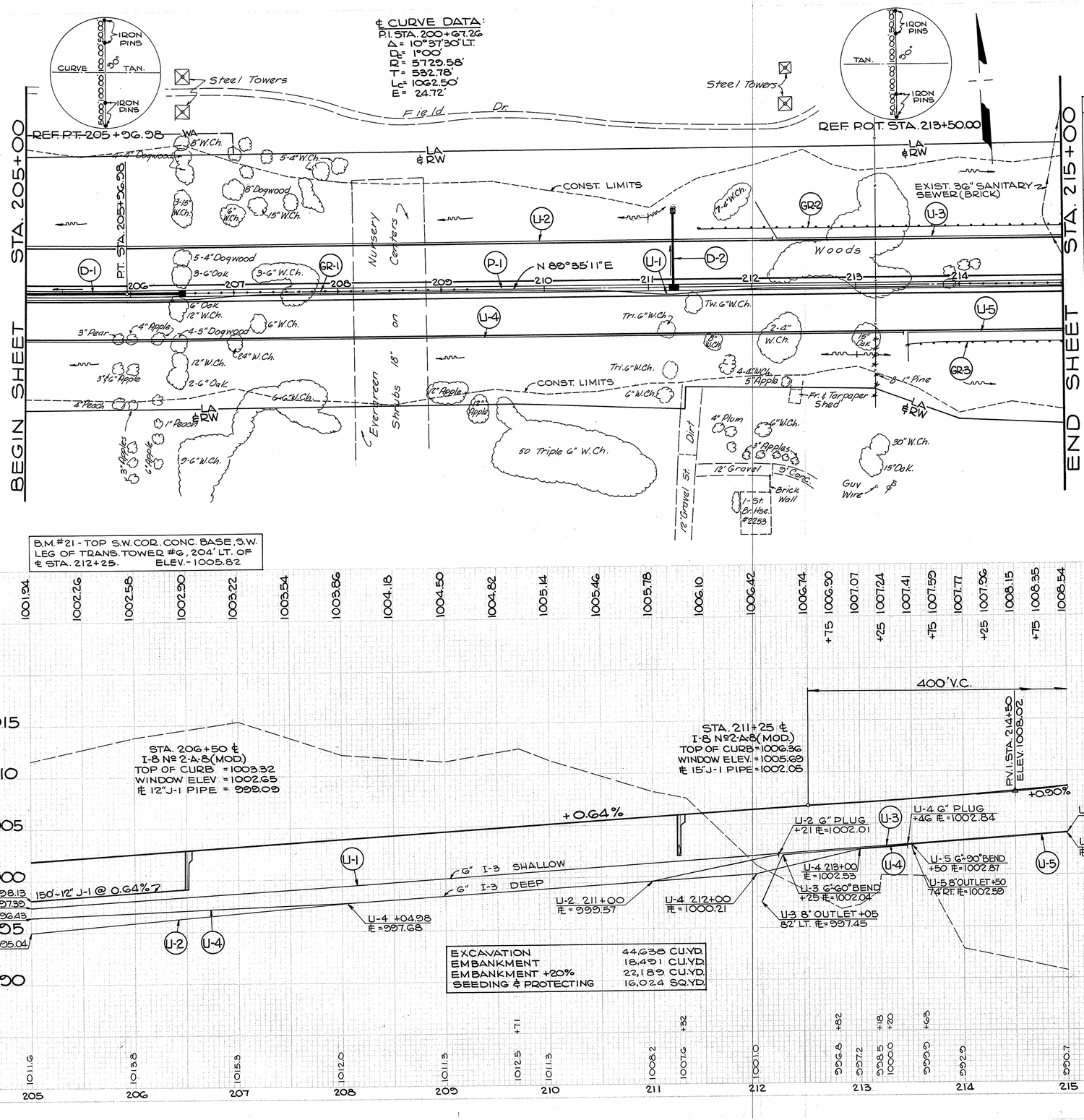


FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

37
383

SUMMIT COUNTY
SUM-277-0.46

¢ CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30" LT.
D_c = 1°00'
R = 5729.58'
T = 532.78'
L_c = 1062.50'
E = 24.72'



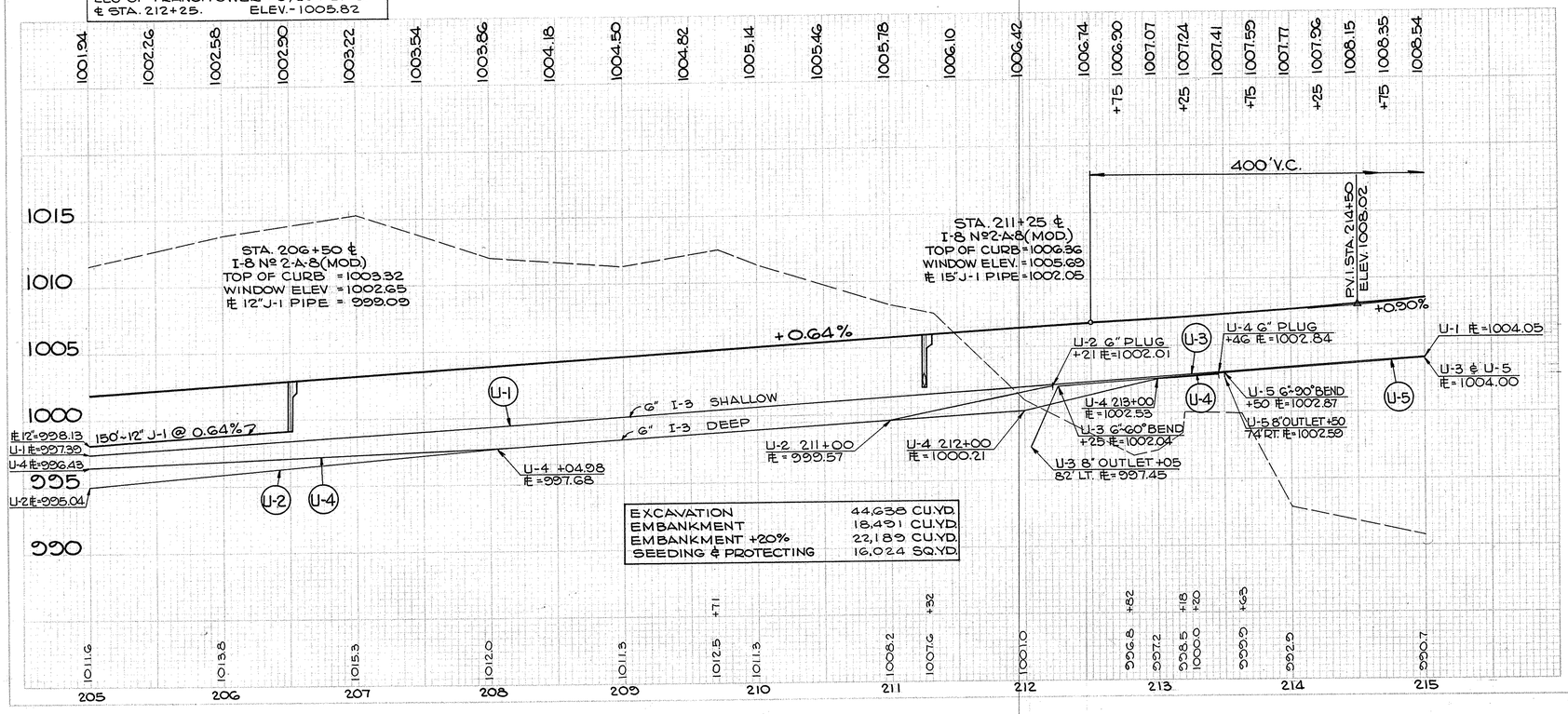
B.M. #21 - TOP S.W. COR. CONC. BASE, S.W. LEG OF TRANS. TOWER #6, 204' LT. OF ¢ STA. 212+25. ELEV. - 1005.82

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	CL. I-3 6" DEEP	CL. F-4 M-6.4(C) 6"	CL. F-4 8"	CL. J-1 12"	CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS I-3 6" 60° BEND	I-5 PIPE SPECIALS I-3 6" 90° BEND	I-8 INLET Nº 2-A-8 MOD.	I-10 DUMPED ROCK CHANNEL PROTECTN.
				LIN. FT.		LIN. FT.		LIN. FT.		CU. YDS.	EACH		EACH	CU. YDS.
U-1	205+00	215+00	¢	1000										
U-2	205+00	212+21	LT.		712	10								
U-3	212+05	215+00	LT.	306			10					1		
U-4	205+00	213+46	RT.		846									
U-5	213+50	215+00	RT.	168			10					1		
D-1	205+00	206+50	¢					150					1	
D-2	211+25		LT.						70	0.26			1	1.8
SHEET TOTAL				1474	1558	10	20	150	70	0.26	1	1	2	1.8

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP)	I-21 ST'D TYPE 2 CONCRETE MEDIAN	
				LIN. FT.	LIN. FT.	SQ. YDS.	
GR-1	205+00	215+00	¢		1000		
GR-2	211+58.5	215+00	LT.	346.5			
GR-3	213+45	215+00	RT.	155			
P-1	205+00	215+00	¢			666.67	
SHEET TOTAL				501.5	1000	666.67	

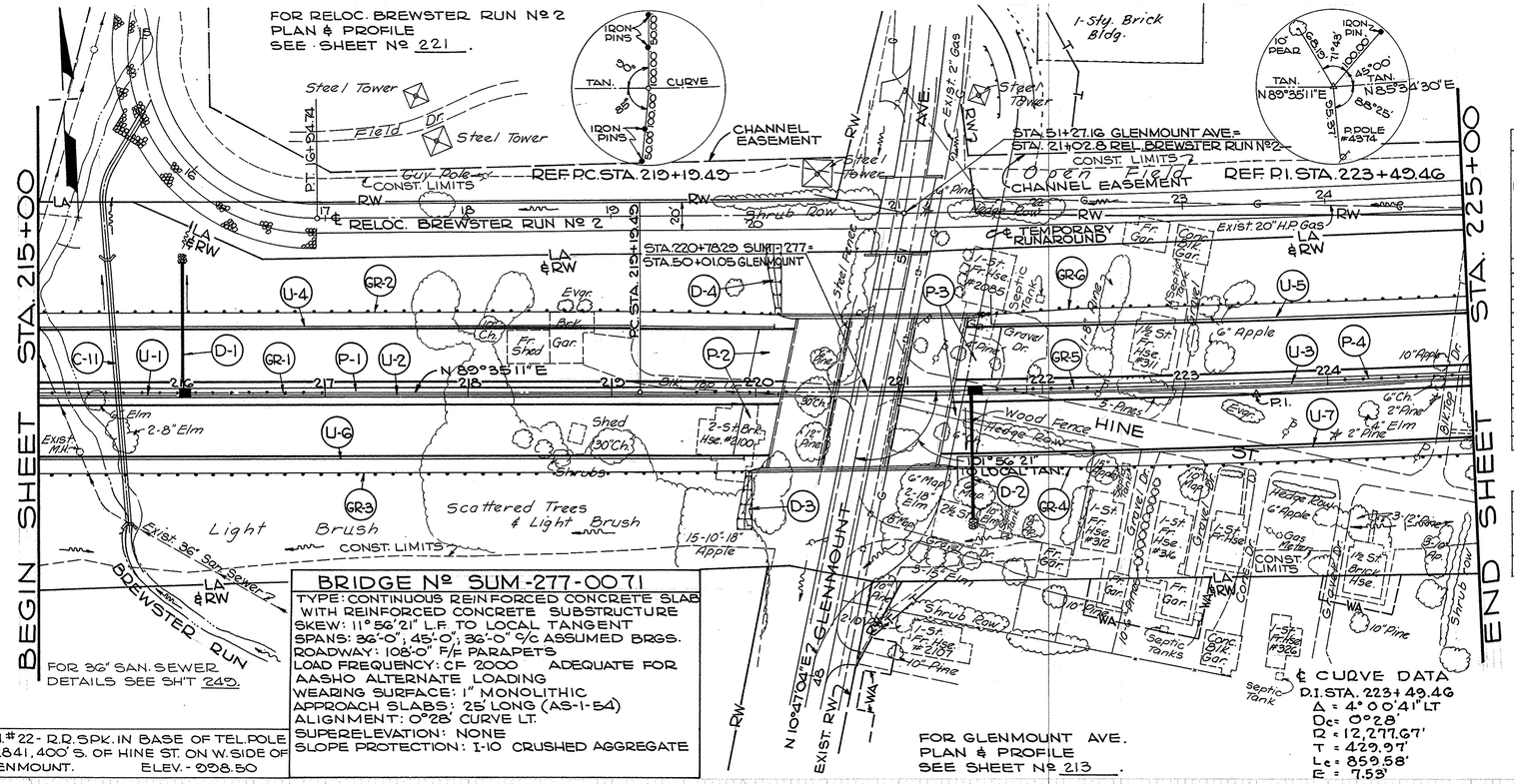


EXCAVATION	44,638 CU. YD.
EMBANKMENT	18,491 CU. YD.
EMBANKMENT +20%	22,189 CU. YD.
SEEDING & PROTECTING	16,024 SQ. YD.

STA. 205+00 to STA. 215+00

FED. ROAD DIVISION	STATE	PROJECT		38
2	OHIO	I-277-6(1)124		383

SUMMIT COUNTY
SUM-277-0.46


FOR RELOC. BREWSTER RUN Nº 2 PLAN & PROFILE SEE SHEET Nº 221.
Steel Tower
Field
Steel Tower
Steel Tower
IRON PINS
TAN.
CURVE
IRON PINS
CHANNEL EASEMENT
REF. P.C. STA. 219+19.49
REF. P.I. STA. 223+49.46
Open Field
CHANNEL EASEMENT
1-Sty. Brick Bldg.
STA. 51+27.16 GLENMOUNT AVE. = STA. 219+02.8 REL. BREWSTER RUN Nº 2
CONST. LIMITS
RELOC. BREWSTER RUN Nº 2
TEMPORARY RUNAROUND
STA. 220+78.29 SUM-277 = STA. 50+01.05 GLENMOUNT
P.C. STA. 219+19.49
BEGIN SHEET STA. 215+00
END SHEET STA. 225+00
N 89°35'11"E
Light Brush
Scattered Trees & Light Brush
CONST. LIMITS
Exist 36" San. Sewer
BREWSTER RUN
FOR 36" SAN. SEWER DETAILS SEE SH'T 249.
Wood Fence
Hedge Row
HINE ST.
P.I. STA. 223+49.46
LOCUST TAN.
N 10°47'04"E
GLENMOUNT AVE.
EXIST. RW
FWA
Septic Tanks
Gravel Dr.
Shrub Row
Fr. Gar.
Gmc Sep. Gar.
Brick Hse.
Gas Meter
Steel Fence
Exist. 20" H.P. Gas
Exist. 2" Gas
Exist. 8" Sew.
Exist. 12" Sew.
Exist. 6" Sew.
Exist. 10" Sew.
Exist. 15" Sew.
Exist. 18" Sew.
Exist. 24" Sew.
Exist. 30" Sew.
Exist. 36" Sew.
Exist. 42" Sew.
Exist. 48" Sew.
Exist. 54" Sew.
Exist. 60" Sew.
Exist. 66" Sew.
Exist. 72" Sew.
Exist. 78" Sew.
Exist. 84" Sew.
Exist. 90" Sew.
Exist.

FED. RD. DIVISION	STATE	PROJECT		39
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46

℄ CURVE DATA:
P.I. STA. 223+49.46
Δ = 4°00'41" LT.
D_E = 0°28'
R = 12,277.67'
T = 429.97'
L_C = 859.58'
E = 7.53'

FOR RELOC. BREWSTER RUN №2
PLAN & PROFILE
SEE SHEET №221.

IRON PINS — CURVE — TAN — IRON PINS

END PROJECT
SUM-277-0.46
STA. 228+68.84 Ahd.

BEGIN PROJECT
SUM-277-0.00
STA. 228+68.84 Ah'd

S.L.M. = 2.70
I-277-G-(1)124
I-277-G-(3)123

END WORK
SUM-277-0.46
STA. 229+82

Woods

Exist. San. M.H.

SEWER EASEMENT

CHANNEL EASEMENT

CHANNEL EASEMENT

CHANNEL EASEMENT

EQU. STA. 228+00 BACK =
STA. 222+59.78 AHEAD

REF. P.T. STA. 227+79.07

CONST. LIMITS

RELOC. BREWSTER RUN №2

Steel Towers

RW — LA & RW

END PAVEMENT

FUTURE CONST.
520' PAV'T TAPER

BEGIN SHEET STA. 225+00

END SHEET STA. 230+00

Blk. Gar.

Shed

8" Ash

6" Maple

6" Apple

6" Ch.

6" Pine

8" Pine

8-4" Willows

Light Brush

Open Field

Light Brush

6" Apple

SEWER EASEMENT

Exist. 36" San. Sewer (Brick) City of Akron

San. M.H.

Steel Tower

BREWSTER RUN

CONST. LIMITS

℄ RELOC. 36" SAN. SEWER

San. M.H.'s

N 85°34'30" E

GR-1 GR-2 GR-3 U-1 U-2 U-3 U-4 U-5 D-1 D-2 P-1

PT. STA. 227+79.07

EDGE

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	I-1 PIPE CL. F-4 M-64(C) 6"	I-1 PIPE CL. F-4 15"	I-1 PIPE CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS F-4 15" 25° BEND	I-8 INLET № 2-A-8 MOD.	I-10 DUMPED ROCK CHANNEL PROT'T'N
				LIN. FT.	LIN. FT.		LIN. FT.	CU. YDS.	EACH	EACH	CU. YDS.
U-1	225+00 BK.	226+96 BK.	℄	196							
U-2	227+00 BK.	226+96 AHD.	℄	526	10						
U-3	227+00 AHD.	228+68.84 AHD.	℄	158	10						
U-4	225+00 BK.	228+68.84 AHD.	LT.	890	20						
U-5	225+00 BK.	228+68.84 AHD.	RT.	910							
D-1	227+00 BK.		LT.			40	64	0.26	2	1	4.5
D-2	227+00 AHD.		LT.			52	64	0.26	2	1	1.3
SHEET TOTAL				2680	40	92	128	0.52	4	2	5.8

PAVEMENT & ROADWAY QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	I-15 GUARD RAIL STEEL BEAM BARRIER TYPE (DEEP)	I-21 ST'D TYPE 2 CONCRETE MEDIAN PAVEMENT
				LIN. FT.		S.Y.
GR-1	225+00 BK.	228+50.78 AHD	LT.	899.5		
GR-2	225+00 BK.	228+68.84 AH'D	℄		909	
GR-3	225+00 BK.	228+63.28 AH'D	RT.	903.5		
P-1	225+00 BK.	228+68.84 AHD	℄			606.04
SHEET TOTAL				1803	909	606.04

B.M. #23 - TOP BOLT N.E. LEG OF TRANS. TOWER #6, 150' RT. OF ℄ STA. 224+05 AHEAD. ELEV. - 995.825

FOR RELOC. 36" SAN. SEWER DETAILS SEE SHEET №249.

STA. 227+00 Bk.
I-8 №2-A-8 (MOD.)
TOP OF CURB = 1019.69
WINDOW ELEV. = 1019.02
℄ 6" I-3 PIPE = 1014.78
℄ 15" J-1 PIPE = 1014.03

+0.90%

+0.90%

+1.52%

U-1 U-4 U-5

U-1 6" PLUG
+26 ℄ = 1014.74

U-1 ℄ = 1012.98

U-4 & U-5 ℄ = 1012.93

U-2 6" PLUG
+26 ℄ = 1019.65

U-3 +68.84
℄ = 1021.63

U-4 & U-5 +68.84
℄ = 1021.58

P.V.I. STA. 228+25
EL. 1025.26

2:1

400' V.C.

STA. 227+00 Ah'd.
I-8 №2-A-8 (MOD)
TOP OF CURB = 1024.60
WINDOW ELEV. = 1023.93
℄ 6" I-3 PIPE = 1019.69
℄ 15" J-1 PIPE = 1018.94

EXCAVATION	1,039	CU.YD.
EMBANKMENT	67,126	CU.YD.
EMBANKMENT +20%	80,551	CU.YD.
SEEDING & PROTECTING	20,288	SQ.YD.

GRANULAR BORROW INCLUDING EXCAV.	66,358	CU.YD.
GRANULAR BORROW	138,255	CU.YD.
GRANULAR BORROW +5%	145,168	CU.YD.

= STA. 222+59.78 AHEAD

EQU. STA. 228+00 BACK

PROP. 36" REL. SAN. SEWER

EXIST. 36" BRICK SAN. SEWER

1017.47 1017.92 1018.37 1018.82 1019.27 1019.72 1020.17 1020.17 1020.54 1020.99 1021.44 1021.89 1022.34 1022.79 1023.24 1023.46 1023.69 1023.93 1024.18 1024.44 1024.71 1024.98 1025.27 1025.57 1025.83 1026.19 1026.52 1026.86 1027.20 1027.56 1027.92

+59.78 +25 +75 +25 +75 +25 +75 +25 +75 +25 +75

1025 1020 1015 1010 1005 1000 995 990

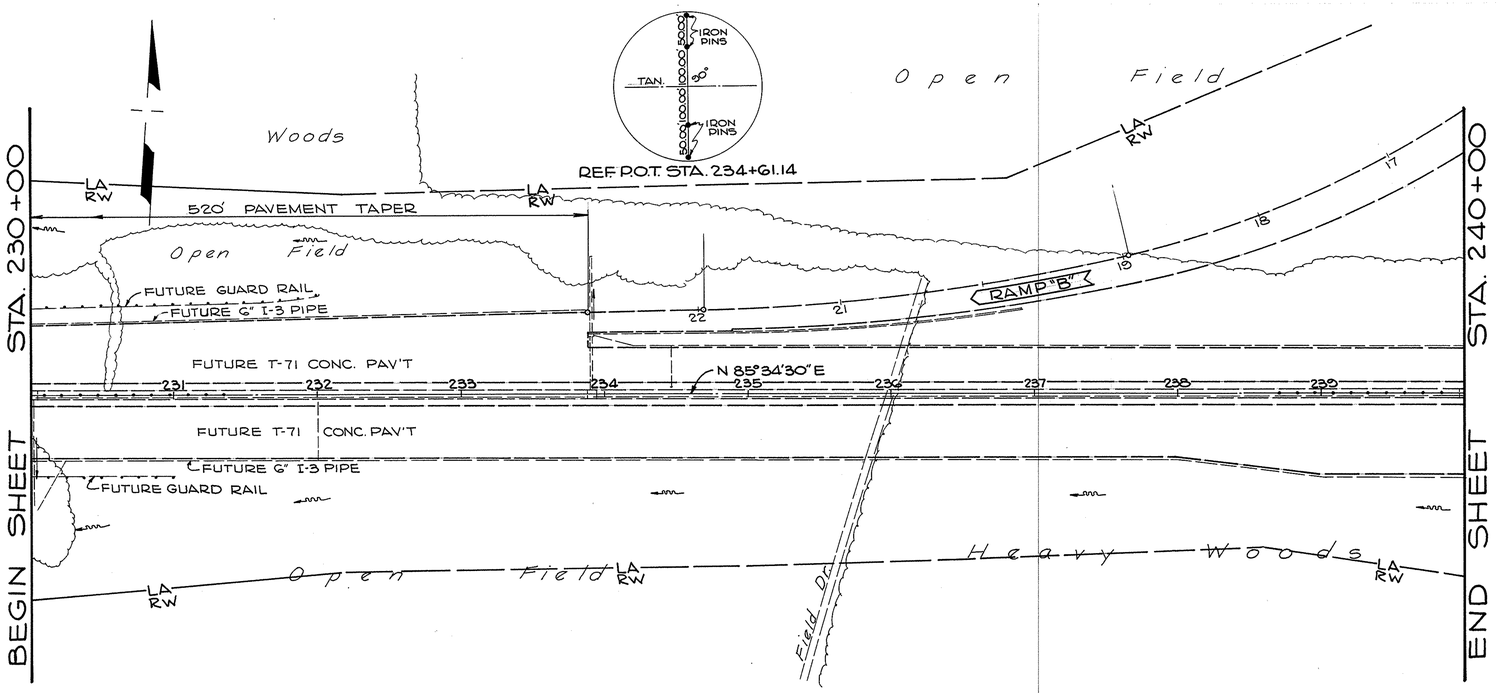
1002.6 1001.8 +55 1000.1 996.4 995.3 995.3 994.7 995.8 +25 995.5 +30 995.4 +36 995.9 995.9 996.8 +60 994.6 +67 996.3 +70 996.7 996.5 996.6 997.5 +74 1000.5 1003.5 +62 1010.3

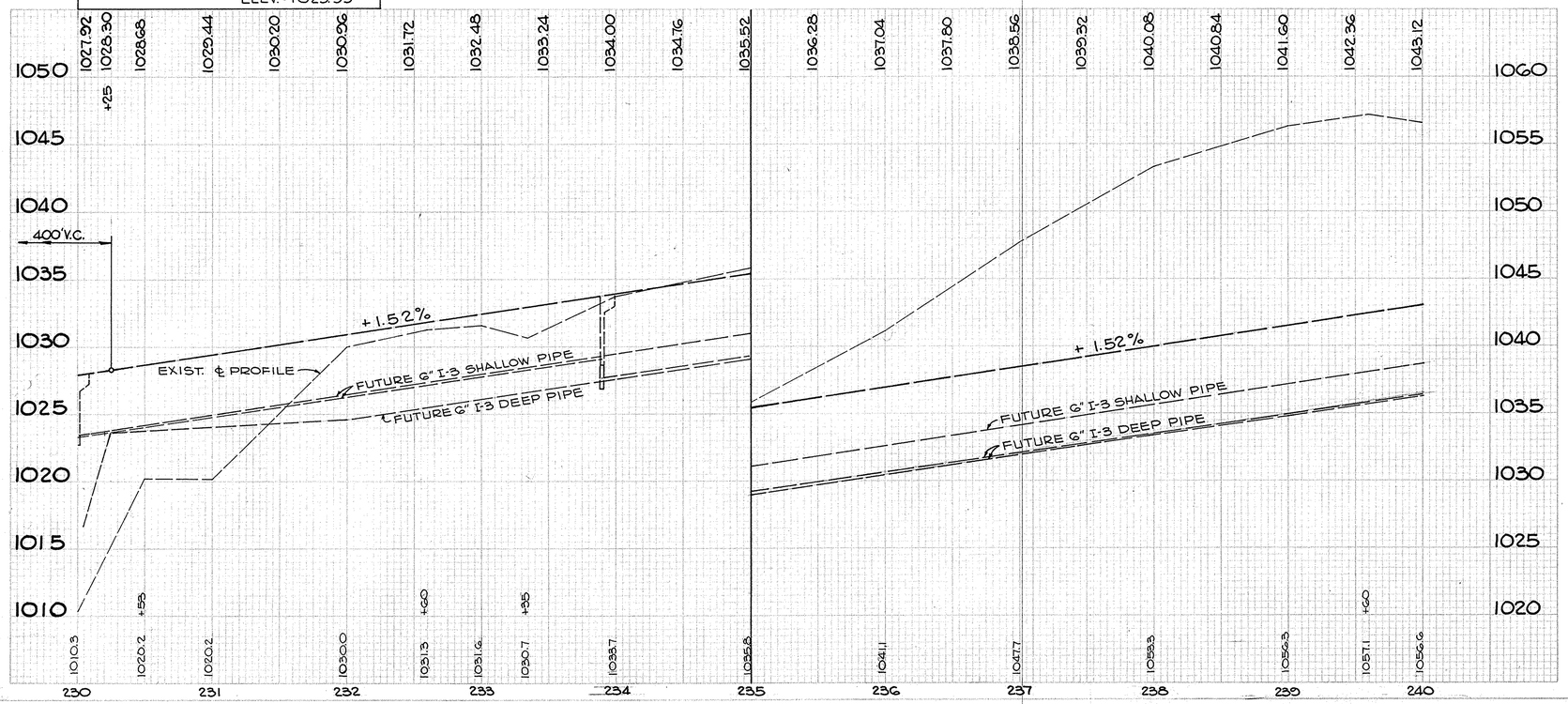
225 226 227 228 222+59.78 223 224 225 226 227 228 229 230

STA. 225+00 to STA. 228+00 BK., STA. 222+59.78 AHD. to STA. 230+00

FED. RD. DIVISION	STATE	PROJECT		40
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46





STA. 230+00 to STA. 240+00

SUPERELEVATION TABLES

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM - 277 - 0.46

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CURVE Nº 1

P.I. STATION 105 + 94.00 = 61° 15' RT.
D_c = 3° 30' L_s = 400'

44' LT.	EXISTING EDGE VARIABLE 32'To 44' LT.	EXISTING EDGE VARIABLE 8' To 20' LT.	8' LT.	3'LT.	STATION	3'RT.	8'RT.	EXISTING EDGE VARIABLE 8' To 20' RT.	EXISTING EDGE VARIABLE 32' To 44' RT.	44' RT.
985.18	985.37		985.43	985.38	93 + 00	985.20	985.41	985.41	985.30	985.11
985.49	985.68		985.64	985.53	93 + 50	985.34	985.56	985.56	985.42	985.23
985.83	986.02		985.94	985.81	94 + 00	985.61	985.79	985.79	985.56	985.33
986.57	986.63		986.39	986.25	94 + 50	986.22	986.15	986.13	985.77	985.55
987.52	987.40	986.96	986.96	986.80	95 + 00	986.75	986.65	986.58	986.09	985.82
988.72	988.46	987.76	987.74	987.56	95 + 50	987.53	987.38	987.28	986.50	986.20
990.12	989.69	988.72	988.67	988.47	96 + 00	988.35	988.20	988.04	987.13	986.84
991.62	991.13	989.92	989.80	989.55	96 + 50	989.42	989.20	988.93	987.81	987.52
993.30	992.79	991.30	991.07	990.76	97 + 00	990.62	990.35	989.95	988.67	988.43
995.08	994.57	992.82	992.50	992.14	97 + 50	992.06	991.74	991.18	989.63	989.42
996.90	996.47	994.52	994.00	993.58	98 + 00	993.52	993.12	992.42	990.69	990.54
998.65	998.33	996.17	995.57	995.15	98 + 50	995.14	994.72	993.83	991.80	991.67
1000.22	1000.05	998.04	997.20	996.78	99 + 00	996.68	996.26	995.30	993.25	993.14
					99 + 45	998.06	997.64	996.76	994.74	994.74
1001.76	1001.71	999.72	998.80	998.38	99 + 50	998.22	997.80	996.92	994.90	
1003.33	1003.31	1001.40	1000.40	999.98	100 + 00	999.76	999.34	998.44		
1004.65	1004.65	1002.72	1001.72	1001.30	100 + 46					
		1002.84	1001.84	1001.42	100 + 50	1001.23	1000.81	999.81		
		1004.27	1003.29	1002.87	101 + 00	1002.76	1002.34	1001.40		
		1005.70	1004.78	1004.36	101 + 50	1004.21	1003.79	1002.87		
		1007.23	1006.28	1005.86	102 + 00	1005.65	1005.23	1004.26		
		1008.65	1007.75	1007.33	102 + 50	1007.16	1006.74	1005.79		
		1010.20	1009.28	1008.86	103 + 00	1008.68	1008.26	1007.27		
		1011.67	1010.72	1010.30	103 + 50	1010.18	1009.76	1008.69		
		1013.16	1012.19	1011.77	104 + 00	1011.67	1011.25	1010.25		
		1014.70	1013.66	1013.24	104 + 50	1013.21	1012.79	1011.82		
		1016.13	1015.10	1014.68	105 + 00	1014.75	1014.33	1013.35		
		1017.57	1016.53	1016.11	105 + 50	1016.10	1015.68	1014.73		
		1018.85	1017.88	1017.46	106 + 00	1017.46	1017.04	1016.09		
		1020.04	1019.00	1018.58	106 + 50	1018.54	1018.12	1017.22		
		1021.01	1020.02	1019.60	107 + 00	1019.42	1019.00	1018.05		
				BRIDGE	107 + 50	BRIDGE				
				BRIDGE	108 + 00	BRIDGE				
				BRIDGE	108 + 50	BRIDGE				
		1023.26	1022.26	1021.84	109 + 00	1021.88	1021.46	1020.44		
		1023.54	1022.53	1022.11	109 + 50	1022.05	1021.63	1020.70		
		1023.62	1022.66	1022.24	110 + 00	1022.13	1021.71	1020.77		
		1023.53	1022.50	1022.08	110 + 50	1021.99	1021.57	1020.66		
		1023.21	1022.20	1021.78	111 + 00	1021.77	1021.35	1020.46		
		1022.88	1021.90	1021.48	111 + 50	1021.49	1021.07	1020.15		
		1022.55	1021.63	1021.22	112 + 00	1021.22	1020.81	1019.91		
		1022.16	1021.32	1020.96	112 + 50	1020.91	1020.59	1019.83		
		1021.69	1020.95	1020.65	113 + 00	1020.59	1020.32	1019.68		
		1021.23	1020.65	1020.41	113 + 50	1020.33	1020.10	1019.54		
		1020.76	1020.27	1020.06	114 + 00	1019.99	1019.80	1019.35		
		1020.30	1019.95	1019.74	114 + 50	1019.66	1019.51	1019.15		
		1019.87	1019.56	1019.35	115 + 00	1019.40	1019.29	1019.03		
		1019.48	1019.26	1019.11	115 + 50	1019.13	1019.09	1019.00		
		1019.28	1019.11	1019.00	115 + 75	1018.93	1018.93	1018.93		
1019.15		1019.15	1018.96	1018.88	116 + 00	1018.88	1018.96	1019.02	1018.64	
1018.72		1018.85	1018.66	1018.58	116 + 50	1018.58	1018.66	1018.85	1018.47	
1018.29		1018.55	1018.36	1018.28	117 + 00					
1017.87		1018.25	1018.06	1017.98	117 + 50					

NOTE: A 6" EXPOSURE SHALL BE MAINTAINED ON EACH FACE OF THE MEDIAN PAVEMENT BY SLOPING THE MEDIAN PAVEMENT WHERE NECESSARY.

CURVE Nº 2

P. I. STATION 135 + 23.91 Δ = 52° 13' LT.
D_c = 2° 30' L_s = 300 S=0.0592 '/'

WEST BOUND LANES 44'LT	32'LT.	20'LT.	PROFILE GRADE &8' LT.	STATION	EAST BOUND LANES 8'RT.	20'RT.	32 RT.	44'RT.
				121 + 00	1017.75	1017.94	1017.75	1017.56
				+ 25 PVT	1017.85	1018.04	1017.88	1017.72
				+ 50	1017.96	1018.15	1018.02	1017.89
1017.87	1018.06	1018.25	1018.06	+ 75	1018.06	1018.25	1018.16	1018.06
1017.91	1018.10	1018.29	1018.17	122 + 00	1018.17	1018.35	1018.29	1018.23
1017.95	1018.14	1018.33	1018.27	+ 25	1018.27	1018.46	1018.43	1018.40
1017.99	1018.18	1018.37	1018.37	+ 49.96 TS	1018.37	1018.56	1018.56	1018.56
1017.97	1018.16	1018.36	1018.48	+ 75	1018.48	1018.67	1018.74	1018.80
1017.96	1018.15	1018.34	1018.53	+ 87.96				
1017.95	1018.16	1018.37	1018.59	123 + 00	1018.59	1018.77	1018.91	1019.04
				+ 20.34	1018.67	1018.86	1019.05	1019.24
1017.94	1018.19	1018.44	1018.69	+ 25	1018.69	1018.89	1019.09	1019.29
1017.92	1018.21	1018.50	1018.80	+ 50	1018.82	1019.05	1019.29	1019.53
1017.90	1018.23	1018.56	1018.90	+ 75	1018.94	1019.21	1019.49	1019.77
1017.88	1018.25	1018.63	1019.01	124 + 00	1019.06	1019.37	1019.69	1020.01
1017.86	1018.27	1018.69	1019.11	+ 25	1019.18	1019.53	1019.89	1020.24
1017.84	1018.30	1018.76	1019.22	+ 50	1019.30	1019.69	1020.08	1020.48
1017.82	1018.32	1018.82	1019.32	+ 75	1019.42	1019.86	1020.29	1020.73
1017.80	1018.34	1018.88	1019.43	125 + 00	1019.54	1020.02	1020.49	1020.96
1017.78	1018.36	1018.94	1019.53	+ 25	1019.67	1020.18	1020.69	1021.20
1017.76	1018.38	1019.01	1019.64	+ 50	1019.78	1020.33	1020.88	1021.44
1017.74	1018.40	1019.07	1019.74	+ 75	1019.91	1020.50	1021.09	1021.69
1017.74	1018.44	1019.14	1019.85	126 + 00	1020.04	1020.67	1021.30	1021.93
1017.82	1018.53	1019.24	1019.95	+ 25	1020.15	1020.82	1021.49	1022.16
1017.93	1018.64	1019.35	1020.06	+ 50	1020.28	1020.98	1021.68	1022.38
1018.03	1018.74	1019.45	1020.16	+ 75	1020.38	1021.09	1021.80	1022.51
1018.14	1018.85	1019.56	1020.27	127 + 00	1020.49	1021.20	1021.91	1022.62
1018.24	1018.95	1019.66	1020.37	+ 25	1020.59	1021.30	1022.01	1022.72
1018.35	1019.06	1019.77	1020.48	+ 50	1020.70	1021.41	1022.12	1022.83
1018.45	1019.16	1019.87	1020.58	+ 75	1020.80	1021.51	1022.22	1022.93
1018.56	1019.27	1019.98	1020.69	128 + 00	1020.91	1021.62	1022.33	1023.04
1018.66	1019.37	1020.08	1020.79	+ 25	1021.01	1021.72	1022.43	1023.14
1018.77	1019.48	1020.19	1020.90	+ 50	1021.12	1021.83	1022.54	1023.25
1018.87	1019.58	1020.29	1021.00	+ 75	1021.22	1021.93	1022.64	1023.35
1018.98	1019.69	1020.40	1021.11	129 + 00	1021.33	1022.04	1022.75	1023.46
1019.08	1019.79	1020.50	1021.21	+ 25	1021.43	1022.14	1022.85	1023.56
1019.19	1019.90	1020.61	1021.32	+ 50	1021.54	1022.25	1022.96	1023.67
1019.29	1020.00	1020.71	1021.42	+ 75	1021.64	1022.35	1023.06	1023.77
1019.40	1020.11	1020.82	1021.53	130 + 00	1021.75	1022.46	1023.17	1023.88
1019.50	1020.21	1020.92	1021.63	+ 25	1021.85	1022.56	1023.27	1023.98
1019.61	1020.32	1021.03	1021.74	+ 50	1021.96	1022.67	1023.38	1024.09
1019.71	1020.42	1021.13	1021.84	+ 75	1022.06	1022.77	1023.48	1024.19
1019.82	1020.53	1021.24	1021.95	131 + 00	1022.17	1022.88	1023.59	1024.30
1019.92	1020.63	1021.34	1022.05	+ 25 PVC	1022.27	1022.98	1023.69	1024.40
1020.02	1020.73	1021.44	1022.15	+ 50	1022.37	1023.08	1023.79	1024.50
1020.09	1020.80	1021.51	1022.22	+ 75	1022.44	1023.15	1023.86	1024.57
1020.15	1020.86	1021.57	1022.28	132 + 00	1022.50	1023.21	1023.92	1024.63
1020.19	1020.90	1021.61	1022.32	+ 25	1022.54	1023.25	1023.96	1024.67
1020.21	1020.92	1021.63	1022.34	+ 50	1022.56	1023.27	1023.98	1024.69
1020.20	1021.91	1021.62	1022.33	+ 75	1022.55	1023.26	1023.97	1024.68
1020.19	1020.90	1021.61	1022.32	133 + 00	1022.53	1023.24	1023.95	1024.66
1020.15	1020.86	1021.57	1022.28	+ 25	1022.50	1023.21	1023.92	1024.63
1020.09	1020.80	1021.51	1022.22	+ 50	1022.44	1023.15	1023.86	1024.57
1020.01	1020.72	1021.43	1022.14	+ 75	1022.36	1023.07	1023.78	1024.49
1019.91	1020.62	1021.33	1022.04	134 + 00	1022.26	1022.97	1023.68	1024.39
1019.80	1020.51	1021.22	1021.93	+ 25	1022.15	1022.86	1023.57	1024.28
1019.66	1020.37	1021.08	1021.79	+ 50	1022.01	1022.72	1023.43	1024.14
1019.51	1020.22	1020.93	1021.64	+ 75	1021.86	1022.57	1023.28	1023.99
1019.33	1020.04	1020.75	1021.46	135 + 00	1021.68	1022.39	1023.10	1023.81
1019.14	1019.85	1020.56	1021.27	+ 25	1021.49	1022.20	1022.91	1023.62
1018.93	1019.64	1020.35	1021.06	+ 50	1021.28	1021.99	1022.70	1023.41
1018.70	1019.41	1020.12	1020.83	+ 75	1021.05	1021.76	1022.47	1023.18
1018.45	1019.16	1019.87	1020.58	136 + 00	1020.80	1021.51	1022.22	1022.93
1018.18	1018.89	1019.60	1020.31	+ 25	1020.53	1021.24	1021.95	1022.66
1017.89	1018.60	1019.31	1020.02	+ 50	1020.24	1020.95	1021.66	1022.37
1017.58	1018.29	1019.00	1019.71	+ 75	1019.93	1020.64	1021.35	1022.06
1017.25	1017.96	1018.67	1019.38	137 + 00	1019.60	1020.31	1021.02	1021.73
1016.91	1017.62	1018.33	1019.04	+ 25	1019.26	1019.97	1020.68	1021.39
1016.54	1017.25	1017.96	1018.67	+ 50	1018.89	1019.60	1020.31	1021.02
1016.15	1016.86	1017.57	1018.28	+ 75	1018.50	1019.21	1019.92	1020.63

SUPERELEVATION TABLES

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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CURVE Nº 2 (Continued)

WEST BOUND LANES			PROFILE GRADE		EAST BOUND LANES			
44'LT.	32'LT.	20'LT.	& 8'LT.	STATION	8'RT	20'RT.	32'RT.	44'RT.
1015.75	1016.46	1017.17	1017.88	138 + 00	1018.10	1018.81	1019.52	1020.23
1015.33	1016.04	1016.75	1017.46	+ 25	1017.68	1018.39	1019.10	1019.81
1014.88	1015.59	1016.30	1017.01	+ 50	1017.23	1017.94	1018.65	1019.36
1014.42	1015.13	1015.84	1016.55	+ 75	1016.77	1017.48	1018.19	1018.90
1013.94	1014.65	1015.36	1016.07	139 + 00	1016.29	1017.00	1017.71	1018.42
1013.44	1014.15	1014.86	1015.57	+ 25 PVT	1015.79	1016.50	1017.21	1017.92
1012.93	1013.64	1014.35	1015.06	+ 50	1015.28	1015.99	1016.70	1017.41
1012.42	1013.13	1013.84	1014.55	+ 75	1014.77	1015.48	1016.19	1016.90
1011.91	1012.62	1013.33	1014.04	140 + 00	1014.26	1014.97	1015.68	1016.39
1011.40	1012.11	1012.82	1013.53	+ 25	1013.75	1014.46	1015.17	1015.88
1010.89	1011.60	1012.31	1013.02	+ 50	1013.24	1013.95	1014.66	1015.37
1010.38	1011.09	1011.80	1012.51	+ 75	1012.73	1013.44	1014.15	1014.86
1009.87	1010.58	1011.29	1012.00	141 + 00	1012.22	1012.93	1013.64	1014.35
1009.36	1010.07	1010.78	1011.49	+ 25	1011.71	1012.42	1013.13	1013.84
1008.85	1009.56	1010.27	1010.98	+ 50	1011.20	1011.91	1012.62	1013.33
1008.34	1009.05	1009.76	1010.47	+ 75	1010.69	1011.40	1012.11	1012.82
1007.83	1008.54	1009.25	1009.96	142 + 00	1010.18	1010.89	1011.60	1012.31
1007.32	1008.03	1008.74	1009.45	+ 25	1009.67	1010.38	1011.09	1011.80
				+ 38.63	1009.39	1010.10	1010.81	1011.52
1006.81	1007.52	1008.23	1008.94	+ 50	1009.15	1009.84	1010.53	1011.22
1006.30	1007.01	1007.72	1008.43	+ 75	1008.63	1009.28	1009.93	1010.58
1006.05	1006.75	1007.45	1008.15	+ 88.63				
1005.84	1006.53	1007.23	1007.92	143 + 00	1008.10	1008.72	1009.33	1009.94
1005.45	1006.11	1006.76	1007.41	+ 25	1007.57	1008.15	1008.72	1009.29
1005.24	1005.87	1006.50	1007.13	+ 38.63 CS	1007.28	1007.83	1008.38	1008.94
1005.07	1005.68	1006.29	1006.90	+ 50	1007.05	1007.58	1008.12	1008.65
1004.69	1005.25	1005.82	1006.39	+ 75	1006.52	1007.02	1007.51	1008.00
1004.30	1004.83	1005.35	1005.88	144 + 00	1005.99	1006.45	1006.90	1007.36
1003.92	1004.40	1004.89	1005.37	+ 25	1005.47	1005.88	1006.29	1006.71
1003.53	1003.98	1004.42	1004.86	+ 50	1004.94	1005.32	1005.69	1006.07
1003.15	1003.55	1003.95	1004.35	+ 75	1004.41	1004.74	1005.08	1005.42
1002.76	1003.12	1003.48	1003.84	145 + 00	1003.89	1004.19	1004.48	1004.78
1002.40	1002.71	1003.02	1003.33	+ 25	1003.36	1003.62	1003.88	1004.13
1002.01	1002.28	1002.55	1002.82	+ 50	1002.83	1003.05	1003.27	1003.49
				+ 68.26	1002.45	1002.64	1002.83	1003.02
1001.62	1001.85	1002.08	1002.31	+ 75	1002.31	1002.50	1002.67	1002.84
1001.23	1001.42	1001.61	1001.80	146 + 00	1001.80	1001.99	1002.09	1002.20
1000.84	1001.03	1001.22	1001.29	+ 25	1001.29	1001.48	1001.52	1001.55
1000.63	1000.82	1001.01	1001.01	+ 38.63 ST	1001.01	1001.20	1001.20	1001.20
1000.43	1000.62	1000.81	1000.78	+ 50	1000.78	1000.97	1000.96	1000.94
999.98	1000.17	1000.36	1000.27	+ 75	1000.27	1000.46	1000.42	1000.37
999.53	999.72	999.91	999.76	147 + 00	999.76	999.95	999.88	999.81
999.27	999.46	999.65	999.46	+ 14.63				
999.06	999.25	999.44	999.25	+ 25	999.25	999.44	999.34	999.24
				+ 50	998.74	998.93	998.80	998.67
				+ 75	998.23	998.42	998.26	998.10
				148 + 00	997.72	997.91	997.72	997.53

CURVE Nº 3

P. I. STATION 200 + 67.26 Δ = 10°37'30" LT.
D_c = 1°00' S = 0.024'/'

WEST BOUND LANES			PROFILE GRADE		EAST BOUND LANES			
44' LT.	32' LT	20' LT	& 8' LT.	STATION	8' RT.	20'RT.	32'RT	44'RT.
				193 + 26.48	994.37	994.56	994.37	994.18
				+ 50	994.54	994.73	994.57	994.41
				+ 75	994.72	994.91	994.78	994.65
				194 + 00	994.89	995.08	994.98	994.88
				+ 25	995.06	995.25	995.18	995.12
994.90	995.09	995.28	995.09	+ 30.48				
994.98	995.17	995.36	995.22	+ 50 PVT	995.22	995.41	995.37	995.34
995.08	995.27	995.46	995.38	+ 75	995.38	995.57	995.57	995.56
				+ 78.48	995.40	995.59	995.59	995.59
995.18	995.37	995.56	995.54	195 + 00	995.54	995.73	995.78	995.82
995.20	995.39	995.58	995.58	+ 06.48				
995.23	995.42	995.61	995.70	+ 25	995.70	995.89	996.00	996.12
995.24	995.43	995.62	995.76	+ 34.48 P.C.	995.76	995.95	996.09	996.23
995.25	995.44	995.63	995.82	+ 44.48				
995.26	995.46	995.66	995.86	+ 50	995.86	996.05	996.23	996.40
				+ 54.48	995.89	996.08	996.27	996.46
995.30	995.54	995.78	996.02	+ 75	996.03	996.25	996.47	996.68
995.35	995.62	995.90	996.18	196 + 00	996.21	996.46	996.72	996.97
995.37	995.65	995.93	996.21	+ 04.48				
				+ 22.48	996.36	996.64	996.92	997.20
995.47	995.76	996.05	996.34	+ 25	996.38	996.66	996.95	997.23
995.63	995.92	996.21	996.50	+ 50	996.54	996.83	997.12	997.41
995.79	996.08	996.37	996.66	+ 75	996.70	996.99	997.28	997.57
995.95	996.24	996.53	996.82	197 + 00	996.86	997.15	997.44	997.73
996.11	996.40	996.69	996.98	+ 25	997.02	997.31	997.60	997.89
996.27	996.56	996.85	997.14	+ 50	997.18	997.47	997.76	998.05
996.43	996.72	997.01	997.30	+ 75	997.34	997.63	997.92	998.21
996.59	996.88	997.17	997.46	198 + 00	997.50	997.79	998.08	998.37
996.75	997.04	997.33	997.62	+ 25	997.66	997.95	998.24	998.53
996.91	997.20	997.49	997.78	+ 50	997.82	998.11	998.40	998.69
997.07	997.36	997.65	997.94	+ 75	997.98	998.27	998.56	998.85
997.23	997.52	997.81	998.10	199 + 00	998.14	998.43	998.72	999.01
997.39	997.68	997.97	998.26	+ 25	998.30	998.59	998.88	999.17
997.55	997.84	998.13	998.42	+ 50	998.46	998.75	999.04	999.33
997.71	998.00	998.29	998.58	+ 75	998.62	998.91	999.20	999.49
997.87	998.16	998.45	998.74	200 + 00	998.78	999.07	999.36	999.65
998.03	998.32	998.61	998.90	+ 25	998.94	999.23	999.52	999.81
998.19	998.48	998.77	999.06	+ 50	999.10	999.39	999.68	999.97
998.35	998.64	998.93	999.22	+ 75	999.26	999.55	999.84	1000.13
998.51	998.80	999.09	999.38	201 + 00	999.42	999.71	1000.00	1000.29
998.67	998.96	999.25	999.54	+ 25	999.58	999.87	1000.16	1000.45
998.83	999.12	999.41	999.70	+ 50	999.74	1000.03	1000.32	1000.61
998.99	999.28	999.57	999.86	+ 75	999.90	1000.19	1000.48	1000.77
999.15	999.44	999.73	1000.02	202 + 00	1000.06	1000.35	1000.64	1000.93
999.31	999.60	999.89	1000.18	+ 25	1000.22	1000.51	1000.80	1001.09
999.47	999.76	1000.05	1000.34	+ 50	1000.38	1000.67	1000.96	1001.25
999.63	999.92	1000.21	1000.50	+ 75	1000.54	1000.83	1001.12	1001.41
999.79	1000.08	1000.37	1000.66	203 + 00	1000.70	1000.99	1001.28	1001.57
999.95	1000.24	1000.53	1000.82	+ 25	1000.86	1001.15	1001.44	1001.73
1000.11	1000.40	1000.69	1000.98	+ 50	1001.02	1001.31	1001.60	1001.89
1000.27	1000.56	1000.85	1001.14	+ 75	1001.18	1001.47	1001.76	1002.05
1000.43	1000.72	1001.01	1001.30	204 + 00	1001.34	1001.63	1001.92	1002.21
1000.59	1000.88	1001.17	1001.46	+ 25	1001.50	1001.79	1002.08	1002.37
1000.75	1001.04	1001.33	1001.62	+ 50	1001.66	1001.95	1002.24	1002.53
1000.91	1001.20	1001.49	1001.78	+ 75	1001.82	1002.11	1002.40	1002.69
1001.07	1001.36	1001.65	1001.94	205 + 00	1001.98	1002.27	1002.55	1002.84
				+ 08.98	1002.04	1002.32	1002.60	1002.88
1001.25	1001.53	1001.82	1002.10	+ 25	1002.13	1002.40	1002.67	1002.93
1001.27	1001.55	1001.83	1002.11	+ 26.98				
1001.51	1001.76	1002.01	1002.26	+ 50	1002.28	1002.51	1002.74	1002.97
1001.79	1002.00	1002.21	1002.42	+ 75	1002.42	1002.61	1002.80	1002.99
				+ 76.98	1002.43	1002.62	1002.81	1003.00
1001.93	1002.12	1002.31	1002.50	+ 86.98				
1002.04	1002.23	1002.42	1002.56	+ 96.98 P T	1002.56	1002.75	1002.89	1003.03
1002.08	1002.27	1002.46	1002.58	206 + 00	1002.58	1002.77	1002.90	1003.03
1002.36	1002.55	1002.74	1002.74	+ 25	1002.74	1002.93	1003.00	1003.07
1002.58	1002.77	1002.96	1002.90	+ 50	1002.90	1003.09	1003.10	1003.11
				+ 52.98	1002.92	1003.11	1003.11	1003.11
1002.80	1002.99	1003.18	1003.06	+ 75	1003.06	1003.25	1003.22	1003.19
1003.03	1003.22	1003.41	1003.22	207 + 00	1003.22	1003.41	1003.35	1003.29
1003.04	1003.23	1003.42	1003.23	+ 00.98				
1003.19	1003.38	1003.57	1003.38	+ 25	1003.38	1003.57	1003.48	1003.39
				+ 50	1003.54	1003.73	1003.61	1003.49
				+ 75	1003.70	1003.89	1003.74	1003.58
				208 + 00	1003.86	1004.05	1003.87	1003.68
				+ 04.98	1003.89	1004.08	1003.89	1003.70

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)-124	

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SUMMIT COUNTY
SUM-277-0.46

BEGIN PROJECT
SUM-277-0.46
STA. 75+00

MATCH LINE STA. 105+00

EXISTING & SURVEY CURVE DATA:
P.I. STA. 105+94.00
Δ = 61° 15' RT.
D_c = 3° 30'
R = 1637.02'
L_s = 400'
L_c = 1350.00'
T_s = 1171.40'
θ_s = 7°00'
E_s = 270.07'
L.T. = 266.88'
S.T. = 133.52'

T.S. STA. 94+22.60
S.C. STA. 98+22.60

MATCH LINE STA. 105+00

AKRON & BARBERTON BELT LINE RR.

C.S. STA. 111+72.60
S.T. STA. 115+72.60
T.S. STA. 122+49.06
S.C. STA. 125+49.06

CURVE DATA:
P.I. STA. 135+28.91
Δ = 52° 13' 00" LT.
D_c = 2° 30'
R = 2291.83'
L_s = 300'
L_{f_s} = 1788.67'
T_{f_s} = 1273.95'
θ_s = 3° 45'
L.T. = 200.04'
S.T. = 100.04'
E_s = 262.24'
L.C. = 299.04'
X_c = 299.87'
Y_c = 6.54'

WATERLOO RD.
EXIST. U.S. 224
45° 18' 12"
STA. 121+01.64 SUM-224 =
STA. 13+15.84 WATERLOO RD.

MANCHESTER RD.
FRITCH AVE.
RAMP "A"
TRUCK ONLY TO LOCAL TAN
STA. 130+86.48 SUM-224 =
STA. 41+69.20 MANCH TR
PT. STA. 39+61.34
RAMP "B"
BRENNEMAN BLVD.
ACCESS DR.
NESBIT AVE.
DELTON AVE.
CONRAD AVE.
EDWIN AVE.
CHRISTENSEN AVE.
RELOC. BRENNEMAN BLVD.
NESMITH LAKE BLVD.
RELOC. DRIVE
FRITCH RD.
AVE. EXT.
NESMITH LAKE BLVD.
CORPORATION LINE
CANAL
CITY OF AKRON
OHIO
COVENTRY TWP.
LEVEE DR. (PRIVATE)
POWER CO. SERVICE RD.
STA. 153+25.00 SUM-224
STA. 50+00 ACCESS RD.
STA. 152+75.00 SUM-224
STA. 50+00 OHIO CANAL
STA. 170+00
MATCH LINE

CURVE DATA:
Δ = 10° 43' 58" LT.
D_c = 3° 00'
R = 1909.86'
T = 179.40'
L_c = 357.76'
E = 8.41'
P.C. STA. 36+03.58
P.T. STA. 35+75.18

CURVE DATA:
Δ = 5° 02' 15"
D_c = 1° 00'
R = 5729.58'
T = 252.05'
L_c = 503.75'
E = 5.54'
P.C. STA. 30+72.04

NESMITH LAKE
178° 38'
STA. 29+04.50
ANGLE PT.
STA. 21+48.83
AKRON CORP LINE
CARNEGIE AVE.
AKRON CORP LINE

SCALE: 1" = 200'

CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(I) 124	

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SUMMIT COUNTY
SUM-277-0.46

WATERLOO ROAD — EXIST. U.S. 224

CITY OF AKRON — CORPORATION LINE
COVENTRY TOWNSHIP

MATCH LINE STA. 170+00

BREWSTER RUN No. 1

RELOC. BREWSTER RUN No. 1

RAMP "C"

RELOC. S. MAIN ST.

S. MAIN ST.

CEMETERY DR.

STA. 57+10 S. MAIN ST.
= STA. 0+00 RAMP "C"
= STA. 0+00 CEMETERY DR.

CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30" LT.
D = 1°00'
R = 5729.58'
T = 532.78'
L = 1062.50'
E = 24.72'

HOLY CROSS CEMETERY

RAMP "A"

RAMP "B"

RAMP "C"

RAMP "D-2"

RAMP "D-1"

RAMP "D-3"

RAMP "D"

PC STA. 195+34.48

PT. STA. 205+96.98

STA. 199+56.35 SUM-224 =
STA. 50+00.00 S. MAIN ST.

SWARTZ RD.

STA. 44+25.40 RELOC. S. MAIN
= STA. 0+00 SWARTZ RD.
= STA. 0+00 RAMP "D"

N. TURKEYFOOT LAKE RD.

TUSCARAWAS RIVER

SCALE: 1" = 200'

CURVE DATA:
P.I. STA. 223+49.46
Δ = 4°00'41" LT.
D = 0° 28'
R = 12,277.67'
T = 429.27'
L = 859.58'
E = 7.53'

STA. 210+19.49

STA. 227+19.07

RELOC. BREWSTER RUN No. 2

HINE ST.

STA. 220+78.29 SUM-277
STA. 50+01.05 GLENMOUNT

GLENMOUNT AVE.

NAOMI ST.

BREWSTER RUN

STA. 228+00 BK. = STA. 222+50.78 AHD.
EQUATION

ZERO SEC. 229+72

END EMB. 229+25

END PAV'T. 228+68.84

END PROJECT SUM-277-0.46 | BEGIN PROJECT SUM-277-0.00

CROSS SECTION
LAYOUT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(I)124	

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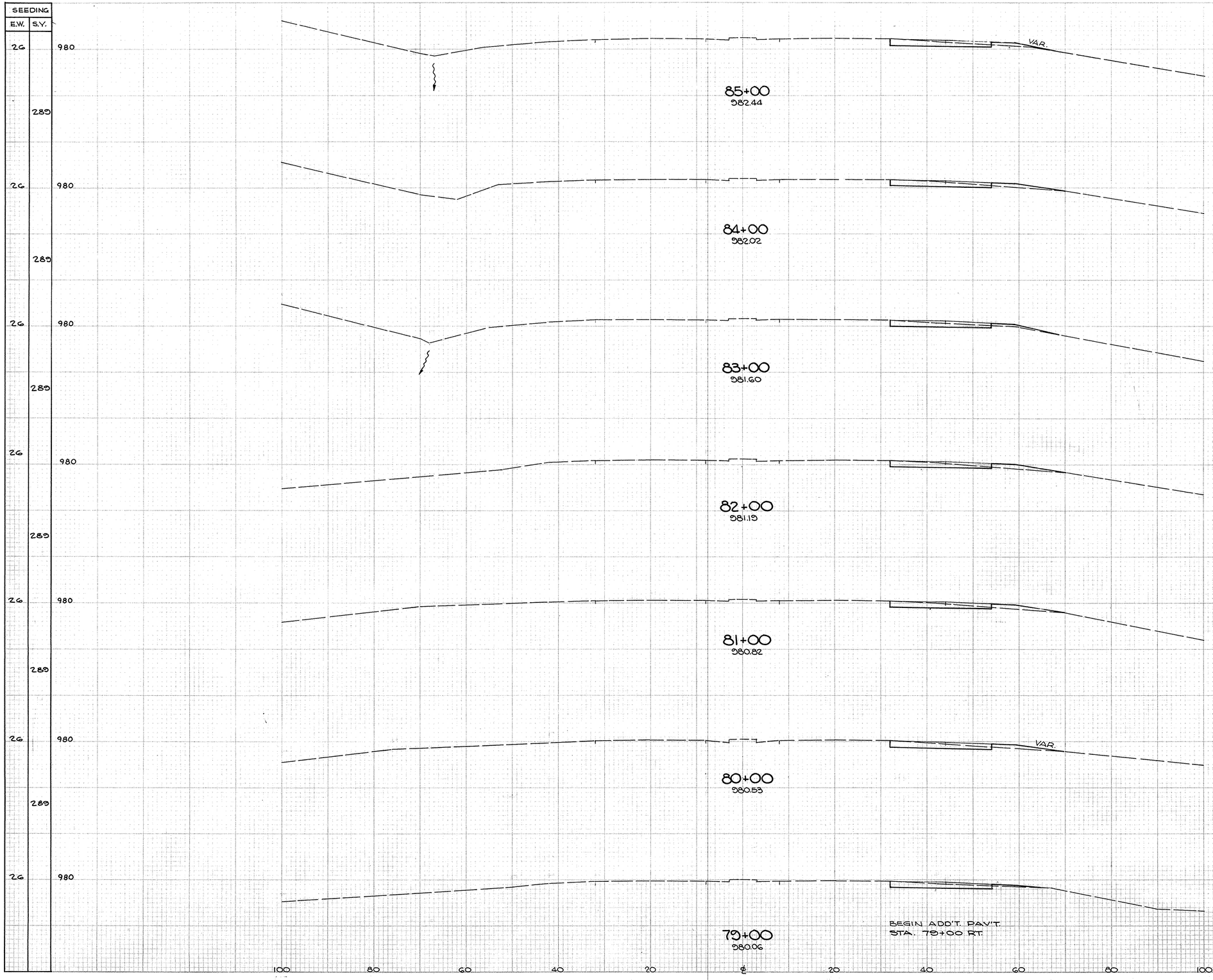
383

SUMMIT COUNTY
SUM-277-0.46



END AREA		CU.YDS	
CUT	FILL	CUT	FILL
25	9		
		89	35
23	10		
		78	28
18	5		
		72	24
20	8		
		74	32
20	9		
		80	33
23	9		
		83	24
22	4		

STA. 79+00 TO STA. 85+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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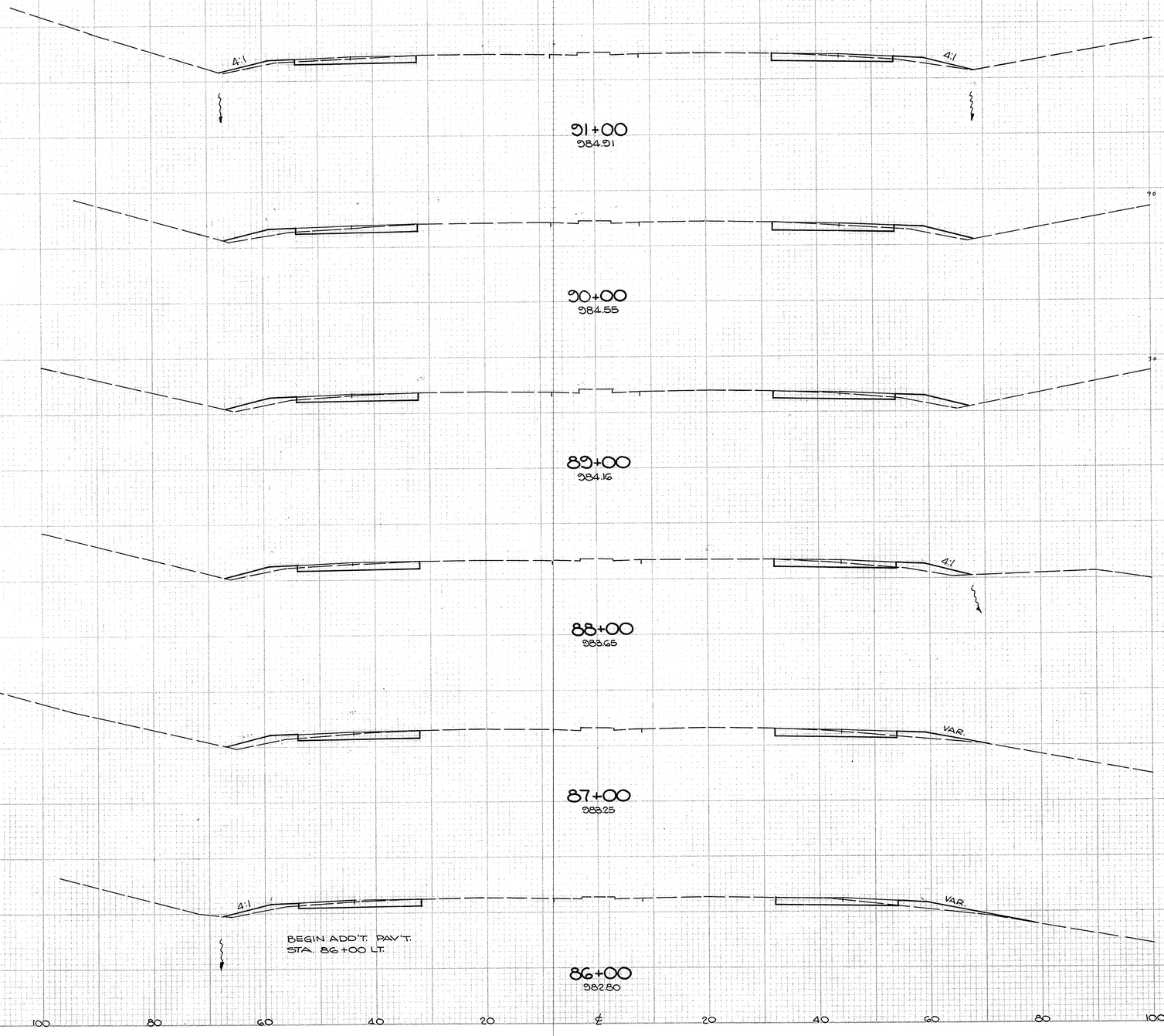
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
52	980
	578
52	980
	578
52	980
	578
52	980
	578
52	980
	578
52	980
	433



END AREA		CU.YDS	
CUT	FILL	CUT	FILL
47	16		
		167	68
43	26		
		165	104
46	30		
		165	100
33	24		
		159	81
43	25		
		157	98
42	28		
		124	69

STA. 86+00 TO STA. 91+00

1ST. RUN.
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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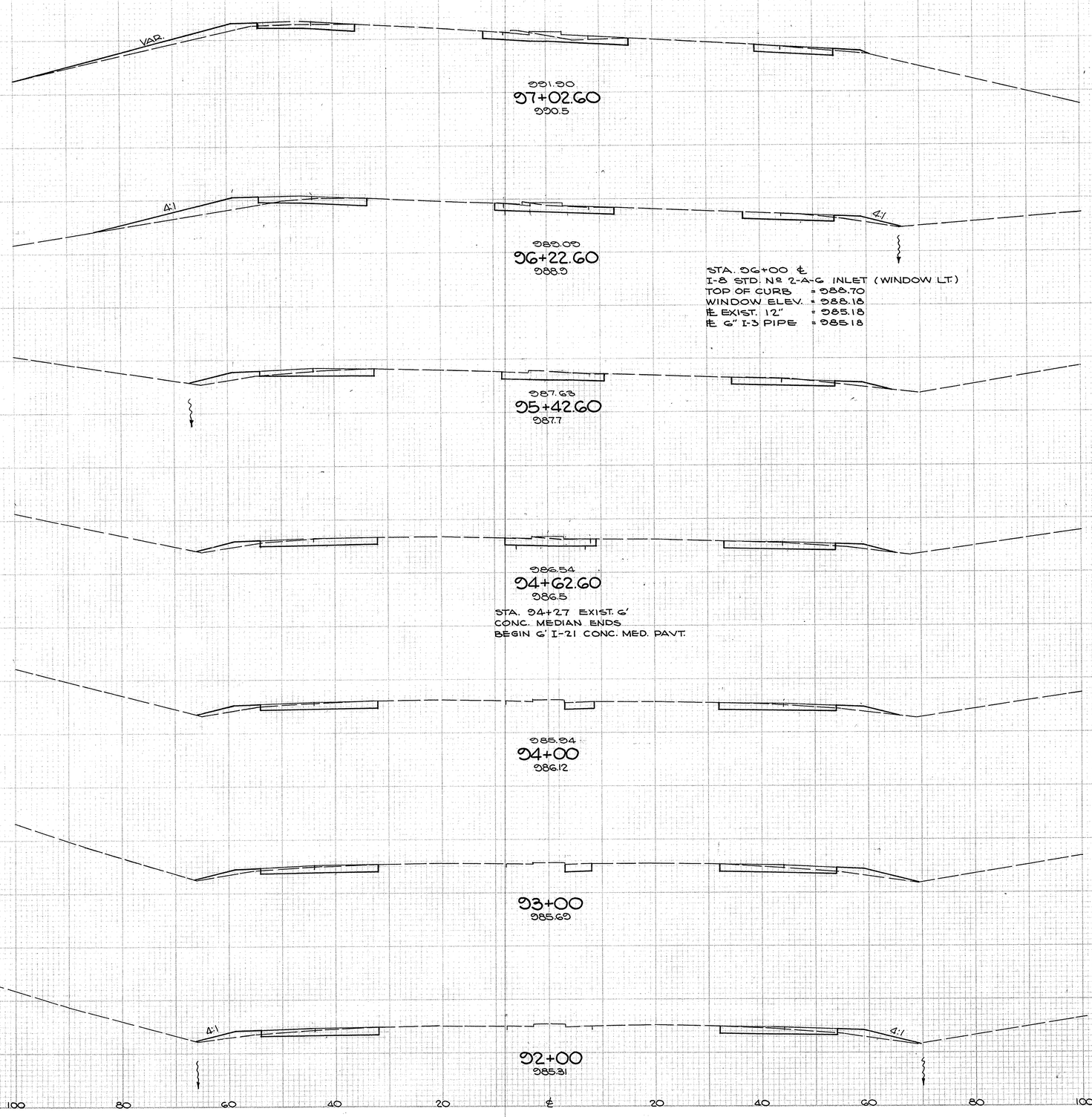
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
72	990
	640
72	990
	551
52	990
	462
52	990
	214
52	990
	578
52	990
	578
52	990
	578



END AREA		CU.YDS	
CUT	FILL	CUT	FILL
83	33		
		226	130
70	55		
		215	117
75	24		
		218	64
72	10		
		138	41
46	16		
		170	72
46	23		
		159	83
40	22		
		161	70

1st Run
P.R.S.

STA. 92+00 TO STA. 97+02.60

FED. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING E.W.	SEEDING S.Y.
0	
	0
0	
	0
0	
	0
0	
	289
52	
	676
52	
	551

1000
1000
1000
1000
1000
990
990

1009.07
103+00
1007.2

1006.07
102+00
1004.3

1003.08
101+00
1001.5

1000.11
100+00
998.5

998.92
99+00
995.4

VAR.
995.31
98+50
993.7
4:1

STA. 98+27 ℄
I-8 STD. Nº 2-A-10 INLET (WINDOW LT.)
TOP OF CURB = 994.85
WINDOW ELEV. = 994.18
℄ EXIST. 12" = 985.82
℄ 6" I-3 PIPE = 990.00

VAR.
993.22
97+82.60
992.3
4:1

100 80 60 40 20 ℄ 20 40 60 80 100

END AREA CUT	END AREA FILL	CU.YDS CUT	CU.YDS FILL
33	0		
		124	0
34	0		
		143	0
43	0		
		128	6
26	3		
		157	43
58	20		
		144	47
96	31		
		210	56
72	14		
		230	70

1 St. Run
R.S.

STA. 97+82.60 TO STA. 103+00

FED. AD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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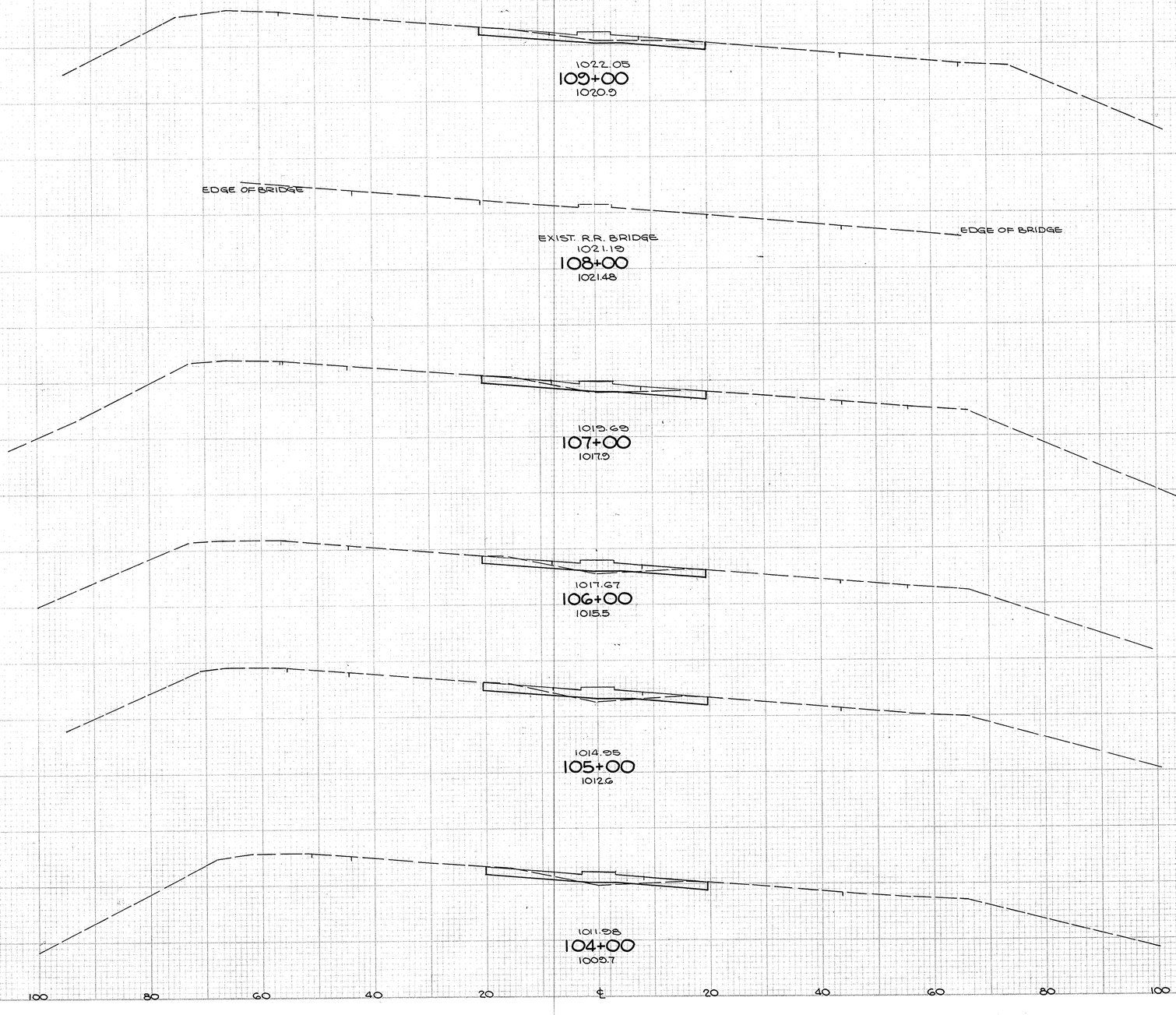
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
0	
	0
0	
	0
0	
	0
0	
	0
0	
	0
0	
	0
0	



END AREA		CU.YDS.	
CUT	FILL	CUT	FILL
41	0		
		76	0
0	0		
		50	0
32	0		
		111	6
28	3		
		107	15
30	5		
		111	10
30	5		
		117	9

STA. 104+00 TO STA. 109+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING E.W.	SEEDING S.Y.
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0

1020
1020
1020
1020
1010
1010
1010
1010

E.P.

1019.56
115+00
1017.4

1019.87
114+50
1017.8

STA. 114+00 ℄
I-8 № 2-A-101 INLET (WINDOW LEFT)
TOP OF CURB = 1020.53
℄ 12" B-1 PIPE = 1015.25
℄ 6" I-3 PIPE = 1015.54

1020.24
114+00
1018.1

1020.52
113+50
1018.6

E.P.

1021.04
112+52.60
1019.2

E.P.

1021.51
111+72.60
1019.4

1021.55
111+00
1020.8

1022.35
110+00
1020.5

100 80 60 40 20 ℄ 20 40 60 80 100

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
24	4		
		44	7
23	3		
		46	6
27	3		
		46	6
23	3		
		93	7
29	1		
		82	4
26	2		
		82	3
35	0		
		117	0
28	0		
		128	0

1st Run
R.R.S.

STA. 110+00 TO STA. 115+00

FED. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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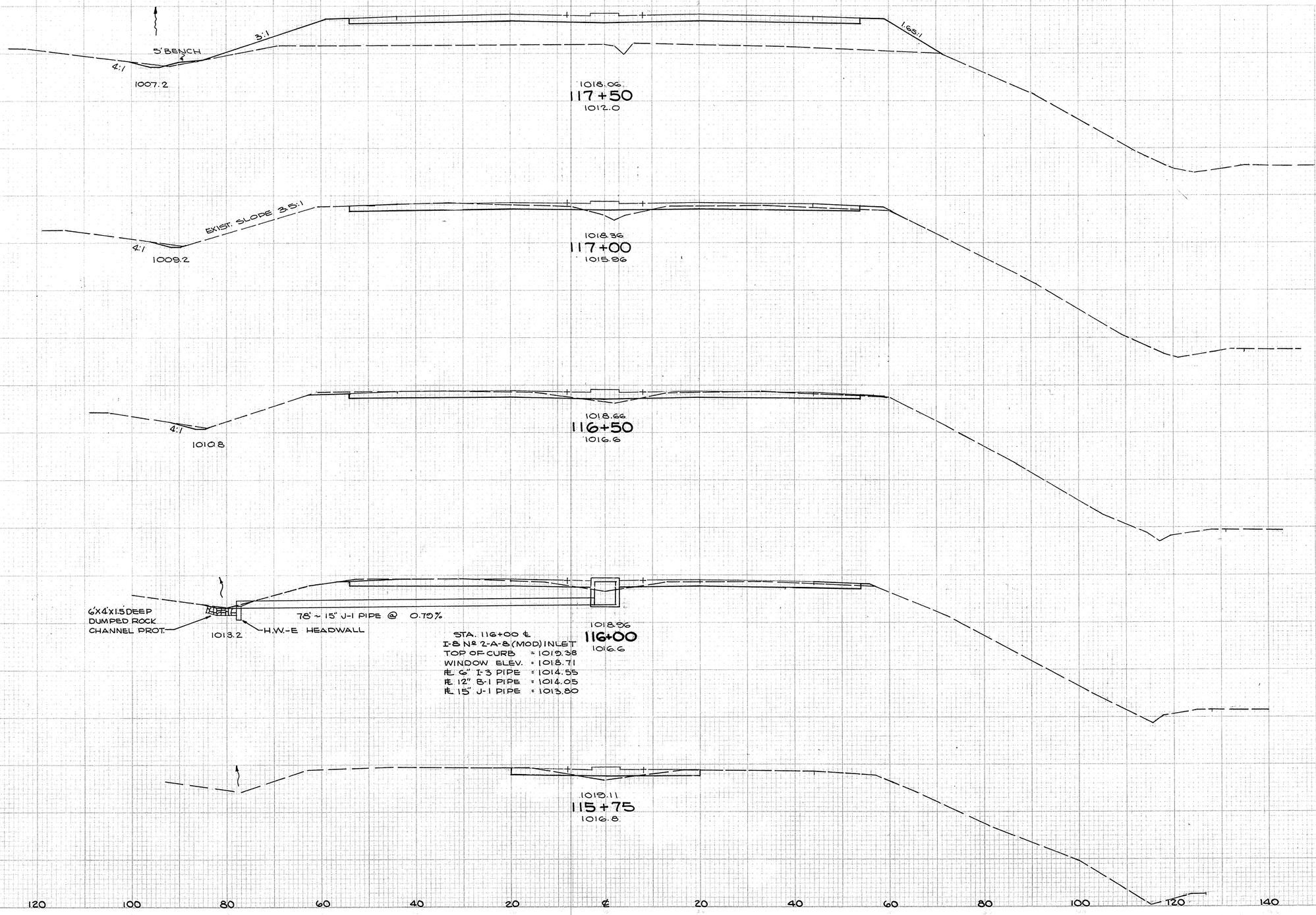
SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W	S.Y.
88	
	422
64	
	356
64	
	356
64	
	80
0	
	0



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
3	699		
		80	663
83	17		
		177	25
108	10		
		199	13
107	4		
		60	4
29	6		
		74	14

STA. 115+75 TO STA. 117+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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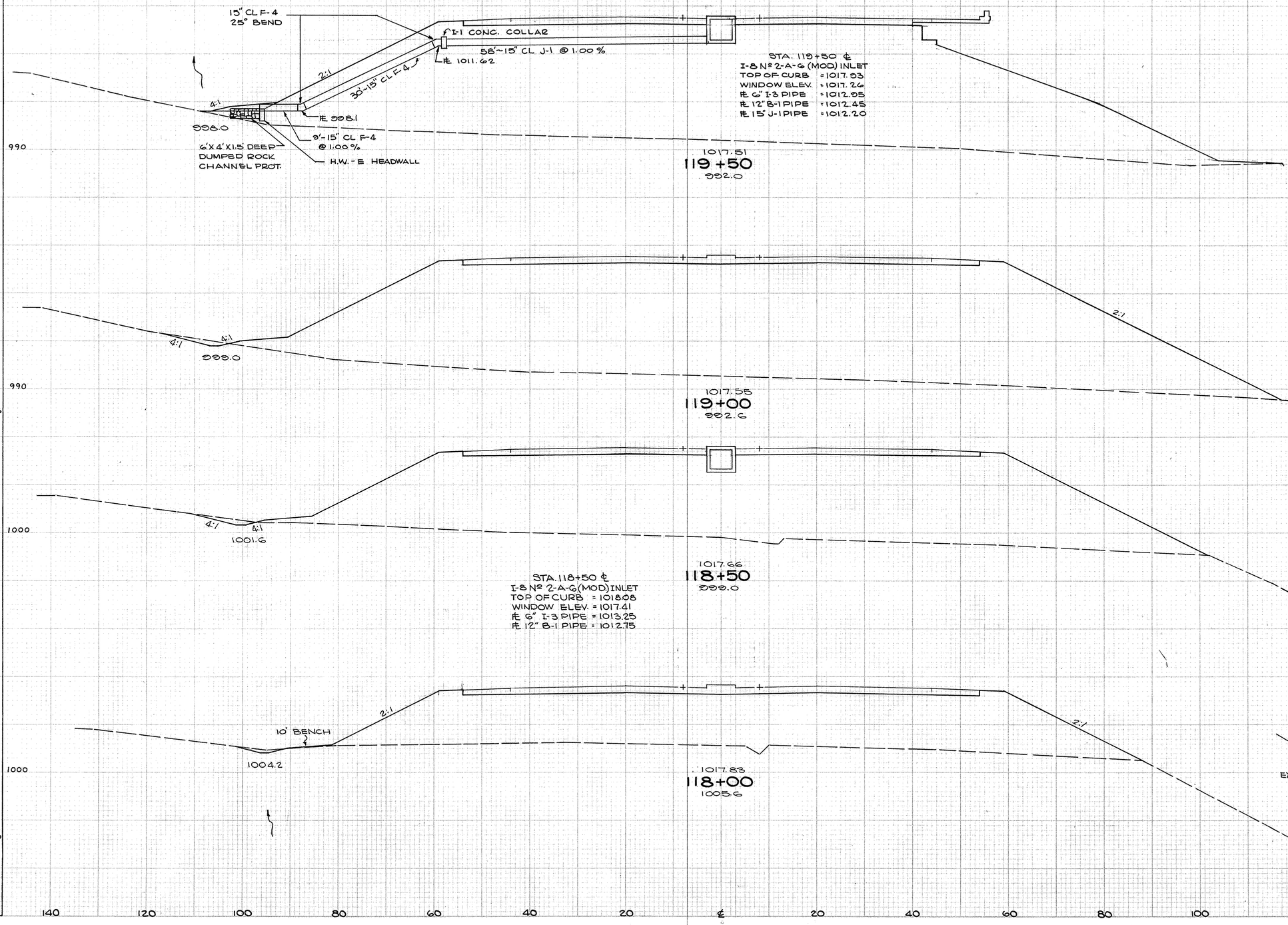
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
149	
	867
163	
	903
152	
756	
110	
	550



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	3568		
		8	6992
9	3983		
		25	6215
18	2720		
		21	4036
5	1630		
		7	2156

STA. 118+00 TO STA. 119+50

1st Run
P.R.S.

FED. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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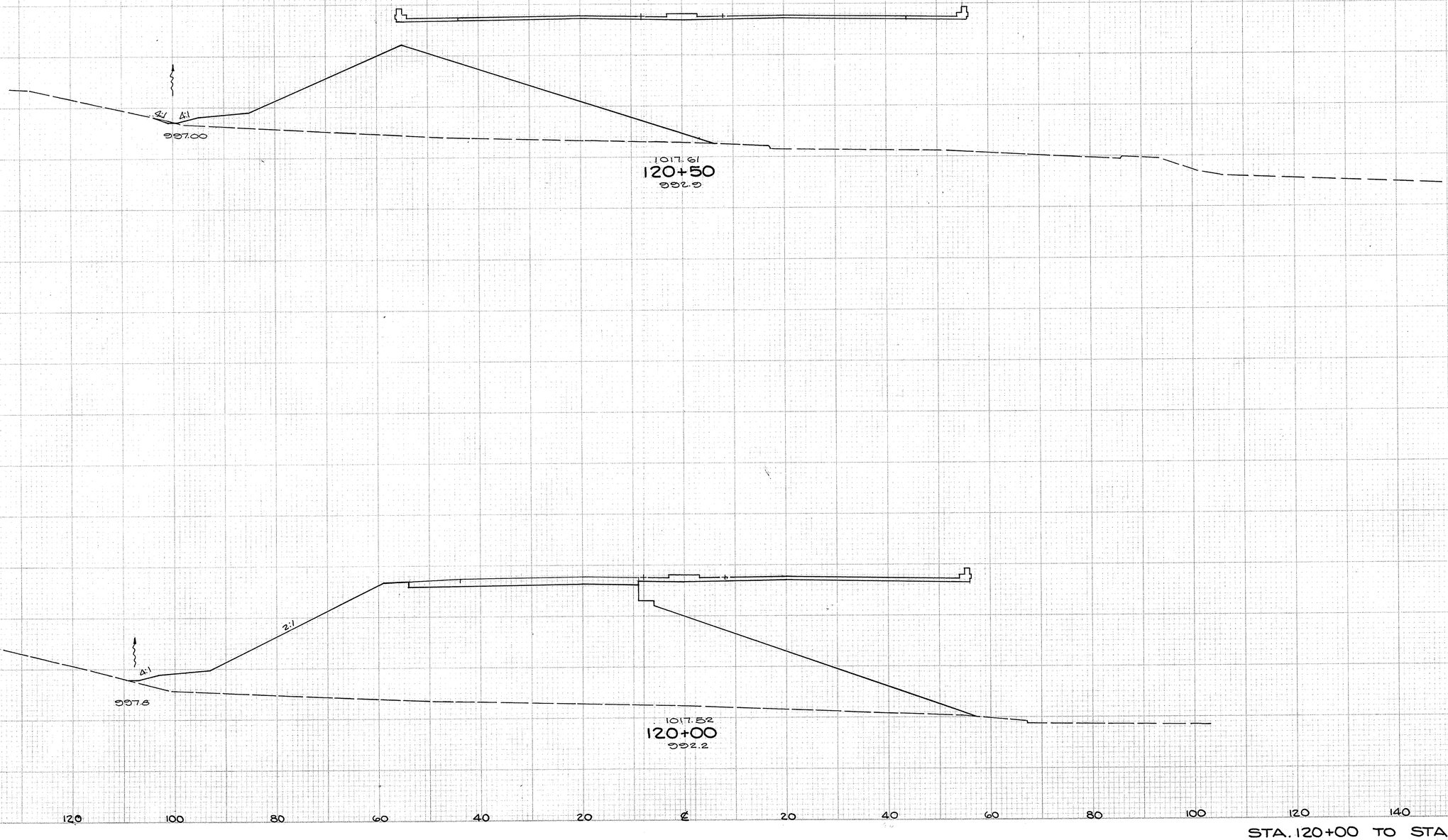
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
57	
	356
70	
	611



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	1 678		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
151	
	706
103	
	556
97	
	360
	522
91	AHD
50	BK.
	300

1000 ADDITIONAL @ BRIDGE CORNERS

1000

1018.38
122+50
988.7

1018.27
122+25
991.0

STA. 122+25 ℄
I-8 Nº 2-A-G (MOD.) INLET
TOP OF CURB = 1018.65
WINDOW ELEV. = 1018.02
℄ 6" I-3 PIPE = 1013.87
℄ 12" B-1 PIPE = 1013.37
℄ 15" B-1 PIPE = 1013.12

I-1 CONC. COLLAR
61'-15" CL. J-1 PIPE @ 1.00%
15" CL. F 4 25° BEND
℄ 1012.51
66'-15" CL. F 4 PIPE
2:1
4:1
981.34
15" CL F 4 25° BEND
℄ 982.88
10'-15" CL. F 4 PIPE @ 1.00%
HW-E HEADWALL
982.78
6'X4'X1.5' DEEP DUMPED ROCK CHANNEL PROT.

BEGIN DITCH STA. 122+23

1018.17
122+00
994.1

1017.95
121+50
995.6

Nº 2-2A
EXIST. 15" PIPE
996.20

1017.75
121+00
993.9

STA 121+00
END FILL LT.
BEGIN FILL RT.

END AREA		CU.YDS.	
CUT	FILL	CUT	FILL
23	4410		
		21	6015
0	3058		
		1	4520
1	1822		
		15	1687
15	0		
		15	628

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 121+00 TO STA. 122+50

1st Run P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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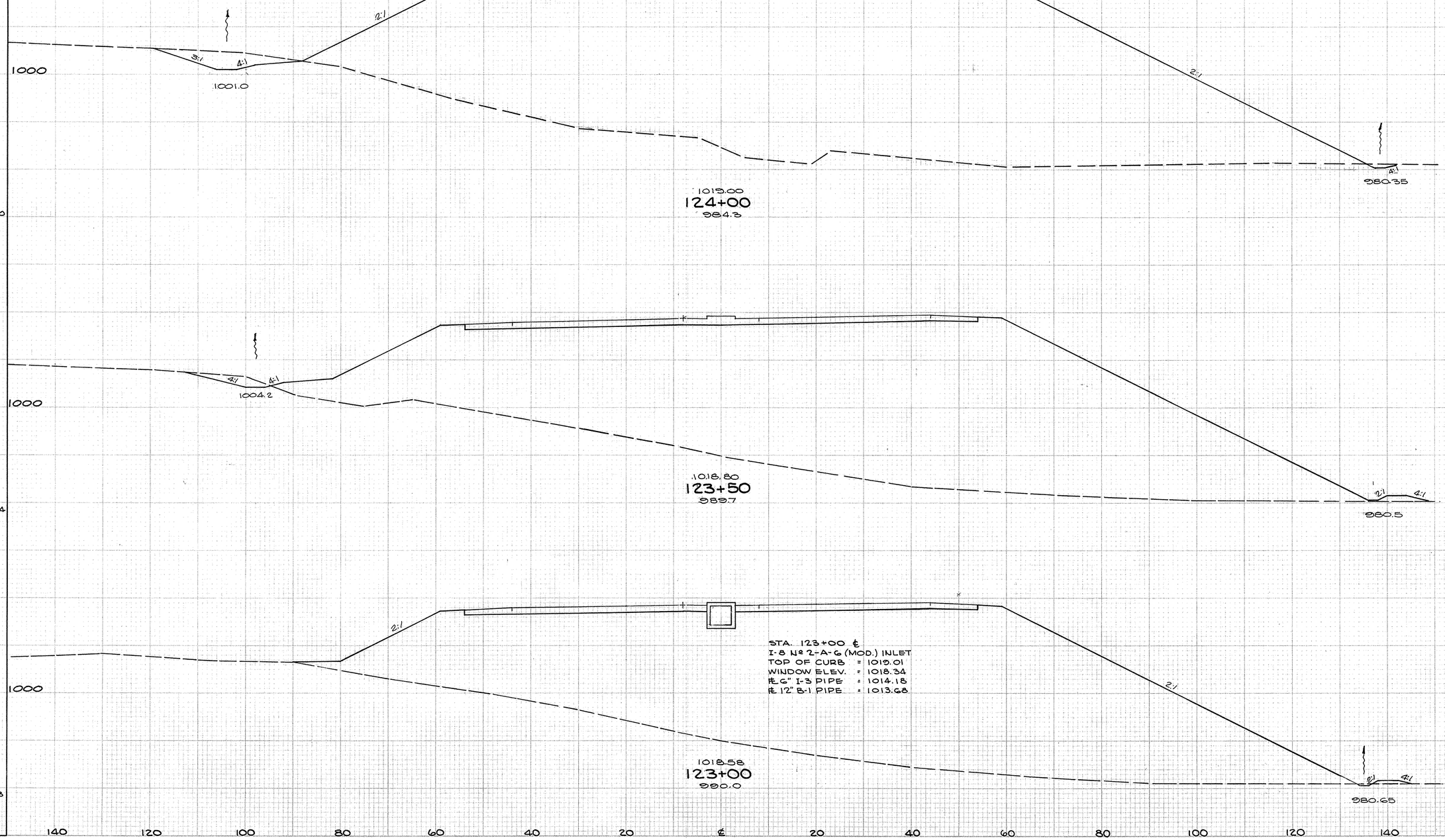
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
185	
	1000
175	
	944
165	
	878



END AREA		CU.YDS	
CUT	FILL	CUT	FILL
62	5538		
		80	9716
24	4955		
		23	8815
1	4673		
		22	8410

STA. 123+00 TO STA. 124+00

1st Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
241	
	1328
236 AHD 210 BK.	
	1128
	1061

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
6	7020		
		29	12673
		25	6673
		36	12855
		14	6346
		70	11004

990
992.0
4:1
4:1
2:1
1019.64
125+50
981.1
2:1
4:1
979.9

990
993.20
3:1
4:1
1019.42
125+00
981.1
2:1
4:1
980.05

I-1 CONC. COLLAR
2:1
38'-15" CL. F-4 PIPE
℄ =1013.50
15"-25° BEND
CL. F-4
56'-15" CL. J-1 PIPE @ 1.00%
SET 6' F 4 @ 1012.60
INV. 996.43
3:1
4:1
995.60
6'x4'x1.5' DEEP
DUMPED ROCK
CHANNEL PROT.
HW-E HEADWALL
15" CL. F-4
25° BEND
℄ 996.51
8'-15" CL. F-4 PIPE
@ 1.00%
990
1019.22
124+50
982.2
STA. 124+50 ℄
I-8 N° 2-A-10 (MOD.) INLET
TOP OF CURB = 1019.64
WINDOW ELEV. = 1018.97
℄ 6" I-3 PIPE = 1014.81
℄ 15" J-1 PIPE = 1014.06
2:1
2:1
2:1
980.20

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 124+50 TO STA. 125+50

1ST. RUN
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
241	
1261	
213	
1200	
2209	W-A RIGHT
218 AHD.	
238 BK.	
1333	

1010

2:1

3:1 4:1

996.50

1020.26
127+00
985.7

2:1

4:1

978.8

6102

1010

994.20

1020.06
126+50
981.9

6526

OUTLET
21" CULVERT

979.6

1010

2:1

3:1 4:1

992.00

1019.85
126+00
981.1

2:1

4:1

979.75

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
	65 6102		
		131	11,893
	77 6526		
		165	12,342
	101 6803		
		99	12,799

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

1ST. RUN PRS.

STA. 126+00 TO STA. 127+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING			END AREA		CU. YDS.	
E.W.	S.Y.		CUT	FILL	CUT	FILL
121	AHD.					
199	BK.					
		990				
	558		75	4380		
					1	
					74	4147
203						
		990				
	1178		84	4578		
					177	8724
221						
		990				
444	W-A LEFT		107	4919		
1244					187	9587
			95	5218		
226						
		990				
2600					206	20,965

1021.21
129+25
992.7

1021.11
129+00
992.1

1020.90
128+50
992.9

1020.69
128+00
991.4

1001.8
1001.5
1000.0
998.3
998.7
988.0
985.7
983.3

2:1
4:1

1st Run
P.R.S.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 128+00 TO STA. 129+25

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(11)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
84	AHD.
76	BK.
	576
64	
	0
94	
	642
120	
1168	ADDITIONAL @ BRIDGE CORNERS
	489
118	
	667

	END AREA		CU.YDS.	
	CUT	FILL	CUT	FILL
	163	1105		
			755	1514
FWD.	388	0		
			278	0
BK.	53	0		
			68	2210
			15	2210
			25	4119
			21	3802
			89	7576

MATCH LINE
3.5:1
999.5
990
1022.22
131+74
995.7
MATCH LINE
MATCH LINE
131+00
FORWARD SECTION
990
MATCH LINE
130+66
BACK SECTION
MATCH LINE
1021.69
130+12
998.1
2:1
4:1
4:1
991.6
MATCH LINE
1021.42
129+75
1005.1
990
2:1
4:1
4:1
990.3
160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 129+75 TO STA. 131+74

1st Run
R.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

60
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
188	2078
185	1157
187	763
125	303

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	1773		
	989.00		
		1845	5300
	1089		
		981	3324
	2116		
		200	3018
	1587		
		149	1206

1020

MATCH LINE 1004.4

4:1

2.5:1

MATCH LINE

260

4:1

1022.04
134+00
1012.3

1020

185

3.5:1

1002.1

2.5:1

736

1022.32
133+00
1014.5

1020

187

3.8:1

1000.9

2.2:1

MATCH LINE

210

1022.32
132+44
1010.0

1020

125

MATCH LINE

3.5:1

999.8

MATCH LINE

1022.28
132+00
1008.9

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

STA. 132+00 TO STA. 134+00

1 St. Run
P. R. S.

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
77	
	450
85	
	511
98	
	1256
128	
	1556
151	
	1889

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
523	52		
		817	154
467	114		
		891	280
455	188		
		1946	1122
556	418		
		1780	3181
405	1305		
		1232	5700

MATCH LINE
43:1
1012.3
1017.88
138+00
1019.2
2.8:1
1004.25
MATCH LINE

1010
1010
1010
1010
1010
1010

43:1
1011.9
1018.67
137+50
1017.4
2.8:1
1002.30

43:1
1011.3
1019.38
137+00
1018.1
2.7:1
1000.30

4.2:1
1008.8
1020.58
136+00
1016.8
72'-15" CL. J-1 PIPE @ 1.00%
STA. 136+00 ℄
I-8 Nº 2-A-G (MOD)
TOP OF CURB = 1021.00
WINDOW ELEV. = 1020.33
℄ 15" J-1 PIPE = 1015.42
℄ 6" I-3 PIPE = 1016.17
15"~22°30' BEND
℄ 1014.71
32'~15" F-4 PIPE
I-1 CONC. COLLAR
2.7:1
6'x4'x1.5' DEEP
DUMPED ROCK
CHANNEL PROT.
996.60
15"~22°30' BEND
℄ = 996.70
10'~15" F-4 PIPE
@ 1.00%
HW-E
HEADWALL

MATCH LINE
4.1:1
1006.51
1021.46
135+00
1014.1
2.7:1
MATCH LINE
992.60

1010
6'
6'x4'x1.5' DEEP
DUMPED ROCK
CHANNEL PROT.
1005.97
℄ = 1006.20
HWE HEADWALL
108' ~ 15" CL. J-1 @ 10.75%
1021.64
134+75
1013.7
STA. 134+75 ℄
I-8 Nº 2-A-G INLET (LT.)
TOP OF CURB = 1022.06
WINDOW ELEV. = 1021.39
℄ 15" J-1 PIPE = 1017.56

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

1st. Run
P.R.S.

STA. 135+00 TO STA. 138+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

62
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
21	
	133
26	
	131
30	
	235
43	
	283
58	
	378

1010

MATCH LINE

1013.02
140+50
1018.3

MATCH LINE

FROM STA. 139+50
72' CL. J-1 @ 0.30%

1014.04
140+00
1020.7

STA. 140+00 (℄)
I-8 Nº 2-A-8 (MOD)
TOP OF CURB = 1014.46
WINDOW ELEV. = 1013.79
℄ 15" J-1 PIPE = 1008.55
℄ 6" I-3 PIPE = 1009.63

4.3:1

1012.0

TO STA. 140+00

STA. 139+50 (54' LT. ℄)
I-8 Nº 6 C.B.
TOP OF CURB = 1012.85
GRATE ELEV = 1012.35
℄ 15" J-1 PIPE = 1008.77
℄ 6" I-3 PIPE = 1009.52

3.4:1

1010.8

1014.89
139+58.42
1020.4

2.8:1

1008.0

1016.07
139+00
1020.1

MATCH LINE

4:1

1012.6

MATCH LINE

2.8:1

1006.2

1017.01
138+50
1019.6

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
765	0		
		1413	0
757	0		
		1200	0
801	0		
		1700	0
770	0		
		1418	0
761	0		
		1189	48

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

STA. 138+50 TO STA. 140+50

1 ST. Run
P. R. S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

63
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
0	0
0	0
0	28
0	89

1010

MATCH LINE

1007.92
143+00
1018.1

1010

1008.94
142+50
1018.4

1010

1009.96
142+00
1018.8

1010

1010.98
141+50
1019.3

1010

MATCH LINE

1012.00
141+00
1019.3

MATCH LINE

END AREA		CU.YDS.	
CUT	FILL	CUT	FILL
1160	0		
		2069	0
1074	0		
		1936	0
1017	0		
		1821	0
950	0		
		1675	0
859	0		
		1507	0

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

STA. 141+00 TO STA. 143+00

1st. Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

64
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
58	
	306
52	
	289
52	
	373
58	
	126

END AREA		CU.YDS.	
CUT	FILL	CUT	FILL
2353	0		
		4536	0
2546	0		
		4558	0
2377	0		
		4896	0
AHD. 2019	0		
BK. 1057	0		
		1586	0

℄ FRITCH AVE. EXT.

1010

2:1

3:1

MATCH LINE

℄ RELOC. BRENNEMAN BLVD.

1003.84
145+00
1015.4

1010

2:1

2:1

1004.86
144+50
1017.0

℄ FRITCH AVE. EXT.

1010

2:1

MATCH LINE

1005.88
144+00
1018.1

FULL SECT. AHD.

1010

2:1

MATCH LINE BK.

MATCH LINE BACK

MATCH LINE AHD.

BEGIN TAPER

3:1

℄ RELOC. BRENNEMAN BLVD.

66'~15" J-1 PIPE @ 0.50%

58'~15" CL. J-1 @ 4.73%

RAMP "A" STA. 0+00 (8' RT.)
I-8 Nº 2A-14 INLET
TOP OF CURB = 1004.69
WINDOW ELEV. = 1004.02
℄ 15" J-1 PIPE = 1000.61
℄ 6" I-3 PIPE = 1001.81

1007.13
143+38.63
1018.0

STA. 143+50 (℄)
I-8 Nº 2-A-10 (MOD)
TOP OF CURB = 1007.32
WINDOW ELEV = 1006.65
℄ 15" J-1 PIPE = 1000.28
℄ 21" J-1 PIPE = 999.78
℄ 6" I-3 PIPE = 1003.82

RAMP "B" STA. 11+85 (14' LT. ℄)
I-8 Nº 6 CATCH BASIN
TOP OF CURB = 1009.65
GRATE ELEV. = 1009.15
℄ 15" J-1 PIPE = 1003.03
℄ 6" I-3 PIPE = 1006.00

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

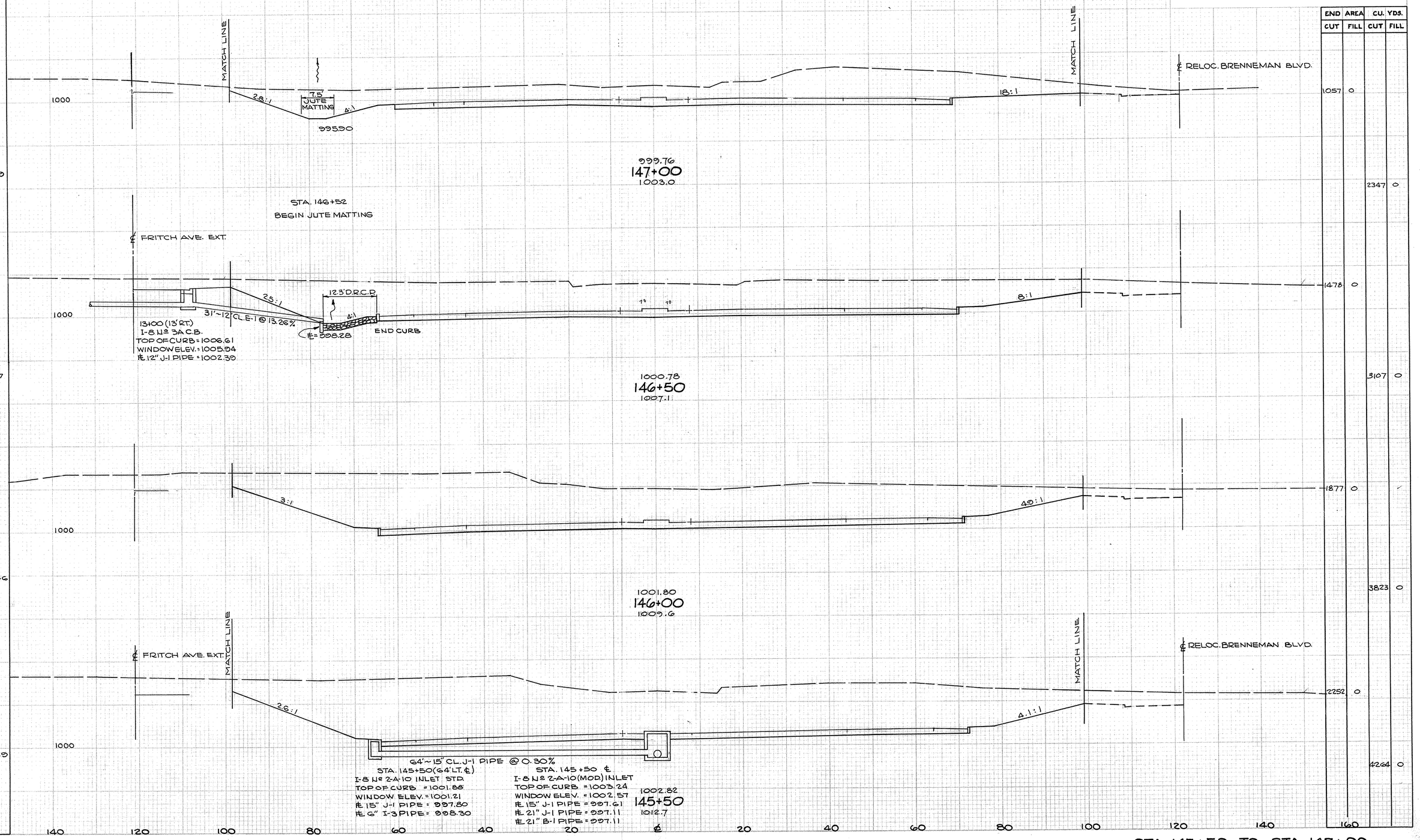
STA. 143+38.63 TO STA. 145+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 12.4	

65
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W	S.Y.
71	
	339
50	
	317
63	
	356
64	
	339



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
1057	0		
		2347	0
1478	0		
		3107	0
1877	0		
		3823	0
2252	0		
		4264	0

STA. 145+50 TO STA. 147+00

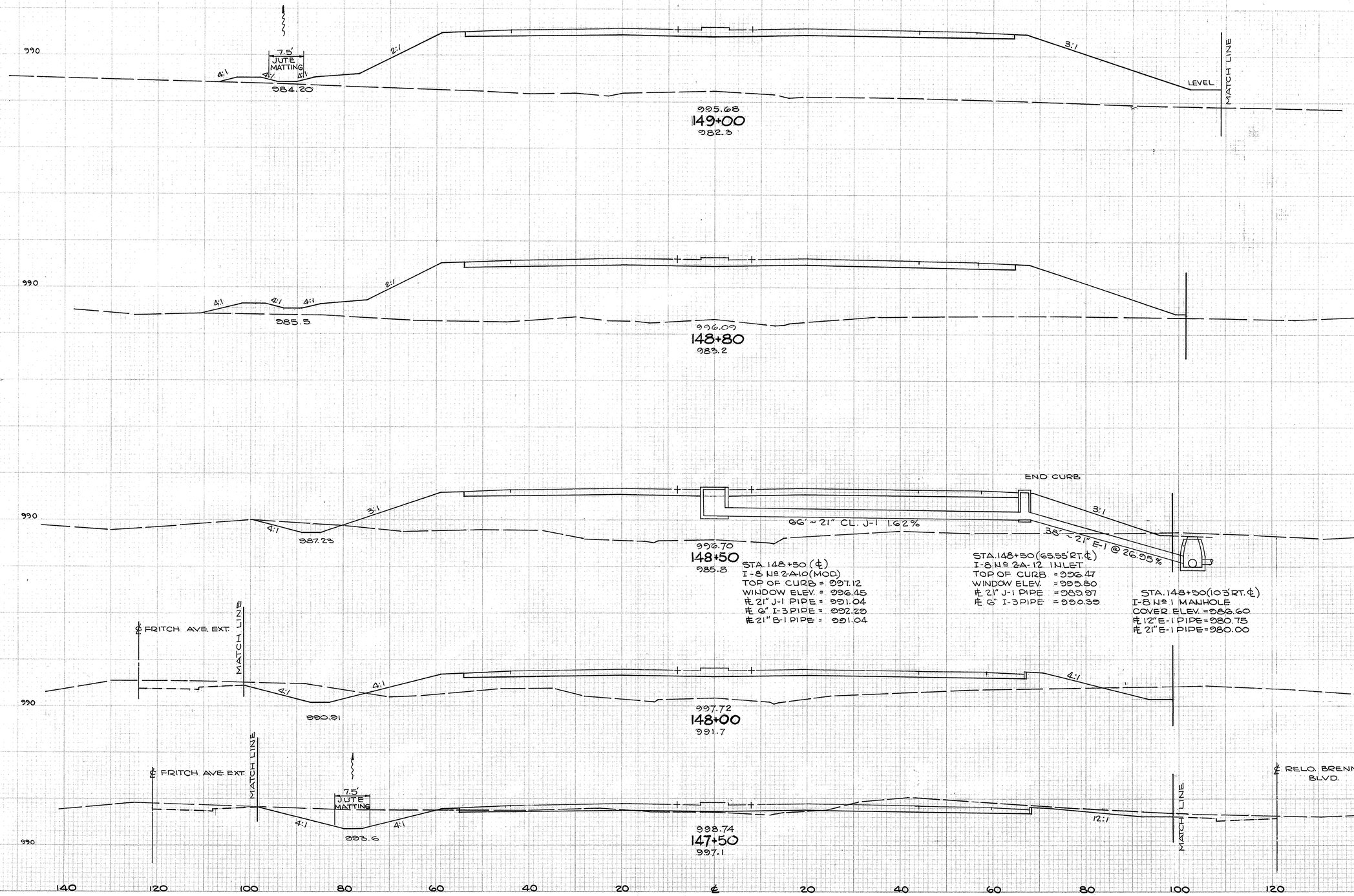
1 St. Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

66
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
111	
	231
96	
	300
84	
	461
81	
	433
75	
	406



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	2154		
		0	1488
0	1863		
		17	1766
30	1316		
		110	1757
89	581		
		284	552
218	15		
		118	14

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

1st Run
P.R.S.

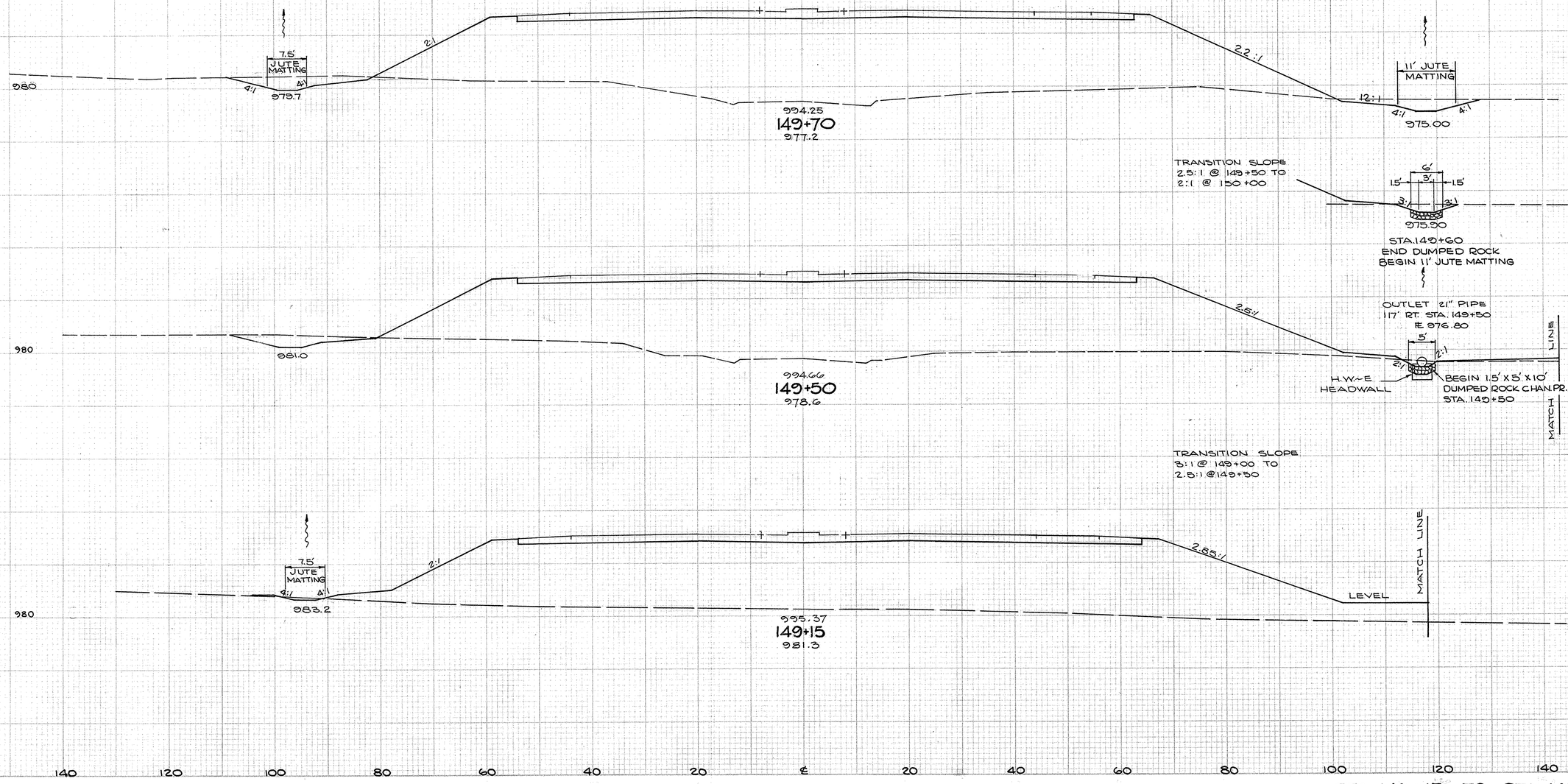
STA. 147+50 TO STA. 149+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

67
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
150	
	338
153	
	521
114	
	188



END AREA		CU. YDS	
CUT	FILL	CUT	FILL
80	2128		
		4.4	1568
40	2106		
		28	2767
4	2163		
		1	1199

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

STA. 149+15 TO STA. 149+70

1st. Run.
P.R.S.

ZERO PEAT SECTION

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
195	
	1125
186	
181	1022
169	972
	533

980
15" CL. F-4 25° BEND
℄ 969.20
℄ 969.12
75' JUTE MATTING
4:1
4:1
969.0
6'x 4'x 1.5' DEEP DUMPED ROCK CHANNEL PROT.
8'~15" CL F-4 PIPE @ 1.00%
HW-E HEADWALL
36'~15" CL. F-4 PIPE
2:1
I-1 CONC. COLLAR
60'~15" CL. J-1 PIPE @ 1.00%
15" CL. F-4 25° BEND
℄ 984.76
2:1
11' JUTE MATTING
4:1
4:1
966.30

STA. 151+53 ℄
I-8 No 2-A-10 (MOD.)
TOP OF CURB = 990.94
WINDOW ELEV. = 990.27
℄ 15" J-1 PIPE = 985.36
℄ 6" I-3 PIPE = 986.11

990.51
151+53
968.5

980
971.7
3196
991.60
151+00
971.2
90'
968.00

980
974.6
2812
992.62
150+50
972.9
970.00

980
4:1
4:1
977.9
75' JUTE MATTING
2:1
993.64
150+00
975.5
2:1
11' JUTE MATTING
4:1
4:1
973.00

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
25	3558		
		81	6629
57	3196		
97	5563		
48	2812		
122	4770		
84	2339		
91	2482		

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 150+00 TO STA. 151+53

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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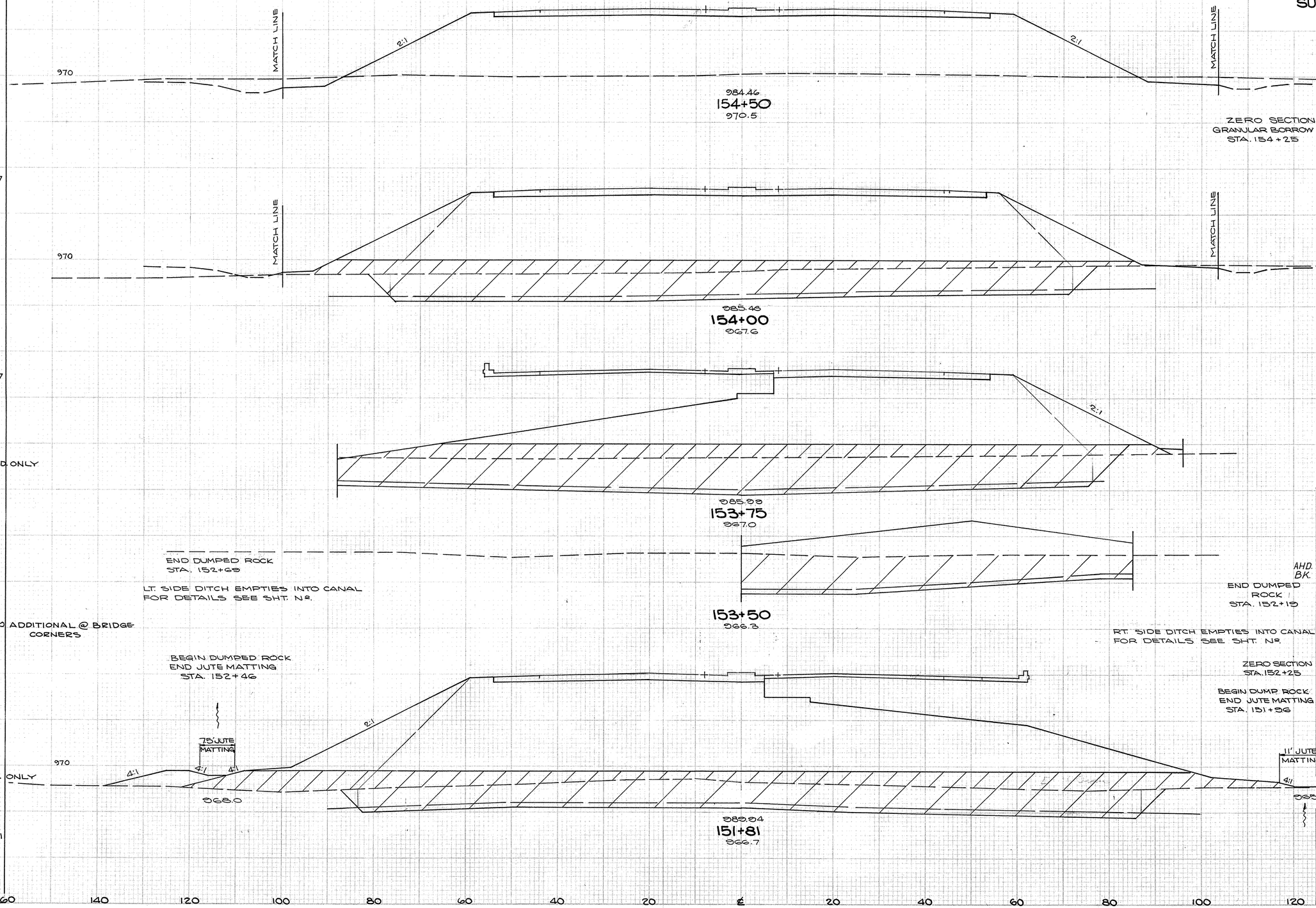
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING E.W.	SEEDING S.Y.
103	
	577
108	
	267
87 AHD. ONLY	
1280 ADDITIONAL @ BRIDGE CORNERS	
184 BK. ONLY	
	591



GRANULAR BORROW INCLUDING EXCAVATION END AREA	GRANULAR BORROW INCLUDING EXCAVATION CU. YDS	GRANULAR BORROW AS PER PLAN END AREA	GRANULAR BORROW AS PER PLAN CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
				42	1890		
0							
	419	181				42	3658
905		390		3	2060		
	965		377			1	1611
1180		425		0	1420		
	808		197			0	845

STA. 151+81 TO STA. 154+50

FED. HIS. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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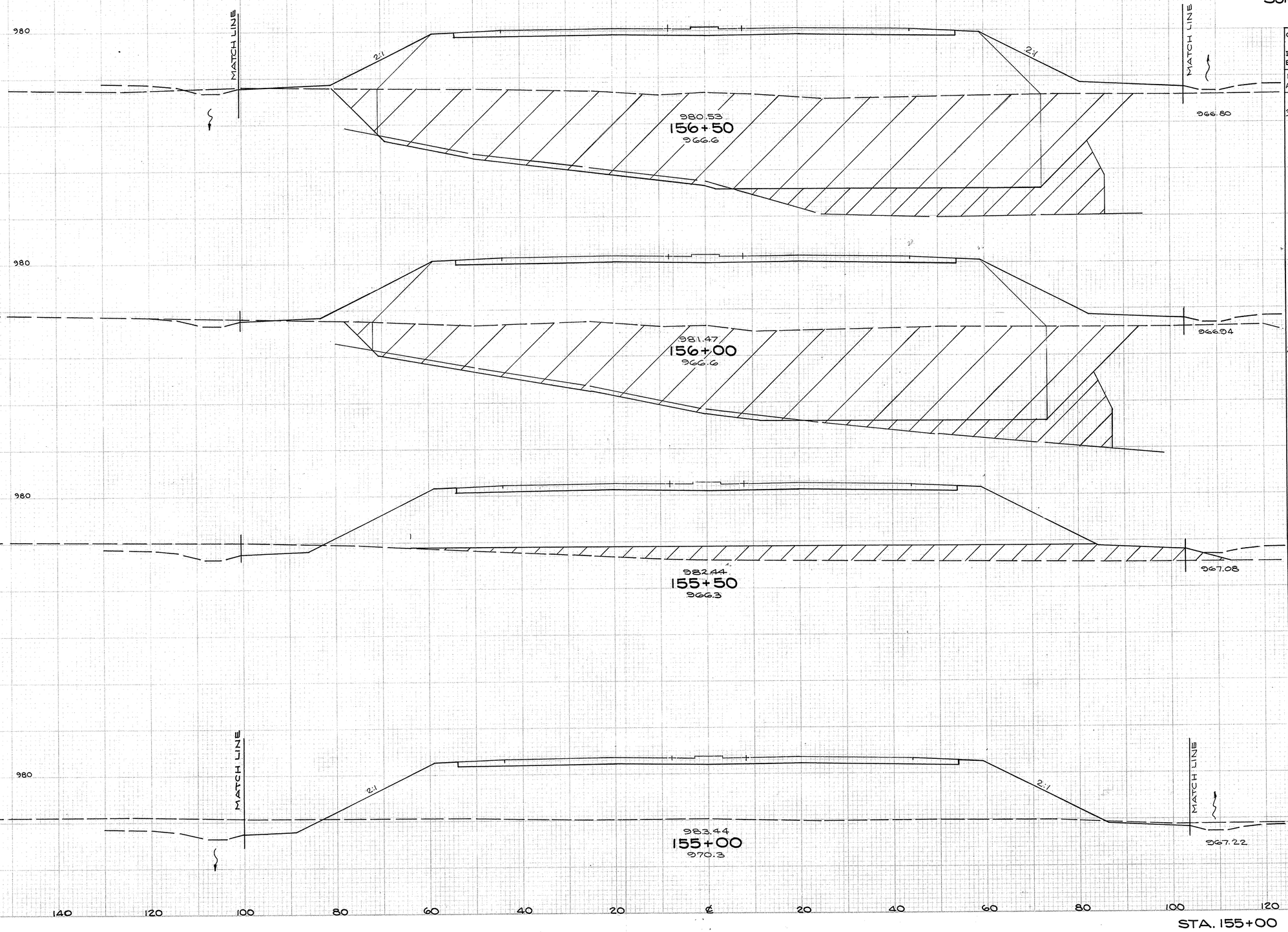
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
101	
	561
100	
	561
102	
	566
101	
	566



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
				1	0		
3280		1815					
	5713		3583			2	0
2890		2055		1	0		
	2676		2315			29	1602
0		445					
						30	1730
		412					
						70	3190
						46	1715
						82	3338

STA. 155+00 TO STA. 156+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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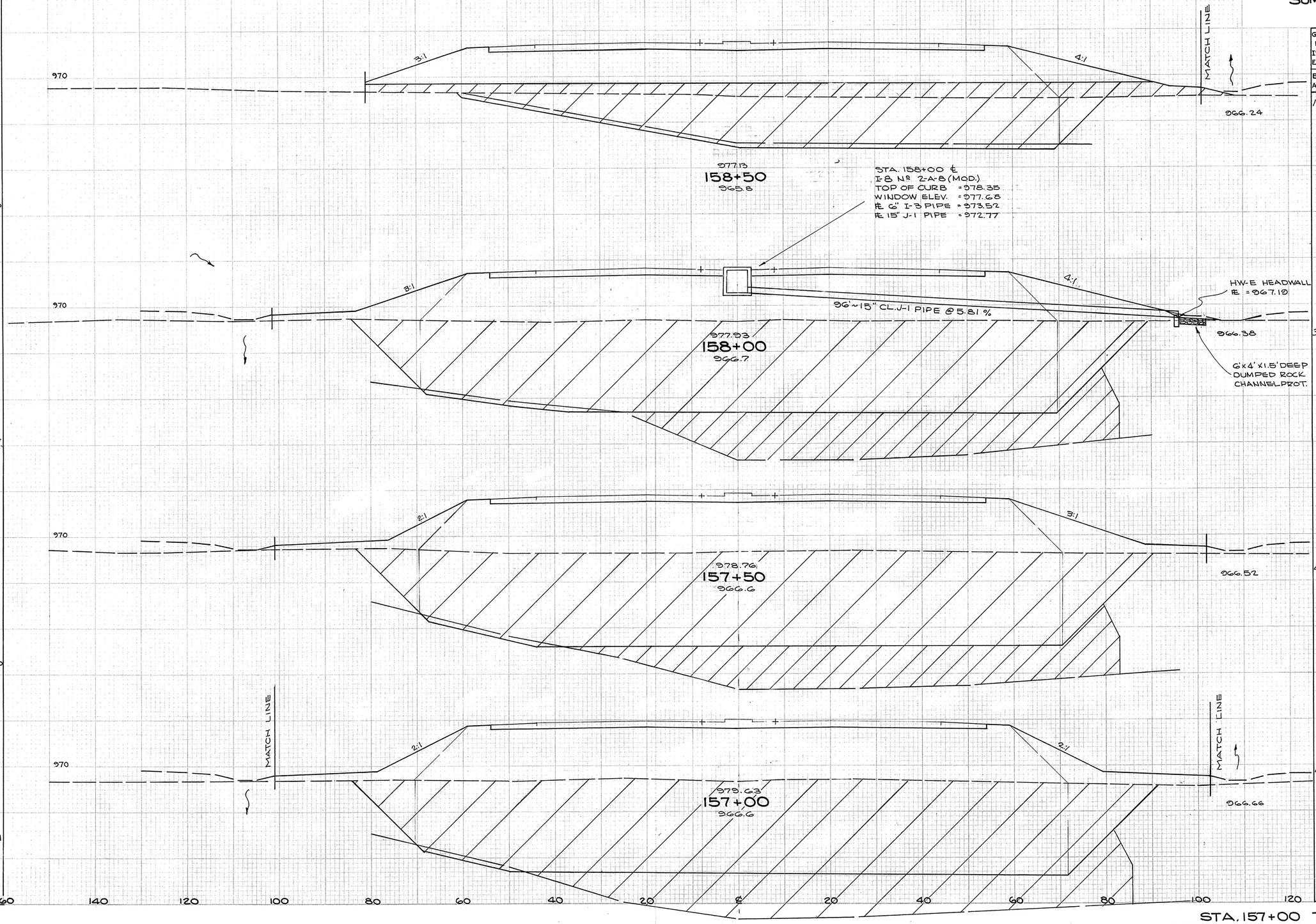
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
76	
	483
98	
	544
98	
	550
100	
	561



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
1190		485		0	1085		
	4685		1912			0	1005
3870		1580		0	0		
	7333		2944			0	0
4050		1600		0	0		
	7570		3023			0	0
4125		1665		0	0		
	6857		3222			1	0

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 157+00 TO STA. 158+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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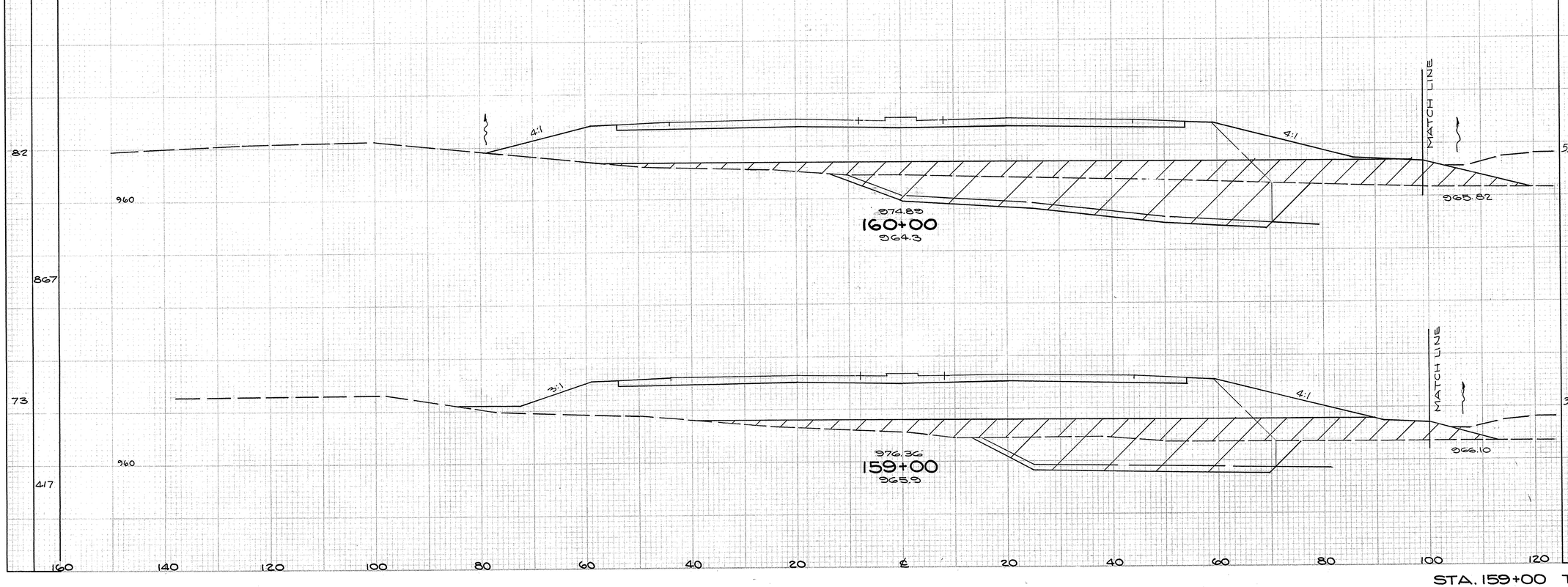
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
867	
417	

GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
				530	505	0	940
				1546	1750	0	3556
				305	440	0	980
				1384	856	0	1912



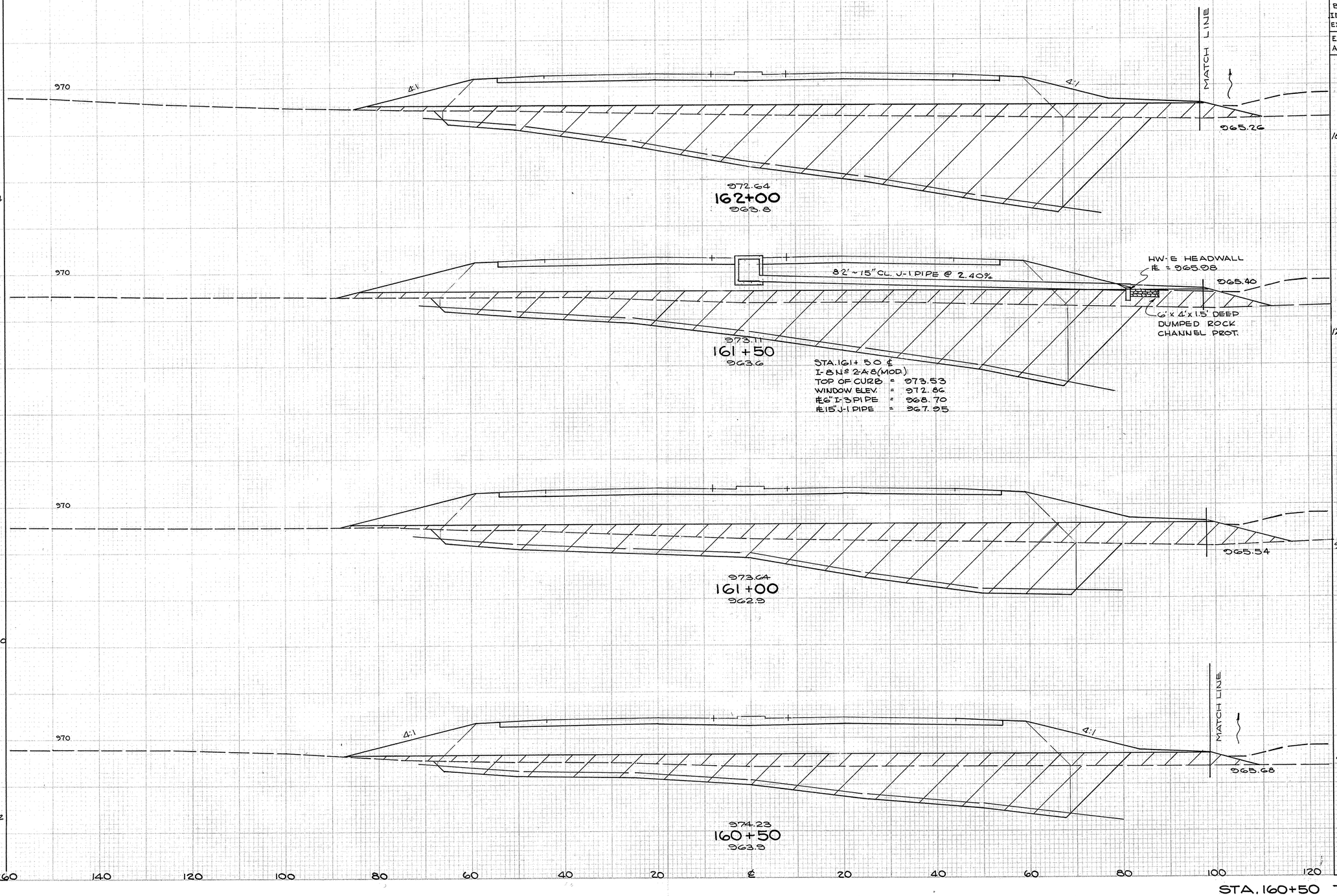
STA. 159+00 TO STA. 160+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

73
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
86	
	404
92	
	511
92	
	500
87	
	472



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
1640		370		0	775		
	2718		778.			0	1495
1295		470		0	840		
	2065		991			0	1657
935		600		0	950		
	1569		968			0	1759
760		445		0	950		
	1194		880			0	1750

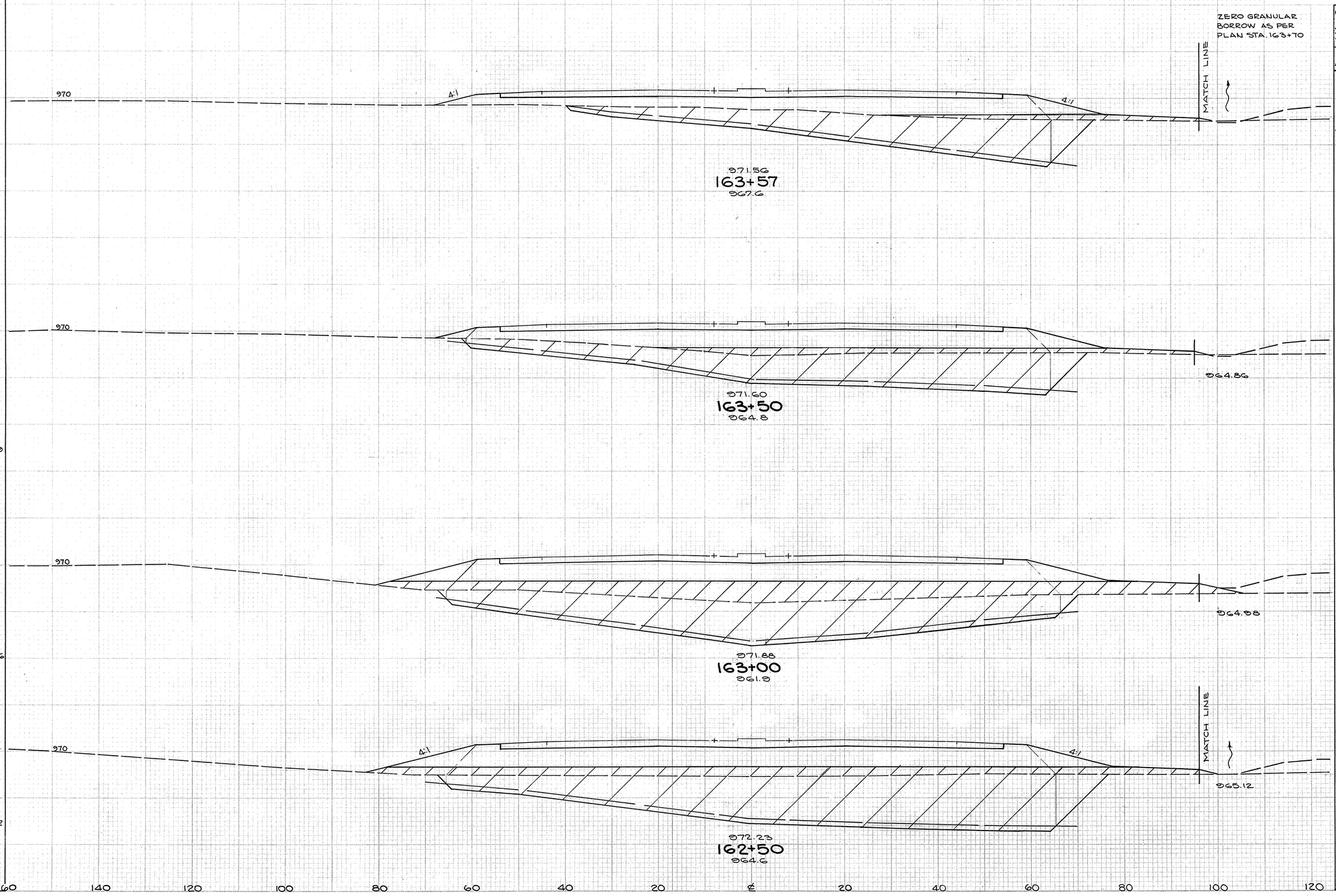
STA. 160+50 TO STA. 162+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

74
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
	61
	439
	456
	472



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
			12				
570		50		0	355		
	171		22			0	98
750		120		0	400		
	1528		606			0	898
900		535		0	570		
	1949		782			0	1083
1205		310		0	600		
	2634		630			0	1273

STA. 162+50 TO STA. 163+57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

75
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING E.W.	SEEDING S.Y.
78	
	433
78	
	191
78	
	43
78	
	171

970 — 4:1 — 4:1 — MATCH LINE — 964.60

971.22
164+50
964.6

STA. 164+25 (℄)
I-8 N° 2A-6(MOD.)
TOP OF CURB = 971.71
WINDOW ELEV. = 971.04
℄ 12" J-1 PIPE = 967.63

971.29
164+25

970 — 964.72

971.38
164+00
963.4

ZERO GRANULAR BORROW AS PER PLAN STA. 163+80

970 — 964.75

971.46
163+78
963.8

970 — 4:1 — 4:1 — MATCH LINE — 964.78

971.43
163+73
967.5

GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
690		181		0	455		
	1154		506			0	921
556		365		0	540		
	480		135			12	434
621		0		30	525		
	120		0			6	86
675		0		30	405		
	369		0			9	225

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 163+73 TO STA. 164+50

PED RG DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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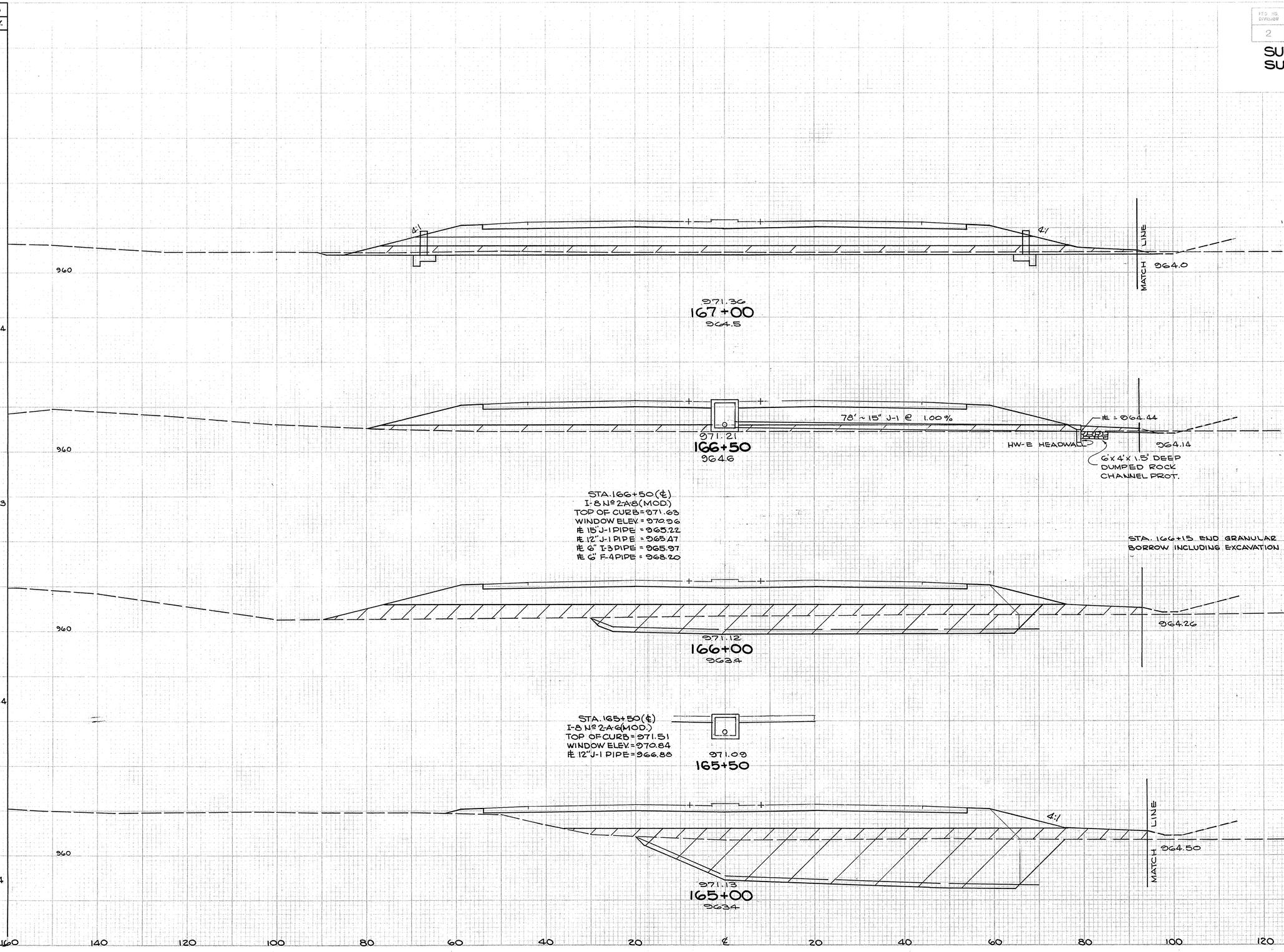
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
91	
	494
86	
	483
87	
	944
82	
	444



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
0		216		0	560		
			397			0	1028
0		213		0	550		
106		622				0	1005
380		459		0	535		
2195		1360				0	1769
805		275		0	420		
1384		422				0	810

STA. 165+00 TO STA. 167+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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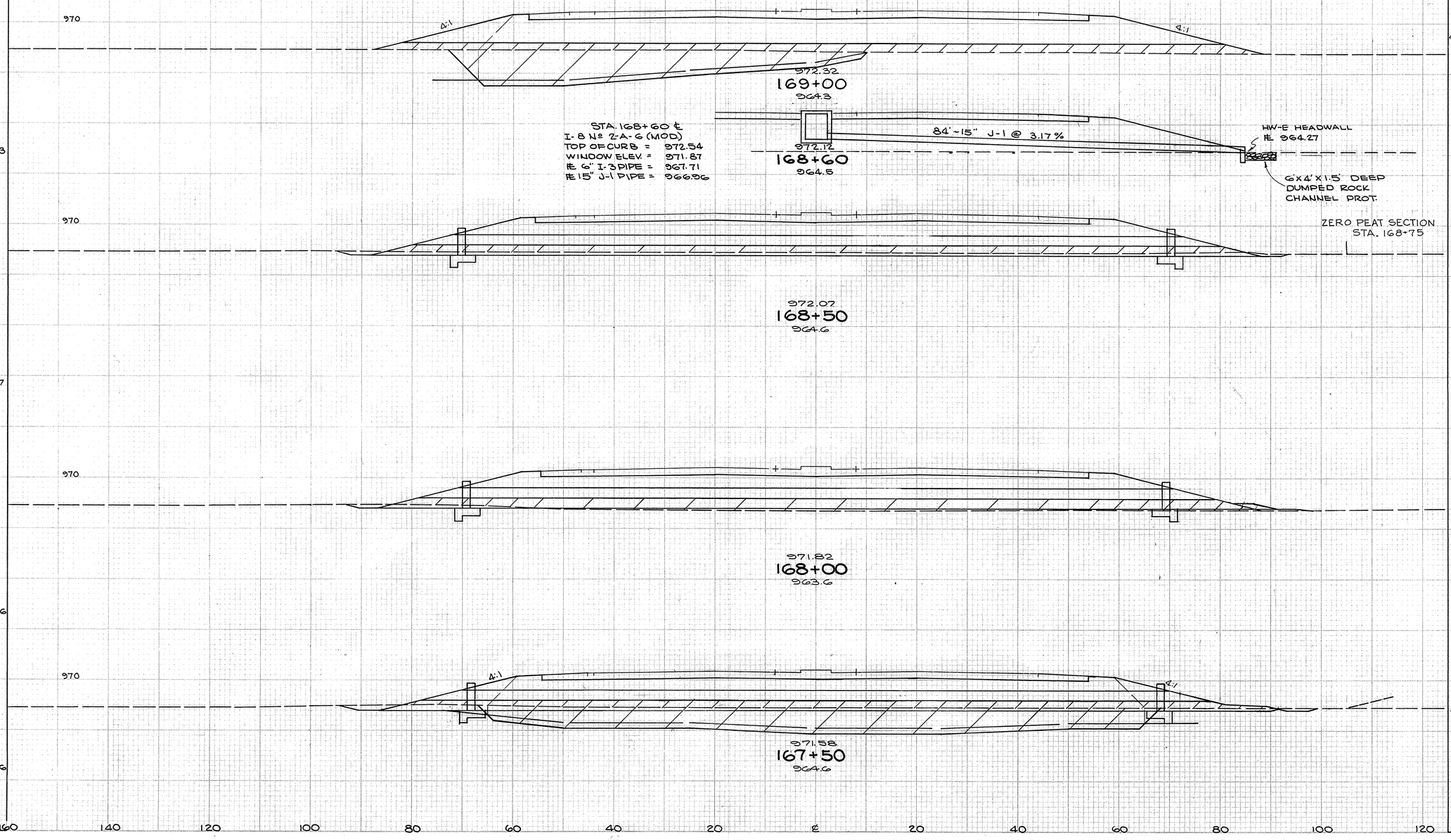
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
116	
	633
112	
617	
109	
606	
109	
556	



	GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
	END AREA	CU. YDS	END AREA	CU. YDS.	CUT	FILL	CUT	FILL
ZERO PEAT SECTION STA. 169+25	0		0					
		195		106				
	420		230		0	755		
		195		431			7	1421
ZERO PEAT SECTION STA. 168+75	0		235		8	780		
				546			12	1310
	0		355		5	635		
		542		528			16	1144
	585		215		12	600		
		542		399			11	1074

STA. 167+50 TO STA. 169+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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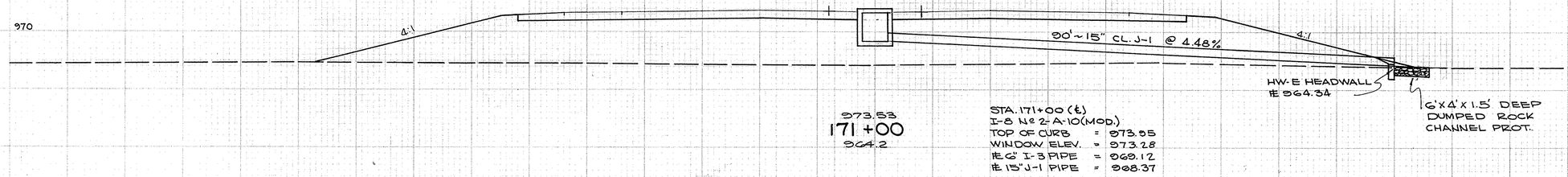
383

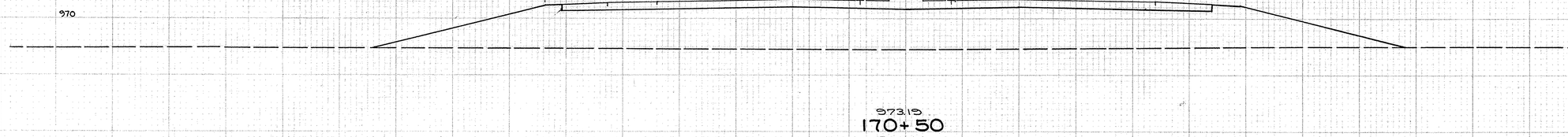
SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
116	
	650
117	
	650
119	
	661
119	
	650

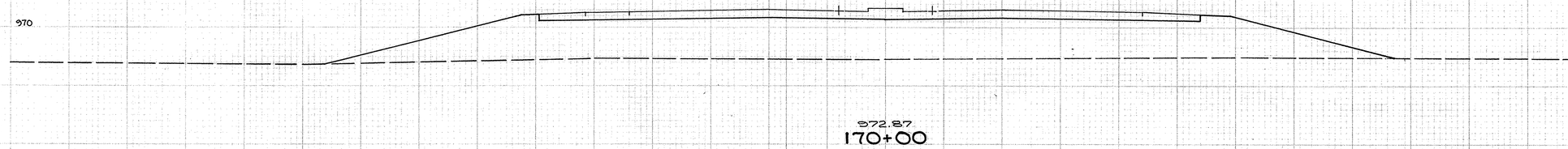


973.53
171+00
964.2

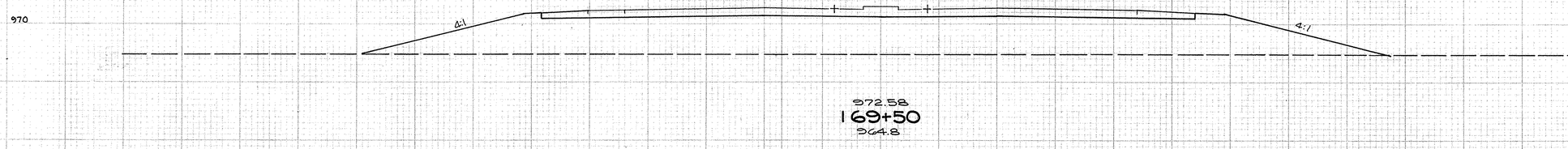
STA. 171+00 (℄)
I-8 № 2-A-10(MOD.)
TOP OF CURB = 973.55
WINDOW ELEV. = 973.28
℄ 6' I-3 PIPE = 968.12
℄ 15" J-1 PIPE = 968.37



973.19
170+50
964.7



972.87
170+00
964.6



972.58
169+50
964.8

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1245		
		0	2176
0	1105		
0	1926		
0	575		
0	1792		
0	960		
0	1588		

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

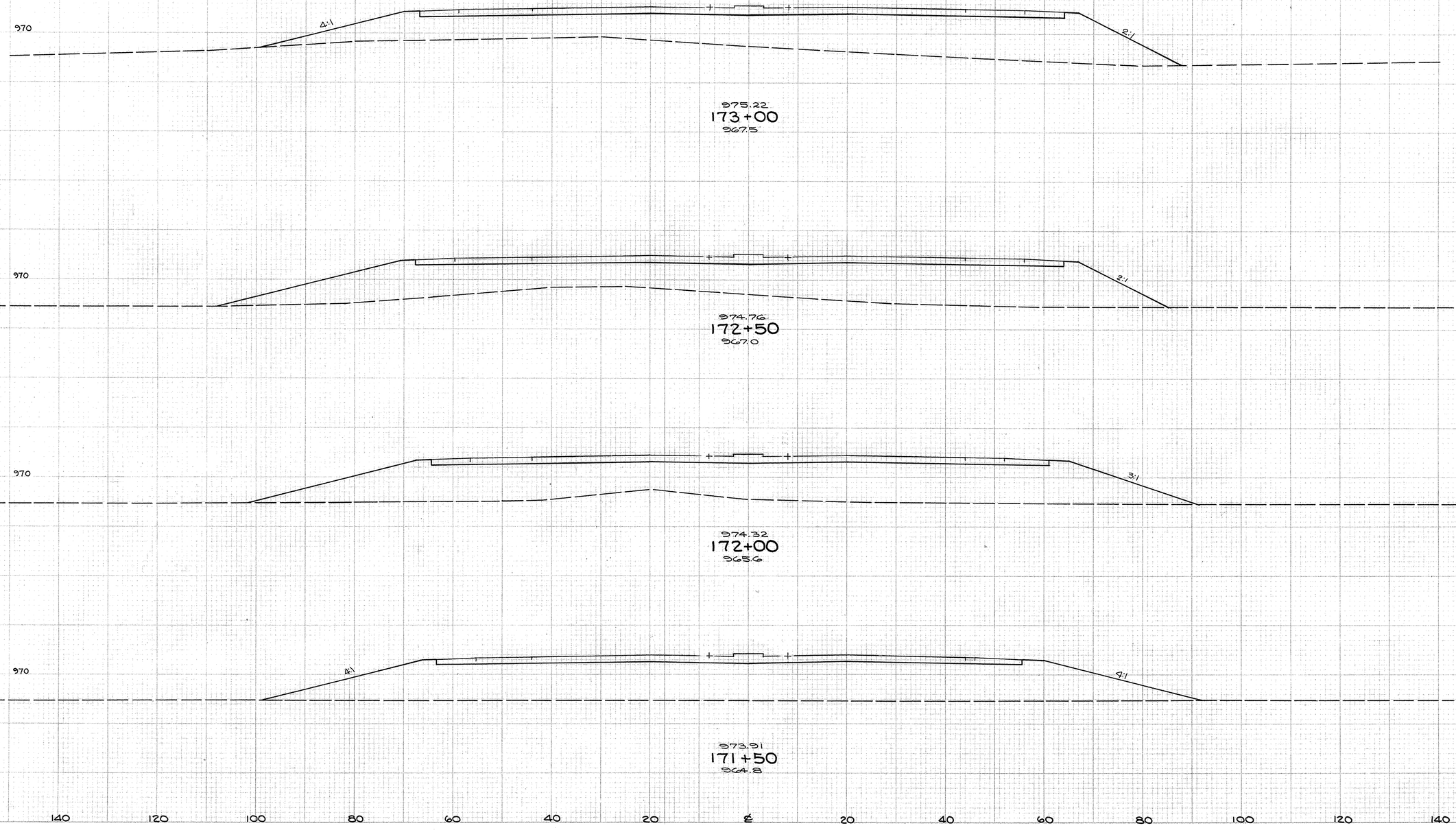
STA. 169+50 TO STA. 171+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

79
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING		END AREA		CU. YDS.	
E.W.	S.Y.	CUT	FILL	CUT	FILL
113		0	1100		
	622			0	2088
111		0	1155		
	622			0	2227
112		0	1250		
	639			0	2306
118		0	1240		
	650			0	2301



STA. 171+50 TO STA. 173+00

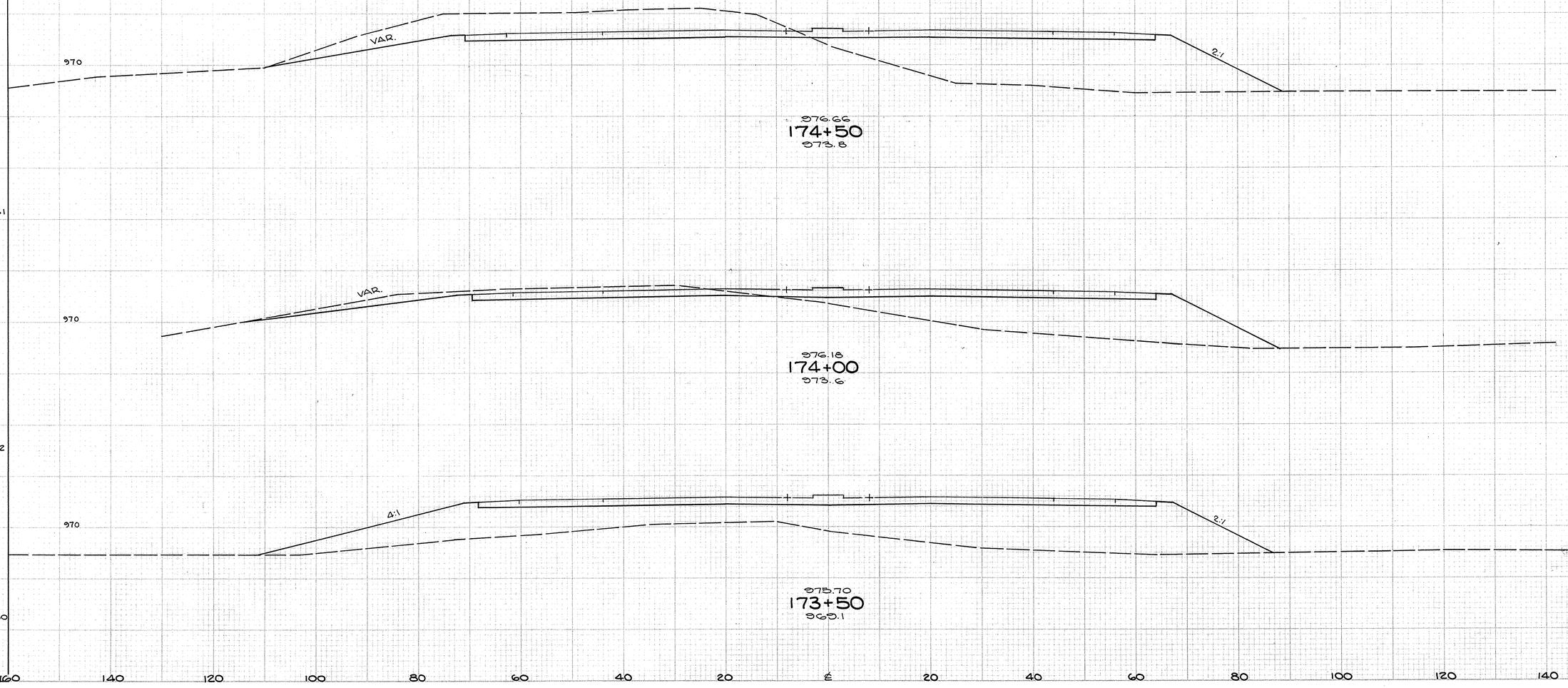
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

80
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
118	661
120	672
121	650

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
400	625		
481	1037		
120	495		
111	1468		
0	1090		
0	2028		



STA. 173+50 TO STA. 174+50

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

81
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
EW	S.Y.
105	
	567
38	
583	
111	
617	
111	
639	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1805		
		83	2505
90	900		
394	1431		
335	645		
1120	898		
875	325		
1181	880		

960

3:1

2:1

978.58
176+50
966.6

960

4:1

978.10
176+00
968.9

960

977.62 88'-15" CL. J-1 PIPE @ 7.57%

6'x 4'x 1.5' DEEP DUMPED ROCK CHANNEL PROT.

HW-E HEADWALL
INV. = 965.80

977.62
175+50
981.9

STA. 175+50 ℄
I-8 NO.2-A-8(MOD.)
TOP OF CURB = 978.04
WINDOW ELEV. = 977.37
℄ 6"I-3 PIPE = 973.13
℄ 15" J-1 PIPE = 972.46

960

4:1

974.67

2:1

977.14
175+00
978.8

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 175+00 TO STA. 176+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
0	0
0	0
0	0
0	0
0 AHD 100 BK.	0
0	504

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1245		
		0	2130
0	1065		
		0	2074
0	1175		
		0	2413
AHD 0 BK. 0	1160 2070		
		0	3172

RAMP "C-1"

MATCH LINE

MATCH LINE

SEE RAMP "D-2"

960

380.50
178+50
967.8

SEE RAMP "D-2"

960

380.02
178+00
968.2

SEE RAMP "D-2"

960

MATCH LINE AHEAD

MATCH LINE AHEAD

379.54
177+50
965.8

FULL SECT. BACK

FULL SECT. BACK

2:1

44"-15" J-1 PIPE @ 10.02 %

12+68.40
RAMP "C-1"

SEE RAMP "D-2"
STA. 0+19

2:1

6'x 4'x 1.5' DEEP
DUMPED ROCK
CHANNEL PROT.

H.W.E
HEADWALL
℄=969.30

960

STA. 176+97 (54' LT.)
I-8 NO. 6 CATCH BASIN
TOP OF GRATE = 978.65
℄ 6" J-3 PIPE = 974.46
℄ 15" J-1 PIPE = 973.71

379.00
176+94.20
966.0

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 176+94.20 TO STA. 178+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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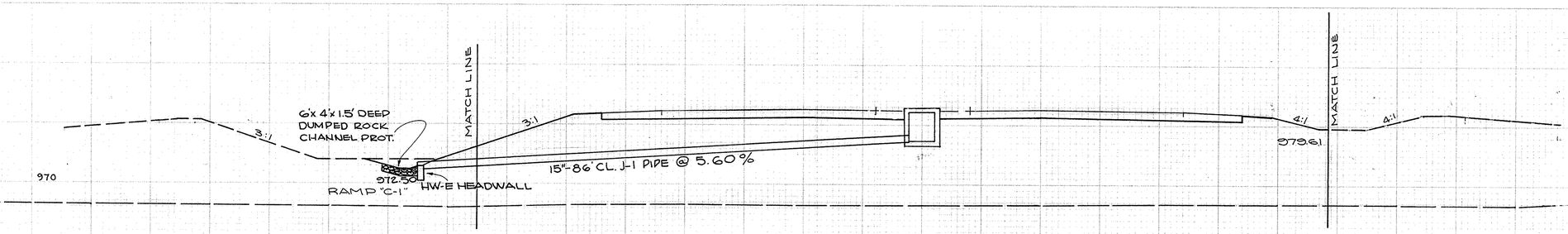
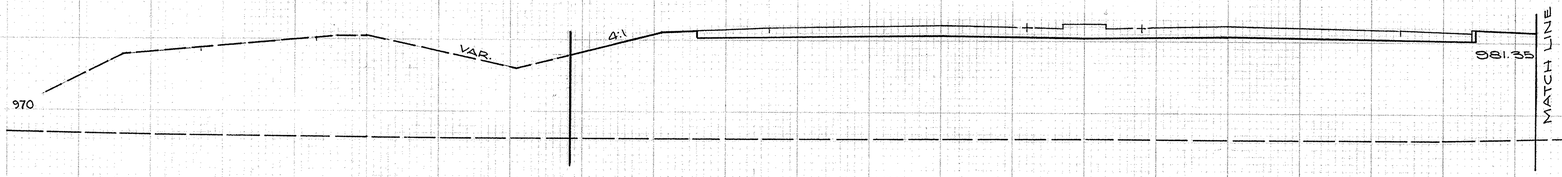
SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
35	
	172
27	
	147
14	
	53
11	
	33

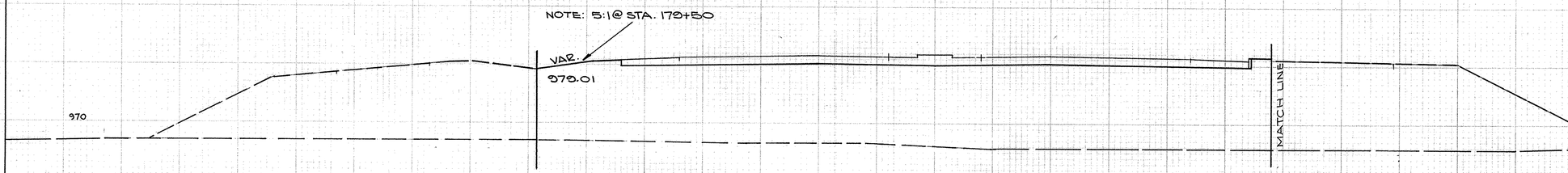


STA. 180+50 ℄
I-8 N⁰ 2-A-8(MOD.)
TOP OF CURB = 982.84
WINDOW ELEV. = 982.17
℄ 6" I-3 PIPE = 977.93
℄ 15" J-1 PIPE = 977.26

982.42
180+50
966.5

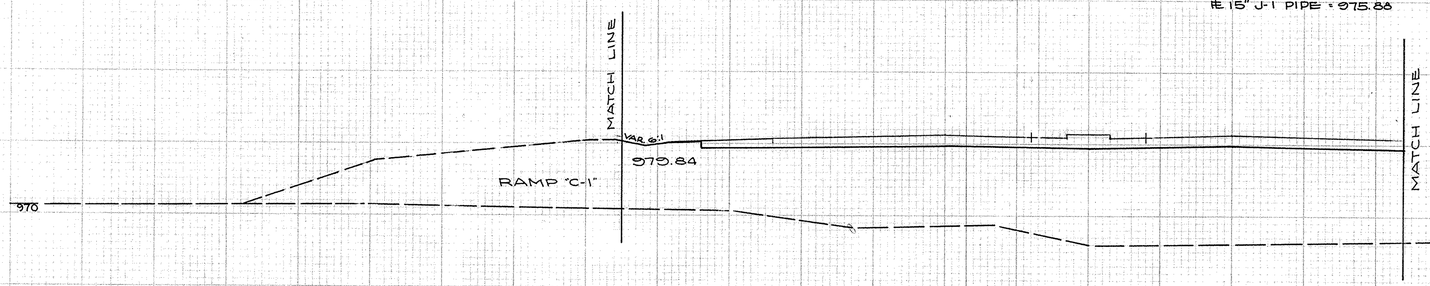


981.34
180+00
966.4



981.33
179+37
966.3

STA. 179+37 (54' RT. ℄)
I-8 N⁰ 6 CATCH BASIN
TOP OF CURB = 981.45
GRATE ELEV. = 980.99
℄ 6" I-3 PIPE = 976.63
℄ 15" J-1 PIPE = 975.88



980.38
179+00
966.0

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	2025		
		0	3630
0	1905		
0	4491		
0	1715		
0	1809		
0	1245		
0	2306		

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 179+00 TO STA. 180+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(I)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING			END AREA		CU. YDS.	
E.W.	S.Y.		CUT	FILL	CUT	FILL
223		MATCH LINE RAMP "C-1" B–B 970; 220 / 200 / 180 / 160; 2:1; 4:1; MATCH LINE RAMP "D-2" STA. 5+50	0	2701		
		384.45				
		182+61				
		968.0				
1274		MATCH LINE RAMP "C-1" A–A 970; 160			0	6012
153		MATCH LINE RAMP "D-2" STA. 5+00	0	2621		
		383.86				
		182+00				
		967.4				
706					0	4755
100		MATCH LINE RAMP "C-1"; 970; MATCH LINE RAMP "D-2" STA. 4+67.5; 4:1	0	2514		
		383.38				
		181+50				
		966.9				
411					0	4333
47		MATCH LINE RAMP "C-1"; 970; 2:1; 4:1; MATCH LINE RAMP "D-2" STA. 4+14	0	2166		
		382.90				
		181+00				
		966.9				
228					0	3881

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 181+00 TO STA. 182+61

1st. Rev
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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SEEDING	
E.W.	S.Y.
	325
	1150
	1194
	962

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
1299	1715		
		556	894
845	1733		
		787	4094
5	2688		
		5	5118
0	2839		
		0	4001

214 — 970 — MATCH LINE "C-2" — 2:1 — 4:1 — C — C

985.91
184+14
972.3

980 — C — C — MATCH LINE STA. 8+50 RAMP "D-1"
140 160 180 220 240

203 — 970 — MATCH LINE RAMP "C-2" — B — B

985.78
184+00
972.0

980 — B — B — MATCH LINE RAMP "D-2"
140 160 180 200

210 — 970 — MATCH LINE RAMP "C-2" — A — A — MATCH LINE

985.3
183+50
970.0

970 — A — A
140 160

1194 — MATCH LINE RAMP "C-2" — 4:1 — 4:1 — 970 — A — A
969.9
180 160

220 — 970 — A — A — 2:1 — 4:1 — MATCH LINE RAMP "D-2"

984.82
183+00
968.1

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 183+00 TO STA. 184+14

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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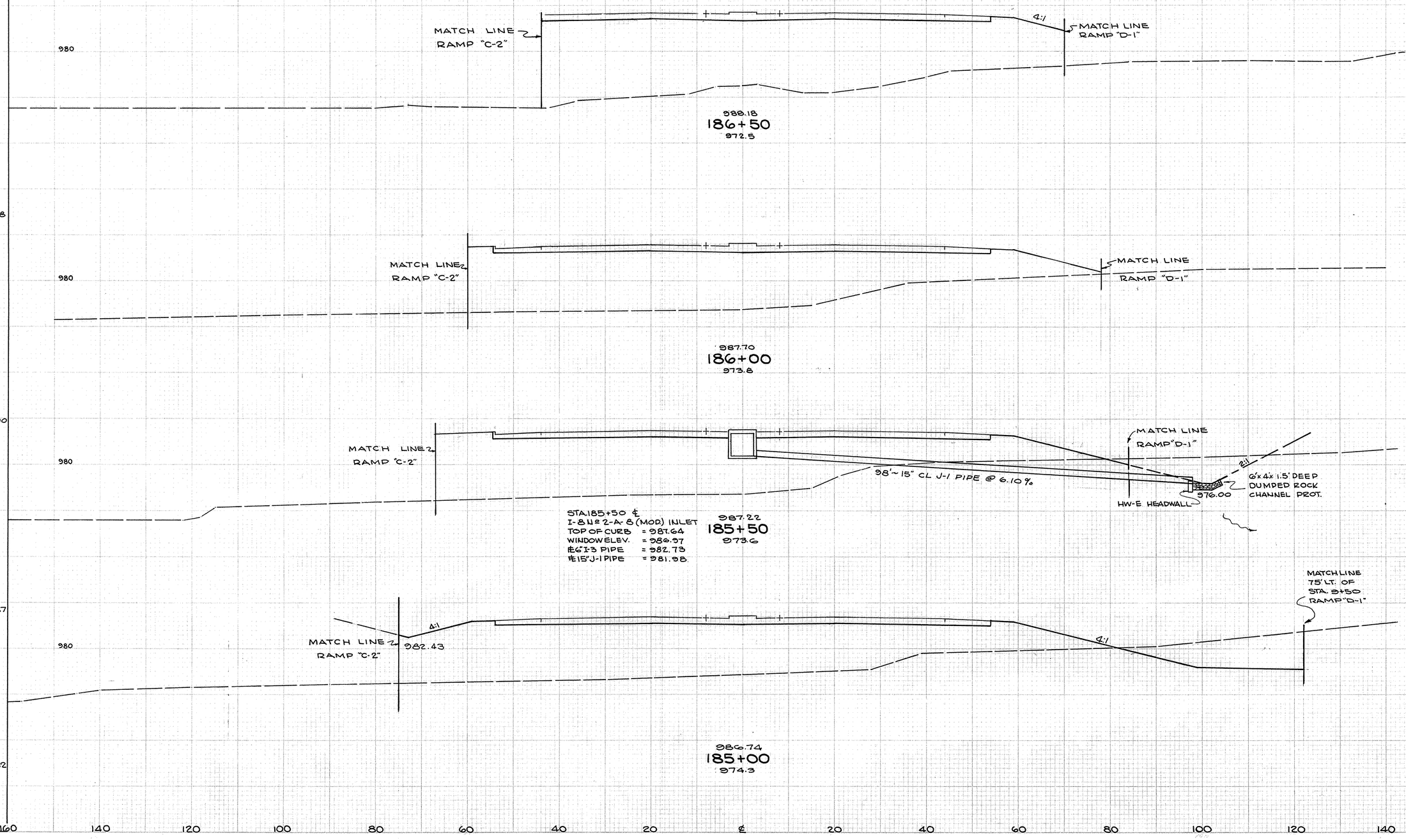
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
16	
	128
29	
200	
42	
367	
89	
1452	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1652		
		0	2806
0	1378		
		5	2571
5	1399		
		199	2679
210	1494		
		2404	5111

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 185+00 TO STA. 186+50

1st Rev P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
5	44
11	78

GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
ZERO PEAT SECTION STA. 187+75							
0		0					
	127		91				
275		196		0	1803		
	923		215			0	3215
726		36		0	1669		
	336		17				
ZERO PEAT SECTION STA. 186+75							
0		0				0	3075

STA. 187+00 TO STA. 187+50

1st Run
D.P.S.

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
	522
0	
	258
62	
	257
69	
	156
0	
	17

ADDITIONAL @ BRIDGE CORNERS

MATCH LINE

6'

2.3:1

4:1

988.72

991.06
189+50
992.3

2.5:1

MATCH LINE

980

MATCH LINE
RAMP "C-2"
STA. 0+00

2.3:1

6'

AHD.

BK.

987.8

M.L.

M.L.

PAVED GUTTER
CONT'D. ON RAMP "C-2"

980

4:1

8'

2:1

2:1

M.L.

OUTLET 27"~E-1
E = 979.63

990.34
188+75
990.3

10'

3:1

3:1

M.L.

979.41
BEGIN DUMPED ROCK CHAN. PROT.
STA. 188+63

MATCH LINE RAMP D-1
STA. 12+61.56
NOSE POINT

CURB

MATCH LINE

MATCH LINE BK.

4:1

4:1

4:1

979.0

AHD→E
BK→E

MATCH LINE

MATCH LINE AHD.

990.01
188+40.20
976.4

MATCH LINE

MATCH LINE

980

989.62
188+00
972.0

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	210	542		
			97	3692
189+25	0			
AHD.	0	2116		
BK.	0	2008		
			0	2973
AHD→E	0	2605		
BK→E	0	1296		
			0	2062
			0	1475
			0	3035

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 188+00 TO STA. 189+50

1 S+ Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
205	
967	
143	AHD
89	BK.
330	
48	
35	
41	
117	

1010

2:1

11' JUTE MATTING

4:1

990.15

992.49
191+00
1016.1

STA. 190+50 ℄
I-8 N⁰ 2-A-8(MOD.)
TOP OF CURB = 992.44
WINDOW ELEV. = 991.77
℄ 6" I-3 PIPE = 987.53
℄ 15" J-1 PIPE = 986.86

STA. 190+50 (72' RT. ℄)
I-8 N⁰ 2-A-10 INLET
TOP OF CURB = 990.69
WINDOW ELEV. = 990.02
℄ 15" J-1 PIPE = 986.51
℄ 15" E-1 PIPE = 986.51

2.3:1

989.68

992.02 72'-15" CL. J-1 PIPE @ 0.48 %
190+50
1015.8

18'-15 CL. E-1 PIPE @ 0.48%

2.5:1

STA. 190+50 (88' RT. ℄)
I-8 N⁰ 1 MANHOLE
TOP OF M.H. = 992.44

℄ 15" E-1 PIPE = 985.80
℄ 27" E-1 PIPE = 984.80

1010

989.27

991.61
190+07
1015.2

1010

11'
6'
2.3:1
5:1

989.20

END 6' PAVED GUTTER
BEGIN 11' JUTE MATTING
STA. 190+00

991.54
190+00
1011.1

2.5:1

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
4960	0		
		9145	37
4916	40		
		6846	32
3680	0		
		857	0
3160	0		
		3120	502

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 190+00 TO STA. 191 + 00

1 S.T. Kurr
P. R. S.

FED. AID DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

90
383

SUMMIT COUNTY
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SEEDING	
E.W.	S.Y.
148	
507	
156	
953	
130	
933	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
6806	0		
6834	0		
5404	0		
10773	0		
4201	0		
8483	0		

STA. 192+40(67'RT.℄)
I-8 Nº 2A-8 INLET
TOP OF CURB = 993.43
WINDOW ELEV. = 992.98
℄ 12"E-1 PIPE = 987.95

STA. 192+40(74'RT.℄)
I-8 Nº 1 MANHOLE
COVER ELEV. = 993.94
℄ 12" E-1 PIPE = 987.95
℄ 21" E-1 PIPE = 986.70

1010
2:1
11' JUTE MATTING
4:1
991.36
993.70
192+40
1027.6
6'-12" E-1 @ 0.0%
991.11
993.45
192+10
1017.6
150
HATCHED AREA INDICATES PAVEMENT REMOVAL
990.62
992.94
191+50
1013.50
℄
160 140 120 100 80 60 40 20 20 40 60 80 100 120 140 160

STA. 191+50 TO STA. 193+10

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277- 0.46

SEEDING	
E.W.	S.Y.
128	
	717
129	
	761
144	
	811
148	
	987

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
2681	0		
		6028	0
3829	0		
		8145	0
4967	0		
		10,224	0
6075	0		
		14,314	0

1010
11' JUTE MATTING
2:1
4:1
992.63
STA. 194+50 (℄)
I-8 Nº 2-A-8 (MOD.)
TOD OF CURB = 995.64
WINDOW ELEV. = 994.07
℄ 27" J-1 PIPE = 989.58
℄ 6" I-3 PIPE = 990.67
995.22
194+50
1009.5
60' ~ 27" J-1 @ 1.91%
2:1
STA. 194+40 (60' RT ℄)
I-8 Nº 1 MANHOLE
COVER ELEV. = 995.07
℄ 15" E-1 PIPE = 989.24
℄ 27" J-1 PIPE = 988.24
℄ 27" E-1 PIPE = 988.24
℄ 6" I-3 PIPE = 989.20

1010
992.43
994.89
194+00
1014.2

1010
992.23
994.54
193+50
1019.6

1010
2:1
11' JUTE MATTING
2:1
991.83
994.17
193+00
1024.7
2:1

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA. 193+00 TO STA. 194+50

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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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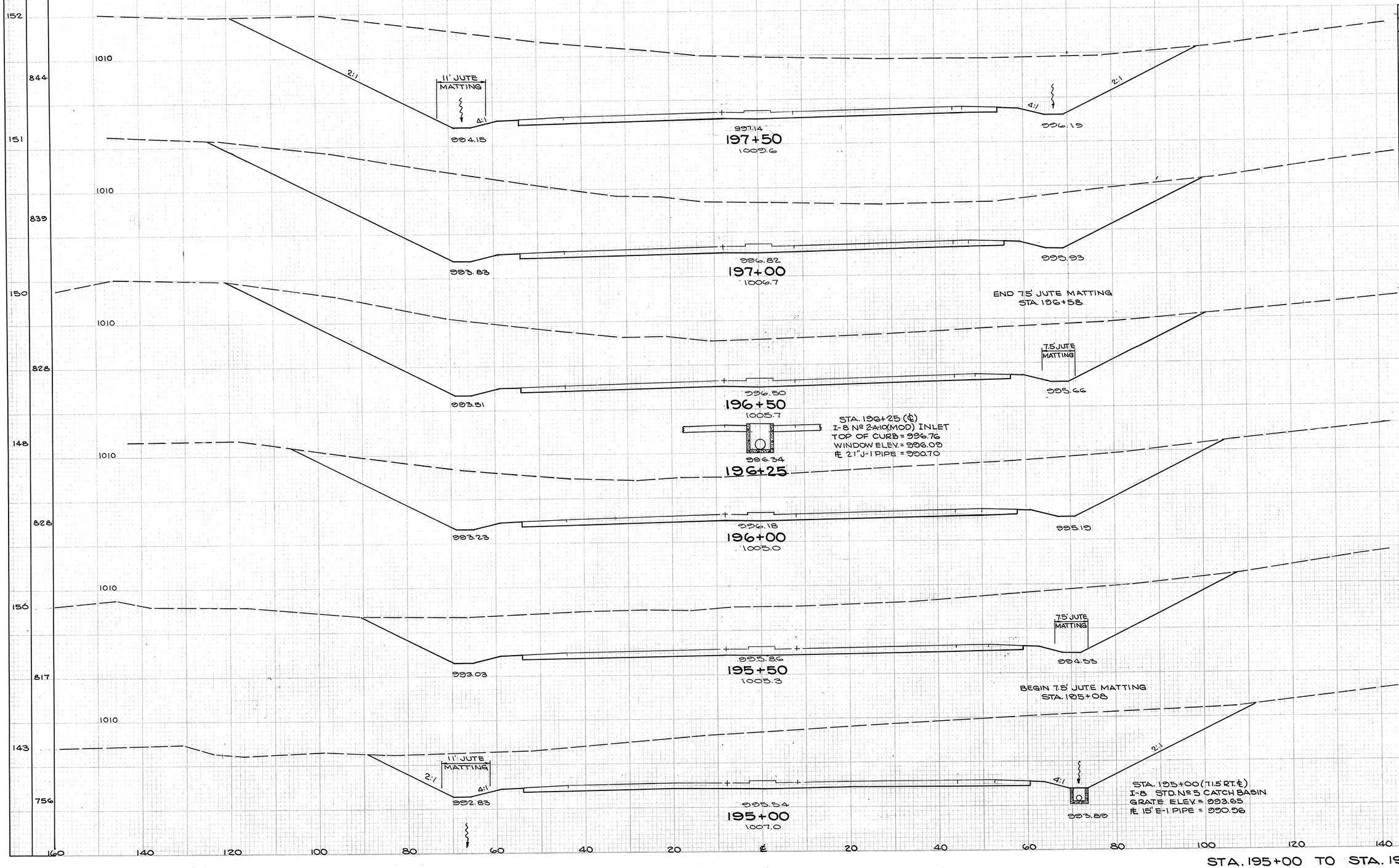
SEEDING	
E.W.	S.Y.
152	
	844
151	
	839
150	
	828
148	
	828
150	
	817
143	
	756



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
2852	0		
		4972	0
2518	0		
		4520	0
2364	0		
		4077	0
2039	0		
		3689	0
1056	0		
		3897	0
2253	0		
		4569	0

STA. 195+00 TO STA. 197+50

FED. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1) 124	

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SUMMIT COUNTY
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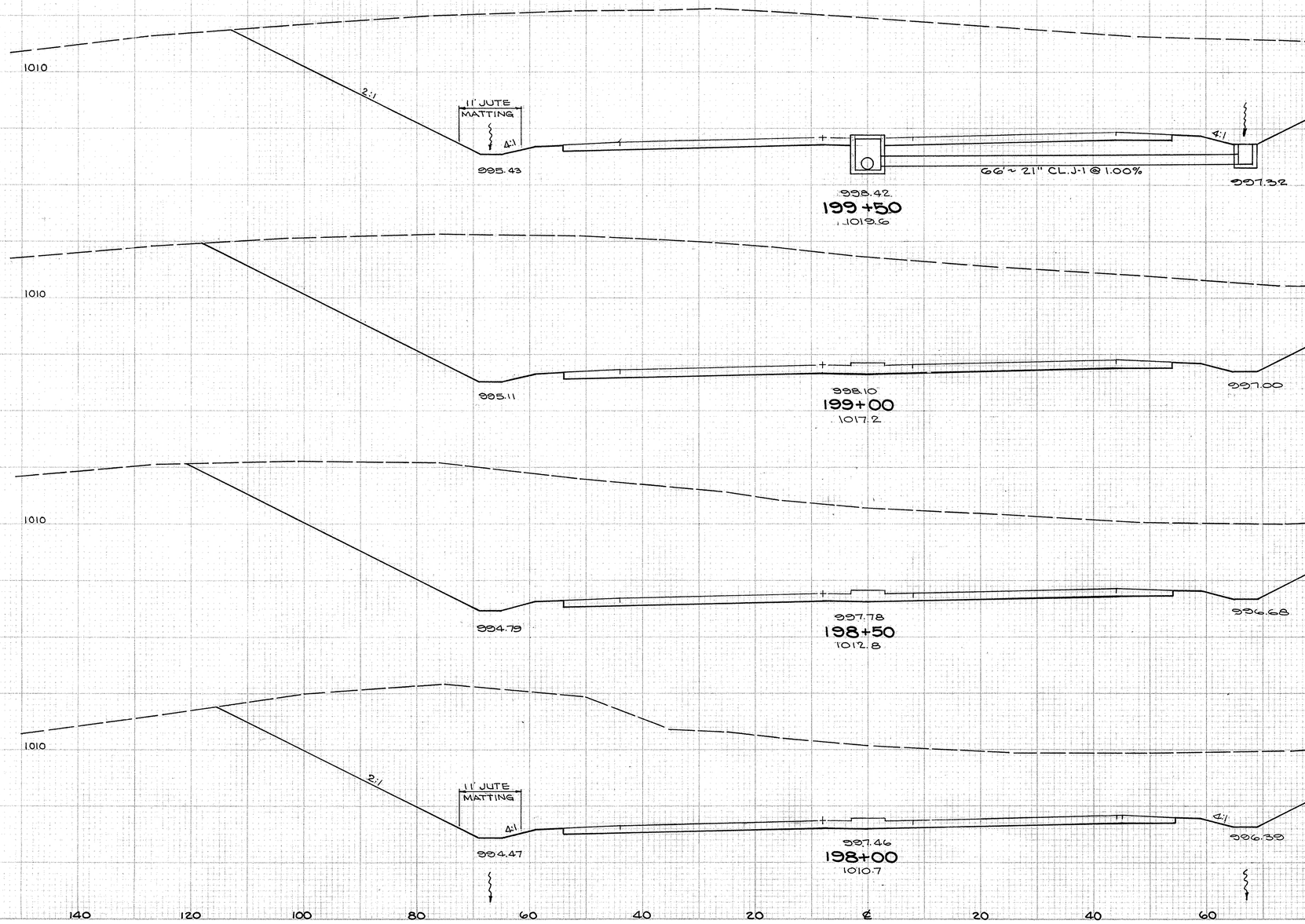
SEEDING	
E.W.	S.Y.
150	
	844
154	
	861
155	
	850
151	
	844

STA. 199+50 (℄)
I-8 № 2-A-8 (MOD.)
TOP OF CURB = 998.84
WINDOW ELEV. = 998.17
℄ 6" I-3 PIPE = 993.01
℄ 15" J-1 PIPE = 993.65
℄ 21" J-1 PIPE = 993.13
℄ 27" J-1 PIPE = 992.65

STA. 199+50 (67' RT. ℄)
I-8 № 5 CATCH BASIN
GRATE ELEV. = 997.05
℄ 21" J-1 PIPE = 993.82
℄ 6" I-3PIPE = 994.00



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
3932	0		
		7100	0
3736	0		
		6517	0
3302	0		
		5087	0
3164	0		
		5571	0

STA. 198+00 TO STA. 199+50

1st Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1) 124	

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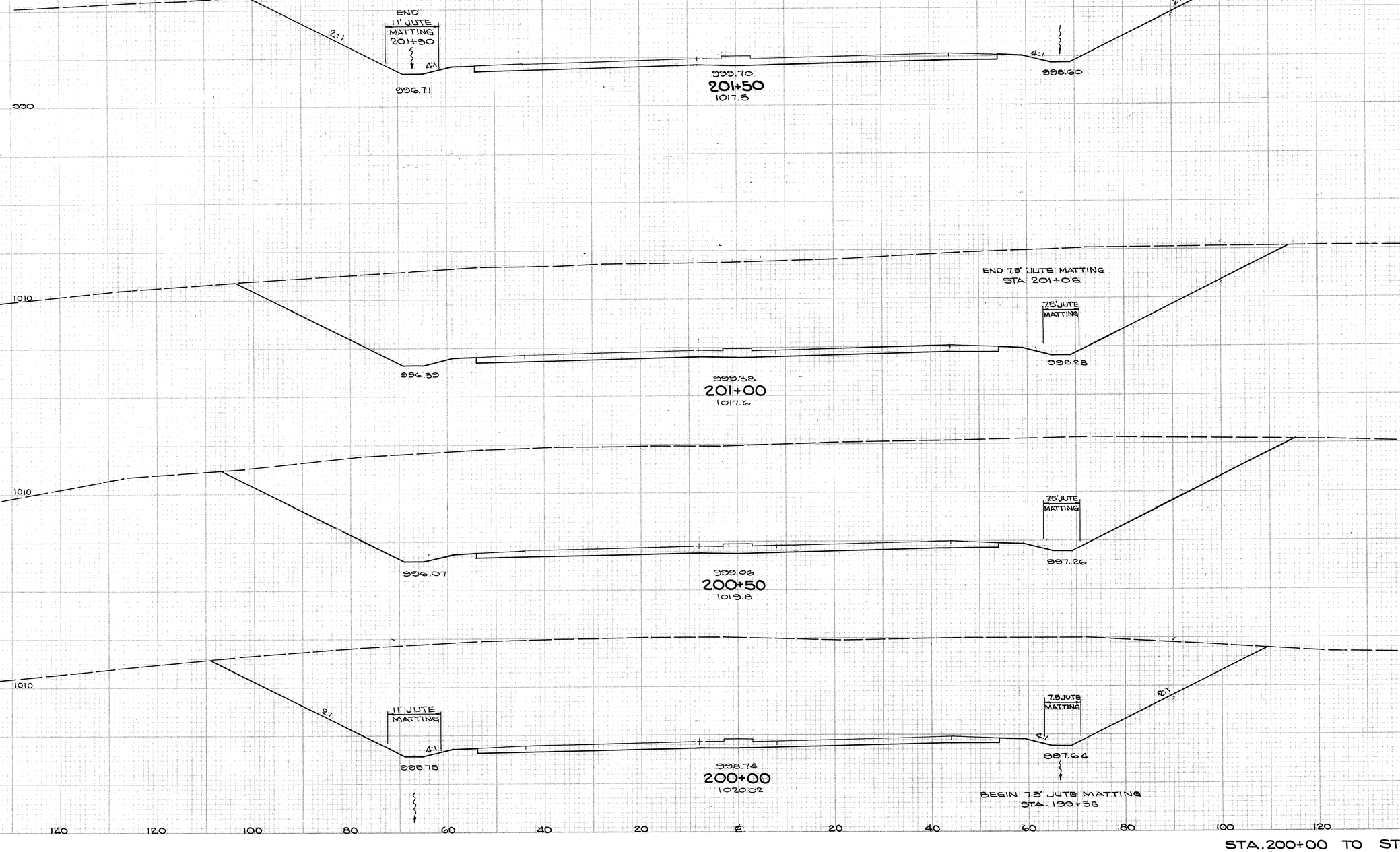
SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
154	
	878
162	
	885
158	
	872
156	
	850



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
3449	0		
		6534	0
3607	0		
		7099	0
4060	0		
		7505	0
4050	0		
		7391	0

1 st. Run
P. R. S.

STA. 200+00 TO STA. 201+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

95
383

SUMMIT COUNTY
SUM-277- 0.46

SEEDING	
E.W.	S.Y.
146	
	867
165	
	861
144	
	811
148	
	839

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
3803	0		
		6950	0
3613	0		
		6208	0
3091	0		
		5773	0
3144	0		
		6105	0

1010
2:1
4:1
997.00
1000.98
203+50
1022.5
999.88
4:1
2:1

1010
997.67
1000.66
203+00
999.56
STA. 202+75 (℄)
I-8 2-A-10 (MOD.)
TOP OF CURB = 1000.92
WINDOW ELEV. = 1000.25
Ø 12" J-1 PIPE = 996.69
Ø 15" J-1 PIPE = 996.44

1010
997.35
1000.50
202+75
1018.2
999.24

1010
2:1
4:1
997.03
1000.34
202+50
1017.7
998.92
2:1
4:1

1000.02
202+00
1016.2

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

STA. 202+00 TO STA. 203+50

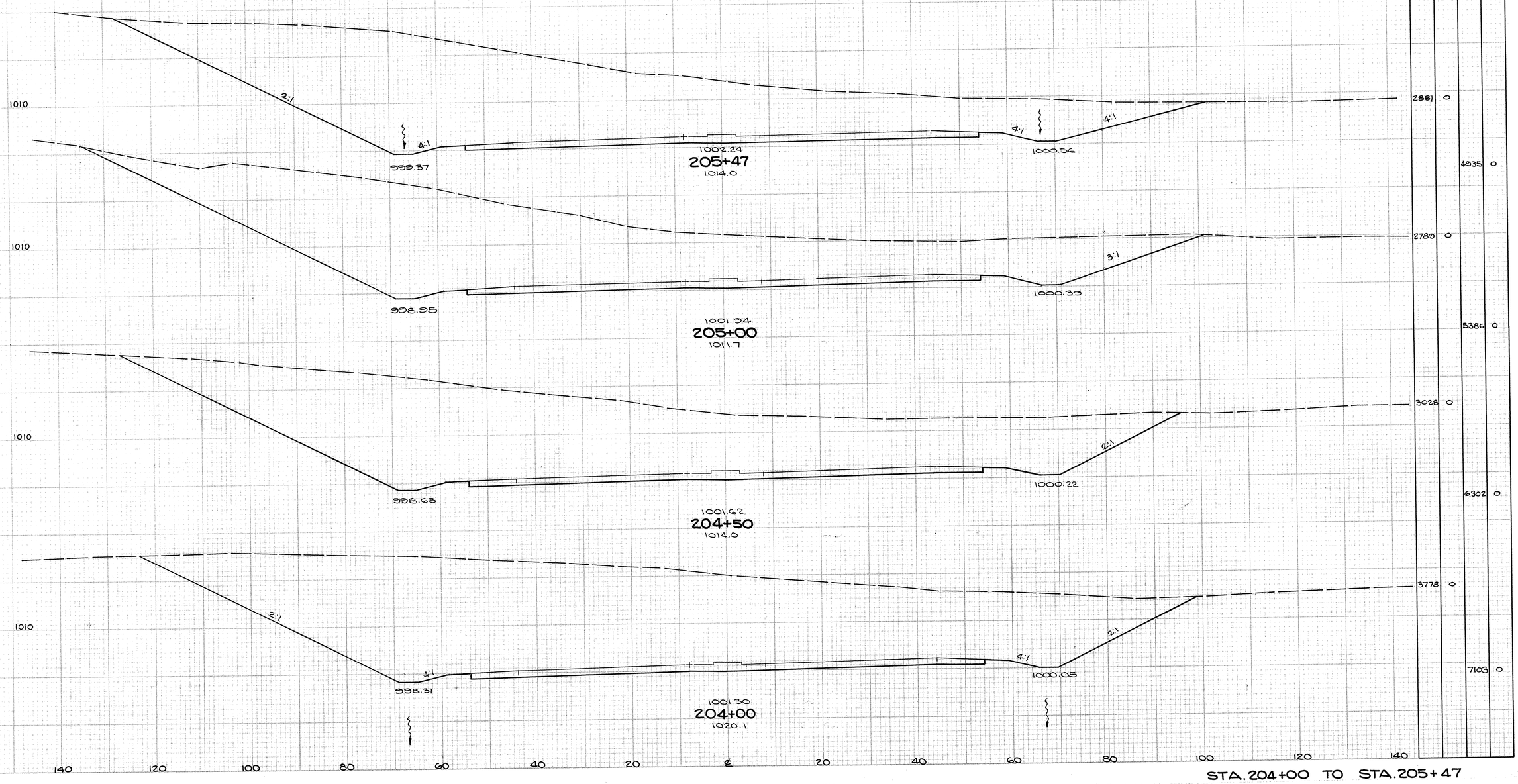
1st Run
P, R, S,

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

96
383

SUMMIT COUNTY
SUM-277- 0.46

SEEDING	
E.W.	S.Y.
169	
	928
164	
	917
166	
	917
164 AHD 144 BK.	
	806



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	2881	0	
		4935	0
	2780	0	
		5386	0
	3028	0	
		6302	0
	3778	0	
		7103	0

STA. 204+00 TO STA. 205+47

1 St. Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

37
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
144	AHD.
164	BK.
	922
167	
	906
158	
	966

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	2501	0	
	4013	0	
	2805	0	
	5135	0	
	2741	0	
	5518	0	

1010

2:1

4:1

1000.91

1003.22
207+00
1015.3

4:1

2:1

1001.07

1010

1000.46

1002.30
206+50
1015.00

STA. 206+50(℄)
I-8 N° 2-A-8 (MOD) INLET
TOP OF CURB=1003.32
WINDOW ELEV=1002.65
℄ 12" J-1 PIPE = 999.09

3:1

1000.90

1010

2:1

4:1

999.95

1002.58
206+00
1014.0

4:1

4:1

1000.73

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

STA. 206+00 TO STA. 207+00

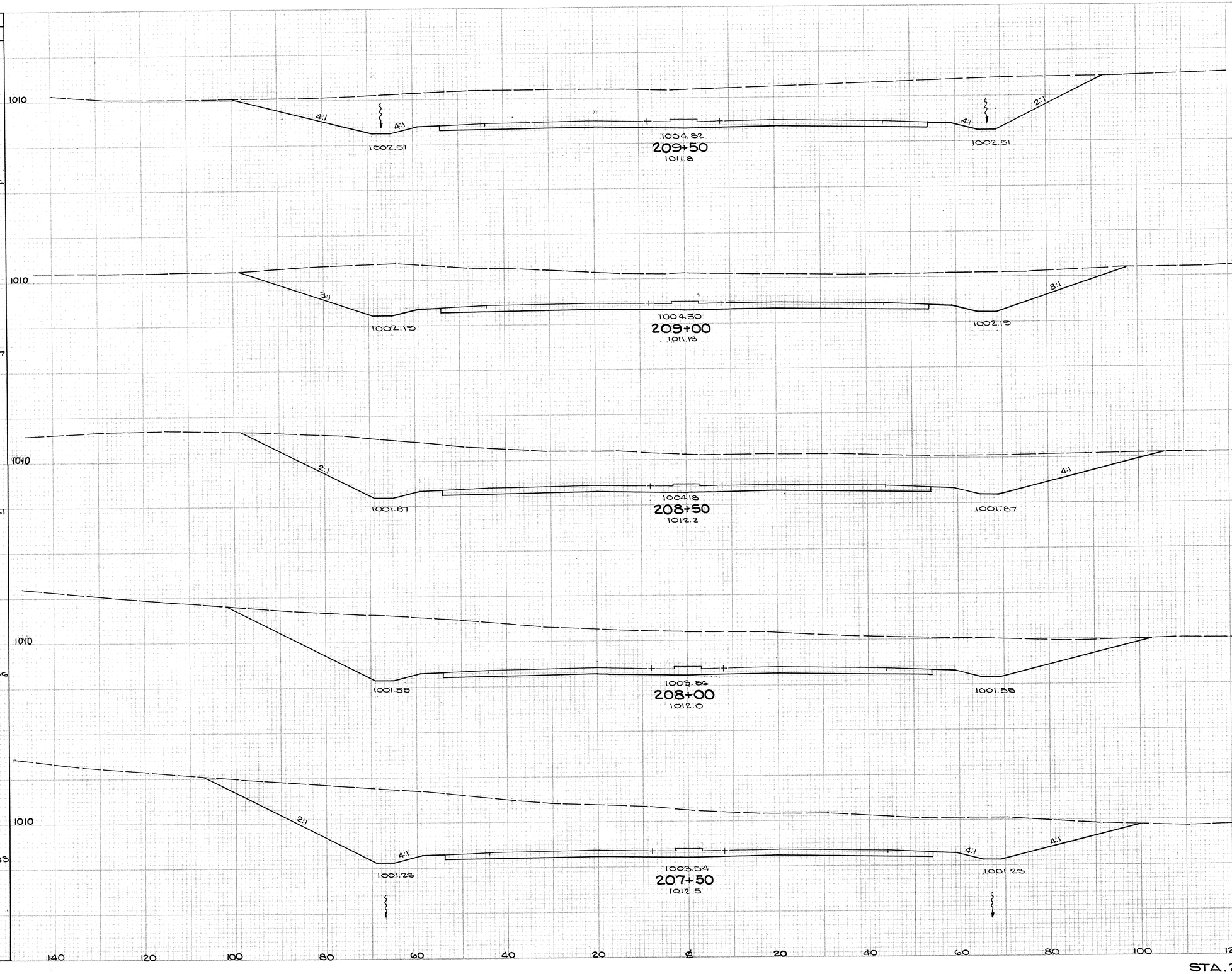
1st Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

98
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
136	756
136	767
140	761
134	756
138	783



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
1514	0		
		2775	0
1483	0		
		2868	0
1614	0		
		3122	0
1758	0		
		3470	0
1989	0		
		4158	0

STA. 207+50 TO STA. 209+50

1ST RUN.
P&S.

FED. AD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

99
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
117	
	192
112	AHD.
125	BK.
	517
140	
	772
138	
	767
137	
	761

1000

STA. 211+35

8'x4'x1.5' DEEP DUMPED ROCK CHANNEL PROT.

70'-15" CL. J-1 PIPE @ 0.46%

HW-E HEADWALL
℄ = 1001.62

1000.09 — 4:1 — 4:1 — 1006.10 — 211+50 — 1004.8 — 4:1 — 2:1 — 1003.79

1001.39 — 1003.95 — 211+27 — 1007.4 — 1003.64

STA. 211+25(℄)
I-8 № 2-A-8(MOD.)
TOP OF CURB = 1006.36
WINDOW ELEV.=1005.69
℄ 15"J-1 PIPE = 1002.05

1003.47 — 1005.78 — 211+00 — 1008.1 — 1003.47

1003.15 — 1005.46 — 210+50 — 1009.0 — 1003.15

4:1 — 4:1 — 1002.33 — 1005.14 — 210+00 — 1011.3 — 4:1 — 2:1 — 1002.85

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
220	299		
		127	314
78	439		
		314	220
550	0		
		1370	0
939	0		
		2114	0
1344	0		
		2646	0

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

STA. 210+00 TO STA. 211+50

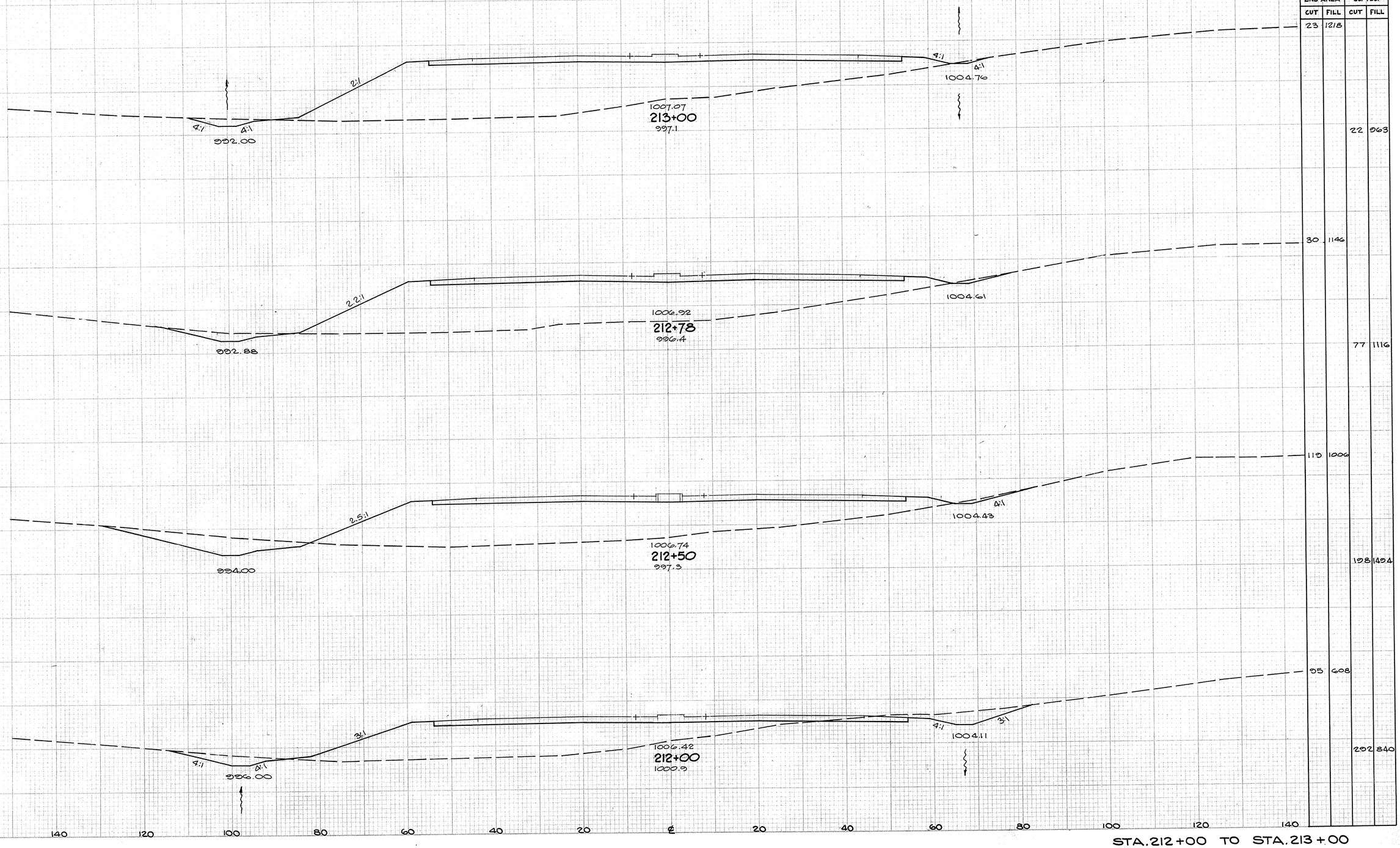
1st Run.
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

100
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
	318
	392
	689
	667



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
23	1218		
		22	963
30	1146		
		77	1116
119	1006		
		108	1404
95	608		
		202	840

1st Run
P.R.S.

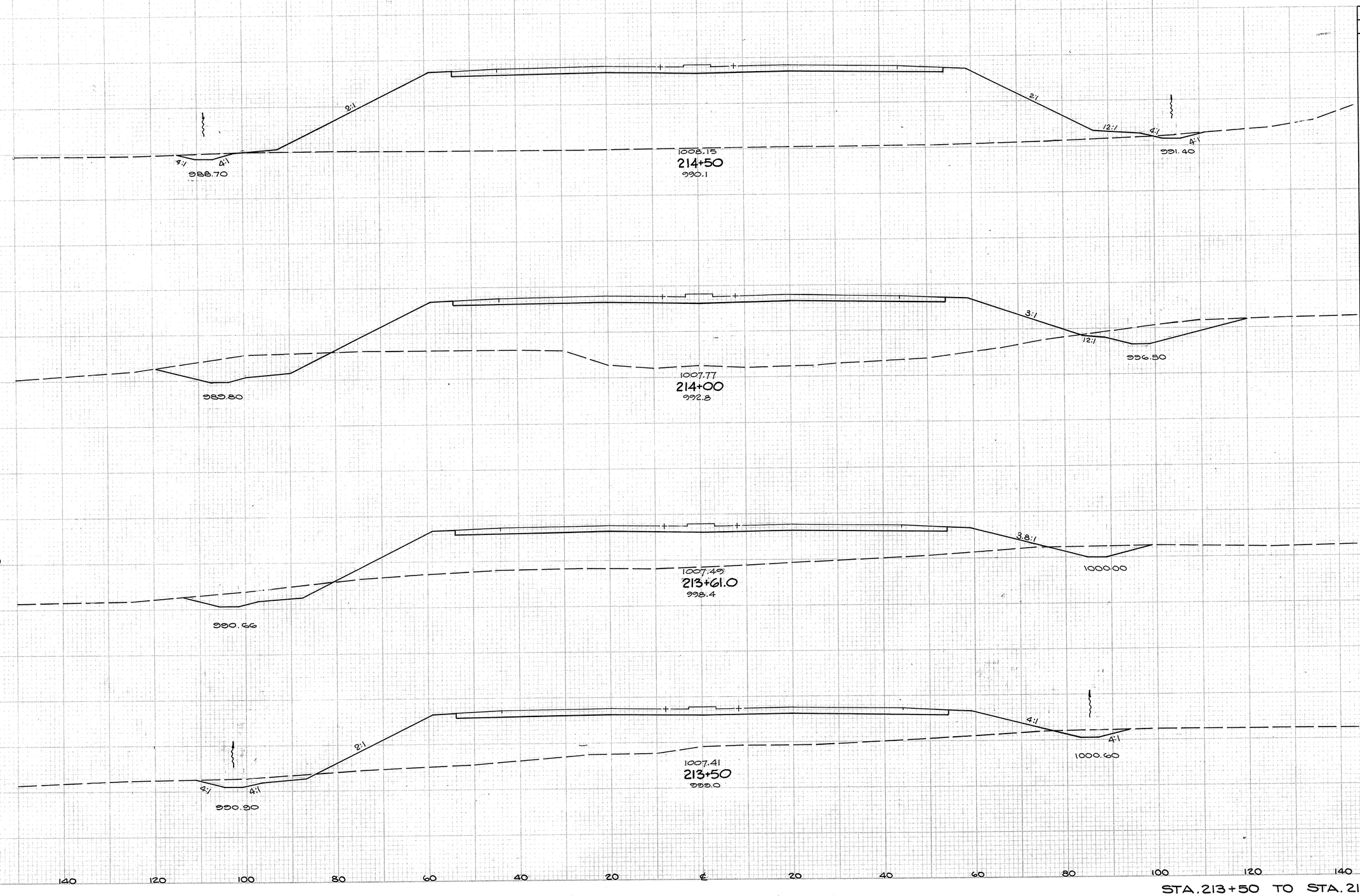
STA. 212+00 TO STA. 213+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

101
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
	1000
164	
	900
	1000
160	
654	
	1000
142	
172	
	1000
139	
756	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
17	2546		
		219	4003
219	1777		
		230	2020
99	1020		
		30	437
46	1123		
		64	2168

STA. 213+50 TO STA. 214+50

1 Sr. Run
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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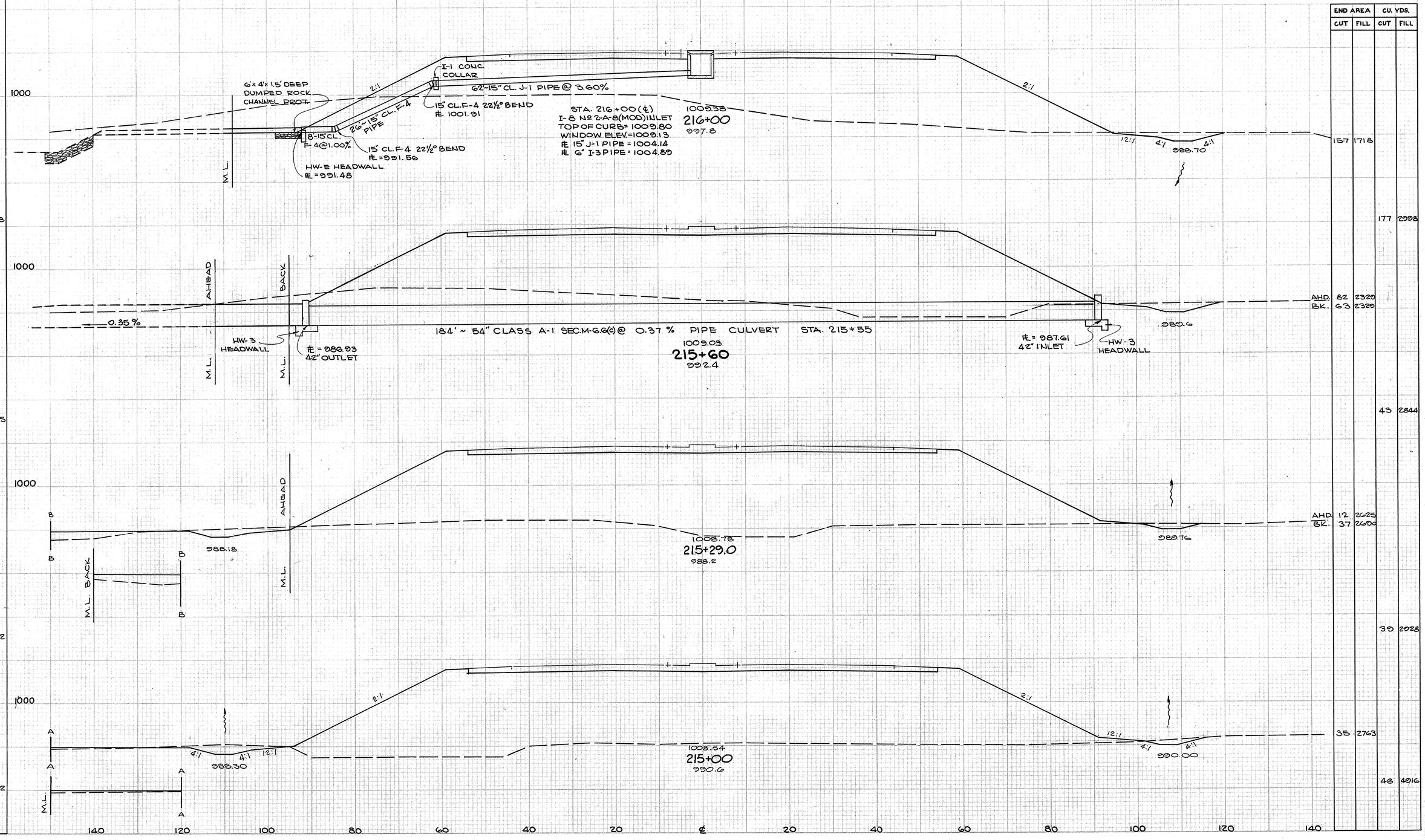
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
	658
	565
	922
	922



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	157	1718	
		177	2098
AHD.	82	2320	
BK.	63	2320	
		43	2844
AHD.	12	2625	
BK.	37	2680	
		39	2928
	35	2763	
		48	4016

1st Run O.R.S.

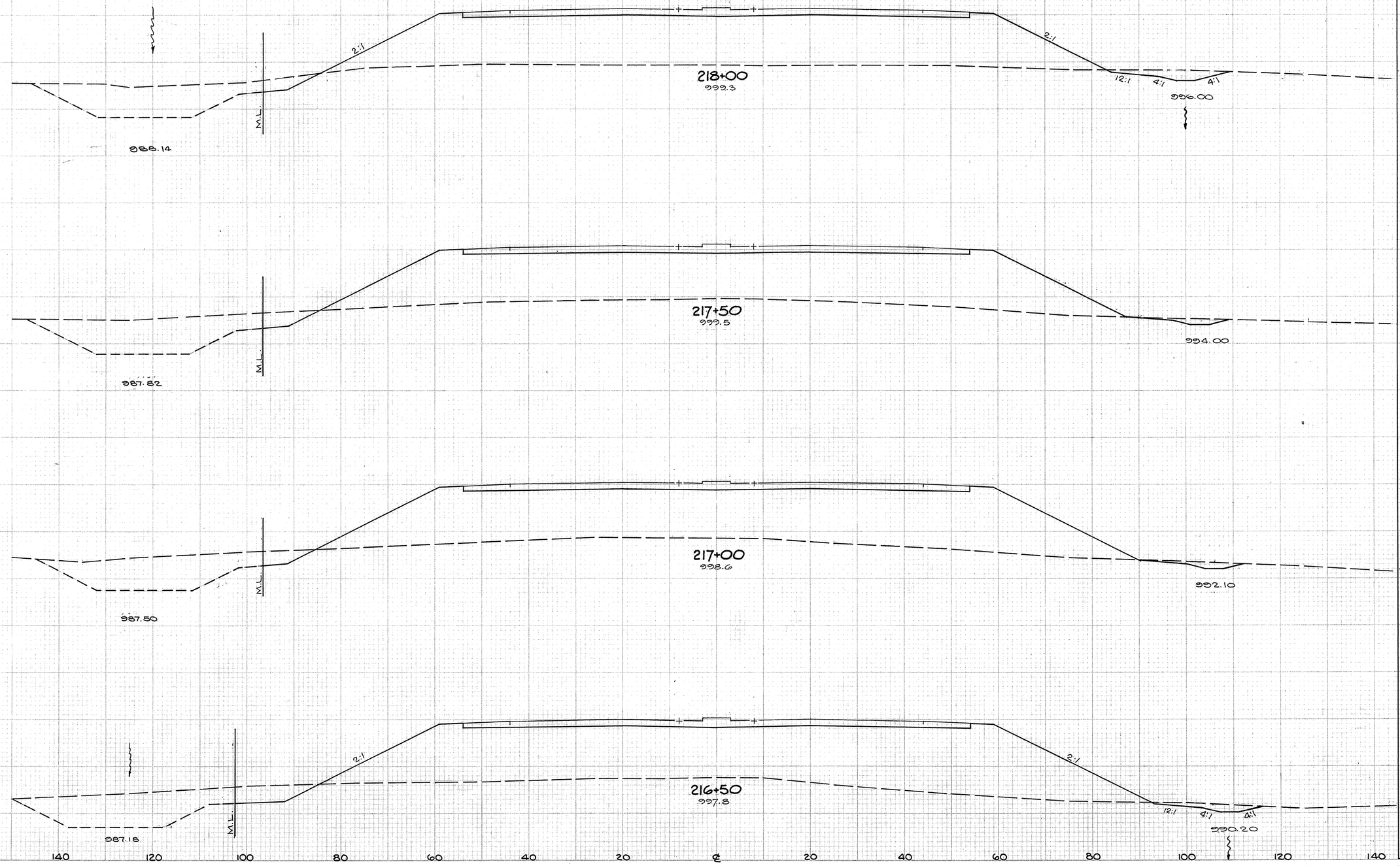
STA. 215+00 TO STA. 216+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

103
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
118	661
119	667
121	683
125	767



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
58	1523		
		93	2882
42	1588		
		75	3063
39	1719		
		102	3312
71	1858		
		211	3311

STA. 216+50 TO STA. 218+00

1 ST RUN
12, R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING			END AREA		CU. YDS.	
E.W.	S.Y.		CUT	FILL	CUT	FILL
44		1000	13	977		
	125				16	1220
25	AHD.	1000	22	1658		
111	BK.				37	3102
	628					
114		1000	18	1602		
	644				57	3088
117		1000	44	1655		
	650				76	3032
116		1000	38	1619		
	650				89	2009

220+25
1000.6
1013.20
988.58
M.L.
2:1
12:1

220+00
1001.1
999.30
988.42
M.L.
2:1
12:1
4:1
4:1

219+50
1000.4
999.00
988.10
M.L.
2:1
12:1

219+00
1000.1
998.70
988.78
M.L.
2:1

218+50
999.8
997.50
988.46
M.L.
2:1
12:1
4:1
4:1

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

STA. 218+50 TO STA. 220+25

1st. Run
P.R.S.

FED. NO DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

105
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
120	717
120	717
81	178
79	178
1260	283
43	122

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
67	1011		
		182	3365
130	1723		
		131	1024
216	977		
		277	548
283	10		
		71	568
140	250		

1000
AHD. BK.
1000
AHD. ONLY
1000
ADDITIONAL @ BRIDGE CORNERS
1000
BK. ONLY

2:1
12:1
4:1
3:1
VAR.
M.L.

990.70
1014.77
222+00
1000.1
998.13

60-15" CL. J-1 PIPE @ 1.00%
I-1 CONC. COLLAR
15" CL. F-4 25° BEND
℄ 1008.48
2-15" CL. F-4 PIPE
15" CL. F-4 25° BEND
℄ 997.63
8'-15" CL. F-4 PIPE @ 1.00%
HW-E HEADWALL
℄ 997.55
997.43
6'x 4'x 1.5' DEEP DUMPED ROCK CHANNEL PROT.

990.38
1014.32
221+50
1000.3

STA. 221+50 ℄
I-8 ℄ 2-A-10 (MOD)
TOP OF CURB = 1014.74
WINDOW ELEV. = 1014.07
℄ 6'-I-3 PIPE = 1009.83
℄ 15" J-1 PIPE = 1009.08

990.25
1014.11
221+30
1000.3
996.00

1013.87
221+00
1000.0
995.00

Sta. 221+00
Resume Earthwork

988.74
1013.42
220+50
1000.6

Sta 220+50 Suspend Earthwork

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

STA. 220+50 TO STA. 222+00

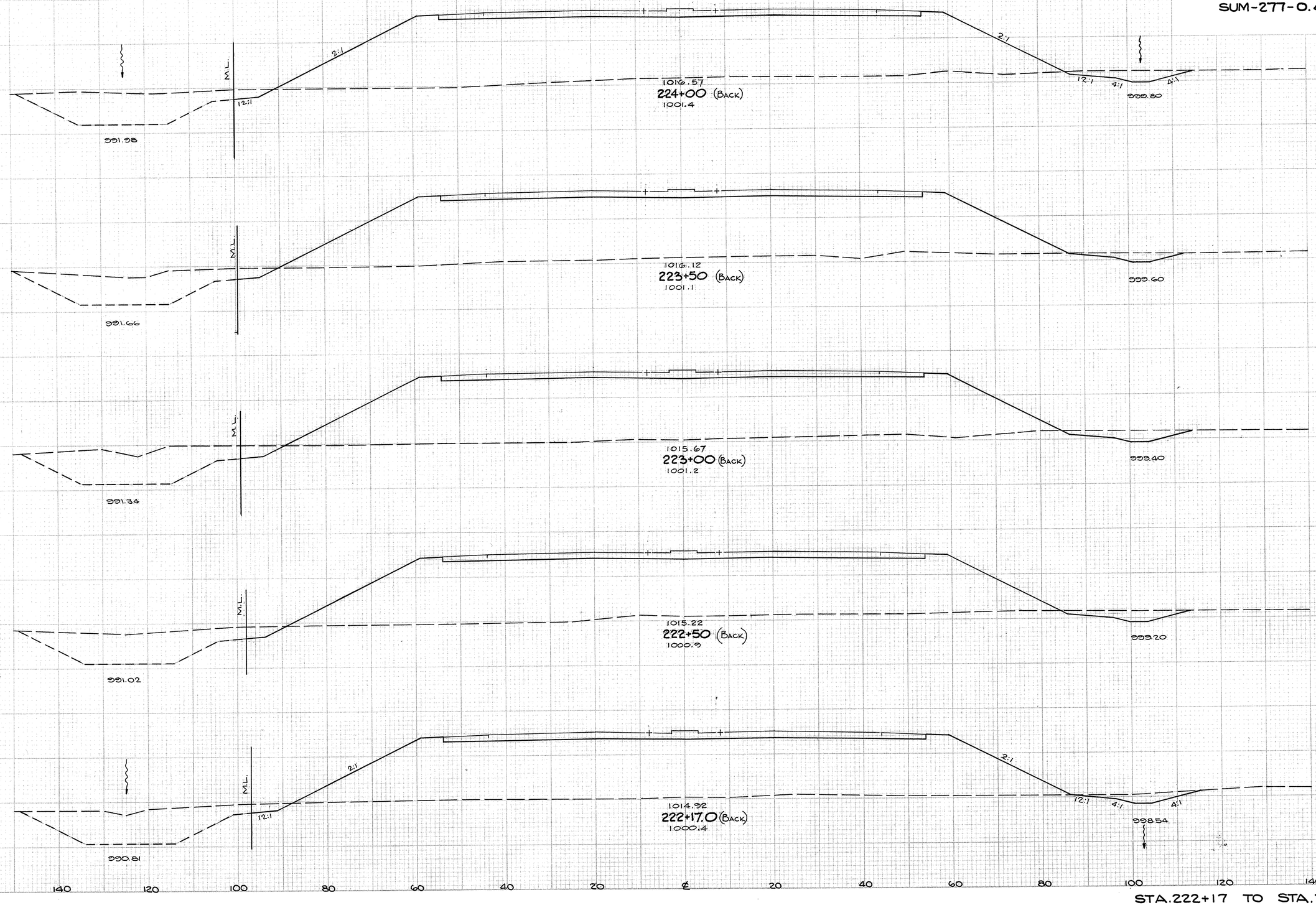
1 S# RUN
P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

106
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
132	739
133	733
131	728
130	477
129	244



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
64	2127		
		93	3805
43	2079		
		108	3824
74	2051		
		130	3728
66	1975		
		68	2408
46	1965		
		36	1220

STA. 222+17 TO STA. 224+00 BACK

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
F.W.	S.Y.
140	778
139	761
135	756
136	744

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	28	2758	
		75	4703
	53	2321	
		90	4112
	44	2120	
		80	3932
	52	2126	
		107	3938

1000

2:1 — 12:1 — M.L. — 2:1 — 12:1 — 4:1 — 4:1

1018.37
226+00 (BACK)
1000.0

998.26 — 994.80

1000

1017.92
225+50 (BACK)
1001.7

992.94 — 997.30

1000

1017.47
225+00 (BACK)
1002.5

992.62 — 999.80

1000

2:1 — 12:1 — M.L. — 2:1 — 12:1 — 4:1 — 4:1

1017.02
224+50 (BACK)
1001.8

992.30 — 1000.00

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

+

STA. 224+50 TO STA. 226+00 BACK

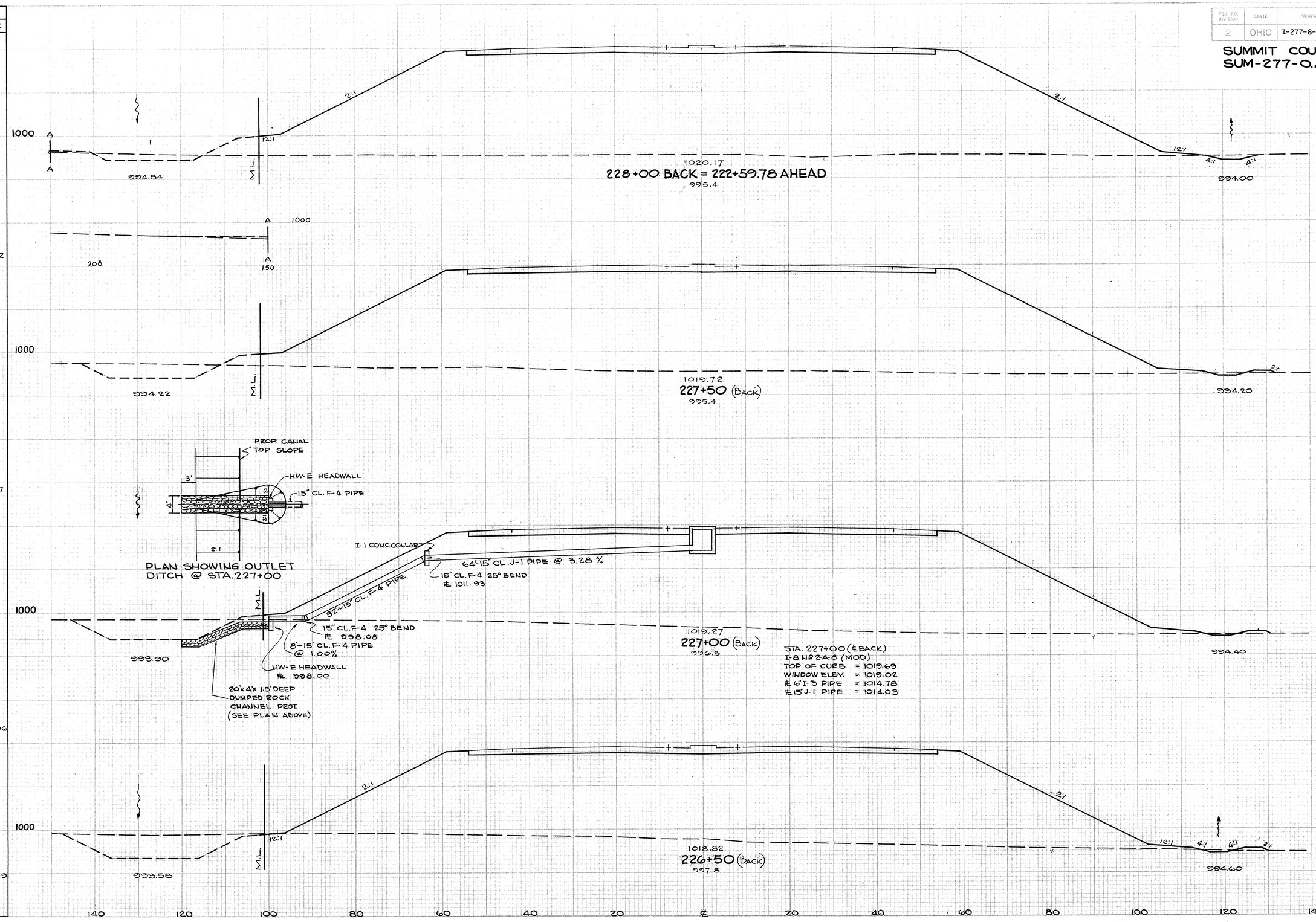
1ST. RUN P.R.S.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

108
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
148	
	822
147	
	817
	806
144	
	789



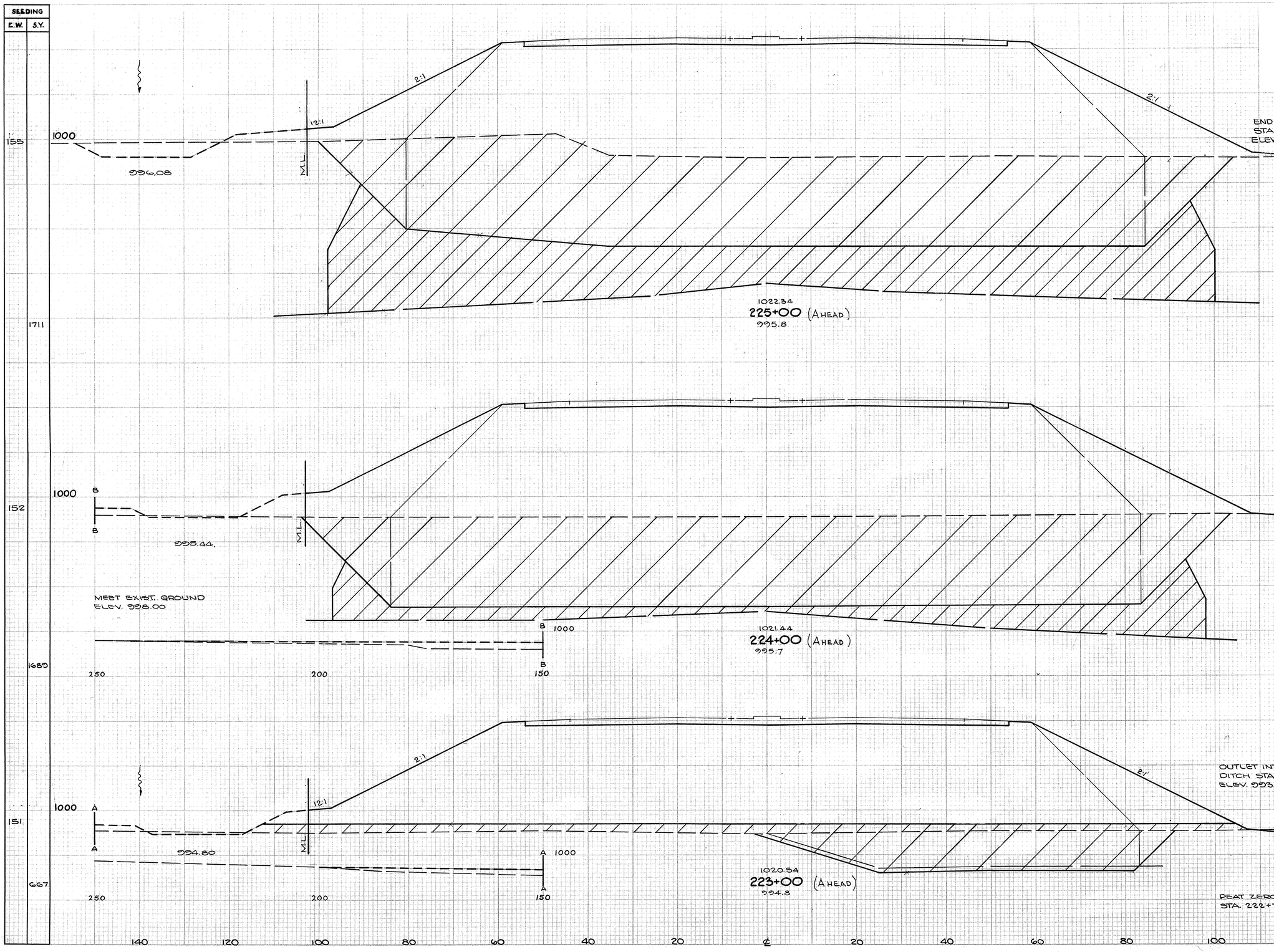
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	3968		
		11	7215
3	3824		
2	3542		
5	6821		
5	6205		
3	3256		
20	5562		

STA. 226+50 TO STA. 228+00 BACK = STA. 222+59.78 AHEAD

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

109
383

SUMMIT COUNTY
SUM-277-0.46



GRANULAR BORROW INCLUDING EXCAVATION END AREA	CU. YDS.	GRANULAR BORROW AS PER PLAN END AREA	CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
				7	0		
383	1	662	3				
1412	5	2218	3			37	0
379	6	505	6	13	0		
843	6	1026	2				0
AHD. 379	6	418	0		0		69
BK. 379	6	38	8		370	3	
331	9	57	5				548
68	5	38	8	24	370	3	
31	7	18	0				
						24	571

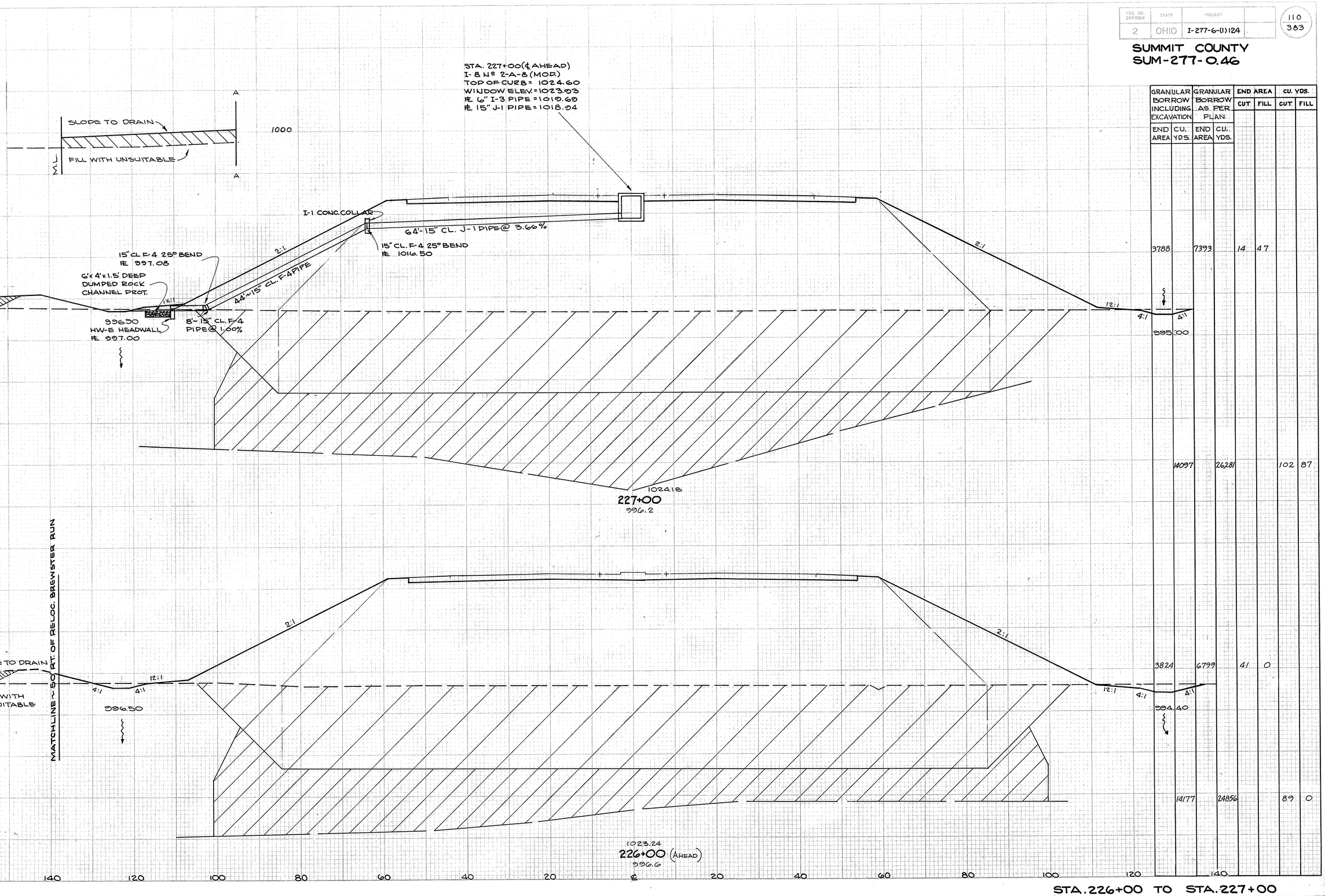
STA. 223+00 TO STA. 225+00 (AHEAD)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

110
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.



GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN:		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	CU. YDS.	END AREA	CU. YDS.				
3788		7393		14	47		
14097		26281				102	87
3824		6799		41	0		
14177		24856				89	0

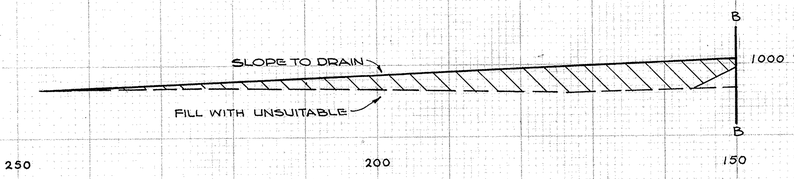
STA. 226+00 TO STA. 227+00

FED. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

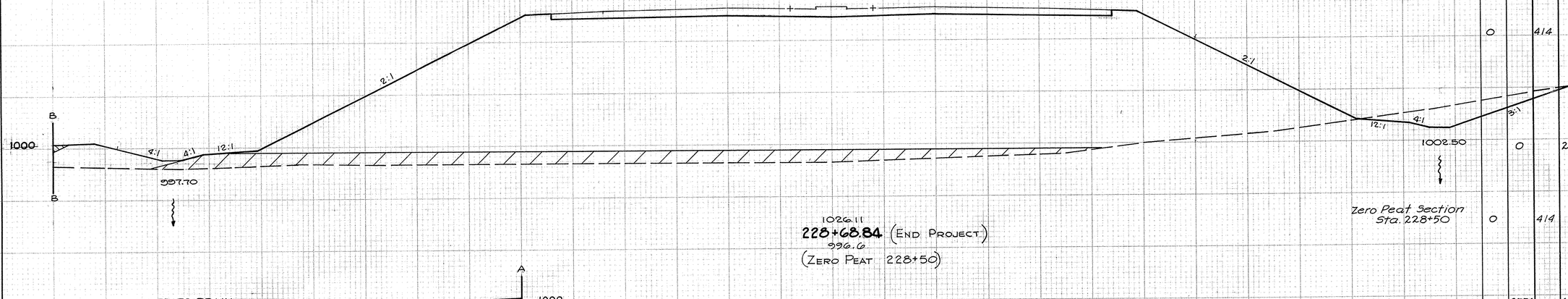
111
383

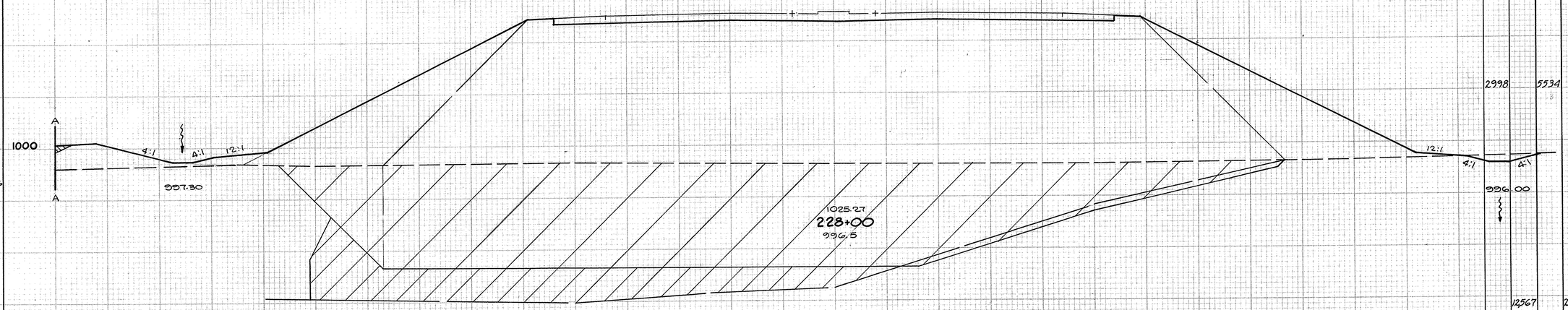
SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.
208	
	3775
	164.1
219	
245G	



ADDITIONAL FOR LOW AREA FILLING





GRANULAR BORROW INCLUDING EXCAVATION		GRANULAR BORROW AS PER PLAN		END AREA		CU. YDS.	
				CUT	FILL	CUT	FILL
END AREA	C.U. YDS.	END AREA	C.U. YDS.				
		0					
			431				
0		414		88	4409		
		0	289				
0		414					
						128	5774
				2776	6433		
		2998	5534	12	120		
				12567	23939	48	309

End Granular Borrow As Per Plan Sta. 229+25

Zero Peat Section Sta. 228+50

STA. 228+00 TO 228+68.84

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
E.W.	S.Y.

END AREA		CU.YDS.	
CUT	FILL	CUT	FILL

205 END SEEDING
STA. 229+80

0 0

1000

229+72
1004.3

1864

91 3451

314 AHD
206 BK.

SLOPE TO DRAIN

FILL WITH UNSUITABLE

A

A

2:1

2:1

105 3965

1010

A

5' DIKE

2:1

4:1 4:1 12:1

12:1 4:1 3:1

1008.70

1288

1026.86

229+25
1001.3

999.20

201 8709

100 80 60 40 20 ℄ 20 40 60 80 100 120

STA. 229+25 TO STA. 229+72

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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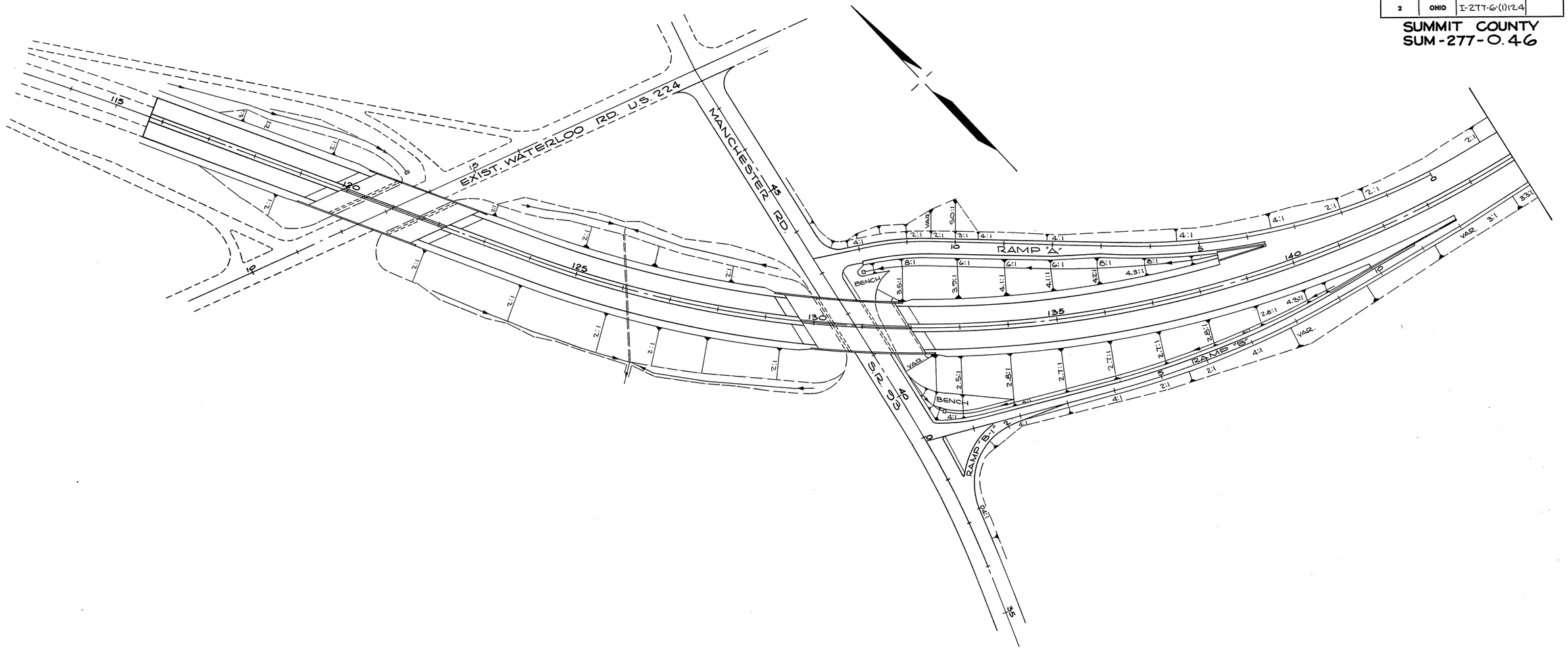
383

SUMMIT COUNTY
SUM-277-0.46



GRADING PLAN

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

114
383

SUMMIT COUNTY
SUM-277-0.46

FOR MANCHESTER RD.
PLAN & PROFILE
SEE SHEETS 147 THRU 150.

FOR RAMP "A" PAVEMENT ELEV. & DETAILS
SEE SHEET Nº 121.

CURVE DATA:
P.I. STA. 11+19.23
Δ = 13°12'50"
D_c = 10°
R = 572.96'
T = 66.36'
L_c = 132.14'

STA. 12+96.74 RAMP "A" =
STA. 43+35.00 MANCH.

STA. 130+86.48 SUM-277 =
STA. 41+69.20 MANCH.

P.T. STA. 11+85.00

P.C. STA. 10+52.87

P.T. STA. 39+61.34

STA. 38+90.00 MANCH. =
STA. 0+00 RAMP "B"

STA. 2+08.05 RAMP "B-1"
STA 1+78.96 RAMP "B"
8' RT.

STA. 0+00 RAMP "B-1"
STA. 37+34.50 MANCH. RD.
29.5' RT.

MANCHESTER RD.
CURVE DATA:
Δ = 10°43'58"
D_c = 3°00'
R = 1909.86'
T = 179.40'
L_c = 357.76'

CURVE DATA
P.I. STA. 3+34.92
Δ = 29°28'30"
D_c = 4°30'
R = 1273.24'
T = 334.92'
L_c = 655.00'

CURVE DATA:
P.I. STA. 6+34.85
Δ = 13°41'03"
D_c = 3°
R = 1909.86'
T = 229.16'
L_c = 456.14'

P.C. STA. 0+00 RAMP "A"

P.T. STA. 6+55.00

CROSS STA. 3+67.76 "A"
56' LT. M.L. STA. 3+83.42

P.C. STA. 0+00 RAMP "B"

P.T. STA. 4+39.68 RAMP "B"

FOR RAMP "B" & "B-1" PAVEMENT ELEV.
& DETAILS, SEE SHEET Nº 122.

PAVEMENT & ROADWAY QUANTITIES

STATION FROM	STATION TO	T-71 9" REINF P.C.C. PAV'T	T-71 10" REINF P.C.C. PAV'T	I-22 SUBBASE GRADING "A" OR "B" AS PER PLAN	I-22 REGULAR GRADING	E-1 COMP. SUB-GRADE	T-31 BITUMINOUS SURFACE TREATMENT Nº 8 AGG.	T-31 BIT. MAT'L	B-19 AGG. BASE COURSE	B-21 WATER-PROOFED AGG. BASE COURSE	SPECIAL DRAINAGE CONNECT. USING Nº 8 AGG.
		SQ. YD.		CU. YD.		S.Y.	C.Y.	GAL.	C.Y.	C.Y.	C.Y.
RAMP "A"											
0+00	12+65	2146.6	921.2	615.2	71.8	4330	9.8	357.6	81.6	205.1	79.1
RAMPS "B" & "B-1"											
0+29	11+86.68	2476.7		530.7	65.3	3825	10.8	337.0	37.2	216.8	123.9
0+00	2+20.09										
SHEET TOTAL		4623.3	921.2	1145.9	137.1	8155	20.6	694.6	118.8	421.9	203.0

DRAINAGE QUANTITIES

REF Nº	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" DEEP	I-1 PIPE CL. I-3 6" M-6.4(h)	I-1 PIPE CL. F-4 6"	I-1 PIPE CL. E-1 12"	I-1 PIPE CL. E-1 15"	I-1 PIPE CL. J-1 27"	I-1 PIPE CL. J-1 15"	I-5 PIPE SPECIALS I-3 BENDS 6" 30°	I-5 PIPE SPECIALS I-3 BENDS 6" 60°	I-8 CATCH BASINS Nº 2-2A STD.	I-8 CATCH BASINS Nº 3A STD.	I-8 CATCH BASINS Nº 3 STD	I-8 CATCH BASINS Nº 6 STD.	I-8 INLETS Nº 2A-6 STD	I-8 INLETS Nº 2A-12 STD	I-8 M.H. Nº 1	I-14 PAVED GUTTER TYPE 1 MOD "A"	L-120 JUTE MAT-TING
				LIN. FT.		LIN. FT.	LIN. FT.				EACH		EACH							LIN. FT.	SY.
U-1	0+00 RAMP "A"	5+02 RAMP "A"	RT.		428	10					1										
U-2	5+02 RAMP "A"	12+00 RAMP "A"	RT.		688	10															
U-3	0+40 RAMP "B"	10+71 RAMP "B"	LT.		1026	10															
U-4	1+00 RAMP "B-1"	2+71 RAMP "B"	RT.	190		10															
U-5	2+75 RAMP "B"	10+96 RAMP "B"	RT.		810	10					1										
U-6	11+00 RAMP "B"	11+86.68 RAMP "B"	RT.		86																
U-7	10+50 RAMP "A"	12+00 RAMP "A"	LT.		150	10						1									
D-1	0+50 RAMP "B"		LT.						10				1							10	200
D-2	0+40 RAMP "B"		RT.						6					1							
D-3	1+00 RAMP "B-1"	2+75 RAMP "B"	RT.				196								1		1				
D-4	10+75 RAMP "B"	11+85 RAMP "B"	RT.							110						1					
D-5	11+00 RAMP "A"	12+00 RAMP "B"	RT & LT.							100							1				
D-6	12+00 RAMP "A"		LT.						40									1			
D-7	12+00 RAMP "A"		LT.							35			1							10	125
D-8	12+00 RAMP "A"		RT.							14											
SHEET TOTALS				190	3658	60	196	16	40	259	2	1	2	1	1	1	1	2	1	20	325

PAVEMENT & ROADWAY QUANTITIES

REF Nº	STATION FROM	STATION TO	SIDE	I-12 CONCRETE CURB STD. TYPE 2A	STD. TYPE 6	STD. TYPE 7	STD. TYPE 8	I-13 4" CONC. SIDE-WALK	I-21 ST'D CONC. MEDIAN PAV'T. TYPE 1	I-21 TYPE 2
					LIN. FT.			S.F.	S.Y.	
P-1	"A" 0+00	12+24.43	RT.		1224.4					
P-2	"A" 3+67.76	4+67.76	LT.		121.0					31.9
P-3	"A" 12+24.46	43+60.47	RT.	73.3				440		
P-4	"A" 12+05.00	42+76.12	LT.	52.7				102		
P-5	"B" 0+21	1+00	LT.	83.3						
P-6	"B" 0+38	1+17.94	RT.	104.0						
P-7	"B" 2+25	11+86.68	RT.		961.7					
P-8	"B" 8+50	11+86.68	LT.			122	214.7			
P-9	"B-1" 0+00	2+48.5	RT.	248.5				432		
P-10	"B-1" 0+65.96	1+53.95	LT.	92.0					21.4	
SHEET TOTAL				653.8	2307.1	122	214.7	972	21.4	31.9

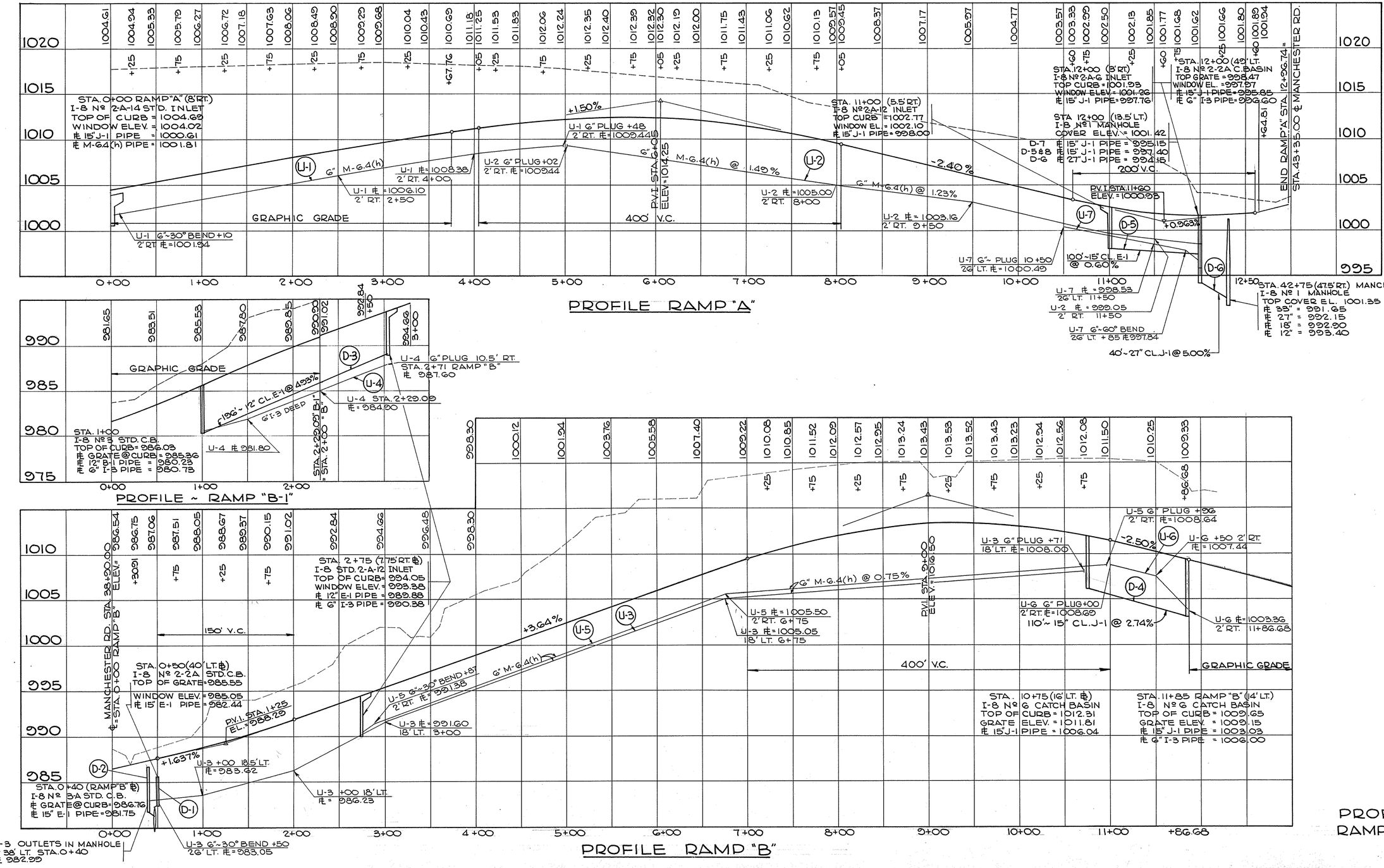
RAMP	EXCAVATION	EMBANKMENT	EMBANKMENT +20%	SEEDING & PROTECT'G
	C.Y.	C.Y.	C.Y.	S.Y.
"A"	18,065	17	20	6754
"B" & "B-1"	18,587	0	0	6506
TOTALS	36,652	17	20	13,260

PLAN
RAMP "A" & RAMP "B"
MANCHESTER RD. INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

115
383

SUMMIT COUNTY
SUM-277-0.46



PROFILE RAMP "A"

PROFILE ~ RAMP "B-1"

PROFILE RAMP "B"

PROFILE
RAMPS "A" & "B"

END AREA	CU. YDS.
CUT	FILL
295	0
	875
38	0
	451
375	0
	1045
455	0
	1630
425	0
	1574
425	0
	1769

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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END AREA	CU. YDS.
CUT	FILL
530	0

STA. 0+00 (8' RT. ℄)
I-8 № 2A-14 INLET
TOP OF CURB = 1004.69
WINDOW ELEV. = 1004.02
℄ 15" J-1 PIPE = 1000.61
℄ 6" T-3 PIPE = 1001.81

4:1 — 4:1 — 4:1 — 2:1 — 2:1 — 2:1

MATCH LINE — 6:1 — 4:1 — 1012.5

4+70 — 1012.02 — 1018.0

4+00 — 1011.18 — 1018.8

3+67.76 — 1010.69

3+00 — 1009.68 — 1018.3

2+00 — 1008.06 — 1018.6

1+00 — 1006.27 — 1018.0

MATCH LINE — TO STA. 143+50 M.L.

0+00 — 1004.61 — 1018.0

SEEDING	
E.W. SY	
46	1010
361	
47	1010
127	
47	1010
347	
45	1010
461	
38	1005
427	
30	1005
411	
35	1005

RAMP "A"
MANCHESTER RD.

STA. 0+00 TO STA. 4+70

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
580	0	1042	0
545	0	1565	0
300	0	1111	0
300	0	1139	0
315	0	1204	0
335	0	1176	0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
300	0	351	0

SEEDING	
E.M.	S.Y.
40	447
42	227
43	472
41	466
51	511
52	572
54	568
	145

ADDITIONAL FOR AREA OUTSIDE L.A.

1000

1.2:1

J
2

T5 JUTE MATTING

9:1

1000.8

BEGIN JUTE MATTING
STA. 10+40

1003.57
10+50
1010.8

1010

1.2:1

9:1

1002.0

1004.77
10+00
1010.0

1005

1.2:1

6:1

1004.4

1007.17
9+00
1011.0

1010

1.2:1

6:1

1006.65

1005.57
8+00
1012.9

1010

1.2:1

8:1

1009.0

1011.43
7+00
1016.1

1010

1.2:1

8:1

1011.7

1012.32
6+00
1018.0

1010

1.2:1

8:1

1012.4

1012.24
5+00
1018.0

RAMP "A"
MANCHESTER RD.

STA. 5+00 TO STA. 10+50

30

80 60 40 20 0 20 40 60 80

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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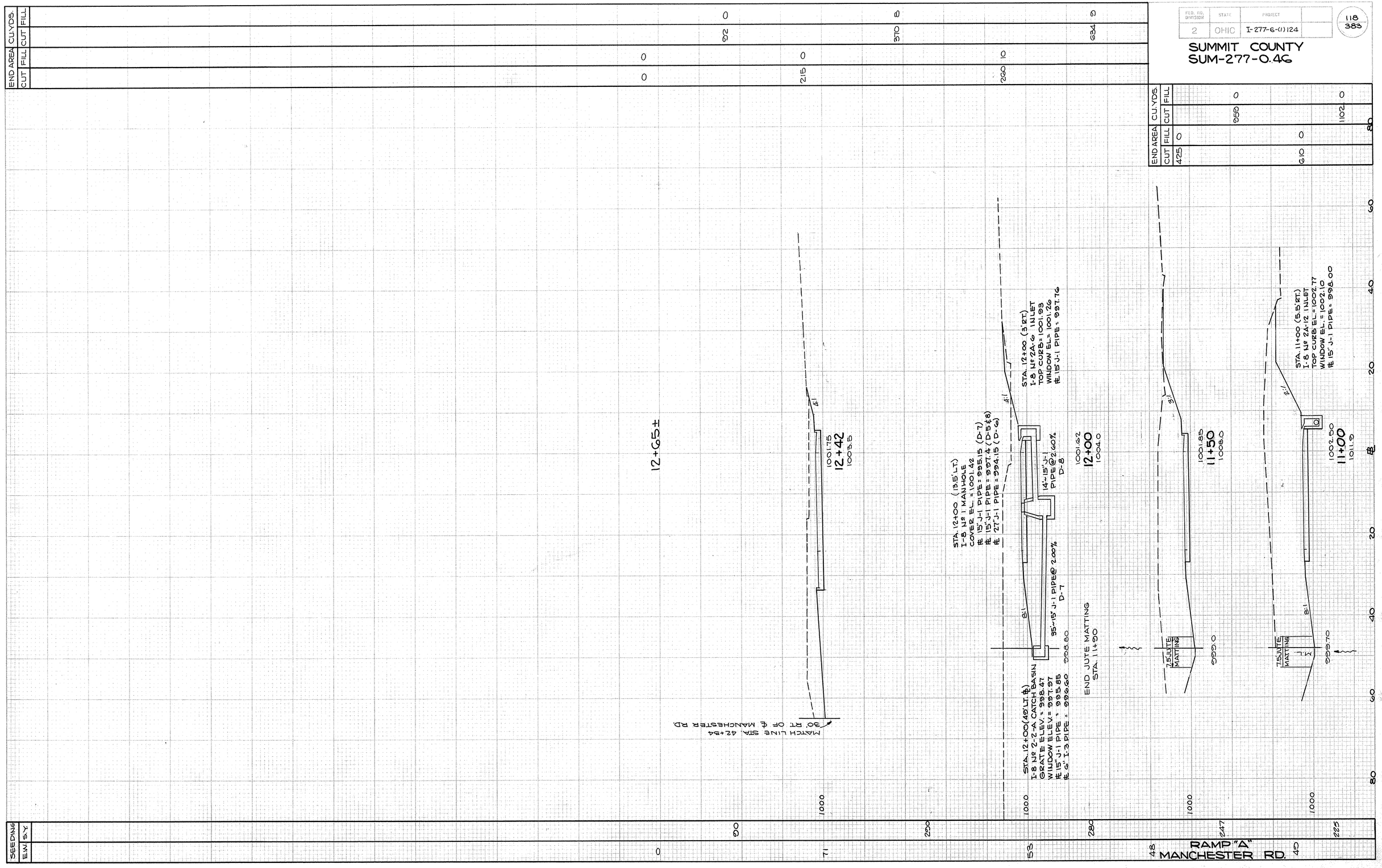
END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
0	0	92	0
0	0	370	0
215	10	634	5

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
425	0	959	0
610	0	1102	0



SEEDING	
E.W. S.Y.	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

		8+00	7+00	6+00	5+00	4+00	3+00	2+00	1+00	0+50	0+34
END AREA	CUT	515	1372	550	2037	550	1917	1720	1257	1250	1426
	FILL	0	0	0	0	0	0	0	0	0	0
CU. YDS.	CUT		1972		2037		1917	1720	1257	1250	1426
	FILL	0		0		0					

		8+00	7+00	6+00	5+00	4+00	3+00	2+00	1+00	0+50	0+34
END AREA	CUT	515	550	550	485	470	425	250	520		
	FILL	0	0	0	0	0	0	0	0		
CU. YDS.	CUT		1065		1035		895	335	770	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
250	0	1417	0

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL	SEEDING E.W. SY.
125	0	117	0	70
60	0	95	0	180
18	0			
65	0			142
175	0			24
		386	0	21 AHD BK. 15
		234	0	
280	0	1011	0	45
350	0	1345	0	511
375	0	1157	0	325
				61

STA. 1+00
I-8 N#5 CATCH BASIN
TOP CURB = 986.05
GRATE ELEV. = 985.56
#12" E-1 PIPE = 980.23
#6" I-3 PIPE = 980.73

985.55
1+00
986.0

4:1

MATCH LINE

984.12
0+65.96
983.0

1:7

MATCH LINE

981.55
0+00
903.7

BEGIN RAMP "B-1"

MATCH LINE

990.80
2+29.09
983.7

END RAMP "B-1"

1:7

MATCH LINE

987.42
1+42
982.0

4:1

MATCH LINE

MATCH LINE

VAR.

STA. 11+85 (14' LT. ℄)
I-8 N#6 CATCH BASIN
TOP OF CURB = 1009.65
GRATE ELEV. = 1009.15
#15" J-1 PIPE = 1003.03
#6" I-3 PIPE = 1006.00

TO
STA. 143+50

1009.35
11+86.68
1016.9

END RAMP "B"

VAR.

1011.50
11+00
1019.7

VAR.

STA. 10+75 (16' LT. ℄)
I-8 N#6 G CATCH BASIN
TOP OF CURB = 1012.31
GRATE ELEV. = 1011.81
#15" J-1 PIPE = 1006.04

1012.06
10+75

VAR.

1013.23
10+00
1020.0

MATCH LINE

VAR.

1013.43
9+00
1018.0

MATCH LINE

RAMP "B" ℄ "B-1"
MANCHESTER RD.

STA. 9+00 TO STA. 11+86.68

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.24	

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SUMMIT COUNTY
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10' PAVED SHOULD'R

STA. 147+58.42 END TAPER

STA. 146+58.42 BEGIN TAPER
END CURB STA. 146+50

ST. STA. 146+38.63

FOR END TAPER DETAILS SEE SHEET NO 227

100' PAV'T TAPER 0' TO 12'
100' PAVED SHOULD'R TAPER 8' TO 10'

BERM

I-12 STD. TYPE 6 CURB

5G LT. C.S. STA. 143+38.63
BEGIN RAMP "A" P.C. STA. 0+00

RAMP "A"

RAMP "A"
CURVE DATA
Δ = 29°28'30"
D_c = 4° 30'
R = 1273.24'
T = 334.52'
L_c = 655.00'

MATCH LINE STA. 1+00

NOTE: ELEVATIONS ADJACENT TO 2-A CURB ARE TO THE BACK OF CURB
ELEVATIONS ADJACENT TO TYPE 6 OR 8 CURB ARE TO THE FACE OF CURB

MATCH LINE STA. 1+00

BERM

I-12 STD. TYPE 6 CURB

NOSE-5G LT STA. 132+58.42 RAMP "A"
=23 LT STA. 3+67.76 RAMP "A"

FOR NOSE DETAIL SEE SHEET NO. 227

100' PAV'T. TAPER 18' TO 16'
PAVED SHOULD'R TAPER 8' TO 7'

STA. 4+67.76

RAMP "A"

TYPE G CURB

PT. STA. 6+55.00

MATCH LINE STA. 7+00

"S.E. CURB RETURN DATA"
Δ = 35°40'25" Δ = 70°19'23"
R = 50.00' R = 6.50'
T = 18.04' T = 4.58'
L = 34.62' L = 7.98'

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

MATCH LINE STA. 7+00

100' PAV'T. TAPER 16' TO 24' WIDTH

END TAPER STA. 8+00

3' PAVED SHOULDER

BERM

RAMP "A"

I-12 STD. TYPE 6 CURB

BEGIN TAPER STA. 10+36.18

P.C. STA. 10+52.87

P.I. STA. 11+19.23

RAMP "A"
CURVE DATA
Δ = 13° 12' 50"
D_c = 10°
R = 572.96'
T = 66.36'
L_c = 132.14'

TAPER CURB
HEIGHT 2"TO 6" IN 10'

P.T. STA. 11+85.02

END TAPER STA. 11+16.17

BEGIN TYPE 2-A CURB 2.5G LT. STA. 12+05.00

P.C. STA. 12+15.00

P.T. 76.12

STA. 12+96.74 RAMP "A" = STA. 43+35.00 MANCH'T'R RD

MANCHESTER RD. SR 93

42+50 ℄ MANCHESTER 43+00

"N.E. CURB RETURN DATA:
Δ = 70°00'
R = 60.00'
T = 42.01'
L_c = 73.30'

3' RT. STA. 12+24.45

PT. STA. 43+69.47

RAMP "A"
PAVEMENT ELEVATIONS & JOINT DETAILS
MANCHESTER RD. INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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SUMMIT, COUNTY
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JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

NOTE: ELEVATIONS ADJACENT TO 2-A CURB ARE TO THE BACK OF CURB. ELEVATIONS ADJACENT TO TYPE G OR 8 CURB ARE TO THE FACE OF CURB.

STA. 0+00 RAMP "B" = STA. 38+90.00 MANCHESTER RD.

"N.E. CURB RETURN DATA"
Δ = 45°13'36" Δ = 25°52'12"
R = 5.00' R = 175.00'
T = 2.25' T = 40.19'
L = 4.30' L = 79.02'

PT. 16' LT. RAMP "B" STA. 1+00

RAMP "B"

RAMP "B-1" CURVE DATA
Δ = 99°20'06"
R = 120.00'
T = 141.34'
L = 208.05'

RAMP "B" CURVE DATA
P.I. STA. 6+34.89
Δ = 13°41'03"
R = 1905.86'
T = 229.16'
Lc = 456.14'
Dc = 3°00'

RAMP "B" NOSE AT MANCHESTER RD.
"CURVE DATA"
Δ = 103°35'42"
R = 5.00'
T = 6.35'
L = 9.04'
P.C. STA. 38+76.50'
P.T. STA. 0+36.75'

BEGIN RAMP "B-1" STA. 0+00 = 29.5' RT. STA. 37+34.50 MANCH'TR

FOR NOSE DETAIL SEE SHEET Nº 227

P.T. STA. 2+08.05 "B-1" 8' RT STA. 1+78.96 "B"

STA. 2+29.05 END RAMP "B" 8' RT. STA. 2+00 RAMP "B"

BEGIN TYPE 6 CURB

75' PAV'T. TAPER 6' TO 0' CURB TRANS. 8' RT. TO 7' RT.

END TAPER STA 3+00

FOR END TAPER DETAILS SEE SHEET NO. 227

P.C. STA. 4+05.73

3' PAVED SHOULDER

BERM

MATCH LINE STA. 6+00

℄ SUM-277

MATCH LN. STA. 10+50

END TYPE 7 CURB

TYPE 8 CURB

STA. 9+86.68

100' PAV'T. TAPER 16' TO 14'

MATCH LN. STA. 10+50

STA. 11+86.68 END RAMP "B" = 69' RT. C.S. STA. 143+38.63

CURB TRANSITION 7' RT. TO 8' RT.

1116.37' PAVEMENT TAPER 2.239' PER 100'

I-12 STD. TYPE G CURB

P.T. STA. 8+61.87

S.T. STA. 14G+38.63

END TAPER STA. 154+55.00

FOR END TAPER DETAILS SEE SHEET Nº 227

STATION	ELEV. RT. EDGE MAINLINE PAV'T. 44' RT. OF ℄	ELEV. OUTSIDE EDGE OF ACCELERATION LANE	DIST. RT. EDGE M.L. PAV'T TO OUTSIDE EDGE ACCEL. LANE
147+00	999.81	999.71	16.91'
147+50	998.67	998.50	15.75'
148+00	997.53	997.30	14.67'
148+50	996.51	996.30	13.55'
149+00	995.49	995.30	12.43'
149+50	994.47	994.25	11.31'
150+00	993.45	993.25	10.15'
150+50	992.43	992.25	9.07'
151+00	991.41	991.25	7.95'
151+50	990.39	990.28	6.83'
152+00	989.31	989.28	5.71'
152+50	988.35	988.28	4.55'
153+00	987.83	987.78	3.47'
153+50	986.31	986.27	2.35'
154+00	985.29	985.27	1.23'
154+50	984.27	984.27	0.11'
154+55	984.17	984.17	0.00'

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "B" MANCHESTER RD. INTERCHANGE

K.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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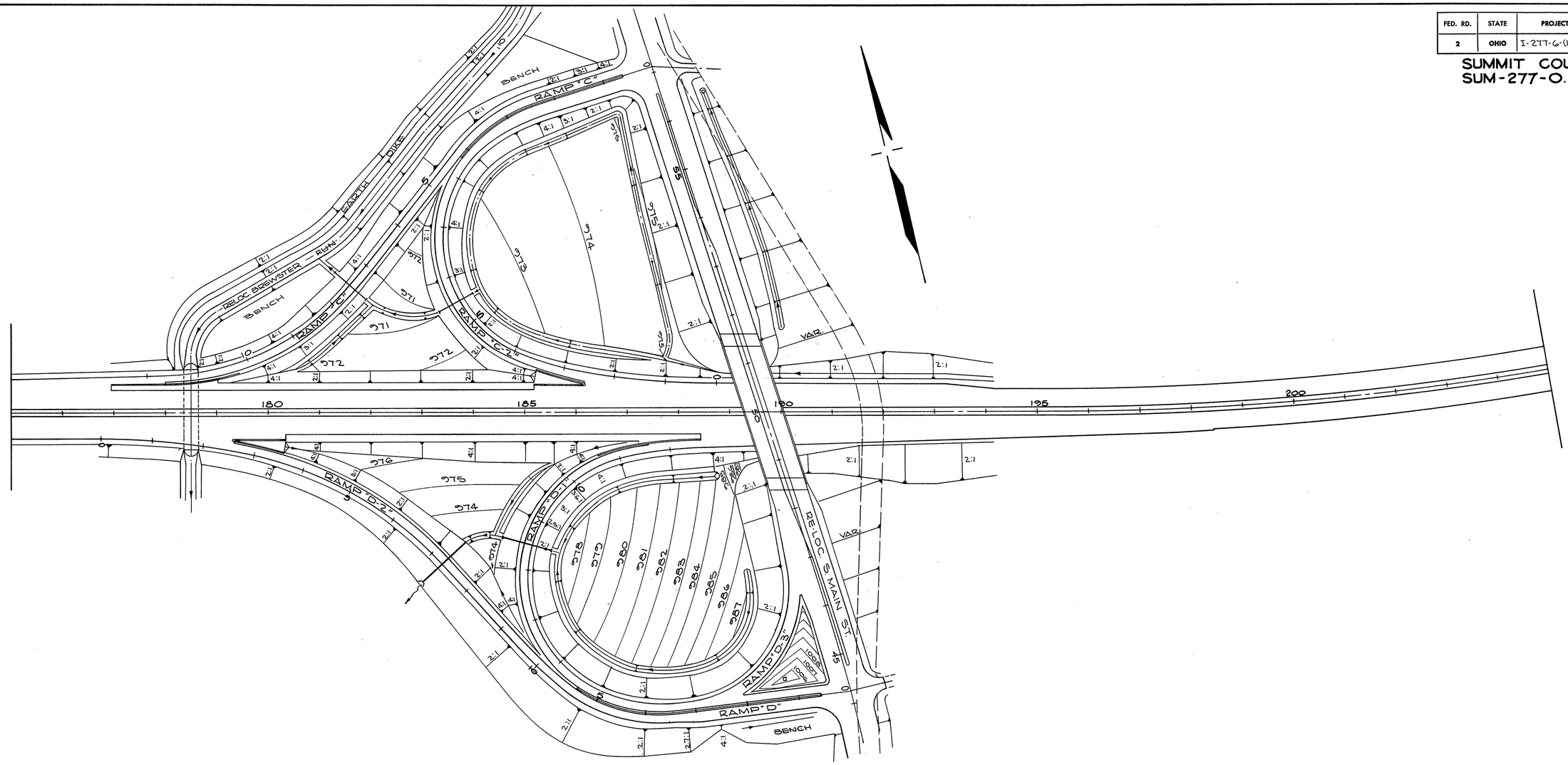
SUMMIT COUNTY
SUM-277-0.46



GRADING PLAN

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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SUMMIT COUNTY
SUM-277-0.46

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	CL. I-3 6" DEEP	CL. F-4 6" M-6.4(c)	CL. F-4 8" M-6.4(c)	CL. J-1 15"	I-2 MASONRY	I-5 PIPE SPECIALS I-3 6" 60° BEND	I-3 6" 60° WYE	I-3 6" 90° BEND	I-3 6"x6" TEE	I-8 Nº 2-G STD. INLET	I-10 DUMPED ROCK CHANNEL PROT'TION	I-14 TYPE 1 PAVED GUTTER MOD. "B"	L-10 SOD
				LIN. FT.		LIN. FT.		LIN. FT.	CU. YDS.	EACH				EACH	CU. YDS.	LIN. FT.	SQ. YDS.
U-1	0+75 RAMP "C"	1+50 RAMP "C"	RT.	82			10					1					
U-2	0+75 RAMP "C"	8+04 RAMP "C-2"	LT.	415			10				1						
U-3	5+25 RAMP "C-1"	10+96 RAMP "C-1"	RT.	568		10	10				1						
U-4	0+00 RAMP "C-2"	0+48 RAMP "C-2"	RT.		52		10			1							
U-5	0+39 RAMP "C-2"	7+96 RAMP "C-2"	RT.	776		10	10						1				
U-6	11+30 RAMP "C-1"	12+65 RAMP "C-1"	RT.	138			10						1				
D-1	0+00 RAMP "C-2"	1+00 RAMP "C-2"	RT.													101	34
D-2	1+00 RAMP "C-2"	1+12 RAMP "C-2"	RT.												7.3		
D-3	8+00 RAMP "C-2"		LT & RT.					64	0.26					1	1.3		
SHEET TOTAL				1979	52	20	60	64	0.26	1	2	1	2	1	8.6	101	34

PAVEMENT & ROADWAY QUANTITIES

STATION FROM	STATION TO	T-71 9" REINF. P.C.C. PAV'T	T-71 10" REINF. P.C.C. PAV'T	I-22 GRADING "A" OR "B" AS PER PLAN	I-22 REGULAR GRADING	E-1 COMP. SUB-GRADE	T-31 BITUMINOUS SURFACE TREATMENT Nº 6 AGG.	T-31 BITUMINOUS SURFACE TREATMENT BIT. MAT'L	B-10 AGG. BASE COURSE	B-21 WATER-PROOFED AGG. BASE COURSE	SPECIAL DRAINAGE CONNECT'N USING Nº 6 AGG.
		S.Y.	S.Y.	C.Y.	C.Y.	S.Y.	C.Y.	GAL.	C.Y.	C.Y.	C.Y.
RAMP "C"											
0+33	4+19.13	1930.12		418.0	48.5	2451	3.47	108.45	14.9	72.3	23.8
RAMP "C-1"											
4+19.13	12+69.40	1497.01		353.2	2.8	2096	4.45	139.14	25.9	92.8	49.1
RAMP "C-2"											
0+00	8+39.67	1050.36	671.61*	361.1	22.5	2244	3.99	124.72	41.5	83.1	52.5
SHEET TOTAL		4486.49	671.61	1133.2	74.6	6791	11.91	372.31	82.3	248.2	125.4

* - FROM STA. 0+00 TO STA. 2+54.99 RAMP "C-2"

PAVEMENT & ROADWAY QUANTITIES

REF Nº	STATION FROM	STATION TO	SIDE	I-12 CONCRETE CURB STD. TYPE 2A	STD. TYPE 6	STD. TYPE 7	STD. TYPE 8	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP)	I-21 CONCRETE MEDIAN PAVEMENT TYPE 1	TYPE 2
				LIN. FT.				LIN. FT.	SQ. YD.	
P-1	"C" 0+33	0+85	RT.	93.5						
P-2	"C" 0+33	0+85	LT.	83.5	5.4					
P-3	"C" 0+66	4+19.13	RT & LT	706.3					78.14	
P-4	"C-1" 4+19.13	5+50	LT.	165.9	113.9				42.78	
P-5	"C-1" 10+25	12+69.40	LT.			65	179.4			23.33
P-6	"C-2" 2+54.99	3+54.99	LT.		146					
GR-1	"C" 0+85	2+50	LT.					165		
GR-2	"C" 1+00	"C-1" 4+25	RT.					325		
GR-3	"C-1" 5+50	9+50	LT.					400		
GR-4	"C-1" 9+96	12+69.40	RT.					272.8		
GR-5	"C-2" 0+02.5	6+52.5	RT.					600		
GR-6	"C-2" 3+55	7+25	LT.					370		
SHEET TOTAL				1049	265.3	65	179.4	2132.8	120.92	23.33

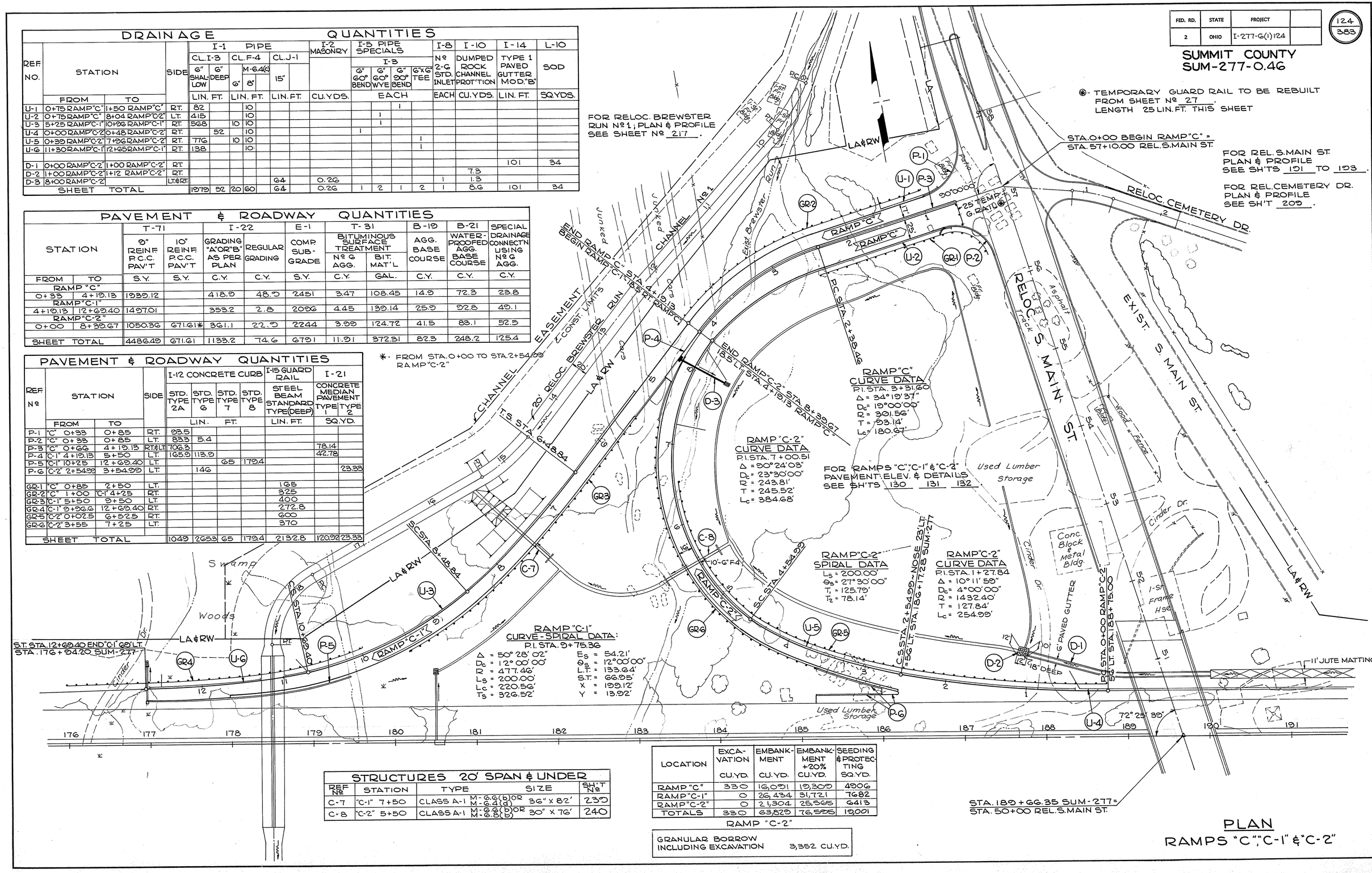
STRUCTURES 20' SPAN & UNDER

REF Nº	STATION	TYPE	SIZE	SH'T Nº
C-7	"C-1" 7+50	CLASS A-1	M-6.6(b) OR M-6.6(d) 36" X 82'	230
C-8	"C-2" 5+50	CLASS A-1	M-6.6(b) OR M-6.6(b) 30" X 76'	240

LOCATION	EXCAVATION CU. YD.	EMBANKMENT CU. YD.	EMBANKMENT +20% CU. YD.	SEEDING & PROTECTING SQ. YD.
RAMP "C"	330	16,091	19,309	4906
RAMP "C-1"	0	26,434	31,721	7682
RAMP "C-2"	0	21,304	25,565	6413
TOTALS	330	63,829	76,595	19001

RAMP "C-2"

GRANULAR BORROW INCLUDING EXCAVATION	3,352 CU. YD.



FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

125
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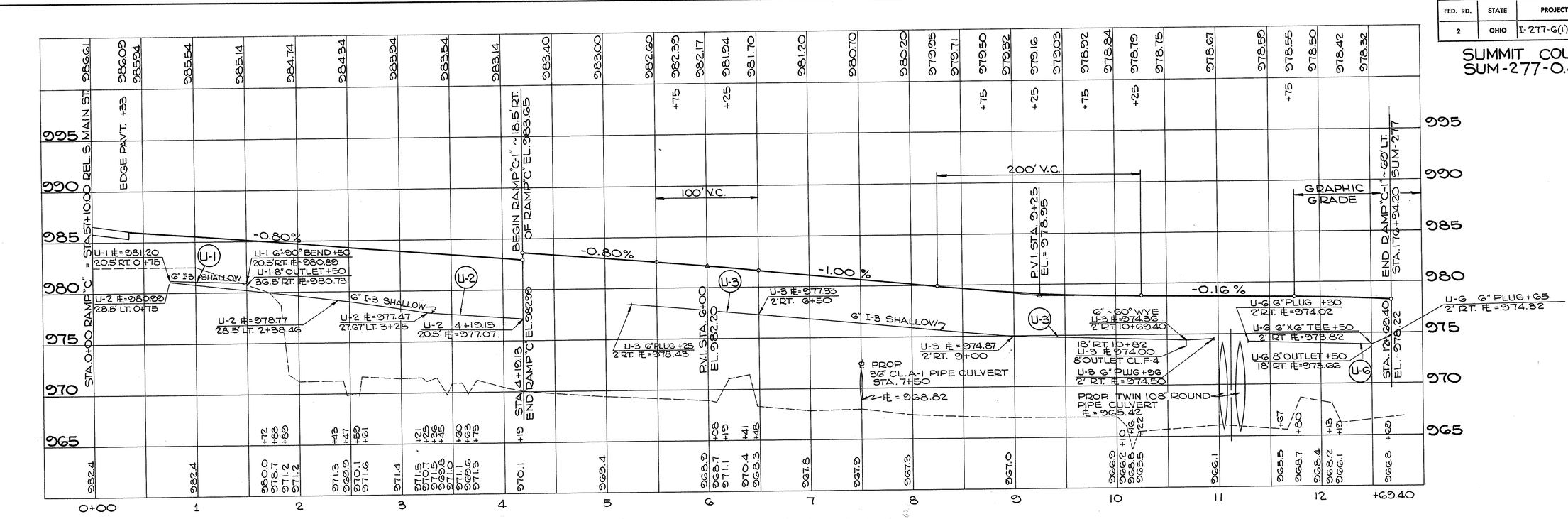
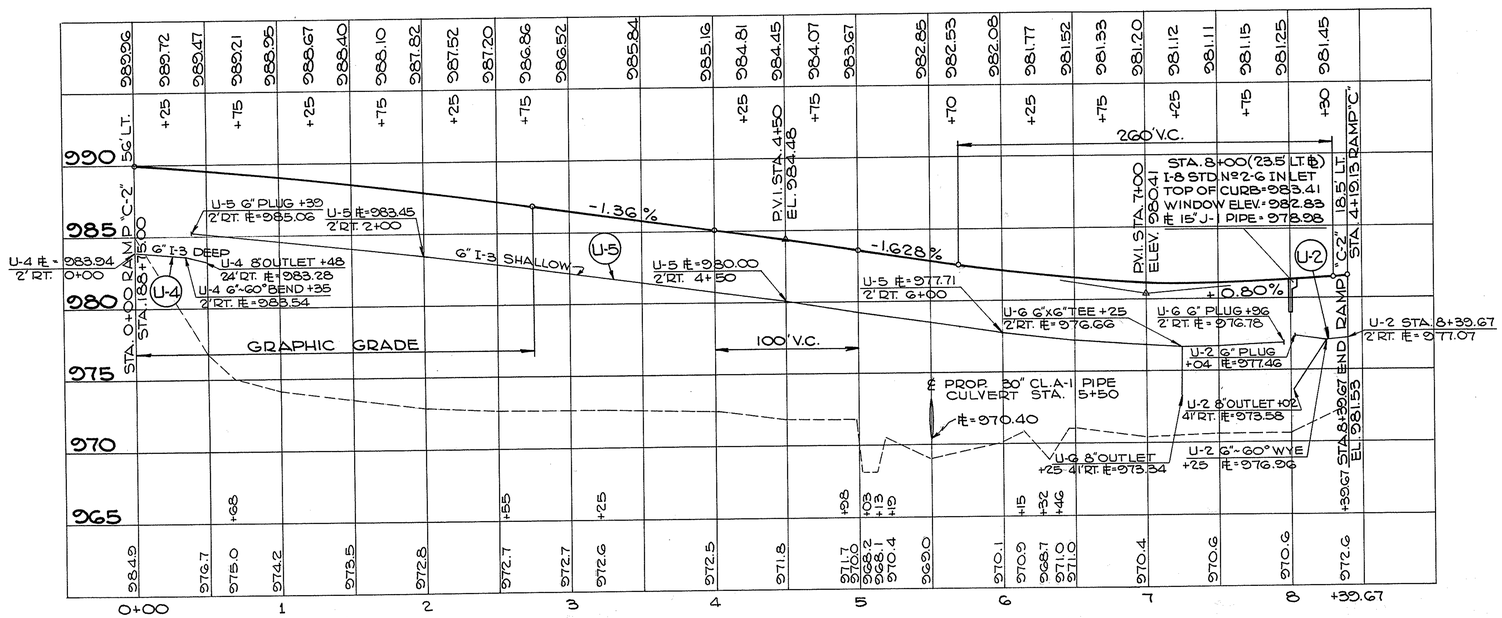
SUMMIT COUNTY
SUM-277-0.46



PROFILES ~ RAMPS "C" & "C-1"



PROFILE ~ RAMP "C-2"

PROFILES
RAMPS C, C-1 & C-2
SOUTH MAIN ST. INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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| END AREA CU.YDS | | |

SEEDING E.W.	SEEDING S.Y.
54	
	970
	425
57	
	970
	76
28	
	970
	597
100	
	970
	1383
149	
	970
123	
	970
647	
110	970
636	
119	970
1144	
87	970
800	
57	
	970
463	
45	
	970

NOTE: FOR DETAILS & PROFILE OF I-8 NO. 6 C.B @ NOSE SEE CROSS-SECTION M., STA. 176+94.20

EDGE OF PAV'T. MAINLINE

978.22
12+69.40
967.0

978.50
12+00
968.4

ADD FOR DIKE 11+50

STA. 11+14± TWIN 108" REIN CONC. CULV.

℄ 967.05 (CHANNEL)
℄ 965.55 (CULVERT)

978.70
10+84
966.3

SP-53'

3:1 @ STA. 10+50

MATCH LINE 39' LT. 17+60 RELOC. CHANNEL

978.84
10+00
966.9

STA. 181+00 MAINLINE 79.5' LT.

971.00

979.32
9+00
967.0

969.60

980.20
8+00
967.8

955.20

36"x82' CULVERT PIPE 0.64%

℄ 968.57

℄ 969.10

980.70
7+50
967.9

971.00

STA. 182+61 MAINLINE 235' LT.

STA. 6+00 RAMP "C-2" 97' LT.

981.20
7+00
967.8

972.50

982.17
6+00
968.9

983.00
5+00
969.4

MATCH LINE BACK ℄ RAMP "C"

MATCH LINE STA. 12+27.06 ℄ CHANNEL 25'

983.65
4+19.13
970.1

RAMP "C-1" ~ S.MAIN ST. INTERCHANGE

STA. 4+19.13 TO STA. 12+69.40

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
0	502		
		0	1089
0	345		
			207
		0	1716
0	454		
		0	2492
0	1148		
		0	4662
0	1370		
			4472
0	1045		
		0	1815
0	915		
		0	1760
0	985		
			3407
0	855		
		0	3019
0	775		
		0	2104
0	630		

100 80 60 40 20 ℄ 20 40

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FED. RD. DIVISION	STATE	PROJECT
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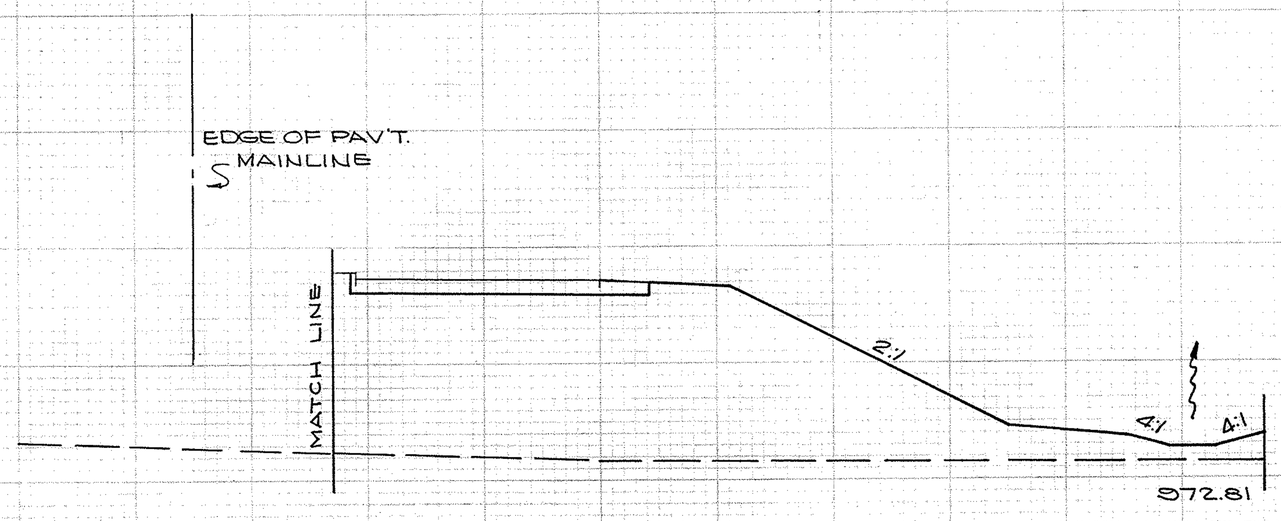
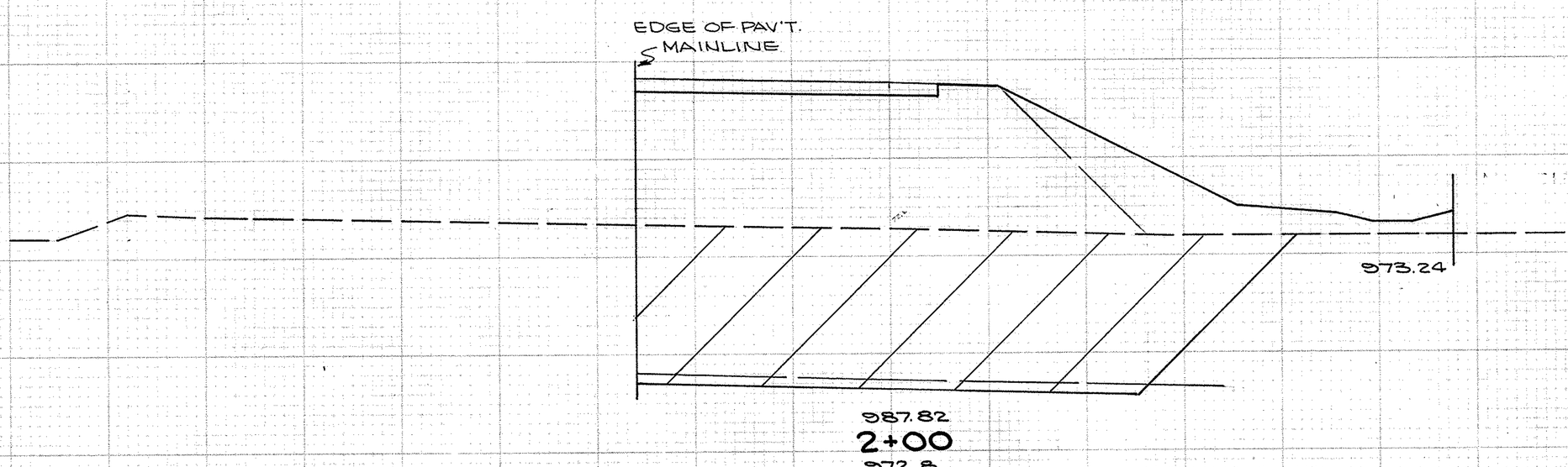
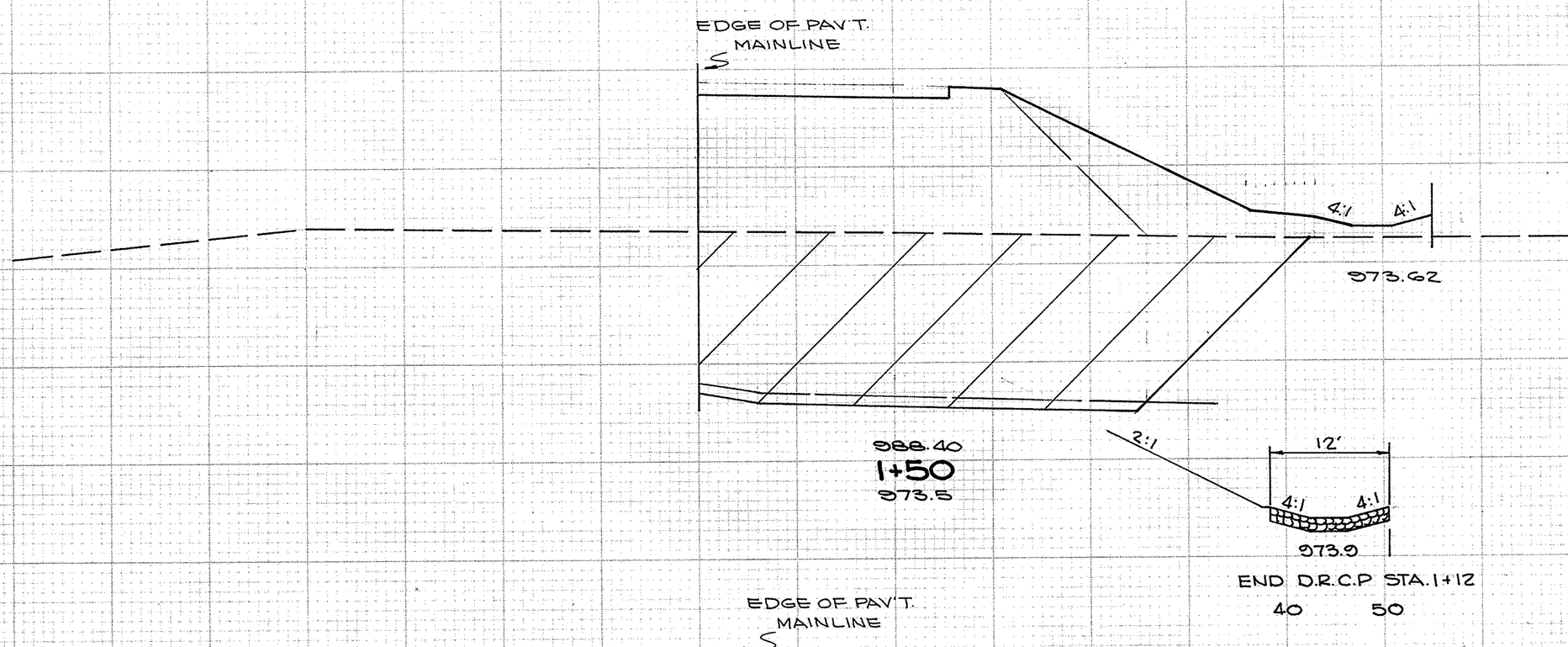
SEEDING	
E.W.	S.Y.
56	
	339
55	
	297
52	
	236
33	
	208
19	
	37
13	

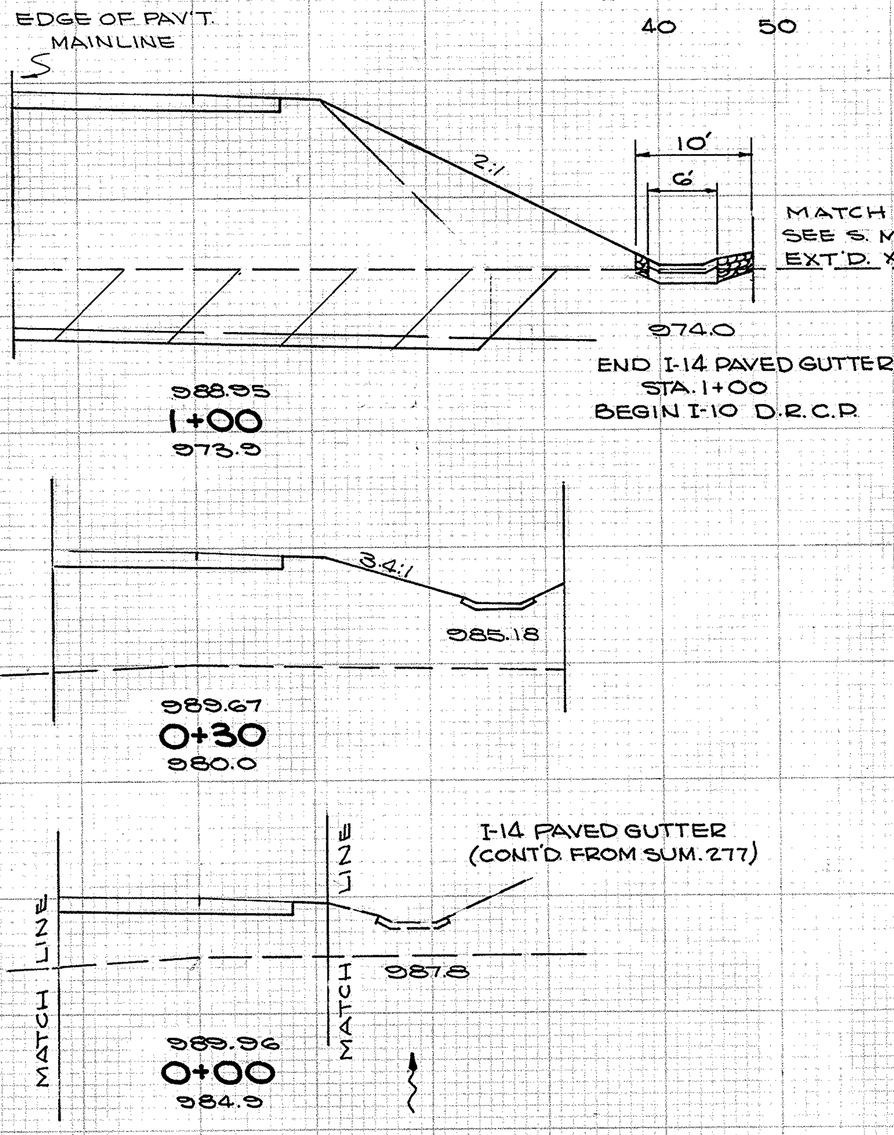
GRANULAR BORROW INCLUDING EXCAVATION		END AREA		CU. YDS.	
END AREA	CU. YDS.	CUT	FILL	CUT	FILL
0		0	745		
0			433	0	1548
935		0	775		
910		0	705		
1088				0	1180
265		0	570		
123				0	1180
0+75	0				

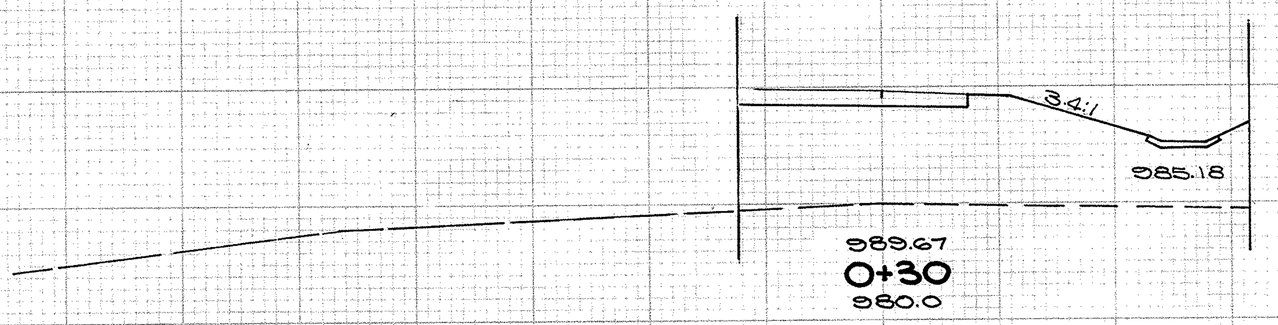
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	340		
		0	242
0	95		

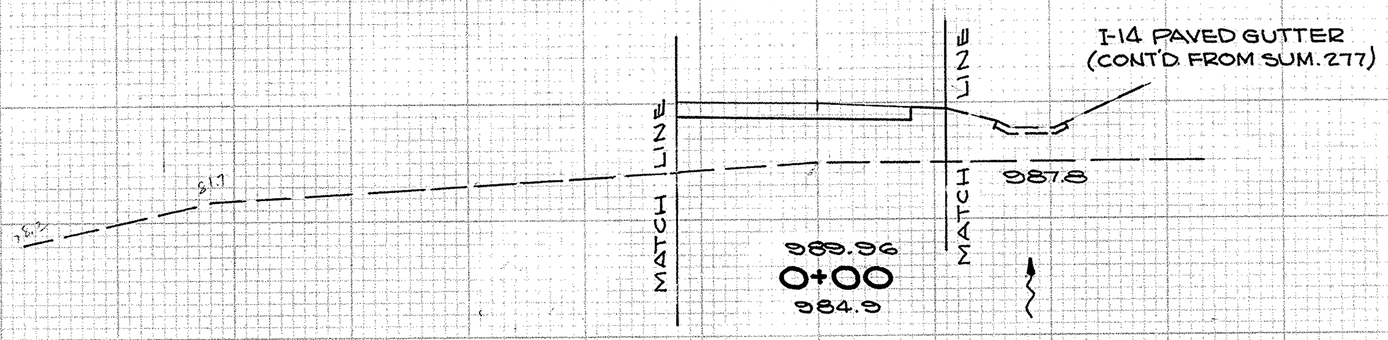












RAMP C-2 S. MAIN ST. INTERCHANGE

STA. 0+00 TO STA. 2+54.99

60 40 20 ℄ 20 40

SUMMIT COUNTY
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FED. RD. DIVISION	STATE	PROJECT	
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SEEDING E.W.	SEEDING S.Y.		END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
55		980				
	248		0	515		
56		980			0	1735
60		980				
	368		0	530		
					0	1083
73		980				
	1128		0	640		
					0	2861
137		980				
	672		0	905		
					0	1672
105		980				
	1183		0	900		
					6	3056
108		980				
	533		3	750		
					7	1403
84		980				
	625		4	765		
66		980				
	538		0	725		
					6	2063
					0	1905

STA. 8+00 (23.5' LT. ℄)
I-8 STD. Nº 2-G INLET
TOP OF CURB = 983.41
WINDOW ELEV. = 982.83
℄ 15" J-1 PIPE = 978.98

981.53
NOSE-8+39.67
972.6

64'-15" J-1 @10.73%

6' X 4' X 1.5' DEEP DUMPED ROCK CHANNEL PROT.

981.25
8+00
970.6

HW-E HEADWALL

℄ = 972.11

971.75

981.11
7+50
970.2

971.62

981.20
7+00
970.4

971.39

982.08
6+00
970.1

970.93

982.85
5+50
969.0

℄ 970.10

30" X 76' PIPE CULVERT 0.64%

℄ 970.59

970.7

MAINLINE
STA. 184+00

973.0

972.0

984.45
4+50
971.8

971.46

MAINLINE
STA. 185+65

978.35

985.16
4+00
972.5

971.78

983.3

3+55

986.18
3+25
972.6

MATCH LINE
SEE S. MAIN ST.
EXT'D. X-SECT.

972.31

MATCH LINE
SEE S. MAIN ST.
EXT'D. X-SECT.

971.1

RAMP "C-2" S. MAIN ST. INTERCHANGE

STA. 3+25 TO STA. 8+39.67

SUMMIT COUNTY
SUM-277-0.46

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-277-6-(1)124

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FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)12.4	

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SUMMIT COUNTY
SUM-277-0.46

NOTE: RAMP "C" ℄ ELEVATIONS FROM STA. 0+75 TO STA. 4+13.13 ARE TO THE BACK OF CURB 1'(FOOT) RT. & 1'(FOOT) LT. OF ℄

"CURVE DATA"
Δ = 90°
R = 60.00'
T = 60.00'
L = 94.25'

P.T. STA. 57+88.50
35.00' LT.

P.C. STA. 0+35.00
18.00' R.T.

RAMP "C"

BERM

6' PAVED SHOULDER

TYPE 2-A CURB

I-21 STD. TYPE 1 MEDIAN

TYPE G CURB

TAPER 2' TO 6' IN 20'

END RAMP "C" STA. 4+13.13
BEGIN RAMP "C-1" STA. 4+13.13

100' TAPER 6' TO 3' SHOULDER

70'

RAMP "C-1"

LINEAR TRANS.

P.C. STA. 2+38.46
BEGIN TAPER (PAVT)

RAMP "C"
CURVE DATA
P.I. STA. 3+31.60
Δ = 34°19'37"
D_c = 19° 00'
R = 301.56'
T = 93.14'
L_c = 180.67'

"CURVE DATA"
Δ = 65°30'46"
R = 10.00'
T = 6.94'
L = 12.13'

P.C. STA. 0+85.00
18.00' LT. F/C

50' R. TO F/C

TYPE 2-A CURB

P.T. ~ 35.00' LT.
STA. 56+34.00

"CURVE DATA"
Δ = 90°
R = 50.00'
T = 50.00'
L = 78.54'

RELOC. SOUTH MAIN ST.

STA. 0+00 RAMP "C" = STA. 57+10.00 REL. S. MAIN

90°00'00"

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

RAMP "C-2"

BERM

GUARD RAIL

MATCH LINE STA. 6+00

FOR CONTINUATION SEE SHEET Nº 132

RAMP "C-2"
CURVE DATA
P.I. STA. 7+00.51
Δ = 50°24'03"
D_c = 23° 30'00"
R = 243.81'
T = 245.52'
L_c = 384.68'

RAMP "C-1"

S.C. STA. 8+48.84

T.S. STA. 6+48.84

MATCH LINE STA. 9+00

MATCH LINE STA. 6+00

3' PAVED SHOULDER

GUARD RAIL

BERM

RAMP "C-1"
CURVE ~ SPIRAL DATA
Δ = 50°28'02"
D_c = 12°00'00"
R = 477.46'
L_s = 200.00'
L_c = 220.56'
T_s = 326.52'
P.I. STA. 9+75.36
E_s = 54.21'
Q_s = 12°00'00"
L.T. = 133.64'
S.T. = 66.55'
X. = 199.12'
Y. = 13.92'

PAVEMENT ELEVATIONS & JOINT. DETAILS
RAMP "C" ~ RAMP "C-1" ~ RAMP "C-2"
SOUTH MAIN ST. INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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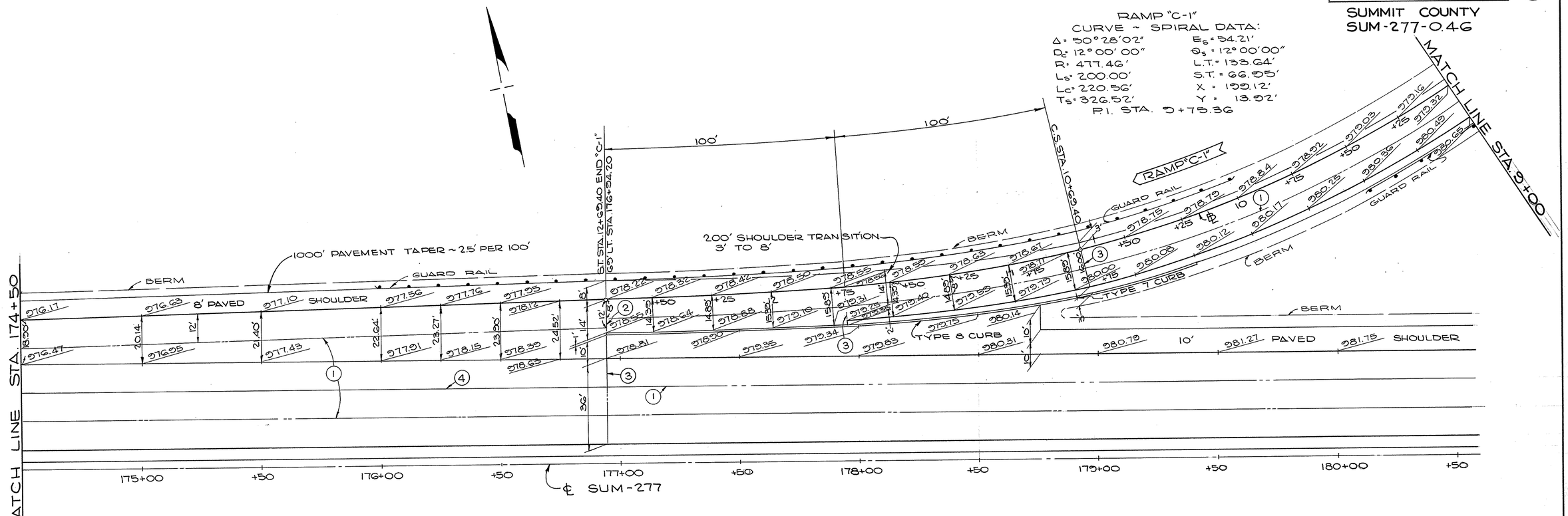
SUMMIT COUNTY
SUM-277-0.46

RAMP "C-1"
CURVE ~ SPIRAL DATA:

Δ = 50°28'02"	E_s = 54.21'
D_c = 12°00'00"	Θ_s = 12°00'00"
R = 477.46'	L.T. = 133.64'
L_s = 200.00'	S.T. = 66.95'
L_c = 220.56'	X = 199.12'
T_s = 326.52'	Y = 13.92'

P.I. STA. 5+75.36

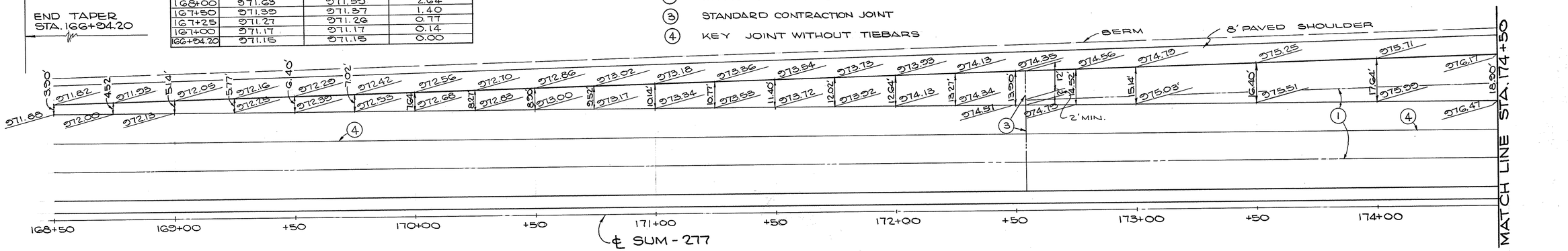


STATION	ELEV. LT. EDGE MAINLINE PAV'T 44' LT. OF ℄	ELEV. OUTSIDE EDGE OF ACCEL ERATION LANE	DIST. RT. EDGE M.L. PAV'T TO OUTSIDE EDGE ACCEL. LANE
168+00	971.63	971.55	2.64
167+50	971.35	971.37	1.40
167+25	971.27	971.26	0.77
167+00	971.17	971.17	0.14
166+94.20	971.15	971.15	0.00

END TAPER
STA. 166+94.20

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS



FOR END TAPER DETAILS
SEE SHEET Nº 227

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "C-1" S. MAIN ST. INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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SUMMIT COUNTY
SUM-277-0.46

FOR CONTINUATION SEE SHEET Nº 130

MATCH LINE STA. 6+00

RAMP "C-2"
CURVE DATA:
PI. STA. 7+00.51
Δ = 90°24'03"
D_c = 23°30'00"
R = 243.81'
T = 245.52'
L_c = 384.68'

RAMP "C-2"
SPIRAL DATA:
L_s = 200.00'
Θ_s = 27°30'00"
T_1 = 125.79'
T_2 = 78.14'

MATCH LINE STA. 189+50

BERM
8' PAVED SHOULDER
GUARD RAIL
RAMP "C-2"
(TYPE G CURB)
10' PAVED SHOULDER
TYPE G CURB
BERM
GUARD RAIL
NOSE-23' LT. C.S. STA. 2+54.99 = 56' LT. STA. 188+17.28 SUM-277
SC STA. 4+54.99
100'
STA. 193+17.28 BEGIN PAVT TAPER
STA. 194+17.28 END PAVT TAPER
10' PAVED SHOULDER
8' PAVED SHOULDER
BEGIN RAMP "C-2" PC STA. 0+00 = 56' LT. STA. 188+75.00 SUM-277
MATCH LINE STA. 189+50

FOR NOSE DETAILS
SEE SHEET Nº 227

FOR END TAPER DETAILS
SEE SHEET Nº 227

RAMP "C-2"
CURVE DATA:
PI. STA. 1+27.84
Δ = 10°11'55"
R = 1432.40'
D_c = 4°00'00"
T = 127.84'
L_c = 254.99'

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS

℄ SUM-277

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "C-2" S. MAIN ST. INTERCHANGE

E.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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SUMMIT COUNTY
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STRUCTURES 20' SPAN & UNDER

REF Nº	STATION	TYPE	SIZE	SH'T Nº
C-9	"D-1" 8+50	CLASS A-1 M-6.6(c)	30" X 100'	241
C-10	"D-2" 7+30	CLASS A-1 M-6.6(d) OR M-6.4(d)	36" X 118'	242

LOCATION	EXCAVATION CU.YD.	EMBANKMENT CU.YD.	EMBANKMENT +20% CU.YD.	SEEDING & PROTECTING SQ.YD.
RAMP "D"	13,200	18,840	22,618	5140
RAMP "D-1"	29,863	16,374	19,649	10,101
RAMP "D-2"	550	54,828	65,794	10,541
RAMP "D-3"	5,171	11,683	14,020	4,618
TOTALS	48,784	101,734	122,082	30,400

RAMP "D-1"

GRANULAR BORROW INCLUDING EXCAVATION	504 CU.YD.
GRANULAR BORROW	751 CU.YD.
GRANULAR BORROW +5%	789 CU.YD.

STA. 189+66.35 SUM-277 = STA. 50+00 S. MAIN ST.

FOR RAMPS "D", "D-1", "D-2" & "D-3" PAVEMENT ELEV. & DETAILS SEE SH'TS 141 142 143.

FOR QUANTITY OF REINF. CONC. RIP RAP ON CHANNEL SEE CULVERT SH'T 242

FOR RELOC. BREWSTER RUN Nº 1 PLAN & PROFILE SEE SHEET Nº 217.

30'-6" F-4 PIPE

P.C. STA. 0+00 BEGIN RAMP "D-2" 56' RT. STA. 176+75.00 ℄ SUM-277

NOSE 23' LT. STA. 2+54.99 D-2" 56' RT. STA. 179+32.73 SUM-277

P.C.C. STA. 2+84.00

REL. BREWSTER RUN Nº 1

LA & RW

℄ CONST. LIMITS

P.T. STA. 7+37.16

RAMP "D-2" CURVE DATA
P.I. STA. 1+42.47
Δ = 11° 21' 36"
D_c = 4° 00'
R = 1432.40'
T = 142.47'
L_c = 284.00'

RAMP "D-2" CURVE DATA
P.I. STA. 5+18.78
Δ = 36° 18' 01"
D_c = 8° 00'
R = 716.20'
T = 234.78'
L_c = 453.76'

RAMP "D-1" CURVE DATA
P.I. STA. 9+79.88
Δ = 121° 29' 51"
D_c = 23° 30'
R = 243.81'
T = 435.33'
L_c = 517.01'

RAMP "D-1" SPIRAL DATA
L_s = 200'
Θ_s = 23° 30'
L.T. = 134.53
S.T. = 67.75
D_c = 23° 30'

11' JUTE MATTING 0+61.56

END TAPER & TYPE 2A CURB STA. 48+23.28

S.T. STA. 12+61.56 END RAMP "D-1" 69 RT. STA. 188+40.20 SUM-277

RAMP "D-3" CURVE DATA
P.I. STA. 2+43.19
Δ = 95° 10' 58"
D_c = 26° 00'
T = 243.19'
L_c = 366.09'
R = 220.37'

P.C. STA. 0+00 RAMP "D-3" 49' LT. STA. 46+98.28 REL. S MAIN

NOSE 22' LT. STA. 0+50.00 D-3 43' LT. STA. 46+32.08 S MAIN ST.

12" TEMP. G. RAIL

RELOC. S. MAIN ST.

EXIST. S. MAIN ST.

PT. STA. 45+63.83

72° 25' 30"

RAMP "D" CURVE DATA
P.I. STA. 4+49.46
Δ = 39° 47' 44"
D_c = 20° 00'
R = 286.48'
T = 103.69'
L_c = 198.98'

P.C.C. STA. 5+44.55 RAMP "D" END RAMP "D-1"

BEGIN "D-1" P.C.C. STA. 2+74.22 D-3 185' RT. RAMP "D" END RAMP "D-3"

NOSE 19' LT. STA. 2+74.22 D-3 20' RT. STA. 2+16.54 D

P.C. STA. 3+45.57

END "D-3" STA. 3+49.60 D 185' RT. STA. 3+16.26 D

T.S. STA. 9+40.93

S.C. STA. 10+39.93 END D-2 185' LT. D STA. 5+44.55

RAMP "D-2" SPIRAL DATA
L_s = 150'
Θ_s = 14° 05' 24"
L.T. = 100.32'
S.T. = 50.29'
D_c = 18° 47' 12"

3+77.11

PAV'T TAPER

SWARTZ RD.

25' TEMP G. RAIL

CONST. LIMITS

STA. 0+00 RAMP "D" = STA. 44+25.40 RELOC. S. MAIN ST.

FOR RELOC. S. MAIN ST. PLAN & PROFILE SEE SH'T Nº 191-193

* TEMPORARY GUARD RAIL TO BE REBUILT FROM SHEET Nº 24, 26 & 27 LENGTH 150 LIN. FT. THIS SHEET

DRAINAGE QUANTITIES

REF NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHAL-LOW (LIN. FT.)	CL. I-3 6" DEEP (LIN. FT.)	CL. I-3 6" M-6.4 (h) (LIN. FT.)	CL. F-4 6" (LIN. FT.)	CL. F-4 M 64(C) 8" (LIN. FT.)	CL. F-4 M 64(C) 15" (LIN. FT.)	CL. E-1 12' (LIN. FT.)	CL. J-1 6" (LIN. FT.)	CL. J-1 15" (LIN. FT.)	I-2 MASONRY (CU.YDS.)	I-5 PIPE SPECIALS F-4 15" 25° BEND (EACH)	I-3 6" 60° BEND (EACH)	I-3 6" 90° BEND (EACH)	I-3 6" XG TEE (EACH)	I-3 6" 60° WYE (EACH)	I-8 INLET Nº 2-8 STD. (EACH)	I-8 CATCH BASINS Nº 6 STD. (EACH)	I-8 Nº 2-2-B STD. (EACH)	I-8 Nº 2-2-A STD. (EACH)	I-8 Nº 3-A STD. (EACH)	I-10 DUMP ROCK CHAN. PROT. C.Y.	L-120 JUTE MAT-TING S.Y.	L-10 SPECIAL BERM & SLOPE PROTECT. SQ.YDS.
U-1	0+37 RAMP "D"	2+15 RAMP "D"	LT.		188		10											1									
U-2	0+50 RAMP "D"	2+19.34 RAMP "D"	RT.	160			10																				
U-3	0+00 RAMP "D-3"	5+68 RAMP "D-1"	RT.	961		18	20	10						1			1										
U-4	9+54 RAMP "D-1"	12+61.56 RAMP "D-1"	RT.	328				10						1			1										
U-5	0+00 RAMP "D-2"	2+53 RAMP "D-2"	RT.	223			30																				
U-6	2+57 RAMP "D-2"	10+50 RAMP "D-2"	RT. & LT.	788			10	10			20				2		1										
U-7	2+23 RAMP "D"	2+90 RAMP "D"	LT.		76		10											1									
D-1	1+25 RAMP "D"	2+19.34 RAMP "D"	RT.							96											1						
D-2	2+74.22 RAMP "D-3"		LT. & RT.						42			38	0.26	2											1.3		
D-3	5+85 RAMP "D-1"		LT. & RT.						50			28	0.26	2					1						1.3		
D-4	8+63 RAMP "D-1"	12+61.56 "D-1"	RT.																							428	
D-5	12+55.5 RAMP "D-1"		RT.																								37.5
D-6	2+54.99 RAMP "D-2"		LT.						30			32	0.26	2							1				1.3		
D-7	2+19.34 RAMP "D"		LT.									62															
SHEET TOTAL				2460	264	18	90	30	122	96	20	160	0.78	6	1	2	2	3	1	1	1	1	1	3.9	428	37.5	

PAVEMENT & ROADWAY QUANTITIES

STATION FROM	STATION TO	T-71 9" REINF. P.C.C. PAV'T (SQ. YD.)	T-71 10" REINF. P.C.C. PAV'T (SQ. YD.)	I-22 GRADING "A" OR "B" AS PER PLAN (CU. YD.)	I-22 REGULAR GRADING (CU. YD.)	E-1 COMP. SUB-GRADE (SQ.YD.)	T-31 BITUMINOUS SURFACE TREATMENT Nº 6 AGG. (CU.YD.)	T-31 BIT. MAT'L (GAL.)	B-19 AGG. BASE COURSE (CU.YD.)	B-21 WATER-PROOFED AGG. BASE COURSE (CU.YD.)	SPECIAL DRAINAGE CONNECT'N USING Nº 6 AGG. (CU.YD.)
RAMP "D"											
0+37	5+44.55	2364.79		463.8	50.77	2930	3.67	114.64	27.8	76.4	28.5
RAMP "D-1"											
5+44.55	12+61.56	1270.87		311.8	2.78	1803	3.68	114.88	18.8	76.6	52.4
RAMP "D-2"											
0+00	10+90.93	1511.21	G71.61*	456.4	22.92	2993	6.29	196.63	50.2	131.1	67.0
RAMP "D-3"											
48+23.28	3+66.09	798.51		164.0	2.72	960	1.14	35.51	1.4	23.7	29.7
S. MAIN ST.											
SHEET TOTAL		5945.38	G71.61	1396.0	79.19	8686	14.78	461.66	98.2	307.8	177.6

* - FROM STA. 0+00 TO STA. 2+54.99 RAMP "D-2"

PAVEMENT & ROADWAY QUANTITIES

REF Nº	STATION FROM	STATION TO	SIDE	I-12 CONCRETE CURB STD. TYPE 2A (LIN. FT.)	STD. TYPE 6 (LIN. FT.)	STD. TYPE 7 (LIN. FT.)	STD. TYPE 8 (LIN. FT.)	I-15 GUARD RAIL STEEL BEAM STANDARD TYPE (DEEP) (LIN. FT.)	I-21 CONCRETE MEDIAN PAVEMENT TYPE 1 (SQ.YD.)	I-21 CONCRETE MEDIAN PAVEMENT TYPE 2 (SQ.YD.)
P-1	S. MAIN 44+50.55	"D" 0+77.27	LT.	79.6	6.0					
P-2	S. MAIN 43+56.50	D 2+19.34	RT.	184.4						
P-3	"D" 0+63	"D-1" 6+55	RT. & LT.	1184.5	107.0				178.9	
P-4	"D-1" 10+61.56	12+61.56	LT.			61.4	138.6			
P-5	"D-2" 2+54.99	3+54.99	LT.		146.0					23.33
P-6	"D-3" 0+58.99	2+74.22	LT.	238.8					19.44	
P-7	S. MAIN 47+60	48+23.28	LT.	61.7						
GR-1	"D-2" 0+00	"D" 2+50	RT. & LT.					1385.5		
GR-2	"D-2" 4+00	"D-2" 9+00	LT.					500		
GR-3	"D-3" 0+00	"D-1" 10+54.5	RT.					1212.5		
GR-4	"D-1" 7+49	"D-1" 10+61.5	LT.					312.5		
SHEET TOTAL				1749.0	259.0	61.4	138.6	3410.5	198.34	23.33

PLAN
RAMPS "D", "D-1", "D-2" & "D-3"

FED. RD.	STATE	PROJECT	
2	OHIO	I-2776(1)124	

134
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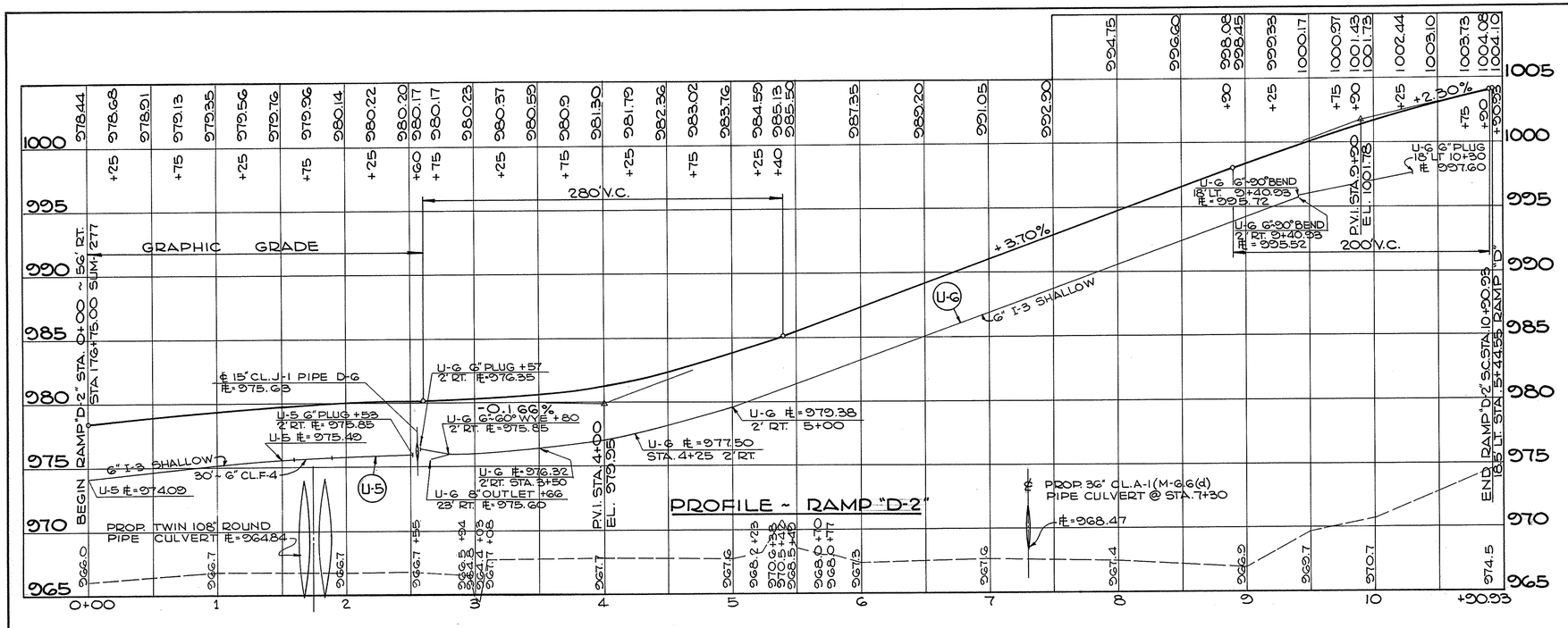
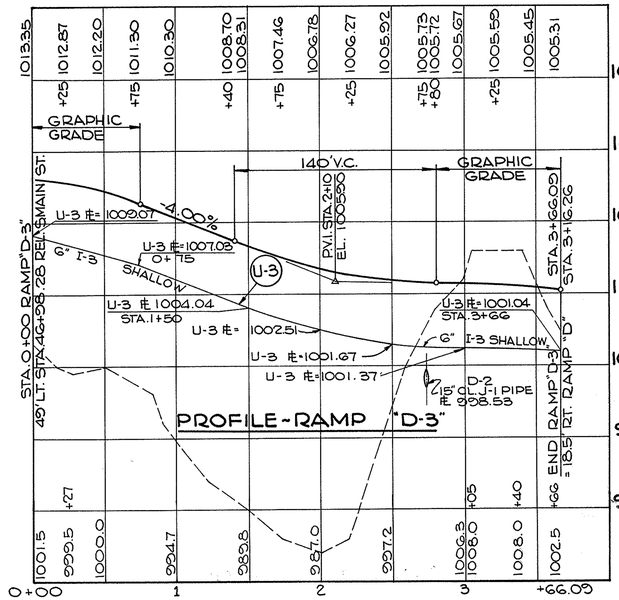
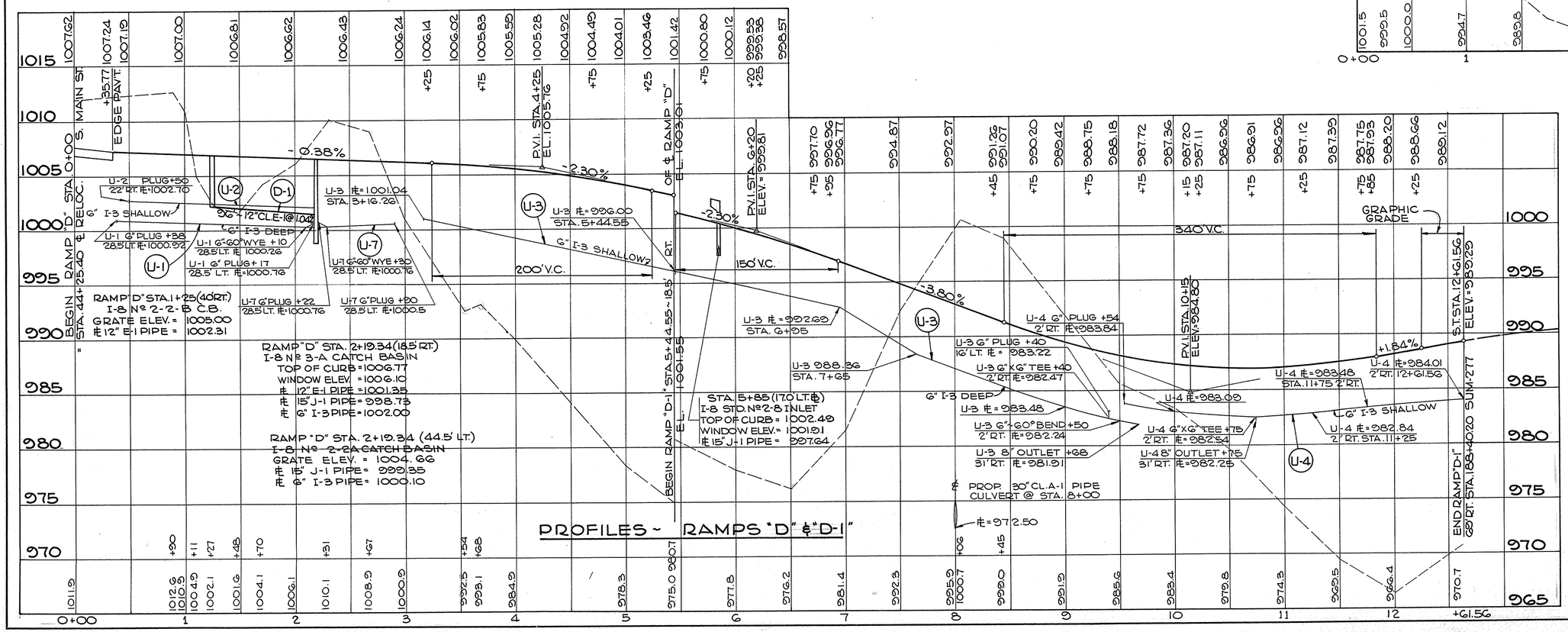
SUMMIT COUNTY
SUM-277-0.46







PROFILES
RAMPS ~ D, D-1, D-2 & D-3
SOUTH MAIN ST. INTERCHANGE

END AREA		CU.YDS
CUT	FILL	CUT FILL
980	780	1403 4793
980	2855	3826 8713
720	2856	4301 3706
1385	1850	147 671
1390	540	1621
530	0	
120	15	597 505
215	0	
250	325	695 417

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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END AREA		CU.YDS.
CUT	FILL	CUT FILL
498	55	812 33
490	55	1157
	0	0
	880	905

I-8 RAMP D-1 AHEAD

1003.01
5+44.55
975.0
END RAMP "D"

1004.00
5+00
976.3

1005.58
4+00
984.5

1006.17
3+16.26
988.4

1006.42
2+50
1009.0

1006.54
NOSE 2+19.34
1007.7

1006.80
1+50
1001.0

1007.00
1+00
1010.9

1007.12
0+68
1012.7

1007.10
0+33
1012.2

I-8 RAMP D-2 AHEAD

AH BK AHD BKD

2:1 4:1

MATCH LINE

FULL SECTION AHEAD
MATCH LINE BACK

3:1 @ 3+00

2:1 @ 3+50

STA. 2+19.34 (44.5' LT ℄)
I-8 Nº 2-2A CATCH BASIN
GRATE ELEV. 1004.66
℄ 15" J-1 PIPE 999.35
℄ 6" I-3 PIPE 1000.10

62-15" CL J-1 PIPE @ 1.00%

STA. 2+19.34 (18.5' RT ℄)
I-8 Nº 3-2A CATCH BASIN
TOP CURB ELEV. 1006.77
WINDOW ELEV. 1006.10
℄ 12" E-1 PIPE 1001.35
℄ 15" J-1 PIPE 998.79
℄ 6" I-3 PIPE 1002.00

SEEDING

EW.	S.Y.
214	
1350	B
326	
2816	A
181	
1582	
1584	AH
918	BK
403	
45	
167	
48	
479	
77	
433	
79	AH, D7
254	BK
164	
124	
0	

RAMP D - MAIN ST. INTERCHANGE

STA. 0+33 TO STA. 5+44.55

SEEDING	
E.W.	S.Y.
171	
	961
175	
	964
172	
	1033
200	
165	
	1331
117	
	827
112	
111	
108	
114	

END AREA CU. YDS.			
CUT	FILL	CUT	FILL
925	195		
		2088	273
1330	100		
		3190	93
2115	0		
		5028	0
3315	0		
		5328	0
		5848	1275
		2087	2083
1165	920		
		2176	1570
1185	775		
1275	810		
		2223	1597
980	980		

MATCH LINE
84' RT. OF
STA. 185+50
M.L.
980
4:1
2:1
977.0
987.36
10+00
983.4
3.6:1
G
980
100
120
MATCH LINE
G
1' JUTE
MATTING
4:1
975.8
4:1
G
F
390
980
F
80
100
MATCH LINE
F

MATCH LINE
122' RT. OF
STA. 185+00
4:1
4:1
974.75
988.18
9+50
985.6
3:1
975.2
F
E
MATCH LINE
403' LT. OF
STA. 48+55
S. MAIN ST.
980
E
100

MATCH LINE
980
4:1
4:1
973.19
989.42
9+00
991.9
2.5:1
11' JUTE
MATTING
974.6
E

990
A
MATCH LINE
A
A
℄ 971.55
991.07
8+50
999.0
2:1
100' ~ 30" CLASS A-1M-6.6(C) PIPE CULV. @ 2.67%
A
I-10 REIN. CONC. RIPRAP
30" OUTLET
℄ = 970.87
HW-№1
HEADWALL
992.97
8+00
995.9
2:1
MATCH LINE
RAMP "D-2"
7' LT. 8+00
980
974.0
BEGIN 11' JUTE
MATTING STA. 8+60
END 11' I-10 REIN.
CONC. RIPRAP
980
100
D
MATCH LINE
D
974.0
D
C
HW-№1
HEADWALL
℄ = 973.54
30" INLET
BEGIN 11' I-10 REIN.
CONC. RIPRAP
STA. 8+40
C
MATCH LINE
980
100
C
974.6
C

MATCH LINE
RAMP "D-2"
35' LT. STA. 9+00
4.5:1
996.20
7+15
984.0
975.6
MATCH LINE
449' LT. OF
STA. 47+60
S. MAIN ST.

990
MATCH LINE
998.57
6+50
976.2
976.5
B
B
MATCH LINE
980
100
B
A

STA. 5+85 (17.0 LT. ℄)
I-8 STD. № 2-8 INLET
TOP OF CURB = 1002.49
WINDOW ELEV. = 1001.91
℄ 15" J-1 PIPE = 997.64
28'~15" J-1 @ 4.00%
CONC. COLLAR
F-4 25° BEND
℄ = 996.52
2:1
42'~15" CL. F-4 @ 50.59%
MATCH LINE
℄ 15" = 977.66
6'X 4'X 1.5' DEEP
D.I. 2. C.P.
978.4
4:1
4:1
977.4
A
CL. F-4 25° BEND
℄ = 977.80
8'~15" CL. F-4 @ 1.50%
HW-E
HEADWALL
A
MATCH LINE
428' LT. OF
STA. 46+98.28
S. MAIN ST.
1000.12
6+00
977.8
80
100
4:1
RAMP "D" STA. 5+44.55

RAMP "D-1" S. MAIN ST. INTERCHANGE
STA. 6+00 TO STA. 10+00

80 60 40 20 ℄ 20 A 40 60

SUMMIT COUNTY
SUM-277-0.46

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(11)124	

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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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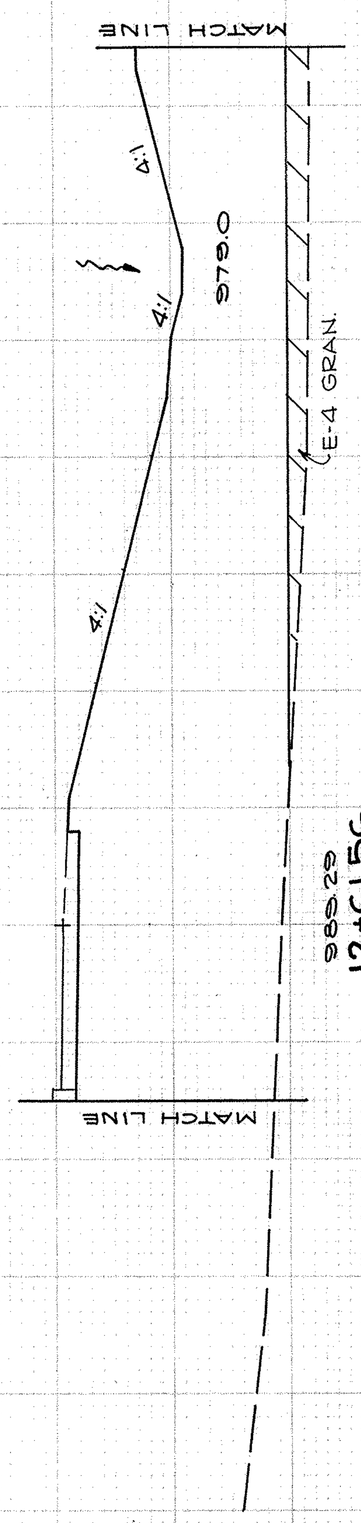
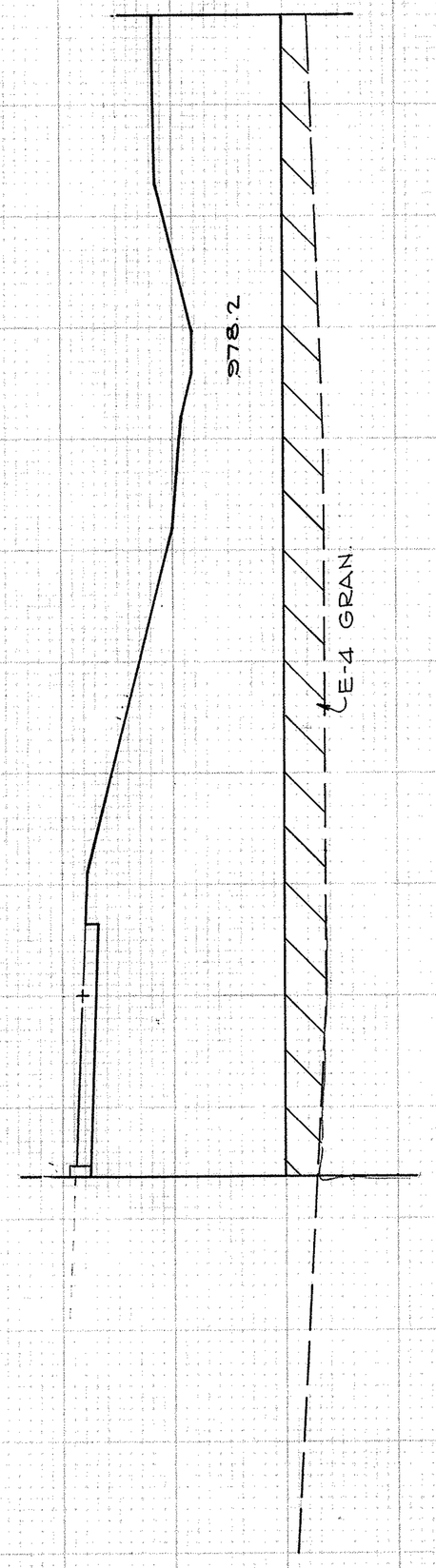
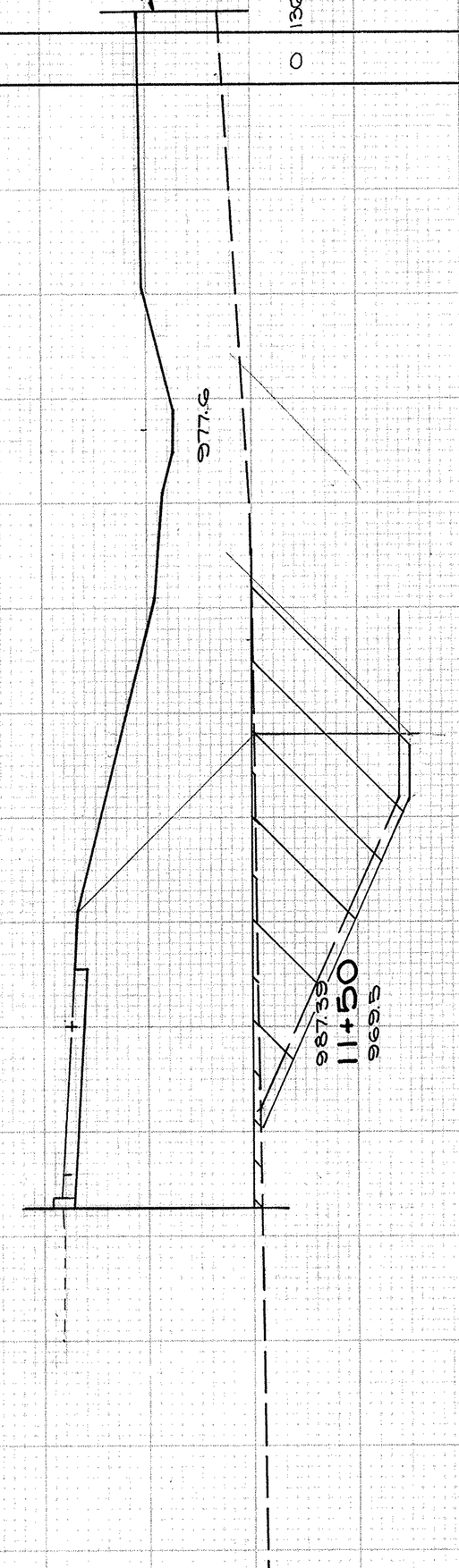
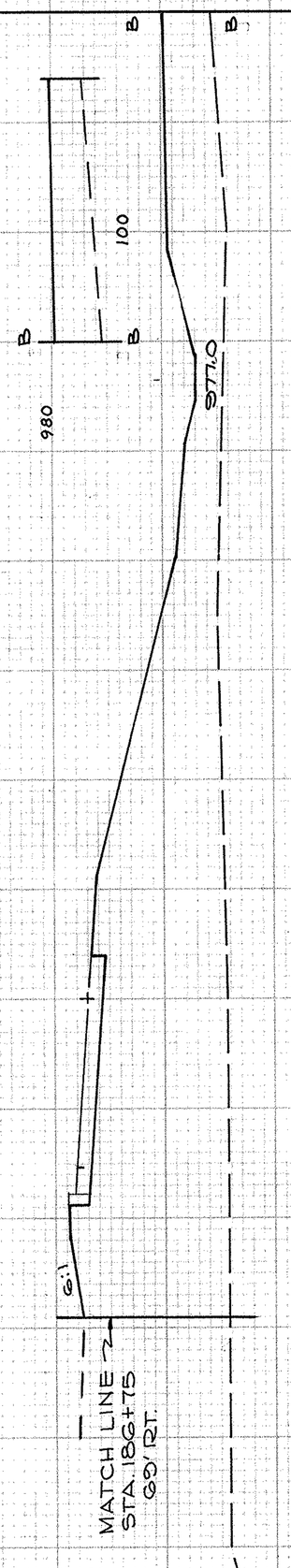
SUMMIT COUNTY
SUM-277-0.46

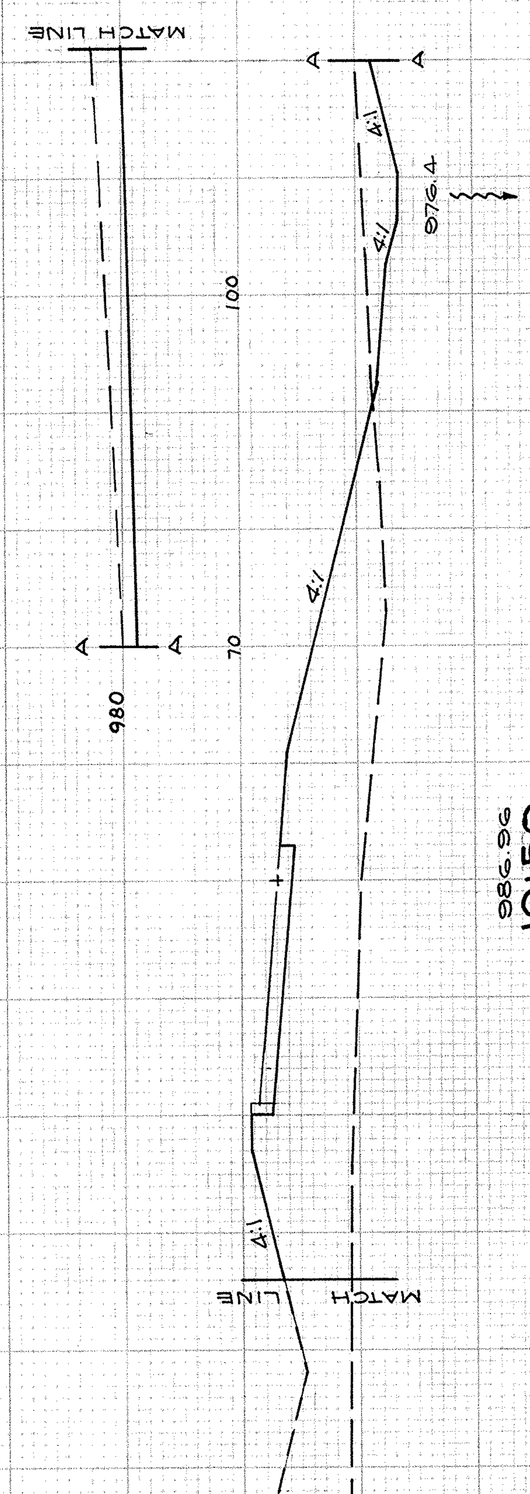
	END AREA	CU.YDS.	GRANULAR BORROW AS PER PLAN	GRANULAR BORROW INCLUDING EXCAVATION
	CUT / FILL	CUT / FILL	END CU. AREA / CU. YDS.	END CU. AREA / CU. YDS.
12+61.56	0 / 1250	0 / 2947	65 / 433	0
12+00	0 / 1335	0 / 2495	315 / 314	0 / 336
MATCH LINE 264 LT. OF STA 45+00 S. MAIN ST.	0 / 1360	0 / 2166	24 / 428	4 / 198
11+50	0 / 680	0 / 1301	0 / 1125	0
10+77	0 / 63	0 / 574		
	125 / 425	972 / 5574		











| SEEDING | | |

SUMMIT COUNTY
SUM-277-0.46

END AREA	CU YDS.
CUT	FILL
0	1257
	408

| END AREA | CU YDS. | | |

SEEDING	
E.W.	S.Y.
127	
	980
	1208
112	
	980
	1277
118	
	980
	2522
156	
	980
	1334
187	
	980
	618
184	
	970
	1966
170	
	970
	951

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
AH'D 0	0		
BK. 0	2140		
		0	7157
0	2110		
		0	7944
0	2180		
		44	7759
		24	2010
		225	5043
		150	1885
		128	2008
		80	1730
		148	6370
0	1710		
		0	3088

MATCH LINE

1004.10
NOSE STA. 10+90.93
974.5

2:1

1001.73
10+00
970.7

4:1

998.45
9+00
966.9

MATCH LINE
RAMP "D-1"
STA. 8+00

2:1

994.75
8+00
967.4

974.00

MATCH LINE
RAMP "D-1"
STA. 8+50

DUMPED ROCK
CHANNEL PROT.
7'

118' ~ 36" CLASS A-1(M-6.6(d) PIPE CULVERT @ 1.00%

I-10 REIN. CONC. RIPRAP

℄ 969.12
36" INLET

℄ 967.94
36" OUTLET

992.16
7+30
967.5

2:1

2:1

991.05
7+00
967.6

MATCH LINE

987.35
6+00
967.3

100 80 60 40 20 ℄ 20 40

RAMP "D-2" - S. MAIN ST. INTERCHANGE

STA. 6+00 TO STA. 10+90.93

SUMMIT COUNTY
SUM-277-0.46

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	—

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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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388

SUMMIT COUNTY
SUM-277-0.46

END AREA CU.YDS.		
CUT	FILL	CUT FILL
1350	10	3726 102
800	50	1200 2268
0		1900 108 2717
130		1960 135 2847
3		1135 2 1582
0		1000 0 2167

END AREA CU.YDS.		
CUT	FILL	CUT FILL
0		950

MATCH LINE

MATCH LINE
18.5' RT. STA. 3+19.26
RAMP "D"
BACK
FULL SECTION RAMP "D" AHEAD

3+66.09
1002.15

MATCH LINE BACK
20' RT. STA. 2+19.34
RAMP "D"
19' LT. OF STA. 2+74.22

2+74.22
1003.0

MATCH LINE AHD
18.5' RT. OF
STA. 2+19.34
RAMP "D"

18.5' RT. RAMP "D" ℄ STA. 2+19.34
1-S № 3-A CATCH BASIN
TOP CURB ELEV. = 1006.77
WINDOW ELEV. = 1004.10
℄ 15" J-1 PIPE = 998.73
℄ 12" E-1 PIPE = 1001.35
℄ 6" 1-3 PIPE = 1002.00

1-1 CONC. COLLAR
32'-15" CL. F-4 PIPE
15"-25° CL. F-4 BEND ℄ 998.55
15"-25° CL. F-4 BEND ℄ 983.80
10'-15" CL. F-4 PIPE @ 1.00%
HW-E HEADWALL
6'X4'X1.5' DEEP DUMPED ROCK CHANNEL PROT.
38'-15" CL. J-1 PIPE @ 1.09%

1005.31
1005.74
1003.0

2+00
980.0

1006.78

VAR.

MATCH LINE 58' LT. OF
STA. 45+00 S. MAIN ST.

1008.14
1+55
983.2

1010.30
1+00
995.1

MATCH LINE
STA. 46+32.08
S. MAIN ST.
43' LT.
AHEAD

MATCH LINE
STA. 46+32.08
S. MAIN ST.
35.5' LT.

BACK

1011.87
0+56.66
1000.0

MATCH LINE

1013.34
0+00
1001.0

MATCH LINE
STA. 46+98.28
S. MAIN ST.
35.5' LT.
AHEAD

| SEEDING | | |

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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SUMMIT COUNTY
SUM-277-0.46

MATCH LINE STA. 8+00

RAMP "D-1"
CURVE DATA:
P.I. STA. 9+79.88
Δ = 121° 29' 51"
D_c = 23° 30'
R = 243.81'
T = 435.33'
L_c = 517.01'

RAMP "D-2"
SPIRAL DATA:
L_s = 150'
Θ_s = 14° 05' 24"
L.T. = 100.32'
S.T. = 50.29'
D_c = 18° 47' 12"

RAMP "D"
CURVE DATA:
P.I. STA. 4+49.46
Δ = 39° 47' 44"
D_c = 20° 00'
R = 286.48'
T = 103.69'
L_c = 198.98'

RAMP "D-3"
CURVE DATA:
P.I. STA. 2+43.19
Δ = 95° 10' 59"
D_c = 26° 00'
T = 243.19'
L_c = 366.09'
R = 220.37'

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

NOTE:
CURB ELEVATIONS ARE TO BACK OF CURB.

FOR CONTINUATION SEE SHEET Nº 145

MATCH LINE STA. 5+40.93

BEGIN RAMP "D-1" P.I. STA. 9+79.88 18.50' RT. RAMP "D" STA. 5+44.55

5C STA. 10+39.93 END RAMP "D-2" 18.50' LT. RAMP "D" STA. 5+44.55

BEGIN "D" P.C.C. STA. 5+44.55 = 18.50' RT. RAMP "D" = END RAMP "D"

P.C. STA. 3+45.57

END RAMP "D-3" P.T. STA. 3+66.05 18.50' RT. RAMP "D" STA. 3+16.22

STA. 3+77.11 END TAPER

STA. 2+50 BEGIN TAPER

BEGIN RAMP "D-3" P.C. STA. 0+00 = 40' LT. STA. 46+98.28 REL. S. MAIN ST.

NOSE-22' LT. STA. 0+59.99 RAMP "D-3" = 43' LT. STA. 46+32.08 REL. S. MAIN ST.

FOR NOSE DETAIL SEE SHEET Nº 227

NOSE-19' LT. STA. 2+16.34 RAMP "D-3" STA. 3+16.22

STA. 0+00 ℄ RAMP "D" = STA. 44+25.40 RELOC. S. MAIN ST.

STA. 1+59.99 ℄ RAMP "D" = STA. 43+66.39 RELOC. S. MAIN ST.

PT. STA. 45+68.89

P.T. STA. 0+44.55

P.C. STA. 44+59.56

P.C.-26' LT. f/c STA. 0+77.27

P.T.-35' LT. f/c STA. 43+56.50

N.W. CURVE DATA:
Δ = 94° 04' 28"
R = 6.00'
T = 6.44'
L = 9.85'

S.W. CURVE DATA:
Δ = 84° 52' 12"
R = 50.00'
T = 45.71'
L = 74.06'

Δ = 65° 30' 46"
R = 10.00'
T = 6.94'
L = 12.13'

NOTE:
RAMP "D" ℄ ELEV. FROM STA. 0+75 TO STA. 5+44.55 ARE TO THE BACK OF CURB. (1' RT. & 1' LT. OF ℄)

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "D" ~ RAMP "D-1" ~ RAMP "D-2" ~ RAMP "D-3"
SOUTH MAIN ST. INTERCHANGE

E.S.E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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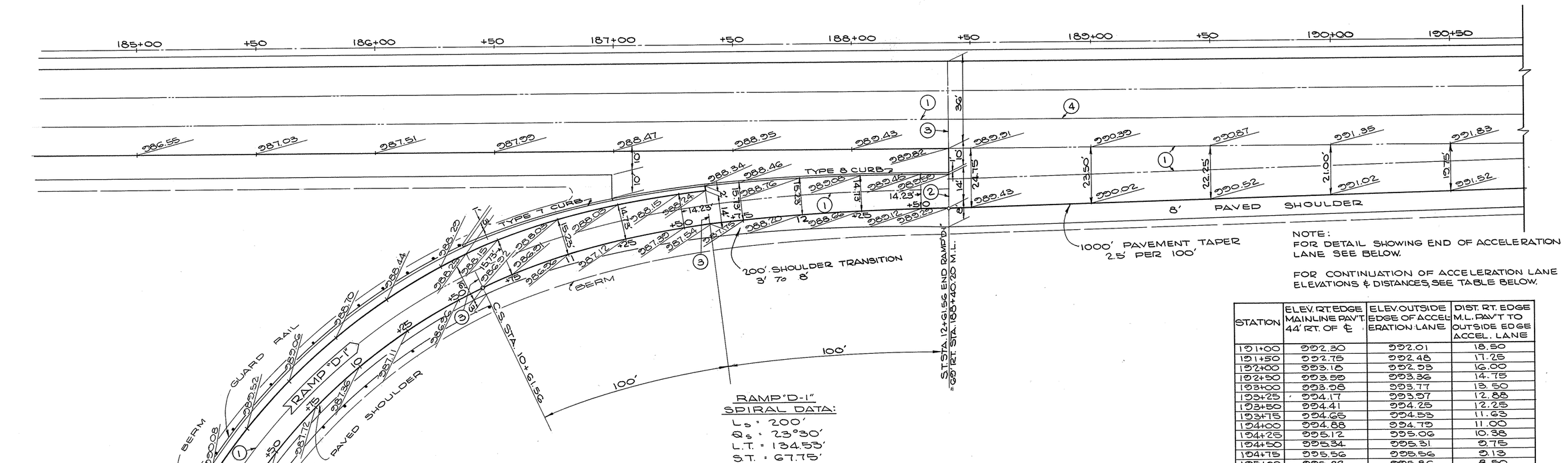
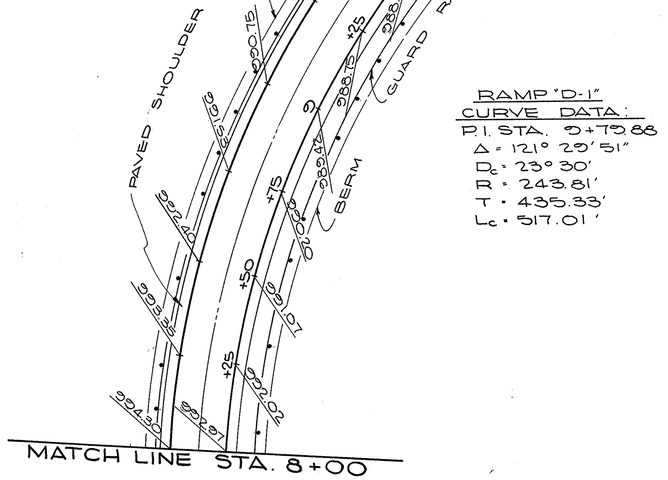
SUMMIT COUNTY
SUM.-277-0.46



NOTE:
FOR DETAIL SHOWING END OF ACCELERATION LANE SEE BELOW.

FOR CONTINUATION OF ACCELERATION LANE ELEVATIONS & DISTANCES, SEE TABLE BELOW.

STATION	ELEV. RT. EDGE MAINLINE PAV'T. 44' RT. OF ℄	ELEV. OUTSIDE EDGE OF ACCELERATION LANE	DIST. RT. EDGE M.L. PAV'T TO OUTSIDE EDGE ACCEL. LANE
191+00	992.30	992.01	18.50
191+50	992.75	992.48	17.25
192+00	993.18	992.93	16.00
192+50	993.50	993.36	14.75
193+00	993.98	993.77	13.50
193+25	994.17	993.97	12.88
193+50	994.41	994.25	12.25
193+75	994.65	994.53	11.63
194+00	994.88	994.79	11.00
194+25	995.12	995.06	10.38
194+50	995.34	995.31	9.75
194+75	995.56	995.56	9.13
195+00	995.82	995.86	8.50
195+25	996.12	996.20	7.88
195+50	996.40	996.51	7.25
195+75	996.68	996.80	6.63
196+00	996.97	997.10	6.00
196+25	997.23	997.36	5.38
196+50	997.41	997.52	4.75
197+00	997.73	997.81	3.50
197+50	998.05	998.10	2.25
198+00	998.37	998.39	1.00
198+40.20	998.63	998.63	0.00

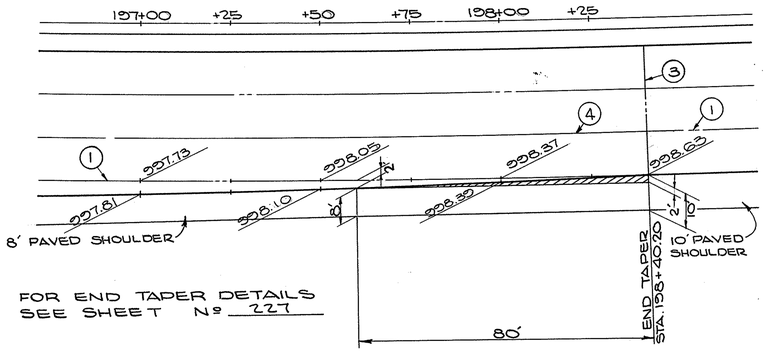


RAMP "D-1"
CURVE DATA:
P.I. STA. 9+79.88
Δ = 121° 29' 51"
D_c = 23° 30'
R = 243.81'
T = 435.33'
L_c = 517.01'

RAMP "D-1"
SPIRAL DATA:
L_s = 200'
θ_s = 23°30'
L.T. = 134.53'
S.T. = 67.75'
D_c = 23°30'

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS



FOR END TAPER DETAILS
SEE SHEET Nº 227

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "D-1" S. MAIN ST. INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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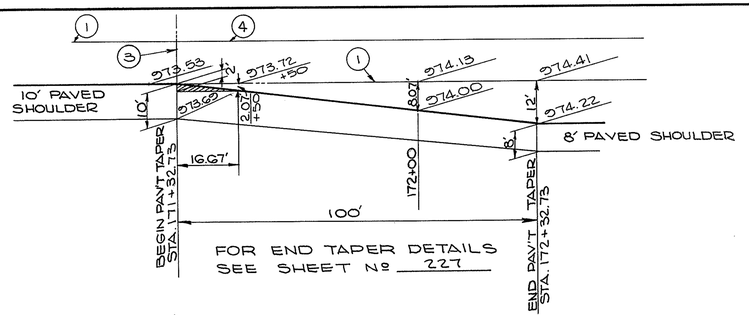
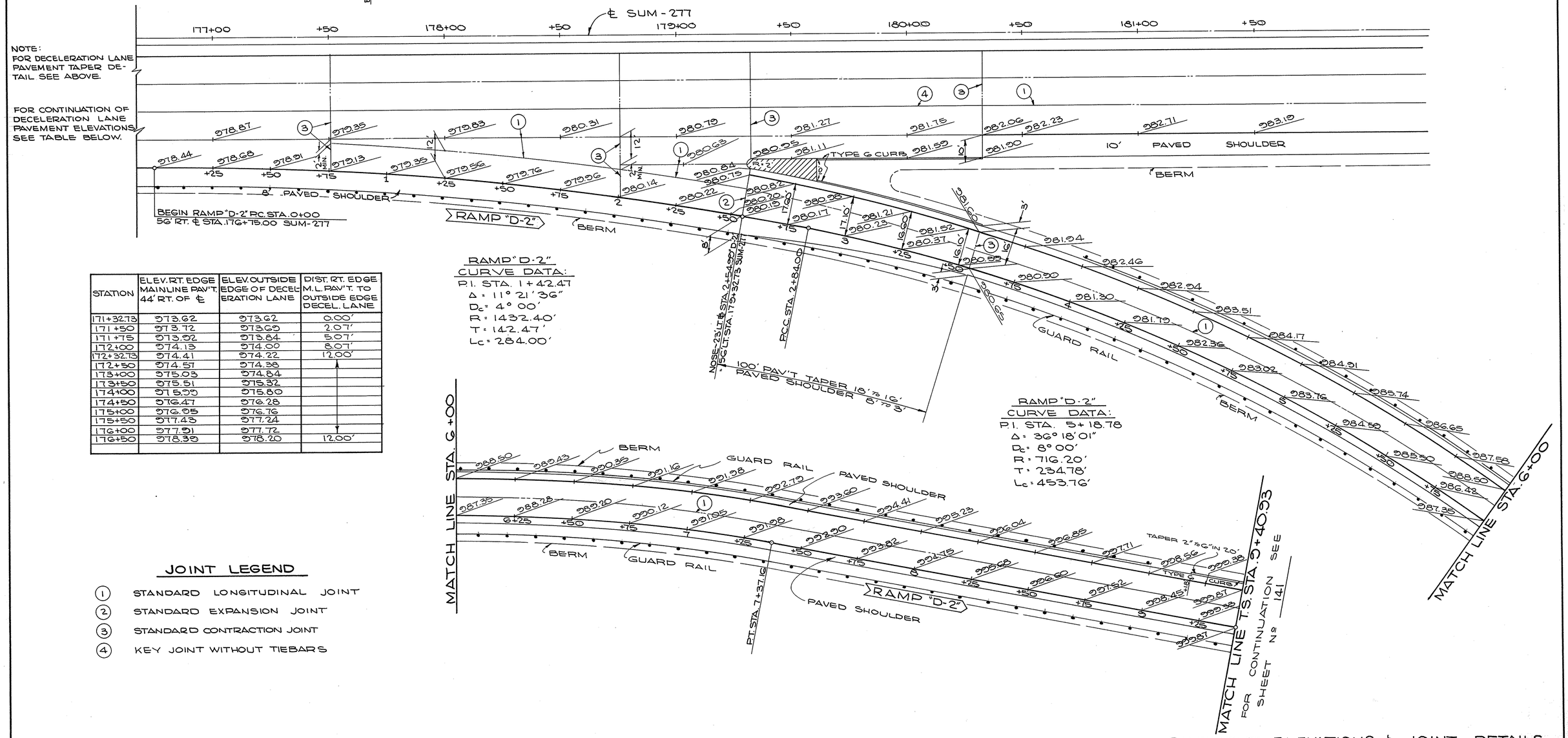
SUMMIT COUNTY
SUM-277-0.46



FOR NOSE DETAIL SEE SHEET Nº 227



STATION	ELEV. RT. EDGE MAINLINE PAV'T. 44' RT. OF ℄	ELEV. OUTSIDE EDGE OF DECELERATION LANE	DIST. RT. EDGE M.L. PAV'T. TO OUTSIDE EDGE DECEL. LANE
171+32.73	973.62	973.62	0.00'
171+50	973.72	973.69	2.07'
171+75	973.92	973.84	5.07'
172+00	974.13	974.00	8.07'
172+32.73	974.41	974.22	12.00'
172+50	974.57	974.38	↑
173+00	975.03	974.84	|
173+50	975.51	975.32	|
174+00	975.99	975.80	|
174+50	976.47	976.28	|
175+00	976.95	976.76	|
175+50	977.43	977.24	|
176+00	977.91	977.72	↓
176+50	978.39	978.20	12.00'

RAMP "D-2"
CURVE DATA:
P.I. STA. 1+42.47
Δ = 11° 21' 36"
D_c = 4° 00'
R = 1432.40'
T = 142.47'
Lc = 284.00'

RAMP "D-2"
CURVE DATA:
P.I. STA. 5+18.78
Δ = 36° 18' 01"
D_c = 8° 00'
R = 716.20'
T = 234.78'
Lc = 453.76'

JOINT LEGEND

(1) STANDARD LONGITUDINAL JOINT
(2) STANDARD EXPANSION JOINT
(3) STANDARD CONTRACTION JOINT
(4) KEY JOINT WITHOUT TIEBARS

PAVEMENT ELEVATIONS & JOINT DETAILS
RAMP "D-2" S. MAIN ST. INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(I)124	

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SUMMIT COUNTY
SUM-277-0.46

BEGIN SHEET STA. 7+00

1-St. Brick Bldg.

Conc. Walk

Asphalt Dr

Exist. 5'X7' Conc. Rip Rap

Exist. C. Basin

Exist. 5'X7' Conc. Rip Rap

15" Inlet

MH

24" San. Sewer

12" San. Sewer

Exist. 42" culvert

Exist. 12" San.

WATERLOO RD.

Inlet

Exist. 12"

PROP. UNDERGROUND TEL. CONDUIT & OTHERS

Exist. 15" Conc. Pipe

Conc. Curb & Gutter

10" Water Main

8" San. MH

72" V.C.P.

8" San. Inlet

EXIST. U.S. 224

℄ CONST. N. 72° 52' 31" W.

45° 18' 12"

Sohio Service Station

18"St. Pr. Hse.

MANCHESTER RD. SR. 93

STA. 20+00 WATERLOO RD. = STA. 47+93.58 MANCHESTER RD.

24" San. Sewer

27" Storm Sewer

6" Gas Main

Inlet

MH

Conc. Curb & Gutter

Asphalt Appr.

Gas Meter

Guy Wire

Sign

Conc. Bldg.

Sunoco Service Station

D-1

D-2

STA. 12+01.64 SUM 224 = STA. 13+15.84 WATERLOO RD.

16" Poplar

T.S. STA. 122+49.96

LA & RW

Open Field

Gas Service Line

24" San. Sewer

10" Elm

Dr.

10" Elm

15" Gravel

Catch Basin

8" San.

Inlet

℄ CONST.

60' R/W

24'

24'

2'-6"

2'-6"

6"

6"

PROFILE GRADE 3/16" FT.

ASPHALTIC CONC. SURFACE

CONC. CURB & GUTTER

EXIST. WATERLOO ROAD
TYPICAL SECTION

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-8 Nº 2-2-A C.B.	I-8 C.B. ADJUSTED TO GRADE (Nº 2-5)	I-14 PAVED GUTTER TYPE 1 MOD. "A"	
				EA.	EA.	L.F.	
D-1	11+15		LT.		1		
D-2	13+65		LT.	1		10	
	SHEET TOTAL			1	1	10	

1015
1010
1005
1000
995
990
985
980

℄ SUM-224
STA 13+15.84

MIN. CL. 15.00'

℄ EXIST. CATCH BASIN
66' LT. STA. 14+50
℄ 15" W = 996.38

STA. 11+15 41' LT.
ADJUST EXIST. 2-5 C.B. TO GRADE
EXIST. TOP = 984.81
NEW TOP = 987.80

EXIST. 15" PIPE @ 4.07%

STA. 13+65 (59.44' LT. ℄)
I-8 Nº 2-2-A C.BASIN
GRATE ELEV. = 996.17
WINDOW ELEV. = 995.67
℄ 15" EXIST. = 992.92

℄ EXIST. C. BASIN
41' LT. STA. 11+15
℄ 15" E = 982.73
℄ 12" S = 982.57
℄ 48" S = 978.09
TOP = 984.81

7 8 9 10 11 12 13 14 15 16 17 18 19 20

986.00+25 985.80 985.77 985.53 985.38 985.21 986.55 987.82 988.65 +17 989.43 991.37 993.58 995.95 998.51 1000.07+26 1001.32 1004.09 1006.65 1008.99 1011.16 1013.40 1016.01 1017.24 1018.42

PLAN & PROFILE
WATERLOO RD.
STA. 7+00 to STA. 20+00

PLATE I--CROSS SECTION U.P.R.R.R.E. STANDARD
KELLY-FOX & ROBER, CO., NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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383

SUMMIT COUNTY
SUM- 277-0.46

END AREA	CU. YDS.
CUT	FILL
FILL	CUT
CUT	FILL

13+00
993.5

12+50
991.3

12+00
989.3

11+77 DR. RT.
988.7

11+50
987.8

11+00
986.6

10+50
986.2

10+00
985.3

9+50
985.8

9+00
985.7

EXIST. 3-A.C.B.
@ 27" = 979.28

EXIST. 27" CONC. PIPE

EXIST. 3-A.C.B.
@ 27" = 979.93

990
980
970
960
950
940
930
920

SEEDING
END
WIDTH
CUT
FILL

PLATE 3, CROSS SECTION
KOFFEL & ESSER CO.

EX. WATERLOO RD. STA. 9+00 TO 13+00

END AREA	CU. YDS.
CUT	FILL
CUT	FILL

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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383

SUMMIT COUNTY
SUM-277-0.46

FINAL SURVEY
NOTE BRIDGE SUFFIX
FILE NO.

ORIGINAL SURVEY
NOTE BRIDGE SUFFIX
FILE NO.

16+50
101.1

16+00
100.0

15+50
100.6

15+00
100.4.0

14+50
100.1.3

14+28
100.0.1

14+00
99.8.5

13+65
99.7.5

13+50
99.8.0

STA. 13+65
Nº 2-2A (59.44' LT.)
EXIST. 15" PIPE

4:1

99.6.20

1010
1010
1000
1000
1000
1000
1000
1000

60
40
20
℄
20
40
60

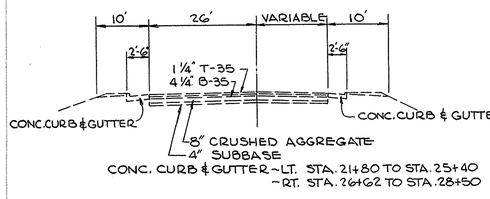
SEEDING
KNOT. SQ.
WIDTH. SQ.

K&E PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.

EX. WATERLOO RD. STA. 13+50 TO 16+50

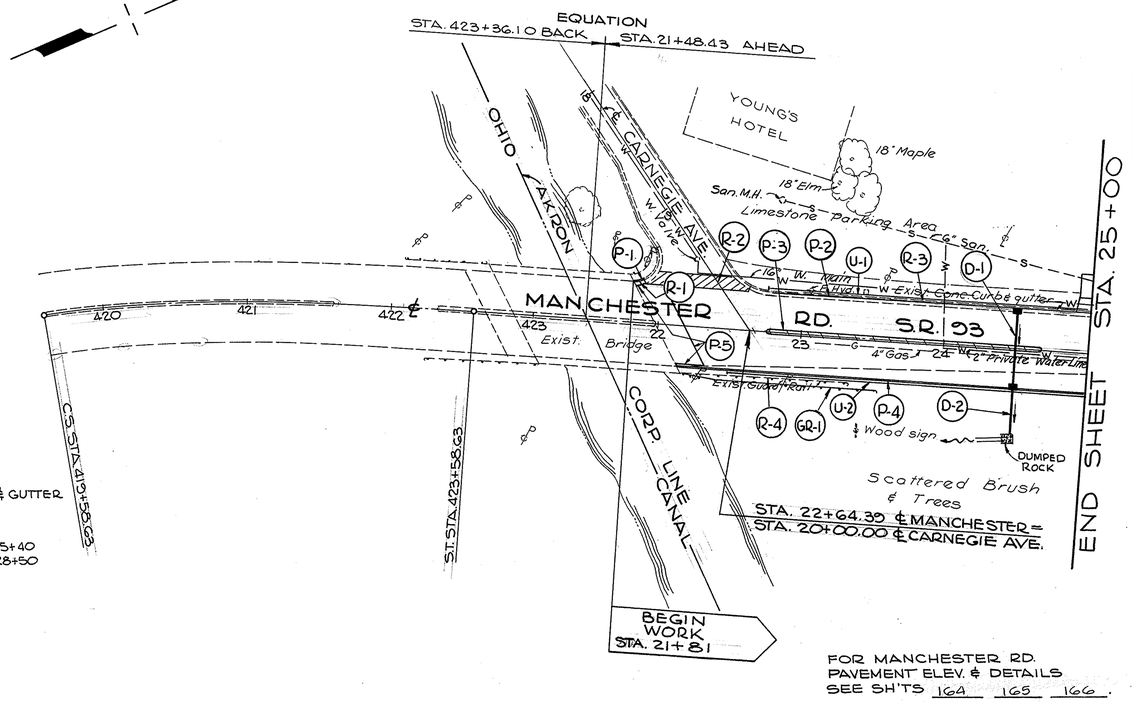
FED. RD. DIVISION	STATE	PROJECT		147
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46



CONC. CURB & GUTTER ~ LT. STA. 21+80 TO STA. 25+40
~ RT. STA. 26+62 TO STA. 28+50

EXIST. TYPICAL SECTION
MANCHESTER RD.
STA. 21+80 TO STA. 28+50



FOR MANCHESTER RD.
PAVEMENT ELEV. & DETAILS
SEE SH'TS 164 165 166.

DRAINAGE QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	I-1 PIPE I-3 6" SHALLOW L.F.	I-1 PIPE CL.E-1 12" L.F.	I-1 PIPE CL.J-1 12" L.F.	I-8 C.B. STD. Nº 3 EACH	I-10 DUMPED ROCK CHANNEL PROT'N CU.YDS.
D-1	24+50		LT & RT.			54	1	
D-2	24+50		RT.		34		1	3.6
U-1	22+75	25+00	LT.	225				
U-2	22+50	25+00	RT.	250				
SHEET TOTAL				475	34	54	2	3.6

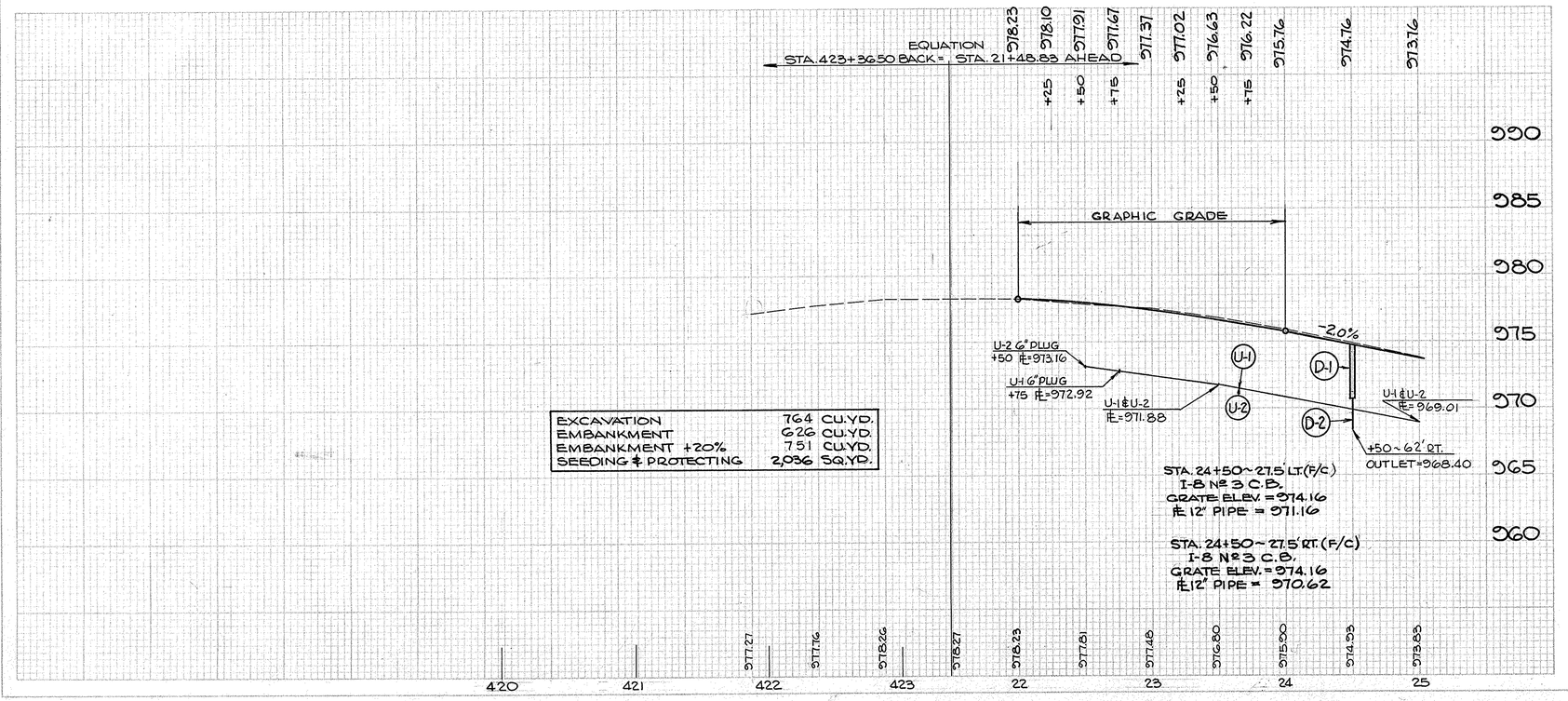
PAVEMENT & ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF. P.C.C. PAV'T S.Y.	B-70 P.C.C. BASE COURSE T-11½" S.Y.	T-35 ASPH. CONC. SURFACE COURSE C.Y.	T-30 BIT. TACK COAT GAL.	I-22 SUBBASE GRADING "A" OR "B" AS PER PLAN C.Y.	E-1 COMP. SUB-GRADE S.Y.	I-12 CONCRETE CURBS STD. TYPE 2-A L.F.	I-12 CONCRETE CURBS TYPE 2-B MODAS PER PLAN L.F.	I-21 CONC. MEDIAN PAV'T TYPE 2 S.Y.	SPECIAL STD. EXPANSION BOLT EA.
	22+18.45	25+00		1688.9	12.4	2.7	1.24	328.3	1764				
P-1	21+81.0	21+93.5	LT.								14.0		
P-2	22+61.5	25+00	LT.							238.5			
P-3	22+75.5	24+65.5	LT & RT.									63.0	
P-4	22+13	25+00	RT.							268.5	18.5		
P-5	21+81	22+34	LT & RT.										40
SHEET TOTAL				1688.9	12.4	2.7	1.24	328.3	1764	507	32.5	63.0 *	40

* NO ADDITIONAL MEDIAN OPENINGS ARE TO BE PROVIDED WITHOUT OBTAINING PRIOR APPROVAL OF THE CHANGE ORDER.

ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	E-8 REMOVAL EXIST. SURFACE COURSE S.Y.	E-8 REMOVAL EXIST. CURB & GUTTER L.F.	I-15 GUARD RAIL STEEL BEAM STD. TYPE (DEEP) L.F.	I-15 GUARD RAIL REMOVED & DISPOSED L.F.
GR-1	22+19	23+44	RT.			125	
R-1	21+81	21+93.5	LT.		12.5		
R-2	21+93.5	22+61.5	LT.	64.6			
R-3	22+61.5	25+00	LT.		238.5		
R-4	22+19	23+34	RT.				112.5
SHEET TOTAL				64.6	251.0	125	112.5



EXCAVATION	764	CU.YD.
EMBANKMENT	626	CU.YD.
EMBANKMENT +20%	751	CU.YD.
SEEDING & PROTECTING	2,036	SQ.YD.

PLAN & PROFILE
MANCHESTER RD.
STA. 420+00 to STA. 423+36.10 BK.
= STA. 21+48.43 AHD. to STA. 25+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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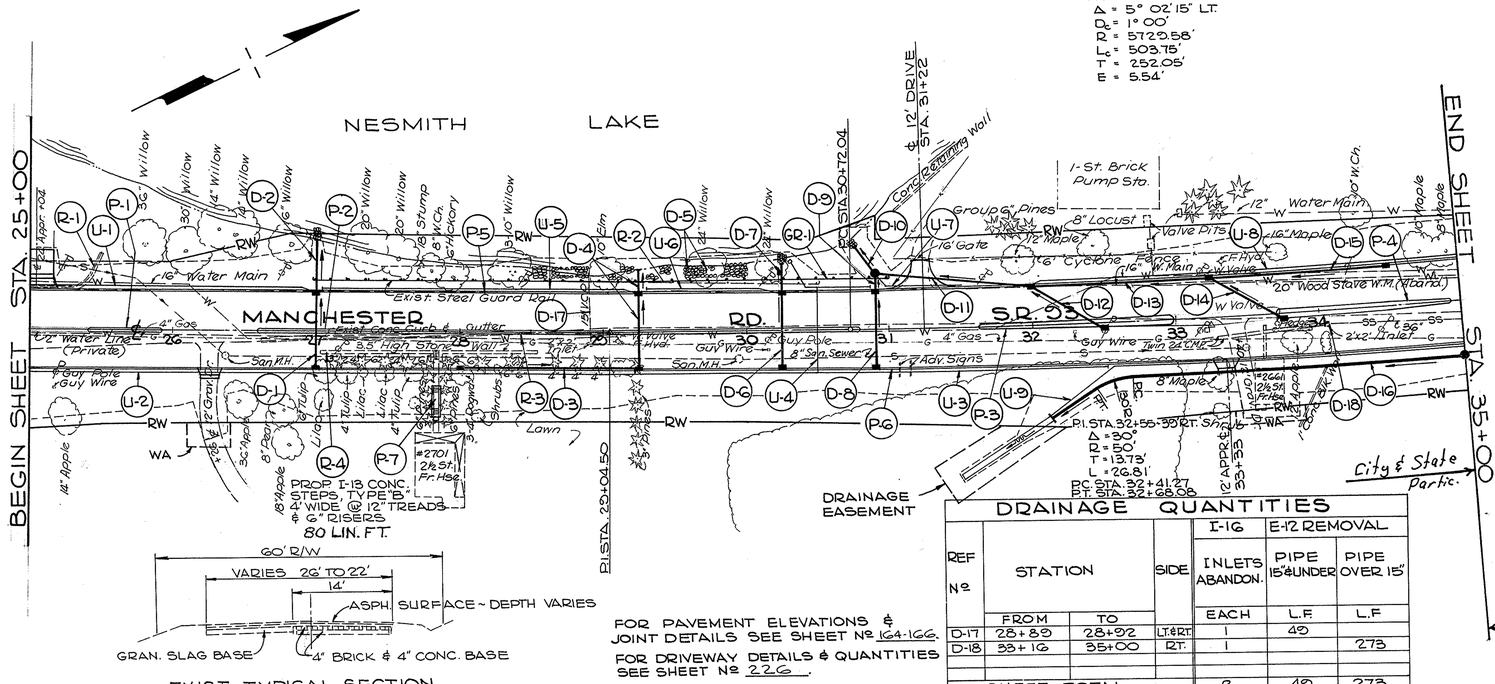
SUMMIT COUNTY
SUM-277-0.46

℄ CURVE DATA:
P.I. STA. 33+24.05
Δ = 5° 02' 15" LT.
D_c = 1° 00'
R = 5729.58'
L_c = 503.75'
T = 252.05'
E = 5.54'


NESMITH LAKE
BEGIN SHEET STA. 25+00
END SHEET STA. 35+00
MANCHESTER RD.
S.R. 93
Exist. Steel Guard Rail
Exist. Concrete Curb & Gutter
Exist. 8.5' High Stone Wall
Exist. Fence
Exist. Trailer
Exist. Bldg.
Exist. Shed
Exist. Garage
Exist. Gas Pump
Exist. Sign
Exist. Trees
Exist. Shrubs
Exist. Hedge
Exist. Lawn
Exist. Gravel
Exist. Apple Tree
Exist. Willow Tree
Exist. Maple Tree
Exist. Locust Tree
Exist. Pine Tree
Exist. Hickory Tree
Exist. Tulip Tree
Exist. Lilac Bush
Exist. Cyclone Fence
Exist. Guard Rail
Exist. Guy Pole
Exist. Guy Wire
Exist. Gas
Exist. Water Line (Corrugate)
Exist. Water Main
Exist. Valve Pits
Exist. Valve
Exist. F. Hyd.
Exist. Sanitary Sewer
Exist. Sanitary M.H.
Exist. Storm Sewer
Exist. Storm M.H.
Exist. Overhead Wires
Exist. Adv. Signs
Exist. Concrete Retaining Wall
Exist. 20" Wood Stave W.M. (Abandoned)
Exist. 12" Water Main
Exist. 16" Water Main
Exist. 8" Locust
Exist. 12" Maple
Exist. 16" Maple
Exist. 6" Cyclone Fence
Exist. 16" Gate
Exist. 12" Apple
Exist. 8" Apple
Exist. 18" Apple
Exist. 30" Willow
Exist. 24" Willow
Exist. 20" Willow
Exist. 16" Willow
Exist. 10" Willow
Exist. 20" Stump
Exist. 18" Stump
Exist. 8" W.Ch.
Exist. 12" Willow
Exist. 24" Willow
Exist. 30" Willow
Exist. 6" Willow
Exist. 8" Maple
Exist. 10" Maple
Exist. 6" Maple
Exist. 10" W.Ch.
Exist. 6" W.Ch.
Exist. 12" Locust
Exist. 24" Locust
Exist. 30" Locust
Exist. 36" Locust
Exist. 24" Tulip
Exist. 4" Tulip
Exist. 4" Lilac
Exist. 8" Lilac
Exist. 8" Hickory
Exist. 12" Hickory
Exist. 24" Hickory
Exist. 36" Hickory
Exist. 8" Sycamore
Exist. 12" Sycamore
Exist. 24" Sycamore
Exist. 36" Sycamore
Exist. 24" Apple
Exist. 36" Apple
Exist. 8" Pear
Exist. 12" Pear
Exist. 24" Pear
Exist. 36" Pear
Exist. 12" Spruce
Exist. 24" Spruce
Exist. 36" Spruce
Exist. 24" Pine
Exist. 36" Pine
Exist. 12" Pine
Exist. 24" Pine
Exist. 36" Pine
Exist. 12" Hyd.
Exist. 24" C.M.P.
Exist. Twin 24" C.M.P.
Exist. 12" Drive
Exist. 30" C.M.P.
Exist. 36" C.M.P.
Exist. 42" C.M.P.
Exist. 48" C.M.P.
Exist. 54" C.M.P.
Exist. 60" C.M.P.
Exist. 72" C.M.P.
Exist. 84" C.M.P.
Exist. 96" C.M.P.
Exist. 108" C.M.P.
Exist. 120" C.M.P.
Exist. 132" C.M.P.
Exist. 144" C.M.P.
Exist. 156" C.M.P.
Exist. 168" C.M.P.
Exist. 180" C.M.P.
Exist. 192" C.M.P.
Exist. 204" C.M.P.
Exist.

FED. RD. DIVISION	STATE	PROJECT		149
2	OHIO	I-277-G(1)124		383

SUMMIT COUNTY
SUM-277-0.46

† Normal Partic.
‡ City & State Partic.

℄ CURVE DATA:
P.I. STA. 37+82.98
Δ = 10°48'58" LT.
D_c = 3°00'
R = 1909.86'
L_c = 357.76'
T = 179.40'
E = 8.41'

STA. 38+90.00 MANCHESTER RD = STA. 0+00 ℄ RAMP "B"

STA. 41+69.20 MANCHESTER RD = STA. 130+86.48 SUM-277

FOR DRIVEWAY DETAILS & QUANTITIES SEE SH'T 226.

℄ CURVE DATA:
P.I. STA. 33+24.09
Δ = 5° 02' 15" LT.
D_c = 1° 00'
R = 5729.58'
L_c = 503.75'
T = 252.05'
E = 5.54'

FOR MANCHESTER RD. PAVEMENT ELEV. & DETAILS SEE SH'TS 164-166.

FOR NESMITH LAKE BLVD., BRENNEMAN BLVD & FRITCH AVE. PLAN & PROFILE, SEE SH'T. 167.

FOR RAMPS "A", "B" & "B-1" PLAN & PROFILE SEE SH'TS 114-115.

STA. 43+35.00 MANCH'TER = STA. 12+96.74 RAMP "A"

Normal Partic. | City & State Partic.

EXCAVATION	6,741 CU.YD.
EMBANKMENT	68 CU.YD.
EMBANKMENT +20%	82 CU.YD.
SEEDING & PROTECTING	2,737 SQ.YD.

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL.E-1 12"	CL.E-1 36"	CL.E-1 33" M&G(b)	CL.I-3 6" M&G(b)	CL.I-3 6" SHALL	CL.I-3 6" DEEP	CL.J-1 12"	CL.J-1 18"	CL.J-1 36"	CL.J-1 42"	I-5 PIPE SPEC. J-1 33"x 15" TEE	I-5 PIPE SPEC. E-1 33"x 12" M&G(b) TEE	I-5 PIPE SPEC. E-1 12" x 12" WYE	I-8 Nº 3 C.B.	I-8 Nº G C.B.	I-8 Nº 1 M.H.
				LIN. FT.										EACH			EACH		
D-1	35+00	35+60	RT.																
D-2	35+60		RT.																
D-3	35+60		RT.							32								1	
D-4	35+60	36+00	RT.							40									
D-5	35+60	35+75	LT.							40							1		
D-6	35+60	37+60	RT.		202														
D-7	37+62		RT.															1	
D-8	37+50	37+62	LT./RT.							72							1		
D-9	37+50	38+75	LT.							124							1		
D-10	37+50	39+15	RT.									158		1					
D-11	39+15		RT.															1	
D-12	39+15	39+50	RT.							54							1		
D-13	39+50	40+00	RT./LT.							62							1		
D-14	39+15	42+75	RT.			360									1				
D-15	40+50		RT.	18													1		
D-16	42+75		RT.															1	
D-17	42+75	43+10	RT./LT.							24									
D-18	42+10	43+25	LT.							24							1		
D-19	43+25	43+35	LT.	8														1	
D-20	43+35	45+00	LT.	93	131											1			
* D-21	44+21	44+25	LT.		8												1		
D-22	42+75	43+68	RT.								94							2	
* D-23	43+68		RT.									20							2
* D-24	43+68	45+00	RT.		10						124						2		
U-1	35+00	45+00	LT.					100	769	131									
U-2	35+00	45+00	RT.				160		769	131									
	SHEET	TOTAL		59	149	202	360	160	100	418	262	522	124	94	20	158	60	1	1	1	6	3	4	5	2

REF. Nº	STATION FROM	STATION TO	SIDE	E-12 REMOVAL OF PIPE 15" & UNDER L.F.	E-12 REMOVAL OF PIPE OVER 15" L.F.	I-16 INLETS ABAND. EACH	I-16 MANHOLES ABAND. EACH
D-25	35+14	35+46	RT.	36		2	
D-26	35+00	37+45	RT.		245		1
D-27	37+45	41+55	RT.		410	2	
D-28	41+55	42+57	RT.		102	1	
D-29	42+57	43+68	RT.	123		1	1
	TOTAL			161 ℓ	757 ℓ	6 ℓ	2 ℓ

PAVEMENT & ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF P.C.C. PAV'T ℓ S.Y. ℓ	T-22 SUBBASE GRADING "A" OR "B" AS PER PLAN ℓ C.Y. ℓ	E-1 COMP. SUB-GRADE ℓ S.Y. ℓ	E-8 REMOVAL OF EXIST. PAV'T & BASE ℓ S.Y. ℓ	I-12 CONC. CURB STD. TYPE 2A ℓ L.F. ℓ	I-13 4" CONC. SIDE WALK ℓ S.F. ℓ	I-21 CONC. MEDIAN PAV'T STD. TYPE 2 ℓ S.Y. ℓ
	35+00	43+69.47		5650	1076	5797	1353			
	43+69.47	45+00		849	162	870	203			
P-1	35+00	45+00	LT.					869	131	
P-2	35+68	37+34.50	RT.					167		68
P-3	38+06.46	38+76.5	RT.					70		44
P-4	39+20.11	42+76.12	RT.					356		213
P-5	43+69.47	45+00	RT.						131	686
P-6	35+73	38+75	RT.							68
P-7	39+50	42+50	RT.							68
P-8	43+25	45+00	LT.							10 29
P-9	35+65.3		RT.						28	
	SHEET	TOTAL		5650	849 1076	162 5797	870 1353	203 1462	262 3743	686 146 29

* NO ADDITIONAL MEDIAN OPENINGS ARE TO BE PROVIDED WITHOUT OBTAINING PRIOR APPROVAL OF THE CHANGE ORDER.

PLAN & PROFILE
MANCHESTER RD.
STA. 35+00 to STA. 45+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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SUMMIT COUNTY
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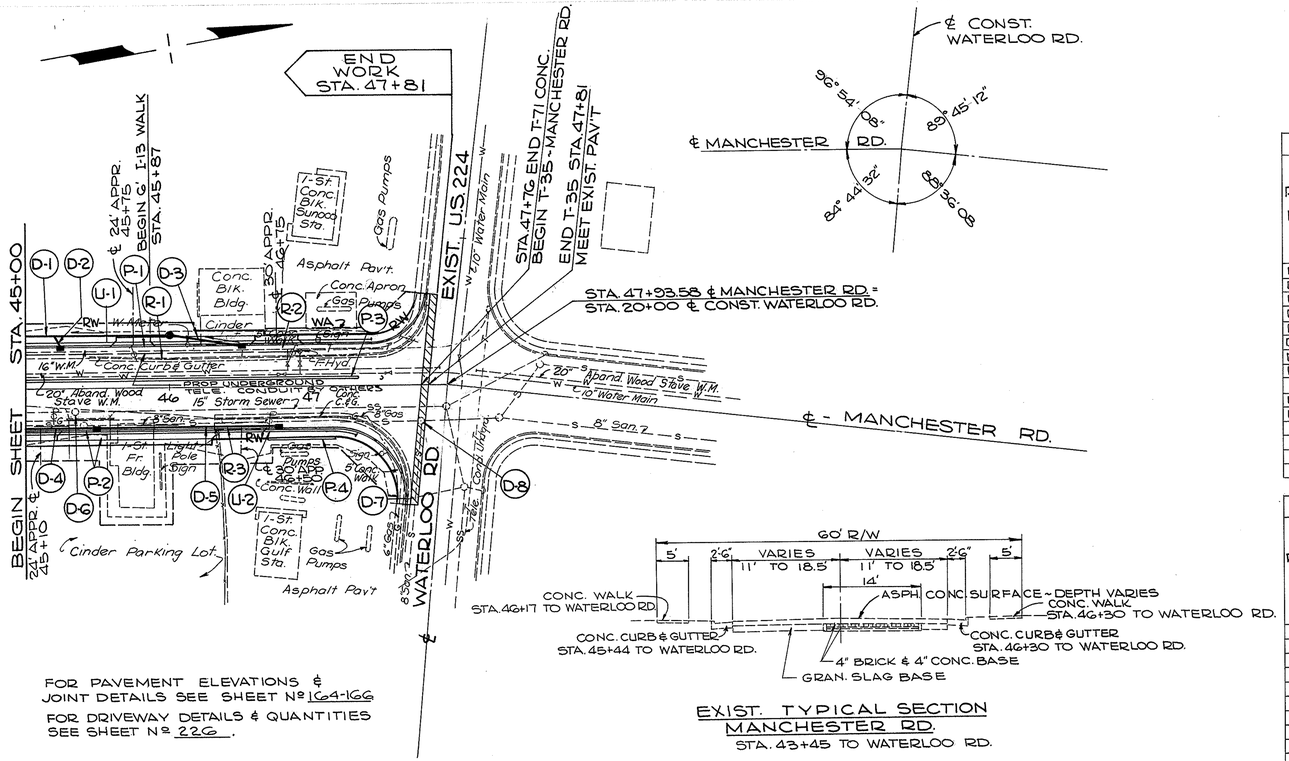


FOR PAVEMENT ELEVATIONS & JOINT DETAILS SEE SHEET Nº 164-166

FOR DRIVEWAY DETAILS & QUANTITIES SEE SHEET Nº 226 .

EXIST. TYPICAL SECTION
MANCHESTER RD.
STA. 43+45 TO WATERLOO RD.

DRAINAGE QUANTITIES

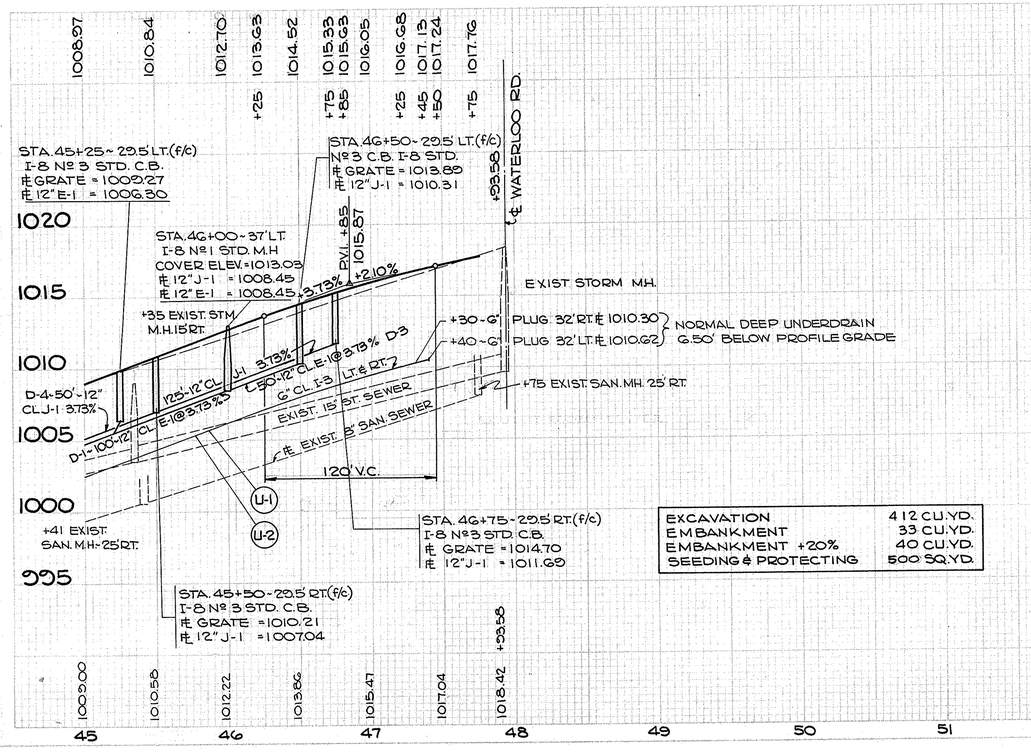
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" DEEP (LIN. FT.)	I-1 PIPE CL. E-1 12" (LIN. FT.)	I-1 PIPE CL. J-1 12" (LIN. FT.)	I-5 PIPE SPECIALS 12"X12" 60° WYE CL. E-1 (EACH)	I-8 STD Nº 3 C.B. (EACH)	I-8 STD Nº 1 M.H. (EACH)	I-8 ADJUSTED TO GRADE MAN-HOLES (EACH)	I-8 ADJUSTED TO GRADE IN-LETS (EACH)
D-1	45+00	46+00	LT.		100		1	1	1		
D-2	45+20	45+25	LT.		8			1			
D-3	46+00	46+50	LT.		50			1			
D-4	45+00	45+50	RT.			50		1			
D-5	45+50	46+75	RT.			125		1			
D-6	45+35		RT.							1	
D-7	47+95		RT.								1
D-8	47+75		RT.							1	
U-1	45+00	47+40	LT.	240							
U-2	45+00	47+30	RT.	230							
SHEET TOTAL				470	158	175	1	4	1	2	1

PAVEMENT & ROADWAY QUANTITIES

REF Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF. P.C.C. PAV'T (S.Y.)	T-35 ASPH. CONC. SURFACE COURSE (C.Y.)	I-22 GRADING "A" OR "B" AS PER PLAN (C.Y.)	E-1 COMP. SUB-GRADE (S.Y.)	E-8 REMOVAL EXIST. PAV'T & BASE (S.Y.)	E-8 REMOVAL EXIST. SURFACE COURSE (S.Y.)	E-8 REMOVAL EXIST. CONC. CURB & GUTTER (L.F.)	E-8 REMOVAL EXIST. CONC. SIDE-WALK (S.F.)	I-12 CONC. CURB STD. TYPE 2A (L.F.)	I-12 CONC. CURB TYPE 7 MOD. AS PER PLAN (L.F.)	I-13 4" CONC. SIDE-WALK (S.F.)	I-21 CONC. MEDIAN PAV'T STD. TYPE 2 (S.Y.)
	45+00	47+81		1921.1	4.2	362.7	1973	431	76						
P-1	45+00	10+37.38	LT.									298.6		939	
P-2	45+00	20+86.18	RT.									300.1		1612	
P-3	45+00	47+32.5	LT.												51.7
P-4	46+68	47+17	RT.										49		
R-1	45+44	WATERLOO	LT.							261					
R-2	46+17	WATERLOO	LT.								897				
R-3	46+31	WATERLOO	RT.							171	872				
SHEET TOTAL				1921.1	4.2	362.7	1973	431	76	432	1769	598.7	49	2551	*51.7

* NO ADDITIONAL MEDIAN OPENINGS ARE TO BE PROVIDED WITHOUT OBTAINING PRIOR APPROVAL OF THE CHANGE ORDER.

Note:
All quantities on this sheet are City & State participation.



EXCAVATION	412 CU. YD.
EMBANKMENT	33 CU. YD.
EMBANKMENT +20%	40 CU. YD.
SEEDING & PROTECTING	500 SQ. YD.

PLAN & PROFILE
MANCHESTER RD.
STA. 45+00 to STA. 55+00

REV. 10-25-66 C.E.H.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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SUMMIT COUNTY
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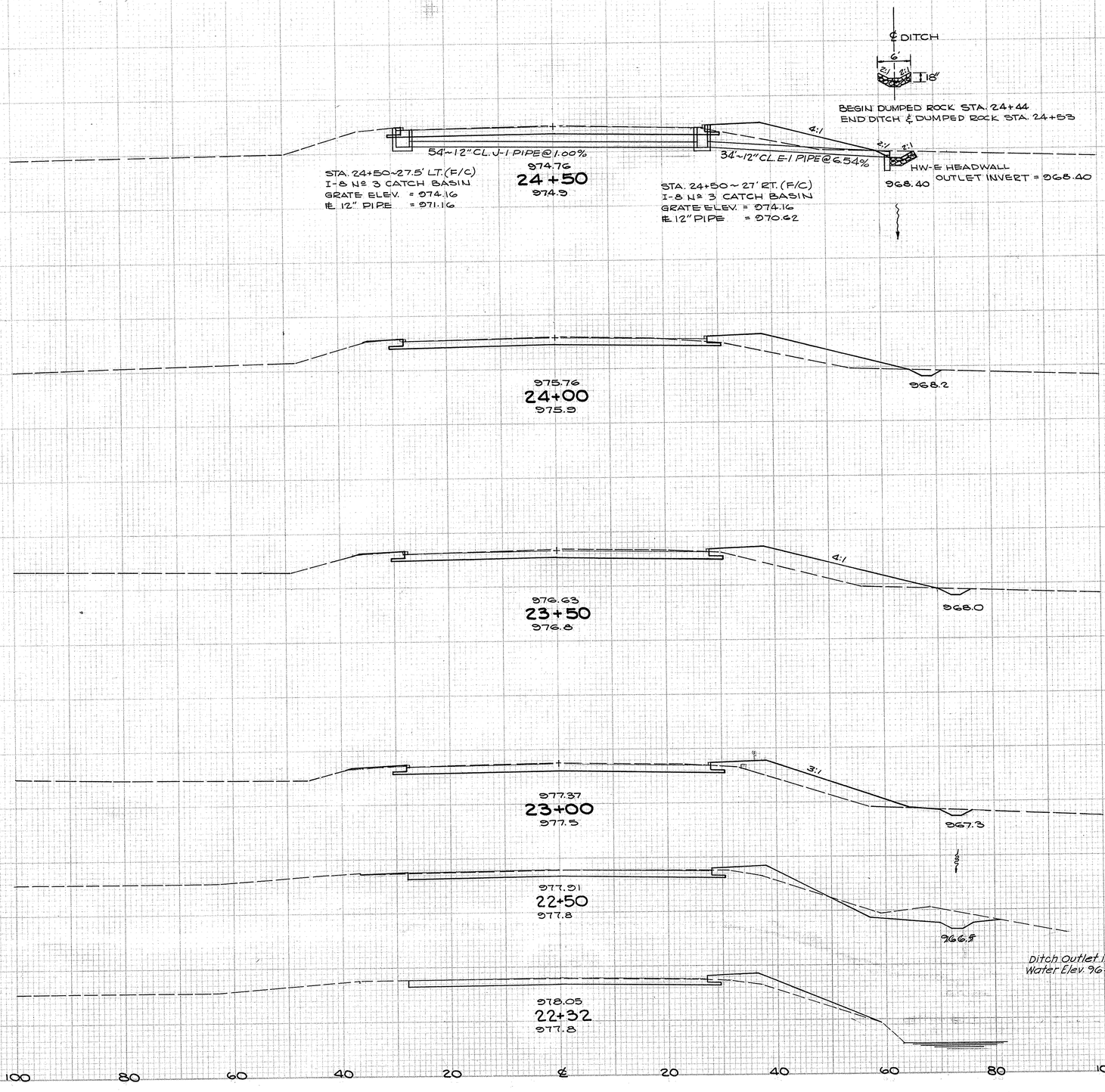
SEEDING END WIDTH	SEEDING SQ. YDS.	
69	397	970
74	411	970
74	411	970
74	425	970
79	113	970
34		970



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
70	55		
		130	116
70	70		
		134	144
75	85		
		134	134
70	60		
		167	88
110	35		
		55	23
60	35		
		19	10
Sta. 22+15 0	0		

STA. 22+50 TO STA. 24+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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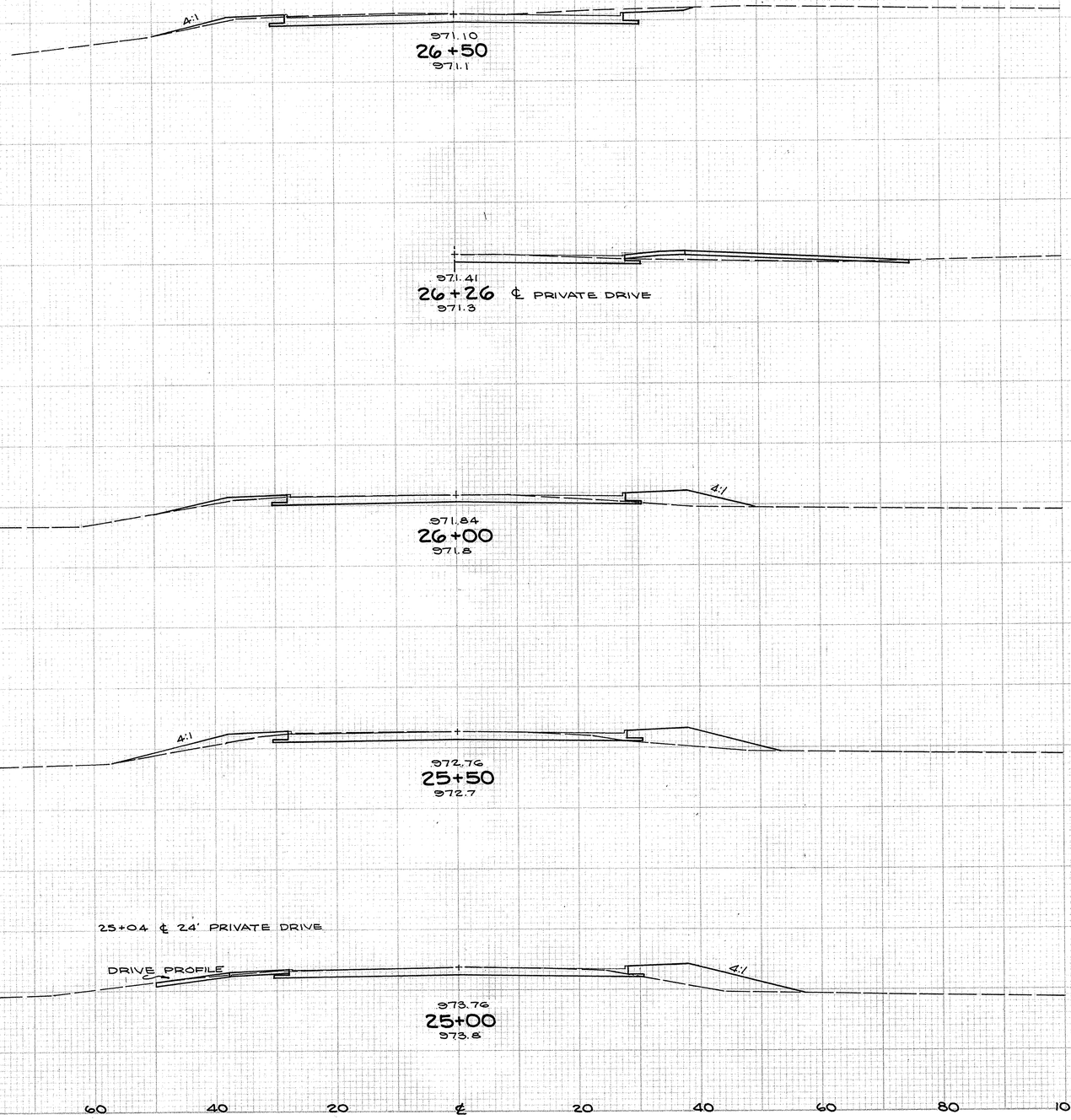
SUMMIT COUNTY
SUM-277-0.46

SEEDING			END AREA		CU. YDS.	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
49		970	85	10		
	300				139	51
		970				
59		970	65	45		
	342				120	106
64		970	65	70		
	378				120	125
72		970	65	65		
	392				125	111



MANCHESTER RD.
STA. 25+00 TO STA. 26+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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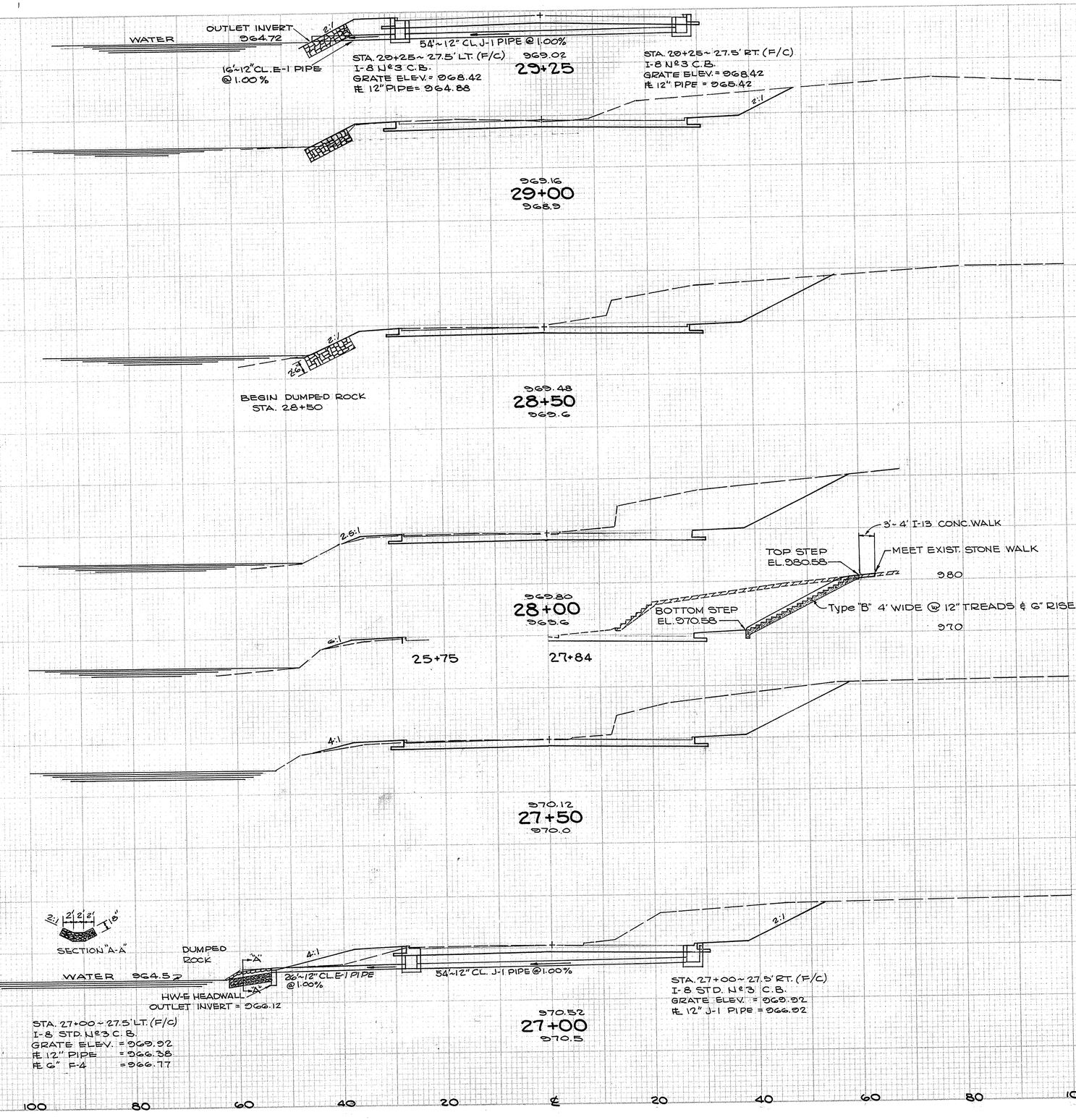
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING END WIDTH	SEEDING SQ. YDS.	
		960
30		960
	194	
		970
40		
	233	
44		970
	267	970
		970
52		
	303	
57		970
	294	



END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
190	10		
		472	9
320	0		
		602	5
330	5		
		597	14
315	10		
		532	37
260	30		
		319	37

MANCHESTER RD.
STA. 27+00 TO STA. 29+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING FND WIDTH	SEEDING SQ. YDS.
38	197
33	183
33	175

970

℄ PRIVATE DRIVE 968.93 31+22 969.3

STA. 30+90 ~ 39' LT.
I-8 STD. Nº 1 M.H.
COVER ELEV. = 969.46
℄ 12"E-1 PIPE = 964.88
℄ 15"E-1 PIPE = 964.63
℄ 6"F-4 PIPE = 965.07

WATER

54'~12"CL.J-1 PIPE @ 0.52 %

10'~12"CL.E-1 PIPE@0.52%

26'~15"CL.E-1 PIPE@0.50%

STA. 30+90~27.5' LT.(F/C)
I-8 Nº 3 C.B.
GRATE ELEV. = 968.21
℄ 12" PIPE = 964.93
℄ 12" E-1 PIPE = 964.93

968.84
31+00
969.4

STA. 30+90~27.5' RT.(F/C)
I-8 Nº 3 C.B.
GRATE ELEV. = 968.21
℄ 12" PIPE = 965.21

6'x6'x12" GROUTED RIPRAP 60' LT.

2:1

WATER

HW-E HEADWALL
OUTLET INVERT = 964.5
62' LT.

30+75

968.74
30+50
969.2

6'x6'x12" GROUTED RIPRAP

54'~12"CL.J-1 PIPE @ 0.86%

20'~12"CL.E-1 PIPE @ 0.86%

HW-E HEADWALL
OUTLET INVERT = 964.5

968.74
30+25
969.2

STA. 30+25~27.5' LT.(F/C)
I-8 Nº 3 C.B.
GRATE ELEV. = 968.15
℄ 12" J-1 PIPE = 964.67
℄ 12" E-1 PIPE = 964.67

STA. 30+25~27.5' RT.(F/C)
I-8 STD. Nº 3 C.B.
GRATE ELEV. = 968.15
℄ 12" J-1 PIPE = 965.15

℄ 6"F-4 PIPE = 964.00

2.5:1

4:1

WATER

END I-10 DUMPED ROCK
STA. 30+00

968.76
30+00
969.2

2:1

4:1

968.90
29+50
969.0

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
145	0		
		255	0
130	0		
		255	3
145	3		
		264	3
140	0		
		306	9

100 80 60 40 20 ℄ 20 40 60 80 100

MANCHESTER RD.
STA. 29+50 TO STA. 31+22

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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SEEDING END WIDTH	SEEDING SQ. YDS.
40	197
31	178
33	200
39	214

970

970

970

970

970

42'-12"CL. J-1 PIPE @1.90%

STA. 33+25 ~ 28' LT. (F/C)
I-8 STD. Nº 3 C.B.
GRATE ELEV. = 969.80
℄ 12" PIPE = 966.80

970.52
33+33
℄ PRIVATE DRIVE

4:1

4:1

970.20
33+00
969.9

58'-12"CL. J-1 PIPE @1.51%

STA. 32+50 ~ 3' RT. (F/C)
I-8 Nº 6 C.B.
GRATE ELEV. = 969.85
℄ 12" PIPE = 966.68

969.80
32+50
969.8

58'-12"CL. J-1 PIPE @1.51%

STA. 32+00 ~ 28.18' LT. (F/C)
I-8 STD. Nº 3 C.B.
GRATE ELEV. = 968.79
℄ 12" PIPE = 965.79
℄ 15" PIPE = 965.54
℄ 6" F-4 = 965.65

969.40
32+00
969.6

4:1

969.06
31+50
969.4

100 80 60 40 20 ℄ 20 40 60 80 100

END AREA CUT	END AREA FILL	C.U. YDS. CUT	C.U. YDS. FILL
80	22		
		171	20
105	0		
		190	5
100	5		
		227	6
145	1		
		269	1

MANCHESTER RD.
STA. 31+50 TO STA. 33+33

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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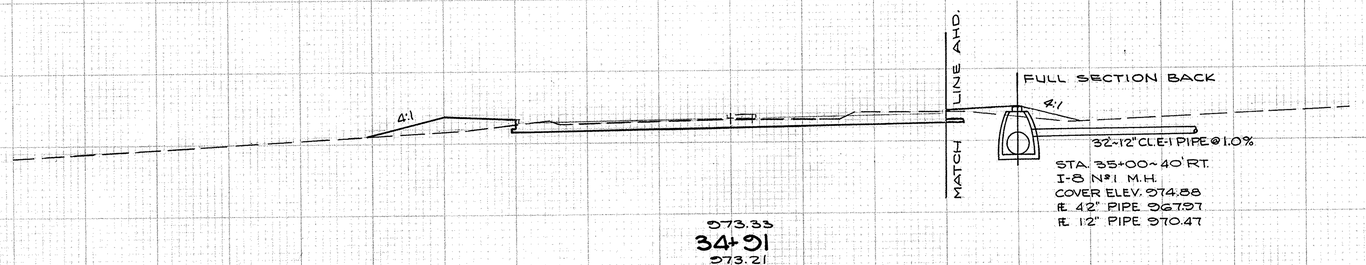
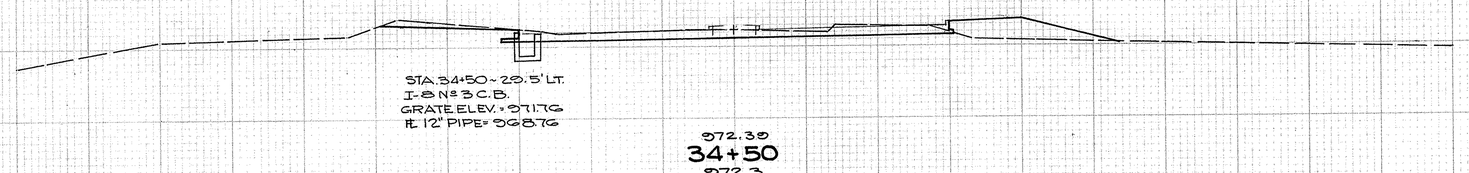
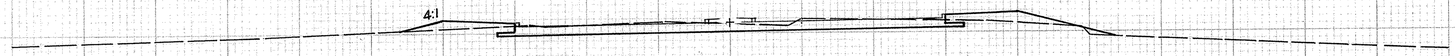
SEEDING END WIDTH	SEEDING SQ. YDS.	
50	970	
	228	
50	970	
	278	
50	970	
	264	
45	970	
	236	



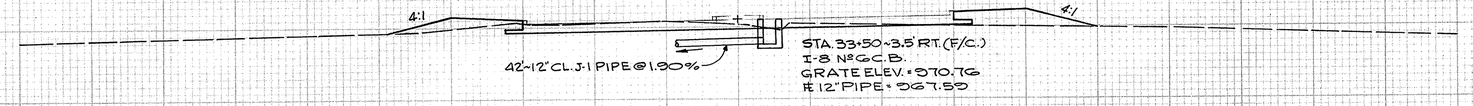
973.33
34+91
973.21



972.39
34+50
972.3



971.44
34+00
971.3



971.05
33+50
970.4

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
AHD.	70	23		
BK.	70	35		
			110	57
	75	40		
			130	65
	65	30		
			97	69
	40	45		
			111	62

100 80 60 40 20 ℄ 20 40 60 80 100 MANCHESTER RD.

STA. 33+50 TO STA. 34+91

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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SEEDING END WIDTH	SEEDING SQ. YDS.
40	980
	236
45	980
	236
40	980
	153
15	970
	213
	970

8:1 4:1

380.00
37+00
381.0

6:1 4:1

378.28
36+50
379.0

4:1

STA. 36+00 ~ 6.5' RT.
I-8 Nº G C.B.
Rt GRATE 376.56
Rt 12" PIPE 373.08

376.56
36+00
377.1

STA. 35+75 ~ 30' LT.
I-8 Nº 3 C.B.
Rt GRATE 375.10
Rt 12" PIPE 372.10

40'~12" CL-J-1 PIPE @ 1.00%

375.73
35+75

Match Line

32'~12" CL. H PIPE @ 1.94%

375.47
35+67
376.1

STA. 35+60 ~ 6.5' RT.
I-8 Nº G C.B.
Rt GRATE 375.36
Rt 12" PIPE 371.70

STA. 35+60 ~ 38' RT.
I-8 Nº 1 M.H.
COVER ELEV. 376.59
Rt 42" 368.57
Rt 36" 369.07
Rt 12" 371.07

8.8% ↗

374.54
DR. L.T. 35+36
374.6

END AREA CUT	END AREA FILL	SQ. YDS. CUT	SQ. YDS. FILL
160	0		
		269	0
130	0		
		231	0
120	0		
		152	4
AHD. 129	7		
BK. 129	0		
		280	32

100 80 60 40 20 ℄ 20 40 60 80 100

MANCHESTER RD.
STA. 35+50 TO STA. 37+00

SEEDING	
END WIDTH	SQ. YDS.
30	990
	125
15	990
	50
15	
	980
	117
15	
	980
	144
25	980
	126

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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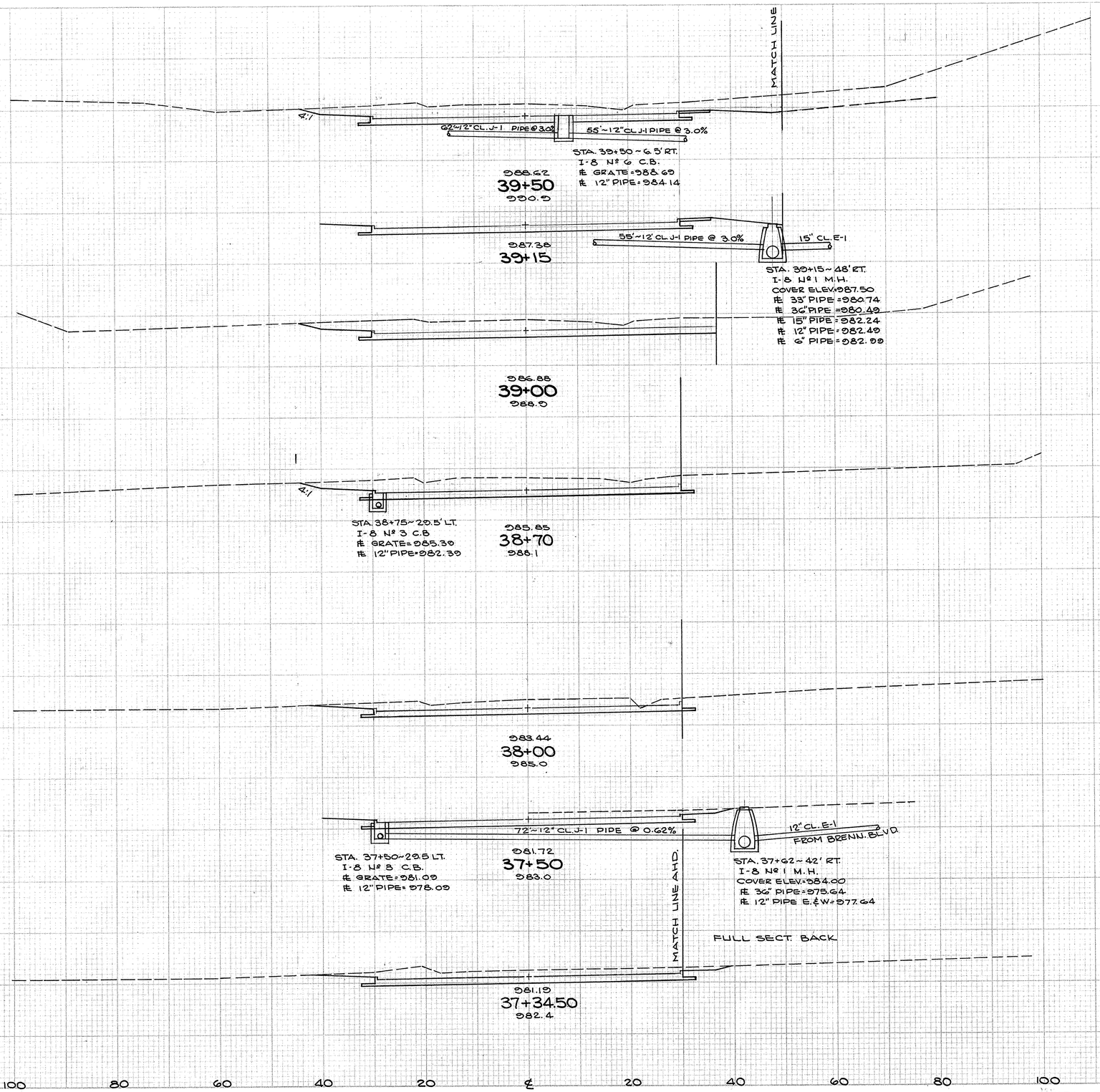
383

SUMMIT COUNTY
SUM-277-0.46



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
265	0		
		454	0
225	0		
		245	0
215	0		
		473	0
150	0		
		370	0
155	0		
		204	0

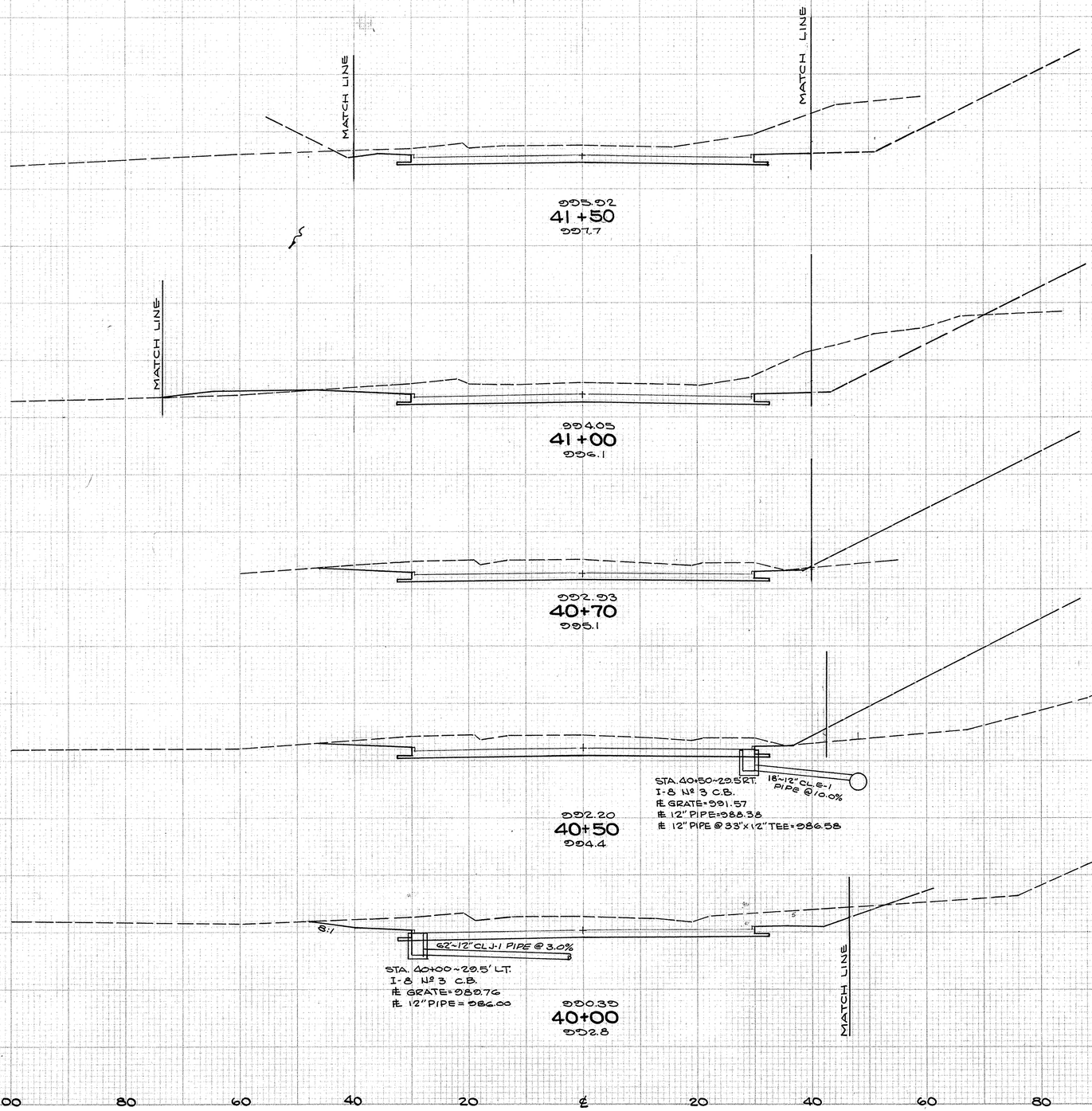
MANCHESTER RD.
STA. 37+34.50 TO STA. 39+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

159
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING		
	END WIDTH	SQ. YDS.
20		990
		206
54		990
		140
30		990
		69
32		990
		186
37		990
		186



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
250	0		
		495	9
285	10		
		269	6
200	0		
		150	3
205	7		
		440	6
270	0		
		495	0

100 80 60 40 20 ℄ 20 40 60 80 100

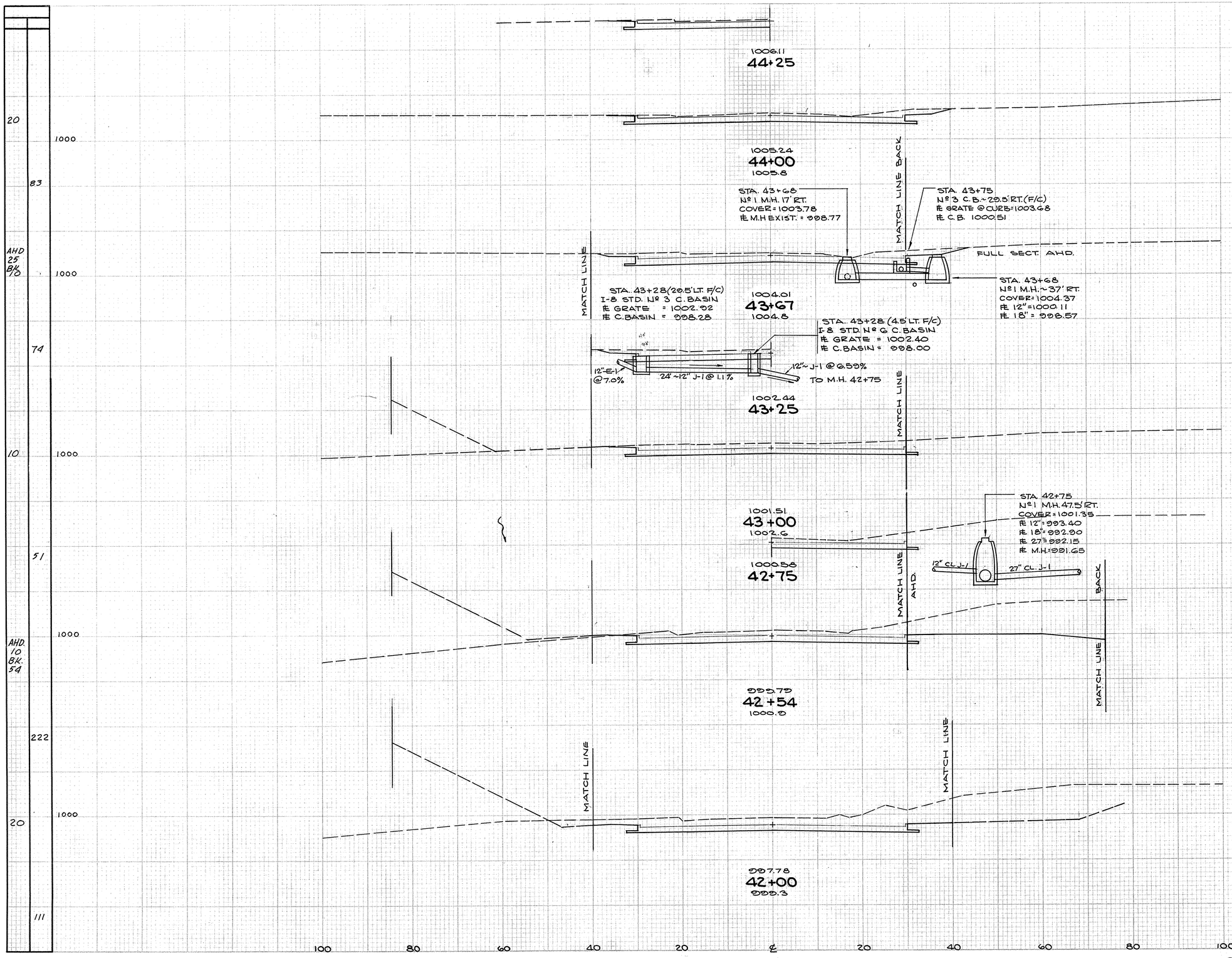
MANCHESTER RD.

STA. 40+00 TO STA. 41+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

160
383

SUMMIT COUNTY
SUM-277-0.46



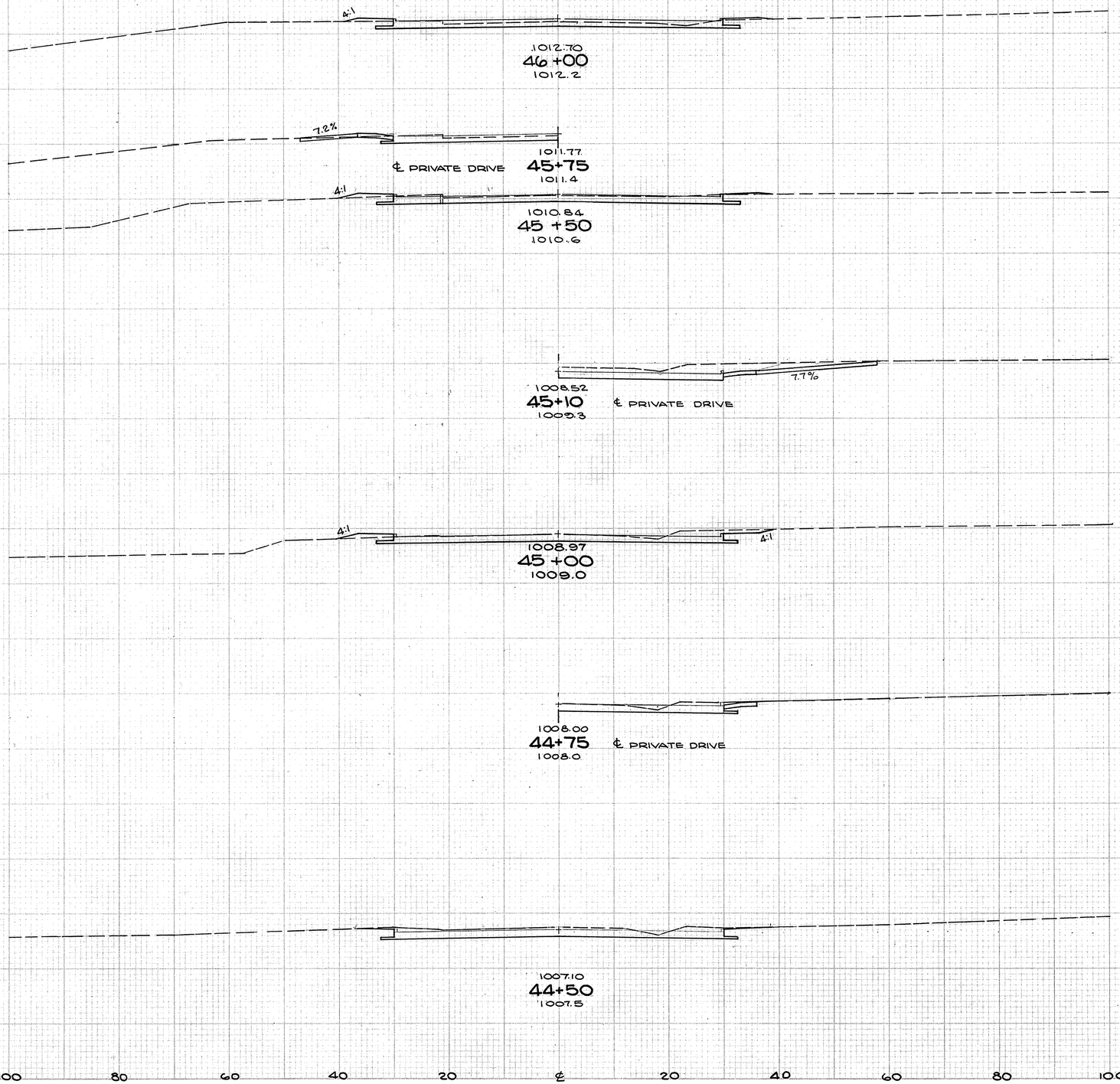
	105	0		
			156	0
AHD.	150	0		
BK.	135	0		
			347	0
	145	0		
			260	1
AHD.	160	1		
BK.	415	1		
			660	1
	245	0		
			458	0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

161
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
20		1010	40	7		
	///				97	11
		1010				
20		1010	G5	5		
	///	1010			120	10
20		1000	G5	G		
	///				148	G
		1000				
20		1000	94	0		
	///				185	0



MANCHESTER RD.
STA. 44+28 TO STA. 46+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

162
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
1010					
1010					
20					
1010		45	0		
				79	3
139					
1010					
				40	3
30					
1010					
				74	9
139					

1016.05
47+00
1015.5

1015.33
℄ PRIVATE DRIVE 46+75
1014.8

1014.57
46+50 ℄ PRIVATE DRIVE
1013.9

100 80 60 40 20 ℄ 20 40 60 80 100

MANCHESTER RD.
STA. 46+50 TO STA. 47+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

163
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		0	0
			42
			0

1010

47+94
1018.4
℄ INT. MANCHESTER & WATERLOO ROADS

1010

1017.24
47+50
1017.0

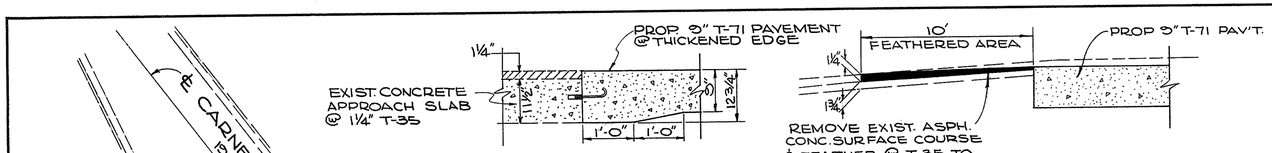
100 80 60 40 20 ℄ 20 40 60 80 100

MANCHESTER RD.
STA. 47+50 TO STA. 47+94

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

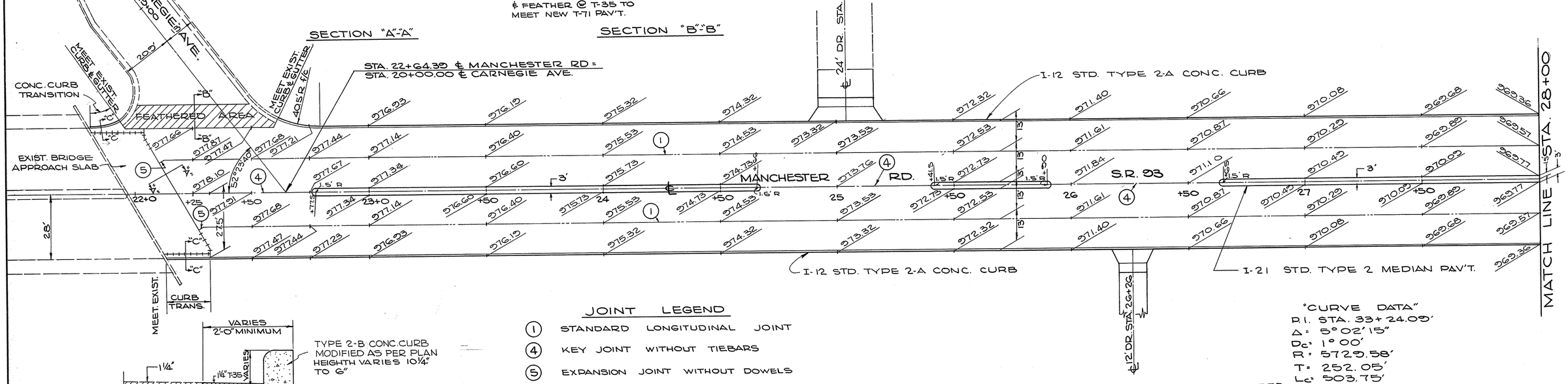
164/383

SUMMIT COUNTY
SUM-277-0.46



SECTION "A"-"A"

SECTION "B"-"B"

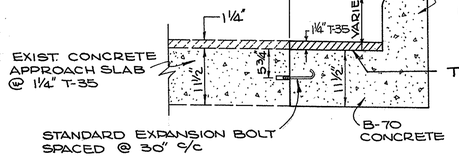


JOINT LEGEND

(1) STANDARD LONGITUDINAL JOINT

(4) KEY JOINT WITHOUT TIEBARS

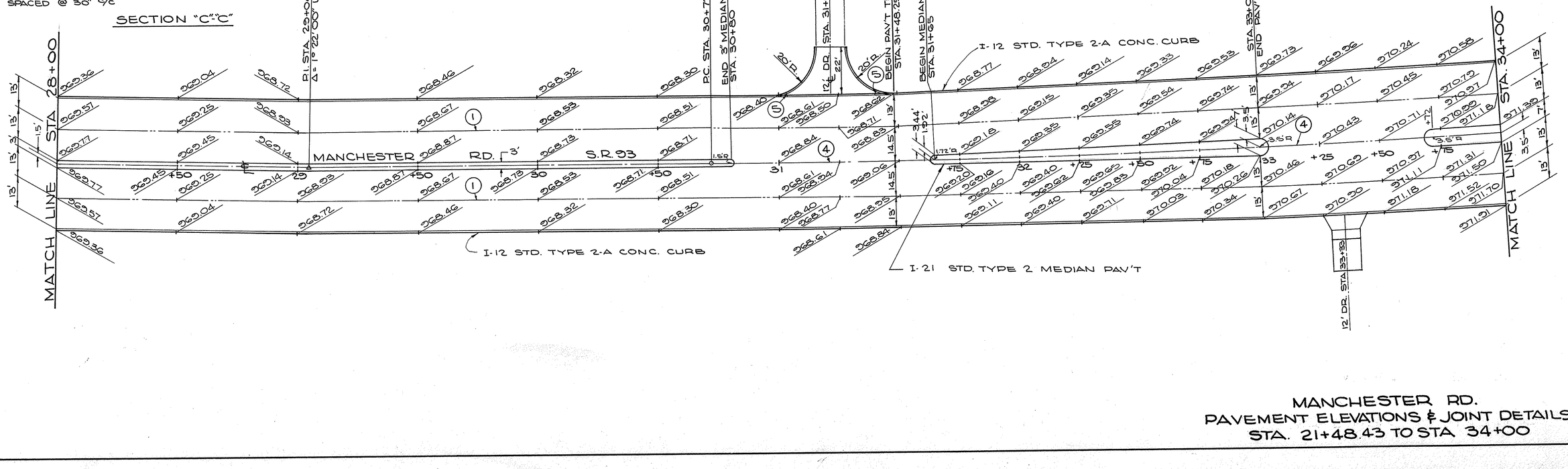
(5) EXPANSION JOINT WITHOUT DOWELS



SECTION "C"-"C"

"CURVE DATA"
P.I. STA. 33+24.09'
Δ = 5°02'15"
Dc = 1°00'
R = 5729.58'
T = 252.05'
Lc = 503.75'
E = 5.54'
P.C. STA. 30+72.04
P.T. STA. 35+75.79

FACE OF CURB IS STRIGHT LINE TAPER ON BOTH SIDES
PAV'T. TRANSITION ~ 27.5' f/c TO 29.5' f/c BOTH LANES
MEDIAN TRANSITION ~ 3.44' TO 7' f/c



MANCHESTER RD.
PAVEMENT ELEVATIONS & JOINT DETAILS
STA. 21+48.43 TO STA. 34+00

K & E

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

165
383

SUMMIT COUNTY
SUM-277-0.46

"CURVE DATA"
P.I. STA. 33+24.09
Δ = 5°02'15"
D_c = 1°00'
R = 5729.58'
T = 252.05'
L_c = 503.75'
E = 5.54'
P.C. STA. 30+72.04
P.T. STA. 35+75.79

"CURVE DATA"
P.I. STA. 37+82.98
Δ = 10°43'58"
D_c = 3°00'
R = 1909.86'
T = 179.40'
L_c = 357.76'
E = 8.41'
P.C. STA. 36+03.58
P.T. STA. 39+61.34

I-21 STD. TYPE 2 MEDIAN PAV'T.
I-12 STD. TYPE 2-A CONC. CURB
12' DR. STA. 35+36
BEGIN 2' MEDIAN 5.5' RT. STA. 35+73
P.T. STA. 35+75.79
P.C. STA. 36+03.58
END 2' MEDIAN 5.5' RT. STA. 38+75
P.T. STA. 39+61.34
MATCH LINE STA 34+00
MATCH LINE STA 40+00
MANCHESTER RD. S.R. 93
PROP 6' CONC. SIDEWALK
I-12 STD. TYPE 2-A, CONC. CURB
STA. 34+50
MEDIAN TRANS 7'f/c to 4'f/c
STA. 34+91.40
STA. 37+34.50 MANCHT. RD. = STA. 0+00 RAMP "B-1"
STA. 38+30.00 MANCHESTER RD. STA. 0+00 ℄ RAMP "B"
BEGIN 2' MEDIAN 5.5' RT. STA. 39+75
END MEDIAN 1.5' RT. STA. 34+91.40
℄ NESMITH LAKE BLVD.
CONNECT EXIST. 3' WALK WITH 28 S.F. I-13 WALK
EXIST. 3' CONC. WALK
RAMP "B"
RAMP "B-1"
STA. 35+31.98 MANCHESTER = STA 50+00 NESMITH LK.
END 2' MEDIAN 5.5' RT. STA. 42+50
BEGIN 2' MEDIAN 5.5' LT. STA. 43+25
STA. 43+35.00 MANCHESTER RD. = STA. 12+56.74 ℄ RAMP "A"
24' DR. STA. 45+75
12' DR. STA. 44+75
24' DR. STA. 45+10
RAMP "A"
I-12 STD. TYPE 2-A CONC. CURB
I-21 STD. TYPE 2 MED. PAV'T.
PROP 6' CONC. SIDEWALK
50' R.
60° P.

"CURVE DATA"
Δ = 92°40'22"
R = 25.00'
T = 26.19'
L = 40.44'
P.C. STA. 34+91.40
P.T. STA. 50+56.48

"CURVE DATA"
Δ = 86°34'24"
R = 25.00'
T = 23.55'
L = 37.77'
P.C. STA. 50+52.43
P.T. STA. 35+66.79

NOTE:
CURB ELEVATIONS ARE TO BACK OF CURB.

FOR RAMPS "B" & "B-1" PAV'T. DETAILS SEE SHEET Nº 122

NOTE:
18"x18" BLOCKOUT FOR SIGNAL DETECTOR. FOR DETAIL SEE SHEET Nº 250

FOR RAMP "A" PAV'T. DETAILS SEE SHEET Nº 121

JOINT LEGEND

(1) STANDARD LONGITUDINAL JOINT
(2) STANDARD EXPANSION JOINT
(3) STANDARD CONTRACTION JOINT
(4) KEY JOINT WITHOUT TIEBARS
(5) EXPANSION JOINT WITHOUT DOWELS

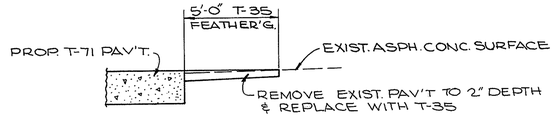
MANCHESTER RD.
PAVEMENT ELEVATIONS & JOINT DETAILS
STA. 34+00 TO STA. 46+00

K.&E.

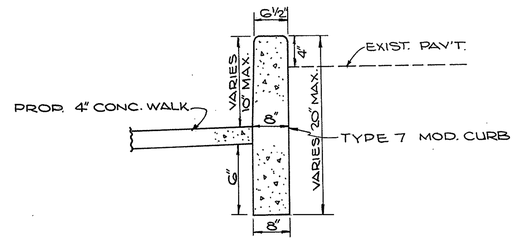
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

166
383

SUMMIT COUNTY
SUM-277-0.46



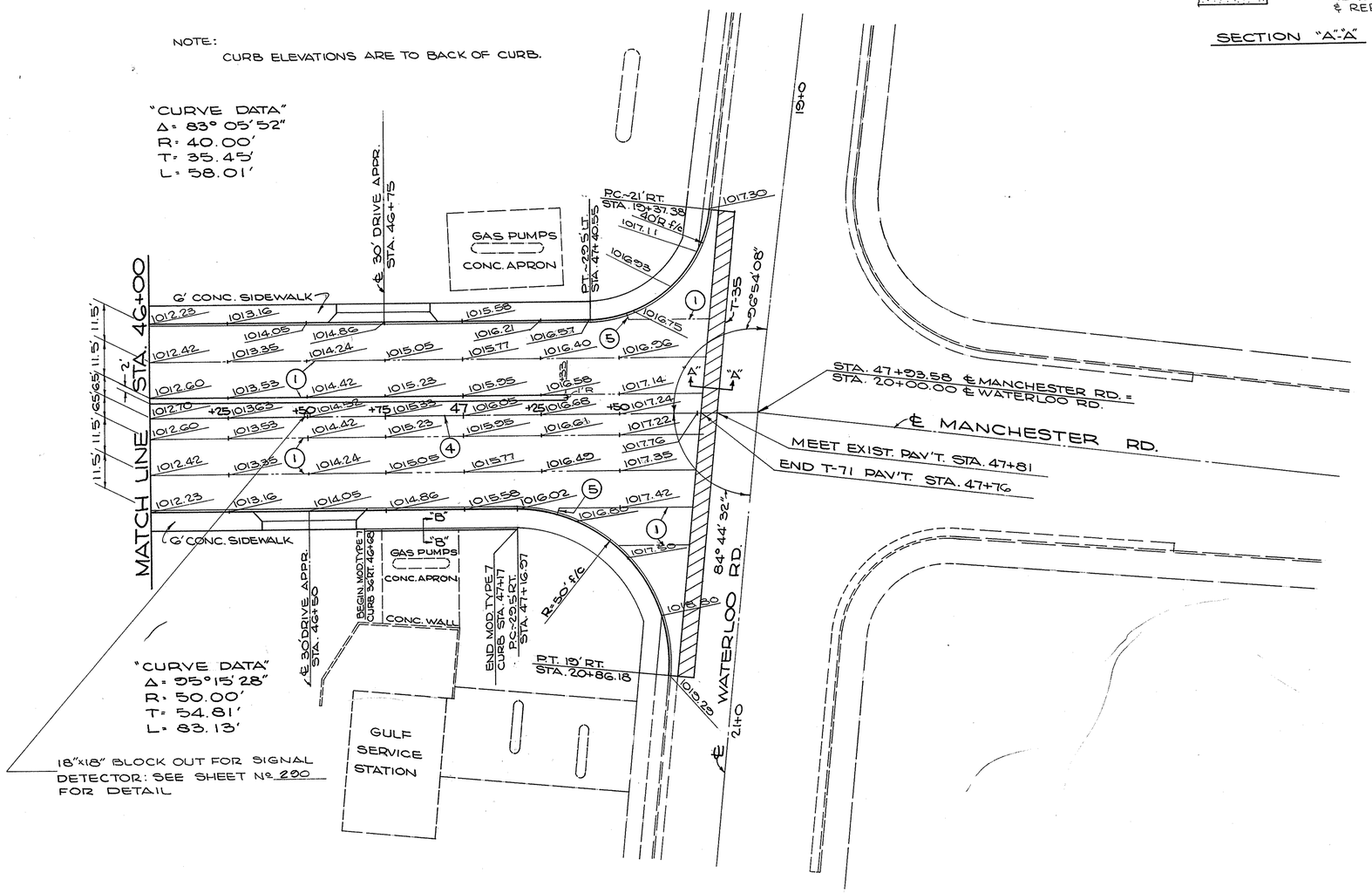
SECTION "A"-"A"



SECTION "B"-"B"

NOTE:
CURB ELEVATIONS ARE TO BACK OF CURB.

"CURVE DATA"
Δ = 83° 05' 52"
R = 40.00'
T = 35.45'
L = 58.01'



JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

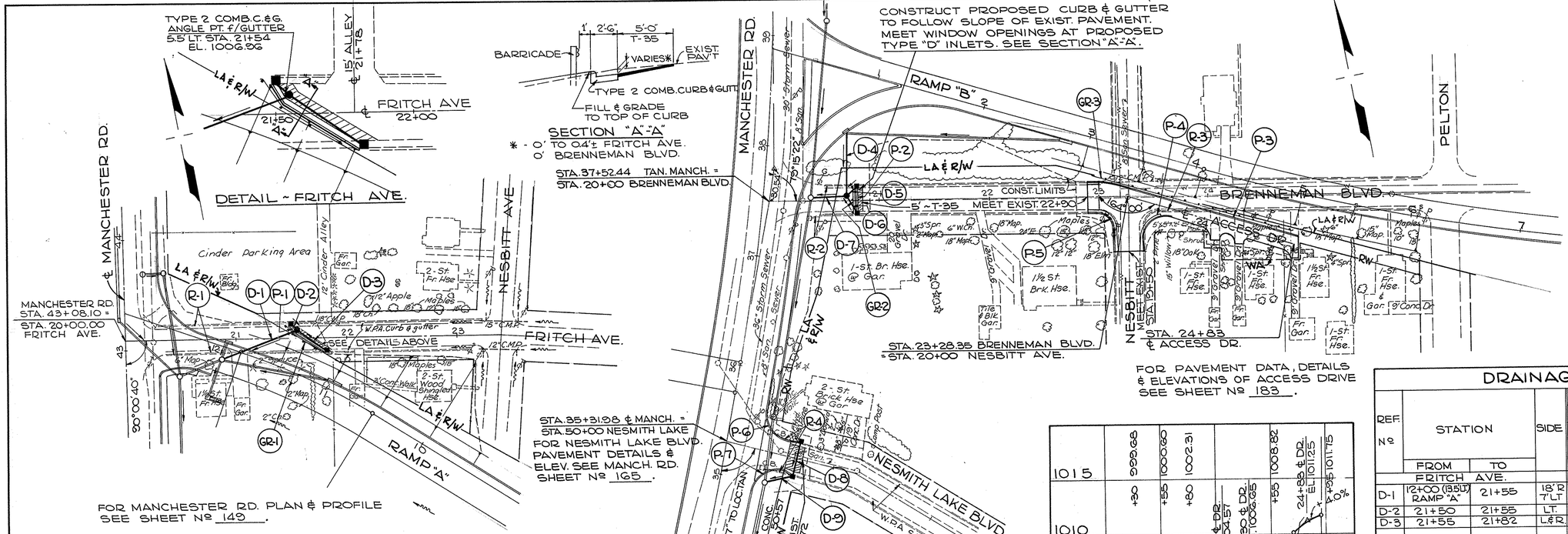
MANCHESTER RD.
PAVEMENT ELEVATIONS & JOINT DETAILS
STA. 46+00 TO STA. 47+76

C.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

167
383

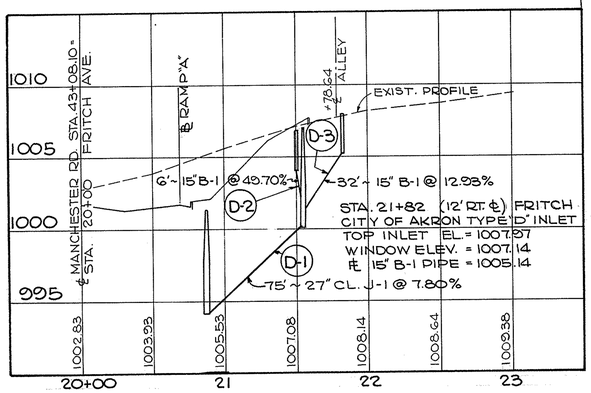
SUMMIT COUNTY
SUM-277-0.46



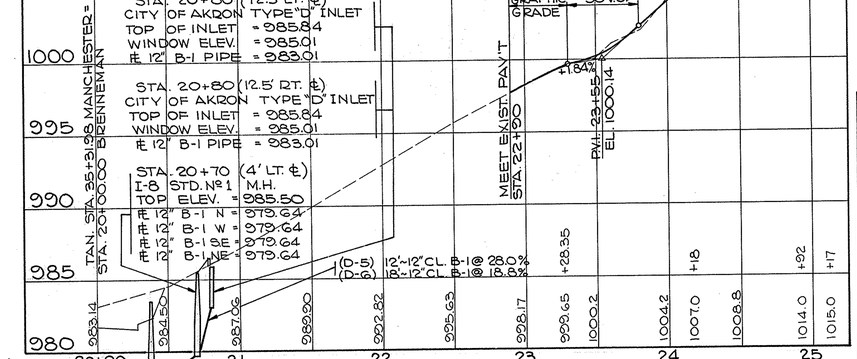
STA. 12+00 (13.5' LT.) RAMP "A"
I-8 Nº 1 MANHOLE
COVER ELEV. = 1001.42
℄ 15" J-1 PIPE = 995.15
℄ 15" J-1 PIPE = 997.40
℄ 27" J-1 PIPE = 994.15

STA. 21+50 (12' LT. ℄) FRITCH
CITY OF AKRON TYPE "D" INLET
TOP INLET EL. = 1006.87
WINDOW ELEV. = 1005.28
℄ 15" B-1 PIPE = 1003.98

STA. 21+55 (7' LT. ℄)
I-8 STD. Nº 1 MANHOLE
COVER ELEV. = 1007.02
℄ 15" B-1 PIPE = 1001.00
℄ 27" J-1 PIPE = 1000.00

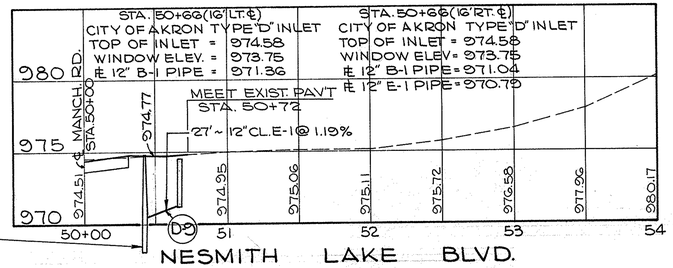


FRITCH AVE.



BRENNEMAN BLVD. & ACCESS DR.

STA. 37+60 (42' RT.) MANCH'T'R RD.
I-8 Nº 1 MANHOLE
COVER ELEV. = 984.00
℄ 33" E-1 PIPE = 975.89
℄ 12" B-1 PIPE = 977.64



STA. 35+00 (40' RT.) MANCH'T'R RD.
I-8 Nº 1 MANHOLE
COVER ELEV. = 974.88
℄ 42" E-1 = 967.37
℄ 12" E-1 = 970.47

NESMITH LAKE BLVD.

DRAINAGE QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. B-1 12"	I-1 PIPE CL. B-1 15"	I-1 PIPE CL. E-1 12"	I-1 PIPE CL. J-1	I-1 PIPE CL. J-1 27"	I-8 Nº 1 STD. MANHOLE EACH	I-8 CITY OF AKRON TYPE "D" INLET EACH
	FRITCH AVE.			LIN. FT.		LIN. FT.		LIN. FT.		
D-1	12+00 (13.5' LT. RAMP "A"	21+55	18' R 7' LT					75	1	
D-2	21+50	21+55	LT.		6					1
D-3	21+55	21+82	L & R.		32					1
	BRENNEMAN BLVD.									
D-4	1+00 RAMP "A"	20+70 (4' LT.)	LT.	55						
D-5	20+70	20+80	LT.	12						1
D-6	20+70	20+80	RT.	18						1
D-7	20+37	20+70	LT.	33					1	
	NESMITH LAKE BLVD.									
D-8	50+66		L & R.	32						1
D-9	50+42	50+66	RT.			27				1
	SHEET TOTAL			150	38	27		75	2	6

PAVEMENT & ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF P.C.C. PAV'T S.Y.	T-35 1½" ASPH. CONC. SURFACE COURSE C.Y.	B-35 1¼" ASPH. CONC. LEVELING COURSE C.Y.	I-22 SUB-BASE (GRAD'G AS PER PLAN) C.Y.	B-21 WATER-PROOF AGG. BASE COURSE C.Y.	E-1 COMP SUB-GRADE S.Y.	I-12 CONCRETE CURB STD. TYPE 2 COMBIN'N CURB & GUTTER LIN. FT.	I-12 CONCRETE CURB STD. TYPE 2A LIN. FT.	I-12 CONCRETE CURB STD. TYPE 6 LIN. FT.
	FRITCH AVE.											
P-1	21+47	21+81	L & R.		1.4					42		
	BRENNEMAN BLVD.				0.7							
	ACCESS DR.				15.0	15	83	62.4	483			
P-2	21+78		L & R							22		
P-3	22+90	24+85	LT.							13.2		186
P-4	19+50	23+10.13	RT.							50.5		
P-5	22+90	19+50	RT.							55.3		
	NESMITH LAKE BLVD.											
	50+30	50+72		109.8	2.3		18.3		110			
P-6	N.E. Return									9		37.6
P-7	S.E. Return									9		40.4
	SHEET TOTAL			109.8	19.4	15	101.3	62.4	593	201.6		78.2 186

EARTHWORK

LOCATION	EXCAVATION CU.YD.	EMBANKMENT CU.YD.	EMBANKMENT +20% CU.YD.	SEEDING & PROTECTING SQ.YD.
ACCESS DR.	173	8	10	290
NESMITH LK. BLVD	85	8	10	60
NESBITT	54	0	0	27
TOTALS	312	16	20	377

ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	I-15 G. RAIL STEEL BEAM STANDARD TYPE DEEP LIN. FT.	E-8 REMOVAL EXIST. STONE CURB & GUTTER LIN. FT.
GR-1	21+57	℄ FRITCH	L & R.	37.5	
GR-2	20+76	℄ BRENN'N	L & R.	25	
GR-3	22+06	24+78	LT.	187.5	
R-1	20+80	21+85	L & R.		276
R-2	20+37	20+82	LT & RT.		92
R-3	22+90	24+20	L & R.		120
R-4	50+36	50+67	L & R.		66
	SHEET TOTAL			250.0	454

PLAN & PROFILE
EXIST. FRITCH AVE, BRENNEMAN BLVD., ACCESS DR. & NESMITH LAKE BLVD.

FED. RD	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

168
383

SUMMIT COUNTY
SUM-277-0.46

ENDAREA CUT	ENDAREA FILL	CU. YDS. CUT	CU. YDS. FILL
		0	2
		3	10
0		0	
0		30	

| | | |

END AREA CUT	END AREA FILL	CU YDS CUT	CU YDS FILL

FED.RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

169
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING	
END	SQ. YDS.
WIDTH	

STA. 22+50
995.6

STA. 22+00
992.8

STA. 21+96
992.6

STA. 21+50
989.9

STA. 21+16 DR. RT.
988.0

STA. 21+00
987.1

STA. 20+80 (12.5' RT. ℄)
CITY OF AKRON TYPE 'D' INLET
TOP INLET ELEV. = 985.84
WINDOW ELEV. = 985.01
℄ 12" B-1 PIPE = 983.01

STA. 20+80 (12.5' LT. ℄)
CITY OF AKRON TYPE 'D' INLET
TOP INLET ELEV. = 985.84
WINDOW ELEV. = 985.01
℄ 12" B-1 PIPE = 983.01

STA. 1+00 RAMP "B-1" (℄)
I-8 STD. Nº 3 CATCH BASIN
TOP OF CURB = 986.03
GRATE ELEV. = 985.36
℄ 12" B-1 PIPE = 980.23

STA. 20+70 (4' LT. ℄)
I-8 STD. Nº 1 MANHOLE
COVER ELEV. = 985.50
℄ 12" B-1 PIPES = 979.64

STA. 20+80
986.04

STA. 20+50
984.5

RAMP "B-1"

990
980
20
40

PLATE 3, CROSS SECTION
KOPPEL & KOPPEL CO.

EX. BRENNEMAN BLVD. STA. 20+50 TO 22+50

FED.RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

170
388

SUMMIT COUNTY
SUM-277-0.46

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0		
0	0	0	0
AHD Bk. 61			
0	0		
30	0	40	0
0	0		
AHD Bk. 30		14	0
0	0		

| SEEDING | | |

ORIGINAL SURVEY — SURVEYED — DATE — BOOK — PRIVATE — PAGE — NO. — CHECKED

FINAL SURVEY — SURVEYED — DATE — NOTE BOOK — PAGE — NO. — CHECKED

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

1010

23+00
1009.4

1010

22+50
1008.6

1010

22+00
1008.1

STA. 21+82 (12' RT. ℄)
CITY OF AKRON TYPE "D" INLET
TOP OF INLET = 1007.97
WINDOW ELEV. = 1007.14
℄ 15" B-1 PIPE = 1005.14

1010

TO M.H.
STA. 21+55

32'~15" B-1 @ 12.93%

21+82
1007.7

STA. 21+50 (12' LT. ℄)
CITY OF AKRON TYPE "D" INLET
TOP OF INLET = 1006.81
WINDOW ELEV. = 1005.98
℄ 15" B-1 PIPE = 1003.98

STA. 21+55 (7' LT. ℄)
I-8 STD. Nº 1 MANHOLE
COVER ELEV. = 1007.02
℄ 15" B-1 PIPE = 1001.00
℄ 27" J-1 PIPE = 1000.00

1010

TO INLET STA. 21+82

6'~15" B-1 @ 49.70%

27" J-1 TO M.H. 13.5' LT. STA. 12+00 RAMP "A"

21+50
1007.1

1010

21+00
1005.5

1000

20+50
1003.9

40 20 ℄ 20 40

KE PLATE 3. CROSS SECTION
KEUFFEL & ESSER CO.

EX. FRITCH AVE. 20+50 TO 23+00

SUMMIT COUNTY
SUM-277-0.46

FED RD	STATE	PROJECT
2	OHIO	I-277-6(11)24

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FED.RD.	STATE	PROJECT	
2	OHIO	I-277-G(1) 124	

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SUMMIT COUNTY
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EXIST. BRENNEMAN BLVD.

RELOC. BRENNEMAN BLVD.

& PROP. PEDESTRIAN BRIDGE

C.S. STA. 143+38.63 — S.T. STA. 146+38.63

& I-277

RAMP "B"

PELTON — CONRAD — EDWIN — CHRISTENSEN — NESMITH LAKE BLVD.

EXIST. RW — PROP. RW — LA & R/W

STA. 12+84.74 REL. BRENN. = STA. 18+78.82 CONRAD

STA. 18+54.62 REL. BRENN. = STA. 18+78.82 CHRISTENSEN

STA. 15+63.62 REL. BRENN. = STA. 18+78.82 EDWIN AVE.

* - (GR1) - STA. 9+84 TO STA. 21+63

STA. 21+90 BEGIN PAV'T WIDTH TRANSITION

STA. 22+10 END TRANS. MEET EXIST. PAV'T

END TAPER STA. 9+45 MEET EXIST. PAV'T STA. 9+25

END TAPER STA. 18+40 MEET EXIST. PAV'T STA. 18+00

END TAPER STA. 17+90 MEET EX. PAV'T STA. 17+80

FOR CONRAD, EDWIN & CHRISTENSEN PLAN & PROFILES SEE SHEET Nº 176.

REL. BRENNEMAN BLVD. & CURVE DATA
P.I. STA. 10+25.75
Δ = 90°00'
R = 60.00'
T = 60.00'
L = 94.25'
P.C. STA. 9+65.75
P.T. STA. 10+60.00

FOR RELOC. BRENNEMAN BLVD. & CONRAD, EDWIN, CHRISTENSEN INTERSECTION DETAILS SEE SHEET Nº 183.

FOR DRIVEWAY DETAILS & QUANTITIES SEE SHEET Nº 226.

CONRAD; EDWIN & CHRISTENSEN CURB RETURN DATA:
Δ = 90°00'
R = 25.00'
T = 25.00'
L = 39.27'

CHRISTENSEN AVE.
PROP I-13 CONC. STEPS RT. & LT.
STA. 18+40.82 WITH 1'-0" TREADS & 6" RISERS
24 LIN. FT. LT. & 18 LIN. FT. RT.
4 FT. WIDE — 6 FT. WIDE

REL. BRENNEMAN BLVD. & CURVE DATA
P.I. STA. 21+39.62
Δ = 90°00'
R = 60.00'
T = 60.00'
L = 94.25'
P.C. STA. 20+79.62
P.T. STA. 21+73.87

NOTE: CONRAD, EDWIN & CHRISTENSEN QUANTITIES ARE INCLUDED IN THIS TABLE.

PAVEMENT & ROADWAY QUANTITIES

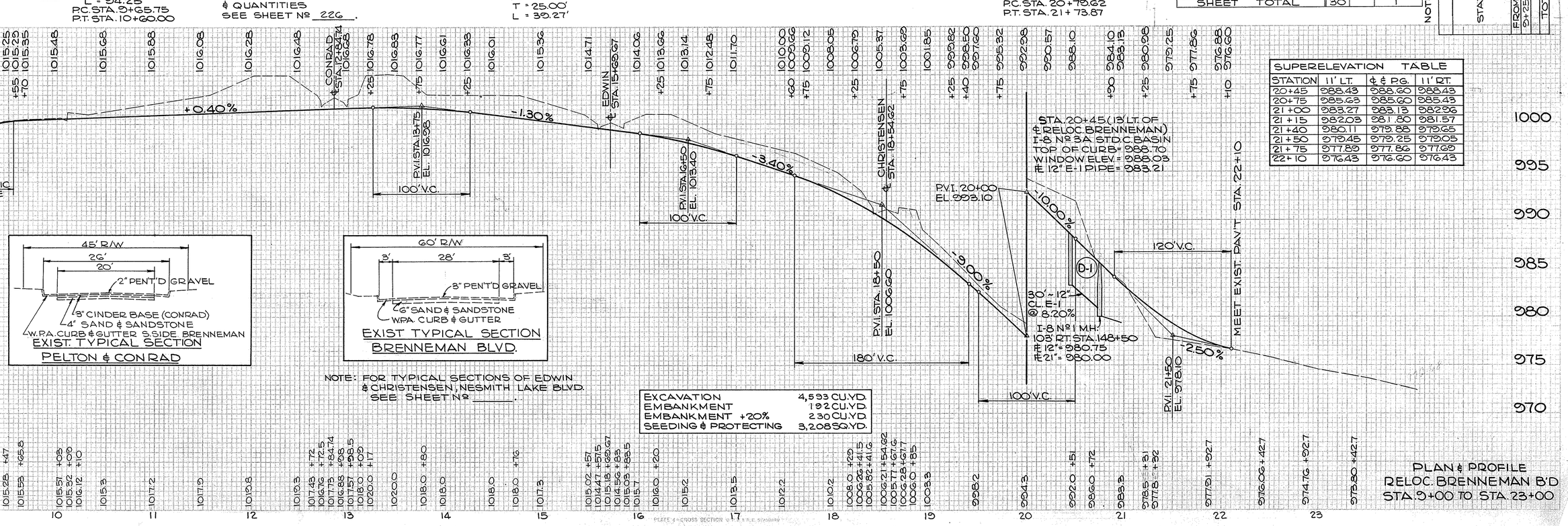
STATION FROM	STATION TO	I-13 B-21 I-13 STD. CONC. STEPS TYPE "B"	B-35 1½" ASPH. CONC. SURFACE COURSE	I-12 1½" ASPH. CONC. LEVEL. BASE COURSE	T-35 STD. TYPE 2, CONC. CURB & GUTTER	I-12 CONC. SIDE-WALK	I-13 6" SUBBASE	I-22 COMP. SUB-GRADE	E-1	E-8 REMOVAL OF EXIST. CURB & GUTTER	I-15 GUARD RAIL STEEL BEAM (DEEP)
		C.Y.	C.Y.	C.Y.	L.F.	S.F.	S.Y.	S.Y.		L.F.	L.F.
9+25	22+10	42	515.65	128.90	2820.54	3970	80.155	4491		1058	1225
TOTALS		42	515.65	128.90	2820.54	3970	80.155	4491		1058	1225*

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. E-1 12" LIN. FT.	I-8 Nº 3A STD. C.B. EACH
D-1	20+45	20+75	LT.	30	1
SHEET TOTAL				30	1

SUPERELEVATION TABLE

STATION	11' LT.	℄ & P.G.	11' RT.
20+45	988.43	988.60	988.43
20+75	985.63	985.60	985.43
21+00	983.27	983.13	982.96
21+15	982.03	981.80	981.57
21+40	980.11	979.88	979.65
21+50	979.45	979.25	979.05
21+75	977.89	977.86	977.69
22+10	976.43	976.60	976.43



NOTE: FOR TYPICAL SECTIONS OF EDWIN & CHRISTENSEN, NESMITH LAKE BLVD. SEE SHEET Nº _____.

EXCAVATION	4,593 CU.YD
EMBANKMENT	192 CU.YD
EMBANKMENT +20%	230 CU.YD
SEEDING & PROTECTING	3,208 SQ.YD.

PLATE 4 - CROSS SECTION OF R.R.C. STANDARD
KELLER & BAUER CO., NEW YORK

PLAN & PROFILE
RELOC. BRENNEMAN B'D
STA. 9+00 TO STA. 23+00

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
70	0		0
		204	
150	0		0
		163	
175	0		0
		96	
50	0		0
		211	
165	0		0
		266	
140	0		0
		220	
100	0		0
		194	
110	0		0
		204	
110	0		6
		144	
45	6		6
		76	
30	0		21

AHD BK. 28 00

FED. RD. DIVISION: 2 | STATE: OHIO | PROJECT: I-277-6-(1)124

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SUMMIT COUNTY
SUM-277-0.46

PROPERTY LINE
MATCH LINE
14+00
1016.61
1017.8
MATCH LINE BK
13+50
1016.83
1019.8
MATCH LINE BK
13+22.74
1016.77
1009.5
MATCH LINE AHD
13+00
1016.68
1017.6
MATCH LINE AHD
12+46.74
1016.47
1019.4
12+00
1016.28
1019.1
11+50
1016.08
1018.2
PROPERTY LINE
11+00
1015.86
1017.4
MATCH LINE
10+50
1015.68
1017.1
10+00
1015.48
1015.3
9+59
1015.29
1015.48
℄ 5' GRAVEL DR. LT.
9+55
1015.24
1015.44
℄ 10' ASPHALT DR. RT.
9+45 END TAPER
1015.25
1015.3
BEGIN WORK
MEET EXIST PAVT.
BEGIN TAPER
9+25
1014.82
1014.8
9+00
1013.9

SEEDING			
END WIDTH	SQ. YDS.		
23	128	1020	
23	69	1020	
23	59	1020	
23	135	1020	
23	120	1020	
23	128	1010	
23	128	1010	
23	128	1010	
23	130	1010	
24		1010	
18	128	1010	
	31	1010	
	0	1010	
		1010	

RELOCATED BRENNEMAN BLVD.
STA. 9+00 TO STA. 14+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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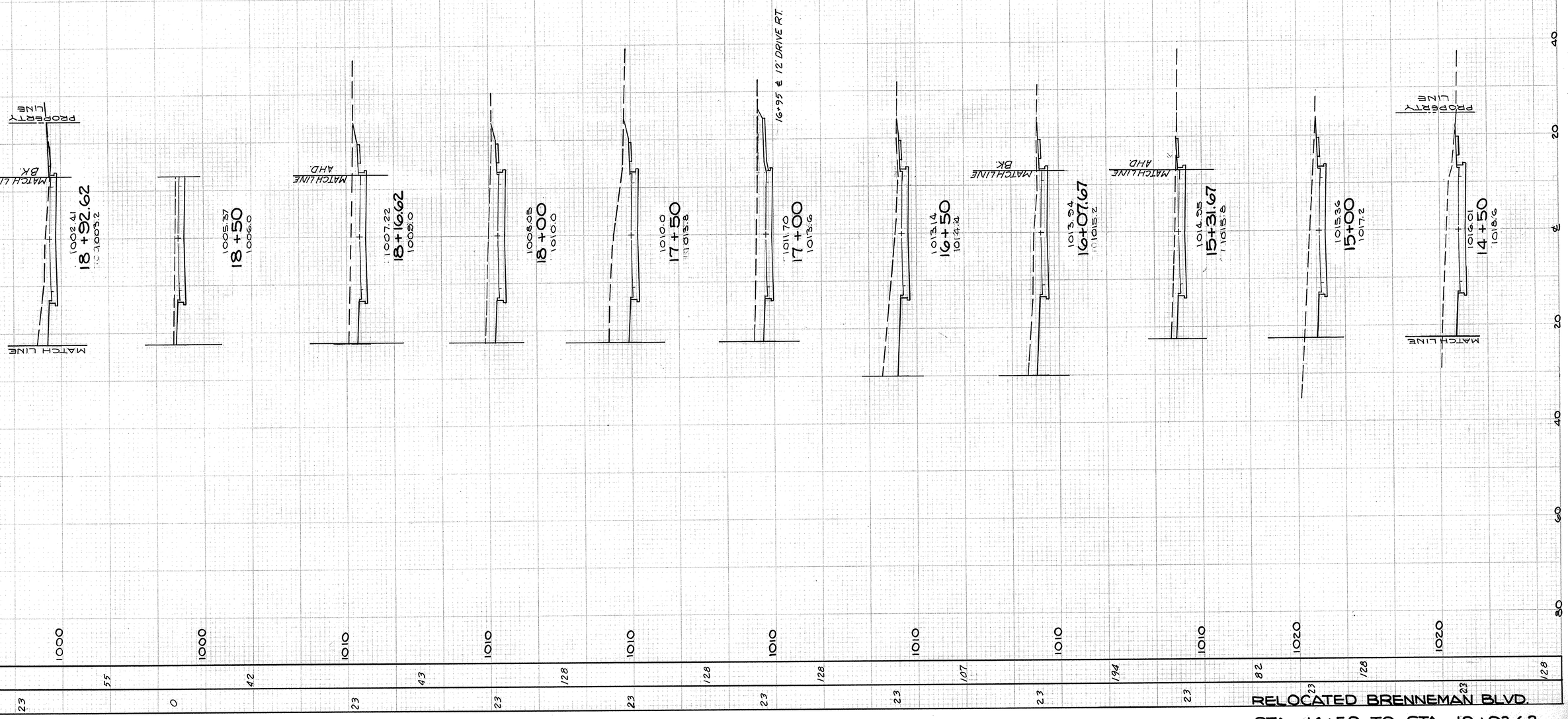
SUMMIT COUNTY
SUM-277-0.46

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
110	0		
75	0	94	0
AHD. BK.			
45	0	92	0
104	0		
118	0	75	0
AHD. BK.			
125	0	294	0
193	0	304	0
135	0	231	0
115	0	176	0
110	0	296	0
AHD. BK. 104			
106	0	141	0
AHD. BK. 110			

	0		0
	254		199
0		0	
130		145	



SEEDING END SQ. WIDTH	SEEDING END SQ. YDS.
23	1000
	55
0	1000
	42
23	1010
	43
23	1010
	128
23	1010
	128
23	1010
	128
23	1010
	107
23	1010
	194
23	1010
	82
23	1020
	128
23	1020
	128

RELOCATED BRENNEMAN BLVD.
STA. 14+50 TO STA. 18+92.62

END AREA	CU. YDS.
CUT	FILL	CUT	FILL
35	0	20	7
20	20	25	59
14	60	10	41
8	58	20	41
35	30	190	28
170	0	204	0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1) 124	

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0	0	0	0
93		169	0
0	0	0	
50	50		

23+00
974.61

975.19
22+75
975.20

975.82
22+50
975.85

976.81
22+22
976.42
℄ ASPHALT DR. RT.

22+10 MEET EXIST. PAV'T.
976.6 END WORK

21+92 ℄ 9' GRAVEL DR. LT.
977.22
21+90 BEGIN PAV'T. WIDTH TRANSITION
977.0

MEET EXIST. DR. PAV'T.

978.25
21+67 ℄ 12' CONC. DR. RT.
977.5

978.25
21+50
978.0

980.98
21+25
979.0

983.13
21+00
983.7

988.10
20+50
991.4

992.98
20+00
993.5

997.60
19+50
998.2

MATCH LINE

PROPERTY LINE

PROPERTY LINE

MATCH LINE

SEEDING	
END S.Q.	
WIDTH YDS.	
	10
	30
	25
	156
	45
	94
	23
	64
	23
	128
	23
	128
	23
	140

RELOCATED BRENNEMAN BLVD.

STA. 19+50 TO STA. 23+00

FED. RD.	STATE	PROJECT	
2	OHIO	1-277-6(1)124	

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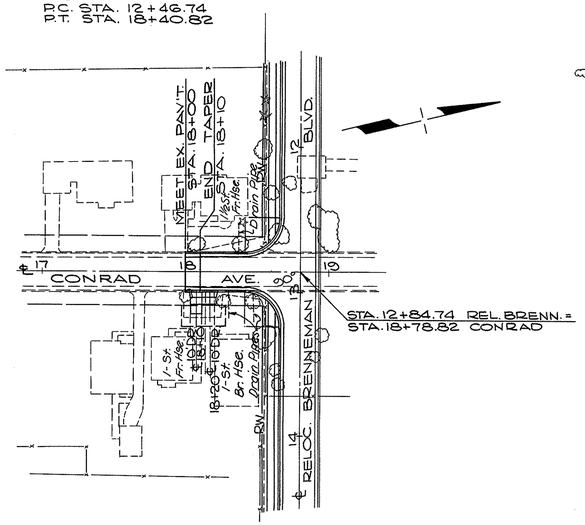
SUMMIT COUNTY
SUM-277-0.46

S.W. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 12+46.74
P.T. STA. 18+40.82



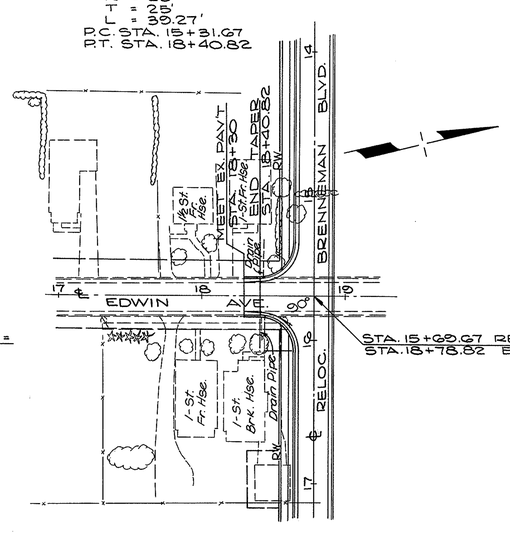
S.E. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 18+40.82
P.T. STA. 13+22.74

PAVEMENT & ROADWAY QUANTITIES ARE INCLUDED WITH RELOC. BRENNEMAN BLVD. PLAN & PROFILE SHEET Nº 172.

FOR DRIVEWAY DETAILS & QUANTITIES SEE SHEET Nº 226.

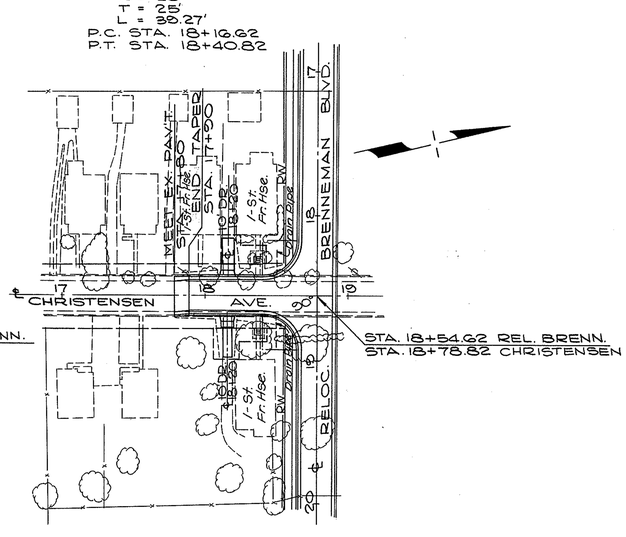
FOR INTERSECTION DETAILS & ELEVATIONS SEE SHEET Nº 183.

S.W. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 15+31.67
P.T. STA. 18+40.82

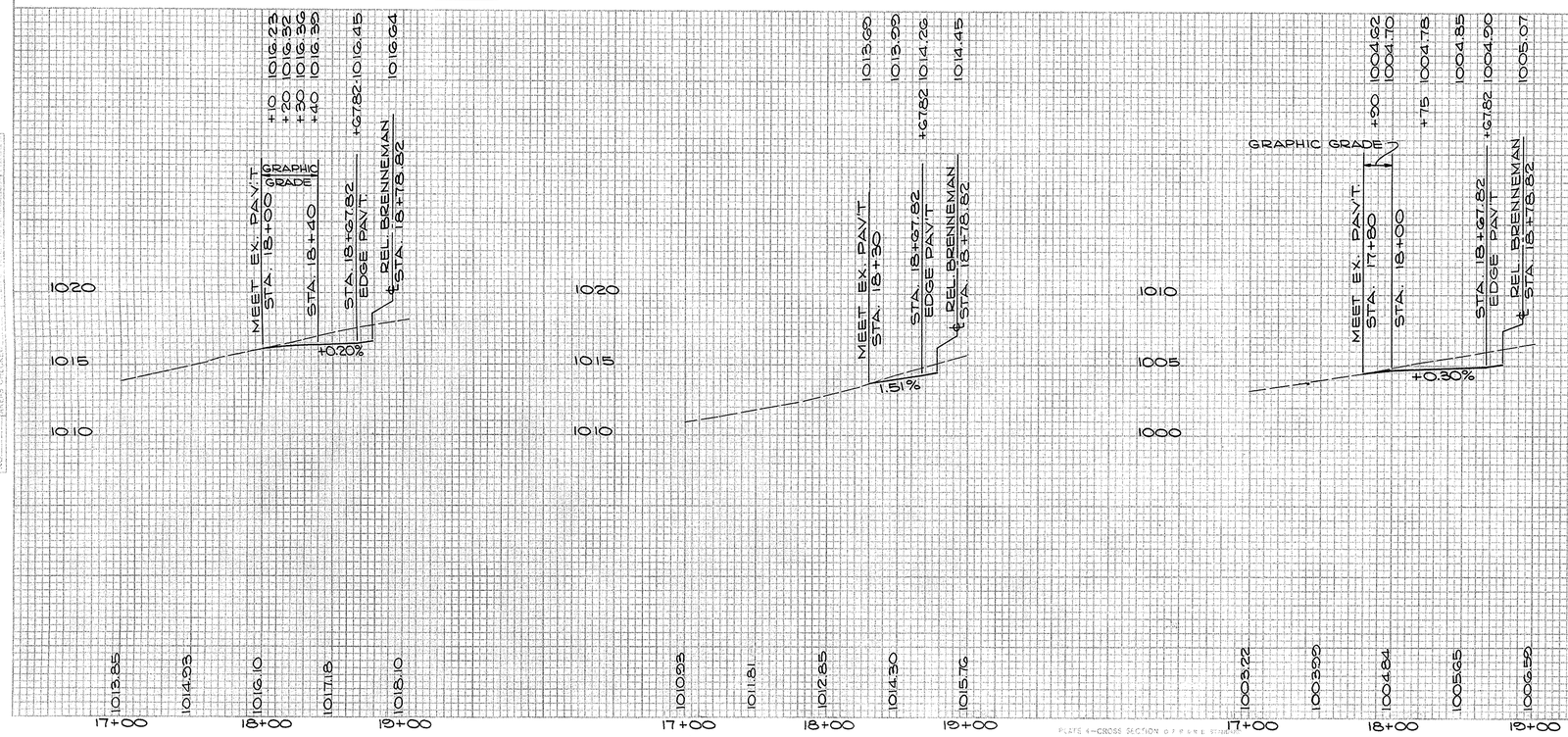


S.E. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 18+40.82
P.T. STA. 16+07.67

S.W. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 18+16.62
P.T. STA. 18+40.82



S.E. RETURN
CURVE DATA
Δ = 90°
R = 25'
T = 25'
L = 39.27'
P.C. STA. 18+40.82
P.T. STA. 18+92.62



PLAN & PROFILE
CONRAD AVE, EDWIN AVE.
& CHRISTENSEN AVE.

PLATE 4—CROSS SECTION OF PAVEMENT
KEUFFEL & ESSER CO. NEW YORK

PROJECT	STATE	FED. RD. DIVISION
I-277-6-(1)124	OHIO	2

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END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0		
70	0	42	0
40	0	40	2
32	4	6	0
30	0		
0	0		
28	0	12	0
30	0		
0	0		
45	0	29	1
30	2		
33	0		

AHD BK.

CONRAD

1/2" PER 1'
1004.82
18+40.82
1005.5
CONC. STEPS LT. & RT.

3.14%
1004.76
18+20
1005.2
DR. LT. & RT.

1/4" PER 1'
1004.62
17+90
1004.6

1004.40
17+80
1004.4

CHRISTENSEN

1/4" PER 1'
1013.90
18+40.82
1014.0

1013.60
18+30
1013.6

EDWIN

1/2" PER 1'
1016.40
18+40.82
1016.9

1/4" PER 1'
1016.32
18+20
1016.5
DR. RT.

1/4" PER 1'
1016.23
18+10
1016.2
DR. RT.

1016.10
18+00
1016.1

CONRAD, EDWIN, CHRISTENSEN OFF BRENNEMAN

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1) 124	

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SUPERELEVATION TABLE

STATION	11' LT.	℄ & PG.	11' RT.
9+30	1017.46	1017.63	1017.46
9+50	1017.48	1017.65	1017.62
9+75	1017.35	1017.52	1017.61
10+00	1017.03	1017.26	1017.49
10+25	1016.63	1016.86	1017.09
10+50	1016.21	1016.38	1016.41
10+75	1015.74	1015.91	1015.85
10+95	1015.36	1015.53	1015.36

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL.B-1 12"	I-1 PIPE CL.E-1 12"	I-1 PIPE CL.J-1 12"	I-2 MASONRY	I-8 Nº 3A STD CATCH BASIN	I-10 DUMPED ROCK CHANNEL PROT'T'N
				LIN. FT.			CU.YD.	EACH	CU.YDS.
D-1	21+75	CHRIST'N	LT&RT.			26		2	
D-2	13+00	FRITCH	LT&RT.			67		1	
D-3	13+00	FRITCH	RT.		31		0.23		2.8
D-4	15+75	FRITCH	LT&RT.			26		2	
D-5	15+35	15+75	RT.	52			0.23		2.7
SHEET TOTAL				52	31	119	0.46	5	5.5

PAVEMENT QUANTITIES

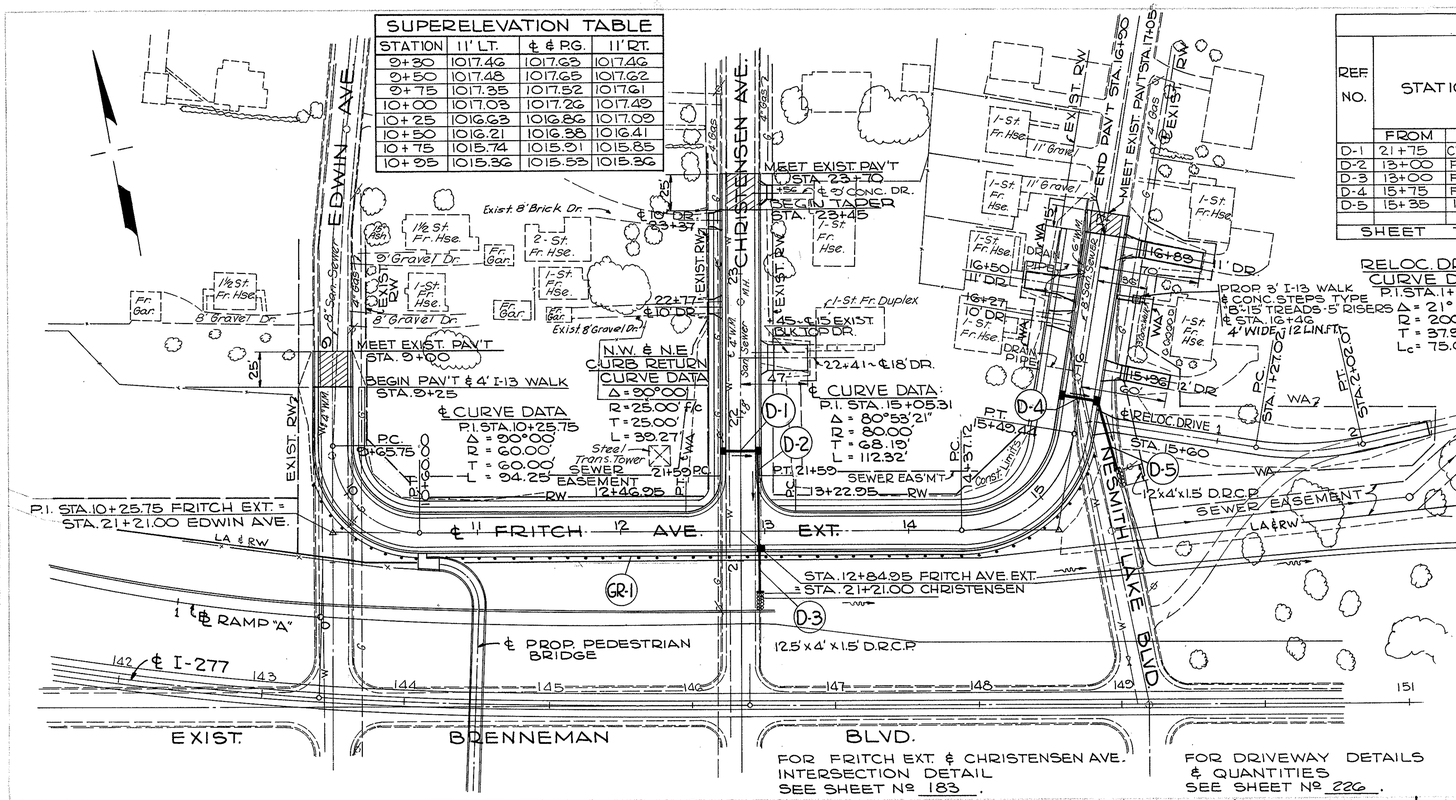
STATION FROM	STATION TO	B-21 5" WATER-PROOFED AGG. BASE COURSE	B-35 1¼" ASPH. CONC. LEVEL COURSE	T-35 1¼" ASPH. CONC. SURFACE COURSE	I-12 STD. TYPE 2 COMB. CURB & GUTTER	I-13 CONC. SIDE-WALK	I-22 6" SUBBASE	I-13 STD. TYPE "B" CONC. STEPS
FRITCH EXT.		CU.YDS.	CU.YDS.	CU.YDS.	LIN.FT.	SQ.FT.	CU.YDS.	LIN.FT.
9+00	17+05	274.62	68.65	68.65	1545.25	2608	495.25	12
CHRISTENSEN AVE.								
21+32	23+70	85.25	21.31	21.31	500.54	738	130.33	
SHEET TOTAL		359.87	89.96	89.96	2045.79	3346	565.62	12

ROADWAY QUANTITIES

STATION FROM	STATION TO	E-1 COMP. SUB-GRADE	E-8 REMOVAL DISPOSAL OF EXIST. CURB & GUTTER	I-15 GUARD RAIL STEEL BEAM (DEEP)
FRITCH EXT.		SQ.YD.	LIN.FT.	LIN.FT.
9+00	17+05	2406	800	600
CHRISTENSEN AVE.				
21+32	23+70	1330	540	
SHEET TOTAL		3796	1340	600*

SUPERELEVATION TABLE

STATION	11' LT.	℄ & PG.	11' RT.
14+00	997.58	997.75	997.58
14+25	995.40	995.57	995.54
14+50	993.53	993.70	993.82
14+70	992.23	992.46	992.65
15+15	990.20	990.43	990.66
15+25	989.95	990.12	990.29
15+50	989.43	989.60	989.63
15+85	989.28	989.45	989.28


EDWIN AVE.
CHRISTENSEN AVE.
NESMITH LAKE BLVD.
OHIO CANAL
℄ 11 FRITCH 12 AVE EXT. 13 14
EXIST. BRENNEMAN BLVD.
℄ I-277
℄ RAMP "A"
℄ PROP. PEDESTRIAN BRIDGE
P.I. STA.10+25.75 FRITCH EXT. = STA.21+21.00 EDWIN AVE.
STA.12+84.95 FRITCH AVE. EXT. = STA.21+21.00 CHRISTENSEN
MEET EXIST. PAV'T STA. 9+00
BEGIN PAV'T & 4' I-13 WALK STA. 9+25
℄ CURVE DATA P.I. STA.10+25.75 Δ = 90°00' R = 60.00' T = 60.00' L = 94.25'
N.W. & N.E. CURB RETURN CURVE DATA Δ = 90°00' R = 25.00' T = 25.00' L = 39.27'
℄ CURVE DATA: P.I. STA. 15+05.31 Δ = 80°58'21" R = 80.00' T = 68.19' L = 112.32'
RELOC. DRIVE CURVE DATA P.I. STA. 1+65.00 Δ = 21°30' R = 200' T = 37.98' Lc = 75.05'
MEET EXIST. PAV'T STA. 17+05
BEGIN TAPER STA. 23+45
SEWER EASEMENT
EXIST. RW
PROP 3' I-13 WALK & CONC. STEPS. TYPE B-15 TREADS 5 RISERS @ STA. 16+46 4' WIDE 12 LIN. FT.
GR-1
D-1
D-2
D-3
D-4
D-5
12'x4'x1.5 D.R.C.P.
12.5'x4'x1.5' D.R.C.P.
Steel Trans. Tower
1-St. Fr. Duplex
1-St. Fr. Hse.
2-St. Fr. Hse.
Fr. Gar.
8' Gravel Dr.
Exist. 8' Brick Dr.
1½ St. Fr. Hse.
11' Gravel
Exist. 6" Gas
Exist. 8" San. Sewer
Exist. 12" W.M.
Exist. 2" Gas
Exist. 4" Gas
Exist. 6" W.M.
Exist. 8" W.M.
Exist. 12" W.M.
Exist. 4" Gas Main
Exist. 6" Gas Main
Exist. 8" San. Sewer
Exist. 12" San. Sewer
Exist. 15" San. Sewer
Exist. 18" San. Sewer
Exist. 24" San. Sewer
Exist. 30" San. Sewer
Exist. 36" San. Sewer
Exist. 42" San. Sewer
Exist. 48" San. Sewer
Exist. 54" San. Sewer
Exist. 60" San. Sewer
Exist. 66" San. Sewer
Exist. 72" San. Sewer
Exist.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
55	7	111	9
65	3	153	3
100	0	143	0
185	0	535	0
195	0	348	0
205	0	333	0
155	0	222	0
85	0	144	0
70	0	102	5
40	5	69	5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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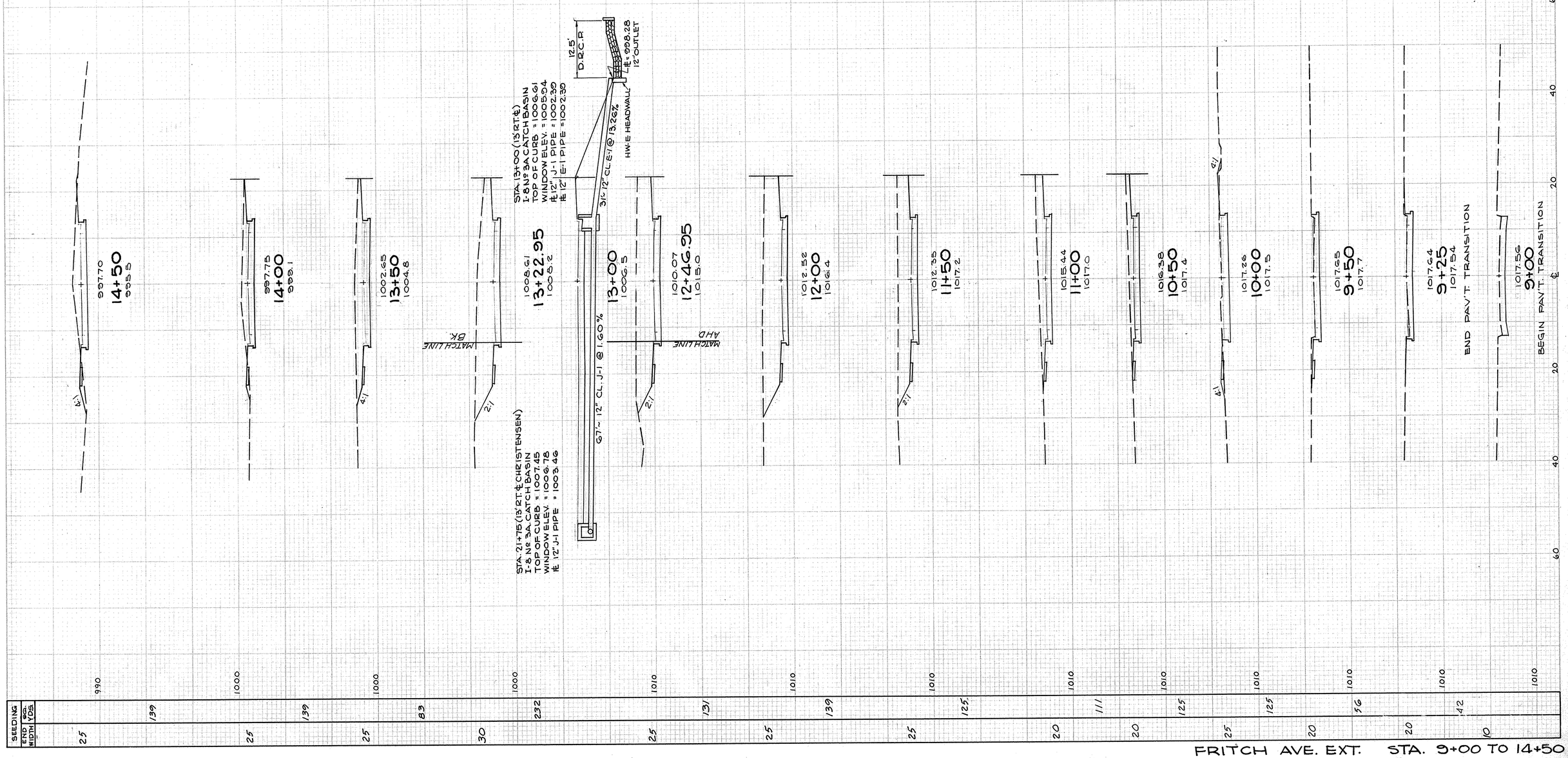
	0		0		
	32		31		
0		0		0	
35		35		32	0

AHD BK.



SEEDING END WIDTH	SEEDING SQ. YDS.
25	139
25	139
25	83
30	232
25	131
25	139
25	125
20	111
20	125
25	125
20	56
20	42
10	

FRITCH AVE. EXT. STA. 9+00 TO 14+50

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	0	4	
40		24	
45	15		
50	10	70	19
65	25	106	32
64		79	

AHD. BK.

		5	144
			52 94
4	60	95	
	1		

PRO. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1) 124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING
END SQ.
WIDTH YDS.

| | | |

FED.RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0		
26	0	26	0
30	0	54	0
35	0	116	0
20	0	236	0
165	0	298	0
		310	0

AHD. BK.

24+00
1012.9

END TRANSITION & MEET EXIST. PAV'T.
23+70
1012.45

CONC. DR. PT.
1012.33
23+56
1012.30

TRANS.
1012.19
23+45
1012.2
BEGIN PAV'T. TRANS.

1012.07
DR. LT. 23+37
1012.1

1011.33
23+00
1011.6

1010.95
DR. LT. 22+77
1011.4

6.1%
12'
1008.73
22+50
1011.1

6.1%
12'
1008.37
22+41 ℄ DR. PT.
1011.0

2:1
1007.81
22+00
1010.5

STA. 21+75 (13' RT. ℄)
I-8 N° 3A CATCH BASIN
TOP OF CURB = 1007.45
WINDOW ELEV. = 1006.78
℄ 12" J-1 PIPE = 1003.46

STA. 21+75 (13' LT. ℄)
I-8 N° 3A CATCH BASIN
TOP OF CURB = 1007.45
WINDOW ELEV. = 1006.78
℄ 12" J-1 PIPE = 1003.62

60% 26"-12" CL. J-1 @ 0.60%

21+75
1007.3

MATCH LINE
1007.40
21+32
1010.0

MATCH LINE

| SEEDING | | |

END AREA		CU YDS	
CUT	FILL	CUT	FILL
0	0	7	5
0	5	0	42
0	40	0	83
0	50	0	65
0	20		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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AHD BK. 0 0 35 0 0 20

AHD BK. 0 7 5 0 40 0 50 0 20 0

2+50
974.5
MEET EXIST. DR.

2+00
976.82
976.0

1+50
980.60
976.2

1+00
984.42
981.8

0+50
988.08
986.6

0+30
989.08
987.0

4:1

970 980 970 980 980 980

60 40 20 0 20 40 60

SEEDING 10 83 20 125 25 139 25 125 20 50 25

K+E PLATE 3. CROSS SECTION
KEUFFEL & ESSER CO.

RELOC. DRIVE @ STA. 15+60 FRITCH AVE. EXT. 0+30-2+50

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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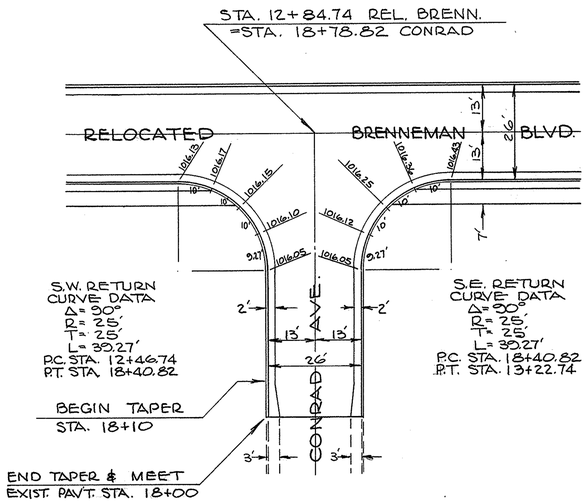
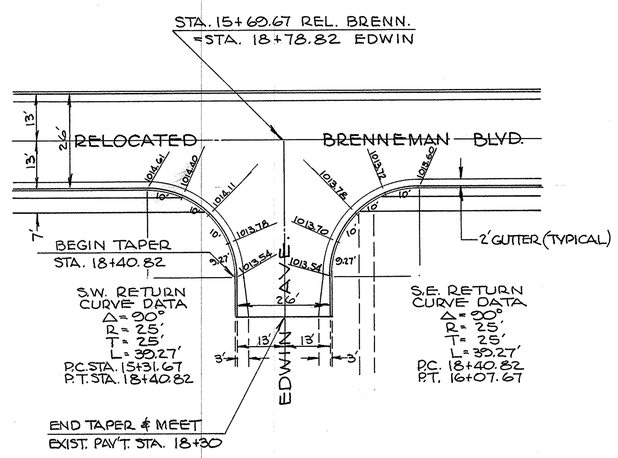


INTERSECTION @ BRENNEMAN & CONRAD AVE.

SCALE - 1" = 20'

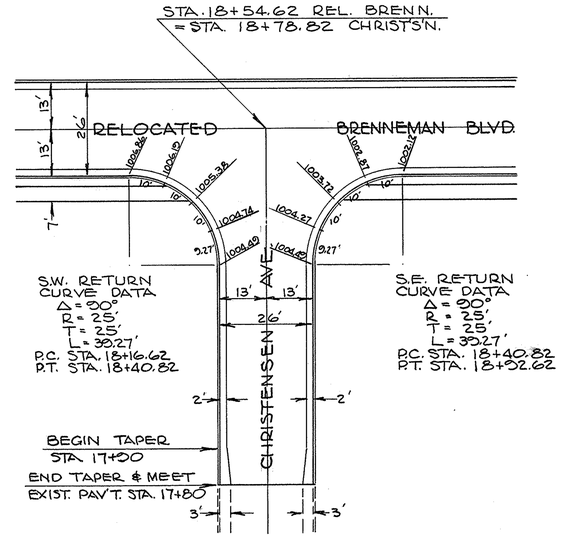
SEE SH'T. Nº 176 OF 383 FOR PROPOSED PROFILE GRADE OF CONRAD AVE.



INTERSECTION @ BRENNEMAN & EDWIN AVE.

SCALE - 1" = 20'

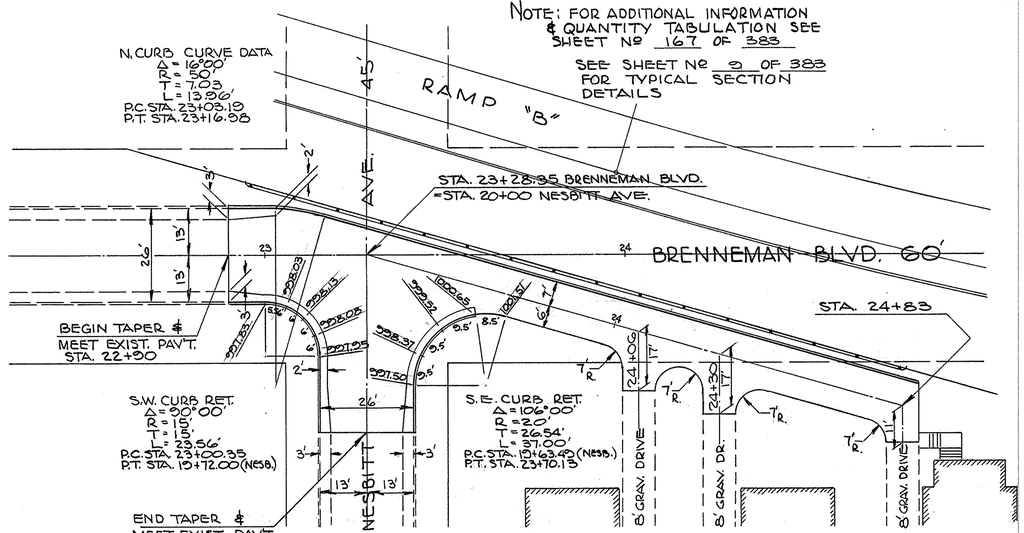
SEE SH'T. Nº 176 OF 383 FOR PROPOSED PROFILE GRADE OF EDWIN AVE.



INTERSECTION @ BRENNEMAN & CHRISTENSEN AVE.

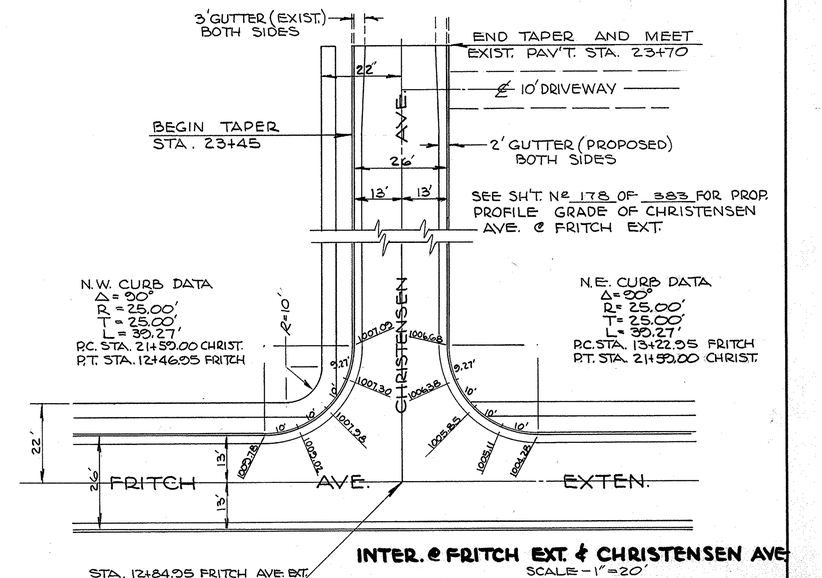
SCALE - 1" = 20'

SEE SH'T. Nº 176 OF 383 FOR PROPOSED PROFILE GRADE OF CHRISTENSEN AVE.



ACCESS DRIVE @ NESBITT AVE.

SCALE : 1" = 20'



INTER. @ FRITCH EXT. & CHRISTENSEN AVE.

SCALE - 1" = 20'

INTERSECTION DETAILS

K.E.E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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NOTE:
1. For Driveway Details See Sht.# 226
2. Sheet Totals also includes all quantities necessary for Driveways & Approaches

§ - City, State & Federal Participation
† - State & Federal Participation

DRAINAGE QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. F-4 12" M-6.4(C) LIN. FT.	I-10 DUMPED ROCK CHANNEL PROTECT. CU.YDS.	I-9 STONE UNDER-DRAIN LIN. FT.
D-1	43+85	44+06	LT.	38		
D-2	48+70		40'RT.		22	
	38+00	67+52.52				352
† SHEET TOTALS				38	22	352

PAVEMENT QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	T-32 SURFACE COURSE BIT. MAT. SEC.M-5.7 RT.80R9 GAL.	T-32 Nº4G AGG. FOR ROAD MIX CU.YDS.	T-32 Nº9 AGG FOR CHOKE CU.YDS.	T-32 Nº6 AGG. FOR SEAL COAT CU.YDS.	T-32 SEAL COAT BIT. MAT. SEC.M-5.7 RT.90R10 GAL.	T-30 BIT. PRIME COAT SEC.M-5.7 RT.20R3 GAL.	B-19 AGG BASE COURSE * CU.YDS.	ROADWAY E-1 COMP. SUB-GRADE SQ.YDS.	ROADWAY I-15 GUARD RAIL STEEL BEAM STD.TYPE DEEP LIN. FT.
§	37+41.75	39+00.87		411	26	1.8	3.6	114	183	99	385	
†	39+00.87	67+52.52		6112	380	27.2	54.4	1698	2716	1576	6709	
GR-1	48+50	51+50	RT.									300
SHEET TOTAL				6523	406	29.0	58.0	1812	2899	1675.0	7094	300

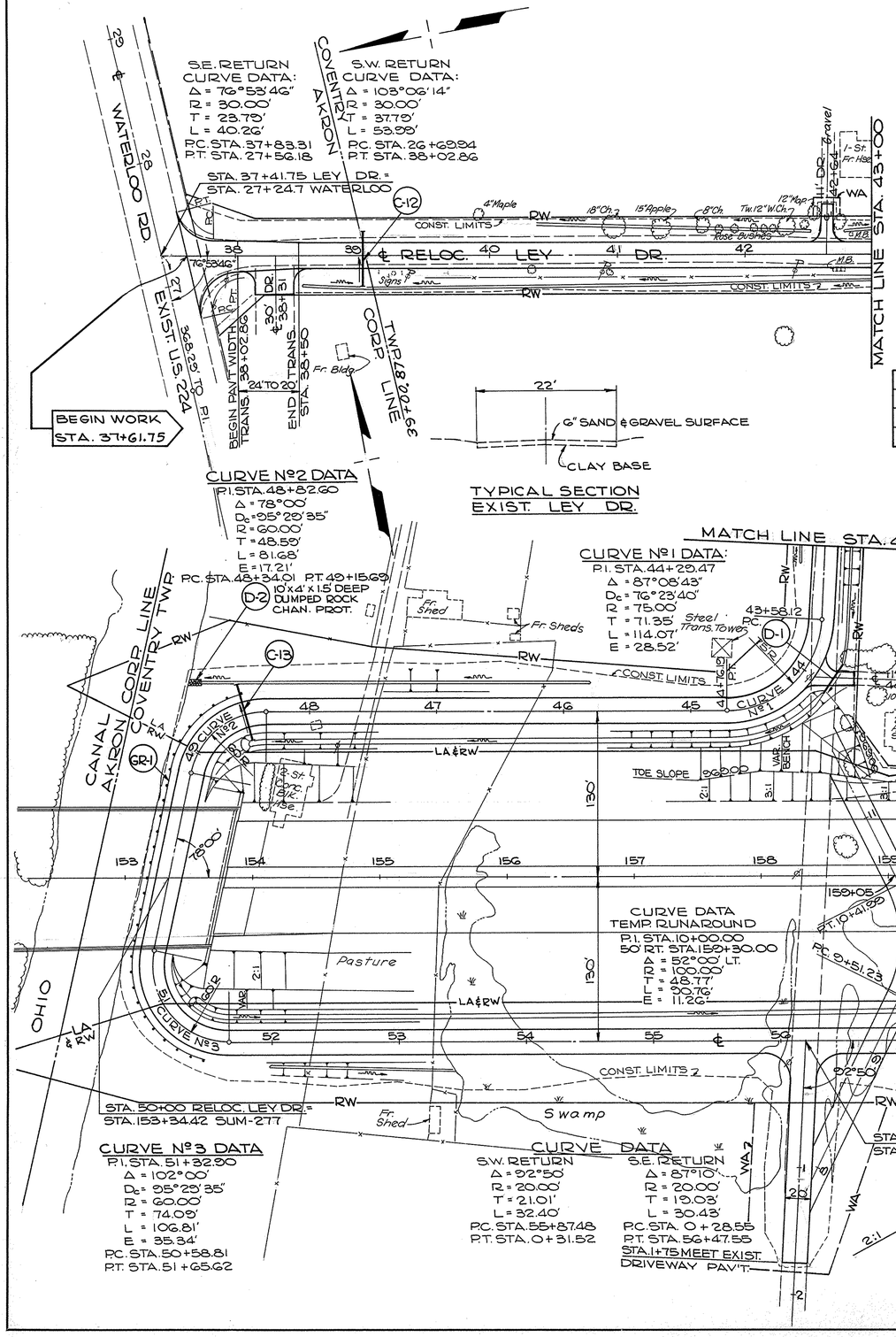
* (5" DEPTH OF B-19 USED FOR DRIVEWAYS)

STRUCTURES 20' SPAN & UNDER

REF Nº	STATION	TYPE	SIZE	SH'T Nº
C-12	39+00	CLASS G-1 SEC.M-6.7(a)	23"x14"x 46'	244
C-13	48+50	CLASS G-1 SEC.M-6.7(a)	23"x 14"x 46'	244

LOCATION	STATE & FEDERAL PART. EXCAVATION CU.YD.	EMBANKMENT CU.YD.	EMBANKMENT +20% CU.YD.	SEEDING & PROTECTING SQ.YD.	CITY, STATE & FEDERAL PART. EXCAVATION C.Y.	EMBANKMENT C.Y.	EMBANKMENT + 20 % C.Y.	SEEDING & PROTECTING S.Y.
LEY DR.	1913	846	1015	11,140	75	46	55	493
PRIVATE DR.	30			623				
TOTAL	1943	846	1015	11,763	75	46	55	493

	STATE & FEDERAL PART. REL. LEY DR.	PRIVATE DR.	TOTAL	CITY, STATE & FED. REL. LEY DR.	TOTAL
GRANULAR BORROW INCLUDING EXCAVATION	4,346 CU.YD.		4,346 C.Y.		
GRANULAR BORROW	9,374 CU.YD.	272 CU.YD.	9646 C.Y.	208	208
GRANULAR BORROW +5%	9,843 CU.YD.	285 CU.YD.	10,128 C.Y.	218	218



PLAN
RELOC. LEY DRIVE
STA. 37+41.75 TO STA. 67+52.52

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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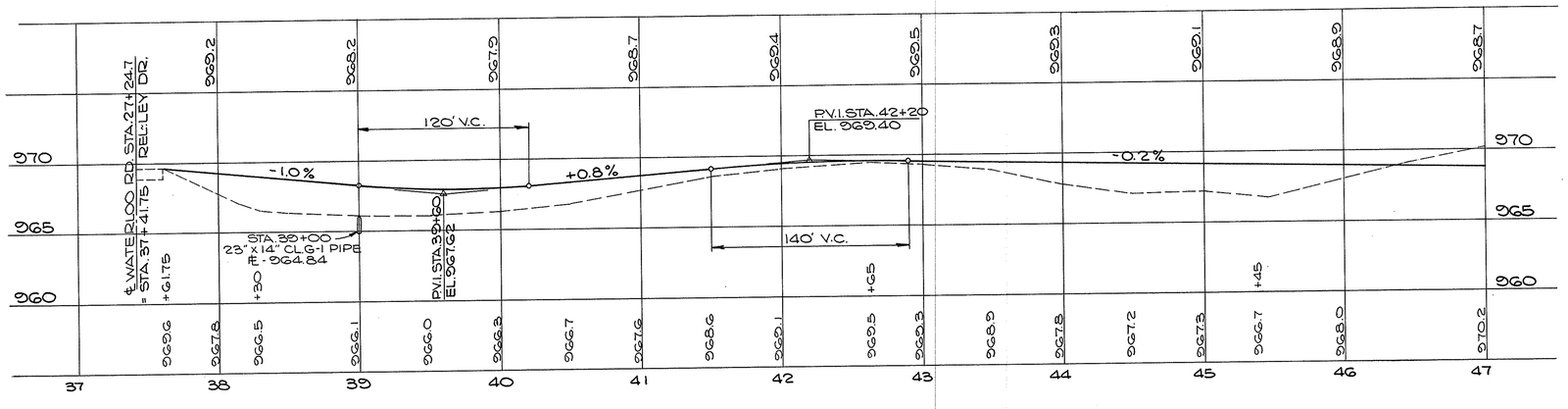
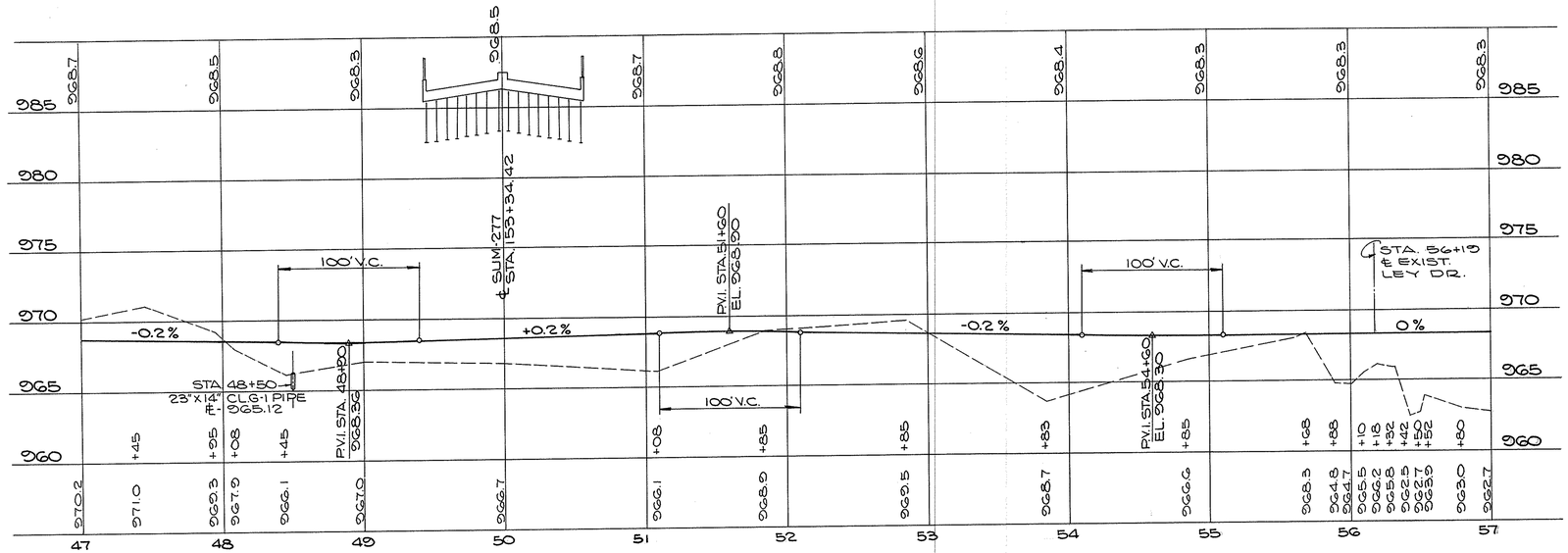
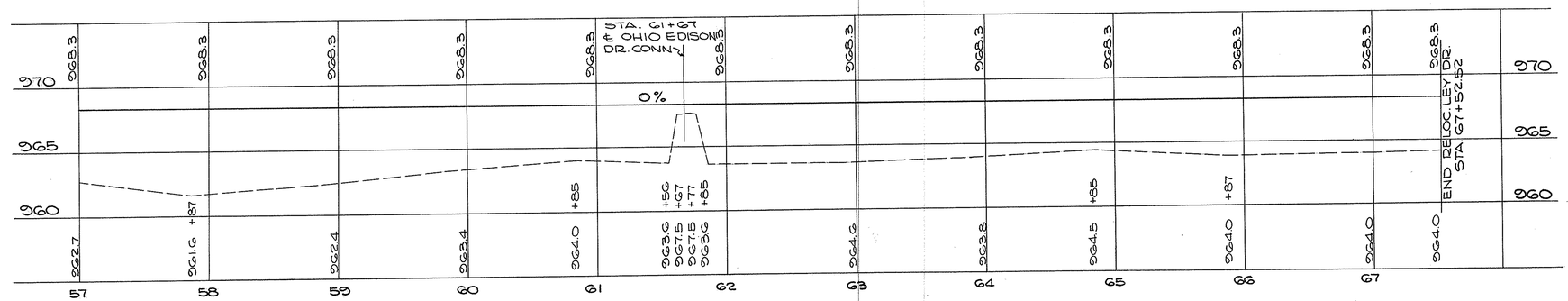
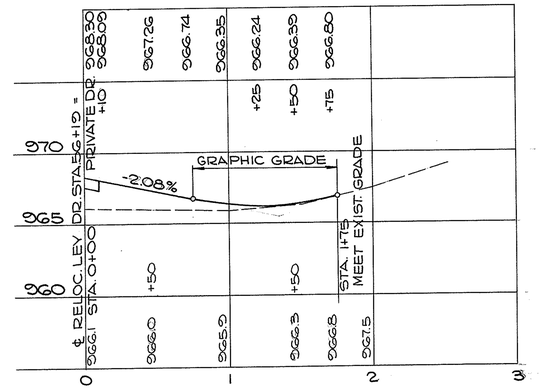
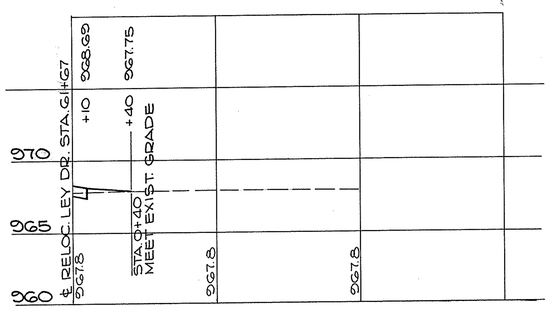








PROFILE ~ PRIVATE DRIVE
@ 56+19 RE-LOC. LEY DR.



OHIO EDISON DRIVE CONNECTION

PROFILE
RELOCATED LEY DRIVE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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GRANULAR BORROW INCLUDING EXCAVATION	END AREA	CU. YDS.	GRANULAR BORROW AS PER PLAN	END AREA	CU. YDS.	END AREA	CU. YDS.	
	CUT	FILL		CUT	CUT	FILL	CUT	FILL
	AHD 320	0	AHD 0	AHD 0		AHD 35		28
	BK. 0	148	BK. 35	BK. 2	34	BK. 0		0
43+75								
					2		61	
				0		0		0
					0		67	
						42		0
					0			
				0		0		
					1		57	
						30		0
					5		53	
				1		32		0
					19		37	
				4		25		0
					17		15	
				17				0
					34		23	
				20		10		0
					49		18	
				33		9		0
					63		24	
				35		17		0
					79		27	
				50		12		0
					97		13	
				55		2		0
					111		2	
				65				0
38+00 AHD BK.				0				

END AREA	CU. YDS.	
CUT	FILL	CUT	FILL
0	0		
0	65	60	46
		85	0
		0	0

38+00 AHD BK.

AHD BK.

4.0% 4:1 4:1 4:1 967.49 969.34 **44+00** 967.8

967.64 969.44 **43+50** 968.9

967.79 969.54 **43+00** 969.3

7.2% 968.84 **42+64** DR. LT. 969.4

968.33 969.58 **42+50** 969.4

967.65 968.45 **42+00** 969.1

966.29 969.14 **41+50** 968.6

966.24 968.74 **41+00** 967.7

965.99 968.34 **40+50** 966.8

965.62 967.97 **40+00** 966.3

965.66 967.81 **39+50** 966.1

965.20 968.22 **39+00** 966.1

966.47 968.72 **38+50** 966.3

2.25% **38+31** DR. RT. 966.5

966.22 969.02 **38+00** 967.7

37+62 969.6

46-2.5'x14' CL. G-I CULVERT PIPE @ 1.50%

SEEDING END WIDTH	Sq. YDS.
29	144
23	153
32	192
34	197
35	200
36	200
36	186
31	175
32	178
32	181
33	217
45	95
0	

970 970 970 970 970 970 970 970 960 960 960 960 960

60 40 20 0 20 40 60

PLATE 3, CROSS SECTION
KRUMEL & FISER CO.

LEY DRIVE STA. 37+62 TO 44+00

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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GRANULAR BORROW INCLUDING EXCAVATION	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		50	0		67
	0			46	
		0	72		106
	97			0	
		0	43		84
	389			0	
		0	48		86
	389			0	
		0	45		84
	394			0	
		0	46		75
	398			0	
		0	35		35
	100			45	
		49	3	170	3
	0			0	
		135	0	319	0
		210	0		
				324	0
		140	0		
				208	0
		85	0		
				94	13
		17	14		
				16	73
		0	65		
	310			0	102
	565				

GRANULAR BORROW INCLUDING EXCAVATION	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		0	45		86
	300			0	
		0	48		77
	579			6	
	325				
	597				

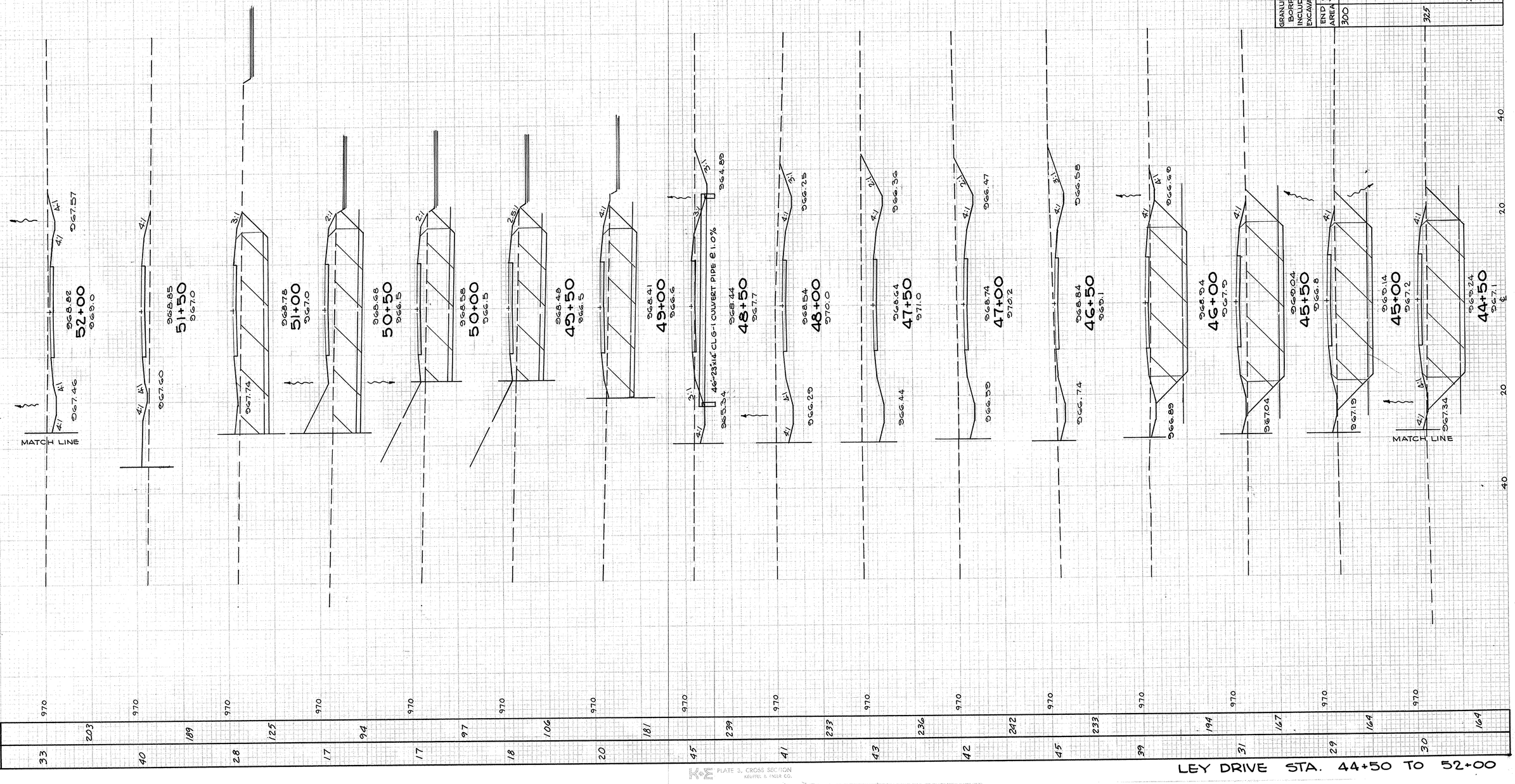


PLATE 3. CROSS SECTION
KRUPPEL & FINGER CO.

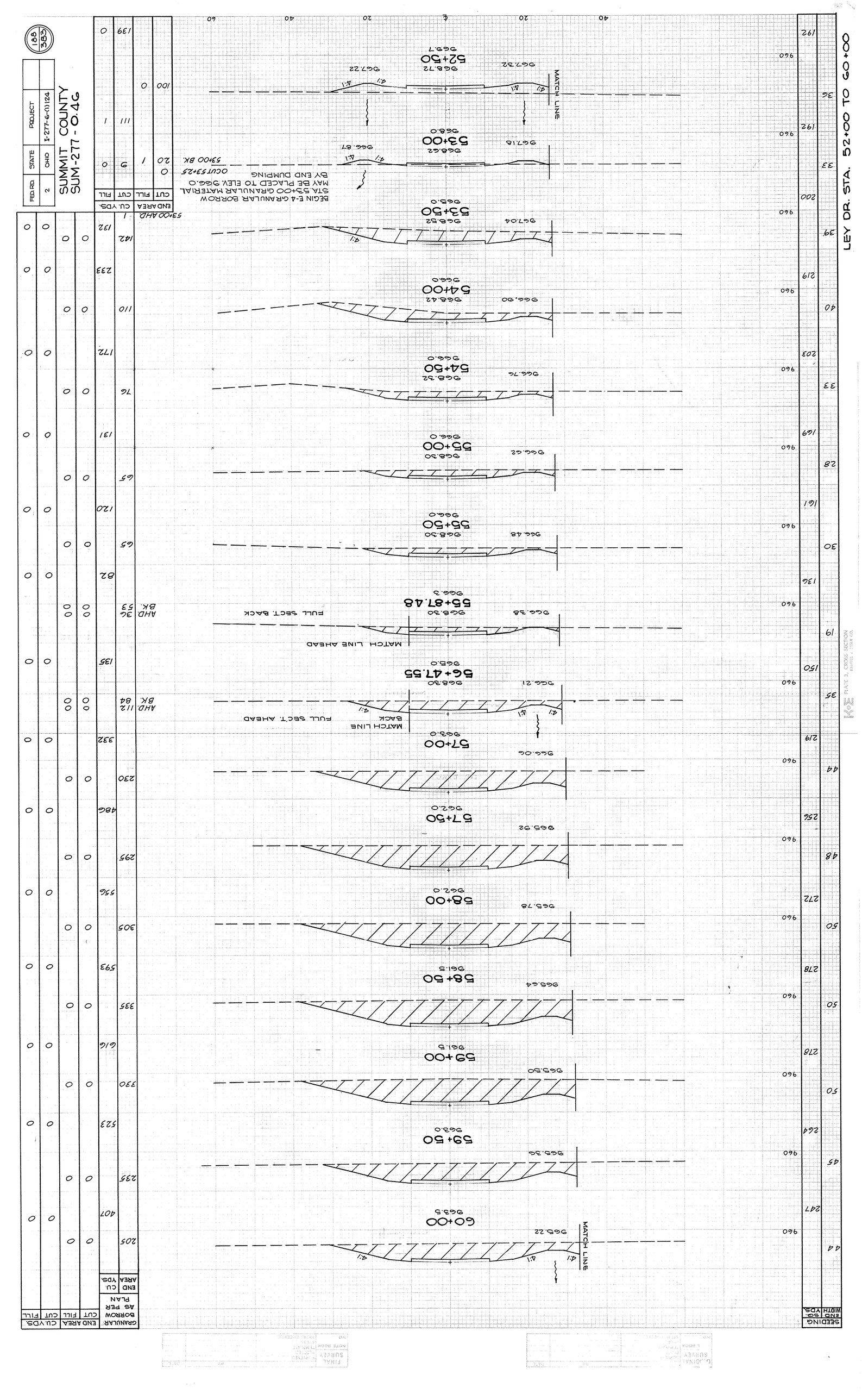
LEY DRIVE STA. 44+50 TO 52+00

FINAL SURVEY
SURVEYED BY
DRAWN BY
TRACED BY
CHECKED BY
NOTE BOOK
PAGES
NO. OF SHEETS
DATE

FED. RD. 2 | STATE OHIO | PROJECT 1-277-6-(1)124

SUMMIT COUNTY
SUM-277 - 0.46

LEY DR. STA. 52+00 TO 60+00



GRANULAR BORROW AS PER PLAN	END AREA	CU. YDS.	CUT	FILL
	205		0	0
	407		0	0
	235		0	0
	523		0	0
	330		0	0
	616		0	0
	335		0	0
	593		0	0
	305		0	0
	556		0	0
	295		0	0
	486		0	0
	230		0	0
	332		0	0
AHD. 112 BK. 84			0	0
	135		0	0
AHD. 36 BK. 53			0	0
	82		0	0
	65		0	0
	120		0	0
	65		0	0
	131		0	0
	76		0	0
	172		0	0
	110		0	0
	233		0	0
	142		0	0
5300 AHD.	1		0	0
	192		0	0

END AREA	CU. YDS.	CUT	FILL
139		0	
100		0	
111		1	
20		1	9
OCUT 53+25		0	
53+00 BK.			

SEEDING AND SOD WIDTH	YDS.
192	
960	
36	
192	
960	
33	
200	
960	
39	
219	
960	
40	
203	
960	
33	
169	
960	
28	
161	
960	
30	
136	
960	
19	
150	
960	
35	
219	
960	
44	
256	
960	
48	
272	
960	
50	
278	
960	
50	
278	
960	
50	
264	
960	
45	
247	
960	
44	

PLAN & PROFILE
FINAL SURVEY NOTE BOOK
PLAN & PROFILE
FINAL SURVEY NOTE BOOK

FED. RD.	STATE	PROJECT	
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SUMMIT COUNTY
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GRANULAR BORROW AS PER PLAN	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	151	0	0		
	178	0	0	0	0
355	305	0	0	0	0

GRANULAR BORROW AS PER PLAN	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	AHD BK. 0	0	0		
43	0	0	0	0	0
15	16	16	0	15	0
43	32				

SEEDING END SQ.	SEEDING WIDTH YDS.
	228
66	39

GRANULAR BORROW AS PER PLAN	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	AHD BK. 0	0	0		
71	30	0	0	0	0
143	47	0	0	0	0
10	AHD BK. 146	0	0	0	0
39	0	0	0	0	0

SEEDING END SQ.	SEEDING WIDTH YDS.
	236
93	42
0	43

GRANULAR BORROW AS PER PLAN	END AREA CU. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	AHD BK. 0	0	0		
186	49	0	0	0	0
162	129	0	0	0	0
557	207	0	0	0	0
636	223	0	0	5	0
165	186	3	0	4	0
264	101	4	0	4	0
	64+30	0	0	0	0
122	AHD BK. 118 159	0	0	0	0
683	170	0	0	0	0
731	199	0	0	0	0
	196	0	0	0	0
	61+80	0	0	14	0
120	61+67	0	0	13	0
25	61+55	0	0	0	0
214	80				

SEEDING END SQ.	SEEDING WIDTH YDS.
	242
234	42
219	37
234	47
550	52
572	51
115	AHD 28 BK. 52
202	28
139	53
49	52
396	50
107	24
154	AHD 0 BK. 25

PRIVATE DRIVE @ SG-19 LEY DR.

MATCH LINE

MATCH LINE SAHEAD

FULL SECT. BACK

1½" ASPH. ST.

1½" ASPH. ST.

MATCH LINE

MATCH LINE

MATCH LINE

4:1 3:1

20 ℄ 20

40 20 ℄ 20 40

960

970 960 970 960

0+00 0+50 1+00 1+50 1+75 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 6+80 6+67 6+55 7+00

966.35 967.26 968.1 968.19 968.3 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30 968.30

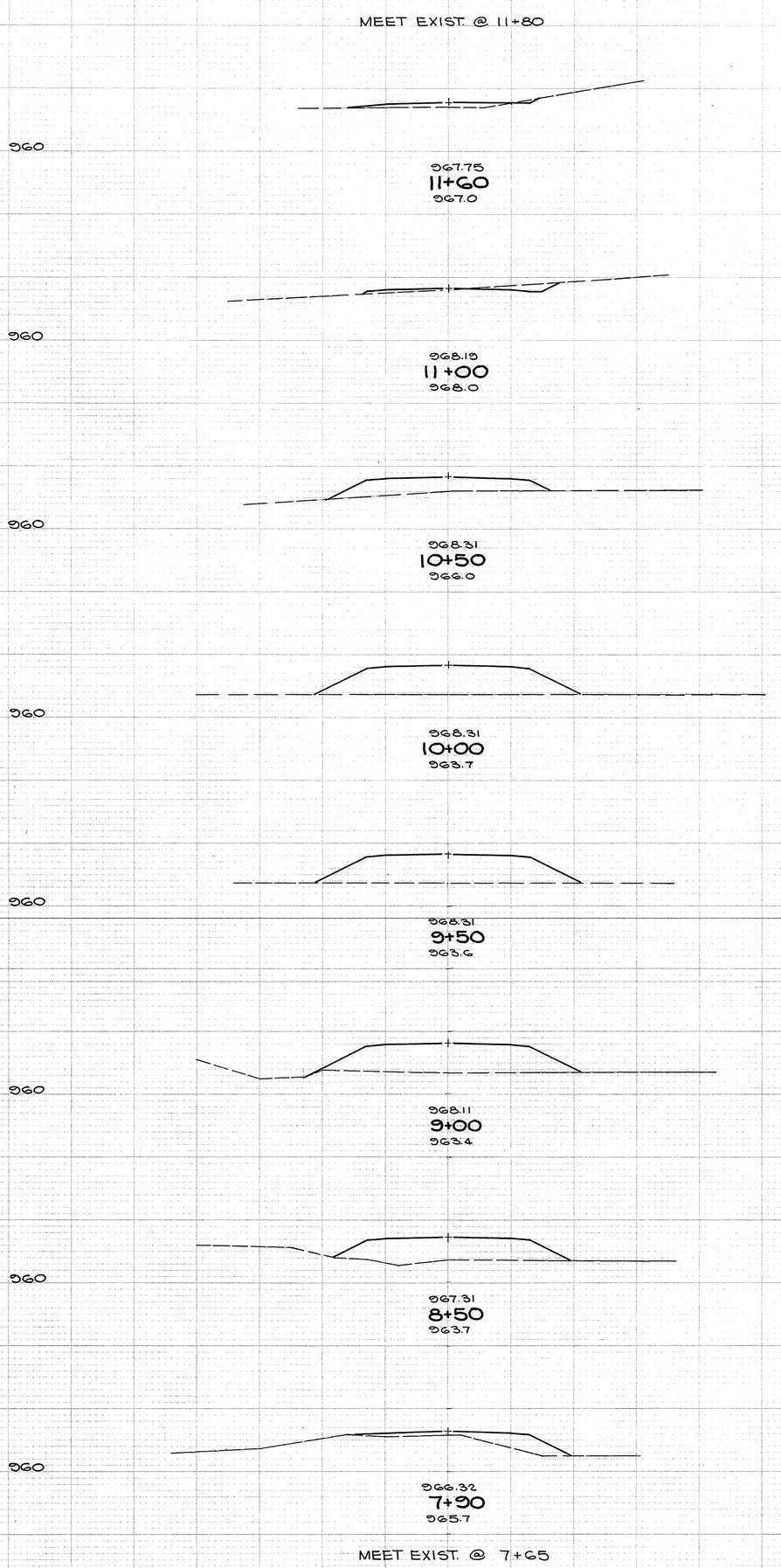
965.9 966.0 966.1 964.3 964.1 964.3 964.3 964.4 964.18 964.1 964.22 964.46 964.70 964.82 964.94 965.08 964.0

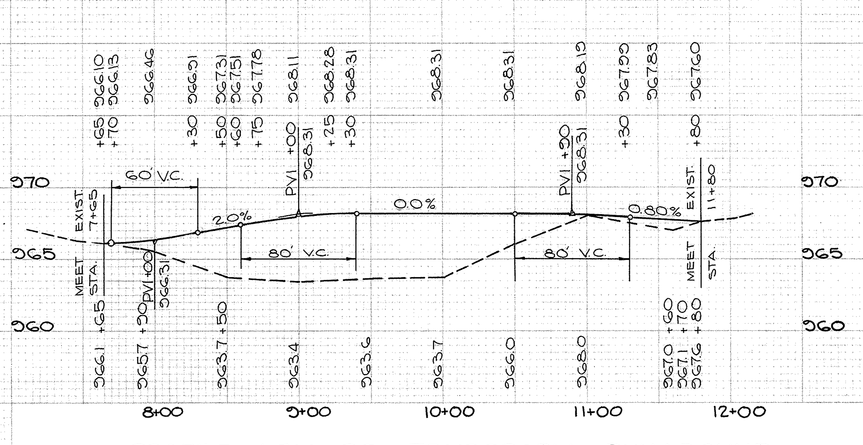
966.80 966.8 966.39 966.3

PLATE 3, CROSS SECTION
KELFFEL & ESSER CO.

LEY DRIVE STA. 60+50 TO STA. 67+52.52

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL





PROFILE LEY DR. TEMPORARY RUNAROUND

LEY DRIVE TEMPORARY RUNAROUND
PROFILE & X-SECTIONS

SUMMIT COUNTY
SUM-277-0.46

NO.	DESCRIPTION	DATE
2		

OHIO | 1-277-6(111)24

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FED. RD. DIVISION	STATE	PROJECT	
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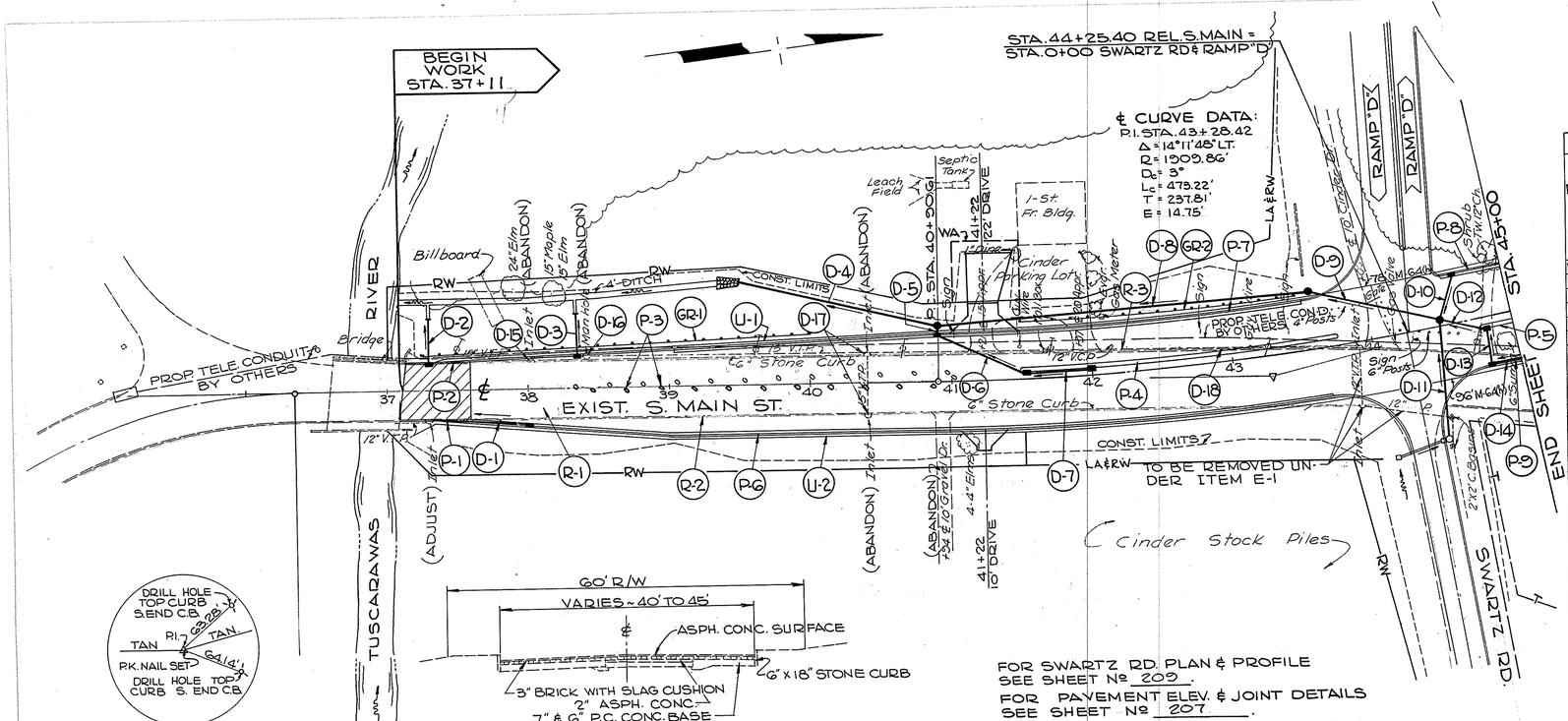


REF. P.I. STA. 43+28.42

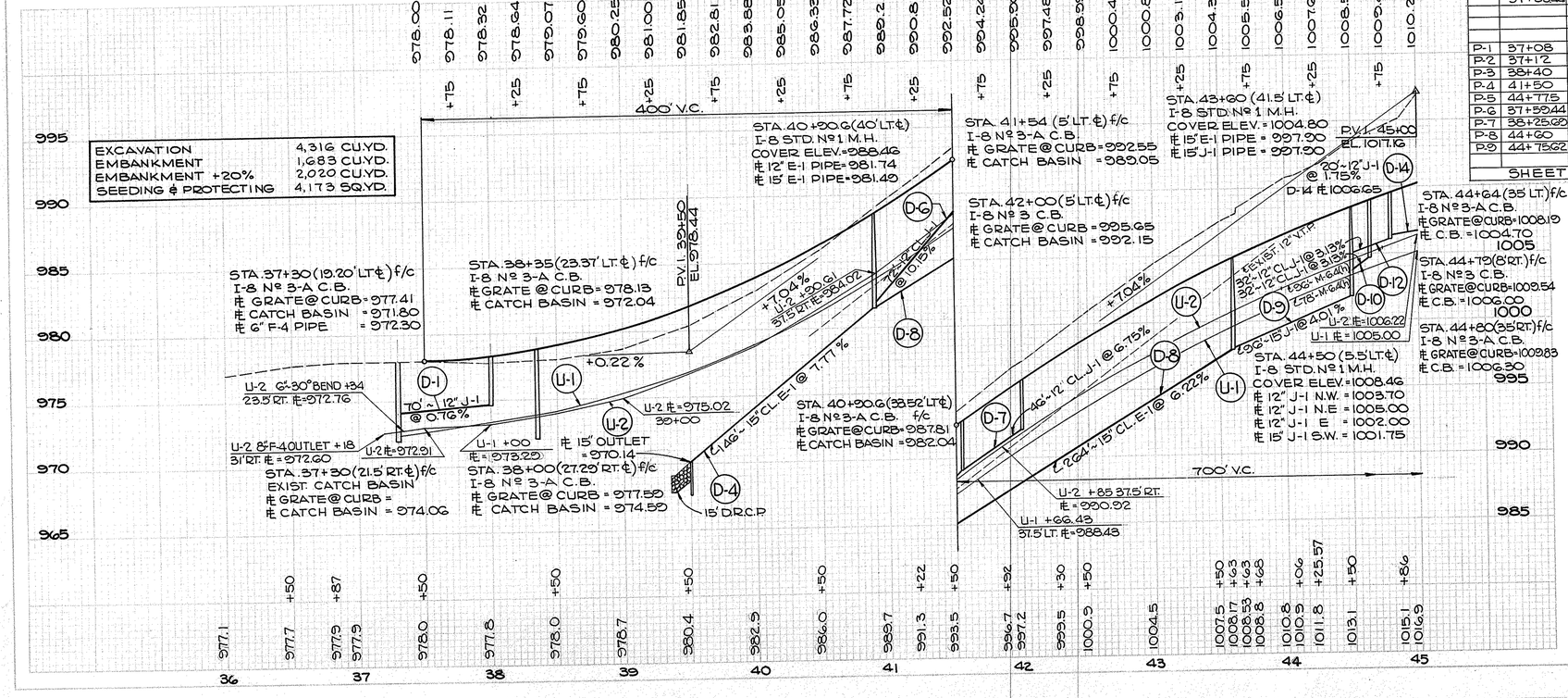
EXIST. TYPICAL SECTION
SOUTH MAIN ST.

FOR SWARTZ RD. PLAN & PROFILE SEE SHEET Nº 209.

FOR PAVEMENT ELEV. & JOINT DETAILS SEE SHEET Nº 207.

FOR DRIVEWAY DETAILS & QUANTITIES SEE SHEET Nº 226.

EXCAVATION	4,316 CU.YD.
EMBANKMENT	1,683 CU.YD.
EMBANKMENT +20%	2,020 CU.YD.
SEEDING & PROTECTING	4,173 SQ.YD.



DRAINAGE QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	I-1 PIPE I-3 6" SHALLOW C.M.G.	I-1 PIPE F-4 6"	I-1 PIPE F-4 8" N-12(C)	I-1 PIPE CL.E-1 12"	I-1 PIPE CL.E-1 15"	I-1 PIPE CL.J-1 12"	I-1 PIPE CL.J-1 15"	I-2 MASONRY	I-5 6'-30° BEND	I-8 No. 1 MANHOLE	I-8 C.B. Nº 3	I-8 C.B. Nº 3-A	I-10 DUMPBOX & CHAIN POST	I-16 ABAND MAN-HOLE	I-16 ABAND IN-LET	E-12 PIPE REMOV. & FILL UNDER
				LIN. FT.							C.Y.	EA.	EACH			C.Y.	EACH		L.F.
U-1	37+30	45+00	LT.	662	78	30						1							
U-2	37+18	45+00	RT.	676	96		10					1							
D-1	37+30	38+00	RT.							70					1	1			
D-2	37+30		LT.						32		0.23				1		0.9		
D-3	38+35		LT.						30		0.23				1		0.9		
D-4	39+50	40+90.61	LT.							146	0.26		1		1		6.3		
D-5	40+90.61		LT.				6								1				
D-6	40+90.61	41+54	LT.							72					1				
D-7	41+54	42+00	LT.							46					1				
D-8	40+90.61	43+60	LT.								2.64		1		1				
D-9	43+60	44+50	LT.								36		1						
D-10	44+50	44+64	LT.							32					1				
D-11	44+50	0+70 SWARTZ	L&R							86									
D-12	44+50	44+79	L&R							32					1				
D-13	44+79	44+80	RT.							26					1				
D-14	44+80	45+00	RT.							20									
D-15	38+02		LT.														1		
D-16	38+42		LT.															2	
D-17	40+40		L&R																120
D-18	42+40	43+60	LT.																
SHEET TOTAL				1388	174	30	10		68		384	5.26	0.72	1	3	2	7	1	8.1	1	3	120

PAVEMENT & ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REIN. P.C.C. PAV'T	I-22 SUB-GRADING A' OR B	T-35 B-35 ASPH. CONC. SURFACE COURSE	B-35 LEVELING COURSE	B-35 BASE COURSE	T-30 BIT. PRIME COAT	B-19 AGG. BASE COURSE	E-1 COMP. SUB-GRADE	I-12 CONC. CURB STD. TYPE 2 COMB. CURB & GUTTER	I-12 CONC. CURB STD. TYPE 2-A	I-12 CONC. CURB STD. TYPE 6	I-21 CONC. MEDIAN PAV'T TYPE 2	I-23 PRE-CAST CONC. TRAFFIC DIVIDER
				S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	GAL.	C.Y.	S.Y.	LIN. FT.			S.Y.	EACH
	37+10	37+59.44	LT./RT.			36.5	7.91	7.91	18.98	91	50.6	233				
	37+59.44	45+00	LT./RT.	4972.6	9760							5893				
														51.4		
P-1	37+08	37+59.44	RT.										66.3	47.5		
P-2	37+12	38+25.69	LT.													24
P-3	38+40	40+80	LT./RT.												75.5	
P-4	41+50	43+75	LT.												7.9	
P-5	44+77.5	45+00	RT.													
P-6	37+59.44	43+66.23	RT.									612.4				
P-7	38+25.69	43+66.11	LT.									535.6				
P-8	44+60	45+00	LT.									40.0				
P-9	44+75.62	45+00	RT.									24.8				
SHEET TOTAL				4972.6	1012.5	7.91	7.91	18.98	91	50.6	562.6	1212.8	66.3	98.9	83.4	24

ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	E-8 REMOVAL EXIST. PAV'T	E-8 REMOVAL EXIST. STONE CURB	I-15 GUARD RAIL STEEL BEAM ST'D TYPE (DEEP)
				S.Y.	L.F.	L.F.
R-1	37+10	45+00	LT./RT.	3511		
R-2	37+08	45+00	RT.		750	
R-3	37+12	45+00	LT.		793	
GR-1	37+25	40+00	LT.			275
GR-2	41+50	43+50	LT.			200
SHEET TOTAL				3511	1543	475

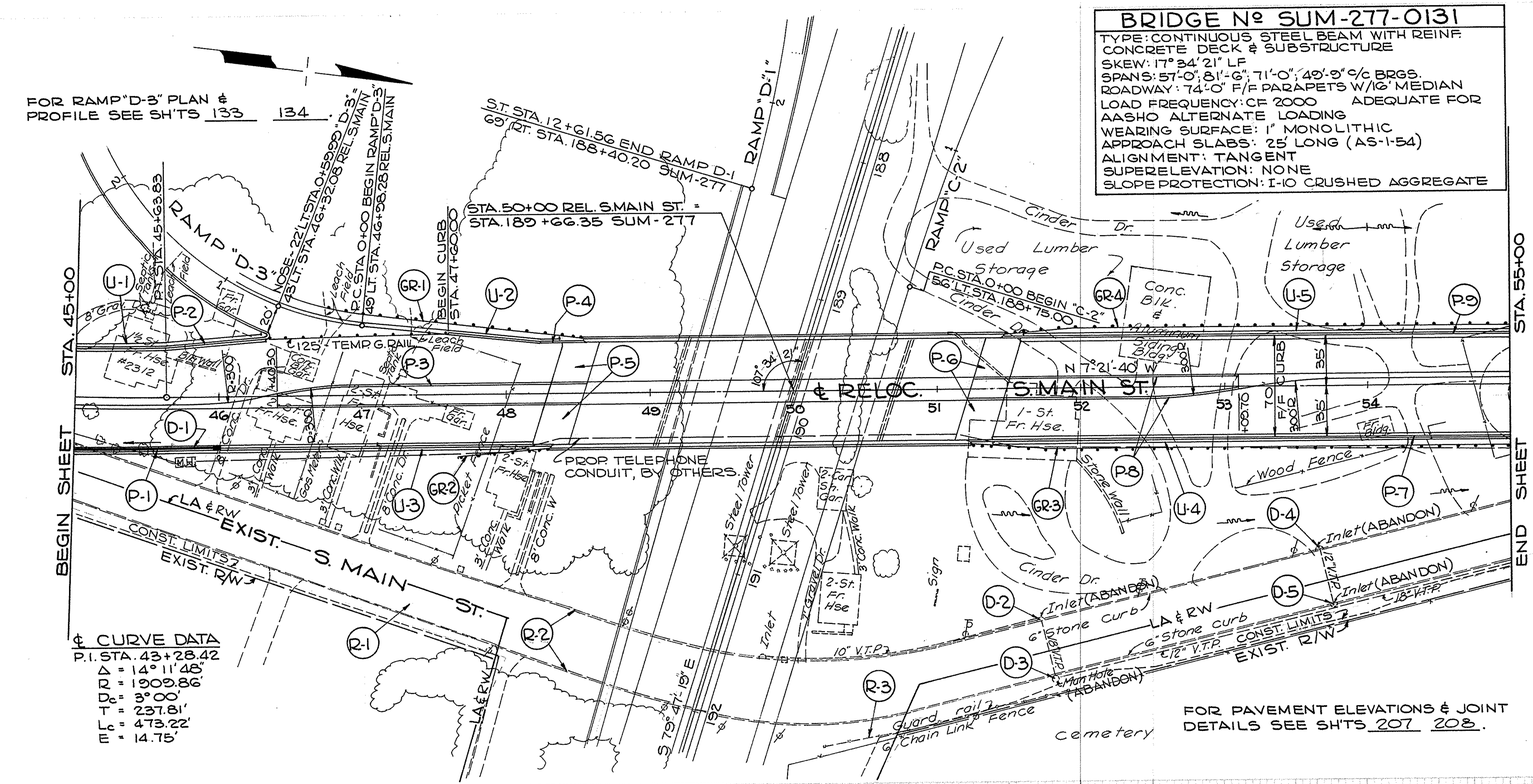
PLAN & PROFILE
RELOC. S. MAIN ST.
STA. 35+00 TO STA. 45+00

FED. RD. DIVISION	STATE	PROJECT		192
2	OHIO	I-277-6(1)124		383

SUMMIT COUNTY
SUM-277-0.46

BRIDGE Nº SUM-277-0131

TYPE: CONTINUOUS STEEL BEAM WITH REINF. CONCRETE DECK & SUBSTRUCTURE
SKEW: 17° 34' 21" LT
SPANS: 57'-0", 81'-6", 71'-0", 48'-9" C/C BRGS.
ROADWAY: 74'-0" F/F PARAPETS W/16" MEDIAN
LOAD FREQUENCY: CF 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE



℄ CURVE DATA

P.I. STA. 43+28.42
Δ = 14° 11' 48"
R = 1909.86'
D_c = 3° 00'
T = 237.81'
L_c = 473.22'
E = 14.75'

FOR PAVEMENT ELEVATIONS & JOINT DETAILS SEE SH'TS 207 208.

DRAINAGE QUANTITIES

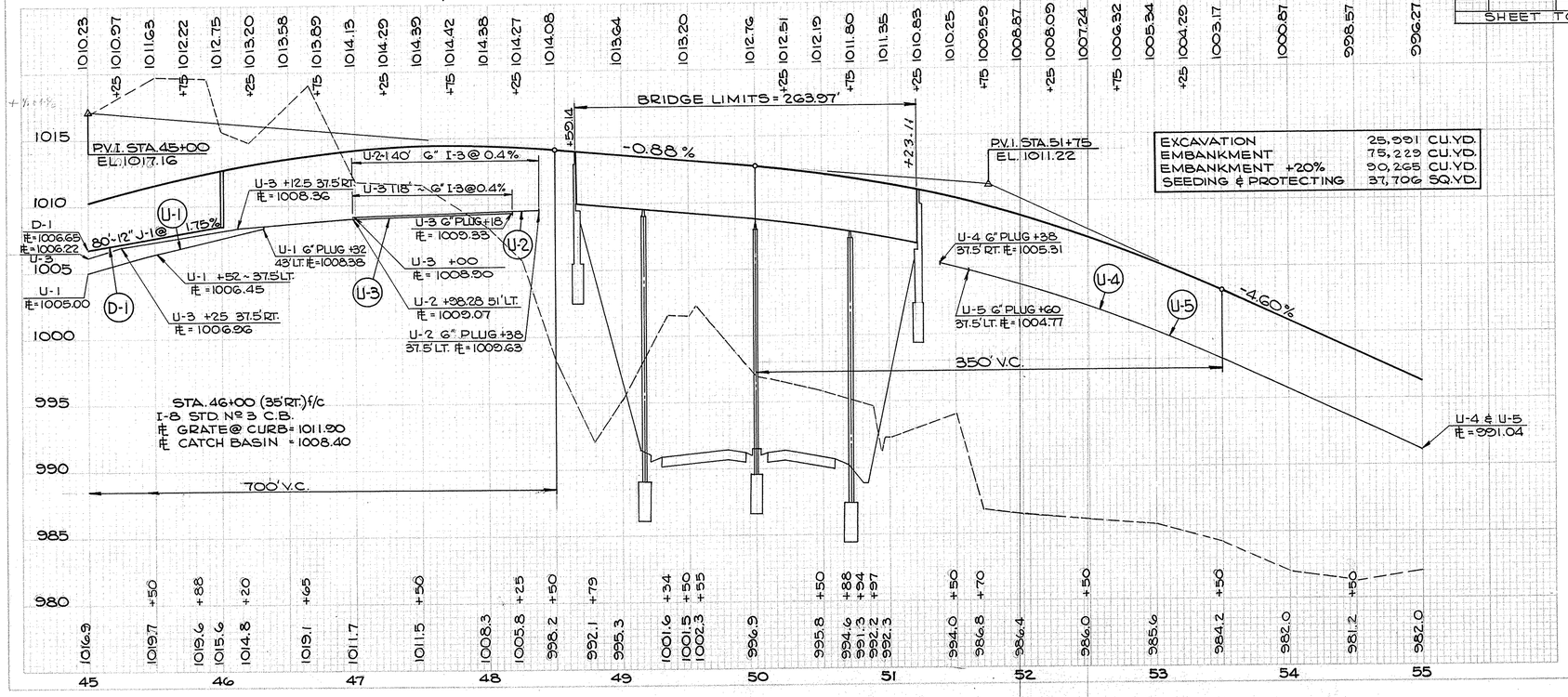
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHALLOW	I-1 PIPE CL. J-1 12"	I-8 STD. Nº 3 CATCH BASIN	I-16 ABAND. MAN-HOLES	I-16 ABAND. IN-LETS
				LIN. FT.		EACH	EACH	
U-1	45+00	46+32	LT.	132				
U-2	46+98	48+38	LT.	140				
U-3	45+00	48+18	RT.	318				
U-4	51+38	55+00	RT.	362				
U-5	51+60	55+00	LT.	340				
D-1	45+00	46+00	RT.		100	1		
D-2	51+70		RT.					1
D-3	51+80		RT.			1		
D-4	53+65		RT.					1
D-5	53+75		RT.					1
SHEET TOTAL				1292	100	1	1	3

PAVEMENT QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF. P.C.C. PAV'T	I-22 SUBBASE GRADING "A" OR "B" AS PER PLAN	E-1 COMP. SUB-GRADE	I-12 CONC. CURB STD TYPE 2 COMB. CURB & GUTTER	I-7 STD TYPE 2A	I-21 REINF. CONCRETE APPROACH SLAB T=13"	I-21 CONC. MEDIAN PAV'T TYPE 1	I-21 CONC. MEDIAN PAV'T TYPE 2
				S.Y.	C.Y.	S.Y.	L.F.	L.F.	S.Y.	S.Y.	S.Y.
	45+00	48+50.14		2111.7	608.3	2805					
	51+23.11	55+00		2246.5	633.6	2972					
P-1	45+00	48+23.85	RT.				325.0				
P-2	45+00	46+32.08	LT.				131.3				
P-3	45+00	48+50.14	LT/RT.					438.3		348.1	64.8
P-4	48+23.28	48+44.48	LT.					21.2			
P-5	48+34.14	48+50.14	LT/RT.					20.4	154.1		
P-6	51+23.11	51+48.11	LT/RT.					20.4	154.1		
P-7	51+57.82	55+00	RT.				302.2				
P-8	51+23.11	55+00	LT/RT.					373.8		294.4	81.4
P-9	51+58.40	55+00	LT.				341.6				
SHEET TOTAL				4358.2	1241.9	5777	1160.1	874.1	308.2	642.5	146.2

ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	E-8 REMOVAL EXIST. PAV'T	E-8 REMOVAL EXIST. STONE CURB	I-15 GUARD RAIL STEEL BEAM ST'D TYPE DEEP	I-15 GUARD RAIL REMOVED & DISPOSED
				S.Y.	L.F.	L.F.	L.F.
R-1	45+00	55+00	RT.	4706			
R-2	45+00	55+00	RT.		2086		
R-3	50+25	52+00	RT.				175
GR-1	46+98.28	48+56	LT.			158.0	
GR-2	47+70.5	48+33	RT.			62.5	
GR-3	51+26	55+00	RT.			374.0	
GR-4	51+49	55+00	LT.			351.0	
SHEET TOTAL				4706	2086	945.5	175



EXCAVATION	25,991 CU.YD.
EMBANKMENT	75,229 CU.YD.
EMBANKMENT +20%	90,265 CU.YD.
SEEDING & PROTECTING	37,706 SQ.YD.

PLAN & PROFILE
RELOC. S. MAIN ST.
STA. 45+00 TO STA. 55+00

REG. RD DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(I)124	

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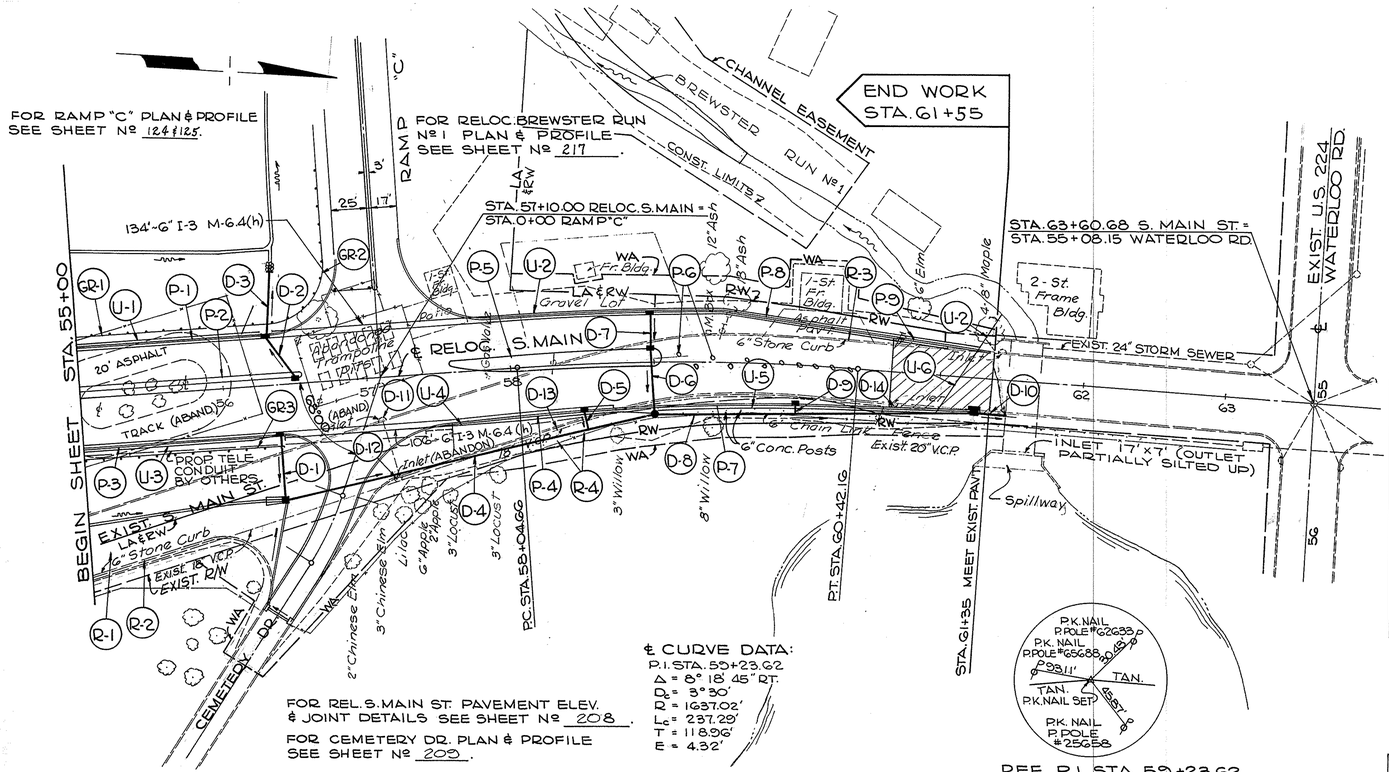
SUMMIT COUNTY
SUM-277-0.46



DRAINAGE QUANTITIES

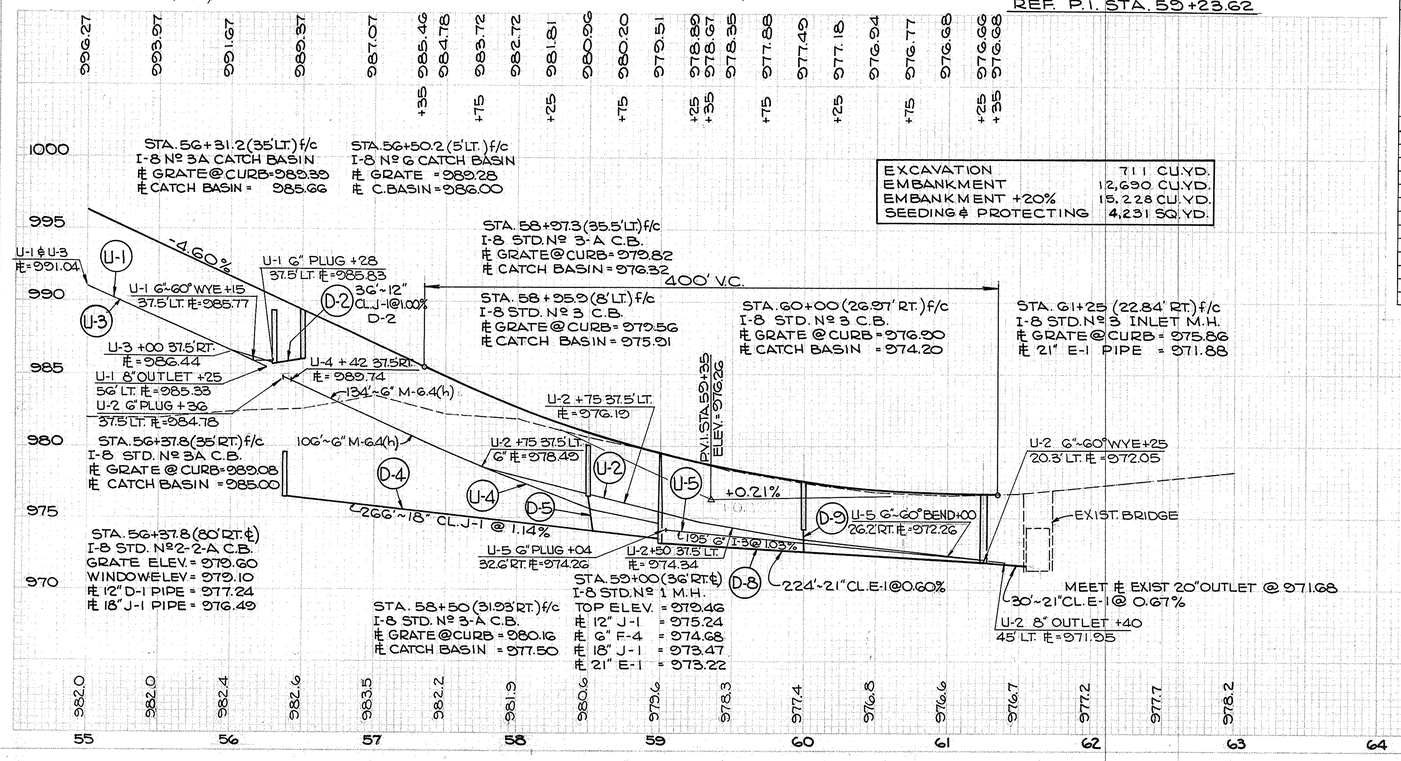
REF. NO.	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. I-3 6" SHAL-LOW	CL. I-3 6" M-6.4(h)	CL. F-4 6"	CL. F-4 8" M-6.4(C)	CL. F-4 12"	CL. E-1 12"	CL. E-1 21"	CL. J-1 6"	CL. J-1 12"	CL. J-1 18"	I-2 MASONRY C.Y.	I-5 PIPE SPECIALS I-3 6"-60° BEND	I-5 PIPE SPECIALS F-4 12"-28° BEND	I-5 PIPE SPECIALS J-1 12"X6" TEE	I-5 PIPE SPECIALS E-1 12"X12" TEE	I-8 CATCH BASINS STD. Nº 3A	I-8 CATCH BASINS STD. Nº 3	I-8 CATCH BASINS STD. Nº 3-A	I-8 CATCH BASINS STD. Nº 6	I-10 DUMPED RIP-RAP PROTECT.	I-16 ABANDON INLETS	E-12 PIPE REM. OVER 15"	I-14 P. GUTTER TYPE "A" MOD.
				LIN. FT.										C.Y.	EACH				EACH				C.Y.	EA.	L.F.	L.F.
U-1	55+00	56+28	LT.	140			10								1											
U-2	56+36	61+25	LT.	384	134		10								1											
U-3	55+00	56+38	RT.	128		10																				
U-4	56+42	58+00	RT.	130	106	20																				
U-5	58+04	61+00	RT.	186		10								1												
U-6	61+00	61+25	RT./LT.								54															
D-1	56+37.8		RT.						46												1					
D-2	56+31.2	56+50.2	LT.									36									1					
D-3	56+31.2	56+37	LT.				32		12					0.23		2					1		1.3			
D-4	56+37.8	58+00	RT.										266				1			1						10
D-5	58+50	58+53	RT.						14												1					
D-6	58+55.9	59+00	LT./RT.								44									1						
D-7	58+55.9	58+97.7	LT.								26										1					
D-8	59+00	61+25	RT.							224								1	1							
D-9	60+00		RT.						6																	
D-10	61+25	61+55	RT.							30									1							
D-11	57+07		RT.																							
D-12	57+17		RT.																							
D-13	57+07	59+10	RT.																						203	
D-14	60+70	61+55	RT.																						85	
SHEET TOTAL				968	240	40	20	32	78	254	54	106	266	0.23	1	2	2	1	1	1	1	1	2	4	1	1.3	3	288	10

PAVEMENT QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	T-71 9" REINF. P.C.C. PAV'T S.Y.	I-22 SUB-BASE GRADING "A" OR BASE PER PLAN C.Y.	T-35 ASPH. CONC. SUR-FACE COURSE C.Y.	B-35 LEVEL-ING COURSE C.Y.	B-35 BASE COURSE C.Y.	T-30 BIT. PRIME COAT GAL.	B-19 AGG. BASE COURSE C.Y.	E-1 COMP. SUB-GRADE S.Y.	I-12 CONCRETE CURB ST'D TYPE 2 COMB. CURB & GUTTER LIN. FT.	I-12 CONCRETE CURB ST'D. TYPE 2A LIN. FT.	I-12 CONCRETE CURB ST'D. TYPE 6 LIN. FT.	I-21 CONC. MEDIAN PAV'T TYPE 2 S.Y.	I-23 PRE-CAST CONC. TRAFFIC DIVIDERS EACH
	55+00	60+65.72	LT./RT.	3738.0	767.2						4139					
	60+65.72	61+35	LT./RT.		53.7	11.73	11.73	28.16	135	75.1	346					
P-1	55+00	56+34.00	LT.									134.0				
P-2	55+00	56+53	LT.													51.7
P-3	55+00	56+40.60	RT.													
P-4	57+57.23	58+78.11	RT.									140.6				
P-5	57+55.08	59+00	LT./RT.									119.4				
P-6	59+10	60+60	LT./RT.												158.5	
P-7	58+78.11	61+35	RT.													11
P-8	57+88.00	60+65.72	LT.										187.6	69.3		
P-9	60+65.72	61+35	LT.									281.5				
														69.3		
SHEET TOTAL				3738.0	820.9	11.73	11.73	28.16	135	75.1	4485	675.5	187.6	138.6	210.6	11

ROADWAY QUANTITIES

REF. Nº	STATION FROM	STATION TO	SIDE	E-8 REMOVAL EXIST. PAV'T S.Y.	E-8 REMOVAL EXIST. STONE CURB L.F.	I-15 GUARD RAIL STEEL BEAM ST'D. TYPE (DEEP) L.F.	I-15 GUARD RAIL EXIST. 6" CONC. POSTS REMOVED & DISPOSED EACH	
R-1	55+00	61+35	LT./RT.	2866.7				
R-2	55+00	61+35	RT.		515			
R-3	55+00	61+35	LT./RT.		650			
R-4	57+12	61+35	RT.				43	
GR-1	55+00	56+34	LT.			134.0		
GR-2	56+34	D.O+85	LT.			66.0		
GR-3	55+00	56+38.5	RT.			138.5		
SHEET TOTAL				2867	1165	338.5	43	



PLAN & PROFILE
RELOC. S. MAIN ST.
STA. 55+00 TO STA. 63+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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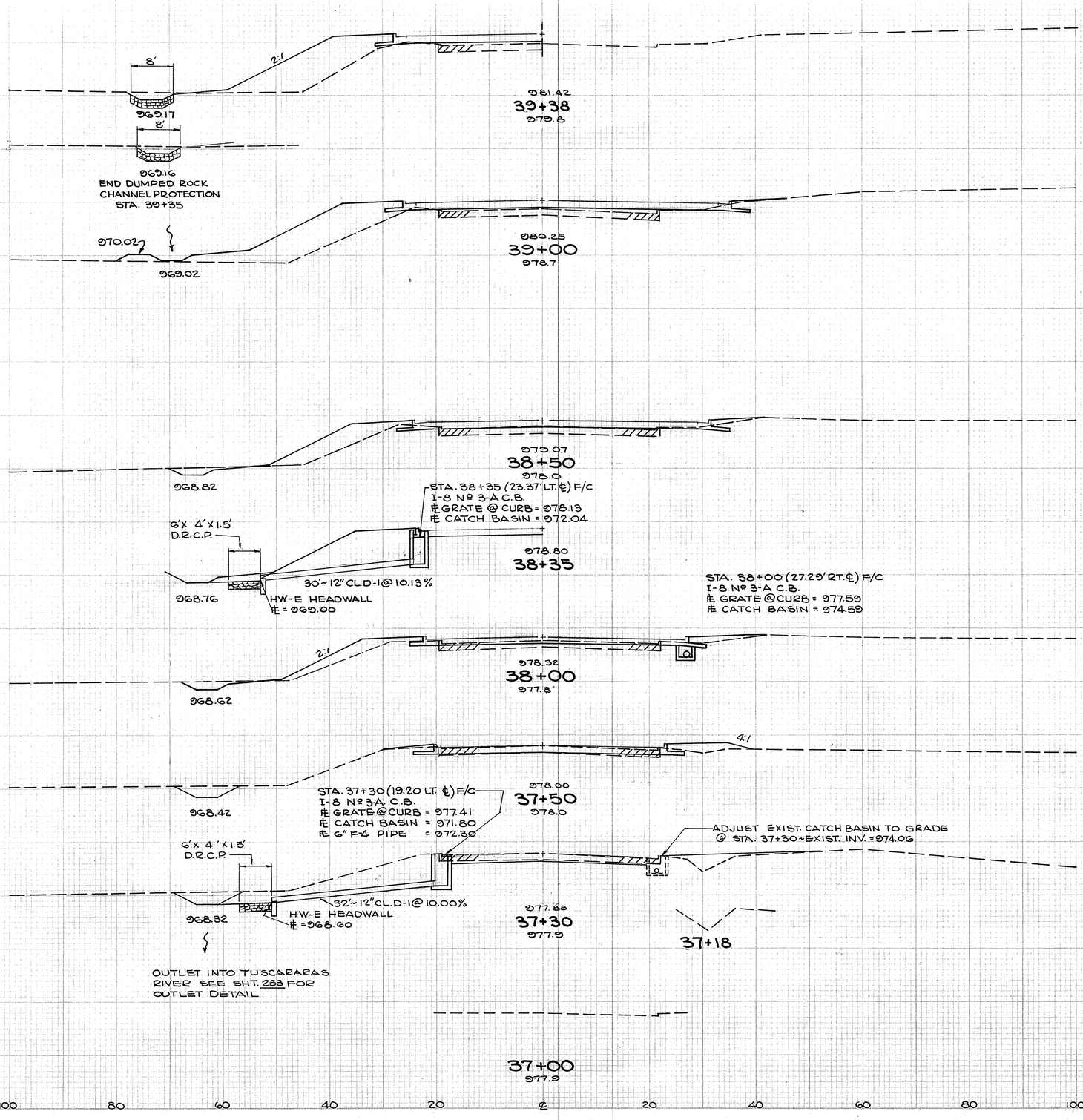
SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		5	225		
				20	319
	369				
		17	120		
				34	185
	369				
70	408	20	80		
				42	97
		25	25		
77	171			19	17
		25	20		
77	125			14	11
0		0	0		



RELOCATED MAIN ST.
STA. 37+00 TO STA. 39+00

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

SEEDING		
END WIDTH	SQ. YDS.	
30		990
	61	
20		990
		990
	144	
32		990
	186	
35		980
	292	
70		970
	389	

990.62
41+22 ℄ DR. LT. & RELOC. DR. RT.
990.0

990.21
41+00
990.7

STA. 40+90.6
STD. Nº1 MH 40'LT.
TOP = 988.46
℄ 12" = 981.74
℄ 15" = 981.40

FROM C.B. @ 41+54

988.64
40+90.6
989.0

12"X6' CI. E-1

STA. 40+90.6
Nº3-A C.B. ~ 33.52 LT. (F/C)
℄ GRATE @ CURB = 987.81
℄ C.B. = 982.04

986.33
40+50
986.0

0

983.88
40+00
982.5

0

SOD COLLAR

3:1

2:1

2:1

STA. 39+50
OUTLET 15" PIPE
73' LT. ~ ℄ 970.14
BEG. DUMPED ROCK
CHANNEL PROT.

970.14

HW-E HEADWALL

981.85
39+50
980.4

100 80 60 40 20 ℄ 20 40 60 80 100

RELOCATED MAIN ST.
STA. 39+50 TO STA. 41+22

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
100	0		
		65	0
60	0		
		83	30
30	32		
		42	85
15	60		
		32	162
20	115		
		23	315

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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SUMMIT COUNTY
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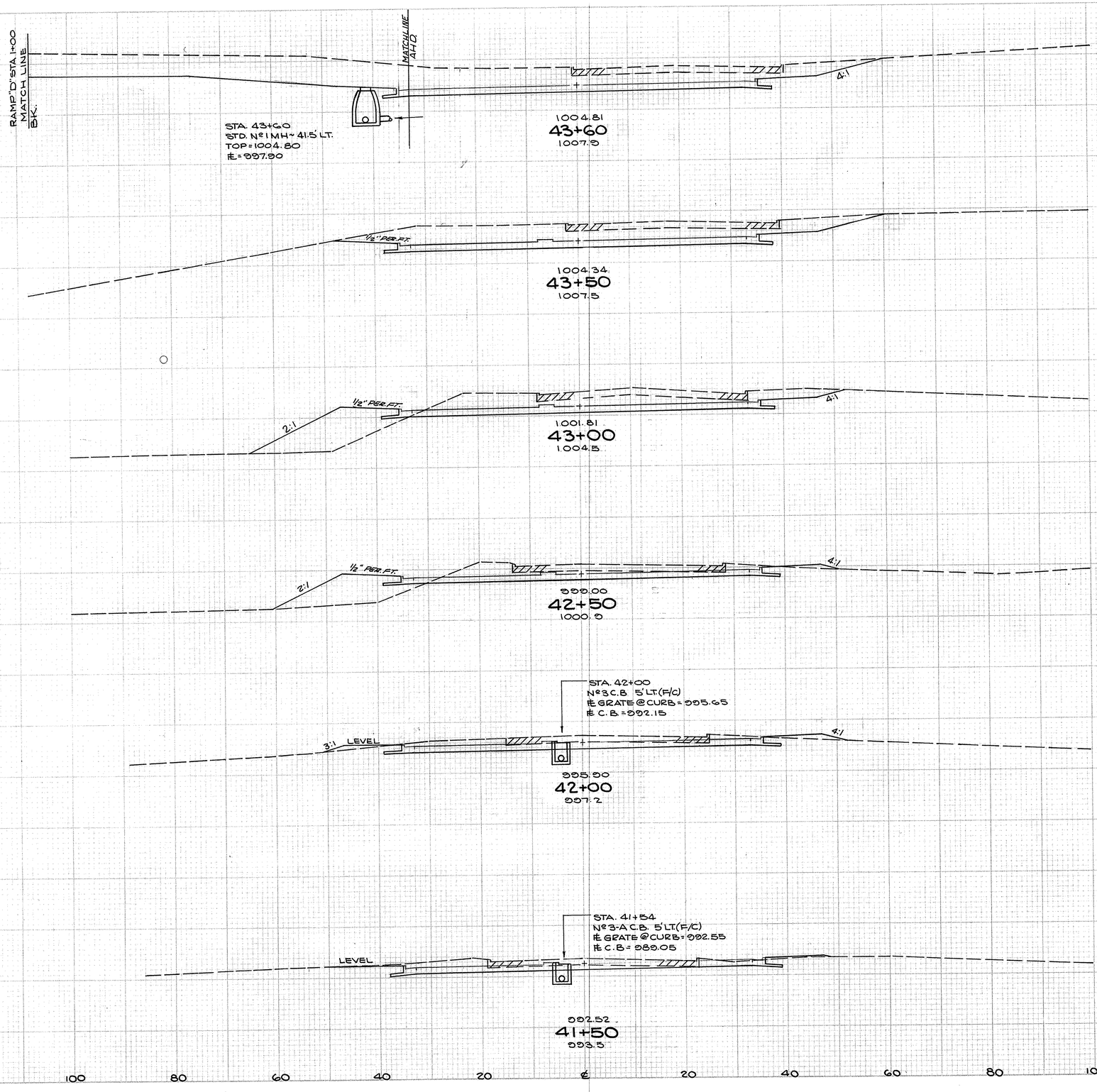

SEEDING END WIDTH	SEEDING SQ. YDS.
100	1000
78	
40	1000
264	
55	1000
292	
50	990
250	
40	990
194	990
30	990
93	

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
AHD.	383	0		
BK.	745	0		
			201	0
	340	0		
			505	120
	205	130		
			301	213
	120	100		
			213	106
	110	15		
			176	18
	80	5		
			93	3

RELOCATED MAIN ST.
STA. 41+50 TO STA. 43+60

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
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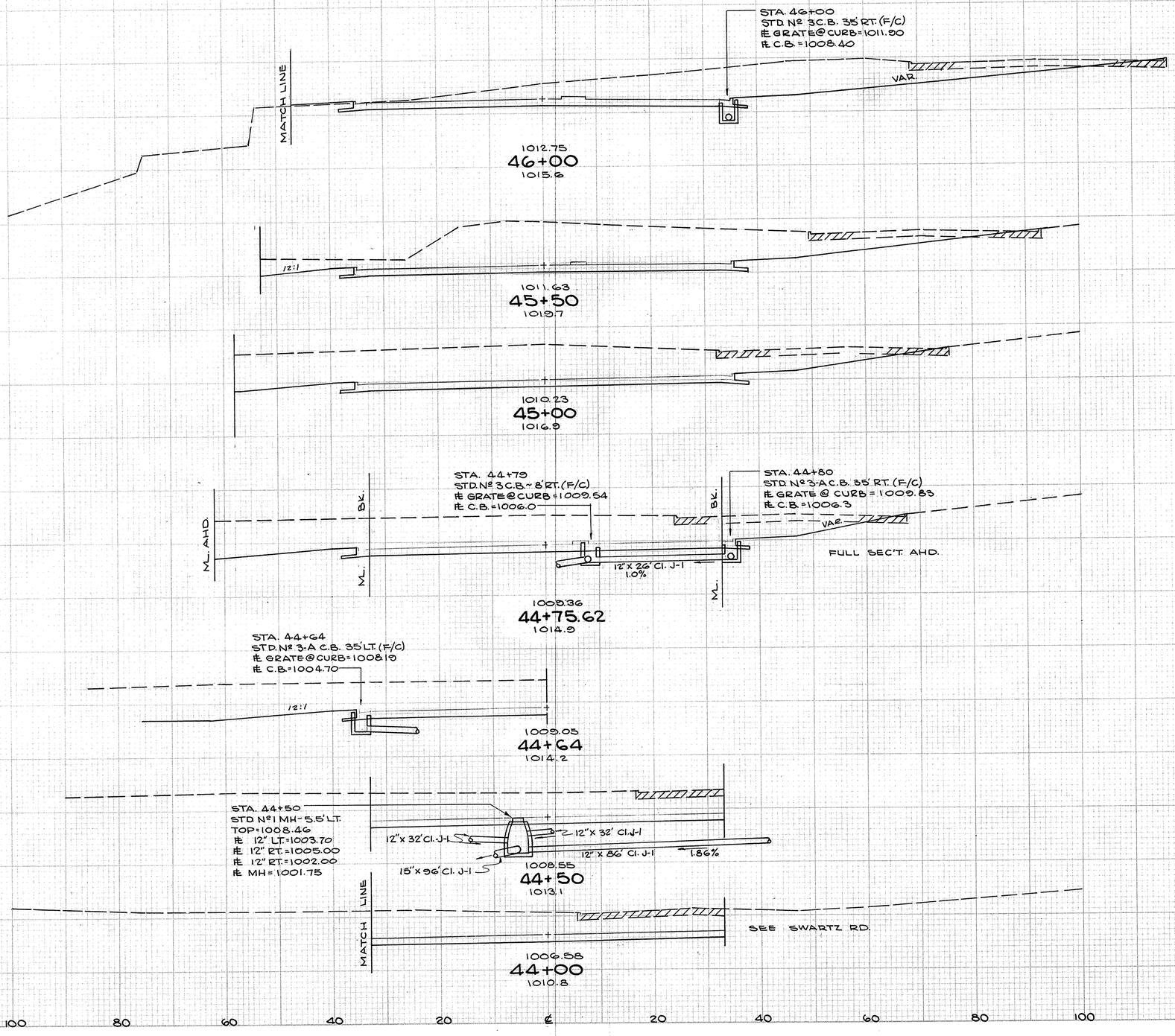
SEEDING	
END WIDTH	SQ. YDS.
100	
	900
80	
	417
70	
	176
62	
	90
0	
	0
0	
	222



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
500	13		
		1106	21
695	10		
		1310	14
720	5		
		643	2
AHD. 705	5		
BK. 410	0		
		365	0
360	0		
		639	0
330	0		
		528	0

RELOCATED MAIN ST.

STA. 44+00 TO STA. 46+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		65	2420		
115				382	3992
		310	1500		
240				344	2048
		155	1265		
230				589	2600
		AHD. 360	1010		
		BK. 360	65		
200	AHD.			1067	92
110	BK.				
		510	10		
90				600	14

990
2:1
1014.04
48+55
1008.8
1085
990
VAR.
1014.38
48+00
1008.3
1044
990
1014.41
47+60
1011.2
1481
MATCH LINE
BK.
733
990
2:1
1014.11
46+98.28
1011.7
1010
VAR.
1013.31
46+32.08
1017.0
338

100 80 60 40 20 ℄ 20 40 60 80 100 120

RELOCATED MAIN ST.
STA. 46+32.08 TO STA. 48+55

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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SEEDING	
E.W.	S.Y.
136	
	1023
273	
	3109
316	
	2098
293	
	1914
229	

MATCH LINE
134' RT. STA. 188+75
MAINLINE

MATCH LINE
97' RIGHT OF
STA. 11+50
RAMP "D-1"

128' LT. OF
STA. 49+00

MATCH LINE
107' RT. OF
STA. 8+00
RAMP "D-1"

130' LT. OF
STA. 48+55

MATCH LINE
100' RT. OF
STA. 7+15
RAMP "D-1"

133' LT. OF
STA. 47+60

MATCH LINE
106' RT. OF
STA. 6+00
RAMP "D-1"

135' LT. OF
STA. 46+98.28

MATCH LINE
98' RT. OF
STA. 5+00
RAMP "D"

MATCH LINE
97' RT. OF STA. 3+66.08
RAMP "D-3"
116' RT. OF STA. 3+16.26
RAMP "D"

185' LT. OF
STA. 46+32.08

CENTER LINE
S. MAIN ST.

RELOCATED MAIN ST.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1615		
		654	2759
785	1695		
		6254	4741
2770	1000		
		6035	2257
2510	975		
		6467	1490
2765	240		

EXTENDED CROSS SECTIONS STA. 46+32.08 TO STA. 49+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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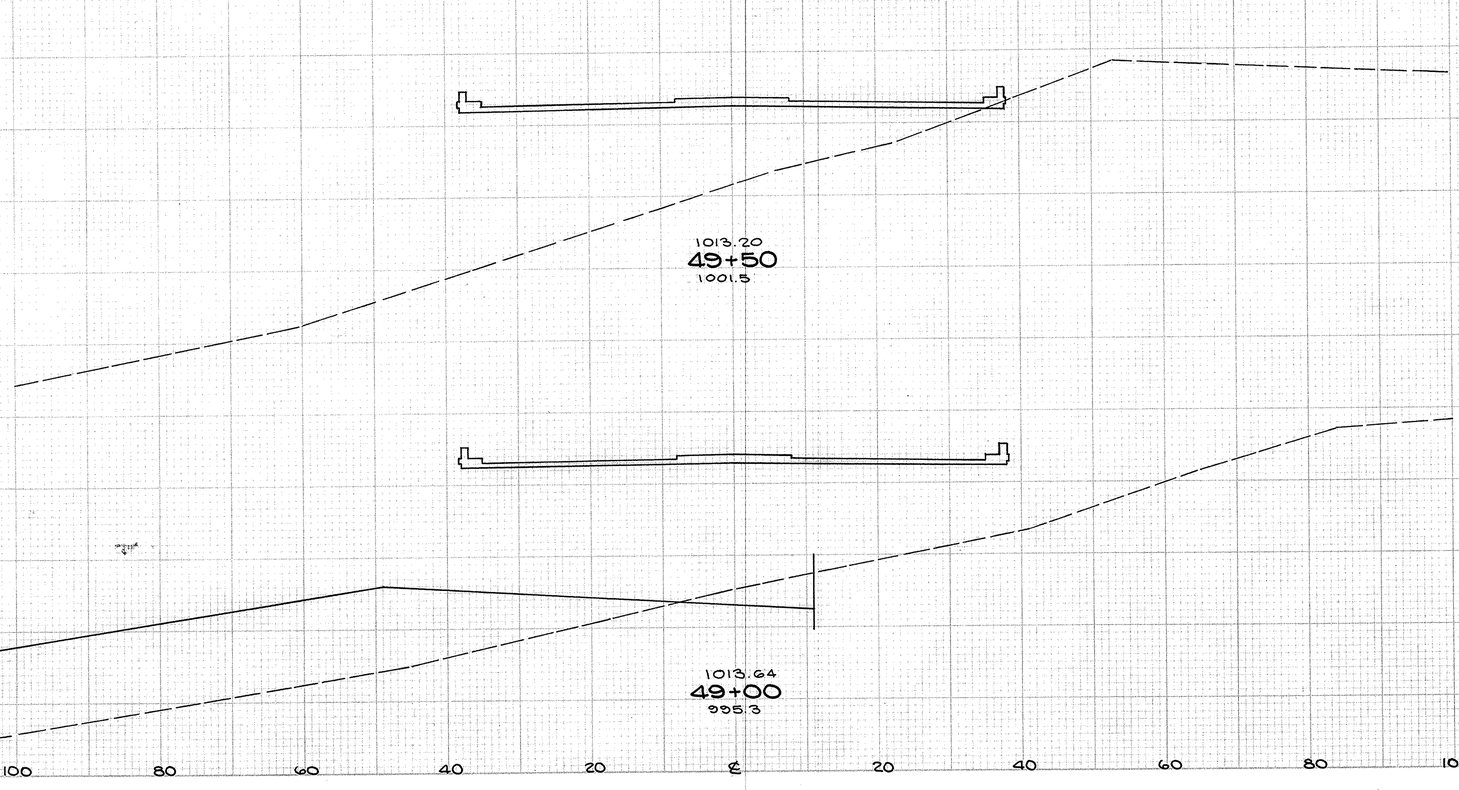
SEEDING	
END WIDTH	SQ. YDS.
140	638

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	0		
42	1055		
45	1140		
32	2967		



RELOCATED MAIN ST.
STA. 49+00 TO STA. 49+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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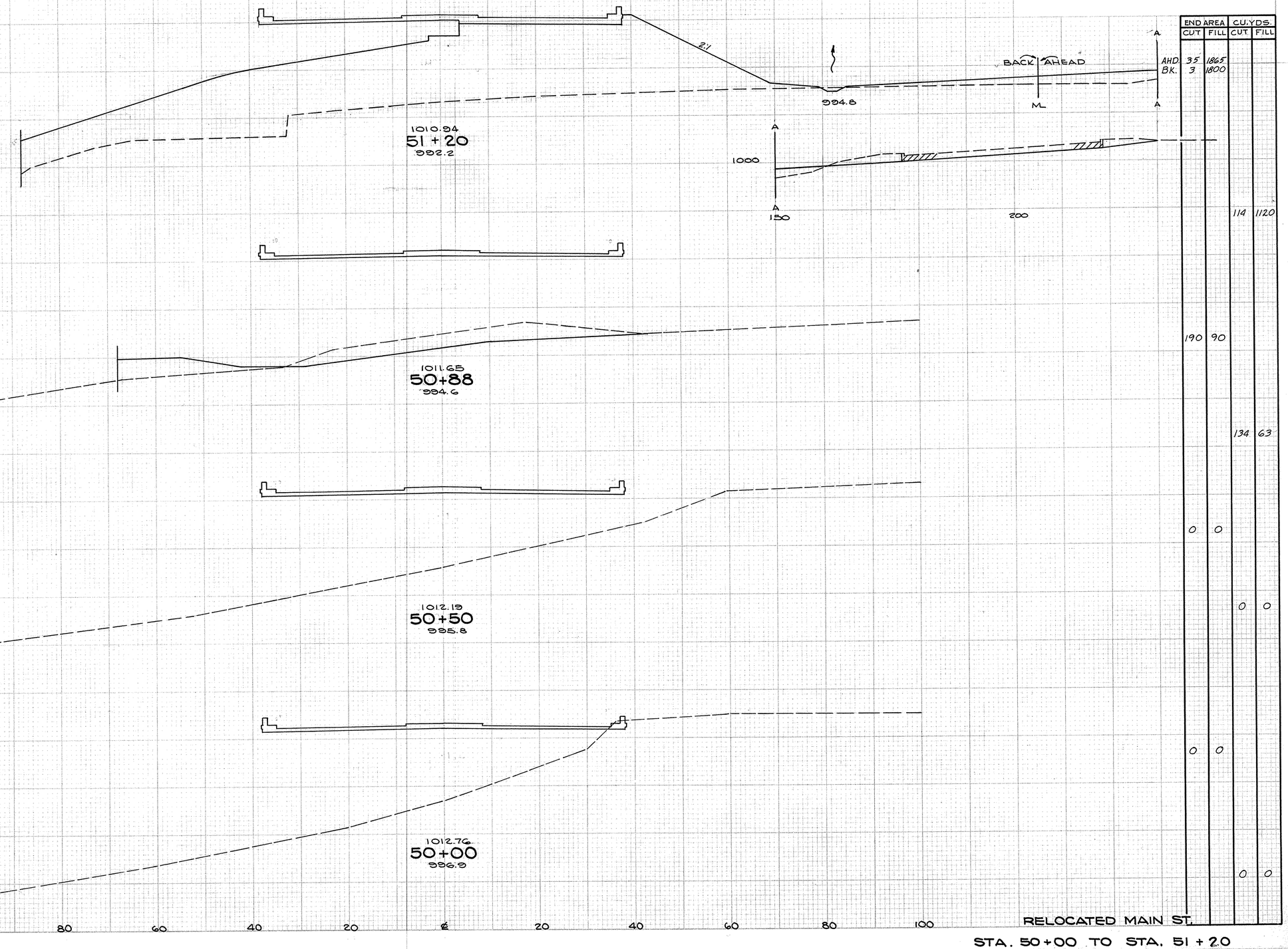
SEEDING		
END WIDTH	SQ. YDS.	
		990
280	AHD.	
170	BK.	
	498	
		990
110		
	232	
0		
		990
		990



	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
AHD.	35	1865		
BK.	3	1800		
			114	1120
	190	90		
			134	63
	0	0		
			0	0
	0	0		
			0	0

RELOCATED MAIN ST.
STA. 50+00 TO STA. 51+20

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SEEDING END WIDTH	SEEDING SQ. YDS.
270	1528
280	1583
290	1597
285	942

ENDAREA CUT	ENDAREA FILL	CU. YDS. CUT	CU. YDS. FILL
60	3220		
		106	5944
55	3200		
		185	5838
145	3105		
		171	5305
40	2625		
42	2495		

MATCH LINE
SEE EXTEND. X-SECT.

970 974.7 2:1 2:1

1005.34
53+00
985.6

D 985.66 D D
990
D
150

C 988.00 C
990
C
150

1007.24
52+50
986.0

970 974.5

989.3 52+30

B 145 3105
991.25 B

MATCH LINE
SEE EXTEND. X-SECT.

1008.88
52+00
986.1

970 974.3

B
990 B
150

2:1 2:1

A 40 2625
994.0 A

1010.25
51+50
994.0

MATCH LINE
RAMP "C-2"

970

A
990 A
150
200

150 120 100 80 60 40 20 ℄ 20 40 60 80 100

RELOCATED MAIN ST.
STA. 51+50 TO STA. 53+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SEEDING	
END WIDTH	SQ. YDS.
200	
	1139
210	
	1194
220	
	1278
240	
	1361
250	
	1441

980
MATCH LINE
SEE EXT'D. X-SECT.

2:1

974.5

993.97
55+50
982.0

980.4

980

974.7

996.27
55+00
982.0

980.7

980

974.9

998.57
54+50
981.2

981.0

980

1000.87
54+00
982.0

982.0

980
MATCH LINE
SEE EXT'D. X-SECT.

974.9

1003.17
53+50
984.2

983.5

A
A
980
150

100 80 60 40 20 ℄ 20 40 60 80 100

RELOCATED MAIN ST.
STA. 53+50 TO STA. 55+50

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
45	1570		
		79	3097
40	1775		
		56	3907
20	2445		
		56	4828
40	2770		
		83	5398
50	3060		
		102	5815

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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SEEDING	
E.W.	S.Y.
225	
	1369
268	
	1556
292	
	3261
297	
	1594
277	
	1922
235	
	1678
67	

	END AREA		CU. YDS	
	CUT	FILL	CUT	FILL
56+00	0	1005		
			0	2084
55+50	0	1245		
			0	2268
55+00	0	1205		
			0	4722
54+00	0	1345		
			0	2532
53+50	0	1390		
			0	1842
53+00	0	600		
			0	1370
52+00	0	140		

400 350 300 250 200 150

RELOCATED MAIN ST.

EXTENDED CROSS SECTIONS STA. 52+00 TO STA. 56+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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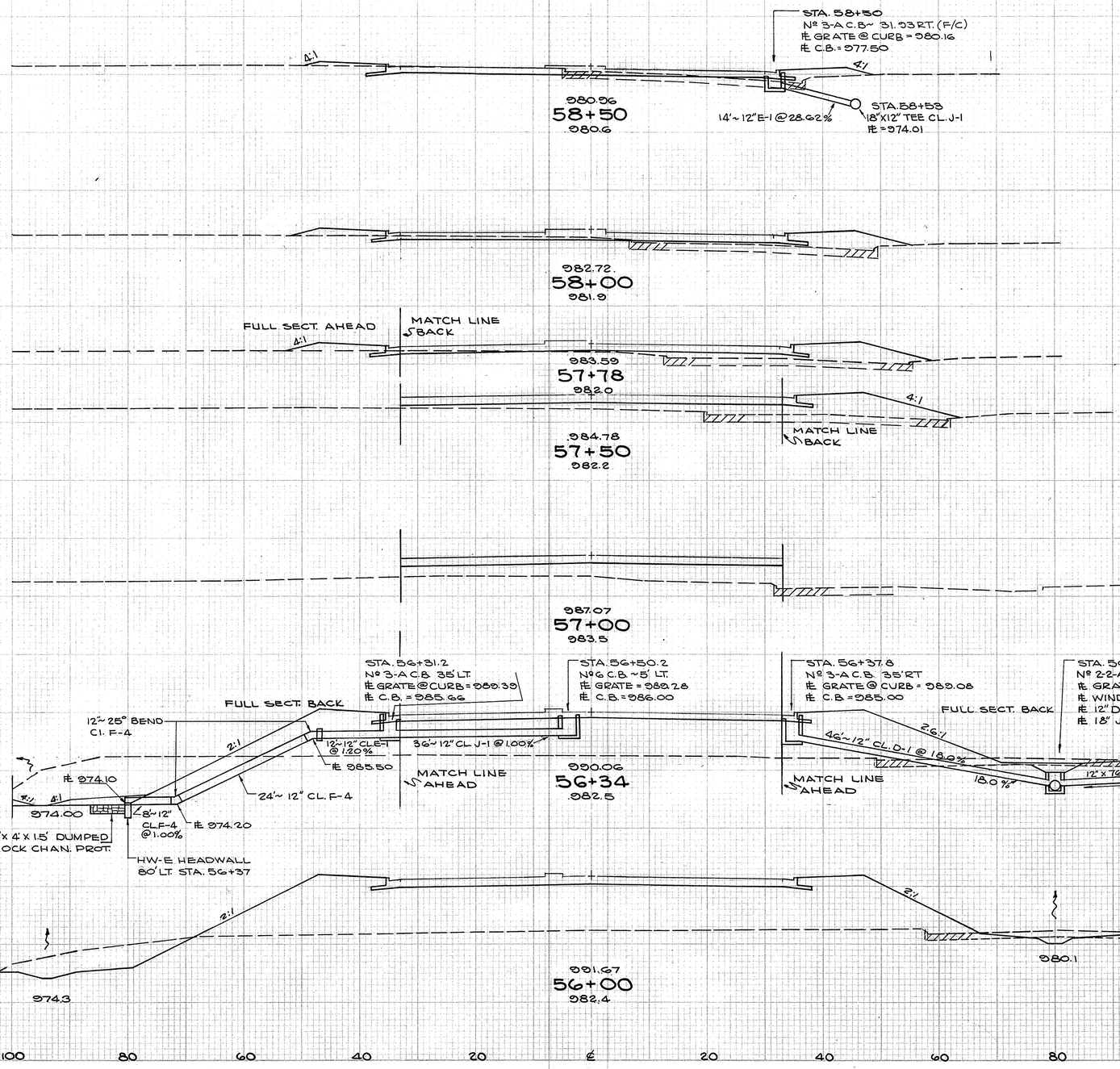
SEEDING END WIDTH	SEEDING SQ. YDS.	
40		980
	250	
50		980
	122	
50 AHD.		
30 BK.		980
	93	
30 AHD.		980
0 BK.		
	0	
0		980
	0	
0		980
0 AHD.		
130 BK.		
	604	
		980
190		
	1083	



END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
35	70		
		51	167
20	110		
		11	100
AHD. 8	135		
BK. 5	115		
		3	158
AHD. 0	190		
BK. 0	88		
		0	222
0	152		
		0	687
AHD. 0	410		
BK. 185	780		
		180	1203
100	1130		
		134	2500

100 80 60 40 20 ℄ 20 40 60 80 100 120

RELOCATED MAIN ST.

STA. 56+00 TO STA. 58+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1) 124	

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SEEDING			END AREA		CU. YDS.	
	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
0	9.70		0	0		
		11			2	0
20	9.70		10	0		
		69			9	0
30			10	1		
	9.70	113				
30			15	6	16	4
	9.70	53			10	5
30			20	12		
	9.70	139			32	27
20			15	17		
	9.70	139			46	31
30			35	17		
	9.70	194			69	44
40			40	30		
	9.70	222			69	93

STA. 61+42
EXIST. C.B. 17.5' LT. (F/C)
℄ WINDOW @ CURB = 976.02
℄ C.B. = 972.76

976.65
61+35 MEET EXIST. PAV'T.

STA. 61+25
N° 3 INLET M.H. - 22.84' RT. (F/C)
℄ GRATE @ CURB = 975.86
℄ 21" = 971.88

976.66
61+25
976.6

976.68
61+00
976.6

976.82
60+65.71 END T-71 PAV'T. BEGIN T-35 PAV'T.
976.8

976.94
60+50
976.8

STA. 60+00
N° 3 C.B. 26.97' RT. (F/C)
℄ GRATE @ CURB = 976.90
℄ C.B. = 974.20
12" x 6' Cl. E-1

977.45
60+00
977.4

978.35
59+50
978.3

STA. 58+97.3
N° 3-A C.B. - 35.5' LT. (F/C)
℄ GRATE @ CURB = 979.82
℄ C.B. = 976.32

STA. 58+95.9
N° 3 C.B. 8' LT. (F/C)
℄ GRATE @ CURB = 979.56
℄ C.B. = 975.91

STA. 59+00
N° 1 MH. 36' RT.
TOP = 979.46
℄ 12" = 975.24
℄ 6" = 974.68
℄ 18" = 973.47
℄ MH = 973.22

12" x 26' Cl. J-1 1.56%
12" x 44' Cl. J-1 1.56%

979.51
59+00
979.6

100 80 60 40 20 ℄ 20 40 60

RELOCATED MAIN ST.
STA. 59+00 TO STA. 61+35 (END)

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

NOTE: FACE OF CURB IS STRIGHT LINE TAPER FROM STA. 37+25 (19' LT) TO STA. 41+66.43 (35' LT)

STA. 37+11 BEGIN REMOVAL OF EX. 1ST. WEARING COURSE
BEGIN PAV'T TAPER STA. 37+25.00
STA. 37+59.44 END T-35 BEGIN S-T-71 PAV'T
BEGIN STD TYPE 2 CURB & GUTTER STA. 38+25.25
BEGIN I-23 TRAFFIC DIVIDER STA. 38+35
STA. 39+01.21
STA. 39+51.55
PC STA. 40+90.61
34'
35'
22' DRIVE STA. 41+22
END TAPER STA. 41+66.43
STD. TYPE 2 CURB & GUTTER
TYPE G CURB
TYPE 2-A CURB
℄ RE-LOC. S. MAIN ST.
MATCH LINE STA. 43+00
MATCH LINE STA. 43+00

NOTE: I-23 TRAFFIC DIV. AT 12' C/C

BEG. PAV'T. TAPER 21.5' RT. STA. 37+35 f/c
BEG. T-71 & STD TYPE 2 CURB & GUTTER 23.5' RT. STA. 37+59.44 f/c
T-35 VARIES
1¼" T-35 SURFACE COURSE
1¼" B-35 LEVELING COURSE

EXIST. BRICK	3"	B-35
EXIST. CONC. BASE	8"	B-19
	5"	I-22
	9" T-71	
	6" I-22	

SECTION A-A

CURVE DATA:
Δ = 84° 52' 12"
R = 50.00'
T = 45.71'
L = 74.06'

P.C. 26' LT. f/c STA. 0+77.27
P.T. 35' LT. f/c STA. 43+56.55
1/4 PT.
1/2 PT.
3/4 PT.
TYPE 2-A CURB
BERM
TYPE G CURB
0+50
1+00
1007.00
1007.03
RAMP "D"
END TAPER STA. 39+00.00

CURVE DATA:
Δ = 94° 04' 28"
R = 6.00'
T = 6.44'
L = 9.84'

STA. 44+25.40 REL. S. MAIN = STA. 0+00 ~ RAMP "D" & SWARTZ RD.
BEGIN TAPER LT. STA. 45+15.08
RAMP "D-3"
MOSE-22' LT. STA. 0+00 +45° LT. STA. 46+32.08 REL. S. MAIN ST.
BEGIN RAMP "D-3" PC. STA. 0+00 45° LT. STA. 46+98.28 REL. S. MAIN ST.
10' DRIVE STA. 41+22
125' PAVEMENT TAPER
BEGIN TYPE 2A CURB 42.33' LT. STA. 47+20.00
END TAPER 35.5' LT. STA. 48+25.28
BEGIN APPROACH SLABS STA. 48+34.14
TYPE 2-A CURB
STD TYPE 2 CURB & GUTTER
I-21 TYPE 1 MEDIAN PAV'T
I-21 TYPE 2 MEDIAN
TO LOCAL TAN
87°48'21"
90°08'43"
R=15' R
SWARTZ RD
TYPE G CURB
TYPE 2-A CURB

CURVE DATA:
Δ = 88° 04' 47"
R = 50.00'
T = 48.35'
L = 76.86'

PC ~ 35' RT. OF STA. 43+66.23
PT ~ 12' RT. OF STA. 0+83.89
PC ~ 12' LT. OF STA. 0+74.45
END T-71 PAVEMENT
BEGIN T-35

CURVE DATA:
Δ = 88° 38' 19"
R = 40.00'
T = 39.06'
L = 61.88'

PT ~ 35' RT. OF STA. 44+75.62

18" x 18" BLOCK OUT FOR SIGNAL DETECTER: FOR DETAIL SEE SHEET Nº 290.

18" x 18" BLOCK OUT FOR SIGNAL DETECTER: FOR DETAIL SEE SHEET Nº 290.

CURVE DATA:
P.I. STA. 43+28.42
Δ = 14° 11' 48"
R = 1909.86'
D_c = 3° 00'
T = 237.81'
L_c = 473.22'

MEDIAN DETAIL
PC ~ 5' RT. STA. 45+15.78
PRC ~ 15' LT. STA. 46+37.85
PT ~ 8' LT. STA. 47+00
300' R ~ f/c
31.40'
L = 62.10'
46+00
46+50
47+00
8'
16'

PAVEMENT ELEVATIONS & JOINT DETAILS
RELOCATED SOUTH MAIN ST.
STA. 37+00 TO STA. 49+00

K&E

FED. RD.	STATE	PROJECT	
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END APPROACH SLABS
STA. 51+48.11

STA. 53+09.70
END TYPE 1 MEDIAN

TYPE 2 CURB & GUTTER

℄ RE-LOC. S. MAIN ST.

I-21 TYPE 2 MEDIAN

I-21 TYPE 1 MEDIAN

TYPE 2 CURB & GUTTER

MATCH LINE STA. 56+00

MATCH LINE STA. 56+00

JOINT LEGEND

1. STANDARD LONGITUDINAL JOINT
2. STANDARD EXPANSION JOINT
3. STANDARD CONTRACTION JOINT
4. KEY JOINT WITHOUT TIEBARS
5. EXPANSION JOINT WITHOUT DOWELS

MEDIAN DETAIL

P.C. STA. 52+50
300'R TO f/c
P.R.C. STA. 53+12.11
I-21 TYPE 1
2-A CURB
53+00
I-21 TYPE 2
f/c
L = 62.70'
31.40'
℄ REL. S. MAIN ST.
P.T. STA. 53+74.22
P.T. - 3' LT. STA. 53+74.22

CURVE DATA:
Δ = 90°00'
R = 60.00'
T = 60.00'
L = 94.25'

18"x18" BLOCKOUT FOR SIGNAL DETECTOR. FOR DETAIL SEE SHEET No. 290

℄ RAMP "C"

CURVE DATA:
Δ = 90°00'
R = 50.00'
T = 50.00'
L = 78.54

P.C. ~ 26.00' LT. STA. 0+85.00
P.C. STA. 0+55.00 18.00' RT.
50'R TO f/c
60'R TO f/c
P.T. STA. 1+35.00 LT. STA. 56+34.00
P.T. STA. 1+35.00 RT. STA. 56+40.60
P.T. STA. 1+00 LT. & END CONC PAVT. & CURB
P.C. ~ 1000' LT. & STA. 0+84.50
TYPE G CURB
T-35 PAVEMENT
TYPE G CURB
TYPE 2 CURB & GUTTER

CURVE DATA:
Δ = 112°00'
R = 30.00'
T = 44.48'
L = 58.64'

P.C.-3500 RT. STA. 56+40.60
P.C. & RET. P.I. STA. 0+86.48
TYPE G CURB
P.T. STA. 1+00 & END CONC PAVT. & CURB

P.T. STA. 57+51.22 & BEGIN PAVT. TAPER
P.C. STA. 58+06.66 END MEDIAN RAD. 750'
END TYPE 2 CURB & GUTTER STA. 58+18.11

CURVE DATA:
Δ = 68°00'
R = 75.00'
T = 50.50'
L = 89.01'

NOTE: I-23 TRAFFIC DIV. AT 12' C/C

CURVE DATA:
P.I. STA. 59+23.62
Δ = 08°18'45"
D_c = 3°30'
R = 1637.02'
T = 118.96'
L_c = 237.29'

NOTE. FACE OF CURB IS STRIGHT LINE TAPER FROM 59+50(35' LT.) TO 61+35 (17.5' LT.)

BEGIN PAVT TAPER STA. 59+50

END TYPE 2 CURB & GUTTER STA. 60+68.72 f/c 253.34'

℄ P.T. STA. 60+42.16

END CONC. PAVT. STA. 60+68.72

T-35 PAVEMENT

END TAPER & CURB STA. 61+35.00

MEET EXIST. CURB & PAVEMENT ℄ STA. 61+35.00 REL. S. MAIN ST.

TYPE G CURB

TYPE 2-A CURB

TYPE G CURB

END TAPER & CURB STA. 61+35.00

PAVEMENT ELEVATIONS & JOINT DETAILS RELOCATED SOUTH MAIN ST. STA. 51+00 TO STA. 61+35.00

K.&E.

FED.RD	STATE	PROJECT	
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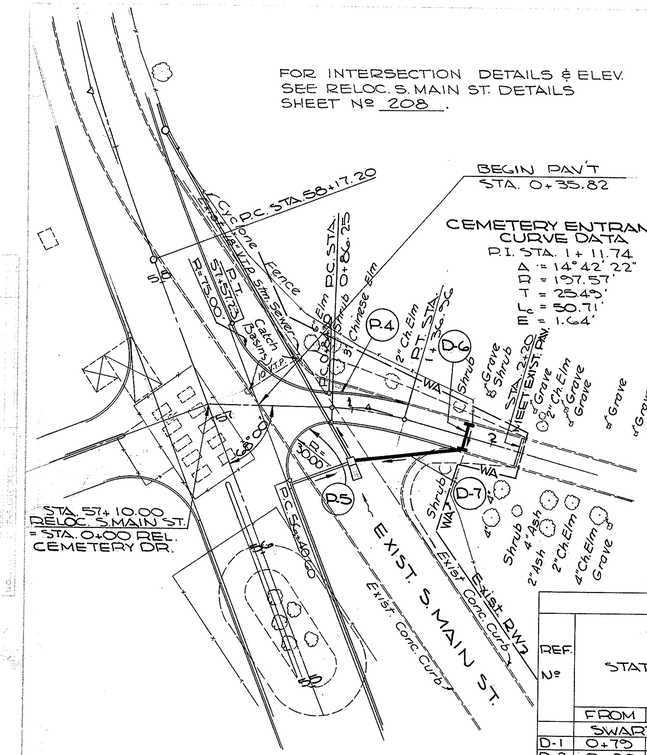
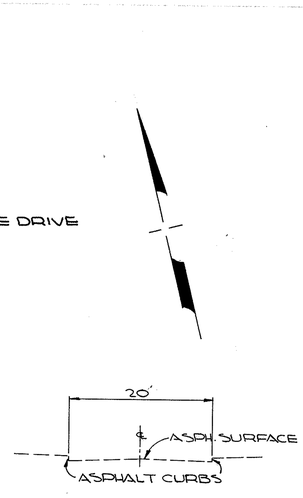
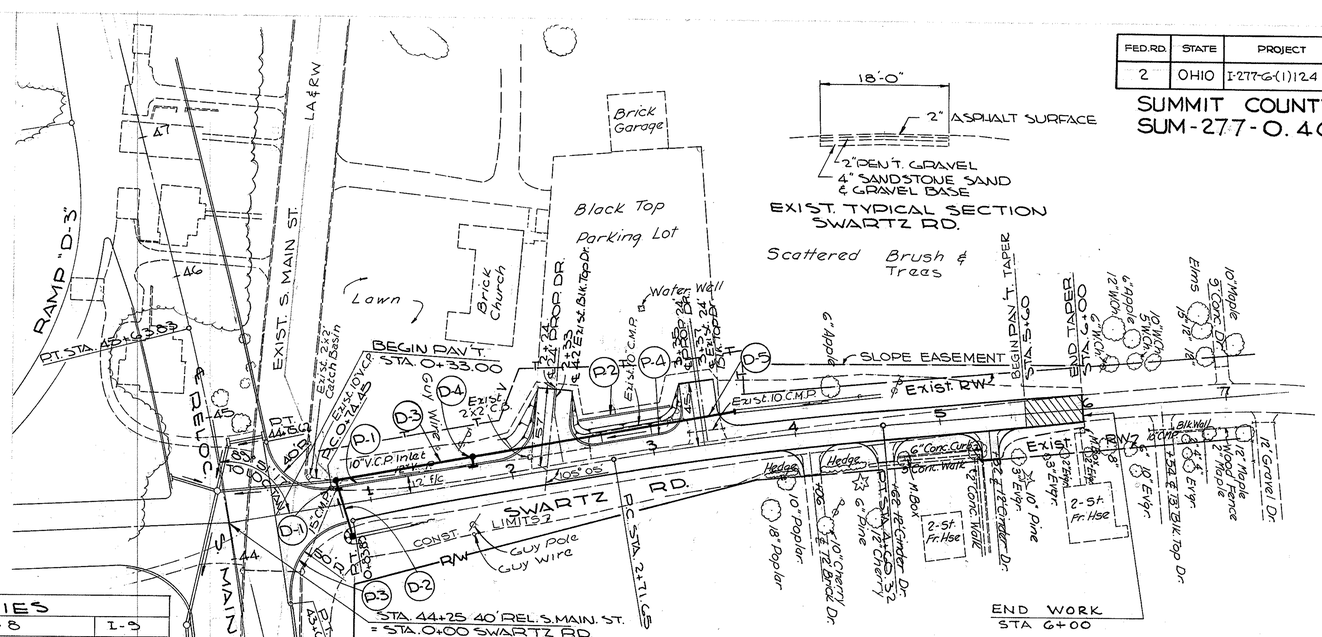
FOR INTERSECTION DETAILS & ELEV. SEE RELOC. S. MAIN ST. DETAILS SHEET Nº 208.





EXIST. TYPICAL SECTION
CEMETERY DR.


RAMP "D-3"
EXIST. S. MAIN ST.
RELOC.
MAIN ST.
Brick Garage
Black Top Parking Lot
Brick Church
Lawn
Scattered Brush & Trees
BEGIN PAV'T STA. 0+33.00
P.I. STA. 45+63.83
P.T. STA. 44+56.40
R.C. Exist. 10 C.M.P.
Exist. 24" C.M.P.
Exist. 10" C.M.P.
Exist. 24" St. Sink Top Dr.
Water Well
Guy Wire
Guy Pole
Exist. 24" Catch Basin
10" V.C.P. Inlet
SWARTZ RD.
CONST. LIMITS
RW
Hedge
6" Conc. Curb & Gutter
Exist. RW2
SLOPE EASEMENT
END TAPER STA. 6+00
BEGIN P.I. TAPER STA. 5+60
Exist. 12" Maple
Exist. 10" Maple
Exist. 6" Maple
Exist. 10" Cherry
Exist. 10" Pine
Exist. 18" Poplar
Exist. 6" Pine
Exist. 12" Maple
Exist. 12" Ash
Exist. 12" Elm
Exist. 12" Ch. Elm
Exist. 12" Locust
Exist. 12" Spruce
Exist. 12" Hackberry
Exist. 12" Linden
Exist. 12" Ch. Elm
Exist. 12" Ash
Exist. 12" Ch. Elm
Exist. 12" Maple
Exist. 12" Ch. Elm
Exist. 12" Maple
Exist. 12" Ch. Elm
Exist. 12" Maple

| SEEDING | | |

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0	18	0
25	4	86	0
52	0	118	0
75	0	143	0
80	0	110	0
140	0	94	0
80	0	181	3

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6+00
1022.87
END TAPER
MEET EXIST. PAVT.

1023.01
5+60
1022.9
BEGIN TAPER

1023.06 DR. RT.
5+32
1023.03

1023.08
5+00
1023.16
3:1
2:1
1021.29

1023.02 DR. RT.
4+62
1023.19

1022.99
4+50
1023.2
1020.70

1022.67 DR. RT.
4+06
1023.1

1022.59
4+00
1023.11
1020.30

1019.69

1022.16
3+73
1022.97
1018.89

BEGIN 12" CL. D1 PIPE
STA. 3+60
℄ = 1019.64

1021.72
3+50
1022.78

1021.42
DR. LT.
3+35
1022.57

SEEDING END SEC.	SEEDING WIDTH	SEEDING SQ. YDS.
0	1020	
22	1020	
10	1020	
187	1020	
46	1020	
239	1020	
40	1020	
236	1020	
45	1020	
135	1020	
45	1020	
89	1020	
25	1020	
169	1020	

SWARTZ RD. STA. 3+37 TO STA. 6+00

FED RD	STATE	PROJECT	
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END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0	0	0
0	0	10	
0	12		0
0	23	11	21
0	170	0	179
0	190	0	93
0	480	0	313
0	456		
0	400		
0	0		

AHD Bk. 0 0 12 0 23 0 170 0 190 0 480 0 456 0 400 0 0

3+00 984.86

2+50 984.20

2+20 983.70 983.72 MEET EXIST. PAVT.

2+00 983.45 983.36

STA. 1+82 (10' LT. f/c)
I-8 STD. Nº8 A.C.B.
℄ GRATE @ CURB = 983.00
℄ 12" B-1 PIPE = 979.16
12"-CL. B-1 @ 2.00%
983.38
1+82 982.64

12" B-1 PIPE TO Nº 2-2A C.B.
80' RT. STA. 5G+37.8 REL. S. MAIN ST.

1+50 983.63 982.30

1+00 984.35 981.42

END T-71
0+86.25 985.44 981.53
BEGIN T-35

0+61 986.21 981.73

0+33

MATCH LINE

4:1

SEEDING: END WIDTH | SQ. YDS.

10 | 22 | 10 | 83 | 20 | 147 | 33 | 57 | 40 | 131 | 54 | 84 | 0

980 980 980 980 980 980 980 980 980

0 20 40 60 80 0 20 40 60

℄

PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.

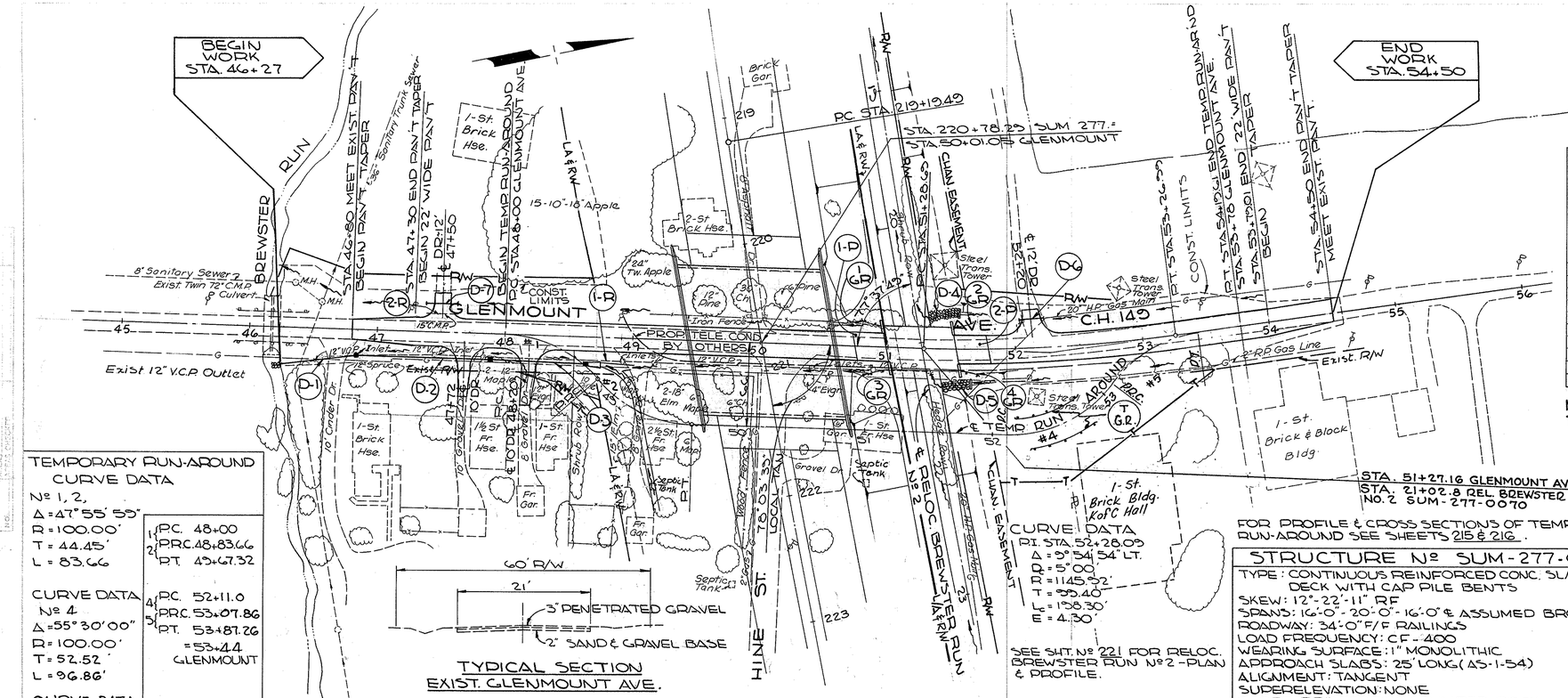
CEMETERY DRIVE STA. 0+33 TO STA. 3+00

FINAL SURVEY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

213
383

SUMMIT COUNTY
SUM-277-0.46



TYPICAL SECTION
EXIST. GLENMOUNT AVE.

TEMPORARY RUN-AROUND CURVE DATA

No 1, 2,
Δ = 47°55'55"
R = 100.00'
T = 44.45'
L = 83.66

1	P.C.	48+00
2	PRC.	48+83.66
	P.T.	49+67.32

CURVE DATA
No 4
Δ = 55°30'00"
R = 100.00'
T = 52.52'
L = 96.86'

4	P.C.	52+11.0
	PRC.	53+07.86
5	P.T.	53+87.26
	=	53+44 GLENMOUNT

CURVE DATA
No 5
Δ = 45°30'00"
R = 100.00'
T = 41.93'
L = 79.40'

DRAINAGE QUANTITIES

REF. No	STATION FROM	STATION TO	SIDE	I-1 PIPE CL. E-1 12" LIN. FT.	I-1 PIPE CL. F-4 M-6.4(C) 12" LIN. FT.	I-2 MASONRY CUT-OFF WALLS CU. YDS.	I-8 No 2-2-A C.B.	I-8 No 2-2-B C.B.	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	I-14 TYPE-1 PAVED GUTTER MOD. "A" LIN. FT.	I-9 STONE UNDER DRAINS No 2 LIN. FT.
D-1	46+27	46+84	RT.	51		0.23		1	1.3		
D-2	46+84	47+85	RT.	105				1			
D-3	47+85	48+64	RT.	75			1			10	
D-4	51+32	51+56	LT.			0.74			2.4		
D-5	51+43	51+67	RT.			0.74			2.4		
D-6	52+07	52+23	LT.		24						
D-7	47+38	47+62	LT.		24						
	46+80	54+50	RT-LT.								352
	SHEET TOTAL			231	48	1.71	1	2	20.1	10	352

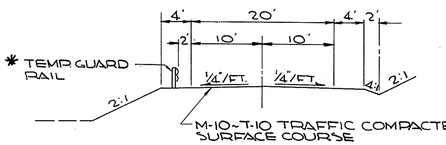
NOTE: The new building (K of C Hall) at Sta. 52+60 on the Temporary Run-Around will not be disturbed or damaged.

FOR PROFILE & CROSS SECTIONS OF TEMPORARY RUN-AROUND SEE SHEETS 215 & 216.

STRUCTURE No SUM-277-0071

TYPE: CONTINUOUS REINFORCED CONC. SLAB DECK WITH CAP PILE BENTS
SKEW: 12°-22'-11" RF
SPANS: 16'-0"-20'-0"-16'-0" & ASSUMED BRGS
ROADWAY: 34'-0" F/F RAILINGS
LOAD FREQUENCY: CF-400
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: DUMPED ROCK

SEE SHT. No 221 FOR RELOC. BREWSTER RUN No 2 - PLAN & PROFILE.

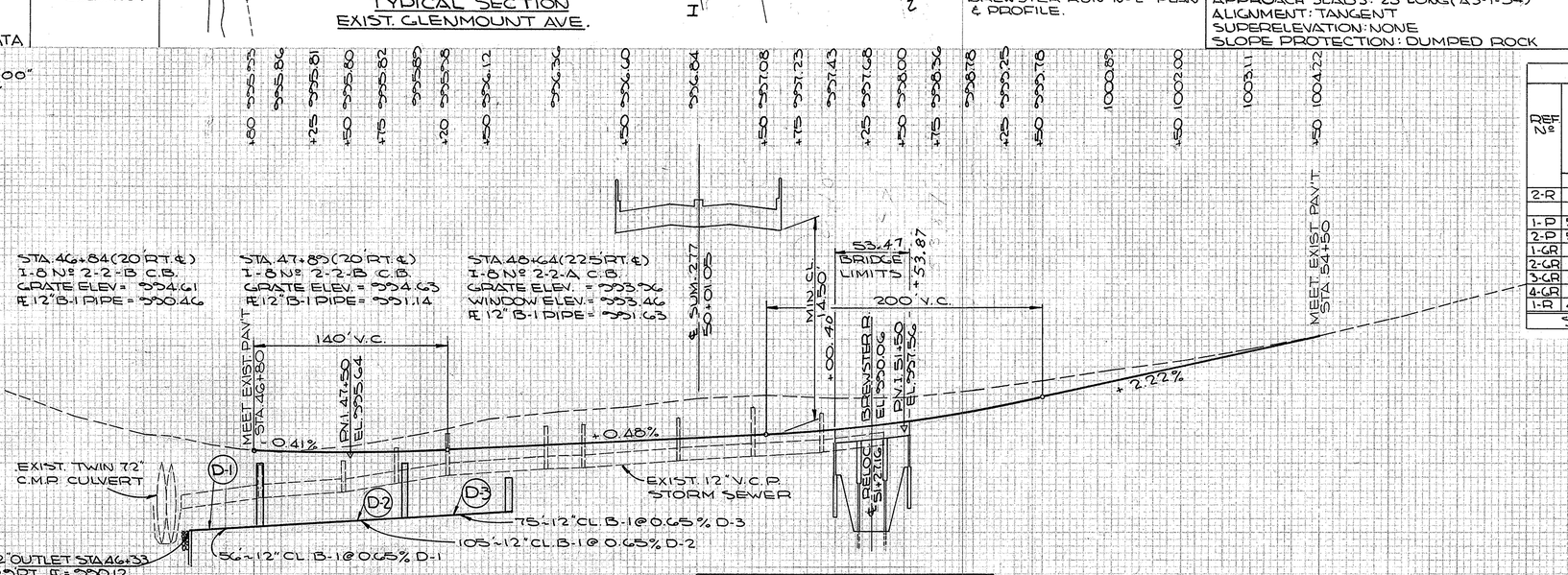


TYPICAL SECTION
TEMPORARY RUN-AROUND

* Sta. 52+20 12' Lt. - 50 L.F. Temp. G.R.
Sta. 52+30 12' Lt. - 50 L.F. Temp. G.R.
Temporary G.R. Item to be included in the Unit Price Bid for the Temporary Run-Around.

ESTIMATED QUANTITIES

REF No	STATION FROM	STATION TO	SIDE	PAVEMENT T-35 ASPH. CONC SURF COURSE TYPE C (70-85) CU. YDS.	PAVEMENT B-35 ASPH. CONC. LEVEL COURSE (70-85) CU. YDS.	PAVEMENT T-30 BIT. PRIME COAT SEC. M.7 RT. 2 OR 3 GAL.	PAVEMENT B-15 AGG. BASE COURSE CU. YDS.	PAVEMENT I-22 SUBBASE GRADING "A" OR B AS PER PLAN CU. YDS.	PAVEMENT I-7 REIN. CONC. APPRO SLABS (T-13.5") SQ. YDS.		ROADWAY E-1 COMP. SUB-GRADE SQ. YDS.	ROADWAY I-15 GUARD RAIL STEEL BEAM (DEEP) LIN. FT.	ROADWAY E-12 PIPE REMOVAL IS AND UNDER LIN. FT.
2-R	47+38	47+62											24
	46+80	54+50		555.6	555.6	6.40	267.40	242.80			1601		
1-D	50+75.35	51+00.35						5.25	61.1		61		
2-D	51+54.00	51+79.00						5.25	61.1		61		
1-GR			LT.									12.5	
2-GR			LT.									12.5	
3-GR			RT.									12.5	
4-GR			RT.									12.5	
1-R	46+25	51+35	RT.										510
SHEET TOTAL				555.6	555.6	6.40	267.40	261.30	122.2		1723	50.0	534



EXCAVATION	3,173 CU. YD.
EMBANKMENT	203 CU. YD.
EMBANKMENT + 20%	244 CU. YD.
SEEDING & PROTECTING	3,532 SQ. YD.

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
125	0		
		173	1
62	1		
		83	16
28	16		
		19	15
25	24		
		29	27
27	25		
		15	14
0	0		

SEEDING AND MULCH WIDTH	SEEDING AND MULCH SQ. YDS.
45	
	231
38	
	208
37	
	83
38	
	110
28	
	47
0	

FED. RD. DIVISION: 2 | STATE: OHIO | PROJECT: I-277-6(I)124

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SUMMIT COUNTY
SUM-277-0.46

STA. 47+89 (20' RT.)
I-8 No. 2-2-B
GRATE ELEV.=994.63
Æ 12" B-1 PIPE=991.27
D-2

STA. 46+84 (20' RT.)
I-8 No. 2-2-B
GRATE ELEV.=994.44
Æ 12" B-1 PIPE=990.77
D-1

994.99
0
991.33
12"

995.89
48+00
996.1

1:2
2:1
2:1
993.58

991.20
0
DRIVE Rt.

995.81
47+72
996.1

994.00
0
991.07
12"

995.80
47+50
996.2
DRIVE Lt.

994.06
VAR.
0
990.85

995.86
47+00
995.8
2:1
3:1
993.20

995.05
VAR.
0
990.65

995.98
46+80
995.9
MEET EXISTING PAV'T
3:1
3:1
993.14

0
990.35

46+70 DR.
996.0

989.71
0

46+50
996.30
1:2
2:1
991.2

46+20
996.90
MEET EXIST. STREAM

46+00
997.1

45+50
998.4

990
990
990
990
990
990
990
990
990
990
990
990

60
40
20
℄
20
40
60
80

GLENMOUNT AVE. STA. 45+50 TO 48+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
180	0	43	0
0	0		
0	0	63	0
200	0	271	57
125	68	269	63
165	0	287	1
145	1	389	1
275	0	431	0
190	0	292	0

SEEDING END WIDTH	SEEDING SQ. YDS.
52	401
59	240
37	183
29	161
29	258
64	317
50	264

1000 1000 1000 1000 1000 1000 1000

51+76 ℄ TEMP. RUN-AROUND
998.14
51+60
999.76
994.35
2:1 1:1

51+47

51+12

51+11
MATCH LINE
996.57
997.38
50+95
999.72
MATCH LINE

BREWSTER RUN

50+66
996.27
997.08
50+50
999.86
2:1

50+16
999.03
999.84
50+00
999.98

49+64
995.79
999.60
49+50
999.07
1:2

49+15 ℄ TEMP RUN-AROUND
994.25
994.05
1:2

D-3
STA 48+64 (22.5' RT.)
I-8 № 2-2-A
GRATE ELEV.= 993.96
WINDOW ELEV.= 993.66
℄ 12" 'B' PIPE = 991.63

TEMP RUN-AROUND
995.31
991.57
0:1
996.36
49+00
998.79
994.05
1:2
2:1

996.12
48+50
998.17
993.81
1:2
2:1

12.6%
991.43
995.38
48+20 DR.
997.54

0 20 40 60 80 ℄

GLENMOUNT AVE. STA. 48+20 TO 51+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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383

SUMMIT COUNTY
SUM-277-0.46

END AREA CU. YDS.	CUT	FILL	CUT	FILL
AHD. BK.	0	0	0	0
	20	0	40	2
	56	2	88	4
	105	0	185	0
	211	0	105	0
	95	0	70	0
	153	0	116	2
	95	0	55	2

BEGIN TEMP. RUN-AROUND STA. 48+00

STA 48+40 EDGE EXIST. PAVT EL 999.17

998.68

PVI 49+50 EL 999.50

999.62

999.73

999.96

1000.19

1000.42

1000

1000.65

1000.88

1001.12

+25

1001.31

1000

MEET EXIST. PAVT. 53+92 ELEV=1002.11

END TEMP. RUN-AROUND STA 54+23 BK. = STA 53+78 GLENMOUNT AVE.

80' V.C.

+0.46%

+1.64%

+1.35%

80' V.C.

PVI 53+25 EL 1001.22

1005

1000

995

48 49 50 51 52 53 54

℄ PROFILE ~ GLENMOUNT AVE. TEMP. RUN-AROUND

55+00
1005.37

54+50
1004.23
MEET EXIST. PAVT.

℄ TEMP. RUN-AROUND

52+76

1002.30

999.65

998.58

997.47

52+20

℄ TEMP. RUN-AROUND

999.47

1003.11

54+00
1003.3

1002.00

53+50
1002.4

1000.89

53+00
1001.77

999.78

52+50
1001.08

999.15

52+20 DRIVE
1000.0

998.78

52+00
1000.25

24'-12" F.A. DRIVEWAY PIPE
E: 996.92

SEEDING ENDS SQ. YDS.	10	119	89	32	172	30	178	34	194	36	200	36	196
WIDTH													

GLENMOUNT AVE. STA. 52+00 TO 55+00

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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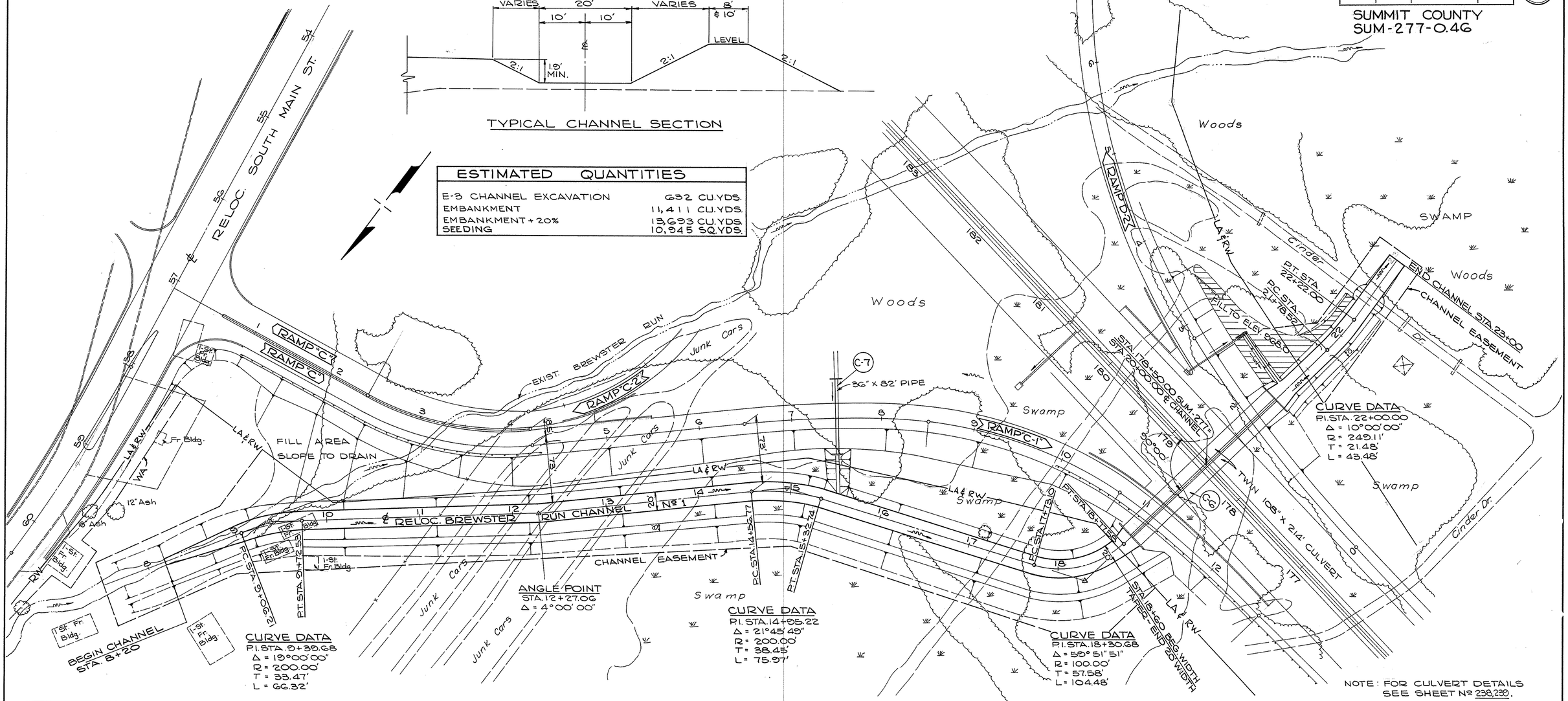
SUMMIT COUNTY
SUM-277-0.46

TYPICAL CHANNEL SECTION

ESTIMATED QUANTITIES

E-3 CHANNEL EXCAVATION	632 CU.YDS.
EMBANKMENT	11,411 CU.YDS.
EMBANKMENT + 20%	13,693 CU.YDS.
SEEDING	10,945 SQ.YDS.


RELOC. SOUTH MAIN ST.
℄ 57
RAMP "C"
RAMP "C-2"
RAMP "C-1"
RAMP D-2
EXIST. BREWSTER RUN
RELOC. BREWSTER RUN CHANNEL Nº 1
CHANNEL EASEMENT
END CHANNEL STA. 23+00
CHANNEL EASEMENT
C-7
36" x 82' PIPE
TWIN 108" x 214' CULVERT
FILL AREA SLOPE TO DRAIN
L & R/W
Fr Bldg.
1-St. Fr. Bldg.
2-St. Fr. Bldg.
Woods
Swamp
Junk Cars
Cinder Dr.
12" Ash
18" Ash
BEGIN CHANNEL STA. 8+20
P.C. STA. 9+06.12
P.T. STA. 9+72.53
ANGLE POINT
STA. 12+27.06
Δ = 4°00'00"
P.C. STA. 14+56.77
P.T. STA. 15+32.74
P.C. STA. 17+73.10
P.T. STA. 18+17.58
P.T. STA. 20+22.00
P.C. STA. 21+18.82
FILL TO ELEV. 968.0
STA. 18+50.00 SUM. 277
STA. 20+00.00 & CHANNEL
STA. 18+60 BEG. WIDTH 20' WIDTH
TAPER END
L & R/W
Swamp
Cinder
Woods
Swamp
Woods
Junk Cars
Junk Cars
Junk Cars
Junk Cars
Swamp
Swamp
Swamp

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

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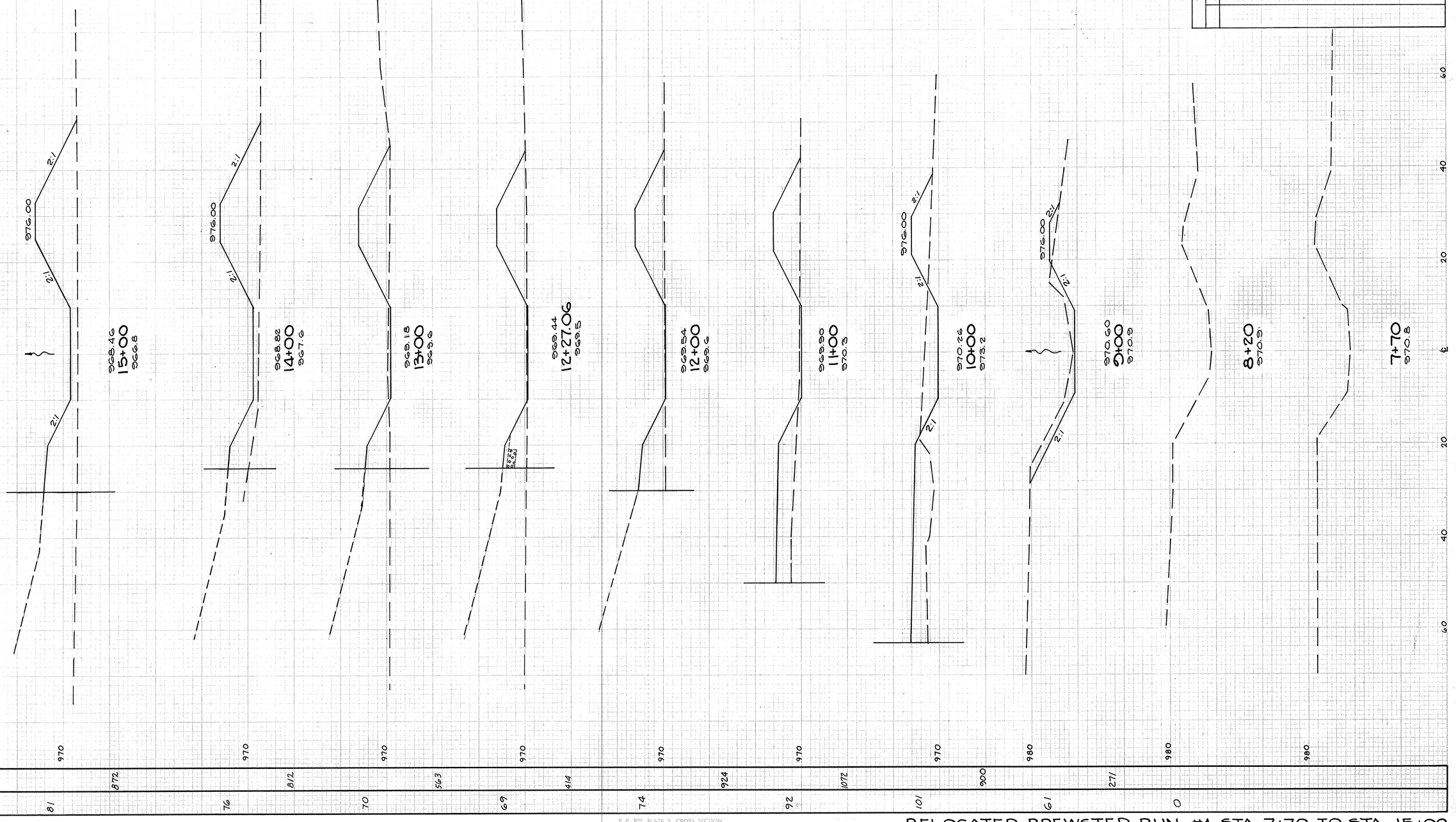
383

SUMMIT COUNTY
SUM -277-0.46

STA	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
15+00	0	345	0	1148
14+00	0	275	19	861
13+00	10	190	20	486
12+27.06	5	170	3	185
12+00	0	200	19	778
11+00	10	220	157	769
10+00	75	195	241	383
9+00	55	12	81	18
8+20	0	0	0	0



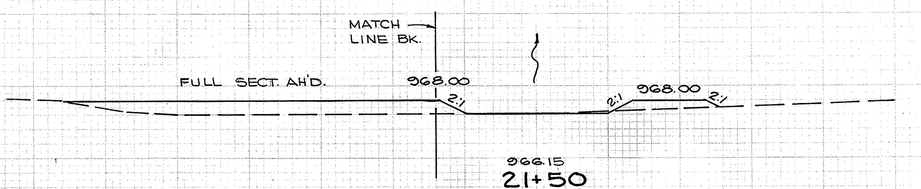
ORIGINAL SURVEY — NOTE BOOK — DATE

FINAL SURVEY — NOTE BOOK — DATE

SEEDING E.W. | S.Y.

80 60 40 20 ℄ 20 40 60

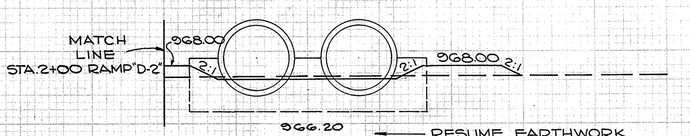
E.A. C | E.A. F | C.Y. C | C.Y. F



966.15
21+50
966.6

90 AHD
40 BK.
960
239

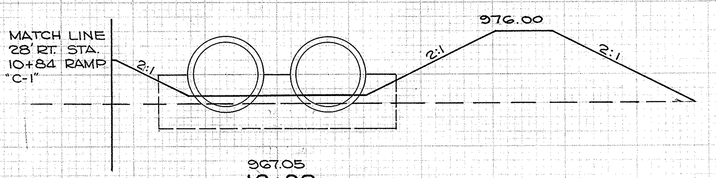
AHD. BK. 0 1 | 110 20 | 7 | 36



966.20
21+02
966.6
RESUME EARTHWORK

50 AHD
0 BK.
960
0

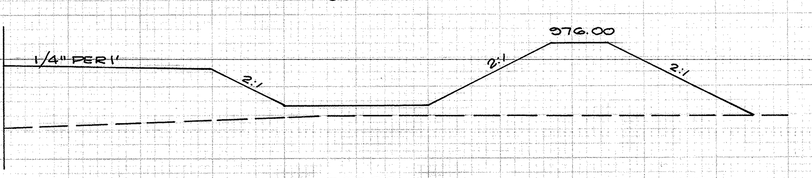
AHD. BK. 11 0 | 21 0 | 0 | 0



967.05
18+88
966.0
SUSPEND EARTHWORK

0 AHD
91 BK.
960
953

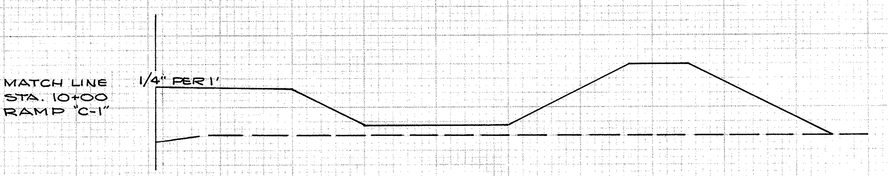
AHD. BK. 0 0 | 0 420 | 1630



967.38
18+00
965.9

104
970
438

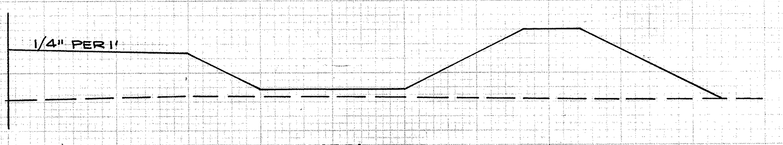
0 | 580 | 807



967.53
17+60
966.1

93
970
644

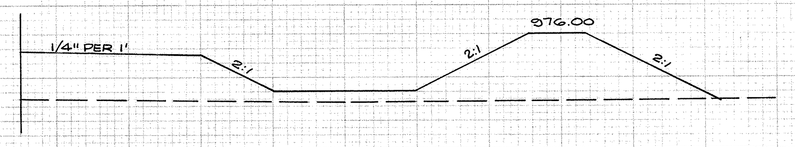
0 | 440 | 1016



967.74
17+00
966.7

99
970
1088

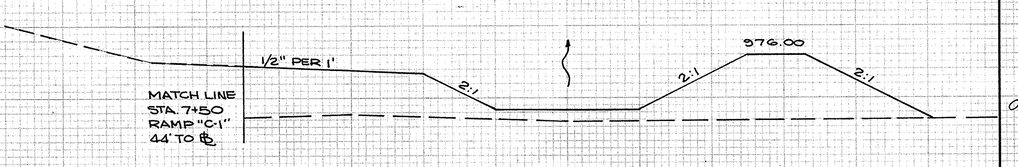
0 | 475 | 1731



968.10
16+00
966.6

97
970
579

0 | 460 | 0 | 920



968.20
15+46
966.7

96
970
452

0 | 460 | 0 | 685

60 40 20 ℄ 20 40 60

RELOCATED BREWSTER RUN #1 STA. 15+46 TO STA. 21+50

K&E PLATE & CROSS SECTION KEUFFEL & ESSER CO.

SUMMIT COUNTY
SUM-277-0.46

FED RD	STATE	PROJECT
2	OHIO	I-277-6(1)124

219
583

FED.RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

220
383

SUMMIT COUNTY
SUM-277-0.46

END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
0	0	0	
15	0	11	
100	0	21	
20	28	22	5

SEEDING WIDTH	SEEDING AREA	
10	35	
22	47	
9	136	

END CHANNEL MEET EXIST. GROUND

966.10
23+00
966.1

966.11
22+60
966.8

966.05
22+50
966.9

966.00
22+40
966.9

966.10
22+00
966.9

2:1
968.00

960 | 960 | 970 | 960 | 960

0 | 51 | 23 | 48 | 35 | 92 | 231 | 52 | 394

RELOCATED BREWSTER RUN #1 STA. 22+00 TO STA. 23+00

PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6 (1)-12.4	

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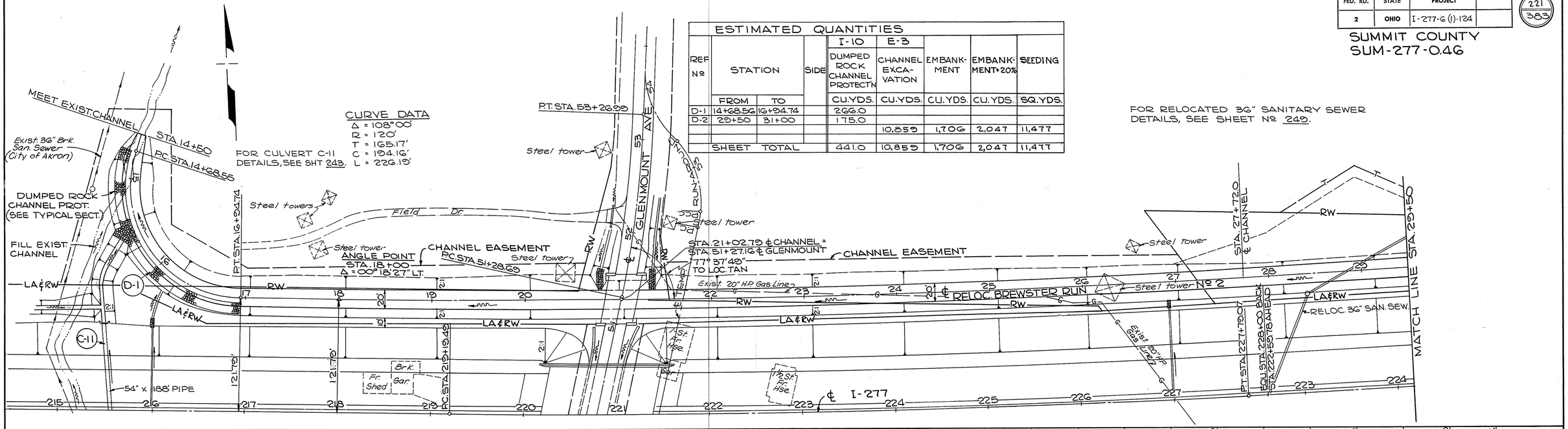
383

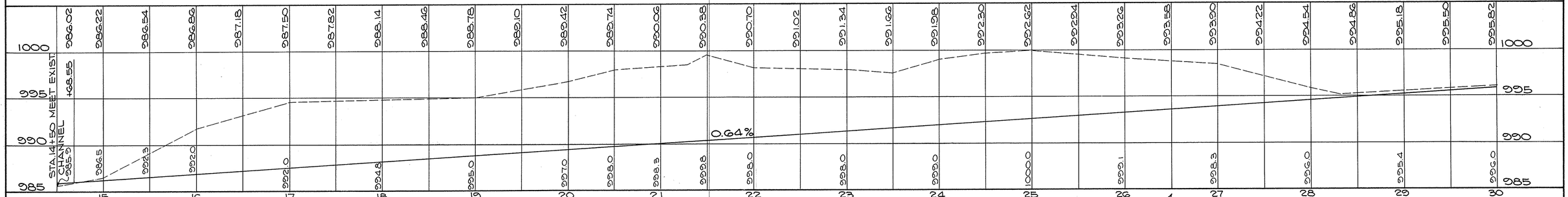
SUMMIT COUNTY
SUM-277-0.46

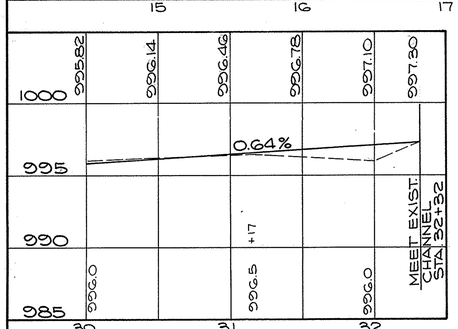
ESTIMATED QUANTITIES

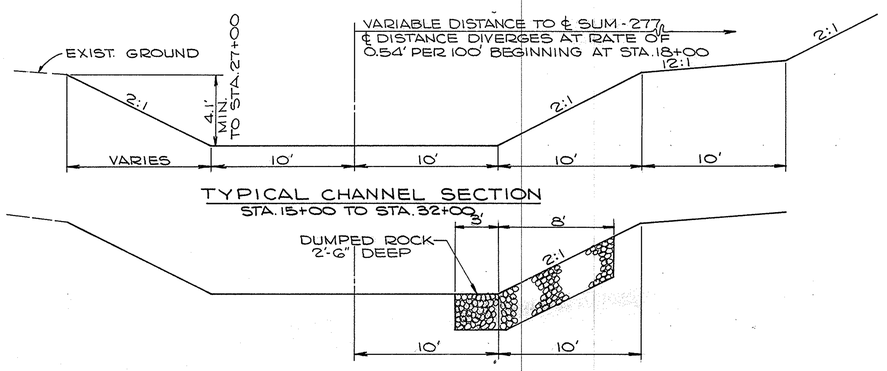
REF Nº	STATION FROM	STATION TO	SIDE	I-10 DUMPED ROCK CHANNEL PROTECTN	E-3 CHANNEL EXCAVATION	EMBANKMENT	EMBANKMENT+20%	SEEDING
				CU.YDS.	CU.YDS.	CU.YDS.	CU.YDS.	SQ.YDS.
D-1	14+68.55	16+94.74		266.0				
D-2	29+50	31+00		175.0				
					10,855	1,706	2,047	11,477
	SHEET TOTAL			441.0	10,855	1,706	2,047	11,477

FOR RELOCATED 36" SANITARY SEWER DETAILS, SEE SHEET Nº 249.



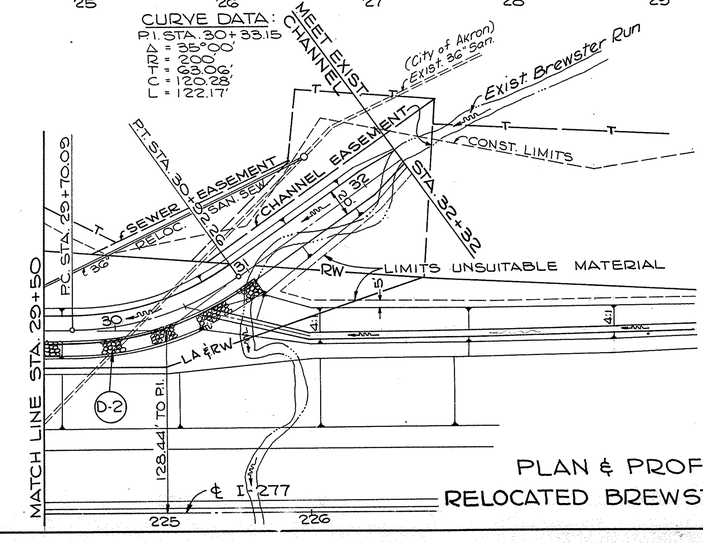






TYPICAL CHANNEL SECTION
STA. 15+00 TO STA. 32+00

TYPICAL CHANNEL SECTION
LIMITING STATIONS
STA. 14+68.55 TO STA. 16+94.74
STA. 29+50 TO STA. 31+00



PLAN & PROFILE
RELOCATED BREWSTER RUN Nº 2

| | | |

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	0	0	59
0	100	8	261
5	70	22	433
5	130	83	315
35	45	296	91
125	4	574	7
185	0	815	0
255	0	917	0
240	0	907	0
250	0	954	0
265	0	551	0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

223
383

SUMMIT COUNTY
SUM-277-0.46

SEEDING		
END WIDTH	S.S. YDS.	
0	190	863
107		863
80		1034
79		1133
125		1083
70		633
44		500
46		527
49		544
49		544
49		544
49		278

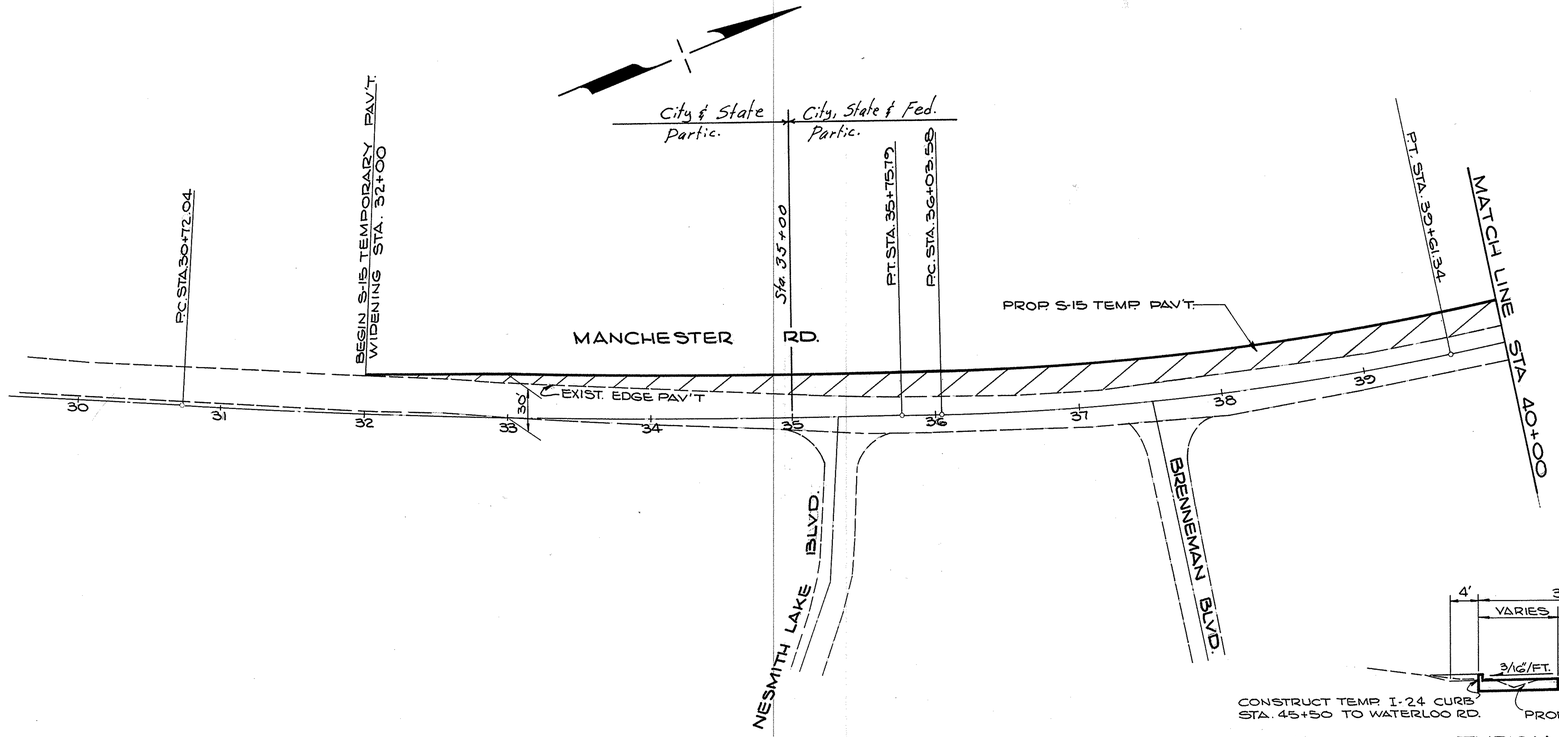
MATCH LINE
SLOPE TO DRAIN
FILL WITH UNSUITABLE
2:1
997.30
32+32
997.3
997.10
32+00
996.0
996.46
31+17
996.5
995.82
30+00
996.0
995.18
29+00
995.4
994.54
28+00
996.0
993.90
27+00
998.3
993.26
26+00
996.1
992.62
25+00
1000.0
991.98
24+00
996.0
991.34
23+00
998.0
990.70
22+00
998.0

RELOCATED BREWSTER RUN #2 STA. 22+00 TO STA. 32+32

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6.01124	

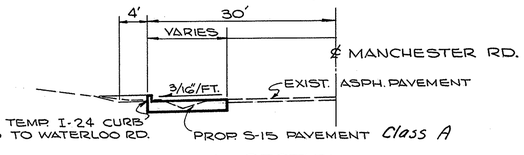
225
383

SUMMIT COUNTY
SUM-277-0.46

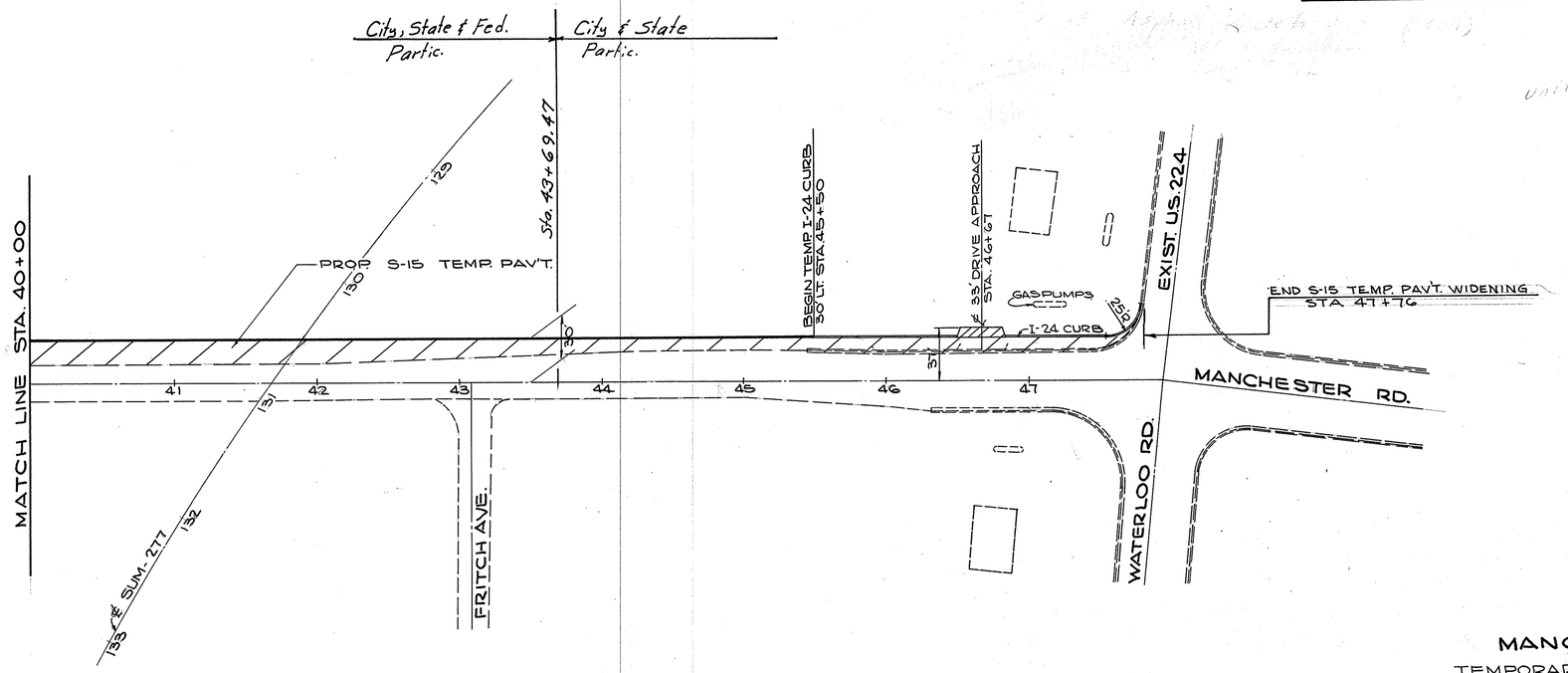


TEMPORARY ASPHALT CURB

Temporary asphalt concrete curb shall conform to I-24, Type I as shown on Std Dwg. T-35. Payment for this curb shall be included in the unit price bid for item 615 Temporary Road.



TYPICAL SECTION



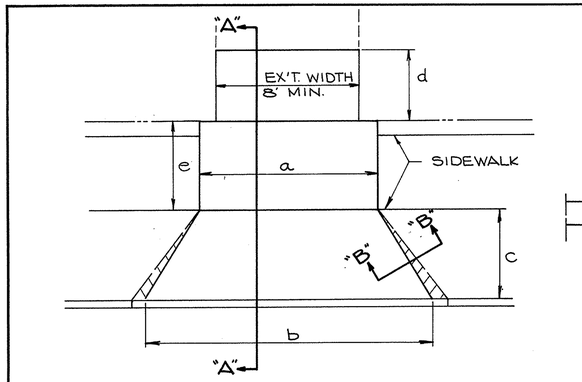
MANCHESTER RD.
TEMPORARY PAVEMENT WIDENING

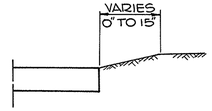
E. & E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(I)124	

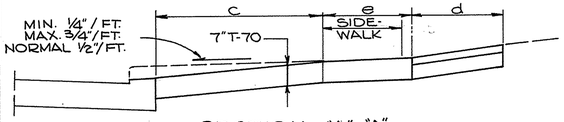
226
383

SUMMIT COUNTY
SUM-277-0.46



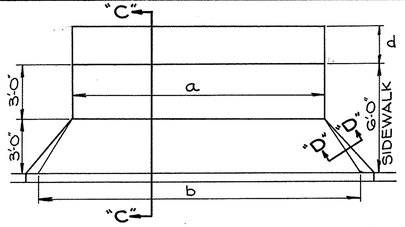


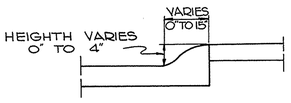
SECTION "B"-"B"



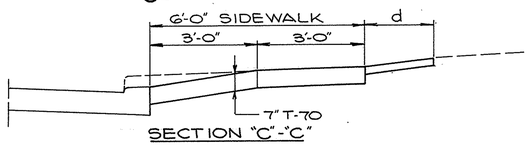
SECTION "A"-"A"

LOCATION : MANCHESTER RD., FRITCH EXT., CONRAD AVE., RELOC. BRENNEMAN BLVD. & CHRISTENSEN AVE.



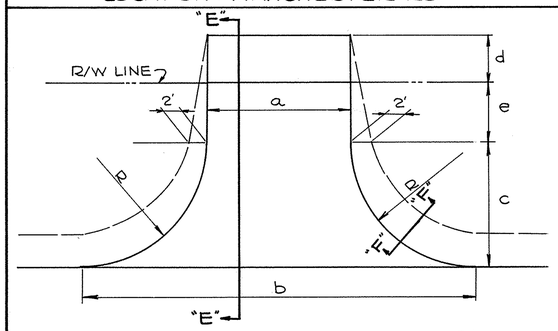


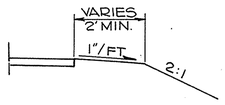
SECTION "D"-"D"



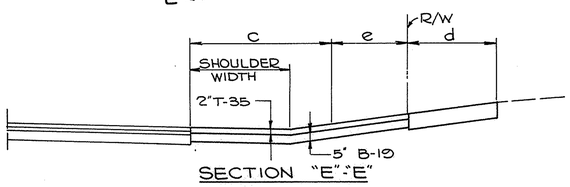
SECTION "C"-"C"

LOCATION : MANCHESTER RD.



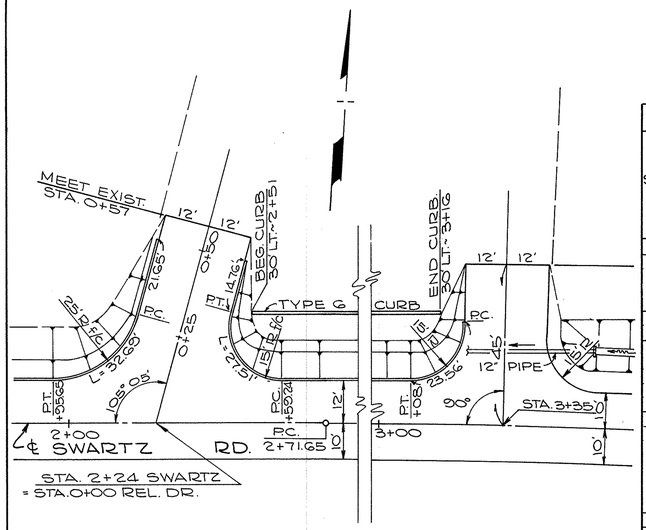


SECTION "F-F"

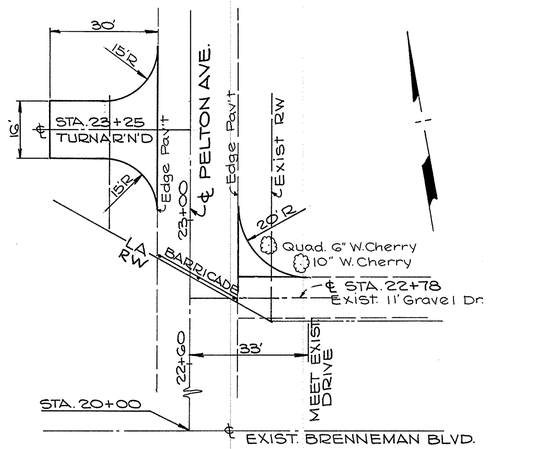


SECTION "E"-"E"

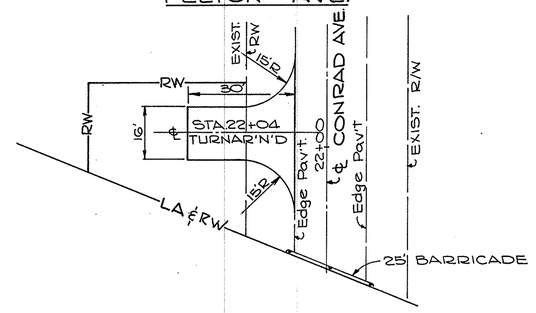
LOCATION : PELTON AVE., CONRAD AVE., RELOC. LEY DR., ACCESS DR., SWARTZ RD. & GLENMOUNT AVE.



DETAIL ~ DRIVES @ STA. 2+24 & STA. 3+35 SWARTZ RD.



DETAIL ~ DRIVE APPROACH @ STA. 22+78 & TURNAROUND @ STA. 23+25 PELTON AVE.



DETAIL ~ TURNAROUND @ STA. 22+04 CONRAD AVE.

DRIVE WAY TABLE

SHEET Nº	LOCATION	SIDE	EXIST. DRIVE WIDTH	DETAIL DEMENSIONS a	b	c	d	e	T-70 7" P.C.C. PAV'T	T-35 2" ASPH. CONC. SURFACE COURSE TYPE "C"	B-19 5" OR 8" AGG. BASE COURSE	I-12 TYPE 2A CONC CURB	I-12 TYPE G CONC CURB	EARTHWORK EXC.	EARTHWORK EMB.	EARTHWORK EMB. +20%	E-1 COMP SUB-GRADE
									S.Y.	C.Y.	C.Y.	L.F.		C.Y.	C.Y.	C.Y.	S.Y.
	MANCHESTER RD.																
148	* 25+04	LT.	24	24	32	6	12	4	29.3	1.8	4.8			5	0	0	62
	* 26+26	RT.	12	12	18	6	38	4	15.3		11.3			1	8	10	66
	* 31+22	LT.	12	SEE DETAIL SH'T Nº 164					49.2			652		16	0	0	49
	* 33+33	RT.	12	12	18	6	13	4	15.3		3.9			2	0	0	33
149	35+36	LT.	12	12	18	6	50	4	15.3	3.7	10.1			48	2	2	82
	* 44+75	RT.	NEW	12	18	—	—	—	9.0					2	0	0	9
150	* 45+10	RT.	24	24	30	—	22	—	17.0		13.0			27	0	0	76
	* 45+75	LT.	NEW	24	30	—	11	—	17.0		6.5			3	0	0	46
	* 46+50	RT.	10	30	36	—	14	—	21.0	2.6	6.9			15	0	0	98
	* 46+75	LT.	15	30	36	—	4	—	21.0	0.7	2.1			8	0	0	34
	FRITCH AVE. EXT'D.																
178	15+60	RT.	10	10	16	11.5	220	5	22.2		54.3			SEE SH'T Nº 178			267
	15+96	RT.	12	12	16	11.5	30	5	24.6	2.2	6.1			1	11	13	95
	16+27	LT.	10	10	16	11.5	—	5	22.2					4	0	0	22
	16+50	LT.	11	11	16	11.5	20	5	47.8					8	0	0	48
	16+89	RT.	11	11	16	11.5	40	5	23.4	2.7	7.5			0	5	6	73
	RELOC. BRENNEMAN BLVD.																
172	0+55	RT.	0	10	16	4.5	—	4.5	11.5					3	0	0	12
	0+50	LT.	0	10	16	4.5	4.5	4.5	11.5		1.1			4	0	0	12
	16+95	RT.	NEW	12	16	2	—	0	15.1					6	0	0	15
	21+67	RT.	0	10	16	11.5		5	22.2					0	0	0	22
	21+92	LT.	12	12	16	11.5	22	5	24.6		5			1	1	1	25
	ACCESS DR. OFF BRENN.																
167	24+08	RT.	8	8	23	7'R	—	—		0.8	2.1			1	0	0	14
	24+30	RT.	8	8	23	7'R	—	—		0.8	2.1			1	0	0	14
	24+83	RT.	8	8	SEE DETAIL SH'T 183					0.4	1			1	0	0	6
	PELTON AVE.																
30	23+25	LT.	NEW	16	46	15'R	15			3.6	10			10	0	0	64
	22+78	RT.	SEE DETAIL THIS SHEET								2.5			3	0	0	9
	CONRAD AVE.																
176	18+10	RT.	10	10	16	4.5	7.5	4.5	11.5		2			3	0	0	11.5
	18+20	RT.	0	10	16	4.5	—	4.5	11.5					2	0	0	11.5
30	22+04	LT.	NEW	16	46	15'R	15			3.6	10			10	0	0	64
	CHRISTENSEN AVE.																
176	18+20	LT.	8	10	16	4.5	17.5	4.5	11.5	0.9	2.5			6	0	0	27.1
	18+20	RT.	7	10	16	4.5	20.5	4.5	11.5	1.0	2.9			2	0	0	29.7
178	22+41	RT.	15	18	24	4.5	24.5	4.5	19.5	2.7	7.3			22	0	0	68
	22+77	LT.	8	10	16	4.5	0	4.5	11.5					2	0	0	11.5
	23+37	LT.	8	10	16	4.5	0	4.5	11.5					5	0	0	11.5
	23+56	RT.	0	10	16	4.5	0	4.5	11.5					3	0	0	11.5
	SUB-TOTAL (CITY)								534.5	27.5	175.0	652	—	225	27	32	1440.3
	RELOC. LEY DR.								FOR QUANTITIES SEE PLAN & PROFILE SH'T 184								
184	38+30	RT.	30	30	50	10'R	0	10									
	42+64	LT.	11	11	31	10'R	10	10									
	44+00	LT.	11	11	31	10'R	10	10									
	RELOC. S. MAIN ST.																
191	41+22	LT.	15	SEE DETAIL SH'T 207					62.4		24.2			60	0	0	174
	41+22	RT.	10						31.5					6	0	0	315
	SWARTZ RD.																
209	2+24	LT.	42	SEE DETAIL THIS SHEET						7.6	18.9		366	193	0	0	142
	3+35	LT.	24	24	54	15'R	15	3		5.5	14.4			35	0	0	99
	4+06	RT.	12	12	32	10'R	10	10		1.8	4.5			9	0	0	32
	4+62	RT.	12	12	32	10'R	10	10		1.5	3.5			7	0	0	26
	5+32	RT.	12	12	32	10'R	10	10		1.8	4.5			9	0	0	32
	GLENMOUNT AVE.																
213	47+72	RT.	10	10	30	10'R	9	20		1.5	8.5			9	0	0	26
	48+20	RT.	8	10	30	10'R	9	25		1.5	9.5			17	0	0	28
	52+20	LT.	12	12	32	10'R	9			1.7	4.7			5	0	0	30
	47+50	LT.	12	12	32	10'R	9			1.7	4.7			0	0	0	30
	SUB-TOTAL (RURAL)								93.9	24.6	97.4	—	366	350	0	0	646.5

* - DENOTES CITY & STATE PARTICIPATION

NOTE: DRIVEWAY PAVEMENT BEYOND R/W LINE TO BE REPLACED IN KIND WITH THE FOLLOWING:

EXIST. PAVEMENT	REPLACEMENT PAVEMENT
CINDER, GRAVEL, LIMESTONE	8" B-19
BLACK TOP	2" T-35 OVER 5" B-19
CONCRETE	7" T-70 CONCRETE

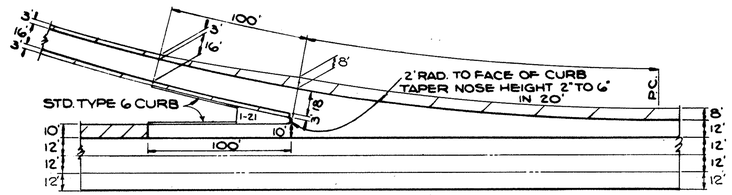
DRIVEWAYS
DETAILS & QUANTITIES

E.S.E.

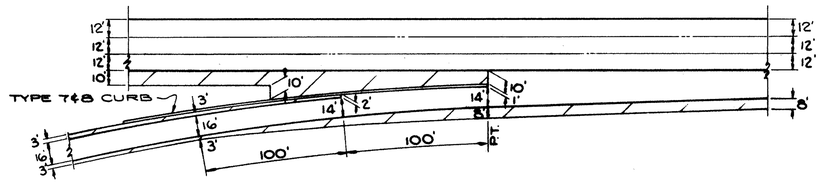
FED. RD	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

227
383

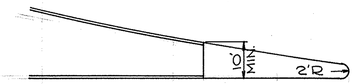
SUMMIT COUNTY
SUM-277-0.46

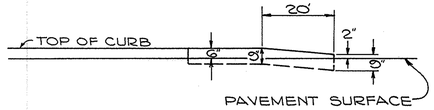


ONE LANE EXIT DETAIL

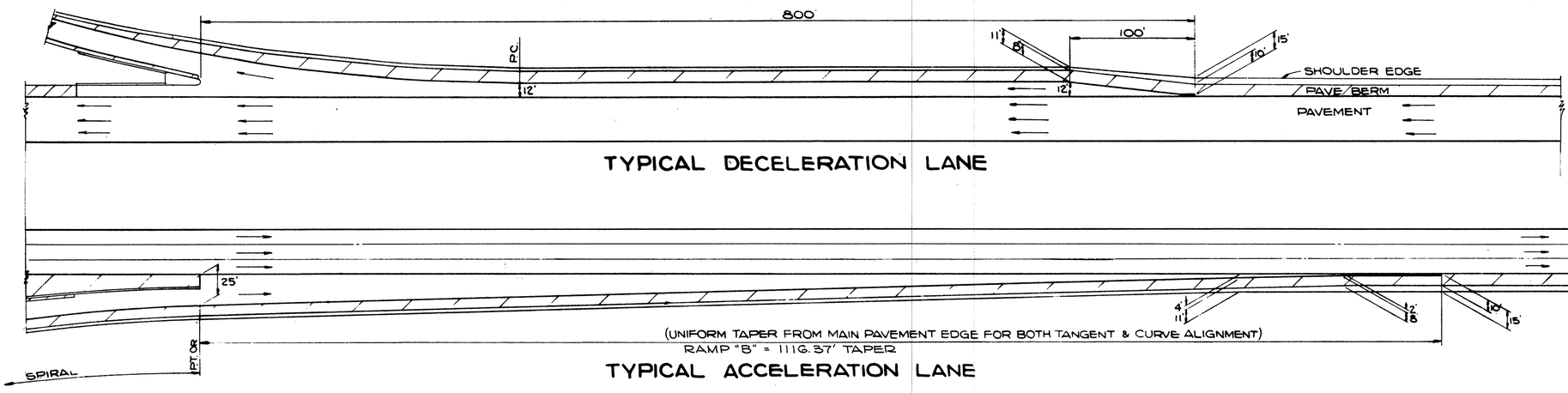


ONE LANE ENTRANCE DETAIL



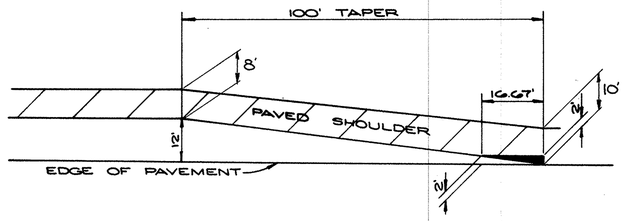


EXIT NOSE DETAIL

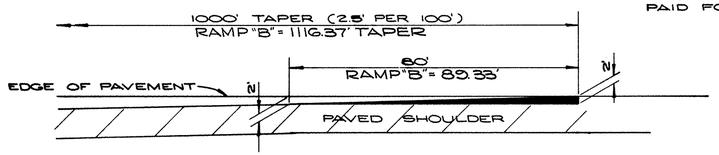


TYPICAL DECELERATION LANE

TYPICAL ACCELERATION LANE



TYPICAL DECELERATION LANE TAPER



TYPICAL ACCELERATION LANE TAPER
(USING NORMAL 1000')

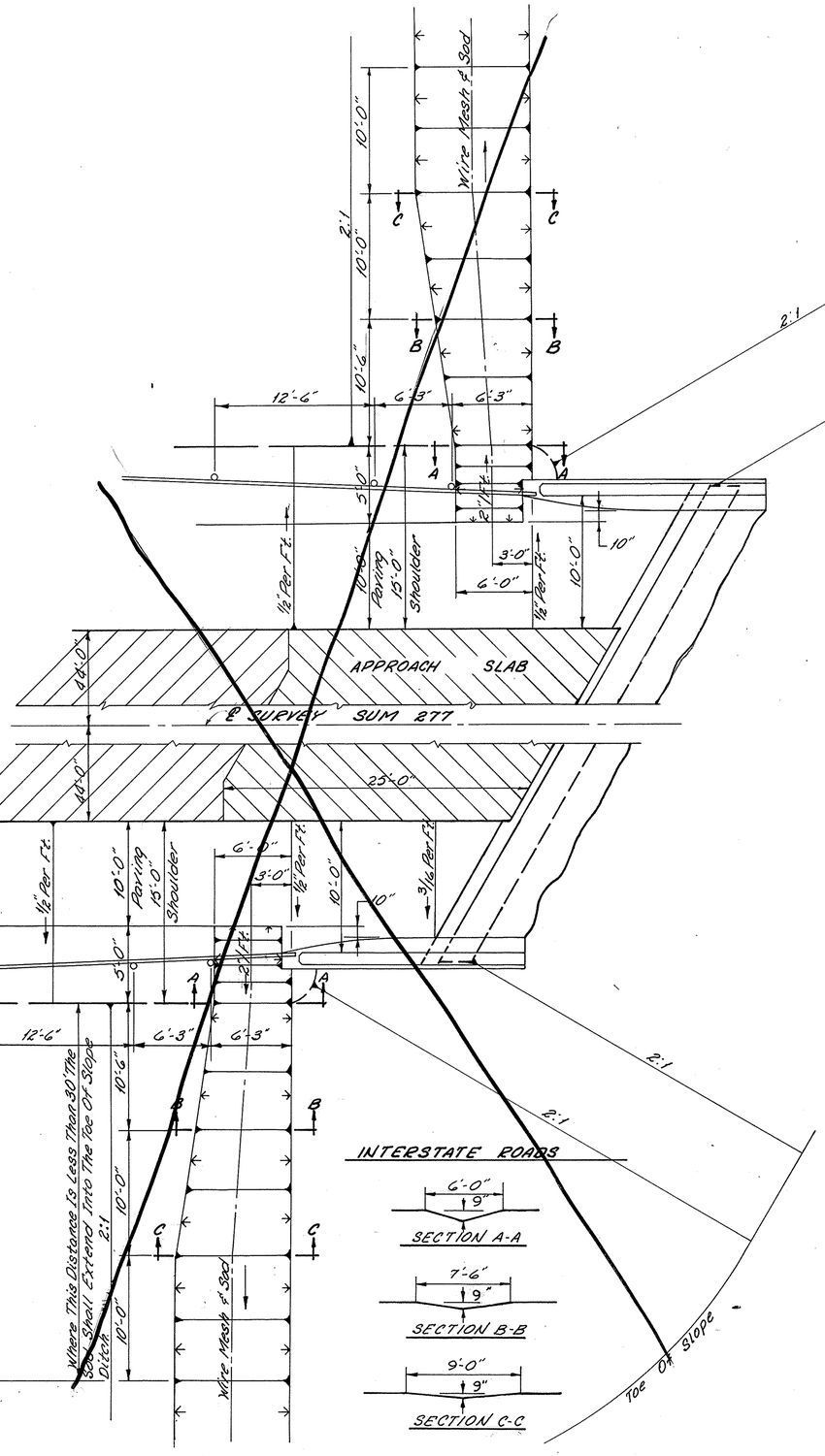
NOTE:
THE SHADED AREA, SHOWN IN THE END TAPER DETAILS, SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN THE ADJACENT PAVEMENT AND SURFACED WITH T-31 USING N°6 AGGREGATE AS THE MAXIMUM SIZE. THE SHADED AREA SHALL BE PAID FOR AS FULL DEPTH T-71 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS T-31.

SPEED CHANGE LANES
& RAMP NOSE DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

228
383

Summit County
Sum - 277 - 0.46



INTERSTATE ROADS

~~SPECIAL BERM AND SLOPE PROTECTION~~

Prior To Placement Of Sod In The Berm & Slope Galvanized Poultry Fence Shall Be Placed On The Finished Grade In Strands Which Shall Be At Right Angles To The Direction Of Flow. Each Strand Shall Be Staked Securely On Top & Bottom With Stakes At Four Foot Intervals & Alternated In Rows Four Feet Apart.

Stakes Shall Be 1"×1"×8" Wood Stakes And Shall Be Perpendicular To The Ground & Flush With The Finished Grade.

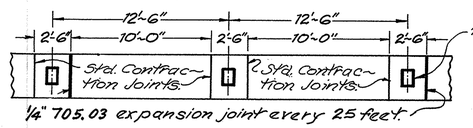
The Fence Shall Be Straight Line Poultry Fence Or Equivalent With Strand Width Of Four Feet, Having A Two Inch Mesh And All Wires No. 20 Gauge.

Each Strand Of Fencing Shall Be Fastened Together At Twelve Inch Intervals By Means Of Hog Rings.

The Fence Shall Be Secured To The Wood Stakes By Metal Staples.

Sod Shall Be Laid In Accordance With Construction & Materials Specifications Section L-10.07.

Payment for all the above, shall be included in the unit price bid for Item Special, Berm & Slope Protection



Payment for all joints shall be included in the unit price bid for I-21, Concrete Median, as per plan.

In lieu of spacing requirements of Standard Drawing I-21-23, dated 8-1-56, expansion and contraction joints shall be provided in Concrete Median as detailed hereon, whenever guard rail is called for.

CONCRETE MEDIAN, TYPE 2
Joint Detail at Guard Rail Post

ITEM 660- SODDING FOR SPECIAL BERM AND PROTECTION, AS PER PLAN.

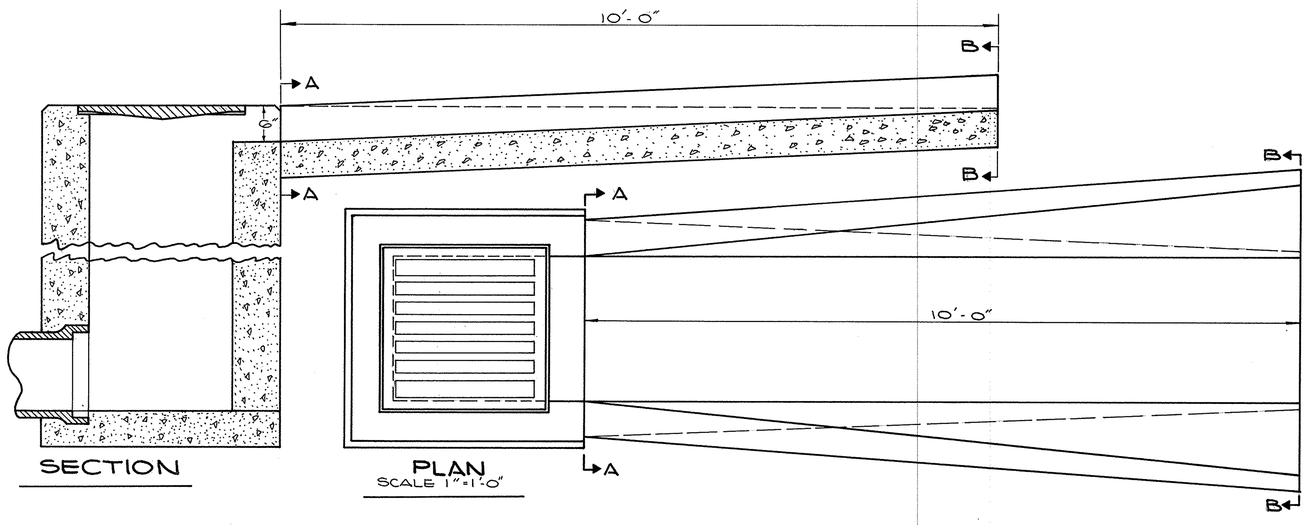
FOR DETAILS SEE STANDARD CONSTRUCTION DRAWING MC-7.

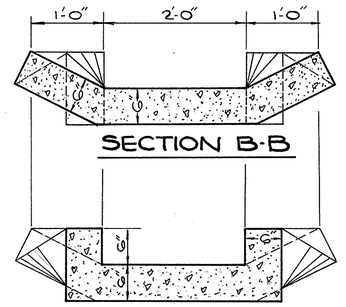
ROADWAY DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

229
383

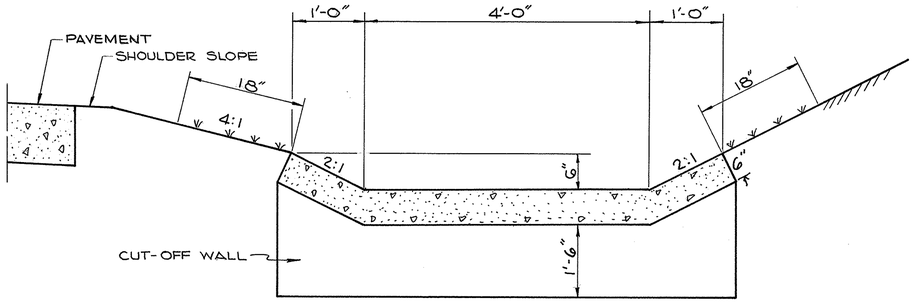
SUMMIT COUNTY
SUM-277-0.46



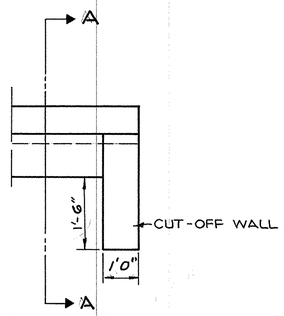


For Dimensions not Shown See Standard Drawing I-8 C.B. 2-2-A

2-2A CATCH BASIN WITH TYPE 1 PAVED GUTTER MODIFICATION "A"



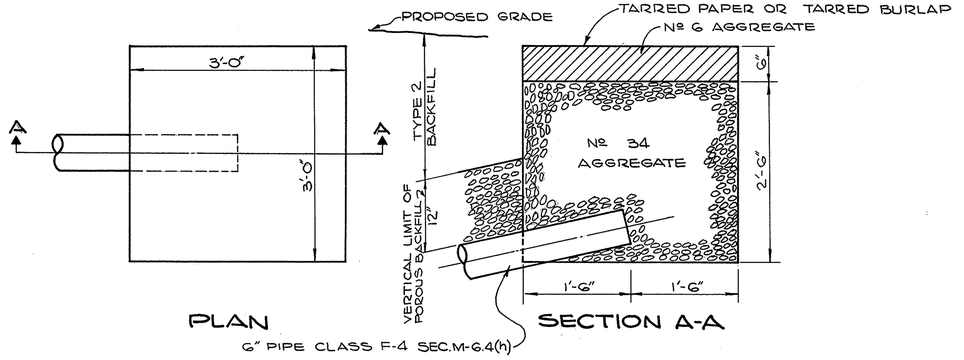
SECTION A-A



SIDE VIEW

STANDARD PAVED GUTTER TYPE 1 (MODIFICATION) "B" (AS PER PLAN)

SCALE : 1" = 1'-0"



NOTE:

Nº 34 AGGREGATE SHALL BE USED WITH A 6" LAYER OF Nº 6 AGGREGATE OVER THE TOP AND SEALED WITH TARRED PAPER OR TARRED BURLAP

PAYMENT FOR NECESSARY EXCAVATION, AGGREGATE & TARRED PAPER OR TARRED BURLAP SHALL BE INCLUDED IN THE UNIT PRICE BID PER LIN. FT. OF "ITEM I-5, STONE UNDERDRAIN, Nº 1, AS PER PLAN" SPRING DRAINS ARE TO BE PLACED AT LOCATIONS DESIGNATED BY THE ENGINEER.

ESTIMATED QUANTITIES OF ITEM I-9, STONE UNDERDRAINS, Nº 1, AND OF 6" I-1 PIPE, CLASS F-4. SEC. M-6.4(h) ARE CARRIED IN THE GENERAL NOTES (SHEET Nº 12) FOR DRAINING SPRINGS.

THIS ITEM SHALL BE NON-PERFORMED IN THE EVENT THAT NONE ARE ENCOUNTERED.

PAYMENT SHALL BE BASED ON FINAL MEASUREMENT.

DETAIL SECTION SPRING DRAIN

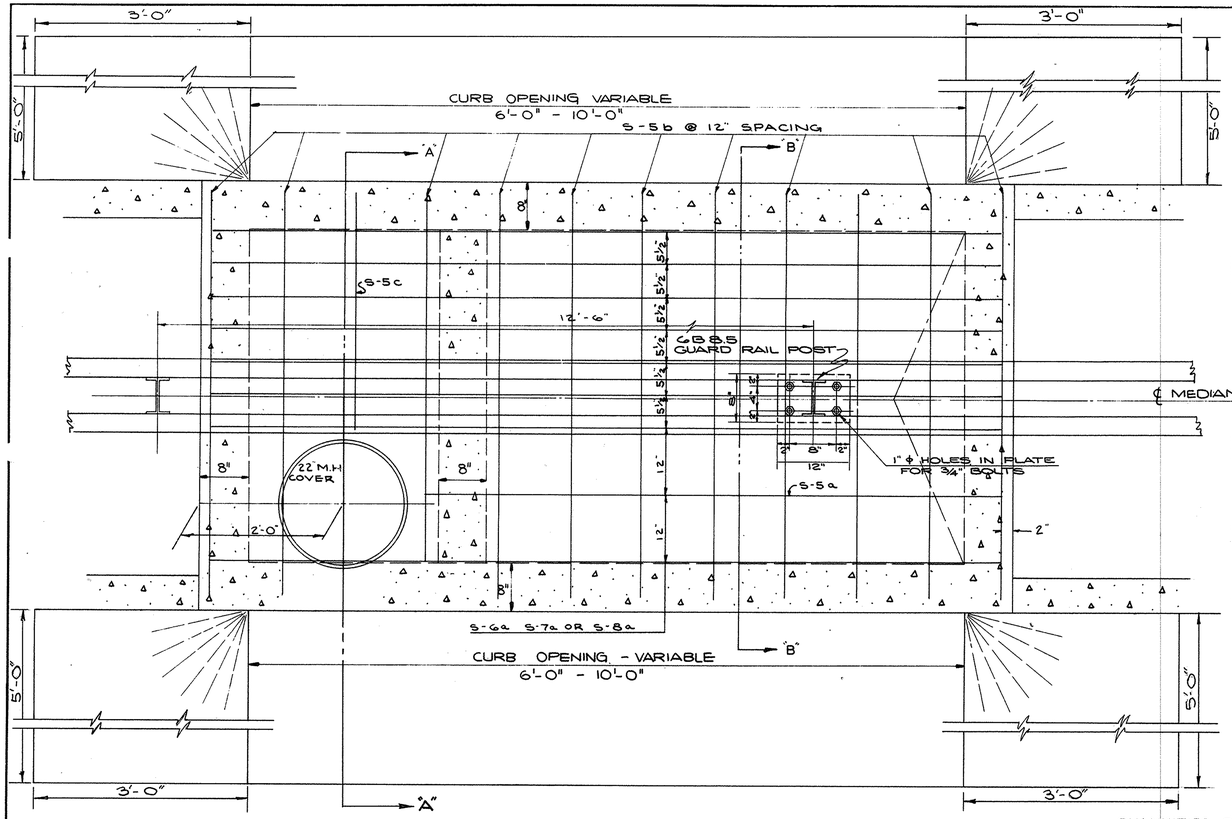
SCALE : 1" = 1'-0"

DRAINAGE DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

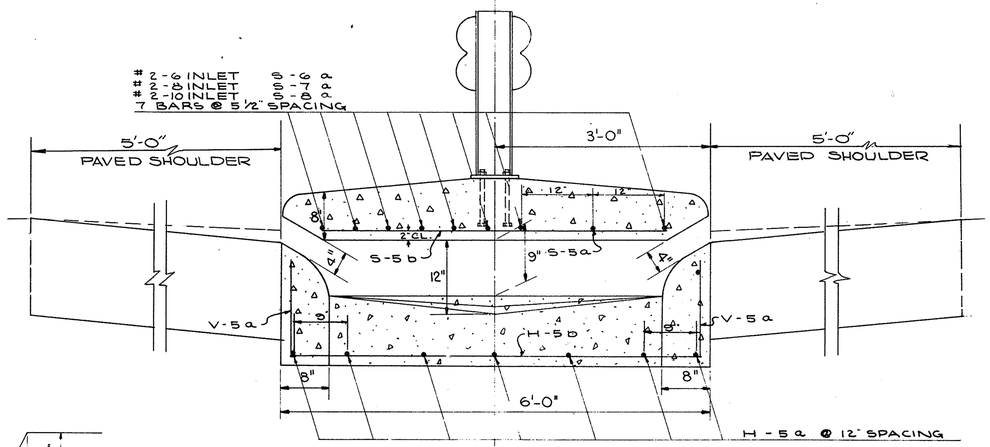
230
383

SUMMIT COUNTY
SUM-277-0.46

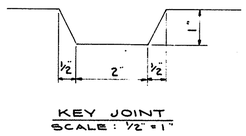


PLAN

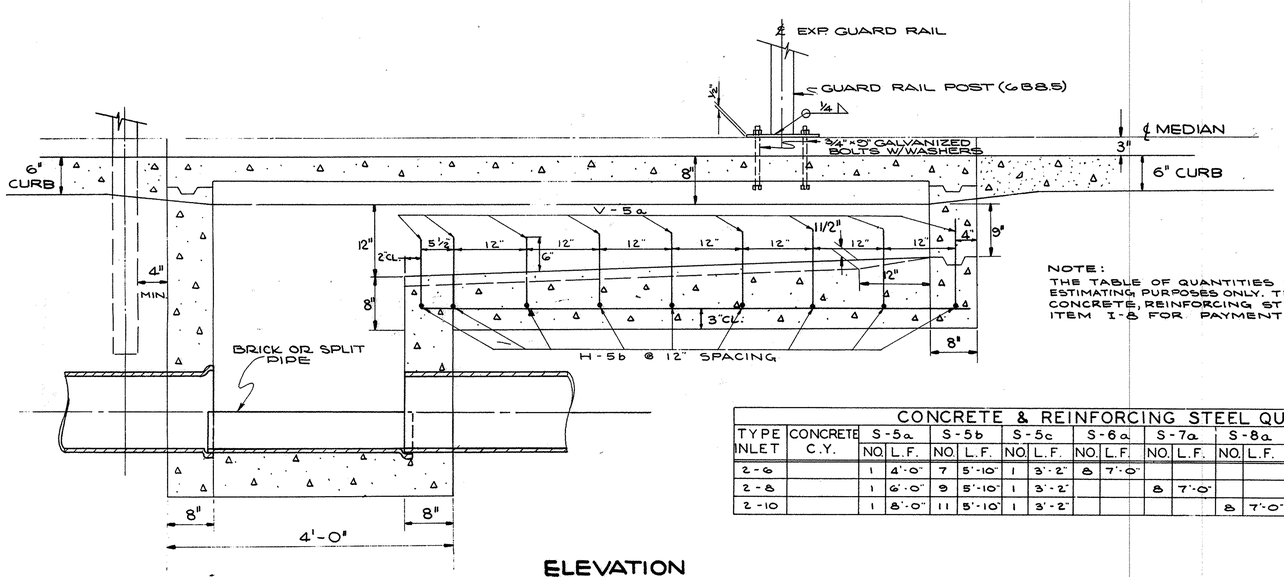
QUANTITIES OF CURB WITHIN THE LIMITS OF THE INLET SHALL BE DEDUCTED FROM THE PROJECT QUANTITIES



SECTION B-B



KEY JOINT
SCALE: 1/2" = 1"

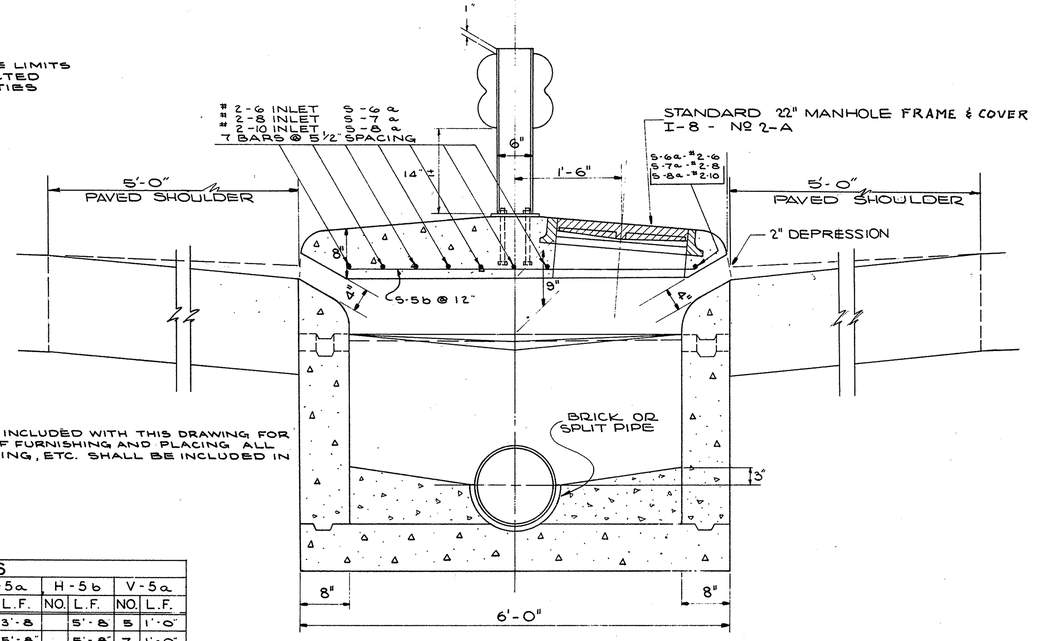


ELEVATION

NOTE:
THE TABLE OF QUANTITIES BELOW IS INCLUDED WITH THIS DRAWING FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL CONCRETE, REINFORCING STEEL, CASTING, ETC. SHALL BE INCLUDED IN ITEM I-8 FOR PAYMENT.

CONCRETE & REINFORCING STEEL QUANTITIES

TYPE INLET	CONCRETE C.Y.	S-5a NO.	S-5a L.F.	S-5b NO.	S-5b L.F.	S-5c NO.	S-5c L.F.	S-6a NO.	S-6a L.F.	S-7a NO.	S-7a L.F.	S-8a NO.	S-8a L.F.	TYPE	H-5a NO.	H-5a L.F.	H-5b NO.	H-5b L.F.	V-5a NO.	V-5a L.F.
2-6		1	4'-0"	7	5'-10"	1	3'-2"	8	7'-0"					#2-6	7	3'-8		5'-8	5	1'-0"
2-8		1	6'-0"	9	5'-10"	1	3'-2"			8	7'-0"			#2-8	7	5'-8"		5'-8"	7	1'-0"
2-10		1	8'-0"	11	5'-10"	1	3'-2"					8	7'-0"	#2-10	7	7'-8"	9	5'-8"	9	1'-0"



SECTION A-A

DRAINAGE DETAILS

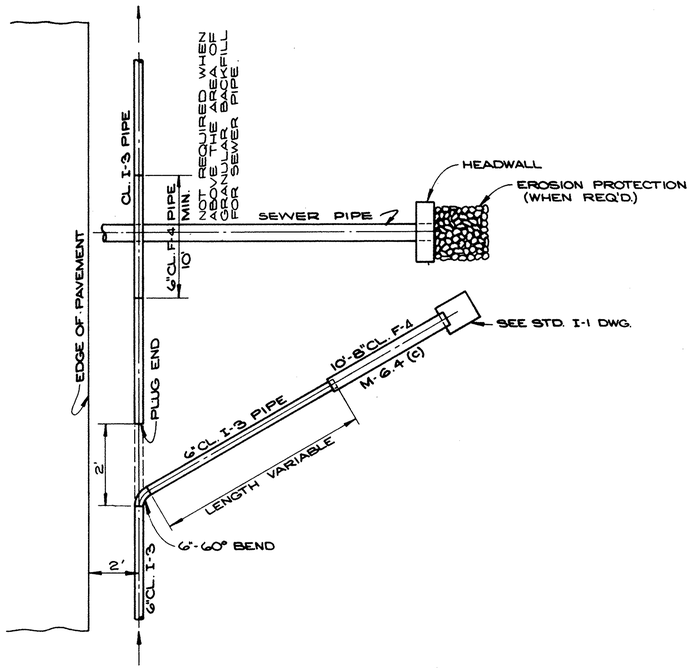
STANDARD Nº 2-A-6, 2-A-8 & 2-A-10 INLETS - MODIFIED

TYPICAL DETAILS OF UNDERDRAIN OUTLETS

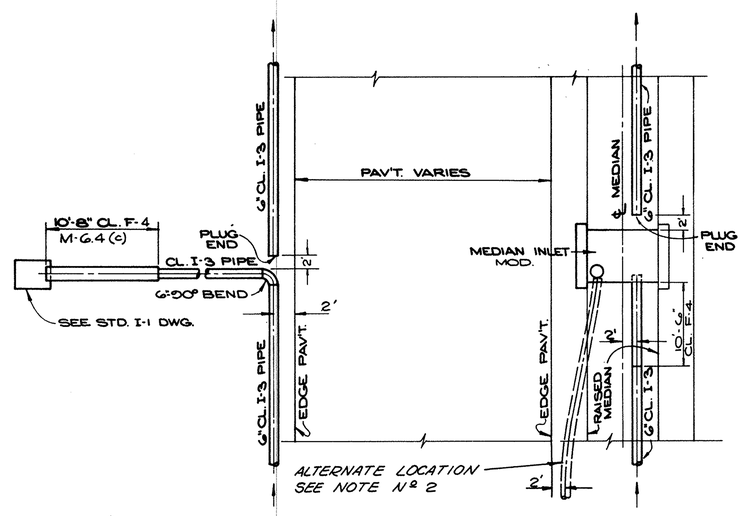
FED. RD.	STATE	PROJECT	
2	OH10	I-277-G(1)124	

231
383

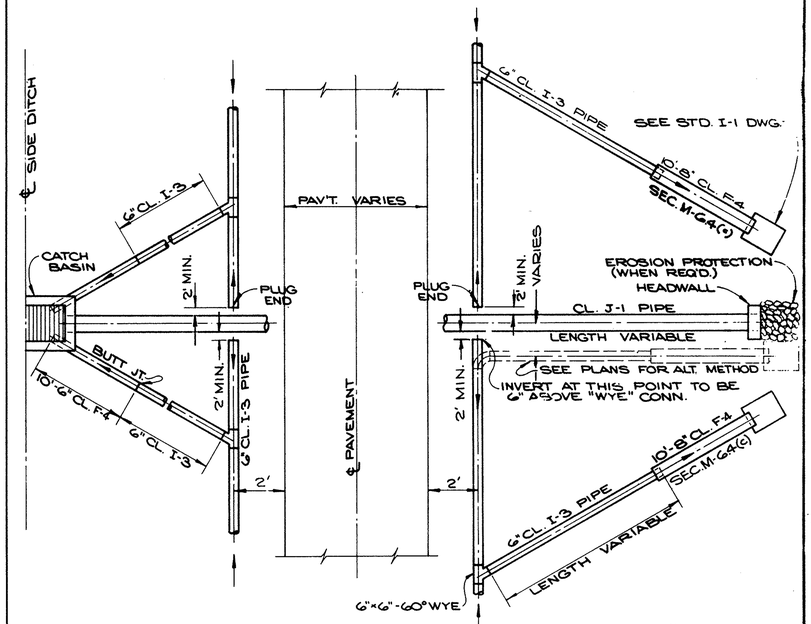
SUMMIT COUNTY
SUM-277-0.46



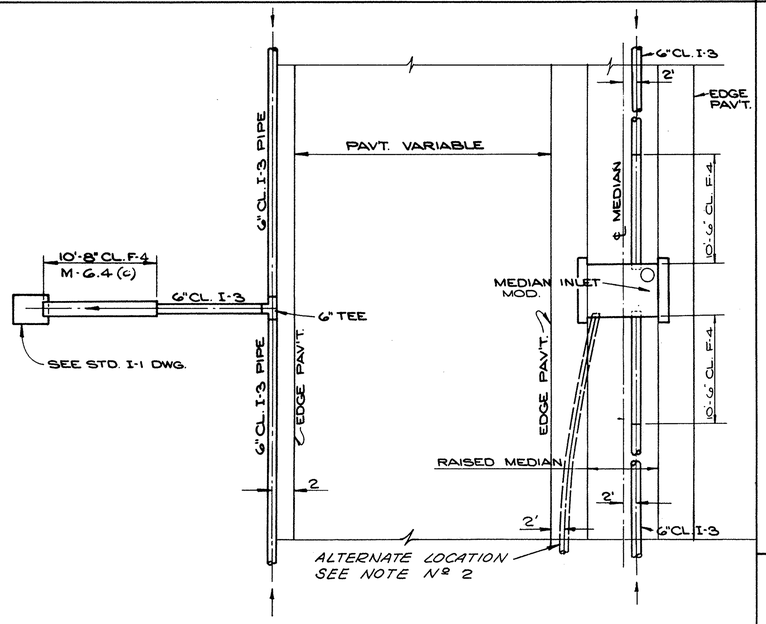
UNDERDRAIN OUTLET DETAIL "A"



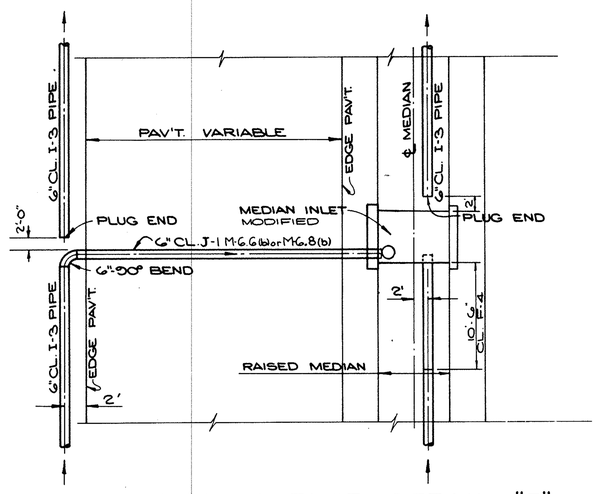
UNDERDRAIN OUTLET DETAIL "B"



UNDERDRAIN OUTLET DETAIL "C"



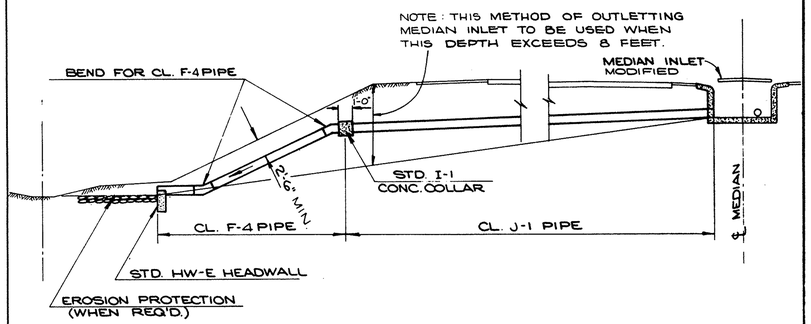
UNDERDRAIN OUTLET DETAIL "D"



UNDERDRAIN OUTLET DETAIL "E"

NOTES

1. WHERE 8" CL. F-4 PIPE SEC. M-6.4(c) IS SHOWN IT SHALL BE FURNISHED WITH ONE ROLLED END.
2. ALTERNATE LOCATION USED WHEN UNDERDRAIN IS AJACENT TO LONGITUDINAL STORM SEWER. TO BE LOCATED ON HIGH SIDE WHEN ABOVE CONDITION OCCURS IN SUPERELEVATED SECTIONS.



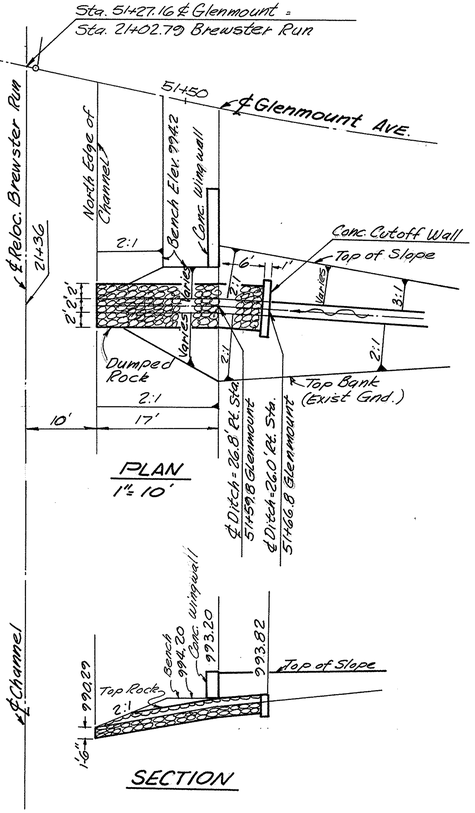
MEDIAN OUTLET DETAIL IN HIGH FILL

TYPICAL UNDERDRAIN OUTLETS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

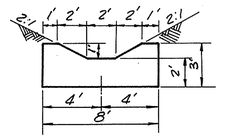
232
383

SUMMIT COUNTY
SUM-277-0.46



PLAN
1" = 10'

SECTION

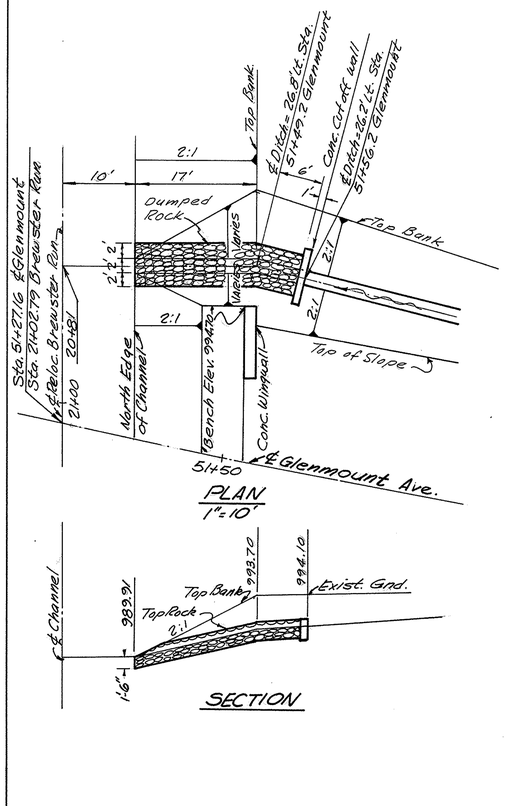


END VIEW OF CONC.
CUTOFF WALL
1" = 5'

ESTIMATED QUANTITIES

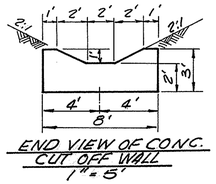
I-2 Masonry	0.74 Cu. Yds.
I-10 Dumped Rock	9.4 Cu. Yds.
E-3 Channel Exc.	16.5 Cu. Yds.

DETAIL OF CHANNEL OUTLET
26.0' RT. STA. 51+66.8
GLENMOUNT AVE.



PLAN
1" = 10'

SECTION

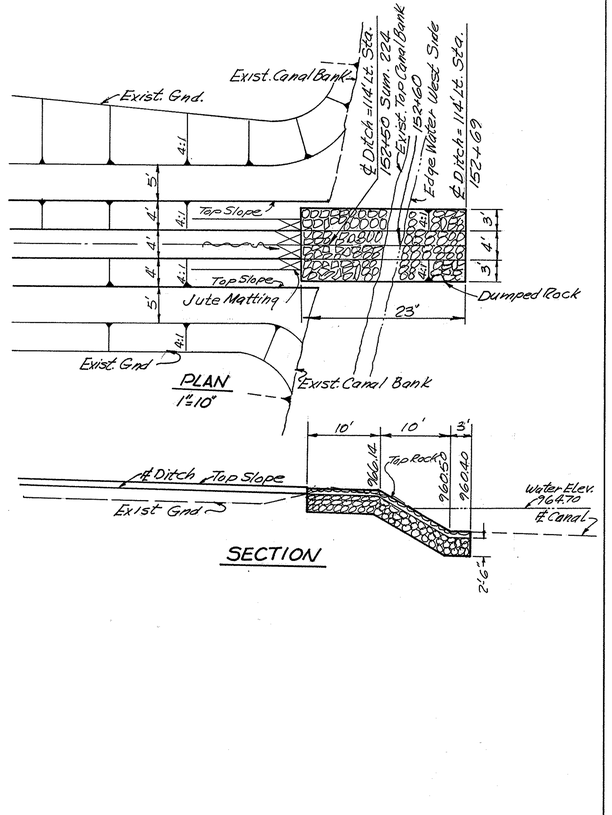


END VIEW OF CONC.
CUT OFF WALL
1" = 5'

ESTIMATED QUANTITIES

I-2 Masonry	0.74 Cu. Yds.
I-10 Dumped Rock	9.4 Cu. Yds.
E-3 Channel Exc.	16.5 Cu. Yds.

DETAIL OF CHANNEL OUTLET
26.2' LT. STA. 51+56.2
GLENMOUNT AVE.



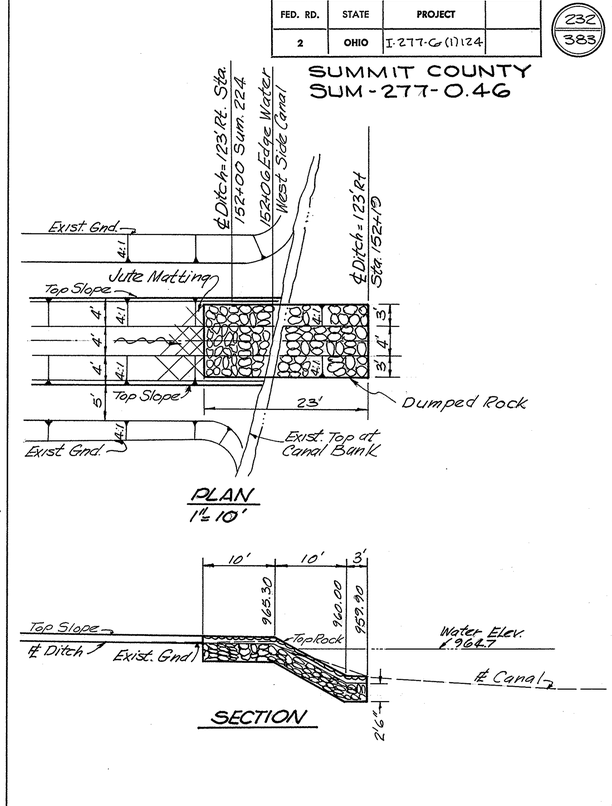
PLAN
1" = 10'

SECTION

ESTIMATED QUANTITIES

I-10 Dumped Rock	21.3 Cu. Yds.
E-3 Channel Exc.	5.6 Cu. Yds.

DETAIL OF CANAL OUTLET
114' LT. STA. 152+50
SUM. 224



PLAN
1" = 10'

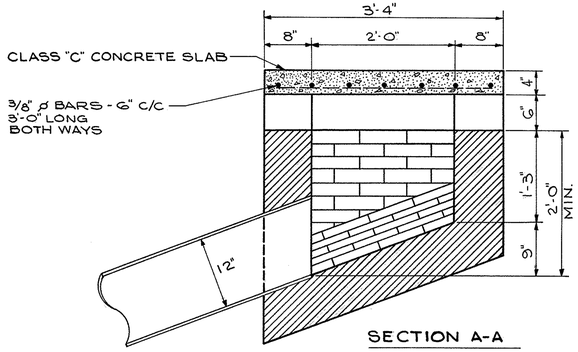
SECTION

ESTIMATED QUANTITIES

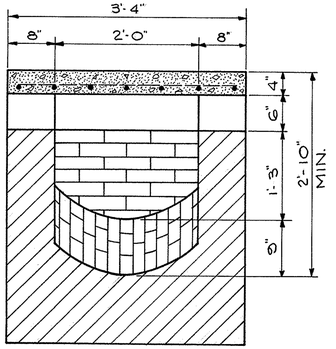
I-10 Dumped Rock	21.3 Cu. Yds.
E-3 Channel Exc.	5.6 Cu. Yds.

DETAIL OF CANAL OUTLET
123' RT. STA. 152+00
SUM 224

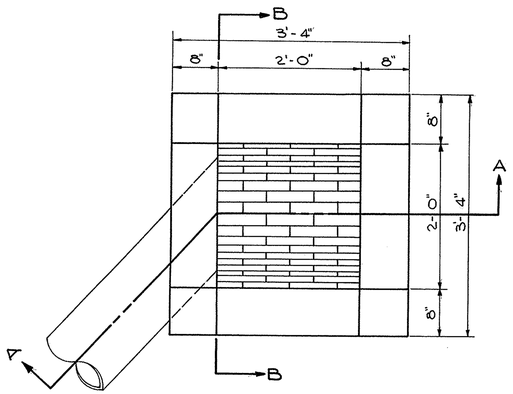
DRAINAGE DETAILS



SECTION A-A



SECTION B-B



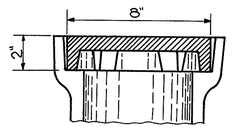
PLAN - I-8 STANDARD TYPE "D" INLET
(CITY OF AKRON)
SCALE : 1" = 1'-0"

NOTE:
THIS INLET CAN BE BUILT TO FIT ANY SIZE PIPE BY VARYING THE LENGTH AND WIDTH OF OPENING.

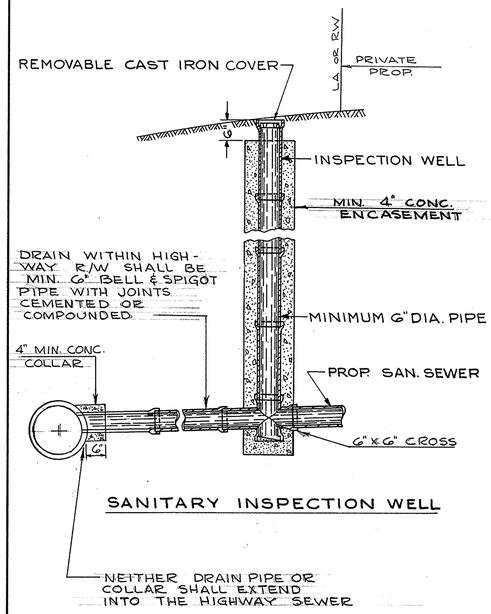
INLET SHALL BE BUILT OF CLASS "C" CONCRETE AT OPTION OF CONTRACTOR IN WHICH EVENT THE WALLS MAY BE 6" THICK.

INLET IS SHOWN OPEN ON FOUR SIDES. (THIS DOES NOT REFER TO OPENINGS REQUIRED) NUMBER OF ACTUAL OPENINGS REQUIRED SHALL BE COVERED BY DITCH LOCATION.

REMOVABLE CAST IRON COVER, "NEENAH" R-4055 SERIES, OR KRAMER BROS. K-861 (SOLID), OR APPROVED EQUAL.



CAST IRON COVER
WEIGHT 8 LBS.

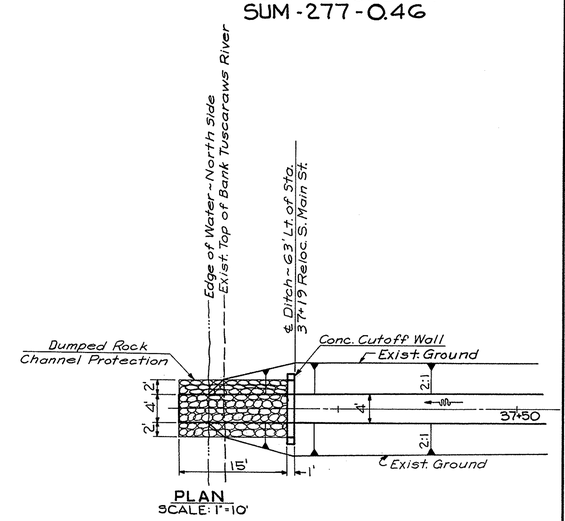


SANITARY INSPECTION WELL

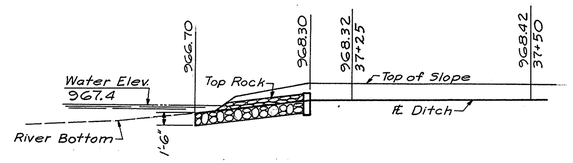
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

233
383

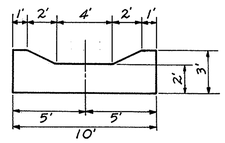
SUMMIT COUNTY
SUM-277-0.46



PLAN
SCALE: 1"=10'



PROFILE
SCALE: 1"=10'



END VIEW OF CONC. CUTOFF WALL
SCALE: 1"=5'

ESTIMATED QUANTITIES

I-2	Masonry	0.9 Cu.Yds.
I-10	Dumped Rock Chan. Prot.	8 Cu.Yds.
E-3	Channel Exc.	12 Cu.Yds.

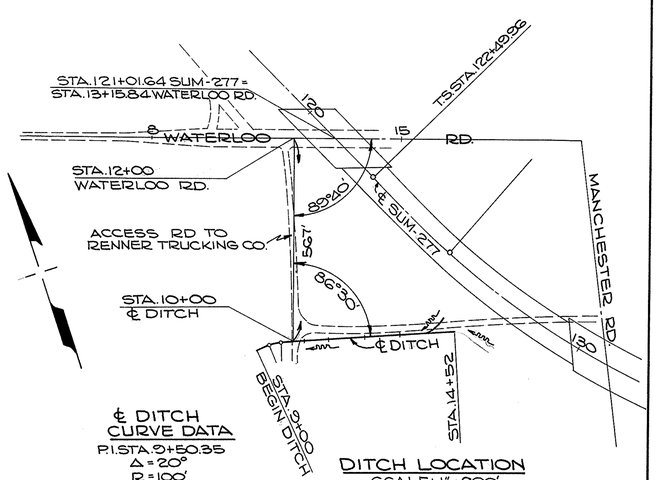
DETAIL OF DITCH OUTLET
63' LT. OF STA. 37+18
RELOC. SOUTH MAIN ST.

DRAINAGE DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

234
383

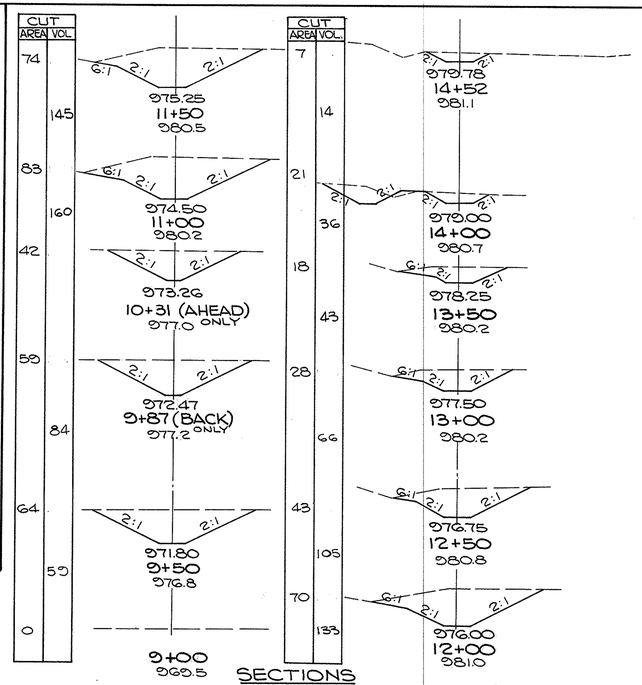
SUMMIT COUNTY
SUM-277-0.46



℄ DITCH CURVE DATA

P.I. STA. 9+50.35
Δ = 20°
R = 100'
T = 17.63'
L = 34.91'
P.C. STA. 9+32.72
P.T. STA. 9+67.63

DITCH LOCATION
SCALE: 1" = 200'



SECTIONS
SCALE: 1"=10'

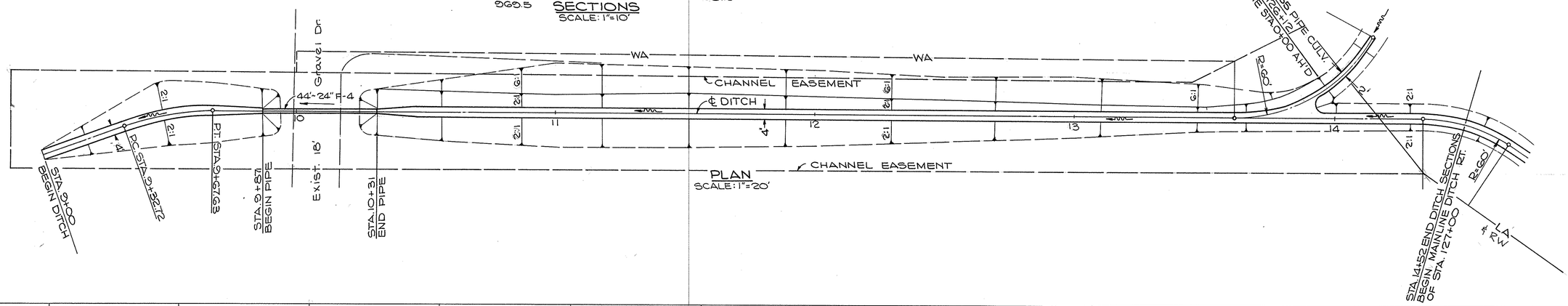
CULVERT DATA

TYPE: I-1 PIPE CLASS F-4
SIZE: 24"x 44'
WORK REQ'D. BUILD NEW 24"x 44' PIPE CULVERT AS SHOWN.
EXCAVATE DITCH AS SHOWN

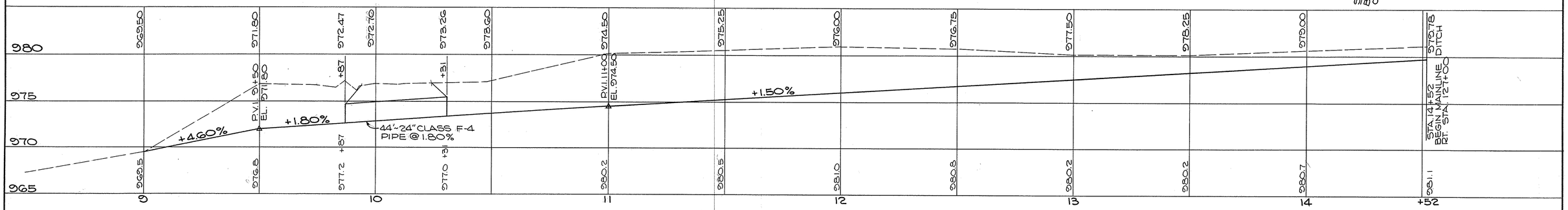
ESTIMATED QUANTITIES

I-1 24" PIPE CLASS F-4	44 LIN. FT.
E-3 CHANNEL EXCAVATION	845 CU. YDS.

AREA = 7 AC.
Q_{10} = 17.0 c.f.s.



PLAN
SCALE: 1"=20'



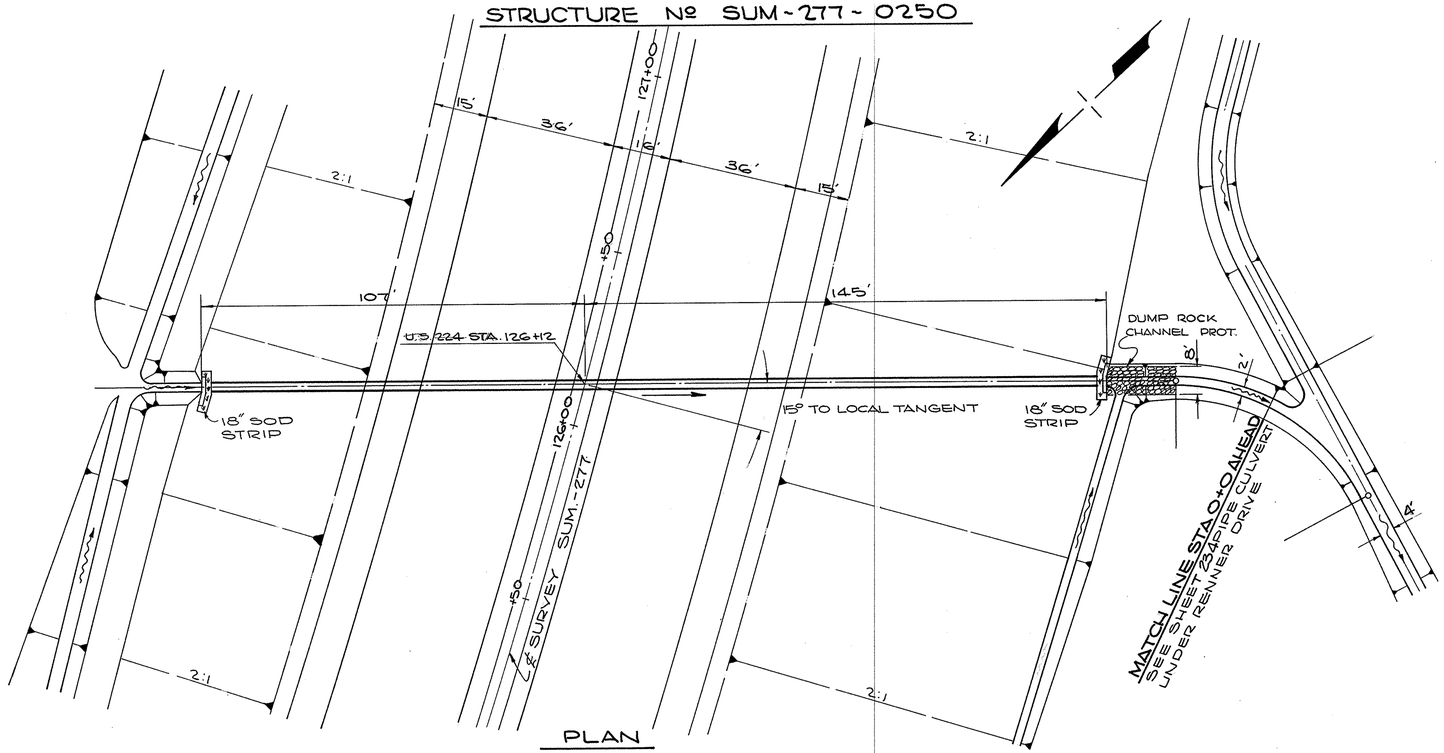
PLAN & PROFILE
DITCH AJACENT TO RENNER TRUCKING ACCESS RD.
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

235
383

SUMMIT COUNTY
SUM-277-0.46

STRUCTURE Nº SUM-277-0250



PLAN
SCALE: 1"=20'

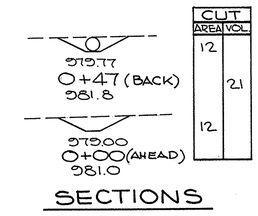
CULVERT DATA

TYPE: I-1 PIPE CULVERT CL. A-1 SEC. M-6.4(d) 14 GAGE
SIZE: 21" x 252'
SKEW: 15° RT. F. (TO LOCAL TANGENT)
WORK REQ'D: BUILD NEW 21"X252' I-1 CL. A-1 PIPE CULVERT AS SHOWN

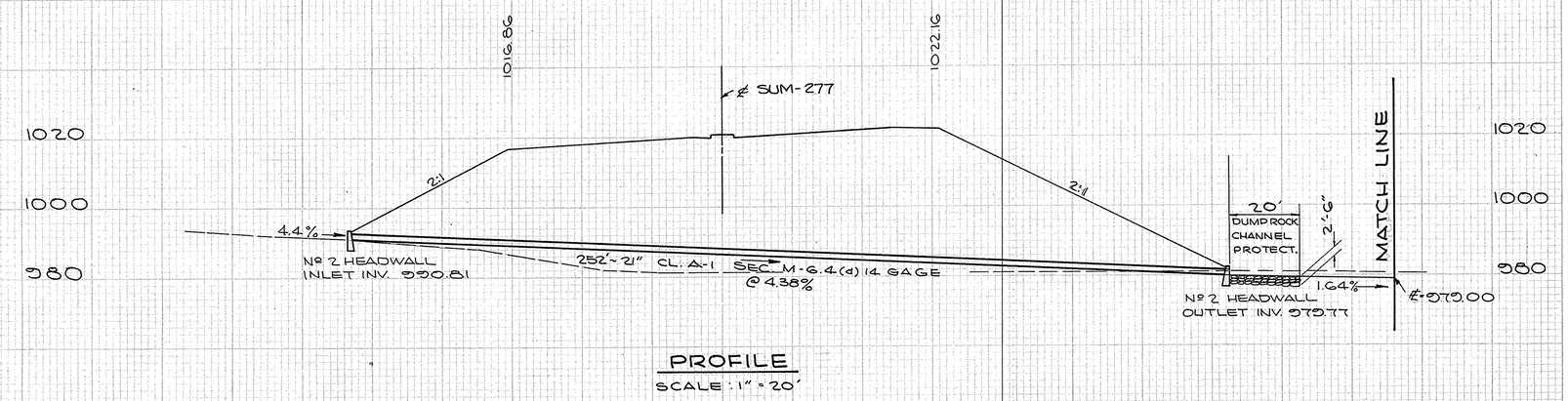
ESTIMATED QUANTITIES

I-1 21" PIPE CL. A-1 SEC. M-6.4(d) 14 GAGE	252 LIN. FT.
I-2 MASONRY	4.4 CU. YD.
L-10 SOD	4.3 CU. YD.
L-10 DUMP ROCK CHANNEL PROT.	16.1 CU. YD.
E-3 CHANNEL EXCAVATION	21 CU. YD.

AREA = 4 AC.
Q50 = 17 C.F.S.



SECTIONS



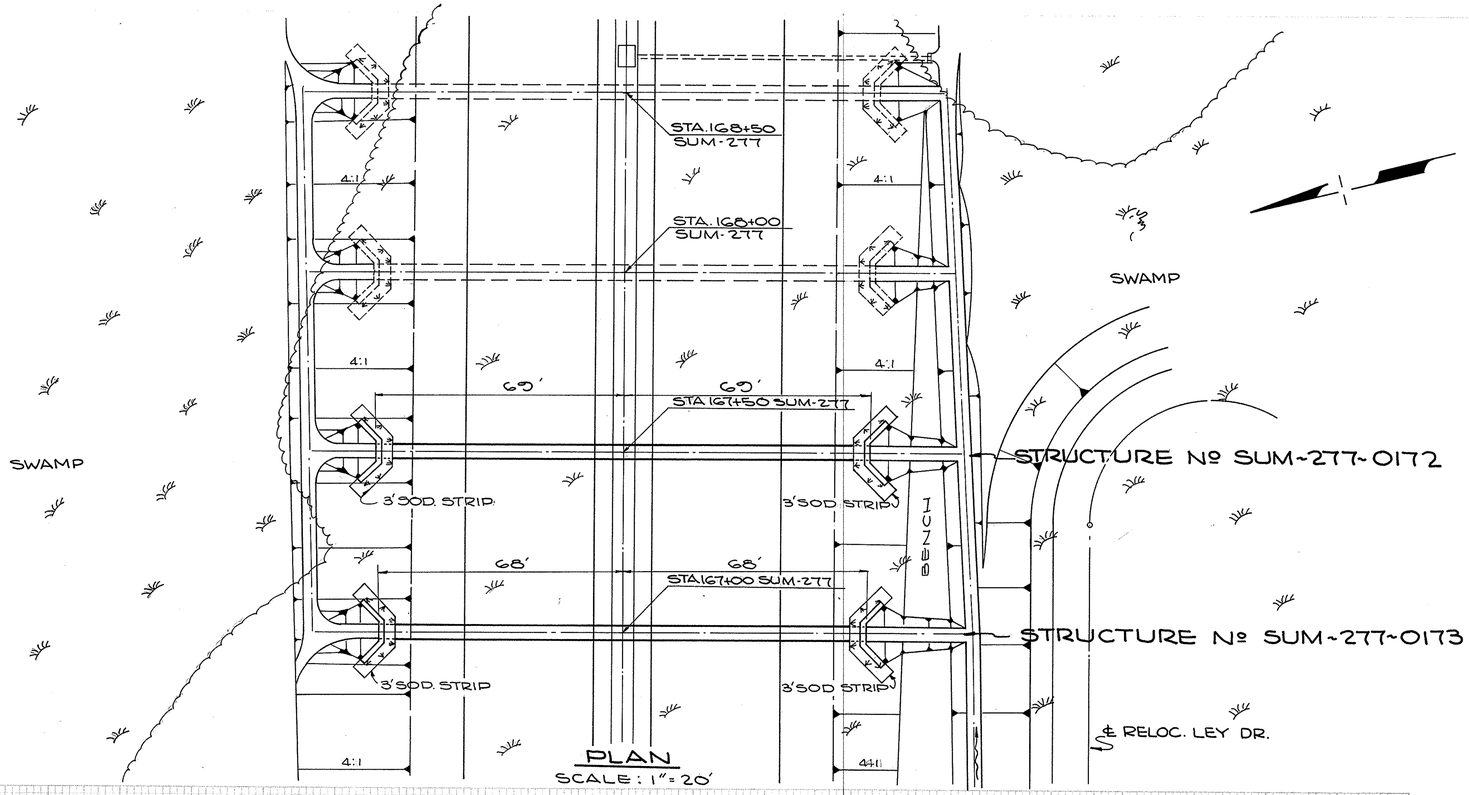
PROFILE
SCALE: 1"=20'

C-1
PIPE CULVERT
STA. 126+12

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

236
383

SUMMIT COUNTY
SUM-277-0.46



PLAN
SCALE: 1" = 20'

CULVERT DATA C-3

TYPE: I-1 PIPE CULVERT CLASS A-1 SEC. M-6.4(d)
SIZE: 48" x 138'
SKEW: NONE
WORK REQ'D: BUILD NEW 48" x 138' I-1 CL. A-1 PIPE CULVERT AS SHOWN

ESTIMATED QUANTITIES C-3

I-1 48" PIPE CL. A-1 SEC. M-6.4(d)	138 LIN. FT.
I-2 MASONRY	23.0 CU. YD.
L-10 SOD	20.6 SQ YD.

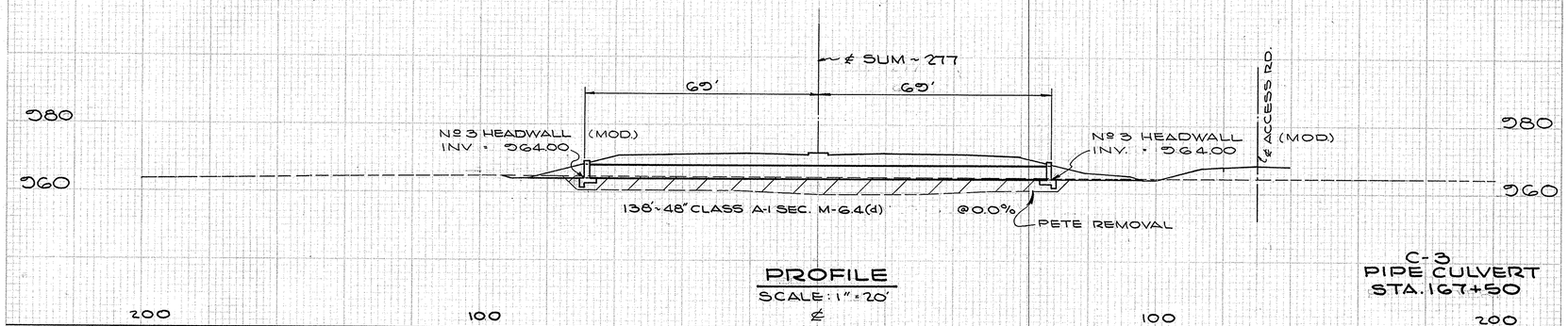
CULVERT DATA C-2

TYPE: I-1 PIPE CULVERT CLASS. A-1 SEC. M-6.4(d)
SIZE: 48" x 136'
SKEW: NONE
WORK REQ'D: BUILD NEW 48" x 136' I-1 CLASS A-1 PIPE CULVERT AS SHOWN

ESTIMATED QUANTITIES C-2

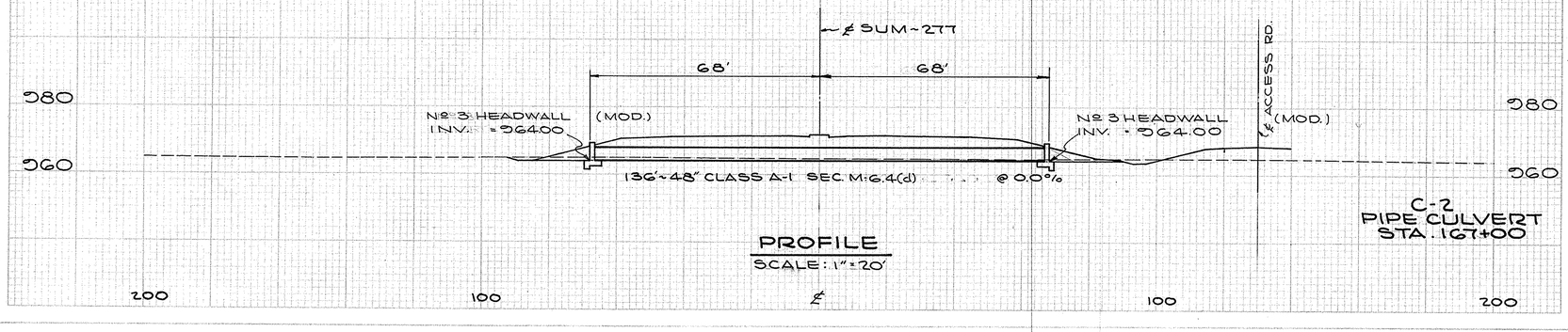
I-1 48" PIPE CLASS A-1 SEC. M-6.4(d)	136 LIN. FT.
I-2 MASONARY	23.0 CU. YD.
L-10 SOD	20.6 SQ YD.

NOTE: STD. Nº 3 HEADWALL IS TO BE MODIFIED AT EACH OF THE FOUR CULVERTS TO ACCOMODATE THE FLATTER SLOPES. DIMENSIONS AS SHOWN ON STD. CONSTRUCTION DRAWING HW. Nº 3 SHALL BE ALTERED AS FOLLOWS: $h_2 = 3'\text{-}10''$ & $L_2 = 7'\text{-}2''$ ALL OTHER DIMENSIONS REMAIN THE SAME.



PROFILE
SCALE: 1" = 20'

C-3
PIPE CULVERT
STA. 167+50



PROFILE
SCALE: 1" = 20'

C-2
PIPE CULVERT
STA. 167+00

C-2 & C-3
PIPE CULVERTS STA. 167+00 & 167+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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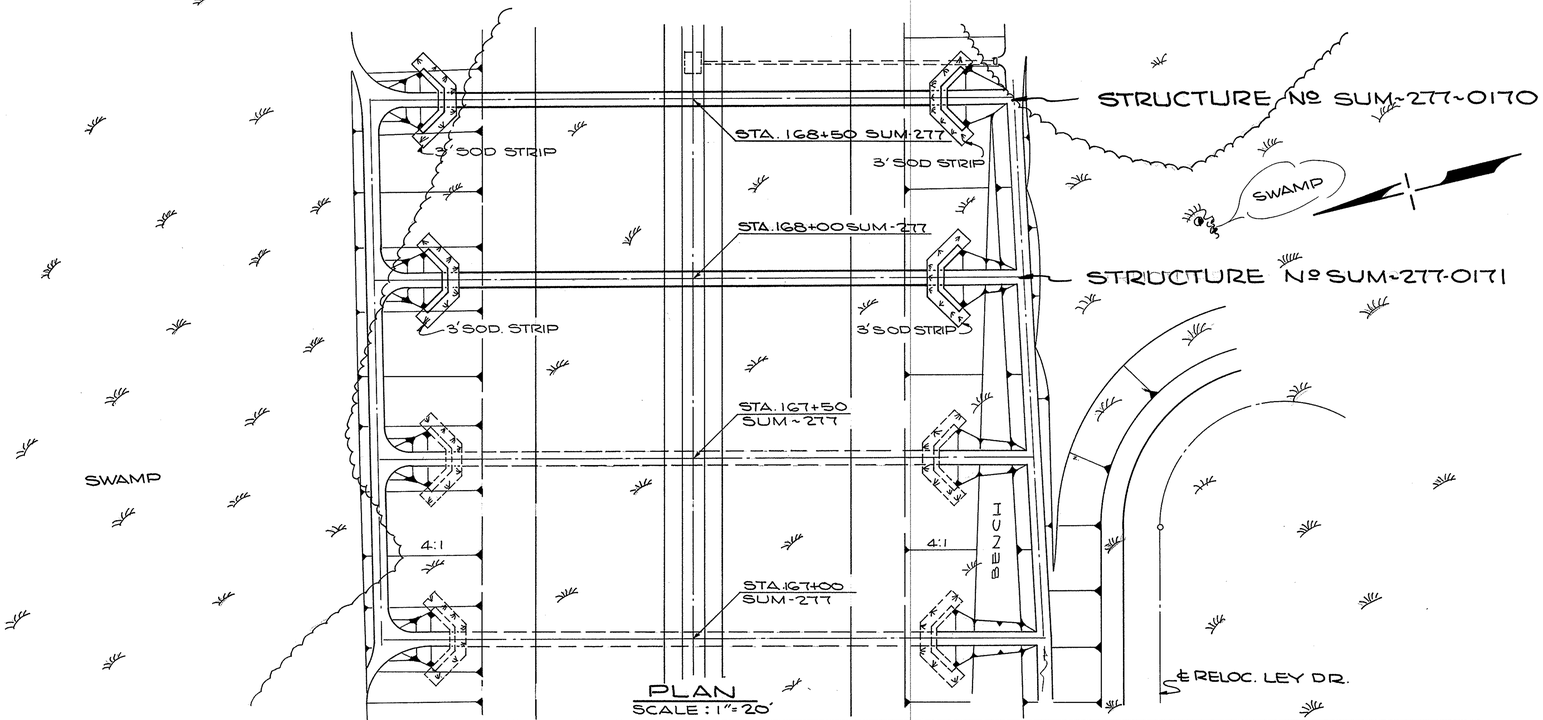
383

SUMMIT COUNTY
SUM-277-0.46



PLAN
SCALE: 1"=20'

CULVERT DATA C-5

TYPE: I-1 PIPE CULVERT CLASS A-1 SEC. M-6.4(d)
SIZE: 48" x 142'-0"
SKEW: NONE
WORK REQ'D: BUILD NEW 48" x 142'-0" I-1 CLASS A-1 PIPE CULVERT AS SHOWN

ESTIMATED QUANTITIES C-5

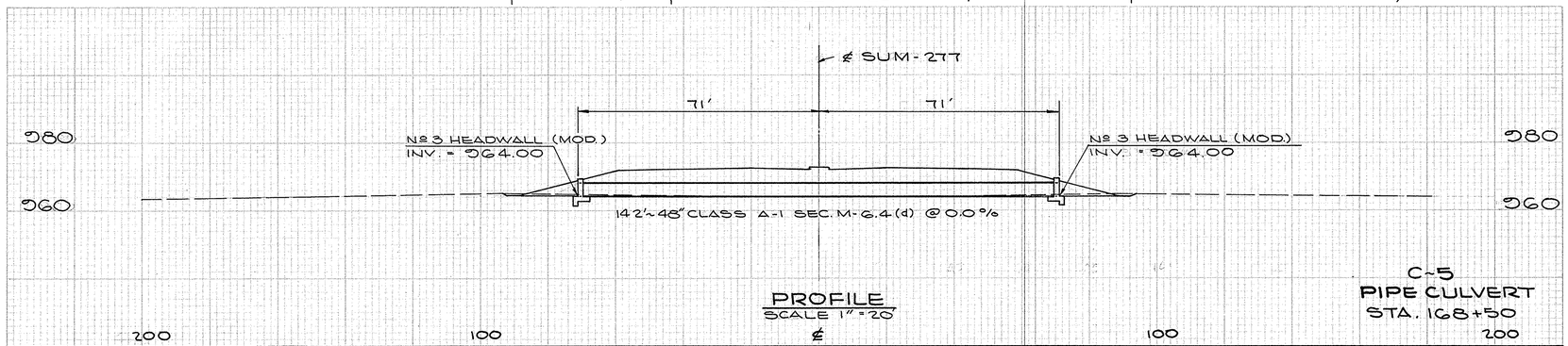
I-1 48" PIPE CLASS A-1 SEC. M-6.4(d)	142 LIN. FT.
I-2 MASONRY	23.9 CU. YD.
L-10 SOD	20.6 SQ. YD.

CULVERT DATA C-4

TYPE: I-1 PIPE CULVERT CLASS A-1 SEC. M-6.4(d)
SIZE: 48" x 140'-0"
SKEW: NONE
WORK REQ'D: BUILD NEW 48" x 140'-0" I-1 CLASS A-1 PIPE CULVERT AS SHOWN

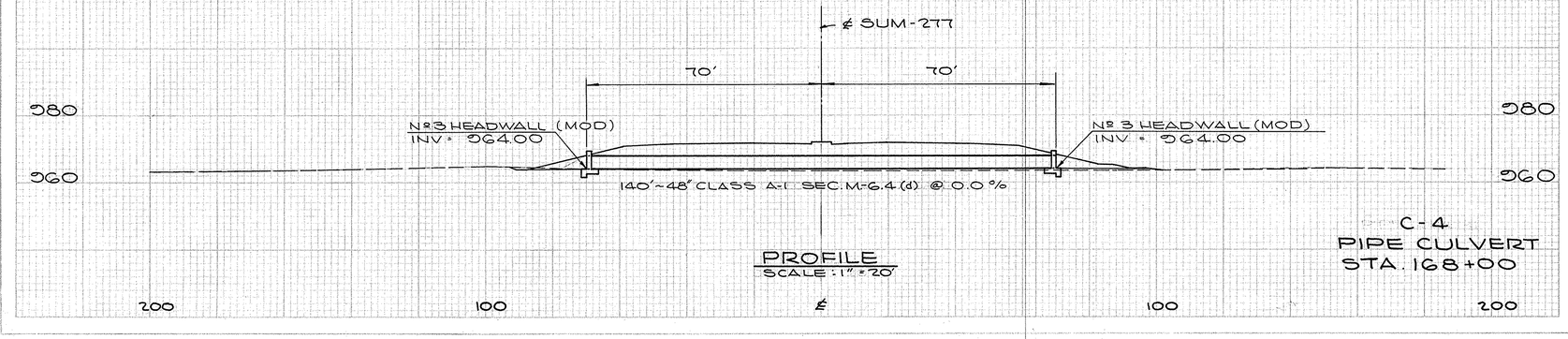
ESTIMATED QUANTITIES C-4

I-1 48" PIPE CLASS A-1 SEC. M-6.4(d)	140 LIN. FT.
I-2 MASONRY	23.9 CU. YD.
L-10 SOD	20.6 SQ. YD.



PROFILE
SCALE 1" = 20'

C-5
PIPE CULVERT
STA. 168+50



PROFILE
SCALE: 1" = 20'

C-4
PIPE CULVERT
STA. 168+00

NOTE: ST'D. Nº 3 HEADWALL IS TO BE MODIFIED AT EACH OF THE FOUR CULVERTS TO ACCOMODATE THE FLATTER SLOPES. DIMENSIONS AS SHOWN ON ST'D. CONSTRUCTION DRAWING HW. Nº 3 SHALL BE ALTERED AS FOLLOWS: $h_2 = 3'-10"$ & $L_2 = 7'-2"$ ALL OTHER DIMENSIONS REMAIN THE SAME.

C-4 & C-5
PIPE CULVERTS STA. 168+00 & 168+50

MISSING AS OF
MAY 21 1990
RETURNED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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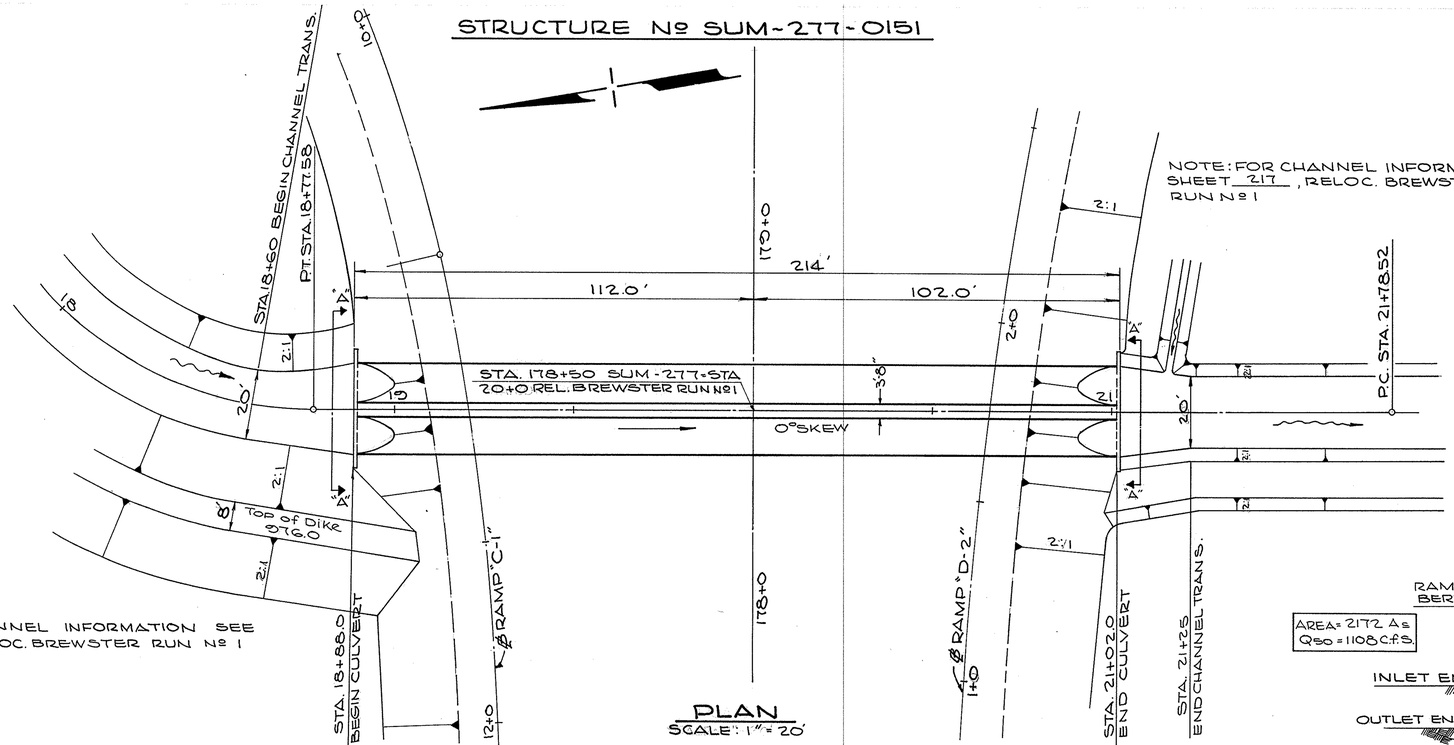
383

SUMMIT COUNTY
SUM-277-0.46

STRUCTURE Nº SUM-277-0151



NOTE: FOR CHANNEL INFORMATION SEE SHEET 217 RELOC. BREWSTER RUN Nº 1

NOTE: FOR CHANNEL INFORMATION SEE SHEET 217, RELOC. BREWSTER RUN Nº 1

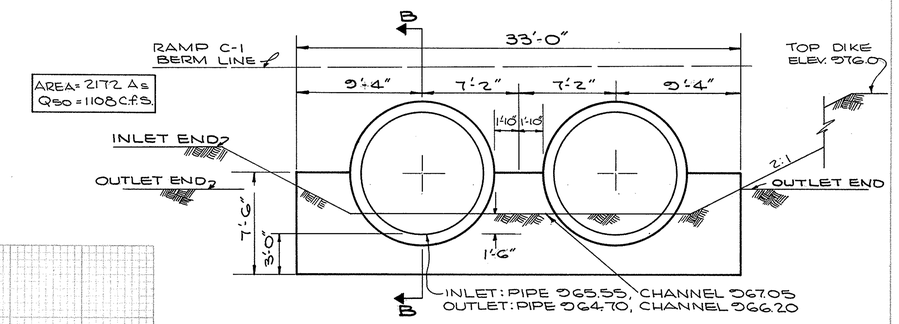
PLAN
SCALE: 1" = 20'

CULVERT DATA

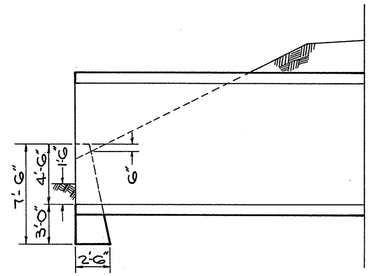
SIZE & TYPE: I-1 108" PIPE CULVERT CL. A-1 M.6.6(a)
SKEW: NONE
WORK REQUIRED: BUILD NEW TWIN 108" x 214' PIPE CULVERT WITH SP-53 CONC. END WALLS RT. & LT. AS SHOWN

ESTIMATED QUANTITIES

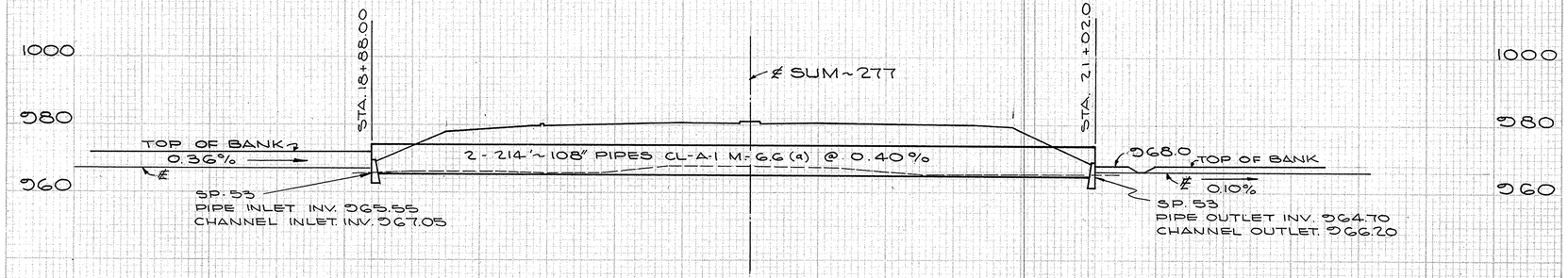
I-1 108" PIPE CL. A-1 SEC. M. 6.6(a)	428 LIN. FT.
I-2 MASONRY	22.0 CU. YDS.



SECTION A-A
SHOWING SP 53 ENDWALL



SECTION "B-B"



PROFILE
SCALE: 1" = 20'

C-6
PIPE CULVERT
STA. 178+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)12.4	

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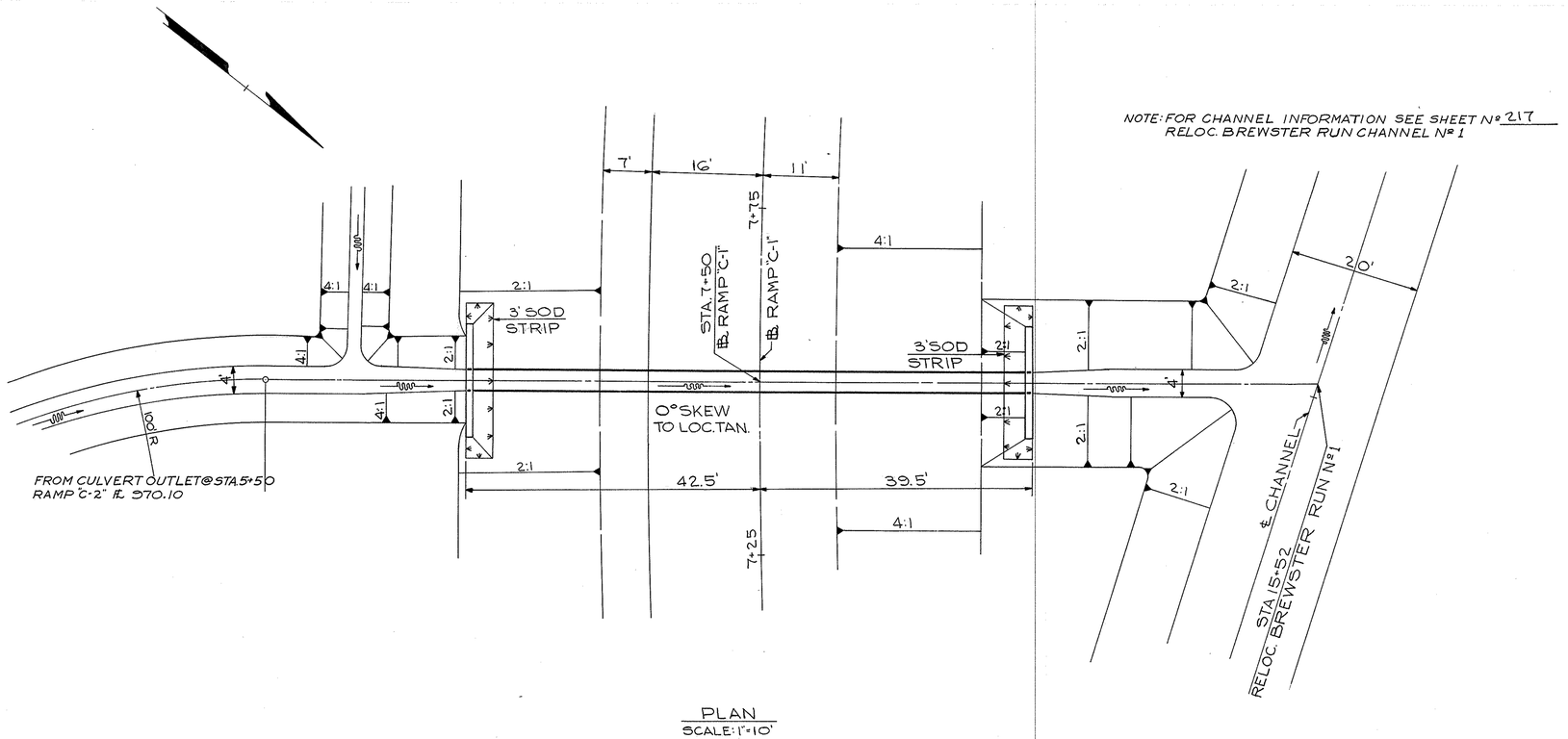
383

SUMMIT COUNTY
SUM-277-0.46

NOTE: FOR CHANNEL INFORMATION SEE SHEET Nº 217
RELOC. BREWSTER RUN CHANNEL Nº 1



PLAN
SCALE: 1"=10'

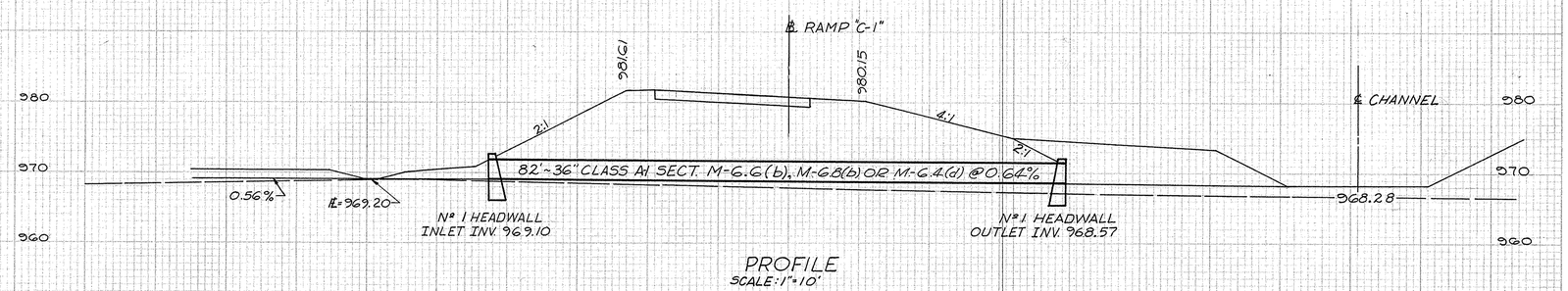
CULVERT DATA

TYPE: I-1 PIPE CULVERT CLASS A-1 SEC. M-6.6(b), M-6.8(b) or M-6.4(d)
SIZE: 36"X82'-0"
WORK REQ'D: BUILD NEW 36"X82'-0" I-1 CLASS A-1 PIPE CULVERT WITH Nº1 HEADWALLS RT. & LT. SOD AS SHOWN.

ESTIMATED QUANTITIES

I-1	36" PIPE CLASS A-1 SEC. M-6.6(b), M-6.8(b) or M-6.4(d)	82 LIN. FT.
I-2	MASONRY	13.0 CU. YDS.
L-10	SOD	16.2 SQ. YDS.

AREA = 16 Ac.
Q50 = 30 c.f.s.



PROFILE
SCALE: 1"=10'

C-7
PIPE CULVERT
RAMP "C-1" STA. 7+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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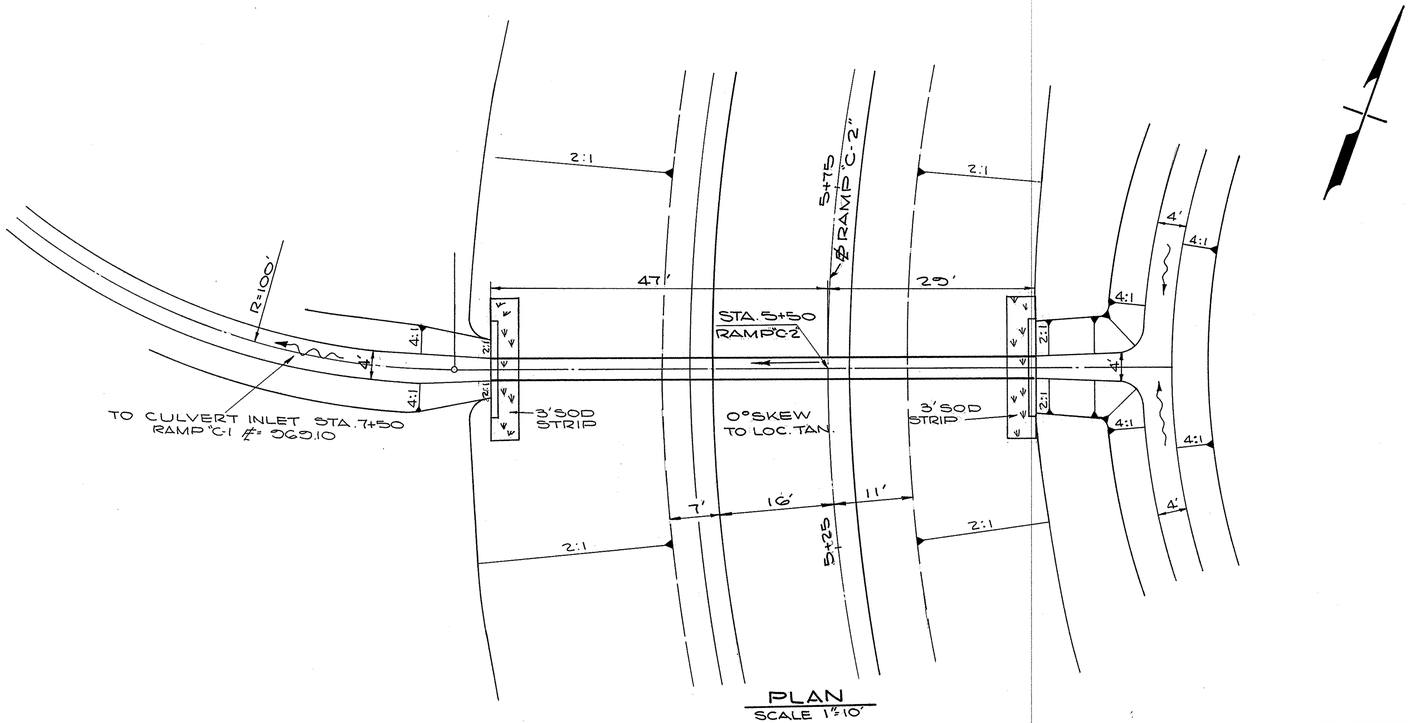
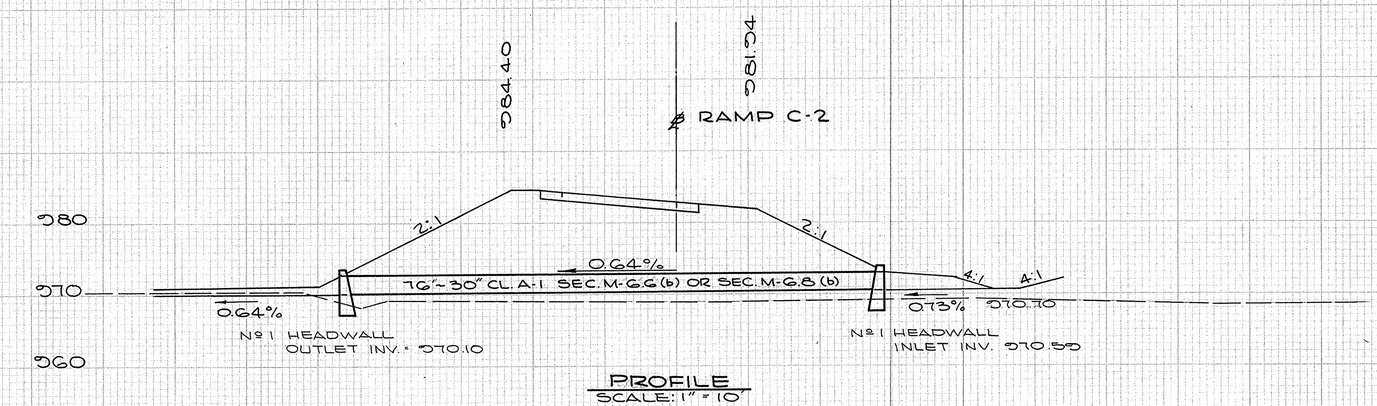
383

SUMMIT COUNTY
SUM~277~0.46



PLAN
SCALE 1"=10'



PROFILE
SCALE: 1" = 10'

CULVERT DATA

TYPE: I-1 PIPE CULVERT CL. A-1 SEC M-6.6(b) OR M-6.8(b)
SIZE: 30" x 76'-0"
WORK REQ'D: BUILD NEW 30"x76' I-1 CL. A-1 PIPE CULVERT WITH №1 HEADWALLS RT & LT.
SOD AS SHOWN.

ESTIMATED QUANTITIES

I-1 30" PIPE CL. A-1 SEC. M-6.6(b) OR M-6.8(b)	76 LIN. FT
I-2 MASONRY	9.4 CU. YDS
L-10 SOD	14.4 SQ YDS

AREA = 13 Ac.
Q_{50} = 26 C.F.S.

C-8
PIPE CULVERT
STA. 5+50 RAMP "C-2"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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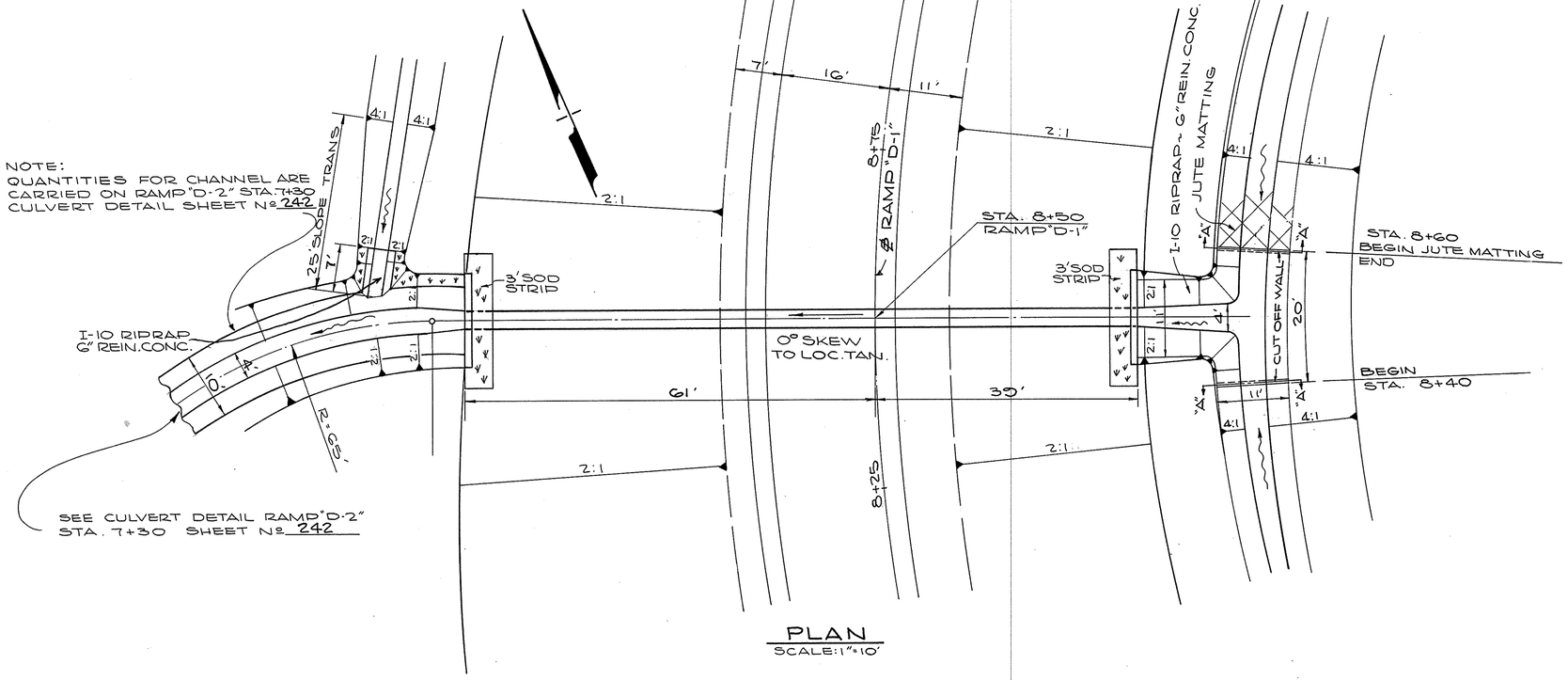
383

SUMMIT COUNTY
SUM~277~0.46

NOTE:
QUANTITIES FOR CHANNEL ARE CARRIED ON RAMP "D-2" STA. 7+30 CULVERT DETAIL SHEET Nº 242



PLAN
SCALE: 1" = 10'

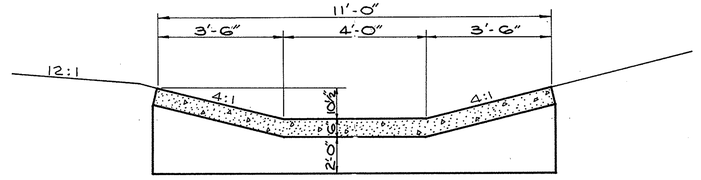
CULVERT DATA

TYPE: I-1 PIPE CULVERT CLASS A-1 SEC. M-6.6(C)
SIZE: 30" x 100'
WORK REQ'D. BUILD NEW 30"x100' PIPE CULVERT WITH STD. Nº1 HEADWALLS RT. & LT. EXCAVATE INLET & OUTLET CHANNELS, PLACE DUMPED ROCK, RIPRAP & SOD. AS SHOWN

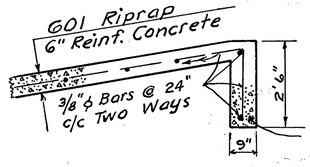
ESTIMATED QUANTITIES

I-1 30" CLASS A-1 SEC. M.-6.6(C)	100 LIN. FT.
I-2 MASONRY	3.4 CU. YDS.
I-10 RIPRAP ~ 6" REIN. CONC.	38.5 CU. YDS.
L-10 SOD	144 CU. YDS.
E-3 CHANNEL EXCAVATION	3 CU. YDS.

AREA. 29 As
Q_{50} 48 C.F.S.

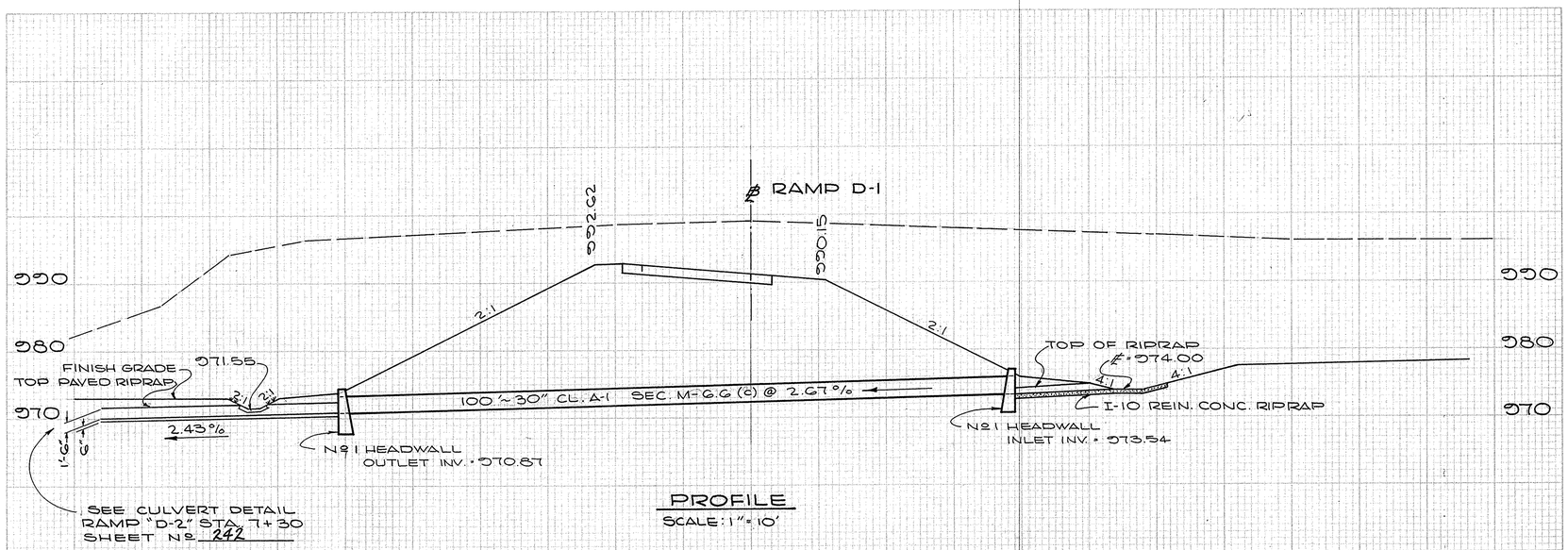


SECTION "A-A"



Cut off wall shall be included for payment in the unit price bid for Item 601, Riprap, using 6" Reinforced Concrete Slab, as per plan.

DETAIL ~ CUT OFF WALL FOR RIP-RAP



PROFILE
SCALE: 1" = 10'

C-9
PIPE CULVERT
RAMP "D-1" STA. 8+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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SUMMIT COUNTY
SUM~277-0.46

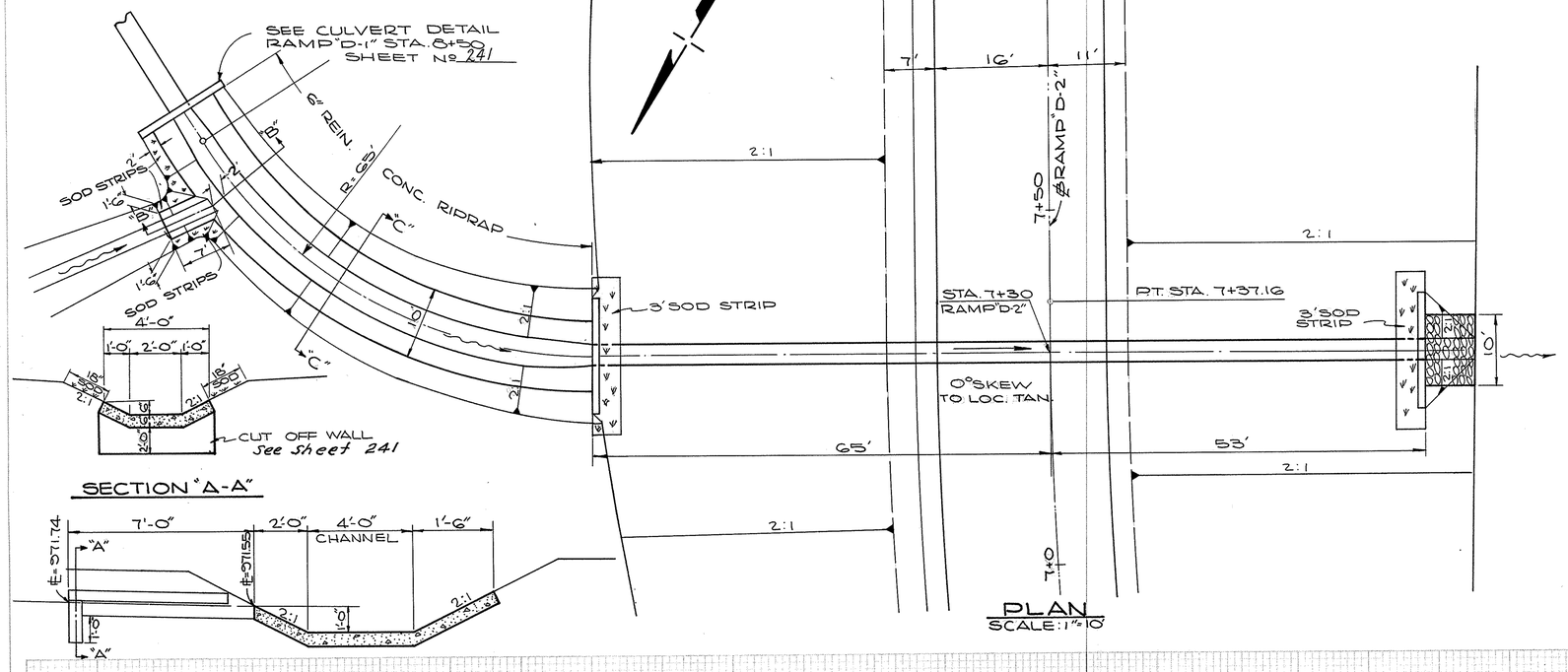
CULVERT DATA

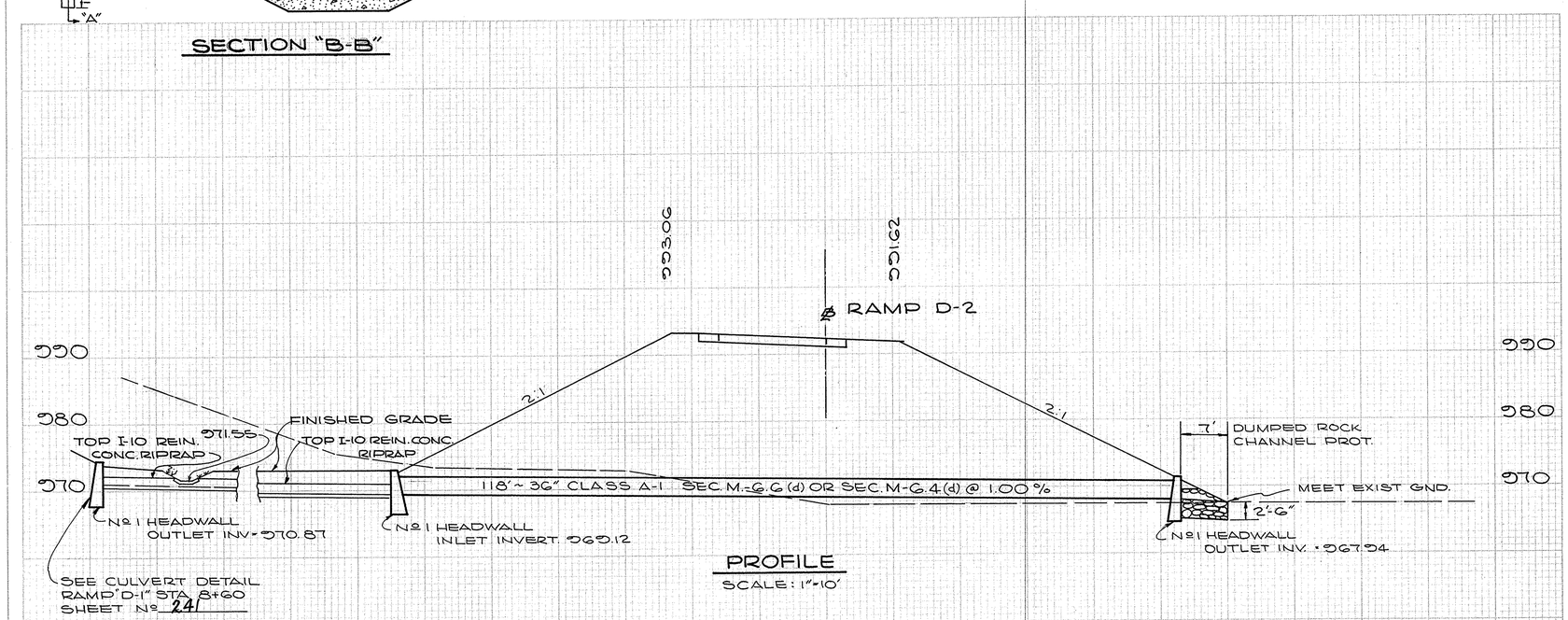
TYPE: I-1 PIPE CULVERT CL-A-1 SEC.M-6.6(d) OR M:6.4(d)
SIZE: 36" x 118'
WORK REQ'D. BUILD NEW 36"x118' PIPE CULVERT WITH STD. No. 1 HEADWALLS RT. & LT. EXCAVATE INLET & OUTLET CHANNELS, PLACE DUMPED ROCK & SOD AS SHOWN.

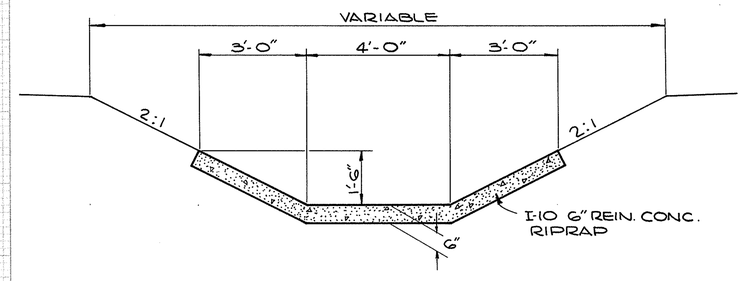
ESTIMATED QUANTITIES

I-1 36" PIPE CL. A-1 SEC.M-6.6(d) OR M-6.4(d)	118LIN.FT.
I-2 MASONRY	13 CU.YDS.
I-10 DUMPED ROCK CHANNEL PROT.	65 CU.YDS.
I-10 6" REIN. CONC. RIPRAP	81.8 SQ.YDS.
E-10 SOD	22.7 SQ.YDS.
E-3 CHANNEL EXCAVATION	100.6 CU.YDS.

AREA= 31 As.
Q_{50} 51 C.F.S.







SECTION "C-C"
DETAIL~4' BOTTOM CHANNEL

C-10
PIPE CULVERT
RAMP"D-2" STA. 7+30

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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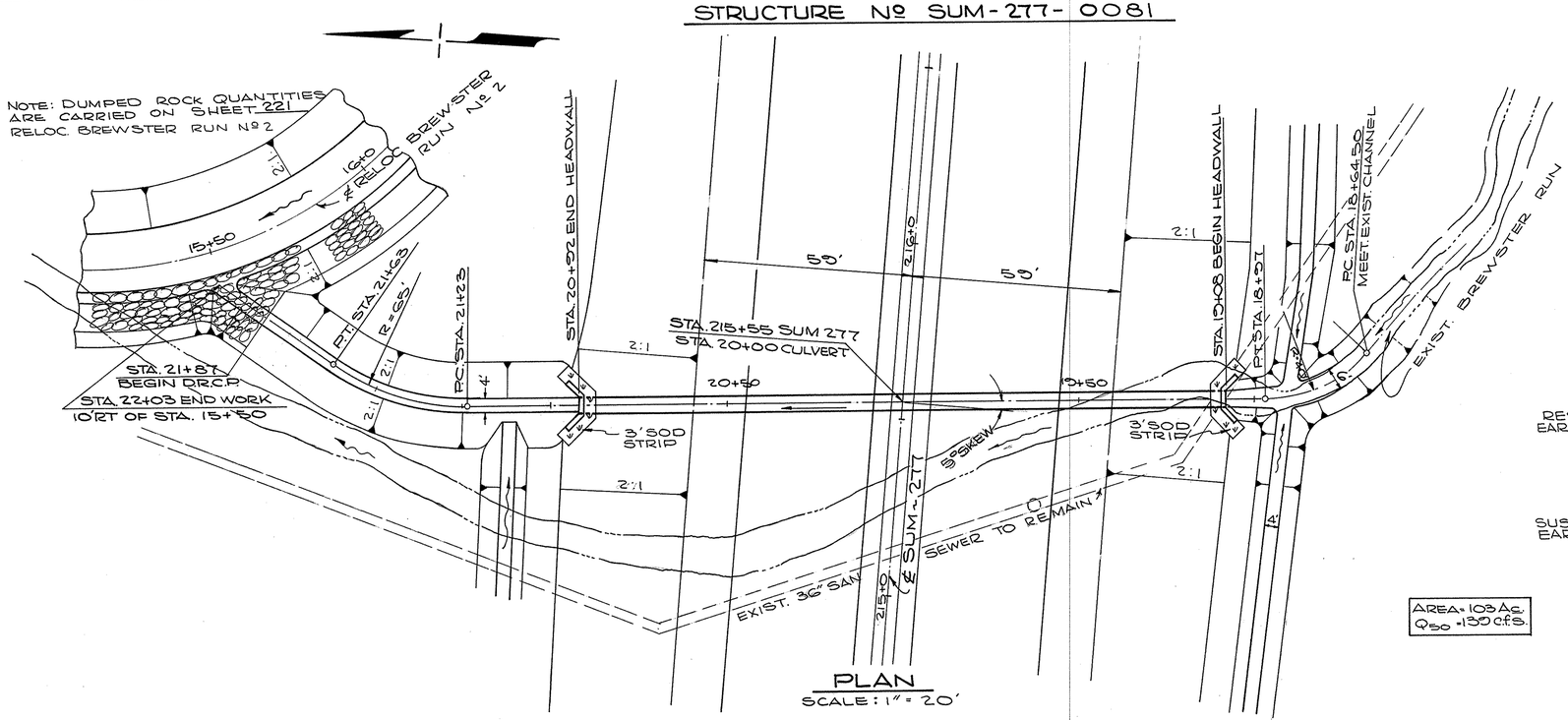
383

SUMMIT COUNTY
SUM-277-0.46

STRUCTURE Nº SUM-277-0081



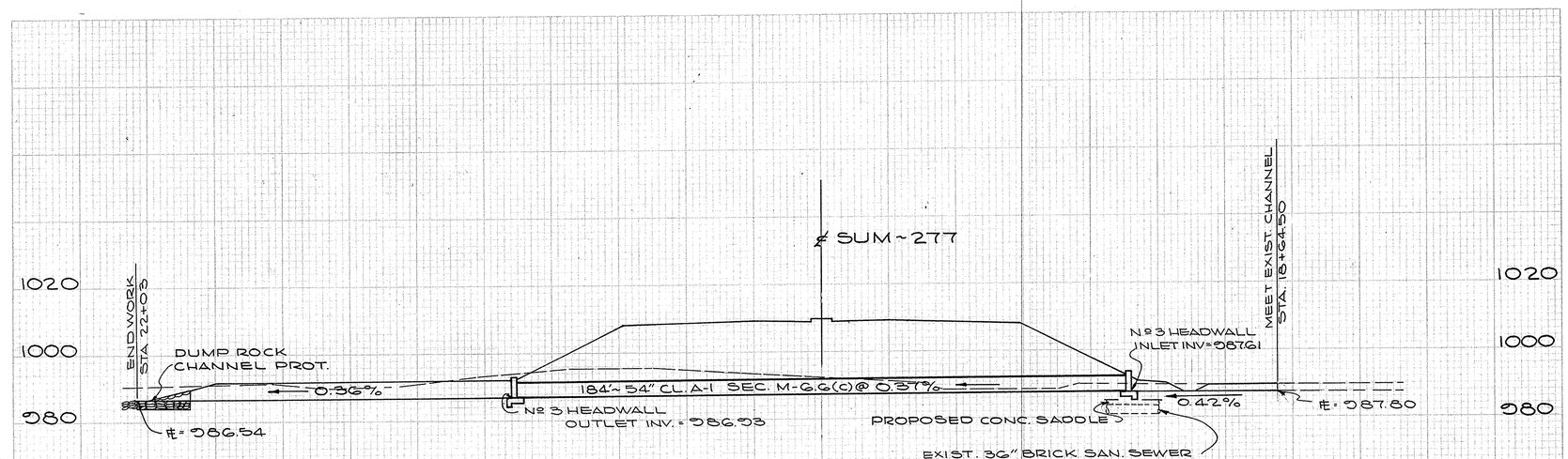
PLAN
SCALE: 1" = 20'

AREA = 103 Ac.
Q50 = 130 c.f.s.

CHANNEL EXCAVATION CROSS SECTIONS

CUT AREA	CUT VOL		
	9	986.63	21+78
83			992.0
	59	986.72	21+50
30			989.7
	168	986.90	20+92
126			993.9
RESUME EARTHWORK		987.65	19+08
SUSPEND EARTHWORK 23			990.2
	19		
0		987.80	18+64.5

SCALE: 1" = 10'



PROFILE
SCALE: 1" = 20'

CULVERT DATA

TYPE: I-1 PIPE CULVERT CL. A-1 SEC. M-6.6(C)
SIZE: 54" x 188'
SKEW: 5' RT. F.
WORK REQ'D. BUILD NEW 54" x 188' PIPE CULVERT WITH Nº 3 HEADWALLS RT. & LT. EXCAVATE INLET & OUTLET CHANNELS, PLACE DUMPED ROCK & SOD AS SHOWN

ESTIMATED QUANTITIES

I-1 54" PIPE CULVERT CL. A-1 SEC. M-6.6(C)	188 LIN. FT.
I-2 MASONRY	20 CU. YDS.
L-10 SOD.	165 SQ. YDS.
E-3 CHANNEL EXCAVATION	255 CU. YDS.

NOTE:
PROTECTIVE CONCRETE SADDLE ON EXISTING 36" BRICK SEWER SHALL BE PLACED BEFORE ANY WORK IS STARTED ON THIS CULVERT. SEE SHEET Nº 255 FOR DETAIL OF CONCRETE SADDLE.

C-11
PIPE CULVERT
STA. 215+55

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1) 12.4	

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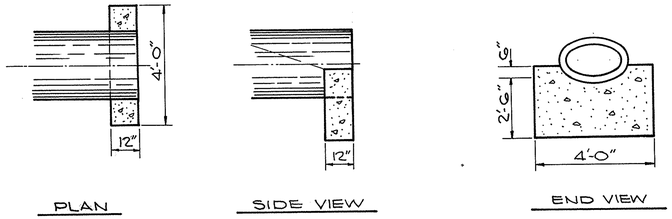
SUMMIT COUNTY
SUM.-277-0.46



HEADWALL FOR 23"x14" ELL CONC. PIPE

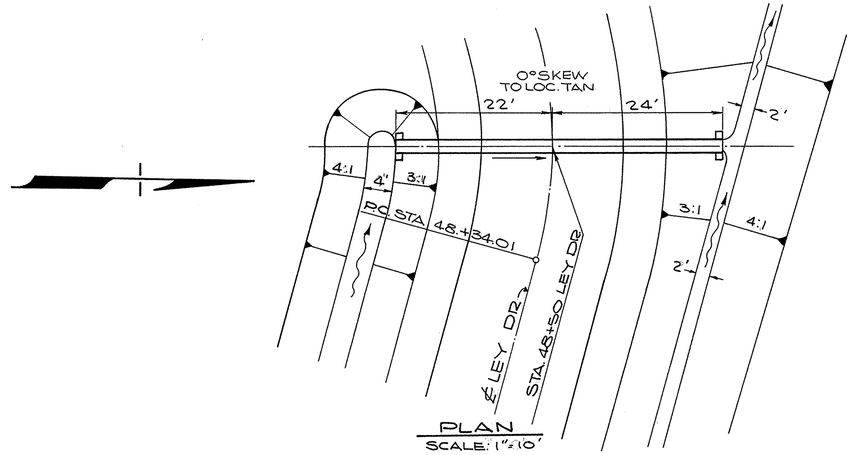
CULVERT DATA

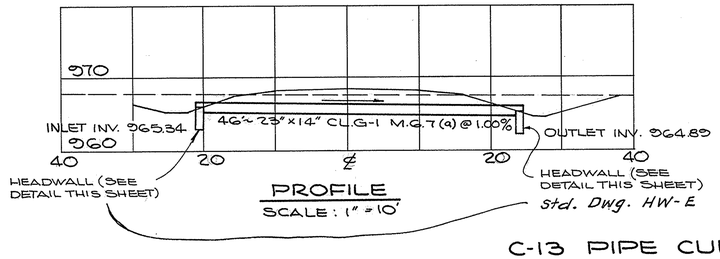
TYPE: I-1 PIPE CULVERT CL. G-1 SEC. M-6.7 (a)
SIZE: 23"x14"x 46'
WORK REQUIRED: BUILD NEW 23"x14"x46' PIPE CULVERT AS SHOWN.

ESTIMATED QUANTITIES

I-1 23"x14" CLASS G-1 M-6.7(a)	46 LIN. FT.
I-2 MASONRY	0.8 CU.YDS.

AREA = 2.0 Ac.
Q_{10} = 5.0 CFS





C-13 PIPE CULVERT
STA. 48+50 LEY DRIVE

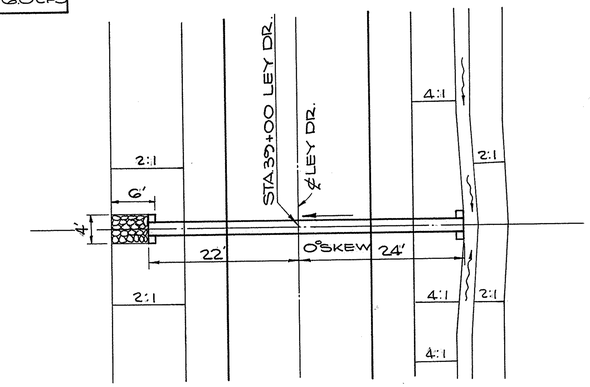
CULVERT DATA

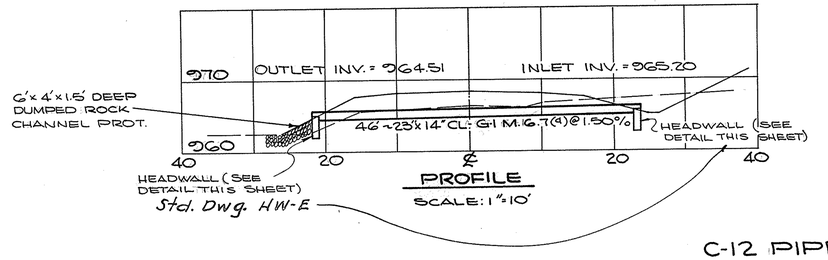
TYPE: I-1 PIPE CULVERT CL. G-1 SEC. M. G-7 (a)
SIZE: 23"x14"x 46'
WORK REQUIRED: BUILD NEW 23"x14" PIPE CULVERT & PLACE DUMPED ROCK AS SHOWN

ESTIMATED QUANTITIES

I-1 23"x14" CL. G-1 M. G.7(a)	46 LIN FT.
I-10 DUMPED ROCK CHANNEL PROTECTION	1.3 CU. YDS.
I-2 MASONRY	0.8 CU. YDS.

AREA = 3.0 Ac.
Q = 6.0 CFS





C-12 PIPE CULVERT
STA. 39+00 LEY DRIVE

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM-277-0.46

MATCH LINE STA. 44+50

STA. 44+25 CUT EXIST 12"W LINE, INSTALL 16"~45° BEND BELL & BELL & 16" SOLID SLEEVE. STA. 44+02 45' LT &
16"~45° BEND
STA. 43+99 45' LT & 20"X16" REDUCER
STA. 43+96 20"X10" TEE 45' LT & 10"~90° BEND B&B 0' LT. & 10" VALVE & BOX 35' LT & 10" SOLID SLEEVE
STA. 43+08.10 MANCHESTER
STA. 20+00. FRITCH
STA. 41+14~45' LT. & 20"~45° H. BEND
STA. 41+04~35' LT & 20"~45° H. BEND
LA & RW
EXIST. R/W
EXIST. 20" WOOD STAVE W. M. (NOT IN USE)
EX. 16" W.M. TO BE ABANDONED
EX. 10" W.M. TO BE ABANDONED
EXISTING 24" SANITARY
STA. 37+52.44 TAN. MANCHESTER
STA. 20+00 BRENNEMAN
STA. 37+33 & 8"~11¼° BEND
STA. 37+33 35' LT & 20"X20"X8" TEE
STA. 35+31.98 MANCHESTER RD
STA. 50+00 NESMITH LAKE BLVD
STA. 35+46 MANCHESTER 20"X16" TEE 35' LT & 16" VALVE & BOX 25' LT & 16"X16"X16" TEE 15' LT & 16"X6" REDUCER 15' LT & 16" SOLID SLEEVE
STA. 35+11 (35' LT & 12)~45° H. BEND
20"X12" REDUCER
APPROX. STA. 34+36 (60' LT &) REMOVE EXIST 12"X10" REDUCER INSTALL 12" 45° BEND & 12" SOLID SLEEVE
MATCH LINE STA. 35+00
NOTE: FOR CONTINUATION OF MANCHESTER RD. UTILITIES SEE SHEET Nº 247

MANCHESTER ROAD
EXIST. 24"
EXIST. 15" V.C.P.
EXIST. 30" SEWER
EXIST. 36" SEWER
EXIST. 48" SEWER
EXIST. R/W PROPOSED
R/W
RAMP "A"
RAMP "B"
LA & RW
EXISTING 8" SAN.
EXISTING 4" W.M.
EXISTING 6" W.M.
EXISTING 8" W.M.
EXISTING MH
SEAL INLET
CUT & PLUG BEYOND LAST SERVICE
SEAL OUTLET & INLET PIPES
TO BE ABANDONED
ABANDON & SEAL OUTLET PIPE
EXCAVATION
SEAL OUTLET PIPE
EXISTING 6" W.M.
EXISTING 8" SAN.
EXISTING 8" W.M.
EXISTING MH
NEW
NESBITT AVE
PELTON AVE
CONRAD AVE
FRITCH AVE
BRENNEMAN BLVD
BRENNEMAN BLVD RELOCATED
NESMITH LAKE BLVD
EXISTING 24" SAN.
EXISTING 6" W.M.
EXISTING 8" SAN.
EXISTING 8" W.M.
EXIST. 8" W.M.
EXISTING 6" SAN.
EXISTING 8" SAN.
EXISTING 8" W.M.
EXISTING 6" W.M.
EXISTING 8" SAN.
EXISTING 8" W.M.
EXISTING 8" SAN.
EXISTING 8" W.M.
EXISTING 8" SAN.
EXISTING 8

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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EX. 4" WATER MAIN

STA. 29+81 (140' LT ℄) 8"~22½° BEND

STA. 31+71 (140' LT ℄) 6"x 6" TEE 6" VALVE & BOX 6" HYD.

STA. 31+75.80 (144' LT ℄) 24" VALVE & BOX

EXISTING 8" SANITARY

CUT EXIST. 4" WM. & INSTALL IN PROP 8"x4" TEE, BOTH EDWIN & CHRISTENSEN

8"x4" TEE, STA. 31+75.8 (140' LT ℄)

8"x4" TEE STA. 14G+27 (140' LT ℄) 8"x6" RED

6"~45° H. BEND STA. 14+7+89 (140' LT ℄)

8"x6" RED

STA. 14G+27 12" (142' LT) 4" VALVE & BOX

EXISTING 4" WM

EXISTING 8" SAN.

APPROX. REMOVE | STA. 16+50 (7' LT ℄) EXIST. 11¼° BEND

6"~45° BEND STA. 15+62 (7' LT ℄)

STA. 14G+34.3 (121' LT ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP EL = 1007.57 ℄ 8" PIPE = 998.57

STA. 14G+54 (140 LT ℄) 6" VALVE & BOX

STA. 14B+92.5 (121' LT ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP ELEV = 985.10 ℄ 8" PIPE = 974.16

STA. 151+86.5 (222' LT ℄) EXISTING M H INV. EL 958.08' TOP EL 969.40'

87'~36" CL. E-1 SEC. M.G.8(b) OR M.G.G(c) FULL VIT. LINED @ 0.10%

STA. 152+43.30 (156' LT. ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP EL 966.50' INV. EL. 958.17'

STA. 151+00 (143.52' LT. ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP ELEV. 974.90 ℄ 8" PIPE = 963.87

STA. 152+10.00 M.L.

CANAL

AKRON CORPORATION LINE

OHIO

RE-LOC FRITCH AVE (PROPOSED)

STA. 21+21.00 CHRISTENSEN

STA. 12+84.56 FRITCH AVE EXT.

STA. 14D+19.30 M.L.

STA. 20+00 NESMITH LK.

8" TO BE ABANDONED

EX. M.H. REMOVED UNDER ITEM E-2 STRUCT EXCAV.

SEAL OUTLET & INLET PIPES

EX. 4" & 8" W.MAINS TO BE REMOVED UNDER ITEM E-1 WITH IN THE LIMITS OF EXCAVATION

EXISTING 8" SANITARY SEWER & M. H. REMOVED UNDER ITEM E-1 ROADWAY EXCAVATION

EX. M.H. REMOVE UNDER ITEM E-1 ROADWAY EXCAV.

EX. M.H. & 8" SAN. SEWER REMOVED UNDER ITEM E-1 ROADWAY EXCAV.

EXISTING 24" SANITARY TO BE ABANDONED

BRENNEMAN BLVD WITH IN THE LIMITS OF (PROPOSED)

STA. 31+82.76 BRENNEMAN STA. 20+00 EDWIN AVE

STA. 34+67.11 BRENNEMAN STA. 20+00 CHRISTENSEN STA. 14G+34.30 M.L.

EX. G"W.M. TO BE ABANDONED

& RE-LOC. BRENNEMAN BLVD

EDWIN AVE

CHRISTENSEN AVE

NESMITH LAKE BLVD

SEE SHEET NO

MATCH LINE

NEW 6" W.M.

STA. 18+64.32 (7' LT ℄) 6"x6"x6" TEE 6" VALVE & BOX STA. 18+61.32 (7' LT ℄)

STA. 15+60.67 ℄ RE-LOC BRENNEMAN ℄ EDWIN SOUTH STA. 18+78.82

STA. 18+54.62 & RE-LOC BRENNEMAN = STA. 18+78.82 ℄ CHRISTENSEN SOUTH

6" 90° BEND B&B STA. 18+68.2 (7' LT ℄) 6" VALVE & BOX STA. 18+74.88 (7' LT ℄)

6" VALVE & BOX STA. 18+64.32 (10' RT) 6"x6"x4" TEE STA. 18+64.32 (7' RT) 4" VALVE & BOX STA. 18+61.32 (7' LT ℄)

CUT EXIST. W.M. & INSTALL IN PROP TEE, BOTH EDWIN & CHRISTENSEN

EXISTING 6" W.M.

EXISTING 8" SANITARY

EXISTING 4" W.M.

EXISTING 8" SAN.

EXISTING 24" SAN.

EXISTING 6" W.M.

STA. 14D+19.30 (14.8' RT ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP ELEV. 977.00 INV ELEV. 958.74

STA. 151+78.41 (14.8 RT ℄) I-8 CITY OF AKRON TYPE 3 M.H. TOP ELEV. 966.50 INV. ELEV. 958.48

255'~36" CLE-1 M.G.8(b) or M.G.G(c) FULL VIT. LINED @ 0.10%

311'~36" CL. E-1 M.G.8(b) or M.G.G(c) FULL VIT. LINED @ 0.10%

87'~36" CLASS E-1 M.G.8(b) or M.G.G(c) FULL VIT. LINED @ 0.10%

252'~36" CLASS E-1 @ 0.10% M.G.8(b) or SEC. M.G.G(c) FULL VIT. LINED

EX. 24" SAN SEW @ 0.15%

EX. 24" SAN. SEWER @ 0.10%

CITY OF AKRON TYPE 3 M.H. STA. 149+13.50 (148' RT ℄)

CITY OF AKRON TYPE 3 M.H. STA. 151+78.41 (148' RT ℄)

CITY OF AKRON TYPE 3 M.H. 152+43.30 (156' LT ℄)

EX. M.H. STA. 151+86.5 (222' LT. ℄)

980 975 970 965 960

0 50 100 150 200 250 300 350 400 450 500 550 600 650

1S 36" SANITARY RELOCATION

CITY OF AKRON TYPE 3 M.H. STA. 146+34.3 (121' LT ℄)

NEW M H

250'~8" CLASS E-1 M.G.8(b) @ 9.44%

208'~8" CLASS E-1 M.G.8(b) @ 4.95%

117'~8" CL. E-1 M.G.8(b) @ 4.95%

CITY OF AKRON TYPE 3 M.H. STA. 148+92.5 (124' LT. ℄)

CITY OF AKRON TYPE 3 M.H. STA. 151+00.0 (143.52' LT. ℄)

EXISTING M.H. STA. 151+86.5 (222' LT ℄)

1010 1000 990 980 970 960

0 50 100 150 200 250 300 350 400 450 500 550 600

2S NEW 8" SANITARY NORTH OF LA LINE

NOTES:
FOR QUANTITIES & DETAIL THE PROPOSED RELOCATIONS OF FRITCH AVE & BRENNEMAN BLVD SEE SHEET NO 178 & 178 RESPECTIVELY

LEGEND
- PROPOSED SANITARY
- EXIST. SANITARY
- PROPOSED WATER
- EXIST. WATER

UTILITIES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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SUMMIT COUNTY
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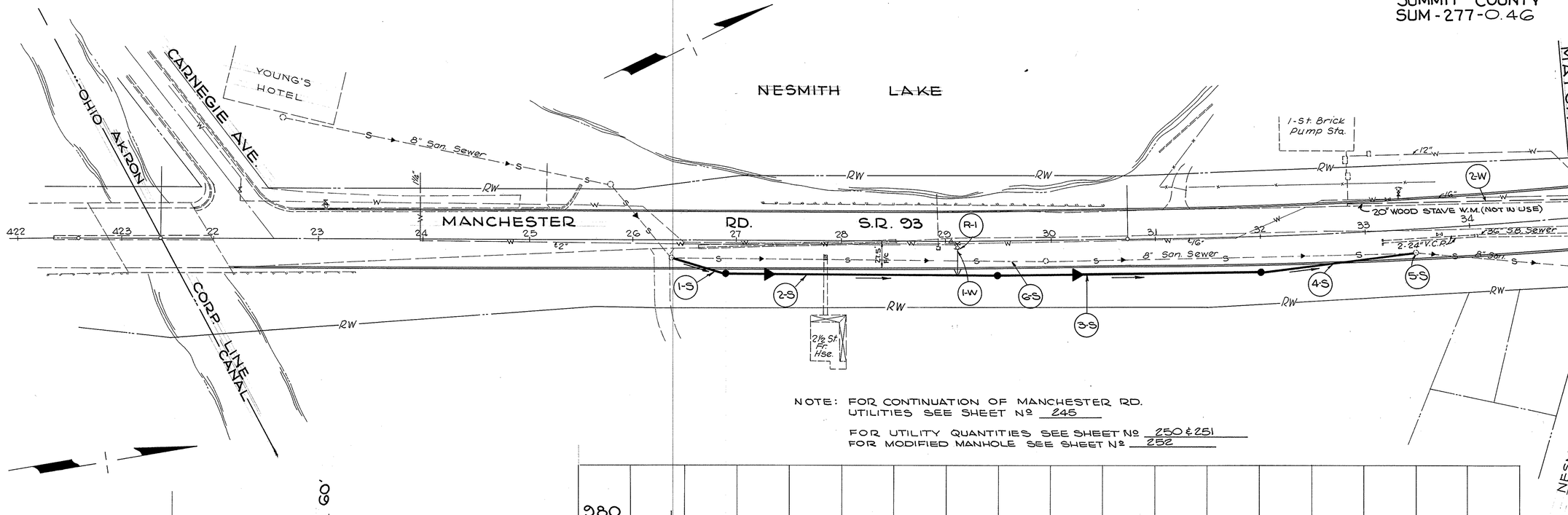
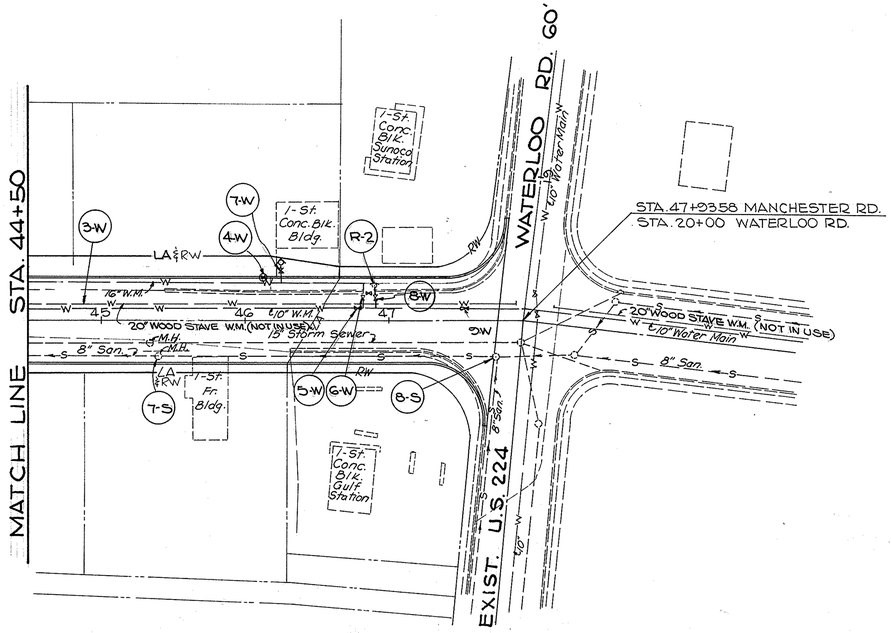
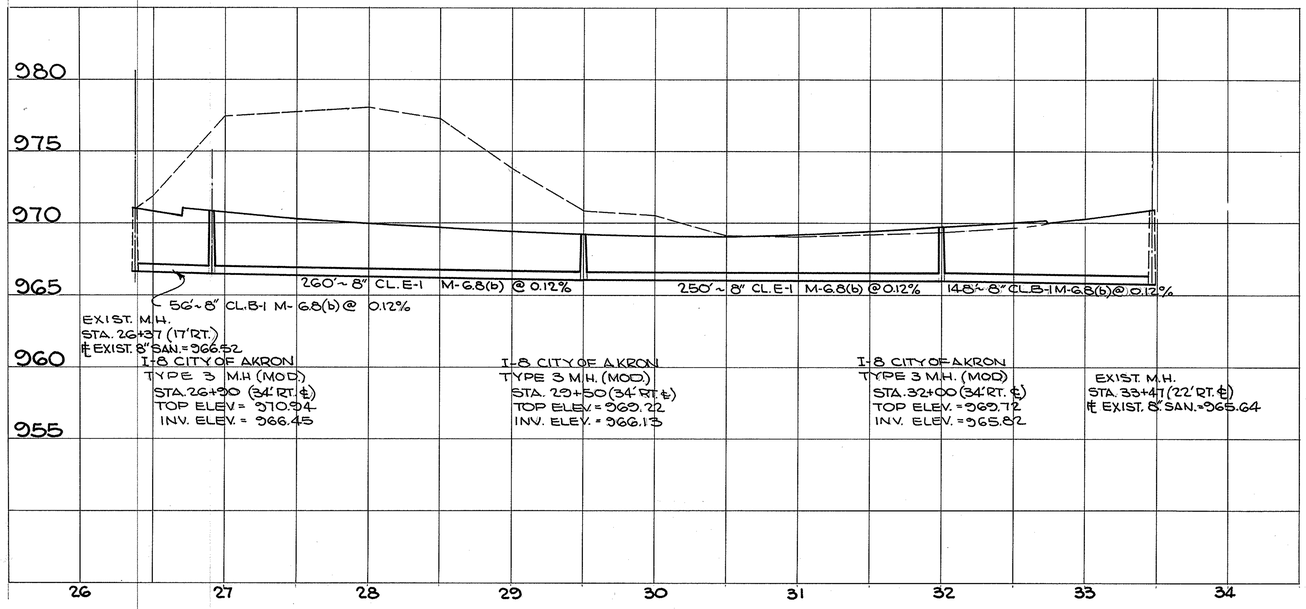




NOTE: FOR CONTINUATION OF MANCHESTER RD. UTILITIES SEE SHEET Nº 245

FOR UTILITY QUANTITIES SEE SHEET Nº 250 & 251
FOR MODIFIED MANHOLE SEE SHEET Nº 252



LEGEND

PROPOSED SANITARY
EXISTING SANITARY
PROPOSED WATER
EXISTING WATER

UTILITIES
MANCHESTER ROAD

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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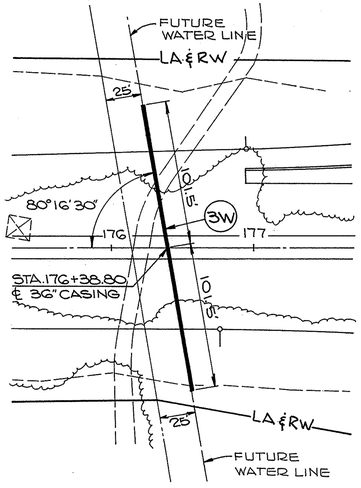
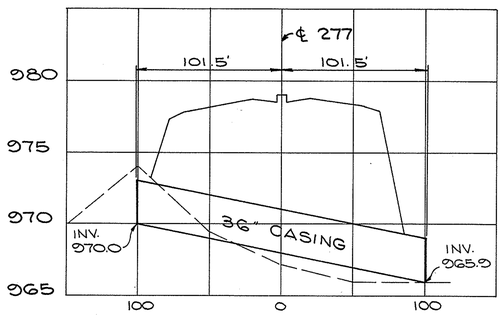
NOTES:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE 2" PRIVATE WATER LINE ON EXIST. LEY DR. AT ALL TIMES. MAY BE ACCOMPLISHED BY USE OF TEMP. LINE. IF A TEMP LINE IS USED IT SHOULD BE CHLORINATED & FLUSHED BEFOREBEING PUT IN USE

AKRON CORPORATION LINE
OHIO CANAL
LEY DRIVE
RELOCATED LEY DRIVE
RW
LA&RW
2" VALVE & BOX
1W
1-SC COPPER LINE
215'-0"
EXISTING 2" PRIVATE WATER LINE
NEW 6" PIPE SLEEVE
N.O.P.&L. R/W
EXISTING 12" C.I. LINE
60' RW
7'-0"
24"
97°30'
STA. 164+04
2W
36" CASING ACROSS R/W
17'-6"
EXISTING 20" I.D. API 5-11 LINE WITH DRESSER COUPLINGS PROPERTY OF THE B.F. GOODRICH CO.
154 155 156 157 158 159 160 161 162 163 165 166 167
55 60 63 64 65

~LEGEND~
—W—W— PROPOSED WATER MAINS
EXIST. WATER MAINS

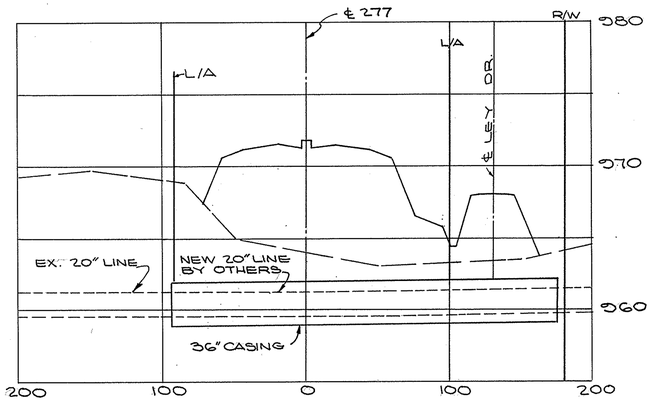


PLAN ~ 36" CASING
STA. 176+38.80



PROFILE ~ 36" CASING
STA. 176+38.80

NOTE :
THE 20" WATER LINE CROSSING AT STA. 164+04 WILL BE REMOVED FROM WITHIN THE R/W LIMITS BY ITS OWNER THE B.F. GOODRICH CO. AT THEIR CONVENIENCE.
THE CONTRACTOR WILL INSTALL THE 36" CASING AT AN ELEVATION COMPATIBLE TO THE EXISTING WATER LINE AND SATISFACTORY TO THE B.F. GOODRICH CO.
THE B.F. GOODRICH CO. WILL BE RESPONSIBLE FOR RESTORING SERVICE IN THEIR WATER LINE
THE CONTRACTOR SHALL COOPERATE WITH THE B.F. GOODRICH CO. TO KEEP THE DURATION OF SHUT DOWN TO A MINIMUM AND SCHEDULE HIS OPERATIONS AT A TIME CONVENIENT FOR SHUT DOWN OF THE LINE.



PROFILE 20" WATER MAIN

UTILITIES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)12.4	

SUMMIT COUNTY
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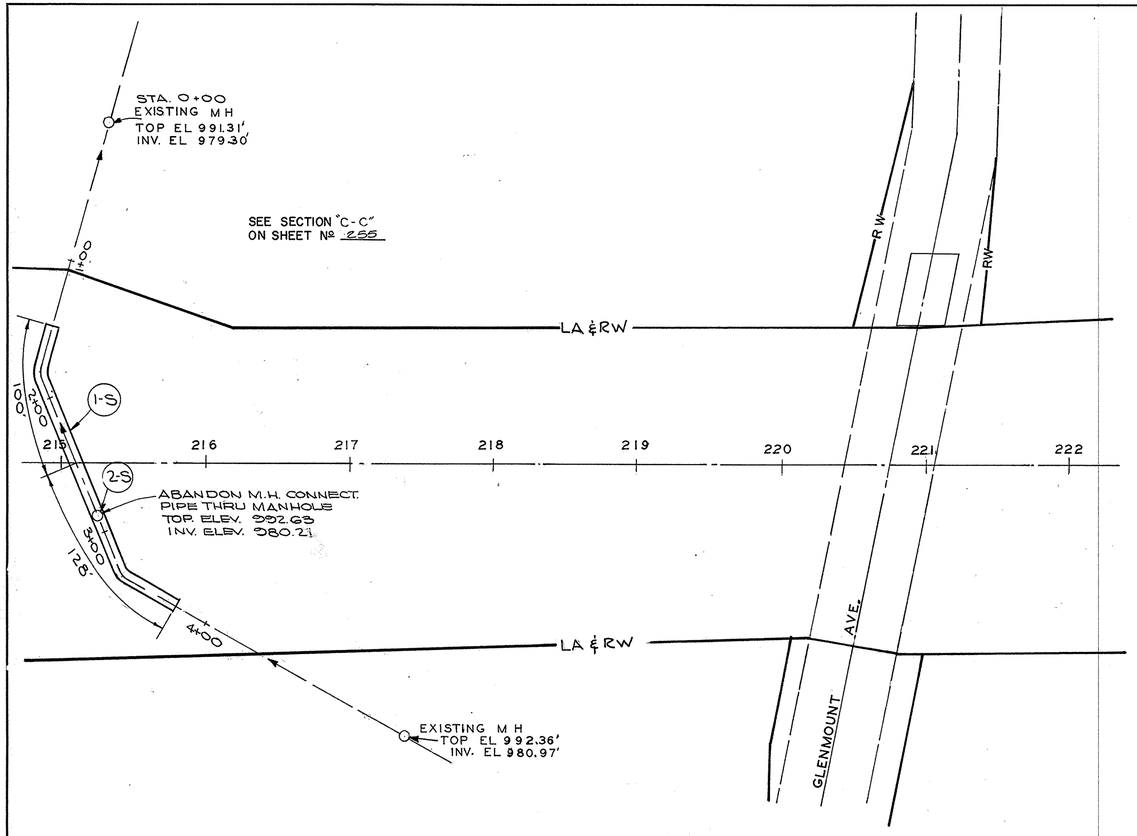
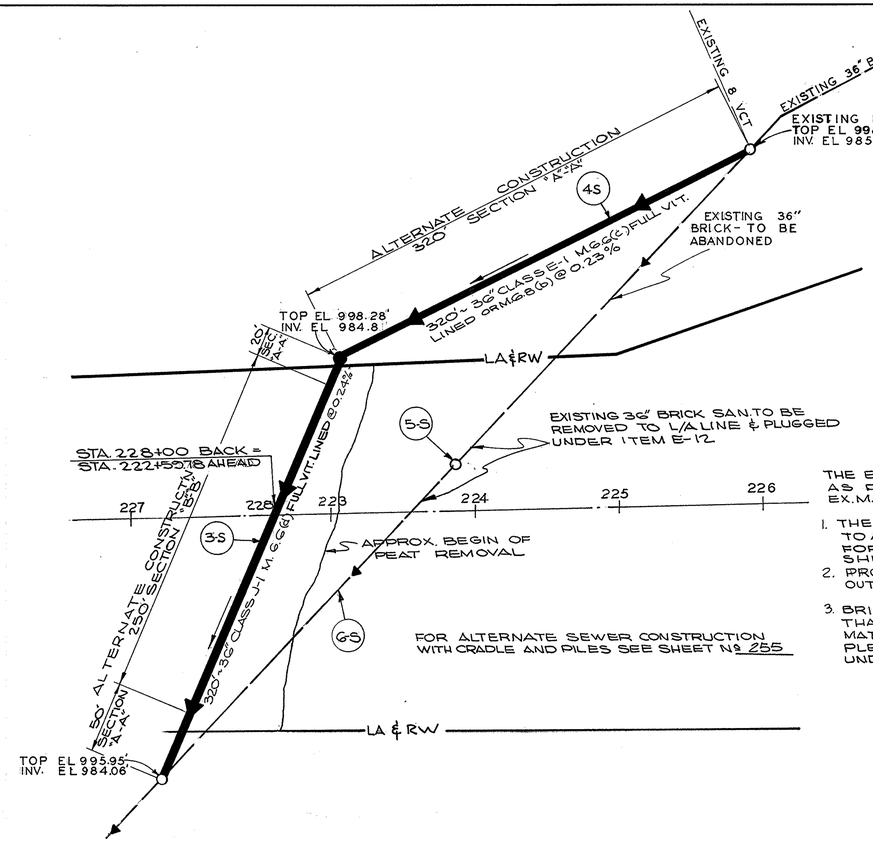


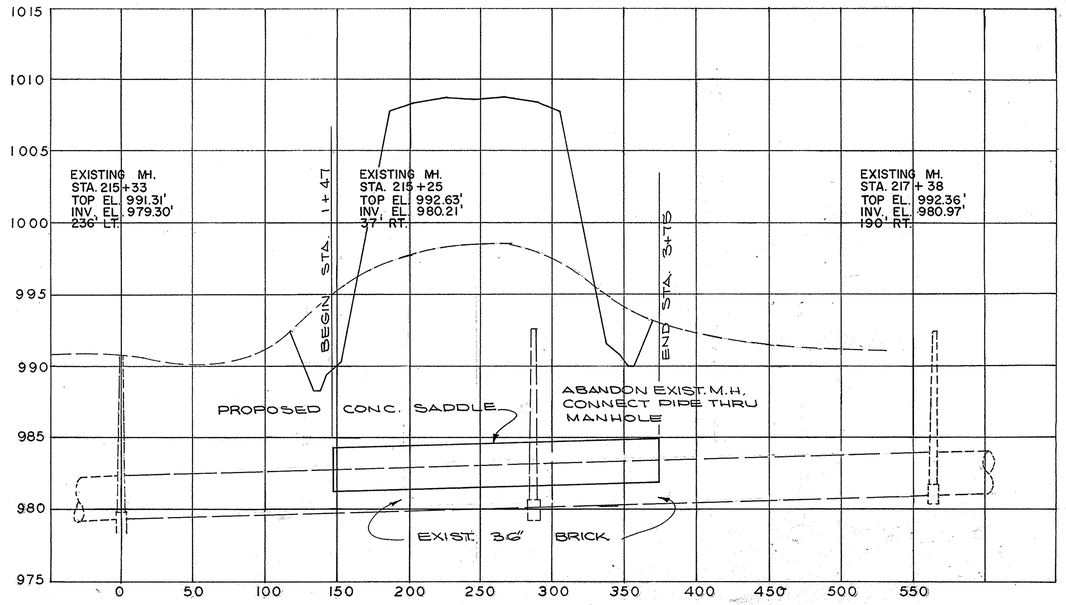


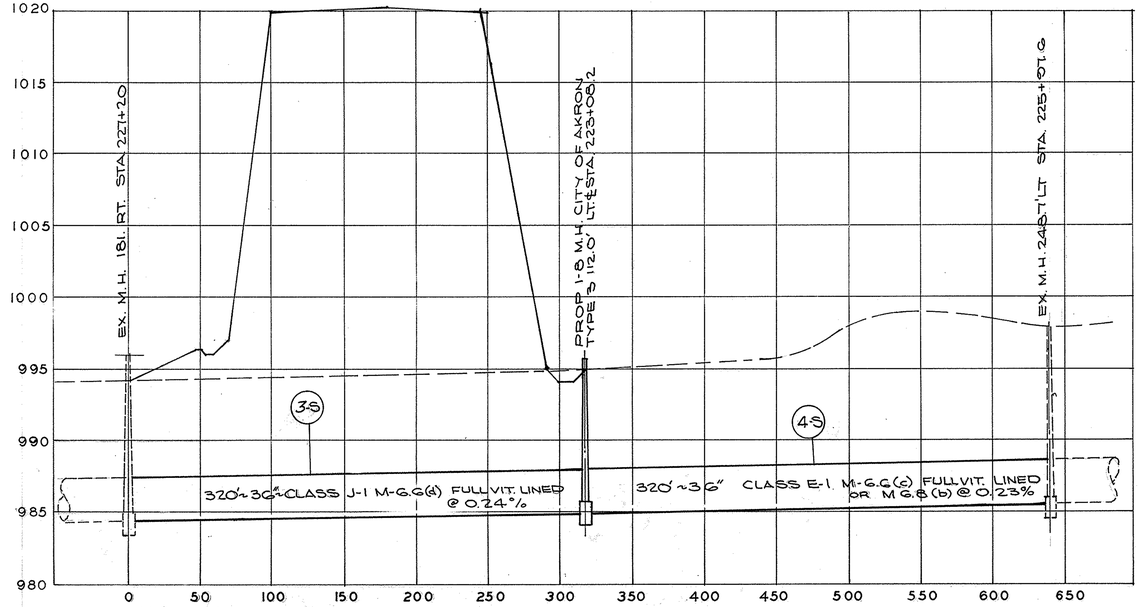
THE EXIST. M.H. LISTED BELOW SHALL BE ALTERED AS DESCRIBED IN 1, 2 & 3
EX. M.H. 181' RT & STA. 227+20; M.H. 248.7 LT. & STA. 225+97.60

1. THE BOTTOM OF BOTH MH's. SHALL BE MOD. TO A FULL CHANNEL AS SHOWN ON THE DETAIL FOR THE CITY OF AKRON TYPE 3 M.H. SHEET NO. 252
2. PROVIDE THE REQUIRED NEW INLET OR OUTLET FOR THE PROPOSED 36" RE-LOC.
3. BRICK-UP THE EXIST. INLET OR OUTLET THAT WILL BE ABANDONED. THE COST OF ALL MATERIALS & LABOR NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED UNDER ITEM "I-8 MANHOLES ALTERED

LEGEND

PROPOSED SANITARY
EXISTING SANITARY





UTILITIES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

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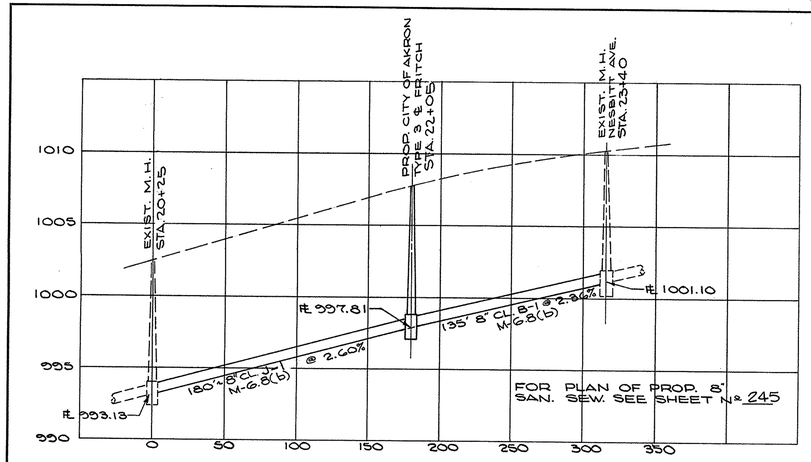
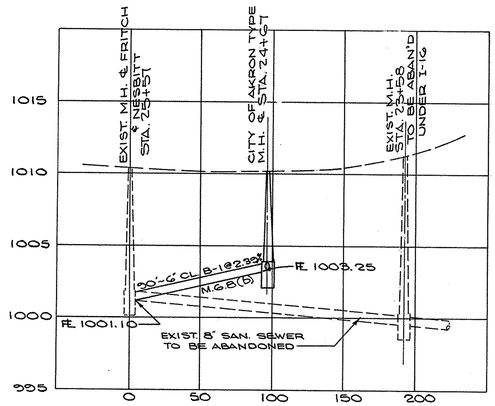
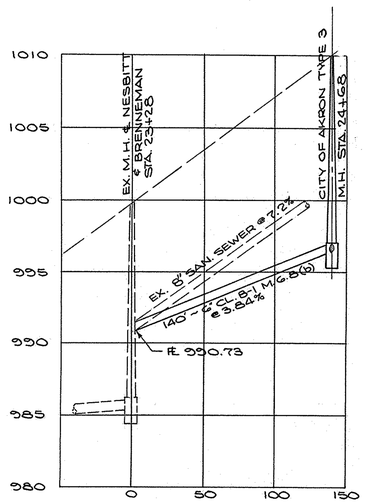
SUMMIT COUNTY
SUM.-277-0.46



8" CL. B-1 SANITARY - FRITCH AVE. - MANCHESTER TO NESBITT AVE.



6" CL. B-1 SANITARY - NESBITT AVE. L/A LINE TO FRITCH
FOR PLAN SEE SHEET № 245



6" CL. B-1 SAN. - BRENNEMAN & NESBITT
FOR PLAN SEE SHEET № 245

ESTIMATED QUANTITIES SANITARY SEWER

SHEET №	REF №	STATION FROM	STATION TO	SIDE	I-1 PIPE WITH COMPRESSION JOINTS: CLASS B-1 6" M-6.8(b) LIN. FT.	CLASS B-1 8" M-6.8(b) LIN. FT.	CLASS E-1 8" M-6.8(b) LIN. FT.	CLASS E-1 36" M-6.8(b) or M-6.6(c) FULL VIT. LINED LIN. FT.	CLASS J-1 8" M-6.8(b) LIN. FT.	CLASS J-1 36" M-6.6(d) FULL VIT. LINED LIN. FT.	I-2 MASONRY AS PER PLAN CU. YDS	I-8 MANHOLES (EACH): CITY OF AKRON TYPE 3 EACH	CITY OF AKRON TYPE 3 MOD. EACH	ALTERED EACH	REBUILT EACH	ADJ. TO GRADE EACH	I-16 ABANDON EXIST. MANHOLE SANITARY EACH	E-12 PIPE REMOVED: OVER 15" LIN. FT.	15" & UNDER LIN. FT.
		NESMITH LAKE BLVD.																	
245	1-S	50+51		℄															
		MANCHESTER RD.																	
	2-S	35+54		RT.												1			
	3-S	36+00		LT.												1			
	4-S	37+05		RT.											1				
	5-S	37+08		LT.												1			
	6-S	37+53		RT.												1			
	7-S	40+44		RT.												1			
		FRITCH AVE.																	
	8-S	20+25		℄															
	9-S	20+25	22+05	℄										1					
	10-S	22+05	23+40	℄		135			180					1					
		NESBITT AVE.																	
	11-S	24+67	25+56.98		90														
	12-S	23+58		℄								1					1		
	13-S	21+60		℄													1		
		ACCESS DR. FROM NESBITT																	
	14-S	23+28.35	24+68	LT.	140							1							
		PELTON AVE																	
	15-S	21+80		℄													1		
	16-S	22+90		℄								1							
		BRENNEMAN BLVD.																	
	17-S	28+30		℄													1		
		FRITCH AVE EXTENSION																	
246	1-S	9+70.75		℄												1			
		CHRISTENSEN AVE																	
	2-S	22+80		℄												1			
		NESMITH LK. BLVD.																	
	3-S	15+90		LT.												1			
		MAIN-LINE																	
	4-S	146+84.3	148+52.5	LT.		258									1				
	5-S	148+52.5	151+000	LT.			208								1				
	6-S	151+00.0	151+86.5	LT.			117								1				
	7-S	149+19.3	151+78.41	RT.				250							1				
	8-S	151+78.41	152+43.3	RT. & LT.				311							1				
	9-S	151+86.5	152+43.3	LT.				87							1				
	10-S	151+86.5		LT.										1					
	11-S	149+19.30		℄													1		
	12-S	151+67		℄													1		
		MAIN-LINE																	
247	1-S	214+54	215+80	RT. & LT.							174.8								
†	2-S	215+25		RT.													1		
†	3-S	227+20	223+08	RT. & LT.					320			1		1					
†	4-S	223+08	225+97.6	LT.				320						1					
†	5-S	223+87		LT.													1		
†	6-S	227+50	224+60	RT. & LT.														360	
		MANCHESTER RD.																	
247	1-S	26+37	26+50	RT.		* 56							* 1			* 1			
	2-S	26+50	29+50	RT.			* 260					* 1							
	3-S	29+50	32+00	RT.			* 250					* 1							
	4-S	32+00	33+47	RT.		* 148						* 1							
	5-S	33+47		RT.									* 1			* 1			
	6-S	26+37	33+47	RT.												* 1		* 710	
	7-S	45+40		RT.												* 1			
	8-S	47+75		RT.												* 1			
		TOTALS			230	507	835	977	180	320	174.8	1.1	3	7	2	13	9	360	710

* DENOTES FEDERAL & STATE PARTICIPATION ONLY. ALL OTHER ITEMS FEDERAL, STATE AND CITY PARTICIPATION *Unless otherwise shown.*

* *Denotes City and State Partic.*

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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I - 124 WATER MAIN

SHEET Nº	REF. Nº	STATION FROM	STATION TO	SIDE	NEW CLASS 24 C.I. PIPE LIN. FT. 6"	8"	10"	12"	16"	20"	C.O.2 IN. FILL 6"	C.O.2 IN. FILL 8"&12"	B-3610 LIN. FT. 36"
		NESMITH LK. BLVD.											
245	1-W	50+57		LT.									
	2-W	45+87	50+30	LT.	43								
		MANCHESTER RD.											
	3-W	34+86	35+46	LT.				#21/46					
	4-W	35+46		LT.					15				
	5-W	35+46	43+96	LT.						#24/815			
	6-W	43+96		LT.			#33						
	7-W	43+96	44+25	LT.					#80				
	8-W	35+00	44+50	LT.									
		BRENNEMAN BLVD.											
	9-W	19+60	26+06	RT.		646							
	10-W	23+21		RT.									
	11-W	23+08		RT.	20								
		PELTON AVE.											
	12-W	18+54.3	19+30.3	LT.		64							
	13-W	18+64.3 CONRAD	18+64.3			282							
		CONRAD AVE.											
	14-W	18+64.3	23+30	LT.	11	451							
	15-W	21+62	21+85	R&L		40							
		FRITCH AVE.											
	16-W	23+33	26+18		285								
	17-W	27+50	29+05		155								
		CONRAD TO NESMITH LK.											
246	1-W	18+64.3	18+78.8		850								
	2-W	18+54.3	EDWIN	LT									
	3-W	18+54.3	CHRISTENSEN	LT.									
	4-W	21+62	16+50		348	533							
	5-W	31+71	BRENNEMAN	LT.									
		MAINLINE											
248	1-W	158+40	MAINLINE	R&L							215		
	2-W	164+04	MAINLINE	R&L								270	
	3-W	176+38.8	MAINLINE	R&L								203	
		MANCHESTER RD.											
247	1-W	29+11		RT.	#27								
	2-W	32+85	35+00	LT.									
	3-W	44+50	47+78	LT.									
	4-W	46+14		LT.									
	5-W	46+78		LT.									
	6-W	46+82		LT.									
	7-W	46+91		LT.	#14								
	8-W	46+91		LT.									
	9-W	47+53		LT.									
TOTALS					1,753	2,016	33	67	45	842	215	473	

CLASS "D" FITTINGS EACH

TEES ALL BELL 4"x4"	6"x6"	8"x8"	16"x16"	20"x20"	CROSS ALL BELL 8"x4" x 8"	BENDS BELL & BELL 90° 6"	8"	10"	12"	16"	45° 6"	8"	12"	16"	20"	22½° 8"	11¼° 8"
x 4"	x 4" x 6"	x 4" x 6" x 8"	x 6" x 8" x 6"	x 16" x 8" x 10" x 16"					#1				1				
									1						2		
										#1			#1				
																	5
		1							1								
			1														
				1													
																	4
																	1

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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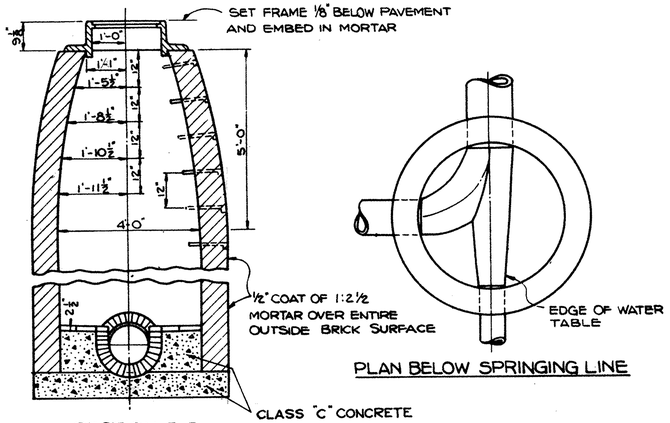
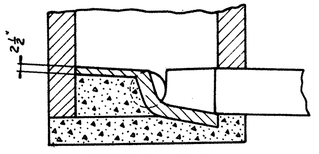
SUM-277-0.46

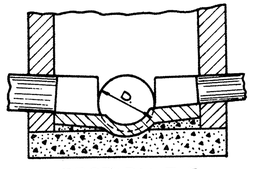


SECTION B-B

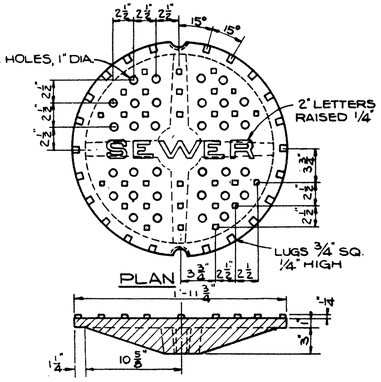
PLAN BELOW SPRINGING LINE



SECTION D-D

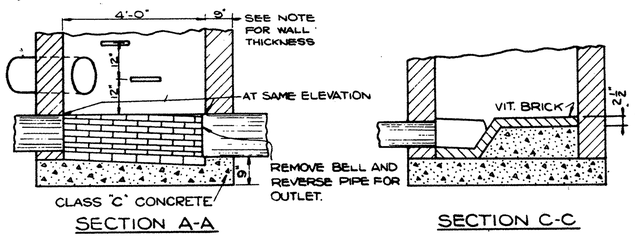


SECTION E-E



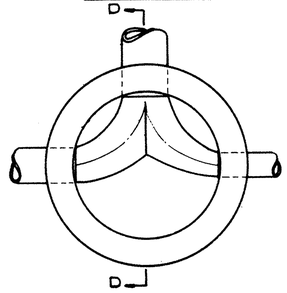
PLAN

SECTION F-F

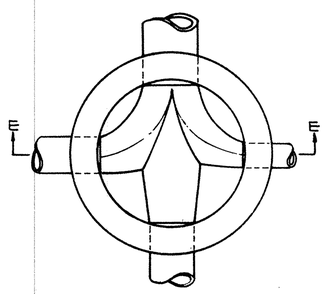


SECTION A-A

SECTION C-C

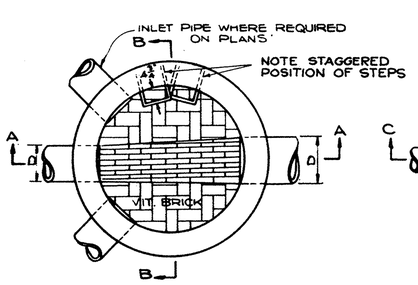


PLAN BELOW SPRINGING LINE

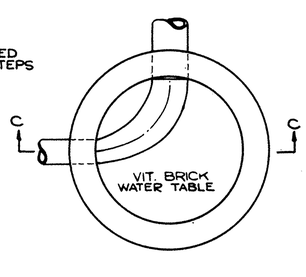


PLAN BELOW SPRINGING LINE

ALL MANHOLES SHALL BE THOROUGHLY BONDED TO THE BARREL OF THE SEWER, ALL CONNECTIONS SHALL BE NEATLY MADE WITHOUT PROJECTIONS OR VOIDS.



PLAN BELOW SPRINGING LINE



PLAN BELOW SPRINGING LINE

MANHOLE

NOTES:

BOTTOM OF MANHOLES SHALL BE CLASS "C" CONCRETE.

MANHOLES TO BE BUILT OF BRICK LAID UP IN PORTLAND CEMENT MORTAR. EVERY SEVENTH COURSE TO BE A "STRETCHER" COURSE.

CROWN OF OUTLET PIPE TO BE OF SAME OR LOWER ELEVATION THAN INLET PIPE.

CHANNELS AND WATER TABLES OF ALL MANHOLES TO BE OF VITRIFIED BRICK.

OUTSIDE OF BRICK MANHOLES TO BE PLASTERED WITH ½" COAT OF 1:2½ PORTLAND CEMENT MORTAR. INTERIOR JOINTS TO BE POINTED.

WHERE MANHOLE DEPTH IS 15 FEET OR MORE, WALLS AT THE BOTTOM SHALL BE 13½ INCHES THICK AND CARRIED AT THIS THICKNESS TO WITHIN 12 FEET OF THE TOP.

FINISHED CASTINGS SHALL NOT VARY MORE THAN ONE SIXTEENTH (1/16) INCH PER FOOT IN ANY DIMENSION OR MORE THAN FIVE PERCENT (5%) IN WEIGHT FROM THOSE CALLED FOR ON THE DRAWING.

BEARING PARTS OF FRAME AND COVER SHALL BE MACHINED TO PROVIDE A FIRM AND EVEN SEAT FOR ANY POSITION OF THE COVER.

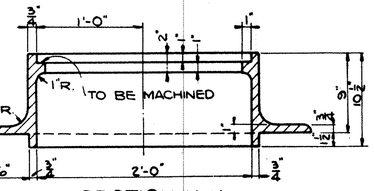
MATERIAL FOR FRAME AND COVER TO BE CAST IRON OF GOOD QUALITY.

CASTINGS ARE TO BE FREE FROM BLOWHOLES OR OTHER DEFECTS.

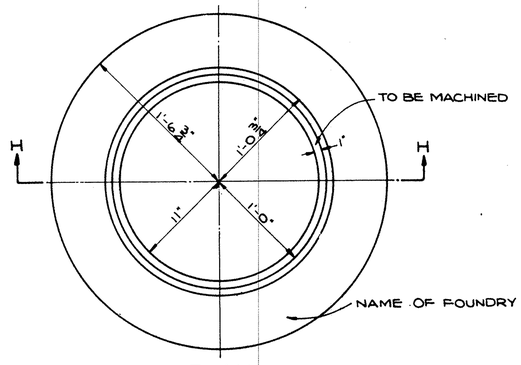
THEY SHALL BE CLEANED OF ALL SCALE AND GREASE AND RECEIVE TWO (2) COATS OF BITUMINOUS PAINT.

EACH CASTING WHEN DELIVERED SHALL BE MARKED WITH ITS ACTUAL SHOP WEIGHT, CONSPICUOUSLY PAINTED IN WHITE.

CASTING MATERIAL FOR FRAME AND COVER SHALL CONFORM TO STATE OF OHIO SPEC. M-7.8(a) OR M-7.8(b).



SECTION H-H

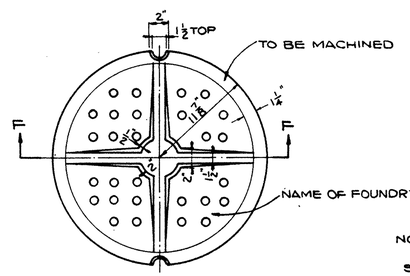


PLAN

FRAME

MATERIAL: GRAY IRON ASTM A-48-48 OR NODULAR IRON ASTM A-339

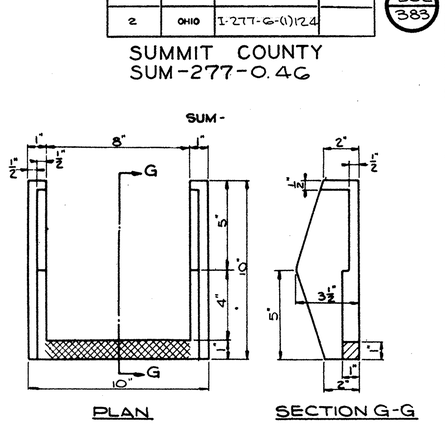
SCALE 1½"=1"



INVERTED PLAN

COVER

SCALE 1½"=1"

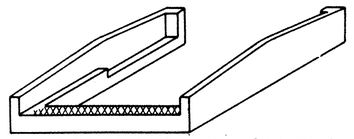


PLAN

SECTION G-G

STEP

SCALE 3"=1"



FOUNDRY NAME AND ALLOY USED SHALL BE CAST OR STAMPED ON EACH STEP.

ALLOY SPECIFICATIONS FOR STEP:
MINIMUM 1% NICKEL
A.S.T.M. A-339
GRADE 60-45-10
NODULAR IRON CASTINGS

NOTE:

STEPS SHALL BE OF GOOD QUALITY ALLOY CASTING AS PER SPECIFICATIONS; SHALL BE FREE OF BLOWHOLES, CRACKS OR OTHER DEFECTS.

THEY SHALL BE CLEAN OF ALL SCALE AND GREASE AND RECEIVE TWO (2) COATS OF BITUMINOUS PAINT.

TREADS SHALL HAVE SHARP, WELL DEFINED CHECKS.

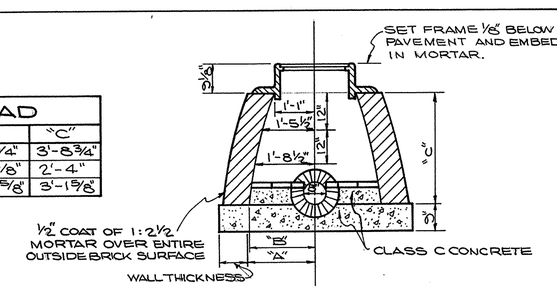
ALL CORNERS SHALL BE ROUNDED.

STEPS SHALL CONFORM TO STATE OF OHIO SPEC. M-7.8(b) NODULAR IRON CASTINGS.

WEIGHTS

MANHOLE FRAME	325#
MANHOLE COVER	142 #
MANHOLE STEP	11½ #

MANCHESTER ROAD			
STATION	"A"	"B"	"C"
26+90 34' RT.	1'-11¾"	1'-11¼"	3'-8¾"
29+50 34' RT.	1'-10½"	1'-9⅛"	2'-4"
32+00 34' RT.	1'-11⅜"	1'-10⅝"	3'-1⅝"



MANHOLE MODIFIED

I-8 M.H. TYPE 3 (SEE GENERAL NOTES)
I-8 M.H. TYPE 3 MODIFIED

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)124	

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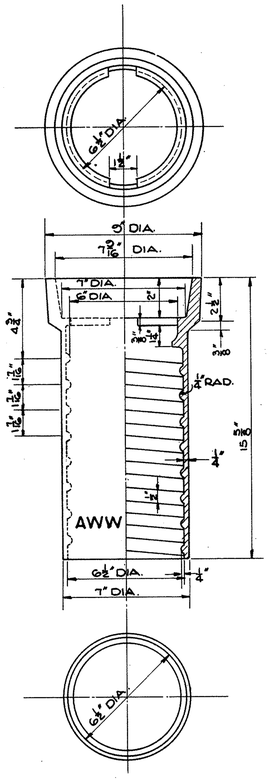
SUM-277-0.46

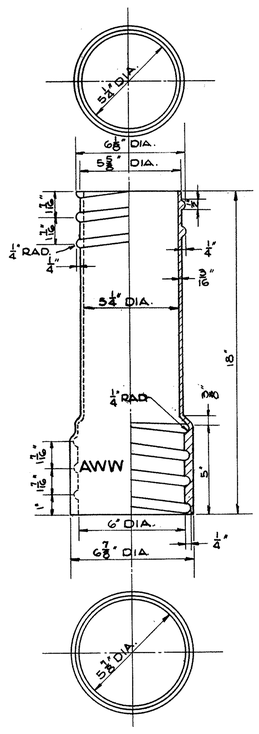
NOTES:
VALVE BOXES AND PARTS SHALL BE MADE FROM A GOOD QUALITY OF CAST IRON.

EACH CASTING SHALL BE COATED INSIDE AND OUT WITH COAL-TAR PITCH VARNISH, SIMILAR TO THAT USED FOR COATING CAST-IRON PIPE.
APPROXIMATE WEIGHT - BOX COMPLETE, (BASE, CENTER SECTION. TOP SECTION AND COVER) - 110 LBS.



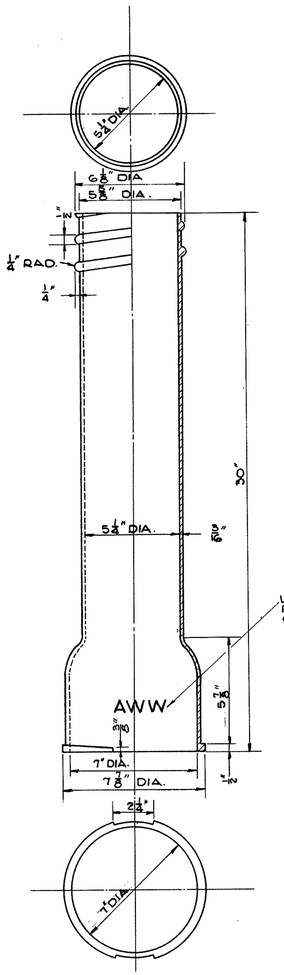
TOP SECTION
APPROXIMATE WEIGHT – 28 LBS.

NOTE:
TOP SECTION ALSO MADE IN 24" LENGTH



EXTENSION
APPROXIMATE WEIGHT – 20 LBS.

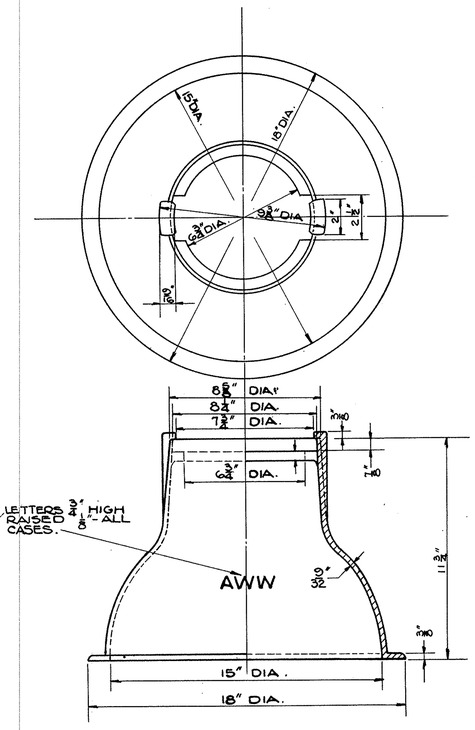
NOTE:
EXTENSIONS ALSO MADE IN 24" & 36" LENGTHS.



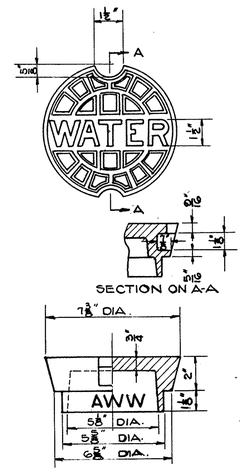
CENTER SECTION
APPROXIMATE WEIGHT – 35 LBS.

NOTE:
CENTER SECTIONS ALSO MADE IN 21" LENGTHS.

NOTE: A CLEARANCE OF 3/16" SHALL BE MAINTAINED BETWEEN SECTIONS AT ALL POINTS.



BASE
APPROXIMATE WEIGHT – 33 LBS.



COVER
APPROXIMATE WEIGHT – 15 LBS.

CITY OF AKRON, OHIO
BUREAU OF WATER SUPPLY
STANDARD VALVE BOX

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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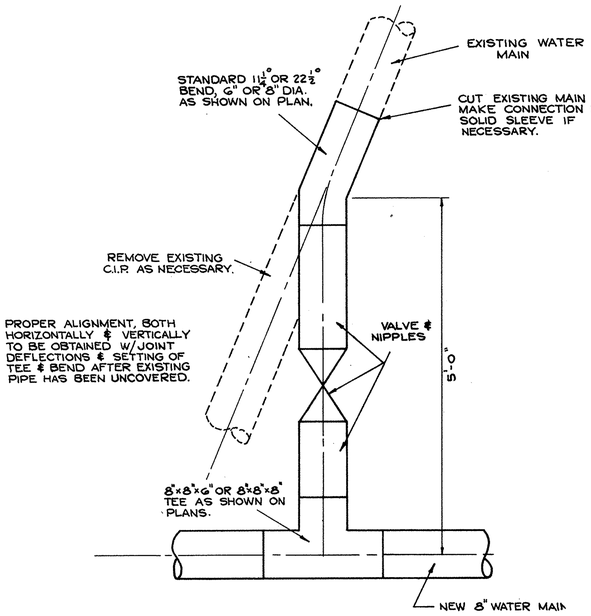
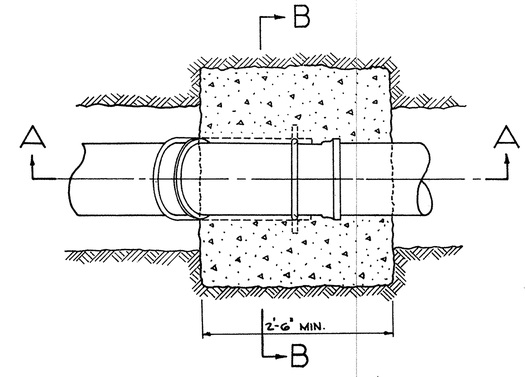
SUM-277-0.46

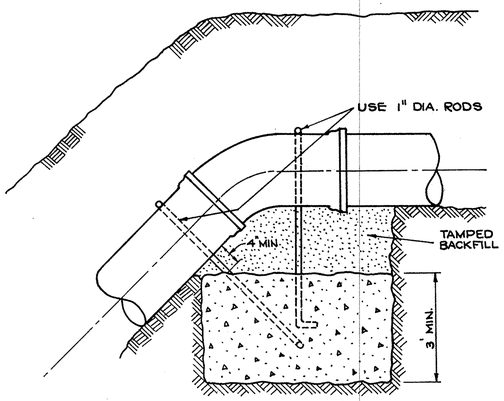


DETAIL SHOWING CONNECTIONS WITH EXISTING WATER MAINS AND 8" WATER MAIN RELOCATION

DETAIL "C"

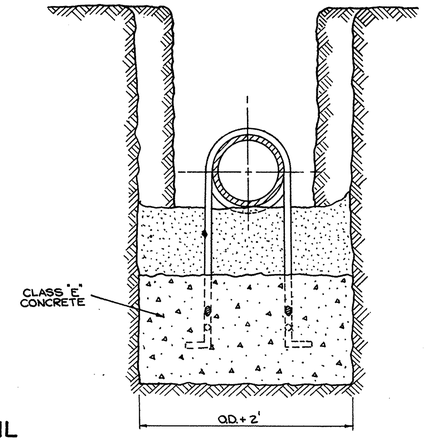


CLASS "E" CONCRETE, 1" DIA. RODS, AND OTHER MATERIALS TO BE INCLUDED IN UNIT PRICE BID FOR ITEM I-124 "NEW WATER MAIN" PER LINEAR FT.

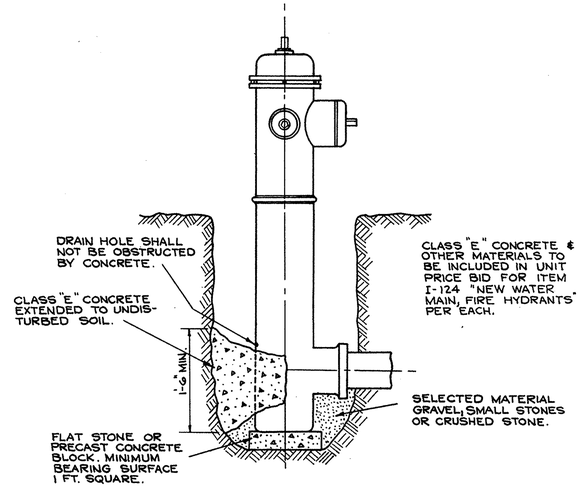


SECTION A-A

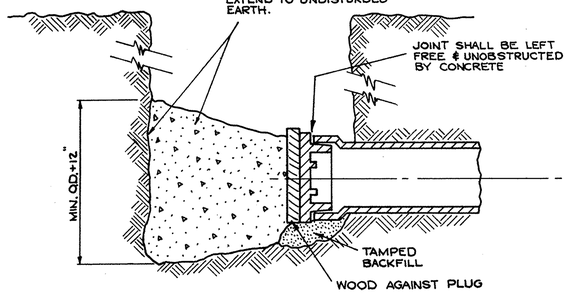
DETAIL
REACTION ANCHORAGE
TO BE USED WHERE REACTION BACKING IS REQUIRED FOR VERTICAL BENDS.



SECTION B-B

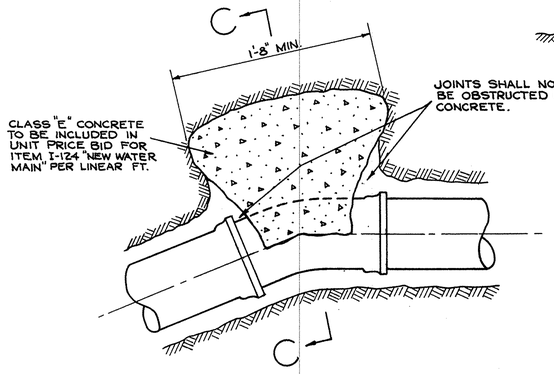


DETAIL
FIRE HYDRANT SETTING

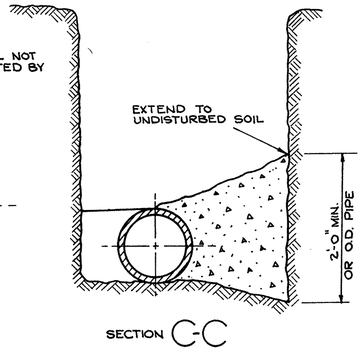


DETAIL
REACTION BACKING AT PLUG OR CAP

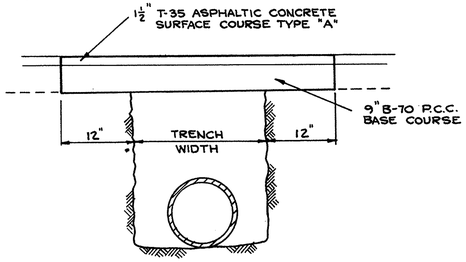
CLASS "E" CONCRETE TO BE INCLUDED IN UNIT PRICE BID FOR ITEM I-124 "NEW WATER MAIN, CUT & PLUG" PER EACH.



DETAIL
CONCRETE THRUST BLOCK
TO BE USED WHERE REACTION BACKING IS REQUIRED FOR HORIZONTAL BENDS.



SECTION C-C



DETAIL
PAVEMENT REPLACEMENT

DETAILS
UTILITIES AND WATER MAIN RELOCATION

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G-(1)12.4	

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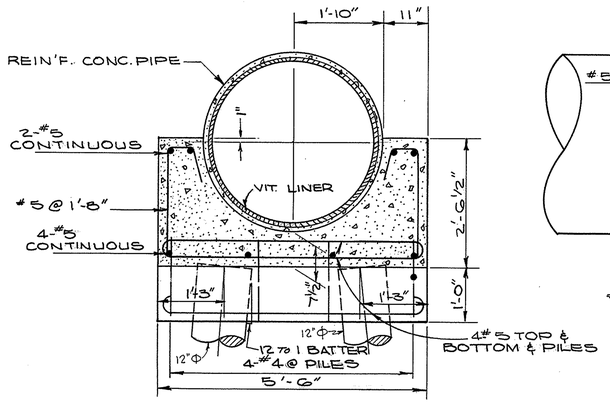
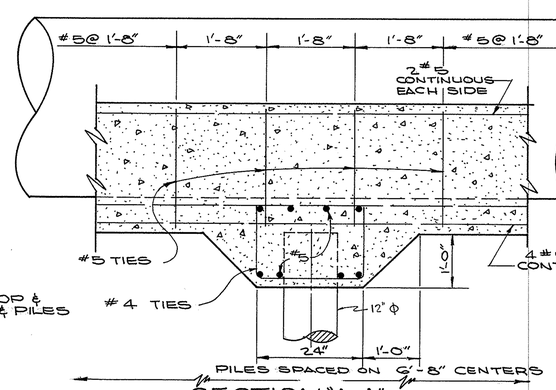
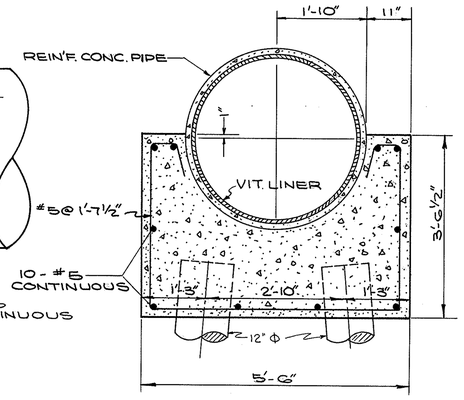
SUMMIT COUNTY
SUM-277-0.46



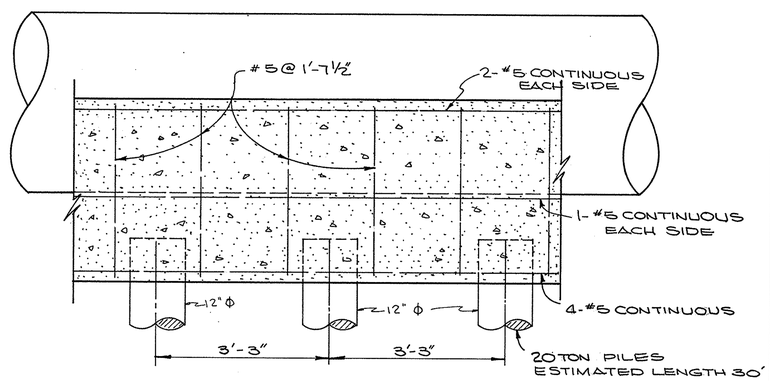
SECTION "A-A"
TYPICAL SECTION PILE & CRADLE
ROUND REINFORCED CONC. PIPE



SECTION "A-A"
LONGITUDINAL SECTION AT
PILING SUPPORT FOR PIPE



SECTION "B-B"
TYPICAL SECTION PILE & CRADLE
ROUND REINFORCED CONC. PIPE

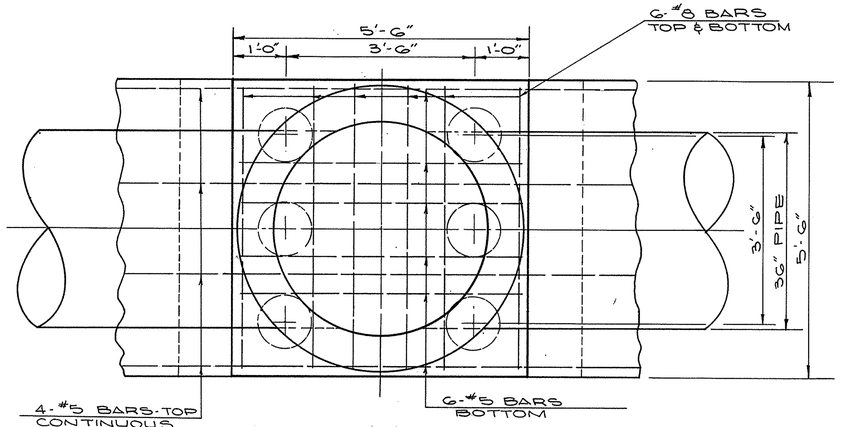


SECTION "B-B"
LONGITUDINAL SECTION
UNDER MAINLINE EMBANKMENT

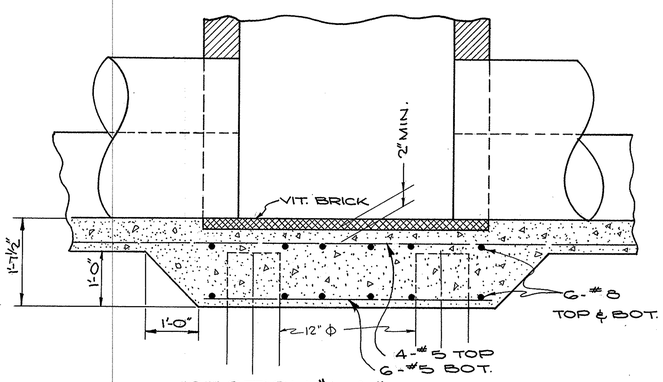
NOTE : ALL PILES 20 TON 12" CAST-IN-PLACE REINFORCED CONCRETE ESTIMATED PAY LENGTH 30'

ESTIMATED QUANTITIES
ALTERNATE CONSTRUCTION ITEMS

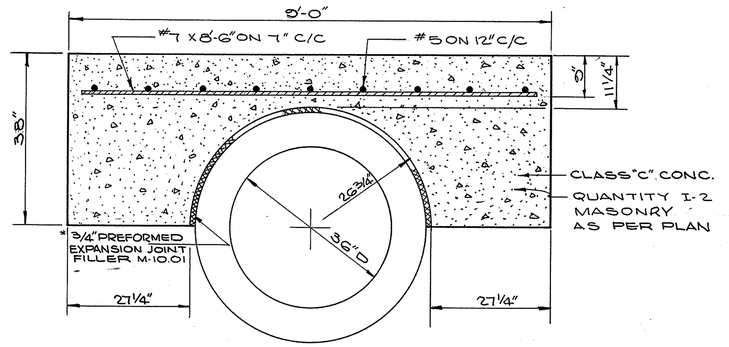
I-2 MASONRY (AS PER PLAN) 203 CU. YDS.
S-18 12" CAST-IN-PLACE REINFORCED CONC PILES 8,123 LIN. FT.



SECTION "A-A"
PLAN AT MANHOLES



SECTION "A-A"
TYPICAL SECTION FOR PILING
AT MANHOLES



SECTION "C-C"
TYPICAL SECTION THRU BARREL
PROPOSED PROTECTION FOR EXISTING 36" BRICK SANITARY TRUNK SEWER

* MAY BE CONSTRUCTED WITH 3-1/4" LAYERS
COST OF EXPANSION JOINT FILLER TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM I-2 MASONRY AS PER PLAN.

NOTE :
ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2"
STEEL ON BOTTOM SHALL BE PLACED TO PROVIDE 2" MIN. CLEARANCE AT PILES

PILE & CRADLE SUPPORT TO BE USED AS DIRECTED BY THE ENGINEER, WHERE SOIL CONDITIONS INDICATE THE NEED FOR ADDITIONAL SEWER SUPPORT. THE EXACT LIMITS OF THE PILE & CRADLE SECTION TO BE DETERMINED DURING CONSTRUCTION.

ALL CAST-IN-PLACE REIN'F. CONC. PILES TO CONFORM TO SPECIFICATIONS SET FORTH IN ITEM S-18 BEARING PILES

SANITARY SEWER DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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LIGHTING NOTES

GENERAL

THIS SPECIFICATION SUPPLEMENTS THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1965, FOR THE MATERIALS USED, AND FOR THE INSTALLATION OF LIGHTING UNITS ON THE EXPRESSWAY.

THE LOCATION OF LIGHTING UNITS, TRANSFORMER STATIONS, CONDUIT, DUCT, CABLES, PULL BOXES AND GROUNDS SHALL BE AS INDICATED ON THE PLANS.

THROUGHOUT THESE PLANS THE USE OF TRADE NAMES FOR ELECTRICAL LIGHTING EQUIPMENT IS MEANT TO BE DESCRIPTIVE ONLY. COMPARABLE PRODUCTS OF OTHER ELECTRICAL FIRMS ARE ACCEPTABLE IF ACCESSORIES AND MAIN MEMBERS ARE COMPATIBLE WITH ONE ANOTHER AND SERVE THE INTENDED PURPOSE.

THE ELECTRICAL WORK SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE I.E.E.E. STANDARDS AND PRACTICES, I.E.S./A.S.A. STANDARDS, N.E.M.A. CODE, AND THE NATIONAL ELECTRIC SAFETY CODE, AND SHALL ALSO CONFORM TO ALL LOCAL AND SPECIAL LAWS AND/OR ORDINANCES. SHOULD THE PLANS AND DETAIL SPECIFICATIONS BE IN CONFLICT WITH THESE REQUIREMENTS, THROUGH ERROR OR OMISSION, THE CONTRACTOR SHALL CALL SUCH CONFLICT TO THE ATTENTION OF THE ENGINEER AND SHALL MAKE THE NECESSARY CORRECTIONS AS DIRECTED BY THE ENGINEER.

MATERIALS AND EQUIPMENT

ALL BOLTS, NUTS, STUDS, SHIMS, WASHERS, SCREWS, CONDUIT STRAPS, AND SIMILAR FASTENINGS AND FITTINGS SHALL BE OF AN APPROVED CORROSION RESISTING MATERIAL SUCH AS SILCONE-BRONZE, OR SHALL BE IRON OR STEEL TREATED IN AN APPROVED MANNER SUCH AS HOT DIP GALVANIZING TO MAKE IT CORROSION-RESISTANT.

ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW, SHALL BE OF THE BEST QUALITY AND WORKMANSHIP, SHALL BE THE BEST STANDARD PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN PRODUCING THIS TYPE OF MATERIAL OR EQUIPMENT, AND OF THE LATEST APPROVED DESIGN.

THE LIGHTING EQUIPMENT, CONCRETE FOUNDATIONS, PULL BOXES, WIRE, CABLE, DUCT-CABLE, DUCT, GROUNDING AND BONDING, TRENCHING, ETC. SHALL CONFORM TO THESE SPECIFICATIONS, AND TO THE DETAILS AND NOTES ON THE DRAWINGS.

LIGHTING DESIGN

THE LIGHTING DESIGN IS BASED ON 0.8 TO 1.1 FOOT-CANDLE AVERAGE INITIAL VALUE ON THE EXPRESSWAY, BRIDGES, AND RAMPS.

THE LIGHTING WILL BE MERCURY VAPOR, USING A MULTIPLE SYSTEM, SINGLE PHASE 480 VOLT CIRCUIT WITH ONE LEG GROUNDED.

WORKING PLANS

THE CONTRACTOR BEFORE ORDERING ANY ELECTRICAL MATERIALS SHALL SUBMIT TO THE DIRECTOR FOR HIS APPROVAL, DETAIL PLANS, DRAWINGS, PHOTOGRAPHS AND SPECIFICATIONS OF ALL APPARATUS AND EQUIPMENT HE PROPOSES TO FURNISH. THEY SHALL SHOW CLEARLY THE DESIGN CONSTRUCTION, DIMENSIONS, QUANTITIES, AND SUCH OTHER INFORMATION AS MAY BE NECESSARY OR DESIREABLE FOR A PROPER UNDERSTANDING OF THE EQUIPMENT OFFERED. THE APPROVAL OF WORKING PLANS BY THE DIRECTOR SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRONEOUS OR INCONSISTENT DIMENSIONS, NOTATIONS, OMISSIONS, OR OTHER ERRORS, OR THE PROPER FUNCTIONING OF THE COMPLETED INSTALLATION.

TESTS

THE CONTRACTOR SHALL FURNISH THE QUALIFIED PERSONNEL AND ALL EQUIPMENT TO PERFORM THE FOLLOWING TESTS; AND, THE CONTRACTOR SHALL FURNISH (6) SIX CERTIFIED COPIES OF COMPLETE TEST RECORDS TO THE ENGINEER: PAYMENT FOR ALL TESTS SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM, INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEMS TESTED.

1. GROUND TEST THE RESISTANCE TO GROUND FOR EACH GROUND ROD SHALL NOT EXCEED TWENTY-FIVE OHMS. WHERE RESISTANCE EXCEEDS TWENTY-FIVE OHMS, SECTIONAL RODS SHALL BE DRIVEN TO A GREATER DEPTH UNTIL TWENTY-FIVE OHMS OR LESS IS SECURED. PERFORM TEST FOR EACH GROUND BEFORE CIRCUIT AND GROUND CABLES ARE CONNECTED, AND RECORD RESISTANCE, LOCATION AND DATE MADE.

2. CIRCUIT TEST THE RESISTANCE TO GROUND FOR EACH INSULATED MULTIPLE CIRCUIT CONDUCTOR (INCLUDING INSULATED GROUND) SHALL BE NOT LESS THAN TEN MEGOHMS. PERFORM TEST FOR EACH CIRCUIT WITH ALL BALLASTS DISCONNECTED FROM THE CIRCUIT UNLESS THE PLANS SPECIFY OTHERWISE. (IN THE CASE OF A GROUND CIRCUIT, TEST INSULATED GROUND RETURN BEFORE CIRCUIT GROUND CONNECTIONS ARE MADE TO GROUND ROD IN HANDHOLE OF EACH STANDARD). RECORD RESISTANCE, LOCATION, AND DATE MADE.

3. PERFORMANCE TEST THE CONTRACTOR SHALL OPERATE THE LIGHTING SYSTEM INCLUDING ALL SPECIFIED APPARATUS AND AUTOMATIC CONTROL EQUIPMENT, FROM SUNSET TO SUNRISE FOR SEVEN CONSECUTIVE DAYS WITHOUT INTERRUPTION OR FAILURE AFTER ALL FAULTS ARE CORRECTED, AND PRIOR TO ACCEPTANCE BY THE STATE. RECORD FAULTS, METHOD OF CORRECTION, THE DATE MADE, THE BEGINNING AND END OF SEVEN DAY TEST.

CONTRACTOR SHALL ARRANGE FOR ELECTRICAL ENERGY FOR TESTS WITH THE POWER COMPANY THAT WILL ULTIMATELY SERVICE THE INSTALLATION, AND SHALL INCLUDE BOTH COSTS OF PERFORMANCE TEST AND ENERGY IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEMS TESTED. A PORTABLE MOTOR-GENERATOR SET WILL NOT BE CONSIDERED A SUITABLE SOURCE OF POWER FOR THE PERFORMANCE TESTS.

ELECTRICAL SYSTEM PRINTS

THE CONTRACTOR SHALL FURNISH TO THE "OHIO EDISON COMPANY" AND TO THE "DEPARTMENT OF HIGHWAY, LIGHTING ENGINEER", THREE (3) PRINTS EACH OF THE ELECTRICAL SYSTEM SHOWING THE EXACT LOCATION OF CABLE, CONNECTIONS, AND OTHER PERTINENT INFORMATION IN ADDITION TO THE WRITTEN REPORT OF ALL TEST RESULTS.

CONDUIT (METAL)

CONDUIT AND FITTINGS SHALL BE 2" AND 3" RIGID STEEL, HOT DIPPED GALVANIZED AFTER THREADING, TYPE II OR III. FOR ALL CONDUIT EXPOSED ON THE BRIDGE, SUCH AS THE 2" CONDUIT AT THE BRIDGE ABUTMENTS, WITH RUNS INTO THE NEAREST FIBRE PULL BOX OR LIGHT POLE FOUNDATION, THE CONTRACTOR SHALL USE TYPE II OR III CONDUIT, HOT DIPPED GALVANIZED, AND ENAMEL COATED.

GALVANIZED WROUGHT IRON CONDUIT, WITH ENAMEL INSIDE COATING MAY ALSO BE USED FOR THESE EXPOSED RUNS, AT OPTION OF THE CONTRACTOR.

CROSS-OVER CONDUIT SHALL BE 3" DIRECT BURIAL TYPE II OR III OR W.I. (WROUGHT IRON) HOT DIPPED GALVANIZED. USE 2" ALLOY STEEL OR W.I. HOP DIPPED GALVANIZED CONDUIT DIRECT BURIAL AT BRIDGE TO ENCASED CKT. CABLE UP SLOPES, WHERE "WASHOUT" COULD OCCUR, AND DUCT-CABLE ALONE IS NOT ADEQUATE.

CONCRETE FOUNDATIONS

CONCRETE FOUNDATIONS FOR LIGHT STANDARDS SHALL BE POURED-IN-PLACE CONCRETE WITH STEEL REINFORCING BARS AS INDICATED ON THE PLANS. THE LOWER PORTION MAY BE POURED IN A 2'-0" DIAMETER HOLE WITHOUT FORMS EXCEPT IN ADVERSE SOIL CONDITIONS. THE TOP PORTION SHALL BE FORMED 2'-0" SQUARE FOR AT LEAST 1'-0" DEEP OR A MINIMUM OF SIX (6) INCHES BELOW THE LOWEST SIDE OF FINISHED GRADE LINE. FOUNDATION MUST BE A MINIMUM DEPTH OF SIX (6) FEET BELOW THE LOWEST POINT OF FINISHED GRADE; ADDITIONAL DEPTH REQUIRED DEPENDING UPON SOIL CONDITIONS, AND BY ORDERS OF THE ENGINEER. CONFORM WITH CLASS "C" CONCRETE.

FOUNDATION ENTRANCE ELLS SHALL BE TYPE I FIBER CONDUIT 3" (FEDERAL SPECS. WC 581 C.) KEEP ENDS OF ELLS PLUGGED OR CAPPED UNTIL WIRE IS PULLED.

PULL BOXES

18" DIAMETER FIBRE PULL BOXES SHALL BE FABRICATED FROM A FIBRE TUBE INPREGNATED WITH A BLACK BITUMINOUS COMPOUND TO MAKE IT WATERPROOF. TUBE SHALL MEET THE FEDERAL SPEC. NO. WC 581 C FOR CONSTRUCTION AND CHEMICAL TESTS, AND BE ABLE TO SUPPORT 3,000 LBS. PER SQ. INCH VERTICAL LOADING. THE 18" PULL BOX SHALL HAVE A COVER OF 0.375" THICK CAST IRON PAINTED WITH ASPHALTUM, WITH THE WORD "ELECTRIC" CAST IN THE COVER. WALL THICKNESS SHALL BE 0.37" MINIMUM.

BOTTOM OF THE TUBE SHALL BE LEFT OPEN, SET OVER A 6 INCH BED OF #8 AGGREGATE TO ALLOW FOR DRAINING. CONTRACTOR SHALL CUT ONLY NECESSARY SIZE AND LENGTH OF SLOTS FOR DUCT-CABLE, OR HOLE FOR CROSSOVER DUCT, AS DETERMINED FOR EACH LOCATION; TOP OF BOX PROJECTION AND LOCATIONS ARE AS DETAILED ON THE PLANS.

JUNCTION BOXES USED ON BRIDGE STRUCTURES SHALL BE OF GRAY IRON CASTINGS, AS ASTM A-48, 24" LONG, 10" WIDE and 8" DEEP, HOT DIPPED GALVANIZED, NEOPRENE GASKETED, AND WITH S.S. (STAINLESS STEEL) COVER SCREWS. THE BOX SHALL HAVE A PLAIN RECESSED COVER. A MINIMUM 1/2" SIZED SILICON BRONZE, GALVANIZED, OR S.S. THREADED GROUND STUD WITH EXTRA NUTS AND WASHERS (SAME MATERIAL) SHALL BE FURNISHED FOR GROUNDING PURPOSES IN THE BOXES. JUNCTION BOXES SHALL BE AS MANUFACTURED BY "O-Z", "T&B", RUSSELL & STOLL OR APPROVED EQUAL.
FIBRE PULL BOXES FOR USE AT SIGNS SHALL BE AS PER PULL BOXES ABOVE.

DUCT-CABLE, CABLE AND WIRE

DUCT-CABLE SHALL BE FURNISHED IN 1-1/2" NOMINAL SIZE WITH TWO (2) 1/C #4 600 VOLT COPPER CONDUCTORS, DUCT-CABLE SHALL BE CROSS-LINKED FILLED POLYETHYLENE PLASTIC CONFORMING TO THE OVERALL DIAMETER OF IPS SCHEDULE CONDUIT, SHALL BE FLEXIBLE ENOUGH FOR EASY COILING AND UNCOILING AT 14° F. AND SHALL CONFORM TO ASTM SPECIFICATIONS D-2104 SCHEDULE 40 TYPE II GRADE 3, OR TYPE III.

CONTRACTOR SHALL LAY NOT PULL THE DUCT-CABLE IN THE TRENCH.

CABLE USED IN BRIDGE STRUCTURE, AND IN CROSSOVER CONDUIT SHALL BE THE SAME SIZE AS FURNISHED IN THE DUCT-CABLE.
ALL CABLE SHALL BE STRANDED AND SHALL BE GENERAL ELECTRIC CABLE NO. SI-58073 OR AN APPROVED EQUIVALENT AS MANUFACTURED BY ROME, SIMPLEX OR PHELPS-DODGE.
POLE & BRACKET CABLE 1/C #10 STRANDED COPPER-INSULATED TYPE THHN 600VOLT- UL 90° C.

CABLE INSTALLATION AND TERMINATIONS

THE DIRECT BURIAL DUCT-CABLE AND THE CABLES PULLED THRU THE BRIDGE CONDUIT SHALL BE CONTINUOUS FROM BASE TO BASE OF STANDARDS, OR FROM PULL BOX TO PULL BOX. NO SPLICES IN CABLES WILL BE PERMITTED, EXCEPT IN LIGHTING POLE BASES, AND IN PULL BOXES. THE DETAILS ON DRAWINGS SHOW METHODS AND CONNECTIONS THAT ARE REQUIRED.

THE CABLE TERMINATIONS AND SPLICES SHALL BE MADE IN THE POLE BASES AND PULL BOXES, USING FACTORY MANUFACTURED INSULATED DISCONNECTING TYPE KITS. CONTRACTOR SHALL SIZE THE KITS TO MAKE A SNUG FIT ON THE CABLE HE FURNISHES. THE KITS SHALL BE SEPARATE PAY ITEMS IN QUANTITY TABLES.

LIGHT POLES { TYPE III CONNECTOR KIT. / TYPE II CONNECTOR KIT WITH 6 AMP. FUSE / GRD'G. - COMPRESSION TYPE CONNECTOR

FIBRE PULL BOX { TYPE I CONNECTOR KIT / TYPE IV CONNECTOR KIT

TRENCHING AND BACKFILLING

CONTRACTOR SHALL DO ALL EXCAVATION OF EVERY DESCRIPTION TO THE DIMENSIONS AND LEVELS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. EXCAVATION MAY BE ACCOMPLISHED WITH MECHANICAL TRENCHING AND BORING EQUIPMENT, EXCEPT THAT CONTRACTOR MAY NOT USE A TRENCHER THAT PRODUCES SUCH LIFTING FORCE AS TO DESTROY THE EDGE, OR UNDER-MINE THE PAVED BERM, WHEN TRENCHES ARE IN FRONT OF GUARD RAIL, AS SHOWN IN PLAN -1 ON DRAWING DETAIL.

WHERE GUARD RAIL IS ENCOUNTERED THE TRENCHING IN GENERAL SHOULD BE DONE IN FRONT OF RAIL, THE ALTERNATE TRENCH SHALL BE USED WHEN GUARDRAIL IS WITHIN ONE (1) FOOT OF PAVED SHOULDER OR WHEN CURB IS USED. WALLS OF TRENCHES SHALL BE ESSENTIALLY VERTICAL, AND BOTTOMS SMOOTH, AND FREE FROM LARGE AGGREGATES.

CAREFULL BACKFILLING OF TRENCHES IS ESSENTIAL TO PREVENT DAMAGE TO THE DUCT-CABLE, BACKFILL AND TAMP MATERIAL IN TRENCH BY LAYERS, IN ACCORDANCE WITH SEC. 1-1.07 TYPE -1, EXCEPT THAT THE MATERIAL IN THE FIRST 6" ABOVE THE CABLE DUCT SHALL CONTAIN NO PIECES LARGER THAN 1". LEAVE TOP OF BACKFILL LEVEL WITH AND IN SAME CONDITION AS SPECIFIED FOR CONDITION OF THE PAVING SHOULDER CONSTRUCTION, AND SATISFACTORY TO THE ENGINEER. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER: 1,800 L.F. ALTERNATE TRENCH — 4'-6" DEEP

LIGHTING TRANSFORMER STATIONS

CONTRACTOR SHALL FURNISH AND INSTALL AT EACH LOCATION SHOWN, TRANSFORMER STATION AS DETAILED ON THE DRAWINGS, COMPLETE WITH PROTECTIVE DEVICES, SECONDARY CIRCUIT CONTACTOR, WITH PHOTO-CELL CONTROL, GROUNDING, AND THE 2" CONDUIT AND CONNECTION BOX FOR TERMINATION OF THE CABLEDUCT LIGHT FEEDERS. PRIMARY SERVICE TO THE POLE WILL BE FURNISHED BY THE OHIO EDISON COMPANY. CONTRACTOR SHALL VERIFY THE PRIMARY VOLTAGE TO BE FURNISHED AT EACH LOCATION, AND ORDER THE PROPER TRANSFORMER. PRIMARY FUSE SIZES SHALL BE ACCORDING TO THE STANDARDS OF THE OHIO EDISON COMPANY.

ELECTRIC SIGN SERVICES

AT EACH LOCATION ON PLANS WHERE A ELECTRICALLY LIGHTED SIGN IS INDICATED, THE ROADWAY LIGHTING CONTRACTOR SHALL FURNISH AND INSTALL A 18" FIBER PULL BOX, LOCATED GENERALLY TEN (10) FEET BEYOND THE SIGN SUPPORT IN THE DIRECTION OF TRAFFIC. THE ROADWAY LIGHTING CKT. CABLES SHALL BE SPLICED IN THIS PULL BOX EACH WITH AN UNFUSED "Y" TYPE IV KIT. TAPE THE UNUSED TAP CONNECTION, UNTIL IT CAN BE USED.
(EXCEPTION)
WHERE PLANS INDICATE THE CONCRETE PULL BOX TO BE AT A SIGN WHERE THE DUCT-CABLE IS RUN SEPARATELY TO THE PULL BOX AND DOES NOT CONTINUE ON TO ANOTHER LIGHT, USE STRAIGHT TYPE I KIT

THE SIGN LIGHTING CONTRACTOR WILL FURNISH CONDUIT AND WIRE FROM PULL BOX TO AND INTO SIGN FOUNDATION, AND CONNECT SIGN INTO THE CIRCUIT, AS PART OF SIGN LIGHTING CONTRACT. THE ELECTRICAL CONTRACTOR MUST COORDINATE THE SIZE OF THE TYPE IV OR I KIT TO FIT THE CABLES TO BE FURNISHED.

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LIGHTING NOTES

LIGHT POLES AND BRACKETS

THE POLES SHALL BE OF SUCH DESIGN AS TO MAKE A COMPLETE WIRING RACE WAY, AFTER THEY HAVE BEEN ASSEMBLED AND ERECTED. THEY SHALL BE EQUIPPED WITH A "J" HOOK PLACED INSIDE AND ABOVE THE ARM ATTACHMENT TO HOLD A BRONZE CABLE GRIP WHICH SHALL KEEP THE CIRCUIT CABLES FROM BEARING AND CHAFING ON THE ATTACHMENT WHERE THEY TURN OUT THE ARM.
BRIDGE POLES SHALL BE MOUNTED ON THE BRIDGE PARAPET WALL PROJECTION WITH THE 2" GALVANIZED STEEL BRIDGE CONDUITS, RUN DIRECTLY INTO THE POLE BASE, EXCEPT THAT WHERE A CONNECTION POINT IS NEEDED FOR THE UNDERPASS LIGHTING, A 24"x10"x8" GALVANIZED CAST IRON Junction BOX SHALL BE MOUNTED IN WALL IN FRONT OF THE POLE, AS DETAILED ON THE BRIDGE PLANS. ALL POLES SHALL BE PLACED SO THEIR BRACKET ARMS ARE NORMALLY AT RIGHT ANGLES TO THE CENTER LINE OF THE ROADWAY, OR SET NORMAL TO THE RADIUS ON RAMPS, AND CAREFULLY PLUMBED TO BE IN VERTICAL ALIGNMENT. FOR LIGHT POLE AND CIRCUIT IDENTIFICATION, APPLY SILVER-WHITE ADHESIVE TYPE DECALS TO EACH POLE, AS INDICATED ON THE PLANS.

LUMINAIRES

ROADWAY AND RAMP LUMINAIRES SHALL CONSIST OF A ALUMINUM HOUSING, REFLECTOR, REFRACTOR, HOLDING RING, SEALS, AUTOMATIC LATCH, PORCELAIN SOCKET, INTEGRAL BALLAST, TERMINAL BOARD AND WIRING, 2 INCH SLIP FITTER ALL COMPLETELY ASSEMBLED, AND SOCKET IN POSITION TO EFFECT EITHER IES-ASA TYPE II OR TYPE III DISTRIBUTION. BALLAST SHALL BE A HIGH POWER FACTOR, REGULATING OR CONSTANT WATTAGE TYPE RATED FOR USE WITH 400 WATT MERCURY LAMP, 240/480 VOLTS ± 12 TO 13% REGULATION. CONNECT BALLAST FOR 480 VOLTS. MERCURY VAPOR LAMPS SHALL BE CLEAR TYPE ASA CODE H-33 1 CD RATED FOR 16,000 HR. LIFE. LUMINAIRES SHALL BE GENERAL ELECTRIC COMPANY FORM M-400, WESTINGHOUSE TYPE OV-25, LINE MATERIAL COMPANY UNISTYLE 400, OR AN APPROVED EQUAL.

UNDERPASS LUMINAIRES SHALL CONSIST OF A ALUMINUM HOUSING, REFLECTOR, PRISMATIC REFRACTOR, PORCELAIN SOCKET, DOUBLE GASKETING (NEOPRENE AND FELT) FELT BETWEEN DOOR CASTING AND REFRACTOR, HOOD AND INTEGRAL CAST GUARD. EACH LUMINAIRE SHALL HAVE AN INBUILT REGULATOR TYPE BALLAST RATED AT 250 WATT, 480 VOLTS. LUMINAIRES SHALL BE FOR WALL BRACKET TYPE OF MOUNTING, SHALL HAVE A FLAT BACK HOUSING AND BE MOUNTED TO THE FACE OF THE CONCRETE PIER CAP WITH THREE (3) 5/16" MIN. SIZED GALVANIZED EXPANSION BOLTS.

MERCURY VAPOR LAMPS SHALL BE CLEAR TYPE ASA CODE H 37-5KB RATED FOR 16,000 HR. LIFE. UNDERPASS LUMINAIRES SHALL BE HOLOPHANE "WALL PACK" SERIES.
MERCURY VAPOR LAMPS SHALL BE GENERAL ELECTRIC BONUS LINE, WESTINGHOUSE LIFEGUARD, SYLVANIA BANNER LINE, OR APPROVED EQUAL.

LIGHT POLE GROUNDING - ROADWAY AND RAMPS

EACH LIGHT POLE STANDARD AND THE GROUNDED CIRCUIT CONDUCTOR MUST BE GROUNDED AT EACH LIGHT POLE LOCATION. A 1"x10' SOLID WROUGHT IRON GROUND ROD SHALL BE DRIVEN VERTICALLY DOWN IN CABLE DUCT TRENCH ADJACENT TO THE FOUNDATION. EXOTHERMIC WELD A No. 4, 7-STRAND 600 VOLT INSULATED COPPER CABLE TO THE TOP OF THE ROD, PAINT WELD WITH 2 COATS OF INSULATING VARNISH, TAPE EXPOSED CONDUCTOR INSULATION, AND EXTEND THRU THE 3/4" E.M.T. ELL INTO BASE AND CONN ECT AS DETAILED FOR WIRING IN THE POLE BASE. A OHMMETER TEST OF GROUND ROD RESISTANCE MUST NOT BE MORE THAN 25 OHMS BEFORE GROUND WIRE IS CONNECTED INSIDE THE POLE. IF RESISTANCE EXCEEDS 25 OHMS, CONTRACTOR SHALL EITHER DRIVE ADDITIONAL RODS AT 6'-0" APART (MAX. 5 ADDITIONAL RODS) AND CONNECT THEM IN PARALLEL TO THE ENTRANCE CABLE TO MEET THE SPECIFIED 25 OHMS RESISTANCE, OR HE MAY EMPLOY RODS OF GREATER LENGTH (SECTIONAL RODS). THE TOP OF ALL GROUND RODS SHALL BE 4 to 6 INCHES OF TRENCH BOTTOM AND NO GROUND WIRE TAILS MAY BE EXPOSED ABOVE GRADE.

SUPER-STRUCTURE GROUNDING AND BONDING

GROUND CABLE SHALL BE 1/0, 7-STRAND, SOFT ANNEALED BARE COPPER CABLE ENCASED IN OUTSIDE COLUMN OF STRUCTURE AT A FIXED PIER (THE FIXED PIER FOR EACH BRIDGE STRUCTURE IS LISTED IN THE TABLE ON DRAWING "LIGHTING DETAILS-STRUCTURES.") EXOTHERMIC WELD THE CABLE TO A STEEL PILE, OR THE SHELL OF A CAST-IN-PLACE CONCRETE PILE, AND EXTEND TOP END OF CABLE (IN ONE CONTINUOUS LENGTH) THROUGH PIER CAP AND EXOTHERMIC WELD TO OUTSIDE STEEL GIRDER OR BEAM OF THE SUPER-STRUCTURE. WHERE THE STRUCTURAL STEEL OF A BRIDGE IS NOT JOINED AT THE MEDIAN GAP BETWEEN THE RIGHT AND LEFT HALF OF THE STRUCTURE PROVIDE A SEPARATE GROUND FOR BOTH HALVES.

EACH LIGHT POLE STANDARD, AND THE 2" GALVANIZED STEEL CONDUIT SECTIONS SHALL BE GROUNDED TO THE STEEL SUPER-STRUCTURE. AT EACH LIGHT POLE, EXOTHERMIC WELD A 1/0, 7-STRAND BARE COPPER CABLE TO THE TOP OF THE OUTSIDE STEEL GIRDER, AND CONNECT IT TO THE GROUND NUT INSIDE THE POLE WITH BRONZE SCREW AND WASHERS. INCLUDE THE 24" x 10" x 8" PULL BOX (WHERE USED) IN GROUNDING BY U-BENDING THE CABLE AROUND A 1/2" CORROSION RESISTING THREADED STEEL, OR BRONZE STUD, WITH NUTS AND WASHERS: THE STUD PROJECTING BOTH INSIDE AND OUTSIDE AT BACK OF BOX. INSIDE THE BOX CONNECT THE No. 4 CIRCUIT GROUND CABLE TO THE STUD.

THE GLENMOUNT AVENUE BRIDGE IS A CONCRETE SLAB TYPE WITHOUT STEEL GRIDERS. AT THE LIGHT POLE NORTH SIDE OF BRIDGE PROVIDE GROUNDING TYPE BUSHINGS ON THE END OF THE 2" CONDUITS AT BOX, BOND TOGETHER AND TO THE BOX GRD. STUD; ALSO TO THE GRD. NUT IN THE POLE BASE, AND THE GRD'D CIRCUIT CABLE. THE 2" CONDUIT AT NORTH SIDE OF BRIDGE TO THE EAST, AND THE 2" CONDUIT AT SOUTH SIDE OF BRIDGE TO THE WEST, SHALL BE GROUNDED TO THE CIRCUIT GROUND CABLE AT THE FIRST PULL BOX, AND LIGHT POLE RESPECTIVELY, OFF THE STRUCTURE.

LIGHT POLES

A. SHAFTS

SHAFTS SHALL BE TAPERED STEEL TUBES FABRICATED FROM NOT LESS THAN 11 GAUGE HOT ROLLED, BASIC OPEN HEARTH, CARBON STEEL. IT SHALL HAVE ONLY ONE LONGITUDIANAL, AUTOMATICALLY ELECTRICALLY WELDED JOINT AND SHALL HAVE NO INTERMEDIATE TRANSVERSE JOINTS OR WELDS. ONLY ONE LENGTH OF STEEL SHEET SHALL BE USED, WHICH SHALL BE FORMED INTO A SHAFT, HAVING A CONTINUOUS TAPER OF APPROXIMATELY .14" PER FOOT.

1. MANUFACTURE

SHAFTS SHALL BE COLD WORKED AFTER WELDING WITH SUFFICIENT PRESSURE TO DEVELOP A MINIMUM YIELD STRENGTH OF 48,000 p.s.i., AND TO FLATTEN THE WELD TO A TRUE TAPERED TUBE OF UNIFORM THICKNESS THROUGHOUT (INCLUDING THE WELD AREA), WITHOUT FLAT SPOTS AND WITHOUT FINISH GRINDING.

SHAFTS MANUFACTURED BY MEANS OTHER THAN THAT SPECIFIED ABOVE SHALL BE NOT LESS THAN THE STANDARD GAUGE INDICATED INCLUDING THE WELD AREA AFTER GRINDING, AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 POUNDS PER SQUARE INCH.

2. DEFLECTION

SHAFTS, REGARDLESS OF METHOD OF MANUFACTURE, SHALL BE CAPABLE OF WITHSTANDING LOADINGS APPLIED 18" FROM TOP OF SHAFTS WITHOUT EXCEEDING THE PERMANENT SET AND DEFLECTION MEASURED IN INCHES 18" FROM TOP OF SHAFT AS TABULATED FOR THE RESPECTIVE POLE SIZES ON PLANS.

USE	SIZE	GA.	ARM LENGTH	ANCHOR BOLT CIRCLE	PROJ. "B" ABOVE BASE	ELASTIC DEFL. RATE IN. PER 100 LB.	AT 2/3 YIELD STR. LOAD 18" DOWN LB.	AT 2/3 YIELD STR. TOTAL DEFL. IN.	AT 2/3 YIELD STR. PERM. SET IN.	AT YIELD STRENGTH LOAD 18" DOWN LB.	AT YIELD STRENGTH TOTAL DEFL. IN.	AT YIELD STRENGTH PERM. SET IN.	MOUNTING HEIGHT
ROADWAY	9"x4.87x29'-6"	11	15'	12.5	3"	2.16	659	14.73	.50	989	24.00	2.64	32'-6"
RAMP	8"x3.87x29'-6"	11	10'	11.0"	2 5/8"	3.32	517	17.66	.50	776	28.84	3.08	32'-6"
BRIDGE	8.5x4.72x27'-0"	11	15'	11.5"	2 3/4"	1.89	643	12.65	.50	965	20.56	2.32	30'-0"

3. SHAFT FITTINGS

EACH SHAFT SHALL BE FITTED WITH A "J" HOOK AND A POLE TOP INTERCHANGEABLE WITH THOSE USED BY THE AGENCY MAINTAINING THE SYSTEM.

THE SHAFTS OF ANCHOR BASE STANDARDS SHALL BE FITTED WITH A 4"x10" MINIMUM SIZED REINFORCED HAND HOLE, LOCKING STEEL COVER WITH CAPTIVE BRONZE OR STAINLESS STEEL CHAIN AND 1/2"- 13 TAPPED HOLE IN LEFT SIDE CENTER OF HAND HOLE FOR GROUNDING. HAND HOLES ON GROUND MOUNTED STANDARDS SHALL BE ON THE SIDE OPPOSITE THE LUMINAIRE SUPPORT ARM. FOR BRIDGE MOUNTED STANDARDS HAND HOLE SHALL BE 17" ABOVE BASE ON SAME SIDE OF SHAFT AS LUMINAIRE SUPPORT ARM.

B. ANCHOR TYPE BASES

ANCHOR BASES SHALL BE ONE-PIECE CAST STEEL CONFORMING TO SECTION M-7.7 AND WITH A TOP FLANGE SECURED TO THE LOWER END OF THE SHAFT BY TWO CONTINUOUS ELECTRIC ARC WELDS. THE BASE SHALL TELESCOPE THE SHAFT WITH ONE WELD AT THE LOWER END OF SHAFT AND THE OTHER WELD AT THE TOP OF THE BASE. THE TWO WELDS SHALL BE NOT LESS THAN 1-1/2" APART. THE WELDED CONNECTION SHALL DEVELOP THE FULL STRENGTH OF THE ADJACENT SHAFT SECTION.

THE BASE SHALL BE PROVIDED WITH FOUR (4) HOLES TO RECEIVE THE ANCHOR BOLTS, FOUR (4) HOLES FOR VENTILATION LOCATED IN THE BODY OF THE BASE DIRECTLY BEHIND EACH ANCHOR BOLT HOLE, AND FOUR (4) TAPPED HOLES FOR ATTACHING THE FOUR BOLT COVERS FURNISHED.

C. ANCHOR BOLTS

FOUR HIGH GRADE STEEL ANCHOR BOLTS FITTED WITH HEX NUTS SHALL BE FURNISHED FOR EACH STANDARD. EACH ANCHOR BOLT SHALL HAVE AN "L" BEND AT THE BOTTOM END AND BE THREADED AT THE TOP END. THREADED ENDS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 WITH GALVANIZING EXTENDING 1" TO 4" BEYOND THREADS.

NOMINAL BAR SIZE SHALL EQUAL NOMINAL BOLT SIZE.

D. LUMINAIRE SUPPORT ARMS

1. THE LUMINAIRE SUPPORT ARM ASSEMBLY SHALL CONSIST OF AN UPPER AND LOWER MEMBER SECURELY JOINED BY MEANS OF VERTICAL STRUT OR STRUTS. THE UPPER AND LOWER MEMBERS SHALL BE STANDARD STEEL PIPE OF 2" N.P.S. (OR LARGER AS REQUIRED), ASTM A-53 SCHEDULE 40. THE SHAFT END OF MEMBER SHALL HAVE A WELDED STEEL FITTING, WHICH WILL PERMIT POSITIONING THE ARM ON THE SHAFT PLATE AND WILL SUPPORT THE ARM WHILE SECURING TO THE SHAFT. TWO CAP SCREWS SHALL BE PROVIDED PER FITTING. ALL ARMS SHALL ACCOMMODATE A 2" SLIP FITTER LUMINAIRE. FITTING AND SHAFT PLATE SHALL BE SIMILAR TO THOSE NOW IN USE BY THE AGENCY MAINTAINING THE SYSTEM TO PROVIDE INTERCHANGEABILITY OF ARMS.

2. SUPPORT ARMS AND THEIR SHAFT ATTACHMENTS SHALL SUSTAIN A VERTICAL LOAD OF 250 LBS. APPLIED WITHIN 3" OF THE LUMINAIRE END OF THE ARM WITHOUT COLLAPSE OR RUPTURE OF ANY PORTION OF THE STANDARD ASSEMBLY.

3. THE SUPPORT ARMS AND THEIR SHAFT ATTACHMENTS SHALL SUSTAIN A VERTICAL LOAD OF 100 LBS. APPLIED WITHIN 3" OF THE LUMINAIRE END OF THE ARM AND WITH THE ARM ATTACHED TO A RIGID STRUCTURE. THE VERTICAL DEFLECTION SHALL NOT EXCEED 5-1/2% OF THE ARM LENGTH. THIS INCLUDES A MAXIMUM ALLOWANCE OF 1/2 OF 1% OF THE ARM LENGTH FOR TESTING METHODS AND PERMANENT SET.

4. THE SUPPORT ARMS AND THEIR SHAFT ATTACHMENTS SHALL SUSTAIN A TRANSVERSE HORIZONTAL LOAD OF 50 LBS. APPLIED WITHIN 3" OF THE LUMINAIRE END OF THE ARM WITH THE ARM ATTACHED TO A RIGID STRUCTURE. THE HORIZONTAL DEFLECTION SHALL NOT EXCEED 5% OF THE ARM LENGTH AND THE SHAFT ATTACHMENTS SHALL NOT DEVELOP ANY LOOSENESS WITHIN THE SPECIFIED LOADING RANGE. THIS TEST SHALL BE CONDUCTED WITH A VERTICAL LOAD OF 30 LBS. ON THE SUPPORT.

5. DEFLECTION IS DEFINED AS THE TOTAL TRANSVERSE DISPLACEMENT OF THE LONGITUDINAL CENTERLINE OF THE SHAFT OR LUMINAIRE SUPPORT AT THE POINT OF TEST LOAD APPLICATION BETWEEN ITS INITIALLY UNLOADED AND FULLY LOADED POSITIONS.

6. PERMANENT SET IS DEFINED AS THE TOTAL TRANSVERSE DISPLACEMENT OF THE LONGITUDINAL CENTERLINE OF THE SHAFT AT THE POINT OF TEST LOAD APPLICATION BETWEEN ITS INITIALLY UNLOADED POSITION AND THE FINAL UNLOADED POSITION AFTER APPLICATION OF TEST LOADS.

E. WELDING

WELDERS AND WELDING OPERATORS SHALL BE PREQUALIFIED FOR CLASS A WELDING ACCORDING TO THE INSTRUCTIONS GIVEN IN "INSTRUCTIONS FROM THE LABORATORY, PRE-QUALIFICATION OF ELECTRIC ARC WELDERS AND WELDING OPERATORS." WELDING EQUIPMENT SHALL BE OF SUFFICIENT CAPACITY OF SUCH DESIGN AND IN SUCH CONDITION AS TO MAKE POSSIBLE THE PRODUCTION OF FIRST CLASS WELDS. ALL SURFACES TO BE WELDED SHALL BE SMOOTH, UNIFORM AND FREE FROM FINS, TEARS, AND OTHER DEFECTS WHICH MIGHT ADVERSELY AFFECT THE QUALITY OF THE WELDS. SURFACES TO BE WELDED SHALL BE FREE FROM LOOSE SCALE, SLAG, RUST, MOISTURE, GREASE, PAINT AND OTHER FOREIGN MATERIAL. MILL SCALE SHALL BE REMOVED BY POWER BRUSHING, BLASTING OR GRINDING.

F. GALVANIZING

ALL STEEL STANDARDS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A-123. AFTER ERECTION, STANDARD SHALL BE INSPECTED FOR SCRATCHES IN THE GALVANIZED SURFACES. SUCH SCRATCHES SHALL BE GIVEN TWO COATS OF A ZINC RICH BASE PAINT. SECOND COAT SHALL BE APPLIED AFTER FIRST COAT HAS COMPLETELY DRIED.

SHAFT TRANSVERSE SECTION CONFIGURATION

1. BID ITEMS, AS SHOWN AND DETAILED, ARE FOR STANDARDS WITH SHAFTS OF ROUND CIRCULAR TRANSVERSE SECTION.

2. ALTERNATE BID ITEMS ARE FOR STANDARDS WITH SHAFTS OR TRANSVERSE SECTION OTHER THAN CIRCULAR. SPECIFY CONFIGURATION IN BID.

3. ALL SHAFTS THROUGHOUT THE PROJECT SHALL HAVE THE SAME TRANSVERSE SECTIONAL CONFIGURATION.

WIRE — CABLE — DUCT-CABLE IDENTIFICATION

ALL CIRCUIT AND GROUND CABLES (EXCEPT STRUCTURE GROUNDING SYSTEM WIRES) AND DUCT-CABLE SHALL BE IDENTIFIED IN EACH PULL BOX, MANHOLE, PARAPET OR CURB JUNCTION BOX (TYPE "A" OR "B" BRIDGE RACEWAY BOXES) etc. TAGS SHALL BE CIRCULAR IN SHAPE, 1 3/8" TO 1 1/2" NOMINAL DIA. AND NOT LESS THAN .031" THICK COPPER OR BRASS. USE STEEL LETTERING DIES, 1/4" MINIMUM SIZE, OR THE EQUIVALENT ENGRAVING PROCESS TO MARK THE TAG. IT SHALL BE SECURELY ATTACHED WITH AN AWG #16 OR LARGER BARE COPPER WIRE. MARKING OF TAGS SHALL CONSIST OF AN ABBREVIATION FOR THE GROUND WIRES "GR'D" AND CIRCUIT WITH NUMBER OR LETTER "CKT. A", etc.
IDENTIFICATION BY AN APPROVED BANDING METHOD WILL BE CONSIDERED AS AN ALTERNATE; ALSO APPROVED PLASTIC TAGS IN LIEU OF ABOVE METAL TAGS.
CABLES IN CIRCUIT BREAKER AND SAFETY SWITCH ENCLOSURES SHALL BE TAGGED WITH PLASTIC TAGS OR BANDED IN AN APPROPRIATE MANNER SO AS NOT TO REDUCE ELECTRICAL CLEARANCES FROM LIVE CONDUCTORS AND LIVE PARTS TO GROUND.
COST SHALL BE INCLUDED WITH BID ITEM FOR WIRE, CABLE OR DUCT-CABLE.

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GENERAL SUMMARY

ROADWAY Code 7221							LIGHTING	BRIDGE										
										SUM-277-0071	SUM-277-0131	SUM-277-0199	SUM-277-0199	SUM-277-0259	SUM-277-0240			
100 % CITY	CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	ITEM	UNIT	STATE & FEDERAL	STATE & FEDERAL	STATE & FEDERAL	CITY STATE & FEDERAL	STATE & FEDERAL	CITY STATE & FEDERAL			
					625	EA.	UNDERPASS LUMINAIRE W/INTEGRAL 250W. MERCURY BALLAST	625	EA.	3		2		6	6			
46		39	16	101		EA.	LUMINAIRE TYPE III W/INTEGRAL 400 W. MERCURY BALLAST		EA.		1	2		2	2			
17		9	4	30		EA.	LUMINAIRE TYPE II W/INTEGRAL 400 W. MERCURY BALLAST											
46		48	20	114		EA.	400 W. MERCURY VAPOR LAMP (H33-1CD)		EA.		1	2		2	2			
17				17		EA.	250 W. MERCURY VAPOR LAMP (H-37-5KB)		EA.	3		2		6	6			
		39	16	55		EA.	LIGHT POLE W/15' ARM GALV. (CIRCULAR) 9" X 4.87 X 29'-6"											
		9	4	13		EA.	LIGHT POLE W/10' ARM GALV. (CIRCULAR) 8" X 3.87 X 29'-6"											
						EA.	LIGHT POLE W/15' ARM GALV. (CIRCULAR) 8.5" x 4.72 x 27'-0" (BRIDGE)		EA.		1	2		2	2			
		48	20	68		EA.	LIGHT POLE FOUNDATIONS											
		48	20	68		EA.	GROUND ROD UNITS											
		18	26	44		EA.	18" FIBRE PULL BOX											
						EA.	JUNCTION BOX 24" x 10" x 8"		EA.	1		1		2	2			
						EA.	BRIDGE STRUCTURE GROUNDING & BONDING SYSTEM		EA.	1	1		1	1	1			
		220	500	720		L.F.	CONDUIT 3" GALV. STEEL (CROSSOVER)											
						L.F.	CONDUIT 2" GALV. STEEL (IN STRUCTURES)		L.F.	300	330	210	210	520	520			
		480	150	630		L.F.	CONDUIT 2" GALV. STEEL (DIRECT BURIED)											
						L.F.	CONDUIT 3/4" GALV. STEEL		L.F.	140		140		370	270			
		8210	12,510	20,720		L.F.	TRENCH 2'-0" DEEP											
		500	1300	1800		L.F.	TRENCH, ALTERNATE, 4'-6" DEEP											
						EA.	2" CONDUIT EXPANSION FITTING		EA.		2	2	2	4	4			
		8600	12,660	21,260		L.F.	CABLEDUCT 2-#4 1/C 600 V. 7-STR'D COPPER											
		2460	980	3430		L.F.	CIRCUIT CABLE 1/C #4 600 V. 7-STR'D COPPER		L.F.	620	320	220	260	1160	1260			
		1	2	2		EA.	MARKER											
		10,150	1055	11,205		L.F.	POLE & BRACKET CABLE 1/C #10 600 V. 7-STR'D COPPER		L.F.		90	180		950	750			
		111	20	131		EA.	CONNECTING KIT FUSED "Y" TYPE II		EA.		1	2		4	4			
		48	20	68		EA.	CONNECTING KIT UNFUSED "Y" TYPE III		EA.		1	2		4	4			
		16	22	38		EA.	CONNECTING KIT UNFUSED "Y" TYPE IV											
		30	38	68		EA.	CONNECTING KIT UNFUSED STRAIGHT TYPE I											
							Anchor Bolts (4 per set) for light pole on structure		Set	1								
LUMP				LUMP		LUMP	RE-CONNECT EXISTING LIGHT CKT. @ POLE (FROM SERIES TO MULTIPLE CKT)											
			LUMP	Lump		LUMP	10 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - GLENMOUNT AVE.											
			LUMP	Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - GLENMOUNT AVE.											
			LUMP	Lump		LUMP	10 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - SWARTZ ROAD											
			LUMP	Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - SWARTZ ROAD											
	LUMP			Lump		LUMP	15 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - MANCHESTER ROAD RAMP "A"											
	LUMP			Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - MANCHESTER ROAD RAMP "A"											
	LUMP			Lump		LUMP	15 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - MANCHESTER ROAD RAMP "B"											
	LUMP			Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - MANCHESTER ROAD RAMP "B"											
	LUMP			Lump		LUMP	15 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - FILMORE ROAD RAMP "B"											
	LUMP			Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - FILMORE ROAD RAMP "B"											
	LUMP			Lump		LUMP	15 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - WATERLOO ROAD RAMP "A"											
	LUMP			Lump		LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES - WATERLOO ROAD RAMP "A"											
							ALTERNATE BIDS											
		39	16	55		EA.	LIGHT POLE W/15' ARM GALV. 9" x 4.87 x 29'-6" OTHER THAN CIRCULAR CROSS SECTION											
		9	4	13		EA.	LIGHT POLE W/10' ARM GALV. 8" x 3.87 x 29'-6" OTHER THAN CIRCULAR CROSS SECTION											
						EA.	LIGHT POLE W/15' ARM GALV. 8.5" x 4.72 x 27'-0" OTHER THAN CIRCULAR CROSS SECTION				1	2		2	2			
		18	26	44		EA.	18" CONCRETE PULL BOX											

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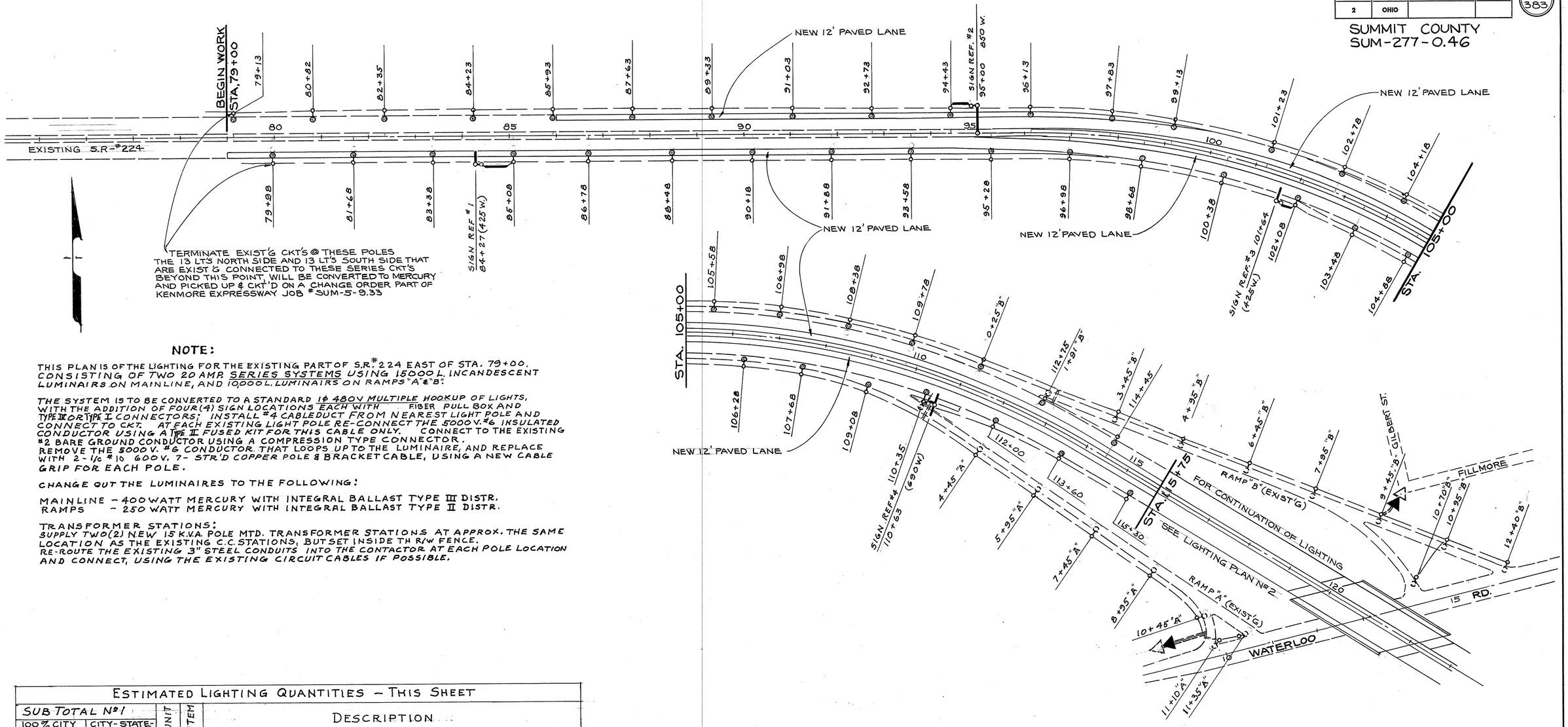

NOTE:

THIS PLAN IS OF THE LIGHTING FOR THE EXISTING PART OF S.R.#224 EAST OF STA. 79+00, CONSISTING OF TWO 20 AMP. SERIES SYSTEMS USING 15000 L. INCANDESCENT LUMINAIRS ON MAINLINE, AND 10000 L. LUMINAIRS ON RAMPS "A" & "B".

THE SYSTEM IS TO BE CONVERTED TO A STANDARD 1¢ 480V MULTIPLE HOOKUP OF LIGHTS, WITH THE ADDITION OF FOUR (4) SIGN LOCATIONS EACH WITH - FIBER PULL BOX AND TYPE II OR TYPE I CONNECTORS; INSTALL #4 CABLEDUCT FROM NEAREST LIGHT POLE AND CONNECT TO CKT. AT EACH EXISTING LIGHT POLE RE-CONNECT THE 5000 V. #6 INSULATED CONDUCTOR USING A TYPE II FUSED KIT FOR THIS CABLE ONLY. CONNECT TO THE EXISTING #2 BARE GROUND CONDUCTOR USING A COMPRESSION TYPE CONNECTOR. REMOVE THE 5000 V. #6 CONDUCTOR THAT LOOPS UP TO THE LUMINAIRE, AND REPLACE WITH 2 - 1/0 #10 600 V. 7 - STR'D COPPER POLE & BRACKET CABLE, USING A NEW CABLE GRIP FOR EACH POLE.

CHANGE OUT THE LUMINAIRES TO THE FOLLOWING:

MAINLINE - 400 WATT MERCURY WITH INTEGRAL BALLAST TYPE III DISTR.
RAMPS - 250 WATT MERCURY WITH INTEGRAL BALLAST TYPE II DISTR.

TRANSFORMER STATIONS:
SUPPLY TWO (2) NEW 15 K.V.A. POLE MTD. TRANSFORMER STATIONS AT APPROX. THE SAME LOCATION AS THE EXISTING C.C. STATIONS, BUT SET INSIDE TH R/W FENCE. RE-ROUTE THE EXISTING 3" STEEL CONDUITS INTO THE CONTACTOR AT EACH POLE LOCATION AND CONNECT, USING THE EXISTING CIRCUIT CABLES IF POSSIBLE.

ESTIMATED LIGHTING QUANTITIES - THIS SHEET

SUB TOTAL Nº 1		UNIT	ITEM	DESCRIPTION
100% CITY	CITY-STATE-FEDERAL			
46		EA.	S-25	LUMINAIRE TYPE III W/INTEGRAL 400W MERCURY BALLAST
17		EA.		LUMINAIRE TYPE II W/INTEGRAL 250W MERCURY BALLAST
46		EA.		400 W. MERCURY VAPOR LAMPS
17		EA.		250 W. MERCURY VAPOR LAMPS
	4	EA.		18" FIBER PULL BOX
	5,580	L.F.		POLE & BRACKET CABLE 1/C #10 600V. 7-STR'D COPPER
	180	L.F.		TRENCH 2'-0" DEEP
	200	L.F.		CABLEDUCT 2-#4 1/C 600V. 7-STR'D COPPER
	300	L.F.		CIRCUIT CABLE 1/C #4 600V. 7-STR'D COPPER
	63	EA.		CONNECTING KIT FUSED "Y" TYPE # II
	6	EA.		CONNECTING KIT UNFUSED "Y" TYPE # IV
	10	EA.		CONNECTING KIT STRAIGHT TYPE # I
	LUMP	LUMP		15 K.V.A. CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - RAMP "B" @ FILMORE
	LUMP	LUMP		SERVICE POLE & CONTROL CENTER W/ACCESSORIES - RAMP "B" @ FILMORE
	LUMP	LUMP		15 KVA CONTROL TRSF. W/LIGHTNING ARRESTOR & FUSED CUTOUT - RAMP "A" @ WATERLOO
	LUMP	LUMP		SERVICE POLE & CONTROL CENTER W/ACCESSORIES - RAMP "A" @ WATERLOO
LUMP		LUMP		RECONNECT EXIST'G LIGHT CIRCUIT AT POLE (FROM SERIES TO MULTIPLE CIRCUIT)

LEGEND (THIS SHEET ONLY)

- EXIST'G 15,000 L. INCAND. SERIES POLE & LUMINAIRE (CONVERT TO 400 W. MERCURY III)
- EXIST'G 10,000 L. INCAND. SERIES POLE & LUMINAIRE (CONVERT TO 250 W. MERCURY II)
- EXIST'G SERIES CKT. (1-5000 V. #6 CABLE, 1-BARE #2 CABLE DIRECT BURIAL)
- NEW CKT. CONNECTION (CABLEDUCT 2 #4 600 V. 7-STR'D COPPER)
- 18" FIBER PULL BOX
- SIGNS (ELECTRICALLY LIGHTED)
- EXIST'G POLE MTD. 30 KW. CONSTANT CURRENT (C.C.) SUBSTATION (PROPERTY OF THE O. E. Cº.
- NEW 15 KVA POLE MTD. TRANSFORMER STATION (TO REPLACE C.C. SUBSTATION)

LIGHTING PLAN Nº 1

O.E.

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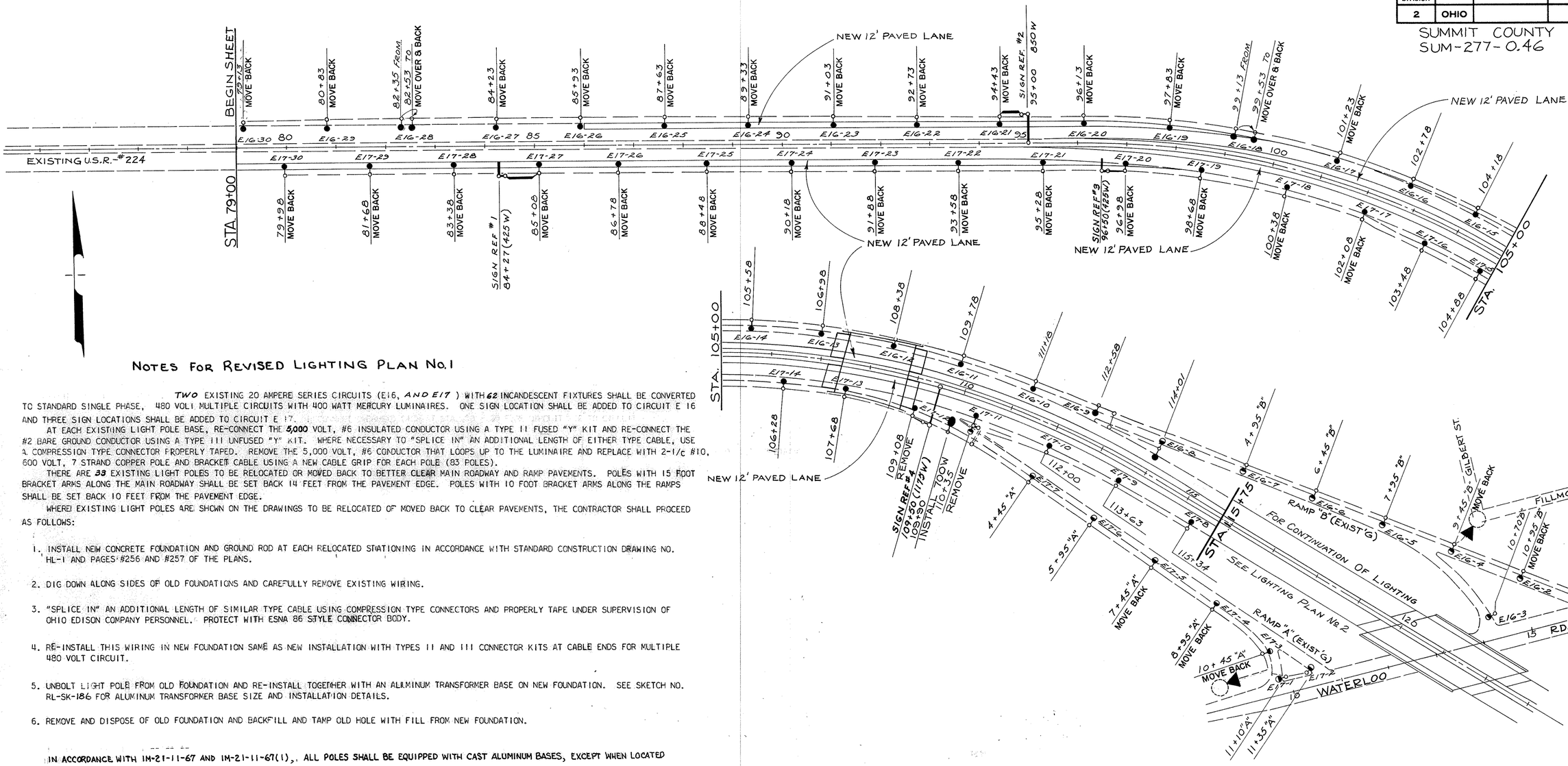

NOTES FOR REVISED LIGHTING PLAN No.1

TWO EXISTING 20 AMPERE SERIES CIRCUITS (E16, AND E17) WITH 62 INCANDESCENT FIXTURES SHALL BE CONVERTED TO STANDARD SINGLE PHASE, 480 VOLT MULTIPLE CIRCUITS WITH 400 WATT MERCURY LUMINAIRES. ONE SIGN LOCATION SHALL BE ADDED TO CIRCUIT E 16 AND THREE SIGN LOCATIONS SHALL BE ADDED TO CIRCUIT E 17.

AT EACH EXISTING LIGHT POLE BASE, RE-CONNECT THE 5,000 VOLT, #6 INSULATED CONDUCTOR USING A TYPE II FUSED "Y" KIT AND RE-CONNECT THE #2 BARE GROUND CONDUCTOR USING A TYPE III UNFUSED "Y" KIT. WHERE NECESSARY TO "SPLICE IN" AN ADDITIONAL LENGTH OF EITHER TYPE CABLE, USE A COMPRESSION TYPE CONNECTOR PROPERLY TAPED. REMOVE THE 5,000 VOLT, #6 CONDUCTOR THAT LOOPS UP TO THE LUMINAIRE AND REPLACE WITH 2-1/c #10, 600 VOLT, 7 STRAND COPPER POLE AND BRACKET CABLE USING A NEW CABLE GRIP FOR EACH POLE (83 POLES).

THERE ARE 33 EXISTING LIGHT POLES TO BE RELOCATED OR MOVED BACK TO BETTER CLEAR MAIN ROADWAY AND RAMP PAVEMENTS. POLES WITH 15 FOOT BRACKET ARMS ALONG THE MAIN ROADWAY SHALL BE SET BACK 14 FEET FROM THE PAVEMENT EDGE. POLES WITH 10 FOOT BRACKET ARMS ALONG THE RAMPS SHALL BE SET BACK 10 FEET FROM THE PAVEMENT EDGE.

WHERE EXISTING LIGHT POLES ARE SHOWN ON THE DRAWINGS TO BE RELOCATED OF MOVED BACK TO CLEAR PAVEMENTS, THE CONTRACTOR SHALL PROCEED AS FOLLOWS:

1. INSTALL NEW CONCRETE FOUNDATION AND GROUND ROD AT EACH RELOCATED STATIONING IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING NO. HL-1 AND PAGES #256 AND #257 OF THE PLANS.
2. DIG DOWN ALONG SIDES OF OLD FOUNDATIONS AND CAREFULLY REMOVE EXISTING WIRING.
3. "SPLICE IN" AN ADDITIONAL LENGTH OF SIMILAR TYPE CABLE USING COMPRESSION TYPE CONNECTORS AND PROPERLY TAPE UNDER SUPERVISION OF OHIO EDISON COMPANY PERSONNEL. PROTECT WITH ESNA 86 STYLE CONNECTOR BODY.
4. RE-INSTALL THIS WIRING IN NEW FOUNDATION SAME AS NEW INSTALLATION WITH TYPES II AND III CONNECTOR KITS AT CABLE ENDS FOR MULTIPLE 480 VOLT CIRCUIT.
5. UNBOLT LIGHT POLE FROM OLD FOUNDATION AND RE-INSTALL TOGETHER WITH AN ALUMINUM TRANSFORMER BASE ON NEW FOUNDATION. SEE SKETCH NO. RL-SK-186 FOR ALUMINUM TRANSFORMER BASE SIZE AND INSTALLATION DETAILS.
6. REMOVE AND DISPOSE OF OLD FOUNDATION AND BACKFILL AND TAMP OLD HOLE WITH FILL FROM NEW FOUNDATION.

IN ACCORDANCE WITH IM-21-11-67 AND IM-21-11-67(1), ALL POLES SHALL BE EQUIPPED WITH CAST ALUMINUM BASES, EXCEPT WHEN LOCATED BEHIND GUARD RAIL.

WHERE POLES ARE TO BE RELOCATED, NEW FOUNDATION SHALL HAVE ANCHOR BOLTS ON 15" CIRCLE.

IN CASES WHERE RELOCATION IS NOT NECESSARY, EXISTING ANCHOR BOLTS ARE TO BE USED BY INSTALLING ADAPTOR PLATES WITH THE CAST ALUMINUM BASE.

MAXIMUM PROTRUSION ABOVE GROUND AT ANY FOUNDATION NOT BEHIND GUARD RAIL SHALL NOT EXCEED 4".

LEGEND (THIS SHEET ONLY)

- EXIST'G 15,000L. INCAND. SERIES POLE & LUMINAIRE (CONVERT TO 400W MERCURY III)
- EXIST'G 10,000L. INCAND. SERIES POLE & LUMINAIRE (CONVERT TO 400W MERCURY II)
- EXIST'G 400W MERCURY POLE & LUMINAIRE
- EXIST'G SERIES CKT. (1-5000V. #6 CABLE; 1-BARE #2 CABLE DIRECT BURIAL)
- NEW CKT. CONNECTION (CABLEDUCT 2#4 600V.7-STR'D COPPER)
- 18" FIBER PULL BOX (SIGNS)
- SIGNS (ELECTRICALLY LIGHTED)
- EXIST'G POLE MTD. 30 KW. CONSTANT CURRENT (C.C.) SUBSTATION (PROPERTY OF THE O.E. Co.)
- NEW 15 KVA. POLE MTD. TRANSFORMER STATION (TO REPLACE C.C. SUBSTATION) (PROPERTY OF THE O.E. Co.)

REVISED 4-12-68

LIGHTING PLAN No 1

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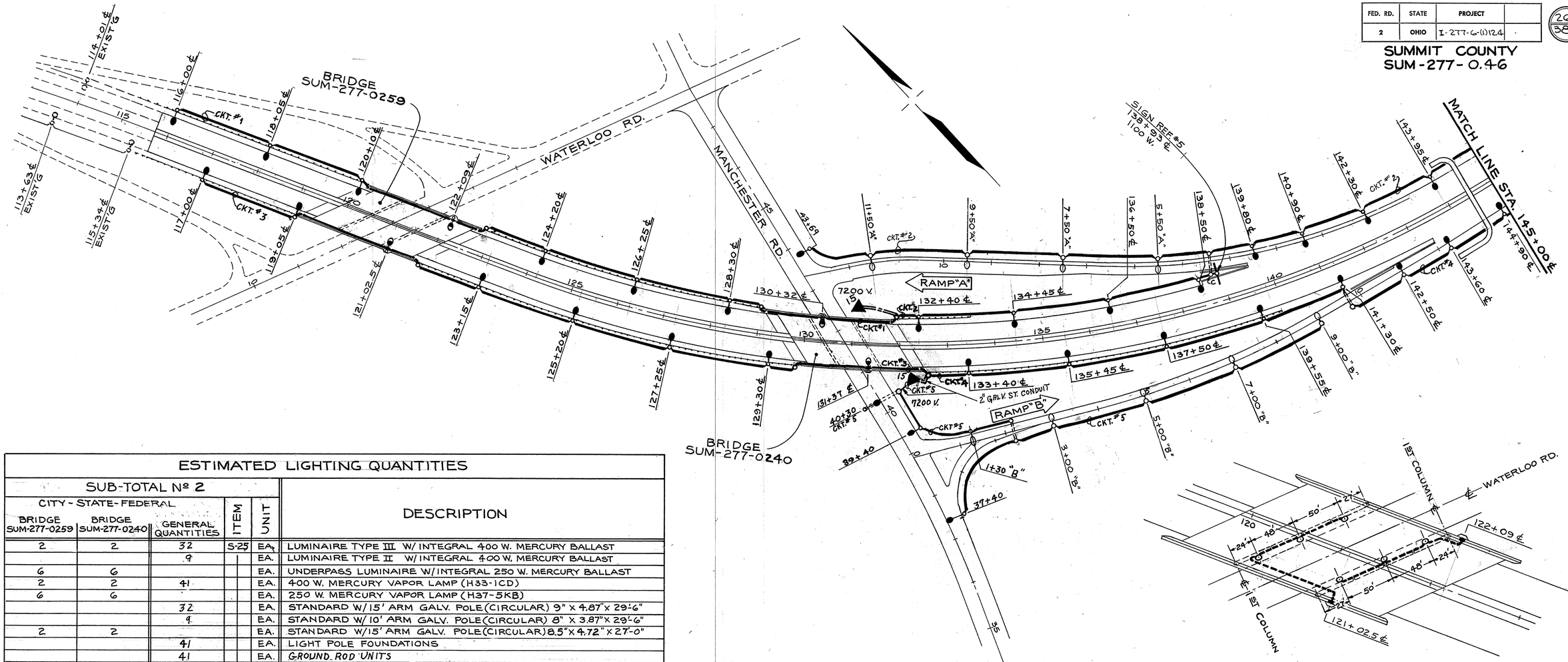

ESTIMATED LIGHTING QUANTITIES

SUB-TOTAL Nº 2 CITY-STATE-FEDERAL BRIDGE SUM-277-0259	BRIDGE SUM-277-0240	GENERAL QUANTITIES	ITEM	UNIT	DESCRIPTION
2	2	32	S-25	EA.	LUMINAIRE TYPE III W/ INTEGRAL 400 W. MERCURY BALLAST
		9		EA.	LUMINAIRE TYPE II W/ INTEGRAL 400 W. MERCURY BALLAST
6	6			EA.	UNDERPASS LUMINAIRE W/ INTEGRAL 250 W. MERCURY BALLAST
2	2	41		EA.	400 W. MERCURY VAPOR LAMP (H33-1CD)
6	6			EA.	250 W. MERCURY VAPOR LAMP (H37-5KB)
		32		EA.	STANDARD W/ 15' ARM GALV. POLE (CIRCULAR) 9" x 4.87" x 29'-6"
		9		EA.	STANDARD W/ 10' ARM GALV. POLE (CIRCULAR) 8" x 3.87" x 29'-6"
2	2			EA.	STANDARD W/ 15' ARM GALV. POLE (CIRCULAR) 8.5" x 4.72" x 27'-0"
		41		EA.	LIGHT POLE FOUNDATIONS
		41		EA.	GROUND ROD UNITS
		12		EA.	18" FIBRE PULL BOX
2	2			EA.	JUNCTION BOX 24" x 10" x 8"
		220		L.F.	CONDUIT 3" GALV. STEEL - CROSSOVER
520	520			L.F.	CONDUIT 2" GALV. STEEL (IN STRUCTURES)
		460		L.F.	CONDUIT 2" GALV. STEEL (DIRECT BURIED)
4	4			EA.	2" CONDUIT EXPANSION FITTING
370	270			L.F.	CONDUIT 3/4" GALV. STEEL
1	1			EA.	BRIDGE STRUCTURE GRD'G & BONDING SYSTEM
		18		EA	CONNECTING KIT UNFUSED, STRAIGHT, TYPE I
		6730		L.F.	TRENCH 2'-0" DEEP
		400		L.F.	ALTERNATE TRENCH 4'-6" DEEP
		7050		L.F.	CABLEDUCT - 2 #4 1/C 600 V. 7-STR'D COPPER
1160	1260	2150		L.F.	CIRCUIT CABLE 1/C #4 600 V. 7-STR'D COPPER
		8		EA.	CONNECTING KIT UNFUSED "Y" TYPE IV
950	750	3905		L.F.	POLE & BRACKET CABLE 1/C #10 600 V. 7-STR'D COPPER
4	4	41		EA.	CONNECTING KIT FUSED "Y" TYPE II
4	4	41		EA.	CONNECTING KIT UNFUSED "Y" TYPE III
		LUMP		Lump	15 KVA CONTROL TRSF. W/ LIGHTNING ARRESTOR & FUSED CUTOUT MANCHESTER RD. - RAMP "A"
		LUMP		Lump	SERVICE POLE & CONTROL CENTER W/ ACCESSORIES MANCHESTER RD. - RAMP "A"
		LUMP		Lump	15 KVA CONTROL TRSF. W/ LIGHTNING ARRESTOR & FUSED CUTOUT MANCHESTER RD. - RAMP "B"
		LUMP		Lump	SERVICE POLE & CONTROL CENTER W/ ACCESSORIES MANCHESTER RD. - RAMP "B"
					ALTERNATE BIDS
		32		EA	STANDARD W/ 15' ARM GALV. POLE (OTHER THAN CIRCULAR) 9" x 4.87" x 29'-6"
		9		EA.	STANDARD W/ 10' ARM GALV. POLE (OTHER THAN CIRCULAR) 8" x 3.87" x 29'-6"
2	2			EA.	STANDARD W/ 15 ARM GALV. POLE (OTHER THAN CIRCULAR) 8.5" x 4.72" x 27'-0"
		12		EA.	18" CONCRETE PULL BOX

LIGHTING PLAN Nº 2

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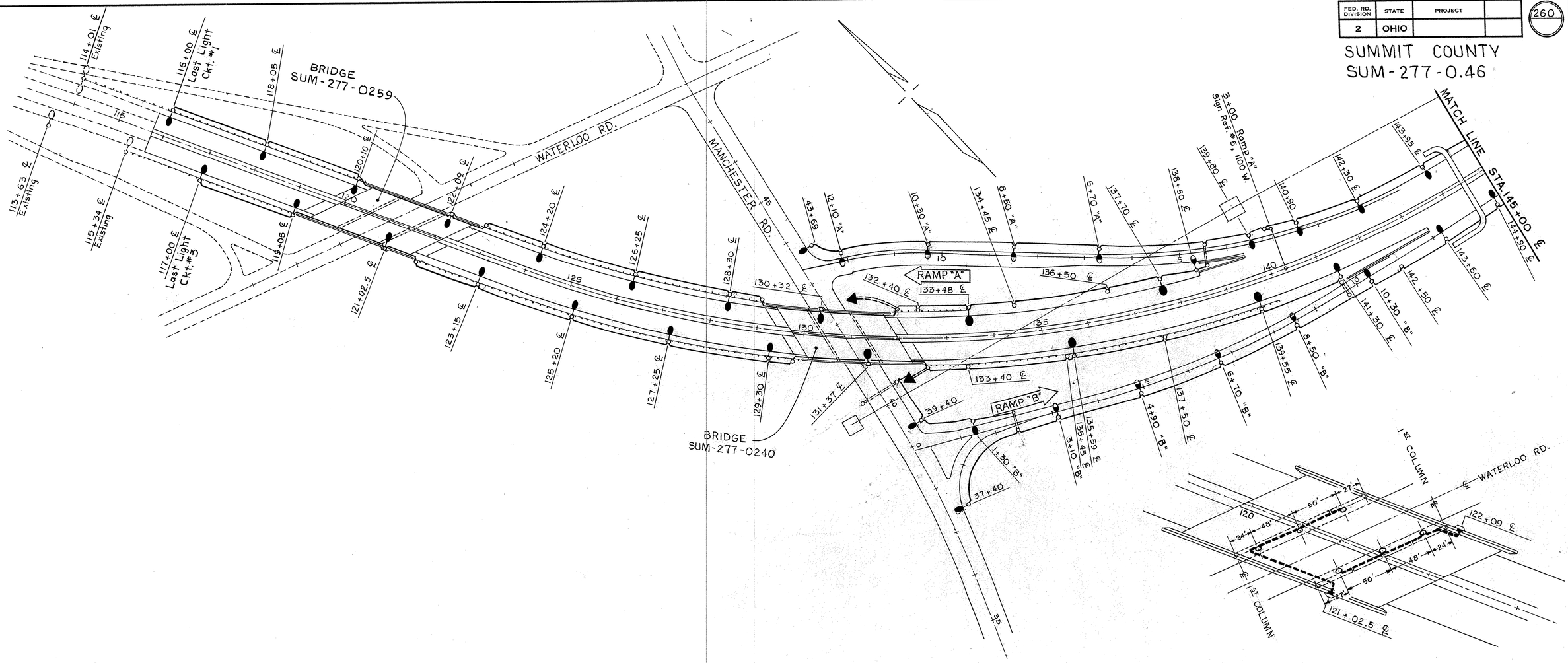
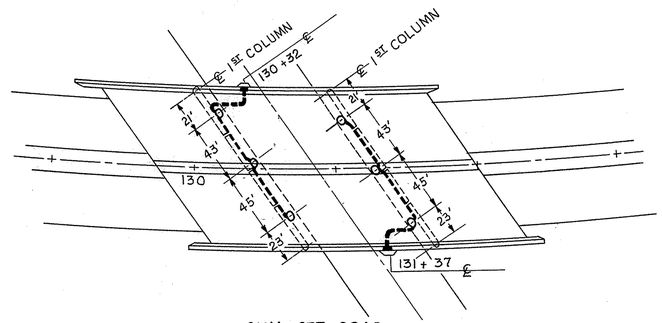
SUM-277-0.46



SUM-277-0259
UNDERPASS LIGHTING PLAN
SCALE 1" = 50'



SUM-277-0240
UNDERPASS LIGHTING PLAN
SCALE 1" = 50'

LEGEND

- Existing 400 W. Luminaire
- New 400 W. Type III, 30' MH
- New 400 W. Type II, 30' MH
- New 1000 W. Type III, with 700 W. Lamp, 40' MH
- ▲ Service Center

- LIGHTING PLAN Nº 2

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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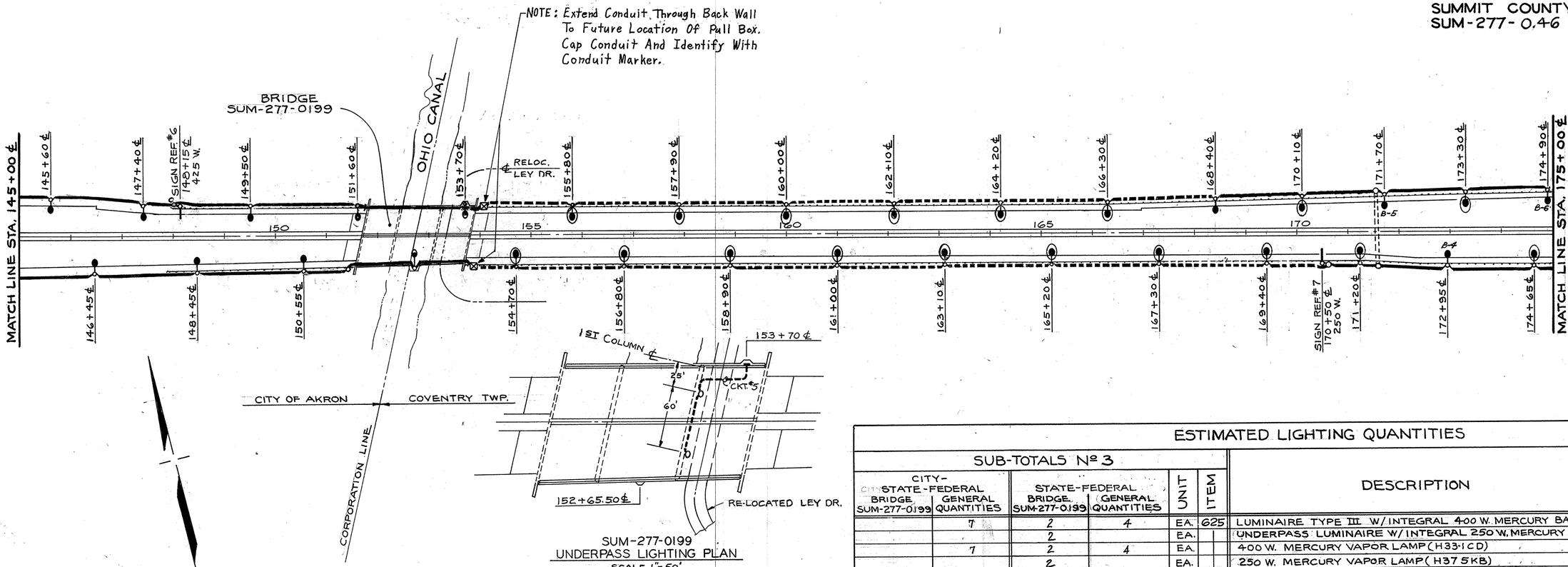
SUMMIT COUNTY
SUM-277-0.46



SUM-277-0199
UNDERPASS LIGHTING PLAN
SCALE 1"=50'

LEGEND

ROADWAY LIGHTING-MERCURY-1ϕ 480 V. SYSTEM

- 400 WATT TYPE III 15' BRACKET
- 400 WATT TYPE II 10' BRACKET
- 400 WATT TYPE III 15' BRACKET (BRIDGE)
- 250 WATT UNDERPASS LIGHT

Denotes Future Light

- EXISTING LIGHT, OR LIGHT INSTALLED ON ANOTHER CONTRACT
- FUTURE CABLE
- MULTIPLE 1ϕ 480 V. LIGHTING CIRCUIT; 2-1/C Nº 4 600 VOLT CABLES IN "CABLEDUCT" DIRECT BURIAL ALONG ROADWAY & RAMPS; 2-1/C Nº 4 600 VOLT CABLES IN CONDUIT THRU BRIDGES AND AT CROSS-OVERS.
- CKT. CABLES IN 2" GALV. STL. CONDUIT UP SLOPE FROM TRANSFORMER STN. INDICATED 2 CKT'S IN ONE(1) CONDUIT.
- 3" GALV. STL. OR W.I. CONDUIT CROSSOVER
- 18" ROUND FIBRE PULL BOX
- 24"x10"x8" GALV. CAST IRON BOX (IN BRIDGE PARAPET WALL)
- 10 TRANSFORMER STATION BY CONTRACTOR (KVA AS INDICATED)
- GUARD RAIL
- SIGNS
- MARKER

ESTIMATED LIGHTING QUANTITIES

SUB-TOTALS Nº 3

CITY- STATE-FEDERAL BRIDGE SUM-277-0199	CITY- STATE-FEDERAL GENERAL QUANTITIES	STATE-FEDERAL BRIDGE SUM-277-0199	STATE-FEDERAL GENERAL QUANTITIES	UNIT	ITEM	DESCRIPTION
	7	2	4	EA.	625	LUMINAIRE TYPE III W/INTEGRAL 400 W. MERCURY BALLAST
		2		EA.		UNDERPASS LUMINAIRE W/INTEGRAL 250 W. MERCURY BALLAST
	7	2	4	EA.		400 W. MERCURY VAPOR LAMP (H33-1CD)
		2		EA.		250 W. MERCURY VAPOR LAMP (H37 5KB)
	7		4	EA.		STANDARD W/15' ARM GALV. POLE (CIRCULAR) 9"x4.87"x29'-6"
		2		EA		STANDARD W/15' ARM GALV. POLE (CIRCULAR) 8.5"x4.72"x27'-0" (BRIDGE)
	7		4	EA.		LIGHT POLE FOUNDATIONS
	7		4	EA.		GROUND ROD UNITS
	2		3	EA.		18" FIBRE PULL BOX
		1		EA.		JUNCTION BOX 24"x10"x8"
210		210		L.F.		CONDUIT 2" GALV. STEEL (IN STRUCTURES)
	20		20	L.F.		CONDUIT 2" GALV. STEEL (DIRECT BURIED)
2		2		EA.		2" CONDUIT EXPANSION FITTING
		140		L.F.		CONDUIT 3/4" GALV. STEEL
1				EA.		BRIDGE STRUCTURE GRD'G & BONDING SYSTEM
	1,300		1,100	L.F.		TRENCH 2'-0" DEEP
	100		300	L.F.		TRENCH, ALTERNATE 4'-6" DEEP
	1,350		1,170	L.F.		CABLEDUCT - 2#4 - 1/C 600 V. 7-STR'D COPPER
260		220	150	L.F.		CIRCUIT CABLE 1/C #4 600 V. 7-STR'D COPPER
	665	180	380	L.F.		POLE & BRACKET CABLE 1/C #10 600 V. 7-STR'D COPPER
	7	2	4	EA.		CONNECTING KIT FUSED "Y" TYPE II
	7	2	4	EA.		CONNECTING KIT UNFUSED "Y" TYPE III
	2		4	EA.		CONNECTING KIT UNFUSED "Y" TYPE IV
	2		2	EA.		CONNECTING KIT UNFUSED STRAIGHT TYPE I
						ALTERNATE
	7		4	EA.		STANDARD W/15' ARM GALV. POLE (OTHER THAN CIRCULAR) 9"x4.87"x29'-6"
		2		EA.		STANDARD W/15' ARM GALV. POLE (OTHER THAN CIRCULAR) 8.5"x4.72"x27'-0"
	2		3	EA.		18" CONCRETE PULL BOXES

LIGHTING PLAN Nº 3

Rev. 10-7-65 J.E.W.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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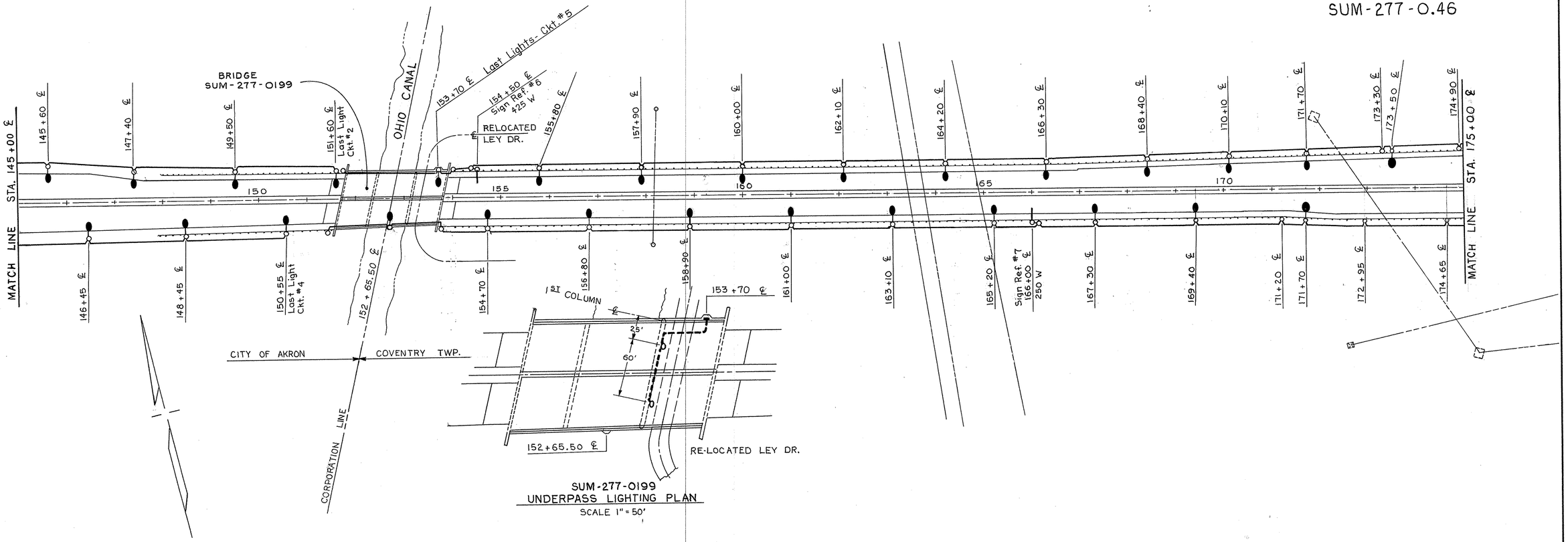
SUMMIT COUNTY
SUM-277-0.46



SUM-277-0199
UNDERPASS LIGHTING PLAN
SCALE 1" = 50'

LIGHTING PLAN Nº 3

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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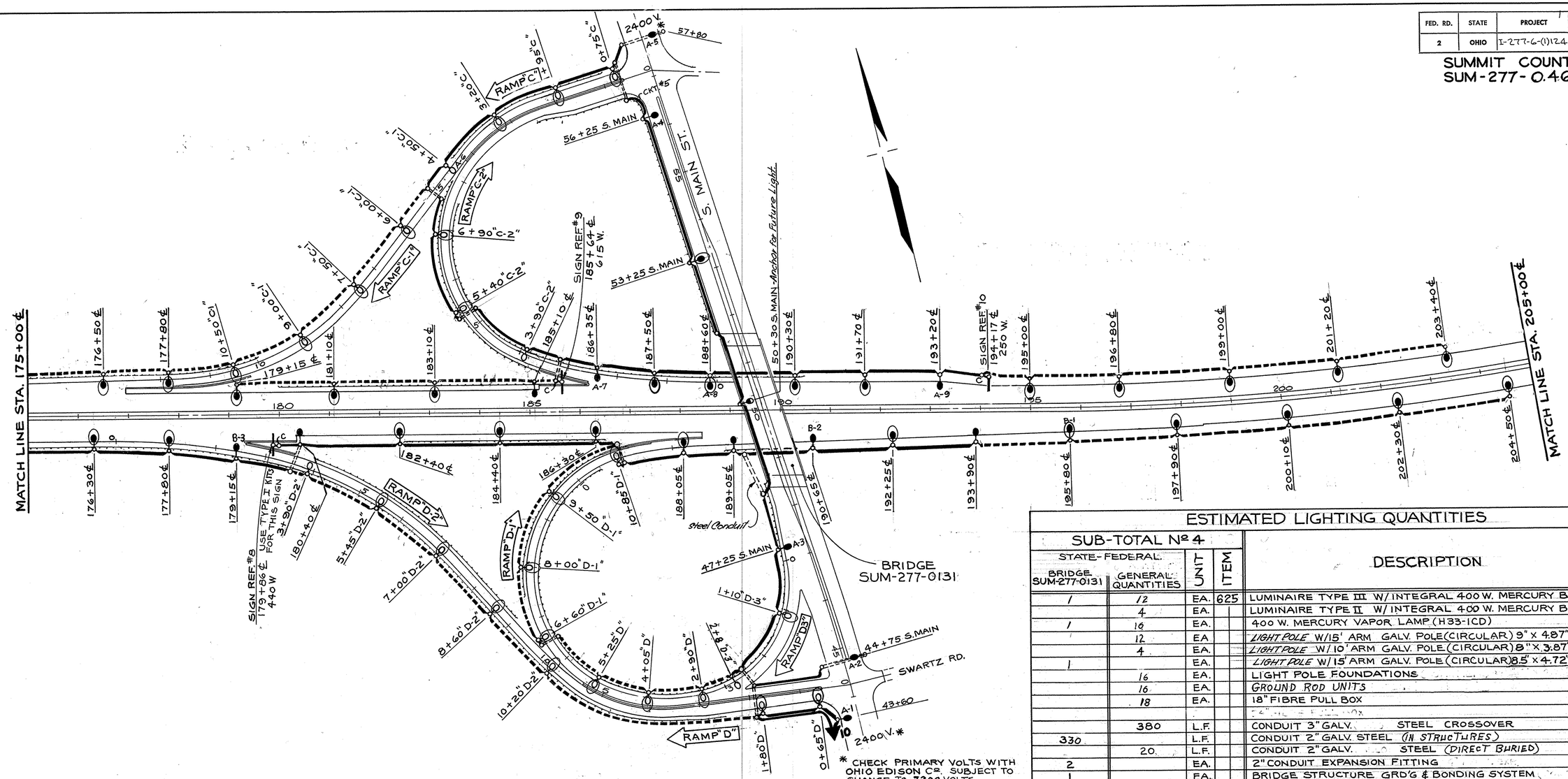
SUMMIT COUNTY
SUM-277-0.46



ESTIMATED LIGHTING QUANTITIES

SUB-TOTAL Nº 4

STATE-FEDERAL BRIDGE SUM-277-0131	GENERAL QUANTITIES	UNIT	ITEM	DESCRIPTION
1	12	EA.	625	LUMINAIRE TYPE III W/ INTEGRAL 400 W. MERCURY BALLAST
	4	EA.		LUMINAIRE TYPE II W/ INTEGRAL 400 W. MERCURY BALLAST
1	16	EA.		400 W. MERCURY VAPOR LAMP (H33-ICD)
	12	EA.		LIGHT POLE W/15' ARM GALV. POLE (CIRCULAR) 9" x 4.87" x 29'-6"
	4	EA.		LIGHT POLE W/10' ARM GALV. POLE (CIRCULAR) 8" x 3.87" x 29'-6"
1		EA.		LIGHT POLE W/15' ARM GALV. POLE (CIRCULAR) 8.5" x 4.72" x 27'-0"
	16	EA.		LIGHT POLE FOUNDATIONS
	16	EA.		GROUND ROD UNITS
	18	EA.		18" FIBRE PULL BOX
	380	L.F.		CONDUIT 3" GALV. STEEL CROSSOVER
330		L.F.		CONDUIT 2" GALV. STEEL (IN STRUCTURES)
	20	L.F.		CONDUIT 2" GALV. STEEL (DIRECT BURIED)
2		EA.		2" CONDUIT EXPANSION FITTING
1		EA.		BRIDGE STRUCTURE GRD'G & BONDING SYSTEM
	10,110	L.F.		TRENCH 2'-0" DEEP
	1,000	L.F.		TRENCH, ALTERNATE 4'-6" DEEP
	10,140	L.F.		CABLEDUCT - 2-#4 1/C 600 V. 7-STR'D COPPER
320	602	L.F.		CIRCUIT CABLE 1/C #4 600 V. 7-STR'D COPPER
90	1575	L.F.		POLE & BRACKET CABLE 1/C #10 600 V. 7-STR'D COPPER
1	16	EA.		CONNECTING KIT FUSED "Y" TYPE II
1	16	EA.		CONNECTING KIT UNFUSED "Y" TYPE III
	16	EA.		CONNECTING KIT UNFUSED "Y" TYPE III
	24	EA.		CONNECTING KIT UNFUSED STRAIGHT TYPE I
	LUMP	Lump		10 KVA CONTROL TRSF. W/ LIGHTNING ARRESTOR & FUSED CUTOUT
	LUMP	Lump		SERVICE POLE & CONTROL CENTER W/ ACCESSORIES
				ALTERNATE
1	12	EA.		LIGHT POLE W/15' ARM GALV. POLE (OTHER THAN CIRCULAR) 9" x 4.87" x 29'-6"
	4	EA.		LIGHT POLE W/10' ARM GALV. POLE (OTHER THAN CIRCULAR) 8" x 3.87" x 29'-6"
1		EA.		LIGHT POLE W/15' ARM GALV. POLE (OTHER THAN CIRCULAR) 8.5" x 4.72" x 27'-0"
	18	EA.		18" CONCRETE PULL BOX

LIGHTING PLAN Nº 4

Rev. 10-7-65 J.E.W

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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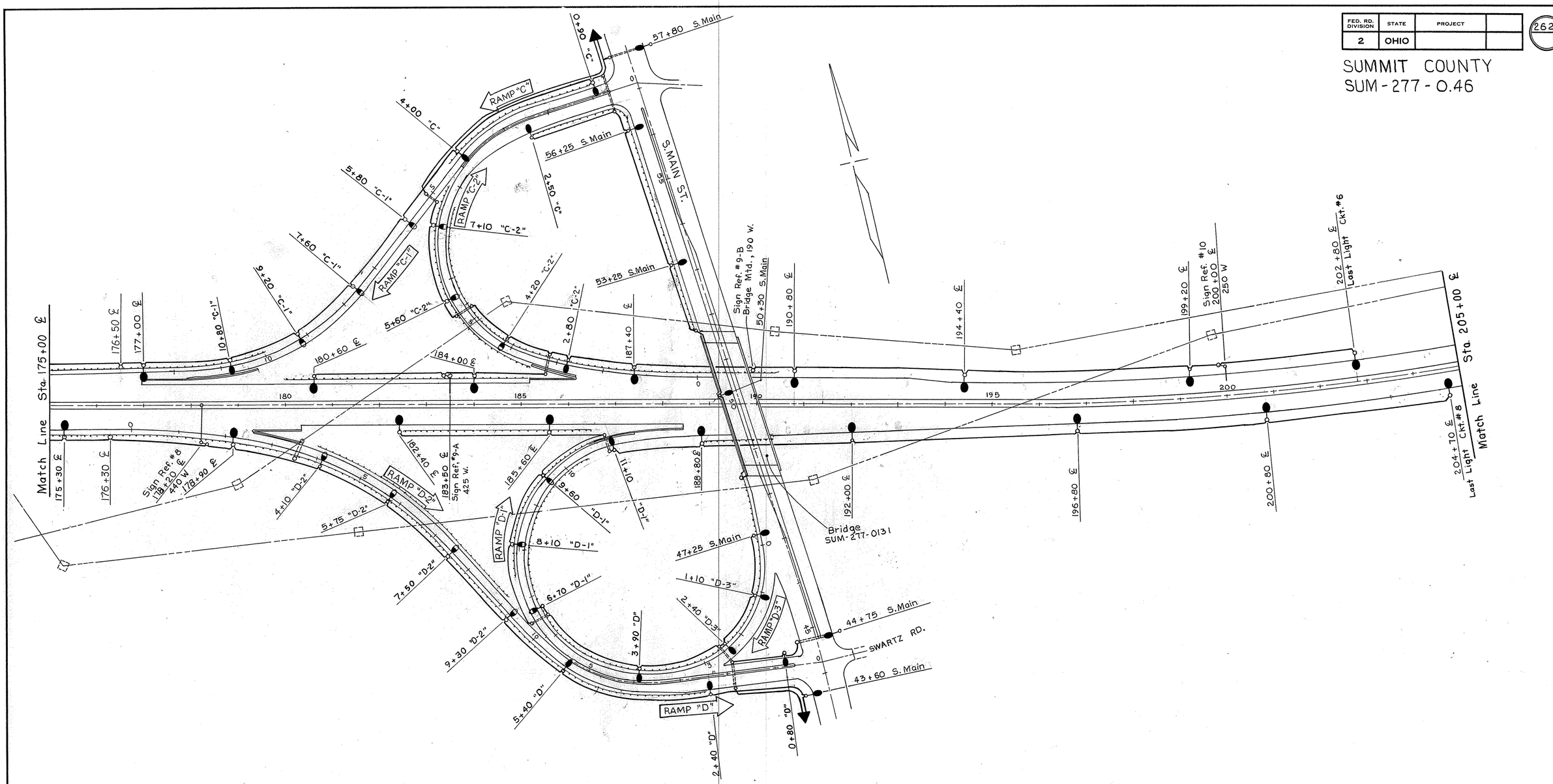

LIGHTING PLAN NO. 4

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

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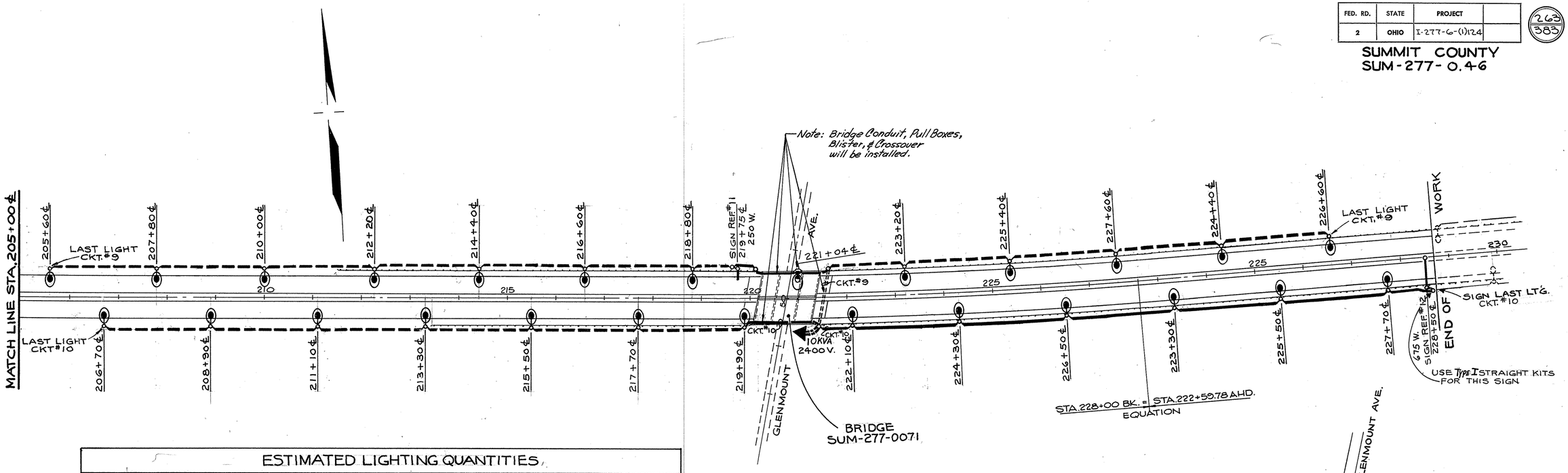
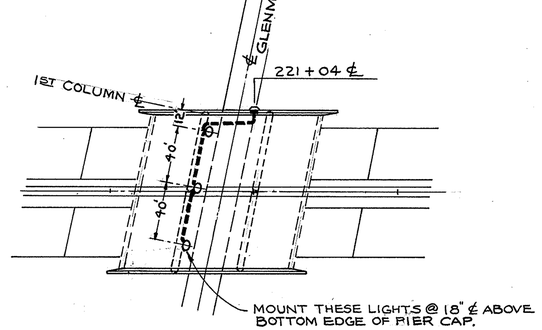
SUMMIT COUNTY
SUM-277-0.46



ESTIMATED LIGHTING QUANTITIES

SUB-TOTAL Nº 5				
STATE-FEDERAL				
BRIDGE SUM-277-0071	GENERAL QUANTITIES	UNIT	ITEM	DESCRIPTION
		EA.	S-25	LUMINAIRE TYPE III W/ INTEGRAL 400 W. MERCURY BALLAST
3		EA.		UNDERPASS LUMINAIRE W/ INTEGRAL 250 W. MERCURY BALLAST
		EA.		400 W. MERCURY VAPOR LAMP (H33-1CD)
3		EA.		250 W MERCURY VAPOR LAMP (H37-5KB)
		EA.		STANDARD W/15' ARM GALV. POLE(CIRCULAR) 9"x 4.87"x 29'-6"
		EA.		STANDARD W/15' ARM GALV. POLE(CIRCULAR)8.5"x 4.72"x 27'-0"
		EA.		LIGHT POLE FOUNDATIONS
	5	EA.		18" FIBER PULL BOX
1		EA.		Junction Box 24"x 10"x 8"
	120	L.F.		CONDUIT 3" GALV. STEEL CROSSOVER
300		L.F.		CONDUIT 2" GALV. STEEL (IN STRUCTURES)
	110	L.F.		CONDUIT 2" GALV. STEEL (DIRECT BURIED)
140		L.F.		CONDUIT 3/4" GALV. STEEL
1		EA.		BRIDGE STRUCTURE GRD'G & BONDING SYSTEM
	1300	L.F.		TRENCH 2'-0" DEEP
	1350	L.F.		CABLEDUCT 2-#4 1/C 600 V. 7-STR'D COPPER
620	230	L.F.		CIRCUIT CABLE 1/C #4, 600 V. 7-STR'D COPPER
		L.F.		POLE & BRACKET CABLE 1/C #10 600 V. 7-STR'D COPPER
		EA.		CONNECTING KIT FUSED "Y" TYPE II
		EA.		CONNECTING KIT UNFUSED "Y" TYPE III
	2	EA.		CONNECTING KIT UNFUSED "Y" TYPE IV
	12	EA.		CONNECTING KIT UNFUSED STRAIGHT TYPE I
	LUMP	Lump		10 KVA CONTROL TRSF. W/ LIGHTNING ARRESTOR & FUSED CUTOUT
	LUMP	Lump		SERVICE POLE & CONTROL CENTER W/ ACCESSORIES
				ALTERNATE
		EA.		STANDARD W/15' ARM GALV. POLE(OTHER THAN CIRCULAR) 9"x 4.87"x 29'-6"
		EA.		STANDARD W/15' ARM GALV. POLE(OTHER THAN CIRCULAR)8.5"x 4.72"x 27'-0"
	5	EA.		18" CONCRETE PULL BOX



SUM-277-0071
UNDERPASS LIGHTING PLAN
SCALE 1"= 50'

LIGHTING PLAN Nº 5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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SUM-277-0071
Underpass Lighting Plan
Scale-1"=50'

LIGHTING PLAN Nº 5

FED. RD. DIVISION	STATE	PROJECT	
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SUMMIT COUNTY
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WEST BOUND LANE LIGHT POLES

POLE NUMBER	STATION	ARM LENGTH	PRESENT SET BACK	PROPOSED SET BACK	REMARKS
E 18-12	38+40	15'	14.7'	SAME	BEHIND GUARD RAIL
E 18-11	40+12	15'	14.2'	SAME	ON BRIDGE
E 18-10	41+75	15'	14.2'	SAME	ON BRIDGE
E 18- 9	43+50	15'	14.8'	SAME	BEHIND GUARD RAIL
E 18- 8	45+20	15'	14.7'	SAME	BEHIND GUARD RAIL
E 18- 7	46+90	15'	14.8'	SAME	BEHIND GUARD RAIL
E 18- 6	48+60	15'	11.3'	14.5'	ALUMINUM BASE
E 18- 5	50+30	15'	11.5'	14.0'	ALUMINUM BASE
E 18- 4	52+28	15'	11.7'	14.0'	EXTEND GUARDRAIL
E 18- 3	53+88	15'	11.9'	14.0'	ALUMINUM BASE
E 18- 2	55+20	15'	12.0'	14.0'	ALUMINUM BASE
E 18- 1	56+47	15'	12.1'	14.0'	ALUMINUM BASE
M 31-27	58+18	15'	12.3'	14.0'	ALUMINUM BASE
M 31-26	59+50	15'	13.6'	SAME	ALUMINUM BASE
M 31-25	16+55"C"	10'	13.6'	SAME	ALUMINUM BASE
M 31-34	61+15	15'	11.7'	14.0'	ALUMINUM BASE
M 31-33	63+15	15'	11.2'	14.0'	ALUMINUM BASE
M 31-32	65+15	15'	11.2'	14.0'	ALUMINUM BASE
M 31-31	67+10	15'	11.2'	14.0'	ALUMINUM BASE
M 32-12	68+92	15'	11.2'	14.0'	EXTEND GUARD RAIL
M 32-13	70+14	15'	11.2'	14.0'	EXTEND GUARD RAIL
M 32-14	72+00	15'	11.3'	14.0'	ALUMINUM BASE
M 32-15	73+87	15'	11.3'	14.0'	ALUMINUM BASE
M 32- 2	75+90	15'	13.7'	SAME	ALUMINUM BASE
M 32- 1	77+48	15'	11.0'	14.0'	EXTEND GUARD RAIL
E 16-30	79+13	15'	11.3'	14.0'	ALUMINUM BASE
E 16-29	80+83	15'	11.3'	14.0'	ALUMINUM BASE
E 16-28	82+53	15'	11.3'	14.0'	ALUMINUM BASE
E 16-27	84+23	15'	11.4'	14.0'	ALUMINUM BASE
E 16-26	85+93	15'	11.4'	14.0'	ALUMINUM BASE
E 16-25	87+63	15'	11.3'	14.0'	ALUMINUM BASE
E 16-24	89+33	15'	11.3'	14.0'	ALUMINUM BASE
E 16-23	91+03	15'	11.3'	14.0'	ALUMINUM BASE
E 16-22	92+73	15'	11.3'	14.0'	ALUMINUM BASE
E 16-21	94+43	15'	9.2'	14.0'	EXTEND GUARD RAIL
E 16-20	96+13	15'	8.3'	14.0'	ALUMINUM BASE
E 16-19	97+83	15'	9.4'	14.0'	ALUMINUM BASE
E 16-18	99+53	15'	10.4'	14.0'	ALUMINUM BASE
E 16-17	101+23	15'	11.4'	14.0'	ALUMINUM BASE
E 16-16	102+78	15'	11.0'	SAME	BEHIND GUARD RAIL
E 16-15	104+18	15'	10.8'	SAME	BEHIND GUARD RAIL
E 16-14	105+58	15'	10.8'	SAME	BEHIND GUARD RAIL
E 16-13	106+98	15'	10.8'	SAME	BEHIND GUARD RAIL
E 16-12	108+38	15'	10.3'	SAME	ON BRIDGE
E 16-11	109+78	15'	10.7'	SAME	BEHIND GUARD RAIL
E 16-10	111+18	15'	10.9'	SAME	BEHIND GUARD RAIL
E 16- 9	112+58	10'	10.8'	SAME	BEHIND GUARD RAIL
E 16- 8	114+01	*10' & 15'	12.5'	SAME	ALUMINUM BASE
E 16- 7	4+95"B"	* 10'	10.8'	SAME	BEHIND GUARD RAIL
E 16- 6	6+45"B"	* 10'	10.7'	SAME	BEHIND GUARD RAIL
E 16- 5	7+95"B"	* 10'	10.5'	SAME	BEHIND GUARD RAIL
E 16- 4	9+45"B"	* 10'	5.7'	10.5'	ALUMINUM BASE
E 16- 3	10+70"B"	* 10'	2.5'	SAME	ALUMINUM BASE
E 16- 2	10+95"B"	* 10'	5.8'	10.5'	ALUMINUM BASE
E 16- 1	12+40"B"	* 10'	2.5'	SAME	ALUMINUM BASE
				32 NEW FOUNDATIONS	33 ALUMINUM BASES

CIRCUIT	QUANTITY		CONVERSION FROM SERIES INCANDESCENT TO MULTIPLE MERCURY LUMINAIRES
E 18	12		TYPE III, 400 WATT MERCURY
E 16	23		TYPE III, 400 WATT MERCURY
E 16	8	*	TYPE II, 400 WATT MERCURY

EAST BOUND LANE LIGHT POLES

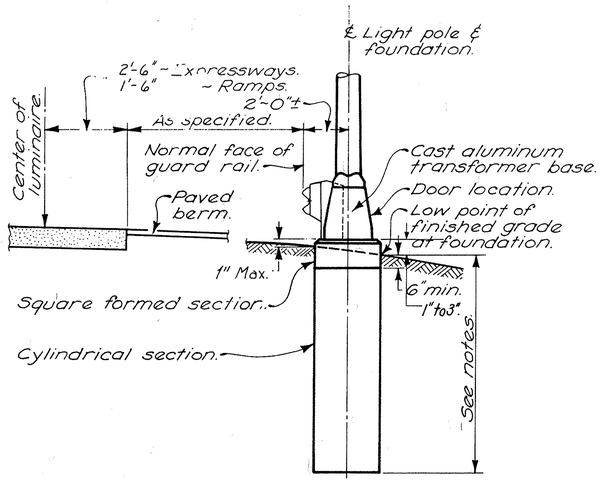
POLE NUMBER	STATION	ARM LENGTH	PRESENT SET BACK	PROPOSED SET BACK	REMARKS
E 18-23	39+30	15'	12.2'	SAME	ON BRIDGE
E 18-22	40+95	15'	12.2'	SAME	ON BRIDGE
E 18-21	42+65	15'	14.7'	SAME	BEHIND GUARD RAIL
E 18-20	44+35	15'	14.8'	SAME	BEHIND GUARD RAIL
E 18-19	46+05	15'	14.5'	SAME	BEHIND GUARD RAIL
E 18-18	47+75	15'	11.3'	14.5'	ALUMINUM BASE
E 18-17	49+50	15'	14.5'	SAME	BEHIND GUARD RAIL
E 18-16	51+50	15'	11.1'	14.5'	ALUMINUM BASE
E 18-15	53+10	15'	17.2'	14.5'	ALUMINUM BASE
E 18-14	54+75	15'	13.5'	14.5'	ALUMINUM BASE
E 18-13	56+03	15'	13.6'	14.5'	ALUMINUM BASE
M 32-34	57+70	15'	13.5'	14.5'	EXTEND GUARD RAIL
M 32-33	58+90	15'	13.5'	14.5'	EXTEND GUARD RAIL
M 32-35	60+15	15'	11.6'	14.0'	ALUMINUM BASE
M 32-36	62+15	15'	11.3'	14.0'	ALUMINUM BASE
M 32-37	64+15	15'	11.3'	14.0'	ALUMINUM BASE
M 32-40	5+85"B"	10'	8.0'	10.0'	ALUMINUM BASE
M 32-39	66+00	15'	10.3'	14.0'	ALUMINUM BASE
M 32-38	67+30	15'	11.6'	14.0'	EXTEND GUARD RAIL
M 32-21	69+10	15'	11.6'	14.0'	ALUMINUM BASE
M 32-20	71+03	15'	11.6'	14.0'	ALUMINUM BASE
M 32-19	72+95	15'	11.3'	14.0'	ALUMINUM BASE
M 32-18	74+79	15'	11.3'	14.0'	ALUMINUM BASE
M 32-17	76+58	15'	11.3'	14.0'	ALUMINUM BASE
M 32-16	78+28	15'	11.3'	14.0'	ALUMINUM BASE
M 32-32	4+30"A"	15'	14.0'	SAME	ALUMINUM BASE
E 17-30	79+98	15'	11.3'	14.0'	ALUMINUM BASE
E 17-29	81+68	15'	11.4'	14.0'	ALUMINUM BASE
E 17-28	83+38	15'	11.4'	14.0'	EXTEND GUARD RAIL
E 17-27	85+08	15'	11.3'	14.0'	EXTEND GUARD RAIL
E 17-26	86+78	15'	11.3'	14.0'	ALUMINUM BASE
E 17-25	88+48	15'	11.3'	14.0'	ALUMINUM BASE
E 17-24	90+18	15'	11.3'	14.0'	ALUMINUM BASE
E 17-23	91+88	15'	11.3'	14.0'	ALUMINUM BASE
E 17-22	93+58	15'	11.5'	14.0'	ALUMINUM BASE
E 17-21	95+28	15'	11.9'	14.0'	ALUMINUM BASE
E 17-20	96+98	15'	12.4'	14.0'	ALUMINUM BASE
E 17-19	98+68	15'	12.0'	14.0'	ALUMINUM BASE
E 17-18	100+38	15'	11.4'	14.0'	ALUMINUM BASE
E 17-17	102+08	15'	11.7'	14.0'	EXTEND GUARD RAIL
E 17-16	103+48	15'	11.2'	SAME	ALUMINUM BASE
E 17-15	104+88	15'	10.4'	SAME	BEHIND GUARD RAIL
E 17-14	106+28	15'	10.5'	SAME	BEHIND GUARD RAIL
E 17-13	107+68	15'	10.4'	SAME	ON BRIDGE
E 17-12	109+08	15'	10.8'	SAME	BEHIND GUARD RAIL
E 17-11	110+35	15' & 10' *	4.0'	SAME	ALUMINUM BASE
E 17-10	112+00	15'	14.5'	SAME	BEHIND GUARD RAIL
E 17- 9	113+63	15'	14.7'	SAME	BEHIND GUARD RAIL
E 17- 8	115+34	15'	15.0'	SAME	BEHIND GUARD RAIL
E 17- 7	4+45"A"	10' *	10.7'	SAME	BEHIND GUARD RAIL
E 17- 6	5+95"A"	10' *	10.7'	SAME	BEHIND GUARD RAIL
E 17- 5	7+45"A"	10' *	5.7'	10.5'	ALUMINUM BASE
E 17- 4	8+95"A"	10' *	5.5'	10.5'	ALUMINUM BASE
E 17- 3	10+45"A"	10' *	5.7'	10.5'	ALUMINUM BASE
E 17- 2	11+35"A"	10' *	2.5'	SAME	ALUMINUM BASE
E 17- 1	11+10"A"	10' *	2.5'	SAME	ALUMINUM BASE
				36 NEW FOUNDATIONS	35 ALUMINUM BASES

CIRCUIT	QUANTITY		CONVERSION FROM SERIES INCANDESCENT TO MULTIPLE MERCURY LUMINAIRES
E 18	11		TYPE III, 400 WATT MERCURY
E 17	23		TYPE III, 400 WATT MERCURY
E 17	8	*	TYPE II, 400 WATT MERCURY

ESTIMATED LIGHTING QUANTITIES PLAN NO. I AND IA

REFERENCE NO.	QUANTITY ORIGINAL SUB TOTAL*	QUANTITY REVISED NO. I & IA	UNIT	DESCRIPTION
185	46	69	EA.	LUMINAIRE TYPE III, W/INTEGRAL 400 W. MERCURY BALLAST
186	17	16	EA.	LUMINAIRE TYPE II, W/INTEGRAL 400 W. MERCURY BALLAST
187	46	85	EA.	400 WATT MERCURY VAPOR LAMP (H33-1CD)
188	17	—	EA.	250 WATT MERCURY VAPOR LAMP (H37-5KB)
191	-	68	EA.	LIGHT POLE FOUNDATION
192	-	68	EA.	GROUND ROD UNIT
193	4	4	EA.	18" FIBER PULL BOX
196	180	180	L.F.	TRENCH 2'-0" DEEP
198	200	200	L.F.	CABLE DUCT 2"-4-1/C-600V.-7 STR'D COPPER
199	300	300	L.F.	CIRCUIT CABLE 1/C*4-600 V.-7 STR'D COPPER
201	5,580	7,470	L.F.	POLE & BRACKET CABLE 1/C*10-600V.-7 STR'D COPPER
202	63	85	EA.	CONNECTING KIT FUSED Y TYPE II
203	-	85	EA.	CONNECTING KIT UNFUSED Y TYPE III
204	6	6	EA.	CONNECTING KIT UNFUSED Y TYPE IV
205	10	10	EA.	CONNECTING KIT UNFUSED STRAIGHT TYPE I
206	LUMP	LUMP	LUMP	RE-CONNECT EXISTING LIGHT CKT. & POLE (SERIES TO MULTIPLE)
215	LUMP	-	LUMP	15 KVA CONTROL TRSF W/L.A. & FUSED CUTOUT-FILMORE "B"
216	LUMP	LUMP	LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES-FILMORE "B"
217	LUMP	-	LUMP	15 KVA CONTROL TRSF. W/L.A. & FUSED CUTOUT-WATERLOO "A"
218	LUMP	LUMP	LUMP	SERVICE POLE & CONTROL CENTER W/ACCESSORIES-WATERLOO "A"
	-	68	EA.	RE-LOCATE-EXISTING LIGHTING POLE
	-	68	EA.	ALUMINUM TRANSFORMER BASE TYPE AT-A
	-	LUMP	LUMP	SERVICE POLE & CONTROL CENTER W/ACC-MARMAX & 25th St. S.W.

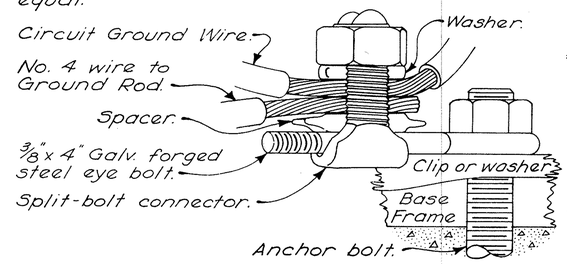
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		



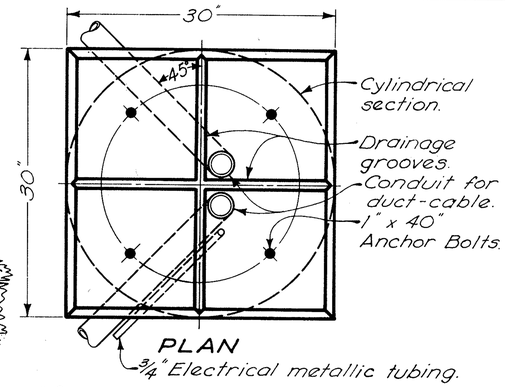
LOCATION OF POLE WITH OR WITHOUT ALUMINUM TRANSFORMER BASES

(Supersedes "Location of Light Pole Foundation" shown on Standard Drawing HL-1).

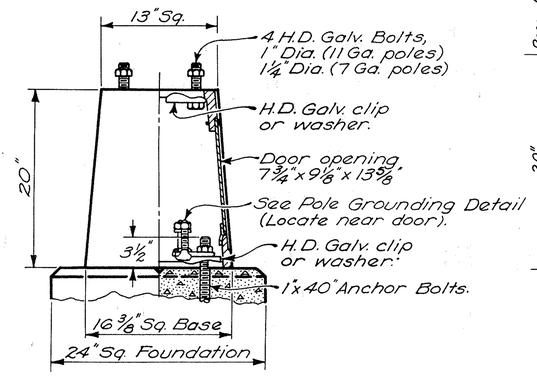
NOTE: Split-bolt Connector shall be made of tin plated copper alloy with tin plated spacer. Acceptable models are: Blackburn #10HP5, Burndy #K5U-25, Line Material #DK-5B-10, Kearney #118109-02 or an approved equal.



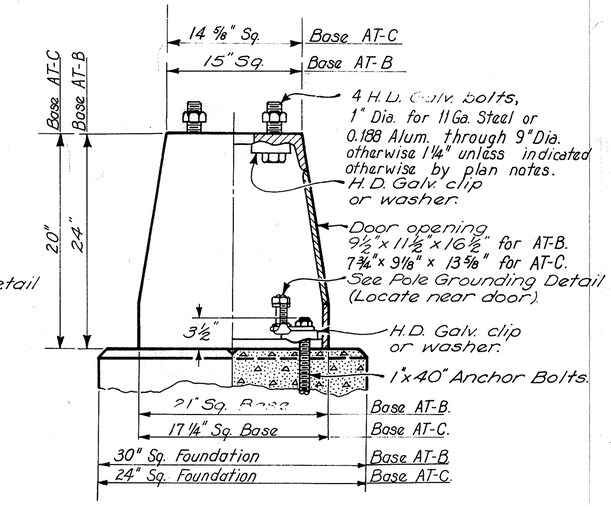
POLE GROUNDING DETAIL

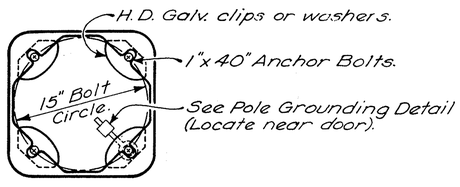


PLAN



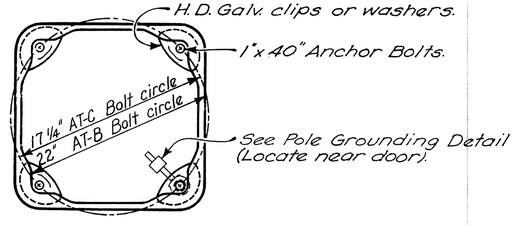
ELEVATION





BASE FRAME

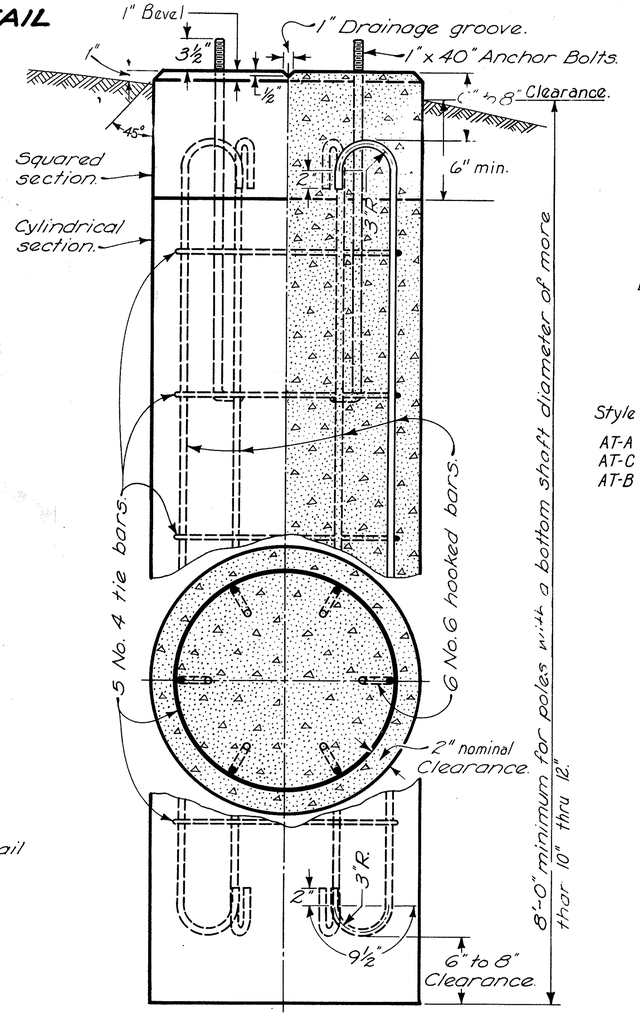
BASE AT-A



BASE FRAME

BASES AT-B and AT-C.

CAST ALUMINUM TRANSFORMER BASES



ELEVATION

30" FOUNDATION

NOTES

FOUNDATION: Foundations for light poles shall be poured-in-place concrete (vibrated and spaded 511.09). Each foundation must meet minimum depths as specified, but additional depth may be required by the Engineer because of existing soil conditions. The 30" foundation (detailed hereon) shall be used for light poles having a bottom shaft diameter of more than 10" through 12". The 24" foundation (detailed on Standard Drawing HL-1) shall be used for all light poles having a bottom shaft diameter of 6.0" through 10". See HL-1 for Foundation depth. Rotate reinforcing bars to clear conduit.

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

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

Base AT-A shall be used with anchor base poles of 6" through 9.2" dia. inclusive, thru 32'-6" Mtg. Hgt. Base AT-B shall be used for anchor base poles above 10" through 12" diameter. Base AT-C shall be used for anchor base poles with bottom diameter 9" through 10."*

The transformer bases shall be capable of resisting the following moments in foot pounds applied to the top of the base without collapsing or rupturing.

Style	Bolt Circle	Base Height	Moment-Foot Pounds	Arm Length
AT-A	15"	20"	40,000	15' Max.
AT-C	17¼"	20"	46,000	10' to 25'
AT-B	22"	24"	52,000	10' to 25'

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

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

Aluminum base complete with hardware, eye bolt and connector, zinc rich paint, and installation shall be included with ground-mounted poles for payment.

* AT-C Base can be used with 8" or 8½" dia. base poles, if desired, in order to reduce maintenance items.

Issued: 11-6-67

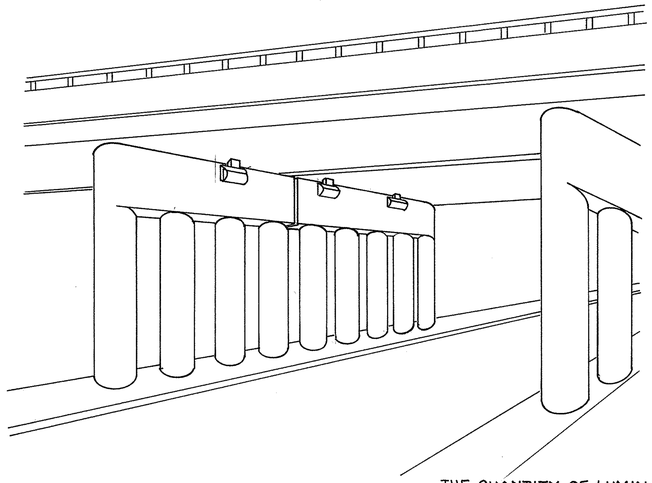
Design Services Sketch No. RL-SK-186

ALUMINUM TRANSFORMER BASE DETAILS

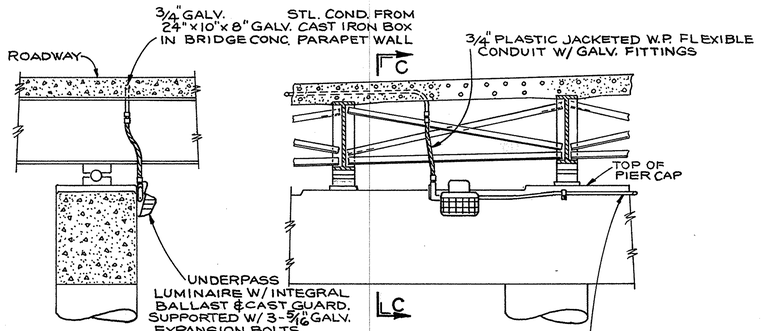
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

266
383

SUMMIT COUNTY
SUM-277-0.46



THE QUANTITY OF LUMINAIRES AND SPACING VARIES SEE ENLARGED PLAN FOR EACH BRIDGE ON LIGHTING PLANS



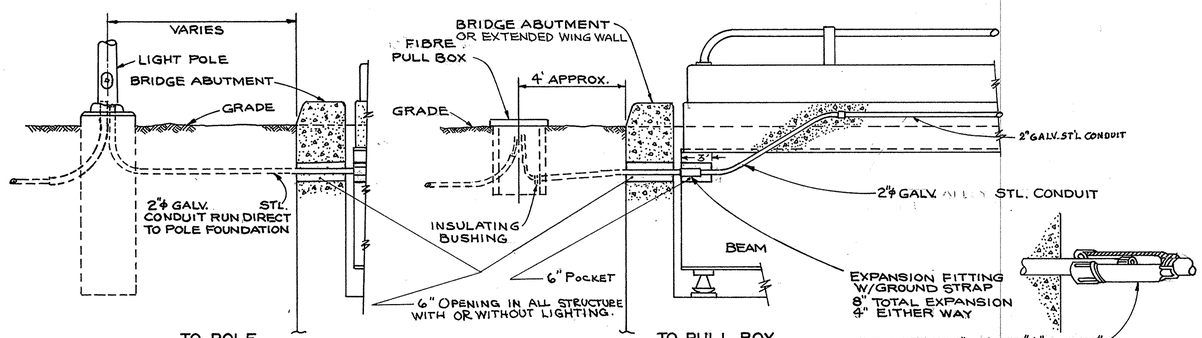
SECTION C-C

DETAIL-FRONT VIEW

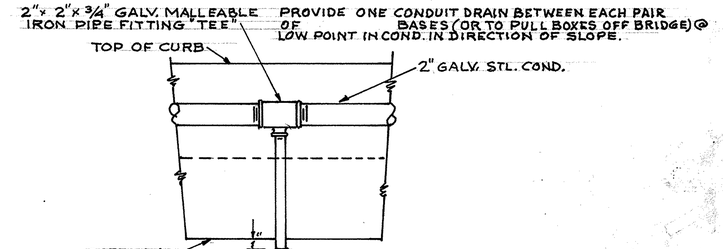
TYPICAL
MTG.- UNDERPASS LUMINAIRES
SCALE 3/8"=1'-0"

TABLE-STRUCTURE GROUNDING		
BRIDGE Nº	TYPE STRUCTURE	GROUNDING DETAILS
SUM-277-0259	STEEL BEAM	WELD TO STEEL SHELL OF 12" CAST-IN-PLACE PILE @ PIER #1 BOTH HALVES OF STRUCTURE
SUM-277-0240	STEEL BEAM	WELD TO 12" STEEL H-PILE @ PIER #1 BOTH HALVES OF STRUCTURE
SUM-277-0199	STEEL BEAM	WELD TO STEEL SHELL OF 12" CAST-IN-PLACE PILE @ PIER #2 BOTH HALVES OF STRUCTURE
SUM-277-0131	STEEL BEAM	WELD TO STEEL SHELL OF 12" CAST-IN-PLACE PILE @ PIER #2 BOTH HALVES OF STRUCTURE
SUM-277-0071	CONCRETE SLAB	MAKE COND'S ELECTRICALLY CONTINUOUS THRU STRUCTURE AND GRD. OFF BRIDGE @ 1ST LIGHT POLE, OR P.B (SEE LIGHTING NOTES)

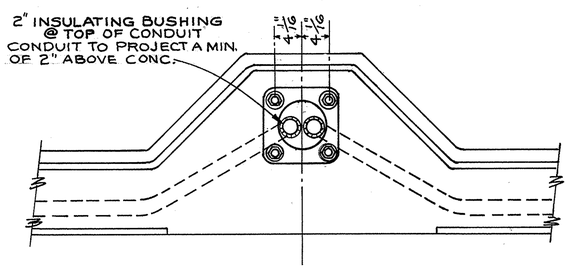
TYPICAL
UNDERPASS LIGHTING



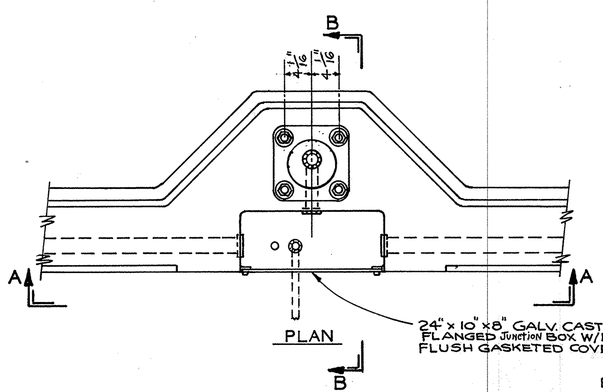
TYPICAL
SECTIONAL ELEVATION
CONDUIT RUN THRU BRIDGE ABUTMENT

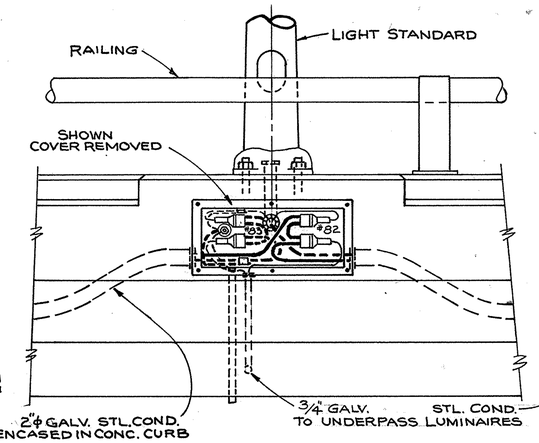


STRUCTURE
CONDUIT DRAIN

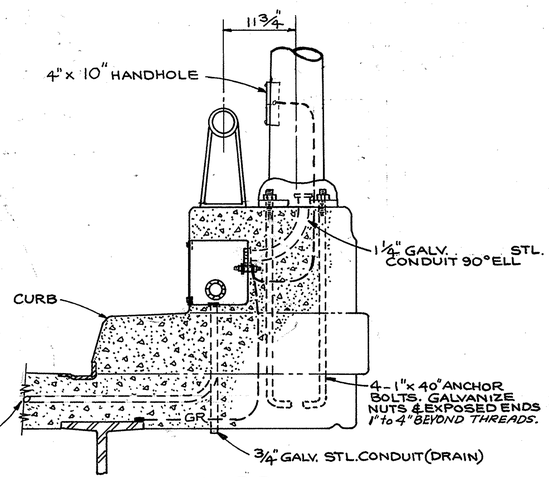


DETAIL-MTG. OF LIGHT POLE
WITH 2" CONDUIT RUN DIRECTLY INTO POLE BASE





ELEVATION A-A



SECTION B-B

LIGHT POLE & PULL BOX IN PARAPET
SCALE 1"=1'-0"

LIGHTING DETAILS-STRUCTURES

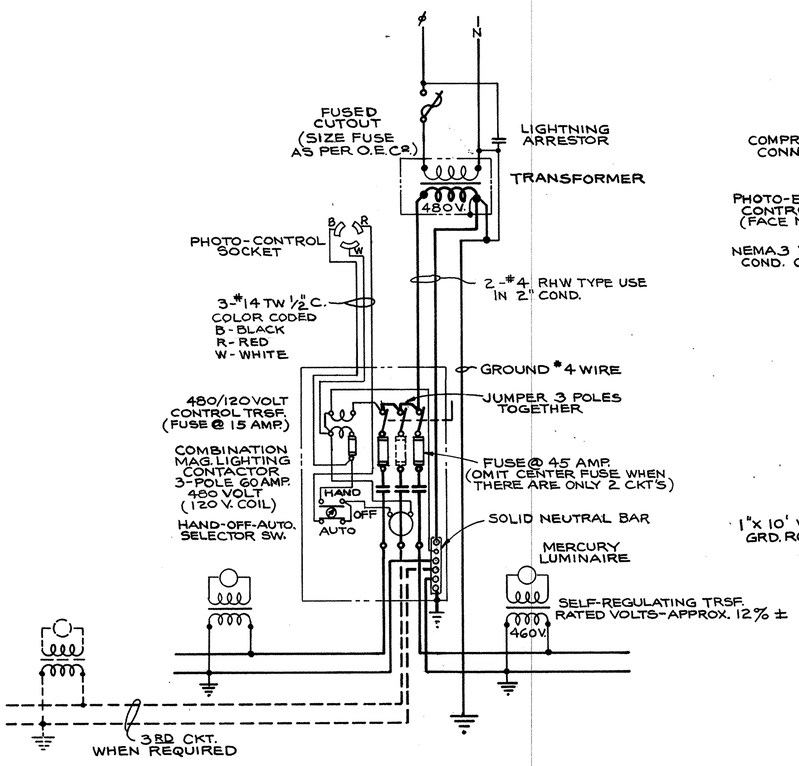
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

267
383

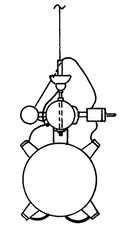
SUMMIT COUNTY
SUM-277-0.46

LIGHTING TRANSFORMER STATION

1. TRANSFORMER SHALL BE THE CONVENTIONAL TYPE, SINGLE PHASE, OISC, POLE MTD. TYPE, W/ PRIMARY TAPS 2½%, 2-ABOVE, 2-BELOW.. SIZE IN KVA & PRIMARY VOLTS AS INDICATED @ EACH LOCATION ON PLAN. (CHECK VOLTS W/ O.E. Co.) WESTINGHOUSE TYPE S, G.E. Co TYPE HS, LINE MATERIAL Co. TYPE RW, OR AN APPROVED EQUAL.
2. COMBINATION FUSED SWITCH & CONTACTOR SHALL BE 60-AMP., 600-VOLT, 3-POLE W/ H.O.A. SELECTOR SWITCH, FUSED CONTROL TRSF., 120 V. COIL, NEMA IV ENCLOSURE OF STAINLESS STEEL (AISI No 302 OR 303). MOUNT TO POLE ON ¼" x 2" GALV. STL. STRAPS USING ALL CORROSION-PROOF HDWE., & SEAL ALL CONDUITS TO PREVENT INGRESS OF WATER. COMB. SWITCH & CONTACTOR SHALL BE SQUARE D CLASS #8903 TYPE W939 FA610A, G.E. Co, COLUMBUS ELECTRIC WKS, OR AN APPROVED EQUAL.
3. EACH LIGHTING CONTACTOR SHALL HAVE A SEPARATE MOUNTED PHOTO-ELECTRIC CONTROLLER FOR IT'S AUTOMATIC OPERATION. CONTROLLER SHALL BE NORMALLY CLOSED, CLOSED AT NIGHT, W/ FACTORY SET TURN-ON FOR 3 FOOT-CANDLES, BE FAIL SAFE, AND HAVE BUILT-IN TIME DELAY TO AVOID ERRONEOUS OPERATION. PHOTO-ELECTRIC CONTROLLER SHALL BE FISHER-PIERCE SERIES 6600A, G.E. Co CAT. 402 G200 SERIES, TORK No 2000 SERIES, OR AN APPROVED EQUAL. A HAND-OFF-AUTO. (H.O.A.) SELECTOR SWITCH IN MAIN CONTACTOR ENCLOSURE WILL PROVIDE MANUAL OPERATION OF LIGHTING AS WELL.
4. ALL POLE HARDWARE SHALL BE HOT-DIPPED GALVANIZED. CONSTRUCTION PRACTICES AND ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS OF THE OHIO EDISON Co (O.E. Co). THE CONTRACTOR SHALL PREPARE A LAYOUT DRAWING WITH DIMENSIONS, TYPICAL FOR THE LIGHTING TRSF. STATION HE INTENDS TO INSTALL, AND SUBMIT SAME TO THE DIRECTOR & THE O.E. Co. APPROVAL OF THE DRAWING(S) SHALL BE OBTAINED FROM THE DIRECTOR, BEFORE ANY MATERIALS ARE PROCURED, OR THE FABRICATION IS BEGUN.
5. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR POWER WITH THE OHIO EDISON Co.

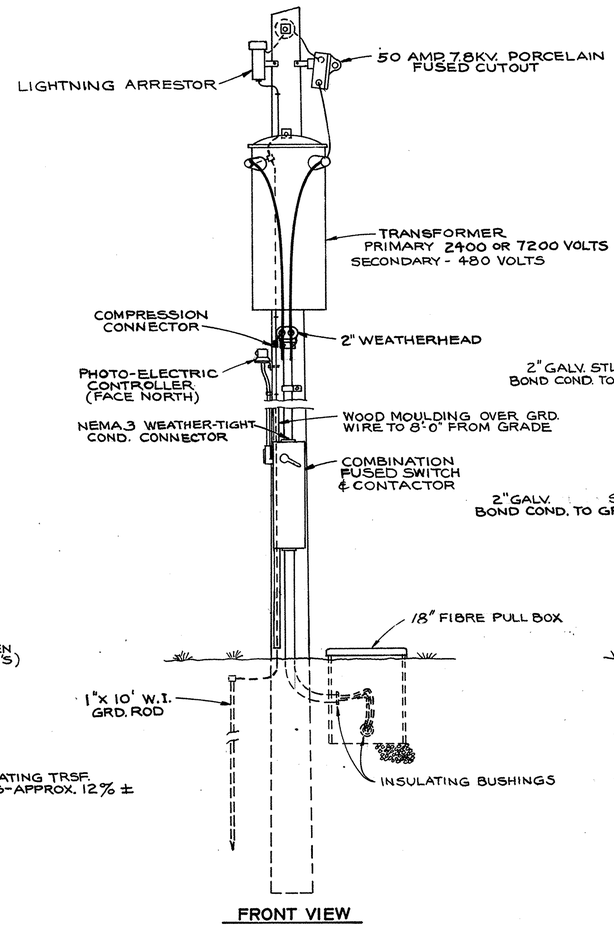


WIRING DIAGRAM
1ϕ 480 V. MULTIPLE LIGHTING CIRCUIT

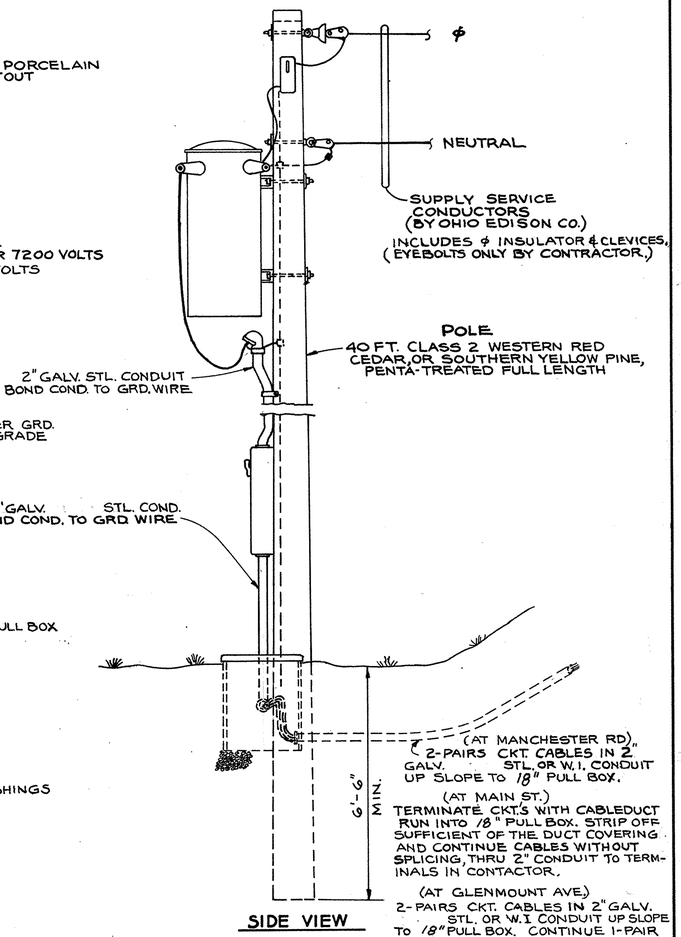


CONTRACTOR SHALL FIELD DETERMINE THE BEST ORIENTATION FOR MOUNTING THE EQUIPMENT ON THE POLE TO SUIT THE PARTICULAR LOCATION AND FACILITATE THE CONNECTION OF SUPPLY SERVICE BY THE OHIO EDISON Co. AT LOCATIONS WHERE THERE IS A R/W FENCE, THE POLE MUST BE AT LEAST 3 FT, BUT NOT MORE THAN 5 FT. INSIDE THE FENCE. IF NECESSARY AND/OR REQUESTED BY O.E. Co A 3/8" 7-STRAND GALV. DOWN GUY, INSULATOR, GUARD, AND ANCHOR MUST BE FURNISHED AND INSTALLED.

TOP VIEW



FRONT VIEW



SIDE VIEW

(AT MANCHESTER RD), 2-PAIRS CKT. CABLES IN 2" GALV. STL. OR W.I. CONDUIT UP SLOPE TO 18" PULL BOX.

(AT MAIN ST.) TERMINATE CKT.'S WITH CABLEDUCT RUN INTO 18" PULL BOX. STRIP OFF SUFFICIENT OF THE DUCT COVERING AND CONTINUE CABLES WITHOUT SPLICING, THRU 2" CONDUIT TO TERMINALS IN CONTACTOR.

(AT GLENMOUNT AVE.) 2-PAIRS CKT. CABLES IN 2" GALV. STL. OR W.I CONDUIT UP SLOPE TO 18" PULL BOX. CONTINUE 1-PAIR (WITHOUT SPLICES) ACROSS ROADWAY TO PULL BOX ON NORTH SIDE.

POLE MT'D LIGHTING TRANSFORMER STATION
SCALE ½"=1'-0"

LIGHTING-TRANSFORMER STATION

GENERAL NOTES

TRAFFIC CONTROL

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(I)124	

268
383

SUMMIT COUNTY
SUM-277-0.46

SIGNS

MATERIALS-GENERAL

MATERIALS TO BE FURNISHED MAY BE SPECIFIED IN THE PLANS BY A GIVEN MANUFACTURER'S CATALOG NUMBER OR TYPE. THIS IS FOR DESCRIPTIVE PURPOSES ONLY AND THE CONTRACTOR MAY ASSUME THAT APPROVED EQUAL MATERIALS MAY BE FURNISHED.

TRAFFIC SIGN ERECTION

THE CONTRACTOR SHALL ERECT SIGN PANELS FURNISHED BY OTHERS AS NOTED ON THE SCHEMATIC SIGNING LAYOUT SHEET NO.270-274 THE PANELS SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.

A SCHEDULE FOR SIGN ERECTION SHALL BE SUBMITTED TO THE ENGINEER, BUREAU OF TRAFFIC, 450 EAST TOWN STREET, COLUMBUS, OHIO, 60 CALENDAR DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, TIME, SIGN NUMBERS AND DELIVERY POINT.

THE PRICE BID PER SQUARE FOOT FOR," 815 , SIGN ERECTION BY TYPE, AS PER PLAN", SHALL INCLUDE ALL NECESSARY EQUIPMENT, MANPOWER, AND TOOLS TO ERECT THE SIGNS NOTED. ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED TO A DESIGNATED DELIVERY POINT, ON OR NEAR THE SUBJECT PROJECT, BY OTHERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF ARRIVAL AT THE DELIVERY POINT.

FIXTURE SUPPORT ARM "G"

COST OF FURNISHING AND INSTALLING THE FIXTURE SUPPORT ARM "G", WITH MOUNTING HOLES AND HARDWARE (SEE SHEET) SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS

THE QUANTITY FOR CONCRETE TO BE PAID FOR SHALL BE PER CUBIC YARD BASED ON THE PLAN DIMENSIONS RATHER THAN THE PLAN QUANTITY.

606 GUARDRAIL, STEEL BEAM, STANDARD TYPE (DEEP) AS PER PLAN

GUARDRAIL SHOWN AT SIGN SUPPORTS SHALL BE TYPE DEEP, WITH POST SPACING OF 6'-3". DETAILS ARE SHOWN ON SHEET NO.

816 OVERHEAD SIGN SUPPORT MATERIAL

ALL COMPONENTS OF THE OVERHEAD SIGN SUPPORTS, 816 SHALL BE STEEL, EXCEPT THE TRUSS SPAN AND ACCESSORIES TO THE 816 , NO. 7 SERIES WHICH SHALL BE ALUMINUM.
FOR SPECIFIC DETAILS AND MATERIALS SEE SHEET NO.

CERTIFICATION AND APPROVAL OF SIGN SUPPORTS AND LIGHTING ITEMS

THE CONTRACTOR SHALL SUBMIT THROUGH PROPER CHANNELS THE DRAWINGS, INFORMATION OR SAMPLES AS REQUIRED BELOW:

(A) SIX (6) COPIES OF THE FOLLOWING:

SHOP DRAWINGS AND MATERIAL LISTS FOR APPROVAL

1. OVERHEAD SIGN SUPPORTS
2. SIGN LIGHTING DETAILS
3. CATALOG CUTS, DESCRIPTIONS OR SAMPLES OF FABRICATOR'S STANDARD ITEMS AS SHOWN IN THE PLANS OR THEIR EQUAL FOR APPROVAL.

(B) CERTIFICATIONS OR SAMPLES FOR ALL MATERIALS WHICH HAVE BEEN APPROVED ABOVE UNDER ITEM (A) SHALL BE IN POSSESSION OF THE CONTRACTOR PRIOR TO ANY PURCHASE OR INSTALLATION.

625 ELECTRICAL - GENERAL

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY MATERIAL, LABOR AND FACILITIES REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE DESIGNS, DIMENSIONS AND DETAILS SHOWN IN THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

ALL MATERIAL, WORKMANSHIP AND CONSTRUCTION METHODS, EXCEPT AS MODIFIED HEREIN, SHALL CONFORM TO THE GENERAL REQUIREMENTS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIALS SPECIFICATIONS, JANUARY 1, 1965.

625 GROUND ROD AND WIRE CONNECTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING GROUND ROD AND WIRE WITH CONDUIT AS DETAILED AND SPECIFIED ON SHEET

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, TOOLS, MATERIALS AND EQUIPMENT REQUIRED FOR THE COMPLETE ITEM OF WORK.

625 DISCONNECT SWITCH WITH TYPE "Y" OR "Z" ENCLOSURE -

THE BASIS FOR PAYMENT FOR THIS ITEM SHALL BE ON A UNIT BID BASIS, COMPLETE AND ACCEPTED.

THE ITEM SHALL INCLUDE FURNISHING OF A 30 AMP. 600 VOLT FUSED DISCONNECT SWITCH OF TYPE AND MAKE AS INDICATED ON SHEET AND SHALL BE MOUNTED IN A NEMA (4) STAINLESS STEEL ENCLOSURE TYPE "Y" OR "Z" AND ATTACHED TO EACH SIGN SUPPORT BY MEANS OF A MOUNTING BRACKET AS DESCRIBED ON THIS SHEET.

625 TRANSFORMER TYPE

THIS TYPE OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING TRANSFORMERS AS DETAILED AND SPECIFIED ON SHEET

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, TOOLS, MATERIAL AND EQUIPMENT REQUIRED FOR THIS COMPLETE ITEM OF WORK.

625 BALLAST TYPE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL BALLAST TYPES A THROUGH D AS DETAILED AND SPECIFIED ON SHEET

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT UNIT PRICE PER EACH FURNISHED TO THE JOB.

625 FIXTURES WITH LAMP TYPE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL LIGHT FIXTURES AND LAMPS,TYPES AND SIZES AS SPECIFIED ON SHEET

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT UNIT PRICE PER EACH FURNISHED TO THE JOB.

SIGN WIRING COMPLETE BY TYPE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ACCEPTED ENERGIZED ELECTRICAL SYSTEM FROM THE PULL BOX THROUGH THE DISCONNECT SWITCH AND TRANSFORMER TO THE BALLASTS AND LIGHT FIXTURES. THIS SHALL INCLUDE ALL WIRE RIGID AND FLEXIBLE CONDUIT, CABLE, CONDULETS, JUNCTION BOXES, AND OTHER NECESSARY HARDWARE TO COMPLETE THE ENTIRE ITEM OF WORK. FOR DETAILS SEE SHEETS (EI-2 AND ES-3A)

SIGN WIRING SHALL BE TYPE 1 FOR WIRING ONE (1) SIGN, TYPE 2 FOR TWO (2) SIGNS, TYPE 3 FOR THREE (3) SIGNS, ETC. EXCEPTION TO THIS WILL BE THAT SIGNS OVER 19'-0" IN LENGTH (REQUIRING TWO BALLASTS) WILL BE CONSIDERED EFFECTIVELY AS TWO (2) SIGNS IN DETERMINING THE TYPE OF SIGN WIRING.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH INSTALLATION BY TYPE, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM OF WORK.

WIRE AND CABLE 713.02

WIRE AND CABLE INSTALLATION SHALL CONFORM TO THE ABOVE SPECIFICATIONS AND SHALL BE OF THE SIZES AND TYPES SHOWN ON THE PLANS.

WIRE OR CABLE INSTALLED IN CONDUIT ON SIGN STRUCTURES SHALL BE #12 RHW, (3/64"), INSULATION AND 3/64" JACKET), 600 VOLT, STANDARD COPPER WIRE.

WIRE IN CONDUIT FROM PULL BOXES TO DISCONNECT SWITCHES SHALL BE #6 RHW AND SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS.

816 ALTERNATE DESIGNS FOR OVERHEAD SIGN SUPPORTS

IF THE CONTRACTOR DESIRES TO FURNISH AN ALTERNATE DESIGN FOR OVERHEAD SIGN SUPPORTS, THE ALTERNATE DESIGNS MUST BE SUBMITTED TO THE STATE AT LEAST 21 DAYS PRIOR TO OPENING OF BIDS. THE BIDDER WILL BE NOTIFIED AS TO THE ACCEPTANCE OR REJECTION OF ALTERNATE DESIGN AT LEAST 7 DAYS BEFORE BIDS ARE TO BE OPENED. ALTERNATE DESIGNS MUST UTILIZE TUBULAR STRUCTURAL MEMBERS. SUBMISSIONS SHALL BE MADE TO OHIO DEPARTMENT OF HIGHWAYS, BUREAU OF TRAFFIC, 450 E. TOWN ST., COLUMBUS, OHIO 43215

SIGNALS

FABRICATION

THE SIGNAL STANDARDS SHALL BE OF FABRICATED STEEL, TAPERED POLES AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI AFTER FABRICATION. MATERIALS SHALL CONFORM TO THE AASHO POLICY MANUAL FOR SIGN SUPPORT STRUCTURES.

ALL PORTIONS OF THE SIGNAL STANDARDS, INCLUDING SIGNAL HANGERS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM DESIGNATION A-123 AND A-153.

THE STEEL POLE BASES, FLANGES AND CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-30 GRADE B, HIGH STRENGTH STEEL BOLTS, AS PER PLAN SHALL CONFORM TO ASTM SPECIFICATION A-193 GRADE B-7 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 625 TRAFFIC SIGNAL SUPPORTS.

CONCRETE

THE FOUNDATIONS FOR SIGNAL STANDARDS SHALL BE CAST IN PLACE CLASS "C" CONCRETE. THE LOWER PORTION OF WHICH MAY BE POURED IN A 2'-6" DIAMETER HOLE. THE TOP PORTION SHALL BE FORMED 2'-6" SQUARE FOR AT LEAST 1'-0" OR A MIN. OF 6" BELOW THE FINISHED GRADE. PAYMENT FOR THE CONCRETE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 625 FOUNDATION FOR SIGNAL POLES. *Concrete shall be paid for per Cu. Yd. based on plan dimensions.*

VERTICAL CLEARANCE

ALL TRAFFIC SIGNAL UNITS OVER TRAFFIC LANES SHALL HAVE A MIN. VERTICAL CLEARANCE OF 15'-6".

REINFORCING STEEL

REINFORCING STEEL AS SHOWN IN THE DETAIL OF THE FOUNDATION SHALL BE INSTALLED WHEN THE DEPTH OF THE FOUNDATION EXCEEDS THE INPLACE ANCHOR BOLT LENGTH BY MORE THAN 3 FEET.

THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 625 FOUNDATION FOR SIGNAL POLES.

PULL BOXES, 18" AND 24" ROUND

THESE ITEMS SHALL INCLUDE THE FURNISHING OF ALL MATERIAL, LABOR, AND EQUIPMENT TO CONSTRUCT THE PULL BOXES AS SHOWN ON THE PLANS INCLUDING EXCAVATION, BACKFILLING, FRAMES AND COVERS, REINFORCEMENT AND GRAVEL BEDS. BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH FOR THE TYPES OF PULL BOXES SPECIFIED UNDER 625.

FIBER OR ASBESTOS CONDUIT, CONCRETE ENCASED

THESE ITEMS SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIAL, LABOR AND EQUIPMENT TO INSTALL CONDUIT AS SPECIFIED IN THESE PLANS INCLUDING EXCAVATION, BACKFILLING, CONCRETE FOR ENCASEMENT, FITTINGS DRAINS AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

CONDUIT UNDER PAVEMENT TO HOUSE DETECTOR (FURNISHED BY OTHERS) SHALL BE 1, 2 OR 3 WAY FOUR (4) INCH FIBER OR ASBESTOS TYPE I WITH 4" CONCRETE ENCASEMENT. ALL CONDUIT UNDER PAVEMENT SHALL BE ENCASED IN FOUR (4) INCH CONCRETE. OTHER CONDUIT NOT UNDER PAVEMENT OR DRIVEWAYS SHALL HAVE THREE (3)INCH CONCRETE ENCASEMENT. SEE PLAN SHEET NOS. 286 and 287.

BASIS OF PAYMENT FOR CONDUIT, CONCRETE ENCASED SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR THE VARIOUS TYPE OF CONDUIT REQUIRED FOR THIS PROJECT UNDER 625.

EXPANSION JOINTS

EXPANSION JOINTS IN THE 3" ALLOY STEEL CONDUIT AT SOUTH MAIN STREET STRUCTURE WILL BE PROVIDED AT THE ABUTMENT USING THE FOLLOWING MANUFACTURERS ITEMS OR EQUAL. THE JOINTS SHALL PROVIDE A 4" EXPANSION.

O.Z. COMPANY:
JOINT - CAT. No. AX 300
GROUND JUMPER - CAT. No. AJ 300

APPLETON COMPANY:
JOINT - CAT. No. XJ 300-4
GROUND JUMPER CAT. No. XJB4-250-30

Signal notes continued on Sh. No. 286

Rev. 9-16-66

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

SUMMIT COUNTY
SUM - 277 - 0.46

GENERAL SUMMARY

TRAFFIC CONTROL

TYPE CODE 7221

CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	SHEET No.
	4.87	7.66	12.53	621	MILES	4" EDGE LINES	274
0.22	1.75	2.61	4.58	621	MILES	6" LANE LINES	274
	0.07	0.11	0.18	621	MILES	4" LANE LINES	274
332	1252	1790	3374	621	Lin. Ft.	8" CHANNELIZING LINES	274
	LUMP 2/3	LUMP	LUMP	621	LUMP	CURB AND ISLAND MARKING	274
	LUMP 1/3	LUMP	LUMP	621	LUMP	DIAGONAL STRIPES	274
		0.23	0.23	621	MILES	4" BARRIER LINES	274
LUMP	LUMP	LUMP	LUMP	621	LUMP.	24" STOP LINES	274
2570	3390	4990					
	25	9	34	620	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE A-1, POST MOUNTED	274
	46	158	204	620	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE C-2, POST MOUNTED	274
		3	3	620	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE C-3, POST MOUNTED	274
	4		4	620	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE A-1, BRACKET MOUNTED	274
	1	1	2	620	EACH	MONO-DIRECTIONAL DELINEATOR, TYPE C-2, BRACKET MOUNTED	274
	1	1	2	816	EACH	OVERHEAD SIGN SUPPORT No. 7.4 DESIGN 1 MODIFIED 59' SPAN	277
		1	1	816	EACH	OVERHEAD SIGN SUPPORT No. 10.48 DESIGN 5, MODIFIED, 20' & 17' ARMS	277
	1		1	816	EACH	OVERHEAD SIGN SUPPORT No. 10.48 DESIGN 7, MODIFIED, 22' & 24' ARMS	277
	1		1	816	EACH	OVERHEAD SIGN SUPPORT No. 10.48 DESIGN 8, MODIFIED, 22'&24' ARMS	277
		1	1	816	EACH	OVERHEAD SIGN SUPPORT No. 10.48 DESIGN 8, MODIFIED 22' & 18' ARMS	277
		3	3	816	EACH	OVERHEAD SIGN SUPPORT No. 12.24 DESIGN 4,20' ARM	277
	2		2	816	EACH	OVERHEAD SIGN SUPPORT No. 12.24 DESIGN 6, MODIFIED 23' ARM	277
	1		1	816	EACH	OVERHEAD SIGN SUPPORT No. 12.24 DESIGN 8, MODIFIED 24' ARM	277
	1351.5	927	2278.5	815	SQ.FT.	SIGN ERECTION, AS PER PLAN	277
	200	150	350	606	LIN.FT	GUARD RAIL Type 4	277
	32.7	27.5	60.2	816	CU.YDS	CONCRETE FOUNDATIONS FOR OVERHEAD SIGN SUPPORTS, AS PER PLAN	277
	6	6	12	625	EACH	SIGN SUPPORT GROUND ROD AND WIRE CONNECTION,	277
	1	2	3	625	EACH	SIGN BALLASTS TYPE "A",	277
	2	3	5	625	EACH	SIGN BALLASTS TYPE "B",	277
	1	2	3	625	EACH	SIGN BALLASTS TYPE "C",	277
	7	2	9	625	EACH	SIGN BALLASTS TYPE "D",	277
	4	6	10	625	EACH	72" LIGHT FIXTURES WITH H.O. LAMPS,	277
	1	2	3	625	EACH	96" LIGHT FIXTURES WITH H.O. LAMPS,	277
	7	1	8	625	EACH	72" LIGHT FIXTURES WITH S.H.O. LAMPS,	277
	8	5	13	625	EACH	96" LIGHT FIXTURES WITH S.H.O. LAMPS,	277
		3	3	625	EACH	.50 KVA 480/120 VOLT TRANSFORMER	277
	1	1	2	625	EACH	.75 KVA 480/120 VOLT TRANSFORMER	277
	1	2	3	625	EACH	1.00 KVA 480/120 VOLT TRANSFORMER	277
	1		1	625	EACH	1.50 KVA 480/120 VOLT TRANSFORMER	277
	2		2	625	EACH	1.00 KVA 480/120 VOLT TRANSFORMER WITH TAPS	277
	1		1	625	EACH	1.50 KVA 480/120 VOLT TRANSFORMER WITH TAPS	277
	1	4	5	625	EACH	30 AMPERE FUSIBLE DISCONNECT SWITCH WITH TYPE "Y" ENCLOSURE	277
	5	2	7	625	EACH	30 AMPERE FUSIBLE DISCONNECT SWITCH WITH TYPE "Z" ENCLOSURE	277
	3	3	6	625	EACH	SIGN WIRING COMPLETE TYPE I,	277
	1	3	4	625	EACH	SIGN WIRING COMPLETE TYPE II,	277
	2		2	625	EACH	SIGN WIRING COMPLETE TYPE III,	277

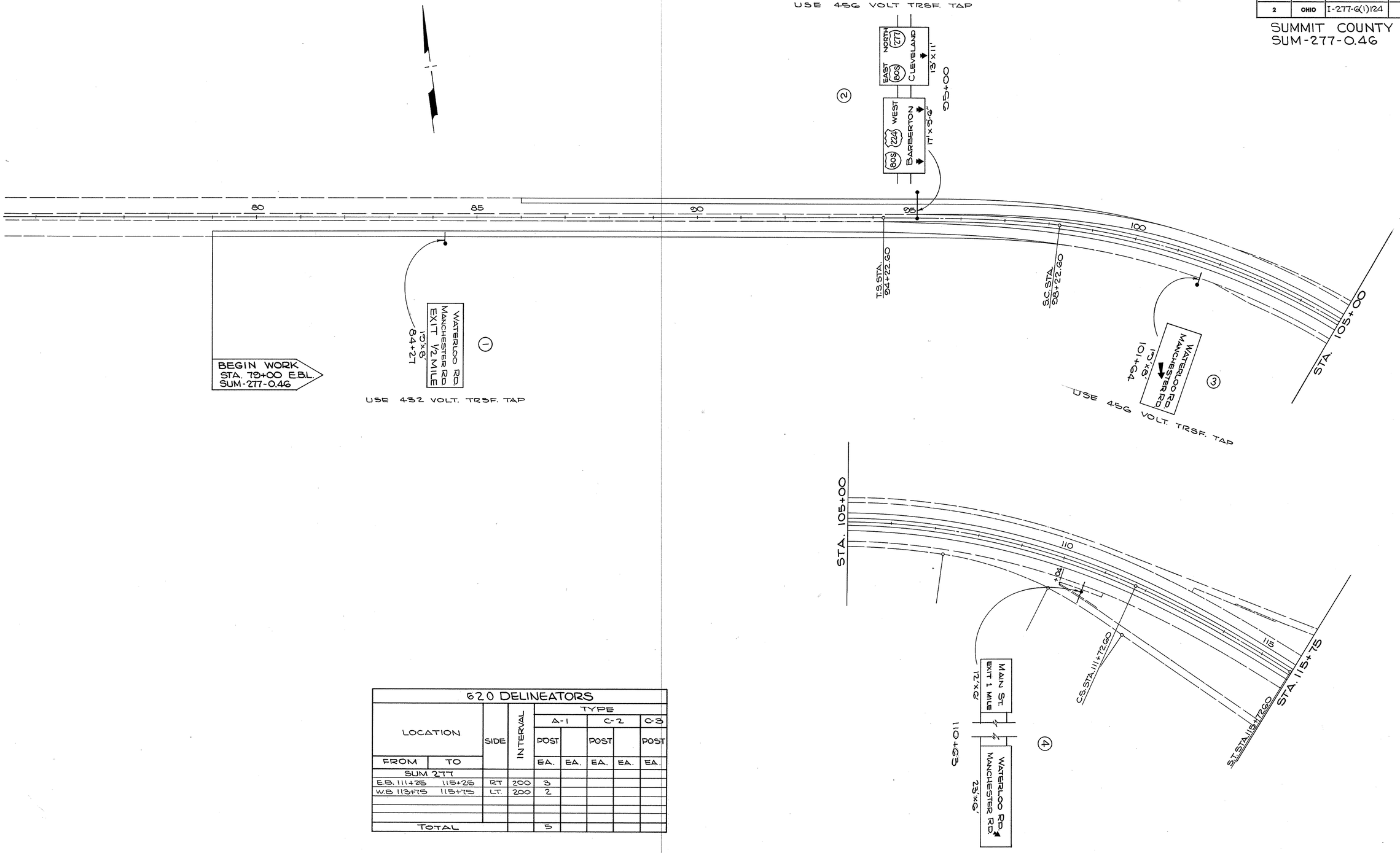
TYPE CODE 7221

CITY STATE	CITY, STATE FEDERAL	STATE FEDERAL	GRAND TOTAL	ITEM	UNIT	DESCRIPTION	SHEET No.
		1	1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/22' ARM,	286
		1	1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/26' ARM,	286
	1		1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/28' ARM,	286
	1		1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/30' ARM,	286
		1	1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/34' ARM,	286
		1	1	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/38' ARM,	286
		2	2	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/42' ARM,	287
		2	2	625	EACH	SIGNAL SUPPORTS, CANTILEVER TYPE, 20' POLE W/44' ARM,	287
	5.2	10.4	10.4	26	625	CU.YDS	CONCRETE FOR SIGNAL POLE SUPPORTS, as per plan 286	287
							"	"
	4	9	10	23	625	EACH	HANGER BRACKETS, FOR CANTILEVER TYPE SIGNAL SUPPORTS,	"	"
							"	"
	8	8	12	28	625	EACH	PULL BOX, ROUND 18",	"	"
	1	2	9	12	625	EACH	PULL BOX, 24" x 30",	"	"
							"	"
	1319	1014	1651	3984	625	LIN.FT	CONDUIT, 3" FIBER OR ASBESTOS TYPE 1, 3" CONCRETE ENCASED,	"	"
	290	278	540	1108	625	LIN.FT	CONDUIT, 3" FIBER OR ASBESTOS TYPE 1, 4" CONCRETE ENCASED,	"	"
	35	53	310	398	625	LIN. FT	CONDUIT, 1-WAY - 4" FIBER OR ASBESTOS, TYPE 1, 4" CONCRETE ENCASED,	"	"
			54	54	625	LIN.FT	CONDUIT, 2-WAY - 4" FIBER OR ASBESTOS, TYPE 1, 4" CONCRETE ENCASED,	286	287
			340	340	625	LIN.FT	CONDUIT, 3" ALLOY STEEL		287
			2	2	625	EACH	3" EXPANSION JOINTS		287

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

270
383

SUMMIT COUNTY
SUM-277-0.46



620 DELINEATORS

LOCATION FROM	LOCATION TO	SIDE	INTERVAL	TYPE A-1 POST EA.	TYPE A-1	TYPE C-2 POST EA.	TYPE C-2	TYPE C-3 POST EA.
SUM 277								
E.B. 111+25	115+25	RT	200	3				
W.B. 113+75	115+75	LT.	200	2				
TOTAL				5				

SIGNING PLAN
STA. 79+00 TO STA. 115+75

E.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

271
383

SUMMIT COUNTY
SUM-277-0.46

MANCHESTER RD.

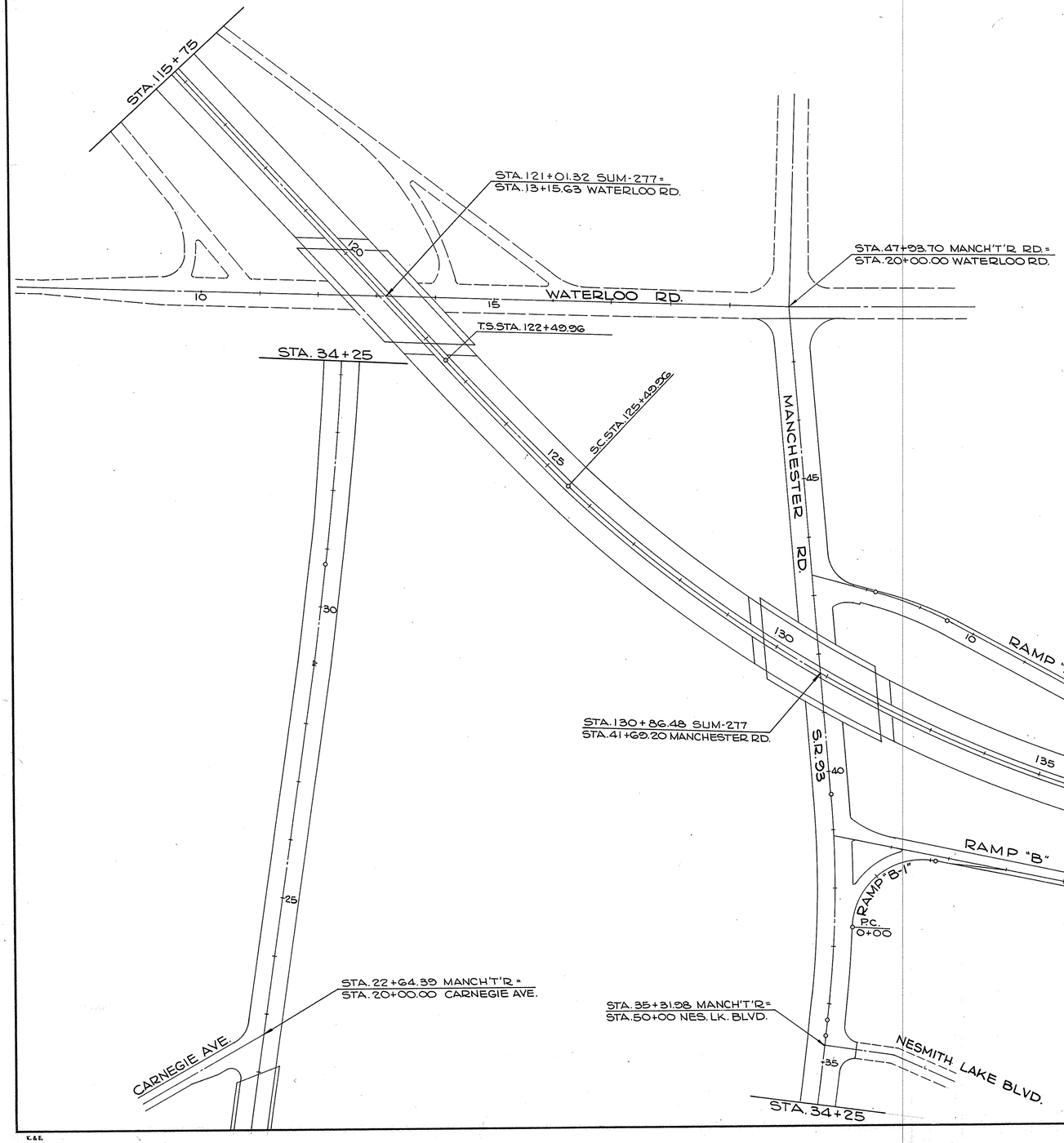
621 PAVEMENT MARKING

LOCATION From	LOCATION To	Side	8" Channelizing Line	24" Stop Bar	6" Lane Line
			Lin.Ft.	Lin.Ft.	Lin.Ft.
CARNEGIE AVE.					
21+94		℄ TO CURB RT.		24	
MANCHESTER RD.					
22+12		℄ TO 28' RT.		28	
23+05		1.5' LT. TO 27.5' LT.		26	
23+05	31+48	14.5' LT. & RT.			632
31+48	33+00	14.5' TO 16.5' L & R			114
33+00	34+91	16.5' LT. & RT.			143
			332		
* SUB TOTAL			0.062	78	1182
MILES					.224
35+73	38+75	18' LT. & RT.			226
35+73	38+75	6.5' LT.	302		
38+75		6.5' RT. TO 29.5R.		23	
39+50		4.5' RT TO 29.5 LT.		34	
39+50	42+50	6.5' LT.	300		
39+50	42+50	18' LT. & RT.			225
42+50		6.5' RT. TO 29.5R		23	
43+42		6.5' LT. TO 29.5LT.		23	
44+00	47+32	6.5' RT.	332*		
43+42	47+32	18' LT. & RT.			293*
RAMP "A"					
12+30		3' RT. TO 28' LT.		31	
** SUB. TOTAL			602	134	451
MILES			.114		.085

620 DELINEATORS

LOCATION From	LOCATION To	Side	Interval	TYPE A-1 Post	TYPE A-1 Bracket	TYPE C-2 Post	TYPE C-2 Bracket	TYPE C-3 Post
				Ea.	Ea.	Ea.	Ea.	Ea.
Sum-277								
E.B.L. 117+25	141+25	RT.	200	11	2			
W.B.L. 117+75	137+75	LT.	200	9	2			
E.B.L. 143+55	149+55	RT.	100			7		
W.B.L. 143+60	147+60	LT.	100			5		
Ramp "A"								
0+70	4+90	RT.	70			7		
4+90	7+00	LT.	70			4		
7+00	10+00	RT.	100			4		
10+00	11+90	RT.	40			4		
Ramp "B" & B-1"								
"B" 2+05	11+05	RT.	100			10		
"B-1" 0+90	1+50	LT.	30			3		
SHEET TOTAL				20	4	44		

* CITY & STATE PARTICIPATION ONLY
** CITY & STATE & FEDERAL PARTICIPATION
TOTALS CARRIED TO SHEET No. 274



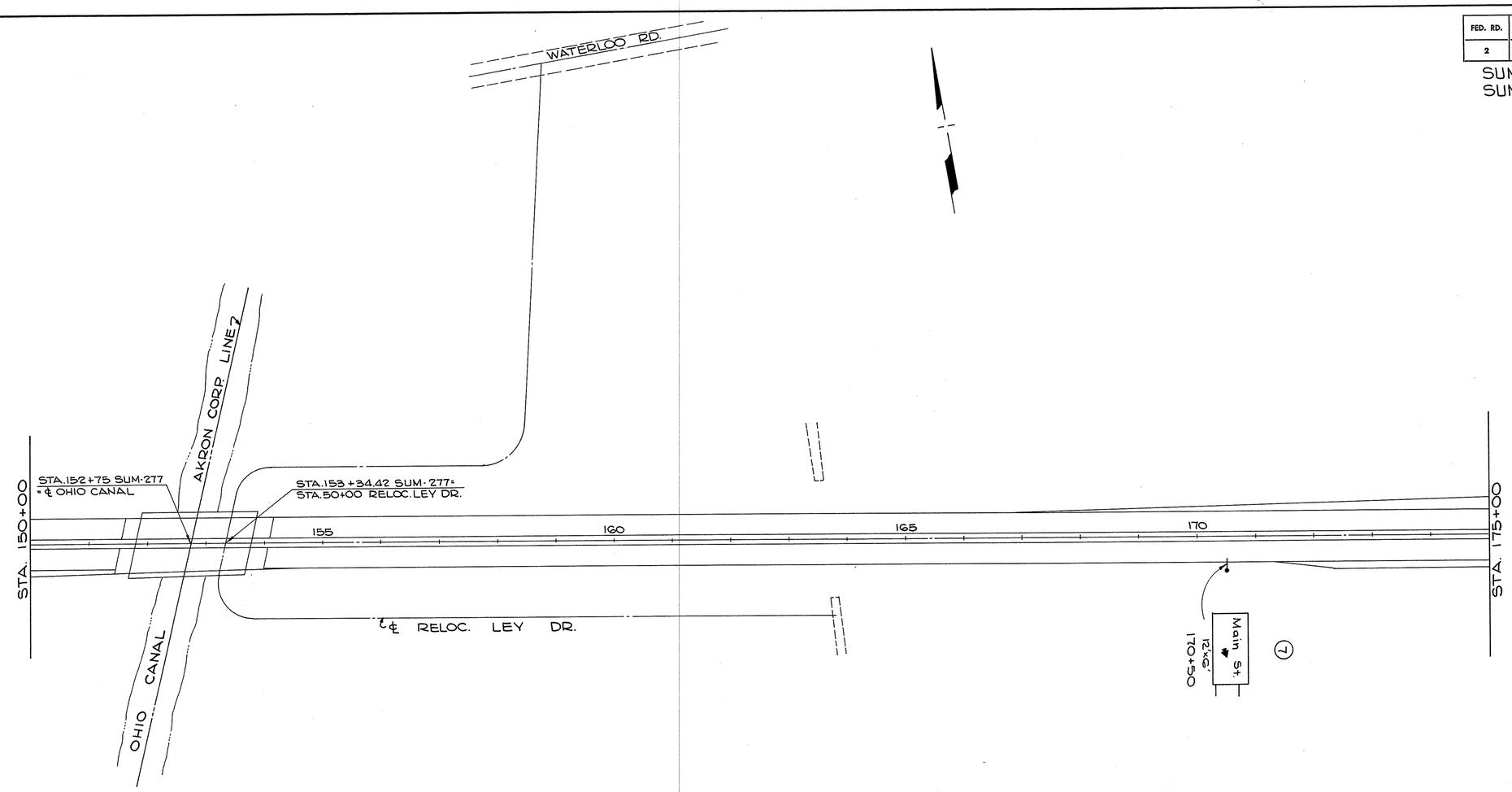
SIGNING PLAN
STA. 115+75 TO STA. 150+00

K.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

272
383

SUMMIT COUNTY
SUM-277-0.46



620 Delineators				Type				
Location		Side	Interval	A-1		C-2		C-3
				Post	Bracket	Post	Bracket	Post
From	To			Ea.	Ea.	Ea.	Ea	Ea.
Sum-277								
E.B.L.150+55	152+55	RT.	100			2	1	
Sub Total (City) →						2	1	
Sum-277								
E.B.L.153+55	164+55	RT.	100				1	1
W.B.L.166+35	174+35	LT.	100			8		1
E.B.L.171+35	174+35	RT.	100			4		
Sub Total (Rural) →						12	1	2
TOTAL						14	2	2

SIGNING PLAN
STA.150+00 TO STA.175+00

K.&E.

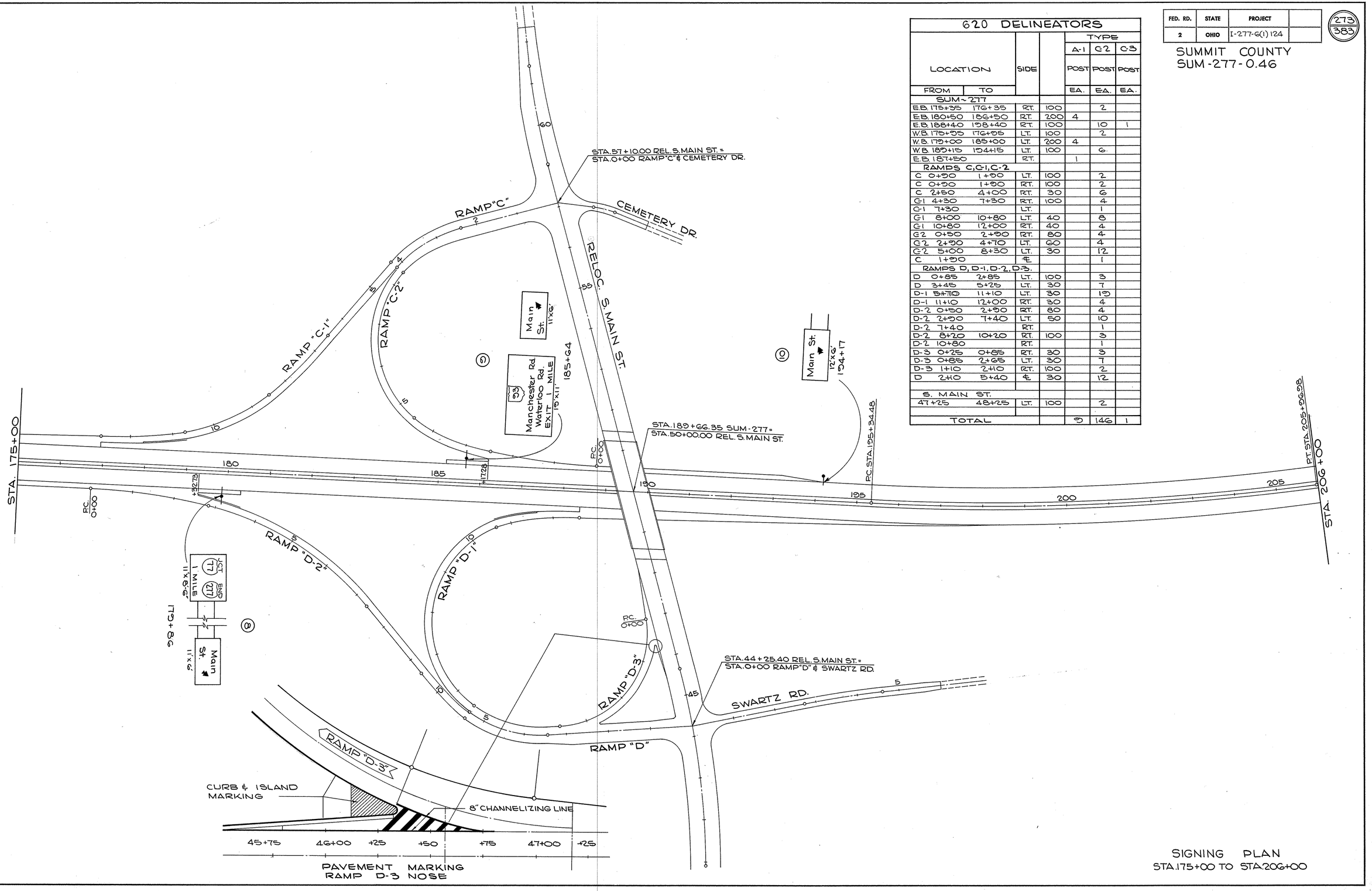
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1) 124	

273
383

SUMMIT COUNTY
SUM-277-0.46

620 DELINEATORS

LOCATION FROM	TO	SIDE		TYPE A-1 POST EA.	TYPE C2 POST EA.	TYPE C3 POST EA.
SUM-277						
E.B. 175+35	176+35	RT.	100		2	
E.B. 180+50	186+50	RT.	200	4		
E.B. 188+40	198+40	RT.	100		10	1
W.B. 175+95	176+95	LT.	100		2	
W.B. 179+00	185+00	LT.	200	4		
W.B. 189+15	194+15	LT.	100		6	
E.B. 187+50		RT.		1		
RAMPS C, C-1, C-2						
C 0+90	1+90	LT.	100		2	
C 0+90	1+90	RT.	100		2	
C 2+60	4+00	RT.	30		6	
C-1 4+30	7+30	RT.	100		4	
C-1 7+30		LT.			1	
C-1 8+00	10+80	LT.	40		8	
C-1 10+80	12+00	RT.	40		4	
C-2 0+50	2+90	RT.	80		4	
C-2 2+90	4+70	LT.	60		4	
C-2 5+00	8+30	LT.	30		12	
C 1+90		℄			1	
RAMPS D, D-1, D-2, D-3						
D 0+85	2+85	LT.	100		3	
D 3+45	5+25	LT.	30		7	
D-1 5+70	11+10	LT.	30		19	
D-1 11+10	12+00	RT.	30		4	
D-2 0+50	2+90	RT.	60		4	
D-2 2+90	7+40	LT.	50		10	
D-2 7+40		RT.			1	
D-2 8+20	10+20	RT.	100		3	
D-2 10+80		RT.			1	
D-3 0+25	0+85	RT.	30		3	
D-3 0+85	2+65	LT.	30		7	
D-3 1+10	2+10	RT.	100		2	
D 2+10	5+40	℄	30		12	
S. MAIN ST.						
47+25	48+25	LT.	100		2	
TOTAL				9	146	1



SIGNING PLAN
STA. 175+00 TO STA. 206+00

K & E

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

274
383

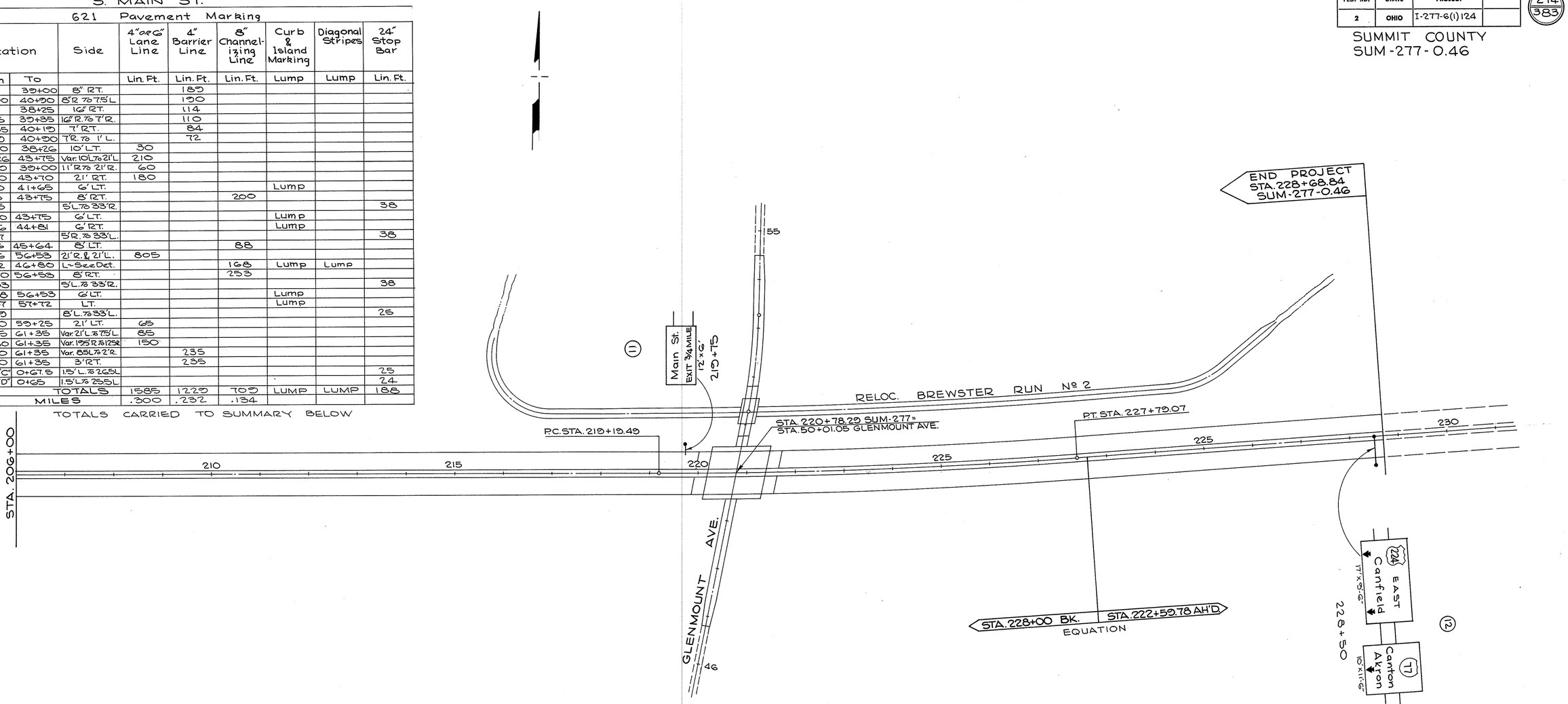
SUMMIT COUNTY
SUM-277-0.46

S. MAIN ST.

621 Pavement Marking

Location		Side	4"or6" Lane Line	4" Barrier Line	8" Channel-izing Line	Curb & Island Marking	Diagonal Stripes	24" Stop Bar
From	To		Lin. Ft.	Lin. Ft.	Lin. Ft.	Lump	Lump	Lin. Ft.
37+11	39+00	8" RT.		189				
39+00	40+90	8"R. to 7.5'L		190				
37+11	38+25	16" RT.		114				
38+25	39+35	16"R. to 7'R.		110				
39+35	40+19	7' RT.		84				
40+19	40+90	7'R. to 1' L.		72				
37+60	38+26	10' LT.	30					
38+26	43+75	Var. 10'L to 21'L	210					
37+60	39+00	11'R to 21'R.	60					
39+00	43+70	21' RT.	180					
41+50	41+65	6' LT.				Lump		
41+75	43+75	8' RT.			200			
43+75		5'L. to 33'R.						38
43+60	43+75	6' LT.				Lump		
44+76	44+81	6' RT.				Lump		
44+77		5'R. to 33'L.						38
44+76	45+64	8' LT.			88			
44+76	56+53	21'R. & 21'L.	805					
45+52	46+80	L-See Det.			168	Lump	Lump	
54+00	56+53	8' RT.			253			
56+53		5'L. to 33'R.						38
56+38	56+53	6' LT.				Lump		
57+57	57+72	LT.				Lump		
57+59		8'L. to 33'L.						25
57+60	59+25	21' LT.	65					
59+25	61+35	Var. 21'L. to 7.5'L	85					
59+60	61+35	Var. 19.5'R to 12.5R	150					
59+00	61+35	Var. 85L to 2'R.		235				
59+00	61+35	3'RT.		235				
RAMP'C'	0+67.5	1.5'L. to 26.5L						25
RAMP'D'	0+65	1.5'L. to 25.5L						24
TOTALS			1585	1229	709	LUMP	LUMP	188
MILES			.300	.232	.134			

TOTALS CARRIED TO SUMMARY BELOW



REMOVAL OF EXISTING LANE & EDGE LINES

WHERE NEW PAVEMENT IS TO BE ADDED TO EXISTING PAVEMENT, BEGINNING AT STA. 79+00, THE EXISTING LANE LINES AND EDGE LINES MUST BE REMOVED. THE COST OF REMOVING THESE EXISTING LINES WHICH WOULD CONFLICT WITH THE PROPOSED LINES FROM STA. 79+00 TO STA. 115+75 WILL BE INCLUDED IN THE PRICE BID FOR PROPOSED LINES.

SUMMARY 621 PAVEMENT MARKING

Participating Agencies / Location	4" Edge Lines	6" Lane Lines	4" Lane Lines	8" Channel-izing Lines	Curb & Island Marking	Diagonal Striping	4" Barrier Lines	24" Stop Bar
City ; State & Federal	Miles	Miles	Miles	Miles	LUMP	Lump	Miles	Lin.Ft.
Sum-277 & Ramps "A" & "B"	4.874	1.662	0.071	0.125	Lump	Lump		
Manchester Rd.		0.143		0.176				134
Total	4.874	1.805	0.071	0.301	Lump	Lump		134
State & Federal								
Sum 277 & Ramps C, F1, G2, D1, D2 & D	7.658	2.310	0.105	0.205	Lump	Lump		
S. Main St.		0.300		0.134	Lump	Lump	0.232	188
Total	7.658	2.610	0.105	0.339	Lump	Lump	0.232	188
City & State								
Manchester Rd.		0.168						78
Total		0.168						78
Grand Total	12.532	4.581	0.176	0.639	Lump	Lump	0.232	400

SUMMARY 620 DELINEATORS

FROM SHT.	FROM	TO	TYPE A-1 Post Ea.	A-1 Bracket Ea.	C-2 Post Ea.	C-2 Bracket Ea.	C3 Post Ea.
	79+00	115+75	5				
	115+75	150+00	20	4	44		
	150+00	175+00			2	1	
Total (CITY)			25	4	46	1	
	150+00	175+00			12	1	2
	175+00	206+00	9		146		1
Total (RURAL)			9		158	1	3
Grand Total			34	4	204	2	3

Totals carried to General Summary Sht.#269.

SIGNING PLAN
STA. 206+00 TO STA. 228+68.84

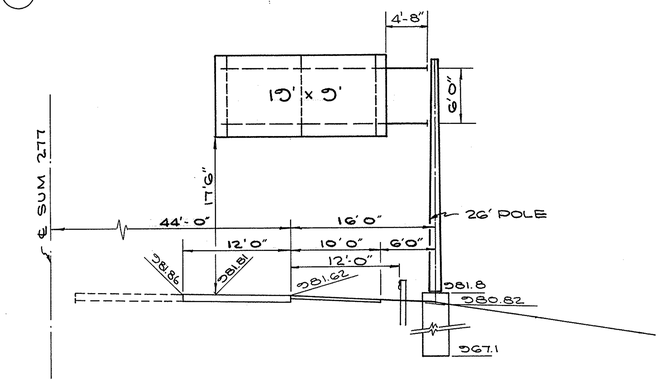
K.S.E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

275
383

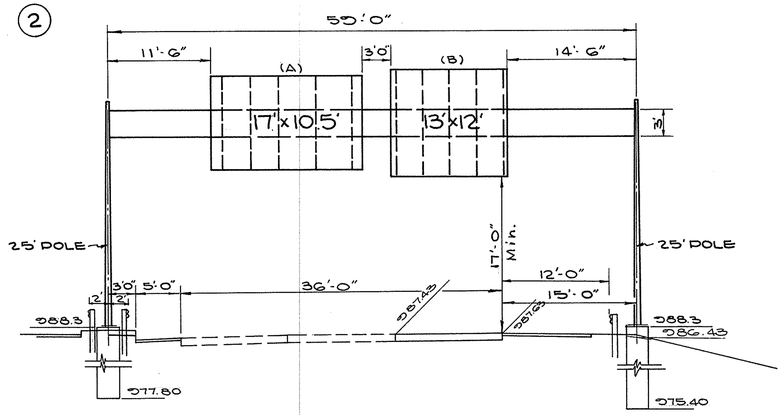
SUMMIT COUNTY
SUM-277-0.46

(1)



STA. 84+27
RIGHT EAST BOUND LANE
816 Nº 12.24 DESIGN 6, MOD. 23'ARM
AREA (ACTUAL) = 19'X9' = 171 SQ. FT.
BRACKET SPACING 1'-2⅝", 2 @ 8'-3⅜", 1'-2⅝"
NO. OF BRACKETS 3, HEIGHT = 9'-0" TYPE Y_5

(2)

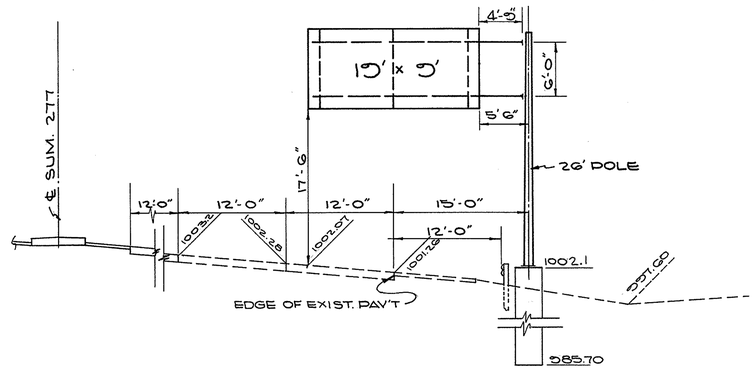


STA. 95+00
WEST BOUND LANE
816 Nº 7.4 DESIGN 1 55'SPAN

(A)
AREA (ACTUAL) = 17'X10.5' = 178.5 SQ. FT.
BRACKET SPACING = 1'-2⅝", 2 @ 3'-1 11/16", 2 @ 4'-1 11/16", 1'-2⅝"
NO OF BRACKETS = 5, HEIGHT = 10'-6", TYPE Y_4

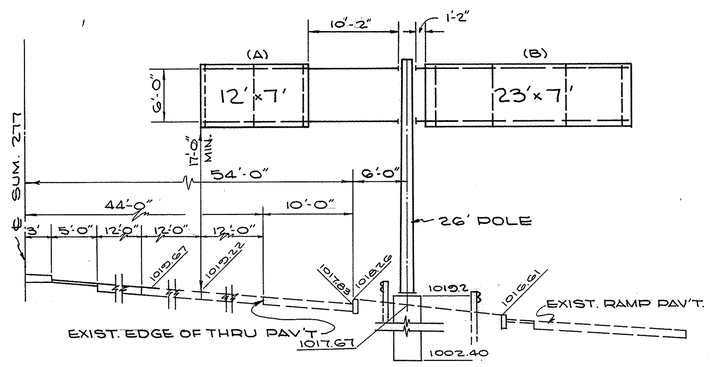
(B)
AREA (ACTUAL) 13'X12' = 156 SQ. FT.
BRACKET SPACING = 6", 4 @ 3'-0", 6"
NO OF BRACKETS = 5, HEIGHT = 12'-0"
TYPE Y_4

(3)



STA. 101+64
RIGHT OF EAST BOUND LANE
816 Nº 12.24 DESIGN 6, MOD. 23'ARM
AREA (ACTUAL) = 19'X9' = 171 SQ. FT.
BRACKET SPACING 1'-2⅝", 2 @ 8'-3⅜", 1'-2⅝"
NO. OF BRACKETS = 3, HEIGHT = 9'-0", TYPE Y_5

(4)

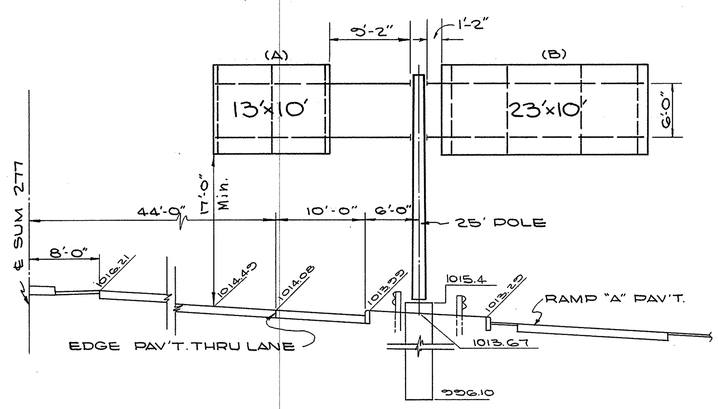


STA. 110+63
EAST BOUND LANE
816 Nº 10.48 DESIGN 7, MOD 22' & 24' ARM

(A)
AREA (ACTUAL) = 12'X7' = 84 SQ. FT.
BRACKET SPACING = 6", 2 @ 5'-6", 6"
NO OF BRACKETS = 3, HEIGHT = 7 TYPE X_5
22' ARM

(B)
AREA (ACTUAL) = 23'X7' = 161 SQ. FT.
BRACKET SPACING, 1'-1", 6'-3⅜", 8'-3⅜"
6'-3⅜", 12 7/8"
NO OF BRACKETS = 4 HEIGHT = 7' TYPE X_5
24' ARM

(5)

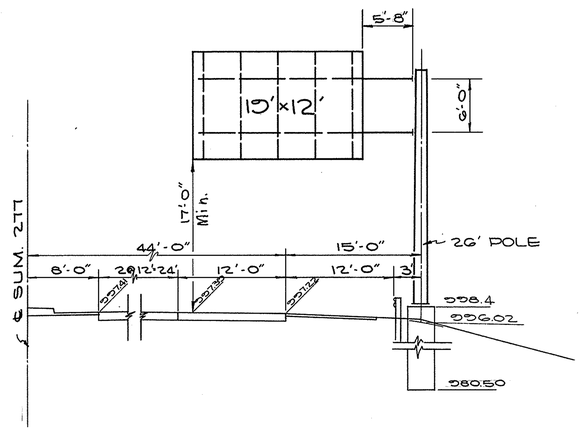


STA. 138+93
WEST BOUND LANE
816 Nº 10.48 DESIGN Nº 8
MOD. 22' & 24' ARMS

(A)
AREA (ACTUAL) = 13'X10' = 130' SQ. FT.
BRACKET SPACING = 6", 2 @ 6'-0", 6"
NO OF BRACKETS = 3, HEIGHT = 10', TYPE Y_5
22' ARM

(B)
AREA (ACTUAL) = 23'X10' = 230 SQ. FT.
BRACKET SPACING : 1'-1", 2 @ 6'-3⅜", 8'-3⅜", 1'-0 7/8"
NO. OF BRACKETS = 4, HEIGHT = 10', TYPE Y_5
24' ARM

(6)



STA. 148+15
WEST BOUND LANE
816 Nº 12.24 DESIGN 8, MOD. 24' ARM
AREA (ACTUAL) = 19'X12' = 228 SQ. FT.
BRACKET SPACING = 1'-2⅝", 4 @ 4'-1 11/16", 1'-2⅝"
NO OF BRACKETS = 5, HEIGHT = 12'-0" TYPE Y_5

OVERHEAD SIGN SUPPORT DETAILS

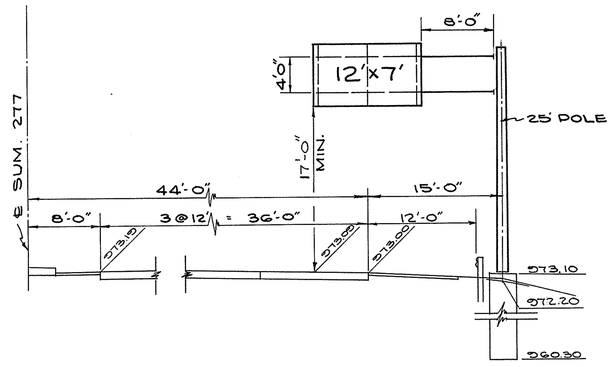
K.S.E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

276
383

SUMMIT COUNTY
SUM-277-0.46

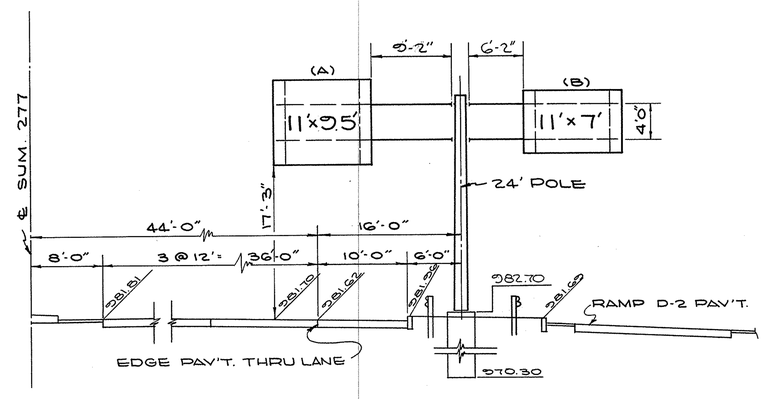
(7)



STA. 170+50
EAST BOUND LANE
816 Nº 12.24, DESIGN 4, 20' ARM

AREA (ACTUAL) 12'x7' = 84 SQ. FT.
BRACKET SPACING: 6", 2@5'-6", 6"
NO OF BRACKETS = 3, HEIGHT = 7' TYPE X_S

(8)

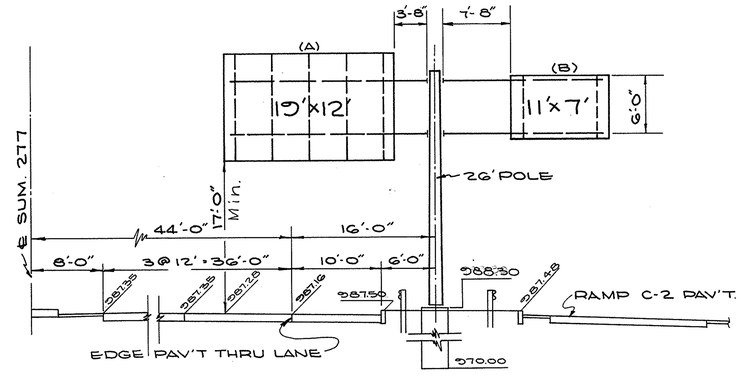


STA. 179+86
EAST BOUND LANE
816 Nº 10.48 DESIGN 5
MOD. 20' & 17' ARMS

(A)
AREA (ACTUAL) = 11'x9.5' = 104.5 SQ. FT.
BR. SPACING = 1'-4 3/8", 4'-1 3/4", 4'-1 5/8", 1'-4 1/4"
NO OF BR. = 2 HEIGHT = 9.5' TYPE Y_S
20' ARM

(B)
AREA (ACTUAL) = 11'x7' = 77 SQ. FT.
BR. SPACING = 1'-4 3/8", 8'-3 3/8", 1'-4 1/4"
NO OF BR. = 2 HEIGHT = 7' TYPE Y_S
17' ARM

(9)

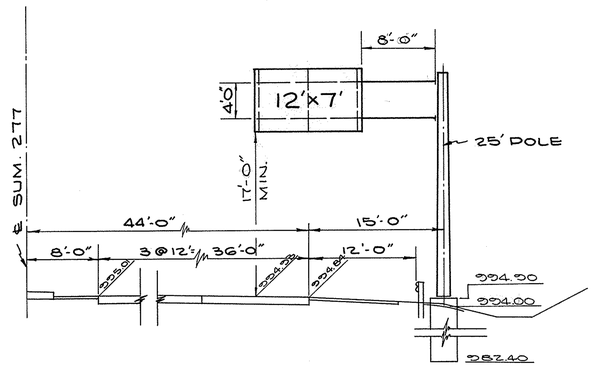


STA. 185+64
WEST BOUND LANE
816 Nº 10.48, DESIGN 8, MOD 22' & 18' ARMS

(A)
AREA (ACTUAL) 19'x12' = 228 SQ. FT.
BR. SPACING = 1'-2 5/8", 4@4'-1 11/16", 1'-2 5/8"
NO. OF BR. = 5 HEIGHT = 12' TYPE Y_S
22' ARM

(B)
AREA (ACTUAL) = 11'x7' = 77 SQ. FT.
BR. SPACING = 1'-4 3/8", 8'-3 3/8", 1'-4 1/4"
NO OF BR. = 2 HEIGHT = 7' TYPE X_S
18' ARM

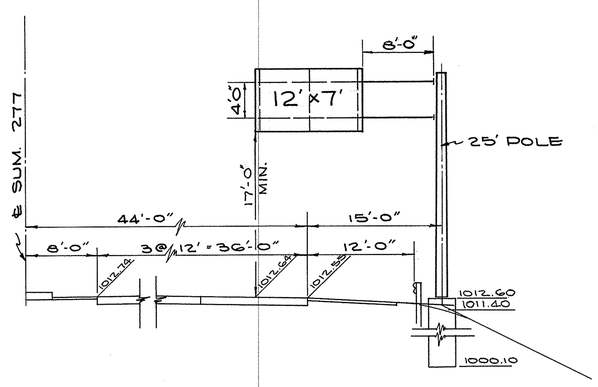
(10)



STA. 194+17
WEST BOUND LANE
816 Nº 12.24 DESIGN 4, 20' ARM

AREA (ACTUAL) = 12'x7' = 84 SQ. FT.
BRACKET SPACING = 6", 2@5'-6", 6"
NO OF BRACKETS = 3 HEIGHT = 7' TYPE X_S

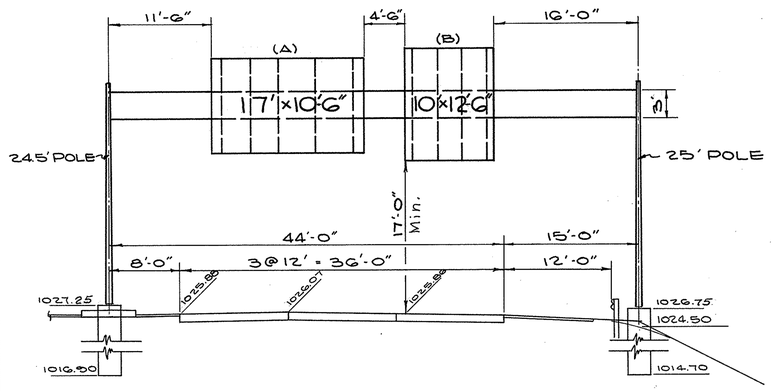
(11)



STA. 219+75
WEST BOUND LANE
816 Nº 12.24 DESIGN 4 20' ARM

AREA (ACTUAL) = 12'x7' = 84 SQ. FT.
BRACKET SPACING = 6", 2@5'-6", 6"
NO OF BRACKETS = 3 HEIGHT = 7' TYPE X_S

(12)



STA. 228+50
EAST BOUND LANE
816 Nº 7.4 DESIGN 1 50 SPAN, MODIFIED

(A)
AREA (ACTUAL) = 17'x10.5' = 178.5 SQ. FT.
BR. SPACING = 1'-2 5/8", 3'-1 3/4", 3'-1 5/8", 4'-1 3/4", 4'-1 5/8", 1'-2 5/8"
NO. OF BR. = 5 HEIGHT = 10'6" TYPE Y_a

(B)
AREA (ACTUAL) = 10'x12.5' = 125 SQ. FT.
BR. SPACING = 10 3/8", 3@2'-0 1/8", 10 1/4"
NO OF BR. 4 HEIGHT = 12'-6" TYPE Y_a

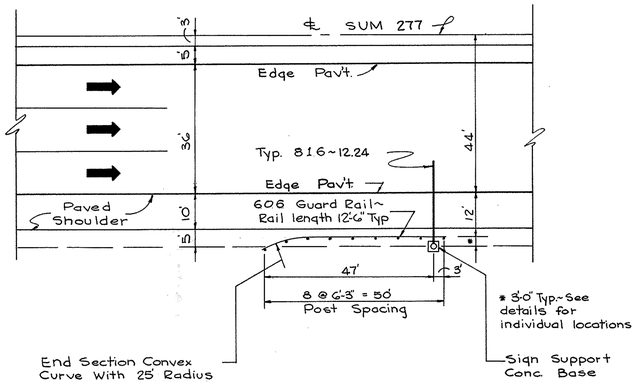
OVERHEAD SIGN SUPPORT DETAILS

K.S.E.

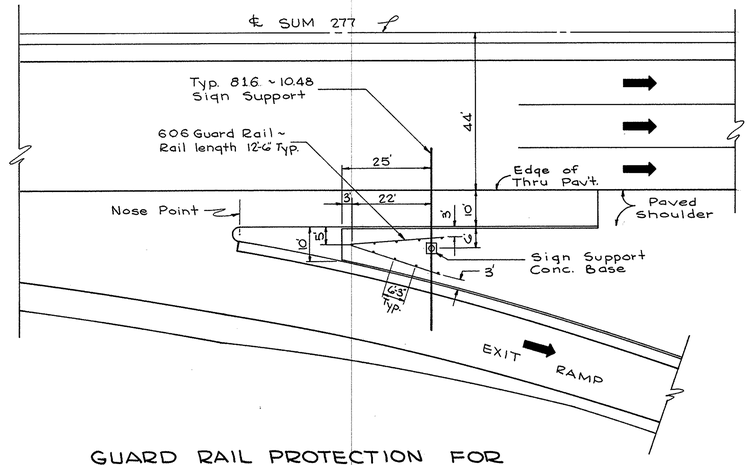
FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

277
383

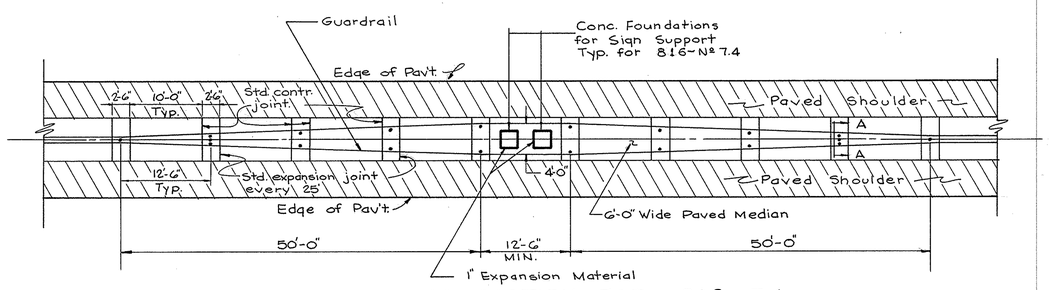
SUMMIT COUNTY
SUM-277-0.46



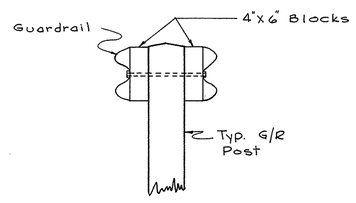
GUARD RAIL PROTECTION FOR
816 - 12.24



GUARD RAIL PROTECTION FOR
816 - 10.48



GUARD RAIL PROTECTION FOR 816 -7.4



SECTION A-A

Typical Treatment of First Post in Flared G/R Section

GENERAL

PROTECTIVE GUARDRAIL FOR OVERHEAD SIGN SUPPORTS SHALL CONFORM TO SEC. 606, FOR BARRIER AND STANDARD STEEL BEAM, TYPE (DEEP).

AT LOCATIONS WHERE GUARDRAIL IS IN PLACE, ALL SIGN SUPPORT FOUNDATIONS SHALL BE PLACED BEHIND EXISTING GUARDRAIL.

A MINIMUM OF SIX GUARDRAIL POSTS IS REQUIRED IN ADVANCE OF ANY SIGN SUPPORT.

ALL PROPOSED FLARED GUARDRAIL SECTIONS WITH 25 FOOT RADIUS SHALL BE PREFABRICATED TO CORRECT CURVATURE.

OTHER PROPOSED GUARDRAIL FLARES MAY BE CONSTRUCTED OF RAIL ELEMENTS WHICH HAVE NOT BEEN FABRICATED EXACTLY TO FIT THE CURVATURE SHOWN ON THE PLANS. THE TWO END POSTS OF EACH FLARED SECTION SHALL THEN BE ENCASED IN A MINIMUM 4" THICKNESS OF CLASS "E" CONCRETE FOR THE FULL DEPTH OF THE POST BELOW THE GROUND LINE. PAYMENT FOR ENCASEMENT, WHERE REQUIRED, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR GUARDRAIL.

DESIGN

THE DESIGN OF GUARDRAIL PROTECTION FOR OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

SUB - SUMMARY SIGNING PLAN QUANTITIES

Ref. Nº	Location	816 Effective Sign Size & Area	816 12.24 Des. 4 Arm Lengths 20'	816 12.24 Des. 6 Arm Lengths 23'	816 12.24 Des. 8 Arm Lengths 24'	816 10.48 Des. 5 Arm Lengths 20 & 17	816 10.48 Des. 7 Arm Lengths 22 & 24	816 10.48 Des. 8 Arm Lengths 22 & 24	816 10.48 Des. 8 Arm Lengths 22 & 18	816 7.4 Des. 1 Span Length 58'	Concrete for Sign Support	606 Guard Rail Steel Beam Std. Type (Deep)
		Sq. Ft.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Cu. Yds.	Lin. Ft.
1	84+27 E.B.L.	10 x 8 = 152		1							3.9	50
2(A)	95+00 W.B.L.	17 x 9.5 = 161.5								1	4.4	
2(B)	95+00 W.B.L.	13 x 11 = 143									5.5	50
3	101+64 E.B.L.	19 x 8 = 152		1							4.5	
4(A)	110+63 E.B.L.	12 x 6 = 72					1				4.5	50
4(B)	110+63 E.B.L.	23 x 6 = 138										
5(A)	138+93 W.B.L.	13 x 9 = 117						1			5.1	50
5(B)	138+93 W.B.L.	23 x 9 = 207										
6	148+15 W.B.L.	19 x 11 = 209			1						4.8	
SUB-TOTAL (CITY) →		1351.5		2	1		1	1		1	32.7	200
7	170+50 E.B.L.	12 x 6 = 72	1								3.3	
8(A)	179+86 E.B.L.	11 x 8.5 = 93.5				1					3.3	50
8(B)	179+86 E.B.L.	11 x 6 = 66										
9(A)	185+64 W.B.L.	19 x 11 = 209						1			4.8	50
9(B)	185+64 W.B.L.	11 x 6 = 66										
10	194+17 W.B.L.	12 x 6 = 72	1								3.3	50
11	213+75 W.B.L.	12 x 6 = 72	1								3.3	
12(A)	228+50 E.B.L.	17 x 9.5 = 161.5								1	4.4	
12(B)	228+50 E.B.L.	10 x 11.5 = 115									5.1	
SUB-TOTAL (Rural) →		927.0	3			1			1	1	27.5	150
GRAND TOTAL →		2278.5	3	2	1	1	1	1	1	2	60.2	350

Ref. Nº	625 Fixture & Lamp 72" HO	96" HO	72" SHO	96" SHO	Ballast Rating	Ballast Type A	B	C	D	Transformer Output	Transformer Type I	II	III	IV	IV(T)	V	VI(T)	30 Amp. Disconnect Switch Enclosure Y	Z	Ground Rod & Wire Connect.	Sign Wiring Complete as per plan Type I	II	III
	Ea.	Ea.	Ea.	Ea.	Watts	Ea.	Ea.	Ea.	Ea.	K.V.A.	Ea.							Ea.		Ea.	Ea.	Ea.	Ea.
1				2	425				1	1.00					1				1	1	1		
2(A)			1	1	425				1	1.50						1			1	1		1	
2(B)			2		425				1														
3				2	425				1	1.00					1			1	1	1			
4(A)	2				250		1			1.00				1					1	1			1
4(B)	2		1		440	1	1																
5(A)			2		425				1	1.50						1			1	1			1
5(B)			2		675			1	1														
6				2	425				1	.75			1					1		1	1		
	4	1	7	8		1	2	1	7				1	1	2	1	1	1	5	6	3	1	2
7	2				250		1			.50		1						1	1	1	1		
8(A)				1	250			1		.75			1					1		1		1	
8(B)		1			100	1																	
9(A)				2	425				1	1.00				1					1	1		1	
9(B)		1			100	1																	
10	2				250		1			.50		1						1	1	1	1		
11	2				250		1			.50		1						1	1	1	1		
12(A)			1	1	425				1	1.00				1					1	1		1	
12(B)				1	250			1															
	6	2	1	5		2	3	2	2			3	1	2				4	2	6	3	3	
	10	3	8	13		3	5	3	9			3	2	3	2	1	1	5	7	12	6	4	2

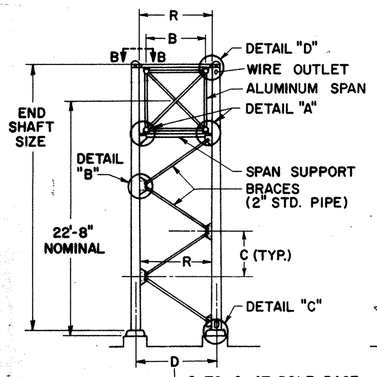
SIGNING PLAN
GUARD RAIL DETAILS
& SUB-SUMMARY

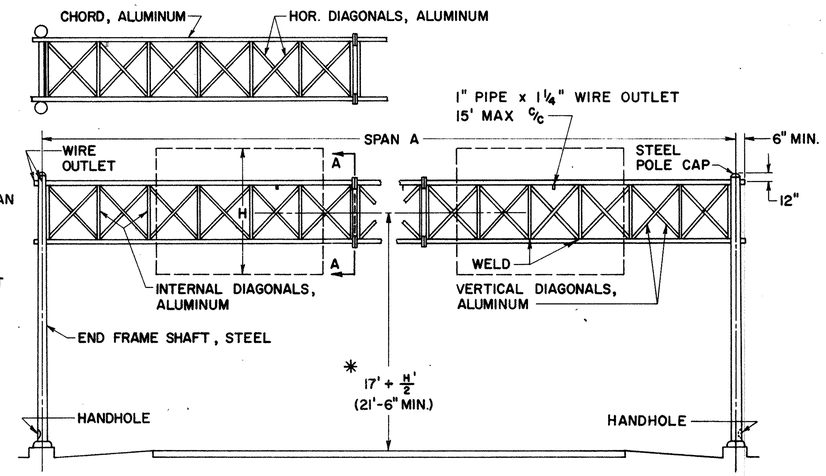
K&E

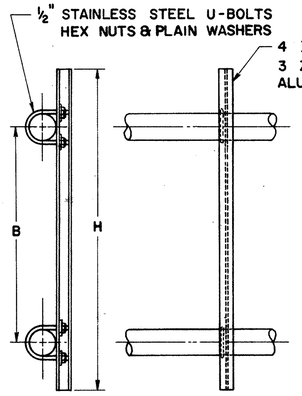
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)12.4	

278
583

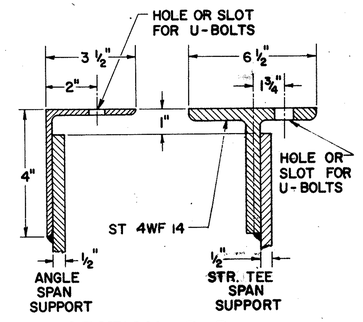
SUMMIT COUNTY
SUM-277-0.46







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.

SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.

STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.

AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. M-7.4(d).

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD ¼" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).

FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 50% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL

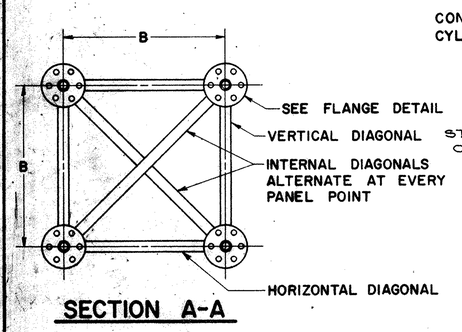
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS. BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

***FOUNDATION ELEVATION**

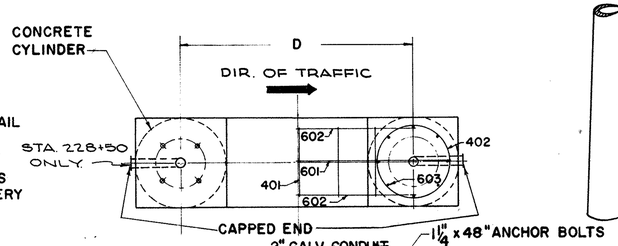
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

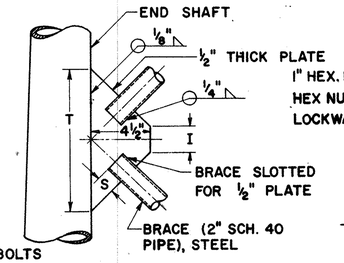
DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

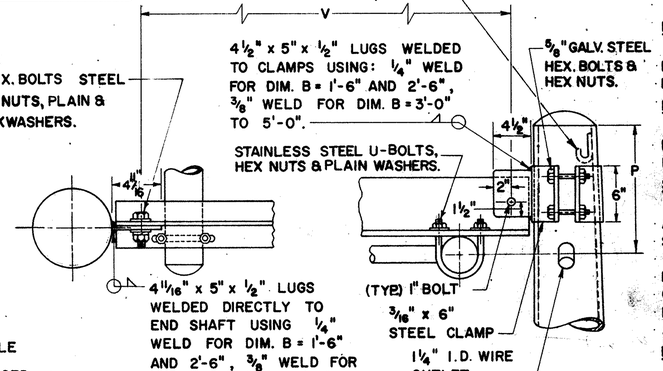


SECTION A-A





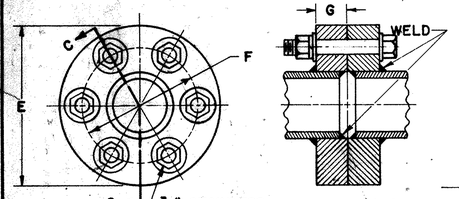
DETAIL "B"



VIEW B-B

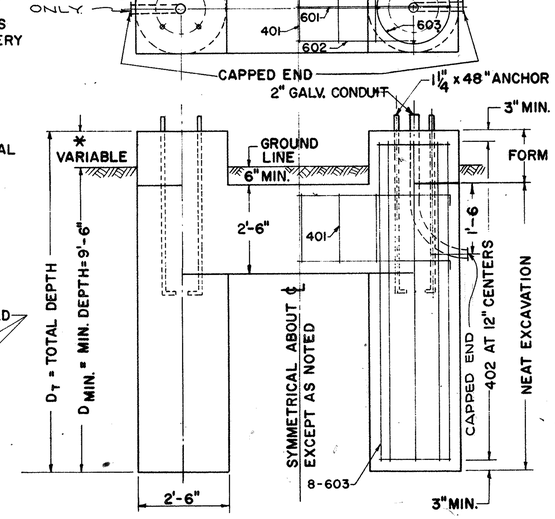
DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)



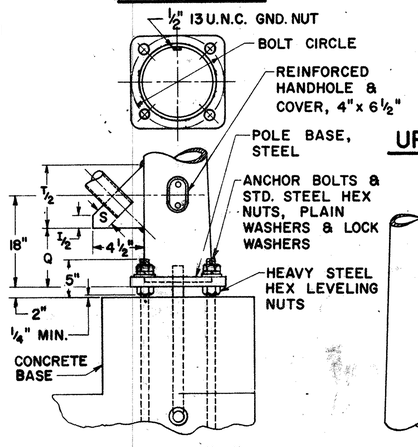
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL



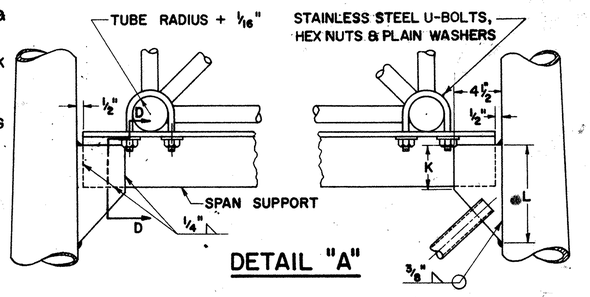
FOUNDATION DETAIL

(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "C"

POLE BASE DETAIL



DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' thru 75'	3'-0"	4'-11¾"	4'-5"	9¼"	8"x4.5"x25'-0", 3 GA.	5'-10 13/16"	7 7/16"	1⅜"	3½"	4¾"	8"	12"	6 5/8"	3'-9"	1½"	10"	⅝"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4¾" x .188"	1.900" x .145"	1.660" x .140"
2	76' thru 85'	4'-0"	4'-10¼"	5'-7"	9¼"	8"X6.22"x25'-6" 3GA.	6'-7⅛"	7 7/16"	1⅜"	⅝"	4⅜"	7¾"	12"	6¼"	4'-10"	1½"	9½"	⅝"	4'-4⅝"	11"	SPLIT TEE 4'-10"	4¾" x .188"	2" x .188"	1.900" x .145"
3	86' thru 90'	4'-0"	4'-10¼"	5'-7"	11"	8"X6.22"x25'-6" 3GA.	6'-7⅛"	8½"	1½"	⅝"	4⅜"	7¾"	12"	6¼"	4'-10"	1½"	9½"	⅝"	4'-4⅝"	11"	SPLIT TEE 4'-10"	5½" x .250"	2" x .188"	1.900" x .145"
4	91' thru 110'	5'-0"	4'-8½"	6'-7"	11"	8"X6.18"x26'-0", 3GA.	7'-3¼"	8½"	1½"	—	3½"	7¾"	12"	7¼"	5'-10"	1¾"	11¼"	¾"	5'-4⅝"	11"	SPLIT TEE 5'-10"	5½" x .250"	2½" x .188"	2½" x .188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12"C/C	8'-6"	102
402	12"C/C	7'-6"	103
601	4	D+ 4'-0"	101
602	8	D+ 2'-0"	101
603	32	D_T - 6"	STR.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS

816 No. 7.4

DATE 5-2-68 7-25-63 5-6-64

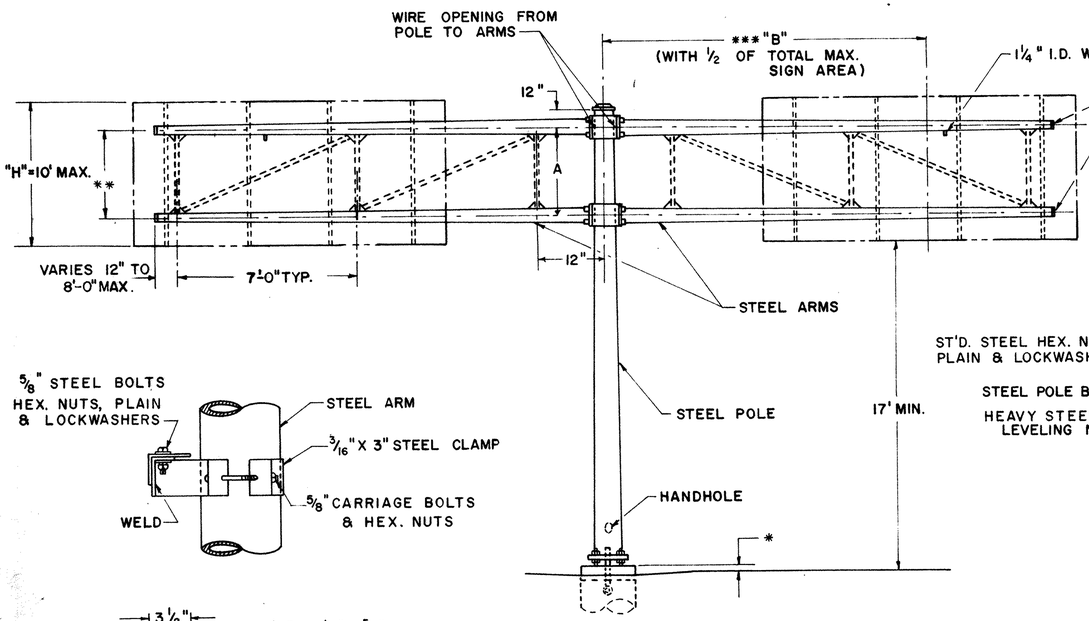
APPROVED Robert E. Penner
ENGINEER OF TRAFFIC

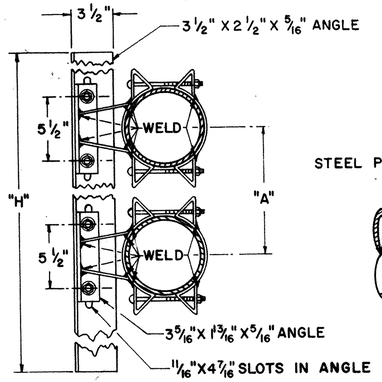
400 SQ. FT. SIGN AREA

OVERHEAD SIGN SUPPORT, 816 NO. 7.4

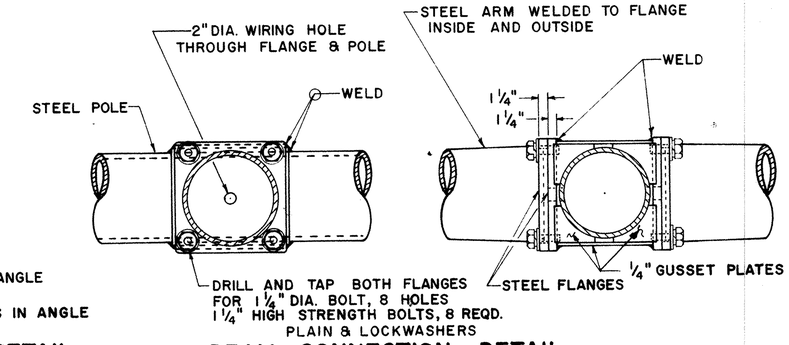
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	279 383

SUMMIT COUNTY
SUM-277-0.46

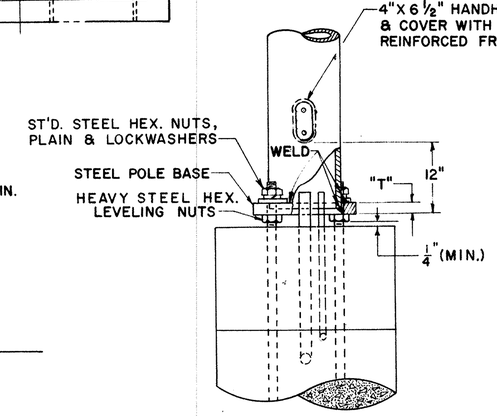


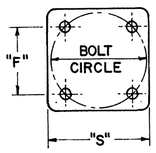


SIGN ATTACHMENT DETAIL

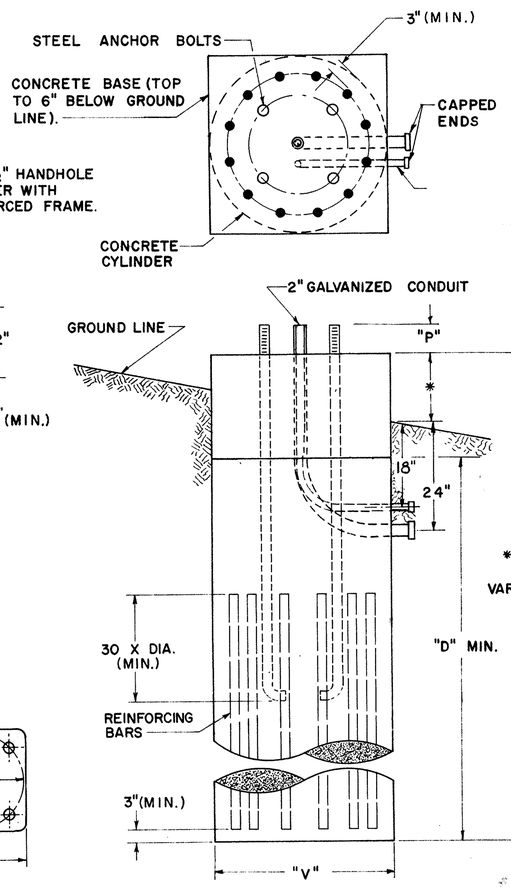


BEAM CONNECTION DETAIL





POLE DETAIL



FOUNDATION DETAIL

DESIGN NO.	POLE SIZE	* * ARM SIZE	DIM. A	DIM. *** B	DIM. "D" MIN.	DIM. F	DIM. P	DIM. S	DIM. T	BOLT CIRCLE	ANCHOR BOLT SIZE	DIM. V	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS NO.
1	3ga. 18"X14.64"X24'-0"	7ga., 5.7"X4.02"X12'-0"	4'	8'	9'	18"	8⅜"	26½"	2"	25½"	2" X 96"	3'-0"	160	¾"	12
2	3ga. 18"X14.64"X24'-0"	7ga., 6.9"X4.66"X16'-0"	4'	12'	9'	18"	8⅜"	26½"	2"	25½"	2" X 96"	3'-0"	160	¾"	12
3	0ga., 18"X14.64"X24'-0"	7ga., 7.5"X5.82"X12'-0"	4'	8'	11'	18"	9⅜"	26½"	2½"	25½"	2¼" X 108"	3'-0"	240	1"	12
4	0ga., 18"X14.64"X24'-0"	7ga., 8.3"X6.06"X16'-0"	4'	12'	11'	18"	9⅜"	26½"	2½"	25½"	2¼" X 108"	3'-0"	240	1"	12
5	0ga., 18"X14.64"X24'-0"	7ga., 10"X7.2 "X20'-0	4'	16'	11'	18"	9⅜"	26½"	2½"	25½"	2¼" X 108"	3'-0"	220	1"	12
6	2 ply 3ga., 18"X14.5"X25'-0"	7ga., 10"X7.48"X18'-0"	6'	10'	14'	18"	11¼"	26½"	3'	25½"	3" X 144"	3'-0"	360	1⅛"	12
7	2ply 3ga., 18"X14.5"X25'-0"	7ga., 11"X7.92"X22'-0"	6'	14'	14'	18"	11¼"	26½"	3'	25½"	3" X 144"	3'-0"	360	1⅛"	12
8	2ply 0ga., 18"X14.5"X25'-0"	7ga., 12.5"X9.14"X24'-0"	6'	14'	17'	18"	11¼"	26½"	3"	25½"	3" X 168"	3'-0"	480	1¼"	12
9	2ply 0ga., 18"X14.5"X25'-0"	3ga., 12.5"X8.58"X28'-0"	6'	18'	17'	18"	11¼"	26½"	3"	25½"	3" X 168"	3'-0"	480	1¼"	12

NOTES

FABRICATION - ALL PORTIONS OF THE SIGN SUPPORT INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

*FOUNDATION - THE TOP ELEVATION OF ALL FOUNDATIONS SHALL BE BUILT UP 1'-0" ABOVE THE HIGHWAY CROWN.

**ERECTION - ARMS 20' AND OVER IN LENGTH SHALL BE TRUSS TYPE USING 3"X3"X⅜" ANGLES WELDED TO GUSSET PLATES WITH THE INSIDE EDGES OF THE ARMS PARALLEL.

***VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE PRODUCT OF "B" TIMES ½ THE MAX. SIGN AREA.

GENERAL - THE MAX. SIGN AREA ON EACH SIDE OF THE POLE EQUALS ½ THE MAX. TOTAL AREA IN THE CHART.

MATERIAL - STEEL POLE BASES, AND FLANGES SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B.
HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B 7.
AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS - THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL - REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

DESIGN
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816 No. 10.48

DATE
1-2-61
1-15-62
3-30-62
4-19-62
4-19-64

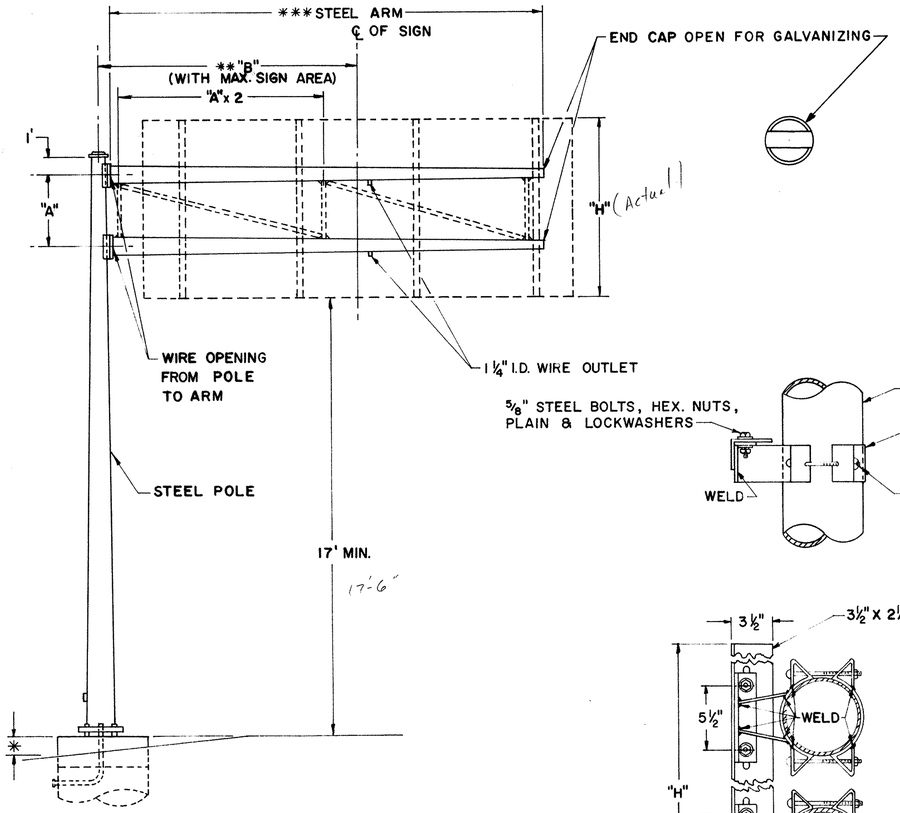
APPROVED Robert E. Bowers
ENGINEER OF TRAFFIC

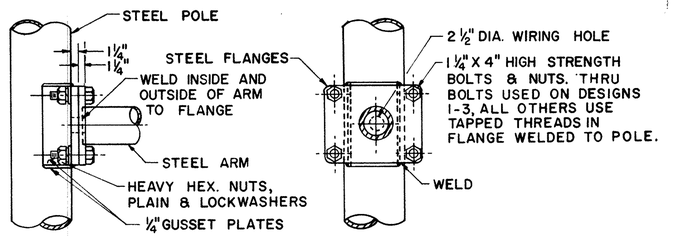
OVERHEAD SIGN SUPPORT, 816 No. 10.48

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-C-(1)124	

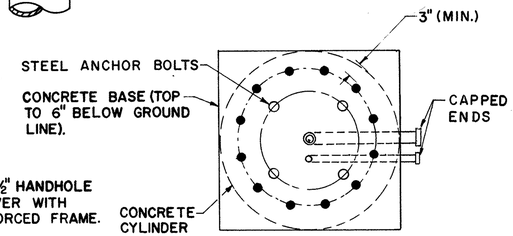
280
383

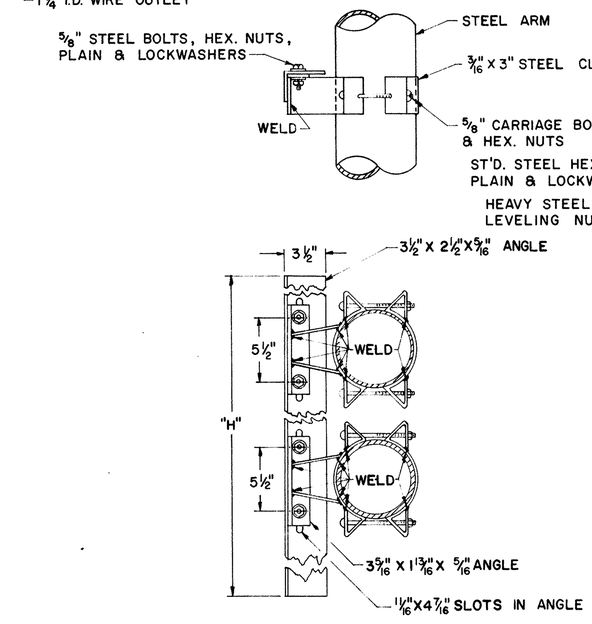
SUMMIT COUNTY
SUM-277-0.46

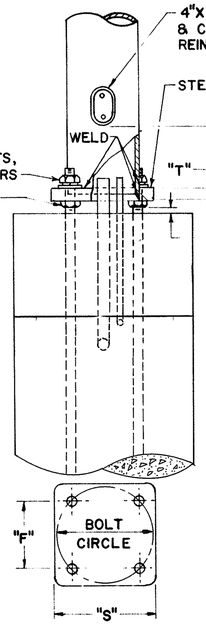


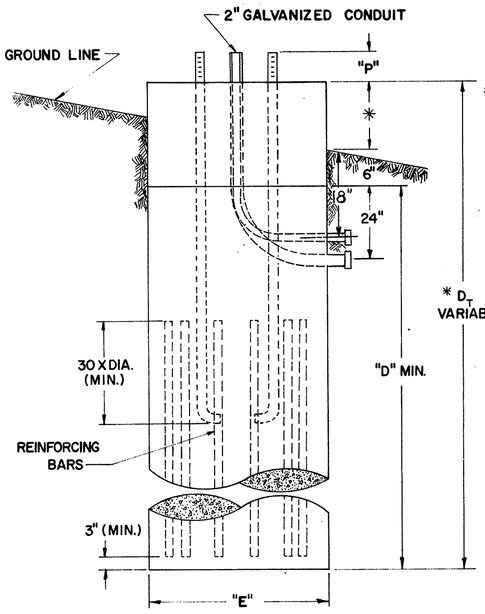


ARM ATTACHMENT









SIGN ATTACHMENT DETAIL

POLE DETAIL

FOUNDATION DETAIL

DESIGN NO.	POLE SIZE	✱✱✱ ARM SIZE	DIM A	DIM ✱✱ B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF. BARS SIZE	REINF. BARS NO.
1	3 Ga, 12" X 8.78" X 23'-0"	7Ga, 6.9"X 4.66"X16'-0"	4'	12'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾"X90"	80	¾"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3"X 6.06"X16'-0"	4'	12'	11'	3'-0"	15½"	8⅜"	23"	2"	22"	2"X96"	120	1"	12
4	3 Ga, 16" X 12.5"X 25'-0"	3Ga, 9.2"X6.40"X20'-0"	4'	16'	11'	3'-0"	16⅝"	8⅜"	24½"	2"	23½"	2"X96"	120	1"	12
5	0 Ga, 18"X 14.36"X26'-0"	7 Ga, 11"X 7.92"X 22'-0"	6'	14'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼"X120"	180	1⅛"	12
6	0 Ga, 18"X 14.36"X26'-0"	7 Ga, 12.5"X 8.86"X26'-0"	6'	18'	13'	3'-0"	18"	9⅜"	26½"	2½"	25½"	2¼"X120"	180	1⅛"	12
7	2 PLY 7 Ga, 18"X14.36"X26'-0"	7 Ga, 12.5"X9.14"X24'-0"	6'	14'	15'	3'-0"	18"	9¾"	26½"	2½"	25½"	2½"X144"	240	1¼"	12
8	2 PLY ¼", 18"X14.36"X26'-0"	3 Ga, 12.5"X8.58"X28'-0"	6'	18'	15'	3'-0"	18"	11¼"	26½"	3"	25½"	3"X 144"	240	1¼"	12

NOTES

FABRICATION - ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. S-25.08 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

✱ FOUNDATION- THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

✱✱ ERECTION- VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE MAX. SIGN AREA TIMES "B".

✱✱✱ ARMS 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3"X 3"X ⅜" ANGLES WELDED TO GUSSET PLATES.

MATERIAL- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30. GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B7. AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS- THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL- REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816
No. 12.24

DATE 5-18-61, 4-11-62

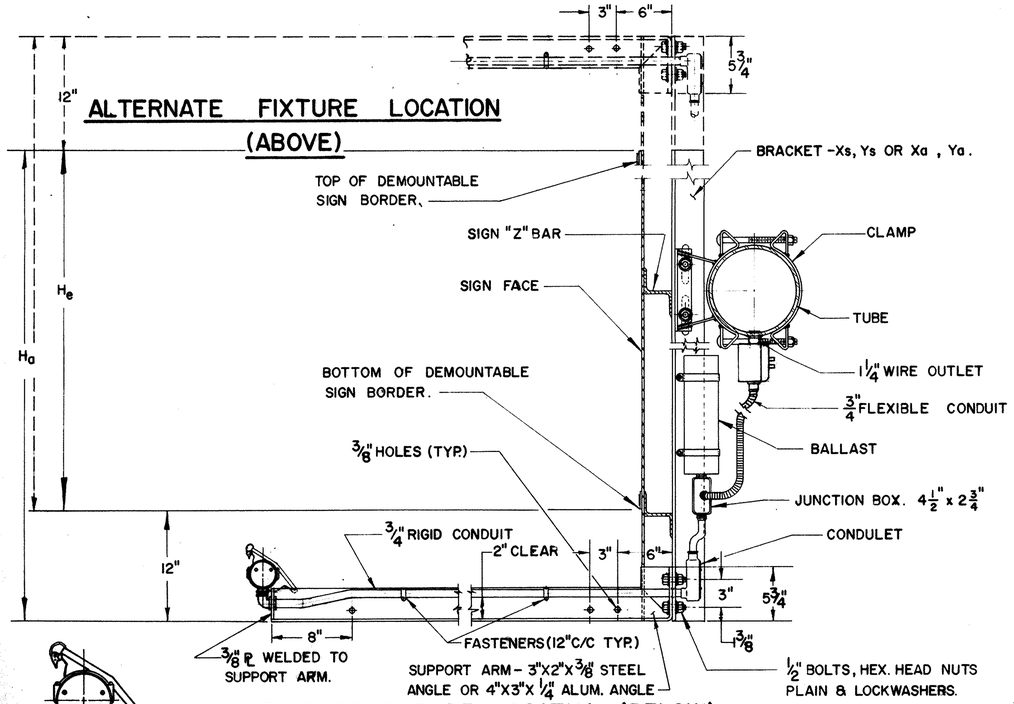
APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

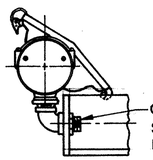
281
383

SUMMIT COUNTY
SUM-277-0.46

ALTERNATE FIXTURE LOCATION (ABOVE)



STANDARD FIXTURE LOCATION (BELOW)



FIXTURE CONNECTION WHERE WIRING CONDUIT IS NOT NEEDED.

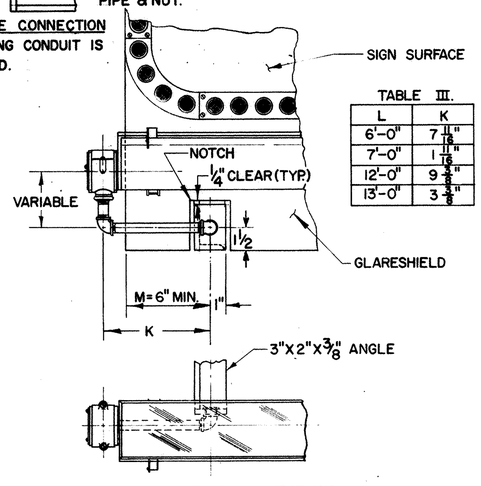
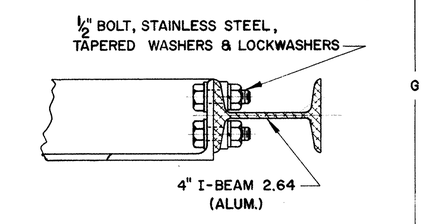


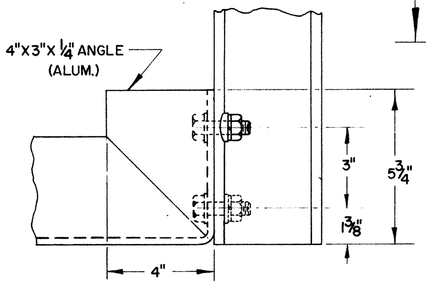
TABLE III.

L	K
6'-0"	7 11/16"
7'-0"	1 11/16"
12'-0"	9 3/16"
13'-0"	3 3/8"

ALTERNATE FIXTURE CONNECTIONS FOR SIGN 6', 7', 12' & 13' IN LENGTH.

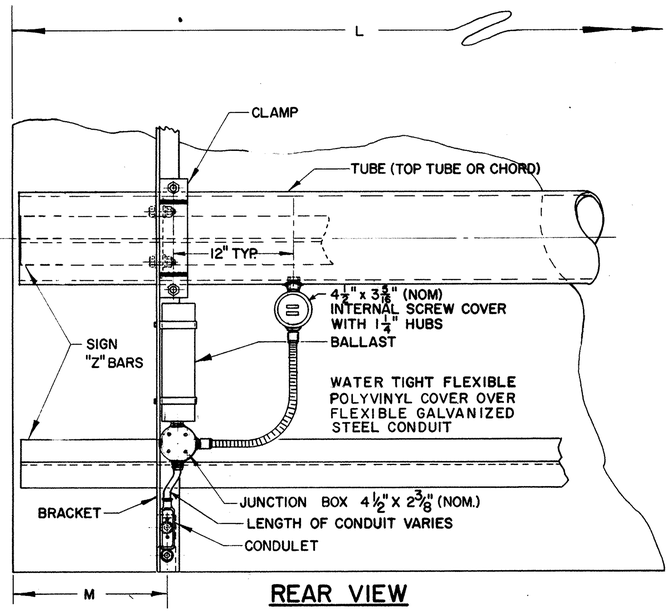
DETAIL A.



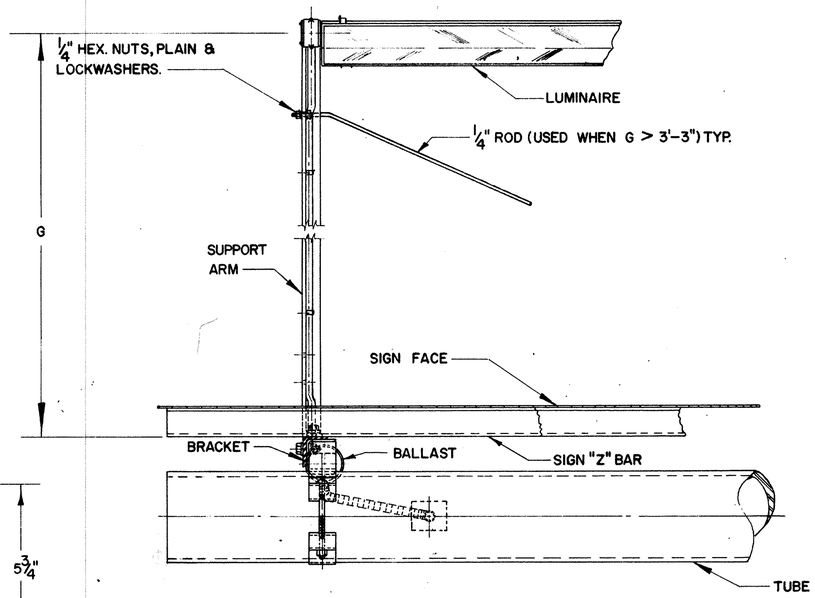


FOR SUPPORTS 7.2-7.6

DETAIL B.



REAR VIEW



TOP VIEW

FABRICATION — ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS I-129.

MATERIALS — THE MATERIALS USED IN THE COMPONENTS SHOWN ON THIS SHEET SHALL BE IN CONFORMANCE WITH THE MATERIALS USED IN THE SIGN SUPPORT.

TABLE I.

"L" SIGN LENGTH		NUMBER OF FIXTURES		"M" EDGE DISTANCE				NO. BALLAST
				A		B		
A	B	75 5/8"	99 3/8"	LT.	RT.	LT.	RT.	
6'-0"	7'-0"	1		6"	6"	6"	6"	1
8'-0"	9'-0"	1		10 3/16"	10 1/4"	16 3/16"	16 1/4"	1
10'-0"	11'-0"		1	10 3/16"	10 1/4"	16 3/16"	16 1/4"	1
12'-0"	13'-0"	2		6"	6	6	6	1
14'-0"	15'-0"	2		8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
16'-0"	17'-0"	1	1	8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
18'-0"	19'-0"		2	8 5/16"	8 5/16"	14 5/16"	14 5/16"	1
20'-0"	21'-0"	3		7"	6 7/8"	13	12 7/8"	2
22'-0"	23'-0"	2	1	7"	6 7/8"	13	12 7/8"	2
24'-0"	25'-0"	1	2	7"	6 7/8"	13	12 7/8"	2
26'-0"	27'-0"		3	7"	6 7/8"	13	12 7/8"	2

Sn= Nominal Fixture Length, 72" & 96" respectively.
Sa= Actual Fixture Length, for mounting purposes, 75 5/8" and 99 3/8" respectively. (Slight variation for different manufacturers.)
M= Distance from edge of sign to ℄ of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset "K" is used. For additional details see detail A and table III.

TABLE II

MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES 9.12, 11.08, 13.2, 7.2 — SINGLE TUBE DOUBLE TUBE LESS 36" C/C	9.24, 10.48, 12.24, 14.5, 15.8, 7.2 to 7.6 — DOUBLE TUBE C/C 36"-42"	C/C 48"-54"	C/C 60"-72"
	MAXIMUM BRACKET SPACING			
to 5'-0"	6'-4" with X 8'-4" with Y	8'-4" with X	8'-4" with X	8'-4" with X
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X 6'-4" with Y	6'-4" with X 8'-4" with Y	8'-4" with X
8'-6" to 10'-0"	3'-2" with X 4'-2" with Y	6'-4" with Y	6'-4" with Y	8'-4" with Y
10'-6" to 12'-0"	———	4'-2" with Y	6'-4" with Y	6'-4" with Y
12'-6" to 14'-0"	———	3'-2" with Y	3'-2" with Y	4'-2" with Y

Ha= ACTUAL SIGN HEIGHT
He= EFFECTIVE SIGN HEIGHT
BRACKET SIZE: Xs = 3½" X 2½" X 5/16" — L @ 6.1 LB. STEEL } 9.12, 10.48, 11.08, 12.24, 14.5 & 15.8
Ys = 4" X 3 1/16" X ¼" — Z @ 8.2 LB. STEEL
Xa = 3" X 2 11/16" X ¼" — Z @ 2.33 LB. ALUM. } 7.2 Thru 7.6
Ya = 4" X 2 25/32" X 3/16" — I @ 2.64 LB. ALUM.

WHEN MAX. ALLOWABLE SPACING IS LESS THAN ACTUAL FIXTURE LENGTHS, Sa, ADDITIONAL STANDARD BRACKETS MUST BE FURNISHED, EQUAL IN HEIGHT TO "Ha".

SUPPORTS 7.2 THROUGH 7.6 SHALL HAVE AN ALUMINUM FIXTURE ARM, 4"X3"X¼" ANGLE. SEE DETAIL B. BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-1

APPROVED Fred C Gaulbe
ENGINEER OF TRAFFIC

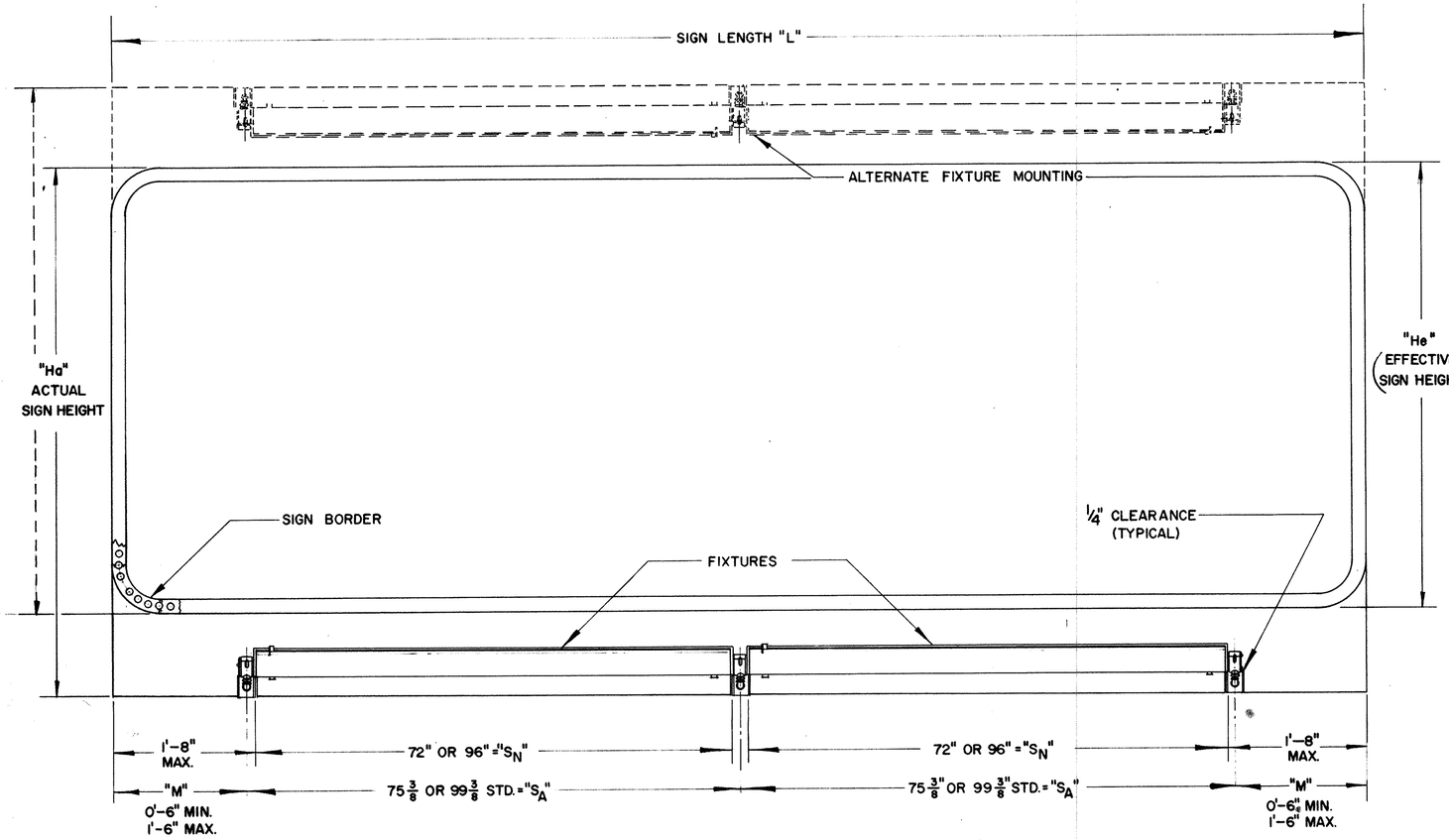
STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

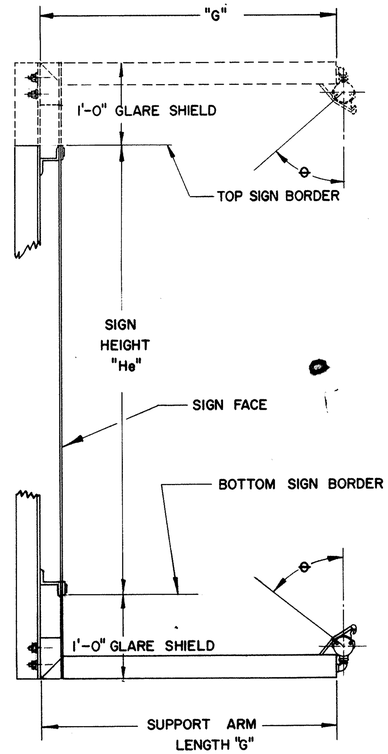
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)12.4	

282
383

SUMMIT COUNTY
SUM-277-0.46

SIGN LIGHTING NOTES





SIGN ILLUMINATION

SIGN ILLUMINATION SHALL BE BY ATTACHED FLUORESCENT FIXTURES AS SHOWN ON ILLUMINATED SIGN DETAIL SHEETS.

LAMPS

LAMPS SHALL BE TYPE F72 OR F96-T12/CW/HO AS MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS TO A MAXIMUM HEIGHT OF 6'-6". LAMP TYPE SHALL BE F72 OR F96-T12/CW/SHO AS MANUFACTURED BY WESTINGHOUSE, F72 OR F96-PG17/CW AS MANUFACTURED BY GENERAL ELECTRIC, OR APPROVED EQUAL FOR SIGNS THAT ARE 7'-0" OR GREATER IN HEIGHT.

LAMP FIXTURES

LIGHTING FIXTURES SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR WITH HIGH QUALITY CORROSION RESISTANT FINISH. ALL FIXTURES SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR SIGN LIGHTING SERVICE. MAJOR COMPONENTS SHALL INCLUDE WEATHERPROOF CAST ALUMINUM MOUNTING HUBS DESIGNED TO SECURELY LOCK THE FIXTURES AT ANY ANGLE THROUGH 360 DEGREES. INDICATORS IN 10 DEGREE INCREMENTS SHALL BE STAMPED OR CAST INTO THE HUB TO FACILITATE PROPER AIMING OF THE FIXTURE. FINAL ADJUSTMENT OF FIXTURE SHALL BE DONE AT NIGHT UNDER THE PROJECT ENGINEER'S DIRECTION.

THE BODY DESIGN OF THE FIXTURE SHALL PROVIDE AN ASYMMETRIC SPECULAR ALZAK REFLECTOR TO GIVE A HIGH LEVEL OF UNIFORM ILLUMINATION AND SHALL PROVIDE A WIREWAY FROM END TO END. WHEN ADJACENT FIXTURES ARE WIRED TOGETHER THROUGH THE WIREWAY, WIRE BETWEEN FIXTURES SHALL BE ENTIRELY ENCLOSED.

EXTERIOR FINISH OF THE FIXTURE BODY SHALL BE INTERSTATE GREEN COLOR, HEAT RESISTANT BAKED ENAMEL AS #8950 UNIVERSAL PAINT AND VARNISH INC., OR APPROVED EQUAL. REFLECTOR, LAMP AND SOCKETS SHALL BE PROTECTED BY A HINGED DOOR OF CLEAR ACRYLIC PLASTIC WITH ALUMINUM OR STAINLESS STEEL FRAME AND NEOPRENE GASKETING.

BALLASTS

BALLASTS FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20°F. BALLASTS SHALL BE MOUNTED ON SIGN BRACKET ONLY. WIRING SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT THE SIGN MAY BE REMOVED WITHOUT DISTURBING THE ELECTRICAL WIRING.

EFFECTIVE SIGN HEIGHT "H"	SUPPORT ARM LENGTH "G"	APPROX. AIMING ANGLE ⊖
3'-0" to 5'-0"	2'-9"	25°
5'-0" to 6'-6"	3'-3"	25°
7'-0" to 10'-0"	4'-3"	17°
10'-6" to 13'-0"	5'-9"	23°

"L" SIGN LENGTH	NO. OF FIXTURES			He=3'-0" to 6'-6" LAMP=T12/cw/ho			He=7'-0" to 13'-0" LAMP=T12/cw/sho		
	72	96		BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN	BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN
6'-0" to 7'-0"	1			1	A	190	1	C	250
8'-0" to 9'-0"	1			1	A	190	1	C	250
10'-0" to 11'-0"		1		1	A	190	1	C	250
12'-0" to 13'-0"	2			1	B	250	1	D	425
14'-0" to 15'-0"	2			1	B	250	1	D	425
16'-0" to 17'-0"	1	1		1	B	250	1	D	425
18'-0" to 19'-0"		2		1	B	250	1	D	425
20'-0" to 21'-0"	3			2	A&B	440	2	C&D	675
22'-0" to 23'-0"	2	1		2	A&B	440	2	C&D	675
24'-0" to 25'-0"	1	2		2	A&B	440	2	C&D	675
26'-0" to 27'-0"		3		2	A&B	440	2	C&D	675

BALLASTS

TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-151	190
B	GG 3535	257-171	250
C	GG 3585	257-231	250
D	GG 3588	257-181	425

BALLASTS SHALL BE GENERAL ELECTRIC, JEFFERSON AS SPECIFIED ABOVE OR EQUAL.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-2

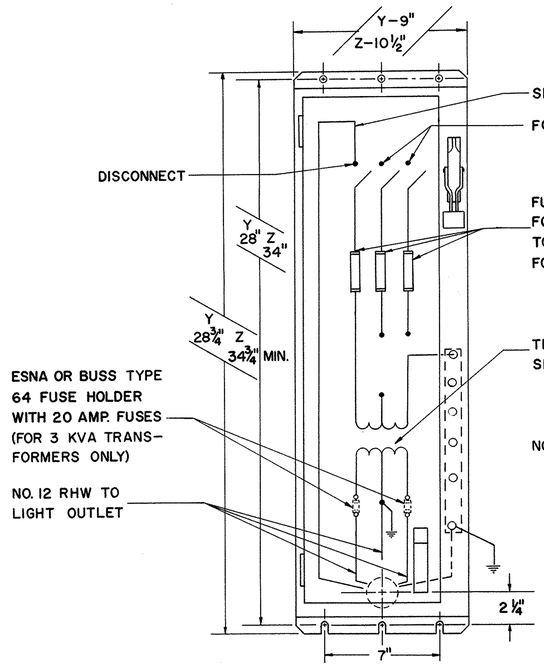
DATE
10-31-63
5-6-64
10-29-64

APPROVED Fred C Tasbo
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6-01124	

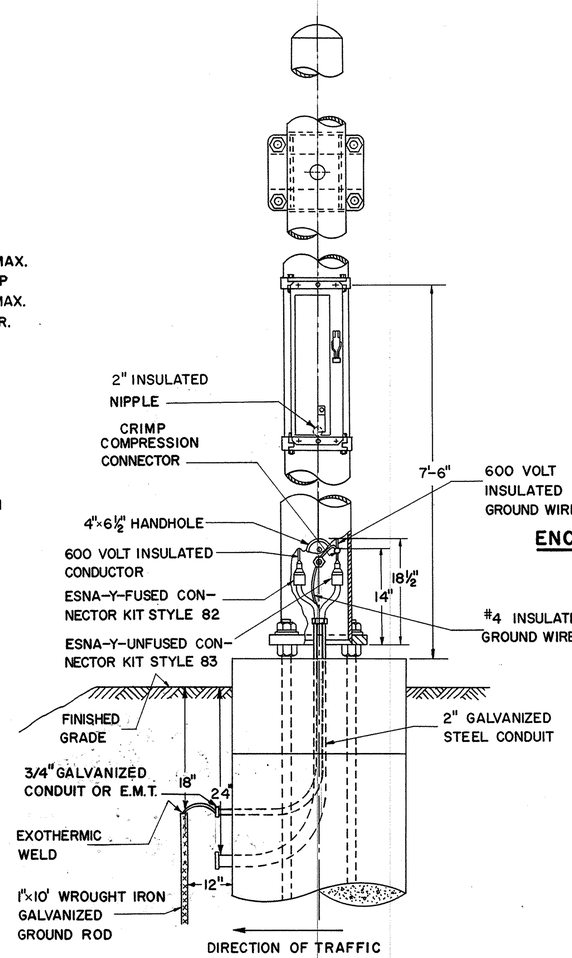
283
383

SUMMIT COUNTY
SUM~277~0.46

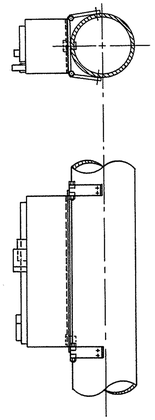


TYPICAL ENCLOSURE DETAIL

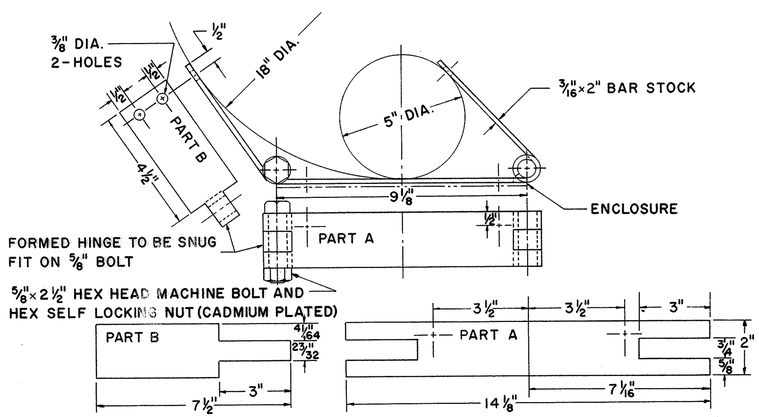
480 VOLT SIGN LIGHTING SERVICE



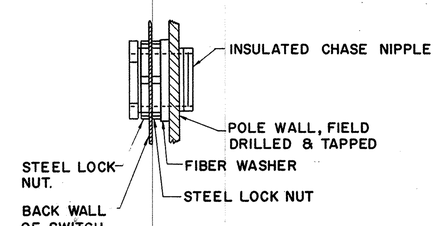
SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS



ENCLOSURE MOUNTING DETAIL



ENCLOSURE MOUNTING BRACKET



INSULATED NIPPLE ASSEMBLY DETAIL

AS MANUFACTURED BY THOMAS BETTS, APPELTON STEEL CITY OR EQUAL

NOTES

GENERAL

DETAILS OF THIS SHEET SHALL APPLY TO EACH OVERHEAD SIGN STRUCTURE TO SUPPORT EXTERNALLY ILLUMINATED SIGNS.

SERVICE

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

COMBINATION SWITCH AND TRANSFORMER

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED–CLASS 9400, OR APPROVED EQUAL.

TRANSFORMER

THE TRANSFORMER SHALL BE DRY TYPE SINGLE PHASE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

ENCLOSURE

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL ASTA 302–303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2 1/4" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16–18×3/4" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

ENCLOSURE MOUNTING BRACKET

THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16 HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

WIRE AND CABLE

ALL WIRE AND CABLE UP TO AND INCLUDING #4 SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS. #2 OR LARGER WIRE OR CABLE SHALL BE G.E. 58006 OR ANACONDA AP–10711, OR EQUAL. ALL WIRE AND CABLE SHALL BE 600 VOLT.

GROUNDING

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDED WITH A #4 RUBBER INSULATION AND NEOPRENE JACKETED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"×10' WROUGHT IRON GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMEL.

TRANSFORMERS

TYPE	MANUFACTURERS G.E.	MANUFACTURERS JEFFERSON	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
I	9T51Y7	220 – 041	.25	Y
II	9T51Y8	220 – 051	.50	Y
III	9T51Y9	220 – 061	.75	Y
IV	9T51Y10	220-071-100	1.00	Z
V	9T51Y11	220-081-100	1.50	Z
VI	9T51Y12	220-091-100	2.00	Z
VII	9T51Y13	221 – 102	3.00	Z

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN SERVICE DETAILS 480 VOLT SYSTEM

ES-3A

DATE 6-18-64

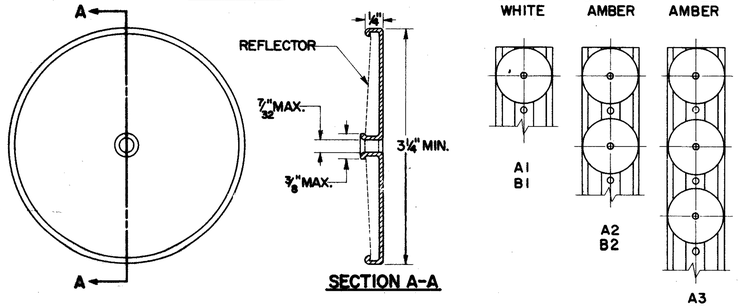
APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

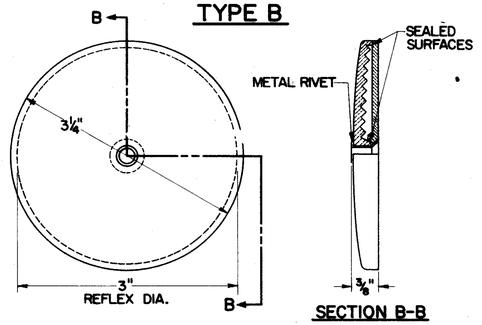
284
383

SUMMIT COUNTY
SUM-277-0.46

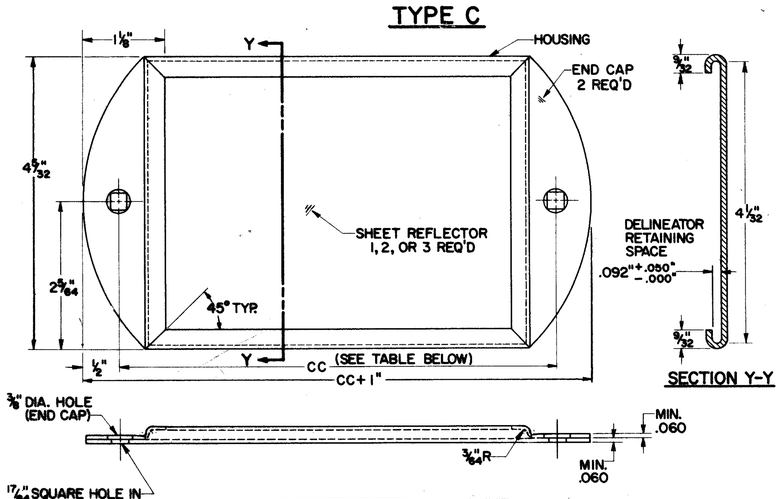
TYPE A



TYPE B

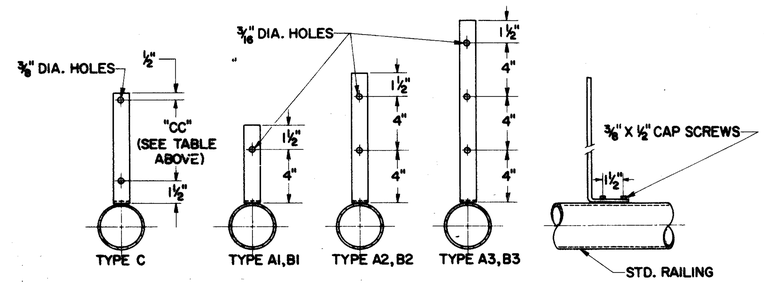


TYPE C

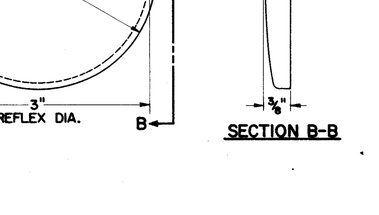


TYPE	DIM. CC
C1-SINGLE WHITE	6"
C2-DOUBLE AMBER	11"
C3-TRIPLE AMBER	16"

ALL BRACKETS 1/4" X 1 1/4" STAINLESS STEEL



BRIDGE RAIL BRACKET

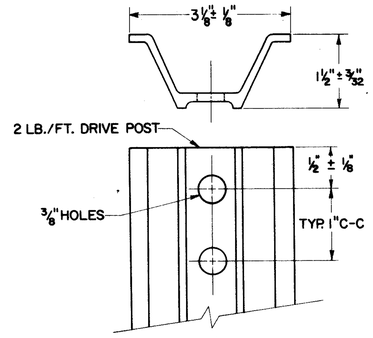


LATERAL PLACEMENT OF DELINEATORS

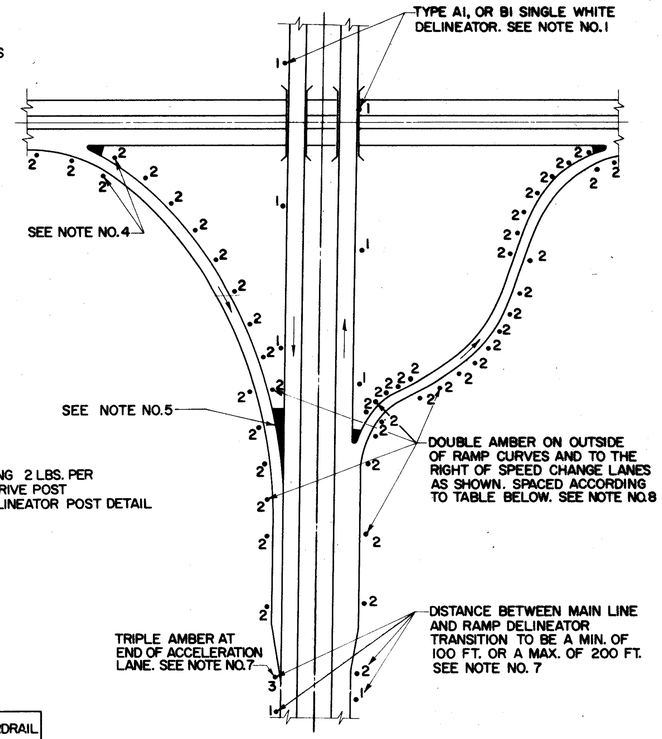
* TABLE

TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE WHITE	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE
TRIPLE AMBER	12'-6"	6" OUTSIDE

** THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.



DELINEATOR POST



TYPICAL DELINEATOR PLACEMENT

NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES, BEGINNING AT STA. +00, +25, +50, OR + 75.
2. DELINEATORS SHALL BE FURNISHED AND ERECTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 620, (1-15-62).
3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR 620 DELINEATORS".
4. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
5. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM.
6. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
7. RAMP DELINEATOR AT END OF ACCELERATION & BEGINNING OF DECELERATION LANES TO BE A MAXIMUM OF 5' FROM POINT OF TANGENCY AT MAIN LINE.
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15. +20 AND SO ON.

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	——	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS | 620 | DATE 9-25-62 10-2-63

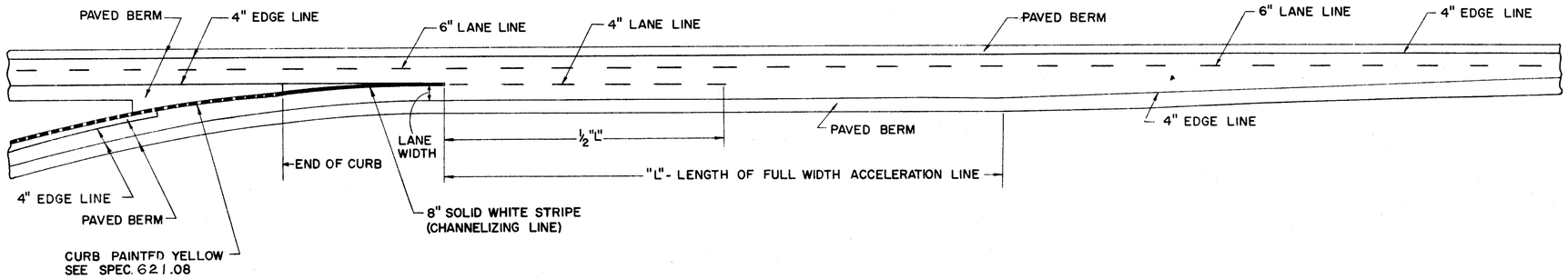
APPROVED Robert L. Lemon
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

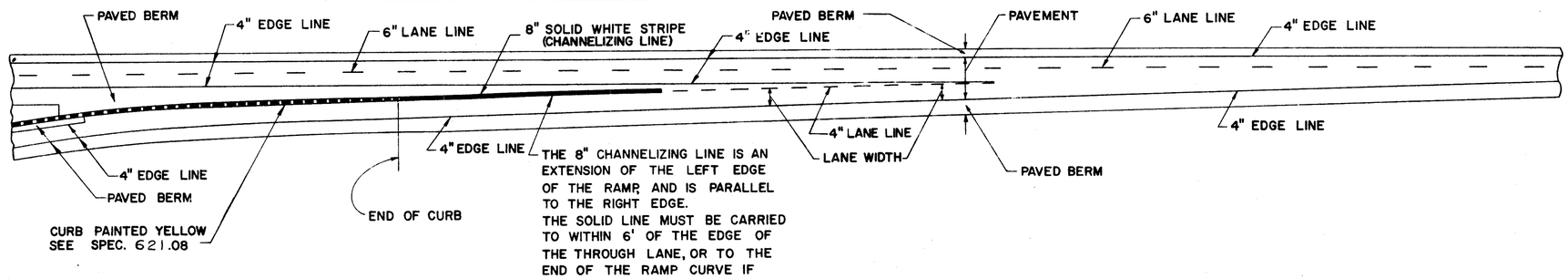
285
383

SUMMIT COUNTY
SUM-277-0.46

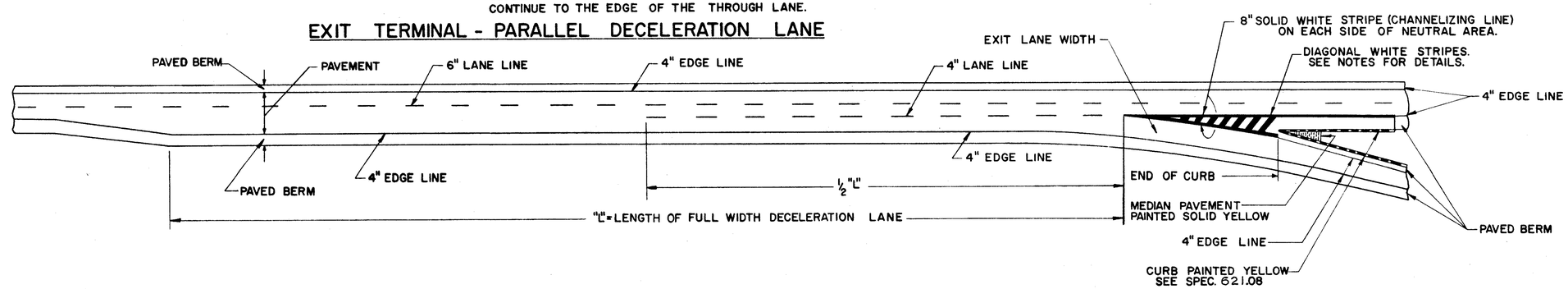
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE



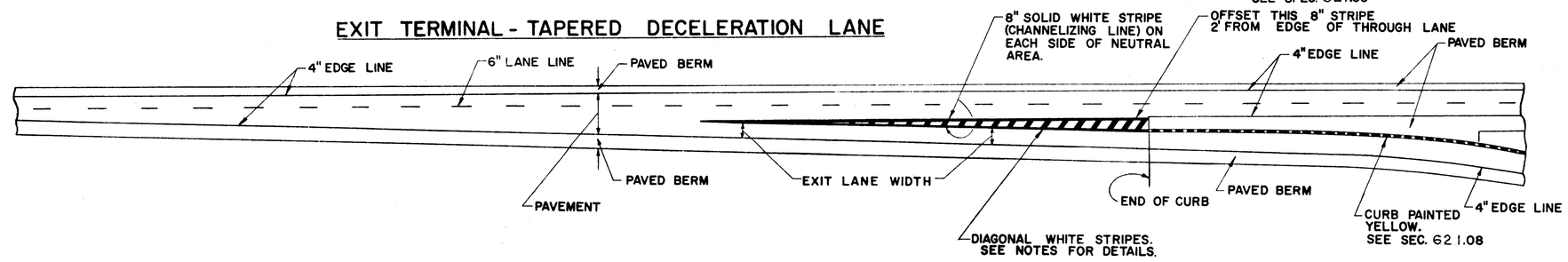
ENTRANCE TERMINAL - TAPERED ACCELERATION LANE



EXIT TERMINAL - PARALLEL DECELERATION LANE



EXIT TERMINAL - TAPERED DECELERATION LANE



NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. 621 AND DEFINED IN SECTION 621.06.

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. 621 AND DEFINED IN SECTION 621.07.

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. 621 AND DEFINED IN SECTION 621.07b.

DIAGONAL STRIPES IN EXIT RAMP MARKINGS SHALL BE 2' WIDE WHITE BEADED STRIPES SET AT A 45° ANGLE TO THE CENTER LINE OF THE THROUGH PAVEMENT AND SLANTED IN THE DIRECTION OF THE FLOW OF TRAFFIC ON SAID PAVEMENT. SPACE BETWEEN THE 2' DIAGONAL STRIPES SHALL BE 6' AS MEASURED PARALLEL TO THE CENTER LINE OF THE THROUGH PAVEMENT. PAINT ON THE DIAGONAL STRIPES SHALL BE APPLIED AT THE RATE OF ONE GALLON TO EACH 100 SQUARE FEET AND GLASS BEADS SHALL BE APPLIED AT THE RATE OF SIX POUNDS PER GALLON OF PAINT. DIAGONAL WHITE STRIPES SHALL BE PLACED BETWEEN THE TWO 8" WHITE CHANNELIZING LINES AT EXIT RAMPS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. 621 AND DEFINED IN SECTION 621.07c.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING

621

DATE
7-17-61
4-6-62

APPROVED Robert E. Lowder
ENGINEER OF TRAFFIC

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)124	

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SUMMIT COUNTY
SUM - 277 - 0.46

LEGEND

- PB/1 — 18" PULLBOX
- PB/2 — 24" PULLBOX
- C3/3 — 3" ASBESTOS CONDUIT, 3" CONCRETE ENCASED
- C3/4 — 3" ASBESTOS CONDUIT, 4" CONCRETE ENCASED
- C4/1 — 4" ASBESTOS CONDUIT, 4" CONCRETE ENCASED, ONE WAY
- C4/2 — 4" ASBESTOS CONDUIT, 4" CONCRETE ENCASED, TWO WAY
- SP/P — SERVICE POLE (BY OTHERS)
- P/T — SIGNAL POLE
- MK/A — 18" × 18" PAVEMENT CUTOUT FOR DETECTION.
- C/AS — 3" ALLOY STEEL CONDUIT.

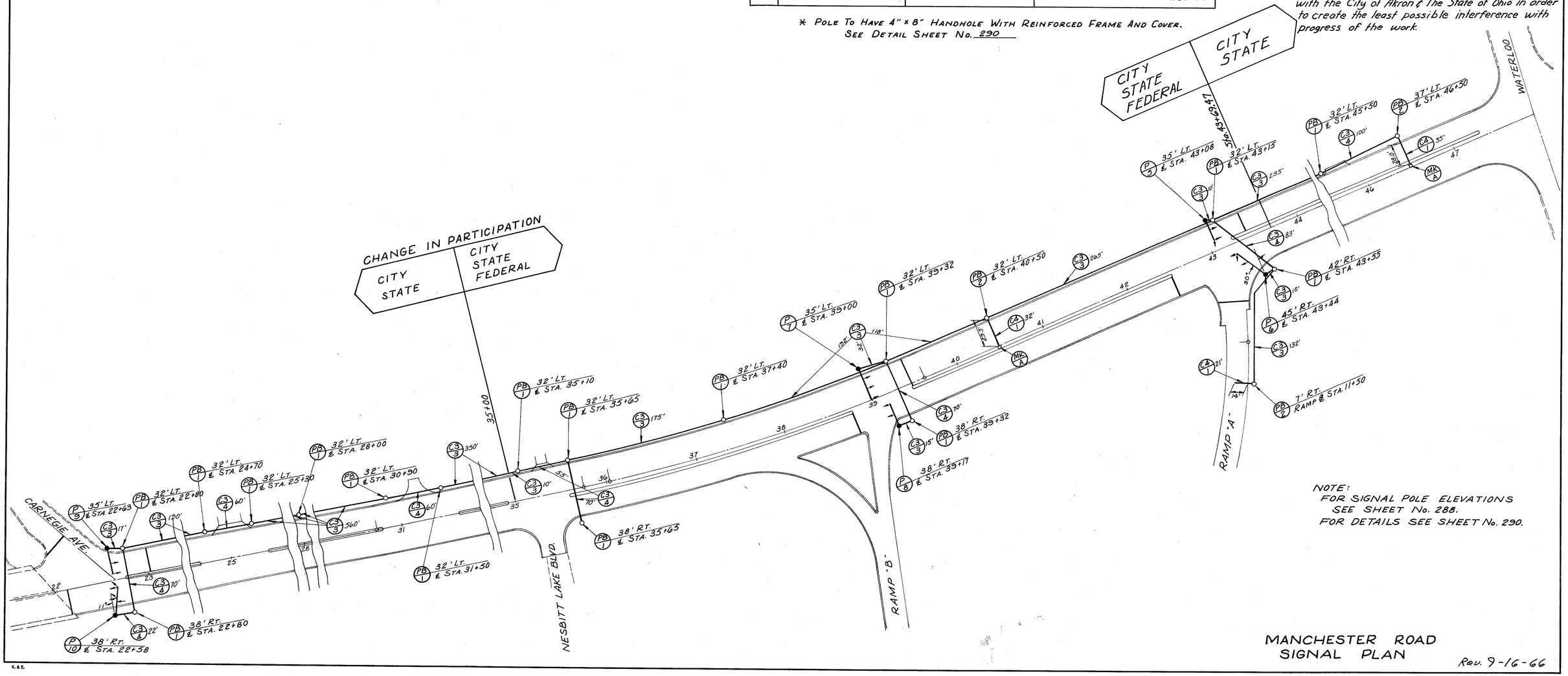
Pole No.	POLE DESCRIPTION	ARM DESCRIPTION	LOCATION
P-5	* 7GA. 10" x 20'-0" Lg.	7GA. x 7.2" x 22'-0" Lg.	35' Lt. MANCHESTER RD. STA. 43+08
P-6	* 3GA. 14" x 20'-0" Lg.	3 GA. x 11.2" x 38'-0" Lg.	45' Rt. MANCHESTER RD. STA. 43+44
P-7	* 7GA. 14" x 20'-0" Lg.	7 GA. x 11.2" x 34'-0" Lg.	35' Lt. MANCHESTER RD. STA. 39+00
P-8	* 7GA. 11" x 20'-0" Lg.	7GA. x 8.2" x 26'-0' Lg.	38' Rt. MANCHESTER RD. STA. 39+17
P-9	* 7GA. 12" x 20'-0" Lg.	7GA. x 9.2" x 28'-0" Lg.	35' Lt. MANCHESTER RD. STA. 22+63
P-10	* 7GA. 14" x 20'-0" Lg.	7GA. x 11.2" x 30'-0" Lg.	38' Rt. MANCHESTER RD. STA. 22+38

* POLE TO HAVE 4" x 8" HANDHOLE WITH REINFORCED FRAME AND COVER.
SEE DETAIL SHEET No. 290

TRAFFIC SIGNALS - WORK BY OTHERS:

The Contractor is hereby advised that the City of Akron & State of Ohio will furnish and install all remaining operational components of the traffic signal system concurrently with the signal system work included in this contract. The City's & State's part of their work shall be completed at approx. the same time as the Contractor's signal work and be in operation when the project is opened to traffic.

The Contractor on this project shall co-operate with the City of Akron & The State of Ohio in order to create the least possible interference with progress of the work.



NOTE:
FOR SIGNAL POLE ELEVATIONS SEE SHEET No. 288.
FOR DETAILS SEE SHEET No. 290.

MANCHESTER ROAD
SIGNAL PLAN

Rev. 9-16-66

C.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)-124	

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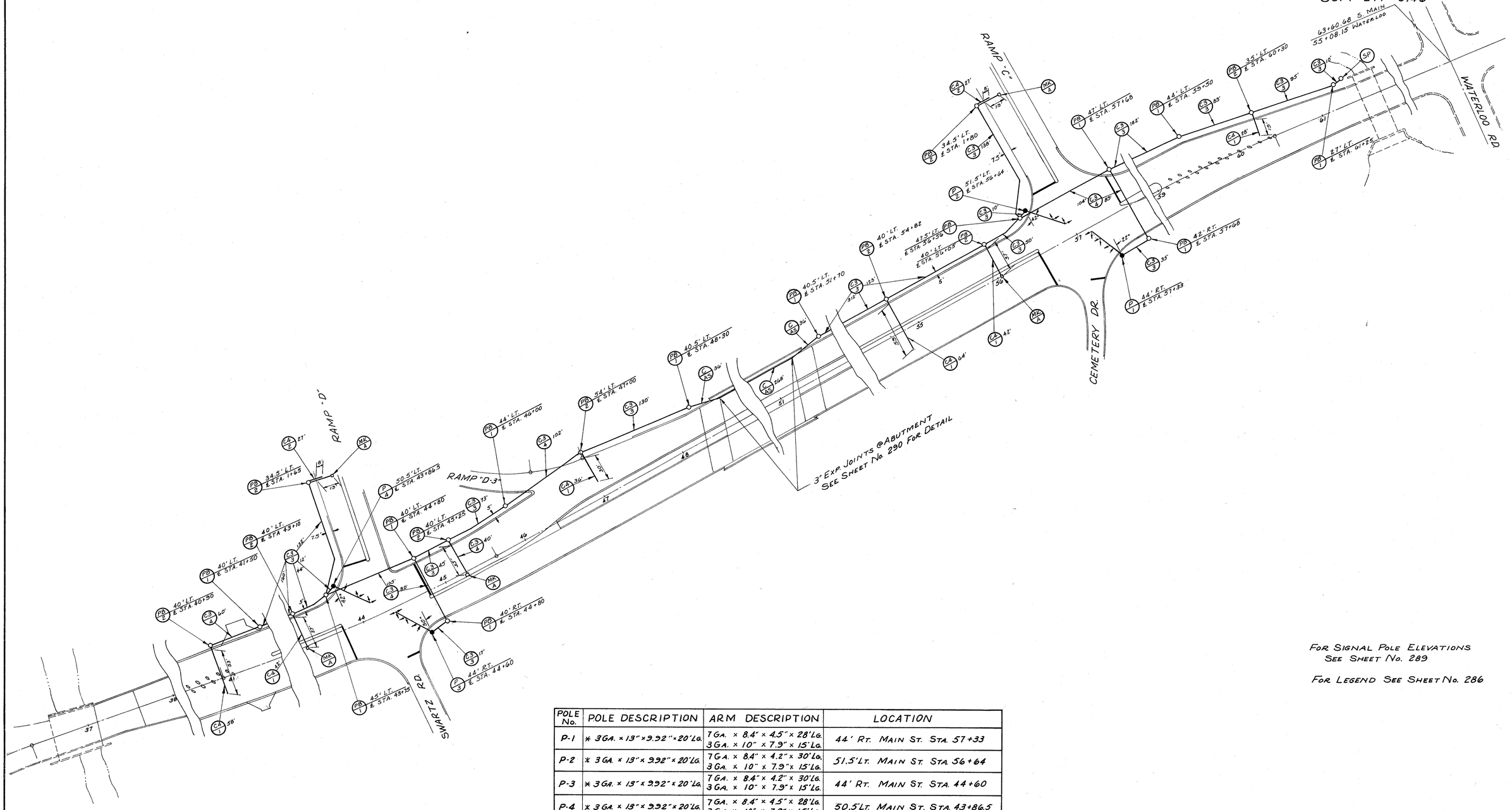
SUMMIT COUNTY
SUM-277-0.46



POLE No.	POLE DESCRIPTION	ARM DESCRIPTION	LOCATION
P-1	* 3GA. x 13" x 9.32" x 20'Lg.	7GA. x 8.4" x 4.5" x 28'Lg. 3GA. x 10" x 7.9" x 15'Lg.	44' Rt. Main St. Sta. 57+33
P-2	* 3GA. x 13" x 9.32" x 20'Lg.	7GA. x 8.4" x 4.2" x 30'Lg. 3GA. x 10" x 7.9" x 15'Lg.	51.5'Lt. Main St. Sta. 56+64
P-3	* 3GA. x 13" x 9.32" x 20'Lg.	7GA. x 8.4" x 4.2" x 30'Lg. 3GA. x 10" x 7.9" x 15'Lg.	44' Rt. Main St. Sta. 44+60
P-4	* 3GA. x 13" x 9.32" x 20'Lg.	7GA. x 8.4" x 4.5" x 28'Lg. 3GA. x 10" x 7.9" x 15'Lg.	50.5'Lt. Main St. Sta. 43+86.5

* Pole To Have 4"x8" Handhole With Reinforced Frame And Cover.
See Detail Sheet No. 290

For Signal Pole Elevations
See Sheet No. 289

For Legend See Sheet No. 286

MAIN ST.
SIGNAL PLAN

K. & E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)-124	

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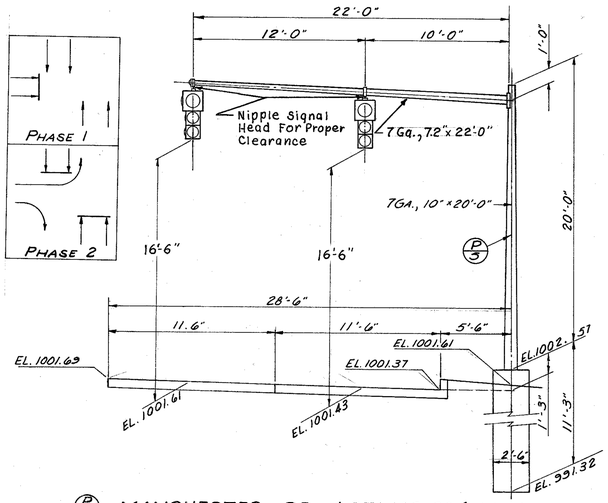
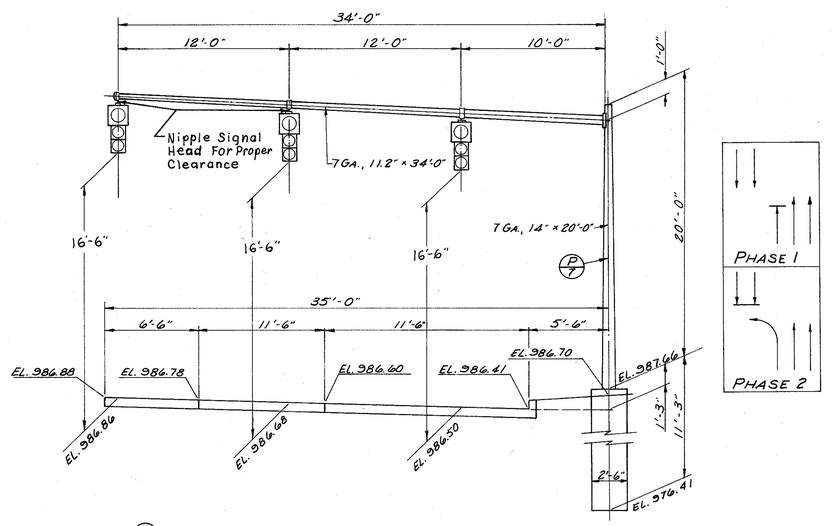
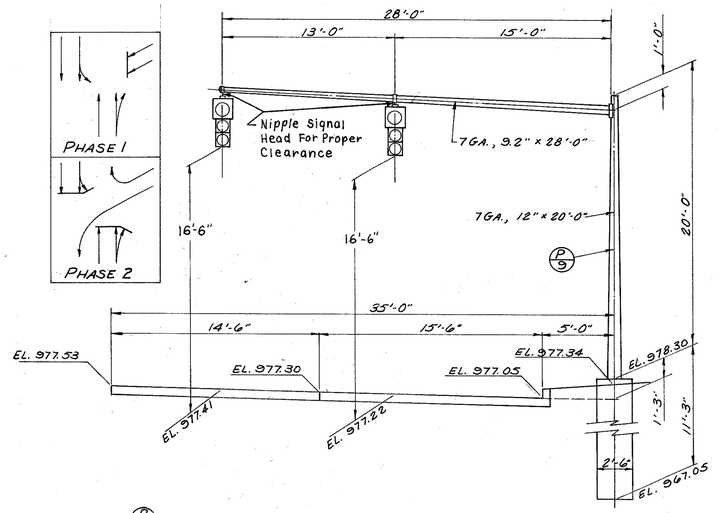
SUMMIT COUNTY
SUM - 277 - 0.46



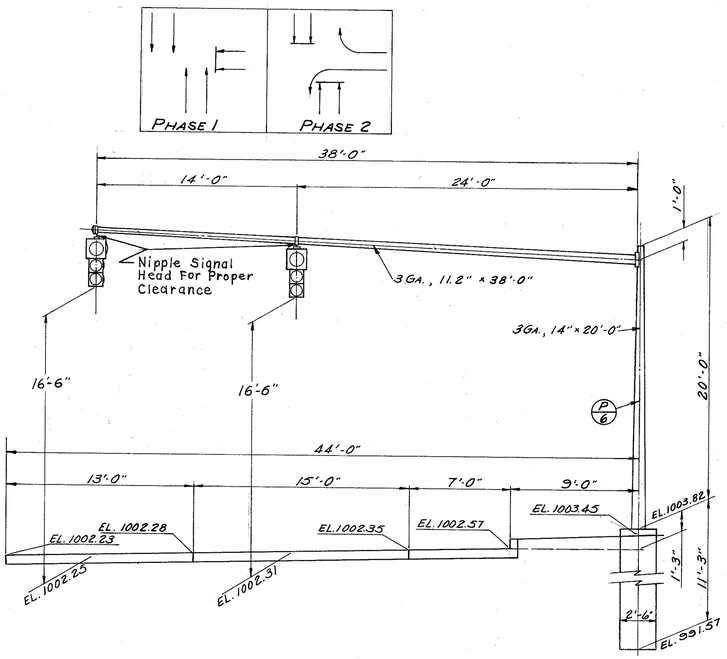
P5 MANCHESTER RD. & STA. 43+08 (35' LT.)
POLE : 7GA., 10" x 20'-0" LG.
ARM : 7GA., 7.2" x 22'-0" LG.



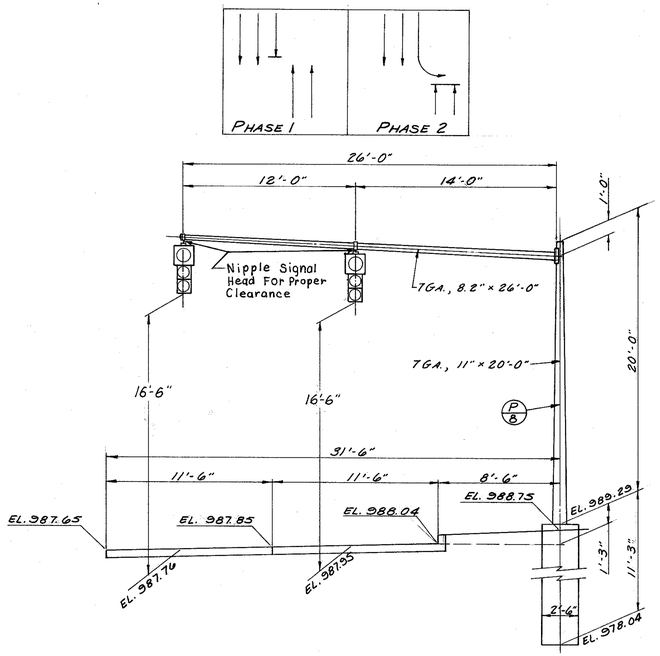
P7 MANCHESTER RD. & STA. 39+00 (35' LT.)
POLE : 7GA., 14" x 20'-0" LG.
ARM : 7GA., 11.2" x 34'-0" LG.



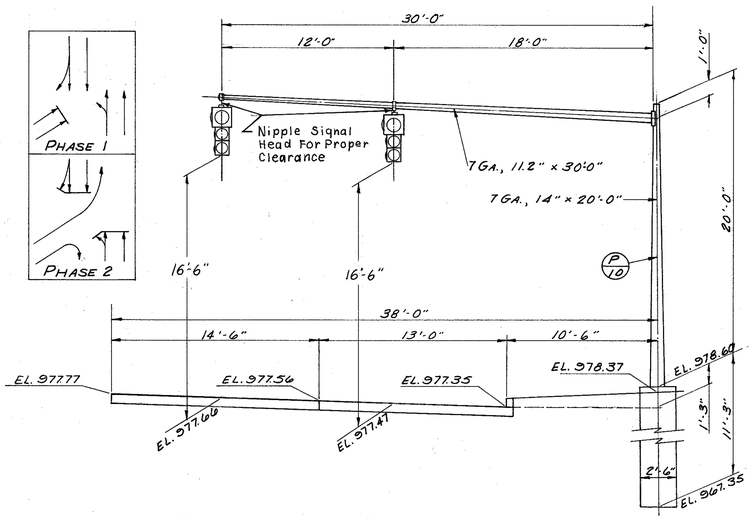
P9 MANCHESTER RD. & STA. 22+63 (35' LT.)
POLE: 7GA., 12" x 20'-0" LG.
ARM: 7GA., 9.2" x 28'-0" LG.



P6 MANCHESTER RD. & STA. 43+44 (45' RT.)
POLE : 3GA., 14" x 20'-0" LG.
ARM : 3GA., 11.2" x 38'-0" LG.



P8 MANCHESTER RD. & STA. 39+17 (38' RT.)
POLE : 7GA., 11" x 20'-0" LG.
ARM : 7GA., 8.2" x 26'-0" LG.



P10 MANCHESTER RD. & STA. 22+38 (38' RT.)
POLE : 7GA., 14" x 20'-0" LG.
ARM : 7GA., 11.2" x 30'-0" LG.

NOTE:
FOR DETAILS SEE SHEET No. 290.
FOR PLAN SEE SHEET No. 286.

MANCHESTER RD.
TRAFFIC SIGNAL DETAILS

E. & E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6-(1)-124	

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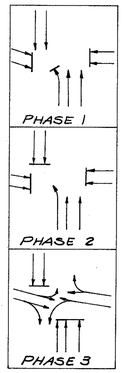
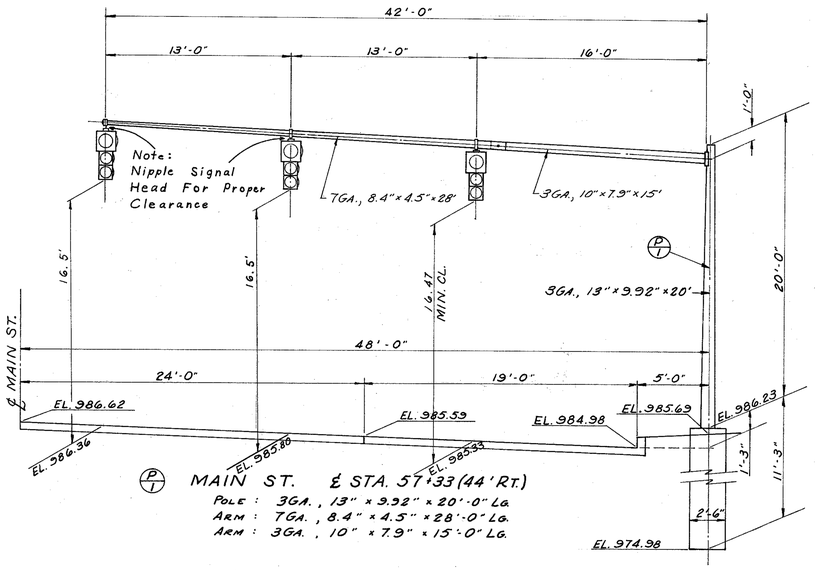
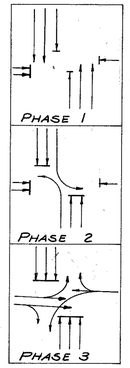
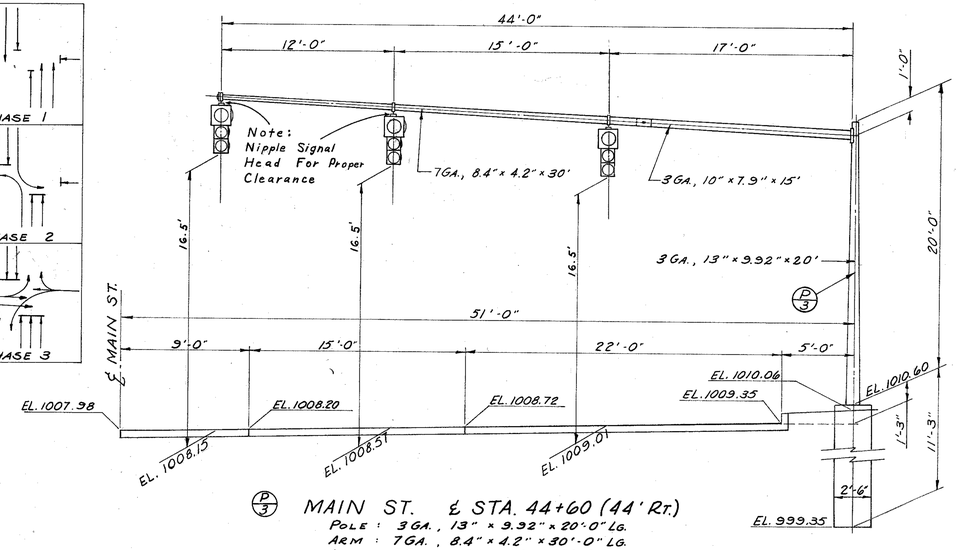
SUMMIT COUNTY
SUM - 277 - 0.46



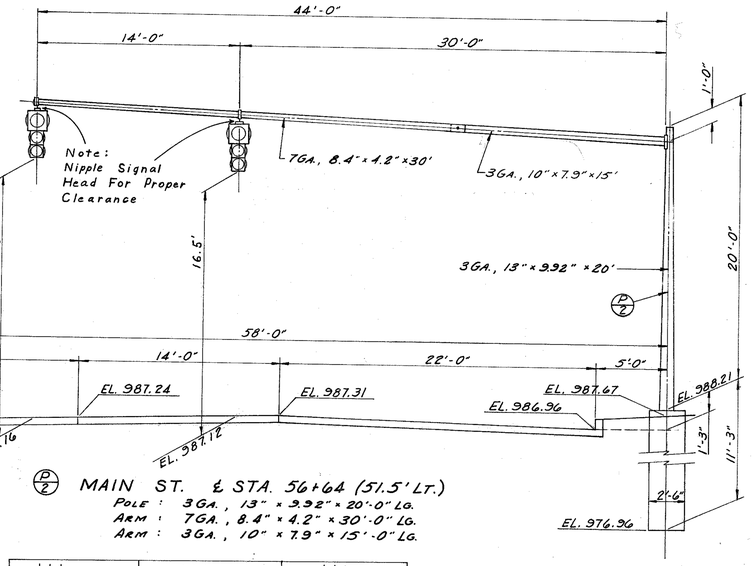


P1 MAIN ST. ℄ STA. 57+33 (44' RT.)
POLE : 3GA., 13" x 9.92" x 20'-0" LG.
ARM : 7GA., 8.4" x 4.5" x 28'-0" LG.
ARM : 3GA., 10" x 7.9" x 15'-0" LG.

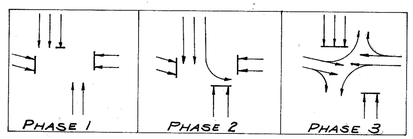


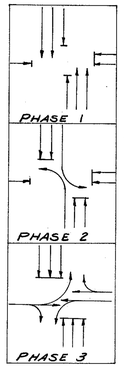


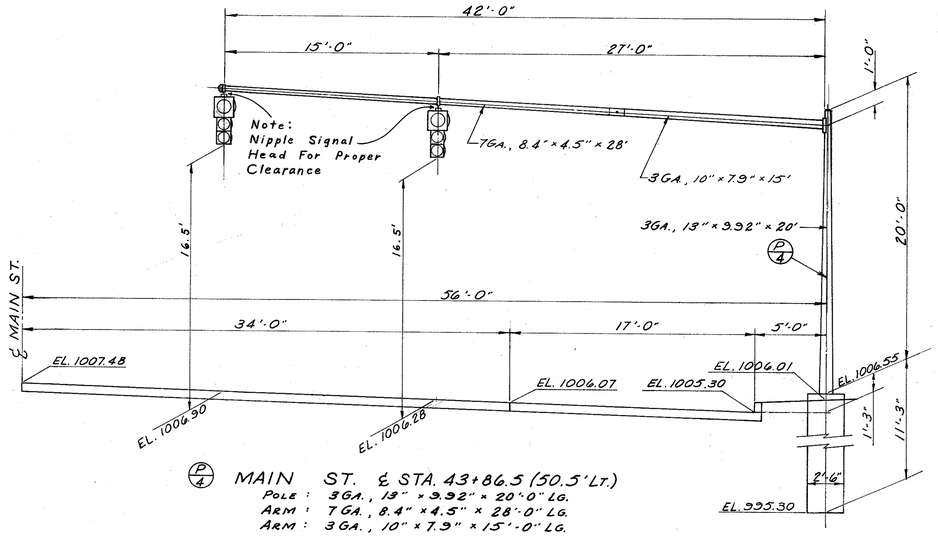
P3 MAIN ST. ℄ STA. 44+60 (44' RT.)
POLE : 3GA., 13" x 9.92" x 20'-0" LG.
ARM : 7GA., 8.4" x 4.2" x 30'-0" LG.
ARM : 3GA., 10" x 7.9" x 15'-0" LG.



P2 MAIN ST. ℄ STA. 56+64 (51.5' LT.)
POLE : 3GA., 13" x 9.92" x 20'-0" LG.
ARM : 7GA., 8.4" x 4.2" x 30'-0" LG.
ARM : 3GA., 10" x 7.9" x 15'-0" LG.







P4 MAIN ST. ℄ STA. 43+86.5 (50.5' LT.)
POLE : 3GA., 13" x 9.92" x 20'-0" LG.
ARM : 7GA., 8.4" x 4.5" x 28'-0" LG.
ARM : 3GA., 10" x 7.9" x 15'-0" LG.

NOTE:
FOR DETAILS SEE SHEET No. 290.
FOR PLAN SEE SHEET No. 287.

MAIN ST.
TRAFFIC SIGNAL DETAILS

E.&E.

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-G(1)124	

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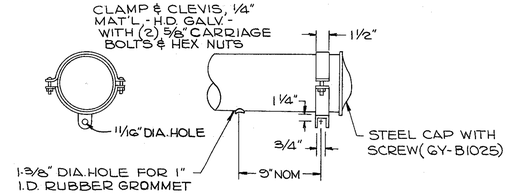
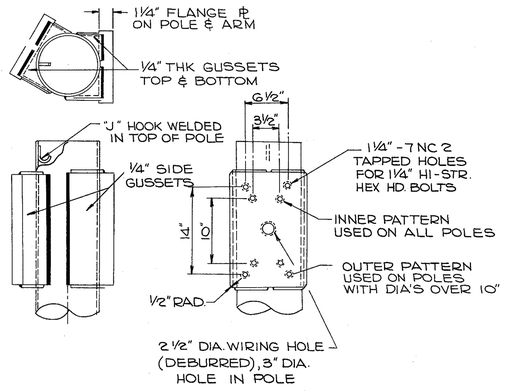
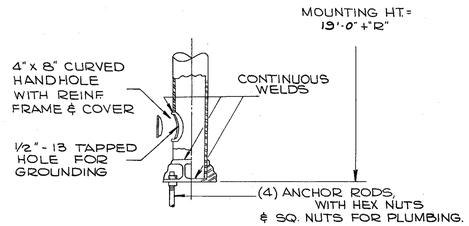
SUMMIT COUNTY
SUM-277-0.46



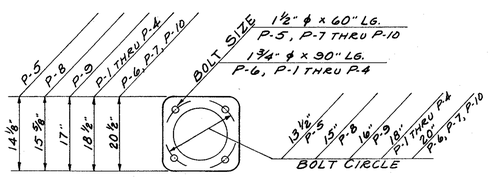
SIGNAL HANGER DETAIL



ARM ATTACHMENT DETAIL

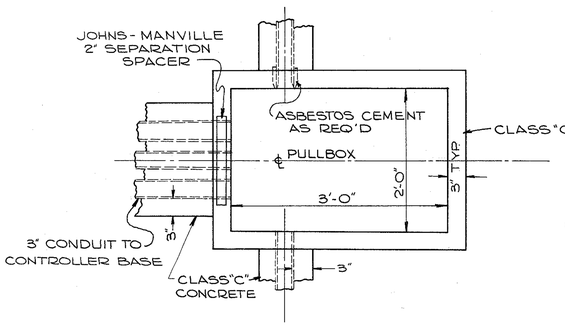


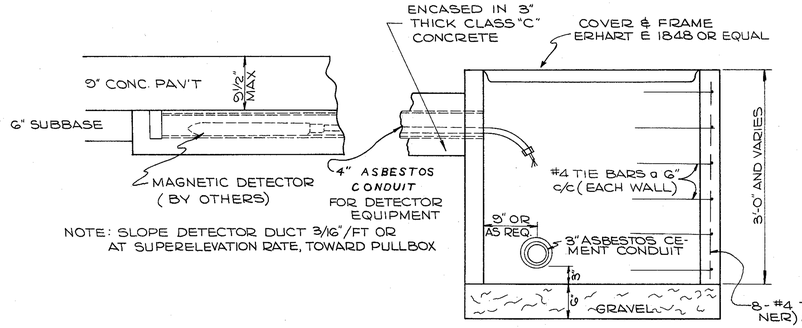
SIGNAL POLE HANDHOLE DETAIL



ANCHOR BASE

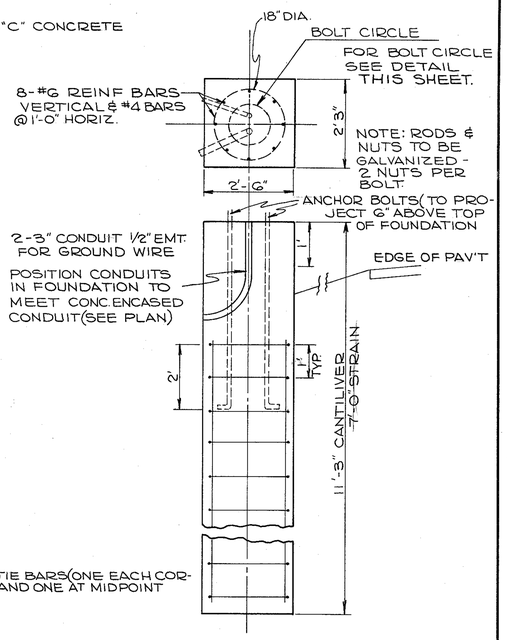
NOTE:
FOR PLAN SEE SHEETS No. 286 & 287.
FOR SIGNAL POLE ELEVATIONS SEE SHEETS No 288 & 289.





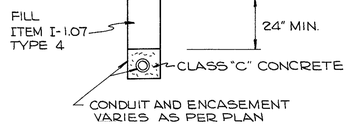
NOTE: SLOPE DETECTOR DUCT 3/16"/FT OR AT SUPERELEVATION RATE, TOWARD PULLBOX

24" PULLBOX DETAIL (PB/A)

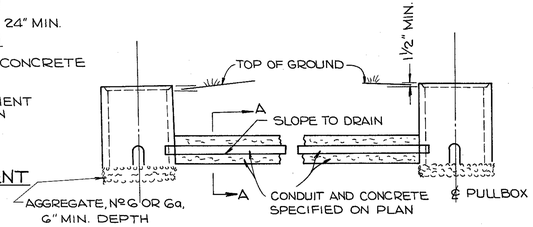


SIGNAL POLE FOUNDATION DETAIL

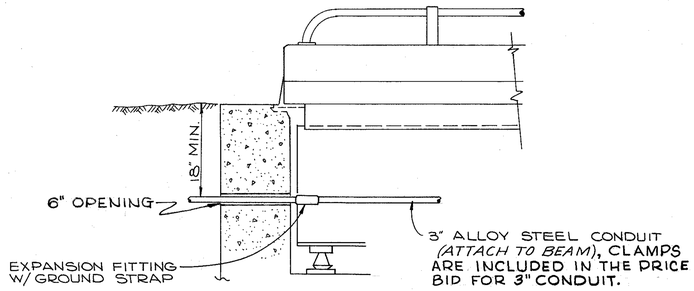
NOTE: ALL ANCHOR BOLTS, NUTS, GALVANIZING, REINFORCING STEEL, CONDUIT AND EXCAVATION TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "C" CONCRETE.



SECTION "A"-"A"
DETAIL UNDER PAVEMENT
(FILL ITEM TO BE INCLUDED PRICE BID PER LIN. FT. OF CONDUIT.)

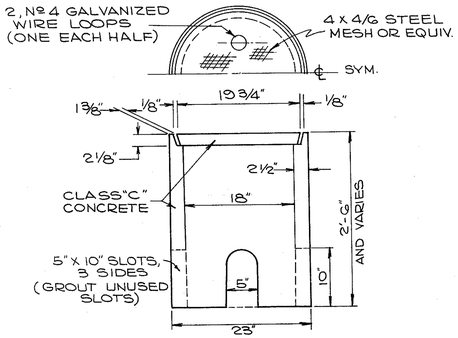


TYPICAL CONDUIT CROSSOVER AND CONNECTOR DETAIL



EXPANSION JOINT LOCATION DETAIL

SEE SIGNAL PLAN SHEET No 287.



18" PULLBOX DETAIL (PB/1)

SIGNAL PLAN DETAILS

K.&E.

MAY 23

STRUCTURAL GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

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22 ABUTMENT BACKWALL

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER THE STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS POURED.

23 POROUS BACKFILL

POROUS BACKFILL 1-6' THICK, FULL LENGTH OF ABUTMENTS SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB, OR TO THE FINISHED GROUND SURFACE UNLESS OTHERWISE SHOWN. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU.YD. PAID FOR POROUS BACKFILL.

24 BRIDGE SEAT REINFORCING

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

25 PARAPET WALL

1/4" GRAY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF SECTION 705.03 AASHO M153 (INCLUDE WITH ITEM 511 FOR PAYMENT.)

27 PLATE GIRDER DETAILS

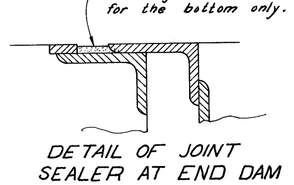
FIELD SPLICES IN GIRDERS WILL BE ALLOWED ONLY WHEN SHOWN ON THE DESIGN DRAWINGS OR WITH THE WRITTEN PERMISSION OF THE DIRECTOR.

INTERMEDIATE STIFFENERS OF WELDED, BUILT-UP GIRDERS SHALL HAVE CONTACT BEARING WITH THE COMPRESSION FLANGE, BUT MAY HAVE A CLEARANCE OF NOT MORE THAN 1/8 INCH FROM THE TENSION FLANGE, AT THE LOCATIONS SHOWN ON THE DESIGN DRAWINGS AND ON THE SHOP DETAILS. IN SHOP PAINTING, CARE SHALL BE TAKEN TO MAKE CERTAIN THAT PAINT IS FORCED THROUGH FROM ONE SIDE TO THE OTHER OF THE 1/8" OPENING

ALL INTERMEDIATE STIFFENERS SHALL BE IN PAIRS.

REFERENCE shall be made to the appropriate Standard Drawings and Supplemental Specifications as indicated in the following table.

REFERENCE			BRIDGE NO. SUM- 277						
			0070	0071	0131	0199	0216	0240	0259
STANDARD DRAWING									
NUMBER	SHEETS	DATE							
AR-1-57	–	4-2-62	–	–	–	–	x	–	–
AS-1-54	–	8-10-65	x	x	x	x	–	x	x
BR-1-65	1	11-24-65	–	x	x	x	–	x	x
CS-1-65	1	6-1-65	x	–	–	–	–	–	–
FSB-1-62	–	1-15-63	–	–	x	x	x	x	x
SD-1-63	1,2,3+4	11-12-63	–	–	x	x	x	x	x
SD-2-64	–	11-25-64	–	–	x	x	x	x	x
SUPPLEMENTAL SPECIFICATION									
NUMBER		DATE							
808		2-7-66	x	x	x	x	x	x	x
811		3-29-65	–	–	x	x	x	x	x
825		4-22-65	x	x	x	x	x	x	x
~~828~~		3-21-66	–	–	x	x	x	x	x



DETAIL OF JOINT SEALER AT END DAM

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

STRUCTURAL GENERAL NOTES

PROJECT SUM-277-0.46

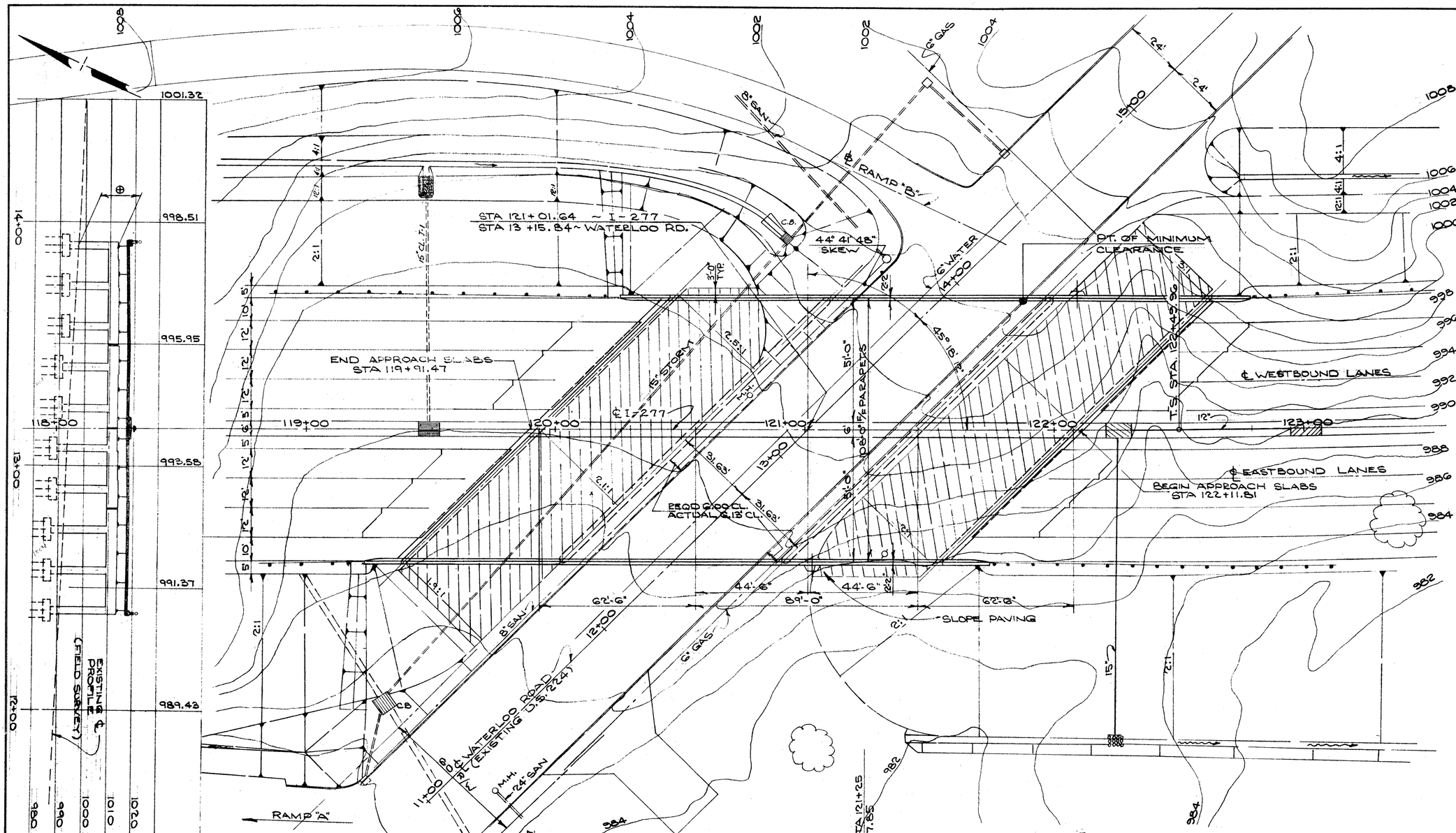
SUMMIT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				RBH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

294
383

SUM-277-0.46



ALL PILES 12" CAST-IN-PLACE CONC.
AVERAGE ESTIMATED PAY LENGTHS FOR PILES

PIERS = 65'

℄ MIN. VERTICAL CLEARANCE
DESIGN : 15.00'
ACTUAL: 15.25'

CURVE DATA

L_S = 300'
Θ_S = 3°45'
L.T. = 200.04'
S.T. = 100.04'
T_S 1273.95
P.I. STA 135+28.91
Δ = 52°13'00" LT.
D_C 2°30'00"
R 2291.83'
L_C 1788.67'

PROPOSED STRUCTURE

TYPE: COUTINUOUS STEEL BEAM WITH REINF. CONC DECK & SUBSTRUCT
SKEW: 44° 41' 48" L.F.
SPANS: 62'-6", 89'-0" 62'-6" ℄ BRGS.
ROADWAY 108'-0" ℄ PARAPETS
LOAD FREQUENCY CF 2000 (1957)
ADEQUATE FOR AASHO ALT LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: 60' CONCRETE SLOPE PROTECTION
TRAFFIC:
I-277 - 34,010, 1975 ADT
WATERLOO RD 11,500 1975 ADT

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SITE PLAN

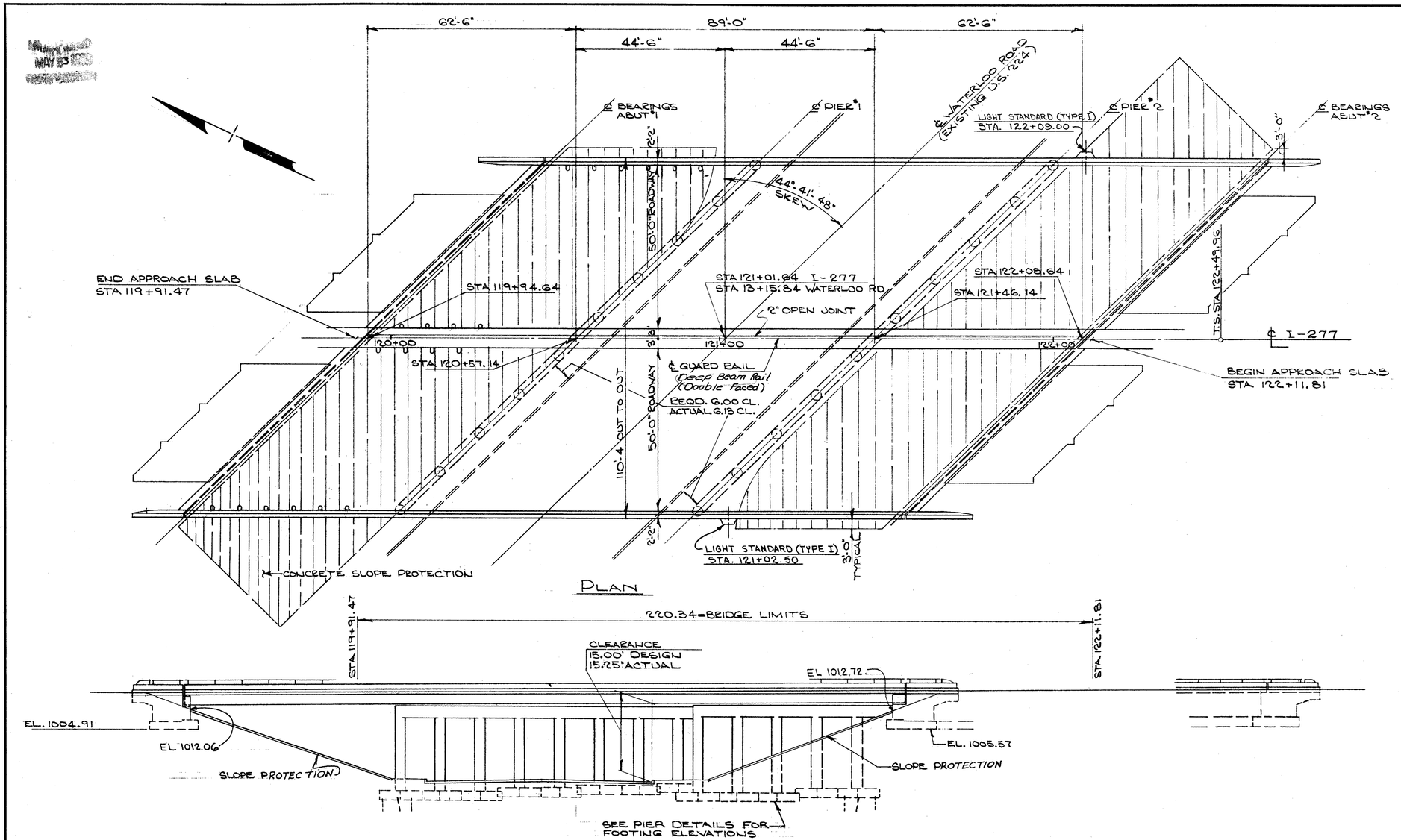
BRIDGE N° SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP RDH	MHC	JWW	CRS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

295
383

SUM-277-0.46



SEE SHTS. 291 & 292 FOR STRUCTURAL GENERAL NOTES N° 1-4, 6, 8, 10, 11, 13, 14, 16, 18-26, 28

SEE SHT. 293 FOR STRUCTURAL DETAILS

* AASHO M153

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
503	1268	CU.YDS	UNCLASSIFIED EXCAVATION		804	464	
511	690	CU.YDS	CLASS 'C' CONC. SUPERSTRUCTURE	690			
511	369	CU.YDS	CLASS 'E' CONC. ABUTS ABOVE FOOTINGS		369		
511	223	CU.YDS	CLASS 'C' CONC. PIERS ABOVE FOOTINGS			223	
511	340	CU.YDS	CLASS 'E' CONC. PIER & ABUT FOOTINGS		160	180	
825	2855	SQ.YDS	CONCRETE SURFACE TREATMENT	2761	94		
828	140	LIN.FT.	JOINT SEALER (END DAM)	140			
512	113	LIN.FT.	WATERPROOF PREMOLDED SEALING STRIP		113		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
509	326954	LBS	REINFORCING STEEL	228,746	26,404	71,804	
513	729,858	LBS	STRUCTURAL STEEL	729,858			
514	729,858	LBS	FIELD PAINT STRUCTURAL STEEL	729,858			
516	91	SQ.FT.	1" PREFORMED EXP. JT. FILLER*		91		
516	160	SQ.FT.	½" PREFORMED EXP. JT. FILLER*		160		
517	487.95	LIN.FT.	RAILING (TYPE 1)	432.95	55.00		
517	220.34	LIN.FT.	(DOUBLE FACED Deep Beam Rail With Steel posts and bolts.)	220.34			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
505	LUMP	SUM	FIRST TEST PILE				LUMP
507	7020	LIN.FT.	12" ϕ CAST-IN-PLACE REINF. CONC. PILES			7020	
625			SEE ELECT. DWGS.				
518	161	CU.YDS	POROUS BACKFILL		161		
518	295	LIN.FT.	6" PERFORATED HELICAL C.M.P. 707.06 INCLUDING SPECIALS.		295		
518	280	LIN.FT.	6" HELICAL C.M.P., 707.06 NON-PERFORATED		280		
518	20	EACH	SCUPPERS (INCLUDING SUPPORTS)	20			
601	1841	SQ.YDS	CONCRETE SLOPE PROTECTION				1841
808	690	UNITS	WATER REDUCING SET RETARDING ADMIX.	690			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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GENERAL PLAN & ELEVATION

BRIDGE N° SUM-277-0259
OVER WATERLOO ROAD
I-277 — SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP RDH	JWW		CAS	RDH	3-14-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM.-277-046

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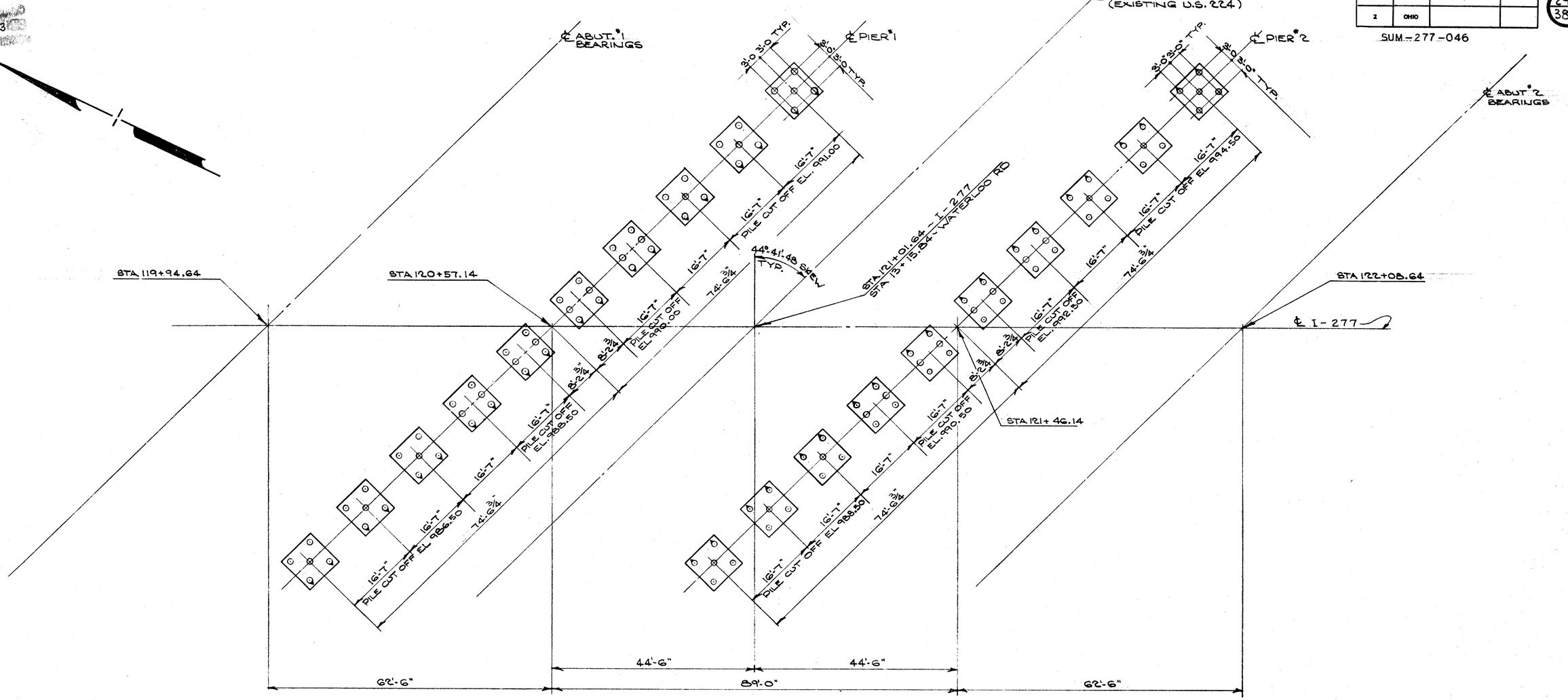
383



PILING PLAN

NOTE
ALL PILES SHALL BE 12" MIN. TOP DIA CAST IN PLACE REINFORCED CONCRETE PILES

◀O INDICATES 1:4 BATTERED PILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PILING PLAN

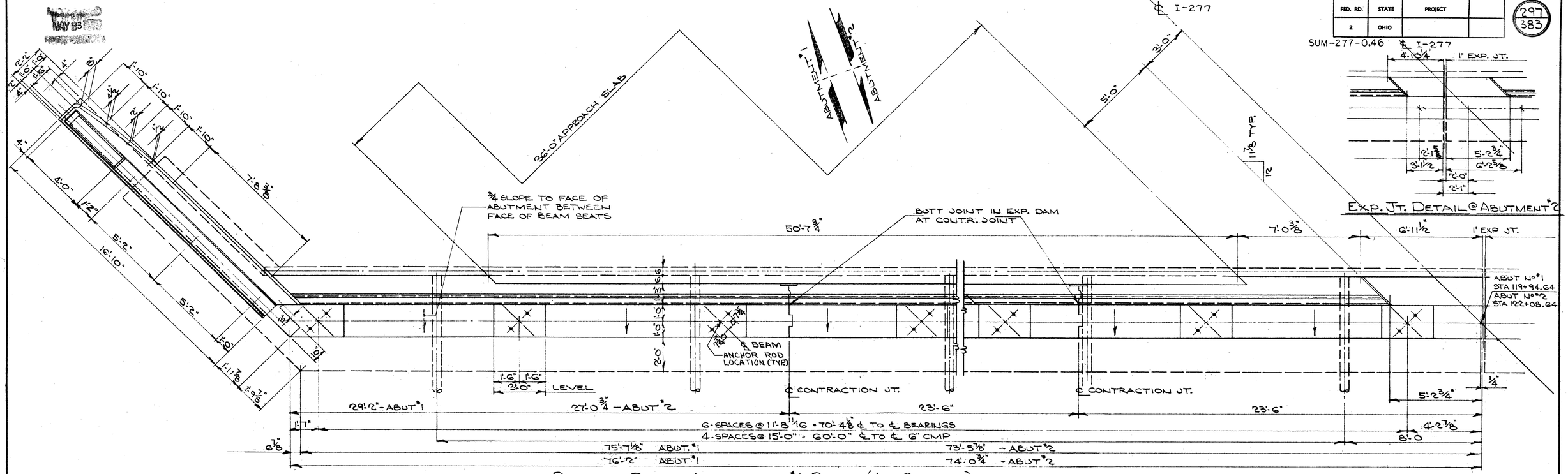
BRIDGE N° SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CLS	ROH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

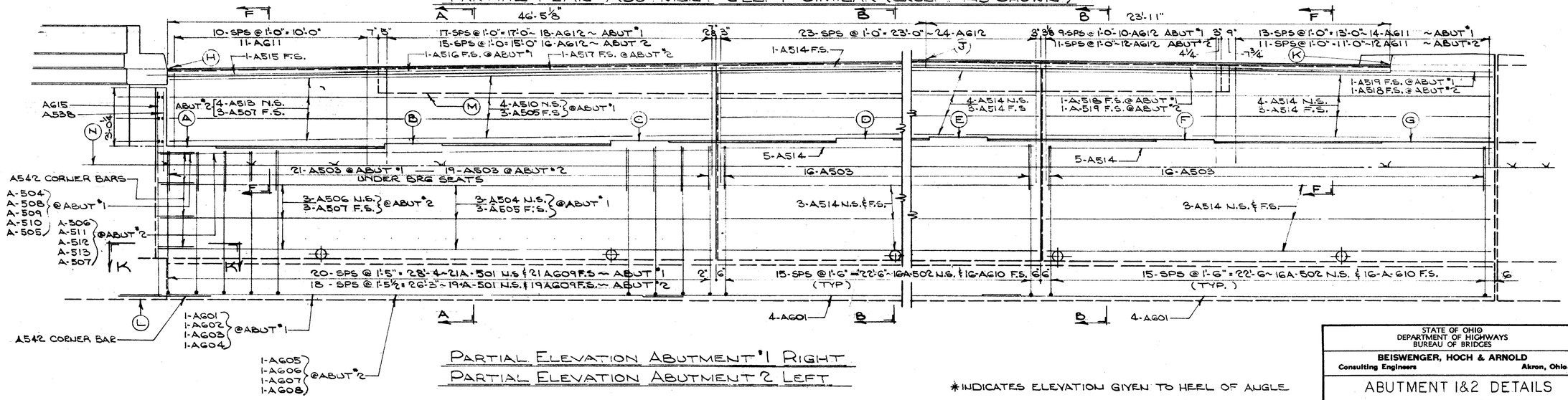
297
383

SUM-277-0.46



EXP. JT. DETAIL @ ABUTMENT 2

PARTIAL PLAN ABUTMENT 1 RIGHT (AS SHOWN)
PARTIAL PLAN ABUTMENT 2 LEFT SIMILAR (EXCEPT AS SHOWN)



PARTIAL ELEVATION ABUTMENT 1 RIGHT
PARTIAL ELEVATION ABUTMENT 2 LEFT

*INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

ELEVATION TABLE

	A	B	C	D	E	F	G	H *	J *	K *	L	M	N	P	R
ABUT 1	1013.06	1013.19	1013.33	1013.45	1013.58	1013.44	1013.32	1017.10	1017.61	1017.36	1004.91	1015.99	1012.06	1017.18	1017.20
ABUT 2	1013.75	1013.87	1014.00	1014.11	1014.22	1014.15	1014.04	1017.76	1018.25	1018.07	1005.57	1016.65	1012.72	1017.87	1017.90

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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ABUTMENT 1&2 DETAILS

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JWW		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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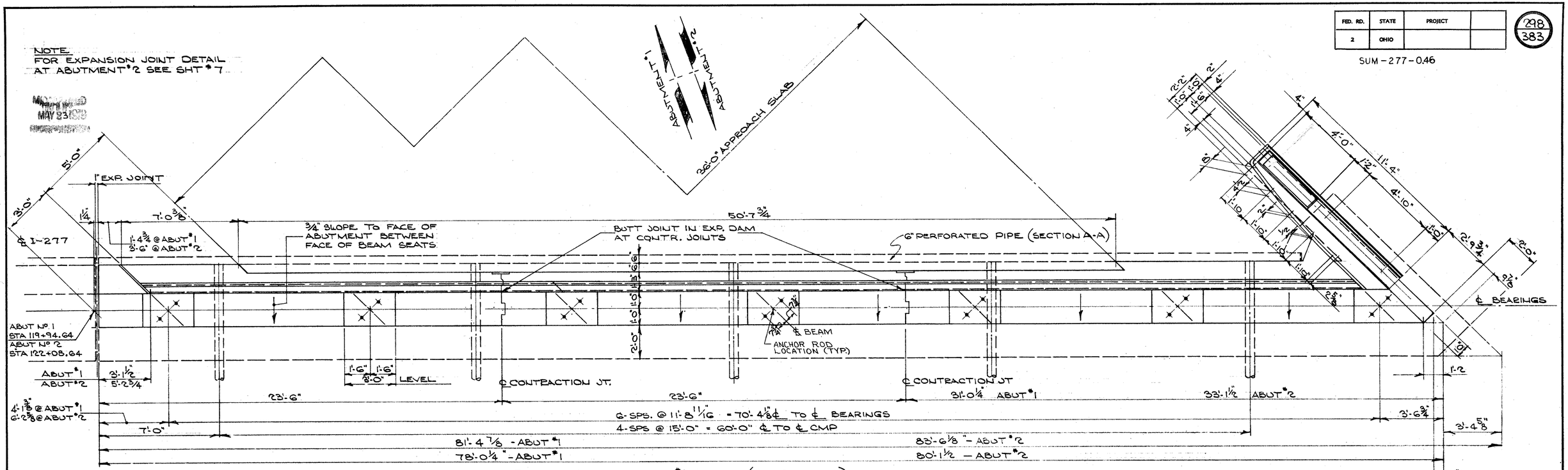
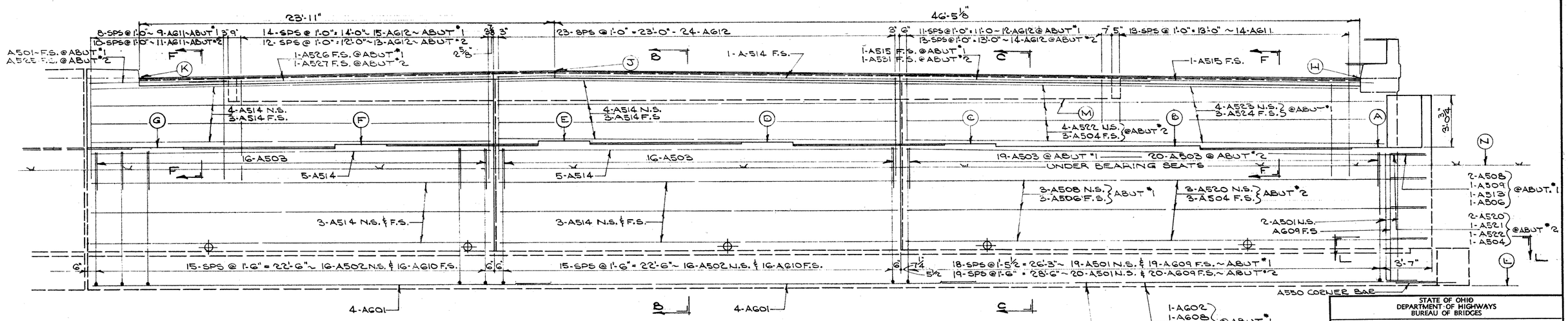
SUM-277-0.46

NOTE
FOR EXPANSION JOINT DETAIL AT ABUTMENT #2 SEE SHT #7

MAY 23



PLAN ABUTMENT #1 LEFT (AS SHOWN)
PLAN ABUTMENT #2 RIGHT SIMILAR (EXCEPT AS SHOWN)



ELEVATION ABUTMENT #1 LEFT
ELEVATION ABUTMENT #2 RIGHT

*INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

ELEVATION TABLE

	A	B	C	D	E	F	G	H*	J*	K*	L	M	N	P	R
ABUT #1	1013.15	1013.27	1013.38	1013.50	1013.60	1013.46	1013.32	1017.19	1017.64	1017.36	1004.91	1016.05	1012.06	1017.27	1017.25
ABUT #2	1013.72	1013.86	1013.98	1014.09	1014.18	1014.09	1013.99	1017.75	1018.22	1018.04	1005.57	1016.68	1012.72	1017.84	1017.90

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1&2 DETAILS

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JWW		CWS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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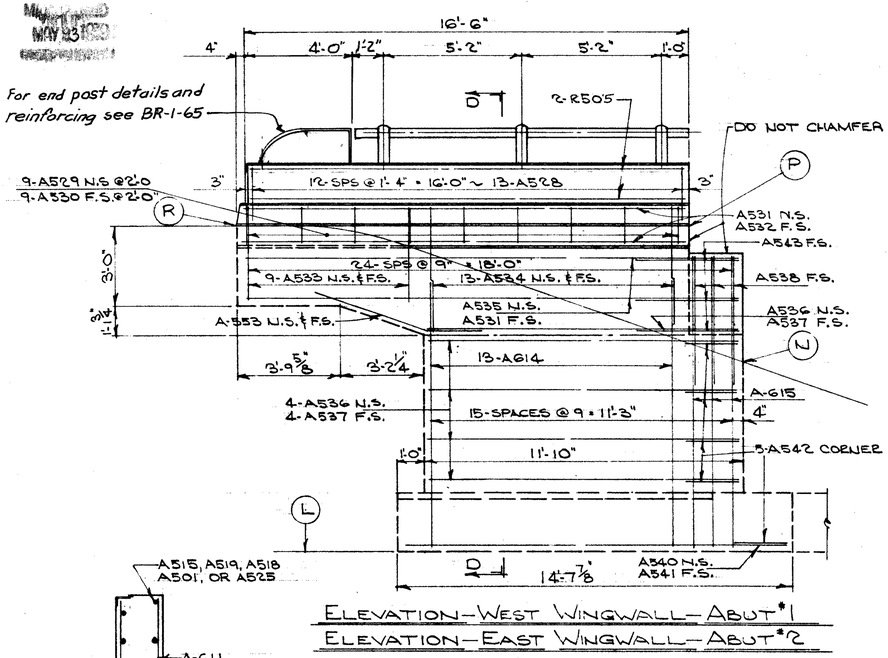
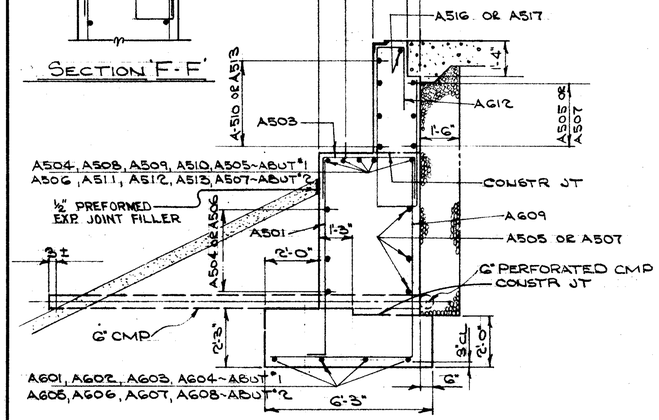
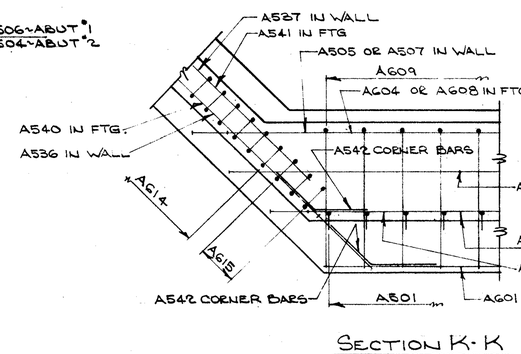
SUM-277 – 0.46



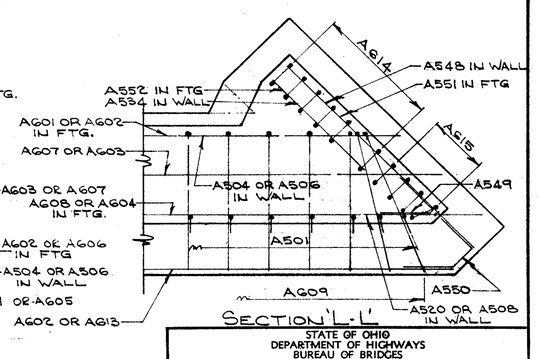


SECTION 'B-B'
FOR DETAILS NOT SHOWN SEE SECTION 'A-A'

SECTION 'C-C'
FOR DETAILS NOT SHOWN SEE SECTION 'A-A'



SECTION K-K



SECTION L-L

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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Consulting Engineers — Akron, Ohio

ABUTMENT DETAILS

BRIDGE N° SUM-277-0259
OVER WATERLOO ROAD

I-277 — SUMMIT COUNTY

STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JWJ		CRS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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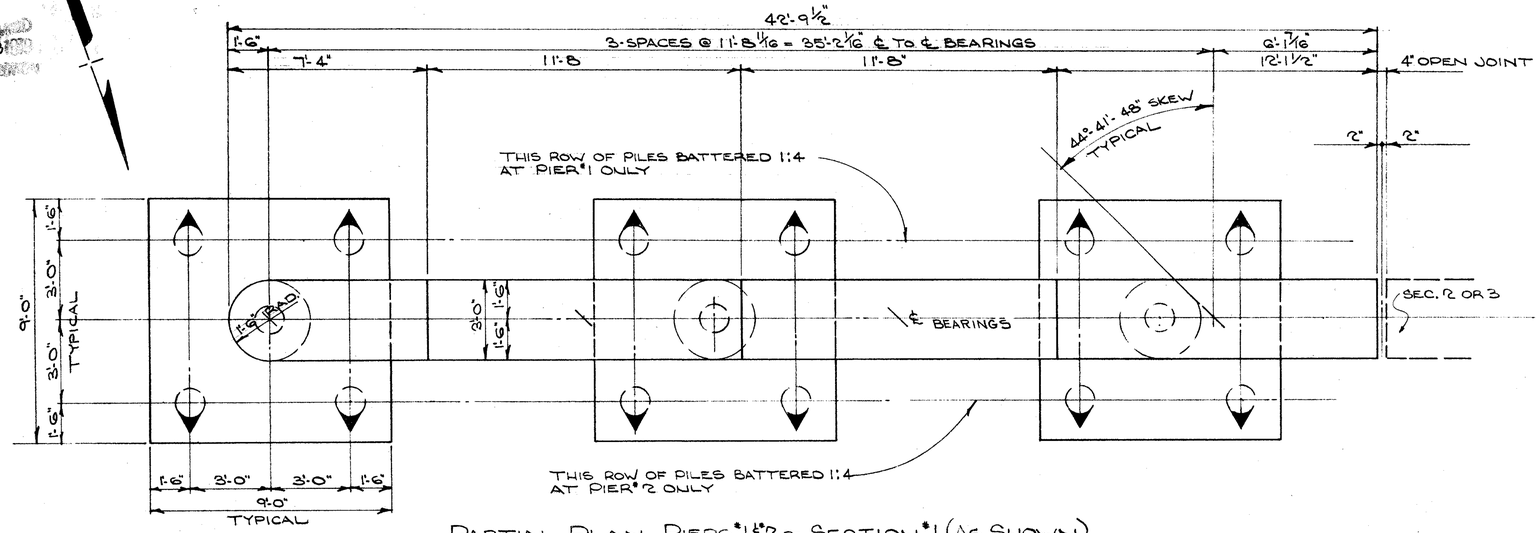
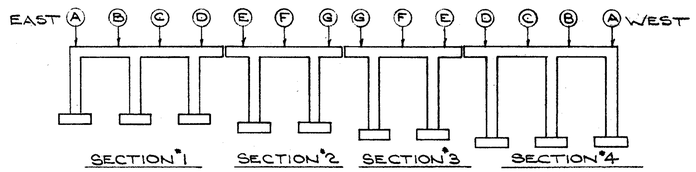
SUM - 277-0.46

ELEVATION TABLE							
	A	B	C	D	H	K	L
PIER #1 SECTION #1	1012.90	1013.00	1013.10	1013.20	1009.14	990.00	16-1 5/8"
PIER #1 SECTION #4	1012.64	1012.78	1012.92	1013.07	1009.14	985.50	20'-7 5/8"
PIER #2 SECTION #1	1013.50	1013.63	1013.75	1013.87	1009.66	998.50	13'-1 7/8"
PIER #2 SECTION #4	1013.16	1013.31	1013.49	1013.65	1009.66	987.50	19'-1 7/8"

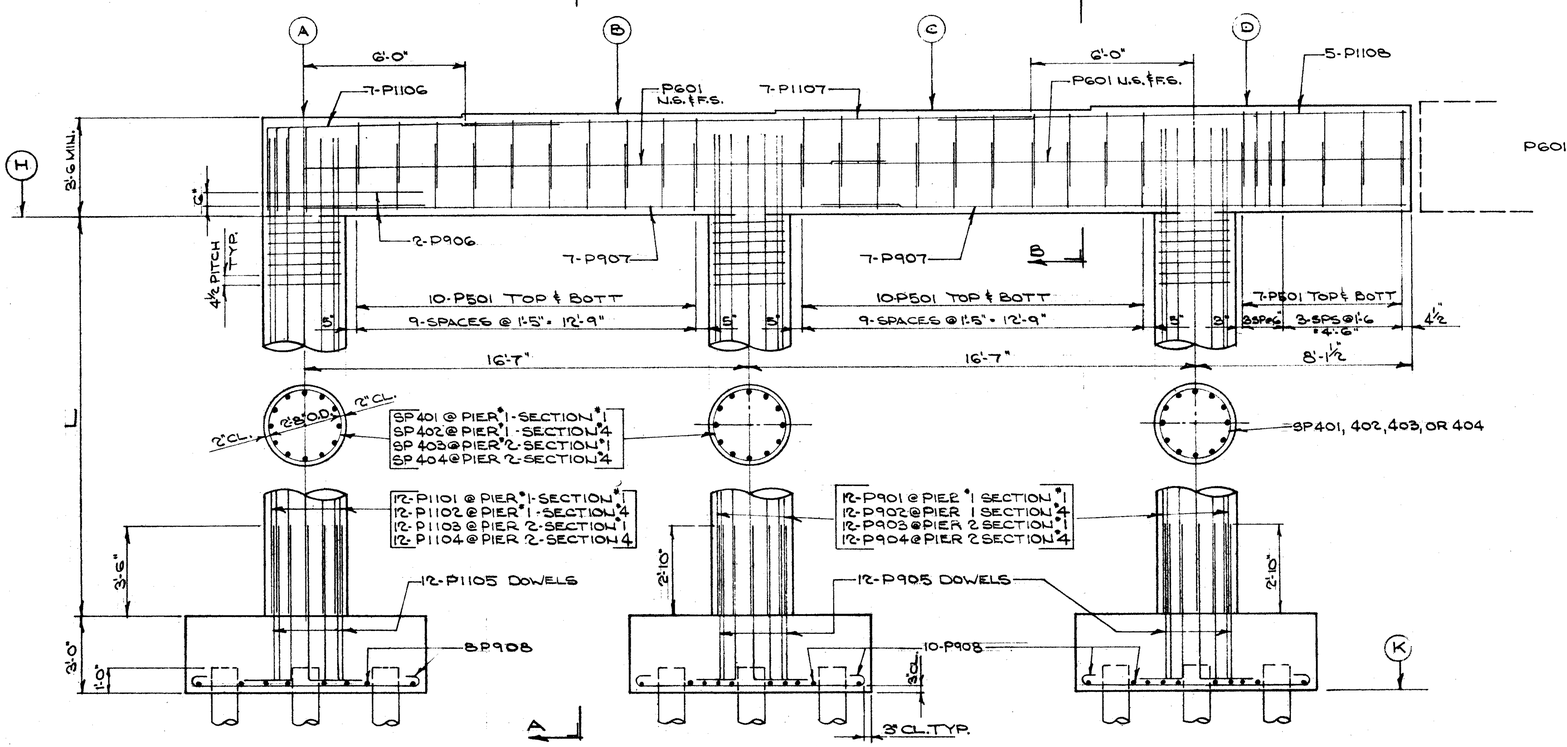


PARTIAL PLAN PIERS #1 & #2 ~ SECTION #1 (AS SHOWN)

PARTIAL PLAN PIERS 1 & 2 ~ SECTION #4 (OPPOSITE HAND EXCEPT FOR SKEW)

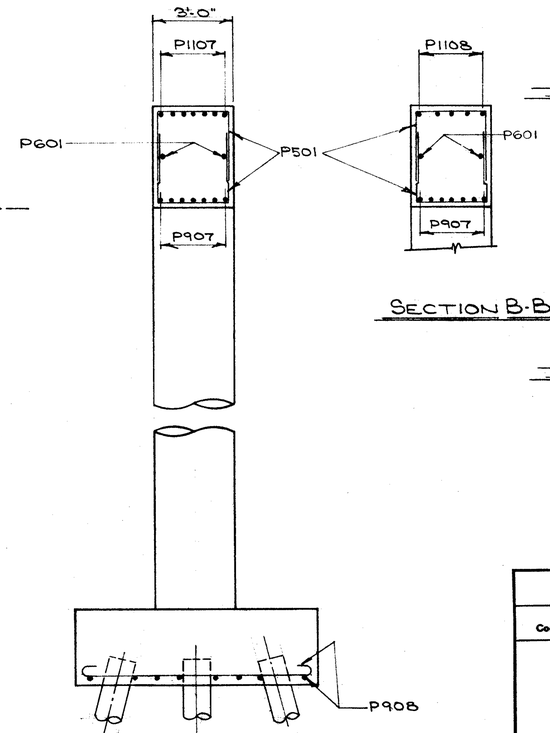


KEY PLAN - PIERS #1 & #2



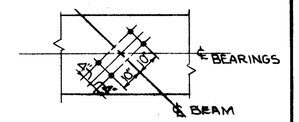
PARTIAL ELEVATION PIERS #1 & #2 ~ SECTION #1 (AS SHOWN)

PARTIAL ELEVATION PIERS 1 & 2 ~ SECTION #4 (SIMILAR EXCEPT OPPOSITE HD)

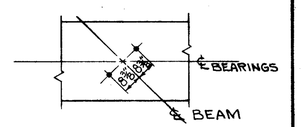


SECTION B-B

SECTION 'A-A'



PIER № 1 ANCHOR ROD LOCATIONS
TYPICAL



PIER № 2 ANCHOR ROD LOCATIONS
TYPICAL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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Consulting Engineers — Akron, Ohio

PIERS 1 & 2 DETAILS

BRIDGE № SUM-277-0259
OVER WATERLOO ROAD

I-277 — SUMMIT COUNTY

STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JWW		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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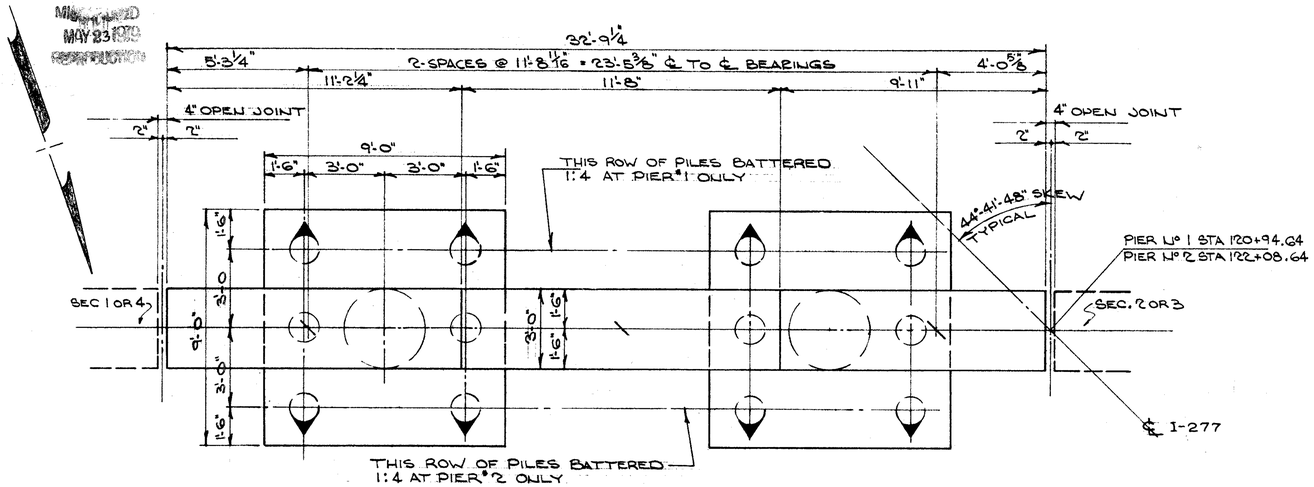
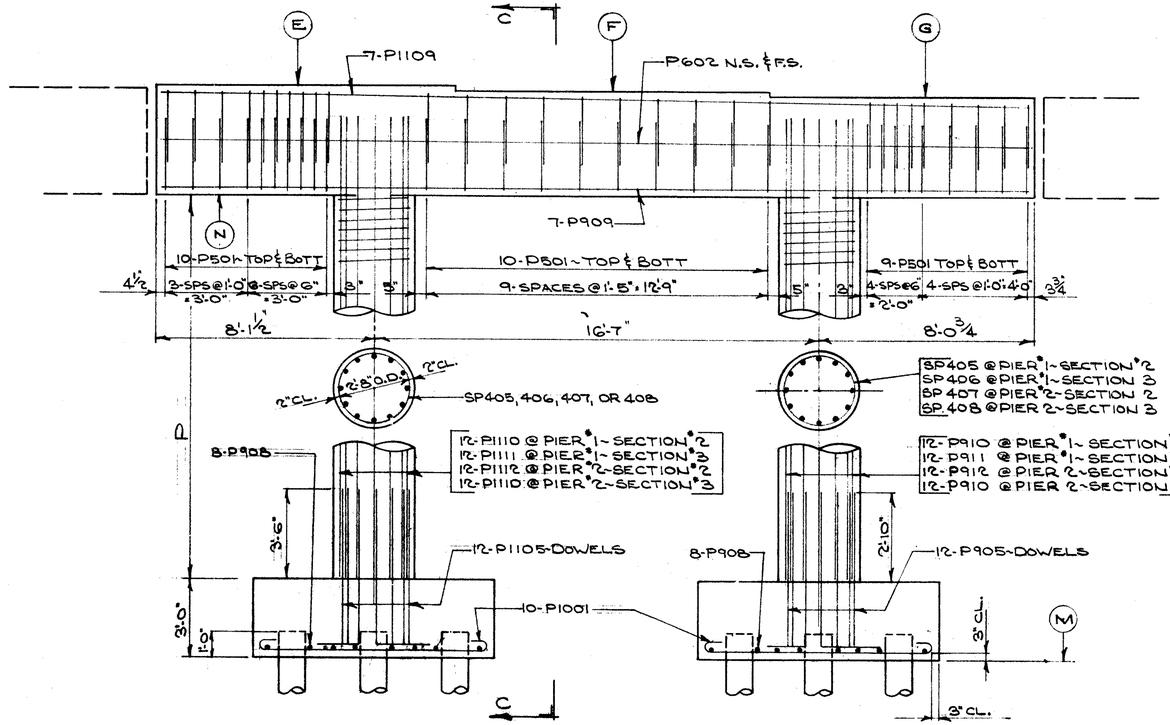
SUM-277-0.46



PARTIAL PLAN PIERS #1 & #2 ~ SECTION #2 (AS SHOWN)

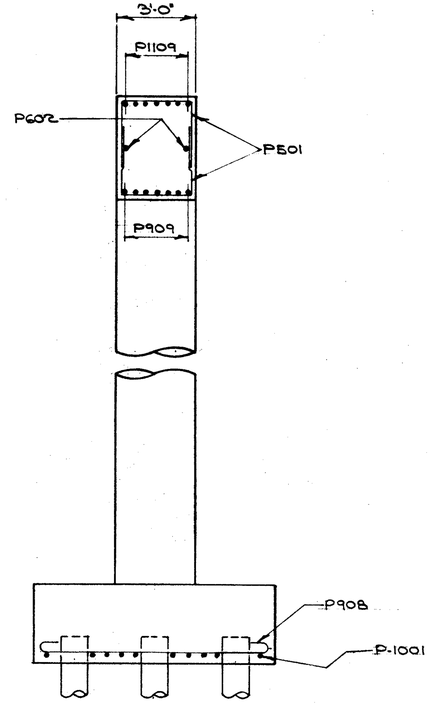
PARTIAL PLAN PIERS #1 & #2 ~ SECTION #3 (OPPOSITE HAND EXCEPT FOR SKEW)

ELEVATION TABLE						
	E	F	G	M	N	P
PIER #1 SECTION #2	1013.30	1013.14	1012.99	989.00	1009.14	17'-1 5/8"
PIER #1 SECTION #3	1013.20	1013.09	1012.98	987.50	1009.14	18'-7 5/8"
PIER #2 SECTION #2	1013.95	1013.79	1013.63	991.50	1009.66	15'-7 1/8"
PIER #2 SECTION #3	1013.79	1013.70	1013.60	989.50	1009.66	17'-1 7/8"



PARTIAL ELEVATION PIERS #1 & #2 ~ SECTION #2 (AS SHOWN)

PARTIAL ELEVATION PIERS #1 & #2 ~ SECTION #3 (SIMILAR EXCEPT OPPOSITE HD.)



SECTION 'C-C'

NOTE
FOR KEY PLAN SEE SHT. No 300
SEE SHEET No 300 FOR DETAILS NOT SHOWN.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS 1 & 2 DETAILS

BRIDGE No SUM-277-0259
OVER WATERLOO ROAD
I-277 — SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JWW		CLS	EDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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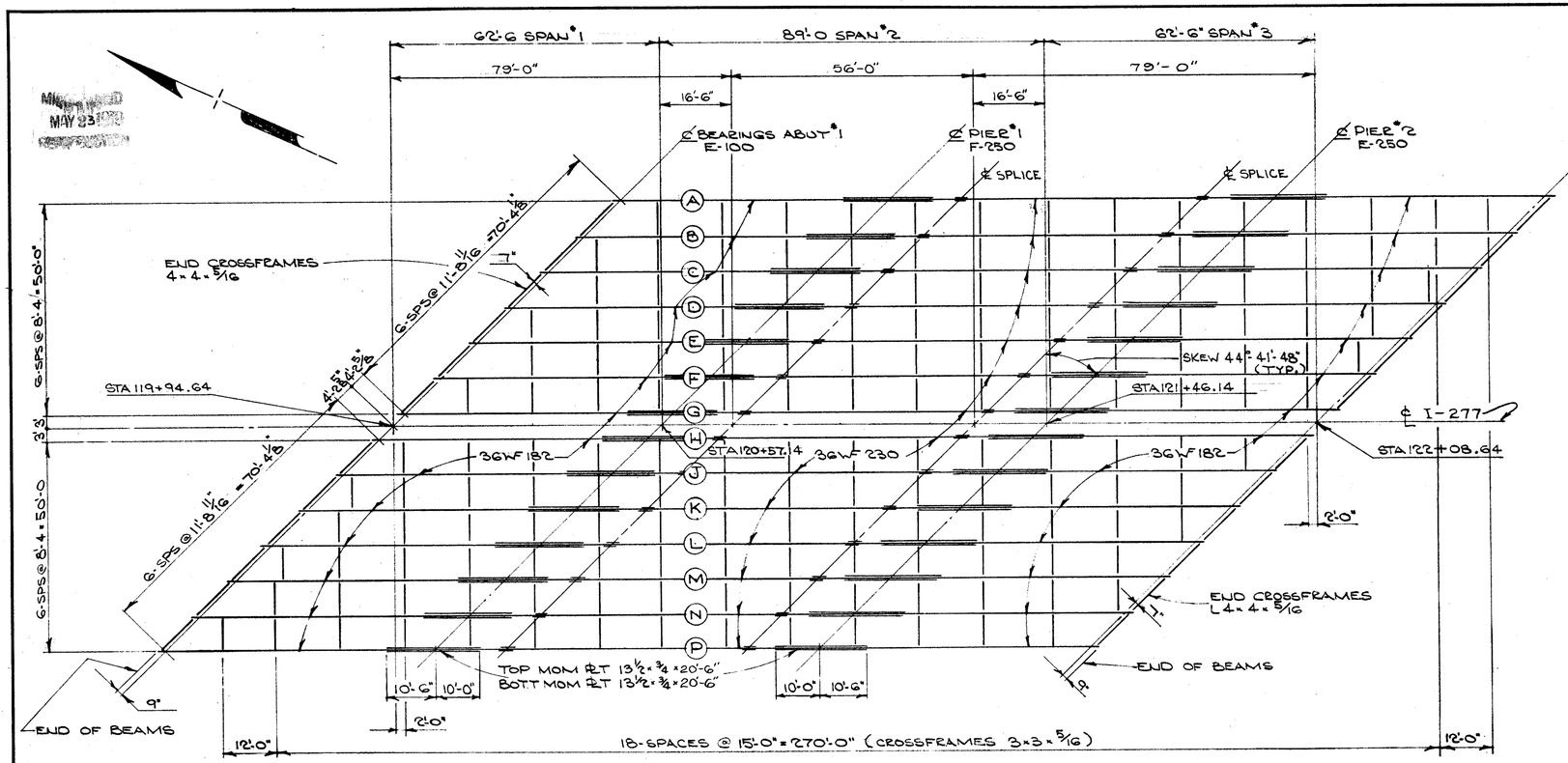
SUM – 277 – 0.46

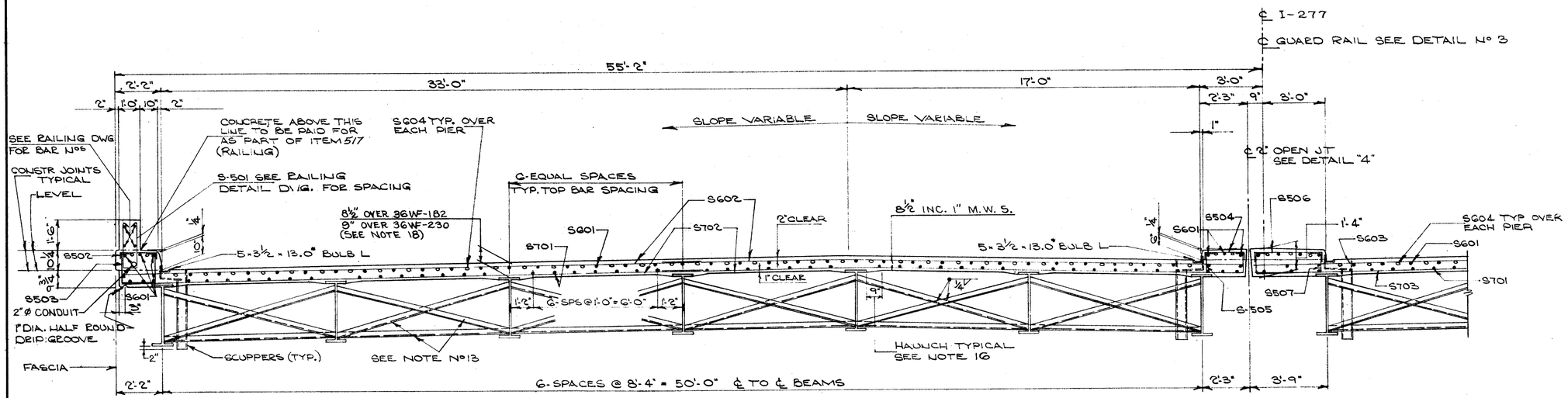
MAY 33



FRAMING PLAN

DEFLECTION & CAMBER

LOCATION	A	B	C	D	E	F	G	H	J
DEFLECTION DUE TO WEIGHT OF STEEL	.044"	.003"	-.001"	.095"	.226"	.095"	-.001"	.003"	.004"
DEFLECTION DUE TO REMAINING DEAD LOAD	.218"	.014"	-.004"	.851"	.836"	.351"	-.004"	.014"	.218"
CONVEXITY REQUIRED FOR VERTICAL CURVE	-.110"	-.150"	-.110"	-.183"	-.304"	-.183"	0	0	0
SUM OF DEFLECTION AND CONVEXITY	.152"	-.133"	-.105"	.263"	.758"	.263"	-.005"	.017"	.222"
REQUIRED CAMBER	0	0	0	1/4"	3/4"	1/4	0	0	0



PARTIAL TRANSVERSE SECTION
(SYMMETRICAL ABOUT ℄ EXCEPT AS SHOWN)

SEE STANDARD DRAWING SD-2-64 FOR BEAM SPLICE DETAILS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING & SLAB DETAILS

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD

I-277 — SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RBH	JWW		CAS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

US - 277-0.46

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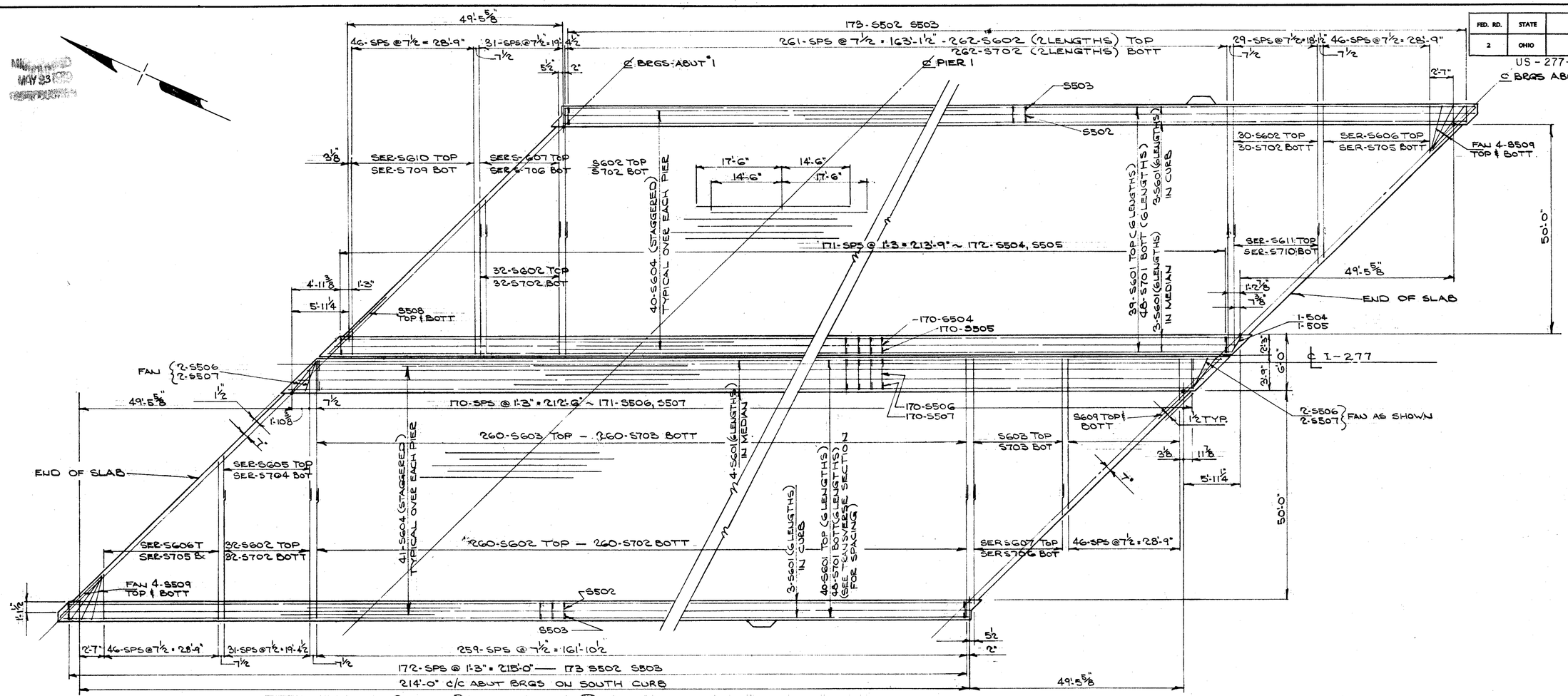
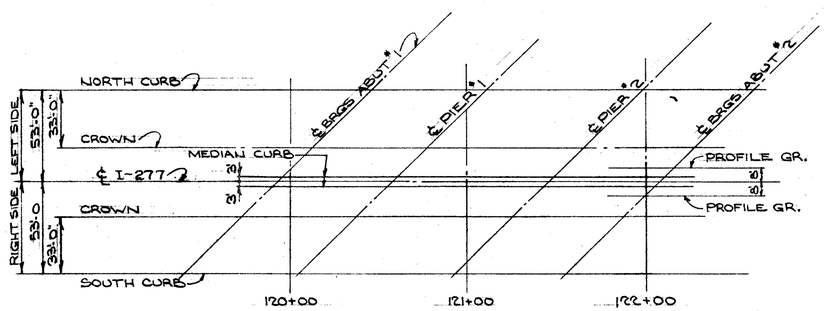


SLAB REINFORCING PLAN



PLAN

TABLE OF FINISHED PAVEMENT ELEVATIONS

	STATION	119+50	+75	120+00	+25	+50	+75	121+00	+25	+50	+75	122+00	+25	+50
LEFT SIDE	NORTH CURB					1017.28	1017.35	1017.43	1017.53	1017.63	1017.73	1017.77	1017.81	1017.85
	CROWN				1017.75	1017.80	1017.86	1017.94	1018.04	1018.14	1018.25	1018.29	1018.33	
	PROFILE GR.											1018.17		
	MEDIAN CURB			1017.45	1017.48	1017.53	1017.59	1017.68	1017.78	1017.88	1017.98	1018.09		
RIGHT SIDE	MEDIAN CURB			1017.45	1017.48	1017.53	1017.59	1017.68	1017.78	1017.88	1017.98	1018.09		
	PROFILE GR.											1018.16		
	CROWN		1017.69	1017.71	1017.75	1017.80	1017.86	1017.94	1018.04	1018.14	1018.25			
	SOUTH CURB	1017.18	1017.18	1017.20	1017.23	1017.28	1017.35	1017.43	1017.59	1017.77				

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JWW		CRS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

304
383

SUM-277-0.46

MAY 28 1965

216'-2¾" LENGTH OF RAILING

12 PANELS @ 15'-10" = 190'-0"
25 SPACES @ 7'-11" = 197'-11"

LIGHT STANDARD - TYPE I
STA. 122+09.00

13'-1⅜" 7'-11" 1'-2⅜"

54'-2¼"

13'-1⅜" 7'-11" 1'-2⅜"

6'-6" 8'-0" 8'-0" 8'-0"

5 SPS @ 8'-0" = 40'-0"

5-3½"x13.0# BULB L

FACE OF CURB

FACE OF MEDIAN

SCUPPERS (TYPE I) (TYPICAL)

℄ GUARD RAIL

℄ I-277

16 POST SPACES @ 12'-6" = 200'-0"

FACE OF ABUTMENT

FACE OF ABUTMENT

FACE OF MEDIAN

FACE OF CURB

℄ BEARINGS ABUT #1

℄ BEARINGS ABUT #2

LIGHT STANDARD
TYPE I, STA. 121+02.50

53'-9⅞"

3½" 1'-2⅜" 7'-11" 13'-1⅜"

25 SPACES @ 7'-11" = 197'-11"
12 PANELS @ 15'-10" = 190'-0"
216'-2¾" LENGTH OF RAILING

PARTIAL DECK PLAN

9 SPS @ 1'-5" = 12'-9" — 10-S501

2'-2"

10 SPS @ 1'-5" = 15'-6" — 12-S501
TYPICAL FOR ALL 15'-10" PANELS
SEE NOTE #25

2

TYPE I BRIDGE RAILING

2

9 SPS @ 1'-5" = 12'-9" - 10-S501

R501 N.S. & F.S.

R-502 N.S. & F.S.

2" TYP.

R-501 N.S. & F.S.

WEST ELEVATION SHOWN
EAST ELEVATION SIMILAR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RSA	JWW		CLS	RBH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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383

SUM-277-0.46

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
ABUTMENT 1 & 2									
A-501	83	8'-1"	1	6"	7'-8"				700
A-502	128	8'-4"	1	6	7'-11"				1113
A-503	207	8'-2"	3	2'-5"	2'-6"				1763
A-504	11	29'-0"	ST						333
A-505	7	32'-2"	ST						232
A-506	8	26'-10"	ST						224
A-507	7	30'-0"	ST						219
A-508	6	29'-7	ST						185
A-509	2	30'-2"	ST						63
A-510	5	30'-9"	ST						160
A-511	1	27'-5	ST						29
A-512	1	28'-0"	ST						29
A-513	6	28'-6"	ST						178
A-514	148	23'-2"	ST						3576
A-515	5	14'-0"	ST						73
A-516	1	19'-6"	ST						20
A-517	1	17'-6"	ST						18
A-518	2	11'-4"	ST						24
A-519	2	13'-6"	ST						28
A-520	5	31'-9"	ST						166
A-521	1	31'-2"	ST						33
A-522	4	30'-6"	ST						128
A-523	3	28'-3	ST						88
A-524	3	27'-0"	ST						84
A-525	1	10'-2"	ST						10
A-526	1	16'-10"	ST						18
A-527	1	14'-9	ST						16
A-528	44	5'-7"	5	8"	2'-2"	5"			256
A-529	32	3'-1"	3	1'-4"	1'-0"				104
A-530	32	2'-11"	16	1'-4"	1'-0"	10"			97
A-531	9	16'-4"	ST						153
A-532	4	17'-0"	15	9'-6"					71
A-533	68	3'-6"	ST						248
A-534	102	4'-8	ST						496
A-535	4	18'-6"	ST						77
A-536	10	11'-6"	ST						120
A-537	10	9'-6"	ST						99
A-538	14	5'-0"	ST						73
A-540	2	14'-6"	ST						30
A-541	2	12'-8	ST						26
A-542	10	4'-0"	12	2'-0"	2'-0"	1'-5			42
A-543	6	3'-9"	ST						23
A-544	4	11'-0"	ST						46
A-545	4	10'-1"	15	2'-7"					42
A-546	4	13'-9"	ST						57
A-547	4	10'-5	ST.						44
A-548	10	7'-11"	ST						82
A-549	4	4'-4"	17	5"					77
A-550	2	5'-3"	17	1'-4"					11
A-551	2	10'-9"	ST						22
A-552	2	5'-6"	ST						11
A-553	4	6'-3"	12	2'-0"	4'-4"	1'-5½			26
A-554	4	5'-5"	12	2'-0"	3'-6"	1'-6¾			23
A-601	34	26'-6"	ST						1353
A-602	3	28'-3"	ST						127
A-603	2	30'-0"	ST						90
A-604	2	31'-6"	ST						95
A-605	1	24'-4	ST						36
A-606	1	26'-2"	ST						40
A-607	2	27'-10"	ST						84
A-608	2	29'-4	ST						88
A-609	83	12'-11"	1	5'-4	7'-8				1610
A-610	128	13'-2"	1	5'-4"	7'-11"				2531
A-611	96	13'-9"	3	1'-5"	6'-3"				1983
A-612	206	15'-6"	7	4'-11	1'-5"	6'-3"	11"	2'-6"	4798
A-613	1	30'-4"	ST						46
A-614	40	20'-9"	3	1'-2"	9'-11"				1247
A-615	14	19'-6"	4	10'-10"	1'-2"	7'-9"			410
ABUTMENT 1 & 2 TOTAL 26,404									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
SUPERSTRUCTURE									
S-501	328	5'-7	5	8"	2'-2"	5"			1910
S-502	346	2'-3"	3	1'-6"	6				813
S-503	346	4'-8"	18	1'-4"	1'-6"	6"			1685
S-504	173	2'-6"	3	1'-9"	6"				451
S-505	173	4'-3"	18	1'-0"	1'-9"	6"			768
S-506	175	4'-0"	3	3'-3"	6				730
S-507	175	5'-9"	18	1'-0"	3'-3"	6"			1050
S-508	2	7'-0"	ST						15
S-509	16	5'-0"	ST						83
S-521	4	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		49
S-601	552	37'-6"	ST						31,091
S-602	878	27'-10"	ST						36,706
S-603	292	29'-4"	ST						12864
S-604	162	32'-0"	ST						7786
SERIES OF S-605	1-SET OF 32 BARS	VARIES 9'-2" TO 28'-6 @ INCR. 7½	ST						905
SERIES OF S-606	2-SETS OF 47 BARS	VARIES 15'-0" TO 33'-9 @ INCR 7½	ST						2736
SERIES OF S-607	2-SETS OF 32 BARS	VARIES 6'-5" TO 25'-10 @ INCR 7½	ST						1550
SERIES OF S-608	1-SET OF 47 BARS	VARIES 4'-2" TO 32'-11 INCR 7½	ST						1309
S-609	2	9'-0"	ST						27
SERIES OF S-610	1-SET OF 47 BARS	VARIES 7'-8 TO 31'-5 @ INCR. 7½	ST						1208
SERIES OF S-611	1-SET OF 30 BARS	VARIES 9'-2" TO 27'-3 INCR. 7½	ST						820
S-621	24	5'-6"	ST.						198
S-622	8	9'-11"	14	2'-10"	2'-0"	4"			119
S-701	576	37'-8"	ST						44,347
S-702	818	28'-0"	ST						50,249
S-703	292	29'-6"	ST						17,608
SERIES OF S-704	1-SET OF 32 BARS	VARIES 9'-5" TO 28'-9 INCR. 7½	ST						1247
SERIES OF S-705	2-SETS OF 47 BARS	VARIES 5'-0" TO 33'-9 INCR. 7½	ST						3722
SERIES OF S-706	2-SETS OF 32 BARS	VARIES 10'-8" TO 26'-1 @ INCR 7½	ST						2142
SERIES OF S-707	1-SET OF 47 BARS	VARIES 4'-2" TO 32'-11 @ INCR. 7½	ST						1781
SERIES OF S-709	1-SET OF 47 BARS	VARIES 2'-8 TO 21'-5 @ INCR 7½	ST						1641
SERIES OF S-710	1-SET OF 30 BARS	VARIES 9'-5" TO 27'-1 @ INCR	ST						1132
SUPERSTRUCTURE TOTAL 228,746									
PIERS 1 & 2									
P-501	448	7'-9"	3	2'-8	2'-8				3621
P-601	16	21'-6"							517
P-602	8	32'-5							390
P-901	24	19'-1"	ST						1557
P-902	24	23'-7"	ST						1924
P-903	24	16'-1"	ST						1312
P-904	24	22'-1"	ST						1802
P-905	144	6'-4	1	1'-0"	5'-7"				3101
P-906	8	9'-4	9	2'-10	3'-8"	1'-2½			254
P-907	56	22'-0"	ST						4189
P-908	288	11'-0"	2	1'-3"	8'-6"				10771

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
P-909	28	32'-5"	ST						3086
P-910	24	20'-1"	ST						1639
P-911	12	21'-7"	ST						880
P-912	12	18'-1"	ST						778
P-1001	80	11'-4"	2	1'-5	8'-6"				3082
P-1101	12	20'-3"	1	1'-0"	19'-7				1291
P-1102	12	24'-6"	1	1'-0"	23'-10"				1562
P-1103	12	17'-3	1	1'-0"	16'-7"				1100
P-1104	12	23'-3"	1	1'-0	22'-7"				1482
P-1105	96	7'-0"	1	1'-0"	6'-3"				3570
P-1106	28	13'-8	1	3'-2"	10'-9"				2030
P-1107	28	21'-2"	ST						3150
P-1108	20	17'-6"	ST						1858
P-1109	28	32'-5"	ST						4822
P-1110	24	20'-8"	ST						2635
P-1111	12	22'-2"	ST						1413
P-1112	12	18'-8"	ST						1190
PIERS 1 & 2 TOTAL 64,996									
RAILING®									
R-501	16	12'9"	ST						
R-502	96	15'-6"	ST						
R-503	12	4'-2"	BT‡						
R-504	8	5'-9"	BT‡						
R-521	4	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		
R-522	4	11'-4⅝"	19	3'-0"	8"	3'-9"	11⅜"		
R505	8	16'-2"	ST						
R506	8	10'-8"	ST						
REPLACEMENT BARS									
RE-401	1	5'-3"							
RE-501	2	5'-6"							
RE-601	6	6'-0"							
RE-701	7	6'-3"							
RE-801	—	6'-6"							
RE-901	2	6'-10"							
RE-1001	—	7'-3"							
RE-1101	2	7'-9"							

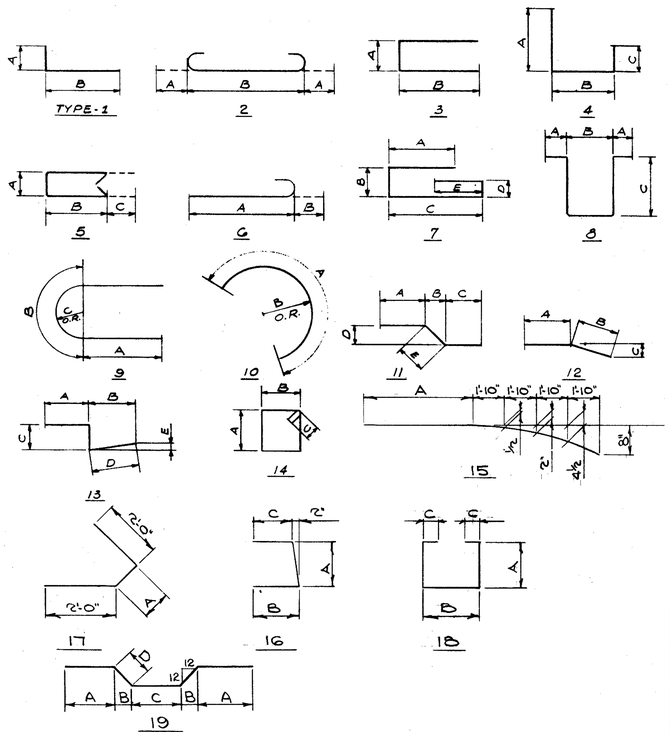
SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	3	2'-8	16'-1⅝	4½	47	776
SP-402	3	2'-8	20'-7⅝	4½	58	958
SP-403	3	2'-8	13'-1⅞	4½	38	628
SP-404	3	2'-8	19'-1⅞	4½	53	874
SP-405	2	2'-8	17'-1⅝	4½	49	540
SP-406	2	2'-8	18'-7⅝	4½	53	584
SP-407	2	2'-8	15'-1⅞	4½	43	474
SP-408	2	2'-8	17'-1⅞	4½	49	540
80 SPACERS						934
TOTAL SPIRALS						6308

GRAND TOTAL 326,754 LBS

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

‡ For bending diagrams see BR-1-65.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE Nº SUM-277-0259
OVER WATERLOO ROAD
I-277 SUMMIT COUNTY
STA 119+91.47 TO STA 122+11.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JD RDH	JWW		CBS	RDH	3-18-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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FUTURE SIDEWALK

PROPOSED MANCHESTER RD. STEEL
PT. OF MIN. VERTICAL CLEARANCE
100.13

RAMP "A"

CB.

30" STORM S.

60' CONCRETE SLOPE PROTECTION

BEGIN APPROACH SLABS
STA. 131+94.64

WEST BOUND LANES

℄ SURVEY PROPOSED I-277

END APPROACH SLABS
STA. 129+77.38

℄ PARAPET

35°-02'-33" SKEW

54'-5" TO LOC. TAN.

℄ GUARD RAIL BARRIER TYPE

9"

℄ JOINT

STA. 130+86.78 I-277 =
STA. 411+69.78 MANCH. RD.

51'-0"

108'-0"

37.60'

37.51'

MB

MB

HORIZ. CLEARANCE: 6.50' REQ'D. 6.60' ACTUAL

HORIZ. CLEARANCE: 6.50' REQ'D. 6.51' ACTUAL

EXISTING 10" W.M.

ABANDONED 20" WOOD W.M.

EXISTING 16" W.M.

TO BE REMOVED

EAST BOUND LANES

SIDEWALK

EXISTING 8" SAN.

PVI STA. 135+25
EL. 1023.73

+0.42%

-2.04%

800' V.C.

40'-3"

45'-6"

91'-9"

60'-0"

SIGNBOARD

PROPOSED 20" W.M.

PVT STA. 129+00
EL. 990.32

99214

99225

99200

℄ SURVEY PROPOSED I-277
CURVE DATA

P.I. STA. 135+23.91
Δ = 52°-15'-00" LT.
D_c = 2°-30'-00"
R = 2291.83'
L_c = 1788.27'
T_s = 1273.95'
L_s = 300'
θ_s = 3°-45'-00"
LT = 200.04'
ST = 100.04'

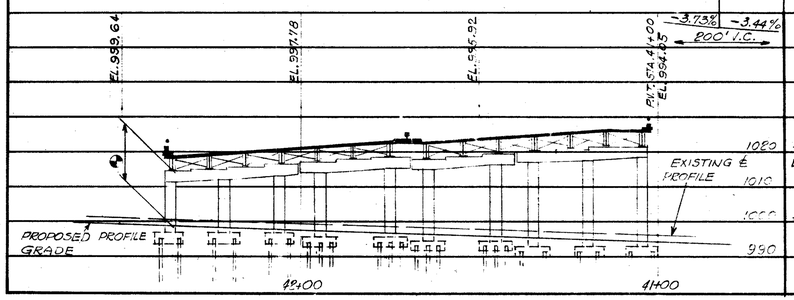
ALL PILES TO BE STEEL H PILES.
AVERAGE ESTIMATED PAY LENGTH FOR PILES~
ABUTMENTS = 55'
PIERS = 40'

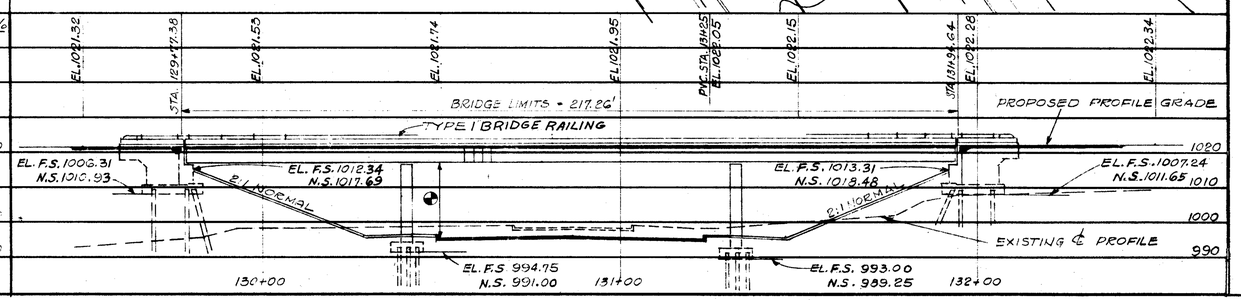
VERTICAL CLEARANCE :
DESIGN = 15.00',
ACTUAL = 15.01'

PROPOSED STRUCTURE

TYPE : CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW : 35°-02'-33" RF. TO LOCAL TANGENT.
SPANS : 60'-0"-91'-9"-60'-0" ℄/℄ BEARINGS.
ROADWAY : 108'-0" F/F PARAPETS WITH 6' MEDIAN.
LOAD FREQUENCY : C# 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE : 1" MONOLITHIC.
APPROACH SLABS : 25' LONG (AS-1-54)
ALIGNMENT : 2°-30'-00" CURVE LT.
SUPERELEVATION : .0592'/FT.
SLOPE PROTECTION : CONCRETE.

TRAFFIC : I-277 - 34,010 - 1975. ADT.
MANCHESTER RD - 23,000 - 1975. ADT.





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SITE PLAN
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	JK		CLS	RBH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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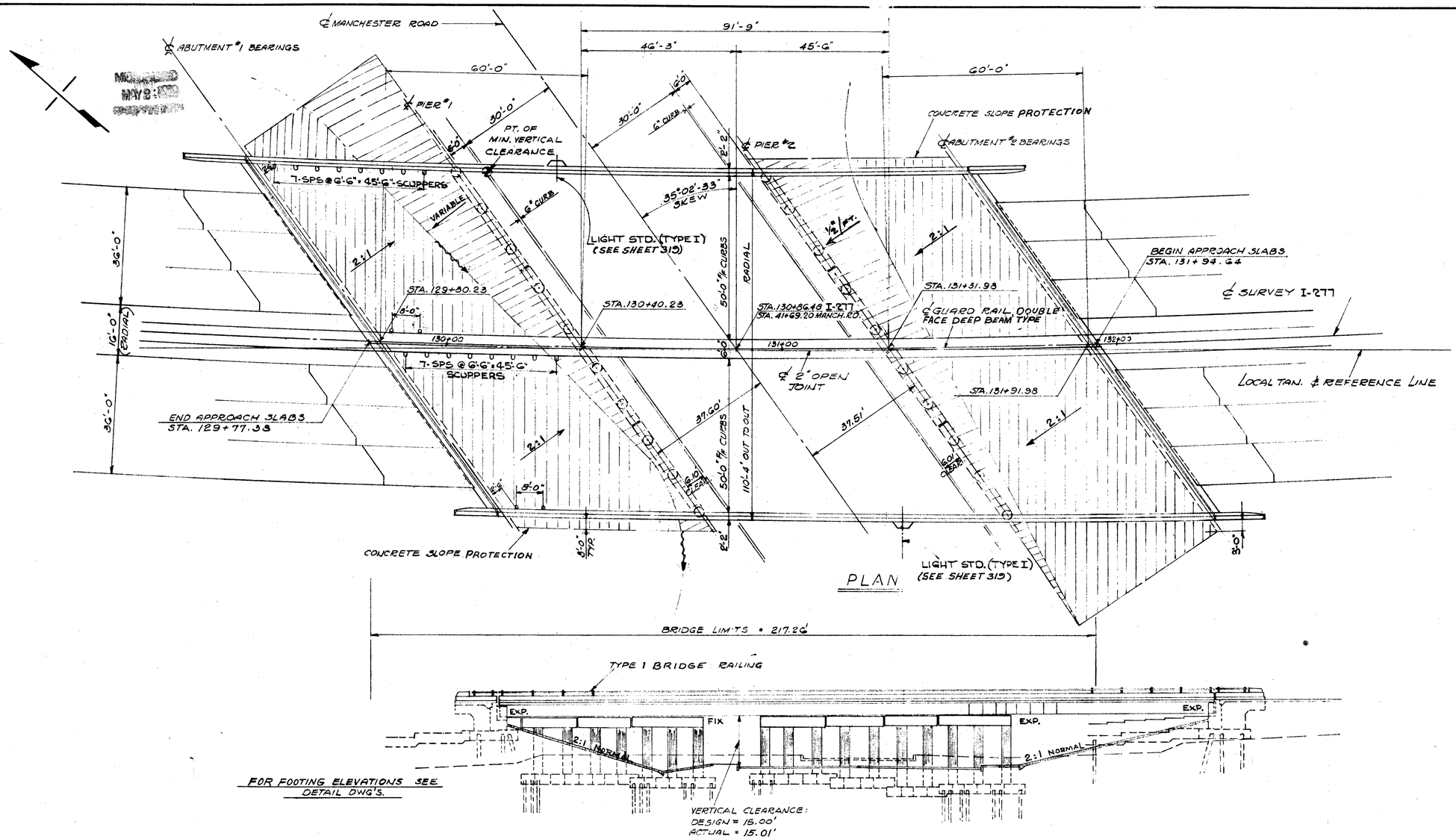


PLAN

FOR FOOTING ELEVATIONS SEE DETAIL DWG'S.

ELEVATION

SEE SHEETS Nº 291 & 292 FOR STRUCTURAL NOTES Nº 1-4, 6, 9, 11, 13, 14, 16, 18-28

SEE SHEET Nº 293 FOR STRUCTURAL DETAILS

ESTIMATED QUANTITIES

* AASHO M153

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
503	1065	CU.YDS.	UNCLASSIFIED EXCAVATION		665	400	
511	700	CU.YDS.	CLASS 'C' CONCRETE SUPERSTRUCTURE.	700			
511	284	CU.YDS.	CLASS 'E' CONCRETE ABUTS ABOVE FOOTINGS.		284		
511	209	CU.YDS.	CLASS 'C' CONCRETE PIERS ABOVE FOOTINGS.			209	
511	374	CU.YDS.	CLASS 'E' CONCRETE PIER & ABUT. FOOTINGS.		209	165	
825	2830	SQ.YDS.	CONCRETE SURFACE TREATMENT	2740	90		
512	61	LIN.FT.	PREMOLDED SEALING STRIP		61		
828	128	LIN.FT.	JOINT SEALER (END DAM)	128			
509	332,782	LBS.	REINFORCING STEEL.	22A,1CC.	44,849	63,686	

ITEM	TOTAL	UNIT.	DESCRIPTION	SUPER	ABUTS	PERS	GEN.
513	643,834	LBS.	STRUCTURAL STEEL.	643,834			
514	643,834	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	643,834			
516	98	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER *		98		
516	156	SQ.FT.	½" PREFORMED EXPANSION JOINT FILLER *		156		
517	490.83	LIN.FT.	RAILING (TYPE I)	427.50	63.33		
517	217	LIN.FT.	RAILING (DOUBLE FACED DEEP BEAM RAIL)	217			
505	LUMP	SUM	FIRST TEST PILE				LUMP
507	3910	LIN.FT.	STEEL PILES 10BP42		3910		
907	4480	LIN.FT.	STEEL PILES 12BP53			4480	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN.
625			SEE ELECTRICAL DWGS.				
518	124	CU.YDS.	POROUS BACKFILL		124		
518	20	EACH	SCUPPERS, INCLUDING SUPPORTS.	20			
518	250	LIN.FT.	6" PERFORATED HELICAL CMP 707.06 INCLUDING SPECIALS		250		
518	228	LIN.FT.	6" HELICAL C.M.P. 707.06 NON PERFORATED		228		
601	1898	SQ.YDS.	CONCRETE SLOPE PAVING		1898		
808	700	UNITS	WATER REDUCING SET RETARDING ADMIX.	700			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN

BRIDGE NO. SUM-277-0240
OVER MANCHESTER RD.
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

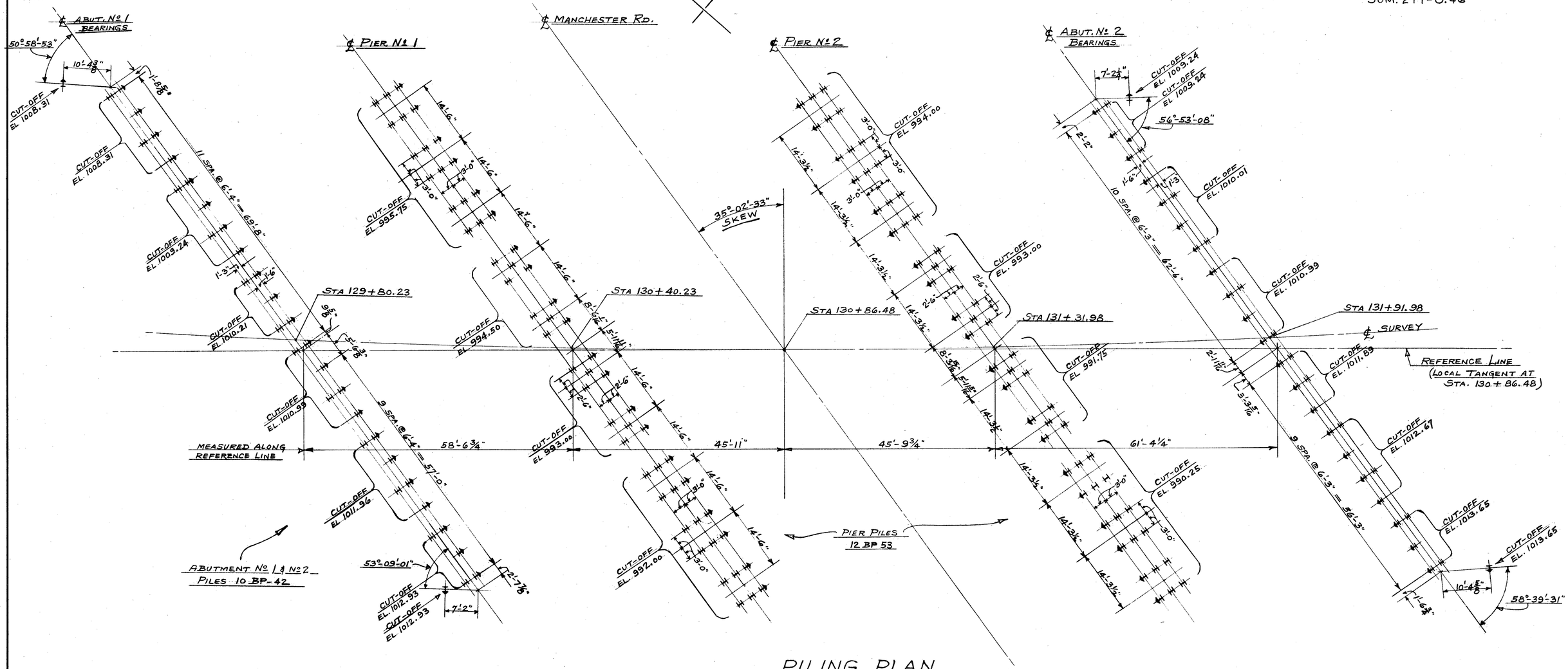
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	K		CLS	RBA	3-18-65	

MICROFILMED
MAY 3 1965

FED. RD.	STATE	PROJECT	
2	OHIO		

308
383

SUM. 277-0.46



PILING PLAN

NOTE ~ ALL PIER & ABUTMENT BEARING LINES PARALLEL TO MANCHESTER RD. ℄ LINE

↦ SHOWS PILES BATTERED 4:1

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PILING PLAN

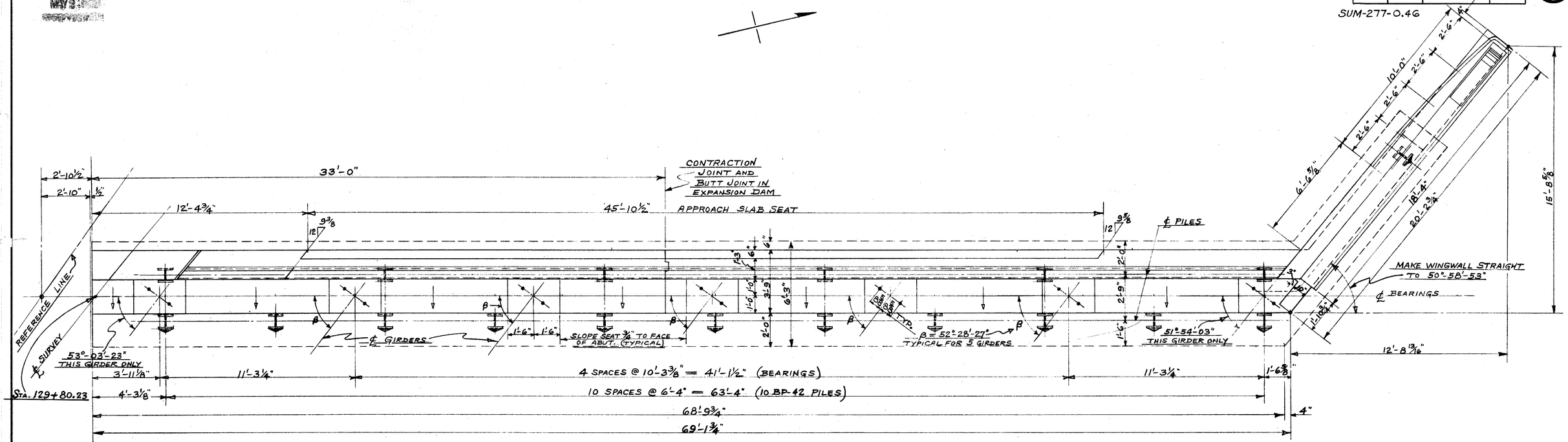
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CBA	EDH	3-18-65	

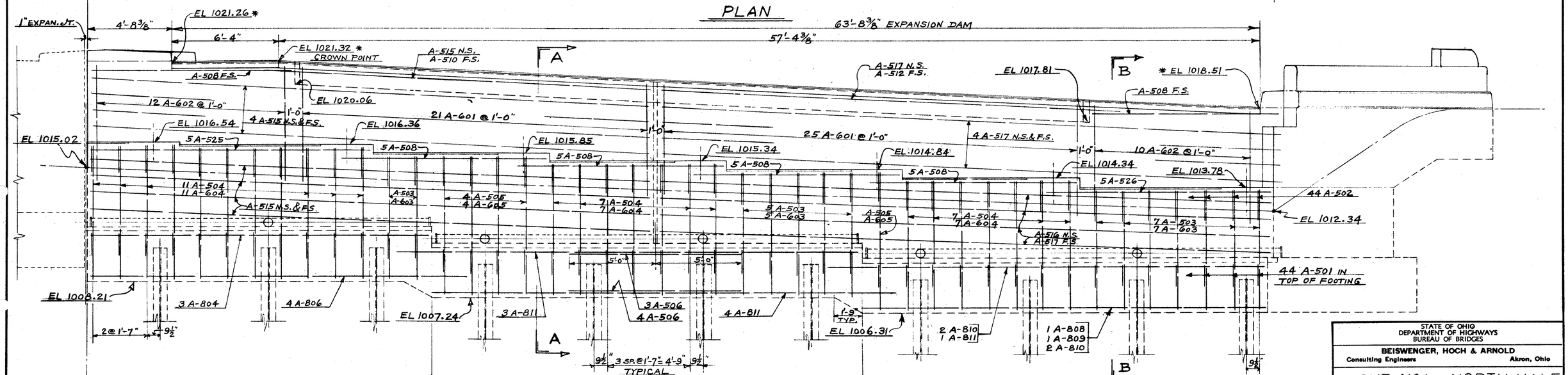
FED. RD.	STATE	PROJECT	
2	OHIO		

309
383

SUM-277-0.46



PLAN



ELEVATION

* ELEVATIONS AT HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUT. Nº 1 — NORTH HALF

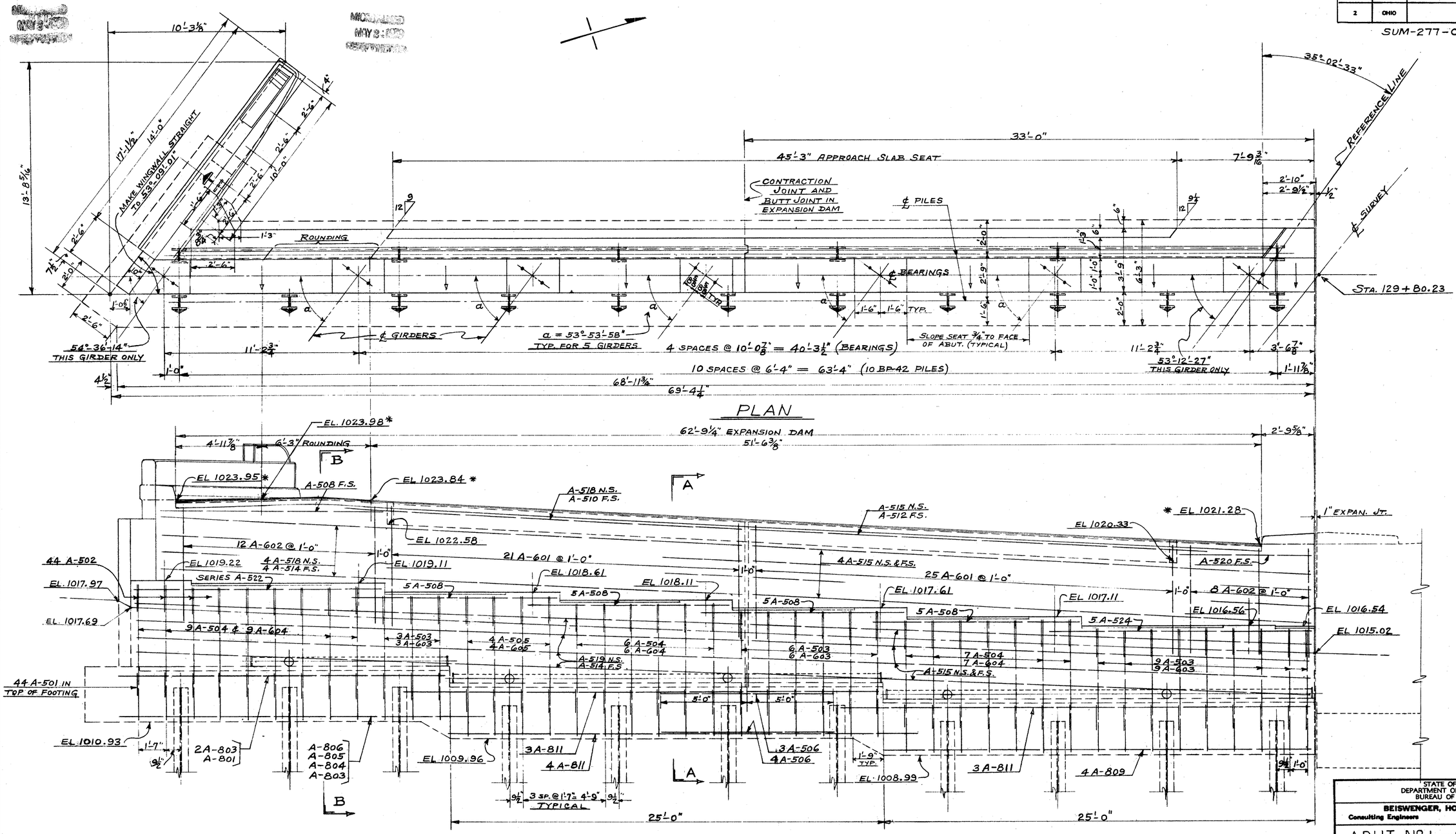
BRIDGE NO. SUM.-277-0240
OVER MANCHESTER ROAD
I-277. SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CAA	LDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

310
383

SUM-277-0.46



PLAN

ELEVATION

* ELEVATIONS AT HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUT. Nº 1 — SOUTH HALF

BRIDGE NO. SUM.-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

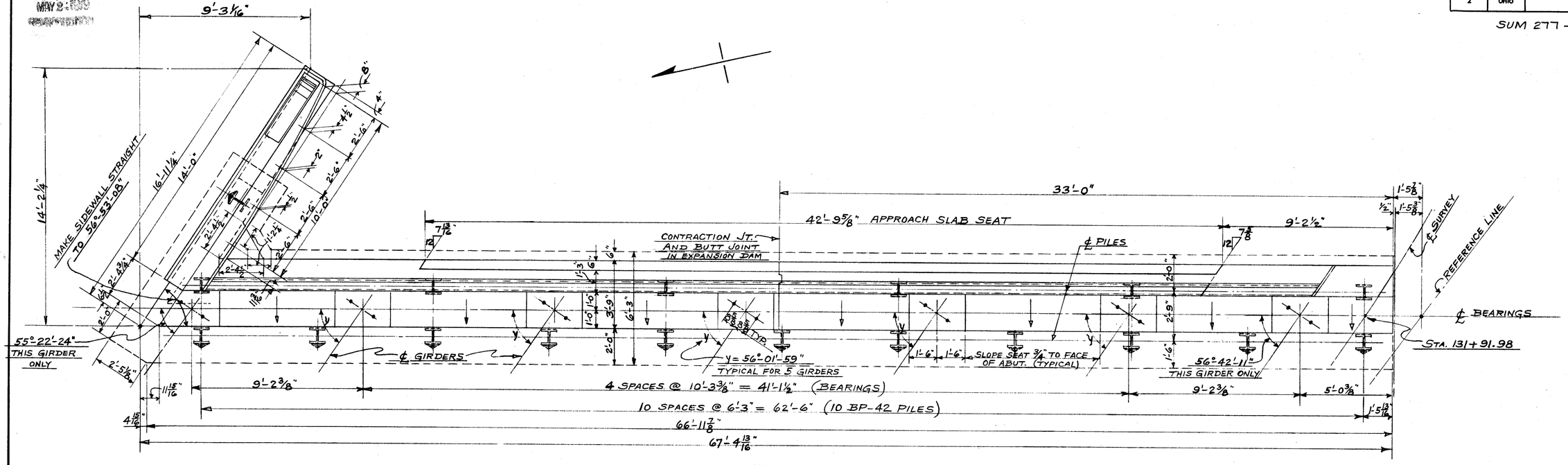
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagan		CAS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

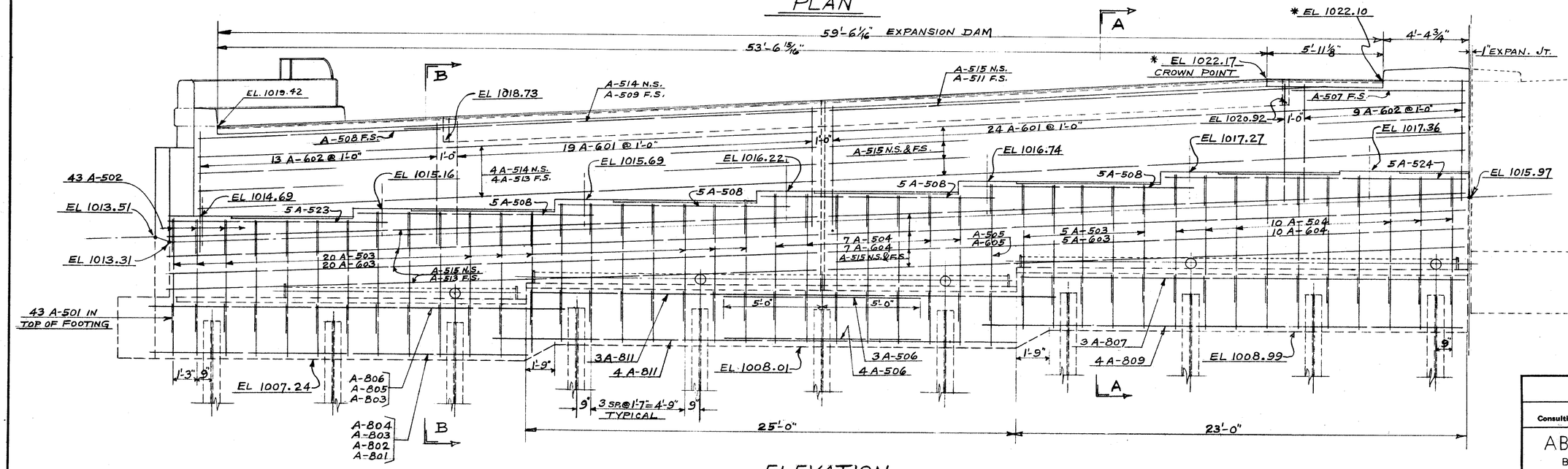
311
383

SUM 277 – 0.46

MAY 2 1969



PLAN



ELEVATION

* ELEVATIONS AT HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUT. Nº 2 – NORTH HALF

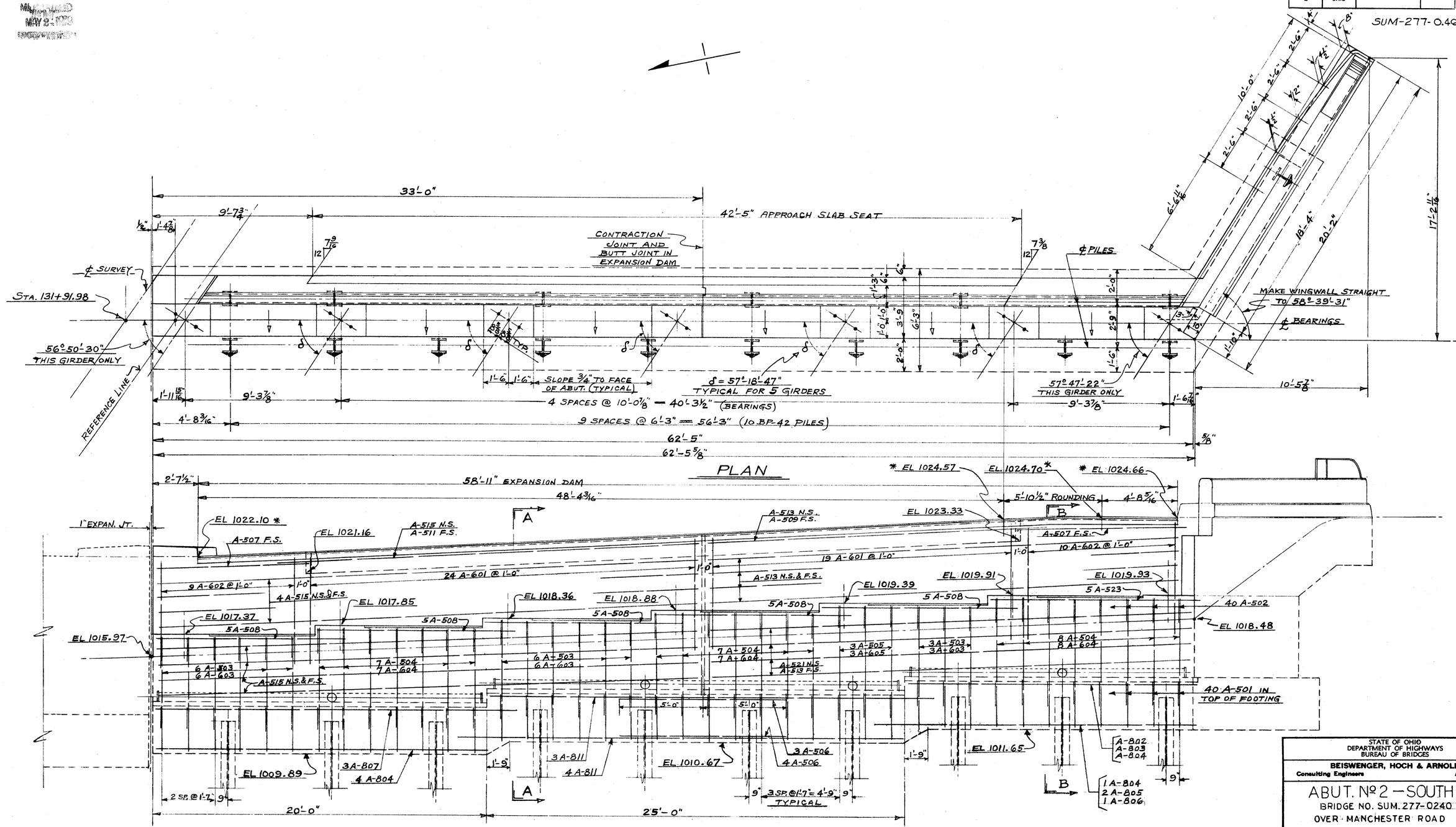
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CLS	RDH	3-10-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

312
383

SUM-277-0.46



* ELEVATIONS AT HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUT. Nº 2 — SOUTH HALF

BRIDGE NO. SUM. 277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

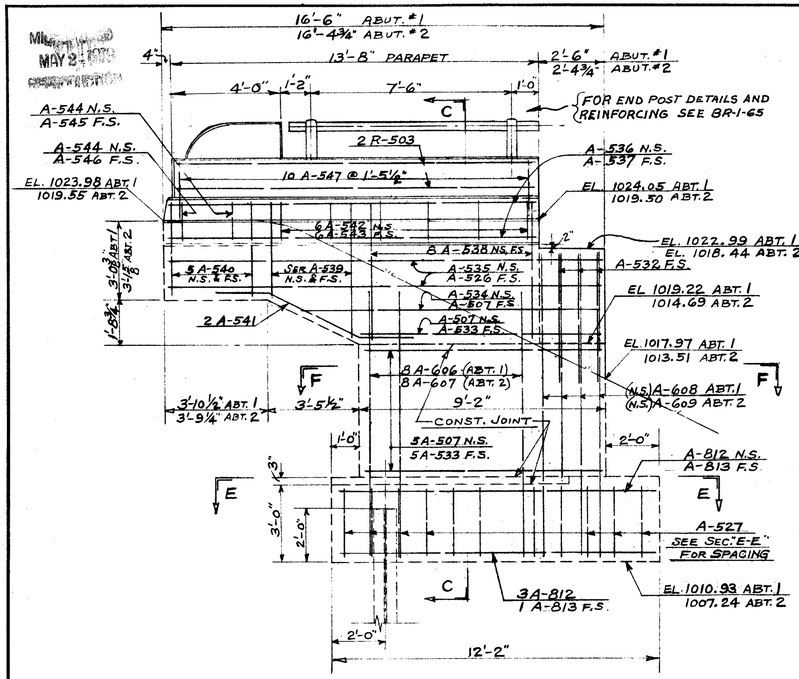
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hogan		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

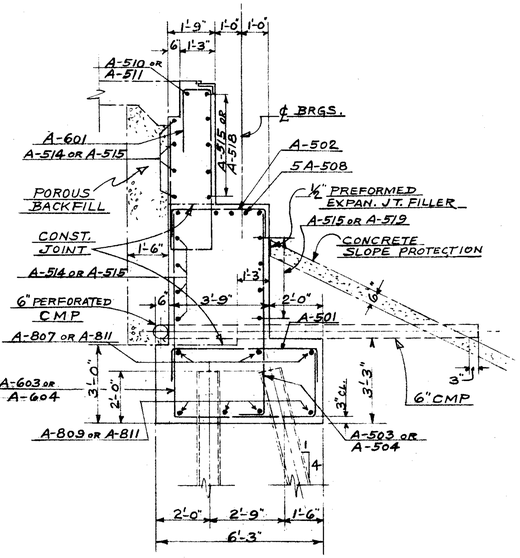
313
383

SUM-277 -0.46

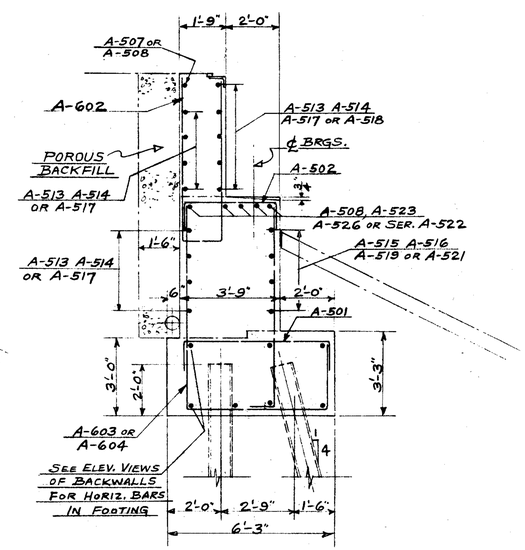
MAY 2 1966



ABUT. № 1 — SOUTH WINGWALL
ABUT. № 2 — NORTH WINGWALL

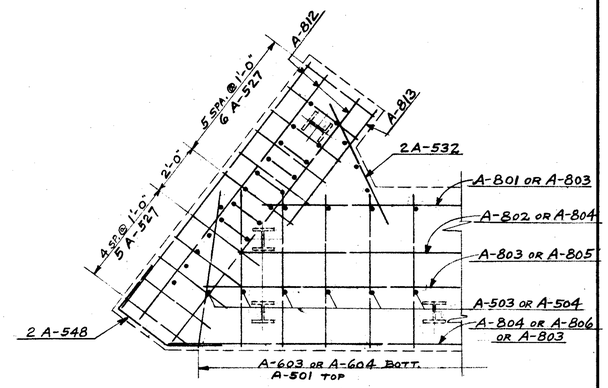


SECTION "A-A"
(PER PLAN & ELEV. DWGS.)

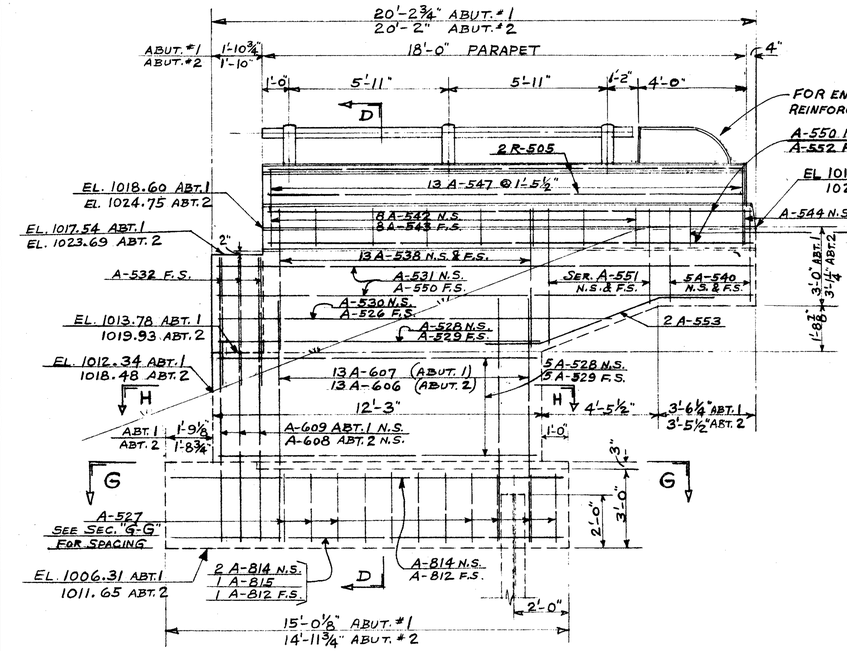


SECTION "B-B"
(PER PLAN & ELEV. DWGS.)

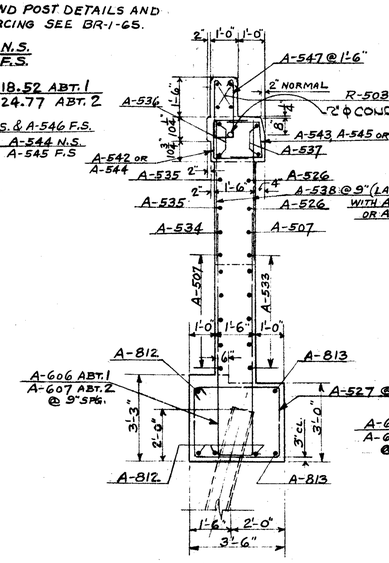
NOTE ~
SECS. "A-A" AND "B-B" GIVE BAR NUMBERS ONLY WHERE SECTIONS ARE CUT. SEE ABUT. ELEV. VIEWS FOR COMPLETE LAYOUT OF ALL HORIZONTAL AND VERTICAL STEEL BARS.



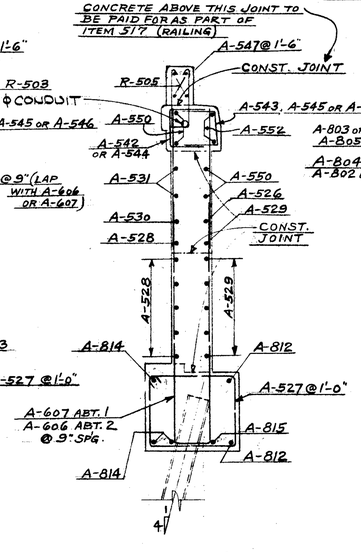
SECTION "E-E"



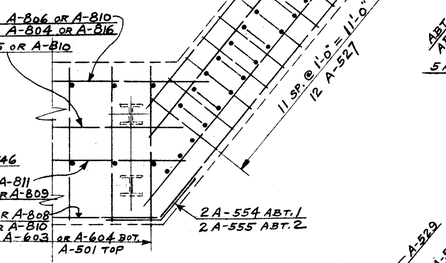
ABUT. № 1 — NORTH WINGWALL
ABUT. № 2 — SOUTH WINGWALL



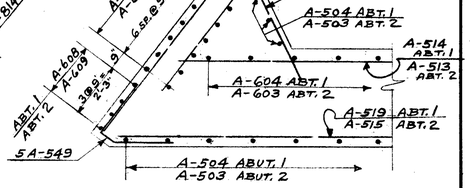
SECTION "C-C"



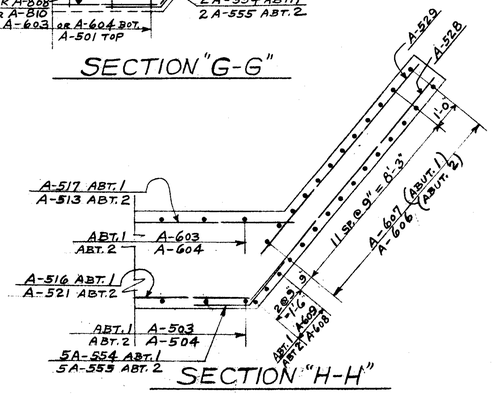
SECTION "D-D"
DIMEN. NOT SHOWN SAME AS SEC. "C-C"



SECTION "G-G"



SECTION "F-F"



SECTION "H-H"

SEE SHEET № 293
FOR DETAILS # 1, 2 & 5

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT DETAILS

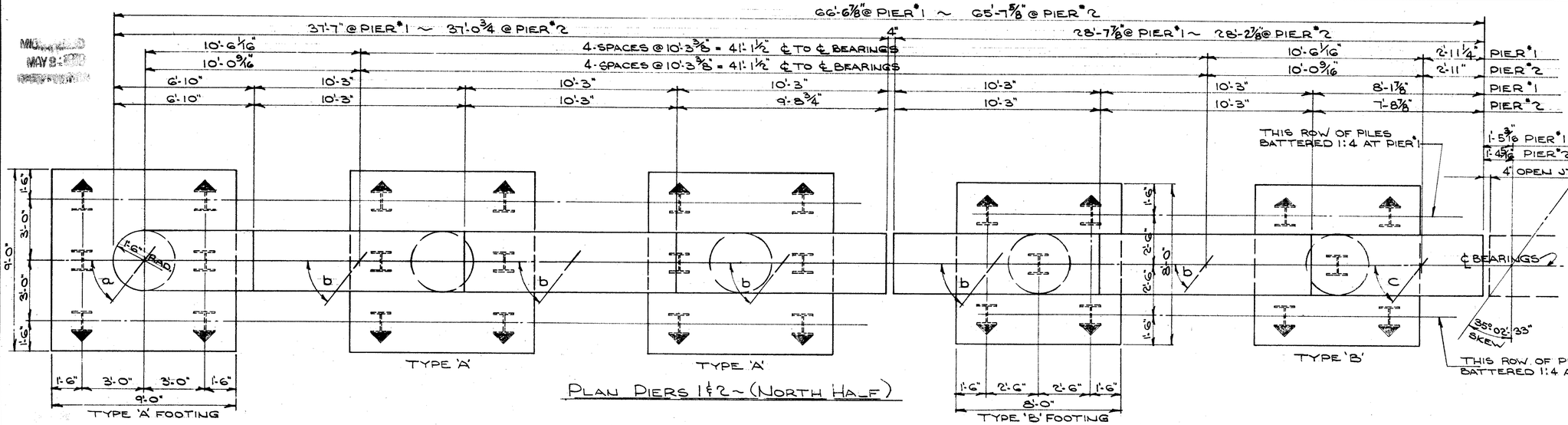
BRIDGE NO. SUM.-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129 + 77.38 TO STA. 131 + 94.64

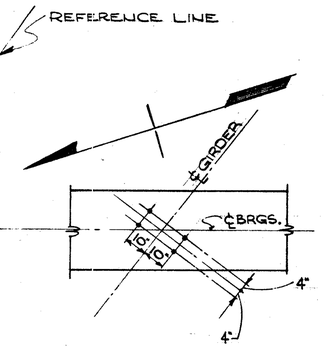
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CLS	RDA	3-10-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

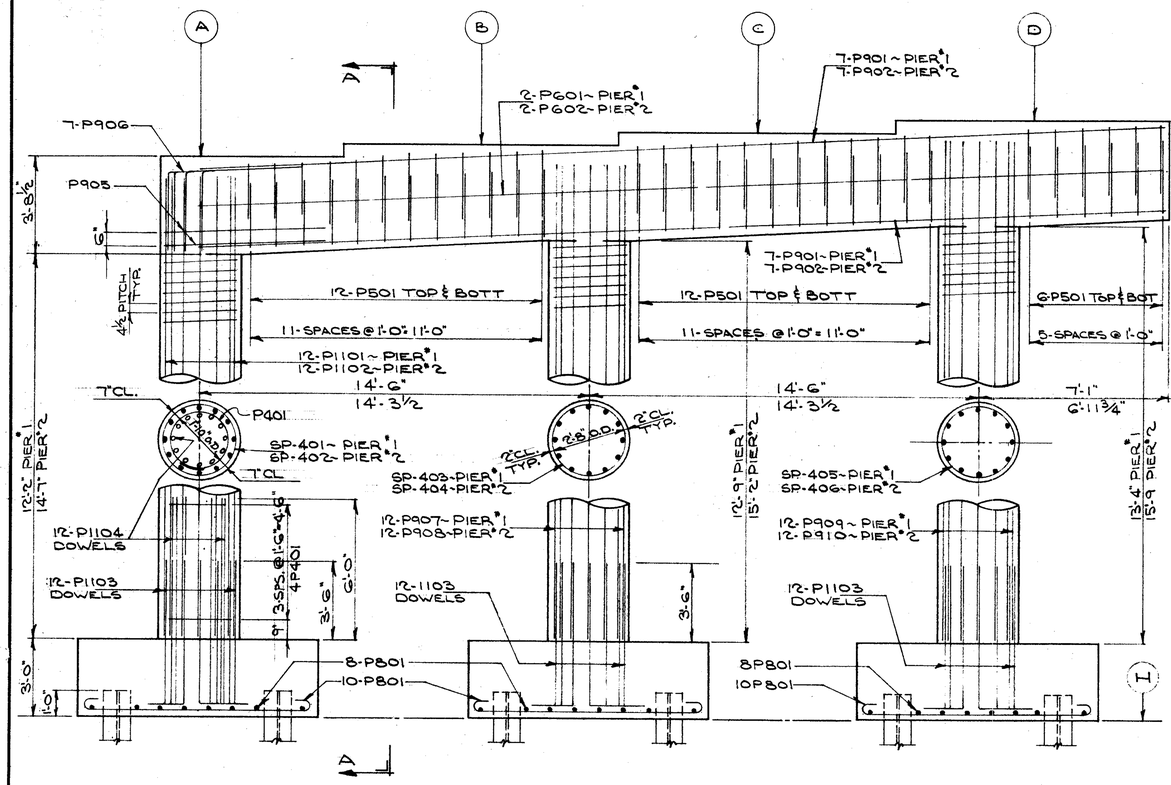
314
383

SUM-277-0.46

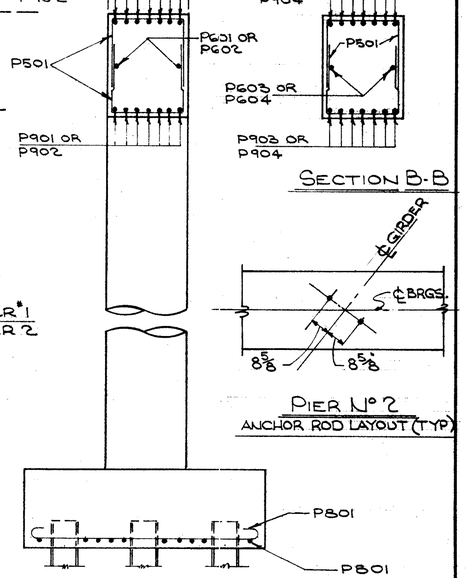




PIER No 1
ANCHOR ROD LAYOUT (TYP.)



ELEVATION PIERS 1 & 2 ~ (NORTH HALF)



PIER No 2
ANCHOR ROD LAYOUT (TYP)

ELEVATION TABLE									
	A	B	C	D	E	F	G	H	K
PIER #1	1013.63	1014.15	1014.66	1015.18	1015.69	1016.21	1016.36	994.75	993.50
PIER #2	1014.29	1014.81	1015.33	1015.86	1016.39	1016.91	1017.06	993.00	992.00

ANGLE OF BEARINGS			
	a	b	c
PIER #1	51°54'-03"	52°28'-27"	63°03'-23"
PIER #2	55°22'-24"	56°-01'-59"	56°-42'-11"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS No 1 & 2 DETAILS
NORTH HALF PIERS

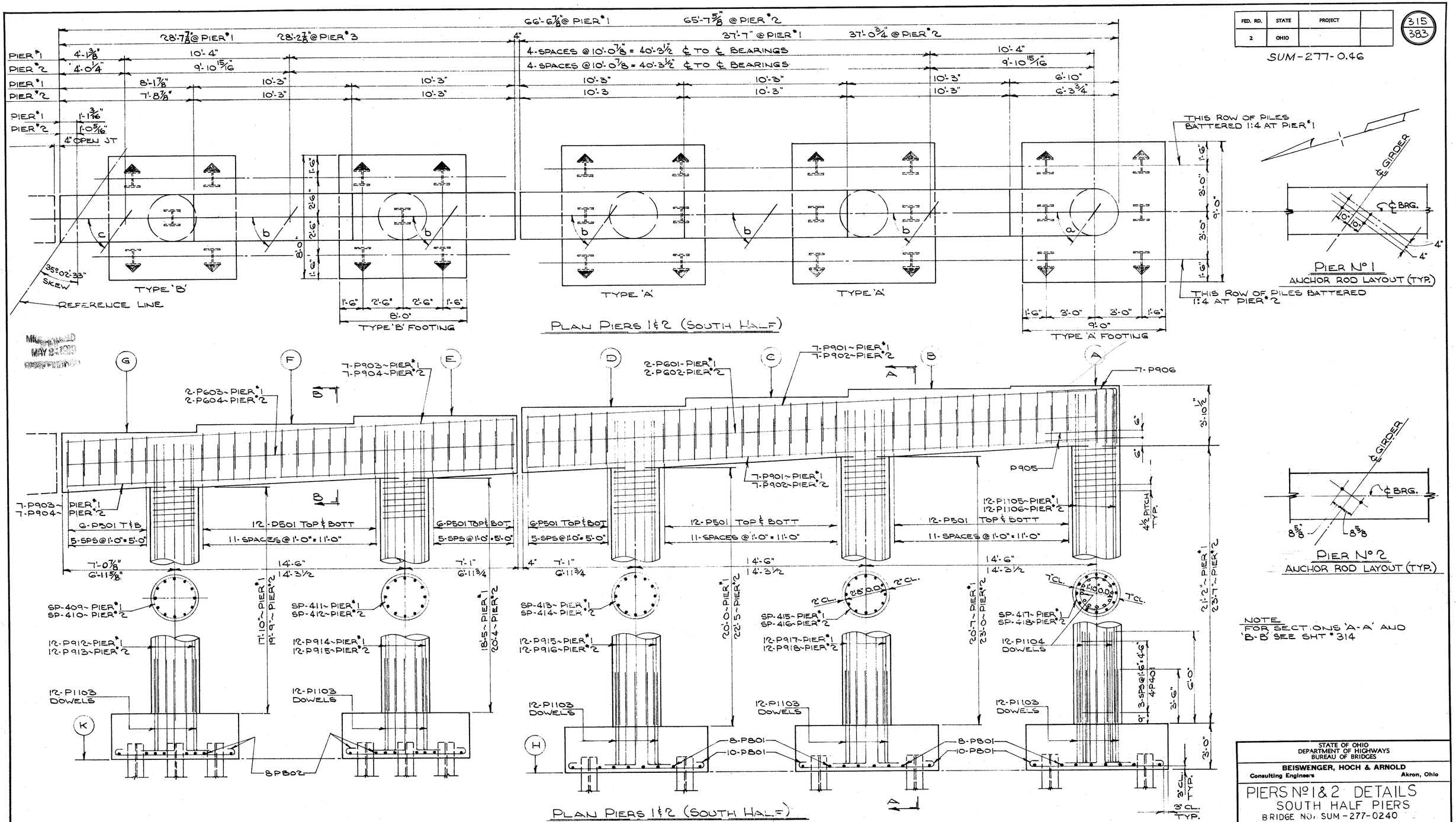
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129 + 77.38 TO STA. 131 + 94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	JWW		CLS	EOH	3-19-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

315
383

SUM-277-0.46



NOTE
FOR SECTIONS 'A-A' AND 'B-B' SEE SHT #314

ELEVATION TABLE									
	A	B	C	D	E	F	G	H	K
PIER #1	1019.04	1018.93	1018.42	1017.91	1017.40	1016.90	1016.38	991.00	992.00
PIER #2	1019.70	1019.65	1019.13	1018.62	1018.10	1017.58	1017.07	989.25	990.75

ANGLE OF BEARINGS			
	a	b	c
PIER #1	54°-36'-14"	53°-53'-58"	53°-12'-27"
PIER #2	57°-47'-22"	57°-18'-47"	56°-50-30"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS N° 1 & 2 DETAILS
SOUTH HALF PIERS

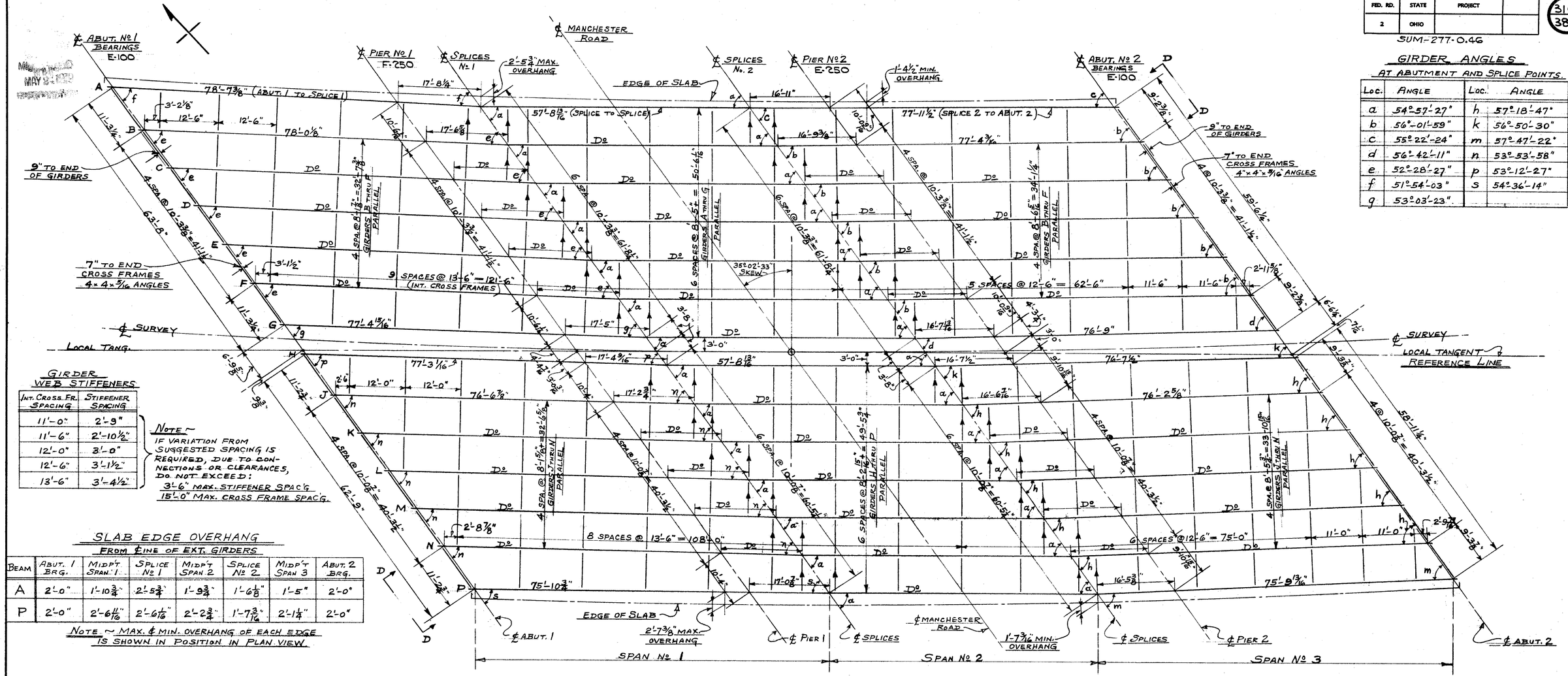
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	JWW		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

316
383

SUM-277-0.46



FRAMING PLAN

GIRDER ANGLES
AT ABUTMENT AND SPLICE POINTS.

Loc.	Angle	Loc.	Angle
a	54°-57'-27"	h	57°-18'-47"
b	56°-01'-59"	k	56°-50'-30"
c	55°-22'-24"	m	57°-47'-22"
d	56°-42'-11"	n	53°-53'-58"
e	52°-28'-27"	p	53°-12'-27"
f	51°-54'-03"	s	54°-36'-14"
g	53°-03'-23"		

GIRDER WEB STIFFENERS

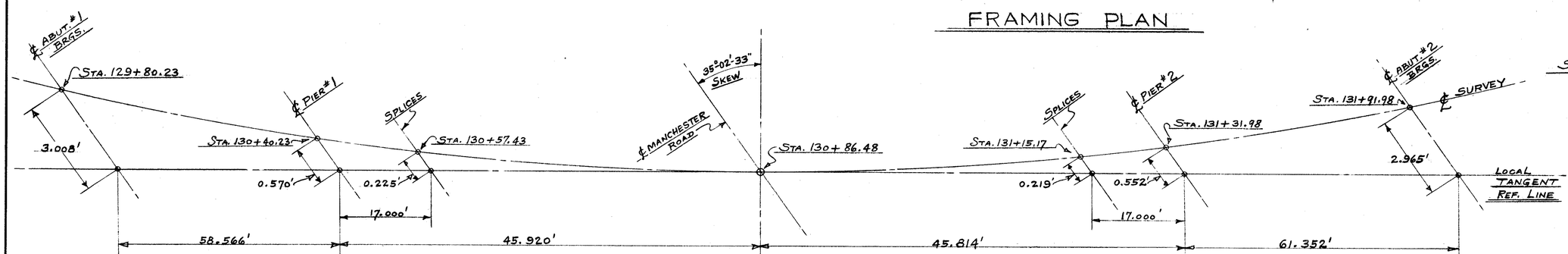
Int. Cross Fr. Spacing	Stiffener Spacing
11'-0"	2'-9"
11'-6"	2'-10½"
12'-0"	3'-0"
12'-6"	3'-1½"
13'-6"	3'-4½"

NOTE ~ IF VARIATION FROM SUGGESTED SPACING IS REQUIRED, DUE TO CONNECTIONS OR CLEARANCES, DO NOT EXCEED:
3'-6" MAX. STIFFENER SPAC'G
15'-0" MAX. CROSS FRAME SPAC'G.

SLAB EDGE OVERHANG
FROM ℄ LINE OF EXT. GIRDERS

Beam	Abut. 1 Brg.	Midp't Span 1	Splice Nº 1	Midp't Span 2	Splice Nº 2	Midp't Span 3	Abut. 2 Brg.
A	2'-0"	1'-10¾"	2'-5¾"	1'-9¾"	1'-6⅛"	1'-5"	2'-0"
P	2'-0"	2'-6¹¹⁄₁₆"	2'-6⅛"	2'-2¾"	1'-7¾"	2'-1¼"	2'-0"

NOTE ~ MAX. & MIN. OVERHANG OF EACH EDGE IS SHOWN IN POSITION IN PLAN VIEW.



NOTE ~ ALL BEARING AND SPLICE LINES PARALLEL TO ℄ MANCHESTER RD.

GEOMETRICS AT ℄ SURVEY.
NOT TO SCALE

SEE SHEET #317 FOR DETAILS & SECTIONS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING PLAN
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

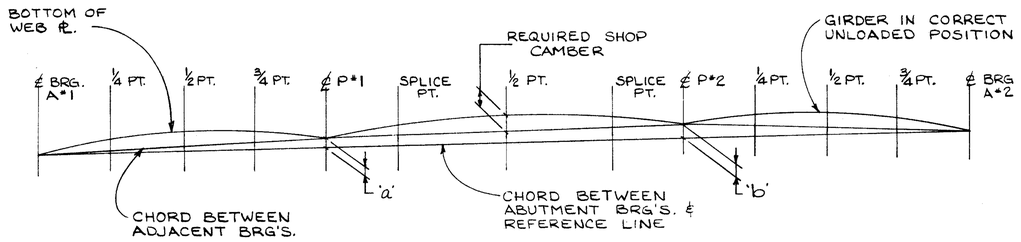
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Kagen		CLS	RDH	3-18-65	

MAY 9

FED. RD.	STATE	PROJECT	
2	OHIO		

316A

SUM-277-0.46



LAYOUT DIAGRAM

GIRDER	'a'	'b'
A	¼"	- ⅜"*
B	⅛"	- ⅛"*
C	⅛"	- ⅛"*
D	¼"	0"
E	¼"	⅛"
F	¼"	⅛"
G	¼"	½"
H	¼"	½"
J	⅛"	⅝"
K	⅛"	¾"
L	⅛"	⅞"
M	¼"	⅞"
N	¼"	1"
P	⅝"	1"

* MINUS SIGN INDICATES POINT IS BELOW REFERENCE LINE

DEFLECTION & CAMBER

	SPAN 1			SPAN 2			SPAN 3		
	¼ PT.	½ PT.	¾ PT.	SPLICE PT.	½ PT.	SPLICE PT.	¼ PT.	½ PT.	¾ PT.
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0"	1/16"	3/16"	1/16"	0"	1/16"	1/16"
DEFLECTION DUE TO REMAINING DEAD LOAD	⅛"	⅛"	0"	⅜"	¾"	⅜"	0"	⅛"	⅛"
ADJUSTMENT REQ'D FOR VERTICAL CURVE	0"	0"	0"	0"	0"	0"	⅛"	3/16"	⅛"
REQUIRED SHOP CAMBER	3/16"	3/16"	0"	7/16"	15/16"	7/16"	⅛"	⅜"	5/16"

This sheet added 3-10-67

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

DEFLECTION & CAMBER
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

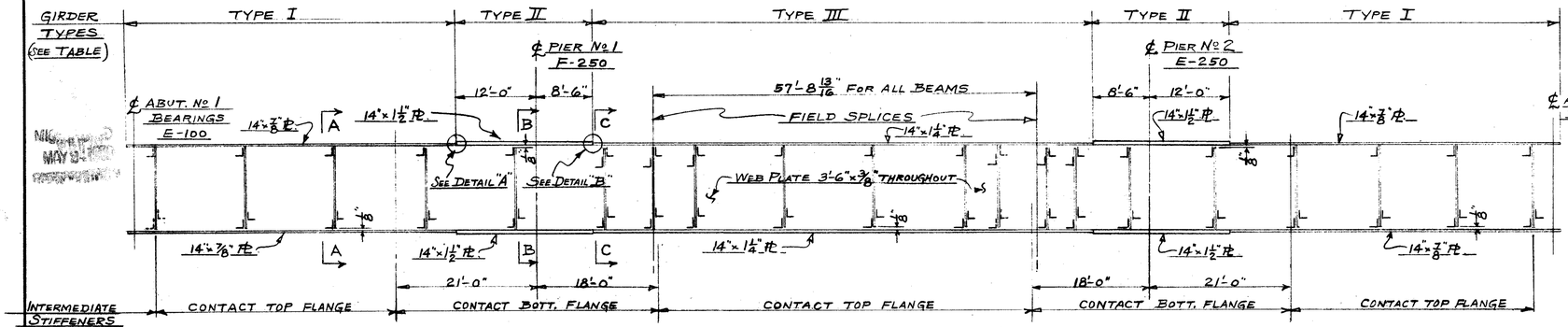
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	JFP		ow	RBH	3-3-67	

FORM DDA-8

FED. RD.	STATE	PROJECT	
2	OHIO		

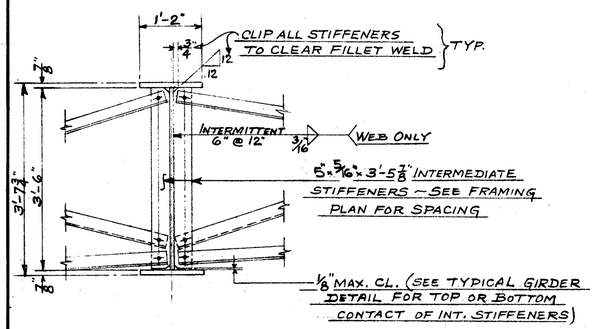
317
383

SUM.-277-0.46



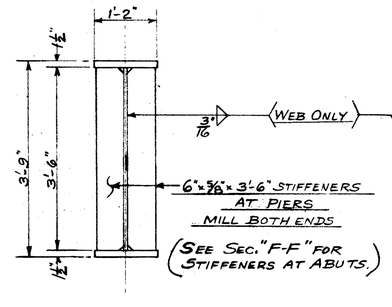
TYPICAL INTERIOR GIRDER

EXTERIOR SIMILAR EXCEPT FIELD SPLICES



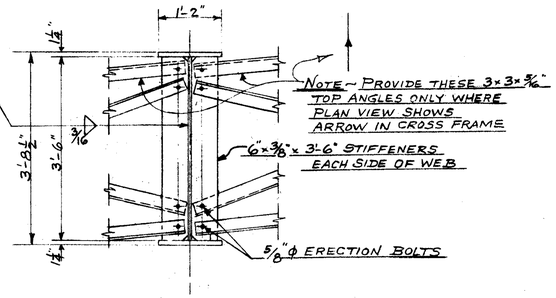
SECTION A-A

SHOWING INT. CROSS FRAMES



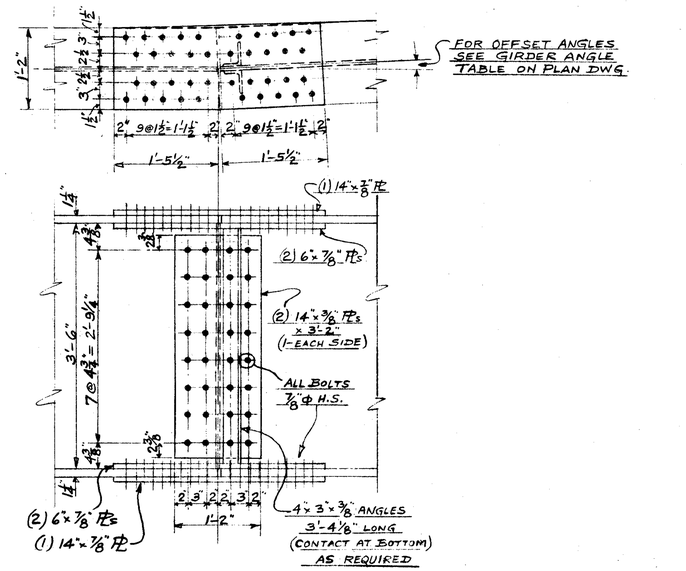
SECTION B-B

SHOWING BEARING STIFFENERS



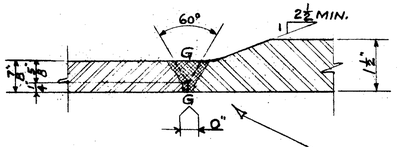
SECTION C-C

SHOWING ADDITIONAL TOP BRACING ANGLES AND SPECIAL STIFFENERS

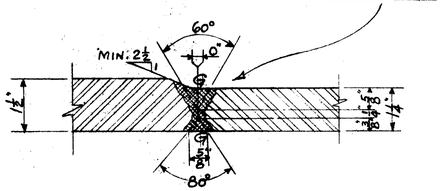


FIELD SPLICE DETAIL

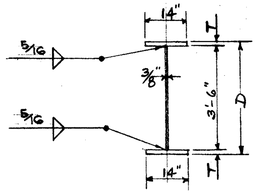
DETAIL - "C"



DETAIL - "A"

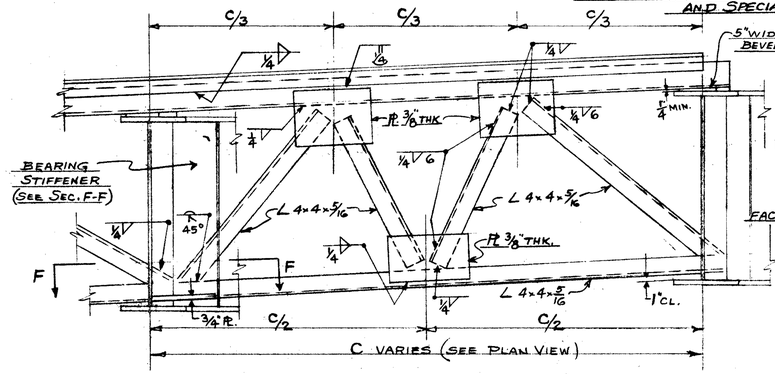


DETAIL - "B"

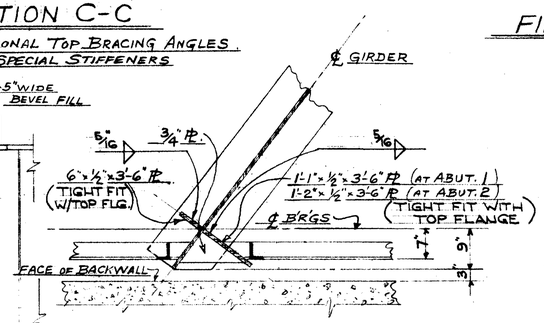


GIRDER TYPES

TYPE	T	D
I	7/8"	3'-7 3/4"
II	1 1/2"	3'-9"
III	1 1/4"	3'-8 1/2"



SECTION D-D



SECTION "F-F"

TYPICAL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING DETAILS

BRIDGE NO. SUM - 277 - 0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129 + 77.38 TO STA. 131 + 94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CBS	RBH	3-11-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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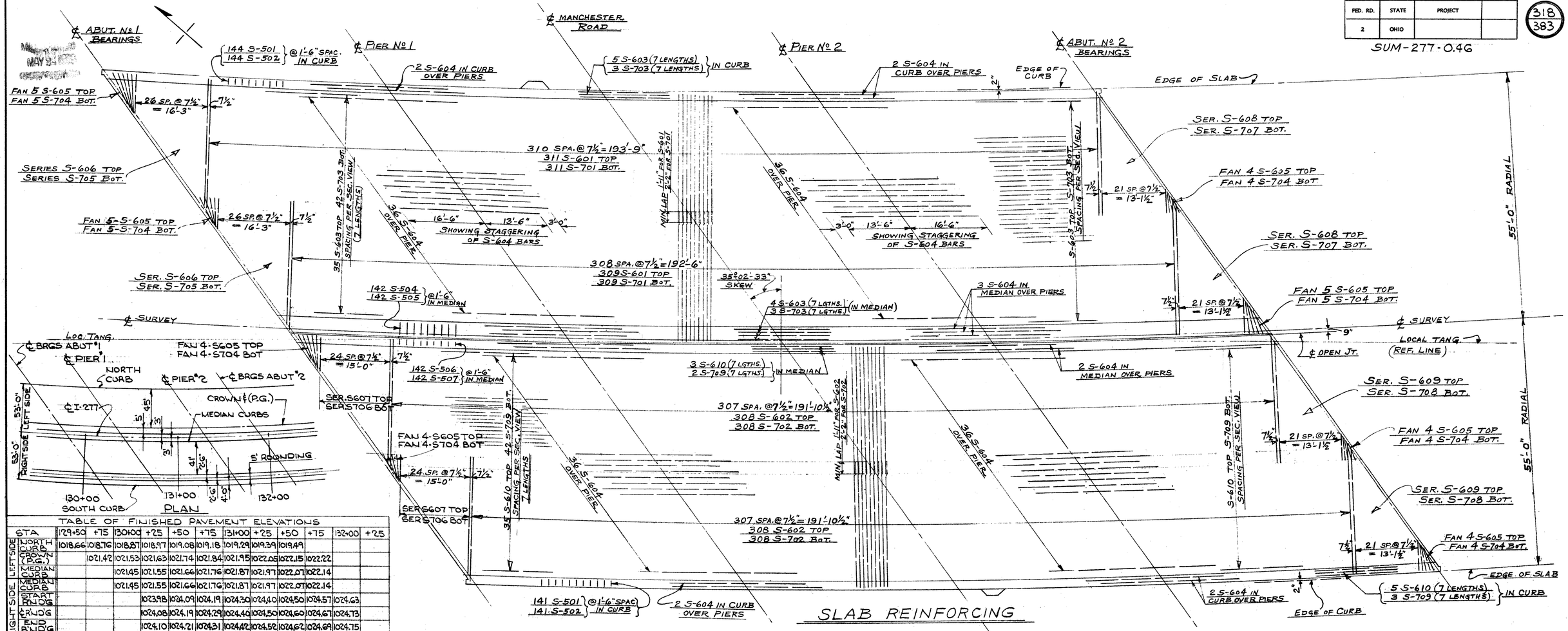
SUM-277-0.46



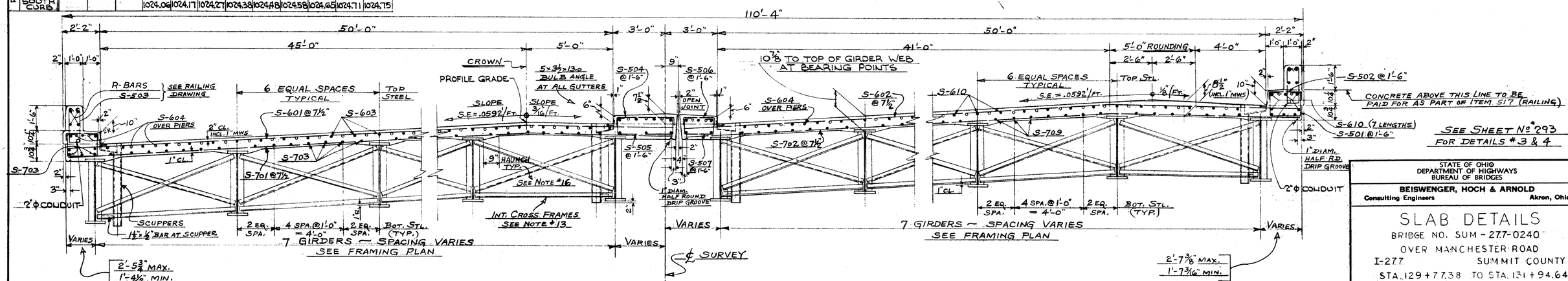
PLAN

TABLE OF FINISHED PAVEMENT ELEVATIONS

	STA	129+50	+75	130+00	+25	+50	+75	131+00	+25	+50	+75	132+00	+25
LEFT SIDE	NORTH CURB	1018.66	1018.76	1018.87	1018.97	1019.08	1019.18	1019.29	1019.39	1019.49			
	CROWN ℄ (P.G.)		1021.42	1021.53	1021.63	1021.74	1021.84	1021.95	1022.05	1022.15	1022.22		
	MEDIAN CURB			1021.45	1021.55	1021.66	1021.76	1021.87	1021.97	1022.07	1022.14		
RIGHT SIDE	MEDIAN CURB			1021.45	1021.55	1021.66	1021.76	1021.87	1021.97	1022.07	1022.14		
	START RDWG				1023.98	1024.09	1024.19	1024.30	1024.40	1024.50	1024.57	1024.63	
	END RDWG				1024.08	1024.19	1024.29	1024.40	1024.50	1024.60	1024.67	1024.73	
	END RDWG SOUTH CURB				1024.10	1024.21	1024.31	1024.42	1024.52	1024.62	1024.69	1024.75	
					1024.06	1024.17	1024.27	1024.38	1024.48	1024.58	1024.65	1024.71	1024.75

SLAB REINFORCING

TRANSVERSE SECTION



SEE SHEET № 293 FOR DETAILS # 3 & 4

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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98'-3"
216'-2½" RAILING LENGTH (LEFT)
12 SPACES @ 15'-10" = 190'-0"
25 SPACES @ 7'-11" = 197'-11"
LIGHT STD.-TYPE I
PANEL SPACING
POST SPACING
1'-2¾"
3½"
13'-1¼"
7'-11"
2'-6" MIN.
ABUT. Nº 1 ℄ BEARINGS
7 SPA. @ 6'-6" = 45'-6"
8-SCUPPERS (TYPE 2)
8'-0"
2-SCUPPERS
(TYPE 2)
16 SPACES @ 12'-6" = 200'-0" ℄ TO ℄ GUARD RAIL POSTS
MEDIAN
3'-0"
6'-0"
9"
2" OPEN JT.
℄ SURVEY
BULB ANGLE
5 x 3½ x 13.0
ABUT. Nº 2
℄ BEARINGS
3½" SUM-277-0.46
1'-2¾"
25 SPACES @ 7'-9" = 193'-9"
12 SPACES @ 15'-6" = 186'-0"
211'-3½" RAILING LENGTH (RIGHT)
1'-0"
7'-9"
12'-7¾"
LIGHT STD.-TYPE I

PLAN

Intermediate parapet panels
TYPE I BRIDGE RAILING
2¼"
2¾"
10 S-503 @ 1'-5" LEFT RAILING
9 S-503 @ 1'-6⅜" RIGHT RAILING
12 S-503 @ 1'-5" LEFT RAILING
11 S-503 @ 1'-6⅜" RIGHT RAILING
2"
2 R-506 LEFT RAIL'G
2 R-507 RIGHT RAIL'G
2 R-501 LEFT RAIL'G
2 R-502 RIGHT RAIL'G
2 R-506 LEFT RAIL'G
2 R-507 RIGHT RAIL'G
SCUPPERS
2" TYP.

ELEVATION

SEE SHEET Nº 293
FOR DETAIL # 3

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE

BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129 + 77.38 TO STA. 131 + 94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagen		CLS	RDH	3-18-65	

MARK	NO. REQ'D ABT. 1	NO. REQ'D ABT. 2	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
	ABUTMENTS									
A-501	88	83	9'-2"	3	5'-5"	2'-0"				1,635
A-502	88	83	8'-2"	3	3'-5"	2'-6"				1,457
A-503	32	43	7'-4"	1	6"	6'-11"				574
A-504	50	39	7'-11"	1	6"	7'-6"				735
A-505	9	4	8'-5"	1	6"	8'-0"				114
A-506	14	14	10'-0"	ST.						292
A-507	7	10	8'-10"	ST.						157
A-508	43	46	11'-8"	ST.						1,083
A-509		2	21'-0"	ST.						44
A-510	2		22'-0"	ST.						46
A-511		2	25'-0"	ST.						52
A-512	2		26'-0"	ST.						54
A-513		21	30'-3"	ST.						663
A-514	8	5	31'-8"	ST.						430
A-515	34	38	32'-8"	ST.						2,453
A-516	4		35'-9"	ST.						149
A-517	13		37'-3"	ST.						505
A-518	5		33'-8"	ST.						176
A-519	4		35'-0"	ST.						146
A-520	1		7'-6"	ST.						8
A-521		4	29'-0"	ST.						121
SERIES A-522	1 SET OF 5		14'-3" TO 12'-3"	ST.					6"	69
A-523		10	12'-3"	ST.						128
A-524	5	5	15'-3"	ST.						159
A-525	5		16'-3"	ST.						85
A-526	8	3	13'-0"	ST.						149
A-527	23	23	12'-1"	14	2'-6"	3'-2"	6"			580
A-528	6	6	11'-11"	ST.						149
A-529	6	6	10'-3"	ST.						128
A-530	1	1	14'-8"	ST.						31
A-531	2	2	19'-10"	ST.						83
A-532	17	17	5'-0"	ST.						178
A-533	6	6	6'-0"	ST.						75
A-534	1	1	11'-0"	ST.						23
A-535	2	2	16'-0"	ST.						67
A-536	2	2	13'-8"	ST.						57
A-537	2	2	12'-9"	16	2'-9"	10'-0"	2'-6"			53
A-538	21	21	5'-3"	ST.						230
SERIES A-539	2 SETS OF 5	2 SETS OF 6	5'-0" TO 3'-6"	ST.					4½"	89
A-540	20	20	3'-6"	ST.						146
A-541	2	2	7'-8"	11	2'-0"	3'-10½"	3'-5½"	1'-8¾"		32
A-542	14	14	3'-6"	3	1'-5"	1'-2"				102
A-543	14	14	3'-10"	17	1'-5"	1'-5"	1'-3"			112
A-544	4	4	2'-10"	3	1'-5"	10"				24
A-545	2	2	3'-6"	17	1'-3"	1'-5"	1'-1"			15
A-546	2	2	3'-0"	17	1'-0"	1'-5"	10"			13
A-547	23	23	5'-7"	5	8"	2'-2"	5"			268
A-548	2	2	6'-1"	18	2'-0"	2'-3"	2'-0"	1'-1"		26
A-549	5	5	4'-6"	18	2'-0"	8"	2'-0"	1'-1"		47
A-550	4	4	18'-0"	ST.						150
SERIES A-551	2 SETS OF 6	2 SETS OF 6	5'-0" TO 3'-6"	ST.					3½"	107
A-552	2	2	18'-0"	16	8'-0"	10'-0"	2'-6"			75
A-553	2	2	8'-7"	11	2'-0"	4'-9½"	4'-5½"	1'-8⅜"		36
A-554	7		3'-11"	12	2'-0"	2'-0"	1'-6½"			29
A-555		7	3'-11"	12	2'-0"	2'-0"	1'-8½"			29
A-601	92	86	16'-6"	7	5'-2"	1'-5"	6'-6"	11"		4,412
A-602	42	41	14'-2"	3	1'-5"	6'-6"				1,766
A-603	32	40	14'-7"	4	7'-0"	5'-5"	2'-6"			1,577
A-604	47	39	15'-1"	4	7'-6"	5'-5"	2'-6"			1,949
A-605	9	4	15'-7"	4	8'-0"	5'-5"	2'-6"			305
A-606	8	13	20'-11"	3	1'-2"	10'-0"				660
A-607	13	8	19'-3"	3	1'-2"	9'-2"				607
A-608	4	3	20'-4"	4	11'-7"	1'-2"	7'-10"			214
A-609	3	4	18'-6"	4	10'-8"	1'-2"	6'-11"			195

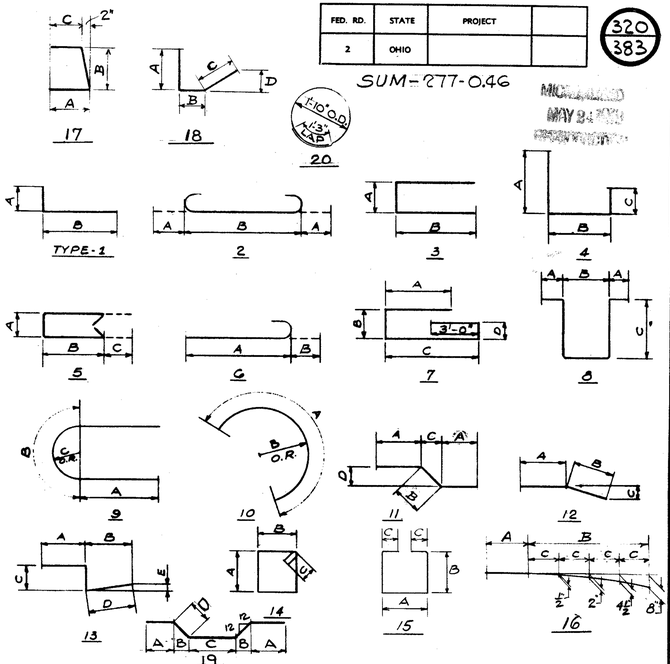
MARK	NO. REQ'D ABT. 1	NO. REQ'D ABT. 2	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
A-801	1	1	16'-0"	ST.						86
A-802		2	17'-0"	ST.						91
A-803	3	3	18'-0"	ST.						288
A-804	4	7	19'-6"	ST.						572
A-805	1	3	20'-0"	ST.						214
A-806	5	2	21'-0"	ST.						393
A-807		6	22'-6"	ST.						360
A-808	1		23'-0"	ST.						62
A-809	5	4	24'-0"	ST.						577
A-810	3		26'-0"	ST.						209
A-811	18	14	27'-6"	ST.						2350
A-812	6	6	11'-9"	ST.						377
A-813	2	2	5'-6"	ST.						59
A-814	3	3	14'-6"	ST.						232
A-815	1	1	12'-6"	ST.						67
A-816	1		29'-6"	ST.						
TOTAL ABUTMENTS										44,849
PIERS										
P-401	16		6'-11"	20						74
P-501	432		7'-7"	3	2'-8"	2'-7"				3417
P-601	4		35'-10"	ST						215
P-602	4		35'-4"	ST.						212
P-603	4		28'-4"	ST.						170
P-604	4		27'-11"	ST.						168
P-801	216		10'-8"	2	1'-1"	8'-6"				6152
P-802	128		9'-8"	2	1'-1"	7'-6"				3303
P-901	28		35'-10"	ST						3412
P-902	28		35'-4"	ST						3364
P-903	28		28'-4"	ST						2698
P-904	28		27'-11"	ST						2658
P-905	8		9'-4"	9	2'-10"	3'-8"	1'-2"			254
P-906	28		7'-1"	1	3'-2"	4'-2"				674
P-907	12		15'-7"	ST						636
P-908	24		48'-0"	ST						1469
P-909	12		16'-2"	ST						660
P-910	24		18'-7"	ST						1516
P-911	12		20'-2"	ST						823
P-912	24		20'-9"	ST						1693
P-913	12		22'-7"	ST						922
P-914	12		21'-3"	ST						867
P-915	24		23'-2"	ST						1890
P-916	12		25'-3"	ST						1034
P-917	12		23'-6"	ST						959
P-918	12		25'-10"	ST						1054
P-1101	12		15'-7"	ST						994
P-1102	12		18'-0"	ST						1148
P-1103	240		7'-0"	1	1'-0"	6'-3"				8926
P-1104	48		9'-6"	1	1'-0"	8'-9"				2423
P-1105	12		24'-8"	ST						1573
P-1106	12		27'-1"	ST						1727
TOTAL SPIRALS										6581
TOTAL PIERS										63,086
SUPERSTRUCTURE										
S-501	285		4'-8"	15	1'-6"	1'-4"	6"			1387
S-502	285		2'-3"	3	1'-6"	6"				669
S-503	314		5'-7"	5	8"	2'-2"	5"			1828
S-504	142		4'-0"	3	3'-3"	6"				593

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
S-505	142	5'-7"	15	3'-3"	11"	6"			827
S-506	142	2'-6"	3	1'-9"	6"				370
S-507	142	4'-1"	15	1'-9"	11"	6"			605
S-521	4	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		49
S-601	620	28'-8"	ST.						26,695
S-602	616	27'-11"	ST.						25,828
S-603	308	32'-6"	ST.						15,035
S-604	162	30'-0"	ST.						7,387
S-605	35	5'-0"	ST.						263
SERIES OF S-606	27=54	2 SETS OF 28'-0" TO 7'-5"	ST.					9½"	1435
SERIES OF S-607	25=50	2 SETS OF 27'-0" TO 7'-0"	ST.					10"	1377
SERIES OF S-608	22=44	2 SETS OF 27'-0" TO 7'-10"	ST.					11½"	1151
SERIES OF S609	2-SETS OF 22=44	27'-6 TO 6'-6"	ST					12"	1124
S610	301	32'-0"	ST.						14,467
S621	24	5'-6"	ST						198
S622	8	9'-11"	14	2'-10"	2'-0"	4"			119
S-701	620	28'-9"	ST						36,434
S-702	616	28'-0"	ST.						35,256
S-703	336	32'-8"	ST.						22,435
S-704	35	5'-0"	ST.						358
SERIES OF S-705	27=54	2 SETS OF 28'-0" TO 7'-5"	ST.					9½"	1955
SERIES OF S-706	25=50	2 SETS OF 26'-6" TO 6'-6"	ST.					10"	1686
SERIES OF S-707	22=44	2 SETS OF 27'-0" TO 7'-10"	ST.					11½"	1566
SERIES OF S-708	22=44	2 SETS OF 27'-6" TO 6'-6"	ST.					12"	1529
S-709	329	32'-2"	ST.						21,631
TOTAL SUPERSTRUCTURE									224,247
RAILING*									
R-501	44	15'-6"	ST.						
R-502	44	15'-2"	ST.						
R-503	12	4'-2"	BT.F						
R-504	8	5'-4"	BT.F						
R-505	8	17'-8"	ST.						
R-521	4	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		
R-522	4	11'-4⅜"	19	3'-0"	8"	3'-9"	11⅝"		
R506	16	12'-9"	ST						
R509	8	12'-3"	ST						
REPLACEMENT BARS									
RE-501	2	5'-6"	ST						
RE-601	6	6'-0"	ST						
RE-701	7	6'-8"	ST						
RE-801	1	6'-6"	ST						
RE-901	2	6'-10"	ST						
RE-1001	——	7'-3"							
RE-1101	1	7'-9"	ST						
RE-401	1	5'-3"	10	5'-3"	1'-4"				

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
TOTAL	FROM	SCHEDULE	ON	RIGHT		1824
SP-407	1	2'-8"	17'-4"	4½"	49	270
SP-408	1	2'-8"	17'-11"	4½"	51	281
SP-409	1	2'-8"	17'-10"	4½"	51	281
SP-410	1	2'-8"	19'-9"	4½"	56	309
SP-411	1	2'-8"	18'-5"	4½"	53	292
SP-412	1	2'-8"	20'-4"	4½"	58	320
SP-413	1	2'-8"	20'-0"	4½"	57	314
SP-414	1	2'-8"	22'-5"	4½"	63	347
SP-415	1	2'-8"	20'-7"	4½"	58	320
SP-416	1	2'-8"	23'-0"	4½"	65	358
SP-417	1	2'-8"	21'-2"	4½"	60	331
SP-418	1	2'-8"	23'-7"	4½"	66	364
SPACERS	80					970
TOTAL SPIRALS						6,581

GRAND TOTAL 332,782 LBS



FED. RD.	STATE	PROJECT	
2	OHIO		

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383

SUM-277-0.46

MAY 3 1965

*RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

F For bending diagrams see BR-1-65

REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

REINFORCING SCHEDULE

BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
I-277 SUMMIT COUNTY
STA. 129+77.38 TO STA. 131+94.64

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC	Hagan		CH	RDA	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

321
383

SUM-277-0.46

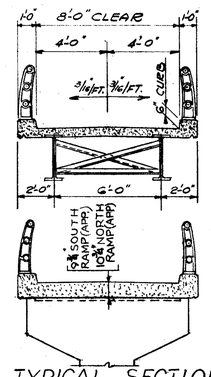
CURVE DATA.

℄ U.S. 277

PI. STA. 135+23.91
Δ = 52°-13'-00" LT.
D_c = 2°-30'-00"
R = 2291.83'
T_s = 1273.95'
L_c = 1788.67'
L_s = 300'
θ_s = 3°-45'-00"
LT. = 200.04'
ST. = 100.04'

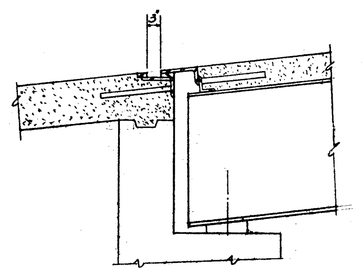
℄ RAMP "A"

PI. STA. 3+34.92
Δ = 29°-28'-30"
D_c = 4°-30'-00"
T = 334.92'
L_c = 655.00'
R = 1273.24'

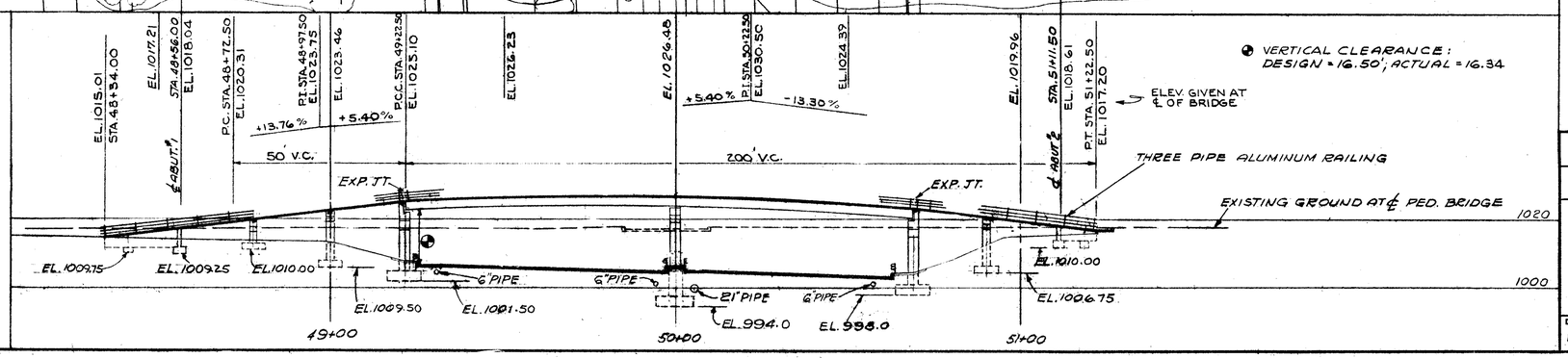


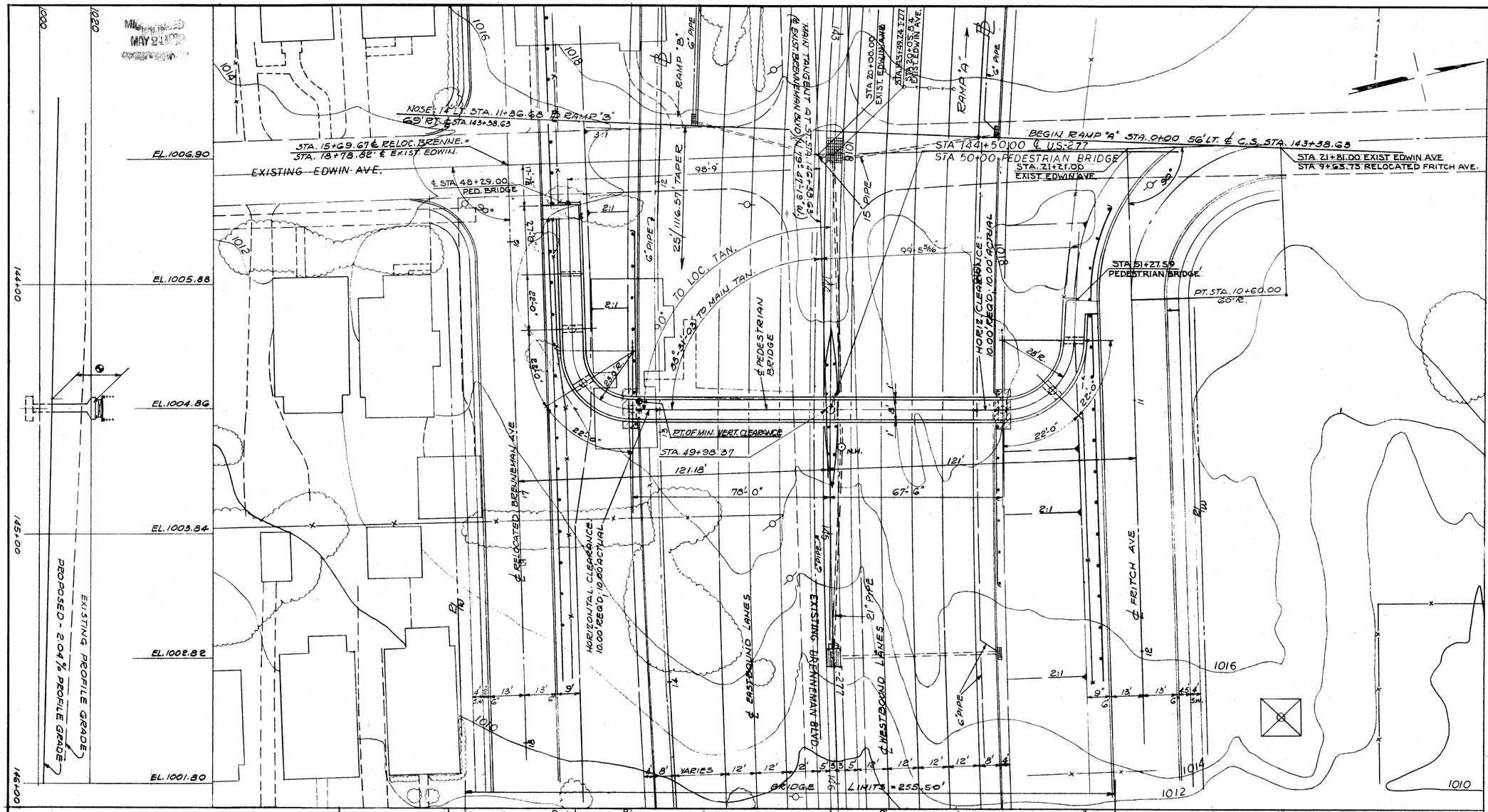
TYPICAL SECTIONS
PROPOSED STRUCTURE

TYPE : CONTINUOUS STEEL BEAM, WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE, REINFORCED CONCRETE SLAB RAMPS.
SKEW : 0°-00'-00"
SPANS : 3@22'-0"-78'-0"-67'-6"-2@22'-0"
ALIGNMENT : TANGENT, TAIL SPANS CURVED
SUPERELEVATION : NONE
LOADING : 85 P.S.F. LIVE LOAD
SLOPE PROTECTION : CRUSHED AGGREGATE.



SECTION THRU EXP. JOINT





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SITE PLAN

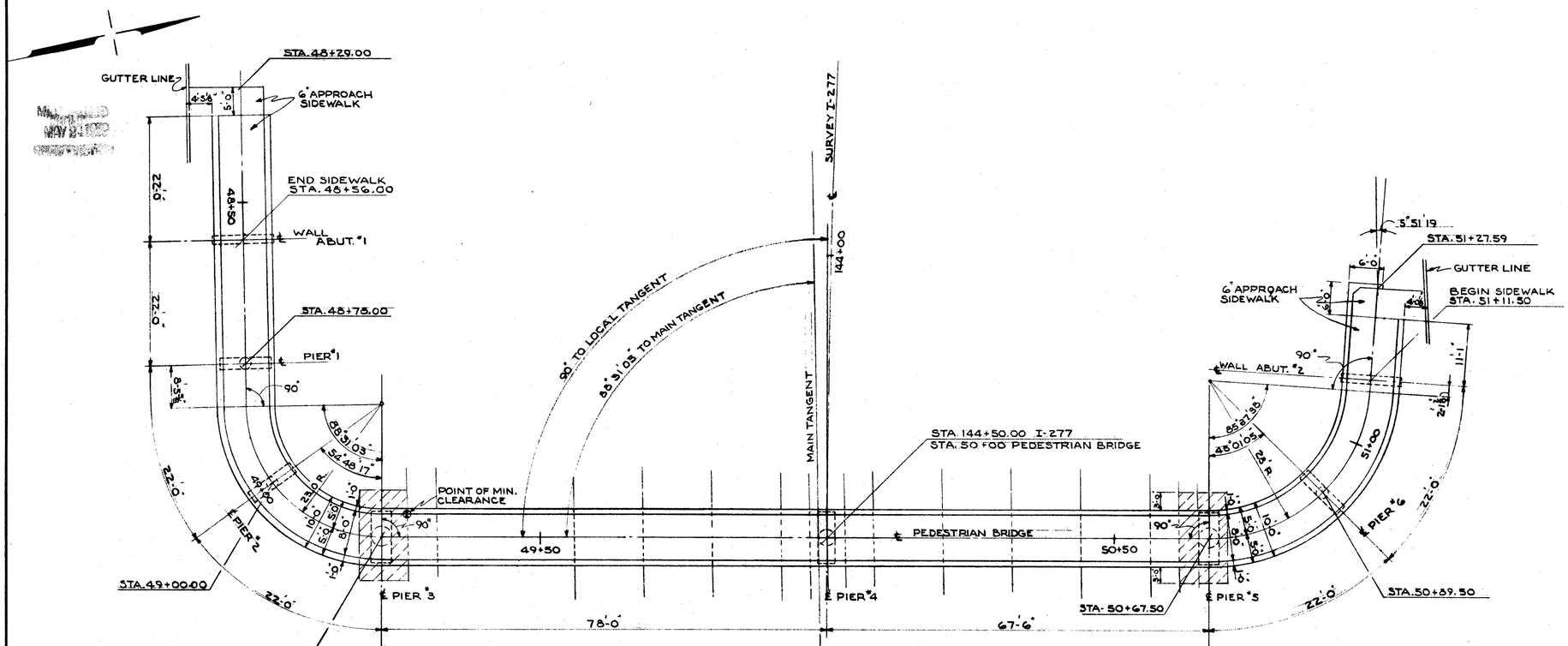
BRIDGE NO SUM 277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE
STA. 144+50.00
I-277 SUMMIT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E S	[illegible]		[illegible] 4/30/65	RDH	4-26-65	

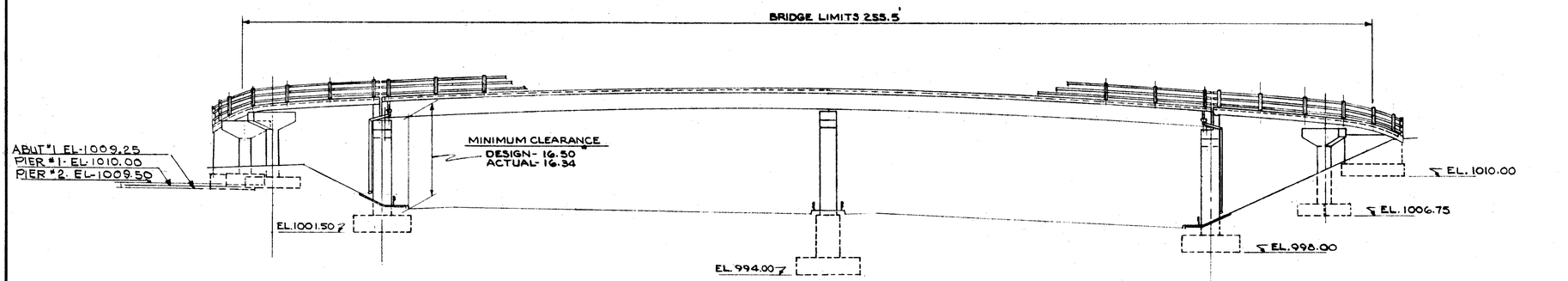
FED. RD.	STATE	PROJECT	
2	OHIO		

322
383

SUM.-277- 0.46



PLAN



ELEVATION

RAILING: Refer to details and note and sheet 327 and to the Proposal Notes.

DOWNSPOUTS SHALL BE 6" STANDARD WROUGHT IRON PIPE OR HOT-DIP GALVANIZED STEEL PIPE. JOINTS SHALL BE MADE BY WELDING OR BY THE USE OF A CLAMP-TYPE COUPLING WITH A RING GASKET. ALL WELDING SHALL BE DONE BEFORE GALVANIZING. STRAPS OR CLAMPS FOR ATTACHING DOWNSPOUTS SHALL BE WROUGHT IRON OR HOT-DIP GALVANIZED STEEL. BOLTS SHALL BE GALVANIZED.

POROUS BACKFILL SHALL FILL ALL NECESSARY EXCAVATION LIMITS WITHIN THE ABUTMENT WALLS AND FROM EXISTING GROUND LINE TO BOTTOM OF 6" SIDEWALK.

SEE SH. #291 & #292 FOR STRUCTURAL GENERAL NOTES Nº 1, 2, 3, 7, 10, 11, 13, 14, 16, 18, 19 AND 24

* INCLUDES 6"×6"-4/4 MESH REINFORCING AND INCIDENTALS TO CONSTRUCTING SIDEWALKS TO MATCH WITH EXISTING CURBS.

* AASHO M153

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
503	160	CU.YDS.	UNCLASSIFIED EXCAVATION		66	94	
503	50	CU.YDS.	ROCK EXCAVATION			50	
511	66	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	66			
511	20	CU.YDS.	CLASS "E" CONC. ABUTS. ABOVE FOOTINGS		20		
511	33	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			33	
511	53	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS		6	47	
825	365	SQ.YDS.	CONCRETE SURFACE TREATMENT	312	53		
512	58	SQ.FT.	½" PREFORMED EXPANSION JOINT FILLER*		58		
509	24,221	LBS.	REINFORCING STEEL	10,104	2,737	11,380	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
513	37,950	LBS.	STRUCTURAL STEEL	37,950			
514	37,950	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	37,950			
516	13	SQ.FT.	1/16" SHEET ASBESTOS PACKING		13		
517	586.80	LIN.FT.	RAILING (3 TUBE ALUMINUM RAILING, SUPPORTS, & ANCHOR BOLTS)	509.63	77.17		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
518	45	LIN.FT.	6" ϕ STD. PIPE DOWNSPOUT, WROUGHT IRON OR HOT DIP GALVANIZED STEEL, INCL. SPECIALS	45			
518	4	EACH	SCUPPERS, INCLUDING SUPPORTS	4			
518	6	EACH	6" ϕ drains (steel pipe)	6			
518	27	CU.YDS.	POROUS BACKFILL		27		
601	25	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION			25	
608	390	SQ.FT.	6" THICK CONCRETE SIDEWALK*		390		
828	16	LIN.FT.	JOINT SEALER (END DAM)	16			
808	66	UNITS	WATER REDUCING SET RETARDING ADMIXTURE.	66			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN AND ELEVATION

BRIDGE Nº SUM.-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.
I-277 SUMMIT COUNTY
STA. 144+50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		JW 4/65	RDH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

323
383

SUM. 277-046

PLAN
ABUTMENT #1

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

SECTION J-J

SECTION K-K

SECTION L-L

SECT. M-M

PLAN
ABUTMENT #2

ELEVATION
ABUTMENT #1

ELEVATION
ABUTMENT #2

NORTH WALL ELEVATION SHOWN
SOUTH WALL ELEV. OPP HAND

SIDEWALK PAVING PLAN

*INDICATES ELEV. GIVEN AT GUTTER LINE.
3/4 CHAMFER ALL EXPOSED CORNERS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENTS

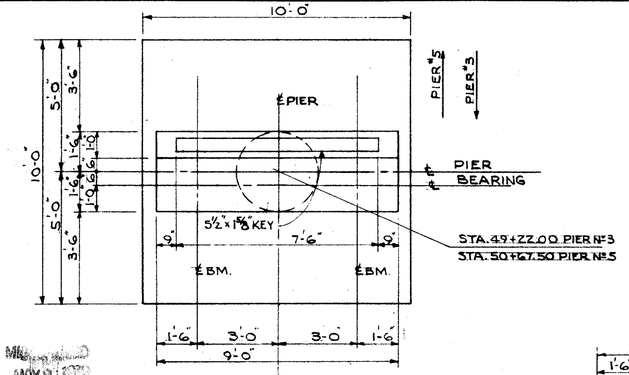
BRIDGE Nº SUM.-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE
I-277 SUMMIT COUNTY
STA. 144+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		4/21/65	RDH	4-26-65	

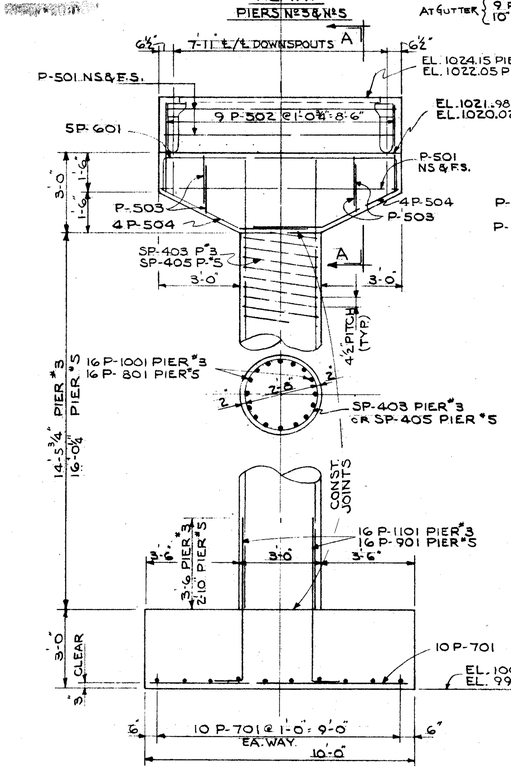
RED. RD.	STATE	PROJECT	
2	OHIO		

324
383

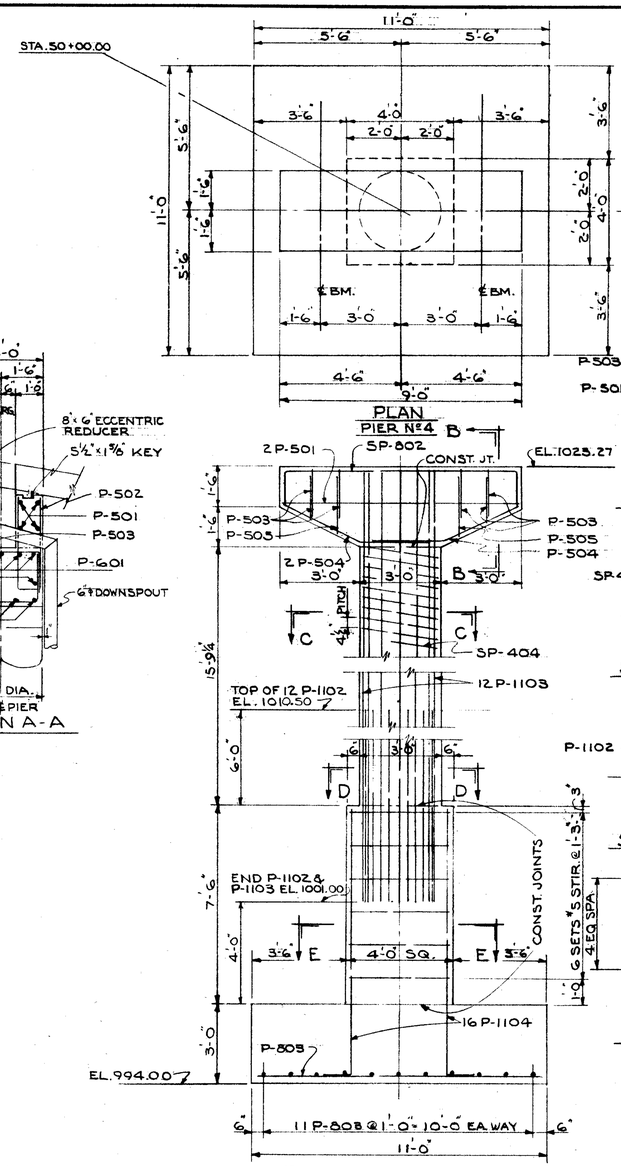
SUM.-277-0.46



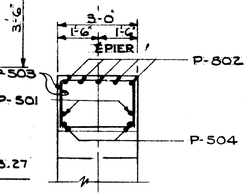
PLAN
PIERS №3 & №5



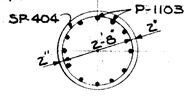
ELEVATION PIER №5 SHOWN - PIER №3 SIMILAR EXCEPT AS NOTED



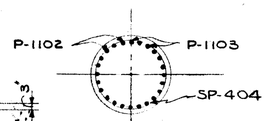
ELEVATION PIER №4



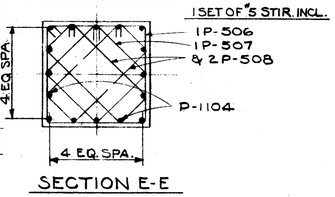
SECTION B-B



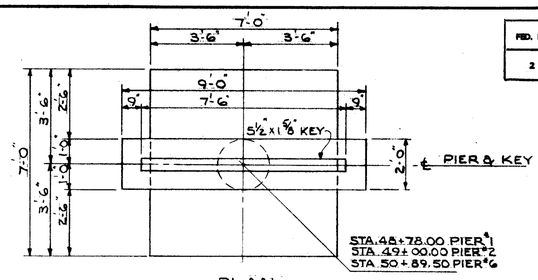
SECTION C-C



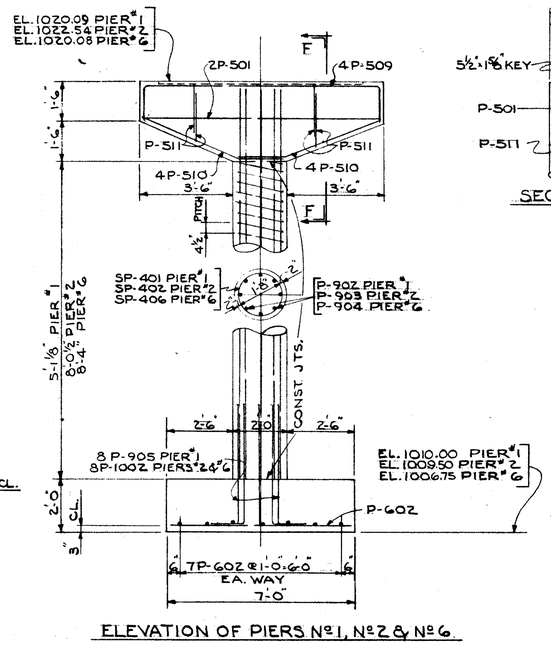
SECTION D-D



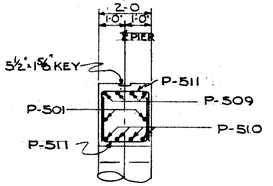
SECTION E-E



PLAN
PIERS №1, 2 & 6



ELEVATION OF PIERS №1, №2 & №6



SECTION F-F

SEE NOTE №7 FOR PIERS "3, "4 AND "5 FOUNDATIONS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

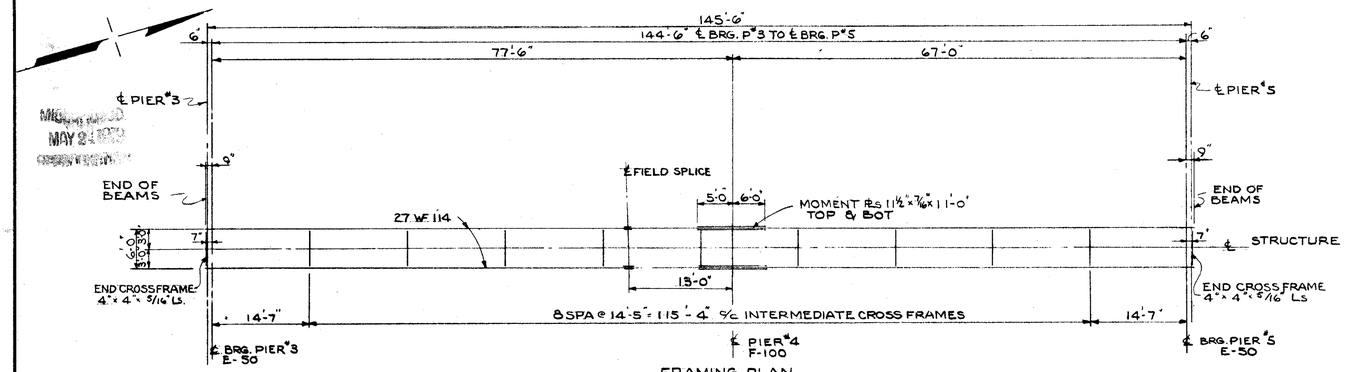
PIERS

BRIDGE № SUM.-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.
I-277 — SUMMIT COUNTY
STA. 144+50.00

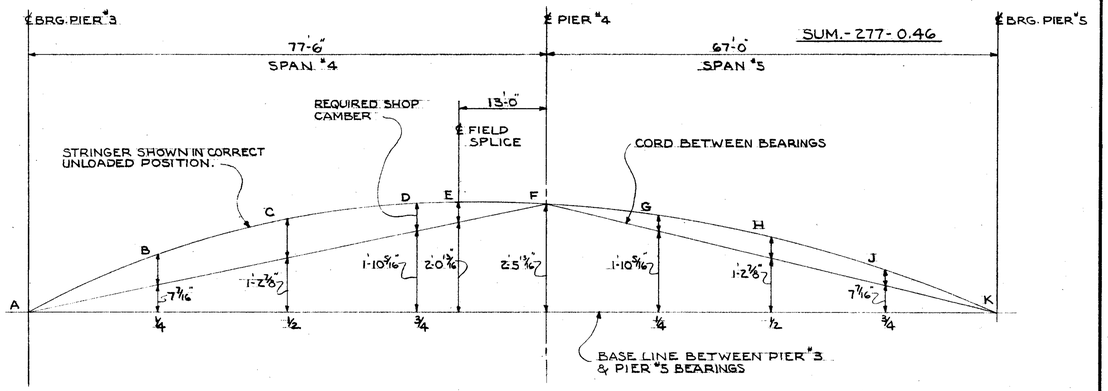
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		JAV 4/26/65	RDH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

325
383

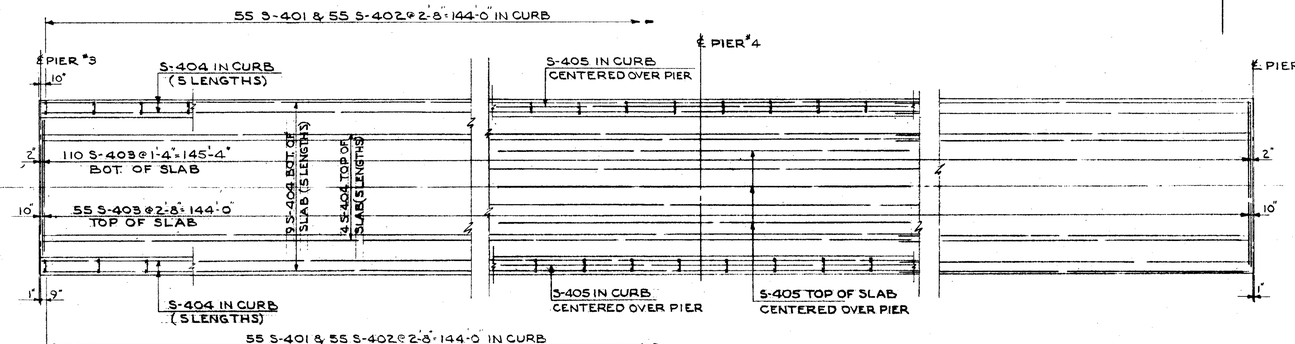


FRAMING PLAN

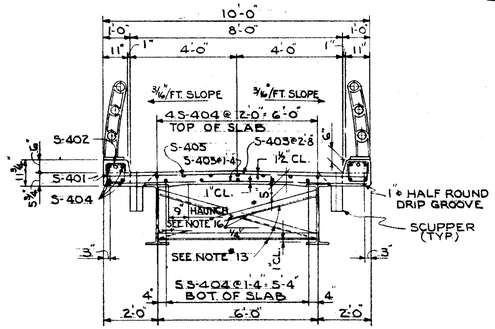


BEAM LAYDOWN AND CAMBER DIAGRAM

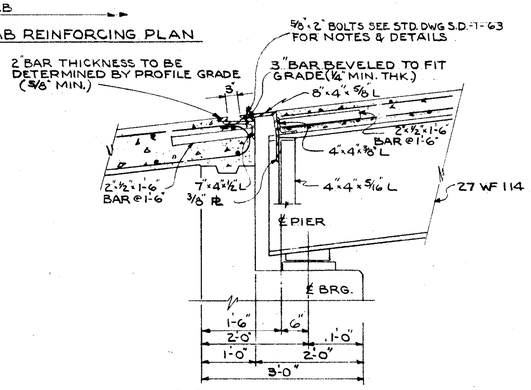
	SPAN Nº 4				SPAN Nº 5		
	¼ POINT B	½ POINT C	¾ POINT D	SPLICE POINT E	¼ POINT G	½ POINT H	¾ POINT J
DEFLECTION DUE TO WEIGHT OF STEEL	5/16"	3/8"	3/16"	1/16"	1/16"	1/16"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/8"	1 7/16"	11/16"	1/2"	1/8"	1/2"	7/16"
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	6 5/16"	8 7/16"	6 3/16"	4 1/16"	4 3/4"	6 5/16"	4 3/4"
REQUIRED SHOP CAMBER	7 3/4"	10 1/4"	7 3/16"	5 1/4"	4 13/16"	6 13/16"	5 5/16"



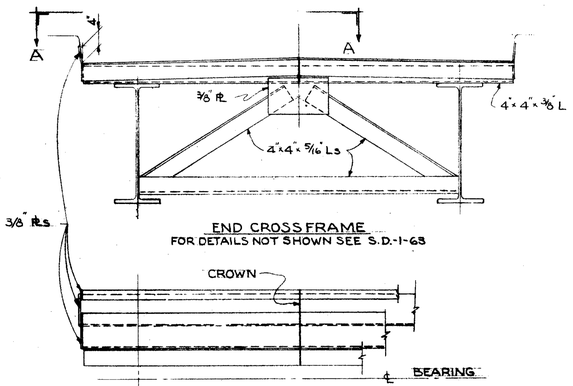
SLAB REINFORCING PLAN



TRANSVERSE SECTION



EXPANSION DAM DETAIL
PIER #4 SHOWN
PIER #6 SIMILAR EXCEPT OPPOSITE HAND
SEE STD. DWG. S.D.-1-63 FOR EXPANSION DAM DETAILS NOT SHOWN

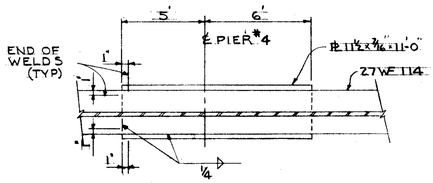


END CROSS FRAME
FOR DETAILS NOT SHOWN SEE S.D.-1-63

SECTION A-A

*THIS IS A NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.

SEE STD. DWG. SD-2-64 FOR FIELD SPLICE DETAIL.



SHOP WELDING DETAILS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SPANS Nº 3 & 4 FRAMING PLAN

BRIDGE Nº SUM-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.
I-277 SUMMIT COUNTY
STA. 144+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		4/21/65	RDH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

326
383

SUM.-277-0.46

MK
MAY 8

7 S-701@1'-7" TOP
7 S-702@1'-7" BOT.

6 S-801@1'-7" BOT.

6 S-901@1'-7" TOP

21 S-403@1'-6" TOP & BOT.

22 S-402 & 22 S-406 LAP ALT. S-403 IN CURB

S-402
S-406
S-606

S-606
S-608

℄ WALL ABUT. #1

℄ PIER #1

P.C. STA. 48+86.47

SERIES OF S-802@1'-7" TOP & BOT.

23'-0" RADIUS

10'-0"

5'-0"

5'-0"

S-902@1'-7" TOP

℄ PIER #2

EQUAL

EQUAL

EQUAL

EQUAL

6 S-904 @1'-7" BOT.

℄ BEARING PIER #3

P.T. STA. 49+22.00 @ ℄ PIER #3

℄ BRG. PIER #2

℄ PIER #5

EQUAL

EQUAL

EQUAL

EQUAL

6'

6'

6'

6'

S-601 IN CURB

S-602 IN CURB

S-603 IN CURB

S-604

S-605

23 S-905@1'-6" TOP & BOT. PLACED RADIALLY MEASURED ALONG ℄ WALKWAY

27 S-403@1'-6" TOP & BOT. PLACED RADIALLY MEASURED ALONG ℄ WALKWAY

SER. S-703@1'-7" TOP.
SER. S-704@1'-7" BOT.

SER. S-707@1'-7" TOP
SER. S-706@1'-7" BOT.

6 S-708@1'-7" BOT.

SER. S-710@1'-7" TOP
SER. S-709@1'-7" BOT.

6 S-708@1'-7" BOT.

6 S-905@1'-7" TOP & BOT.

SER. S-903@1'-7" TOP & BOT.

℄ WALL ABUT. #2

S-403 TOP & BOT.

15 S-402 & 15 S-407 LAP ALT. S-403 IN CURB

15 S-402 & 15 S-407 LAP ALT. S-403 IN CURB

SOUTH RAMP

NORTH RAMP

REINFORCING STEEL IN THIS SECTION SHOWN ON SH. #325

MIDDLE SPANS

SECTION A-A

10'-0"
1'-1" 8'-0" 1'-1"
4'-0" 4'-0"
℄ WALKWAY
3/16"/FT. 3/16"/FT.
9 3/4"
0"
1/2 CL.
S-402
S-406
S-607
S-403
S-402
S-406
S-608
4" ϕ PIPE DRAINS
1'CL.
1" ϕ HALF ROUND DRIP GROOVE
SERIES OF S-802@1'-7" TOP & BOT.

SECTION B-B

10'-0"
1'-1" 8'-0" 1'-1"
4'-0" 4'-0"
℄ WALKWAY
3/16"/FT. 3/16"/FT.
10 3/4"
0"
1/2 CL.
S-402
S-407
S-604
S-403
S-402
S-407
S-605
4" ϕ PIPE DRAINS
1'CL.
1" ϕ HALF ROUND DRIP GROOVE
SERIES OF S-710@1'-7" TOP
SERIES OF S-709@1'-7" BOT
S-708@1'-7" BOT.

SECTION C-C

℄ PIER
9 3/4" ϕ
9 3/4" ϕ
11 7/16" ϕ 10 11/16" PIER #1
11 7/16" ϕ 10 3/16" PIER #2

SECTION D-D

10 11/16" ϕ
9 11/16" ϕ
℄ BRG.
℄ PIER

SEE EXP. DAM DETAIL SH. #325 FOR REINFORCING.

SECTION E-E

1'-0" ϕ
11 1/4" ϕ
℄ BRG.
℄ PIER

SECTION F-F

10 3/4" ϕ
10" ϕ
1'-0" ϕ
11 1/4" ϕ
℄ PIER

#-AT ℄ BRIDGE
@-AT GUTTER LINE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAMP REINFORCING PLANS

BRIDGE № SUM.-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.
I-277 SUMMIT COUNTY
STA. 144+50.00

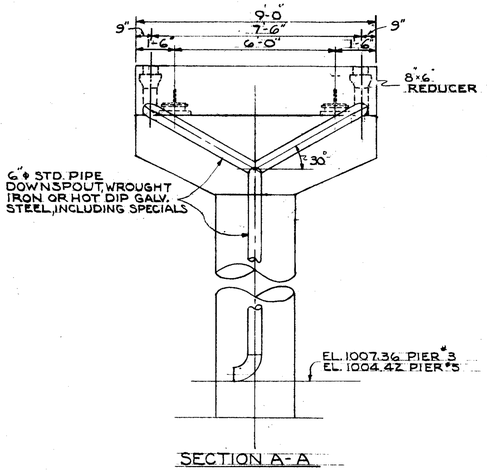
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		4/5/65	RDH	4-26-65	

MAY 3 1965

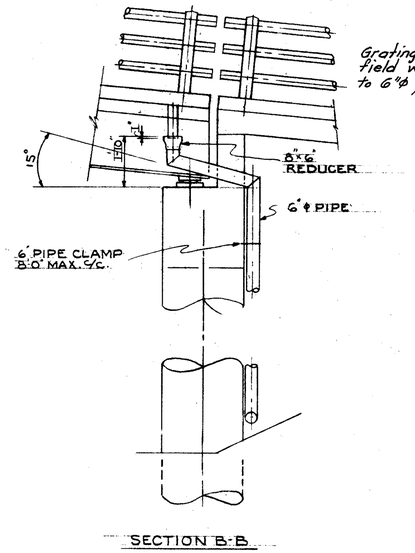
FED. RD.	STATE	PROJECT	
2	OHIO		

327
383

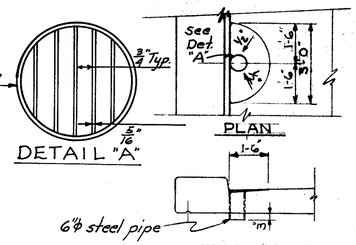
SUM.-277-0.46



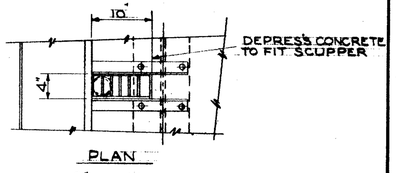
SECTION A-A

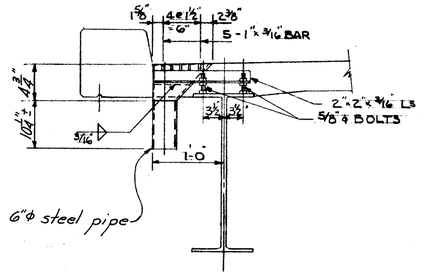


SECTION B-B



6" DIA. PIPE SCUPPER DETAIL (6 REQD.)

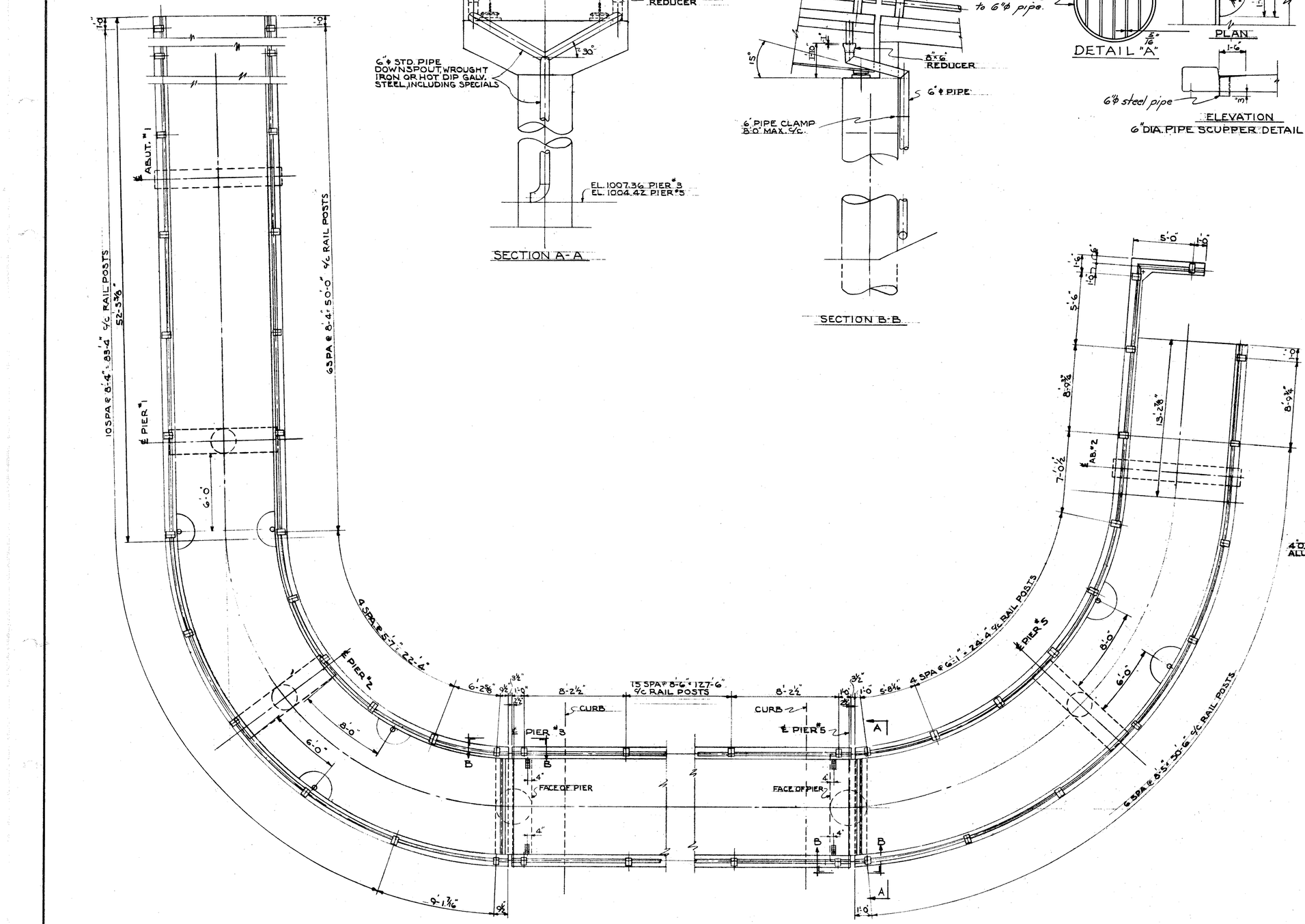


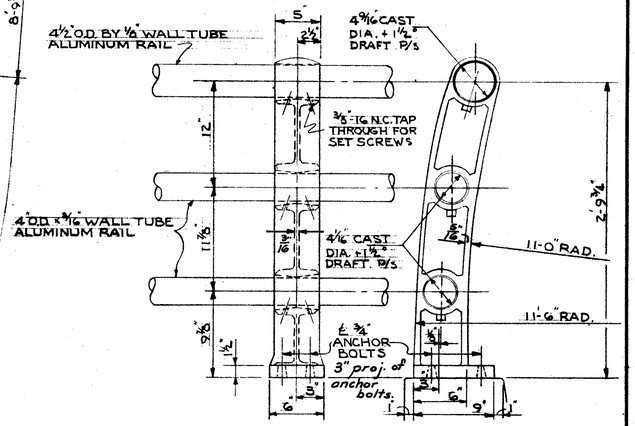


ELEVATION

SCUPPER DETAIL (4 REQD)

FABRICATE FROM ⅜" THICK STEEL ALL WELDED CONSTRUCTION





RAILING POST DETAIL

SEE STD. DWG. AR-1-57 FOR DETAILS NOT SHOWN

RAILS SHALL BE CONTINUOUS THROUGH FIRST POST AT EACH END OF SUPERSTRUCTURE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE DETAILS

BRIDGE Nº SUM-277-02.16

PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.

I-277 — SUMMIT COUNTY

STA. 144+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		[illegible]	RDH	9-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

328
383

SUM.-277-0.46

ABUTMENTS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
A-501	24	12'-1"	3	9'-2"	1'-7"				302
A-502	16	22'-5"	ST						374
A-503	18	4'-0"	ST						75
SERIES OF A-504	2 SETS OF 12 = 24 BARS	VARIES 3'-11" TO 6'-8" @	ST					3"	131
SERIES OF A-505	2 SETS OF 12 = 24 BARS	VARIES 4'-5" TO 7'-2" @	19	VARIES 3'-11" TO 6'-8" @	7"	11"		3"	145
A-506	12	6'-0"	ST						75
A-507	14	3'-11"	1	6"	3'-6"				57
A-508	4	19'-1"	ST						79
A-509	4	21'-9"	ST						91
A-510	12	9'-2"	ST						115
A-511	10	5'-3"	14	1'-11"	8"	4"			55
A-512	14	4'-1"	3	1'-2"	1'-7"				60
A-513	14	9'-4"	1	1'-10"	7'-7"				137
A-514	30	2'-3"	ST						70
A-515	2	10'-8"	ST						22
A-516	6	10'-0"	ST						63
A-517	10	11'-6"	ST						120
SERIES OF A-518	1 SET OF 5 = 5 BARS	VARIES 5'-3" TO 6'-4" @	ST					3¼"	30
SERIES OF A-519	1 SET OF 5 = 5 BARS	VARIES 6'-6" TO 7'-7"	19	VARIES 4'-3" TO 6'-4" @	7"	11"		3¼"	37
A-520	1	6'-6"	ST						7
A-521	1	7'-9"	19	6'-6"	7"	11"			8
A-522	14	9'-0"	1	1'-10"	7'-3"				160
A-523	4	11'-9"	ST						49
A-524	10	17'-3"	ST						180
A-525	2	16'-7"	12	10'-10"	5'-10"	9"			35
A-526	2	13'-0"	ST						27
SERIES OF A-527	1 SET OF 5 = 5 BARS	VARIES 5'-5" TO 6'-5" @	ST					3"	31
SERIES OF A-528	1 SET OF 5 = 5 BARS	VARIES 6'-8" TO 7'-8"	19	VARIES 5'-5" TO 6'-5" @	7"	11"		3"	38
A-529	6	6'-6"	19	5'-5"	7"	11"			41
A-530	6	5'-3"	ST						33
A-531	6	5'-5"	ST						34
A-532	6	3'-5"	1	1'-9"	1'-9"				21
A-533	6	5'-8"	1	5"	5'-4"				35
TOTAL ABUTMENTS =									2737 #

PIERS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
P-501	20	8'-8"	ST						181
P-502	18	6'-11"	3	8"	3'-3"				130
P-503	14	6'-1"	3	2'-8"	1'-10"				89
P-504	20	5'-8"	12	3'-2"	2'-6"	1'-1"			202
P-505	2	6'-11"	3	2'-8"	2'-3"				14
P-506	6	14'-9"	14	3'-8"	3'-8"	4"			92
P-507	6	10'-11"	14	2'-8½"	2'-8½"	4"			68
P-508	12	10'-11"	14	3'-11"	1'-6"	4"			137
P-509	12	10'-9"	3	8'-8"	1'-2"				135
P-510	24	5'-6"	12	3'-7"	2'-0"	9"			138
P-511	12	5'-1"	3	1'-8"	1'-10"				64
P-601	10	11'-1"	3	8'-8"	1'-4"				166
P-602	42	6'-8"	ST						421
P-701	40	9'-8"	ST						790

PIERS (CONT.)

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
P-801	16	18'-9"	ST						801
P-802	5	10'-11"	3	8'-8"	1'-4"				146
P-803	22	10'-8"	ST						627
P-901	16	6'-4"	1	1'-0"	5'-7"				345
P-902	8	7'-9"	ST						211
P-903	8	10'-8"	ST						290
P-904	8	11'-0"	ST						299
P-905	8	5'-4"	1	1'-0"	4'-7"				145
P-1001	16	17'-3"	ST						1188
P-1002	16	5'-8"	1	1'-0"	4'-11"				390
P-1101	16	7'-0"	1	1'-0"	6'-3"				595
P-1102	12	9'-6"	ST						606
P-1103	12	22'-1"	ST						1048
P-1104	16	10'-10"	1	1'-0"	10'-1"				921
TOTAL PIERS =									10,239 #

SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
S-401	110	2'-1"	15	8"	7"	3"			153
S-402	184	1'-1"	3	7"	4"				133
S-403	311	9'-8"	ST						2008
S-404	85	30'-4"	ST						1722
S-405	5	23'-0"	ST						77
S-406	44	2'-9"	15	11"	7"	3"			81
S-407	30	2'-11"	15	12"	7"	3"			58
S-601	2	20'-6"	16	20'-6"	27'-11"				62
S-602	2	17'-3"	16	17'-3"	23'-7"				52
S-603	2	26'-0"	16	26'-0"	33'-10"				78
S-604	2	21'-2"	18	19'-2"	2'-0"	23'-7"			64
S-605	2	26'-6"	18	24'-6"	2'-0"	33'-10"			80
S-606	4	30'-0"	ST						180
S-607	2	26'-4"	18	23'-10"	2'-6"	27'-11"			79
S-608	2	30'-2"	18	27'-8"	2'-6"	18'-5"			91
S-701	7	30'-0"	ST						429
S-702	7	30'-9"	6	30'-0"	9"	6"			440
SERIES OF S-703	1 SET OF 7 = 7 BARS	VARIES 21'-2" TO 14'-8"	16	VARIES 21'-2" TO 14'-8"@1'-1"	VARIES 27'-11" TO 18'-5"@1'-7"				256
SERIES OF S-704	1 SET OF 7 = 7 BARS	VARIES 21'-11" TO 15'-5"	21	VARIES 21'-2" TO 14'-8"@1'-1"	VARIES 27'-11" TO 18'-5"@1'-7"	6"	0"		267
S-705		OPEN							
SERIES OF S-706	1 SET OF 7 = 7 BARS	VARIES 22'-0" TO 16'-0"	21	VARIES 21'-3" TO 15'-3"@1'-0"	VARIES 33'-10 TO 25'-7"@1'-7"	0"	6"		272
SERIES OF S-707	1 SET OF 7 = 7 BARS	VARIES 21'-3" TO 15'-3	16	VARIES 21'-3" TO 15'-3"@1'-0"	VARIES 33'-10 TO 25'-7"@1'-7"				261
S-708	12	12'-0"	16	12'-0"	28'-3"				294
SERIES OF S-709	1 SET OF 7 = 7 BARS	VARIES 22'-0" TO 16'-9"	20	VARIES 19'-3" TO 14'-0"@1'-0½"	2'-0"	VARIES 33'-10 TO 25'-7"@1'-7"	6"		277

SUPERSTRUCTURE (CONT.)

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
SERIES OF S-710	1 SET OF 7 = 7 BARS	VARIES 21'-3" TO 16'-0"	18	VARIES 19'-3" TO 14'-0"@1'-0½"	2'-0"	VARIES 33'-10 TO 25'-7"@1'-7"			266
B-801	6	10'-0"	ST						160
SERIES OF S-802	2 SETS OF 7 = 14 BARS	VARIES 26'-0" TO 18'-6"	16	VARIES 23'-10" TO 15'-8"@1'-1"	2'-10"	VARIES 27'-11" TO 18'-5"@1'-7"			844
S-901	6	8'-0"	ST						163
S-902	6	8'-0"	16	8'-0"	23'-2"				163
SERIES OF S-903	2 SETS OF 7 = 14 BARS	VARIES 13'-0" TO 10'-6"	16	VARIES 13'-0" TO 10'-6"@1'-7"	VARIES 33'-10 TO 23'-7"@1'-7"				559
S-904	6	12'-0"	16	12'-0"	23'-2"				245
S-905	12	8'-0"	16	8'-0"	28'-3"				326
TOTAL SUPERSTRUCTURE =									10104 #

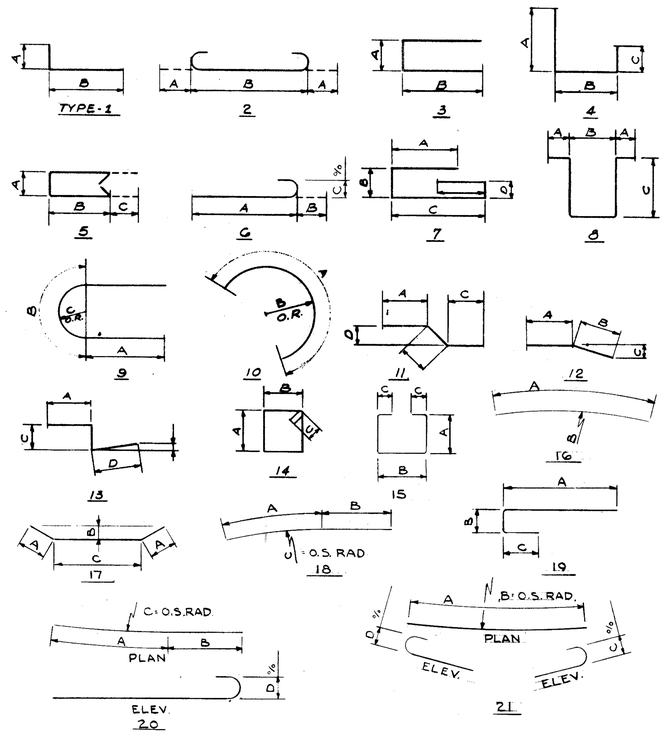
REPLACEMENT BARS

RE-401	1	5'-3"	ST						
RE-501	1	5'-6"	ST						
RE-601	1	6'-10"	ST						
RE-701	1	6'-3"	ST						
RE-801	1	6'-6"	ST						
RE-901	1	6'-10"	ST						
RE-1001	1	7'-3"	ST						
RE-1101	1	7'-9"	ST						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	1	1'-8"	5'-1⅛"	4½"	17	58
SP-402	1	1'-8"	8'-0½"	"	24	82
SP-403	1	2'-8"	14'-5⅝"	"	42	231
SP-404	1	2'-8"	15'-9¼"	"	45	248
SP-405	1	2'-8"	16'-0¼"	"	46	253
SP-406	1	1'-8"	8'-4"	"	25	85
SPACERS						184
TOTAL SPIRALS						1141 #

GRAND TOTAL 24,221 LBS



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE Nº SUM-277-0216
PEDESTRIAN BRIDGE OVER I-277 AT EDWIN AVE.
I-277 SUMMIT COUNTY
STA. 144+50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ES	JLH		CW 4/21/66	RDH	4-26-66	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

329
383

PROP 36" V.C.P.

M.H.

EXIST. 24" SAN. TO BE ABANDONED

M.H.

M.H.

BRENNEMAN BLVD.

150 975.47 | 151 97.17 | 152 966.70 | 153 | 154 | 155 970.30 | 156 965.70

℄ JOINT

FIT PARAPETS

VARIABLE

STA 152+75 I-277
STA. 5000 OHIO CANAL

102° 00' 00"

℄ GUARD RAIL BARRIER TYPE.
12°02' SKEW

77°57'

℄ ACCESS RD

STA 153+25 I-277
STA 20+00 BASE LINE

78°00

STA 153+34.42 I-277
STA 50+00 ACCESS RD

BEGIN APPROACH SLAB
STA. 153+78.05

PT. OF MIN VERT. CLEARANCE

21'-00"

49'-00"

BASE LINE

℄ WESTBOUND LANES

℄ SURVEY PROPOSED I-277

℄ EASTBOUND LANES

END APPROACH SLAB
STA 151+79.95

RAMP 'B' ACCELERATION LANE (USE 69' RT. ℄ STA 143+38.63 25'/1116.37' TAPER

VARIES

PROPOSED 42" R.C.P.

OHIO CANAL

CRUSHED AGGREGATE SLOPE PROTECTION

25'/1116.37' TAPER

END TAPER 44 LT ℄ STA 154+55.00

TRAFFIC 54,590 - 1975 - A.D.T.
⊗ VERTICAL CLEARANCE
DESIGN - 14.0'
ACTUAL - 14.0'

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SKEW- 12° 00' 00" L.F.
SPANS: 54'-0" - 77'-6" - 62'-0" ℄ BEARINGS
ROADWAY: VARIABLE 5" PARAPETS 4'-0" RAISED MEDIAN
LOAD FREQUENCY OF 2,000 (ST) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
SUPERELEVATION: NONE
ALIGNMENT: TANGENT
SLOPE PROTECTION: 601 CRUSHED AGGREGATE

SECTION SHOWING FLOOD SITUATION AT ℄ STA 20+00

77' HIGH WATER EL. 967.5
2' 15' 20' 21' 14' 5.5' 5.5' 57' 23'
EXIST. WATER EL. 964.6 FEB. 1963
BASE-LINE
EXISTING PROFILE
PROP 36" V.C.P.
EL 969.4 EL 966.1 EL 966.6 EL 965.2 EL 965.4 EL 966.8 EL 966.1 EL 966.8 EL 968.6
54'-0" 77'-6" 38'-9" 38'-9" 11'-3" 50'-9" 82'-0

PROFILE

EL 968.35 EL 968.48 EL 968.58 EL 968.68 EL 968.78 EL 990.58 EL 989.56 EL 988.54 EL 987.52 EL 986.50 EL 985.48 EL 984.46

STA 151+79.95 STA 153+78.05

PROPOSED +0.20% PROFILE GRADE AT ℄ ACCESS RD.

PROPOSED -2.04% PROFILE GRADE

EL 984.13 N.S. EL 983.72 F.S.
EL 980.23 N.S. EL 979.77 F.S.
BRIDGE LIMITS = 198.10'
TYPE I BRIDGE RAILING

HIGH WATER EL. 967.5
EXISTING WATER 49+00 EL. 964.6
50+00
EXISTING BOTTOM OF CANAL 51+00

EL 977.69
2:1 NORMAL
PILES TO BE STEEL H PILES AT ABUT. 1 & PIER #1
PILES TO BE 12 CAST-IN-PLACE PILES AT PIER #2 & ABUT. 2
ESTIMATED LENGTH
ABUTS. 50 FT.
PILRS 40 FT.
EL 954.50
152+00
HIGH WATER EL 967.5
EXISTING WATER EL 964.6
EL 954.50
153+00
℄ ACCESS RD
EXISTING ℄ PROFILE
EL 973.74
2:1 NORMAL
CLEARANCE ABOVE WATER 12.00 REQD. 16.5± PROVIDED
154+00

990 980 970 960

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SITE PLAN

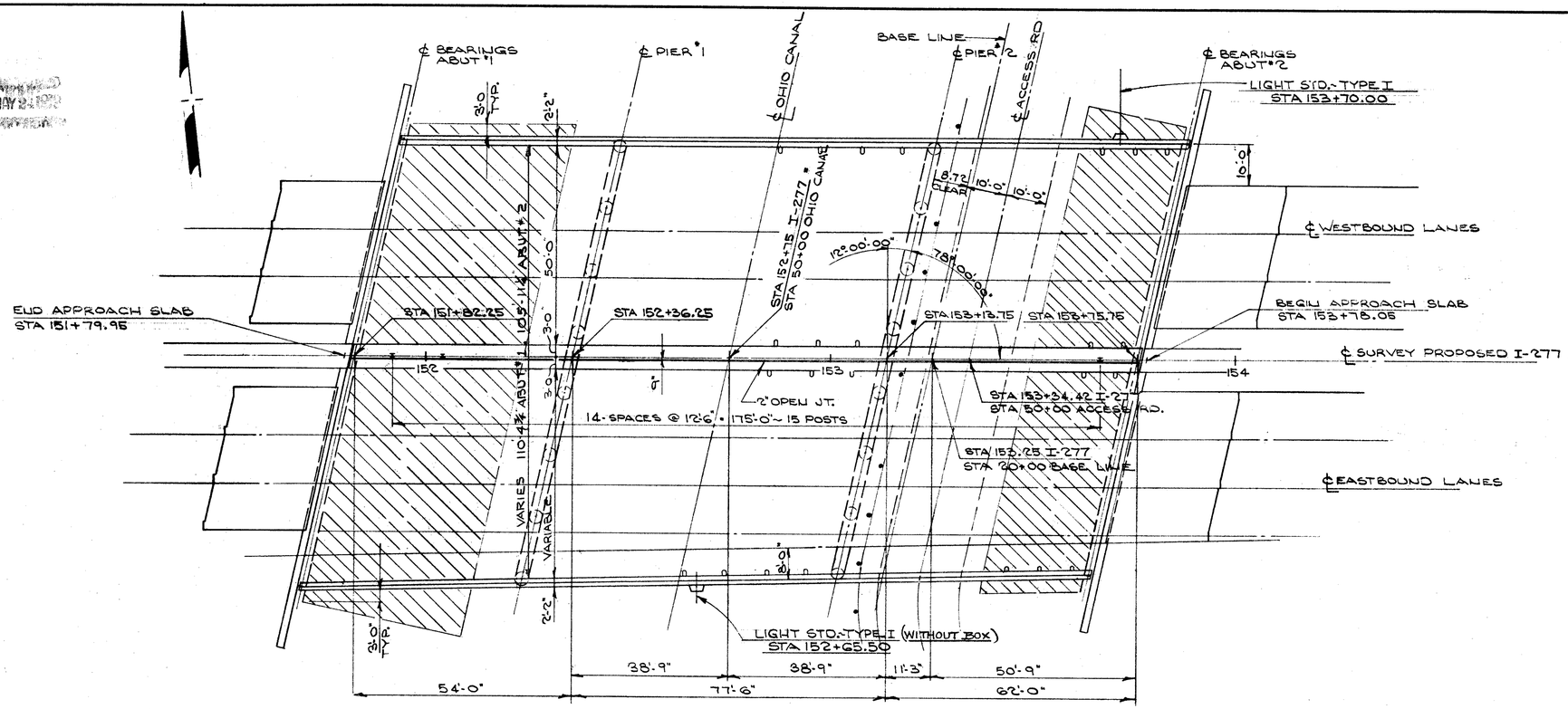
BRIDGE N° SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CES	JWW		HGH	ADH	3-11-65	

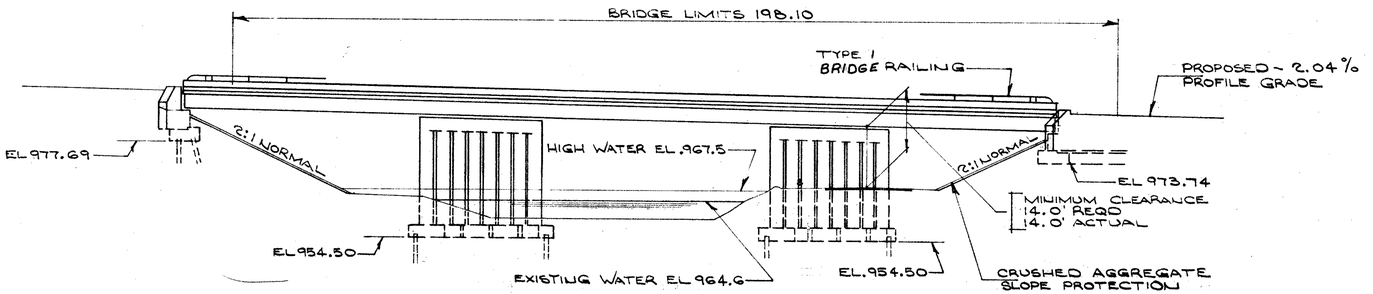
FED. RD.	STATE	PROJECT	
2	OHIO		

330
383

SUM – 277 – 0.46



PLAN



ELEVATION

50% OF THE PROPOSED STRUCTURE LIES WITHIN THE CITY LIMITS OF AKRON, THEREFORE THE CITY OF AKRON'S PARTICIPATION WILL BE BASED ON 50% OF THE TOTAL BRIDGE QUANTITIES.

SEE SHTS. Nº 291 & 292 FOR GENERAL NOTES NO. 1-4, 6, 8, 9, 11-13, 16, 18-20 & 22-26, 28

SEE SHT. Nº 293 FOR STRUCTURAL DETAILS

—ESTIMATED QUANTITIES—

* AASHO M153

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIERS	GEN
503	1596	CU.YDS	UNCLASSIFIED EXCAVATION		518	1078	
511	633	CU.YDS	CLASS "C" CONC. SUPERSTRUCTURE	633			
511	223	CU.YDS	CLASS "E" CONC. ABUTS. ABOVE FOOTINGS		223		
511	185	CU.YDS	CLASS "C" CONC. PIERS ABOVE FOOTINGS			185	
511	362	CU.YDS	CLASS "E" CONC PIER & ABUT FOOTINGS		170	192	
503	LUMP	SUM	COFFERDAMS, CRIBS & SHEETING			LUMP S	
512	39	LIN.FT.	PREMOLDED SEALING STRIP		39		
825	2590	sq.Yds	Concrete Surface Treatment	2540	50		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN
509	217,155	LBS	REINFORCING STEEL	202,455	23,937	10,765	
513	631,256	LBS	STRUCTURAL STEEL	631,256			
514	631,256	LBS	FIELD PAINT STRUCTURAL STEEL	631,256			
516	90	SQ FT	1" PREFORMED EXP. JT FILLER *		90		
828	209	LIN.FT.	JOINT SEALER (END DAM)	209			
517	390.37	LIN.FT	RAILING TYPE I	390.37			
517	194.95	LIN.FT	RAILING DOUBLE FACED DEEP BEAM RAIL WITH STEEL POSTS AND BOLTS	194.95			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN
505	LUMP	SUM	FIRST TEST PILE				
507	4280	LIN.FT.	12"ϕ CAST IN PLACE REINF CONC. PILES		1400	2880	
507	1500	LIN.FT	10 BP 42 BEARING PILES		1500		
507	2880	LIN.FT	12 BP 53 BEARING PILES			2880	
625			SEE ELECTRICAL DRAWINGS				
518	107	CU.YDS	POROUS BACKFILL		107		
518	227	LIN.FT.	6" PERFORATED HELICAL C.M.P. 707.06 INCLUDING SPECIALS		227		
518	133	LIN.FT.	6" HELICAL C.M.P. 707.06 NON-PERFORATED		133		
518	24	EACH	SCUPPERS INCLUDING SUPPORTS	24			
601	997	SQ YDS	CRUSHED AGGREGATE SLOPE PROTECTION		997		
808	633	UNITS	WATER REDUCING SET RETARDING ADMIX	633			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN & ELEVATION

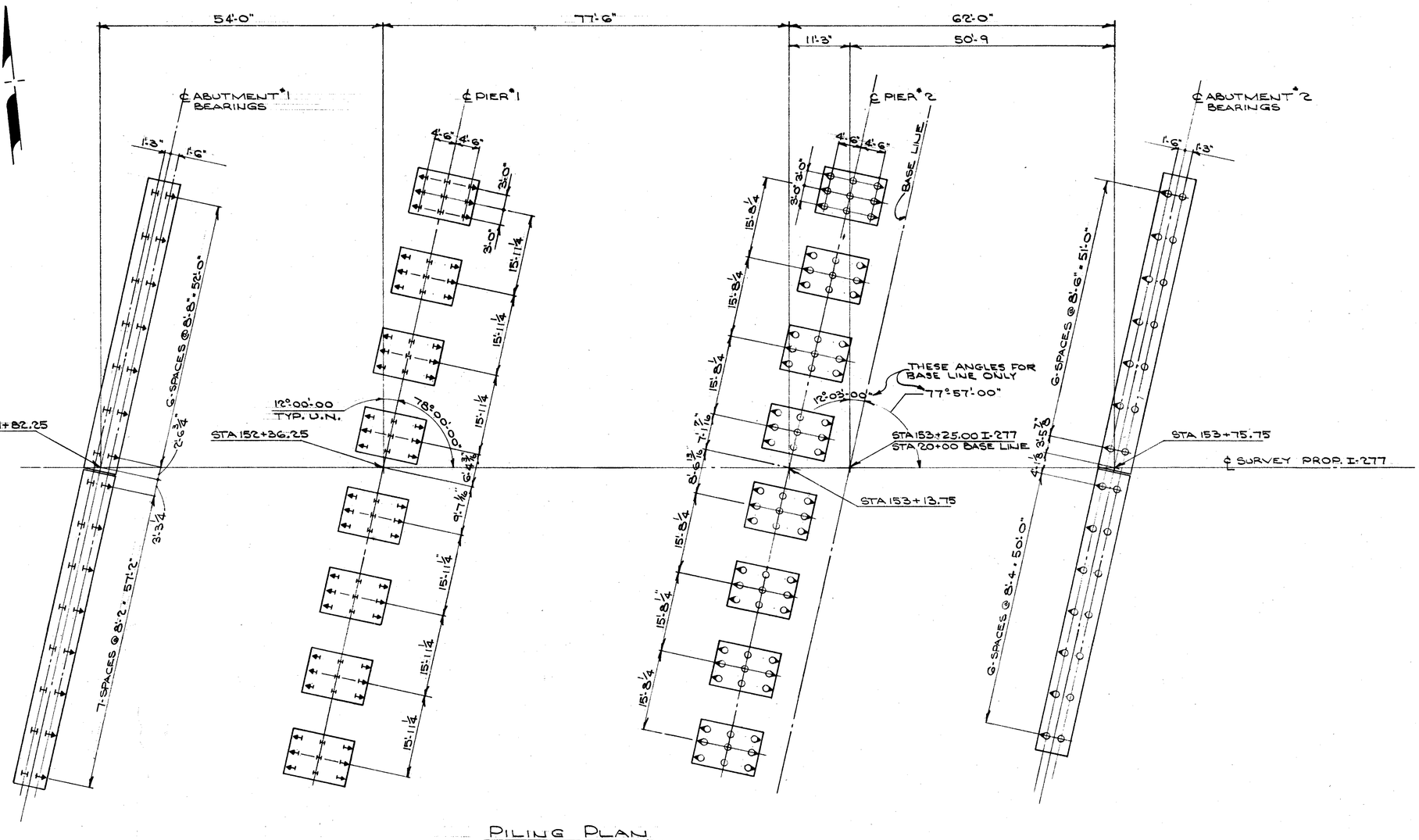
BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 — SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JES.	JWW		HGH	RDH	3-11-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

331
383



PILING PLAN

NOTE
PILES FOR ABUT.#1 — 10 BP 42
PILES FOR PIER #1 — 12 BP 53
PILES FOR PIER #2 AND ABUT.#2
12" MIN. TOP DIA. CAST IN PLACE CONCRETE PILES

◀O▶ INDICATES 1:4 BATTERED PILES

PILE CUT OFF ELEVATIONS

ABUTMENT #1	979.69
PIER #1	955.50
PIER #2	955.50
ABUTMENT #2	975.74

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PILING PLAN

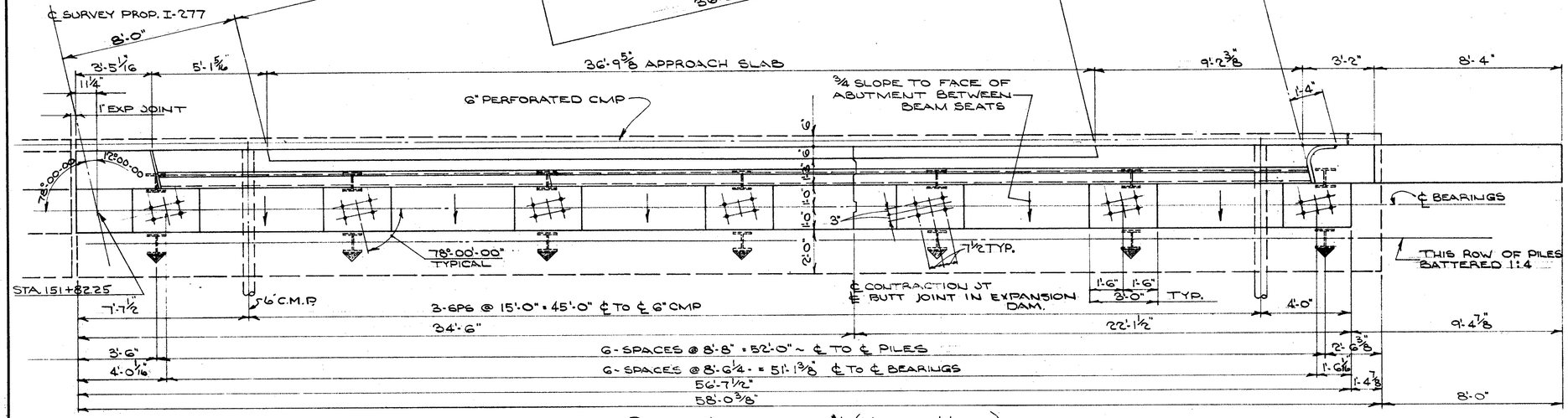
BRIDGE Nº SUM.-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
clo	JWW		WGH	RBH	3-18-65	

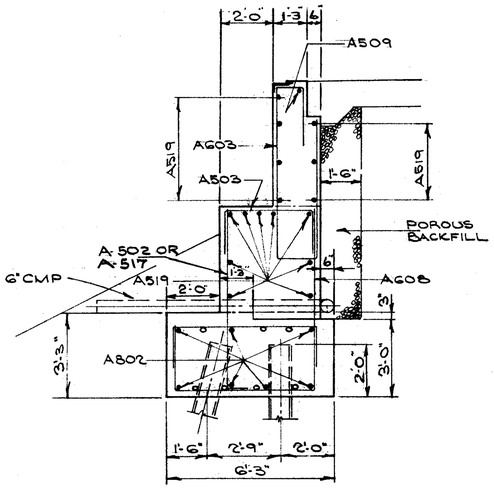
FED. RD.	STATE	PROJECT	
2	OHIO		

332
383

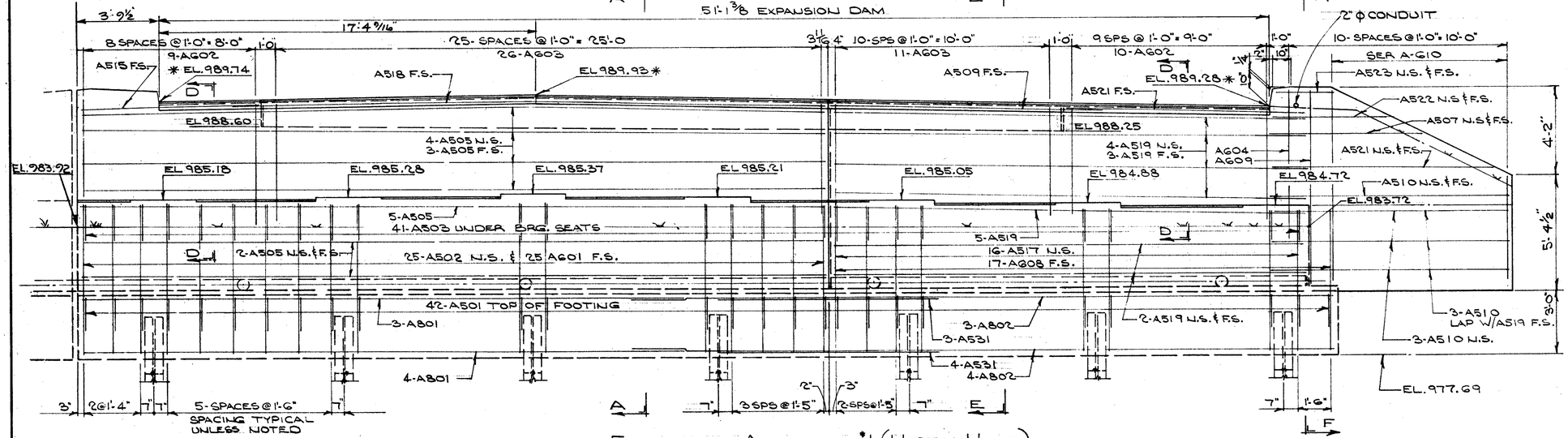
SUM-277-0.46



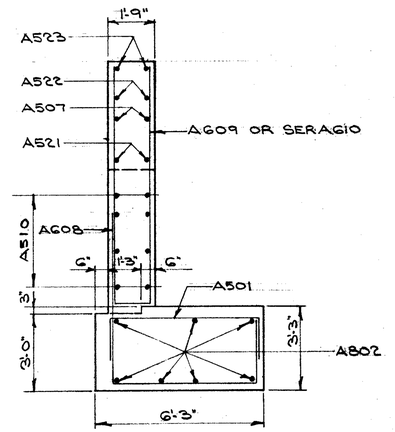
PLAN ABUTMENT #1 (NORTH HALF)



SECTION 'E-E'



ELEVATION ABUTMENT #1 (NORTH HALF)



SECTION 'F-F'

*DENOTES ELEVATION GIVEN TO HEEL OF ANGLE

FOR SECTIONS 'A-A' & D-D SEE SHT N°333

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 DETAILS

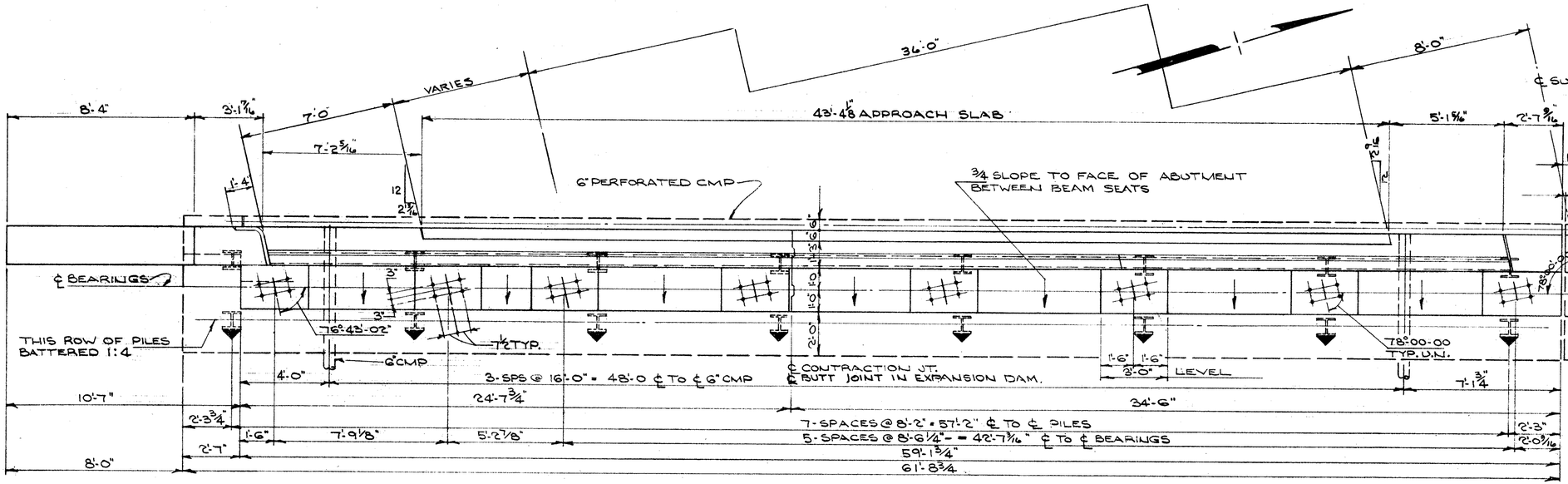
BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 — SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CLS	JWW		HGH	RDH	3-19-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

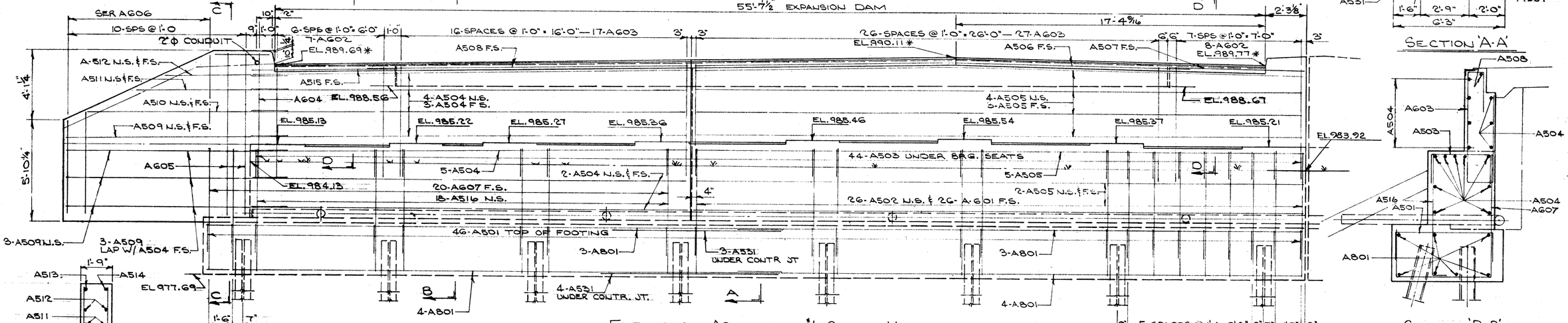
333
383

SUM-277-0.46



PLAN ABUTMENT #1 - SOUTH HALF

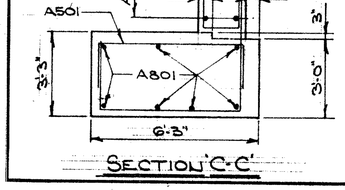
SECTION 'A-A'



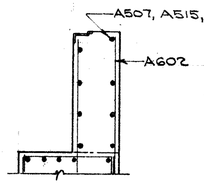
ELEVATION ABUTMENT #1 - SOUTH HALF

SECTION 'B-B'

FOR FURTHER DETAILS SEE SECTION 'A-A'



SECTION 'C-C'



SECTION D-D

*INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 DETAILS

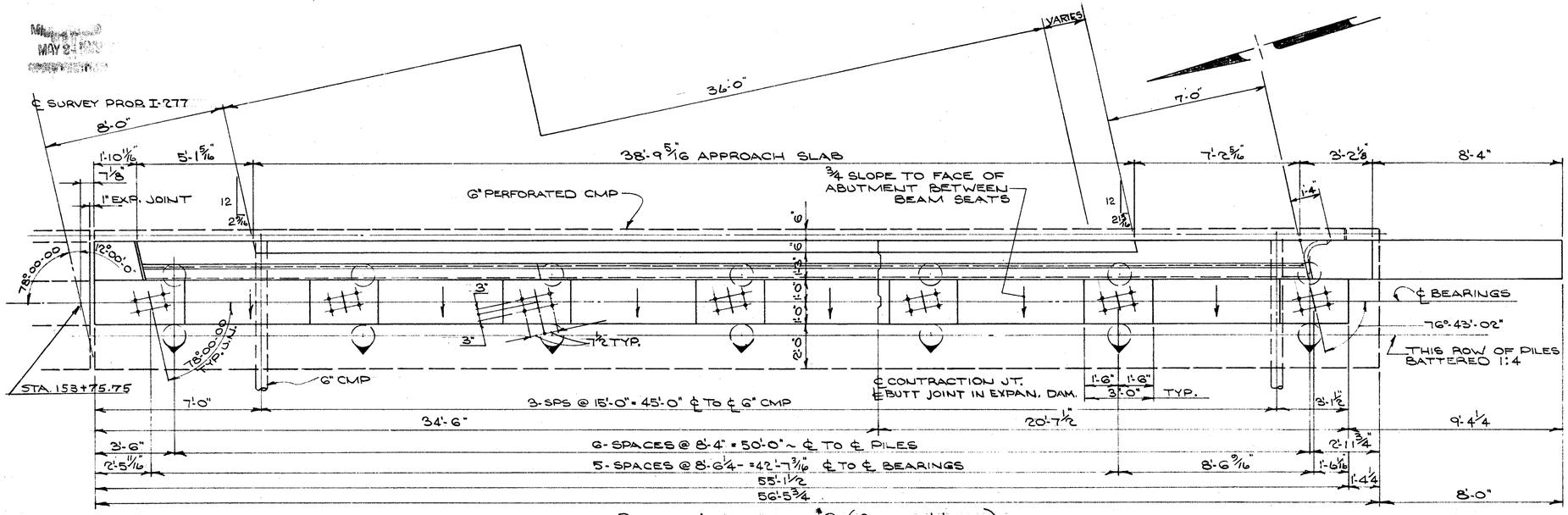
BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 — SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
cls	JWW		HGH	RDH	3-18-65	

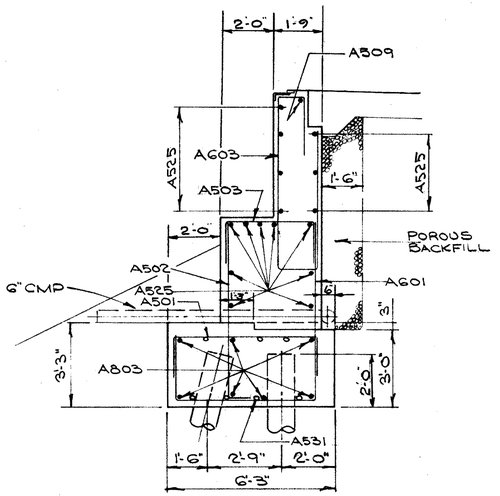
FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0,46

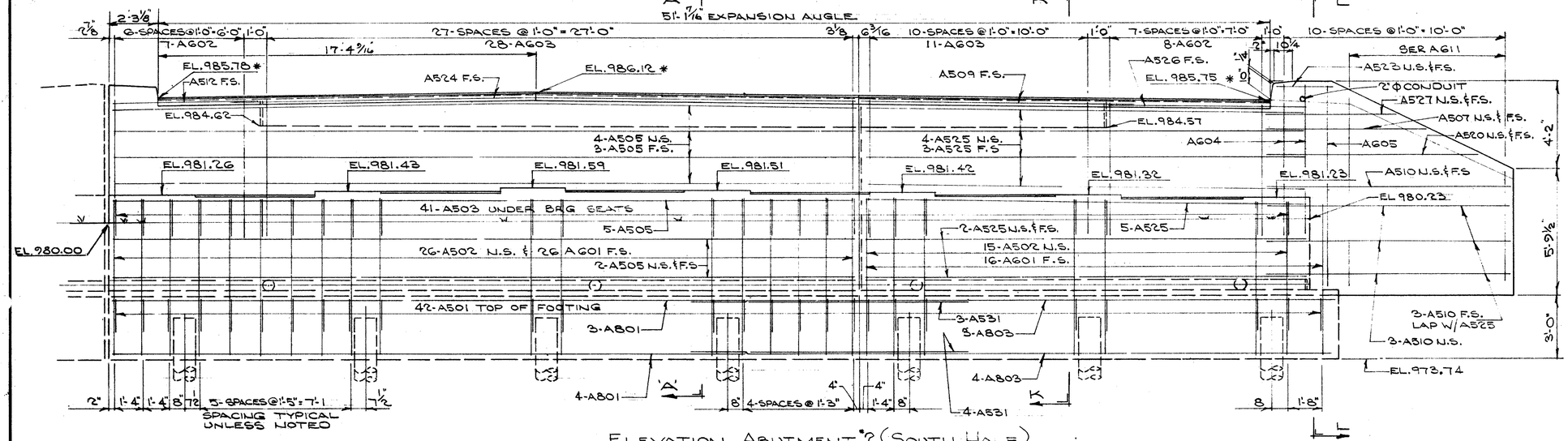
334
383



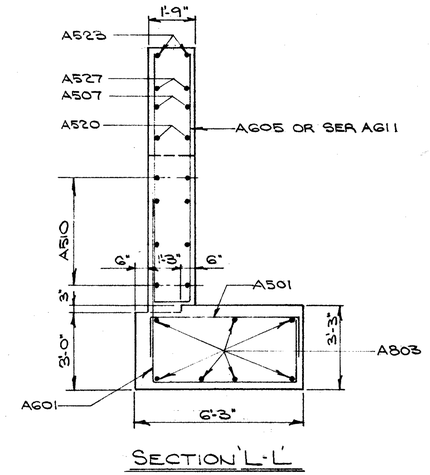
PLAN ABUTMENT #2 (SOUTH HALF)



SECTION K-K



ELEVATION ABUTMENT #2 (SOUTH HALF)



SECTION 'L-L'

*DENOTES ELEVATION GIVEN TO HEEL OF ANGLE

FOR SECTION 'A-A' SEE SHT N°333

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 2 DETAILS

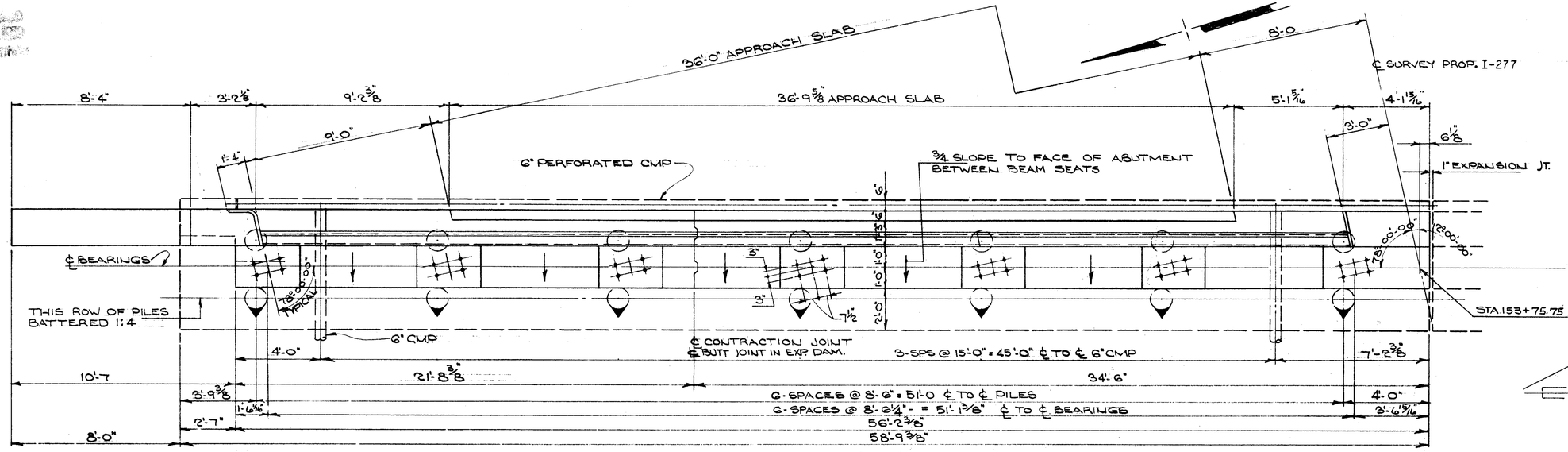
BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CLO	JWW		WGH	RDH	3-18-65	

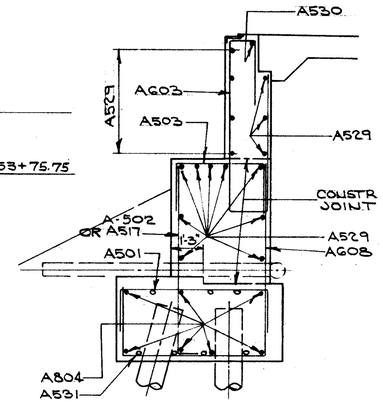
FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

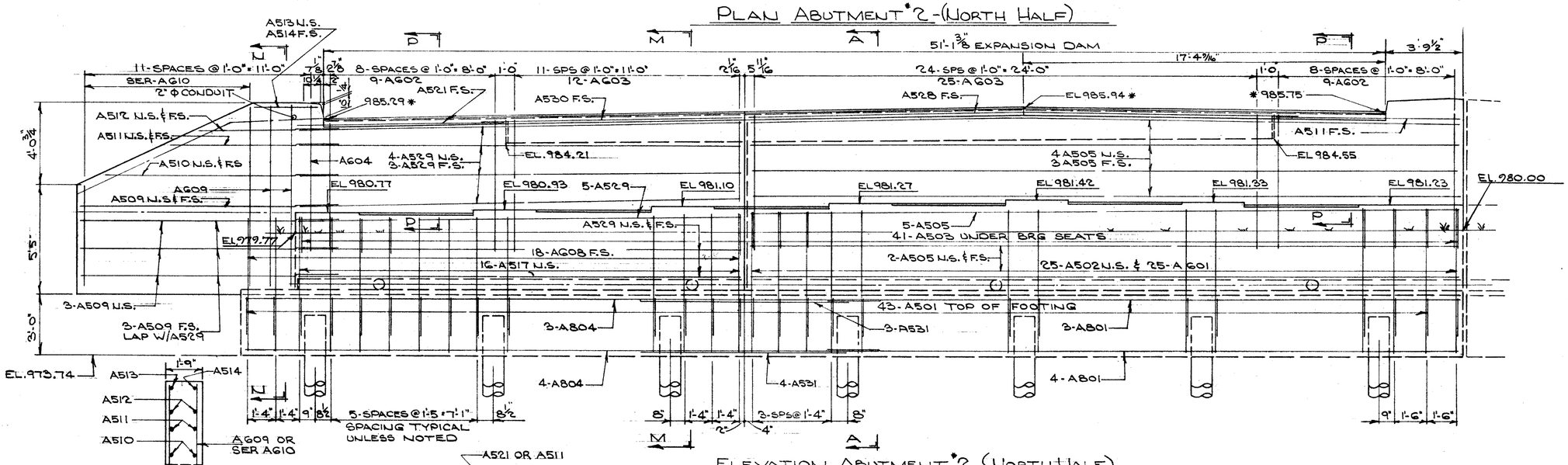
335
383



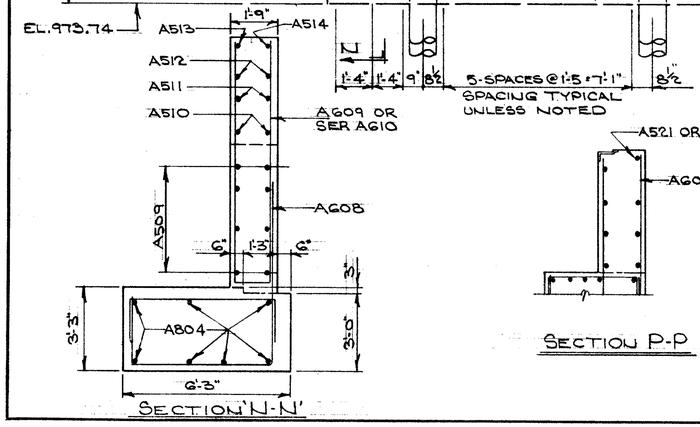
PLAN ABUTMENT #2-(NORTH HALF)



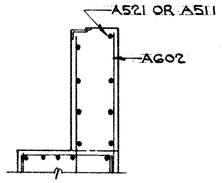
SECTION 'M-M'
FOR FURTHER DETAILS SEE SECTION A-A



ELEVATION ABUTMENT #2 (NORTH HALF)



SECTION N-N'



SECTION P-P

*DENOTES ELEVATION GIVEN TO HEEL OF ANGLE

FOR SECTION 'A-A' SEE SHT SHT N° 333

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

ABUTMENT 2 DETAILS

BRIDGE N° SUM-277-0199
OVER THE OHIO CANAL

I-277 SUMMIT COUNTY

STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CeS	JWW		HGH	RAH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0,46

336
383

MICROFILMED
MAY 21 1970

56'-10¾" ~ PIER #1 56'-2⅞" ~ PIER #2

6-SPACES @ 8'-6¼" = 51'-1⅜" ℄ TO ℄ BEARINGS
6-SPACES @ 8'-6¼" = 51'-1⅜" ℄ TO ℄ BEARINGS
5-SPACES @ 8'-6" = 42'-6"
5-SPACES @ 8'-6" = 42'-6"

1'-5¾" 1'-6" 5'-9" 5'-9"

4'-3⅜" PIER #1
3'-7½" PIER #2
8'-7¾" PIER #1
7'-11⅞" PIER #2
1'-2⅛" PIER #1
6½" PIER #2

4" OPEN JOINT

12°-0' SKEW

PILES BATTERED 1:4

1'-6" 4'-6" 4'-6" 1'-6" = 12'-0"

1'-6" RAD.

℄ BEAM

6½" 6½" 10½" 10½"

℄ BEARINGS

PIER Nº 1
NO ANCHOR BOLTS
TYPICAL

PIER Nº 2
TYPICAL

PIER #1 = STA. 152+36.25
PIER #2 = STA. 153+13.75

℄ SURVEY & PROPOSED I-277
& REFERENCE LINE

1'-6" 3'-0" 3'-0" 1'-6" = 9'-0"

9-12 BP 53 PILES FOR PIER #1

9-12 C.I.P PILES FOR PIER #2

PILES BATTERED 1:4

NOTE
ALL PIER FOOTINGS TYPICAL
EXCEPT FOR TYPE OF PILE

PLAN PIERS 1 & 2 NORTH HALF

ELEVATION TABLE							
	A	B	C	D	E	F	G
PIER #1	983.08	983.24	983.41	983.58	983.73	983.64	983.54
PIER #2	981.45	981.62	981.79	981.95	982.11	982.01	981.92

A A B C D E F G

7-P1001

2-P601 ~ PIER #1
2-P602 ~ PIER #2

5-P1003 ~ PIER #1
5-P1004 ~ PIER #2

2-P601 ~ PIER #1
2-P602 ~ PIER #2

4-P1005

4'-6" 4'-6"

P1002

3'-6"

6"

4½" PITCH

SP401 ~ PIER #1
SP402 ~ PIER #2 } TYP. AT EACH COL

5-P1003 ~ PIER #1
5-P1004 ~ PIER #2

9-P501 TOP & BOTT

9-P501 TOP & BOTT

9-P501 TOP & BOTT

6-P501 TOP & BOT.

5½" 8-SPS @ 1'-6" = 12'-0" ~ PIER #1
8-SPS @ 1'-6" = 12'-0" ~ PIER #2
5¾" 4" 4¼"

8 SPA @ 1'-6" = 12'-0" PIER #1
8 SPA @ 1'-6" = 12'-0" PIER #2
5⅝" 4" 5¾" 4¼"

3½" 3½" 2@9" 3-SPS @ 1'-4" 2-SPS @ 1'-6" 7⅝"

3½"

PIER #1
PIER #2

15'-11¼" 15'-8¼"

15'-11¼" 15'-8¼"

15'-11¼" 15'-8¼"

7'-7" 7'-8⅛"

PIER #1
PIER #2

P1003 OR P1004

P501

P601 OR P602

P1003 OR P1004

3'-0"

11'-0" O.D. T.CL. 2'-8 O.D. 2" CL. TYP. 2" CL. TYP. T.CL.

12-P1102 DOWELS TYP. EACH COL

P401

12-P901 ~ PIER #1
12-P902 ~ PIER #2 } TYP. FOR EACH COL.

22'-1 ~ PIER #1
20'-5½" ~ PIER #2

9" 3-SPS @ 1'-6" = 4'-6" 4-P401 (TYP.)

3'-6" 6'-0"

3'-0"

1'-0"

16-P1101 DOWELS TYP. EACH COL.

10-P801 TYP. EACH FTG

10-P1006 TYP. EACH FTG.

EL. 954.50 TYPICAL

10-P1006

10-P801

12 BP 53 OR 12" C.I.P PILES

ELEVATION PIERS 1&2 NORTH HALF

SECTION 'A-A'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS 1 & 2

BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

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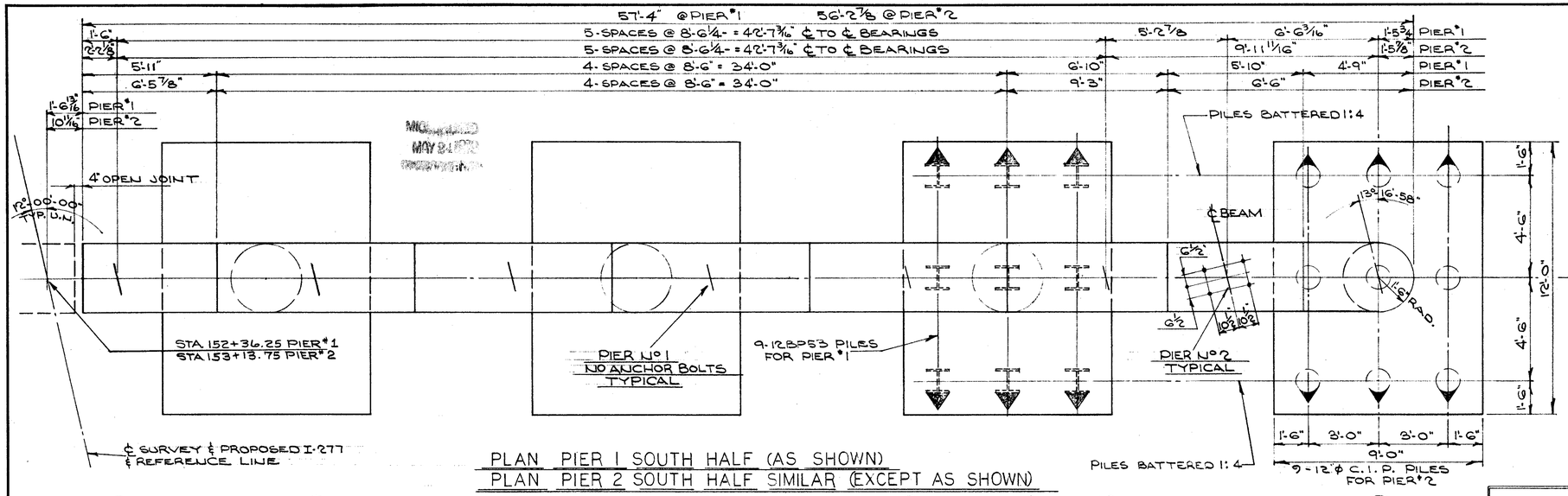
CLO	JWW		HCH	EDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

337
383

SUM-277-0.46

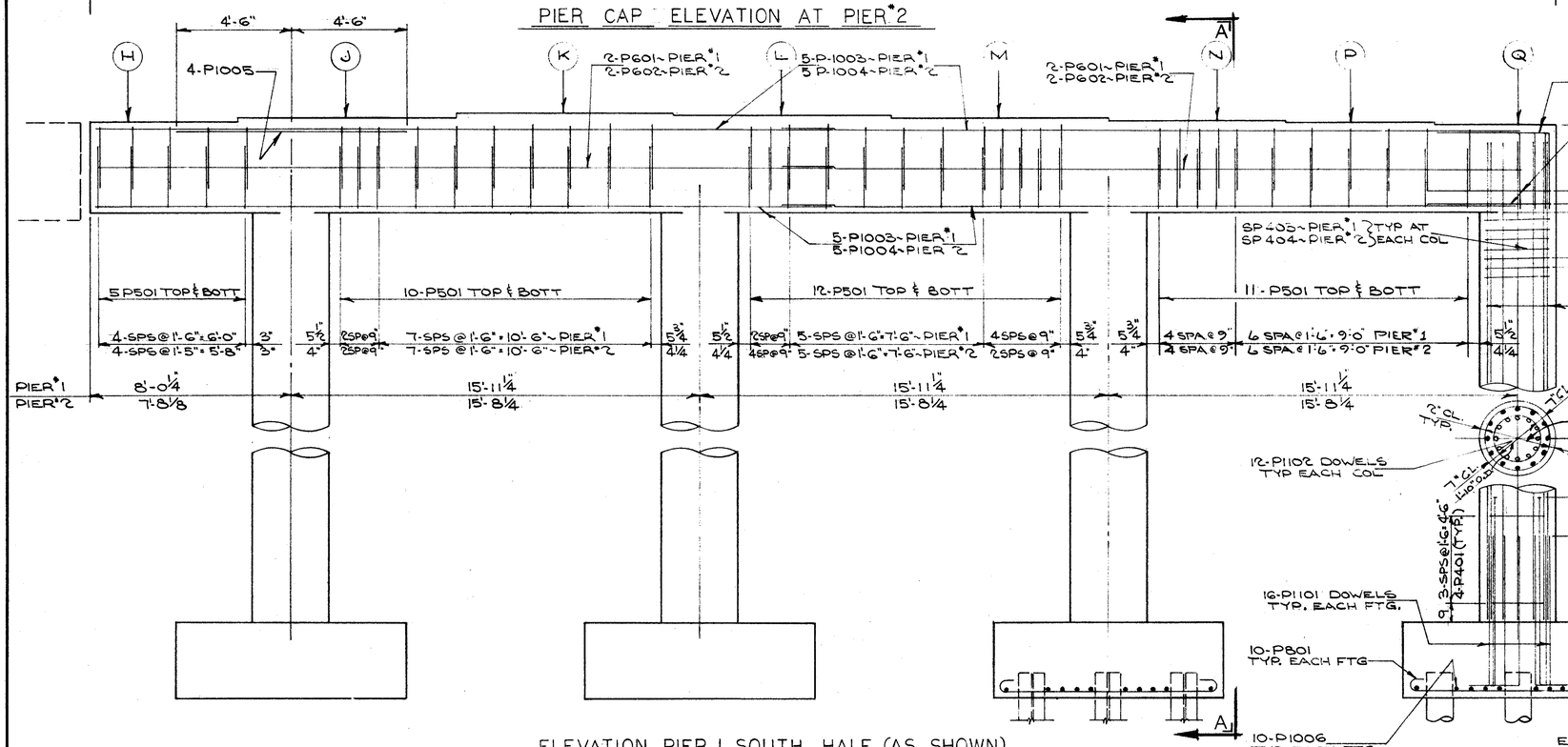


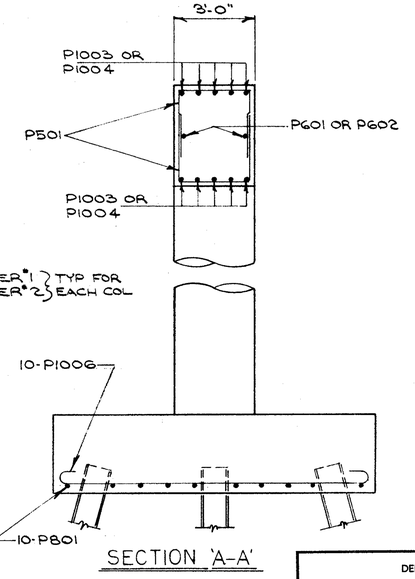
NOTE:
ALL PIER FOOTINGS TYPICAL EXCEPT FOR TYPE OF PILE

PLAN PIER 1 SOUTH HALF (AS SHOWN)
PLAN PIER 2 SOUTH HALF SIMILAR (EXCEPT AS SHOWN)

ELEVATION TABLE								
	H	J	K	L	M	N	P	Q
PIER #1	983.57	983.74	983.90	983.82	983.73	983.63	983.60	983.50
PIER #2	981.94	982.11	982.28	982.20	982.10	982.00	—	981.89

PIER CAP ELEVATION AT PIER #2





SECTION 'A-A'

ELEVATION PIER 1 SOUTH HALF (AS SHOWN)
ELEVATION PIER 2 SOUTH SIMILAR (EXCEPT AS SHOWN)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS 1 & 2

BRIDGE Nº SUM-277-0199
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FED. RD.	STATE	PROJECT	
2	OHIO		

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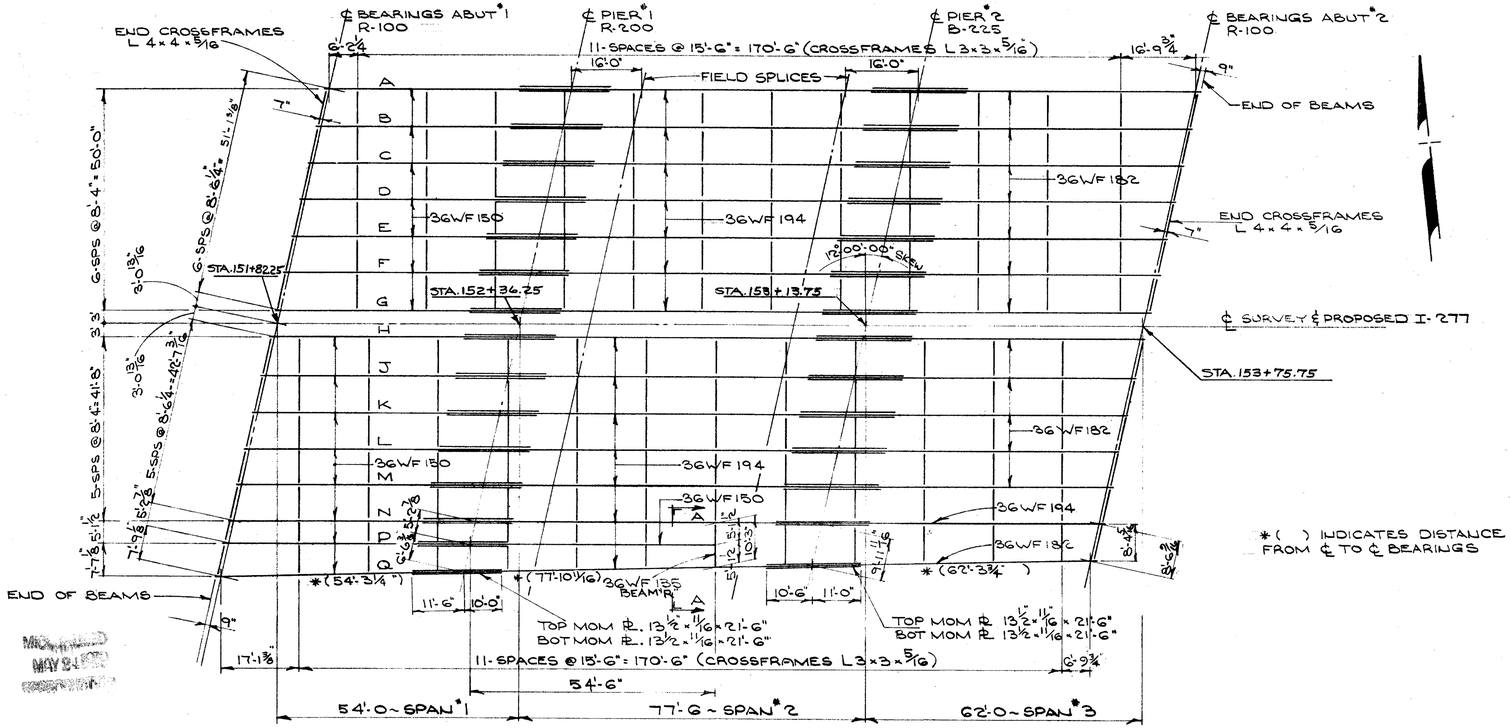
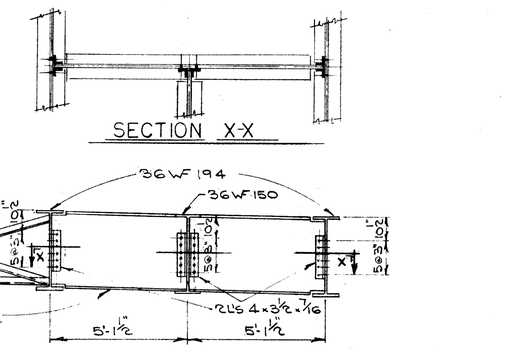
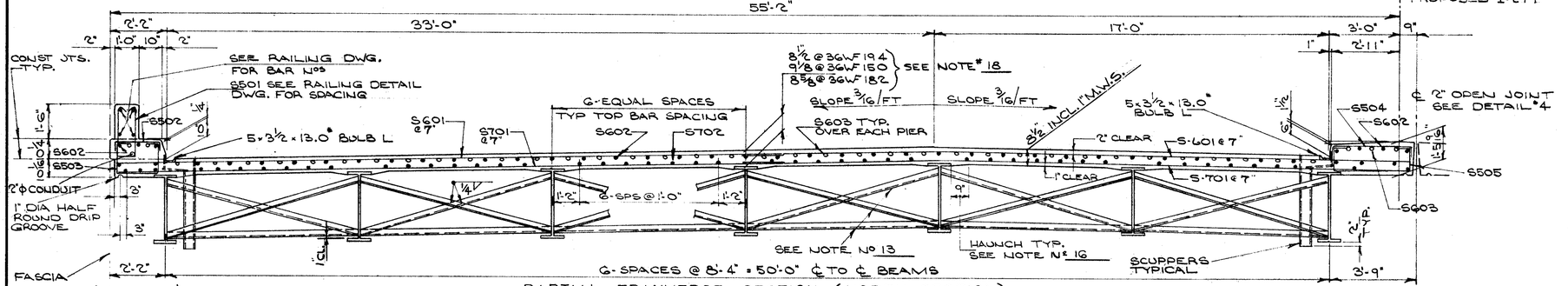


FRAMING PLAN

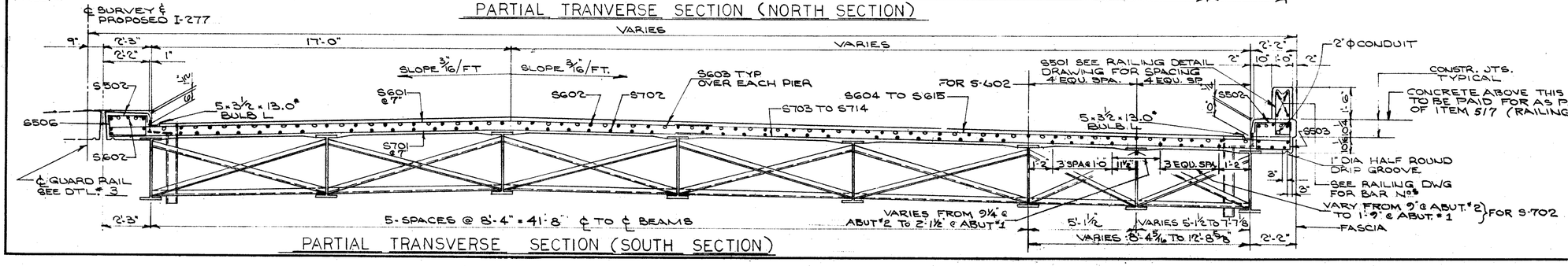
*( ) INDICATES DISTANCE FROM ℄ TO ℄ BEARINGS



SECTION A-A



PARTIAL TRANVERSE SECTION (NORTH SECTION)



PARTIAL TRANSVERSE SECTION (SOUTH SECTION)

DEFLECTION & CAMBER

LOCATIONS / SPAN	BEAM P *1	BEAM P *2	BEAMS A, H, & Q *1	BEAMS A, H, & Q *2	BEAMS A, H, & Q *3	OTHER INT. BEAMS *1	OTHER INT. BEAMS *2	OTHER INT. BEAMS *3
DEFLECTION DUE TO WEIGHT OF STEEL	.04"	.05"	.03"	.08"	.03	.02	.09	.07
DEFLECTION DUE TO REMAINING DEAD LOAD	.20"	.24"	.15"	.38"	.28	.16	.42	.31
CONVEXITY REQUIRED FOR VERTICAL CURVE	—	—	—	—	—	—	—	—
SUM OF DEFLECTION AND CONVEXITY	.24"	.29"	.18"	.46"	.34"	.19"	.51"	.38"
REQUIRED CAMBER	0	0	0	0	0	0	0	0

SEE STANDARD DRAWING SD-2-64 FOR BEAM SPLICE DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING DETAILS

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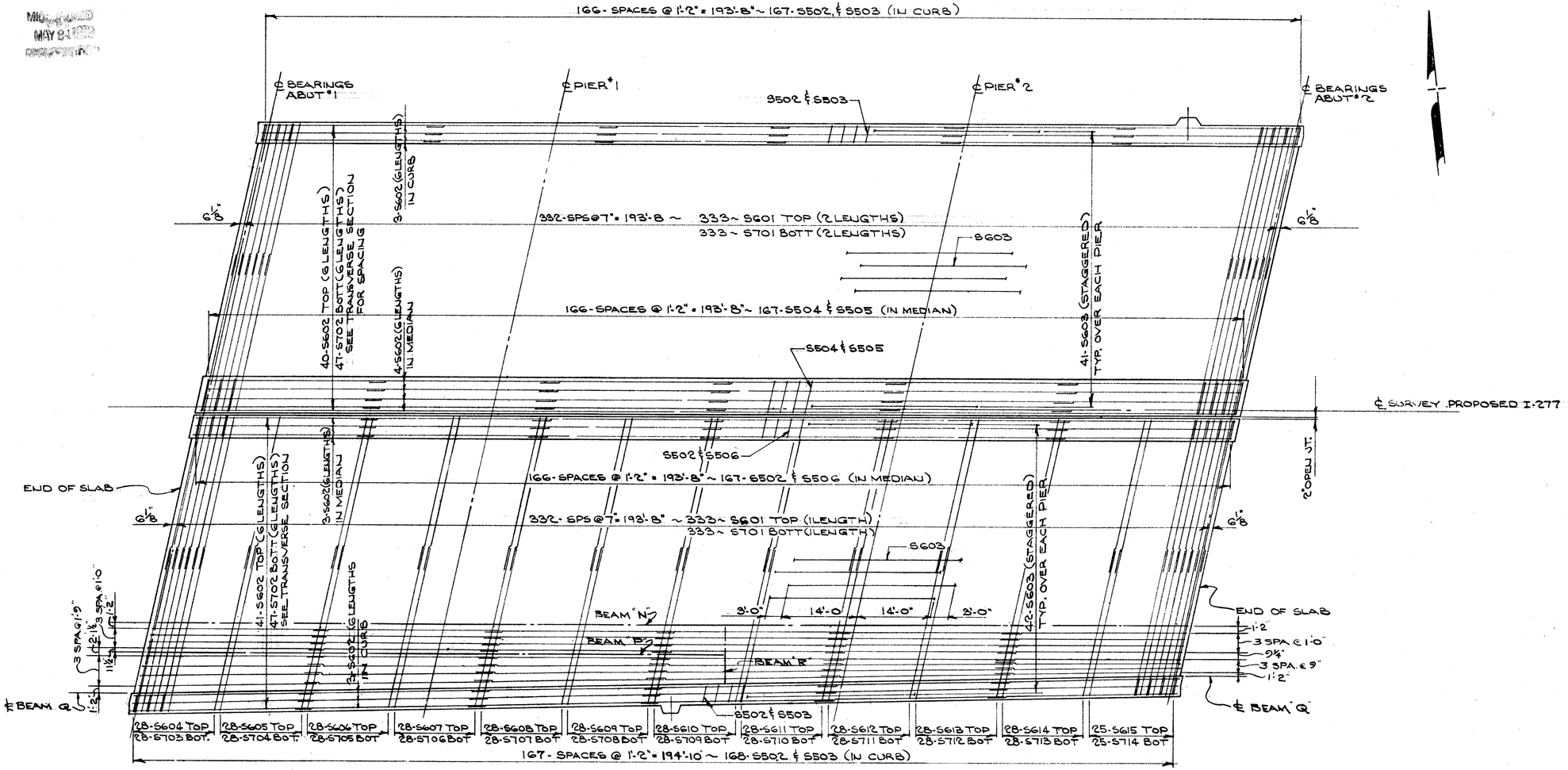

SLAB REINFORCING PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CLS	JWW		HGH	BDN	3-18-65	

MAY 31

FED. RD.	STATE	PROJECT	
2	OHIO		

340
383

LIGHT STD.-TYPE I-WITH BOX
STA 153+70.00

194'-8½" LENGTH OF PARAPET
11- PANELS @ 16'-0" = 176'-0"
23- POST SPACES @ 8'-0" = 184'-0"

9'-4¼" 4'-0" 1'-4¼" 3½" CL.

FACE OF CURB
FACE OF MEDIAN
FACE OF ABUTMENT
FACE OF MEDIAN
FACE OF CURB

3-SPACES @ 10'-0" = 30'-0"
4-SCUPPERS
2-SPACES @ 10'-0" = 20'-0"
3-SCUPPERS
2-SPACES @ 10'-0" = 20'-0"
3-SCUPPERS
3-SPACES @ 10'-0" = 30'-0"
4-SCUPPERS

8'-0"

5-3½"-13.0# BULB L

8'-0" 8'-0" 4'-6"

℄ GUARD RAIL
(BARRIER TYPE)

℄ SURVEY & PROP I-277

15- POST SPACES @ 12'-6" = 187'-6"

8'-0" 4'-6"

FACE OF ABUTMENT

17'-11½"

9'-4¼" 1'-4¼" 4'-0" 3½" CL.

℄ BEARINGS ABUT #1
3½" CL.
4'-0" 1'-10"
9'-10"

LIGHT STD.-TYPE I
WITHOUT BOX
STA 152+65.50

℄ PIER #2

99'-8½"

23-POST SPACES @ 8'-0" = 184'-0"
11- PANELS @ 16'-0" = 176'-0"
195'-8" LENGTH OF PARAPET

1'-10" 4'-0"
9'-10"

℄ BEARINGS ABUT #2
3½ CL.

PARTIAL DECK PLAN

2" 6-SPS @ 1'-6" = 9'-0"~7-550I 2¼"
5" 6-SPS @ 1'-6" = 9'-0"~7-550I 5"

For end post details and reinforcing, see BR-1-65

TYPE I BRIDGE RAILING

SEE NOTE #25

6" 10-SPS @ 1'-6" = 15'-0"~11-550I
TYPICAL FOR ALL 16'-0 PANELS

6" 2¼" 6-SPS @ 1'-6" = 9'-0"~7-550I 2" NORTH RAILING
5" 6-SPS @ 1'-6" = 9'-0"~7-550I SOUTH RAILING
5"

For end post details and reinforcing, See BR-1-65

R-501 N.S. & F.S. (NORTH RAIL)
R-502 N.S. & F.S. (SOUTH RAIL)

SCUPPERS
ALL SCUPPERS TO BE TYPE I

R505 N.S. & F.S.
NORTH & SOUTH RAILS

SCUPPERS

R501 N.S. & F.S. (NORTH RAIL)
R502 N.S. & F.S. (SOUTH RAIL)

SOUTH ELEVATION SHOWN
NORTH ELEVATION SIMILAR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE DETAILS

BRIDGE Nº SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CBS	WWW		HGH	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

341
383

SUM-277-0.46

MAY 24

ABUTMENT 1 & 2

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
A501	173	9'-2"	3	5'-5"	2'-0"				1654
A502	117	7'-6"	1	6"	7'-1"				915
A503	167	7'-2"	3	3'-5"	2'-0"				1247
A504	16	24'-3"	ST						405
A505	64	34'-1"	ST						2275
A506	1	28'-0"	ST						29
A507	5	7'-5"	ST						39
A508	1	18'-0"	ST						19
A509	18	12'-3"	ST						230
A510	20	11'-0"	ST						229
A511	5	8'-5	ST						44
A512	5	6'-7"	ST						34
A513	2	3'-2"	ST						7
A514	2	2'-10"	ST						6
A515	2	8'-0"	ST						17
A516	18	7'-4"	1	6"	6'-11"				138
A517	32	7'-0"	1	6"	6'-7"				234
A518	1	27'-0"	ST						28
A519	16	21'-8"	ST						362
A520	2	9'-9"	ST						20
A521	4	10'-6"	ST						44
A522	2	5'-9"	ST						12
A523	4	2'-4"	ST						10
A524	1	28'-6"	ST						30
A525	16	20'-2"	ST						336
A526	1	8'-8	ST						9
A527	2	6'-0"	ST						13
A528	1	26'-3"	ST						27
A529	16	21'-4"	ST						356
A530	1	12'-9"	ST						13
A531	28	10'-0	ST						292
AG01	118	14'-11	4	7'-1"	5'-5"	2'-8"			2644
AG02	67	14'-8"	3	1'-5"	6'-9"				1475
AG03	157	16'-6"	7	5'-3"	1'-5	6'-9"	11"	2'-8	3897
AG04	5	16'-4"	3	1'-5	7'-7"				123
AG05	3	19'-10"	3	1'-5"	9'-4"				89
SERIES OF AG06	1-SET OF 9 BARS	VARIES 11'-10" TO 18'-8" @ INCR 11¾	3	1'-5"	8'-4" TO 9'-3" @ INCR 5⅞				214
AG07	20	14'-9"	4	6'-11"	5'-5"	2'-8"			443
AG08	35	14'-5"	4	6'-7"	5'-5"	2'-8			758
AG09	3	19'-0"	3	1'-5	8'-11"				86
SERIES OF AG10	2-SETS OF 9 BARS	VARIES 11'-0" TO 18'-10" @ INCR 11¾	3	1'-5"	4'-11" TO 8'-10" @ INCR 5⅞				406
SERIES OF AG11	1-SET OF 8 BARS	VARIES 11'-8" TO 18'-8" @ INCR 12"	3	1'-5"	5'-3" TO 8'-3" @ INCR 6				182
A801	35	31'-11"	ST						2983
A802	7	25'-3"	ST						528
A803	7	26'-8"	ST						499
A804	7	29'-0	ST						542

ABUTMENT 1 & 2 TOTAL 23,937 lbs

SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
S501	270	5'-7"	5	8"	2'-2"	5"			1571
S502	502	2'-3"	3	1'-6"	6"				1178
S503	335	4'-8	15	1'-4"	1'-6"	6"			1631
S504	167	3'-11"	3	3'-2	6"				682
S505	167	5'-8"	15	1'-0"	3'-2"	6"			987
S506	167	4'-0"	15	1'-0"	1'-6"	6"			697
S521	4	11'-8"	16	2'-0"	2'-0"	2'-3"	2'-10"		49
S601	999	29'-8"	ST						43,890
S602	564	34'-0"	ST						28,802
S603	166	31'-0"	ST						7,729
S604	28	32'-0"	ST						1,346
S605	28	31'-7"	ST						1,328
S606	28	31'-3"	ST						1314
S607	28	30'-11"	ST						1300
S608	28	30'-7"	ST						1286
S609	28	30'-2"	ST						1269
S610	28	29'-9"	ST						1251
S611	28	29'-5"	ST						1237
S612	28	29'-1"	ST						1223
S613	28	28'-9"	ST						1209
S614	28	28'-4"	ST						1192
S615	25	28'-0"	ST						1052
S621	24	5'-6"	ST						198
S622	8	9'-11"	14	2'-10"	2'-0"	4"			119
S701	999	29'-4"	ST						59,897
S702	564	34'-3	ST						39,484
S703	28	32'-2"	ST						1840
S704	28	31'-9"	ST						1817
S705	28	31'-5	ST						1798
S706	28	31'-1"	ST						1779
S707	28	30'-9"	ST						1760
S708	28	30'-4	ST						1736
S709	28	29'-11"	ST						1712
S710	28	29'-7	ST						1693
S711	28	29'-3	ST						1674
S712	28	28'-11"	ST						1655
S713	28	28'-6	ST						1631
S714	25	28'-2	ST						1439

TOTAL SUPERSTRUCTURE 222,455 lbs

PIERS 1 & 2

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
P401	64	6'-11"	17	1'-10"	1'-3"				296
									2296
P501	284	7'-9"	3	2'-8"	2'-8"				
P601	8	28'-9"	ST						345
P602	8	28'-3"	ST						339
P801	160	10'-8"	2	1'-1"	8'-6"				4557
P901	48	24'-11"	ST						4066
P902	48	23'-4"	ST						3808
P903	48	25'-4"	ST						4134
P904	48	23'-9"	ST						3876
P1001	28	7'-6"	1	3'-3"	4'-6"				904

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
P1002	8	10'-6"	9	3'-2"	4'-2"	1'-4"			362
P1003	40	29'-4"	ST						5049
P1004	40	28'-10"	ST						4963
P1005	16	9'-0"	ST						620
P1006	160	14'-4"	2	1'-5"	11'-6"				9868
P1101	256	6'-11	1	1'-0"	6'-2"				9408
P1102	192	9'-5	1	1'-0"	8'-8"				9606

TOTAL PIERS 64,497 lbs

RAILING*

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
R501	8	9'-0"	ST						
R502	8	9'-6"	ST						
R503	12	4'-2"	Bt*						
R521	4	11'-8"	16	2'-0"	2'-0"	2'-3"	2'-10"		
R522	4	11'-4⅝"	16	3'-0"	8"	3'-9"	11⅝16		
R504	8	5'-4"	Bt*						
R505	88	15'-8"	ST						

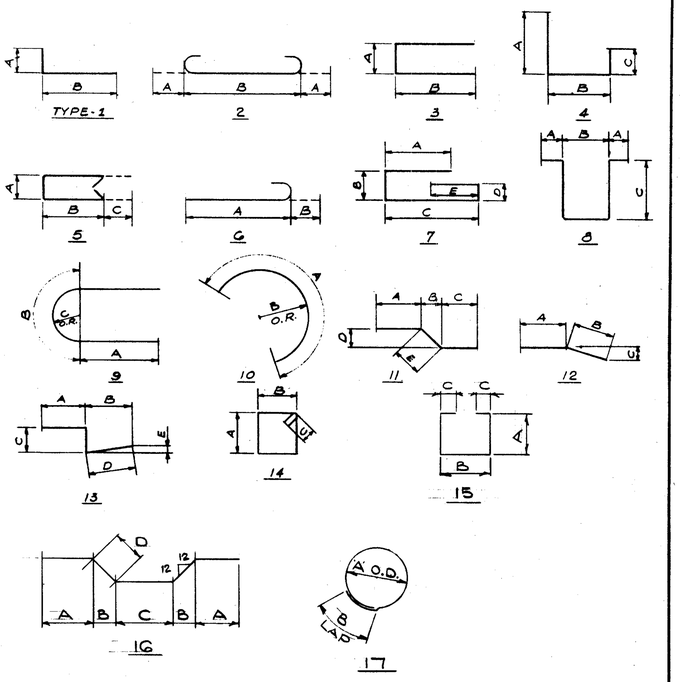
REPLACEMENT BARS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
RE-401	1	5'-3"	10	5'-3	1'-4"				
RE-501	1	5'-6"	ST						
RE-601	6	6'-0"	ST						
RE-701	6	6'-3"	ST						
RE-801	1	6'-6"	ST						
RE-901	1	6'-10"	ST						
RE-1001	2	7'-3"	ST						
RE-1101	1	7'-9"	ST						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	4	2'-8"	22'-1"	4½	62	1366
SP402	4	2'-8"	20'-5½	4½	58	1278
SP403	4	2'-8"	22'-6"	4½	63	1388
SP404	4	2'-8"	20'-10⅜	4½	59	1299
64 SPACERS						935
TOTAL SPIRALS						6266

GRAND TOTAL 317,155 LBS



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

* For bending diagrams see BR-1-65

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

REINFORCING SCHEDULE

BRIDGE N° SUM-277-0199
OVER THE OHIO CANAL
I-277 SUMMIT COUNTY
STA 151+79.95 TO STA 153+78.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LAO	JWW		HGH.	ROH	3-18-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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SUM-277-0.46

MAY 24

END RAMP D-1 ST. STA. 12+61.56
99' RT. ℄ STA 188+40.00

RAMP D-1

℄ EASTBOUND LANES

℄ SURVEY PROJ. I-277

℄ WESTBOUND LANES

RAMP C-2 DECELERATION LANE

17°8'4" SKEW

RAMP C-2 ℄ STA 188+76.15

REQD 10.00'
ACTUAL 10.06'

REQD 10.00
ACTUAL 10.19'

END APPROACH SLAB
STA 48+59.14

℄ RELOC. 30, MAIN ST.

STA 189+66.35 I-277
STA 50-00-RELOC. SO. MAIN ST.

BEGIN APPROACH SLAB
STA 51+23.11

48+00

49+00

51+00

52+00

(6'-0" MEDIAN)

70'-0" F to F CURBS

℄ RELOC. SO. MAIN ST.

FT OF MIN. VERT. CLEARANCE

6" CURB

3'-0 TYP.

49.9'

71'-0"

81'-6"

57'-0"

15"

CRUSHED AGGREGATE SLOPE PROTECTION

ALL PILES SHALL BE 12" DIA CAST IN PLACE CONCRETE
AVERAGE ESTIMATED PAY LENGTH FOR PILES
ABUTMENTS : 60FT (30FT TO 90FT)
PIERS : 60FT (35FT TO 75FT)

TRAFFIC: S. MAIN ST : 15,870 ~ 1975 A.D.T.
I-277 : 55,530 ~ 1975 A.D.T.

RAMP D-1 ACCELERATION LANE 25/1000 TAPER

6" CURB

VARIES 12' 12' 12' 12' 12' 12' 12' 12' 12' 12' 12' 12' 8"

6'-4"

PVI STA 192+50
EL 993.94'

+0.92% 0.64%

400' V.C.

MIN. VERTICAL CLEARANCE
DESIGN: 16.50'
ACTUAL: 16.69'

PVI STA 45+00
EL 1017.16

+7.04% -0.88%

700' V.C.

PVI 51+75
EL 1011.22

-0.88% -4.60%

350' V.C.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REIN FORCED CONC. DECK & SUBSTRUCTURE
SPANS: 57-0, 81-6, 71-0, 49.9' ℄ TO ℄ BEARINGS
ROADWAY: 70-0" F/F CURBS 1-1/6 MEDIANS
LOAD FREQUENCY: CF-2003 ADEQUATE FOR AASHO ALTERNATE LOADING
SKEW: 17°34'21" LF.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION 601 CRUSHED AGG.

EXISTING ℄ PROFILE

189+00 EL 990.58
EL 991.06
190+00 EL 991.54

PROPOSED PROFILE GRADE +0.96%

PVI STA 48+59.14
EL 1014.06

EL 1013.64
EL 1013.20
EL 1012.76
EL 1012.19
EL 1011.35
EL 1010.25
EL 1008.87

BRIDGE LIMITS=263.97'

EL1008.23 TYPE I BRIDGE RAILING

EL1008.23

2.5:1 NORMAL

2.3:1 NORMAL

EL 980.07

EL 980.76

EL. 984.25

EL. 999.00

PROPOSED PROFILE GRADE

EXISTING GROUND

1020
1010
1000
990
980
970

STA 51+23.11

EL1005.03

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers Akron, Ohio

SITE PLAN.

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		GS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM 277-0.46

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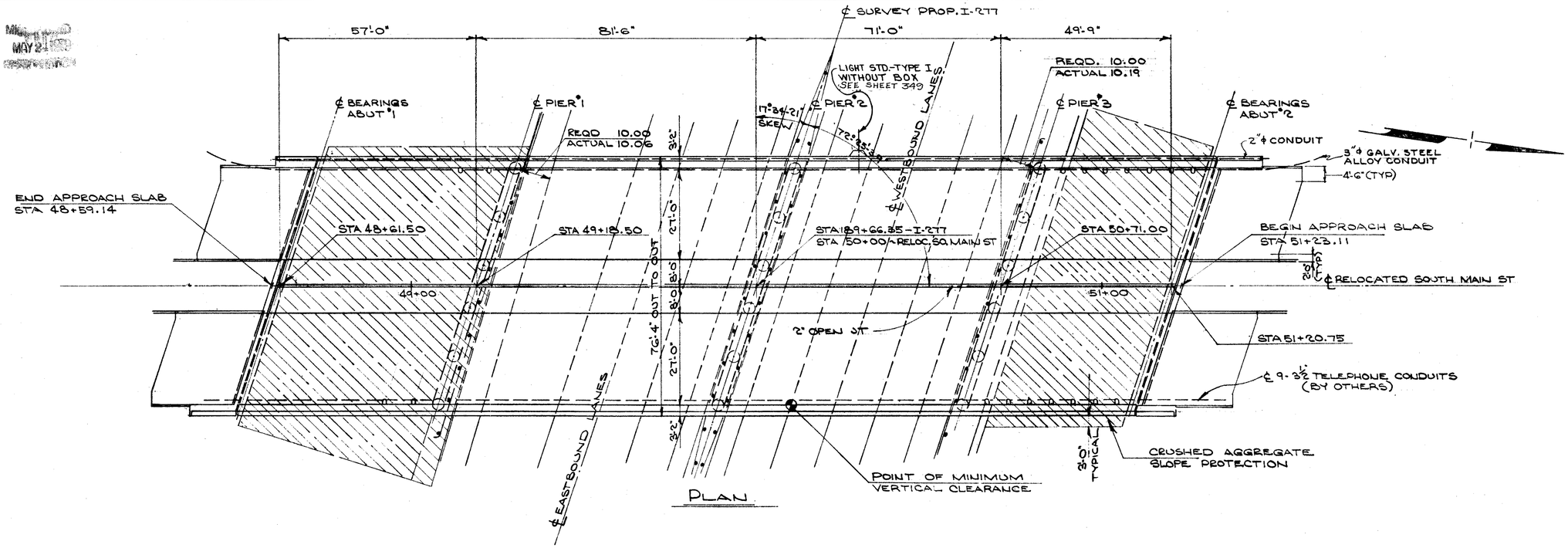
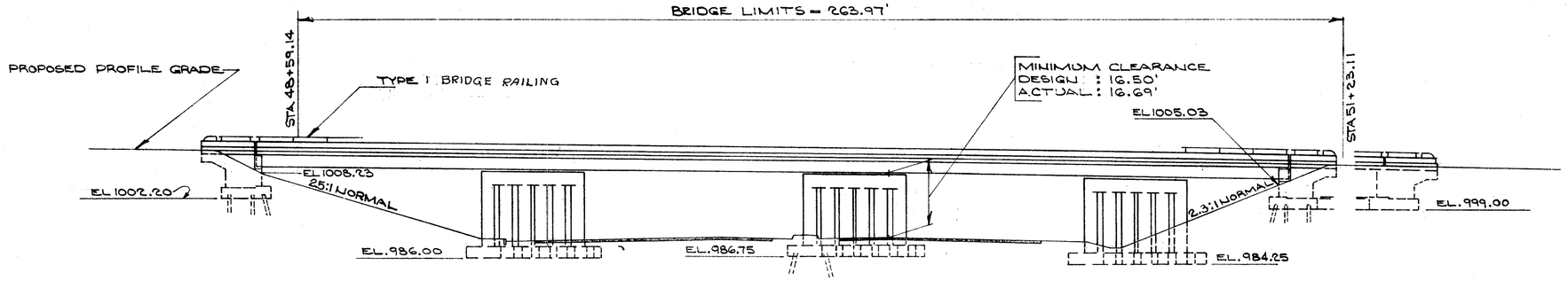


PLAN



ELEVATION

SEE SHEETS Nº 291 & 292 FOR STRUCTURAL GENERAL NOTES 1-4, 6, 8, 11, 13, 14, 16, 18-26, & 28

SEE SHEET Nº 293 FOR STRUCTURAL DETAILS 1, 2, & 6

*INCLUDES 2,260 lbs STRUCTURAL STEEL FOR SUPPORT OF TELEPHONE CONDUITS TO BE INSTALLED AND PAID FOR BY OTHERS

ESTIMATED QUANTITIES

** AASHO M153

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
503	825	CU.YDS.	UNCLASSIFIED EXCAVATION		398	427	
511	690	CU.YDS.	CLASS 'C' CONC. SUPERSTRUCTURE	690			
511	185	CU.YDS.	CLASS 'E' CONC. ABUTS. ABOVE FOOTINGS		165		
511	169	CU.YDS.	CLASS 'C' CONC. PIERS ABOVE FOOTINGS			169	
511	290	CU.YDS.	CLASS 'E' CONC. PIER & ABUT FOOTINGS		128	162	
825	2410	SQ.YDS.	CONCRETE SURFACE TREATMENT	2354	56		
828	56	LIN.FT.	JOINT SEALER (END DAM)	56			
512	40	LIN.FT.	PREMOLDED SEALING STRIP		40		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
509	250,702	LBS	REINFORCING STEEL	176,779	19,890	54,033	
513	516,669	LBS	STRUCTURAL STEEL *	516,669			
514	516,669	LBS	FIELD PAINTING OF STRUCTURAL STEEL	516,669			
516	90	SQ.FT.	1" PREFORMED EXP JT. FILLER**		90		
517	580.85	LIN.FT.	RAILING (TYPE 1)	521.52	59.33		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
505	LUMP	SUM	FIRST TEST PILE				LUMP
507	9120	LIN.FT.	12" ϕ CAST IN PLACE, REINF. CONC. PILES		2640	6480	
625			SEE ELECTRICAL DRAWINGS				
625			SEE TRAFFIC SIGNAL PLAN				
518	61	CU. YDS.	POROUS BACKFILL		61		
518	18	EACH	SCUPPERS (INCLUDING SUPPORTS)	18			
518	144	LIN. FT.	6" PERFORATED HELICAL C. M. P. 707.06, INCLUDING SPECIALS		144		
518	105	LIN.FT.	6" HELICAL C.M.P., 707.06, NON-PERFORATED		105		
601	1152	SQ YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		1152		
808	690	UNITS	WATER REDUCING, SET RETARDING ADMIXTURE	690			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN & ELEVATION

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 — SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CWS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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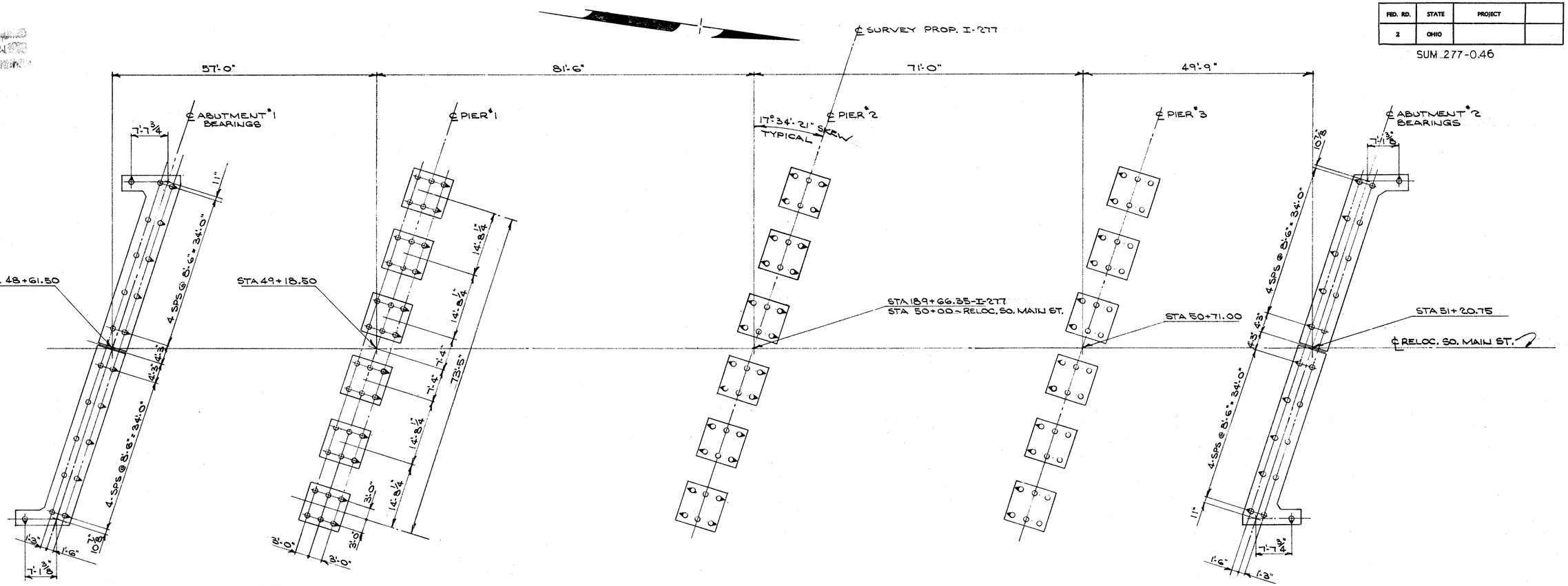
SUM.-277-0.46



NOTE
PILE SPACING AT PIER #1
TYPICAL FOR ALL PIERS

PILING PLAN

PILE CUT OFF ELEVATIONS

ABUTMENT #1	1004.20
PIER #1	987.00
PIER #2	987.75
PIER #3	985.25
ABUTMENT #2	1001.00

NOTE
ALL PILES SHALL BE 12" MIN. TOP DIA CAST IN PLACE REINFORCED CONCRETE PILES

⟜ INDICATES 1:4 BATTERED PILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PILING PLAN

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CLS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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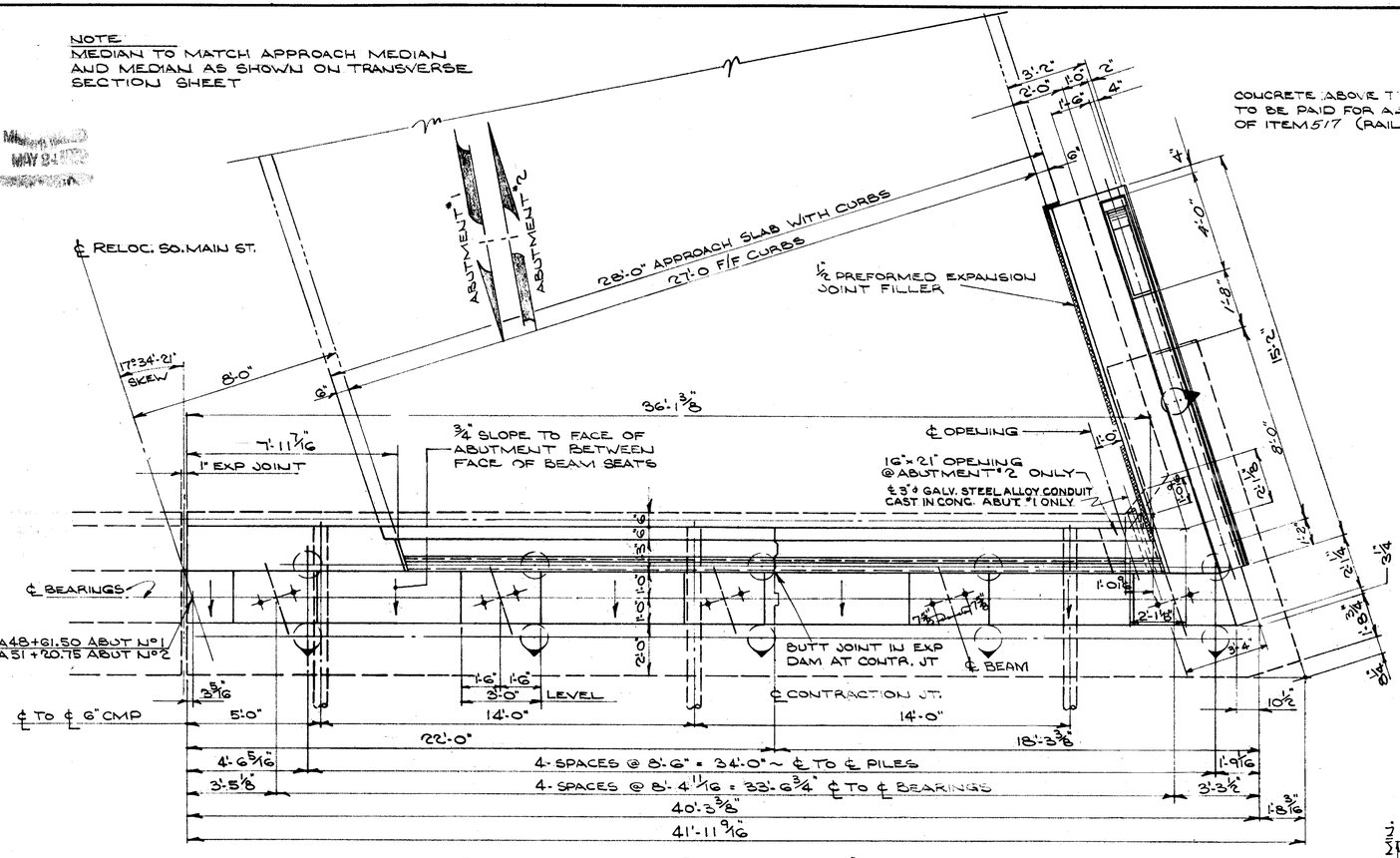
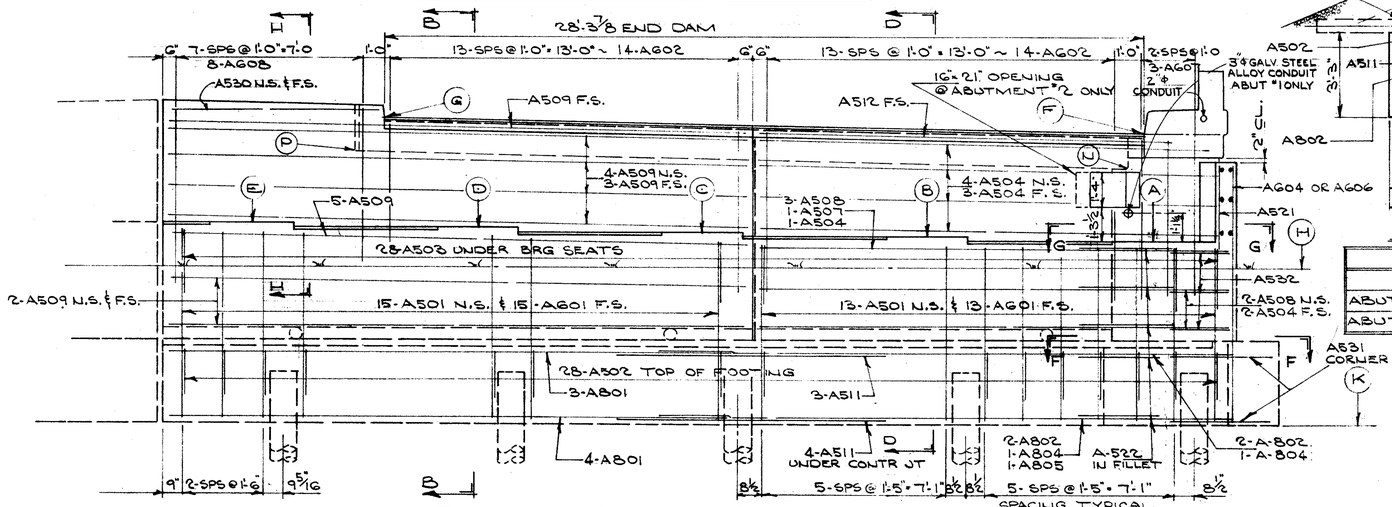
383

NOTE
MEDIAN TO MATCH APPROACH MEDIAN AND MEDIAN AS SHOWN ON TRANSVERSE SECTION SHEET

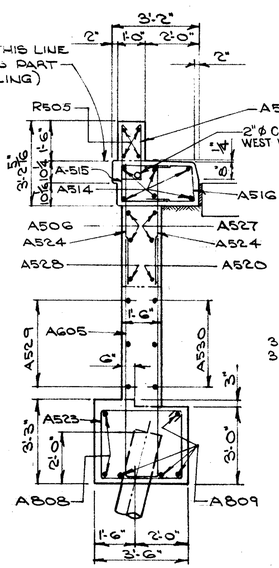


PLAN ABUTMENT "1 (LEFT HALF)
PLAN ABUTMENT "2 (RIGHT HALF)

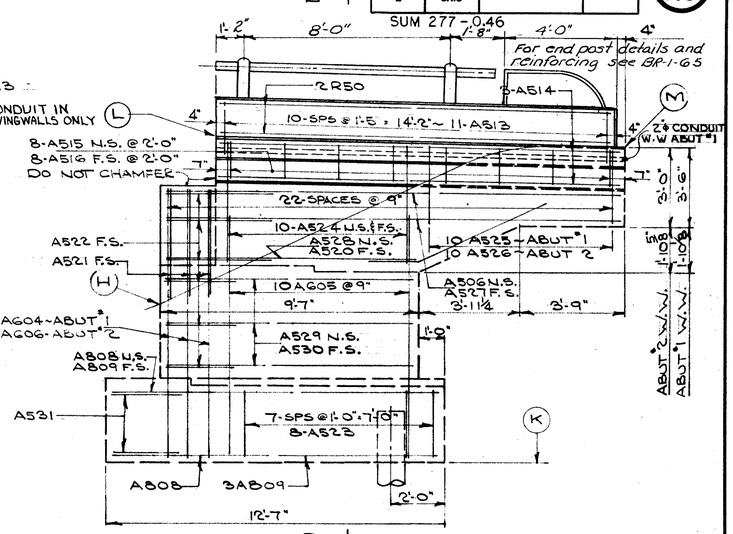


ELEVATION ABUTMENT "1 ~ LEFT HALF
ELEVATION ABUTMENT "2 ~ RIGHT HALF

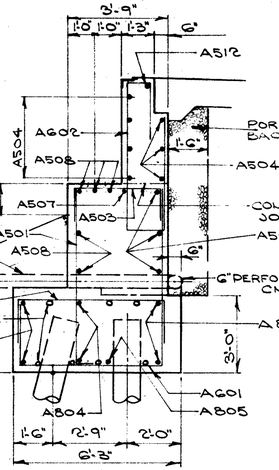
CONCRETE ABOVE THIS LINE TO BE PAID FOR AS PART OF ITEM 517 (RAILING)



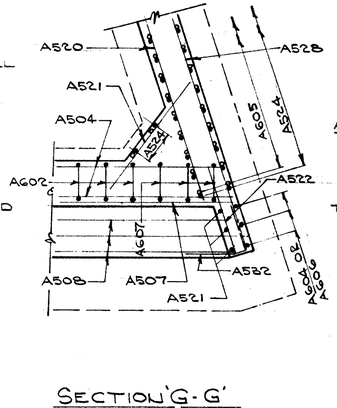
SECTION 'E-E'



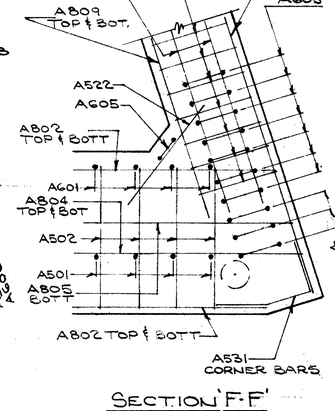
ELEVATION EAST WINGWALL ABUT "2 (AS SHOWN)
ELEVATION WEST WINGWALL ABUT "1 (SIMILAR)



SECTION 'D-D'



SECTION 'G-G'



SECTION 'F-F'

ELEVATION TABLE

	A	B	C	D	E	*F	*G	H	K	L	M	N	P
ABUT "1	1009.23	1009.38	1009.52	1009.67	1009.82	1013.24	1013.73	1008.23	1002.20	1014.19	1014.32	1012.02	1012.53
ABUT "2	1006.50	1006.58	1006.65	1006.72	1006.79	1010.48	1010.72	1005.03	999.00	1011.45	1011.13	1009.23	1009.47

*INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

NOTE
FOR SECTION 'B-B' AND 'H-H' SEE SHEET 346

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 & 2 DETAILS

BRIDGE No SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CDS	RDH	3-16-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM 277 -0.46

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ELEVATION TABLE												
	A	B	C	D	E	F *	G *	H	K	L	M	N	P
ABUT.°1	1009.42	1009.53	1009.63	1009.73	1009.83	1013.43	1013.78	1008.23	1002.20	1014.39	1014.52	1012.22	1012.57
ABUT.°2	1006.03	1006.21	1006.39	1006.57	1006.75	1010.00	1010.61	1005.03	999.00	1011.09	1010.73	1008.74	1009.37

* INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

½" PREFORMED EXPANSION JOINT FILLER

ABUTMENT °1

ABUTMENT °2

28'-0" APPROACH SLAB WITH CURBS

27'-0 F/F CURBS

6"

NOTE
MEDIAN TO MATCH APPROACH MEDIAN AND MEDIAN AS SHOWN ON TRANSVERSE SECTION SHEET

8'-0"

℄ RELOC. SO. MAIN ST.

17°34'-21" SKEW TYP.

37'-2¾" APPROACH SLAB

¾ SLOPE TO FACE OF ABUTMENT BETWEEN FACE OF BEAM SEATS

8'-9"

1" EXP. JOINT

℄ 16"×21" OPENING @ABUTMENT °1 ONLY

6" PERFORATED CMP

3" ϕ GALV. STEEL ALLOY CONDUIT CAST IN CONC. ABUT. °2 ONLY

STA 48+61.50 ~ ABUT. N° 1
STA 51+20.75 ~ ABUT. N° 2

℄ BEARINGS

BUTT JOINT IN EXP. DAM AT CONT. JT.

℄ BEAM

℄ CONTR. JT

℄ TO ℄ 6" CMP DRAIN

17'-0⅛"
14'-0"
14'-0"
7'-0"
22'-0"

4 SPACES @ 8'-6" = 34'-0" ~ ℄ TO ℄ PILES
4 SPACES @ 8'-4 11/16 = 33'-6¾ ℄ TO ℄ BEARINGS
39'-0⅛"
39'-5⅛"

PLAN ABUTMENT °1 (RIGHT HALF)
PLAN ABUTMENT °2 (LEFT HALF)

For end post details and reinforcing see BR-1-65

14'-10"

2" ϕ CONDUIT W.W. ONLY

8-A515 N.S. @ 2'-0"
8-A516 F.S. @ 2'-0"

10-SPS @ 1'-5" = 14'-2" ~ 11-A513

2-R505

3-A514
DO NOT CHAMFER

22-SPS @ 9"

11-A517 N.S. & F.S.

9-A518 N.S. & F.S.

A504 N.S.
A514 F.S.

A521 F.S.

A522 F.S.

A-519 N.S.
A-520 F.S.

9-AG03

3-AG04

A534 CORNER BARS

8-SPS @ 1'-0" = 8'-0"
9-A523

A806 N.S.
A807 F.S.

3-A807

A806

11'-9⅜"

ELEVATION EAST WINGWALL ABUT. °1 (AS SHOWN)
ELEVATION WEST WINGWALL ABUT. 2 (SIMILAR)

CONCRETE ABOVE THIS LINE TO BE PAID FOR AS PART OF ITEM 517 (RAILING)

2" ϕ CONDUIT IN WEST WINGWALLS ONLY

A513
R505
A516
A514
A515
A504
A514
A518
A518
A519
A520
AG03
A519
A520
A523
A806
A807

SECTION C-C

SECTION H-H

A530
AG08
8-A509

A510
A508
A507
A506
A503
A501
A504
A508
A505
AG02
A505
POROUS BACKFILL
CONSTRUCTION JT.
AG01
6" PERFORATED CMP
6" CMP
CONSTRUCTION JOINT
A502
A801
A802
A804
A803

SECTION A-A

A509
A-AG02
A509
A503
A501
A509
AG01
A502
A801

4

SECTION B-B
FOR DETAILS NOT SHOWN SEE SECTION 'A-A'

2-SPS @ 1'-0"
3-AG07

2" CONDUIT ABUT. °2 ONLY

3" CONDUIT ABUT. °2 ONLY

16"×21" OPENING @ABUTMENT °1 ONLY

A-510 F.S.

A-509 F.S.

A530 N.S. & F.S.

14-SPS @ 1'-0" = 14'-0" ~ 15-AG02

28'-3⅞" END DAM

13-SPS @ 1'-0" = 13'-0" ~ 14-AG02

7-SPS @ 1'-0" ~ 8-AG08

8'-4 5/16"

4-A508 N.S.
5-A505 F.S.

4-A509 N.S.
5-A509 F.S.

5-A509

28-A503 UNDER BRG. SEATS

A521

AG04

A534 CORNER BARS

A-504
A-506
A-507
A-508
A-505

A801
A802
A804

12-A501 N.S. & 12-AG01 F.S.

16-A501 N.S. & 16-AG01 F.S.
2-A509 N.S. & F.S.

2-A504 N.S.
2-A505 F.S.

A533 IN FILLET

28-A502 TOP OF FOOTING
28-AG01 BOTT. "

3-A511

3-A801

A801
A802
A803
A804

4-A511

4-A801

5-SPS @ 1'-5" = 7'-1"
TYPICAL UNLESS NOTED

4-SPS @ 1'-6" = 6'-0"

2-SPS @ 1'-5"

ELEVATION ABUTMENT °1 - RIGHT HALF
ELEVATION ABUTMENT °2 LEFT HALF

A807 TOP & BOTT
AG03
A807 BOTT
A523
A804 TOP & BOTT
AG01
A533
A803 BOTT
A522
AG04
A806 TOP & BOTT
A534
A502
A501
A801 TOP & BOTT
A802 TOP & BOTT

SECTION K-K

A520
A533
A505
A519
AG02
A523
AG03
A508
AG07
A534
AG04

SECTION L-L

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 & 2 DETAILS

BRIDGE N° SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 — SUMMIT COUNTY
STA. 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CDS	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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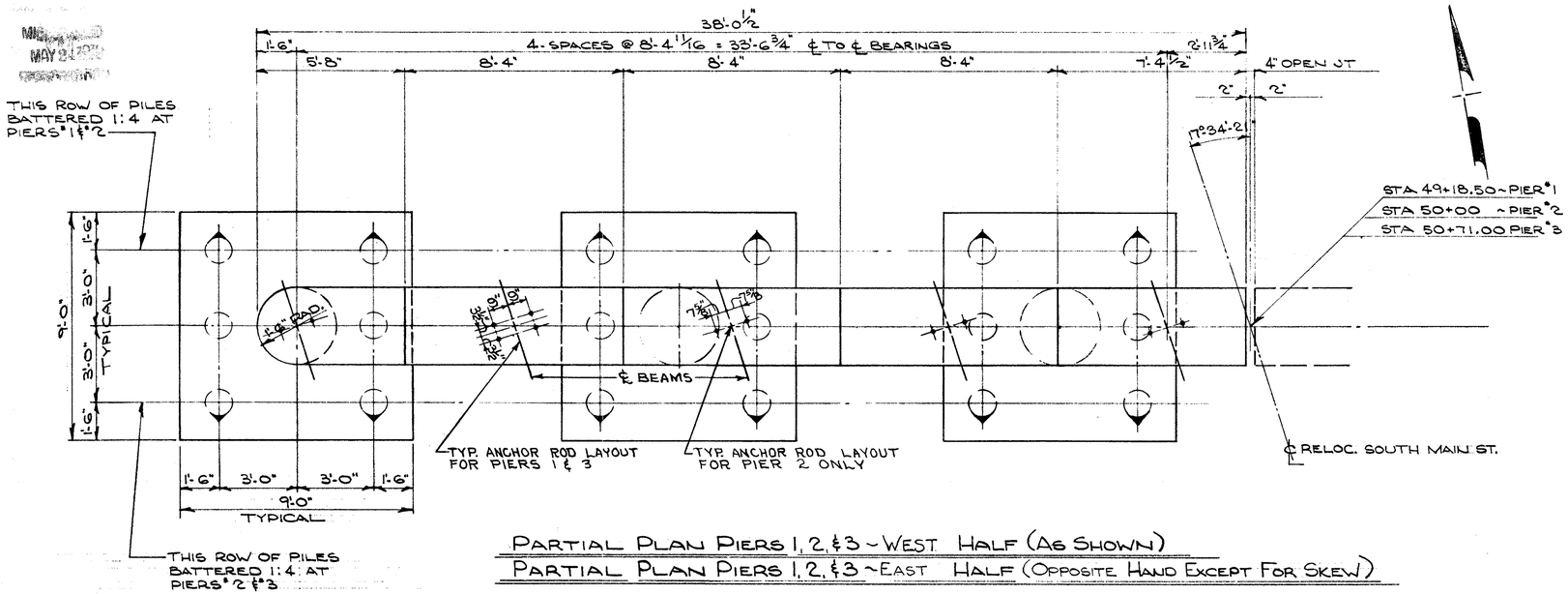
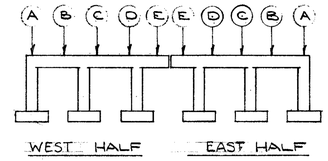


PARTIAL PLAN PIERS 1, 2 & 3 ~ WEST HALF (AS SHOWN)

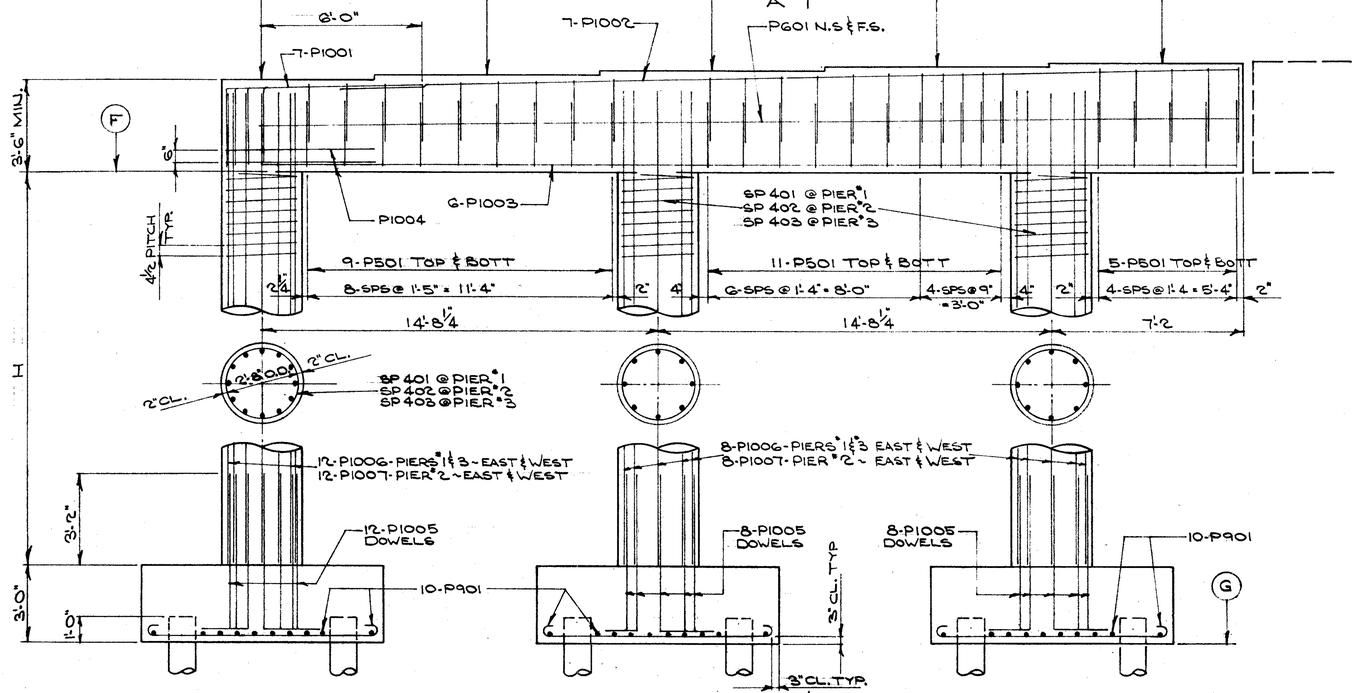
PARTIAL PLAN PIERS 1, 2 & 3 ~ EAST HALF (OPPOSITE HAND EXCEPT FOR SKEW)



KEY PLAN

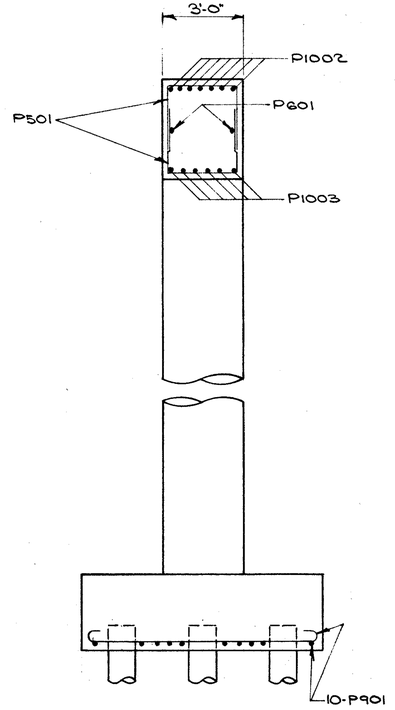
ELEVATION TABLE

	A	B	C	D	E	F	G	H
PIER #1 WEST HALF	1008.68	1008.83	1008.98	1009.13	1009.27	1005.18	986.00	16'-2⅛
PIER #1 EAST HALF	1008.88	1008.98	1009.08	1009.19	1009.29	1005.18	986.00	16'-2⅛
PIER #2 WEST HALF	1007.65	1007.80	1007.95	1008.10	1008.25	1004.15	986.75	14'-4¾
PIER #2 EAST HALF	1007.85	1007.96	1008.06	1008.16	1008.27	1004.15	986.75	14'-4¾
PIER #3 WEST HALF	1006.99	1007.15	1007.32	1007.49	1007.66	1003.49	984.25	16'-3"
PIER #3 EAST HALF	1007.25	1007.44	1007.62	1007.80	1007.89	1003.49	984.25	16'-3"



PARTIAL ELEVATION PIERS 1, 2 & 3 ~ WEST HALF (AS SHOWN)

PARTIAL ELEVATION PIERS 1, 2 & 3 ~ EAST HALF (OPPOSITE HAND)



SECTION 'A-A'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers
Akron, Ohio

PIERS 1, 2 & 3

BRIDGE Nº SUM-277-0131

UNDER RELOC. SOUTH MAIN ST.

I-277 SUMMIT COUNTY

STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CLS	EDH	3-18-65	

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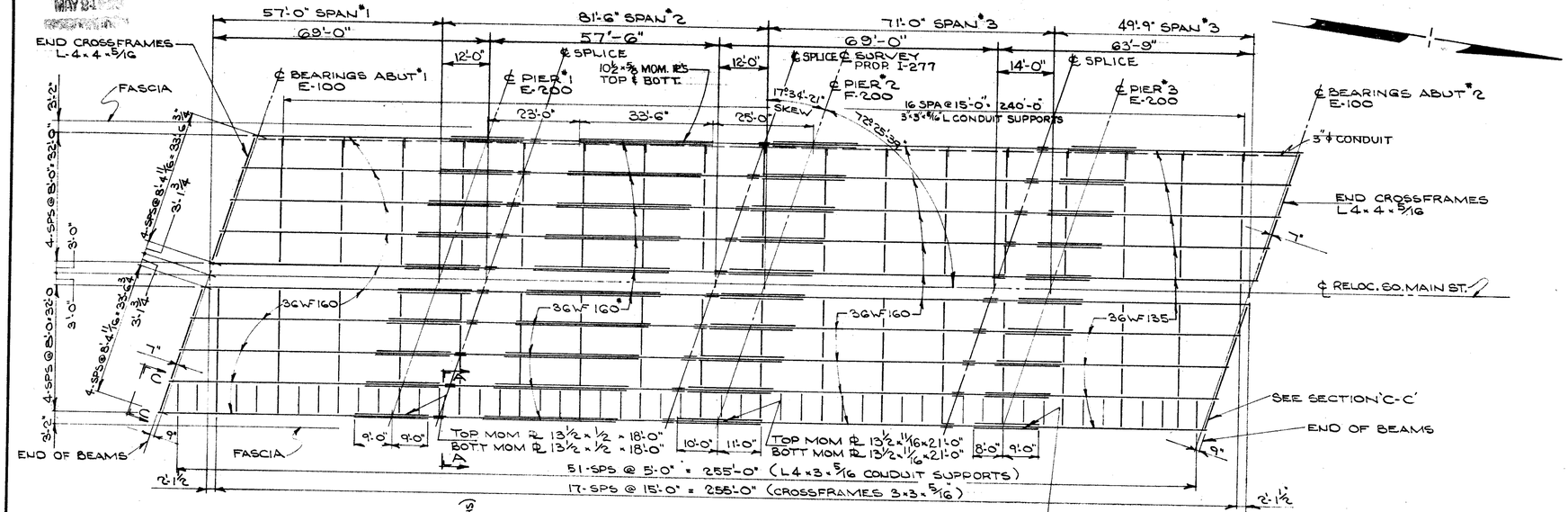
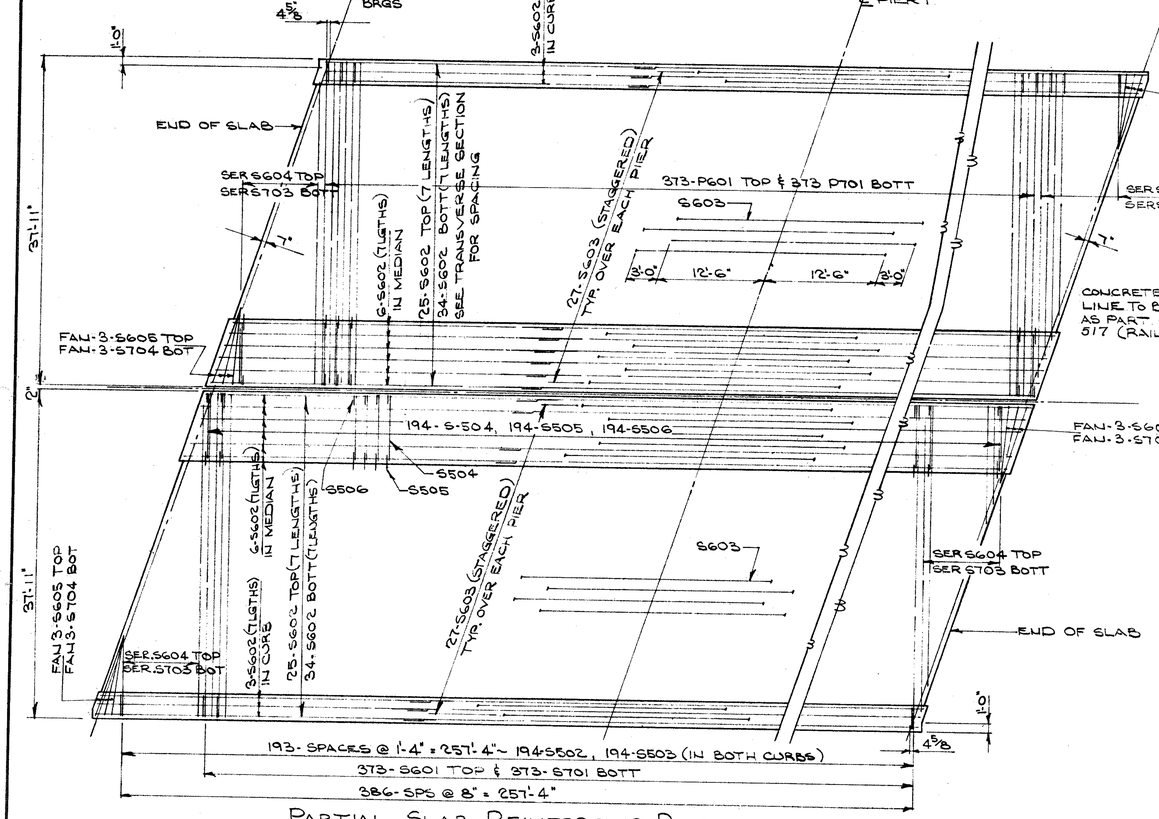
DEFLECTION & CHAMBER

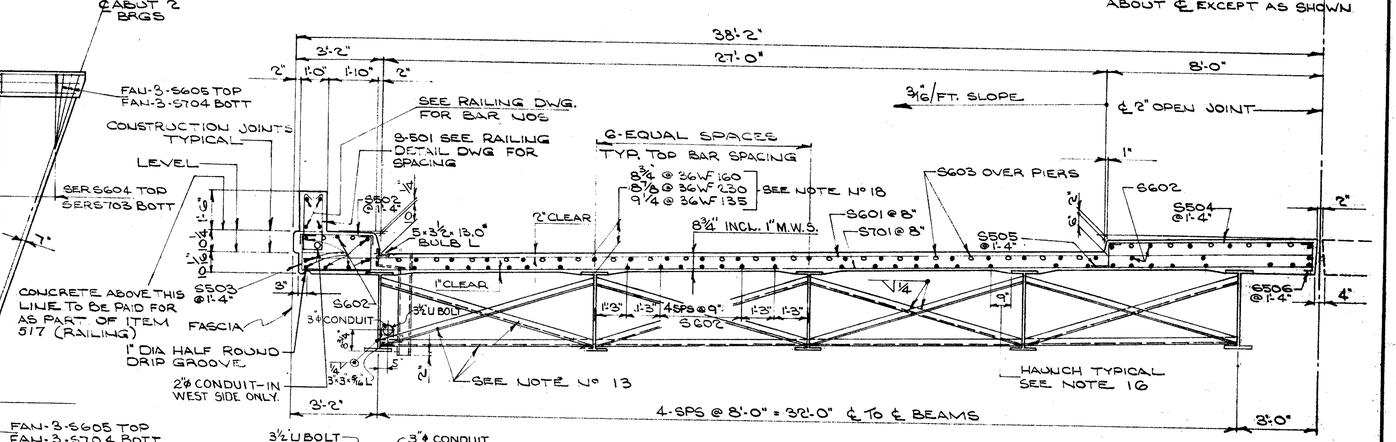
LOCATION	INTERIOR BEAMS							EXTERIOR BEAMS						
	SPAN #1	SPAN #2 LEFT SPLICE	SPAN #2 ℄	SPAN #2 RIGHT SPLICE	SPAN #3 ℄	SPAN #3 RIGHT SPLICE	SPAN #4	SPAN #1	SPAN #2 LEFT SPLICE	SPAN #2 ℄	SPAN #2 RIGHT SPLICE	SPAN #3 ℄	SPAN #3 RIGHT SPLICE	SPAN #4
DEFLECTION DUE TO WEIGHT OF STEEL	.05	.09	.21	.05	.05	.04	.04	.06	.12	.25	.05	.06	.05	.06
DEFLECTION DUE TO REMAINING DEAD LOAD	.20	.21	.69	.20	.15	.13	.17	.27	.28	.79	.21	.18	.15	.21
CONVEXITY REQUIRED FOR VERTICAL CURVE	—	—	—	—	.75	.50	.65	—	—	—	—	.75	.50	.65
SUM OF DEFLECTION AND CONVEXITY	.25	.30	.90	.25	.95	.67	.85	.33	.40	1.04	.30	1.01	.70	.92
REQUIRED CAMBER	0	0	7/8"	0	7/8"	3/4"	7/8"	0	0	1"	0	1"	3/4"	1"

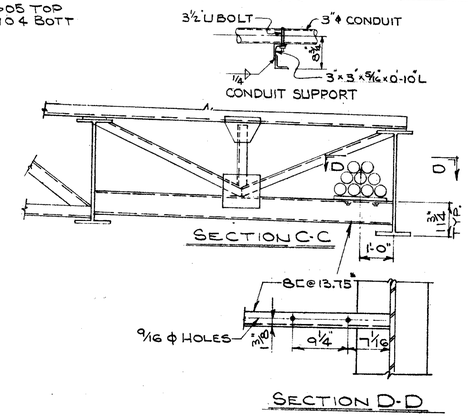


FRAMING PLAN

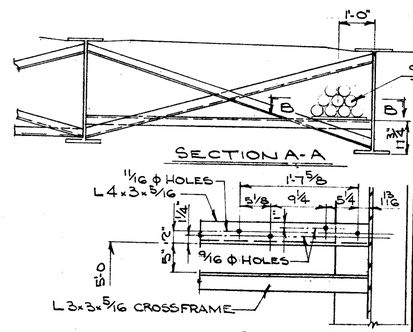


PARTIAL SLAB REINFORCING PLAN





PARTIAL TRANSVERSE SECTION



℄ SURVEY RELOC. 60. MAIN ST.
DIMENSIONS AND REINFORCING BARS SYMMETRICAL ABOUT ℄ EXCEPT AS SHOWN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING PLAN & SLAB DETAILS

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 — SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CES	RDH	3-18-65	

MAY 21 1965

FED. RD.	STATE	PROJECT	
2	OHIO		

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℄ ABUT #1 BEARINGS

℄ PIER #1

260'-9 1/8" LENGTH OF RAILING
15 - PANELS @ 15'-8" = 235'-0"
31 - SPACES @ 7'-10" = 242'-10"

LIGHT STD. TYPE I WITHOUT BOX

100'-0"

3 1/2" 1'-1 5/8" 7'-10" 12'-10 5/8"

12'-10 1/2" 7'-10" 1'-1 5/8" 3 1/2"

5 x 3 1/2 x 13.0# BULB L

SCUPPERS 8'-0" 7'-6"

6 SPACES @ 6'-3" = 37'-6"
7 SCUPPERS

4'-6"

FACE OF ABUTMENT

FACE OF ABUTMENT

8'-0" SCUPPERS 7'-6"

5 x 3 1/2 x 13.0# BULB L

6 SPACES @ 6'-3" = 37'-6"
7 SCUPPERS

4'-6"

℄ ABUT #2 BEARINGS

3 1/2" 1'-1 5/8" 7'-10" 12'-10 5/8"

31 - SPACES @ 7'-10" = 242'-10"
15 - PANELS @ 15'-8" = 235'-0"
260'-9 1/8" LENGTH OF RAILING

7'-10" 12'-10 1/2" 1'-1 5/8" 3 1/2"

PARTIAL DECK PLAN

2" 9 SPS @ 1'-4 3/4" ± 12'-6 5/8" ~ 10-5501 2"

TYPE I BRIDGE RAILING

R501 N.S. & F.S.

ALL SCUPPERS TO BE TYPE I

2" 11 SPS @ 1'-4 3/4" ± 15'-4" ~ 12-5501 2" 2" 9 SPS @ 1'-4 3/4" ± 12'-6 1/2" ~ 10-5501 2"

TYPICAL FOR ALL 15'-8" PANELS

SEE NOTE #25

R502 N.S. & F.S.

2"

R501 N.S. & F.S.

EAST ELEVATION SHOWN
WEST ELEVATION SIMILAR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 — SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CDA	EDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.
ABUTMENT 1 & 2									
A501	112	7'-1"	1	6"	6'-8"				827
A502	112	9'-1"	3	5'-4"	2'-0"				1061
A503	112	8'-2"	3	3'-5"	2'-6"				953
A504	30	16'-8"	ST						522
A505	12	17'-8"	ST						221
A506	6	16'-10"	ST						105
A507	4	17'-1"	ST						71
A508	20	17'-4"	ST						362
A509	68	21'-6"	ST						1524
A510	2	16'-0"	ST						33
A511	28	10'-0"	ST						292
A512	2	15'-0"	ST						31
A513	44	5'-7"	5	8"	2'-2"	5			256
A514	28	14'-9"	ST						431
A515	32	4'-3"	3	1'-4"	1'-7"				142
A516	32	4'-1"	16	1'-4"	1'-7"	1'-5			136
A517	44	2'-8"	ST						122
A518	40	4'-9"	ST						198
A519	8	8'-8"	ST						72
A520	10	7'-0"	ST						73
A521	22	5'-0"	ST						115
A522	12	3'-9"	ST						47
A523	34	11'-4"	14	2'-7"	3'-0"	4"			402
A524	44	4'-7"	ST						210
A525	10	3'-2"	ST						33
A526	10	2'-8	ST						28
A527	4	14'-7"	ST						61
A528	2	9'-5	ST						20
A529	6	9'-2"	ST						57
A530	14	7'-6"	ST						110
A531	4	5'-8"	17	1'-9"	7¼				23
A532	6	4'-4"	17	7"	7¼				27
A533	10	5'-9"	ST						60
A534	10	3'-11"	12	2'-0"	2'-0"	7¼			41
A601	112	14'-4"	4	6'-8"	5'-4"	2'-7"			2411
A602	114	15'-2"	7	4'-8"	1'-5"	6'-0"	11"	2'-8"	2597
A603	20	18'-9"	3	1'-2"	8'-11"				563
A604	9	17'-2"	4	9'-8	1'-2"	6'-7"			232
A605	22	19'-7"	3	1'-2"	9'-4"				646
A606	3	18'-1"	4	10'-1"	1'-2"	7'-1"			81
A607	12	13'-2"	3	1'-5"	6'-0"				237
A608	32	14'-2"	3	1'-5	6'-6"				681
A801	32	20'-9	ST						1773
A802	12	21'-4"	ST						683
A803	2	21'-8"	ST						116
A804	8	22'-4	ST						477
A805	2	22'-0"	ST						117
A806	4	11'-5	ST						122
A807	8	9'-4"	ST						199
A808	4	12'-1"	ST						129
A809	8	7'-6"	ST						160
ABUTMENT 1 & 2 TOTAL 19,890									

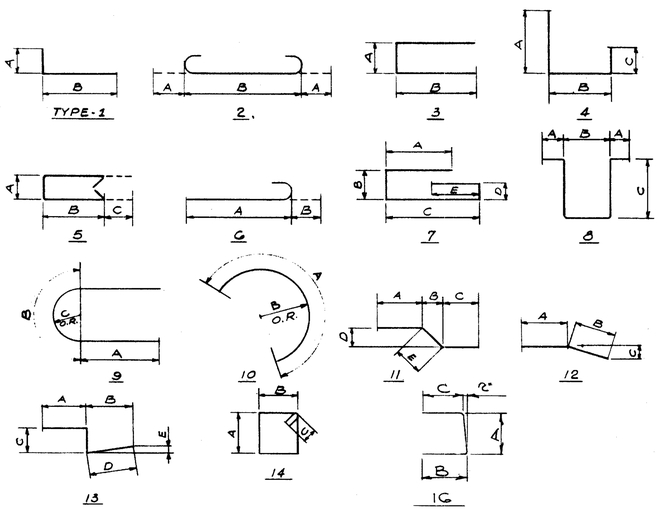
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
SUPERSTRUCTURE									
S501	400	5'-7"	5	8"	2'-2"	5"			2329
S502	388	3'-3"	3	2'-6"	6"				1315
S503	388	5'-8"	18	1'-4"	2'-6"	6"			2291
S504	388	7'-6"	ST						3035
S505	388	1'-9"	13	6"		1'-0"	6"		708
S506	388	1'-9"	3	1'-0"	6"				708
S521	2	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10		24
S601	746	37'-6"	ST						42,018
S602	952	38'-10"	ST						55,523
S603	162	28'-0"	6T						6,813
SERIES OF S604	4-SETS OF 14 BARS	VARIES 8'-5 TO 38'-9 @ INCR. 2¼	ST					2'-1+	1860
S605	12	7'-0"	ST						126
S621	12	5'-6"	ST						99
S622	4	9'-11"	14	2'-10"	2'-0"				60
S701	746	37'-6"	ST						57,180
S702		OPEN							
SERIES OF S703	4-SETS OF 14 BARS	VARIES 8'-5 TO 38'-9 @ INCR. 2¼	ST					2'-1+	2,518
S704	12	7'-0"	ST						172
TOTAL SUPERSTRUCTURE 176,779									
PIERS 1, 2, & 3									
P501	300	7'-9"	3	2'-8"	2'-8"				2425
P601	12	36'-4"	ST						655
P901	360	11'-0"	2	1'-3"	8'-6"				13464
P1001	42	10'-3"	1	3'-2"	7'-4"				1852
P1002	42	33'-6"	ST						6054
P1003	36	36'-4"	ST						5628
P1004	12	10'-1"	9	3'-2"	3'-9"	1'-2¼			520
P1005	168	6'-6"	1	1'-0"	5'-9"				4699
P1006	112	19'-5	ST						9359
P1007	56	17'-6"	ST						4217
TOTAL SPIRALS									5160
PIERS 1, 2, & 3 TOTAL 54,033									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
RAILING*									
R501	16	12'-6"	ST						
R502	120	15'-4"	ST						
R505	16	14'-5"	ST						
R521	2	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		
R522	2	11'-4⅝"	19	3'-0"	8"	3'-9"	11⅝"		
R503	12	4'-2"	BT†						
R504	8	5'-4"	BT†						
REPLACEMENT BARS									
RE-401	1	5'-3"	10	5'-3	1'-4				
RE-501	1	5'-6"	ST						
RE-601	6	6'-0"	ST						
RE-701	3	6'-3"	ST						
RE-801	1	6'-6"	ST						
RE-901	1	6'-10"	ST						
RE-1001	2	7'-3"	ST						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	6	2'-8"	16'-2⅛	4½	46	1520
SP402	6	2'-8"	14'-4¾	4½	41	1356
SP403	6	2'-8"	16'-3"	4½	46	1520
SPACERS	72					764
TOTAL SPIRALS						5160

GRAND TOTAL 250,702 LBS



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗ RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

† For bending diagrams see BR-1-65

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE Nº SUM-277-0131
UNDER RELOC. SOUTH MAIN ST.
I-277 SUMMIT COUNTY
STA 189+66.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CBS	RDH	3-10-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

351
383

SUM 277 - 0.46

MAY 21

PC STA. 219+19.49

STA. 220+78.29 I-277
STA. 50+01.05 GLENMOUNT

PC STA. 51+28.42

STA. 51+27.16 GLENMOUNT AVE.
STA. 21+02.79 RELOC. BREWSTER RUN

RELOCATED BREWSTER RUN

SKEW 15°-00"

78°-03'-39" LOG TAN.

PT. OF MINI. VERT. CLEARANCE

END APPROACH SLABS
STA. 220+19.05

BEGIN APPROACH SLABS
STA. 221+37.59

℄ JOINT

℄ GUARD RAIL BARRIER TYPE

WESTBOUND LANES

℄ SURVEY PROPOSED I-277

EASTBOUND LANES

HINE ST

℄ GLENMOUNT AVE

CRUSHED AGGREGATE SLOPE PROTECTION

MEASURED ALONG LOC. TAN.

℄ SURVEY PROPOSED I-277

CURVE DATA

Δ = 1°-00'-41" LT.
Dc = 0°-28'
R = 12,277.67'
Lc = 859.58'
T = 429.97'
E = 7.53'
P.I. STA. 223+49.46

VERTICAL CLEARANCE:
DESIGN = 14.50'
ACTUAL = 14.68'

12" ϕ CAST-IN-PLACE CONCRETE PILES
AVERAGE ESTIMATED PAY LENGTH FOR PILES: ABUTMENTS = 60'
PIERS = 45'

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH REINFORCED CONC. SUBSTRUCTURE.
SKEW: 11°-56'-21" LT. TO LOC. TAN.
SPANS: 36'-0", 45'-0", 36'-0" ℄ ASSUMED BRG'S.
ROADWAY: 108'-0" ℄ PARAPETS, 6' MEDIAN
LOAD FREQUENCY: CF 3,000(S7) ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: 0°-28' CURVE LT.
SUPERELEVATION: NONE.
SLOPE PROTECTION: 601 CRUSHED AGGREGATE
TRAFFIC: 55,630 - 1975 - ADT. I-277
1,040 - 1975 - ADT. GLENMOUNT AVE.

PVT. STA. 51+50 EL. 997.56 PG. EL. 998.00
+2.22% +0.48% 200' V.C.
EL. 997.43
PVC. STA. 50+50 EL. 997.06
EL. 996.84
EL. 996.60
EL. 996.36
EXISTING ℄ PROFILE
PROPOSED PROFILE GRADE
51+00 50+00 49+00

EL. 1012.52
EL. 1012.97
STA. 220+19.05
EL. 1013.42
EL. 1013.87
STA. 221+37.59
EL. 1014.32
EL. 1014.77
BRIDGE LIMITS = 118.54'
TYPE I Bridge Railing
EL. 1010.07
EL. 1011.02
PROPOSED +0.90% PROFILE GRADE
EL. 1004.79
2.33:1 NORMAL
2.20:1 NORMAL
EL. 990.50
EL. 1005.74
EXISTING ℄ PROFILE
220+00 221+00 222+00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SITE PLAN

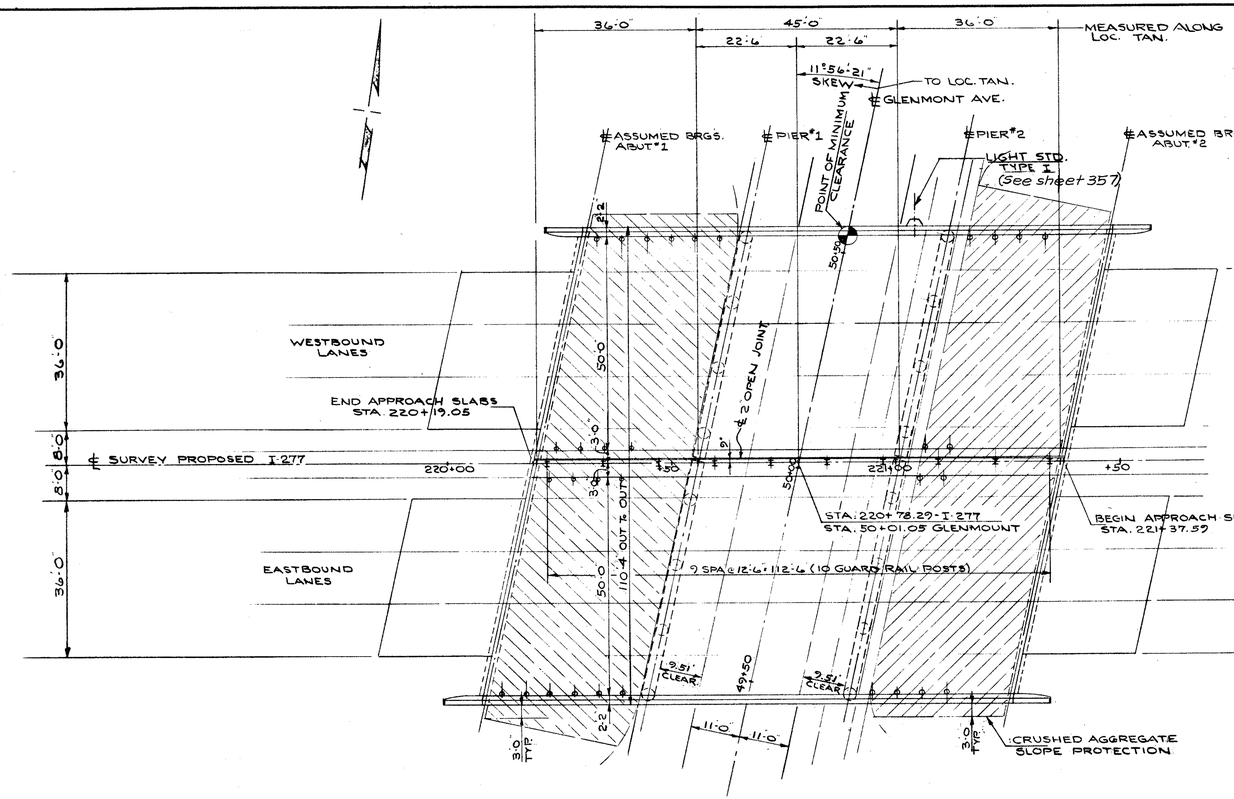
BRIDGE NO. SUM.+ 277-0071'
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH.	JK			RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

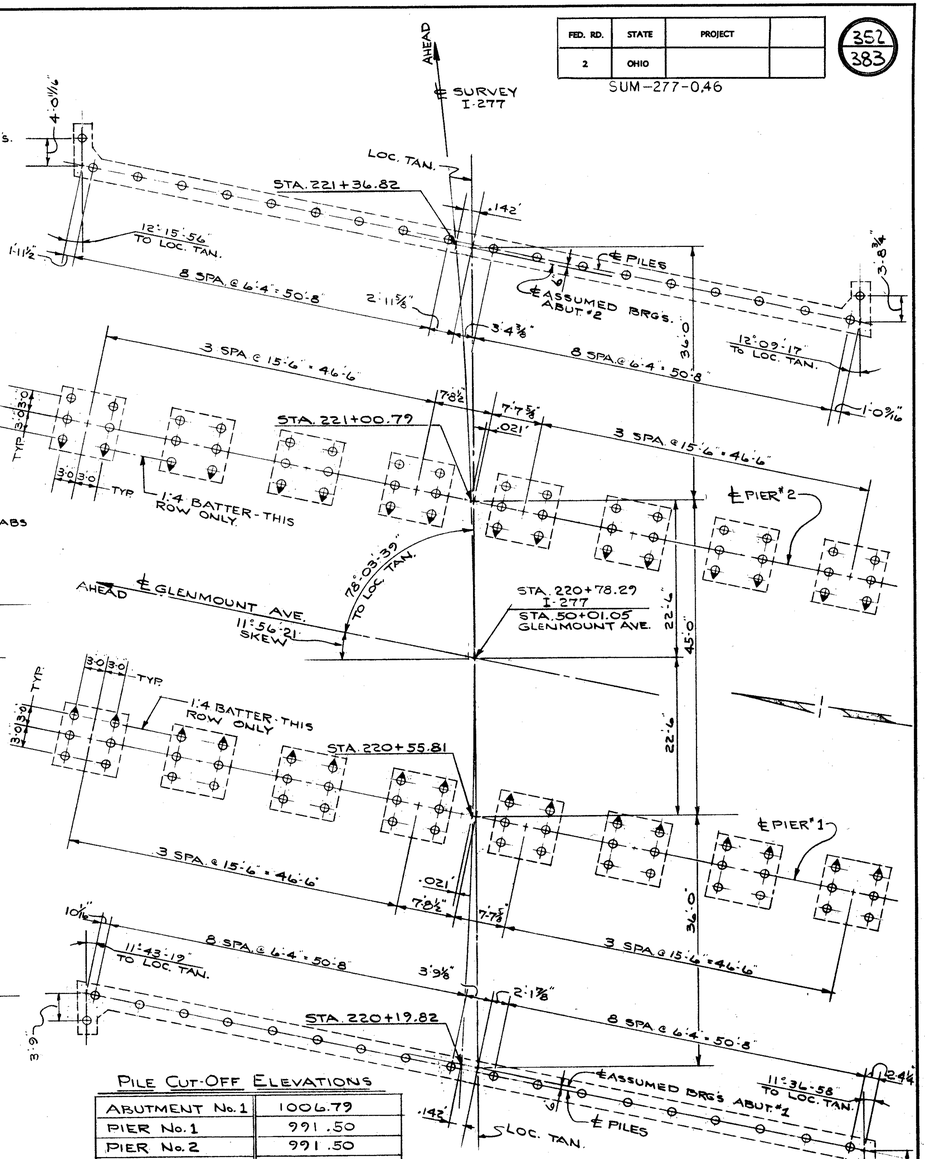
SUM-277-0.46

357
383



— PLAN —

— ELEVATION —



— PILING PLAN & GEOMETRICS —

PILE CUT-OFF ELEVATIONS

ABUTMENT No. 1	1006.79
PIER No. 1	991.50
PIER No. 2	991.50
ABUTMENT No. 2	1007.74

SEE SHEET Nos 291 & 292 FOR STRUCTURAL GENERAL NOTES Nos 1 THRU 4, 6, 8, 14, 20, 21, 25 & 26

SEE SHEET No 293 FOR DETAILS #1, 2, 3 & 6

— ESTIMATED QUANTITIES —

* AASHO M153

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS	PIERS	GEN.
503	572	CU.YDS.	UNCLASSIFIED EXCAVATION		285	287	
511	830	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	830			
511	67	CU.YDS.	CLASS "E" CONC. ABUTS. ABOVE FOOTINGS		67		
511	135	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			135	
511	225	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS		81	144	
825	1535	Sq. Yds.	CONCRETE SURFACE TREATMENT	1518	17		
512	42	LIN.FT.	PREMOLDED SEALING STRIP		42		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS.	GEN.
509	265,464	LBS	REINFORCING STEEL	200,298	15,166	50,000	
516	32	SQ.FT.	1" PREFORMED EXP. JT. FILLER *		32		
517	270.64	LIN.FT.	RAILING TYPE I	237.08	33.56		
517	118.54	LIN.FT.	RAILING *Double Faced Deep Beam Rail with Steel Posts and Bolts.*	118.54			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN.
505	LUMP	SUM	FIRST TEST PILE				LUMP
507	6720	LIN.FT.	12" CAST-IN-PLACE REINF. CONC. PILES		2400	4320	
625			SEE ELECTRICAL DRAWINGS				
518	52	CU.YDS.	POROUS BACKFILL		52		
518	32	EACH	6" GALVANIZED STL. OR WROUGHT IRON SUPERS	32			
518	208	LIN.FT.	6" PERF. HELICAL C.M.P. 707.06 INC. SPECIALS		208		
518	110	LIN.FT.	6" HELICAL C.M.P. 707.06 NON PERF.		110		
601	875	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		875		
808	830	EACH	WATER REDUCING SET RETARDING ADMIXTURE	830			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN & ELEVATION & PILING PLAN

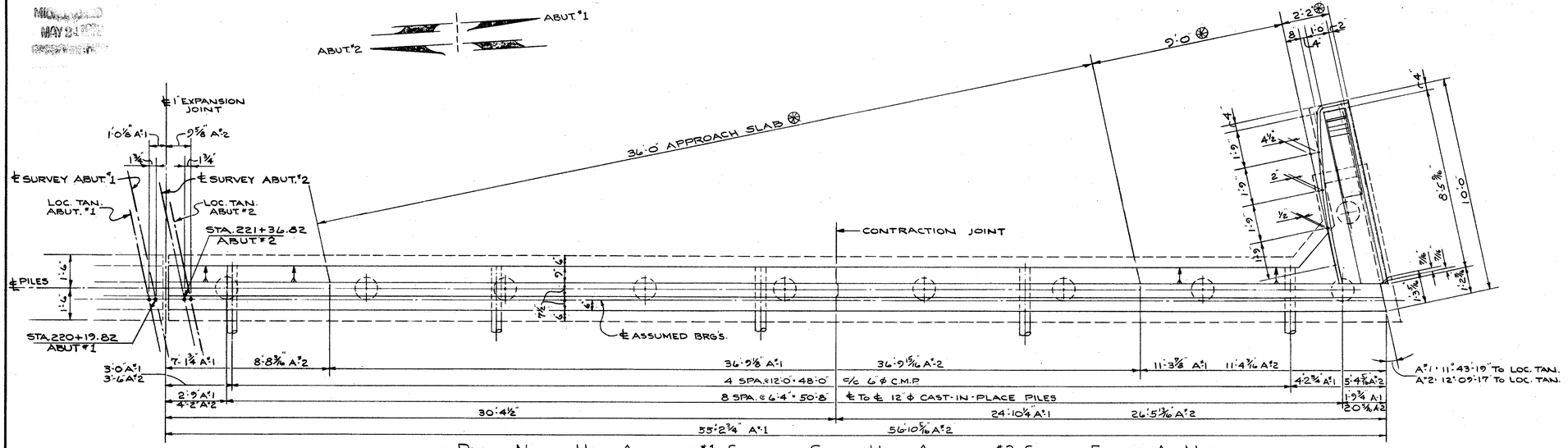
BRIDGE NO. SUM.-277-0071
OVER GLENMOUNT AVE.
I-277 — SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH.	LNP		WSH	RDH	3-18-65	

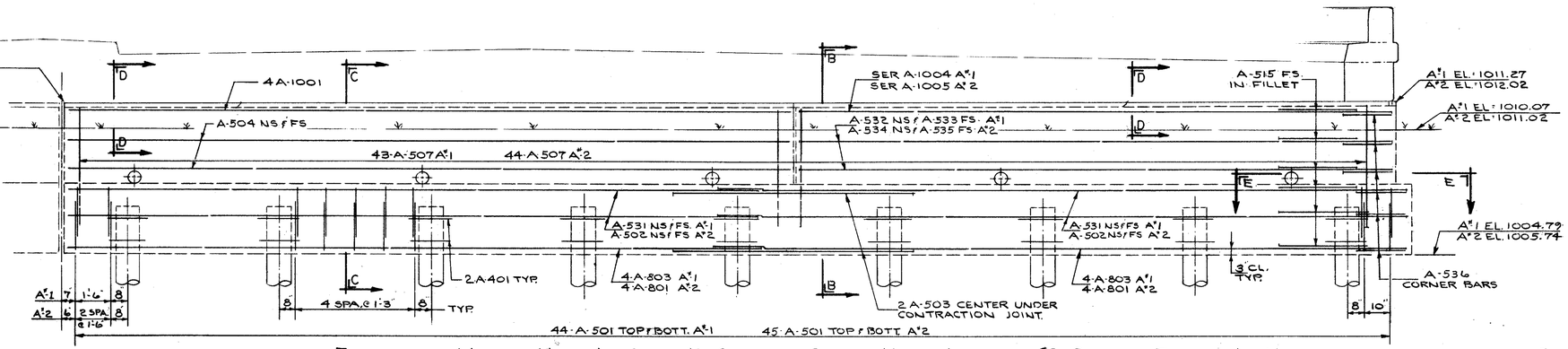
FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

353
383



— PLAN - NORTH HALF ABUTMENT #1 SHOWN - SOUTH HALF ABUTMENT #2 SIMILAR EXCEPT AS NOTED. —



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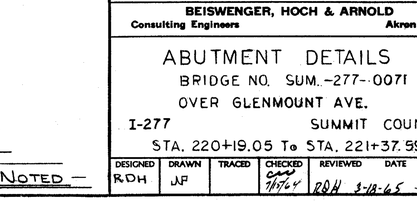
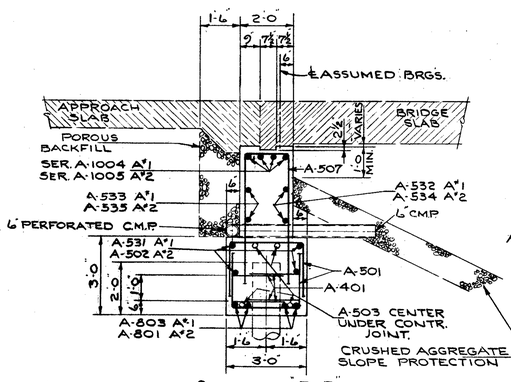
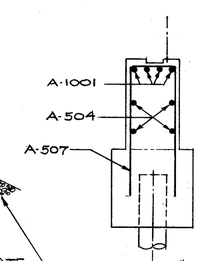


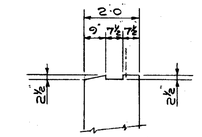
— SECTION E-E —



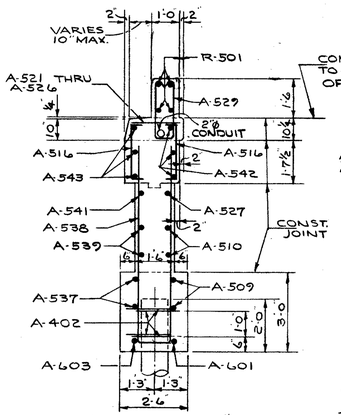
— SECTION B-B —



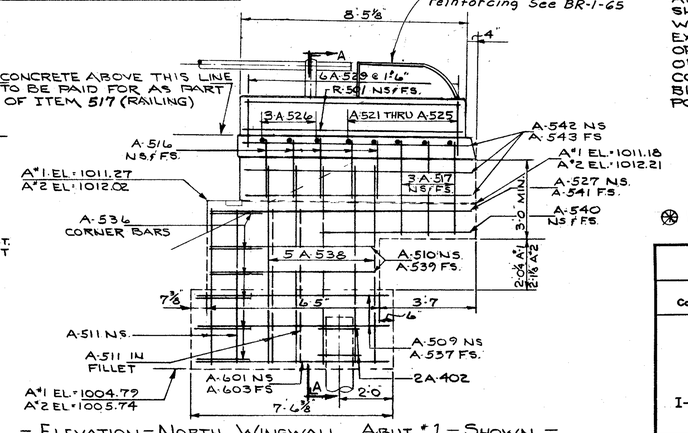
— SECTION C-C —
SEE SECTION B-B FOR DETAILS, DIMENSIONS AND REINF. STEEL NOT SHOWN



— SECTION D-D —
SEE SECTION B-B ƒ C-C FOR DETAILS NOT SHOWN



— SECTION A-A —



— ELEVATION - NORTH WINGWALL ABUT. #1 - SHOWN —
— SOUTH WINGWALL - ABUT. #2 - SIMILAR - EXCEPT AS NOTED —

POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE SURFACE OF THE EARTH SHOULDERS AND OUTWARD TO THE WINGWALLS. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU. YD. PAID FOR POROUS BACKFILL.

℞ DENOTES RADIAL DIMENSIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT DETAILS

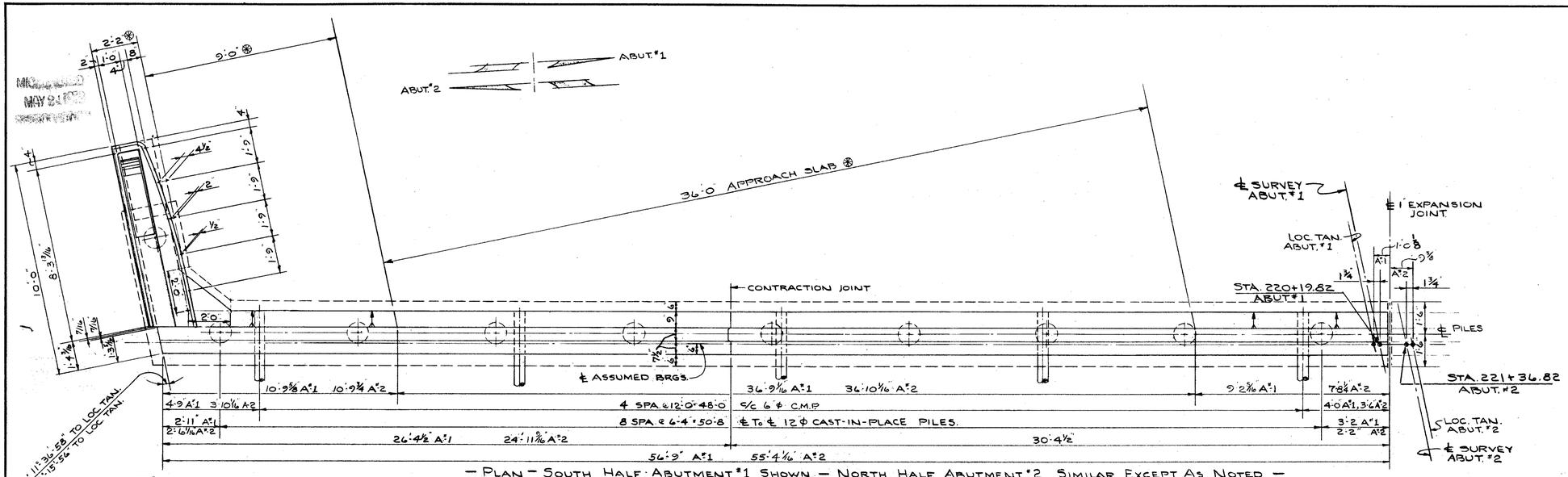
BRIDGE NO. SUM.-277-0071
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JJP		9/17/64	RDH	3-18-65	

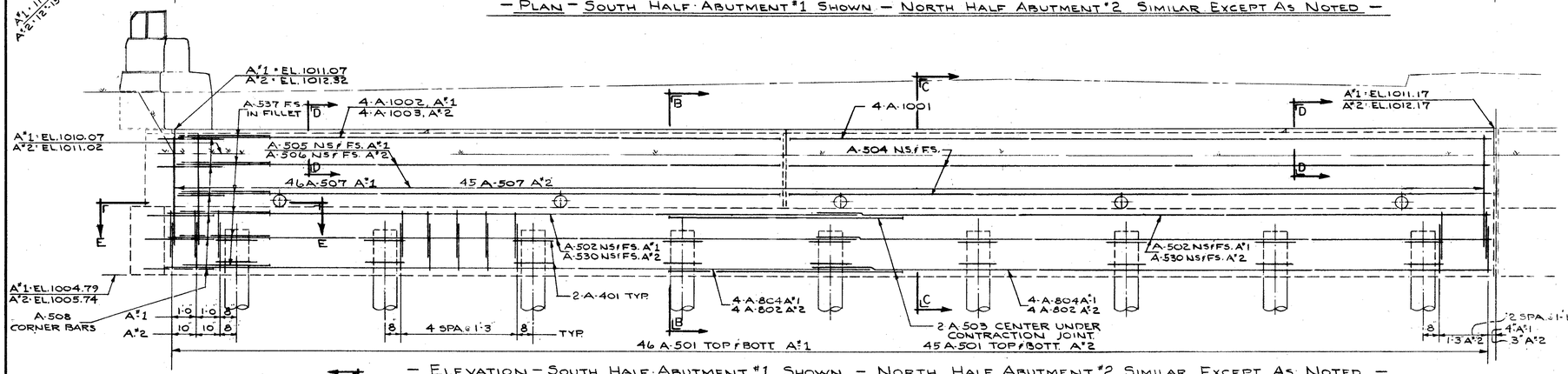
FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

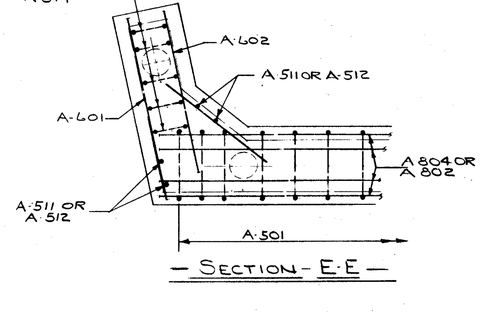
354
383



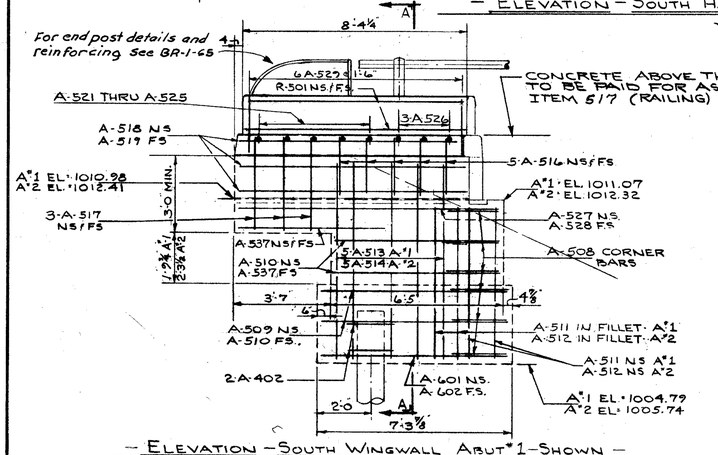
— PLAN — SOUTH HALF ABUTMENT #1 SHOWN — NORTH HALF ABUTMENT #2 SIMILAR EXCEPT AS NOTED —



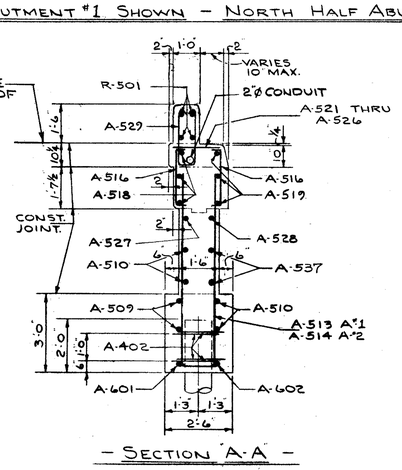
— ELEVATION — SOUTH HALF ABUTMENT #1 SHOWN — NORTH HALF ABUTMENT #2 SIMILAR EXCEPT AS NOTED —



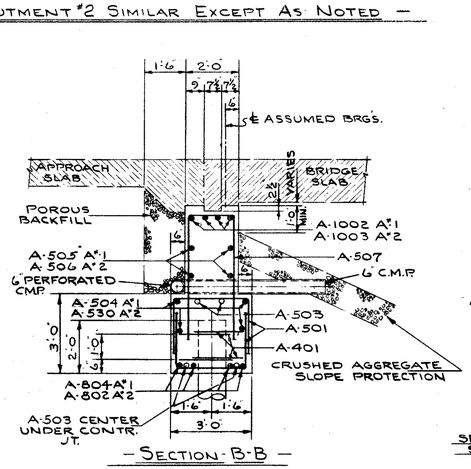
— SECTION E-E —



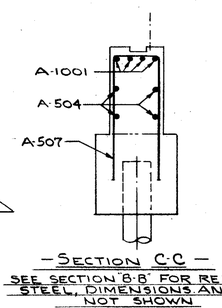
— ELEVATION — SOUTH WINGWALL ABUT #1 SHOWN —
— NORTH WINGWALL ABUT #2 SIMILAR EXCEPT AS NOTED —



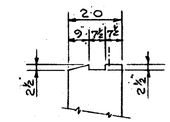
— SECTION A-A —



— SECTION B-B —



— SECTION C-C —
SEE SECTION B-B FOR REINFORCING STEEL, DIMENSIONS AND DETAILS NOT SHOWN



— SECTION D-D —
SEE SECTION B-B & C-C FOR DETAILS NOT SHOWN

⊛ DENOTES RADIAL DIMENSIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT DETAILS

BRIDGE NO. SUM-277+0071
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JP		9/15/64	RDH	3-19-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM. 277-0.46

355
383

52'-6" LT. 54'-0" RT.

15'-6" 15'-6" 15'-6" 6'-0" LT. 7'-6" RT.

11 11/16

9'-0"
4'-6" 4'-6"
1'-6" 3'-0" 3'-0" 1'-6"

AHEAD

SLAB FACIA

1'-6" RAD. AT 45°

℄ PIER

1'-24" KEY.

1'-24"

STA. 220+55.81 PIER #1
STA. 221+00.79 PIER #2

1'-6"
3'-0"
1'-6"

9'-0"
4'-6"
3'-0"
3'-0"
4'-6"
1'-6"

9"

℄ I-277
℄ OPEN JOINT
} SEE PILING PLAN.

LOC. TAN.

5⅝" PIER #1 LT.
6⅛" PIER #1 RT. & PIER #2 LT.
6⅛" PIER #2 RT.

— PLAN — PIER #1 LEFT HALF SHOWN —
— PIER #2 LEFT HALF SIMILAR —
— PIER #1 & #2 - RIGHT HALF - SIMILAR - EXCEPT AS NOTED —

EL. 1011.40 PIER #1 LT. & RT.
EL. 1011.90 PIER #2 LT. & RT.

7-P-1107

11'-6" 11'-6"

3'-6" LAP 3'-6" LAP

7-P-1104

7-P-1105 LT.
7-P-1106 RT.

B A C

P-1004

3'-0"

1'-6"

2'-3" 2'-3"

7-P-904

P-601 NS & F.S.

7-P-701

CONST. JT. TYP.

P-602 NS & F.S. LT.
P-601 NS & F.S. RT.

7-P-803 LT.
7-P-804 RT.

C C

4 SPA. @ 1'-0" = 4'-0"
5-P-501 TOP
5-P-502 BOTT.
2" 4"
LEFT.

6 SPA. @ 11" = 5'-6"
7-P-501 TOP
7-P-502 BOTT.
2" 4"
RIGHT.

9 SPA. @ 1'-0" = 9'-0"
14-P-501 TOP & 14-P-502 BOTT.
2"

4 SPA. @ 9½" = 3'-2"
2"

12 SPA. @ 1'-0" = 12'-0"
13-P-501 TOP & 13-P-502 BOTT.
3"

12 SPA. @ 1'-0" = 12'-0"
13-P-501 TOP & 13-P-502 BOTT.
3"

6'-0" LT.
7'-6" RT.

4½" PITCH TYP.

15'-6" 15'-6" 15'-6"

12-P-1102 P#1 LT. & RT.
12-P-1103 P#2 LT. & RT.

12-P-902 P#1 LT. & RT.
12-P-903 P#2 LT. & RT.

12-P-1002 P#1 LT. & RT.
12-P-1003 P#2 LT. & RT.

CL. 12'-8" CORE DIA. AT TOP 2" CL.

SP-401 P#1 LT. & RT.
SP-402 P#2 LT. & RT. TYP.

14'-10¾" PIER #1 LT. & RT.
15'-4¾" PIER #2 LT. & RT.

3'-6"
3'-0"

12-P-1101

2'-10"
3 CLEAR
10-P-801
1'-9"
3 CLEAR
12-P-901
P-801
A
6 1'-0" 9 4 SPA. @ 13½" = 4'-6" 9 1'-0" 6
1'-6" 6'-0" 1'-6"
9'-0"
TYP.

2'-10"
CONST. JT. TYP.
12-P-901

3'-2"
12-P-1001

EL. 990.50 PIER #1 LT. & RT.
EL. 990.50 PIER #2 LT. & RT.

— ELEVATION — PIER #1 - LEFT HALF SHOWN —
— PIER #2 - LEFT HALF SIMILAR —
— PIER #1 & #2 - RIGHT HALF - SIMILAR - EXCEPT AS NOTED —

3'-0"
1'-6" 1'-6"
7-P-1104
P-501
P-601
P-502
7-P-701

— SECTION "A-A" —

7-P-1107
1'-7½"
VARIES
P-501
P-601
P-502
7-P-904

— SECTION "B-B" —

7-P-1105 LT.
7-P-1106 RT.
P-501
P-502
P-602 LT.
P-601 RT.
7-P-803 LT.
7-P-804 RT.

— SECTION "C-C" —

3¾" 7½" 3¾"
2⅜"
℄ PIER

— KEY —

3'-0"
3 CLEAR
1'-0"
3 CLEAR
P-801
7-P-801
6 1'-0" 9 3 SPA. @ 9½" = 2'-7½" 9 3 SPA. @ 9½" = 2'-7½" 9 1'-0" 6
1'-6" 3'-0" 3'-0" 1'-6"
9'-0"
TYP.

— SECTION "A-A" —

ALL PILES TO BE 12"ϕ CAST-IN-PLACE REINFORCED CONCRETE PILES.
SEE PILING PLAN FOR DIRECTION OF BATTER OF PILES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIER DETAILS

BRIDGE NO. SUM-277 — 0071
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JP		11/1/64	RDH	3-19-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

SUM-277-0.46

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℄ ASSUMED BRG'S. ABUT. #1 — ℄ PIER #1 — ℄ PIER #2 — ℄ ASSUMED BRG'S. ABUT. #2

S-504 — S-1001 — S-505 — S-1001 — S-504

TYPICAL SPACING FOR SAFETY CURB AND MEDIAN CURB

32 SPA. @ 1'-0" = 32'-0" | 8 SPA. @ 6'-4"-0" | 8 SPA. @ 6'-4"-0" | 37 SPA. @ 1'-0" = 37'-0" | 8 SPA. @ 6'-4"-0" | 8 SPA. @ 6'-4"-0" | 32 SPA. @ 1'-0" = 32'-0"

134-S-502 & 134-S-503

— STEEL IN SAFETY CURB —

S-1101 ⊛ — S-1102 ⊛ — S-1103 ⊛ — S-1103 ⊛ — S-1102 ⊛ — S-1101 ⊛

SER. S-601 — S-602 — SER. S-601

S-603 (2 LENGTHS) LEFT. S-603 LAP W/S-604 RIGHT.

— STEEL IN TOP OF SLAB —

S-1004 — S-1003 — S-1002 — S-1002 — S-1005 — S-1006 — S-1002 — S-1003 — S-1004

S-701 (2 LENGTHS) LEFT S-701 LAP W/S-702 RIGHT

134-S-506 & 134-S-507

— STEEL IN BOTTOM OF SLAB —

11°-56'-21" SKEW

SEE DETAIL C — S-504 — S-1001 — S-505 — S-1001 — S-504 — SEE DETAIL C

℄ SURVEY — ℄ 2 OPEN JOINT — ℄ 2 OPEN JT.

S-504 — S-1001 — S-505 — S-1001 — S-504

134-S-508 & 134-S-509

℄ GLENMOUNT AVENUE

— STEEL IN MEDIAN CURB —

36'-0" | 22'-6" | 45'-0" | 22'-6" | 36'-0"

118'-6⅞" OUT TO OUT SLAB

— PARTIAL PLAN —

S-603 (2 LENGTHS) LEFT S-603 LAP W/S-604 RIGHT

S-701 (2 LENGTHS) LEFT S-701 LAP W/S-702 RIGHT

22'-6" — ℄ MIDDLE SPAN — 22'-6"

14 SPA. @ 2'-0" = 28'-0" | 6 SPA @ 1'-0" | 6 SPA @ 1'-0" | 15 SPA. @ 2'-0" = 30'-0" | 6 SPA @ 1'-0" | 6 SPA @ 1'-0" | 14 SPA. @ 2'-0" = 28'-0"

SER. S-601 — S-1101 — S-1102 — S-1103 — S-602 — S-1101 — S-1102 — S-1103 — SER. S-601

S-1004 — S-1002 — S-1003 — S-1005 — S-1006 — S-1002 — S-1002 — S-1003 — S-1004

VARY — VARY

29 SPA @ 1'-1" = 31'-5" | 38 SPA @ 1'-1" = 41'-2" | 29 SPA @ 1'-1" = 31'-5"

— SECTION "D-D" —

2'-2" | 33'-0" | 50'-0" | 17'-0" | 3'-0"

℄ SURVEY — ℄ 2 OPEN JT.

24 SPA @ 2'-2½" = 53'-0" SER. S-601 OR 25 S-602 | 24 SPA @ 2'-3" = 54'-0" SER. S-601 OR 25 S-602

SLOPE 3/16"/FT. | SLOPE 3/16"/FT.

S-603 — S-603 LAP W/S-604 — S-701 LAP W/S-702 — S-701

DETAIL A — DETAIL B

23 SPA @ 2'-2" = 49'-10" 24 S-1004 OR 24 S-1006

24 SPA @ 2'-2" = 52'-0" 25 S-1003 OR 25 S-1005

49 SPA @ 1'-1" = 53'-1" 50 S-1002

24 SPA @ 2'-2" = 52'-0" 25 S-1004 OR 25 S-1006

25 SPA @ 2'-2" = 54'-2" 26 S-1003 OR 26 S-1005

51 SPA @ 1'-1" = 55'-3" 52 S-1002

— SECTION A-A OR B-B —

48 SPA @ 1'-1¼" = 53'-0" 49 S-1101 (LAP WITH ALT. SER. S-601 & S-602 BARS)

23 SPA @ 2'-2½" = 50'-0½" 24 S-1102

23 SPA @ 2'-2½" = 50'-0½" 24 S-1103

S-603 — S-701 — S-603 LAP W/S-604 — S-701 LAP W/S-702

DETAIL A — DETAIL B

49 SPA. @ 1'-1" = 53'-1" 50 S-1002

48 SPA @ 1'-1½" = 54'-0", 49 S-1101 LAP WITH SER. S-601 & S-602 BARS.

24 SPA @ 2'-3" = 54'-0", 25 S-1102

24 SPA @ 2'-3" = 54'-0", 25 S-1103

51 SPA @ 1'-1" = 55'-3" 52 S-1002

— SECTION C-C —

2'-2" | 1'-0" | 10" | 2" — S-504 SECT. A-A, S-505 SECT. B-B

S-501 SEE RAILING DETAILS FOR SPACING

SEE RAILING DETAILS FOR BAR N29 CONST. JT. LEVEL

1'-6" | 10⅝" | 1'-7½"

S-1001 SECT. C-C — S-503 — CONST. JT. — S-1002 — 2" ϕ CONDUIT

CONCRETE ABOVE 2' CL. THIS LINE TO BE PAID FOR AS PART OF ITEM 517 (RAILING)

1" DIA. HALF ROUND DRIP GROOVE

— DETAIL "A" —

6'-0" | 3'-0" | 3'-0"

℄ 2 OPEN JT. — ℄ SURVEY

1' | 2'-1" | 2" | 3'-7" | 1'

S-504 SECT. A-A, S-505 SECT. B-B — S-507 — S-506 — S-509 — S-1001 SECT. C-C — CONST. JT. — S-1001 SECT. C-C — S-508 — S-1002 — S-1002

1" HALF ROUND DRIP GROOVE

— DETAIL "B" —

FACE OF ABUT — ASSUMED ℄ BRGS. — EDGE OF SLAB — 1' EXP. JT. — 2 OPEN JOINT

— DETAIL C —

18'-7" | 10'-11" | 8'-3" | 7'-5" | 4'-9" | 15'-1"

EDGE OF SLAB — S-1101 — S-1102 — S-1103 — ℄ PIER #1 — ℄ PIER #2 — ℄ SURVEY

PLACEMENT DIAGRAM FOR S-1101 S-1102 & S-1103 BARS.

⊛ INDICATES RADIAL DIMENSIONS SYMMETRICAL ABOUT ℄ SURVEY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

BRIDGE NO. SUM.-277-0071
OVER GLENMOUNT AVE.
I-277 — SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JNP			RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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PARAPET PANELS

135'-4⅛" END TO END OF PARAPET
6 SPA. @ 14'-9" = 88'-6"
17 SPA. @ 7'-4½" = 125'-4½"

℄ ASSUMED BRG'S. ABUT. #1
℄ PIER #1
℄ PIER #2
LIGHT STD.-TYPE I
℄ ASSUMED BRG'S. ABUT. #2

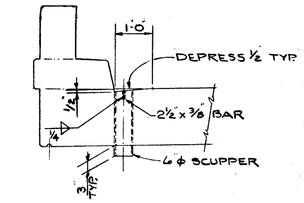
FACE OF ABUTMENT
FACE OF ABUTMENT
FACE OF MEDIAN CURB
℄ 2" OPEN JOINT
℄ SURVEY I-277 ℄ GUARD RAIL
9 SPA @ 12'-6" = 112'-6" ℄ TO ℄ GUARD RAIL POSTS (SEE DETAIL #3)
FACE OF MEDIAN CURB
FACE OF CURB

6" ϕ GALVANIZED STEEL OR WROUGHT IRON PIPE SCUPPER. (TYPICAL)

3:6" 5 SPA. @ 5'-0" = 25'-0" 7'-6" 6'-6" 3 SPA @ 5'-6" = 16'-6"
3'-6" 3 SPA. @ 5'-6" = 16'-6" 5'-0" 5'-6"
3'-6" 3 SPA. @ 5'-6" = 16'-6" 6'-0" 5'-6"
3'-6" 5 SPA. @ 5'-0" = 25'-0" 7'-6" 6'-6" 3 SPA @ 5'-6" = 16'-6"

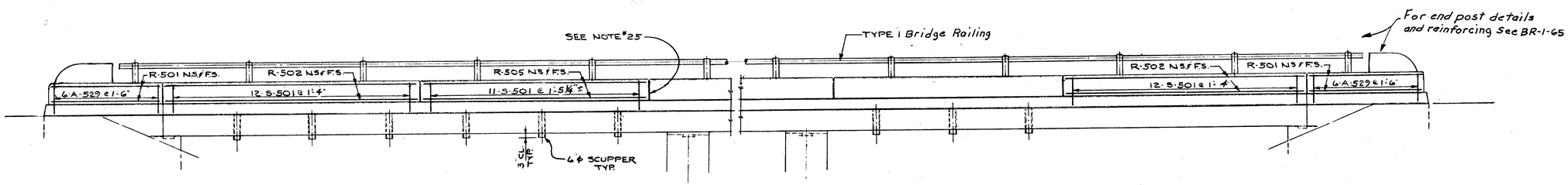
4'-0" 11½" 8'-4¼" 15'-0½" 14'-11⅝" 11½" 4'-0" 8'-5⅛"
17 SPA @ 7'-4½" = 125'-4½"
6 SPA @ 14'-9" = 88'-6"
135'-3½" END TO END OF PARAPET

15'-0 13/16" 8'-4¼" 11 13/16" 4'-0"



— SCUPPER DETAIL - TYP —

— PARTIAL DECK PLAN —
✱ INDICATES RADIAL DIMENSIONS



— ELEVATION - SOUTH PARAPET SHOWN —
— NORTH PARAPET SIMILAR —

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE DETAILS

BRIDGE NO. SUM. 277 -0071
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JAP		9/13/64	RDH	1-18-65	-

FED. RD.	STATE	PROJECT	
2	OHIO		

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MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
ABUTMENT #1 & #2									
A-401	144	5'-7"	3	1'-9"	2'-0"				537
A-402	16	5'-1"	3	1'-9"	1'-9"				54
A-501	360	6'-7"	3	2'-8"	2'-1"				2472
A-502	16	29'-4"	ST.						489
A-503	16	10'-0"	ST.						167
A-504	16	30'-0"	ST.						501
A-505	4	26'-0"	ST						108
A-506	4	24'-7"	ST.						103
A-507	178	11'-1"	3	1'-8"	4'-10"				2058
A-508	12	3'-11"	15	2'-0"	2'-0"	5"			49
A-509	8	7'-0"	ST.						58
A-510	12	6'-0"	ST						75
A-511	14	6'-3"	1	6"	5'-11"				91
A-512	3	6'-7"	1	6"	6'-2"				21
A-513	5	15'-5"	3	1'-2"	7'-3"				80
A-514	5	16'-5"	3	1'-2"	7'-9"				86
A-515	12	4'-0"	ST.						50
A-516	40	2'-4"	3	2'-1"	3"				97
A-517	24	3'-9"	3	3'-6"	3"				94
A-518	6	8'-2"	ST.						51
A-519	6	8'-9"	16	8'-8"	1'-8"	1'-9"			55
A-520	O	P E N							—
A-521	4	1'-0"	ST.						4
A-522	4	1'-2"	ST.						5
A-523	4	1'-5"	ST.						6
A-524	4	1'-6"	ST.						6
A-525	4	1'-7"	ST.						7
A-526	12	1'-8"	ST.						21
A-527	4	9'-8"	ST.						40
A-528	2	8'-9"	ST.						18
A-529	24	5'-7"	5	8"	2'-2"	5"			140
A-530	8	28'-10"	ST.						241
A-531	8	28'-6"	ST.						238
A-532	2	24'-5"	ST						51
A-533	2	24'-1"	ST.						50
A-534	2	26'-0"	ST						54
A-535	2	25'-8"	ST.						54
A-536	12	3'-11"	17	2'-0"	2'-0"	5"			49
A-537	24	4'-10"	ST.						121
A-538	10	16'-3"	3	1'-2"	7'-8"				169
A-539	4	4'-6"	ST.						19
A-540	4	5'-8"	ST.						24
A-541	2	8'-0"	ST.						17
A-542	6	8'-5"	ST.						53
A-543	6	8'-2"	16	8'-1"	1'-1"	1'-9"			51
A-601	4	7'-0"	ST.						42
A-602	2	6'-0"	ST.						18
A-603	2	4'-10"	ST.						15
A-801	8	29'-6"	ST.						630
A-802	8	29'-3"	ST.						625
A-803	8	28'-8"	ST.						612
A-804	8	29'-11"	ST.						639

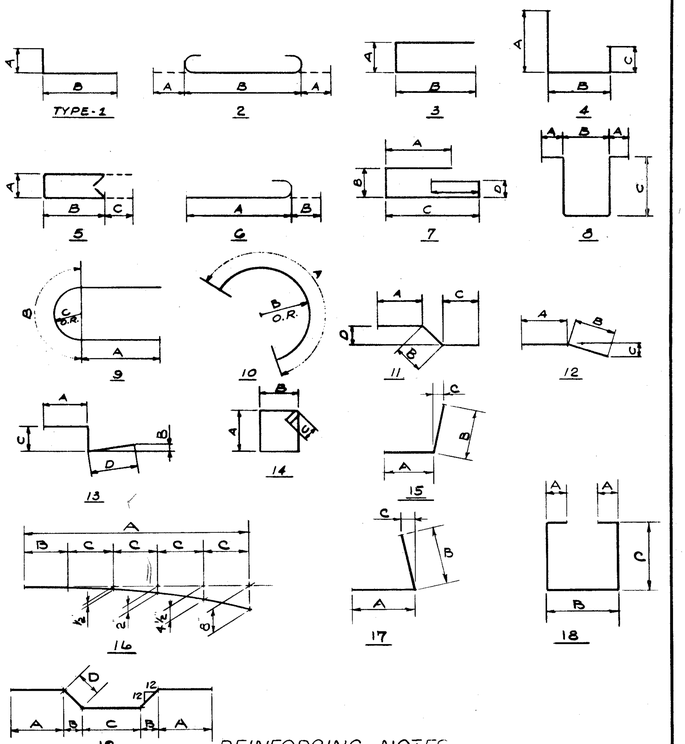
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
A-1001	16	30'-0"	ST.						2065
A-1002	4	26'-1"	ST.						449
A-1003	4	24'-8"	ST.						425
SERIES OF A-1004	1 SET OF 4 BARS	24'-0½" TO 24'-5"	ST.					1½	417
SERIES OF A-1005	1 SET OF 4 BARS	25'-8" TO 26'-0½"	ST.					1½	445
ABUTMENT TOTAL = 15,166 LBS.									
PIERS #1 & 2, RT & LT.									
P-501	184	5'-9"	3	2'-8"	1'-7"				1104
P-502	184	11'-6"	8	6"	2'-8"	4'-2"			2207
P-601	12	28'-0"	ST.						505
P-602	4	26'-5"	ST.						159
P-701	28	17'-9"	ST.						1016
P-801	272	10'-8"	2	1'-1"	8'-6"				7746
P-802	O	P E N							—
P-803	14	19'-10"	ST.						741
P-804	14	21'-4"	ST.						797
P-901	96	6'-4"	1	1'-0"	5'-7"				2067
P-902	48	17'-4"	ST.						2829
P-903	48	17'-10"	ST.						2910
P-904	28	19'-3"	ST.						1833
P-1001	48	6'-8"	1	1'-0"	5'-11"				1377
P-1002	24	17'-4"	ST.						1790
P-1003	24	17'-10"	ST.						1842
P-1004	8	10'-2"	9	3'-2"	3'-10"	1'-2½"			350
P-1101	48	7'-0"	1	1'-0"	6'-3"				1785
P-1102	24	18'-5"	1	1'-0"	17'-7"				2348
P-1103	24	18'-10"	1	1'-0"	18'-1"				2401
P-1104	28	23'-0"	ST.						3422
P-1105	14	30'-4"	6	28'-9"	1'-7"				2250
P-1106	14	31'-10"	6	30'-3"	1'-7"				2368
P-1107	28	11'-2"	1	2'-7"	8'-10"				1661
SPIRALS & SPACERS = 4,492 LBS.									
TOTAL PIERS (INCLUDING SPIRALS) = 50,000 LBS.									
SUPERSTRUCTURE									
S-501	180	5'-7"	5	8"	2'-2"	5"			1048
S-502	268	5'-10"	18	6"	1'-6"	1'-11"			1631
S-503	268	2'-7"	3	1'-6"	8"				722
S-504	26	25'-10"	ST.						701
S-505	13	23'-5"	ST.						318
S-506	134	5'-4"	18	6"	1'-8"	1'-7"			745
S-507	134	1'-11"	3	1'-8"	5"				268
S-508	134	6'-10"	18	6"	3'-2"	1'-7"			955
S-509	134	3'-5"	3	3'-2"	3"				476
S-521	2	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		25

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
SERIES OF S-601	4 SETS OF 25 100 BARS	19'-11" TO 23'-5"	ST.					1¾	3254
S-602	30	16'-2"	ST.						1214
S-603	222	28'-6"	ST.						9503
S-604	74	30'-0"	ST.						3334
S-621	12	5'-6"	ST.						99
S-622	4	10'-11"	14	3'-4"	2'-0"	4"			66
S-701	354	28'-7"	ST.						20,682
S-702	118	30'-2"	ST.						7276
S-1001	44	24'-9"	ST.						4686
S-1002	330	41'-6"	ST.						58930
S-1003	102	29'-9"	6	28'-6"	1'-3"				13057
S-1004	98	26'-1"	6	24'-10"	1'-3"				10999
S-1005	51	26'-0"	ST.						5706
S-1006	49	19'-10"	ST.						4182
S-1101	196	33'-2"	ST.						34538
S-1102	98	17'-6"	ST.						9112
S-1103	98	13'-0"	ST.						6767
TOTAL SUPERSTRUCTURE = 200,298 LBS.									
RAILING®									
R-501	16	8'-1"	ST.						
R-502	16	14'-8"	ST.						
R-505	48	14'-5"	ST.						
R-521	2	11'-8"	19	2'-0"	2'-0"	2'-3"	2'-10"		
R-522	2	11'-4⅝"	19	3'-0"	8"	3'-9"	11⅝"		
R-503	12	4'-2"	BT‡						
R-504	8	5'-4"	BT‡						
REPLACEMENT BARS									
RE-401	1	5'-3"	10	5'-3"	1'-4"				
RE-402	1	5'-3"	ST.						
RE-501	1	5'-6"	ST.						
RE-601	1	6'-0"	ST.						
RE-701	2	6'-3"	ST.						
RE-801	1	6'-6"	ST.						
RE-901	1	6'-10"	ST.						
RE-1001	6	7'-3"	ST.						
RE-1101	4	7'-9"	ST.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	8	2'-8"	14'-10⅞"	4½"	43	1894
SP-402	8	2'-8"	15'-4⅞"	4½"	44	1937
SPACERS	64					659
TOTAL SPIRALS						4492 LBS.

GRAND TOTAL 265,464 LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

‡ For bending diagrams see BR-1-65

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

REINFORCING SCHEDULE

BRIDGE NO. SUM-277-0071
OVER GLENMOUNT AVE.
I-277 SUMMIT COUNTY
STA. 220+19.05 To STA. 221+37.59

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	LNP		11/1/64	RDH	3-18-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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CURVE DATA

℄ U.S. - 224	℄ GLENMOUNT AVE
Δ = 4°-00'-41" LT.	P.I. STA. 52+28.09
D_c = 0°28'-00"	Δ = 9°-54'-54" LT.
R = 12,277.6'	D_c = 5°-00'-00"
L_c = 859.58'	R = 1145.92'
T = 429.97'	T = 99.40'
P.I. STA. 223+49.46	L_c = 198.30'

EXISTING STRUCTURE DATA

TYPE : TWIN CORR. METAL PIPE CULVERT
SIZE : 75" INS. DIA.
OPENING PROVIDED : 61.36 SQ. FT.
LENGTH : 40'
OBSERVED HIGH WATER EL. 996.5 ±
LOCATION : STA. 46+17 GLENMOUNT AVE.

DRAINAGE DATA

DRAINAGE AREA : 1688 ACRES (2.64 SQ. MI.)
OPENING REQUIRED. 127 SQ. FT.
OPENING PROVIDED : 126 SQ. FT.
50 YR. FREQUENCY : 954 C.F.S.
EST. 50 YR. HIGH WATER EL. 993.80

PROPOSED STRUCTURE

TYPE : CONTINUOUS REINFORCED CONC. SLAB WITH CAPPED PILE SUBSTRUCTURE
SKEW : 12°-22'-11" RF.
SPANS : 16'-0" - 20'-0" - 16'-0" ℄ ASSUMED BRGS.
ROADWAY : 34'-0" F/E RAILINGS
LOAD FREQUENCY : CF - 400
WEARING SURFACE : 1" MONOLITHIC
APPROACH SLABS : 25' LONG (AS-1-54)
ALIGNMENT : TANGENT.
SUPERELEVATION : NONE
SLOPE PROTECTION : 601 CRUSHED AGGREGATE SLOPE PROTECTION

TRAFFIC : 1040 - 1975 - A.D.T. GLENMOUNT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SITE PLAN

BRIDGE NO. SUM-277-0070.
GLENMOUNT AVE OVER BREWSTER RUN
SUMMIT COUNTY
STA 5+00.39 TO STA 5+54.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		aw	RBH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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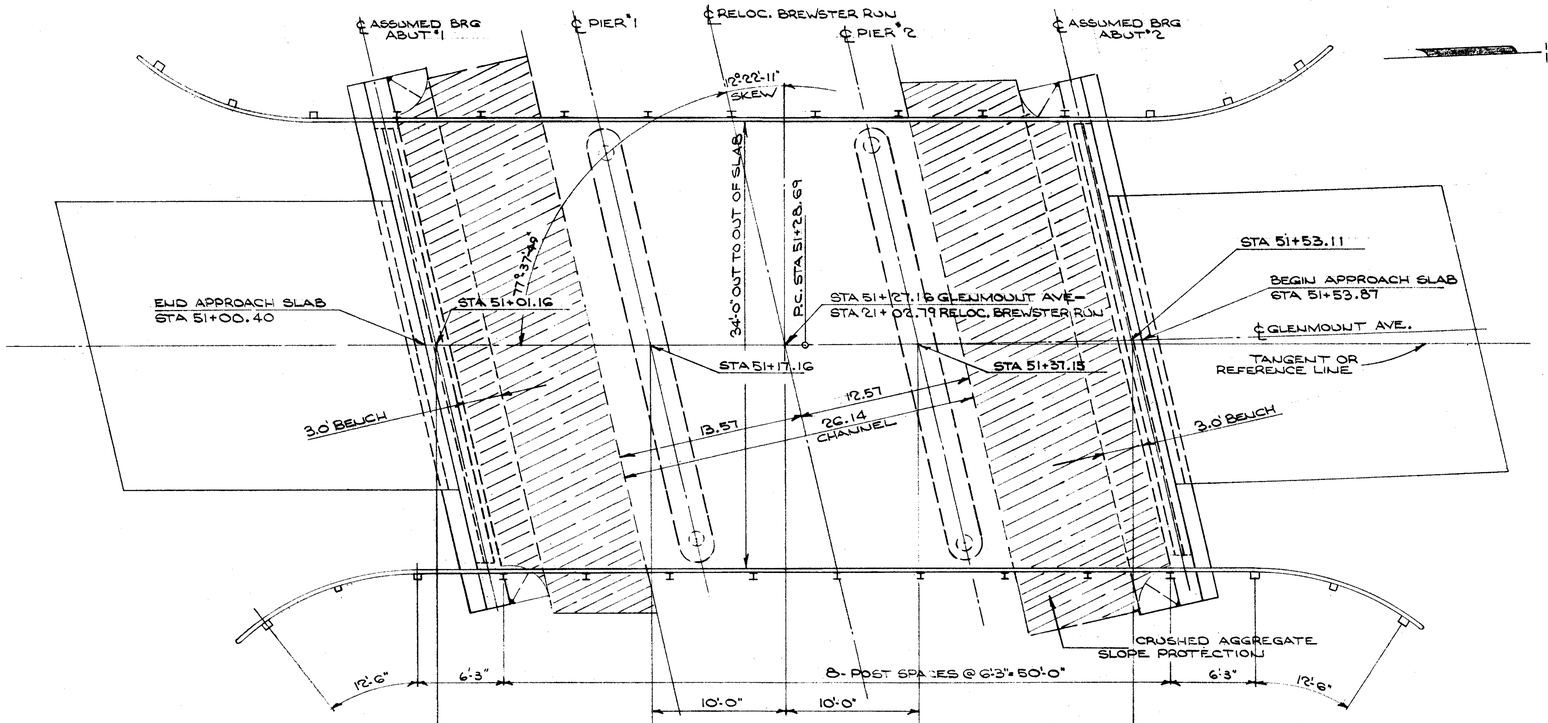
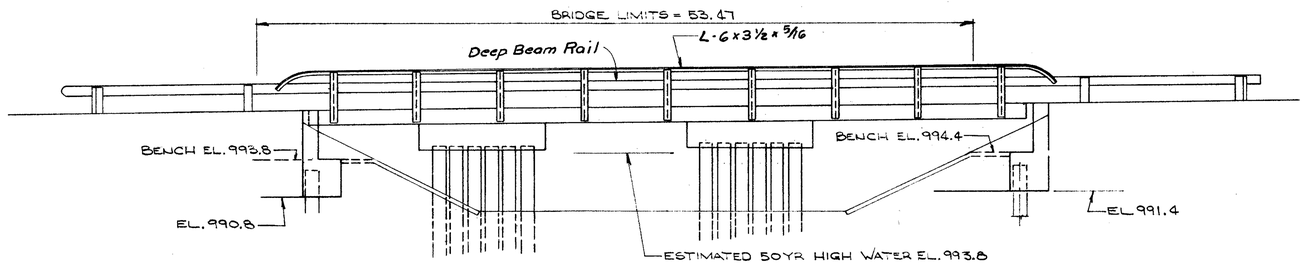
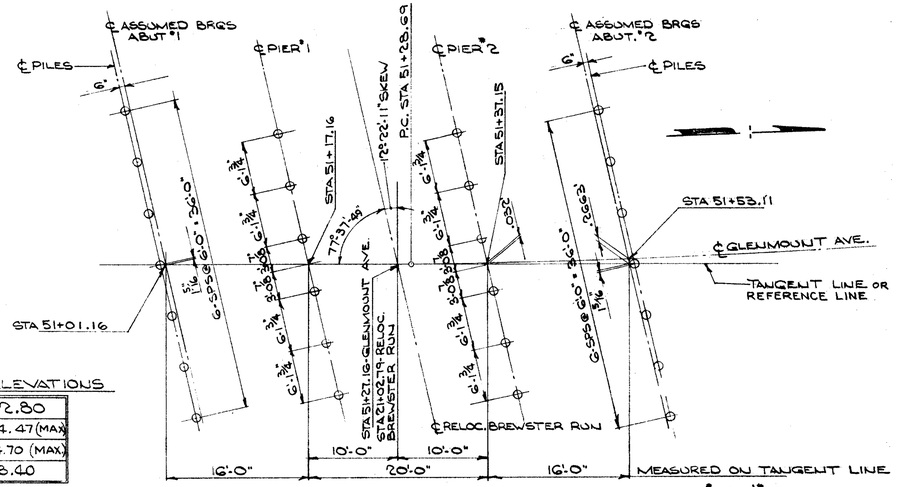
SUM.-277-0.46



PLAN



ELEVATION



Pile Cut-Off Elevations

ABUTMENT#1	992.80
PIER#1	994.47 (MAX.)
PIER#2	994.70 (MAX.)
ABUTMENT#2	993.40

ABUT. PILES 14" C.I.P. REINFORCED CONC.
PIER PILES 14" C.I.P. " "

GEOMETRICS & PILING PLAN

SEE SHT. Nos. 291 & 292 FOR NOTES 1, 2, 3, 5, 20, & 23.

Estimated Quantities

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
503	83	CU.YDS	UNCLASSIFIED EXCAVATION		83		
511	85	CU.YDS	CLASS 'C' CONC. SUPERST. & PIER CAPS	73		12	
511	42	CU.YDS	CLASS 'E' CONC. ABUTMENTS	42			
825	217	Sq.yds	CONCRETE SURFACE TREATMENT	217			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
509	25,547	LBS	REINFORCING STEEL	17,570	4489	3488	
517	125	LIN FT	RAILING (Deep Beam with steel hand-rail, posts and bolts)	125			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN
505	LUMP	SUM	FIRST TEST PILE				
507	650	LIN.FT.	14" ϕ CAST-IN-PLACE REINF. CONC. PILES		350	300	
518	14	CU.YDS.	POROUS BACKFILL		14		
601	108	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		108		
808	73	Units	WATER REDUCING SET RETARDING ADMIX.	73			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN & ELEVATION

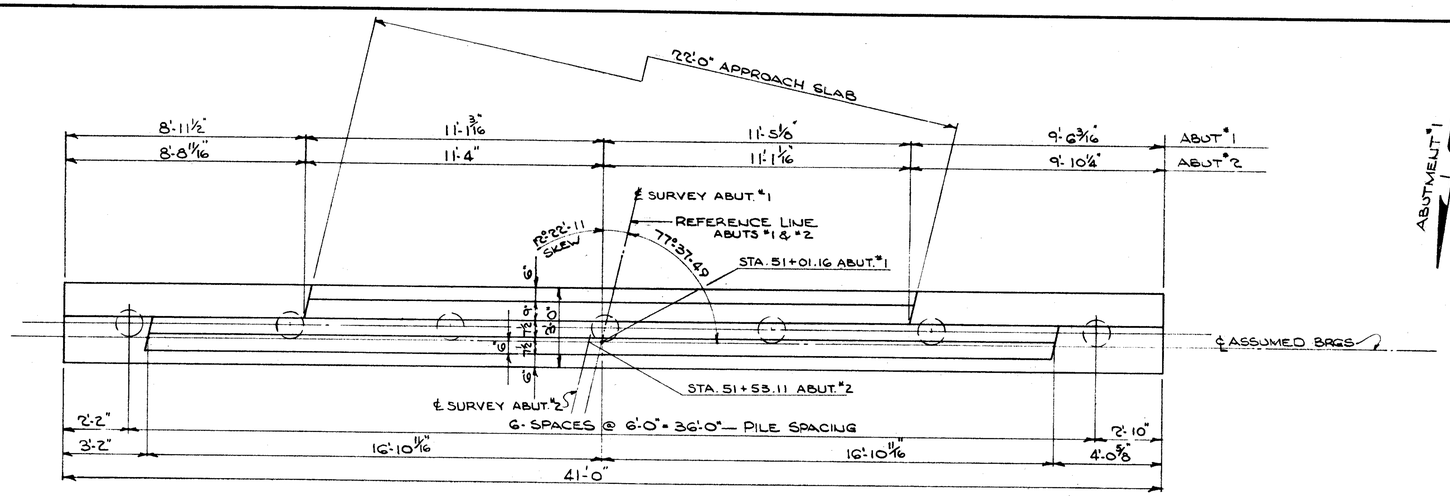
BRIDGE NO. SUM-277-0070
GLENMOUNT AVE. OVER BREWSTER RUN
SUMMIT COUNTY
STA 51+00.39 TO STA 51+54.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
STO	JWW		aw 11/19/65	RBH	4-26-65	

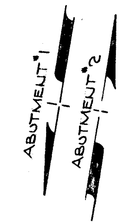
FED. RD.	STATE	PROJECT	
2	OHIO		

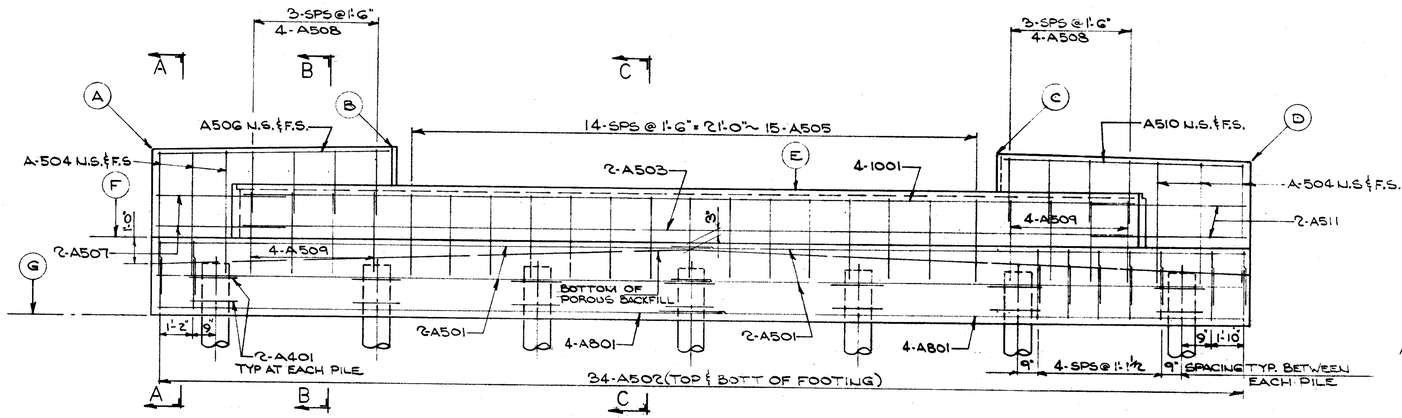
361
383

SUM.- 277- 0.46

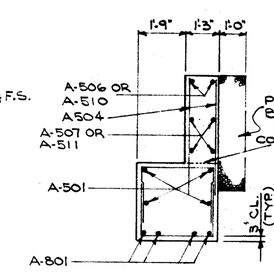


PLAN ABUTMENTS 1 & 2 (AS SHOWN & NOTED)

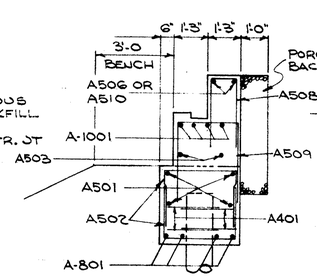




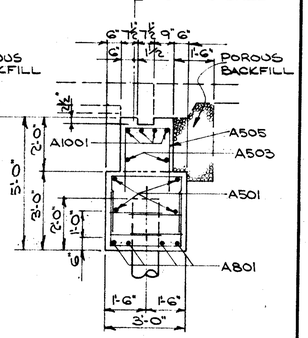
ELEVATION ABUTMENTS 1 & 2



SECTION A-A



SECTION B-B



SECTION 'C-C'

ELEVATION TABLE

	A	B	C	D	E	F	G
ABUT #1	997.16	997.28	997.24	997.07	995.80	993.80	990.80
ABUT 2	997.69	997.85	997.87	997.78	996.40	994.40	991.40

NOTE: ALL PILES 14" ϕ CAST-IN-PLACE REINFORCED CONCRETE PILES DRIVEN TO A MINIMUM BEARING CAPACITY OF 19 TONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1&2 DETAILS

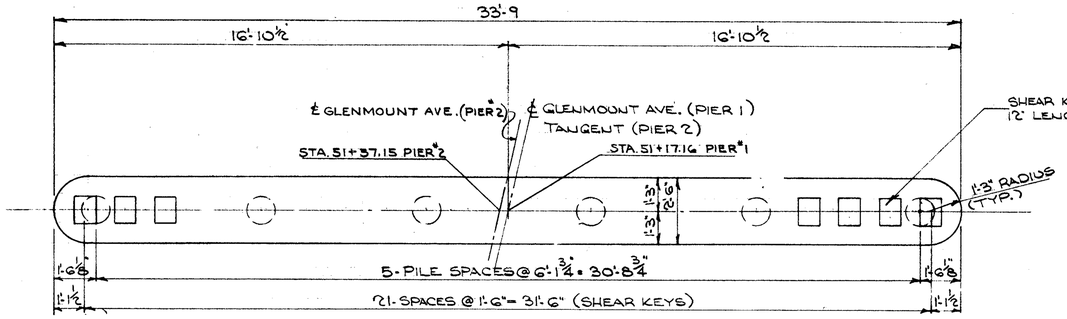
BRIDGE NO SUM-277-0070
GLENMOUNT AVE. OVER BREWSTER RUN
SUMMIT COUNTY
STA 51+00.39 TO STA 51+54.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
STD.	SWW		11/12/64	RJH	4-26-65	

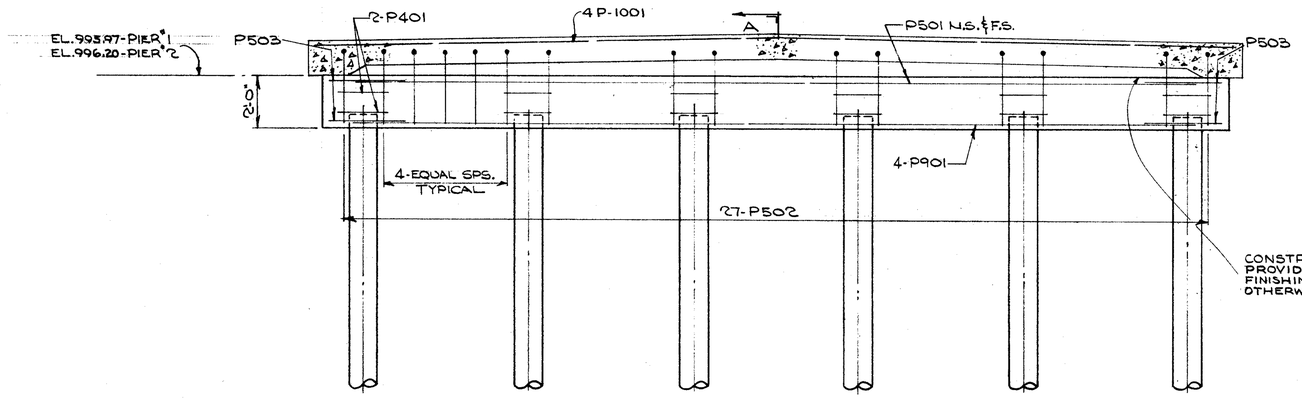
FED. RD.	STATE	PROJECT	
2	OHIO		

362
383

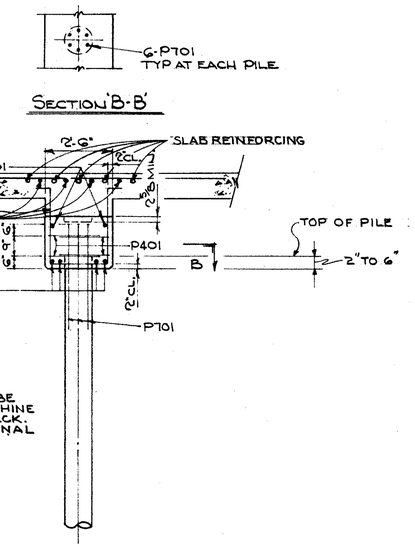
SUM.- 277- 0.46



PLAN PIERS 1 & 2



ELEVATION PIERS 1 & 2



SECTION B-B

SECTION A-A

NOTE

ALL PILES SHALL BE 14" CAST-IN-PLACE CONCRETE DRIVEN TO A MINIMUM BEARING CAPACITY OF 23 TONS PER PILE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIER DETAILS

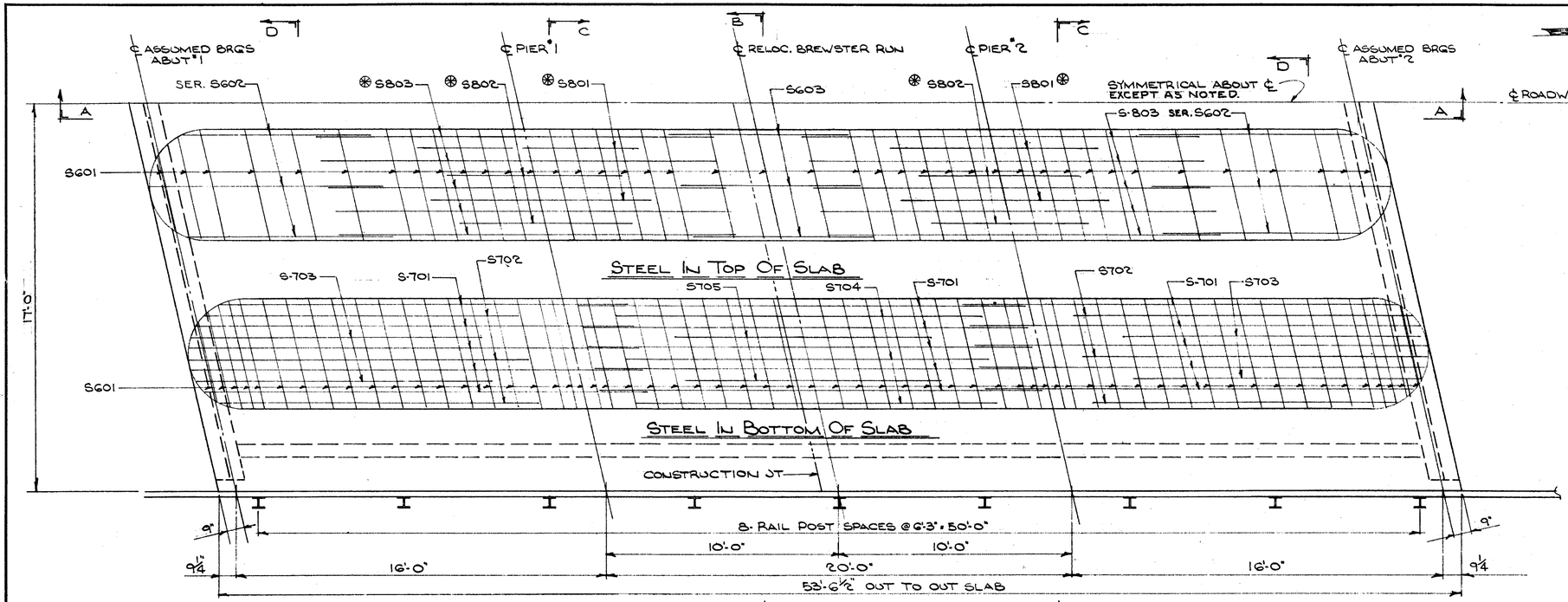
BRIDGE NO. SUM-277-0070
GLENMOUNT AVE. OVER BREWSTER RUN
SUMMIT COUNTY
STA 51+00.39 TO STA 51+54.00

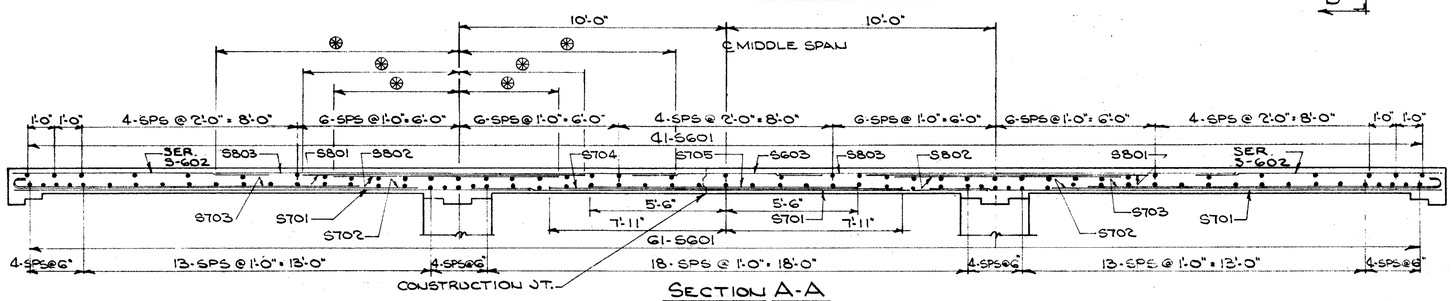
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
STO	JWW		11/17/64	RSH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

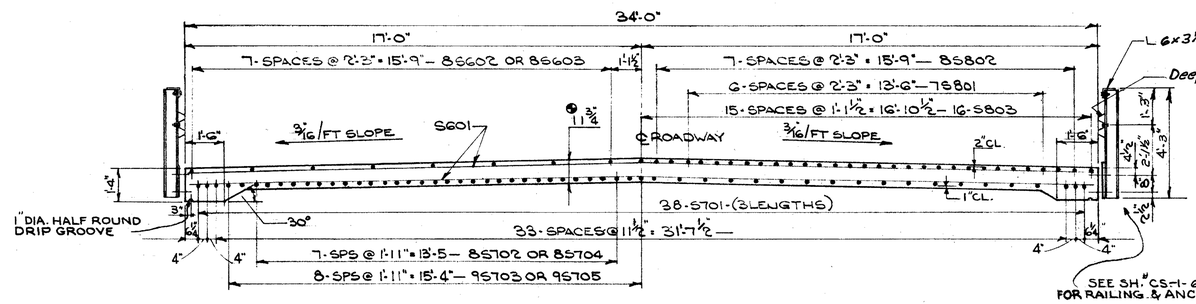
363
383

SUM.-277-0.46





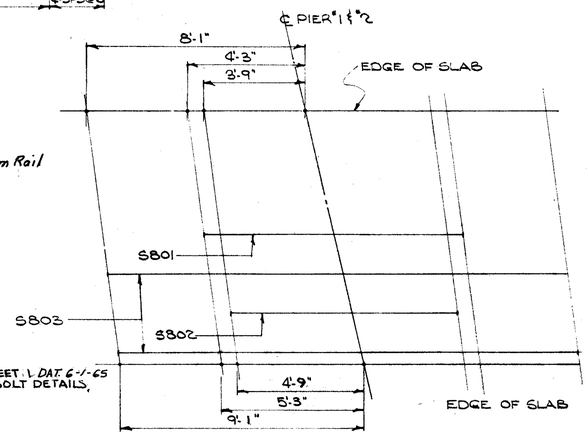
SECTION A-A



SECTION B-B AND D-D

SECTION C-C

● INCLUDES 1" MONOLITHIC WEARING SURFACE



● PLACEMENT DIAGRAM
FOR BARS S801, S802, & S803 — PLAN AT PIER°1 SHOWN & PIER°2 SIMILAR

CAMBER OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO ANY REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE HIGHWAY) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS IS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED. TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

BRIDGE NO SUM-277-0070
GLENMOUNT AVE. OVER BREWSTER RUN
SUMMIT COUNTY
STA 5+00.39 TO STA 5+54.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.W.W.		[illegible]	RBH	9-26-65	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
ABUTMENTS 1 & 2									
A-401	56	5'-5"	3	1'-9"	1'-11"				203
A-501	16	21'-2"	ST						353
A-502	136	6'-7"	3	2'-8"	2'-1"				933
A-503	4	33'-5"	ST						139
A-504	24	5'-4"	ST						133
A-505	30	7'-11"	3	1'-8"	3'-3"				248
A-506	4	8'-5"	ST						35
A-507	8	4'-9"	ST						40
A-508	16	6'-8"	3	11"	3'-0"				111
A-509	16	8'-6"	3	2'-2"	3'-3"				141
A-510	4	8'-11"	ST						37
A-511	8	5'-3"	ST						44
A-801	16	21'-7"	ST						922
A-1001	8	33'-5"	ST						1150
TOTAL ABUTMENTS 1 & 2									4489 #
PIERS 1 & 2									
P-401	48	5'-5"	3	1'-9"	1'-11"				174
P-501	4	31'-3"	ST						130
P-502	54	9'-0"	8	10"	2'-2"	2'-10"			507
P-503	8	6'-4"	9	1'-7"	3'-2"	1'-0⅛"			53
P-701	72	4'-0"	ST						589
P-901	8	31'-3"	ST						850
P-1001	8	34'-5"	ST						1185
TOTAL PIERS									3488 #
SUPERSTRUCTURE									
S-601	102	34'-5"	ST						5273
SERIES OF S-602	2 SETS OF 16 = 32 BARS	VARIES 10'-8" TO 9'-5"	ST					1"	488
S-603	16	7'-8"	ST						184
S-701	114	19'-3"	ST						4486
S-702	32	15'-4"	6	14'-6"	10"				1003
S-703	34	13'-8"	6	12'-10"	10"				949
S-704	16	15'-10"	ST						518
S-705	17	11'-0"	ST						382
S-801	30	9'-6"	ST						761
S-802	30	8'-6"	ST						689
S-803	62	17'-2"	ST						2842
TOTAL SUPERSTRUCTURE									17,570 #

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	WEIGHT LBS.

REPLACEMENT BARS

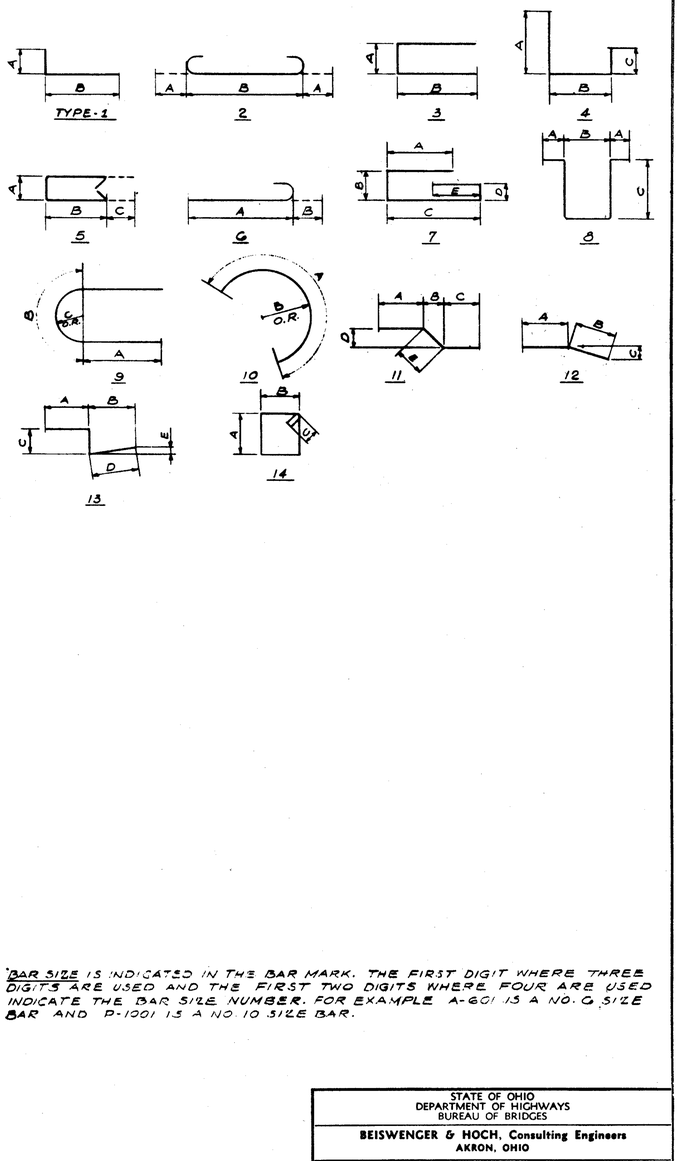
RE-401	1	5'-3"
RE-501	1	5'-6"
RE-601	1	6'-0"
RE-701	1	6'-3"
RE-801	1	6'-6"
RE-901	1	6'-10"
RE-1001	1	7'-3"

GRAND TOTAL 25,547 LBS

FED. RD.	STATE	PROJECT	
2	OHIO		

364
383

SUM-277-0.46



*BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE NO SUM 277-0070
GLENMOUNT AVE OVER BREWSTER RUN
SUMMIT COUNTY
STA 5+00.39 TO STA 5+54.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JWS		AW 11/24/65	ROH	4-26-65	

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

365
383

SUMMIT COUNTY
SUM-277-0.46

1
19

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

SUM-277-0.46

CITY OF AKRON
COVENTRY TOWNSHIP
SUMMIT COUNTY

CONVENTIONAL SIGNS

Township Line
Tract Line
Center Line
Corporation Line
Fence Line
Guard Rail (existing)
Guard Rail (proposed)
Railroad
Power Poles
Telephone Poles
Power or Telephone Poles with guys
Tower Line
Trees or Stumps (existing)
Limited Access
Right of Way
Limited Access & Right of Way
Exist. Luminaire Light Standards
Exist & Prop. Fire Hydrant

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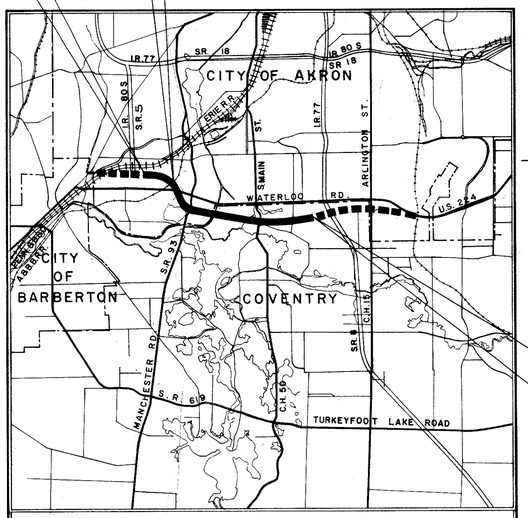
NOTE: THERE IS NO SHEET #224

BEGIN WORK
STA. 79+00 E.B.L.

BEGIN PROJECT
STA. 115+75



END PROJECT
STA. 228+68.84

DELIVERY POINT A&BBRR ON PROJECT
AVERAGE HAUL FROM SIDING 1.2 MILES

LOCATION MAP
0 1 2
SCALE OF MILES

OTHER EXPRESSWAYS
STATE & MAJOR ROADS
OTHER ROADS

PLAN 1" = 50'
PROFILE HORIZONTAL 1" = 50'
PROFILE VERTICAL 1" = 5'
CROSS SECTIONS: HORIZONTAL & VERTICAL 1" = 10'

NOTE: SEE SHT. # 11 FOR LINE DATA

FILE NO.	SUMMIT COUNTY	SUM-277-0.46
	DATE OF LETTING	196
	CONTRACT NO.	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

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HW-№3	8-1-63	B-T-71R	3-2-53	L-3-A	4-1-50	
I-8 C.B. 2-2A&B	2-1-63	D R-1	1-3-55	L.J. №1	7-1-55	
I-8 C.B. №3	2-1-63	F-1	2-1-63	R.I.-1	9-1-64	
I-8 C.B. №3 A	2-1-63	F-2	2-1-63	R.I.-2	9-1-64	
I-8 C.B. №5	2-1-63	F-3	2-1-63	T-35	1-2-56	
I-8 C.B. №6	2-1-63	FAC1-1	2-25-64	T.J.	9-12-60	
I-8 I.№ 2	2-1-63	FAC1-2	2-25-64	I-15 №21	11-15-60	
I-8 I.№ 2A	2-1-63	G-7.07	4-1-64	L-1	4-1-50	
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I-125	REV. 6-26-61
I-127	REV. 1-15-62
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M-206.14	7-15-49

I-277-6-(1)124

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

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

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

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

APPROVED _____
DATE _____ DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON

APPROVED _____
DATE _____ DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE _____ ENGINEER OF BRIDGES

APPROVED _____
DATE _____ ENGINEER OF LOCATION AND DESIGN

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF RIGHT OF WAY

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED _____
DATE _____ DIRECTOR OF HIGHWAYS

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ARNOLD, CONSULTING ENGINEERS
AKRON OHIO CLEVELAND

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ DIVISION ENGINEER

_____ DATE

CENTERLINE SURVEY PLAT

SUM. I-277 - 0.46

SUMMIT COUNTY

CITY OF AKRON
COVENTRY TOWNSHIP
T - 1 - N R - 11 - W

SCALE: 1" = 400'

TJN OK RWH 3-16-65

388317

RECEIVED FOR RECORD
MAR 17 1965
At 9:40 o'clock A.M.
Recorded MAR 18 1965
Vol. 66 Page 39-40
Roy L Ruff
By Barbara Ann Recorder
Summit County, Ohio
8 79

FED. RD.	STATE	PROJECT	
2	OHIO		

2 / 19

SUMMIT COUNTY
SUM-277-0.46
LIMITED ACCESS

CURVE DATA EXIST. SUM I-277 (SUM 224-5.90)

Nº 1	Nº 2	Nº 3
P.I. STA. 96+89.48	P.I. STA. 105+38.65	P.I. STA. 113+06.12
Δ = 7° 00' 00"	Δ = 47° 15' 00"	Δ = 7° 00' 00"
Dc = 2° 37' 29.6"	Dc = 3° 30.00"	Dc = 2° 37' 29.6"
R = 2183.03'	R = 1637.02'	R = 2183.03'
T = 133.52'	T = 716.05'	T = 133.52'
L = 266.71'	L = 1350.00'	Lc = 266.71'
E = 4.08'	E = 149.75'	E = 4.08'

SUM. I-277 CURVE DATA & R/W

Nº 4	Nº 5	Nº 6
P.I. STA. 124+50.00	P.I. STA. 134+92.63	P.I. STA. 144+38.67
Δ = 3° 45' 00"	Δ = 44° 48' 00"	Δ = 3° 45' 00"
Dc = 1° 52' 29.7"	Dc = 2° 30' 00"	Dc = 1° 52' 29.7"
R = 3055.91'	R = 2291.83'	R = 3055.91'
T = 100.04'	T = 942.97'	T = 100.04'
Lc = 200.01'	L = 1788.67'	Lc = 200.01'
E = 1.64'	E = 186.30'	E = 1.64'

CURVE DATA EXIST. U.S. 224

P.I. STA. 23+61.46
Δ = 19° 18' 30"
Dc = 3° 45'
R = 1530.00'
T = 260.27'
Lc = 515.48'

EXIST. S. MAIN ST. CURVE DATA

Nº 2	Nº 3
P.I. STA. 330+15.71	P.I. STA. 339+51.64
Δ = 33° 22' 07" LT.	Δ = 22° 20' 31"
Dc = 15°	Dc = 15°
R = 381.97'	R = 381.97'
T = 114.48'	T = 75.43'
Lc = 222.46'	Lc = 148.94'
P.C. STA. 329+01.23	
P.T. STA. 331+23.69	

SUM. I-277 & CURVE DATA

P.I. STA. 200+67.26
Δ = 10° 37' 30" LT.
Dc = 1° 00' 00"
R = 5729.58'
T = 532.78'
Lc = 1062.50'
E = 24.72'

SUM. I-277 & CURVE DATA

P.I. STA. 223+49.46
Δ = 4° 00' 41"
Dc = 0° 28' 00"
R = 12,277.67'
T = 429.97'
Lc = 859.58'
E = 7.55'

GLENMOUNT AVE CURVE DATA

P.I. STA. 52+28.09
Δ = 9° 54' 54"
Dc = 5° 00'
R = 1146.32'
T = 99.40'
Lc = 198.30'
E = 4.30'
P.C. STA. 51+28.69
P.T. STA. 55+26.99

LEY DRIVE - CURVE DATA

Nº 1	Nº 2	Nº 3
P.I. STA. 44+20.47	P.I. STA. 48+82.60	P.I. STA. 51+32.90
Δ = 87° 08' 43"	Δ = 78° 00' 00"	Δ = 102° 00' 00"
R = 75'	R = 60'	R = 60'
L = 114.07'	L = 81.68'	L = 106.81'
P.C. STA. 43+58.12	P.C. STA. 48+34.01	P.C. STA. 50+58.81
P.T. STA. 44+72.19	P.T. STA. 49+15.69	P.T. STA. 51+65.62

LEY DRIVE-CURVE DATA

Nº 4	Nº 5
Δ = 252° 32' 33"	Δ = 72° 32' 33"
R = 35'	R = 65'
C = 56.44'	T = 47.70'
L = 154.24'	C = 76.91'
P.C. STA. 65+16.00	L = 82.28'
P.C.C. STA. 66+70.24	P.T. STA. 67+52.52

SWARTZ RD. CURVE DATA.

P.I. STA. 3+66.04
Δ = 4° 43' 00"
Dc = 2° 30'
R = 2291.83'
T = 94.89'
Le = 188.67'
P.C. STA. 2+71.65
P.T. STA. 4+60.32

MANCHESTER RD. S.R.93 CURVE DATA

P.I. STA. 33+24.09	P.I. STA. 37+82.98
Δ = 5° 02' 15" LT.	Δ = 14° 45' 58" LT.
Dc = 1° 00' 00"	Dc = 3° 00' 00"
R = 5729.58'	R = 1909.86'
T = 252.05'	T = 179.40'
Lc = 503.75'	Lc = 357.76'
E = 5.54'	E = 8.41'
P.C. STA. 30+72.04	P.C. STA. 36+03.58
P.T. STA. 35+75.79	P.T. STA. 39+61.34

RELOC. SOUTH MAIN ST. CURVE DATA

P.I. STA. 43+28.42	P.I. STA. 59+23.61
Δ = 14° 11' 48" LT.	Δ = 8° 18' 45" RT.
Dc = 3° 00' 00"	Dc = 3° 30' 00"
R = 1909.86'	R = 1637.02'
T = 237.81'	T = 118.96'
Lc = 473.22'	Lc = 237.50'
E = 14.75'	E = 4.32'
P.C. STA. 40+90.61	P.C. STA. 58+04.66
P.T. STA. 45+63.83	P.T. STA. 60+42.16

EXIST. CURVE DATA

P.I. STA. 413+05.11
Δ = 38° 28' 00"
Dc = 9° 00'
R = 636.62'
Lc = 427.41'
Ls = 300'
Ts = 373.83'
Θs = 13° 30' 00"
L.T. = 200.95'
S.T. = 100.53'

SUM. I-277 CURVE DATA & CONSTRUCTION

P.I. STA. 135+23.51
Δ = 52° 13' 00" LT.
Dc = 2° 30' 00"
R = 2291.83'
Ts = 1273.55'
Lc = 1788.67'
Ls = 300'
Θs = 3° 45'
L.T. = 200.04'
S.T. = 100.04'
T.S. STA. 122+49.96
S.C. STA. 125+49.96
C.S. STA. 143+38.63
S.T. STA. 146+38.63

LOCATION OF CENTERLINE MONUMENTS & CENTERLINE REFERENCE MONUMENTS

SUM-224	STATION	LOCATION
	P.C.C. ~ 98+22.60	
	P.C.C. ~ 111+72.60	
	P.O.T. ~ 115+72.60	
	P.O.T. ~ 122+49.96	
	P.C.C. ~ 125+49.96	
	M.O. ~ 134+44.28	℄ ON
	P.C.C. ~ 143+38.63	
	P.O.T. ~ 146+38.63	
	P.O.T. ~ 155+00.00	
	165+00.00	
	175+00.00	
	185+00.00	
	P.C. ~ 195+34.48	
	P.I. ~ 200+67.26	SEE DETAIL
	P.T. ~ 205+96.98	
	P.O.T ~ 213+50.00	℄ ON
	P.O ~ 219+19.49	
	P.I. ~ 223+49.46	SEE DETAIL
	P.T. ~ 227+79.07	ON ℄

	STATION	LOCATION	DIST. LT.	DIST. RT.
MANCHESTER RD. S.R.93	P.I. 29+04.50	SEE DETAIL		
	P.I. 33+24.09	SEE DETAIL		
	P.I. 37+82.98	SEE DETAIL		
	P.T. 39+61.34	RIGHT ANGLES	37.00'	37.00'
	P.O.T. 45+00.00	RIGHT ANGLES	37.00'	37.00'
RELOCATED S.MAIN ST.	P.C. 40+90.61	SEE DETAIL		
	P.I. 43+28.42	SEE DETAIL		
	P.T. 45+63.83	RIGHT ANGLES	42.00'	42.00'
	P.O.T. 55+00.00	RIGHT ANGLES	42.00'	42.00'
	P.I. 59+23.62	SEE DETAIL		
GLENMOUNT AVE.	P.O.T. 47+00.00	RIGHT ANGLES	30.00'	30.00'
	P.I. 52+28.09	SEE DETAIL		
	P.O.T. 55+00.00	RIGHT ANGLES	30.00'	30.00'

SUMMARY OF MONUMENTS

I-8

	STD. ℄ MON. ASSEMBLY	℄ REF. MON'S. AS PER PLAN	EXIST. MON'S TO BE RESET WITH STD. ℄ MON. ASSEMBLIES
FED. STATE	9	20	
CITY STATE		4	
CITY FED. STATE	5	6	3
TOTAL	14	30	3

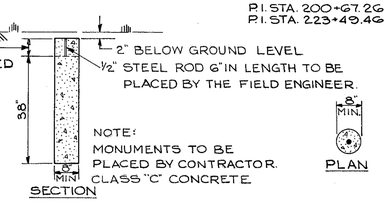
TOTALS CARRIED TO SUMMARY SHEET Nº 21

LEGEND

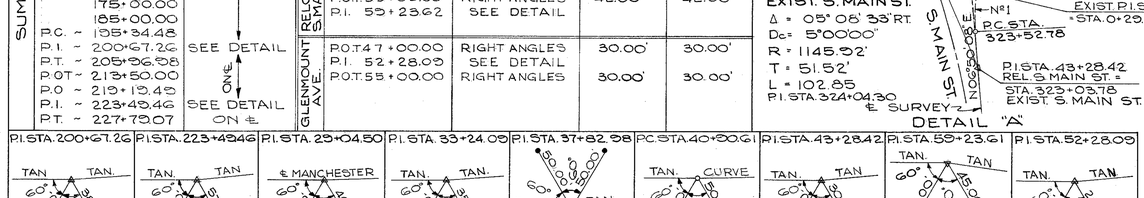
- ■ - EXISTING MONUMENT
- ⊡ - EXISTING MONUMENT TO BE RESET WITH MONUMENT ASSEMBLY
- • - CENTERLINE REFERENCE MONUMENT TO BE SET
- ⊙ - STANDARD CENTERLINE MONUMENT ASSEMBLY

CENTERLINE REFERENCE MONUMENTS

P.I. STA. 200+67.26
P.I. STA. 223+49.46



DETAIL OF CENTERLINE REFERENCE MONUMENTS



— LIMITED ACCESS —

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STA. 121+01.64 TO STA. 244+04.33 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 455 & 446 PAGE 607 & 354 OF THE DIRECTORS JOURNAL PURSUANT TO LAW. HEARINGS:- 8-11-60 Vol. 45 Pg. 891; 4-12-61 Vol. 46 Pg. 354

Nº 1 ℄ CURVE DATA EXIST. S. MAIN ST.
Δ = 05° 08' 33" RT.
Dc = 5° 00'
R = 1145.92'
T = 51.52'
L = 102.85
P.I. STA. 324+04.30
℄ SURVEY

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS
BY Orgon E McCoy
DATE Feb 19, 1965

RECEIVED FOR RECORD _____ 1965
RECORDED: VOL. _____ PAGE _____ OF THE SUMMIT COUNTY RECORDS.

RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
CLIFTON M. NEWHALL
DATE 3-15-65 DIVISION DEPUTY DIRECTOR

TRANSFER NOT NECESSARY
MAR 16 1965
C. L. Bowser, County Auditor

SURVEYORS SEAL

State Highway Dept. Div. 6
R/W - ENGR & ADMN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
Bill Ek

CENTERLINE SURVEY PLAT

PROPERTY MAP

SUMMIT COUNTY

CITY OF AKRON

COVENTRY TOWNSHIP

T-1-N R-11-W

SCALE: 1" = 200'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-046

3/19

CURVE DATA:
P.I. STA. 105+94.00
Δ = 61° 15.00' T = 1171.40'
D_c = 3° 30' D_s = 7° 00'
R = 1637.02' E = 270.07'
L_s = 400 L.T. = 266.88
L_c = 1350.00' S.T. = 133.52'

BEGIN WORK
STA. 79+00 E.B.L.
SUM. 277-0.46

A. & B.B.L. R.R.

C.S. STA. 111+72.60

S.T. STA. 115+72.60

T.S. STA. 122+49.06

MARINGO

GILBERT

FILLMORE

WATERLOO RD

EXIST. R/W

STA. 121+01.64 SUM-224 =
STA. 13+15.84 WATERLOO RD.

45°18'12"

℄ CONSTRUCTION

S.C. STA. 125+49.06

BEGIN ACQUIS. STA. 121+01.32 SUM. 277-0.46 I-271-6(14)

STA. 130+86.48 SUM. 224 =
STA. 41+60.20 MANCHESTER

P.T. STA. 39+61.84

℄ CONSTRUCTION
CURVE DATA:
P.I. STA. 135+23.91
Δ = 52° 13.00' LT. L.T. = 200.04'
D_c = 2° 30' S.T. = 100.04'
R = 2291.88' E_s = 262.24'
L_s = 300' L_c = 299.94'
L_c = 1788.67' X_c = 299.81'
T_s = 1273.95 Y_c = 6.54'
θ_s = 3° 45'

CURVE DATA:
Δ = 10° 43' 58" LT.
D_c = 3° 00'
R = 1909.86'
T = 179.40'
L_c = 357.76'
E = 8.41

P.C. STA. 36+03.58
P.T. STA. 35+75.70

CURVE DATA:
Δ = 5° 02' 15"
D_c = 1° 00'
R = 5725.58'
T = 252.05'
L_c = 503.75'
E = 5.54'

P.C. STA. 30+72.04

178° 38' 00"

STA. 29+04.50
ANGLE PT.

NESMITH LAKE BLVD.

NESMITH LAKE

MANCHESTER RD. (U.S. 224)

CARNEGIE AVE

ELIG. FOR FED. PARTICIP.

INELIGIBLE FUNDS.
CITY & STATE PARTICIPATION ONLY
MANCHESTER RD.
STA. 43+69.47 TO STA. 47+81
INELIGIBLE FOR FED. FUNDS

INELIGIBLE FUNDS.
CITY & STATE PARTICIPATION ONLY
MANCHESTER RD.
STA. 21+81 TO STA. 35+00
INELIGIBLE FOR FED. FUNDS

DETAIL "A"
SCALE 1"=50'

BRENNEMAN BLVD.
NESBITT AVE.
PELTON AVE.
EXIST. R/W
R/W
LA

SEE DETAIL "A"

NESBITT
PELTON
CONRAD
EDWIN
CHRISTENSEN
SMITH LAKE BLVD
FRITCH AVE.
BRENNEMAN BLVD

OHIO CANAL

U.S. 224
EXIST.
EXIST R/W
CORP. LINE
TWP. TRACT 11
CITY OF AKRON
COVENTRY
OHIO EDISON DR.
MATCH LINE
STA. 70+00

100' EASEMENT TO OHIO EDISON CO.

NOTE: PCL. 10-X VACATED AND ENTERED IN DIRECTOR'S JOURNAL VOL. 6, PAGE 46, DATED 2-25-71 AND RECORDED IN VOL. 5929, PGS. 179-181 OF THE RECORDS OF SUMMIT COUNTY.

BUILDING LEGEND
- ■ RESIDENCE
- C-■ COMMERCIAL
- WW-■ WATER WORKS (PUMP STATION)

AFFECTED UTILITY COMPANIES

OHIO EDISON CO.
47 N. MAIN ST.
AKRON 8, OHIO

EAST OHIO GAS CO.
1717 EAST 9th STREET
CLEVELAND 14, OHIO

OHIO BELL TELEPHONE CO.
50 W. BOWERY ST.
AKRON 8, OHIO

CITY OF AKRON WATER DEPT.
63 S. HIGH ST.
AKRON 8, OHIO

CITY OF AKRON SEWER DEPT.
MUNICIPAL BLD'G.
AKRON 8, OHIO

5-8-78 ADDED NOTE FOR VACATING PCL 10-X

Nº	REVISIONS	MADE BY	DATE
1	PCLS. 75 WA & 83 WA to 75 T & 83 T	DRP	3-25-65
2	CHANGED PCL. 31 WD to 31 T		6-22-65
3	Pcl. 1-X, 2-B-X Revised. Added Pcl. 1-AX Per Change Order	GJF	1-28-67
4	Added Pcls. 29-WD, 30-AWD, & 31-WD		4-25-67
5	Changed Pcl 1-A-WA to 1-A-WA-1	JJA	5-25-67
6	ADDED FEDERAL PROJ. No.	J.R.B.	4/29/68
7	ADDED FUNDING FLAGS PER I.O.C. FROM J.J. ADAMS DATED 6/18/68	J.R.B.	6/28/68

PROPERTY MAP SHEET 1 OF 2

State Highway Dept. Div. 4
HTW-ENGR & ADMIN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
Sids ____ Bill Bk. ____

PROPERTY MAP
SUMMIT COUNTY
CITY OF AKRON
COVENTRY TOWNSHIP
T-1-N R-11-W

SCALE: 1" = 200'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

4
19

WATERLOO ROAD — EXIST. U.S. 224

CITY OF AKRON — CORPORATION LINE
COVENTRY TOWNSHIP
TRACT II

MATCH LINE STA. 170+00

CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30" LT.
D = 1°00'
R = 5729.58'
T = 532.78'
L = 1062.50'
E = 24.72'

EXIST. S. MAIN ST.

HOLY CROSS CEMETERY

P.C. STA. 195+34.48

P.T. STA. 205+96.98

100' EASEMENT TO OHIO EDISON CO.

100' EASEMENT TO OHIO EDISON CO.

STA. 230+00 MATCH LINE

EXIST. L/A

END ACQUISITION
SUM 277-0.46
STA. 244+04.33

CURVE DATA:
P.I. STA. 223+49.46
Δ = 4°00'41" LT.
D = 0°28'
R = 12277.67'
T = 429.97'
L = 859.58'
E = 7.53'

P.C. STA. 218+19.49

P.T. STA. 227+79.07

HINE ST.

GLENMOUNT AVE.

NAOMI ST.

BREWSTER RUN

LAND LOCKED

END PROJECT
SUM 277-0.46
STA. 228+68.84

STA. 44+25.40 RELOC. S. MAIN
= STA. 0+00 SWARTZ RD.

SWARTZ ROAD

STA. 228+00 BK. = STA. 222+59.78 AHD EQUATION

BEAN ST.

PENQUIN AVE.

NOTE: HINE ST. & PENQUIN ARE NOT DEDICATED

EXIST. R/W

TUSCARAWAS RIVER

N. TURKEYFOOT LAKE RD.

BUILDING LEGEND
- ■ RESIDENCE
- C-■ COMMERCIAL
- ■ CHURCH

No.	REVISIONS	MADE BY	DATE
5	Changed Pcl. 102 WL & Pcl. 86 WL	[illegible]	1-18-66
6	ADDED PCL. 87 CWL		1-12-67
7	Revised Pcl. 112 WL	RAW	8-8-67

No.	REVISIONS	MADE BY	DATE
1	Changed Pcl. 87AWA to 87BWA & Moved Pcl. 87AWA.	[illegible]	3-16-65
2	Deleted Pcls 135 WL, 135 WD; Added to Pcls. 126 WD & WL Changed Pcls 135 S & 136 WL to 126 S & 126 AWL		3-25-65
3	Name Change Pcl. 127 WL, Deleted Pcls. 128's, Now 127's	[illegible]	4-4-65
4	Revised Pcl. 120 WL, Added 120 BWA		11-12-65

State Highway Dept. Dist. 4
R/W - ENGR & ADMN
RAVENNA, OHIO

MAR 1 1965

LOGGED

Ends ____ Bk. ____

PROPERTY MAP SHEET 2 OF 2

Nº	REVISION	MADE BY	DATE
1	Added Pcl. 50 S, Name Change Pcls. 51AWA & 51WA.	GS	4/8/65
2	Changed Pcl. 31WD to 31T Revised 31-S		6/22/65
3	Name Change Pcl. 59WL.	GS	9/21/65

FUNDING: ELIG. FUNDS FOR FED. PARTICIPATION – INDICATED "ELIG." INELIG. " " " " " "INELIG."

SUMMARY OF RIGHT-OF-WAY REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

5/19

TOTAL NUMBER OF OWNERS = 119

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	CORRECTED DEED AREA	TO BE ACQUIRED LAND (SQ.FT.) ** TOTAL	TO BE ACQUIRED LAND (SQ.FT.) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT (SQ.FT.)	RESIDUE RIGHT (SQ.FT.)	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	ELIG. OR INELIG. TYPE FUNDS FED.
* 1 WL	MARGUERITE L. RENNER	3107	161	5.2686		151,514	6,122	YES	0.70 Ac	2.506 Ac		7	DITCH GRADING	ELIG.
1 WA		4578	629	1.4168		(3.48 Ac)								
2 WL	FIRESTONE POST NO. 3383,	2390	527	40.448*	22.17	12,226	2,501	NO		20.85Ac.				
2A WL						26,343	1,500	NO						
	VETERANS OF FOREIGN WARS							NO				7&17	* Contains 19.70Ac. (Parcels 1WL, 4WL & 28WL) Subsequently sold	ELIG.
2 AX								NO	0.01 Ac		0.01 (LL)		DITCH GRADING	
2 WA	OF THE UNITED STATES					9,621			(334 S.F)		(334 S.F)		Sewer	
2-S						283,3								
2B WL	CITY OF AKRON			12.09		92,932	20,738	NO		9.96 Ac	9.96(LL)	7, 8 & 17	BY APPROPRIATION	
2 BX						10,067								
3 WD	ALICE ZAGER	1900	197	0.2045 *									*LEASED TO SUN OIL COMPANY	
3 WA		1876	404	0.464 *		5,653	4,979	NO	0.72 Ac	-		7&17	FRONTAGE REPAIR	INELIG.
		2007	725	0.1828		(0.13Ac)								
4 WL	ANTHONY ZAGER & ALICE M. ZAGER	2963	489	0.92		24,427		NO	0.36 Ac	-		7	DITCH GRADING	ELIG.
4 WA														
5WD	FRANK KOLAR & AGNES KOLAR	2985	426	0.1377		2,540		NO	0.55 Ac	-		7&17		INELIG.
		3487	57	0.4684		(0.06Ac)								
6 WL	JOHN E. CAMPBELL & EVA MAE CAMPBELL	2770	155	0.4131		12,486		YES	0.12		0.12(LL)	7&17	ASPHALT PAV'T & VOTING BOOTH REMOVAL 10,812 → ELIG. & 1674 → INELIG.	
6 WA						(0.29Ac)								
7 WD	HELEN ZIMMERMAN, ET AL	2886	3	0.6752		3,584	1,800	YES		0.60Ac		17	PARCEL No. 1 HOUSE REMOVAL	ELIG.
7 WA						(0.08Ac)								
8 WD	CITY OF AKRON, KENMORE DISTRICT			2.34		10,512		NO		2.10 Ac		17	ACQUIRED BY CONDEMNATION-Summit C.P. COMMON PLEAS COURT No. 19721	ELIG. & INELIG.
						(0.24Ac)								
9 WD	STATE OF OHIO	(NOT AVAILABLE)				7,703	1,308	NO	(CANNOT DETERMINE)			17	NESMITH LAKE 826 9686	INELIG.
10 WD	LEWIS YOUNG, INC.	1231	385	17.18		131,094	76,938			14.17Ac			PARCEL #2 (Deed Area is Approximate)	INELIG.
10 X		3490	59	0.54		2,088		YES				17	* LOTS # 649, 650 & 651	"
10 WA				(23,533 S.F.)										"
10B WA														"
11 WD	STATE OF OHIO	(NOT AVAILABLE)				1,311		NO	(NOT NECESSARY)			17	OHIO CANAL	INELIG.
12 WD	NICK P. & MARGARET J. GUISTINO	3400	45	7,379 S.F.		758		NO	-	6,621		17	* PART OF LOT #652	ELIG.
J3 WL	HELEN ZIMMERMAN & EMMA ZIMMERMAN	2886	6	12,054 S.F.		1,479		NO	-	10,575		17	* LOT # 653	
14 WL	JAMES PANTUSO	3389	172	10,755 S.F.		1,521		NO	-	9,234		17	* LOT # 654	
15 WL	OHIO EDISON	1740	312	66,056 S.F. (1.52 Ac.)		66,056			—	—		8	PARCEL # 28 LOTS # 636 thru 640, #655 thru 659	
16 WL	GIRTHARIE BATES	1795	548	7,512 S.F.		7,512		NO	—	—		8	* LOT # 660	
17 WL	LEO J. & ESTHER L. ALLINGER	1772	507	7,565 S.F.		7,565		YES	—	—		8	* LOT # 661	
18 WL	ARTHUR B. & LOIS M. FORD, JR.	2393	371	15,307 S.F.		15,307		YES	—	—		8	* LOT # 662	
		2396	25										* LOT # 663	
19 WL	JOSEPH M. & ERMA T. MARINO	3115	446	8,027 S.F.		8,027		YES	—	—		8	* LOT # 664	
20 WL	366 SOUTH MAIN STREET, INC.	3684	524	22,909 S.F.		2,595		NO	19,808	—		17	* LOTS # 665 & 666 1901 → ELIG & 794 → INELIG.	
20 WD		3684	526			406							* LOTS # 667 thru 672	INELIG.
20 T						1,227							DRIVEWAY GRADING & WORK AREA	INELIG.
21	NOT USED												NOT USED	
22 WD	THE ALLEN SIDE ATHLETIC CLUB	3813	335	20,712 S.F.		1,400		YES	19,312	-		17	* LOTS #673 thru 677	
22 WA		3483	463										* LOTS # 678 & 679 BLDG. REMOVAL & SLOPE GRADING	INELIG.
23 WD	GULF OIL CORPORATION	3499	288	0.3784		760		NO	0 36 Ac	-		17	* LOTS #680 thru 683 & PART OF LOTS #684 & 685 DRIVEWAY REPAIR	INELIG.
23 WA														
24 WL	VIRGINIA B. WATSON	3402	302	10,644 S.F.		10,644		YES	—	—		8	* LOTS # 634 & 635	ELIG.
25 WL	PAT & OLLIE V. KING	3250	548	5,356 S.F.		5,356		YES	—	—		8	* LOT # 633	
												8		
26 WL	DEWEY C. & ALICE HOTSENPILLER	2008	124	5,464 S.F.		5,464		YES	—	—		8	* LOT # 632	
1-X						3048						7		
1-AX						1113								
1-AWA	MARGUERITE L. RENNER												Working Area	
28 WL	MINNIE M. EIDEN	3960	100	11,346 S.F.		11,346		YES	—	—		8	* LOT # 630 4,130 S.F. Ineligible for Federal Part.	
		2317	595										* LOT #631 7,216 S.F. eligible for Federal Part.	
29 WA	ROBERT F. COAST	3954	307									8	* LOT # 599 DRIVEWAY GRADING	
30 WD	JOHN J. & PATRICIA J. RAMSEY	3584	488	7,200 S.F.		515		NO	-	6,685		8	* LOT 600	
30 T						985							DRIVEWAY GRADING	
31 WL	KENNETH W. & MARY LOUISE KRITES	2862	603	7,200 S.F.		408		NO		6.573		8	* LOT #579	
31 T						317								
31 S	THIS PARCEL SUBJECT TO FEASIBILITY STUDY					617								
32 WL	E. R. & IRMA PARDUE	1961	373	7,200 S.F.		1,402		YES		5,798		8	* LOT #580	
32 S						622							HOUSE REMOVAL	
32 WA														
33 WL	FRED W. & VIOLA G. LAMM	2772	563	28,936 S.F.		28,936		YES	—	—			* LOTS #578, 601 &602 & Part Of #577	
34 WL	OHIO EDISON COMPANY	1740	312	29,069		29,069		NO	—	—		8	* PARCEL # 28 LOTS # 603 thru 605; #574 thru #576	
35 WL	CHARLES E. & VIOLA MYERS	1565	391	4,947 S.F.		4,947		YES	—	—		8	* LOT # 606	
36 WL	CLEOLA M. ROBINSON	1608	165	4,946 S.F.		4,946		YES	—	—		8	* LOT # 607	
37 WL	DONALD P. & RUBY M. STAGER	3066	118	9,821 S.F.		5,774		YES	4,047		4,047 S.F. (L.L.)	8	* LOTS # 608 & 609 HOUSE REMOVAL	
37 WA														

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED TOTAL	CORRECTED DEED AREA	TO BE ACQUIRED LAND (SQ.FT.) ** TOTAL	TO BE ACQUIRED LAND (SQ.FT.) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT SQ.FT.	RESIDUE RIGHT SQ.FT.	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	TYPE FUNDS FED.
38 WL	JESSE F. TUCKER	4158	678	10, 300		10, 300		YES	—	—		8	* LOTS # 572 & 573	ELIG.
39 WL	C. S. MIRACLE REALTY COMPANY	4007	686	7, 317		7, 317		YES	—	—		8	* LOT # 542	
40 WL	BENEDICT O. & JOSEPHINE MILLS	3621	396	6, 300		6, 300		YES	—	—		8	* PART OF LOT #541	
41 WL	OHIO EDISON	1740	301	44, 451		32, 803			10, 159				* PARCEL #28	
41 WD				(1.02 Ac)		1, 489			(0.23Ac)			8	* LOTS #506 thru 510, 543 thru 545	
42 WL	LOUIS S. & ELIZABETH HAWLEY	2960	401	6, 941		6, 941		YES	—	—		8	* LOT # 539	
43 WL	HENRY C. & HANNAH M. BRAY	3495	379	6, 941		6, 941		YES	—	—		8	* LOT # 540	
44 WL	HUGH H. & GERTRUDE GARNER	2721	106	6, 941		6, 941		YES	—	—		8	* LOT # 512	
45 WL	GLENN E. & BETTY J. GRUBB	2817	620	6, 941		6, 941		YES	—	—		8	* LOT # 511	
46 WD	RUTH M. & DONALD F. RALEIGH	3389	194	9, 600		666		NO	—	8, 934		8	* LOTS # 537 & 538	
46 WA														
48 WL	HOWARD W. & DELIA BAILEY	2053	103	10, 411		10, 411		YES	—	—		8	* LOT #472 & PART OF LOT #473	
49 WL	PERCY L. BAKER & DOROTHY E. BAKER	2982 2457 2780	247 404 288	11, 331		11, 311		YES	—	—		8	* LOT #441, EAST 30' OF LOT #473 & WEST 8' OF LOT # 440	
50 WL	OHIO EDISON COMPANY	1740	301	56, 563		23, 241		NO	33, 322				* PARCEL # 28	
50 S				(1.30 Ac)		5, 128			(0.77Ac)			8	LOTS # 474 thru 478; #435 thru 439	
51 WA	JOHN E. & DOLORES G. MITCHELL	3823	229									8	* LOT # 471 DRIVEWAY GRADING	
51A WA	CELIA DeANGELIS	3251	275										DRIVEWAY GRADING	
52 WL	COURTLAND & DONNIE MAE GISH	2969	647	6, 013		6, 013		YES	—	—		8	* PART OF LOT # 440	
54 WL	OHIO EDISON COMPANY	1740	301	56, 563		17, 396			27, 846				PARCEL #28	
54 WD				(1.30Ac)		11, 321		NO	(0.64 Ac)			8&9	* LOTS #354 thru 358 #403 thru 407 SLOPE GRADING	
54 WA														
55 WL	EARL & DAWSIE M. KNIGHT	3395	525	12, 682		12, 682		YES	—	—		8	* LOTS # 401 & 402 LESS SOUTH 10' OF LOTS #401 & 402	
56 WL	ROBERT C. & MARY LOUISE KIEFER	2530 2819	499 669	13, 878		13, 878		YES					* LOTS # 359 & 360	
56 WA		#1963	581									9	* LOT #361 DRIVE & STEPS REPL.	
59A WA	W.L & N.L. SLATER	1887 1953	5 238										* LOTS 297&300 DRIVE & STEPS REP	
57 WD	JAMES T. NORROD & SETTIE NORROD	4391	15	6, 000		1, 200		YES	—	4, 800		8	* LOT #400 & SOUTH 10' OF #401 & 402 GARAGE REMOVAL	
57 WA		1995	572											
58 WL	OHIO EDISON COMPANY	1740	301	42, 775		15, 738			16, 199				* PARCEL #28	
58 WD				(0.98Ac)		10, 838			(0.37Ac)			9	LOTS #305 THRU 309, 310 thru 313 SLOPE GRADING & DRIVE REPLACEMENT	
58 WA														
59 WL	WILBUR L. SLATER & NEDRA L. SLATER	4471	184	13, 882		13, 882		NO	—	—		9	* LOTS # 301 & 302	
60 WL	JAMES B. & KATHLEEN M. KIEL	3488	288	13, 014		13, 014		YES	—	—			*	
61 WD	JOHN BERNARD BERES	3574	175	4, 500		129		NO		4, 371		9	LOTS #303 & 304	
62 WA	CAROL L. O'BRIEN ET AL.	4213	126										* LOT #299	
63 WA	JOSEPH J. & DORIS M. DENCHIK	3696	519										* LOT #315 DRIVE & SLOPE GRADING	
63 A WA	J. O. & A. J. WILT	3579	341									9	* LOT #316 DRIVE & SLOPE GRADING	
64 WL	OHIO EDISON COMPANY	1740	301	61, 282		31, 476		NO	29, 806				SLOPE GRADING * LOT # 319	
64 S				(1.41 Ac)		5, 562			(0.68Ac)			9	* PARCEL #28	
64A S						1, 205							LOTS #251 thru 257	
64 WA													*LOCATE DRIVE	
64B S	DIAMOND CRYSTAL SALT COMPANY	2985 *	119	1.8935		139						9	* PARCEL VI	
64C S						23		NO						
65 WA	JOHN & MARTHA M. FICARRA	3506	101									9	* LOT # 250 & SOUTH 16' OF LOT #249 DRIVE & SLOPE GRADING	
66 WA	ALBERT O. & ETHEL MORRIS	3509	469									9	* LOT # 248 & NORTH 25' OF LOT # 249 DRIVEWAY GRADING	
67 WL	OLIVER J. LEE	3488	418	23, 771		23, 771		YES	—	—		9	* LOTS # 258, 259 & PART OF LOTS #260 & 261	
68 WL	PAUL & ELIZABETH GRISHKEVICH	3827	339	6, 600		6, 600		YES	—	—		9	* PART OF LOTS # 260 & 261	
69 WA	JACOB T. & NANCY KERNS	3825	273									9	* LOT # 262 DRIVEWAY GRADING	
71 WL	STATE OF OHIO	(NOT AVAILABLE)				31, 161								
71 WD						5, 998		NO	(NOT REQUIRED)			9	* TOTAL IS 0.97 AC.	
71A WD						5, 275								
72														
73 WL	JOHNNIE D. HOLLEY	2990	307	5.0 Ac *		0.52 Ac								
73 WD						0.24 Ac		YES	-	4.03 Ac		9	* DEED TRAVERSE DOES NOT CLOSE	
73A WD						0.21 Ac								
74 WD	JOHN W. LEY & SALLIE C. LEY	2628	102	4.364 Ac *	3.13 Ac	11, 916 (0.27Ac)		NO	2.86 Ac	-		9&18	* CONTAINS 1.2265 AC. PARCEL SOLD TO LOUIS C. SIMON	
74A WD	LOUIS C. SIMON	3961	42	1.2265 Ac.		7, 739 (0.18 Ac)	1, 988 (0.05 Ac.)	NO	1.05 Ac	-		18		

Added Pcl. 46WA per I.D.C. from Stahl J.R.B. 5/1/68
Deleted Pcls. 47WA & 53WA per J.J. Adams J.R.B. 4/30/68
Added Funding Column J.R.B. 4/30/68
Changed Pcl. 1-A-WA to 1A-WA-1 5-25-67
Added Federal eligibility breakdown for Pcl. 28WL 5-9-67 Lee
Pcl. 28WL Revised 10-WD 5-18-66 Participation in 7,236 S.F. of Take for this Parcel 9-15-66 WI
Pcl. 28X, 1-X Revised, Pcl. 1-AX added 1-28-67 G.

Added Pcl. 1X, 1-AWA, Deleted Pcl. 2-AWA 2-1-66
Added Pcl. 1-AWA-1 2-24-66
Deleted Pcl. 1 50-WA, 51-WA, Added 30-T & 31 Revised 3/5 & 31-T 3-17-66
REVISED AREA FED. PARTICIP. Pcl. GWL. J.R.B. 7/18/66
ADDED FUNDING TYPE PER I.D.C. FROM J.J. ADAMS DATED 6/18/68. J.R.B. 8/68.

State Highway Dept. of Ohio
R/W - ENGR. & ADMIN. Dist. 4
RAVENNA, OHIO
MAR 1 1968
LOGGED
Crds ____ Bill Bk. ____

NESMITH LAKE HTS. ALLOTMENT NO. 2; PLAT BOOK 26, PAGES 54-60 INCLUSIVE

** TOTAL INCLUDES PORTION ROAD OCCUPIES

* NESMITH LAKE HTS. ALLOTMENT NO. 2; PLAT BOOK 26, PAGES 54-60 INCLUSIVE

** TOTAL INCLUDES PORTION ROAD OCCUPIES

Nº	REVISION	MADE BY	DATE
1	Added Pcl. 92-T, Revised Pcl. 92-X.	GB	3-1-65
2	Added Pcl. 87BWA, Revised Pcl. 110WL	GB	3-14-65
3	Pcls. 123,124,125,126,127,132,133,134,138; Revised	T.A.B.	3-23-65
4	Changed Pcls. 75 WA & 83 WA To 75T & 83T		3-26-65
5	Deleted Pcl. 78AWA, Removed PR.O. Pcls. 124,125,126,132,138, & 134.	GB	4-8-65

FUNDING: ELIG. FUNDS FOR FED. PARTICIPATION – INDICATED "ELIG."
INELIG. " " " " " "INELIG."

SUMMARY OF RIGHT-OF-WAY REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

6/19

TOTAL NUMBER OF OWNERS = 119

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	CORR. DEED AREA (ACRES)	TO BE ACQUIRED LAND (ACRES) TOTAL*	TO BE ACQUIRED LAND (ACRES) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT (ACRES)	RESIDUE RIGHT (ACRES)	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	TYPE FUNDS FED.
75 WL 75 WD 75 A WD 75 T	JACOB E. LEY & ELIZABETH LEY	1374	389	6.69		1.72 0.63 0.72 0.09		NO	0.20	3.42		9	CONSTRUCT DRIVE	ELIG.
29-WD	Robert F. Coast	3954	307	72003 S.F.		92 S.F.		No		7,118 S.F.		8	Water Line	
30-A WD	John J. & Patricia J. Ramsey	3584	488	6,6853 S.F.		344 S.F.		No		6,341 S.F.		8	" "	
31 WD	Kenneth W. & Mary Louise Krites	2862	603	6,573 S.F.		84 S.F.		No		6,489 S.F.		8	" "	
77 WD	FRANK HATFIELD	1129	536	1.43		0.31	0.03	NO	1.12			18		
78 WD 78 WA	OLIN RICHARDS	3484	311 - 312	Not Rec.	0.28	0.08		NO	0.20			9		
78A WD	OLIN RICHARDS & MARIE RICHARDS	1903 3484	454 308 - 309	0.185 Not Rec.	0.21	0.04		NO	0.17			18	DRIVEWAY GRADING	
79 WL 79 WD 79A WD 79T 79AWA	DOROTHY MADICK, Owner; JAMES MADICK & LENA MADICK, Life Estate	3491 1903	206 437	4.63 0.185*	4.79	2.22 0.09 0.47 0.02		YES	2.01			9&18	* CONTAINS 0.027 AC. SOLD TO OLIN & MARIE RICHARDS SLOPE GRADING REMOVE BLDG.	
80														
81														
82														
83 WD 83 T	PAULINE G. KALAIN	2893	539	6.09 * 1.37*	5.29	0.48 0.17		NO		4.81		9&10	* CONTAINS 2.17 AC. LATER SOLD CONSTRUCT DRIVE	
84 WL 84 WD	OHIO EDISON CO.	1643	32	4.496		0.26 0.11		NO	1.10	3.03		10		
85 WL 85 WD 85 WA	THE B. F. GOODRICH COMPANY	2060 2044	519 127	10.51 7.70 *		1.78 0.91		NO	23.25	12.27		10	* SECOND PARCEL ** FIRST PARCEL PRIVATE WATER LINE CONN.	
86 WL 86 WA 86 X 86 Y	FIRESTONE TIRE & RUBBER CO.	2044	127	20**								10&11	SEE PARCEL WL BELOW	
87 WL 87 X	OHIO EDISON COMPANY	880	674	3.567	3.68	2.72 0.19		NO		0.96		11 & 12		
87AWL	OHIO EDISON COMPANY	880 971	676 407	0.48 0.64		1.39	0.06	NO	1.00			13 & 14		
87AWA		971 971	406 403	0.64 0.63								15	FILL & GRADE	
87AWD 87BWA		982 * 596	630 574 - 575	1.23 12.45		0.12	0.10	NO	13.97			15 14	CUT & DRESS SLOPES	
87AX		*		0.408		0.51						15	* REFERS TO TWO DEEDS IN 87 A WD	
87C WL		880	678	0.75	0.65	0.23				0.42		11		
88WL 88X	MIKE VUICH	1926	374	20.37 *	9.84	3.20 0.90		NO	6.64			11 & 13	* CONTAINS 10.5346 AC. BELONGING TO FIRESTONE TIRE & RUBBER COMPANY	
89WL 89X	ARTHUR CORICE & CLARA CORICE	3781	684	3.6292		0.75 0.39		NO	2.88			13	LEASED TO GIANT AUTOMOTIVE PRODUCTS, INC.	
90 WL 90 X	ERNEST R. GENOVESE & CHRISTINE M. CAMPBELL	3781	559	3.458*	2.84	0.12 0.36		YES	2.72			13	* AREA INCLUDES 0.62 Ac. SOLD TO THE STANDARD OIL COMPANY	
91 WL	MABEL R. DELLENBERGER ET AL	2729	74*	5.5950	5.64	5.64	0.35	YES	—	—		13	* PARCEL #3	
92 WL 92 WD 92 X 92 WA	RUSSELL A. THORNTON	2729	72*	1.2805		0.15 0.17 0.26	0.07 0.13	YES YES	0.95			13	*PARCEL #2 SLOPE GRADING & BLDG. REMOVAL	
93 WL	JOSEPH MANCINE	3263	674 - 675	5.255	5.31	5.31	0.18	YES	—	—		12&13		
94 WL	ELMER D. LILLEY AND ALBERTA MILTON	4350	295	0.319	0.31		0.05	YES	—	—		13		
95 WL 95 WD 95 WA 95A WA 95 X	EDWARD F. HOBAN J.P. FARRELLY	3169 582	606 506	4.387 21.009		0.24 0.30 0.19	0.06 0.24	NO	24.86			13 15	HOLY CROSS CEMETERY DRIVE RELOCATION SLOPE GRADING	
96 WL	CLARENCE G. MILLER & VIOLET L. MILLER	3181	253 * **	0.1752 0.1607	0.37	0.37	0.08	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
97 WL	EDNA LICIA	3110	437 * **	Not Rec. 0.194	0.47	0.47	0.08	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
98														
99 WL	CLARENCE DEGER & ELPHA MARIE DEGER	4016	123	0.27	0.27	0.27	0.05	YES	—	—		12		
100 WL	CORA COCHRAN	2963	660 * **	0.3598 Not Rec.	0.75	0.75	0.12	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
101 WL	JULIA A. NEMES	3250	183	0.76	0.77	0.77	0.08	YES	—	—		12 & 13		
86AWL	FIRESTONE TIRE & RUBBER COMPANY	2109 *	491	42.7383		8.39	0.06	NO				12	ALSO OWNERS OF PARCELS 138 WL & 138 WD - A SEPARATE PROPERTY	
86 WL 86 X 86 Y 86 WA		2316	376	10.5346		6.30 0.37 0.03			9.60	28.92		10&11	NOTE: Pipe Casing being placed under roadway for future water pipe for Parcel 86-WL is being reflected in the right of way settlement of said parcel. CHANNEL GRADING	
103 WL 103 WD 103 WA	ELIZABETH V. WINEMILLER	3168	623	Not. Rec.	7.89	0.42 0.75	0.15 0.32	NO		6.72		12	DRIVEWAY GRADING	
104 WL 104 WD 104AWD	GEORGE HANNA	3114	517	16		0.39 0.27 0.61	0.22 0.19 0.31	NO		14.73		12		
105 WL 105 T* 105 SL 105AWL	FIRST WESLEYAN METHODIST CHURCH OF AKRON	3157 4474	34 3,4,&5	5.947		0.14 0.05 1.29	0.06 -	NO		4.607		12,13, & 14	* PARKING LOT GRADING & RESURFACING OF ENTRANCES TRACT 11	ELIG.
*92-T	RUSSELL A. THORNTON					0.06						13		
108 WL	RALPH W. BENTZ & IRENE K. BENTZ	2623	489	3.7162		1.52		NO		2.20		14		
109 WL	HERMAN V. CALVERT & MINNIE R. CALVERT	2232	613	2.006		0.82		NO		1.19		14		
110 WL	LEO L. RICH & VIRGIE L. RICH	2060	533	9.3043*	3.29	1.25		NO		2.04		14	* AREA CONTAINS 2.006 Ac. PARCEL & 4.0097 PARCEL SUBSEQUENTLY SOLD	
111 WL	VIRGLE G. BRYANT & RUTH H. BRYANT	2896	479	3.0		1.38		NO		1.62		14		
112 WL	EMMA M. DULLA BAHN " " "	3904 3112 2728	558 580 352	2.166 0.121 0.241		0.88		NO		1.29 0.14 0.24		14		
113 WL	VIOLA CORTESI PETLEY & THOMAS L. PETLEY	3694	510	1.482		0.44		NO		1.04		14		
114 WL	ESTATE OF JOHN P. ALLEN, DEC'D. BY WILLIAM L. ALLEN & HARPER C. ALLEN, EXECUTORS	3693	689	Not Rec.*	1.50	0.44		NO		1.06		14	* DEED TRAVERSE IS INCORRECT	
115 WL	FRED H. LEE & JESSIE M. LEE	2629	470	2.0189*	1.61	0.97		NO		0.64		14&15	* CONTAINS 0.4098 Ac. PARCEL SUBSEQUENTLY SOLD	
116														
117 WL	HENRIETTA S. DUBROVICH	3697	62	Not Rec.	0.97	0.97		NO	—	—		15	* DEED CONTAINS PARCEL SUBSEQUENTLY SOLD	
120BWA	HARRY M. LYTLE & MILDRED R. LYTLE	4477	710	1.1689[1]								15	LOT 9 THOMAS ALLOT., BOOK 57, Pg. 28	
120 WL	THURMAN A. McKOWN & VELMA R. McKOWN	4477	373	1.5754[1]		3.683[1]		NO		1.207[1]		15	LOT #8 OF THOMAS ALLOTMENT PLAT BOOK 57, PAGE 28	
120AWL	LOYS H. THOMAS AND NAOMI G. THOMAS	3891	235	0.51		0.37				0.14		15	LOT #7 OF THOMAS ALLOTMENT PLAT BOOK 57, PAGE 28	
121 WL 121 WD 121A WD	JOSEPH W. HOCK & IRENE HOCK	769	40	8.04 *	6.40	3.65 0.27 0.43	0.15 0.12 0.03	YES		2.05		15	* CONTAINS 1.23 Ac. PARCEL & 0.408 Ac. PARCEL SOLD TO OHIO EDISON	
122 WL 122 X 122 WD 122 T	OHIO EDISON COMPANY	608	32	5.765		0.70 0.63 0.07 0.10	0.05	NO	1.28	3.71		15 & 16	TEMPORARY RUNAROUND	
123 WL	DANIEL D. RUNJAMIN & WANDA L. RUNJAMIN	3252	549	0.4279	0.43	0.43	0.07	YES	-	-		15		
124 WL	ROSE L. YANDIK	2161	617	1.726	0.41	0.41		YES	—	—		15		
125 WL	ANDREW BESKITT	3821	107	0.30	0.30	0.30		NO	—	—		15		
126 WL 126 S 126AWL	DAN BESKITT & ANNA BESKITT	2862 2862	397 399 399	3.122 1.353	3.152 1.35	1.444 0.02 1.35		YES	—	1.71		15 & 16 16 16	FIRST PARCEL SECOND PARCEL	
127T 127 WL 127WD	WADE HALL	4391	579	0.584	0.584	1385.F. 0.40 0.01	0.08 0.01	YES		0.084		15	TEMPORARY RUNAROUND	
129 WD 129 T	MERLE EDWARD & MARY ETHEL HIENER	2620	279	0.164		0.04 0.02	0.03	NO		0.12		15	DRIVEWAY GRADING & TEMP. RUNARND.	
130 WA	LEOMA WALTZ	1855	743	0.164								15	DRIVEWAY GRADING & WORK AREA	
131 WA	ROBERT EDGAR & LEONA MARIE PUGH	3888	4	0.30								15	WORK AREA	
132 WL 132 WA	ORLAND J. WELCH, JR. & CARLENE L. WELCH	3485	641	0.16		0.10		YES		0.06	0.06(L.L)	15	GARAGE REMOVAL	
133 WL 133 WA	WILLIAM E. SHARPE & ALICE M. SHARPE	1252	228	0.16		0.10		YES		0.06	0.06(L.L.	15	GARAGE REMOVAL	
134 WL 134 WA	MARY KUPRESAN	2374	292	Not. Rec.	0.61*	0.22		YES		0.39	0.39(L.L.	15 & 16	* CALCULATED HOUSE REMOVAL	
134A WL 134 A WA	A. & T. MISBRENER	3311	373	0.318		0.17		YES		0.15	0.15 (L.L)	15	* GARAGE REMOVAL FROM ABUTTING PROPERTY	
137 X 137 S 137 BT 137 AT 137 T	COLUMBIAN YOUTH CLUB ASSOCIATION, INC.	3161 3179	486 625-626	9.3103 0.83 *		0.21 0.06 0.13 0.12 0.092		NO				15 & 16	* CONTAINS 0.33 Ac. SUBSEQUENTLY SOLD SLOPE GRADING FILLING IN LOW SPOT TEMP. RUNAROUND	
138 WL 138 WD	FIRESTONE TIRE & RUBBER COMPANY	2162	286	116.51		10.83 0.25		NO				16 & 19	* PARCEL 138 WL INCLUDES PARCEL 458 LA (SHEET NO. 19)	
139 WL 139 T	GUIDO SPAGNUOLO	2218	7	17.66		0.13 0.78		NO		17.53		16	FILLING IN LOW AREA	

* TOTAL INCLUDES PORTION ROAD OCCUPIES

ADDED FUNDING TYPE PER E.A.C. LETTER 6/28/68 J.R.B.
Added note to Pcl. 86-WL pertaining to Pipe 1-30-68 GB
Area Change Pcl. 137-T 8-10-66
Revision on Revision Pcl. 85WL 5-20-66
Area Change Pcl 137 T 3-22-66
Changed Pcls. 128 WA & WL To Pcls 86 AWL 1-19-66
NAME CHANGE PCL. 114WL 12-29-65
DELETED PARCELS 135-WL,WD,S & 136WL COMBINED 135WL,WD WITH 126WL & CHANGED 135S TO 126S & 136 TO 126AWL 3-26-65
REV. PCL. 5 #WL-86-1, 87-X ADDED 87C-WL 1-12-67
Revised Deed Area & Residue Pcl. 86-WL
Revised TBA & Residue Pcl. 104-AWD 3-1-67
Pcls. 29-WD, 30A WD, 31-WD Added 4-24-67
Revised Pcl 112 WL R/W 8-8-67
Revised Pcl. 106 with 105. 10/19/65
Added Pcl. 129 WA. 8-13-65. Revised Area Pcl. 133 9-17-65.
Deleted Pcls. 128, Now 127WL, WD, & T. Name Change Pcs. 127. 6-4-65
ADDED FUNDING TYPE PER E.A.C. LETTER GIVEN FOR J.J. ADAMS. J.R.B. 6/28/68.
Revised Pcl. 126WL, Added Pcl. 129WA, Name Change 127WL & 128WA. 11-12-65
Revised Area Pcl 77WD 10-13-65
Name Change Pcl. 79 9-25-65 Combined Pcl 106 with 105. 10/19/65
Deleted Pcl. 129 WA. 8-13-65. Revised Area Pcl. 133 9-17-65.
Deleted Pcls. 128, Now 127WL, WD, & T. Name Change Pcs. 127. 6-4-65
DELETED PARCELS 135-WL,WD,S & 136WL COMBINED 135WL,WD WITH 126WL & CHANGED

State Highway Dept. Div. R/W - ENGR. & ADMIN BR. RAVENNA, OHIO
MAR 1 1965
LOGGED
Crds ..... Bill Bk. .....

CITY OF AKRON
T-1-N R-11-W
SCALE 1" = 50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

7/19

℄ R/W DATA
№4 P.I. STA.124+50.00 Δ = 3°45'00" D_c = 1°52'29.7" R = 3055.91' T = 100.04' L_c = 200.01' E = 1.64'
№5 P.I. STA.134+92.63 Δ = 44°43'00" D_c = 2°30'00" R = 2291.83' T = 942.07' L_c = 1788.67' E = 186.30'

STA.121+01.32 SUM-277 = STA.13+15.63 WATERLOO RD.
STATE OF OHIO MARKER SET
N 72°51'58"W 0.32'
N 72°52'31"W
℄ SUM-277 N 27°34'19"W
STA.121+01.64 ℄ SUM-277 = STA.13+15.84 WATERLOO RD.
℄ R/W WATERLOO RD. & ℄ CONST.

STA.47+93.70 MANCH'T'R RD. = STA.20+00.00 WATERLOO RD.
STATE OF OHIO MARKER SET
N 72°30'51"W ℄ R/W
N 72°51'17"W
STA.47+93.58 MANCH'T'R RD. = STA.20+00.00 WATERLOO RD.
℄ R/W N 72°51'55"W WATERLOO RD. 0.12' ℄ CONSTRUCTION
N 72°52'31"W
N 10°13'21"E ℄ MANCHESTER RD. R/W & ℄ CONST.

S.W. CORNER R/W CURVE DATA:

EXISTING	PROPOSED
Δ = 83°05'19"	Δ = 83°05'19"
R = 26'	R = 33.50'
T = 23.04'	T = 29.68'
L = 37.70'	L = 48.59'
C = 34.49'	C = 44.48'
PC. 47+44.05	PC. 47+38.16
P.T. 19+50.38	P.T. 19+37.69

INTERSECTION DETAIL "A" NO SCALE
INTERSECTION DETAIL "B" NO SCALE
SEE INTERSECTION DETAIL "B"
SEE INTERSECTION DETAIL "A"

MARINGO AVE.
GILBERT ST.
MANCHESTER RD. (S.R. 93)
WATERLOO RD.
MATCH LINE

BEGIN ACQUISITION STA.121+01.32 SUM-277-0.46 I-277-6(4)
MANCHESTER ROAD FUNDING, SEE R/W PLAN SHEET 17
FOR MANCHESTER RD. R/W PLAN SEE SHT. № 17
BEGIN WORK STA.79+00 E.BL. SUM-277-0.46
BEGIN SHEET № 7
SEE SHEET № 8
STA.115+00
STA.47+93.70 MANCHESTER RD. = STA.20+00.00 WATERLOO RD.

EXIST. U.S. 224 (Ext. R/W) — L/A — 24.53' ℄ CONSTRUCTION — 15.00' RT.
STA.122+52.34 - 100.53' LT.
STA.121+01.32 SUM-277 = STA.13+15.63 WATERLOO RD.
STA.121+01.64 ℄ SUM-277 = STA.13+15.84 WATERLOO RD.
STA.12+95.93
STA.12+43.53
STA.122+63 C.P. 109
TIE TO ABUT.
TIE TO ABUTMENT
℄ R/W SUM-277 126+12
PC STA 123+43.96
PC.C.STA 125+49.27 B.K.
PC.C.STA 125+49.96 AHD
CURVE № 4
CURVE № 5
CULVERT
STA.12+95.93
S 27° 34' 19" E
N 72°51'58"W 151.76'
N 72°52'31"W
S 72°52'31"E
N 72°52'31"W
N 27°34'19"W
N 10°09'02"E 201.81'
N 10°13'21"E 196.02'
N 10°14'20"E 144.69'
N 10°09'02"E 104.22'
N 10°13'21"E 186.02'
N 10°13'21"E 196.02'
N 10°09'02"E
N 10°13'21"E
N 35°21'10"W 310.04'
N 35°21'10"W 168.02'
N 34°46'39"W 148.49'
N 79°46'39"W 150.00'
N 79°46'39"W 150.00'
N 79°46'39"W 150.00

CITY OF AKRON
T-1-N R-11-W
SCALE 1"=50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

8
19

Nº	REVISIONS	MADE BY	DATE
1	CHANGED PCL 31WD to 31T REV. 3'S		6-22-65
2	Deleted 31-WA, 30-WA, added 30-T & revised area 31-S and 31-T		3-17-66
3	Revised L/A LINE ON PCL. 28WL	F.C.	4-25-66
4	Parcels 29-WL, 30A-WD, 31-WD, Added		4-27-67
5	DELETED PCL. 47WA PER J.J. ADAMS	J.R.B.	4/30/68
	ADDED B.P.R. FLAG PCL. 28WL	J.R.B.	4/30/68

MINNIE M. EIDEN
(28 WL) T.BA. = 0.26 Ac. (11,346 S.F.)
D.P. & R.M. STAGER
(37 WL) T.BA. = 0.13 Ac. (5774 S.F.)
(37 WA) REMOVE HOUSE
JESSE F. TUCKER
(38 WL) T.BA. = 0.24 Ac. (10,300 S.F.)

C.E. & V. MYERS
(35 WL) T.BA. = 0.11 Ac. (4947 S.F.)

C.M. ROBINSON
(36 WL) T.BA. = 0.11 Ac. (4946 S.F.)

ROBERT F. COAST
(29 WA) DRIVEWAY GRADING

MANCHESTER ROAD FUNDING, SEE R/W PLAN SHEET 17

CROSSHATCHED SECTION PREVIOUSLY ACQUIRED BY THE OHIO DEPT. OF HIGHWAYS AND RECORDED AS FOLLOWS.

(30 WD) RECORDED IN VOLUME 4597, PAGE 656
(31 WL) RECORDED IN VOLUME 4597, PAGE 653
(31 S) RECORDED IN VOLUME 4597, PAGE 660

NOTE: FOR MANCHESTER RD R/W SEE SHEET Nº 17

MANCHESTER RD Nº 7

MANCHESTER RD Nº 8

MANCHESTER RD Nº 9

FEITCH AVE

PELTON AVE

NESBITT AVE

BRENNEMAN BLVD.

CONRAD AVE. 45

EDWIN AVE

MATCH LINE SEE SHEET Nº 7

MATCH LINE SEE SHEET Nº 8

RAMP "A"

RAMP "B"

EXIST BRENNEMAN BLVD.

NELSMITH LAKE HTS. P.B. 26

ALLOT. CO. P.B. 54

RELOCATED BRENNEMAN DETAIL "B"

℄ PEDESTRIAN BRIDGE

TIE TO ABUT.

TIE TO ABUT Nº 1

℄ R/W CURVE DATA

Nº 5
P.I. STA. 134+92.63
Δ = 44°43'00"
Dc = 2°30'00"
R = 2291.83'
T = 942.67'
Lc = 1788.67'
E = 186.30'

Nº 6
P.I. STA. 144+38.67
Δ = 3°45'00"
Dc = 1°52'29.7"
R = 3055.91'
T = 100.04'
Lc = 200.01'
E = 1.64'

℄ CURVE DATA RELOCATED MANCHESTER RD
Δ = 10°43'58"
Dc = 3°00'
R = 1909.86'
T = 179.40'
L = 357.76'

DETAIL "A"

DETAIL - ACCESS DR.
SCALE 1" = 30'

LEGEND
● IRON PIN FD.

GIRTHARIE BATES
(16 WL) T.BA. = 0.17 Ac. (7,512 S.F.)
LEO J. & ESTHER L. ALLINGER
(17 WL) T.BA. = 0.17 Ac. (7,565 S.F.)
ARTHUR B. & LOIS M. FORD JR.
(18 WL) T.BA. = 0.35 Ac. (15,307 S.F.)
JOSEPH M. & ERMA T. MARINO
(19 WL) T.BA. = 0.18 Ac. (8,027 S.F.)
VIRGINIA B. WATSON
(24 WL) T.BA. = 0.24 Ac. (10,644 S.F.)
PAT & OLLIE V. KING
(25 WL) T.BA. = 0.12 Ac. (5356 S.F.)
DEWEY C. & ALICE HOTSENPILLAR
(26 WL) T.BA. = 0.13 Ac. (5464 S.F.)
JOHN J. & PATRICIA J. RAMSEY
(30 WD) T.BA. = 0.01 Ac. (515 S.F.)
(30 T) T.BA. = 985 Sq. Ft.

FOR MANCHESTER RD R/W PLAN SEE SHT. Nº 17
KENNETH W. & MARY LOUISE KRITES
(31 WL) T.BA. = 408 S.F.
(31 T) T.BA. = 317 S.F.
(31 S) T.BA. = 617 S.F.
(31 WD) T.BA. = 84 S.F.

FRED W. & VIOLA LAMM
(33 WL) T.BA. = 0.66 Ac. (28,935 S.F.)
E.R. & IRMA PARDUE
(32 WL) T.BA. = 0.03 Ac. (1402 S.F.)
(32 S) T.BA. = 0.01 Ac. (622 S.F.)
(32 WA) HOUSE REMOVAL

RUTH M. & DONALD F. RALEIGH
(46 WD) T.BA. = 0.02 Ac. (666 S.F.)
HOWARD W. & DELIA BAILEY
(48 WL) T.BA. = 0.24 Ac. (10,411 S.F.)
PERCY L. & DORTHY E. BAKER
(49 WL) T.BA. = 0.26 Ac. (11,331 S.F.)
OHIO EDISON CO.
(50 WL) T.BA. = 0.53 Ac. (23,241 S.F.)
(50 S) T.BA. = 0.12 Ac. (5,128 S.F.)
JOHN E. & DELORES G. MITCHELL
(51 WA) DRIVEWAY GRADING
CELIA DE ANGELIS
(51A WA) DRIVEWAY GRADING
COURTLAND & DONNIE MAE GISH
(52 WL) T.BA. = 0.13 Ac. (6,013 S.F.)
OHIO EDISON CO.
(54 WL) T.BA. = 0.40 Ac. (17,396 S.F.)
(54 WD) T.BA. = 0.26 Ac. (11,321 S.F.)
(54 WA) SLOPE GRADING
EARL & DAWSIE M. KNIGHT
(55 WL) T.BA. = 0.29 Ac. (12,682 S.F.)
(57 WD) JAMES T. NORROD
T.BA. = 0.03 Ac. (1,200 S.F.)
(57 WA) GARAGE REMOVAL

RUTH M. & DONALD F. RALEIGH
(46 WA)
OHIO EDISON CO.
(34 WL) T.BA. = 0.67 Ac. (29,069 S.F.)
C.S. MIRACLE REALTY
(39 WL) T.BA. = 0.17 Ac. (7,317 S.F.)
BENEDICT O. & JOSEPHINE MILLS
(40 WL) T.BA. = 0.14 Ac. (6,300 S.F.)
OHIO EDISON CO.
(41 WL) T.BA. = 0.75 Ac. (32,803 S.F.)
(41 WD) T.BA. = 0.03 Ac. (1489 S.F.)
LOUIS S. & ELIZABETH HAWLEY
(42 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
HENRY C. & HANNAH M. BRAY
(43 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
HUGH & GERTRUDE GARNER
(44 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
GLENN E. & BETTY J. GRUBB
(45 WL) T.BA. = 0.16 Ac. (6,941 S.F.)

RIGHT OF WAY STA. 130+00 TO STA. 145+00

7. ADDED FUNDING DATA PER I.O.C. FROM J.J. ADAMS DATED 6/18/68. J.R.B. 6/28/68.
6. ADDED PCL. 46WA PER I.O.C. FROM STEARL. J.R.B. 5/1/68
PCL 28 WL BPR PARTICIPATION IN 7,236 S.F. OF TAKE FOR THIS PARCEL 9-15-66 WE

State Highway Dept. Div. R/W - ENGR. & ADMN. SEC. RAVENNA, OHIO
MAR 1 1965
LOGGED
Ords. Bill Bk.

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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(54 WL) OHIO EDISON T.B.A. = 0.40 Ac. (17,396 S.F.)

(54 WD) T.B.A. = 0.26 Ac. (11,321 S.F.)

(54 WA) SLOPE GRADING

(58 WL) OHIO EDISON T.B.A. = 0.36 Ac (15,738 S.F.)

(58 WD) T.B.A. = 0.25 Ac. (10,888 S.F.)

(58 WA) SLOPE GRADING

(62 WA) CAROL L. O'BRIEN, ET AL DRIVE & SLOPE GRADING

(63 WA) J.J. & D.M. DENCHIK DRIVE & SLOPE GRADING

(65 WA) J. & M.M. FICARRA DRIVE & SLOPE GRADING

(66 WA) A.O. & E. MORRIS DRIVEWAY GRADING

(63-A WA) J.O. & A.J. WILT SLOPE GRADING

CITY OF AKRON
T - 1 - N R - 11 - W
SCALE: 1" = 50'

COVENTRY TOWNSHIP TRACT II
T - 1 - N R - 11 - W
SCALE: 1" = 50'

JOHNNIE D. HOLLEY

(73 WL) T.B.A. = 0.52 Ac.

(73 WD) T.B.A. = 0.24 Ac.

(73-A WD) T.B.A. = 0.21 Ac.

JACOB E. & ELIZABETH LEY

(75 WL) T.B.A. = 1.72 Ac.

(75 WD) T.B.A. = 0.63 Ac.

(75-A WD) T.B.A. = 0.72 Ac.

(75 T) CONSTRUCT DRIVE T.B.A. = 0.09 Ac.

NOTE: SEE R/W SHEET Nº 18
RELOCATED LEY DRIVE

SEE SHEET Nº 8

SEE SHEET Nº 10

MATCH LINE

MATCH LINE

15' Exist. Sewer Easement City of Akron

POINT OF ACCESS UNDER BRIDGE ONLY STA. 153+56 (LT.) 20' WIDE

POINT OF ACCESS UNDER BRIDGE ONLY STA. 153+28 (RT.) 20' WIDE

JOHN W. & SALLIE C. LEY
215.98' LT. 158+18.06 43+44.87 30' RT.
202.75' LT. 158+17.40' 43+58.12 30' RT.

& EASEMENT-OHIO EDISON TOWERS (NO SPECIFIC WIDTH)

RELOC. LEY DR.

RELOC. BRENNEMAN

FRITCH AVE.

BRENNEMAN BLVD.

CHRISTENSEN AVE.

NESMITH LAKE BLVD.

AKRON CANAL CORPORATION LINE

OHIO CANAL

LEY DR. (PRIVATE)

Steel Trans Tower #167

Steel Tower #168

Salt Well

Scattered Brush Trees

Pasture

Swamp

Type 47 Fence

STA. 56+19 RELOC. LEY DR.
STA. 0+00 PRIVATE DR.

STA. 1+75 MEET. EXIST. PAV'T.

NESMITH LAKE HTS. ALLOT. Nº 2
P.B. 26 PGS. 54-60

LEGEND
● IRON PIN FD.

(59 WA) W.L. & N.L. SLATER Drive & Steps Replacement

(56 WL) R.C. & M.L. KIEFER T.B.A. = 0.32 Ac. (13,878 S.F.)

(56 WA) Drive & Steps Replacement WILBUR L. SLATER & NEDRA L. SLATER

(55 WL) T.B.A. = 0.32 Ac. (13,882 S.F.)

(60 WL) JAMES B. & KATHLEEN KIEL T.B.A. = 0.30 Ac. (13,014 S.F.)

(61 WD) JOHN BERNARD BERES T.B.A. = 120 S.F.

(67 WL) OLIVER J. LEE T.B.A. = 0.55 Ac (23,771 S.F.)

(68 WL) P. & E. GRISHKEVICH T.B.A. = 0.15 Ac. (6,600 S.F.)

(71 WL) STATE OF OHIO T.B.A. = 0.72 Ac. (31,161 S.F.)

(71 WD) T.B.A. = 0.14 Ac (5,988 S.F.)

(71-A WD) T.B.A. = 0.12 Ac (5,275 S.F.)

(69 WA) J.T. & N. KERNS DRIVEWAY GRADING

(64 WL) OHIO EDISON CO. T.B.A. = 0.72 Ac. (31,476 S.F.)

(64 S) T.B.A. = 0.13 Ac. (5,562 S.F.)

(64 WA) RELOCATE DRIVE

(64-A S) T.B.A. = 0.03 Ac. (1,205 S.F.)

DIAMOND CRYSTAL SALT CO.
(64-B S) T.B.A. = 139 S.F.
(64-C S) T.B.A. = 23 S.F.

(78 WD) O.M. RICHARDS T.B.A. = 0.08 Ac. (3,390 S.F.)

(78-A WD) OLIN & MARIE RICHARDS T.B.A. = 0.04 Ac. (1,559 S.F.)

(79 WL) DOROTHY MADICK, Owner; JAMES MADICK & LENA MADICK) Life Estate T.B.A. = 2.22 Ac.

(79 WD) T.B.A. = 0.09 Ac. (4052 S.F.)

(79 T) T.B.A. = 0.02 Ac. (746 S.F.) SLOPE GRADING

(79-A WD) T.B.A. = 0.47 Ac.

(79-A WA) REMOVE BLD'G.

(83 WD) PAULINE G. KALAIN SEE SHEET Nº 10

(83 T) CONSTRUCT DRIVE & TEMP. RUNAROUND T.B.A. = 0.17 Ac.

PARCEL G1WD
NO SCALE

DETAIL "A"
SCALE: NONE

Nº	REVISIONS	MADE BY	DATE
1	Distance on ℄ added	T.A.B.	3-24-65
2	Pcls 75 WA & 83 WA to 75 T & 83 T		3-25-65
3	Revised Area 54 WD, Name Change 62 WA, Added Canal ℄ & Added 79 A WD.		4-8-65
4	Name Change Pcl. 59 WL.		9-21-65
5	DELETED Pcl. 73 WA PER J.J. ADAMS	J.F.B.	4/30/68

5 Name Change Rl. 79 9-25-65

State Highway Dept. Div. & R/W - ENGR & ADMN SECT. RAVENNA, OHIO
MAR 1 1965
LOGGED
Crds. Bill Bk.

RIGHT OF WAY STA. 145+00 TO STA. 160+00

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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COVENTRY TOWNSHP

T - 1 - N R - 11 - W

SCALE: 1" = 50'

TRACT 11

B.F. GOODRICH CO.

(85 WL) T.B.A. = 1.78 Ac.

(85 WD) T.B.A. = 0.91 Ac.

(85 WA) PRIVATE WATER LINE CONNECTION

FIRESTONE TIRE & RUBBER CO.

(86 WL) T.B.A. = 6.53 Ac.

DOROTHY MADICK

(79 WL) T.B.A. = 2.22 Ac.

(79-A WA) REMOVE BLDG.

(79-A WD) T.B.A. = 0.47 Ac.

PAULINE G. KALAIN

(83 WD) T.B.A. = 0.48 Ac.

(83 T) CONSTRUCT DRIVE T.B.A. = 0.17 Ac.

OHIO EDISON CO.

(84 WL) T.B.A. = 0.26 Ac.

(84 WD) T.B.A. = 0.11 Ac.

NOTE

PARCEL 86-WL

NOTE: Pipe Casing being placed under roadway for future water pipe for Parcel 86-WL is being reflected in the right of way settlement of said Parcel.

Nº	REVISIONS	MADE BY	DATE
1	Change Pcl. 83 WA to 83 T		3-25-65
2	Added Bearings & Distances	[illegible]	4-8-65
3	Added Note to Pcl. 86-WL pertaining to pipe	Lee	11-1-66

RIGHT OF WAY STA. 160+00 TO STA. 170+00

State Highway Dept. Div. 4
Ref - ZANE & ADAMS STS.
NEWARK, OHIO
MAR 1 1965
LOGGED
BILL BK

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277- 0.46

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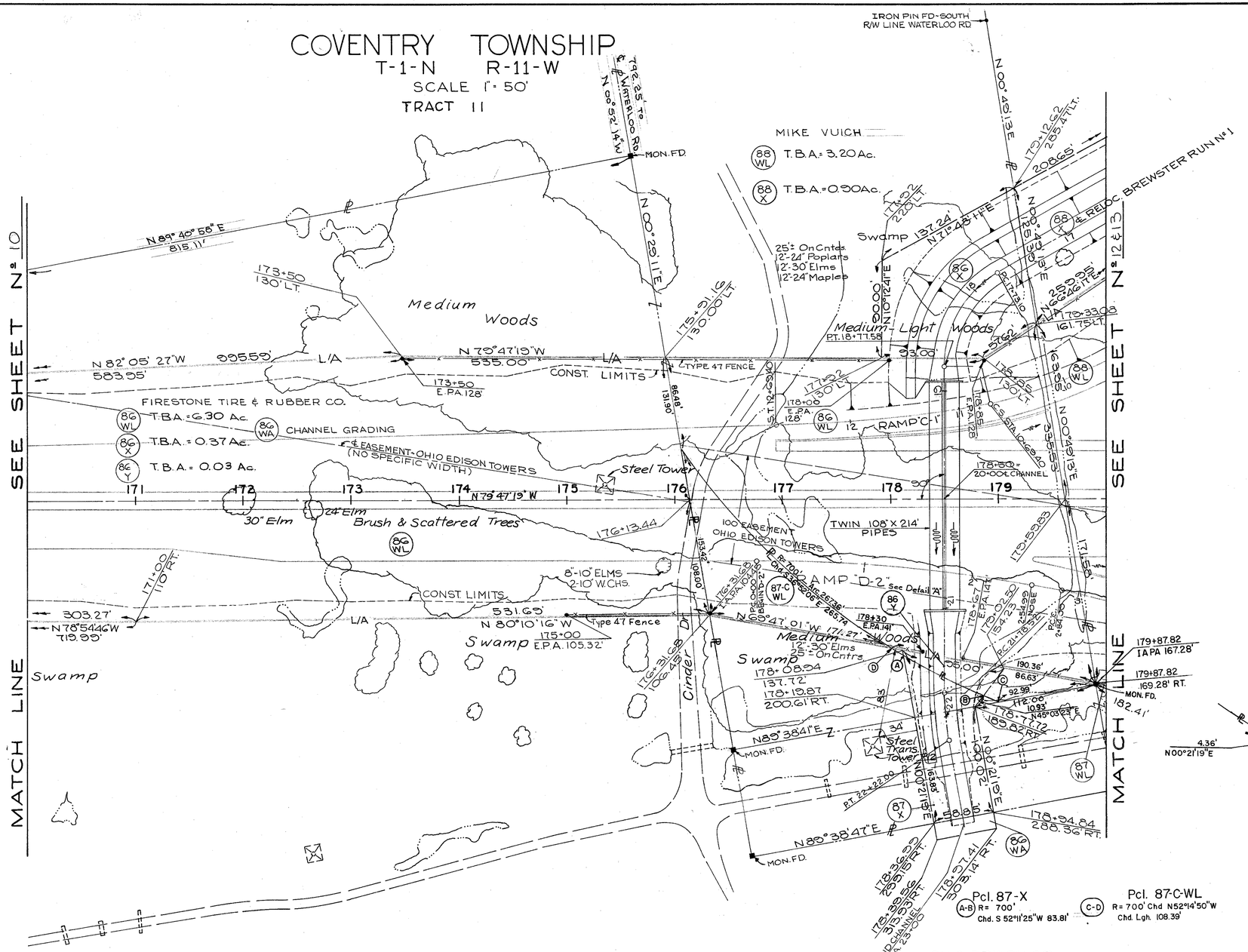
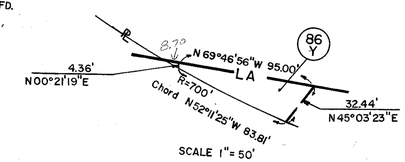
19

COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE 1" = 50'
TRACT 11





SCALE 1" = 50'

(86 Y) TBA = 0.03 Ac.

Detail "A"

Pcl. 87-X
(A-B) R= 700'
Chd. S 52° 11' 25" W 83.81'

Pcl. 87-C-WL
(C-D) R= 700' Chd N 52° 14' 50" W
Chd. Lgh. 108.39'

OHIO EDISON CO.

(87 WL) T.B.A. = 2.63 Ac.
P.R.O. = 0.05 Ac. (3802 S.F.)

(87 X) T.B.A. = 0.19 Ac.

(87C WL) T.B.A. 0.23 Ac.
P.R.O. 0.00 Ac.

No	REVISIONS	MADE BY	DATE
1	Added Tract Number		3-26-65
2	Added Bearings & Distances		4-8-65
3	Revised Pcls. 86-WL, 86-Y, 86X, Added Pcl. 87-C-WL	Lee	1-12-67
4	Added Raidus, Chd. Bear. & Dist.	Lee	1-13-67

RIGHT OF WAY STA. 170+00 TO STA. 180+00

Ohio Highway Dept. Div. of R/W - Engr. & Right of Way Section
MAR 1 1955
LOGGED

COVENTRY TOWNSHIP TRACT 11

T-1-N R-11-W

SEE SHEET Nº 13

SCALE: 1" = 50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

12/19

CLARENCE G. & VIOLET L. MILLER
(96 WL) T.B.A. = 0.29 Ac.
P.R.O. = 0.08 Ac.

CLARENCE & ELPHA MARIE DEGER
(99 WL) T.B.A. = 0.22 Ac.
P.R.O. = 0.05 Ac.

EDNA LICIA
(97 WL) T.B.A. = 0.39 Ac.
P.R.O. = 0.08 Ac.

CORA COCHRAN
(100 WL) T.B.A. = 0.63 Ac.
P.R.O. = 0.12 Ac.

JOSEPH MANCINE
(93 WL) T.B.A. = 5.13 Ac.
P.R.O. = 0.18 Ac.

MIKE VUICK
(88 WL) T.B.A. = 3.20 Ac.

OHIO EDISON CO
(87 WL) T.B.A. = 2.64 Ac.
P.R.O. = 0.09 Ac.

FIRESTONE TIRE & RUBBER CO.
(86A WL) T.B.A. = 8.33 Ac.
P.R.O. = 0.06 Ac

ELIZABETH V. WINEMILLER
(103 WL) T.B.A. = 0.27 Ac.
P.R.O. = 0.15 Ac.
(103 WD) T.B.A. = 0.43 Ac.
P.R.O. = 0.32 Ac.
(103 WA) DRIVEWAY GRADING

JULIA A. NEMES
(101 WL) T.B.A. = 0.69 Ac.
P.R.O. = 0.08 Ac.

G. HANNA
(104 WL) T.B.A. = 0.17 Ac.
P.R.O. = 0.22 Ac.
(104 WD) T.B.A. = 0.08 Ac.
P.R.O. = 0.19 Ac.
(104 WA) T.B.A. = 0.30 Ac.
P.R.O. = 0.31 Ac.

(108 WL) FIRST WESLEYAN METHODIST CHURCH OF AKRON
P.R.O. = 0.06 Ac.
(108 T) T.B.A. = 0.16 Ac.

(105 RWL) T.B.A. = 1.23 Ac.
(105 SL) T.B.A. = 0.05 Ac.

Nº	REVISIONS	MADE BY	DATE
1	Added Tract Number		3-26-65
2	Deleted Town & St. Combined Wts.		10-14-65
3	Added Bdg. & Dis. Pol. 105.		10-19-65
4	Changed Tel. 102 to 84 & W.L.	SC.	1-13-66
5	Revised Distances & T.B.A. Pol. 104-A WD	Lee	7-19-67

SEE SHEET Nº 11

MATCH LINE

SEE SHEET Nº 14

MATCH LINE STA. 40+75

INTERSECTION DETAIL
EXIST. SOUTH MAIN STREET
& SWARTZ ROAD
SCALE: NONE

& CURVE DATA
EXIST. S. MAIN ST.
Δ = 05°08'33"
Dc = 5°
R = 1145.92'
T = 51.52'
L = 102.85'

& RELOC. S. MAIN ST.
R/W CURVE DATA
P.I. STA. 43+28.42
Δ = 14°11'48"
Dc = 3°
R = 1909.86'
T = 237.61'
L = 473.22'
E = 14.75'

& SWARTZ RD.
R/W CURVE DATA
P.I. STA. 3+66.04
Δ = 9°45'00"
Dc = 2°30'
R = 2291.83'
T = 94.39'
Lc = 188.67'

DETAIL
NO SCALE

LEGEND
● IRON PIN FD

SOUTH SIDE - RIGHT OF WAY STA. 180+00 TO STA. 195+00

COVENTRY TOWNSHIP
T-1-N R-11-W

SCALE: 1" = 50'

TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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Nº	REVISIONS	MADE BY	DATE
1	Added Pcl. 92-T, Revised Pcl. 92 X.	[illegible]	3-1-65
2	Added Topography	[illegible]	3-16-65
3	Added Tract Number	[illegible]	3-26-65
4	Deleted 106WL, Now 105AWL.	[illegible]	10-14-65
5	Added Pipe line		12-3-85
6	Added Bearing & distance to Pcl 92-T-1	IRICK	11-21-66

N 00°57'05"E

PT. 60+42.16 REL. S. MAIN
340+77.50 (EXIST. S. MAIN)
(END EXIST. STATIONING)

Δ 8°18'45"

P.I. EXIST. S. MAIN 339+51.64
P.I. REL. S. MAIN STA. 55+23.61

PT. 340+25.15 EXIST. S. MAIN

P.I. RELOC. S. MAIN
8.02'
P.I. EXIST. S. MAIN

Δ 22°20'31"

P.C. 58+04.66 REL. S. MAIN

PC. 338+76.21 EXIST. S. MAIN

N 07°21'40" W

N 22°23'26" W EXIST. & RELOC. S. MAIN

IRON PIN F.D. SOUTH R/W LINE WATERLOO RD.

INTERSECTION DETAIL
EXIST. S. MAIN ST. & RELOC. S. MAIN ST.

ARTHUR O. & CLARA CORICE
(89 WL) T.B.A. = 0.75 Ac.
1-Sty. Insulbrick Body Shop
(89 X) T.B.A. = 0.39 Ac.

MEET EXIST. CHANNEL STA. 7+69

ERNEST R. GENOVESE & CHRISTINE M. CAMPBELL
(90 WL) T.B.A. = 0.12 Ac.
(90 X) T.B.A. = 0.36 Ac.

60+23.48
121.51' LT.
60+00.51
77.20' LT.
MATCH LINE STA. 60+00
Asph. Apr.
N 60°56'46" E 136.00'
N 29°03'14" W 262.00'
N 29°03'14" E 150.91'
N 29°03'14" E 262.00'
N 60°56'46" E 136.00'
60+34.10
142.65' LT.
N 29°03'14" E
Fr. Bldg.
Fr. Bldg.
Fr. Bldg.

COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1"=50
TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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Nº	REVISIONS	MADE BY	DATE
1	Changed Pcl. 87AWA to 87BWA.	GP	3-16-65
2	ADDED TRACT NUMBER		3-26-65
3	Deleted Pcls. 106, Combined with 105	GP	10-14-65
4	NAME CHANGE PCL. 114 WL		12-29-65

℄ R/W CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30"
Dc = 1°00'
R = 5729.58'
T = 532.78'
Lc = 1062.50'
E = 24.72'

VIOLA CORTESI & THOMAS L. PETLEY
(113 WL) T.B.A. = 0.44 Ac.

ESTATE OF
JOHN P. ALLEN, DEC'D., ETAL., BY WILLIAM L. ALLEN
& HARPER C. ALLEN, EXECUTORS.
(114 WL) T.B.A. = 0.44 Ac.

FRED H. & JESSIE M. LEE
(115 WL) T.B.A. = 0.97 Ac.

OHIO EDISON COMPANY
(87B WA) CUT & DRESS SLOPES

SEE SHEETS Nº 12 & 13

MATCH LINE

SEE SHEET Nº 15

MATCH LINE

Cemetery Drive

Note: R/W Fence to be constructed around proposed towers.

OHIO EDISON CO.
(87-A WL) T.B.A. = 1.33 Ac.
P.R.O. = 0.06 Ac.
(87-A WA) SLOPE GRADING

135'-0.0 Lt. 2.30 Rt.

DECATUR AVE.

L/A

Steel Towers

N 82°46'16" W 66.58'

CONST. LIMITS

Brush

Row

Steel Towers

Field Dr.

201+78.14 C.P. 120.28'

Chain Link Fence 45.62'

220.80'

N 89°35'51" W

204+03.23 130°93'15" Lt.

(87B WA)

N 89°45'12" E 246.15'

4-4" Dogwood

18" W.Ch.

207+00

157.92' N 89°39'44" E

5-4" W.Ch.

208+12.30 133°55' Lt.

Field Dr.

209+21.48 12' Lt.

79.18'

79.15'

L/A

N 89°38'15" E

CONST. LIMITS

N 89°21'05" E

209+10.69 133°64' Lt.

133.68'

N 89°36'48" E

168.87'

N 87°33'11" W

162.86'

Pt. Sta. 195+34.48

(87-A WL)

N 89°46'42" E 309.23'

3-1" Peach

3-1½" Peach

1½" Peach

4-1½" Pear

2" Pear

N 89°39'05" W 308.51'

N 88°30'47" E

2-4" W.Ch.

201+78.14 122.28' Lt.

LOC. TAN. 85°43'46"

LOC. TAN. 86°56'05"

LOC. TAN. 88°51'08"

107.36'

122.46'

130.95'

Pt. Sta. 205+96.98

206+54.38 133°60' Lt.

133.63'

8" Dogwood

6" W.Ch.

15" W.Ch.

5-4" Dogwood

3-6" Oak

3-6" W.Ch.

133.42'

Nursery Centers

196 197 198 199 199+75 200 201 202 203 204 205 206 207 208 209

195+50

17-8-12" W.Ch.

LOC. TAN. 82°35'31.5"

9-6-15" W.Ch.

5-6" W.Ch.

Brush

197+28.47

(105 AWL)

(105 SL)

(108 WL)

(109 WL)

(110 WL)

(111 WL)

(112 WL)

(113 WL)

(114 WL)

(115 WL)

200+38.50

200+47.38 129.88' Rt.

201+84.83

201+00 A.P.A. 31.06'

201+00 33.00' Rt.

201+85.89 125.49' Rt.

204+06.23

204+08.36 113.75' Rt.

6" Dogwood

2-6" W.Ch.

2-4" W.Ch.

113.77'

6" W.Ch.

206+51.66

206+49.41 I.A.P.A. 108.32'

3"&6" Apple

3" Pear

4" Apple

6" W.Ch.

4-5" Dogwood

24" W.Ch.

12" W.Ch.

2-6" Oak

206+49.41 110.32' Rt.

208+03.61

110.16'

110.08'

110.00'

N 00°55'11" E

12" Apple

78.26'

78.61'

Evergreen 4 lbs

208+85.95 110.06' Rt.

209+67.52 109.56' Rt.

12" Apple

78.56'

N 00°55'11" E

310.06' N 83°33'05" W

Type 47 Fence

L/A

CONST. LIMITS

N 81°46'14" W 310.84'

53.28'

53.77'

Tw. 8" Maple 221.68'

244.86'

15" W.Ch.

S 89°31'18" W 875.85'

FIRST WESLEYAN METHODIST CHURCH OF AKRON

(105 AWL) T.B.A. = 1.23 Ac.

(105 SL) T.B.A. = 0.05 Ac.

RALPH W. & IRENE K. BENTZ
(108 WL) T.B.A. = 1.52 Ac.

HERMAN V. & MINNIE R. CALVERT
(109 WL) T.B.A. = 0.82 Ac.

LEO L. & VIRGIE L. RICH
(110 WL) T.B.A. = 1.25 Ac.

VIRGLE G. & RUTH H. BRYANT
(111 WL) T.B.A. = 1.38 Ac.

EMMA M. DULLABAHN
(112 WL) T.B.A. = 0.88 Ac.

327.43.91 121.18' Rt.

2-12" W.Ch.

8" Peach

3" Apple

6" Plum

Fr. Sheds

Fr. Shed

10" Gravel

3" Apples

6" Apple

9-6" W.Ch.

208+07.38 110.15' Rt.

Fr. Shed

Kennel

S 00°45'05" W

S 00°52'36" E

N 00°44'31" E

N 00°55'11" E

S 00°54'03" W

S 00°38'30" W

S 00°26'49" W

Pcs Pen

Fr. Shed

Fr. Gar.

1½ St. Fr. Hse.

1 St. Fr. Hse.

Fr. Bldg.

N. R/W LINE SWARTZ RD.

S 00°51'46" W

6'-0.00 30' Lt.

12" W.Ch.

6" W.Ch.

6" Apple

5" W.Ch.

10" Pine

6" Conc. Drive

1½ St. Brick Hse.

235.11' N 83°49'38" W

N 88°37'54" W 234.18'

Guy W.

Pt. Sta. 4+60.32

SWARTZ RD.

Hedge

Hedge

6" Conc. Curb

3' Conc. Walk

18" Poplar

10" Poplar

12" Beech

10" Cherry

6" Pine

12" Deciduous

12" Cinder Dr.

2-St. Fr. Hse.

21' Conc. Walk

12" Cinder Dr.

3' Evgr.

10" Privet

2-St. Fr. Hse.

18" Blacktop Dr.

Evgrns.

2" Maples

Wood Fence

12" Maple

10" Elm

6" Elm

12"

LEGEND
● IRON PIN FD

RIGHT OF WAY STA. 195+00 TO STA. 210+00

State Highway Dept. Div. of H/W - ENGR. & ADMN. SECT. RAVENNA, OHIO

MAR 1 1965

LOGGED

Pcls. Bill &c.

Course	Bearing	Distance
Parcel 137-T		
1 - 2	S. 27°-21'-45" E.	85.73'
2 - 3	S. 00°-33'-15" W.	47.58'
3 - 4	S. 81°-10'-09" E.	36.46'
4 - 5	S. 89°-32'-12" W.	79.13'
5 - 6	N. 03°-16'-23" E.	95.86'
6 - 1	N. 00°-52'-10" E.	31.01'

FRED H. & JESSIE M. LEE
(115 WL) T.B.A. = 0.97 Ac.

HENRIETTA S. DUBROVICH
(117 WL) T.B.A. = 0.97 Ac.

LOYS H. THOMAS & NAOMI G. THOMAS
(120A WL) T.B.A. = 0.37 Ac. (16,100 S.F.)

HARRY M. & MILDRED R. LYTLE
(120 B WA) CONT. = 57.31 S.F.

THURMAN R. & VELMA R. McKOWN
(120 WL) T.B.A. = 3,682.69 S.F.

EDWARD F. HOBAN, ARCHBISHOP OF CLEVELAND
(95 X) T.B.A. = 0.19 Ac.

OHIO EDISON CO.
(87A WD) T.B.A. = 0.02 Ac., P.R.O. = 0.10 Ac.
(87A X) T.B.A. = 0.51 Ac.
(87A WA) FILL & GRADE

JOSEPH W. & IRENE HOCK
(121 WL) T.B.A. = 3.50 Ac., P.R.O. = 0.15 Ac.
(121 WD) T.B.A. = 0.15 Ac., P.R.O. = 0.12 Ac.
(121A WD) T.B.A. = 0.40 Ac., P.R.O. = 0.03 Ac. (1,124 S.F.)

OHIO EDISON COMPANY
(122 T) T.B.A. = 0.10 Ac. (4486 S.F.) TEMP. RUNAROUND
(122 WD) T.B.A. = 0.02 Ac. (868 S.F.), P.R.O. = 0.05 Ac. (2303 S.F.)
(122 X) T.B.A. = 0.63 Ac.

DANIEL D. & WANDA L. RUNJAMIN
(123 WL) T.B.A. = 0.36 Ac. (14916 S.F.), P.R.O. = 0.07 Ac. (3480 S.F.)

℄ GLENMOUNT AVE. CURVE DATA:
Δ = 9°54'54"
D = 5°
R = 1145.92'
T = 99.40
L = 198.30

ROSE L. YANDIK
(124 WL) T.B.A. = 0.41 Ac. (17,841 S.F.)

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY SUM-277-0.46

15/19

NOTE: New building will not be disturbed or damaged by the Temporary Run-Around

ANDREW BESKITT
(125 WL) T.B.A. = 0.30 Ac. (12,956 S.F.)

DAN & ANNA BESKITT
(126 WL) T.B.A. = 1.444 Ac. (62,901 S.F.)

A. & T. MISBRENER
(134A WL) T.B.A. = 0.17 Ac. (7,489 S.F.)
(134A WA) GARAGE REMOVAL

COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1" = 50'
TRACT 11

SEE SHEET No. 14

SEE SHEET No. 16

MATCH LINE

MATCH LINE

BREWSTER RUN

RELOC. BREWSTER RUN No. 2

MARKEY (PRIVATE) ST.

GLENMOUNT AVE.

NAOMI ST.

PRIVATE ROAD

LAND LOCKED

THOMAS ALLOT 8

ALLOT 10

PB-57 11

P-28 12

Steel Tower

Guy Pole

Open Field

Woods

Light Brush

Scattered Trees 3-15 Elms & 2-12" Ch. Light Brush

Shrubs

Hedge Row

Fence Row

Brick Wall

Septic Tank

Guy Wire

Manhole

Shed

Gravel Dr.

Chain Link Fence

Type 47 Fence

Exist. 36" Brick Sanitary Trunk Sewer (City of Akron)

Exist. Twin 72" C.M.P. Culvert

Exist. 8" Sanitary Sewer

Exist. 2-52 Gas Line

Exist. 20" H.P. Gas Line

Exist. 4" Gas Line

Exist. 12" Water Line

Exist. 8" Water Line

Exist. 6" Water Line

Exist. 4" Water Line

Exist. 2" Water Line

Exist. 1" Water Line

Exist. R/W

Const. Limits

Temp. line Change Rel. 137-T 3-21-66

Change Beat, Dist, & Area Rel. 137-T 8-10-66

Ohio Highway Dept. Dist. 4
HW - ENGR & ADMIN SECT.
RAVENNA, OHIO

MAR 1 1965

LOGGED

Crds _____ Bill Bk. _____

DETAIL "A"
SCALE: NONE

DETAIL "B"
SCALE: NONE

No	REVISIONS	MADE BY	DATE
1	Pcls. 123, 124, 125, 126, 127, 132, 133, 134, 134 Revised		3-23-65
2	Rev. Area Pcl 126 WL		3-25-65
3	Same as No. 1, Area Revised	GS	4-8-65
4	Name Change 127 & 128, Deleted Pcls. 128, Combined with 127's.	GS	6-4-65
5	Revised Pcl. 120 WL, Added Pcl. 120 BWA & Name Change 120 WL & 120 BWA.		11-12-65
6	Added Struct. & changed Par. 137-T		11-15-65

WADE HALL
(127 WL) T.B.A. = 0.40 Ac. (16651 S.F.), P.R.O. = 0.08 Ac. (4178 S.F.)

(127 WD) T.B.A. = 0.01 Ac. (316 S.F.), P.R.O. = 0.01 Ac. (532 S.F.)
(127 T) T.B.A. = 138 S.F. TEMP. RUNAROUND

R.E. & L.M. PUGH
(131 WA) WORK AREA

HARRY E. & LILLIAN G. THOMAS
(132 WL) T.B.A. = 0.10 Ac. (4334 S.F.)
(132 WA) GARAGE REMOVAL

WILLIAM E. & ALICE M. SHARPE
(133 WL) T.B.A. = 0.10 Ac. (4358 S.F.)
(133 WA) GARAGE REMOVAL

MARY KUPRESAN
(134 WL) T.B.A. = 0.22 Ac. (9394 S.F.)
(134 WA) HOUSE REMOVAL

M.E. & M.E. HIENER
(129 WD) T.B.A. = 0.01 Ac. (310 S.F.), P.R.O. = 0.03 Ac. (1300 S.F.)
(129 T) T.B.A. = 600 S.F. DRIVEWAY GRADING & TEMP. RUNAROUND

LEOMA WALTZ
(130 WA) DRIVEWAY GRADING & WORK AREA

LEGEND
● IRON PIN FD.

RIGHT OF WAY STA. 210+00 TO STA. 225+00

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
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COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1" = 50'
TRACT II

DAN BESKITT & ANNA BESKITT
(126 WL) T.B.A. = 1.444Ac.

(126 S) T.B.A. = 0.02 Ac. (661 S.F.)

DAN BESKITT & ANNA BESKITT
(126 AWL) T.B.A. = 1.35 Ac.

OHIO EDISON CO.
(122 WL) T.B.A. = 0.70 Ac.

(122 X) T.B.A. = 0.63 Ac.

COLUMBIAN YOUTH CLUB ASSOC. INC.
(137 X) T.B.A. = 0.21 Ac.

(137 S) T.B.A. = 0.06 Ac. (2557 S.F.)

(137B T) T.B.A. = 0.13 Ac. SLOPE GRADING

(137A T) T.B.A. = 0.12 Ac. FILLING IN LOW AREA

(137 T) T.B.A. = 0.092 Ac. TEMP. RUNAROUND

FIRESTONE TIRE & RUBBER CO.
(138 WL) T.B.A. = 5.14 Ac.

(138 WD) T.B.A. = 0.25 Ac.

GUIDO SPAGNUOLO
(139 WL) T.B.A. = 0.13 Ac.

(139 T) T.B.A. = 0.78 Ac. FILLING IN LOW AREA

SEE SHEET Nº 15

MATCH LINE SEE SHEET Nº 17

MATCH LINE SEE SHEET Nº 19

END SHEET STA. 235+00

N87°03'30"E 20' H.P. Gas Line

N87°58'38"E 550.79' Steel Towers

N85°32'04"E 461.94'

N85°38'12"E 120.73'

N85°38'12"E 234.02'

N85°58'22"W 48.51'

N89°32'04"E 310.61'

N89°58'22"W 320.03'

N85°58'39"E 539.25'

N87°34'32"E 309.52'

N85°58'42"W 106.41'

N 60°17'50"E 150.46'

N 60°46'10"E 230.50'

N 50°36'51"E 190.28'

N 01°12'59"E 125.00'

N 01°12'59"E 102.14'

N 01°40'34"E 181.28'

N 04°25'50"W 108.80'

N 02°41'55"E 17.59'

N 84°09'07"E Exist. L/A 37.93'

N 89°34'38"E 1004.64'

N 85°34'30"E

N 88°50'55"E 145.20'

N 86°34'51"E 385.12'

N 80°53'49"E 416.89'

N 83°55'46"E 644.27'

N 35°46'10"E

STA. 228+00 BK. STA. 222+59.78 AD.
EQUATION

BREWSTER RUN

Woods

Open Field

Light Brush

Steel Tower

Const. Limits

Type 47 Fence

Chain Link Fence

Exist. L/A

Exist. 10" Sewer Easement 226+92.57 28.75' LT.

Exist. 20' Sewer Easement 225+50.48 50.25' LT.

Exist. 10' Sewer Easement (City of Akron) 224+31.21

MON. FD. @ ALLOT. CORNER

PRIVATE ℄ PENGUIN AVE. ROAD

LEGEND
● IRON PIN FD.

OHIO EDISON CO.
(122 WL) T.B.A. = 0.70 Ac.

END PROJECT	BEGIN PROJECT
SUM. 277-0.46	SUM. 277-0.00
STA. 228+68.84	STA. 228+68.84

Nº	REVISIONS	MADE BY	DATE
1	Private Road added		3-23-65
2	Deleted P/Os. 135 WL, 135 WD & Combined With 126 WL - Changed 135 S & 136 WL to 126 S & 126 AWL		3-25-65
3	Area Change P/ 137 T	KB	8-10-66

RIGHT OF WAY STA. 225+00 TO STA. 235+00

State Highway Dept. Div. 6
HIGHWAYS & ROADS SECT
RAVENNA, OHIO

MAR 1 1965

LOGGED
Grds ..... Bill Bk. .....

N°	REVISIONS	MADE BY	DATE
	Distances on ℄, added	T.A.B.	3-24-65
1	Added Canal ℄, Bngs., Dis., ℄ Offsets.		4-8-65
2	Revised Pcl. 10-WD 5-18-66		
3	ADDED FUNDING FLAGS PER I.O.C. FROM J.J. ADAMS DATED 6/16/68.	J.R.B.	6/28/68

5-8-78 ADDED NOTE FOR VACATING PCL 10-X

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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L. YOUNG INC.
(10 WD) T.B.A. = 1.24 Ac. (54,156 S.F.) P.R.O. = 1.77 Ac. (76,938 S.F.)
(10 X) T.B.A. = 0.05 Ac (2088 S.F.) STORM SEWER OUTLET
(10 WA) DRIVE WAY GRADING
(10B WA) HOUSE REMOVAL

NESMITH LAKE - STATE OF OHIO
(9 WD) T.B.A. = 0.15 Ac. (6395 S.F.) P.R.O. = 0.03 Ac. (1308 S.F.)

EQUATION
STA. 423+36.10 BACK = STA. 21+48.43 AHEAD

℄ CURVE DATA:
P.I. STA. 33+24.09
Δ = 5° 02' 15" LT.
D_c = 1° 00'
R = 5729.58'
L_c = 503.15'
T = 252.05'
E = 5.54'

CITY OF AKRON - KENMORE DISTRICT
(8 WD) T.B.A. = 0.24 Ac. (10,512 S.F.)

INELIGIBLE FUNDS, MANCHESTER RD. CITY & STATE ONLY STA. 21+81 TO STA. 35+00

ELIGIBLE PARTICIPATION MANCHESTER RD. END ELIG. PARTICIPATION STA. 43+69.47

INELIGIBLE FUNDS, MANCHESTER RD. CITY & STATE ONLY STA. 43+69.47 TO STA. 47+81

ELIGIBLE PARTICIPATION MANCHESTER RD. BEGIN ELIG. PARTICIPATION STA. 35+00.00

CITY OF AKRON
T-1-N R-11-W
SCALE: 1" = 50'

NOTE 'A' - PCL 10-X VACATED AND ENTERED IN DIRECTOR'S JOURNAL, VOL. 6, PAGE 46 DATED 2-15-77 AND RECORDED IN VOL. 5929, PGS 117-121 OF THE RECORDS OF SUMMIT COUNTY.

LEGEND
● IRON PIN FD

(11 WD) T.B.A. = 0.03 Ac. (1311 S.F.) STATE OF OHIO - CANAL PROPERTY

DETAIL "A"
NO SCALE

DETAIL "B"
NO SCALE

℄ CURVE DATA:
P.I. STA. 37+82.98
Δ = 10° 43' 58" LT.
D_c = 3° 00'
R = 1909.86'
L_c = 357.76'
T = 179.40'
E = 8.41'

(2A WL) T.B.A. = 0.57 Ac. P.R.O. = 0.03 Ac. (24,843 S.F.) (15005 S.F.)

FIRESTONE POST № 3383, VETERANS OF FOREIGN WARS OF THE UNITED STATES

STA. 41+69.20 MANCHESTER RD. = STA. 130+86.48 SUM-224

NOTE: SEE R/W SHEET № 7

NOTE: SEE R/W SHT. № 8

50' DRIVEWAY EASEMENT TO MARGUERITE L. RENNER

JOHN E. & EVA MAE CAMPBELL (6 WL) T.B.A. = 0.29 Ac. (12,486 S.F.)

FRANK & AGNES KOLAR (5 WD) T.B.A. = 0.06 Ac. (2540 S.F.)

ALICE ZAGER (3 WD) T.B.A. = 0.02 Ac. (674 S.F.) P.R.O. = 0.11 Ac. (4579 S.F.)
FRONTAGE REPAIR

(6 WL) (6 WA) ASPH. PAV'T. & VOTING BOOTH REMOVAL

(2A WL) (2B WL) T.B.A. = 0.57 Ac. P.R.O. = 0.03 Ac. (24,843 S.F.) (15005 S.F.)

(2B WL) T.B.A. = 1.65 Ac. (72,194 S.F.) P.R.O. = 0.48 Ac. (20,738 S.F.) CITY OF AKRON

(2B X) T.B.A. = 0.23 Ac. (10,067 S.F.)

(7 WD) T.B.A. = 0.04 Ac (1,784 S.F.) H. ZIMMERMAN ET AL

(7 WA) HOUSE REMOVAL

(12 WD) T.B.A. = 0.02 Ac (758 S.F.) NICK P. & MARGARET J. GUISTINO

(13 WL) T.B.A. = 0.03 Ac (1479 S.F.) HELEN & EMMA ZIMMERMAN

(14 WL) T.B.A. = 0.03 Ac. (1521 S.F.) JAMES PANTUSO

(20 WL) T.B.A. = 0.06 Ac. (2695 S.F.) 366 S. MAIN ST. INC.

(20 WD) T.B.A. = 0.01 Ac. (406 S.F.)

(20 T) SLOPE GRADING T.B.A. = 0.23 Ac. (9275 S.F.)

(22 WD) T.B.A. = 0.03 Ac. (1400 S.F.) ALLENSIDE ATHLETIC CLUB

(22 WA) BLDG. REMOVAL & SLOPE GRADING

(23 WD) T.B.A. = 0.02 Ac (760 S.F.) GULF OIL CORP.

(23 WA) DRIVEWAY REPAIR

S.E. CORNER R/W CURVE DATA

PROPOSED	EXISTING
Δ = 95° 15' 48"	Δ = 95° 15' 48"
R = 35'	R = 40'
T = 42.76'	T = 49.85'
L_c = 64.84'	L_c = 66.51'
P.C. = 47+17.50-36 RT.	P.C. = 47+16.66-30 RT.
P.T. = 20+81.67-30 RT.	P.T. = 20+76.74-30 RT.

END WORK STA. 47+81

STA. 47+93.70 MANCHESTER RD.
STA. 20+00 WATERLOO RD.
SEE INTERSECTION DETAIL "C"

END ACQUISITION STA. 47+93.70

STA. 47+93.58 MANCHESTER RD. STA. 20+00.00 WATERLOO RD. N 10° 13' 21" E ℄ MANCHESTER RD ℄ R/W & ℄ CONST.

INTERSECTION DETAIL "C"
NO SCALE

RIGHT OF WAY
MANCHESTER RD.
STA. 21+48.43 TO STA. 47+93.58

Ohio Highway Dept. Dist. 4 R/W Engr. & Acquisitions Ravenna, Ohio
MAR 1 1968
LOGGED
Grds ____ Bill Bk. ____

COVENTRY TOWNSHIP

T-1-N R-11-W

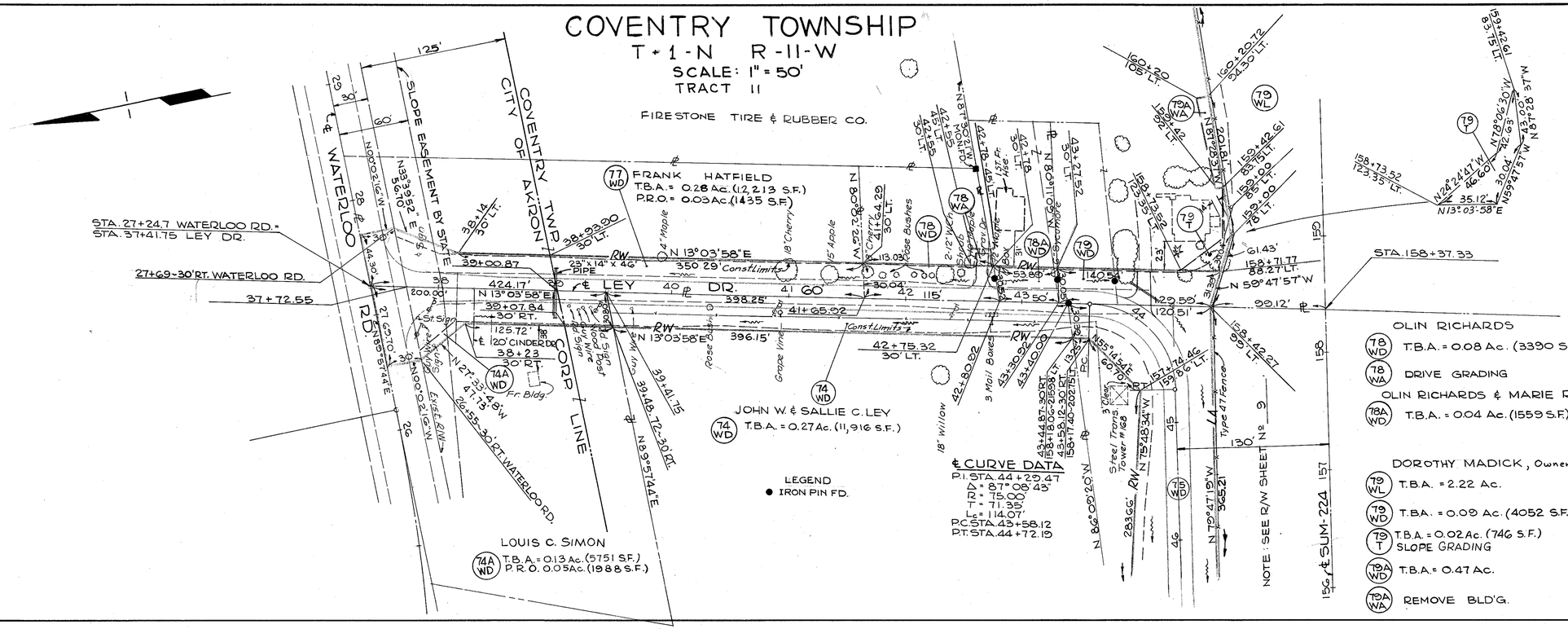
SCALE: 1" = 50'

TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

18
19



Nº	REVISIONS	MADE BY	DATE
1	ADDED TRACT NUMBER		3-26-65
2	Deleted Pcl. 78AWA		4-8-65
3	Name Change Pcl 79		9-25-65
4	Revised Area Pcl 77WD		10-13-65

RIGHT OF WAY
LEY DR.

OHIO HIGHWAY DEPARTMENT
R/W ENGR. & PROPERTY SERVICES
REVIEWED
MAR 1 1965
LOGGED
Orig. Bill Sq.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM 277-0.46
LIMITED ACCESS

11
19
19

SUMMIT COUNTY
COVENTRY TOWNSHIP
TRACT 11
T-1 R-11

TESSIE NOVAK R/W
Sub-Lot #60
R=152.17'
249+36
352.00'
249+83
327.00'
466
Cont. 0.10 Ac.
WOODVIEW DRIVE
Sub-Lot #77
Sub-Lot #76
Sub-Lot #75
Sub-Lot #74
ARMAND V. KOLT
JESSIE KOLT
Hse.
LA
(Future R/W for U.S. 224 Interchange)
Limit of Construction for U.S. 224 Interchange
545.56'
N86°15'55"W
244+035
184.50'
Gar.
DELBERT H. SHANE & FAITH E. SHANE
RICHARD HENLEY & ROSAMOND A. HENLEY
246+79.5
211.50'
245+845
202.50'
244+90.5
193.50'
184.50'
N04°10'05"W
EMILY E. KENNEDY a.k.a. EMILY E. HILL
Sub-Lot #78
Cont. 0.83 Ac.
1-Sty Brick Hse Under Const.
463A LA
246+95.5
94.50'
461 LA
246+01.5
87.50'
Cont. 0.26 Ac.
460 LA
Cont. 0.51 Ac.
459 LA
Cont. 0.48 Ac.
458 LA
Cont. 5.68 Ac.
138 WL
FIRESTONE TIRE & RUBBER CO.
NOTE: PARCEL 458 LA WILL BECOME A PART OF PARCEL 138 WL
238+595
106.50'
N83°55'46"E
644.27'
14"Oak
16"Oak
18"Oak
12"Oak
237
238
239
240
241
242
243
244
244+04.33
244+04
33.00'
245+15
32.50'
246+12
32.50'
242+57
48.00'
N 85°34'30"E
Future U.S. 224 ℄
Heavy Brush 2"to 4" Trees
1004.64'
N89°34'38"E
24" Elm
236+82
150.00'
SOUTH PLAZA ESTATES
RAMP A
Sub-Lot #79
Fr. Gar.
ROBERT T. CRUSH
JOAN CRUSH
Gar.
462 LA
Cont. 0.52 Ac.
1-Sty. Fr. & Stone Dwg.
243
246
Match Line Sheet No. 16
Match Line Insert
(Proposed R/W for I.R. 77 Only)
N89°27'13"E
147.84'
244+045
38.00'
END ACQUISITION
SUM-277-0.46
STA. 244+04.33
T.B.A. 1.03 Ac.
P.R.O. 0.08 Ac.
Cont. 1.11 Ac.
451 LA
247+16
51.00'
PAUL PAMER, ADAM PAMER, LYDIA PAMER, JOSEPH PAMER, EVA KALMAN, FRED PAMER, WILLIAM PAMER, ESTHER SPOTTS, KATHRYN GERVENY, MARY LANGANEK & ANN V. PAMER
RAMP B-1
LOUISE C. GLESS a.k.a. LOUISE K. GLESS, LAWRENCE A. GLESS, JOHN J. GLESS & ROSE C. KLINE
454 LA
Cont. 20.10 Ac.
239+39
257.50'
RAMP B
Limit of Construction for U.S. 224 Interchange
240+38
350.00'
Limit of Construction for U.S. 224 Interchange
458 LA
Cont 5.68 Ac.
138 WL
FIRESTONE TIRE & RUBBER CO.
Heavy Brush 2"to 4" Trees
Earth Berm
N83°55'46"E
644.27'
232+15.5
125.00'
MATCH LINE STA 232+15.5 SEE SHEET No 16
N02°41'55"E
10.63'
232+54.81
118.12' LT.
232+15.5
110.50'
6" Twin Walnut
Wild Crabapple Thicket
1004.64'
N85°34'38"E
576.23'
N83°58'39"E
Limit of Construction for U.S. 224 Interchange
232+16.82
121.05 LT.
232+19
138.50 LT.
Match Line Insert
N 85°34'30"E
Future U.S. 224 ℄
232
233
234
235
236
(Future R/W for U.S. 224 Interchange)
Brewster Run
10' Existing R/W
24" V.C.P.
M.H.
243+17
601.00'
241+50
613.50'
242+08
747.50'
LOUISE C. GLESS a.k.a. LOUISE K. GLESS, LAWRENCE A. GLESS, JOHN J. GLESS & ROSE C. KLINE
MARY H. HEISSER
J.A. BOYER & LORENA M. BOYER
Match Line Sheet No. 17

SOUTH PLAZA ESTATES 1ST ADD.
An Allotment in Tract No. 11
Twp.-1 (Coventry) Range 11
Summit County, Ohio
Lots 60 thru 107 Platt 45 Pages 10 & 11

Nº	REVISIONS	MADE BY	DATE

Sheet Completed
Date: 12-22-61

Revised
Date: 2-5-62
Added Topo.
Date: 3-12-62
Changed Names Parcels 459 LA, 454 LA & 462 LA; Changed Parcel 463 LA to 463A LA
Date: 12-11-63
Changed offset Parcel 466
Parcel 466 Name changed 3-31-64

(OFFSETS FROM U.S. 224 INTERCHANGE ℄)

State Highway Dept. Div. 4
R/W - ENGR & ADMIN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
BY

U.S. 224 INTERCHANGE
STA. 232+00 TO STA. 247+60 RIGHT-OF-WAY PLAN

FED. RD.	STATE	PROJECT	
2	OHIO	I-277-6(1)124	

365
383

SUMMIT COUNTY
SUM-277-0.46

1
19

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

SUM-277-0.46

CITY OF AKRON
COVENTRY TOWNSHIP
SUMMIT COUNTY

CONVENTIONAL SIGNS

Township Line
Tract Line
Center Line
Corporation Line
Fence Line
Guard Rail (existing)
Guard Rail (proposed)
Railroad
Power Poles
Telephone Poles
Power or Telephone Poles with guys
Tower Line
Trees or Stumps (existing)
Limited Access
Right of Way
Limited Access & Right of Way
Exist. Luminaire Light Standards
Exist & Prop. Fire Hydrant

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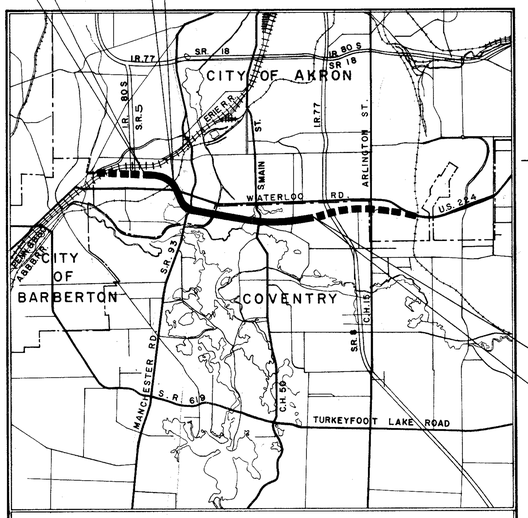
NOTE: THERE IS NO SHEET #224

BEGIN WORK
STA. 79+00 E.B.L.

BEGIN PROJECT
STA. 115+75



END PROJECT
STA. 228+68.84

DELIVERY POINT A&BBRR ON PROJECT
AVERAGE HAUL FROM SIDING 1.2 MILES

LOCATION MAP
0 1 2
SCALE OF MILES

OTHER EXPRESSWAYS
STATE & MAJOR ROADS
OTHER ROADS

PLAN 1" = 50'
PROFILE HORIZONTAL 1" = 50'
PROFILE VERTICAL 1" = 5'
CROSS SECTIONS: HORIZONTAL & VERTICAL 1" = 10'

NOTE: SEE SHT. # 11 FOR LINE DATA

FILE NO.	SUMMIT COUNTY	SUM-277-0.46
	DATE OF LETTING	196
	CONTRACT NO.	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

HW-E	2-1-63	I-12	2-1-63	I-15 №26	2-1-63	I-8 C.B.№2-5826 2-1-63
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I-8 C.B. №5	2-1-63	F-3	2-1-63	T-35	1-2-56	
I-8 C.B. №6	2-1-63	FAC1-1	2-25-64	T.J.	9-12-60	
I-8 I.№ 2	2-1-63	FAC1-2	2-25-64	I-15 №21	11-15-60	
I-8 I.№ 2A	2-1-63	G-7.07	4-1-64	L-1	4-1-50	
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I-125	REV. 6-26-61
I-127	REV. 1-15-62
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L-120	REV. 1-2-62
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S-101	7-12-62
M-109.15	7-25-62
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T-335	10-28-63
M-106.11	1-26-61
M-206.14	7-15-49

I-277-6-(1)124

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

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

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

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

APPROVED _____
DATE _____ DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON

APPROVED _____
DATE _____ DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE _____ ENGINEER OF BRIDGES

APPROVED _____
DATE _____ ENGINEER OF LOCATION AND DESIGN

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF RIGHT OF WAY

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED _____
DATE _____ DIRECTOR OF HIGHWAYS

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ARNOLD, CONSULTING ENGINEERS
AKRON OHIO CLEVELAND

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ DIVISION ENGINEER

_____ DATE

CENTERLINE SURVEY PLAT

SUM. I-277 - 0.46

SUMMIT COUNTY

CITY OF AKRON
COVENTRY TOWNSHIP
T - 1 - N R - 11 - W

SCALE: 1" = 400'

TJN OK RWH 3-16-65

388317

RECEIVED FOR RECORD
MAR 17 1965
At 9:40 o'clock A.M.
Recorded MAR 18 1965
Vol. 66 Page 39-40
Roy L Ruff Recorder
By Barbara Ann Summit County, Ohio
8 79

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46
LIMITED ACCESS

2/19

CURVE DATA EXIST. SUM I-277 (SUM 224-5.90)

Nº 1	Nº 2	Nº 3
P.I. STA. 96+89.48	P.I. STA. 105+38.65	P.I. STA. 113+06.12
Δ = 7° 00' 00"	Δ = 47° 15' 00"	Δ = 7° 00' 00"
Dc = 2° 37' 29.6"	Dc = 3° 30.00"	Dc = 2° 37' 29.6"
R = 2183.03'	R = 1637.02'	R = 2183.03'
T = 133.52'	T = 716.05'	T = 133.52'
L = 266.71'	L = 1350.00'	Lc = 266.71'
E = 4.08'	E = 149.75'	E = 4.08'

SUM. I-277 CURVE DATA & R/W

Nº 4	Nº 5	Nº 6
P.I. STA. 124+50.00	P.I. STA. 134+92.63	P.I. STA. 144+38.67
Δ = 3° 45' 00"	Δ = 44° 48' 00"	Δ = 3° 45' 00"
Dc = 1° 52' 29.7"	Dc = 2° 30' 00"	Dc = 1° 52' 29.7"
R = 3055.91'	R = 2291.83'	R = 3055.91'
T = 100.04'	T = 942.97'	T = 100.04'
Lc = 200.01'	L = 1788.67'	Lc = 200.01'
E = 1.64'	E = 186.30'	E = 1.64'

CURVE DATA EXIST. U.S. 224

P.I. STA. 23+61.46
Δ = 19° 18' 30"
Dc = 3° 45'
R = 1530.00'
T = 260.27'
Lc = 515.48'

EXIST. S. MAIN ST. CURVE DATA

Nº 2	Nº 3
P.I. STA. 330+15.71	P.I. STA. 339+51.64
Δ = 33° 22' 07" LT.	Δ = 22° 20' 31"
Dc = 15°	Dc = 15°
R = 381.97'	R = 381.97'
T = 114.48'	T = 75.43'
Lc = 222.46'	Lc = 148.94'
P.C. STA. 329+01.23	
P.T. STA. 331+23.69	

SUM. I-277 & CURVE DATA

P.I. STA. 200+67.26
Δ = 10° 37' 30" LT.
Dc = 1° 00' 00"
R = 5729.58'
T = 532.78'
Lc = 1062.50'
E = 24.72'

SUM. I-277 & CURVE DATA

P.I. STA. 223+49.46
Δ = 4° 00' 41"
Dc = 0° 28' 00"
R = 12,277.67'
T = 429.97'
Lc = 859.58'
E = 7.55'

GLENMOUNT AVE CURVE DATA

P.I. STA. 52+28.09
Δ = 9° 54' 54"
Dc = 5° 00'
R = 1146.32'
T = 99.40'
Lc = 198.30'
E = 4.30'
P.C. STA. 51+28.69
P.T. STA. 55+26.99

LEY DRIVE - CURVE DATA

Nº 1	Nº 2	Nº 3
P.I. STA. 44+20.47	P.I. STA. 48+82.60	P.I. STA. 51+32.90
Δ = 87° 08' 43"	Δ = 78° 00' 00"	Δ = 102° 00' 00"
R = 75'	R = 60'	R = 60'
L = 114.07'	L = 81.68'	L = 106.81'
P.C. STA. 43+58.12	P.C. STA. 48+34.01	P.C. STA. 50+58.81
P.T. STA. 44+72.19	P.T. STA. 49+15.69	P.T. STA. 51+65.62

LEY DRIVE - CURVE DATA

Nº 4	Nº 5
Δ = 252° 32' 33"	Δ = 72° 32' 33"
R = 35'	R = 65'
C = 56.44'	T = 47.70'
L = 154.24'	C = 76.91'
P.C. STA. 65+16.00	L = 82.28'
P.C.C. STA. 66+70.24	P.T. STA. 67+52.52

SWARTZ RD. CURVE DATA.

P.I. STA. 3+66.04
Δ = 4° 43' 00"
Dc = 2° 30'
R = 2291.83'
T = 94.89'
Lc = 188.67'
P.C. STA. 2+71.65
P.T. STA. 4+60.32

MANCHESTER RD. S.R.93 CURVE DATA

P.I. STA. 33+24.09	P.I. STA. 37+82.98
Δ = 5° 02' 15" LT.	Δ = 14° 11' 48" LT.
Dc = 1° 00' 00"	Dc = 3° 00' 00"
R = 5729.58'	R = 1909.86'
T = 252.05'	T = 179.40'
Lc = 503.75'	Lc = 357.76'
E = 5.54'	E = 8.41'
P.C. STA. 30+72.04	P.C. STA. 36+03.58
P.T. STA. 35+75.79	P.T. STA. 39+61.34

RELOC. SOUTH MAIN ST. CURVE DATA

P.I. STA. 43+28.42	P.I. STA. 59+23.61
Δ = 14° 11' 48" LT.	Δ = 8° 18' 45" RT.
Dc = 3° 00' 00"	Dc = 3° 30' 00"
R = 1909.86'	R = 1637.02'
T = 237.81'	T = 118.96'
Lc = 473.22'	Lc = 237.50'
E = 14.75'	E = 4.32'
P.C. STA. 40+90.61	P.C. STA. 58+04.66
P.T. STA. 45+63.83	P.T. STA. 60+42.16

SUM. I-277 CURVE DATA & CONSTRUCTION

P.I. STA. 135+23.51
Δ = 52° 13' 00" LT.
Dc = 2° 30' 00"
R = 2291.83'
Ts = 1273.55'
Lc = 1788.67'
Ls = 300'
Θs = 3° 45'
L.T. = 200.04'
S.T. = 100.04'
T.S. STA. 122+49.96
S.C. STA. 125+49.96
C.S. STA. 143+38.63
S.T. STA. 146+38.63

EXIST. CURVE DATA

P.I. STA. 418+05.11
Δ = 38° 28' 00"
Dc = 9° 00'
R = 636.62'
Lc = 427.41'
Ls = 300'
Ts = 373.83'
Θs = 13° 30' 00"
L.T. = 200.95'
S.T. = 100.53'

LOCATION OF CENTERLINE MONUMENTS & CENTERLINE REFERENCE MONUMENTS

	STATION	LOCATION
SUM-224	P.C.C. ~ 98+22.60	
	P.C.C. ~ 111+72.60	
	P.O.T. ~ 115+72.60	
	P.O.T. ~ 122+49.96	
	P.C.C. ~ 125+49.96	
	M.O. ~ 134+44.28	℄
	P.C.C. ~ 143+38.63	ON
	P.O.T. ~ 146+38.63	
	P.O.T. ~ 155+00.00	
	165+00.00	
	175+00.00	
	185+00.00	
	P.C. ~ 195+34.48	
	P.I. ~ 200+67.26	SEE DETAIL
	P.T. ~ 205+96.98	
	P.O.T ~ 213+50.00	℄
	P.O ~ 219+19.49	ONE
	P.I. ~ 223+49.46	SEE DETAIL
	P.T. ~ 227+79.07	ON ℄

	STATION	LOCATION	DIST. LT.	DIST. RT.
MANCHESTER RD. S.R.93	P.I. 29+04.50	SEE DETAIL		
	P.I. 33+24.09	SEE DETAIL		
	P.I. 37+82.98	SEE DETAIL		
	P.T. 39+61.34	RIGHT ANGLES	37.00'	37.00'
	P.O.T. 45+00.00	RIGHT ANGLES	37.00'	37.00'
RELOCATED S.MAIN ST.	P.C. 40+90.61	SEE DETAIL		
	P.I. 43+28.42	SEE DETAIL		
	P.T. 45+63.83	RIGHT ANGLES	42.00'	42.00'
	P.O.T. 55+00.00	RIGHT ANGLES	42.00'	42.00'
	P.I. 59+23.62	SEE DETAIL		
GLENMOUNT AVE.	P.O.T. 47+00.00	RIGHT ANGLES	30.00'	30.00'
	P.I. 52+28.09	SEE DETAIL		
	P.O.T. 55+00.00	RIGHT ANGLES	30.00'	30.00'

SUMMARY OF MONUMENTS

I-8

	STD. ℄ MON. ASSEMBLY	℄ REF. MON'S. AS PER PLAN	EXIST. MON'S TO BE RESET WITH STD. ℄ MON. ASSEMBLIES
FED. STATE	9	20	
CITY STATE		4	
CITY FED. STATE	5	6	3
TOTAL	14	30	3

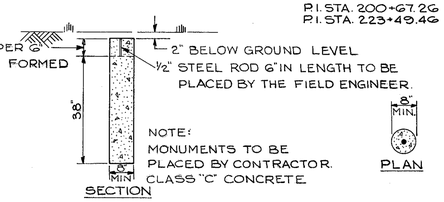
TOTALS CARRIED TO SUMMARY SHEET Nº 21

LEGEND

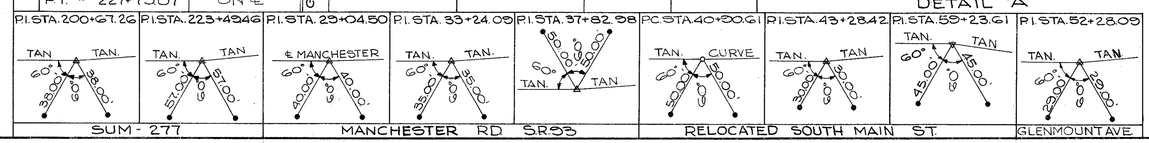
- ■ - EXISTING MONUMENT
- ⊡ - EXISTING MONUMENT TO BE RESET WITH MONUMENT ASSEMBLY
- • - CENTERLINE REFERENCE MONUMENT TO BE SET
- ⊙ - STANDARD CENTERLINE MONUMENT ASSEMBLY

CENTERLINE REFERENCE MONUMENTS

P.I. STA. 200+67.26
P.I. STA. 223+49.46

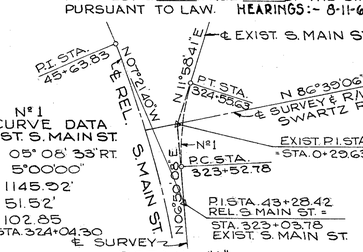


DETAIL OF CENTERLINE REFERENCE MONUMENTS



— LIMITED ACCESS —

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STA. 121+01.64 TO STA. 244+04.33 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 455 PAGE 446 & PAGE 607 & 354 OF THE DIRECTORS JOURNAL PURSUANT TO LAW. HEARINGS:- 8-11-60 Vol. 45 Pg. 891; 4-12-61 Vol. 46 Pg. 354



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS
BY Orgon E McCoy
DATE Feb 19, 1965

RECEIVED FOR RECORD _____ 1965
RECORDED: VOL. _____ PAGE _____ OF THE SUMMIT COUNTY RECORDS.

RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
CLIFTON M. NEWHALL
DATE 3-15-65 DIVISION DEPUTY DIRECTOR

TRANSFER NOT NECESSARY
MAR 16 1965
C. L. Bowser, County Auditor

SURVEYORS SEAL

State Highway Dept. Div. 6
R/W - ENGR & ADMN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
Bill Ek

CENTERLINE SURVEY PLAT

PROPERTY MAP

SUMMIT COUNTY

CITY OF AKRON

COVENTRY TOWNSHIP

T-1-N R-11-W

SCALE: 1" = 200'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-046

3/19

CURVE DATA:
P.I. STA. 105+94.00
Δ = 61° 15.00' T = 1171.40'
D_c = 3° 30' D_s = 7° 00'
R = 1637.02' E = 270.07'
L_s = 400 L.T. = 266.88
L_c = 1350.00' S.T. = 133.52'

BEGIN WORK
STA. 79+00 E.B.L.
SUM. 277-0.46

A. & B.B.L. R.R.

C.S. STA. 111+72.60

S.T. STA. 115+72.60

T.S. STA. 122+49.06

MARINGO

GILBERT

FILLMORE

WATERLOO RD

EXIST. R/W

STA. 121+01.64 SUM-224 =
STA. 13+15.84 WATERLOO RD.

45°18'12"

℄ CONSTRUCTION

S.C. STA. 125+49.06

BEGIN ACQUIS. STA. 121+01.32 SUM. 277-0.46 I-271-6(14)

STA. 130+86.48 SUM. 224 =
STA. 41+60.20 MANCHESTER

P.T. STA. 39+61.84

℄ CONSTRUCTION
CURVE DATA:
P.I. STA. 135+23.91
Δ = 52° 13.00' LT. L.T. = 200.04'
D_c = 2° 30' S.T. = 100.04'
R = 2291.88' E_s = 262.24'
L_s = 300' L_c = 299.94'
L_c = 1788.67' X_c = 299.81'
T_s = 1273.95 Y_c = 6.54'
θ_s = 3° 45'

CURVE DATA:
Δ = 10° 43' 58" LT.
D_c = 3° 00'
R = 1909.86'
T = 179.40'
L_c = 357.76'
E = 8.41

P.C. STA. 36+03.58
P.T. STA. 35+75.70

CURVE DATA:
Δ = 5° 02' 15"
D_c = 1° 00'
R = 5725.58'
T = 252.05'
L_c = 503.75'
E = 5.54'

P.C. STA. 30+72.04

178° 38' 00"

STA. 29+04.50
ANGLE PT.

NESMITH LAKE BLVD.

NESMITH LAKE

MANCHESTER RD. (U.S. 224)

CARNEGIE AVE

ELIG. FOR FED. PARTICIP.

INELIGIBLE FUNDS.
CITY & STATE PARTICIPATION ONLY
MANCHESTER RD.
STA. 43+69.47 TO STA. 47+81
INELIGIBLE FOR FED. FUNDS

INELIGIBLE FUNDS.
CITY & STATE PARTICIPATION ONLY
MANCHESTER RD.
STA. 21+81 TO STA. 35+00
INELIGIBLE FOR FED. FUNDS

DETAIL "A"
SCALE 1"=50'

BRENNEMAN BLVD.
NESBITT AVE.
PELTON AVE.
EXIST. R/W
R/W
LA

SEE DETAIL "A"

NESBITT
PELTON
CONRAD
EDWIN
CHRISTENSEN
SMITH LAKE BLVD
FRITCH AVE.
BRENNEMAN BLVD

OHIO CANAL

U.S. 224
EXIST.
EXIST R/W
CORP. LINE
TWP. TRACT 11
CITY OF AKRON
COVENTRY
OHIO EDISON DR.
MATCH LINE
STA. 70+00

100' EASEMENT TO OHIO EDISON CO.

NOTE: PCL. 10-X VACATED AND ENTERED IN DIRECTOR'S JOURNAL VOL. 6, PAGE 46, DATED 2-25-71 AND RECORDED IN VOL. 5929, PGS. 179-181 OF THE RECORDS OF SUMMIT COUNTY.

BUILDING LEGEND
- ■ RESIDENCE
- C-■ COMMERCIAL
- WW-■ WATER WORKS (PUMP STATION)

AFFECTED UTILITY COMPANIES

OHIO EDISON CO.
47 N. MAIN ST.
AKRON 8, OHIO

EAST OHIO GAS CO.
1717 EAST 9th STREET
CLEVELAND 14, OHIO

OHIO BELL TELEPHONE CO.
50 W. BOWERY ST.
AKRON 8, OHIO

CITY OF AKRON WATER DEPT.
63 S. HIGH ST.
AKRON 8, OHIO

CITY OF AKRON SEWER DEPT.
MUNICIPAL BLD'G.
AKRON 8, OHIO

5-8-78 ADDED NOTE FOR VACATING PCL 10-X

Nº	REVISIONS	MADE BY	DATE
1	PCLS. 75 WA & 83 WA to 75 T & 83 T	DRP	3-25-65
2	CHANGED PCL. 31 WD to 31 T		6-22-65
3	Pcl. 1-X, 2-B-X Revised. Added Pcl. 1-AX Per Change Order	GJF	1-28-67
4	Added Pcls. 29-WD, 30-AWD, & 31-WD		4-25-67
5	Changed Pcl 1-A-WA to 1-A-WA-1	JJA	5-25-67
6	ADDED FEDERAL PROJ. No.	J.R.B.	4/29/68
7	ADDED FUNDING FLAGS PER I.O.C. FROM J.J. ADAMS DATED 6/18/68	J.R.B.	6/28/68

PROPERTY MAP SHEET 1 OF 2

State Highway Dept. Div. 4
HTW-ENGR & ADMIN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
Sids ____ Bill Bk. ____

PROPERTY MAP
SUMMIT COUNTY
CITY OF AKRON
COVENTRY TOWNSHIP
T-1-N R-11-W

SCALE: 1" = 200'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

4
19

WATERLOO ROAD — EXIST. U.S. 224

CITY OF AKRON — CORPORATION LINE
COVENTRY TOWNSHIP
TRACT II

MATCH LINE STA. 170+00

CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30" LT.
D = 1°00'
R = 5729.58'
T = 532.78'
L = 1062.50'
E = 24.72'

EXIST. S. MAIN ST.

HOLY CROSS CEMETERY

P.C. STA. 195+34.48

P.T. STA. 205+96.98

100' EASEMENT TO OHIO EDISON CO.

100' EASEMENT TO OHIO EDISON CO.

STA. 230+00 MATCH LINE

EXIST. L/A

END ACQUISITION
SUM 277-0.46
STA. 244+04.33

CURVE DATA:
P.I. STA. 223+49.46
Δ = 4°00'41" LT.
D = 0°28'
R = 12277.67'
T = 429.97'
L = 859.58'
E = 7.53'

P.C. STA. 218+19.49

P.T. STA. 227+79.07

HINE ST.

GLENMOUNT AVE.

NAOMI ST.

BREWSTER RUN

LAND LOCKED

END PROJECT
SUM 277-0.46
STA. 228+68.84

STA. 44+25.40 RELOC. S. MAIN
= STA. 0+00 SWARTZ RD.

SWARTZ ROAD

STA. 228+00 BK. = STA. 222+59.78 AHD EQUATION

BEAN ST.

PENQUIN AVE.

NOTE: HINE ST. & PENQUIN ARE NOT DEDICATED

EXIST. R/W

TUSCARAWAS RIVER

N. TURKEYFOOT LAKE RD.

BUILDING LEGEND
- ■ RESIDENCE
- C-■ COMMERCIAL
- ■ CHURCH

No.	REVISIONS	MADE BY	DATE
5	Changed Pcl. 102 WL & Pcl. 86 WL	[illegible]	1-18-66
6	ADDED PCL. 87 CWL		1-12-67
7	Revised Pcl. 112 WL	RAW	8-8-67

No.	REVISIONS	MADE BY	DATE
1	Changed Pcl. 87AWA to 87BWA & Moved Pcl. 87AWA.	[illegible]	3-16-65
2	Deleted Pcls 135 WL, 135 WD; Added to Pcls. 126 WD & WL Changed Pcls 135 S & 136 WL to 126 S & 126 AWL		3-25-65
3	Name Change Pcl. 127 WL, Deleted Pcls. 128's, Now 127's	[illegible]	4-4-65
4	Revised Pcl. 120 WL, Added 120 BWA		11-12-65

State Highway Dept. Dist. 4
R/W - ENGR & ADMN
RAVENNA, OHIO

MAR 1 1965

LOGGED

Ends ____ Bk. ____

PROPERTY MAP SHEET 2 OF 2

Nº	REVISION	MADE BY	DATE
1	Added Pcl. 50 S, Name Change Pcls. 51AWA & 51WA.	GS	4/8/65
2	Changed Pcl. 31WD to 31T Revised 31-S		6/22/65
3	Name Change Pcl. 59WL.	GS	9/21/65

FUNDING: ELIG. FUNDS FOR FED. PARTICIPATION – INDICATED "ELIG." INELIG. " " " " " "INELIG."

SUMMARY OF RIGHT-OF-WAY REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

5/19

TOTAL NUMBER OF OWNERS = 119

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	CORRECTED DEED AREA	TO BE ACQUIRED LAND (SQ.FT.) ** TOTAL	TO BE ACQUIRED LAND (SQ.FT.) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT (SQ.FT.)	RESIDUE RIGHT (SQ.FT.)	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	ELIG. OR INELIG. TYPE FUNDS FED.
* 1 WL	MARGUERITE L. RENNER	3107	161	5.2686		151,514	6,122	YES	0.70 Ac	2.506 Ac		7	DITCH GRADING	ELIG.
1 WA		4578	629	1.4168		(3.48 Ac)								
2 WL	FIRESTONE POST NO. 3383,	2390	527	40.448*	22.17	12,226	2,501	NO		20.85Ac.				
2A WL						26,343	1,500	NO						
	VETERANS OF FOREIGN WARS							NO				7&17	* Contains 19.70Ac. (Parcels 1WL, 4WL & 28WL) Subsequently sold	ELIG.
2 AX								NO	0.01 Ac		0.01 (LL)		DITCH GRADING	
2 WA	OF THE UNITED STATES					9,621			(334 S.F)		(334 S.F)		Sewer	
2-S						283,3								
2B WL	CITY OF AKRON			12.09		92,932	20,738	NO		9.96 Ac	9.96(LL)	7, 8 & 17	BY APPROPRIATION	
2 BX						10,067								
3 WD	ALICE ZAGER	1900	197	0.2045 *									*LEASED TO SUN OIL COMPANY	
3 WA		1876	404	0.464 *		5,653	4,979	NO	0.72 Ac	-		7&17	FRONTAGE REPAIR	INELIG.
		2007	725	0.1828		(0.13Ac)								
4 WL	ANTHONY ZAGER & ALICE M. ZAGER	2963	489	0.92		24,427		NO	0.36 Ac	-		7	DITCH GRADING	ELIG.
4 WA														
5WD	FRANK KOLAR & AGNES KOLAR	2985	426	0.1377		2,540		NO	0.55 Ac	-		7&17		INELIG.
		3487	57	0.4684		(0.06Ac)								
6 WL	JOHN E. CAMPBELL & EVA MAE CAMPBELL	2770	155	0.4131		12,486		YES	0.12		0.12(LL)	7&17	ASPHALT PAV'T & VOTING BOOTH REMOVAL 10,812 → ELIG. & 1674 → INELIG.	
6 WA						(0.29Ac)								
7 WD	HELEN ZIMMERMAN, ET AL	2886	3	0.6752		3,584	1,800	YES		0.60Ac		17	PARCEL No. 1 HOUSE REMOVAL	ELIG.
7 WA						(0.08Ac)								
8 WD	CITY OF AKRON, KENMORE DISTRICT			2.34		10,512		NO		2.10 Ac		17	ACQUIRED BY CONDEMNATION-Summit C.P. COMMON PLEAS COURT No. 19721	ELIG. & INELIG.
						(0.24Ac)								
9 WD	STATE OF OHIO	(NOT AVAILABLE)				7,703	1,308	NO	(CANNOT DETERMINE)			17	NESMITH LAKE 826 9686	INELIG.
10 WD	LEWIS YOUNG, INC.	1231	385	17.18		131,094	76,938			14.17Ac			PARCEL #2 (Deed Area is Approximate)	INELIG.
10 X		3490	59	0.54		2,088		YES				17	* LOTS # 649, 650 & 651	"
10 WA				(23,533 S.F.)										"
10B WA														"
11 WD	STATE OF OHIO	(NOT AVAILABLE)				1,311		NO	(NOT NECESSARY)			17	OHIO CANAL	INELIG.
12 WD	NICK P. & MARGARET J. GUISTINO	3400	45	7,379 S.F.		758		NO	-	6,621		17	* PART OF LOT #652	ELIG.
J3 WL	HELEN ZIMMERMAN & EMMA ZIMMERMAN	2886	6	12,054 S.F.		1,479		NO	-	10,575		17	* LOT # 653	
14 WL	JAMES PANTUSO	3389	172	10,755 S.F.		1,521		NO	-	9,234		17	* LOT # 654	
15 WL	OHIO EDISON	1740	312	66,056 S.F. (1.52 Ac.)		66,056			—	—		8	PARCEL # 28 LOTS # 636 thru 640, #655 thru 659	
16 WL	GIRTHARIE BATES	1795	548	7,512 S.F.		7,512		NO	—	—		8	* LOT # 660	
17 WL	LEO J. & ESTHER L. ALLINGER	1772	507	7,565 S.F.		7,565		YES	—	—		8	* LOT # 661	
18 WL	ARTHUR B. & LOIS M. FORD, JR.	2393	371	15,307 S.F.		15,307		YES	—	—		8	* LOT # 662	
		2396	25										* LOT # 663	
19 WL	JOSEPH M. & ERMA T. MARINO	3115	446	8,027 S.F.		8,027		YES	—	—		8	* LOT # 664	
20 WL	366 SOUTH MAIN STREET, INC.	3684	524	22,909 S.F.		2,595		NO	19,808	—		17	* LOTS # 665 & 666 1901 → ELIG & 794 → INELIG.	
20 WD		3684	526			406							* LOTS # 667 thru 672	INELIG.
20 T						1,227							DRIVEWAY GRADING & WORK AREA	INELIG.
21	NOT USED												NOT USED	
22 WD	THE ALLEN SIDE ATHLETIC CLUB	3813	335	20,712 S.F.		1,400		YES	19,312	-		17	* LOTS #673 thru 677	
22 WA		3483	463										* LOTS # 678 & 679 BLDG. REMOVAL & SLOPE GRADING	INELIG.
23 WD	GULF OIL CORPORATION	3499	288	0.3784		760		NO	0 36 Ac	-		17	* LOTS #680 thru 683 & PART OF LOTS #684 & 685 DRIVEWAY REPAIR	INELIG.
23 WA														
24 WL	VIRGINIA B. WATSON	3402	302	10,644 S.F.		10,644		YES	—	—		8	* LOTS # 634 & 635	ELIG.
25 WL	PAT & OLLIE V. KING	3250	548	5,356 S.F.		5,356		YES	—	—		8	* LOT # 633	
												8		
26 WL	DEWEY C. & ALICE HOTSENPILLER	2008	124	5,464 S.F.		5,464		YES	—	—		8	* LOT # 632	
1-X						3048						7		
1-AX						1113								
1-AWA	MARGUERITE L. RENNER												Working Area	
28 WL	MINNIE M. EIDEN	3960	100	11,346 S.F.		11,346		YES	—	—		8	* LOT # 630 4,130 S.F. Ineligible for Federal Part.	
		2317	595										* LOT #631 7,216 S.F. eligible for Federal Part.	
29 WA	ROBERT F. COAST	3954	307									8	* LOT # 599 DRIVEWAY GRADING	
30 WD	JOHN J. & PATRICIA J. RAMSEY	3584	488	7,200 S.F.		515		NO	-	6,685		8	* LOT 600	
30 T						985							DRIVEWAY GRADING	
31 WL	KENNETH W. & MARY LOUISE KRITES	2862	603	7,200 S.F.		408		NO		6.573		8	* LOT #579	
31 T						317								
31 S	THIS PARCEL SUBJECT TO FEASIBILITY STUDY					617								
32 WL	E. R. & IRMA PARDUE	1961	373	7,200 S.F.		1,402		YES		5,798		8	* LOT #580	
32 S						622							HOUSE REMOVAL	
32 WA														
33 WL	FRED W. & VIOLA G. LAMM	2772	563	28,936 S.F.		28,936		YES	—	—			* LOTS #578, 601 &602 & Part Of #577	
34 WL	OHIO EDISON COMPANY	1740	312	29,069		29,069		NO	—	—		8	* PARCEL # 28 LOTS # 603 thru 605; #574 thru #576	
35 WL	CHARLES E. & VIOLA MYERS	1565	391	4,947 S.F.		4,947		YES	—	—		8	* LOT # 606	
36 WL	CLEOLA M. ROBINSON	1608	165	4,946 S.F.		4,946		YES	—	—		8	* LOT # 607	
37 WL	DONALD P. & RUBY M. STAGER	3066	118	9,821 S.F.		5,774		YES	4,047		4,047 S.F. (L.L.)	8	* LOTS # 608 & 609 HOUSE REMOVAL	
37 WA														

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED TOTAL	CORRECTED DEED AREA	TO BE ACQUIRED LAND (SQ.FT.) ** TOTAL	TO BE ACQUIRED LAND (SQ.FT.) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT SQ.FT.	RESIDUE RIGHT SQ.FT.	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	TYPE FUNDS FED.
38 WL	JESSE F. TUCKER	4158	678	10, 300		10, 300		YES	—	—		8	* LOTS # 572 & 573	ELIG.
39 WL	C. S. MIRACLE REALTY COMPANY	4007	686	7, 317		7, 317		YES	—	—		8	* LOT # 542	
40 WL	BENEDICT O. & JOSEPHINE MILLS	3621	396	6, 300		6, 300		YES	—	—		8	* PART OF LOT #541	
41 WL	OHIO EDISON	1740	301	44, 451		32, 803			10, 159				* PARCEL #28	
41 WD				(1.02 Ac)		1, 489			(0.23Ac)			8	* LOTS #506 thru 510, 543 thru 545	
42 WL	LOUIS S. & ELIZABETH HAWLEY	2960	401	6, 941		6, 941		YES	—	—		8	* LOT # 539	
43 WL	HENRY C. & HANNAH M. BRAY	3495	379	6, 941		6, 941		YES	—	—		8	* LOT # 540	
44 WL	HUGH H. & GERTRUDE GARNER	2721	106	6, 941		6, 941		YES	—	—		8	* LOT # 512	
45 WL	GLENN E. & BETTY J. GRUBB	2817	620	6, 941		6, 941		YES	—	—		8	* LOT # 511	
46 WD	RUTH M. & DONALD F. RALEIGH	3389	194	9, 600		666		NO	—	8, 934		8	* LOTS # 537 & 538	
46 WA														
48 WL	HOWARD W. & DELIA BAILEY	2053	103	10, 411		10, 411		YES	—	—		8	* LOT #472 & PART OF LOT #473	
49 WL	PERCY L. BAKER & DOROTHY E. BAKER	2982 2457 2780	247 404 288	11, 331		11, 311		YES	—	—		8	* LOT #441, EAST 30' OF LOT #473 & WEST 8' OF LOT # 440	
50 WL	OHIO EDISON COMPANY	1740	301	56, 563		23, 241		NO	33, 322				* PARCEL # 28	
50 S				(1.30 Ac)		5, 128			(0.77Ac)			8	LOTS # 474 thru 478; #435 thru 439	
51 WA	JOHN E. & DOLORES G. MITCHELL	3823	229									8	* LOT # 471 DRIVEWAY GRADING	
51A WA	CELIA DeANGELIS	3251	275										DRIVEWAY GRADING	
52 WL	COURTLAND & DONNIE MAE GISH	2969	647	6, 013		6, 013		YES	—	—		8	* PART OF LOT # 440	
54 WL	OHIO EDISON COMPANY	1740	301	56, 563		17, 396			27, 846				PARCEL #28	
54 WD				(1.30Ac)		11, 321		NO	(0.64 Ac)			8&9	* LOTS #354 thru 358 #403 thru 407 SLOPE GRADING	
54 WA														
55 WL	EARL & DAWSIE M. KNIGHT	3395	525	12, 682		12, 682		YES	—	—		8	* LOTS # 401 & 402 LESS SOUTH 10' OF LOTS #401 & 402	
56 WL	ROBERT C. & MARY LOUISE KIEFER	2530 2819	499 669	13, 878		13, 878		YES					* LOTS # 359 & 360	
56 WA		#1963	581									9	* LOT #361 DRIVE & STEPS REPL.	
59A WA	W.L & N.L. SLATER	1887 1953	5 238										* LOTS 297&300 DRIVE & STEPS REP	
57 WD	JAMES T. NORROD & SETTIE NORROD	4391	15	6, 000		1, 200		YES	—	4, 800		8	* LOT #400 & SOUTH 10' OF #401 & 402 GARAGE REMOVAL	
57 WA		1995	572											
58 WL	OHIO EDISON COMPANY	1740	301	42, 775		15, 738			16, 199				* PARCEL #28	
58 WD				(0.98Ac)		10, 838			(0.37Ac)			9	LOTS #305 THRU 309, 310 thru 313 SLOPE GRADING & DRIVE REPLACEMENT	
58 WA														
59 WL	WILBUR L. SLATER & NEDRA L. SLATER	4471	184	13, 882		13, 882		NO	—	—		9	* LOTS # 301 & 302	
60 WL	JAMES B. & KATHLEEN M. KIEL	3488	288	13, 014		13, 014		YES	—	—			*	
61 WD	JOHN BERNARD BERES	3574	175	4, 500		129		NO		4, 371		9	LOTS #303 & 304	
62 WA	CAROL L. O'BRIEN ET AL.	4213	126										* LOT #299	
63 WA	JOSEPH J. & DORIS M. DENCHIK	3696	519										* LOT #315 DRIVE & SLOPE GRADING	
63 A WA	J. O. & A. J. WILT	3579	341									9	* LOT #316 DRIVE & SLOPE GRADING	
64 WL	OHIO EDISON COMPANY	1740	301	61, 282		31, 476		NO	29, 806				SLOPE GRADING * LOT # 319	
64 S				(1.41 Ac)		5, 562			(0.68Ac)			9	* PARCEL #28	
64A S						1, 205							LOTS #251 thru 257	
64 WA													*LOCATE DRIVE	
64B S	DIAMOND CRYSTAL SALT COMPANY	2985 *	119	1.8935		139						9	* PARCEL VI	
64C S						23		NO						
65 WA	JOHN & MARTHA M. FICARRA	3506	101									9	* LOT # 250 & SOUTH 16' OF LOT #249 DRIVE & SLOPE GRADING	
66 WA	ALBERT O. & ETHEL MORRIS	3509	469									9	* LOT # 248 & NORTH 25' OF LOT # 249 DRIVEWAY GRADING	
67 WL	OLIVER J. LEE	3488	418	23, 771		23, 771		YES	—	—		9	* LOTS # 258, 259 & PART OF LOTS #260 & 261	
68 WL	PAUL & ELIZABETH GRISHKEVICH	3827	339	6, 600		6, 600		YES	—	—		9	* PART OF LOTS # 260 & 261	
69 WA	JACOB T. & NANCY KERNS	3825	273									9	* LOT # 262 DRIVEWAY GRADING	
71 WL	STATE OF OHIO	(NOT AVAILABLE)				31, 161								
71 WD						5, 998		NO	(NOT REQUIRED)			9	* TOTAL IS 0.97 AC.	
71A WD						5, 275								
72														
73 WL	JOHNNIE D. HOLLEY	2990	307	5.0 Ac *		0.52 Ac								
73 WD						0.24 Ac		YES	-	4.03 Ac		9	* DEED TRAVERSE DOES NOT CLOSE	
73A WD						0.21 Ac								
74 WD	JOHN W. LEY & SALLIE C. LEY	2628	102	4.364 Ac *	3.13 Ac	11, 916 (0.27Ac)		NO	2.86 Ac	-		9&18	* CONTAINS 1.2265 AC. PARCEL SOLD TO LOUIS C. SIMON	
74A WD	LOUIS C. SIMON	3961	42	1.2265 Ac.		7, 739 (0.18 Ac)	1, 988 (0.05 Ac.)	NO	1.05 Ac	-		18		

Added Pcl. 46WA per I.D.C. from Stahl J.R.B. 5/1/68
Deleted Pcls. 47WA & 53WA per J.J. Adams J.R.B. 4/30/68
Added Funding Column J.R.B. 4/30/68
Changed Pcl. 1-A-WA to 1A-WA-1 5-25-67
Added Federal eligibility breakdown for Pcl. 28WL 5-9-67 Lee
Pcl. 28WL Revised 10-WD 5-18-66 Participation in 7,236 S.F. of Take for this Parcel 9-15-66 WI
Pcl. 28X, 1-X Revised, Pcl. 1-AX added 1-28-67 G.

Added Pcl. 1X, 1-AWA, Deleted Pcl. 2-AWA 2-1-66
Added Pcl. 1-AWA-1 2-24-66
Deleted Pcl. 1 50-WA, 51-WA, Added 30-T & 31 Revised 3/5 & 31-T 3-17-66
REVISED AREA FED. PARTICIP. Pcl. GWL. J.R.B. 7/18/66
ADDED FUNDING TYPE PER I.D.C. FROM J.J. ADAMS DATED 6/18/68. J.R.B. 8/68.

State Highway Dept. of Ohio
R/W - ENGR. & ADMIN. Dist. 4
RAVENNA, OHIO
MAR 1 1968
LOGGED
Crds ____ Bill Bk. ____

NESMITH LAKE HTS. ALLOTMENT NO. 2; PLAT BOOK 26, PAGES 54-60 INCLUSIVE

** TOTAL INCLUDES PORTION ROAD OCCUPIES

* NESMITH LAKE HTS. ALLOTMENT NO. 2; PLAT BOOK 26, PAGES 54-60 INCLUSIVE

** TOTAL INCLUDES PORTION ROAD OCCUPIES

Nº	REVISION	MADE BY	DATE
1	Added Pcl. 92-T, Revised Pcl. 92-X.	GB	3-1-65
2	Added Pcl. 87BWA, Revised Pcl. 110WL	GB	3-14-65
3	Pcls. 123,124,125,126,127,132,133,134,138; Revised	T.A.B.	3-23-65
4	Changed Pcls. 75 WA & 83 WA To 75T & 83T		3-26-65
5	Deleted Pcl. 78AWA, Removed PR.O. Pcls. 124,125,126,132,138, & 134.	GB	4-8-65

FUNDING: ELIG. FUNDS FOR FED. PARTICIPATION – INDICATED "ELIG."
INELIG. " " " " " "INELIG."

SUMMARY OF RIGHT-OF-WAY REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

6/19

TOTAL NUMBER OF OWNERS = 119

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	CORR. DEED AREA (ACRES)	TO BE ACQUIRED LAND (ACRES) TOTAL*	TO BE ACQUIRED LAND (ACRES) PORTION ROAD OCCUPIES	TO BE ACQUIRED BLDGS.	RESIDUE LEFT (ACRES)	RESIDUE RIGHT (ACRES)	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS	TYPE FUNDS FED.
75 WL 75 WD 75 A WD 75 T	JACOB E. LEY & ELIZABETH LEY	1374	389	6.69		1.72 0.63 0.72 0.09		NO	0.20	3.42		9	CONSTRUCT DRIVE	ELIG.
29-WD	Robert F. Coast	3954	307	72003 S.F.		92 S.F.		No		7,118 S.F.		8	Water Line	
30-A WD	John J. & Patricia J. Ramsey	3584	488	6,6853 S.F.		344 S.F.		No		6,341 S.F.		8	" "	
31 WD	Kenneth W. & Mary Louise Krites	2862	603	6,573 S.F.		84 S.F.		No		6,489 S.F.		8	" "	
77 WD	FRANK HATFIELD	1129	536	1.43		0.31	0.03	NO	1.12			18		
78 WD 78 WA	OLIN RICHARDS	3484	311 - 312	Not Rec.	0.28	0.08		NO	0.20			9		
78A WD	OLIN RICHARDS & MARIE RICHARDS	1903 3484	454 308 - 309	0.185 Not Rec.	0.21	0.04		NO	0.17			18	DRIVEWAY GRADING	
79 WL 79 WD 79A WD 79T 79AWA	DOROTHY MADICK, Owner; JAMES MADICK & LENA MADICK, Life Estate	3491 1903	206 437	4.63 0.185*	4.79	2.22 0.09 0.47 0.02		YES	2.01			9&18	* CONTAINS 0.027 AC. SOLD TO OLIN & MARIE RICHARDS SLOPE GRADING REMOVE BLDG.	
80														
81														
82														
83 WD 83 T	PAULINE G. KALAIN	2893	539	6.09 * 1.37*	5.29	0.48 0.17		NO		4.81		9&10	* CONTAINS 2.17 AC. LATER SOLD CONSTRUCT DRIVE	
84 WL 84 WD	OHIO EDISON CO.	1643	32	4.496		0.26 0.11		NO	1.10	3.03		10		
85 WL 85 WD 85 WA	THE B. F. GOODRICH COMPANY	2060 2044	519 127	10.51 7.70 *		1.78 0.91		NO	23.25	12.27		10	* SECOND PARCEL ** FIRST PARCEL PRIVATE WATER LINE CONN.	
86 WL 86 WA 86 X 86 Y	FIRESTONE TIRE & RUBBER CO.	2044	127	20**								10&11	SEE PARCEL WL BELOW	
87 WL 87 X	OHIO EDISON COMPANY	880	674	3.567	3.68	2.72 0.19		NO		0.96		11 & 12		
87AWL	OHIO EDISON COMPANY	880 971	676 407	0.48 0.64		1.39	0.06	NO	1.00			13 & 14		
87AWA		971 971	406 403	0.64 0.63								15	FILL & GRADE	
87AWD 87BWA		982 * 596	630 574 - 575	1.23 12.45		0.12	0.10	NO	13.97			15 14	CUT & DRESS SLOPES	
87AX		*		0.408		0.51						15	* REFERS TO TWO DEEDS IN 87 A WD	
87C WL		880	678	0.75	0.65	0.23				0.42		11		
88WL 88X	MIKE VUICH	1926	374	20.37 *	9.84	3.20 0.90		NO	6.64			11 & 13	* CONTAINS 10.5346 AC. BELONGING TO FIRESTONE TIRE & RUBBER COMPANY	
89WL 89X	ARTHUR CORICE & CLARA CORICE	3781	684	3.6292		0.75 0.39		NO	2.88			13	LEASED TO GIANT AUTOMOTIVE PRODUCTS, INC.	
90 WL 90 X	ERNEST R. GENOVESE & CHRISTINE M. CAMPBELL	3781	559	3.458*	2.84	0.12 0.36		YES	2.72			13	* AREA INCLUDES 0.62 Ac. SOLD TO THE STANDARD OIL COMPANY	
91 WL	MABEL R. DELLENBERGER ET AL	2729	74*	5.5950	5.64	5.64	0.35	YES	—	—		13	* PARCEL #3	
92 WL 92 WD 92 X 92 WA	RUSSELL A. THORNTON	2729	72*	1.2805		0.15 0.17 0.26	0.07 0.13	YES YES	0.95			13	*PARCEL #2 SLOPE GRADING & BLDG. REMOVAL	
93 WL	JOSEPH MANCINE	3263	674 - 675	5.255	5.31	5.31	0.18	YES	—	—		12&13		
94 WL	ELMER D. LILLEY AND ALBERTA MILTON	4350	295	0.319	0.31		0.05	YES	—	—		13		
95 WL 95 WD 95 WA 95A WA 95 X	EDWARD F. HOBAN J.P. FARRELLY	3169 582	606 506	4.387 21.009		0.24 0.30 0.19	0.06 0.24	NO	24.86			13 15	HOLY CROSS CEMETERY DRIVE RELOCATION SLOPE GRADING	
96 WL	CLARENCE G. MILLER & VIOLET L. MILLER	3181	253 * **	0.1752 0.1607	0.37	0.37	0.08	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
97 WL	EDNA LICIA	3110	437 * **	Not Rec. 0.194	0.47	0.47	0.08	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
98														
99 WL	CLARENCE DEGER & ELPHA MARIE DEGER	4016	123	0.27	0.27	0.27	0.05	YES	—	—		12		
100 WL	CORA COCHRAN	2963	660 * **	0.3598 Not Rec.	0.75	0.75	0.12	YES	—	—		12	* PARCEL #1 ** PARCEL #2	
101 WL	JULIA A. NEMES	3250	183	0.76	0.77	0.77	0.08	YES	—	—		12 & 13		
86AWL	FIRESTONE TIRE & RUBBER COMPANY	2109 *	491	42.7383		8.39	0.06	NO				12	ALSO OWNERS OF PARCELS 138 WL & 138 WD - A SEPARATE PROPERTY	
86 WL 86 X 86 Y 86 WA		2316	376	10.5346		6.30 0.37 0.03			9.60	28.92		10&11	NOTE: Pipe Casing being placed under roadway for future water pipe for Parcel 86-WL is being reflected in the right of way settlement of said parcel. CHANNEL GRADING	
103 WL 103 WD 103 WA	ELIZABETH V. WINEMILLER	3168	623	Not. Rec.	7.89	0.42 0.75	0.15 0.32	NO		6.72		12	DRIVEWAY GRADING	
104 WL 104 WD 104AWD	GEORGE HANNA	3114	517	16		0.39 0.27 0.61	0.22 0.19 0.31	NO		14.73		12		
105 WL 105 T* 105 SL 105AWL	FIRST WESLEYAN METHODIST CHURCH OF AKRON	3157 4474	34 3,4,&5	5.947		0.14 0.05 1.29	0.06 -	NO		4.607		12,13, & 14	* PARKING LOT GRADING & RESURFACING OF ENTRANCES TRACT 11	ELIG.
*92-T	RUSSELL A. THORNTON					0.06						13		
108 WL	RALPH W. BENTZ & IRENE K. BENTZ	2623	489	3.7162		1.52		NO		2.20		14		
109 WL	HERMAN V. CALVERT & MINNIE R. CALVERT	2232	613	2.006		0.82		NO		1.19		14		
110 WL	LEO L. RICH & VIRGIE L. RICH	2060	533	9.3043*	3.29	1.25		NO		2.04		14	* AREA CONTAINS 2.006 Ac. PARCEL & 4.0097 PARCEL SUBSEQUENTLY SOLD	
111 WL	VIRGLE G. BRYANT & RUTH H. BRYANT	2896	479	3.0		1.38		NO		1.62		14		
112 WL	EMMA M. DULLA BAHN " " "	3904 3112 2728	558 580 352	2.166 0.121 0.241		0.88		NO		1.29 0.14 0.24		14		
113 WL	VIOLA CORTESI PETLEY & THOMAS L. PETLEY	3694	510	1.482		0.44		NO		1.04		14		
114 WL	ESTATE OF JOHN P. ALLEN, DEC'D. BY WILLIAM L. ALLEN & HARPER C. ALLEN, EXECUTORS	3693	689	Not Rec.*	1.50	0.44		NO		1.06		14	* DEED TRAVERSE IS INCORRECT	
115 WL	FRED H. LEE & JESSIE M. LEE	2629	470	2.0189*	1.61	0.97		NO		0.64		14&15	* CONTAINS 0.4098 Ac. PARCEL SUBSEQUENTLY SOLD	
116														
117 WL	HENRIETTA S. DUBROVICH	3697	62	Not Rec.	0.97	0.97		NO	—	—		15	* DEED CONTAINS PARCEL SUBSEQUENTLY SOLD	
120BWA	HARRY M. LYTLE & MILDRED R. LYTLE	4477	710	1.1689[1]								15	LOT 9 THOMAS ALLOT., BOOK 57, Pg. 28	
120 WL	THURMAN A. McKOWN & VELMA R. McKOWN	4477	373	1.5754[1]		3.683[1]		NO		1.207[1]		15	LOT #8 OF THOMAS ALLOTMENT PLAT BOOK 57, PAGE 28	
120AWL	LOYS H. THOMAS AND NAOMI G. THOMAS	3891	235	0.51		0.37				0.14		15	LOT #7 OF THOMAS ALLOTMENT PLAT BOOK 57, PAGE 28	
121 WL 121 WD 121A WD	JOSEPH W. HOCK & IRENE HOCK	769	40	8.04 *	6.40	3.65 0.27 0.43	0.15 0.12 0.03	YES		2.05		15	* CONTAINS 1.23 Ac. PARCEL & 0.408 Ac. PARCEL SOLD TO OHIO EDISON	
122 WL 122 X 122 WD 122 T	OHIO EDISON COMPANY	608	32	5.765		0.70 0.63 0.07 0.10	0.05	NO	1.28	3.71		15 & 16	TEMPORARY RUNAROUND	
123 WL	DANIEL D. RUNJAMIN & WANDA L. RUNJAMIN	3252	549	0.4279	0.43	0.43	0.07	YES	-	-		15		
124 WL	ROSE L. YANDIK	2161	617	1.726	0.41	0.41		YES	—	—		15		
125 WL	ANDREW BESKITT	3821	107	0.30	0.30	0.30		NO	—	—		15		
126 WL 126 S 126AWL	DAN BESKITT & ANNA BESKITT	2862 2862	397 399 399	3.122 1.353	3.152 1.35	1.444 0.02 1.35		YES	—	1.71		15 & 16 16 16	FIRST PARCEL SECOND PARCEL	
127T 127 WL 127WD	WADE HALL	4391	579	0.584	0.584	1385.F. 0.40 0.01	0.08 0.01	YES		0.084		15	TEMPORARY RUNAROUND	
129 WD 129 T	MERLE EDWARD & MARY ETHEL HIENER	2620	279	0.164		0.04 0.02	0.03	NO		0.12		15	DRIVEWAY GRADING & TEMP. RUNARND.	
130 WA	LEOMA WALTZ	1855	743	0.164								15	DRIVEWAY GRADING & WORK AREA	
131 WA	ROBERT EDGAR & LEONA MARIE PUGH	3888	4	0.30								15	WORK AREA	
132 WL 132 WA	ORLAND J. WELCH, JR. & CARLENE L. WELCH	3485	641	0.16		0.10		YES		0.06	0.06(L.L)	15	GARAGE REMOVAL	
133 WL 133 WA	WILLIAM E. SHARPE & ALICE M. SHARPE	1252	228	0.16		0.10		YES		0.06	0.06(L.L.	15	GARAGE REMOVAL	
134 WL 134 WA	MARY KUPRESAN	2374	292	Not. Rec.	0.61*	0.22		YES		0.39	0.39(L.L.	15 & 16	* CALCULATED HOUSE REMOVAL	
134A WL 134 A WA	A. & T. MISBRENER	3311	373	0.318		0.17		YES		0.15	0.15 (L.L)	15	* GARAGE REMOVAL FROM ABUTTING PROPERTY	
137 X 137 S 137 BT 137 AT 137 T	COLUMBIAN YOUTH CLUB ASSOCIATION, INC.	3161 3179	486 625-626	9.3103 0.83 *		0.21 0.06 0.13 0.12 0.092		NO				15 & 16	* CONTAINS 0.33 Ac. SUBSEQUENTLY SOLD SLOPE GRADING FILLING IN LOW SPOT TEMP. RUNAROUND	
138 WL 138 WD	FIRESTONE TIRE & RUBBER COMPANY	2162	286	116.51		10.83 0.25		NO				16 & 19	* PARCEL 138 WL INCLUDES PARCEL 458 LA (SHEET NO. 19)	
139 WL 139 T	GUIDO SPAGNUOLO	2218	7	17.66		0.13 0.78		NO		17.53		16	FILLING IN LOW AREA	

* TOTAL INCLUDES PORTION ROAD OCCUPIES

ADDED FUNDING TYPE PER E.A.C. LETTER 6/28/68 J.R.B.
Added note to Pcl. 86-WL pertaining to Pipe 1-30-68 GB
Area Change Pcl. 137-T 8-10-66
Revision on Revision Pcl. 85WL 5-20-66
Area Change Pcl 137 T 3-22-66
Changed Pcls. 128 WA & WL To Pcls 86 AWL 1-19-66
NAME CHANGE PCL. 114WL 12-29-65
DELETED PARCELS 135-WL,WD,S & 136WL COMBINED 135WL,WD WITH 126WL & CHANGED 135S TO 126S & 136 TO 126AWL 3-26-65
REV. PCL. 5 #WL-86-1, 87-X ADDED 87C-WL 1-12-67
Revised Deed Area & Residue Pcl. 86-WL
Revised TBA & Residue Pcl. 104-AWD 3-1-67
Pcls. 29-WD, 30A WD, 31-WD Added 4-24-67
Revised Pcl 112 WL R/W 8-8-67
Revised Pcl. 106 with 105. 10/19/65
Added Pcl. 129 WA. 8-13-65. Revised Area Pcl. 133 9-17-65.
Deleted Pcls. 128, Now 127WL, WD, & T. Name Change Pcs. 127. 6-4-65
ADDED FUNDING TYPE PER E.A.C. LETTER GIVEN FOR J.J. ADAMS. J.R.B. 6/28/68.
Revised Pcl. 126WL, Added Pcl. 129WA, Name Change 127WL & 128WA. 11-12-65
Revised Area Pcl 77WD 10-13-65
Name Change Pcl. 79 9-25-65 Combined Pcl 106 with 105. 10/19/65
Deleted Pcl. 129 WA. 8-13-65. Revised Area Pcl. 133 9-17-65.
Deleted Pcls. 128, Now 127WL, WD, & T. Name Change Pcs. 127. 6-4-65
DELETED PARCELS 135-WL,WD,S & 136WL COMBINED 135WL,WD WITH 126WL & CHANGED

State Highway Dept. Div. R/W - ENGR. & ADMIN BR. RAVENNA, OHIO
MAR 1 1965
LOGGED
Crds ..... Bill Bk. .....

CITY OF AKRON
T-1-N R-11-W
SCALE 1" = 50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

7/19

℄ R/W DATA
№4 P.I. STA.124+50.00 Δ = 3°45'00" D_c = 1°52'29.7" R = 3055.91' T = 100.04' L_c = 200.01' E = 1.64'
№5 P.I. STA.134+92.63 Δ = 44°43'00" D_c = 2°30'00" R = 2291.83' T = 942.07' L_c = 1788.67' E = 186.30'

STA.121+01.32 SUM-277 = STA.13+15.63 WATERLOO RD.
STATE OF OHIO MARKER SET
N 72°51'58"W 0.32'
N 72°52'31"W
℄ SUM-277 N 27°34'19"W
STA.121+01.64 ℄ SUM-277 = STA.13+15.84 WATERLOO RD.
℄ R/W WATERLOO RD. & ℄ CONST.

STA.47+93.70 MANCH'T'R RD. = STA.20+00.00 WATERLOO RD.
STATE OF OHIO MARKER SET
N 72°30'51"W ℄ R/W
N 72°51'17"W
STA.47+93.58 MANCH'T'R RD. = STA.20+00.00 WATERLOO RD.
℄ R/W N 72°51'55"W WATERLOO RD. 0.12' ℄ CONSTRUCTION
N 72°52'31"W
N 10°13'21"E ℄ MANCHESTER RD. R/W & ℄ CONST.

S.W. CORNER R/W CURVE DATA:

EXISTING	PROPOSED
Δ = 83°05'19"	Δ = 83°05'19"
R = 26'	R = 33.50'
T = 23.04'	T = 29.68'
L = 37.70'	L = 48.59'
C = 34.49'	C = 44.48'
PC. 47+44.05	PC. 47+38.16
P.T. 19+50.38	P.T. 19+37.69

INTERSECTION DETAIL "A" NO SCALE
INTERSECTION DETAIL "B" NO SCALE
SEE INTERSECTION DETAIL "B"
SEE INTERSECTION DETAIL "A"

MARINGO AVE.
GILBERT ST.
MANCHESTER RD. (S.R. 93)
WATERLOO RD.
MATCH LINE

BEGIN ACQUISITION STA.121+01.32 SUM-277-0.46 I-277-6(4)
MANCHESTER ROAD FUNDING, SEE R/W PLAN SHEET 17
FOR MANCHESTER RD. R/W PLAN SEE SHT. № 17
BEGIN WORK STA.79+00 E.BL. SUM-277-0.46
BEGIN SHEET № 7
SEE SHEET № 8
STA.115+00
STA.47+93.70 MANCHESTER RD. = STA.20+00.00 WATERLOO RD.

EXIST. U.S. 224 (Ext. R/W) — L/A — 24.53' ℄ CONSTRUCTION — 15.00' RT.
STA.122+52.34 - 100.53' LT.
STA.121+01.32 SUM-277 = STA.13+15.63 WATERLOO RD.
STA.121+01.64 ℄ SUM-277 = STA.13+15.84 WATERLOO RD.
STA.12+95.93
STA.12+43.53
STA.122+63 C.P. 109
TIE TO ABUT.
TIE TO ABUTMENT
℄ R/W SUM-277 126+12
PC STA 123+43.96
PC.C.STA 125+49.27 B.K.
PC.C.STA 125+49.96 AHD
CURVE № 4
CURVE № 5
CULVERT
STA.12+95.93
S 27° 34' 19" E
N 72°51'58"W 151.76'
N 72°52'31"W
S 72°52'31"E
N 72°52'31"W
N 27°34'19"W
N 10°09'02"E 201.81'
N 10°13'21"E 196.02'
N 10°14'20"E 144.69'
N 10°09'02"E 104.22'
N 10°13'21"E 186.02'
N 10°13'21"E 196.02'
N 10°09'02"E
N 10°13'21"E
N 35°21'10"W 310.04'
N 35°21'10"W 168.02'
N 34°46'39"W 148.49'
N 79°46'39"W 150.00'
N 79°46'39"W 150.00'
N 79°46'39"W 150.00

CITY OF AKRON
T-1-N R-11-W
SCALE 1"=50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

8
19

Nº	REVISIONS	MADE BY	DATE
1	CHANGED PCL 31WD to 31T REV. 3'S		6-22-65
2	Deleted 31-WA, 30-WA, added 30-T & revised area 31-S and 31-T		3-17-66
3	Revised L/A LINE ON PCL. 28WL	F.C.	4-25-66
4	Parcels 29-WL, 30A-WD, 31-WD, Added		4-27-67
5	DELETED PCL. 47WA PER J.J. ADAMS	J.R.B.	4/30/68
	ADDED B.P.R. FLAG PCL. 28WL	J.R.B.	4/30/68

MINNIE M. EIDEN
(28 WL) T.BA. = 0.26 Ac. (11,346 S.F.)
D.P. & R.M. STAGER
(37 WL) T.BA. = 0.13 Ac. (5774 S.F.)
(37 WA) REMOVE HOUSE
JESSE F. TUCKER
(38 WL) T.BA. = 0.24 Ac. (10,300 S.F.)

C.E. & V. MYERS
(35 WL) T.BA. = 0.11 Ac. (4947 S.F.)

C.M. ROBINSON
(36 WL) T.BA. = 0.11 Ac. (4946 S.F.)

ROBERT F. COAST
(29 WA) DRIVEWAY GRADING

MANCHESTER ROAD FUNDING, SEE R/W PLAN SHEET 17

CROSSHATCHED SECTION PREVIOUSLY ACQUIRED BY THE OHIO DEPT. OF HIGHWAYS AND RECORDED AS FOLLOWS.

(30 WD) RECORDED IN VOLUME 4597, PAGE 656
(31 WL) RECORDED IN VOLUME 4597, PAGE 653
(31 S) RECORDED IN VOLUME 4597, PAGE 660

NOTE: FOR MANCHESTER RD R/W SEE SHEET Nº 17

MANCHESTER RD Nº 7

MANCHESTER RD Nº 8

MANCHESTER RD Nº 9

FEITCH AVE

PELTON AVE

NESBITT AVE

BRENNEMAN BLVD.

CONRAD AVE. 45

EDWIN AVE

MATCH LINE SEE SHEET Nº 7

MATCH LINE SEE SHEET Nº 8

RAMP "A"

RAMP "B"

EXIST BRENNEMAN BLVD.

NELSMITH LAKE HTS. P.B. 26

ALLOT. CO. P.B. 54

RELOCATED BRENNEMAN DETAIL "B"

℄ PEDESTRIAN BRIDGE

TIE TO ABUT.

TIE TO ABUT Nº 1

℄ R/W CURVE DATA

Nº 5
P.I. STA. 134+92.63
Δ = 44°43'00"
Dc = 2°30'00"
R = 2291.83'
T = 942.67'
Lc = 1788.67'
E = 186.30'

Nº 6
P.I. STA. 144+38.67
Δ = 3°45'00"
Dc = 1°52'29.7"
R = 3055.91'
T = 100.04'
Lc = 200.01'
E = 1.64'

℄ CURVE DATA RELOCATED MANCHESTER RD
Δ = 10°43'58"
Dc = 3°00'
R = 1909.86'
T = 179.40'
L = 357.76'

DETAIL "A"

DETAIL - ACCESS DR.
SCALE 1" = 30'

LEGEND
● IRON PIN FD.

GIRTHARIE BATES
(16 WL) T.BA. = 0.17 Ac. (7,512 S.F.)
LEO J. & ESTHER L. ALLINGER
(17 WL) T.BA. = 0.17 Ac. (7,565 S.F.)
ARTHUR B. & LOIS M. FORD JR.
(18 WL) T.BA. = 0.35 Ac. (15,307 S.F.)
JOSEPH M. & ERMA T. MARINO
(19 WL) T.BA. = 0.18 Ac. (8,027 S.F.)
VIRGINIA B. WATSON
(24 WL) T.BA. = 0.24 Ac. (10,644 S.F.)
PAT & OLLIE V. KING
(25 WL) T.BA. = 0.12 Ac. (5356 S.F.)
DEWEY C. & ALICE HOTSENPILLAR
(26 WL) T.BA. = 0.13 Ac. (5464 S.F.)
JOHN J. & PATRICIA J. RAMSEY
(30 WD) T.BA. = 0.01 Ac. (515 S.F.)
(30 T) T.BA. = 985 Sq. Ft.

FOR MANCHESTER RD R/W PLAN SEE SHT. Nº 17
KENNETH W. & MARY LOUISE KRITES
(31 WL) T.BA. = 408 S.F.
(31 T) T.BA. = 317 S.F.
(31 S) T.BA. = 617 S.F.
(31 WD) T.BA. = 84 S.F.

FRED W. & VIOLA LAMM
(33 WL) T.BA. = 0.66 Ac. (28,935 S.F.)
E.R. & IRMA PARDUE
(32 WL) T.BA. = 0.03 Ac. (1402 S.F.)
(32 S) T.BA. = 0.01 Ac. (622 S.F.)
(32 WA) HOUSE REMOVAL

RUTH M. & DONALD F. RALEIGH
(46 WD) T.BA. = 0.02 Ac. (666 S.F.)
HOWARD W. & DELIA BAILEY
(48 WL) T.BA. = 0.24 Ac. (10,411 S.F.)
PERCY L. & DORTHY E. BAKER
(49 WL) T.BA. = 0.26 Ac. (11,331 S.F.)
OHIO EDISON CO.
(50 WL) T.BA. = 0.53 Ac. (23,241 S.F.)
(50 S) T.BA. = 0.12 Ac. (5,128 S.F.)
JOHN E. & DELORES G. MITCHELL
(51 WA) DRIVEWAY GRADING
CELIA DE ANGELIS
(51A WA) DRIVEWAY GRADING
COURTLAND & DONNIE MAE GISH
(52 WL) T.BA. = 0.13 Ac. (6,013 S.F.)
OHIO EDISON CO.
(54 WL) T.BA. = 0.40 Ac. (17,396 S.F.)
(54 WD) T.BA. = 0.26 Ac. (11,321 S.F.)
(54 WA) SLOPE GRADING
EARL & DAWSIE M. KNIGHT
(55 WL) T.BA. = 0.29 Ac. (12,682 S.F.)
(57 WD) JAMES T. NORROD
T.BA. = 0.03 Ac. (1,200 S.F.)
(57 WA) GARAGE REMOVAL

RUTH M. & DONALD F. RALEIGH
(46 WA)
OHIO EDISON CO.
(34 WL) T.BA. = 0.67 Ac. (29,069 S.F.)
C.S. MIRACLE REALTY
(39 WL) T.BA. = 0.17 Ac. (7,317 S.F.)
BENEDICT O. & JOSEPHINE MILLS
(40 WL) T.BA. = 0.14 Ac. (6,300 S.F.)
OHIO EDISON CO.
(41 WL) T.BA. = 0.75 Ac. (32,803 S.F.)
(41 WD) T.BA. = 0.03 Ac. (1489 S.F.)
LOUIS S. & ELIZABETH HAWLEY
(42 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
HENRY C. & HANNAH M. BRAY
(43 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
HUGH & GERTRUDE GARNER
(44 WL) T.BA. = 0.16 Ac. (6,941 S.F.)
GLENN E. & BETTY J. GRUBB
(45 WL) T.BA. = 0.16 Ac. (6,941 S.F.)

RIGHT OF WAY STA. 130+00 TO STA. 145+00

7. ADDED FUNDING DATA PER I.O.C. FROM J.J. ADAMS DATED 6/18/68. J.R.B. 6/28/68.
6. ADDED PCL. 46WA PER I.O.C. FROM STEARL. J.R.B. 5/1/68
PCL 28 WL BPR PARTICIPATION IN 7,236 S.F. OF TAKE FOR THIS PARCEL 9-15-66 WE

State Highway Dept. Div. R/W - ENGR. & ADMN. SEC. RAVENNA, OHIO
MAR 1 1965
LOGGED
Ords. Bill Bk.

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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(54 WL) OHIO EDISON T.B.A. = 0.40 Ac. (17,396 S.F.)

(54 WD) T.B.A. = 0.26 Ac. (11,321 S.F.)

(54 WA) SLOPE GRADING

(58 WL) OHIO EDISON T.B.A. = 0.36 Ac (15,738 S.F.)

(58 WD) T.B.A. = 0.25 Ac. (10,888 S.F.)

(58 WA) SLOPE GRADING

(62 WA) CAROL L. O'BRIEN, ET AL DRIVE & SLOPE GRADING

(63 WA) J.J. & D.M. DENCHIK DRIVE & SLOPE GRADING

(65 WA) J. & M.M. FICARRA DRIVE & SLOPE GRADING

(66 WA) A.O. & E. MORRIS DRIVEWAY GRADING

(63-A WA) J.O. & A.J. WILT SLOPE GRADING

CITY OF AKRON
T - 1 - N R - 11 - W
SCALE: 1" = 50'

COVENTRY TOWNSHIP TRACT II
T - 1 - N R - 11 - W
SCALE: 1" = 50'

JOHNNIE D. HOLLEY

(73 WL) T.B.A. = 0.52 Ac.

(73 WD) T.B.A. = 0.24 Ac.

(73-A WD) T.B.A. = 0.21 Ac.

JACOB E. & ELIZABETH LEY

(75 WL) T.B.A. = 1.72 Ac.

(75 WD) T.B.A. = 0.63 Ac.

(75-A WD) T.B.A. = 0.72 Ac.

(75 T) CONSTRUCT DRIVE T.B.A. = 0.09 Ac.

NOTE: SEE R/W SHEET Nº 18
RELOCATED LEY DRIVE

SEE SHEET Nº 8

SEE SHEET Nº 10

MATCH LINE

MATCH LINE

15' Exist. Sewer Easement City of Akron

POINT OF ACCESS UNDER BRIDGE ONLY STA. 153+56 (LT.) 20' WIDE

POINT OF ACCESS UNDER BRIDGE ONLY STA. 153+28 (RT.) 20' WIDE

JOHN W. & SALLIE C. LEY
215.98' LT. 158+18.06 43+44.87 30' RT.
202.75' LT. 158+17.40' 43+58.12 30' RT.

& EASEMENT-OHIO EDISON TOWERS (NO SPECIFIC WIDTH)

RELOC. LEY DR.

RELOC. BRENNEMAN

FRITCH AVE.

BRENNEMAN BLVD.

CHRISTENSEN AVE.

NESMITH LAKE BLVD.

AKRON CANAL CORPORATION LINE

OHIO CANAL

LEY DR. (PRIVATE)

Steel Trans Tower #167

Steel Tower #168

Salt Well

Scattered Brush Trees

Pasture

Swamp

Type 47 Fence

STA. 56+19 RELOC. LEY DR.
STA. 0+00 PRIVATE DR.

STA. 1+75 MEET. EXIST. PAV'T.

NESMITH LAKE HTS. ALLOT. Nº 2
P.B. 26 PGS. 54-60

LEGEND
● IRON PIN FD.

(59 WA) W.L. & N.L. SLATER Drive & Steps Replacement

(56 WL) R.C. & M.L. KIEFER T.B.A. = 0.32 Ac. (13,878 S.F.)

(56 WA) Drive & Steps Replacement WILBUR L. SLATER & NEDRA L. SLATER

(55 WL) T.B.A. = 0.32 Ac. (13,882 S.F.)

(60 WL) JAMES B. & KATHLEEN KIEL T.B.A. = 0.30 Ac. (13,014 S.F.)

(61 WD) JOHN BERNARD BERES T.B.A. = 120 S.F.

(67 WL) OLIVER J. LEE T.B.A. = 0.55 Ac (23,771 S.F.)

(68 WL) P. & E. GRISHKEVICH T.B.A. = 0.15 Ac. (6,600 S.F.)

(71 WL) STATE OF OHIO T.B.A. = 0.72 Ac. (31,161 S.F.)

(71 WD) T.B.A. = 0.14 Ac (5,988 S.F.)

(71-A WD) T.B.A. = 0.12 Ac (5,275 S.F.)

(69 WA) J.T. & N. KERNS DRIVEWAY GRADING

(64 WL) OHIO EDISON CO. T.B.A. = 0.72 Ac. (31,476 S.F.)

(64 S) T.B.A. = 0.13 Ac. (5,562 S.F.)

(64 WA) RELOCATE DRIVE

(64-A S) T.B.A. = 0.03 Ac. (1,205 S.F.)

DIAMOND CRYSTAL SALT CO.
(64-B S) T.B.A. = 139 S.F.
(64-C S) T.B.A. = 23 S.F.

(78 WD) O.M. RICHARDS T.B.A. = 0.08 Ac. (3,390 S.F.)

(78-A WD) OLIN & MARIE RICHARDS T.B.A. = 0.04 Ac. (1,559 S.F.)

(79 WL) DOROTHY MADICK, Owner; JAMES MADICK & LENA MADICK) Life Estate T.B.A. = 2.22 Ac.

(79 WD) T.B.A. = 0.09 Ac. (4052 S.F.)

(79 T) T.B.A. = 0.02 Ac. (746 S.F.) SLOPE GRADING

(79-A WD) T.B.A. = 0.47 Ac.

(79-A WA) REMOVE BLD'G.

(83 WD) PAULINE G. KALAIN SEE SHEET Nº 10

(83 T) CONSTRUCT DRIVE & TEMP. RUNAROUND T.B.A. = 0.17 Ac.

PARCEL G1WD
NO SCALE

DETAIL "A"
SCALE: NONE

Nº	REVISIONS	MADE BY	DATE
1	Distance on ℄ added	T.A.B.	3-24-65
2	Pcls 75 WA & 83 WA to 75 T & 83 T		3-25-65
3	Revised Area 54 WD, Name Change 62 WA, Added Canal ℄ & Added 79 A WD.		4-8-65
4	Name Change Pcl. 59 WL.		9-21-65
5	DELETED Pcl. 73 WA PER J.J. ADAMS	J.F.B.	4/30/68

5 Name Change Rl. 79 9-25-65

State Highway Dept. Div. & R/W - ENGR & ADMN SECT. RAVENNA, OHIO
MAR 1 1965
LOGGED
Crds. Bill Bk.

RIGHT OF WAY STA. 145+00 TO STA. 160+00

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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COVENTRY TOWNSHP

T - 1 - N R - 11 - W

SCALE: 1" = 50'

TRACT 11

B.F. GOODRICH CO.

(85 WL) T.B.A. = 1.78 Ac.

(85 WD) T.B.A. = 0.91 Ac.

(85 WA) PRIVATE WATER LINE CONNECTION

FIRESTONE TIRE & RUBBER CO.

(86 WL) T.B.A. = 6.53 Ac.

DOROTHY MADICK

(79 WL) T.B.A. = 2.22 Ac.

(79-A WA) REMOVE BLDG.

(79-A WD) T.B.A. = 0.47 Ac.

PAULINE G. KALAIN

(83 WD) T.B.A. = 0.48 Ac.

(83 T) CONSTRUCT DRIVE T.B.A. = 0.17 Ac.

OHIO EDISON CO.

(84 WL) T.B.A. = 0.26 Ac.

(84 WD) T.B.A. = 0.11 Ac.

NOTE

PARCEL 86-WL

NOTE: Pipe Casing being placed under roadway for future water pipe for Parcel 86-WL is being reflected in the right of way settlement of said Parcel.

Nº	REVISIONS	MADE BY	DATE
1	Change Pcl. 83 WA to 83 T		3-25-65
2	Added Bearings & Distances	[illegible]	4-8-65
3	Added Note to Pcl. 86-WL pertaining to pipe	Lee	11-1-66

RIGHT OF WAY STA. 160+00 TO STA. 170+00

State Highway Dept. Div. 4
Ref - ZANE & ADAMS STS.
NEWARK, OHIO
MAR 1 1965
LOGGED
BILL BK

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277- 0.46

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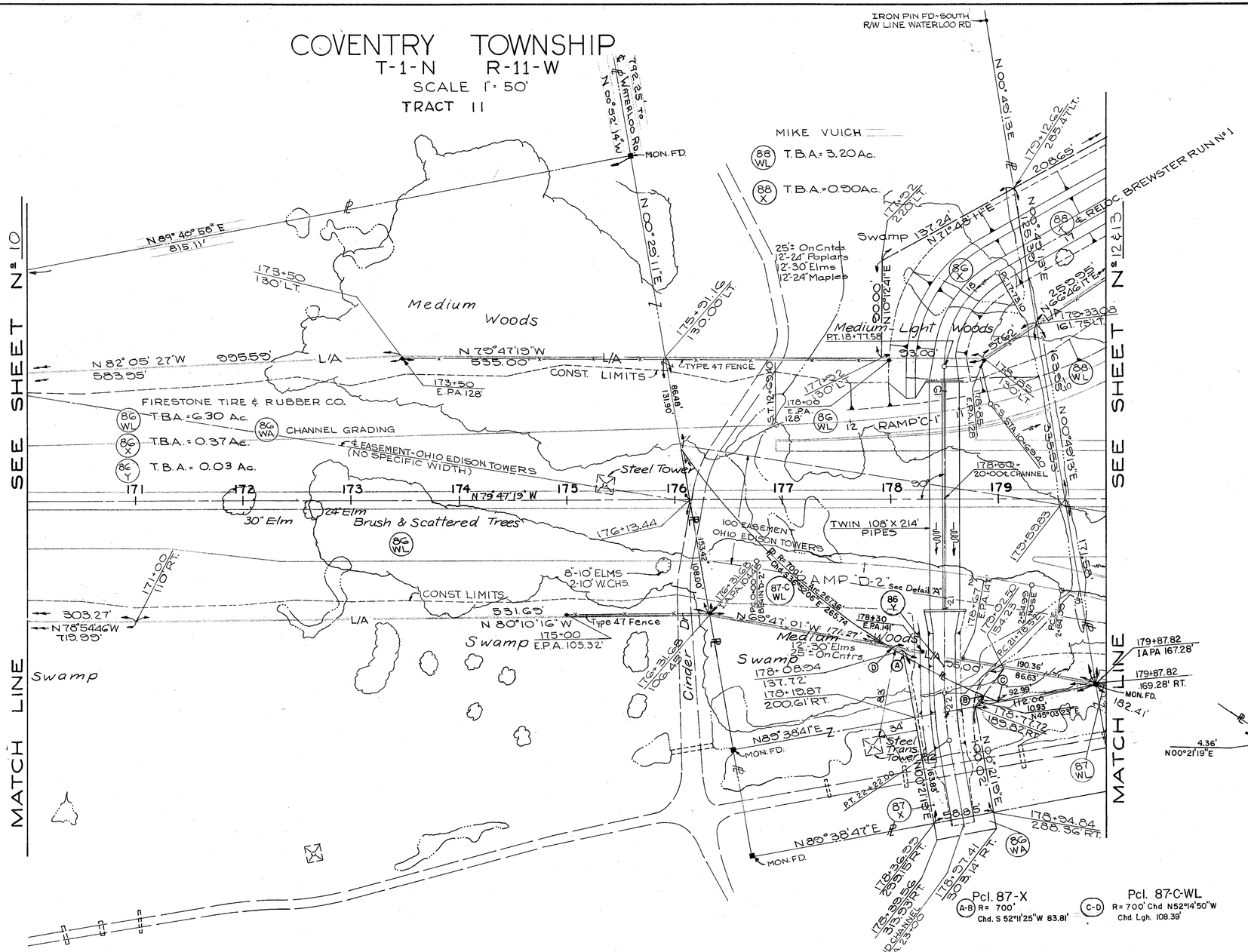
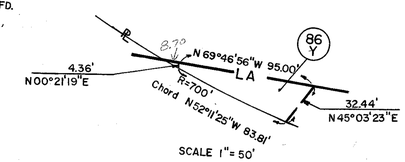
COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE 1" = 50'
TRACT 11





SCALE 1" = 50'

(86 Y) TBA = 0.03 Ac.

Detail "A"

Pcl. 87-X
(A-B) R= 700'
Chd. S 52° 11' 25" W 83.81'

Pcl. 87-C-WL
(C-D) R= 700' Chd N 52° 14' 50" W
Chd. Lgh. 108.39'

OHIO EDISON CO.

(87 WL) T.B.A. = 2.63 Ac.
P.R.O. = 0.05 Ac. (3802 S.F.)

(87 X) T.B.A. = 0.19 Ac.

(87C WL) T.B.A. 0.23 Ac.
P.R.O. 0.00 Ac.

No	REVISIONS	MADE BY	DATE
1	Added Tract Number		3-26-65
2	Added Bearings & Distances		4-8-65
3	Revised Pcls. 86-WL, 86-Y, 86X, Added Pcl. 87-C-WL	Lee	1-12-67
4	Added Raidus, Chd. Bear. & Dist.	Lee	1-13-67

RIGHT OF WAY STA. 170+00 TO STA. 180+00

Ohio Highway Dept. Div. of R/W - Engr. & Right of Way Section
MAR 1 1955
LOGGED

COVENTRY TOWNSHIP TRACT 11

T-1-N R-11-W

SEE SHEET Nº 13

SCALE: 1" = 50'

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

12/19

CLARENCE G. & VIOLET L. MILLER
(96 WL) T.B.A. = 0.29 Ac.
P.R.O. = 0.08 Ac.

CLARENCE & ELPHA MARIE DEGER
(99 WL) T.B.A. = 0.22 Ac.
P.R.O. = 0.05 Ac.

EDNA LICIA
(97 WL) T.B.A. = 0.39 Ac.
P.R.O. = 0.08 Ac.

CORA COCHRAN
(100 WL) T.B.A. = 0.63 Ac.
P.R.O. = 0.12 Ac.

JOSEPH MANCINE
(93 WL) T.B.A. = 5.13 Ac.
P.R.O. = 0.18 Ac.

MIKE VUICK
(88 WL) T.B.A. = 3.20 Ac.

OHIO EDISON CO
(87 WL) T.B.A. = 2.64 Ac.
P.R.O. = 0.09 Ac.

FIRESTONE TIRE & RUBBER CO.
(86A WL) T.B.A. = 8.33 Ac.
P.R.O. = 0.06 Ac

ELIZABETH V. WINEMILLER
(103 WL) T.B.A. = 0.27 Ac.
P.R.O. = 0.15 Ac.
(103 WD) T.B.A. = 0.43 Ac.
P.R.O. = 0.32 Ac.
(103 WA) DRIVEWAY GRADING

JULIA A. NEMES
(101 WL) T.B.A. = 0.69 Ac.
P.R.O. = 0.08 Ac.

G. HANNA
(104 WL) T.B.A. = 0.17 Ac.
P.R.O. = 0.22 Ac.
(104 WD) T.B.A. = 0.08 Ac.
P.R.O. = 0.19 Ac.
(104 WA) T.B.A. = 0.30 Ac.
P.R.O. = 0.31 Ac.

(108 WL) FIRST WESLEYAN METHODIST CHURCH OF AKRON
P.R.O. = 0.06 Ac.
(108 T) T.B.A. = 0.16 Ac.

(105 RWL) T.B.A. = 1.23 Ac.
(105 SL) T.B.A. = 0.05 Ac.

Nº	REVISIONS	MADE BY	DATE
1	Added Tract Number		3-26-65
2	Deleted Town & St. Combined Wts.		10-14-65
3	Added Bdg. & Dis. Pol. 105.		10-19-65
4	Changed Tel. 102 to 84 & W.L.	SC.	1-13-66
5	Revised Distances & T.B.A. Pol. 104-A WD	Lee	7-19-67

SEE SHEET Nº 11

MATCH LINE

SEE SHEET Nº 14

MATCH LINE STA. 40+75

INTERSECTION DETAIL
EXIST. SOUTH MAIN STREET
& SWARTZ ROAD
SCALE: NONE

& CURVE DATA
EXIST. S. MAIN ST.
Δ = 05°08'33"
Dc = 5°
R = 1145.92'
T = 51.52'
L = 102.85'

& RELOC. S. MAIN ST.
R/W CURVE DATA
P.I. STA. 43+28.42
Δ = 14°11'48"
Dc = 3°
R = 1909.86'
T = 237.61'
L = 473.22'
E = 14.75'

& SWARTZ RD.
R/W CURVE DATA
P.I. STA. 3+66.04
Δ = 9°45'00"
Dc = 2°30'
R = 2291.83'
T = 94.39'
Lc = 188.67'

DETAIL
NO SCALE

LEGEND
● IRON PIN FD

SOUTH SIDE - RIGHT OF WAY STA. 180+00 TO STA. 195+00

COVENTRY TOWNSHIP
T-1-N R-11-W

SCALE: 1" = 50'

TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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Nº	REVISIONS	MADE BY	DATE
1	Added Pcl. 92-T, Revised Pcl. 92 X.	[illegible]	3-1-65
2	Added Topography	[illegible]	3-16-65
3	Added Tract Number	[illegible]	3-26-65
4	Deleted 106WL, Now 105AWL.	[illegible]	10-14-65
5	Added Pipe line		12-3-85
6	Added Bearing & distance to Pcl 92-T-1	IRICK	11-21-66

N 00°57'05"E

PT. 60+42.16 REL. S. MAIN
340+77.50 (EXIST. S. MAIN)
(END EXIST. STATIONING)

Δ 8°18'45"

P.I. EXIST. S. MAIN 339+51.64
P.I. REL. S. MAIN STA. 55+23.61

PT. 340+25.15 EXIST. S. MAIN

P.I. RELOC. S. MAIN
8.02'
P.I. EXIST. S. MAIN

Δ 22°20'31"

P.C. 58+04.66 REL. S. MAIN

PC. 338+76.21 EXIST. S. MAIN

N 07°21'40" W

N 22°23'26" W EXIST. & RELOC. S. MAIN

IRON PIN F.D. SOUTH R/W LINE WATERLOO RD.

INTERSECTION DETAIL
EXIST. S. MAIN ST. & RELOC. S. MAIN ST.

ARTHUR O. & CLARA CORICE
(89 WL) T.B.A. = 0.75 Ac.
1-Sty. Insulbrick Body Shop
(89 X) T.B.A. = 0.39 Ac.

MEET EXIST. CHANNEL STA. 7+69

ERNEST R. GENOVESE & CHRISTINE M. CAMPBELL
(90 WL) T.B.A. = 0.12 Ac.
(90 X) T.B.A. = 0.36 Ac.

60+23.48
121.51' LT.
60+00.51
77.20' LT.
MATCH LINE STA. 60+00
Asph. Apr.
N 60°56'46" E 136.00'
N 29°03'14" W 262.00'
N 29°03'14" E 150.91'
N 29°03'14" E 262.00'
N 60°56'46" E 136.00'
60+34.10
142.65' LT.
N 29°03'14" E
Fr. Bldg.
Fr. Bldg.
Fr. Bldg.

COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1"=50
TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

14
19

Nº	REVISIONS	MADE BY	DATE
1	Changed Pcl. 87AWA to 87BWA.	GP	3-16-65
2	ADDED TRACT NUMBER		3-26-65
3	Deleted Pcls. 106, Combined with 105	GP	10-14-65
4	NAME CHANGE PCL. 114 WL		12-29-65

℄ R/W CURVE DATA:
P.I. STA. 200+67.26
Δ = 10°37'30"
Dc = 1°00'
R = 5729.58'
T = 532.78'
Lc = 1062.50'
E = 24.72'

VIOLA CORTESI & THOMAS L. PETLEY
(113 WL) T.B.A. = 0.44 Ac.

ESTATE OF
JOHN P. ALLEN, DEC'D., ETAL., BY WILLIAM L. ALLEN
& HARPER C. ALLEN, EXECUTORS.
(114 WL) T.B.A. = 0.44 Ac.

FRED H. & JESSIE M. LEE
(115 WL) T.B.A. = 0.97 Ac.

OHIO EDISON COMPANY
(87B WA) CUT & DRESS SLOPES

SEE SHEETS Nº 12 & 13

MATCH LINE

SEE SHEET Nº 15

MATCH LINE

Cemetery Drive

Note: R/W Fence to be constructed around proposed towers.

OHIO EDISON CO.
(87-A WL) T.B.A. = 1.33 Ac.
P.R.O. = 0.06 Ac.
(87-A WA) SLOPE GRADING

135'-0.0 Lt. 2.30 Rt.

DECATUR AVE.

L/A

Steel Towers

N 82°46'16" W 66.58'

CONST. LIMITS

Brush

Row

Steel Towers

Field Dr.

201+78.14 C.P. 120.28'

Chain Link Fence 45.62'

220.80'

N 89°35'51" W

204+03.23 130°93'15" Lt.

(87B WA)

N 89°45'12" E 246.15'

4-4" Dogwood

18" W.Ch.

207+00

157.92' N 89°39'44" E

5-4" W.Ch.

208+12.30 133°55' Lt.

Field Dr.

209+21.48 12' Lt.

79.18'

79.15'

L/A

N 89°38'15" E

CONST. LIMITS

N 89°21'05" E

209+10.69 133°64' Lt.

133.68'

N 89°36'48" E

168.87'

N 87°33'11" W

162.86'

Pt. Sta. 195+34.48

(87-A WL)

N 89°46'42" E 309.23'

3-1" Peach

3-1½" Peach

1½" Peach

4-1½" Pear

2" Pear

N 89°39'05" W 308.51'

N 88°30'47" E

2-4" W.Ch.

201+78.14 122.28' Lt.

LOC. TAN. 85°43'46"

LOC. TAN. 86°56'05"

LOC. TAN. 88°51'08"

107.36'

122.46'

130.95'

Pt. Sta. 205+96.98

206+54.38 133°60' Lt.

133.63'

8" Dogwood

6" W.Ch.

15" W.Ch.

5-4" Dogwood

3-6" Oak

3-6" W.Ch.

133.42'

Nursery Centers

196 197 198 199 199+75 200 201 202 203 204 205 206 207 208 209

195+50

17-8-12" W.Ch.

LOC. TAN. 82°35'31.5"

9-6-15" W.Ch.

5-6" W.Ch.

Brush

197+28.47

(105 AWL)

(105 SL)

(108 WL)

(109 WL)

(110 WL)

(111 WL)

(112 WL)

(113 WL)

(114 WL)

(115 WL)

200+38.50

200+47.38 129.88' Rt.

201+84.83

201+00 A.P.A. 31.06'

201+00 33.00' Rt.

201+85.89 125.49' Rt.

204+06.23

204+08.36 113.75' Rt.

6" Dogwood

2-6" W.Ch.

2-4" W.Ch.

113.77'

6" W.Ch.

206+51.66

206+49.41 I.A.P.A. 108.32'

3"&6" Apple

3" Pear

4" Apple

6" W.Ch.

4-5" Dogwood

24" W.Ch.

12" W.Ch.

2-6" Oak

206+49.41 110.32' Rt.

208+03.61

110.16'

110.08'

110.00'

N 00°55'11" E

12" Apple

78.26'

78.61'

Evergreen 4 lbs

208+85.95 110.06' Rt.

209+67.52 109.56' Rt.

12" Apple

78.56'

N 00°55'11" E

310.06' N 83°33'05" W

Type 47 Fence

L/A

CONST. LIMITS

N 81°46'14" W 310.84'

53.28'

53.77'

Tw. 8" Maple 221.68'

244.86'

15" W.Ch.

S 89°31'18" W 875.85'

FIRST WESLEYAN METHODIST CHURCH OF AKRON

(105 AWL) T.B.A. = 1.23 Ac.

(105 SL) T.B.A. = 0.05 Ac.

RALPH W. & IRENE K. BENTZ
(108 WL) T.B.A. = 1.52 Ac.

HERMAN V. & MINNIE R. CALVERT
(109 WL) T.B.A. = 0.82 Ac.

LEO L. & VIRGIE L. RICH
(110 WL) T.B.A. = 1.25 Ac.

VIRGLE G. & RUTH H. BRYANT
(111 WL) T.B.A. = 1.38 Ac.

EMMA M. DULLABAHN
(112 WL) T.B.A. = 0.88 Ac.

327.43.91 121.18' Rt.

2-12" W.Ch.

8" Peach

3" Apple

6" Plum

Fr. Sheds

Fr. Shed

10" Gravel

3" Apples

6" Apple

9-6" W.Ch.

208+07.38 110.15' Rt.

Fr. Shed

Kennel

S 00°45'05" W

S 00°52'36" E

N 00°44'31" E

N 00°55'11" E

S 00°54'03" W

S 00°38'30" W

S 00°26'49" W

Pcs Pen

Fr. Shed

Fr. Gar.

1½ St. Fr. Hse.

1 St. Fr. Hse.

Fr. Bldg.

N. R/W LINE SWARTZ RD.

S 00°51'46" W

6'-0.00 30' Lt.

12" W.Ch.

6" W.Ch.

6" Apple

5" W.Ch.

10" Pine

6" Conc. Drive

1½ St. Brick Hse.

235.11' N 83°49'38" W

N 88°37'54" W 234.18'

Guy W.

Pt. Sta. 4+60.32

SWARTZ RD.

Hedge

Hedge

6" Conc. Curb

3' Conc. Walk

18" Poplar

10" Poplar

12" Beech

10" Cherry

6" Pine

12" Deciduous

12" Cinder Dr.

2-St. Fr. Hse.

21' Conc. Walk

12" Cinder Dr.

3' Evgr.

10" Privet

2-St. Fr. Hse.

18" Blacktop Dr.

Evgrns.

2" Maples

Wood Fence

12" Maple

10" Elm

6" Elm

12"

LEGEND
● IRON PIN FD

RIGHT OF WAY STA. 195+00 TO STA. 210+00

State Highway Dept. Div. of H/W - ENGR. & ADMN. SECT. RAVENNA, OHIO

MAR 1 1965

LOGGED

Pcls. Bill &c.

Course	Bearing	Distance
Parcel 137-T		
1 - 2	S. 27°-21'-45" E.	85.73'
2 - 3	S. 00°-33'-15" W.	47.58'
3 - 4	S. 81°-10'-09" E.	36.46'
4 - 5	S. 89°-32'-12" W.	79.13'
5 - 6	N. 03°-16'-23" E.	95.86'
6 - 1	N. 00°-52'-10" E.	31.01'

FRED H. & JESSIE M. LEE
(115 WL) T.B.A. = 0.97 Ac.

HENRIETTA S. DUBROVICH
(117 WL) T.B.A. = 0.97 Ac.

LOYS H. THOMAS & NAOMI G. THOMAS
(120A WL) T.B.A. = 0.37 Ac. (16,100 S.F.)

HARRY M. & MILDRED R. LYTLE
(120 B WA) CONT. = 57.31 S.F.

THURMAN R. & VELMA R. McKOWN
(120 WL) T.B.A. = 3,682.69 S.F.

EDWARD F. HOBAN, ARCHBISHOP OF CLEVELAND
(95 X) T.B.A. = 0.19 Ac.

OHIO EDISON CO.
(87A WD) T.B.A. = 0.02 Ac., P.R.O. = 0.10 Ac.
(87A X) T.B.A. = 0.51 Ac.
(87A WA) FILL & GRADE

JOSEPH W. & IRENE HOCK
(121 WL) T.B.A. = 3.50 Ac., P.R.O. = 0.15 Ac.
(121 WD) T.B.A. = 0.15 Ac., P.R.O. = 0.12 Ac.
(121A WD) T.B.A. = 0.40 Ac., P.R.O. = 0.03 Ac. (1,124 S.F.)

OHIO EDISON COMPANY
(122 T) T.B.A. = 0.10 Ac. (4486 S.F.) TEMP. RUNAROUND
(122 WD) T.B.A. = 0.02 Ac. (868 S.F.), P.R.O. = 0.05 Ac. (2303 S.F.)
(122 X) T.B.A. = 0.63 Ac.

DANIEL D. & WANDA L. RUNJAMIN
(123 WL) T.B.A. = 0.36 Ac. (14916 S.F.), P.R.O. = 0.07 Ac. (3480 S.F.)

℄ GLENMOUNT AVE. CURVE DATA:
Δ = 9°54'54"
D = 5°
R = 1145.92'
T = 99.40
L = 198.30

ROSE L. YANDIK
(124 WL) T.B.A. = 0.41 Ac. (17,841 S.F.)

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY SUM-277-0.46

15/19

NOTE: New building will not be disturbed or damaged by the Temporary Run-Around

ANDREW BESKITT
(125 WL) T.B.A. = 0.30 Ac. (12,956 S.F.)

DAN & ANNA BESKITT
(126 WL) T.B.A. = 1.444 Ac. (62,901 S.F.)

A. & T. MISBRENER
(134A WL) T.B.A. = 0.17 Ac. (7,489 S.F.)
(134A WA) GARAGE REMOVAL

COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1" = 50'
TRACT 11

SEE SHEET No. 14

SEE SHEET No. 16

MATCH LINE

MATCH LINE

BREWSTER RUN

RELOC. BREWSTER RUN No. 2

MARKEY (PRIVATE) ST.

GLENMOUNT AVE.

NAOMI ST.

PRIVATE ROAD

LAND LOCKED

THOMAS ALLOT 8

ALLOT 10

PB-57 11

P-28 12

Steel Tower

Guy Pole

Open Field

Woods

Light Brush

Scattered Trees 3-15 Elms & 2-12" Ch. Light Brush

Shrubs

Hedge Row

Fence Row

Brick Wall

Septic Tank

Guy Wire

Manhole

Shed

Gravel Dr.

Chain Link Fence

Type 47 Fence

Exist. 36" Brick Sanitary Trunk Sewer (City of Akron)

Exist. Twin 72" C.M.P. Culvert

Exist. 8" Sanitary Sewer

Exist. 2-52 Gas Line

Exist. 20" H.P. Gas Line

Exist. 4" Gas Line

Exist. 12" Water Line

Exist. 8" Water Line

Exist. 6" Water Line

Exist. 4" Water Line

Exist. 2" Water Line

Exist. 1" Water Line

Exist. R/W

Const. Limits

Temp. line Change Rel. 137-T 3-21-66

Change Beat, Dist, & Area Rel. 137-T 8-10-66

Ohio Highway Dept. Dist. 4
HW - ENGR & ADMIN SECT.
RAVENNA, OHIO

MAR 1 1965

LOGGED

Crds _____ Bill Bk. _____

DETAIL "A"
SCALE: NONE

DETAIL "B"
SCALE: NONE

No	REVISIONS	MADE BY	DATE
1	Pcls. 123, 124, 125, 126, 127, 132, 133, 134, 134 Revised		3-23-65
2	Rev. Area Pcl 126 WL		3-25-65
3	Same as No. 1, Area Revised	GS	4-8-65
4	Name Change 127 & 128, Deleted Pcls. 128, Combined with 127's.	GS	6-4-65
5	Revised Pcl. 120 WL, Added Pcl. 120 BWA & Name Change 120 WL & 120 BWA.		11-12-65
6	Added Struct. & changed Par. 137-T		11-15-65

WADE HALL
(127 WL) T.B.A. = 0.40 Ac. (16651 S.F.), P.R.O. = 0.08 Ac. (4178 S.F.)

(127 WD) T.B.A. = 0.01 Ac. (316 S.F.), P.R.O. = 0.01 Ac. (532 S.F.)
(127 T) T.B.A. = 138 S.F. TEMP. RUNAROUND

R.E. & L.M. PUGH
(131 WA) WORK AREA

HARRY E. & LILLIAN G. THOMAS
(132 WL) T.B.A. = 0.10 Ac. (4334 S.F.)
(132 WA) GARAGE REMOVAL

WILLIAM E. & ALICE M. SHARPE
(133 WL) T.B.A. = 0.10 Ac. (4358 S.F.)
(133 WA) GARAGE REMOVAL

MARY KUPRESAN
(134 WL) T.B.A. = 0.22 Ac. (9394 S.F.)
(134 WA) HOUSE REMOVAL

M.E. & M.E. HIENER
(129 WD) T.B.A. = 0.01 Ac. (310 S.F.), P.R.O. = 0.03 Ac. (1300 S.F.)
(129 T) T.B.A. = 600 S.F. DRIVEWAY GRADING & TEMP. RUNAROUND

LEOMA WALTZ
(130 WA) DRIVEWAY GRADING & WORK AREA

LEGEND
● IRON PIN FD.

RIGHT OF WAY STA. 210+00 TO STA. 225+00

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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COVENTRY TOWNSHIP
T-1-N R-11-W
SCALE: 1" = 50'
TRACT II

DAN BESKITT & ANNA BESKITT
(126 WL) T.B.A. = 1.444Ac.

(126 S) T.B.A. = 0.02 Ac. (661 S.F.)

DAN BESKITT & ANNA BESKITT
(126 AWL) T.B.A. = 1.35 Ac.

OHIO EDISON CO.
(122 WL) T.B.A. = 0.70 Ac.

(122 X) T.B.A. = 0.63 Ac.

COLUMBIAN YOUTH CLUB ASSOC. INC.
(137 X) T.B.A. = 0.21 Ac.

(137 S) T.B.A. = 0.06 Ac. (2557 S.F.)

(137B T) T.B.A. = 0.13 Ac. SLOPE GRADING

(137A T) T.B.A. = 0.12 Ac. FILLING IN LOW AREA

(137 T) T.B.A. = 0.092 Ac. TEMP. RUNAROUND

FIRESTONE TIRE & RUBBER CO.
(138 WL) T.B.A. = 5.14 Ac.

(138 WD) T.B.A. = 0.25 Ac.

GUIDO SPAGNUOLO
(139 WL) T.B.A. = 0.13 Ac.

(139 T) T.B.A. = 0.78 Ac. FILLING IN LOW AREA

SEE SHEET Nº 15

MATCH LINE SEE SHEET Nº 17

MATCH LINE SEE SHEET Nº 19

END SHEET STA. 235+00

N87°03'30"E 20' H.P. Gas Line

N87°58'38"E 550.79' Steel Towers

N85°32'04"E 461.94'

N85°38'12"E 120.73'

N85°38'12"E 234.02'

N85°58'22"W 48.51'

N89°32'04"E 310.61'

N89°58'22"W 320.03'

N85°58'39"E 539.25'

N87°34'32"E 309.52'

N85°58'42"W 106.41'

N 60°17'50"E 150.46'

N 60°46'10"E 230.50'

N 50°36'51"E 190.28'

N 01°12'59"E 125.00'

N 01°12'59"E 102.14'

N 01°40'34"E 181.28'

N 04°25'50"W 108.80'

N 02°41'55"E 17.59'

N 84°09'07"E Exist. L/A 37.93'

N 89°34'38"E 1004.64'

N 85°34'30"E

N 88°50'55"E 145.20'

N 86°34'51"E 385.12'

N 80°53'49"E 416.89'

N 83°55'46"E 644.27'

N 35°46'10"E

STA. 228+00 BK. STA. 222+59.78 AD.
EQUATION

BREWSTER RUN

Woods

Open Field

Light Brush

Steel Tower

Const. Limits

Type 47 Fence

Chain Link Fence

Exist. L/A

Exist. 10" Sewer Easement 226+92.57 28.75' LT.

Exist. 20' Sewer Easement 225+50.48 50.25' LT.

Exist. 10' Sewer Easement (City of Akron) 224+31.21

MON. FD. @ ALLOT. CORNER

PRIVATE ℄ PENGUIN AVE. ROAD

LEGEND
● IRON PIN FD.

OHIO EDISON CO.
(122 WL) T.B.A. = 0.70 Ac.

END PROJECT	BEGIN PROJECT
SUM. 277-0.46	SUM. 277-0.00
STA. 228+68.84	STA. 228+68.84

Nº	REVISIONS	MADE BY	DATE
1	Private Road added		3-23-65
2	Deleted P/Os. 135 WL, 135 WD & Combined With 126 WL - Changed 135 S & 136 WL to 126 S & 126 AWL		3-25-65
3	Area Change P/ 137 T	KB	8-10-66

RIGHT OF WAY STA. 225+00 TO STA. 235+00

State Highway Dept. Div. 6
HIGHWAYS & ROADS SECT
RAVENNA, OHIO

MAR 1 1965

LOGGED
Grds ..... Bill Bk. .....

N°	REVISIONS	MADE BY	DATE
	Distances on ℄, added	T.A.B.	3-24-65
1	Added Canal ℄, Bngs., Dis., ℄ Offsets.		4-8-65
2	Revised Pcl. 10-WD 5-18-66		
3	ADDED FUNDING FLAGS PER I.O.C. FROM J.J. ADAMS DATED 6/16/68.	J.R.B.	6/28/68

5-8-78 ADDED NOTE FOR VACATING PCL 10-X

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

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L. YOUNG INC.
(10 WD) T.B.A. = 1.24 Ac. (54,156 S.F.) P.R.O. = 1.77 Ac. (76,938 S.F.)
(10 X) T.B.A. = 0.05 Ac (2088 S.F.) STORM SEWER OUTLET
(10 WA) DRIVE WAY GRADING
(10B WA) HOUSE REMOVAL

NESMITH LAKE - STATE OF OHIO
(9 WD) T.B.A. = 0.15 Ac. (6395 S.F.) P.R.O. = 0.03 Ac. (1308 S.F.)

EQUATION
STA. 423+36.10 BACK = STA. 21+48.43 AHEAD

℄ CURVE DATA:
P.I. STA. 33+24.09
Δ = 5° 02' 15" LT.
D_c = 1° 00'
R = 5729.58'
L_c = 503.15'
T = 252.05'
E = 5.54'

CITY OF AKRON - KENMORE DISTRICT
(8 WD) T.B.A. = 0.24 Ac. (10,512 S.F.)

INELIGIBLE FUNDS, MANCHESTER RD. CITY & STATE ONLY STA. 21+81 TO STA. 35+00

ELIGIBLE PARTICIPATION MANCHESTER RD. END ELIG. PARTICIPATION STA. 43+69.47

INELIGIBLE FUNDS, MANCHESTER RD. CITY & STATE ONLY STA. 43+69.47 TO STA. 47+81

ELIGIBLE PARTICIPATION MANCHESTER RD. BEGIN ELIG. PARTICIPATION STA. 35+00.00

CITY OF AKRON
T-1-N R-11-W
SCALE: 1" = 50'

NOTE 'A' - PCL 10-X VACATED AND ENTERED IN DIRECTOR'S JOURNAL, VOL. 6, PAGE 46 DATED 2-15-77 AND RECORDED IN VOL. 5929, PGS 117-121 OF THE RECORDS OF SUMMIT COUNTY.

LEGEND
● IRON PIN FD

(11 WD) T.B.A. = 0.03 Ac. (1311 S.F.) STATE OF OHIO - CANAL PROPERTY

DETAIL "A"
NO SCALE

DETAIL "B"
NO SCALE

℄ CURVE DATA:
P.I. STA. 37+82.98
Δ = 10° 43' 58" LT.
D_c = 3° 00'
R = 1909.86'
L_c = 357.76'
T = 179.40'
E = 8.41'

(2A WL) T.B.A. = 0.57 Ac. P.R.O. = 0.03 Ac. (24,843 S.F.) (15005 S.F.)

FIRESTONE POST № 3383, VETERANS OF FOREIGN WARS OF THE UNITED STATES

STA. 41+69.20 MANCHESTER RD. = STA. 130+86.48 SUM-224

NOTE: SEE R/W SHEET № 7

NOTE: SEE R/W SHT. № 8

50' DRIVEWAY EASEMENT TO MARGUERITE L. RENNER

JOHN E. & EVA MAE CAMPBELL (6 WL) T.B.A. = 0.29 Ac. (12,486 S.F.)

FRANK & AGNES KOLAR (5 WD) T.B.A. = 0.06 Ac. (2540 S.F.)

ALICE ZAGER (3 WD) T.B.A. = 0.02 Ac. (674 S.F.) P.R.O. = 0.11 Ac. (4579 S.F.)
FRONTAGE REPAIR

(6 WL) (6 WA) ASPH. PAV'T. & VOTING BOOTH REMOVAL

(2A WL) (2B WL) T.B.A. = 0.57 Ac. P.R.O. = 0.03 Ac. (24,843 S.F.) (15005 S.F.)

(2B WL) T.B.A. = 1.65 Ac. (72,194 S.F.) P.R.O. = 0.48 Ac. (20,738 S.F.) CITY OF AKRON

(2B X) T.B.A. = 0.23 Ac. (10,067 S.F.)

(7 WD) T.B.A. = 0.04 Ac (1,784 S.F.) H. ZIMMERMAN ET AL

(7 WA) HOUSE REMOVAL

(12 WD) T.B.A. = 0.02 Ac (758 S.F.) NICK P. & MARGARET J. GUISTINO

(13 WL) T.B.A. = 0.03 Ac (1479 S.F.) HELEN & EMMA ZIMMERMAN

(14 WL) T.B.A. = 0.03 Ac. (1521 S.F.) JAMES PANTUSO

(20 WL) T.B.A. = 0.06 Ac. (2695 S.F.) 366 S. MAIN ST. INC.

(20 WD) T.B.A. = 0.01 Ac. (406 S.F.)

(20 T) SLOPE GRADING T.B.A. = 0.23 Ac. (9275 S.F.)

(22 WD) T.B.A. = 0.03 Ac. (1400 S.F.) ALLENSIDE ATHLETIC CLUB

(22 WA) BLDG. REMOVAL & SLOPE GRADING

(23 WD) T.B.A. = 0.02 Ac (760 S.F.) GULF OIL CORP.

(23 WA) DRIVEWAY REPAIR

S.E. CORNER R/W CURVE DATA

PROPOSED	EXISTING
Δ = 95° 15' 48"	Δ = 95° 15' 48"
R = 35'	R = 40'
T = 42.76'	T = 49.85'
L_c = 64.84'	L_c = 66.51'
P.C. = 47+17.50-36 RT.	P.C. = 47+16.66-30 RT.
P.T. = 20+81.67-30 RT.	P.T. = 20+76.74-30 RT.

END WORK STA. 47+81

STA. 47+93.70 MANCHESTER RD.
STA. 20+00 WATERLOO RD.
SEE INTERSECTION DETAIL "C"

END ACQUISITION STA. 47+93.70

STA. 47+93.58 MANCHESTER RD. STA. 20+00.00 WATERLOO RD. N 10° 13' 21" E ℄ MANCHESTER RD ℄ R/W & ℄ CONST.

INTERSECTION DETAIL "C"
NO SCALE

RIGHT OF WAY
MANCHESTER RD.
STA. 21+48.43 TO STA. 47+93.58

Ohio Highway Dept. Dist. 4 R/W Engr. & Acquisitions Ravenna, Ohio
MAR 1 1968
LOGGED
Grds ____ Bill Bk. ____

COVENTRY TOWNSHIP

T-1-N R-11-W

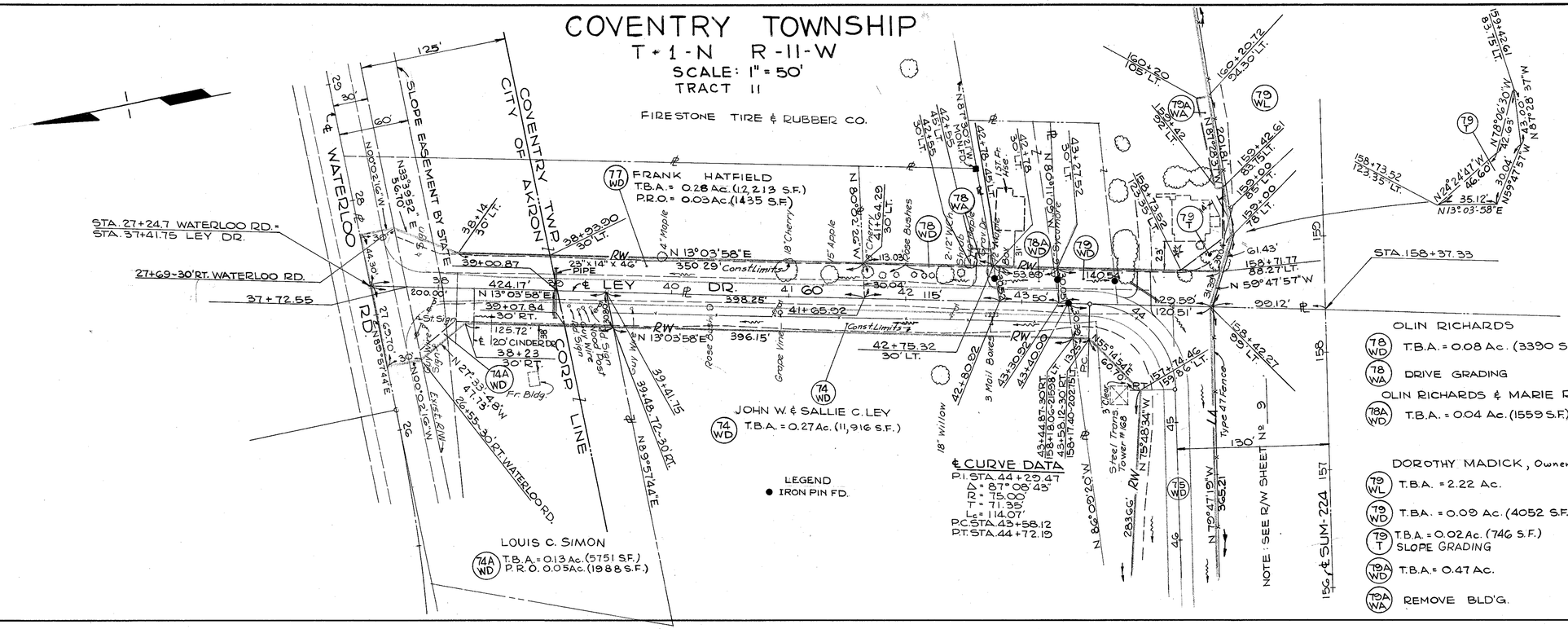
SCALE: 1" = 50'

TRACT 11

FED. RD.	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM-277-0.46

18
19



Nº	REVISIONS	MADE BY	DATE
1	ADDED TRACT NUMBER		3-26-65
2	Deleted Pcl. 78AWA		4-8-65
3	Name Change Pcl 79		9-25-65
4	Revised Area Pcl 77WD		10-13-65

RIGHT OF WAY
LEY DR.

OHIO HIGHWAY DEPARTMENT
R/W ENGR. & PROPERTY SERVICES
REVIEWED
MAR 1 1965
LOGGED
Orig. Bill Sq.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

SUMMIT COUNTY
SUM 277-0.46
LIMITED ACCESS

11
19
19

SUMMIT COUNTY
COVENTRY TOWNSHIP
TRACT 11
T-1 R-11

TESSIE NOVAK R/W
Sub-Lot #60
R=152.17'
249+36
352.00'
249+83
327.00'
466
Cont. 0.10 Ac.
WOODVIEW DRIVE
Sub-Lot #77
Sub-Lot #76
Sub-Lot #75
Sub-Lot #74
ARMAND V. KOLT
JESSIE KOLT
Hse.
LA
(Future R/W for U.S. 224 Interchange)
Limit of Construction for U.S. 224 Interchange
545.56'
N86°15'55"W
244+035
184.50'
Gar.
DELBERT H. SHANE & FAITH E. SHANE
RICHARD HENLEY & ROSAMOND A. HENLEY
246+79.5
211.50'
245+845
202.50'
244+90.5
193.50'
184.50'
N04°10'05"W
EMILY E. KENNEDY a.k.a. EMILY E. HILL
Sub-Lot #78
Cont. 0.83 Ac.
1-Sty Brick Hse Under Const.
463A LA
246+95.5
94.50'
461 LA
246+01.5
87.50'
Cont. 0.26 Ac.
460 LA
Cont. 0.51 Ac.
459 LA
Cont. 0.48 Ac.
458 LA
Cont. 5.68 Ac.
138 WL
FIRESTONE TIRE & RUBBER CO.
NOTE: PARCEL 458 LA WILL BECOME A PART OF PARCEL 138 WL
238+595
106.50'
N83°55'46"E
644.27'
14"Oak
16"Oak
18"Oak
12"Oak
237
238
239
240
241
242
243
244
244+04.33
244+04
33.00'
245+15
32.50'
246+12
32.50'
242+57
48.00'
N 85°34'30"E
Future U.S. 224 ℄
Heavy Brush 2"to 4" Trees
1004.64'
N89°34'38"E
24" Elm
236+82
150.00'
SOUTH PLAZA ESTATES
RAMP A
Sub-Lot #79
Fr. Gar.
ROBERT T. CRUSH
JOAN CRUSH
Gar.
462 LA
Cont. 0.52 Ac.
1-Sty. Fr. & Stone Dwg.
243
246
Match Line Sheet No. 16
Match Line Insert
(Proposed R/W for I.R. 77 Only)
N89°27'13"E
147.84'
244+045
38.00'
END ACQUISITION
SUM-277-0.46
STA. 244+04.33
T.B.A. 1.03 Ac.
P.R.O. 0.08 Ac.
Cont. 1.11 Ac.
451 LA
247+16
51.00'
PAUL PAMER, ADAM PAMER, LYDIA PAMER, JOSEPH PAMER, EVA KALMAN, FRED PAMER, WILLIAM PAMER, ESTHER SPOTTS, KATHRYN GERVENY, MARY LANGANEK & ANN V. PAMER
RAMP B-1
LOUISE C. GLESS a.k.a. LOUISE K. GLESS, LAWRENCE A. GLESS, JOHN J. GLESS & ROSE C. KLINE
454 LA
Cont. 20.10 Ac.
239+39
257.50'
RAMP B
Limit of Construction for U.S. 224 Interchange
240+38
350.00'
Limit of Construction for U.S. 224 Interchange
458 LA
Cont 5.68 Ac.
138 WL
FIRESTONE TIRE & RUBBER CO.
Heavy Brush 2"to 4" Trees
Earth Berm
N83°55'46"E
644.27'
232+15.5
125.00'
MATCH LINE STA 232+15.5 SEE SHEET No 16
N02°41'55"E
10.63'
232+54.81
118.12' LT.
232+15.5
110.50'
6" Twin Walnut
Wild Crabapple Thicket
1004.64'
N85°34'38"E
576.23'
N83°58'39"E
Limit of Construction for U.S. 224 Interchange
232+16.82
121.05 LT.
232+19
138.50 LT.
Match Line Insert
N 85°34'30"E
Future U.S. 224 ℄
232
233
234
235
236
(Future R/W for U.S. 224 Interchange)
Brewster Run
10' Existing R/W
24" V.C.P.
M.H.
243+17
601.00'
241+50
613.50'
242+08
747.50'
LOUISE C. GLESS a.k.a. LOUISE K. GLESS, LAWRENCE A. GLESS, JOHN J. GLESS & ROSE C. KLINE
MARY H. HEISSER
J.A. BOYER & LORENA M. BOYER
Match Line Sheet No. 17

SOUTH PLAZA ESTATES 1ST ADD.
An Allotment in Tract No. 11
Twp.-1 (Coventry) Range 11
Summit County, Ohio
Lots 60 thru 107 Platt 45 Pages 10 & 11

Nº	REVISIONS	MADE BY	DATE

Sheet Completed
Date: 12-22-61

Revised
Date: 2-5-62
Added Topo.
Date: 3-12-62
Changed Names Parcels 459 LA, 454 LA & 462 LA; Changed Parcel 463 LA to 463A LA
Date: 12-11-63
Changed offset Parcel 466
Parcel 466 Name changed 3-31-64

(OFFSETS FROM U.S. 224 INTERCHANGE ℄)

State Highway Dept. Div. 4
R/W - ENGR & ADMIN SECT.
RAVENNA, OHIO
MAR 1 1965
LOGGED
BY

U.S. 224 INTERCHANGE
STA. 232+00 TO STA. 247+60 RIGHT-OF-WAY PLAN

IE-95
400-1-63

GENERAL INFORMATION

INTRODUCTION

The project consists of the relocation 2.2 miles of USR 224, beginning 400 feet north of existing USR 224, 1000 feet west of SR 93, eastward, extending eastward, and terminating 1000 feet east of Glenmount Ave. 0.3 mile south of existing USR 224. Also included in this report are the profiles for Waterloo Road, Manchester Road - Ramp A and B, Service Road No. 1, Access Road (Ley Road) South Main Street - Ramp C, C-1, C-2, D, D-1, D-2, and D-3, Swartz Road, Relocated Cemetery Entrance and Glenmount Avenue.

Maximum proposed cuts and embankments are shown in the Project Index, on this sheet.

GEOLOGY OF THE PROJECT

The alignment traverses an area of glacial, alluvial and sedimentary deposits in a buried pre-glacial stream valley, now occupied by the Tuscarawas River, on the glaciated Allegheny Plateau. Sandstones and shales of Lower Pennsylvanian and Upper Mississippian ages comprise the local bedrock.

EXPLORATION

Borings were made by means of truck-mounted mechanical soil auger, hand auger (in areas of difficult access), and rotary-type drill rig, during July, August, and September, 1963. Supplemental borings were made on September 29 and 30, 1964.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below proposed grade consist predominantly of gravels (A-1), sandy gravels (A-2-4), sands (A-3a and A-3) and occasional silts (A-4), having generally low moisture contents, as well as sandstone bedrock.

Weathered sandstone bedrock is anticipated in the excavations at the following stations:

USR 224

Stations 133+30 to 143+50 - at grade and in the ditches and lower portions of the backslopes.

Ramp A

Stations 0+00 to 5+00 - at grade and in the ditches and lower portions of the backslopes.

Stations 10+00 to 13+00 - in the ditches.

Ramp B

Stations 3+00 to 8+00 - at grade and in the ditches and lower portions of the backslopes.

Wet, frost susceptible silts were encountered within three feet below proposed grade at mainline stations 196+00 and 203+00, and Manchester Road station 26+00.

Low strength, compressible peats were encountered immediately below grade between stations 49+00 and 51+00 of Proposed Access Road (Ley Drive). Random fill, comprised of rubber waste, overlying peat, encountered immediately below proposed grade at station 45+00.

In the embankment foundation areas, materials are comprised of sandy gravels (A-1-b), sands (A-3 and A-3a), and silts (A-4), with occasional gravels and clays, having a wide range of moisture contents, as well as low strength highly compressible peats and organic soils.

Low strength compressible peats were encountered at the following stations:

USR 224

Stations 158+00 to 153+80 - left to right of centerline.

Stations 136+00 to 163+00 - left to right of centerline.

Station 165+00 - centerline to right of centerline.

Station 167+00 - right of centerline

Station 167+50 - at centerline.

Stations 169+00 to 171+00 - left of centerline.

Station 175+50 - right of centerline.

Stations 187+00 to 187+30 - left of centerline.

Station 223+00 (Ahead) - right of centerline.

Stations 223+30 to 224+52 (Ahead) - left to right of centerline.

Proposed Access Road (Ley Drive)

Stations 38+00 and 39+00 - left to right of centerline.
Station 40+00 - at centerline.
Stations 44+00 and 45+00 - left to right of centerline.
Stations 49+00 to 51+00 - at centerline.
Stations 53+20 to 60+00 - left to right of centerline.

Station 61+00 - right of centerline.

Ramp C-2 (South Main Street Interchange)

Stations 1+20 to 1+70 - left to right of centerline.

Station 2+20 - right of centerline.

Ramp D-1 (South Main Street Interchange)

Stations 11+30 to 12+00 - right of centerline

Areas of wet and/or organic materials were encountered scattered throughout the project. You are referred to the profile and cross-sections for a more detailed study of these areas.

An at-surface deposit of man-made random fill, comprised predominantly of rubber waste, was encountered between stations 156+00 and 158+00, at least 150 feet left and right of centerline. A 6-foot interval of sand, cinders, and ashes was encountered at station 137+50.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 1303 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 and/or stone fragments	A-1-a(0)	A-1-a	59	23	11	4	3	NP	NP	5	62
Gravel and/or stone fragments with sand	A-1-b(0)	A-1-b	34	31	25	5	5	NP	NP	9	225
Fine sand	A-3(0)	A-3	7	22	54	- 7 -		NP	NP	10	129
Coarse and fine sand	------	A-3a	9	17	35	11	8	NP	NP	11	317
Gravel and/or stone fragments with sand and silt	A-2-4(0)	A-2-4	30	11	30	17	12	22	0	11	44
Gravel with sand, silt and clay	A-2-7(0)	A-2-7	0	16	43	17	15	44	19	41	2
Sandy silt	A-4(2)	A-4a	11	7	31	23	18	23	6	15	154
Silt	A-4(8)	A-4b	2	3	13	60	20	23	1	22	127
Elastic silt and clay	A-5(3)	A-5	6	11	29	37	17	57	3	43	3
Silt and clay	A-6(8)	A-6a	2	2	14	40	42	32	12	27	18
Silty clay	A-6(12)	A-6b	0	0	15	33	37	35	12	30	2
Elastic clay	A-7-5(20)	A-2-5	0	3	13	44	40	53	47	53	37
Clay	A-7-6(15)	A-7-6	1	2	13	40	45	30	24	23	14
Fibrous Peat		VISUAL CLASSIFICATION									2
Fine textured peat		VISUAL CLASSIFICATION									23
Loamy peat		VISUAL CLASSIFICATION									37
Marly, sedimentary peat		VISUAL CLASSIFICATION									13
Sedimentary peat		VISUAL CLASSIFICATION									75
Random fill consisting of - rubber waste, cinders, ashes, brickbats, rubbish and rags		VISUAL CLASSIFICATION									
Weathered sandstone		VISUAL CLASSIFICATION									
Various other materials		VISUAL CLASSIFICATION									

Soil and/or Topsoil - Approximate depth.

Berm material.

Auger boring - plan view

Drive sample boring - plan view

Auger boring plotted to vertical scale only.

Drive sample boring plotted to vertical scale only

Number of blows for "Standard Penetration" test.
X=number of blows for the first 6 inches.
Y=number of blows for the second 6 inches.

Water content nearly equal to or greater than liquid limit.

Indicates a non-plastic material with high water content.

Free water.

NOTE: Figures beside borings indicate water content in percent, e.g. 15

REVISED 10/14/64

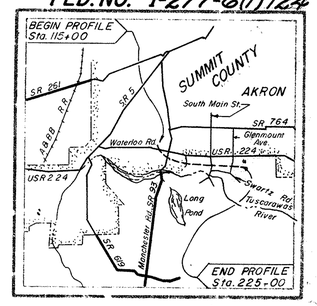
SOIL PROFILE
SUMMIT COUNTY
SUM-277 -0.46

1
-66

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: INFORMATION SHOWN BY THIS SUBGRADE SURVEY WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS FOR FUTURE CONSTRUCTION OF THE PROJECT.

FED. NO. I-277-6(1)124



LOCATION MAP

REVISION

Drilling - C.M.C. - 9/29/64 and 9/30/64.
Drafting - C.L.I. - 10/14/64

Recon - N.P.L. 7/31/63

Drilling -
Auger - J.A.G., C.M.C., L.M.D., T.R.S. 7/31/63 to 9/11/63
Core - W.G.S., 9/18/63

Drafting - F.H.S., E.J.S., A.F., E.A., S.J.H., D.R.C., C.L.I. 10/25/63

PROJECT INDEX

STATIONS FROM - To	PLAN VIEW SHEET	PROFILE SHEET	CUTS (MAX.)	FILL EMBANKMENTS (MAX.)
USR 224				
115+00 - 127+00	6	6	15'	2'
127+00 - 170+00	7	7	10'	8'
170+00 - 211+00	8	8	20'	23'
211+00 - 225+00	9	9	0'	5'
WATERLOO RD.				
7+00 - 22+00	10	10	Existing grade maintained	
MANCHESTER RD.				
25+00 - 42+00	10	11	11'	11'
RAMP A				
0+00 - 10+00	10	10	10'	-
RAMP B				
0+00 - 13+00	10	10	10'	-
SERVICE RD. NO. 1				
0+00 - 11+00	10	11	Proposed grade not available	
ACCESS RD. (LEY DRIVE)				
37+00 - 65+00	7	10	0'	4'
S. MAIN ST. INTERCHANGE				
S. MAIN ST.				
37+00 - 62+00	14	13	0'	22'
RAMP C				
0+00 - 4+26	14	15	-	15'
RAMP C-1				
4+26 - 13+00	14	15	-	14'
RAMP C-2				
0+00 - 3+26	14	16	-	21'
RAMP D				
0+00 - 3+21	14	17	7'	23'
RAMP D-1				
3+21 - 14+00	14	17	3'	22'
RAMP D-2				
0+00 - 11+00	14	17	-	20'
RAMP D-3				
0+00 - 3+07	14	17	3'	12'
SWARTZ RD.				
0+00 - 9+00	14	13	4'	-
RELOCATED CEMETERY ENTRANCE				
0+00 - 3+00	14	13	-	3'
GLENMOUNT AVENUE				
45+00 - 56+00	13	13	2'	-

SOIL PROFILE
SUMMIT COUNTY
SUM-277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

2/66

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		MAINLINE									
116+00	CL	0.0-6.0	30	15	32	12	6	NP	NP	7	A-3a *
		6.0-9.0	0	3	39	17	21	NP	NP	24	A-4a
		9.0-13.0	11	4	66	10	9	NP	NP	15	A-3a
		13.0-15.0	70	17	5	5	3	NP	NP	12	A-1-a
120+00	CL	0.0-6.0	33	9	37	13	6	NP	NP	5	A-2-4
		6.0-11.0	43	20	10	-27-		NP	NP	5	A-2-4
		11.0-16.0	37	46	11	-6-		NP	NP	4	A-1-b
		16.0-20.0	39	46	11	-4-		NP	NP	13	A-1-b
123+00	100'Lt	0.0-5.0	21	29	40	3	7	NP	NP	5	A-1-b
		5.0-10.0	9	14	70	-7-		NP	NP	5	A-3
		10.0-17.0	10	19	41	-30-		NP	NP	5	A-3a
123+00	CL	0.0-5.0	10	45	39	5	11	NP	NP	6	A-3a
		5.0-10.0	10	27	39	14	8	NP	NP	9	A-3a
		10.0-17.0	7	25	39	-10-		NP	NP	5	A-3a
		17.0-20.0	12	9	27	35	17	NP	NP	19	A-4a
123+00	100'Rt	0.0-5.0	13	36	36	6	9	NP	NP	5	A-3a
		5.0-9.0	5	9	80	-6-		NP	NP	5	A-3
		9.0-16.0	5	13	75	-8-		NP	NP	15	A-3
		16.0-20.0	49	10	32	3	6	NP	NP	13	A-1-b
126+00	CL	0.0-5.5	17	17	36	19	11	NP	NP	9	A-3a
		5.5-10.0	0	1	13	63	13	NP	NP	13	A-4b
		10.0-15.0	0	0	2	78	20	NP	NP	13	A-4b
		15.0-20.0	0	1	4	76	19	NP	NP	15	A-4b
		20.0-25.0	0	0	0	76	24	NP	NP	13	A-4b
		25.0-30.0	8	7	17	50	18	NP	NP	19	A-4b
129+00	15'Lt	0.0-5.0	6	13	60	12	9	NP	NP	6	A-3a
		5.0-11.0	32	17	36	8	7	NP	NP	7	A-3a
		11.0-14.0	0	2	5	65	28	NP	NP	22	A-4b
		14.0-18.0	0	2	72	-25-		NP	NP	13	A-3a
		18.0-21.0	14	7	37	11	11	NP	NP	8	A-3a
130+00	CL	0.0-5.0	17	12	24	26	21	NP	NP	14	A-4a
		5.0-11.0	15	15	32	27	11	NP	NP	20	A-4a
		11.0-14.0	0	7	69	12	12	NP	NP	7	A-3a
		14.0-17.0	9	35	46	-10-		NP	NP	3	A-3
		17.0-20.0	20	16	32	18	14	NP	NP	10	A-2-4
134+00	CL	0.0-3.0	3	9	55	23	12	NP	NP	6	A-3a
		3.0-7.0	45	28	24	4	4	NP	NP	3	A-1-b
		7.0-12.0	6	4	13	50	27	NP	NP	17	A-4b
		12.0-16.0	23	9	32	27	17	NP	NP	12	A-4a
		16.0-20.0	51	28	12	4	5	NP	NP	7	A-1-a
137+00	10'Rt	0.0-2.0	6	7	60	17	10	NP	NP	5	A-3a *
		2.0-8.0	53	45	17	6	7	NP	NP	3	A-1-b
		8.0-12.0	45	3	40	7	8	NP	NP	7	A-2-4
		12.0-14.0	Brown Weathered Sandstone								Visual
140+00	CL	0.0-5.0	11	3	30	25	11	NP	NP	5	A-4a *
		5.0-15.5	Brown Weathered Sandstone								Visual *
142+00	CL	0.0-5.0	22	6	41	17	14	NP	NP	7	A-2-4
		5.0-14.0	Brown Weathered Sandstone								Visual *
144+00	20'Lt.	0.0-4.0	0	5	60	22	13	NP	NP	5	A-3a
		4.0-9.0	37	10	21	26	12	NP	NP	11	A-2-4
		9.0-16.0	33	6	22	25	9	NP	NP	11	A-2-4 *
146+60	20'Lt	0.0-4.0	22	9	30	20	19	NP	NP	7	A-4a *
		4.0-8.0	56	24	9	4	7	NP	NP	3	A-1-a *
		8.0-13.0	63	6	10	6	5	NP	NP	10	A-1-b
		13.0-19.0	57	7	16	10	10	NP	NP	27	A-1-b
148+50	20'Lt	0.0-5.5	58	6	22	7	7	NP	NP	3	A-1-b
151+50	10'Rt	0.0-4.0	27	4	45	14	10	NP	NP	9	A-2-4
		4.0-8.0	21	6	53	11	9	NP	NP	9	A-3a
		8.0-16.0	12	2	31	37	18	NP	NP	23	A-4a
151+50	100'Rt	0.0-1.5	Brown Sand								Visual
		1.5-3.0	Topsoil								Visual
		3.0-8.0	3	5	76	-16-		NP	NP	11	A-3a
		8.0-13.0	11	4	64	11	10	NP	NP	13	A-3a
152+00	100'Lt	0.0-5.0	Dark-Brown Fine-Textured Peat							285	Visual
		5.0-12.0	2	5	87	-6-		NP	NP	220	A-3
		12.0-18.0	3	11	82	-12-		NP	NP	220	A-3a
		18.0-24.0	5	0	80	-35-		NP	NP	116	A-3a
		24.0-30.0	7	3	86	-5-		NP	NP	28	A-3
152+00	CL	2.0-6.0	Black Loamy Peat							203	Visual
		6.0-11.0	0	1	9	63	27	NP	NP	203	A-4b
		11.0-18.0	6	4	13	54	23	NP	NP	203	A-4a
		18.0-24.0	32	3	32	24	14	NP	NP	28	A-2-4
		24.0-30.0	13	3	22	33	29	NP	NP	25	A-4a
152+00	100'Rt	0.0-5.0	Black Fine-Textured Peat							125	Visual
		5.0-9.0	0	0	30	27	23	32	13	31	A-6a
		9.0-15.0	3	0	39	16	17	NP	NP	15	A-3a
		15.0-20.0	12	12	69	-7-		NP	NP	24	A-3

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
152+50	100'Lt	0.5-7.0	37	8	36	8	11	NP	NP	13	A-2-4
		7.0-13.0	3	1	22	49	20	NP	NP	26	A-4a
		13.0-20.0	0	7	61	11	11	NP	NP	6	A-3a
		20.0-25.0	0	2	75	10	13	NP	NP	13	A-3a
153+40	CL	0.0-3.0	Dark-Brown Fine-Textured Peat							74	Visual
		3.0-12.0	43	31	19	1	6	NP	NP	14	A-1-b
		12.0-20.0	12	5	7	61	15	NP	NP	19	A-4b
		20.0-30.0	10	26	12	40	13	NP	NP	23	A-4a
154+00	20'Rt	3.0-5.0	0	4	26	27	43	65	40	72	A-7-6
		5.0-6.0	66	15	-	6	4	NP	NP	7	A-1-a
		6.0-9.0	9	2	-	61	19	NP	NP	22	A-4b
		9.0-15.0	0	0	13	66	21	NP	NP	28	A-4b
		15.0-22.0	0	1	8	62	29	NP	NP	24	A-4b
154+50	40'Lt	0.0-2.0	16	16	49	5	12	NP	NP	9	A-3a
		2.0-9.0	15	12	63	1	9	NP	NP	8	A-3
		9.0-9.0	15	12	11	50	12	NP	NP	22	A-4b
		9.0-13.0	82	2	17	-3-		NP	NP	5	A-1-a
154+50	20'Rt	0.0-8.0	16	7	57	8	12	NP	NP	4	A-3a
		8.0-14.0	0	2	14	67	17	NP	NP	16	A-4b
		14.0-20.0	0	0	1	30	49	NP	NP	17	A-4
154+50	100'Rt	0.3-2.0	14	17	41	14	14	NP	NP	4	A-3a
		2.0-6.0	0	15	73	1	8	NP	NP	5	A-3
		6.0-8.0	13	5	25	43	13	NP	NP	16	A-4a
		8.0-15.0	0	0	7	76	17	NP	NP	18	A-4b
		15.0-20.0	0	0	47	46	7	NP	NP	21	A-4a
		20.0-25.0	0	0	2	68	13	NP	NP	19	A-4b
		25.0-30.0	0	0	12	72	16	NP	NP	20	A-4b
155+00	CL	0.0-3.0	13	28	37	10	9	NP	NP	8	A-3a
		3.0-9.0	62	5	15	7	6	NP	NP	8	A-1-b
		9.0-15.0	15	5	6	50	21	NP	NP	23	A-4b
		15.0-22.0	7	3	35	44	11	NP	NP	19	A-4a
		22.0-30.0	4	2	23	62	9	NP	NP	20	A-4b
155+45	CL	0.0-3.0	16	13	44	13	12	NP	NP	6	A-3a
		3.0-7.0	0	0	53	-7-		NP	NP	4	A-3
		7.0-9.5	54	32	11	-3-		NP	NP	4	A-1-a
		9.5-12.0	0	1	33	49	17	NP	NP	16	A-4a
155+50	30'Lt	1.0-4.0	0	12	66	10	10	NP	NP	3	A-3a
		4.0-6.0	61	15	-	9	6	NP	NP	13	A-1-a
		6.0-10.0	13	77	6	-4-		NP	NP	5	A-1-b
155+50	30'Rt	1.0-3.0	13	5	44	13	13	NP	NP	11	A-2-4
		3.0-4.0	71	11	12	2	4	NP	NP	3	A-1-a
		4.0-6.0	8	49	40	-3-		NP	NP	4	A-1-b
		6.0-9.0	47	33	14	2	4	NP	NP	4	A-1-b
		9.0-12.0	0	1	16	61	20	NP	NP	12	A-4b
156+00	10'Lt	3.0-3.0	3	4	82	0	11	NP	NP	3	A-3a
		3.0-16.0	37	36	14	7	6	NP	NP	4	A-1-b
		16.0-20.0	0	5	22	57	16	NP	NP	14	A-4b
156+00	75'Lt	0.0-3.0	Rubber Waste								Visual
		3.0-5.0	Black Loamy Peat							43	Visual
		5.0-8.0	14	8	44	22	12	NP	NP	11	A-3a
		8.0-15.0	29	5	15	-3-		NP	NP	3	A-1-b
		15.0-22.0	13	6	62	7	12	NP	NP	9	A-3a
156+00	CL	0.0-8.0	Dark-Brown Sand with Cinders, Ashes and Stone Fragments								Visual
		8.0-18.0	0	3	14	61	22	63	19	76	A-7-5
		18.0-22.0	19	30	43	3	5	NP	NP	4	A-3
		22.0-30.0	3	2	20	58	17	NP	NP	13	A-4b
156+00	75'Rt	0.0-6.0	Rubber Waste							-	Visual
		6.0-13.0	Black Loamy Peat							173	Visual
		13.0-19.0	Dark-Gray Sedimentary Peat							84	Visual
		19.0-25.0	Dark-Gray Sedimentary Peat							90	Visual
		25.0-30.0	3	9	63	14	4	NP	NP	20	A-3a
156+00	130'Rt	0.0-4.0	7	3	62	11	4	NP	NP	10	A-3a
		4.0-9.0	22	18	27	11	4	NP	NP	8	A-3a
		9.0-13.0	4	10	3	74	9	NP	NP	23	A-4b
		13.0-20.0	5	6	8	53	10	NP	NP	14	A-4b
		20.0-30.0	0	3	28	54	15	NP	NP	17	A-4b
156+00	175'Rt	0.3-5.0	6	27	52	-5-		NP	NP	4	A-3
		5.0-7.0	21	15	13	31	19	NP	NP	20	A-4a
		7.0-10.0	52	39	6	-3-		NP	NP	4	A-1-a
157+00	150'Lt	0.0-4.0	Rubber Waste								Visual
		4.0-7.0	Black Loamy Peat							145	Visual
		7.0-13.0	14	13	45	20	8	NP	NP	12	A-3a
		13.0-18.0	0	2	14	71	13	NP	NP	19	A-4b
		18.0-23.0	36	44	12	5	3	NP	NP	7	A-1-b
157+00	75'Lt	0.0-5.0	Rubber Waste								Visual
		5.0-13.0	Black Loamy Peat							232	Visual
		13.0-17.0	12	9	23	46	10	NP	NP	16	A-4a
		17.0-26.0	26	51	9	10	4	NP	NP	12	A-1-b
		26.0-30.0	0	2	11	76	11	NP	NP	19	A-4b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
157+00	CL	0.0-4.0	Brown Sand with Rubber Waste								Visual
		4.0-10.0	Black Loamy Peat							226	Visual
		10.0-16.0	Dark-Grayish-Brown Sedimentary Peat							117	Visual
		16.0-26.0	Dark-Gray Sedimentary Peat							69	Visual
		26.0-30.0	Gray Sedimentary Peat							70	Visual
157+00	30'Rt	0.0-4.0	Rubber Waste								Visual
		4.0-10.0	Dark-Gray Sedimentary Peat							157	Visual
		10.0-12.0	0	51	38	3	8	NP	NP	19	A-3a
		12.0-18.0	Gray Sedimentary Peat							68	Visual
		18.0-26.0	Dark-Gray Sedimentary Peat							111	Visual
		26.0-29.0	Gray Sedimentary Peat							75	Visual
		29.0-30.0	Gray Sand							-	Visual
157+00	100'Rt	0.0-6.0	Gray Cinders, Ashes, and Brickbats								Visual
		6.0-11.0	Black Loamy Peat							272	Visual
		11.0-19.0	Dark-Gray Sedimentary Peat							101	Visual
		19.0-24.0	Gray Sedimentary Peat							79	Visual
		24.0-30.0	16	20	36	19	9	NP	NP	19	A-3a
157+00	150'Rt	0.0-6.0	Rubber Waste								Visual
		6.0-8.0	Black Loamy Peat							104	Visual
		8.0-15.0	12	21	54	7	6	NP	NP	13	A-3a
		15.0-20.0	9	12	39	12	9	NP	NP	10	A-3a
		20.0-26.0	24	31	34	6	5	NP	NP	5	A-3a
157+00	175'Rt	0.4-2.0	13	17	47	12	11	NP	NP	10	A-3a
		2.0-4.0	0	7	26	40	27	NP	NP	23	A-4a
		4.0-8.0	12	30	56	-3-		NP	NP	5	A-3
		8.0-10.0	0	21	31	59	8	NP	NP	19	A-4b
		10.0-14.0	31	22	12	-4-		NP	NP	5	A-1-a
158+00	150'Lt	0.0-5.0	Black Loamy Peat							137	Visual
		5.0-8.0	21	10	22	28	19	NP	NP	22	A-4a
		8.0-15.0	29	17	45	3	6	NP	NP	5	A-3
		15.0-20.0	11	16	62	4	6	NP	NP	4	A-3
158+00	75'Lt	0.0-4.0	Rubber Waste								Visual
		4.0-11.0	Black Loamy Peat							191	Visual
		11.0-14.0	Dark-Gray Marly Sedimentary Peat							89	Visual
		14.0-20.0	14	9	45	22	7	NP	NP	13	A-3a
		20.0-25.0	16	19	14	43	8	NP	NP	16	A-4a
158+00	CL	0.0-5.0	Rubber Waste								Visual
		5.0-14.0	Dark-Brown Sedimentary Peat							43	Visual
		14.0-22.0	Dark-Gray Marly Sedimentary Peat							95	Visual
		22.0-30.0	24	16	42	11	7	NP	NP	12	A-3a
158+00	75'Rt	0.0-7.0	Rubber Waste								Visual
		7.0-13.0	Dark-Gray Sedimentary Peat							69	Visual
		13.0-15.0	22	35	32	5	6	NP	NP	24	A-1-a
		15.0-21.0	Gray Sedimentary Peat							30	Visual
		21.0-24.0	Dark-Gray Marly Sedimentary Peat							110	Visual
		24.0-30.0	28	15	39	12	6	NP	NP	14	A-3a
158+00	125'Rt	0.0-4.0	Rubbish, Rubber, and Rags								Visual
		4.0-8.0	Black Loamy Peat							181	Visual
		8.0-11.0	Dark-Grayish-Brown Sedimentary Peat							62	Visual
		11.0-18.0	41	13	35	5	6	NP	NP	9	A-1-a
		18.0-20.0	3	4	77	-16-		NP	NP	5	A-3a
158+00	130'Rt	0.0-5.0	Rubber Waste								Visual
		5.0-8.0	Dark-Brown Loamy Peat							56	Visual
		8.0-10.0	0	37	54	3	6	NP	NP	3	A-3
		10.0-14.0	0	0	2	91	7	NP	NP	24	A-4b
		14.0-20.0	9	39	44	4	4	NP	NP	5	A-3
		20.0-24.0	34	27	11	6	2	NP	NP	6	A-1-a
		24.0-30.0	3	4	32	33	8	NP	NP	17	A-4b
158+25	175'Rt	0.0-4.0	Dark-Brown Sandy Silt with Cinders and Ashes								Visual
		4.0-7.0	Dark-Brown Fine-Textured Peat							120	Visual
		7.0-9.0	16	3	33	34	14	NP	NP	41	A-4a
		9.0-12.0	2	35	38	-5-		NP	NP	4	A-3a
		12.0-15.0	0	1	38	30	11	NP	NP	11	A-4b
158+50	100'Lt	1.0-3.0	27	11	31	17	14	NP	NP	25	A-2-4
		3.0-7.0	20	30	29	12	9	NP	NP	6	A-1-b
		7.0-10.0	14	28	42	7	9	NP	NP	4	A-3a
		10.0-13.0	0	21	72	-7-		NP	NP	5	A-3
		13.0-19.0	0	2	76	-22-		NP	NP	6	A-3a
159+00	CL	0.0-6.0	19	16	46	9	10	NP	NP	5	A-3a
		6.0-13.0	6	47	39	-6-		NP	NP	2	A-3
		13.0-20.0	0	2	13	74	11	NP	NP	20	A-4b
159+00	75'Rt	0.0-4.0	Dark-Brown Peat							163	Visual
		4.0-5.0	Dark-Gray Sedimentary Peat							64	Visual
		5.0-9.0	39	30	22	3	6	NP	NP	8	A-1-b
		9.0-13.0	9	11	65	7	6	NP	NP	3	A-3a
		13.0-16.0	13	18	23	33	13	NP	NP	5	A-4a
		16.0-23.0	0	8	29	49	14	NP	NP	17	A-4a
		23.0-30.0	0	13	76	2	9	NP	NP	22	A-3a
159+00	120'Rt	0.0-3.5	Black Fine-Textured Peat							216	Visual
		3.5-5.0	Dark-Brownish-Gray Sedimentary Peat							56	Visual
		5.0-8.0	0	33	42	13	12	NP	NP	11	A-3a
		8.0-11.0	Gray Sedimentary Peat							30	Visual
		11.0-18.0	29	23	40	3	4	NP	NP	7	A-1-b
		18.0-25.0	35	31	23	0	6	NP	NP	-	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
159+00	170'Rt	0.0-2.0	Dark-Brown Fine-Textured Peat							117	Visual
		2.0-12.0	Dark-Gray Sedimentary Peat							60	Visual
		12.0-18.0	44	37	16	-3-		NP	NP	4	A-1-b
		18.0-22.0	0	2	59	31	8	NP	NP	28	A-4a
160+00	40'Lt	0.5-4.0	23	9	43	11	14	NP	NP	9	A-3a
		4.0-11.0	16	9	39	9	7	NP	NP	3	A-3a
		11.0-14.0	0	1	5	83	11	NP	NP	26	A-4b
		14.0-20.0	16	29	44	3	8	NP	NP	3	A-3a
160+00	CL	0.0-3.5	Dark-Brown Loamy Peat							57	Visual
		3.5-6.0	15	33	42	3	7	NP	NP	9	A-3
		6.0-10.0	42	25	23	1	4	NP	NP	4	A-1-b
		10.0-16.0	24	28	41	3	4	NP	NP	4	A-1-b
		16.0-19.0	0	0	8	81	11	NP	NP	27	A-4b
		19.0-23.0	0	1	16	70	11	NP	NP	25	A-4b
		23.0-27.0	7	23	35	27	8	NP	NP	11	A-3a
160+00	75'Rt	0.0-3.0	Dark-Brown Loamy Peat							91	Visual
		3.0-8.0	Brown Loamy Peat							50	Visual
		8.0-14.0	3	7	56	21	6	NP	NP	6	A-3a
		14.0-19.0	8	16	69	3	4	NP	NP	4	A-3
160+00	130'Rt	0.0-3.0	Dark-Brown Loamy Peat							137	Visual
		3.0-4.0	0	37	7	NP	NP			15	A-3a
		4.0-7.0	Gray Sedimentary Peat							64	Visual
		7.0-9.0	0	18	71	5	6	NP	NP	25	A-3a
		9.0-15.0	Dark-Gray Sedimentary Peat							72	Visual
		15.0-21.0	Dark-Gray Sedimentary Peat							128	Visual
		21.0-30.0	Dark-Gray Sedimentary Peat							60	Visual
		30.0-34.0	Dark-Gray Sedimentary Peat							60	Visual
		34.0-38.0	60	18	11	7	4	NP	NP	15	A-1-a
160+00	200'Rt	0.0-4.0	Dark-Brown Fine-Textured Peat							193	Visual
		4.0-8.0	4	42	35	10	9	NP	NP	24	A-3a
		8.0-16.0	Gray Sedimentary Peat							91	Visual
		16.0-23.0	Gray Sedimentary Peat							63	Visual
		23.0-30.0	Dark-Gray Sedimentary Peat							36	Visual
		30.0-36.0	Dark-Gray Sedimentary Peat							60	Visual
		36.0-46.0	Dark-Gray Sedimentary Peat							119	Visual
160+00	230'Rt	0.0-4.0	Dark-Brown Fibrous Peat							459	Visual
		4.0-7.0	Dark-Brown Sedimentary Peat							91	Visual
		7.0-14.0	0	59	31	-10-		NP	NP	21	A-3
		14.0-30.0	Dark-Gray Sedimentary Peat							34	Visual
		30.0-41.0	Dark-Gray Sedimentary Peat							39	Visual
		41.0-46.0	Dark-Brown Sedimentary Peat							65	Visual
160+30	100'Lt	0.4-1.5	22	11	33	17	16	NP	NP	9	A-2-4
		1.5-3.0	25	34	17	16	9	NP	NP	11	A-1-b
		3.0-7.0	3	17	39	10	31	NP	NP	27	A-6a
		7.0-11.0	24	25	46	-5-		NP	NP	6	A-3
		11.0-12.0	0	4	31	57	8	NP	NP	20	A-4b
		12.0-13.0	0	40	54	-6-		NP	NP	5	A-3
		13.0-17.0	51	25	18	-6-		NP	NP	5	A-1-b
161+00	90'Lt	0.0-1.5	Dark-Brown Loamy Peat							65	Visual
		1.5-6.0	0	17	64	11	8	NP	NP	7	A-3a
		6.0-11.0	34	24	16	12	4	NP	NP	5	A-1a
		11.0-13.0	29	10	8	29	24	NP	NP	22	A-4a
		13.0-15.0	45	21	30	1	3	NP	NP	12	A-1-b
		15.0-18.0	0	0	8	61	11	NP	NP	27	A-4b
		18.0-21.0	6	3	5	77	9	NP	NP	27	A-4b
		21.0-24.0	76	7	3	6	3	NP	NP	6	A-1-a
161+00	35'Lt	1.5-4.0	0	7	40	31	22	NP	NP	46	A-4a
		4.0-6.0	0	13	72	8	7	NP	NP	6	A-3a
		6.0-8.0	0	9	73	10	8	NP	NP	6	A-3a
		8.0-10.0	70	14	13	-3-		NP	NP	6	A-1-a
		10.0-11.0	44	36	17	-3-		NP	NP	5	A-1-b
		11.0-13.0	5	1	4	37	53	27	11	23	A-6a
		13.0-14.0	11	13	67	-9-		NP	NP	4	A-3
		14.0-15.0	0	1	4	83	12	NP	NP	20	A-4b
161+00	CL	0.0-3.0	Black Loamy Peat							77	Visual
		3.0-5.0	10	32	44	5	9	NP	NP	11	A-3a
		5.0-7.0	0	20	45	33	49	13	32	32	A-7-5
		7.0-11.0	0	13	71	10	6	NP	NP	6	A-3a
		11.0-15.0	49	21	24	2	4	NP	NP	4	A-1-b
161+00	75'Rt	0.0-2.5	0	4	17	51	28	105	54	79	A-7-5
		2.5-6.0	6	22	50	7	15	NP	NP	23	A-3a
		6.0-14.0	Dark-Gray Marly Sedimentary Peat							74	Visual
		14.0-19.0	21	7	33	18	21	NP	NP	21	A-2-4
		19.0-26.0	26	24	42	4	4	NP	NP	17	A-1-b
		26.0-

SOIL PROFILE
SUMMIT COUNTY
SUM-277-0.46
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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SUMMARY OF SOIL TEST DATA (Cont'd)

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
162+00	30'Lt	C.0-1.4	Dark-Brown Loamy Peat							27	Visual
		1.4-3.0	C	4	23	34	33	82	5	26	A-4a
		3.0-7.C	66	20	3	3	2	NP	NP	7	A-1-a
		7.0-11.C	23	9	24	12	32	NP	NP	16	A-4a
		11.C-19.0	15	11	66	2	6	NP	NP	5	A-3
162+00	50'Lt	C.4-3.0	Dark-Brown Loamy Peat							163	Visual
		3.0-5.C	7	7	68	11	12	NP	NP	12	A-3a
		5.0-10.5	45	37	8	4	6	NP	NP	3	A-1-b
		10.5-13.0	C	C	1	24	75	36	14	21	A-6a
		13.0-16.0	21	15	58	- 6 -		NP	NP	4	A-3
		16.0-20.0	C	2	91	- 7 -		NP	NP	6	A-3
162+00	CL	0.C-2.5	Dark-Brown Loamy Peat							91	Visual
		2.5-5.C	0	28	63	2	7	NP	NP	7	A-3
		5.0-7.0	Gray Marly Sedimentary Peat							67	Visual
		7.0-9.5	Dark-Brownish-Gray Sedimentary Peat							96	Visual
		9.5-14.0	12	10	61	11	6	NP	NP	10	A-3a
		14.C-17.0	54	34	7	3	2	NP	NP	4	A-1-a
		17.0-22.0	7	9	74	5	5	NP	NP	19	A-3
162+00	75'Rt	0.0-4.0	Dark-Brown Loamy Peat							210	Visual
		4.0-8.0	Brownish-Gray Sedimentary Peat							288	Visual
		8.0-14.0	0	46	45	5	4	NP	NP	29	A-3
		14.0-20.0	Dark-Gray Sedimentary Peat							63	Visual
		20.C-26.0	C	13	71	10	6	NP	NP	15	A-3a
		26.0-30.0	46	25	20	5	4	NP	NP	13	A-1-b
162+00	150'Rt	0.0-3.0	Dark-Brown Loamy Peat							136	Visual
		3.0-6.0	Brownish-Gray Sedimentary Peat							123	Visual
		6.0-12.C	C	39	38	3	4	NP	NP	15	A-3
		12.0-17.C	10	49	29	5	7	NP	NP	27	A-1-b
		17.0-23.0	0	5	14	52	29	63	24	47	A-7-5
		23.0-30.0	55	26	12	4	3	NP	NP	10	A-1-a
162+00	200'Rt	0.0-3.5	Dark-Brown Loamy Peat							266	Visual
		3.5-9.0	C	22	52	14	12	NP	NP	21	A-3a
		9.C-14.C	0	42	47	5	6	NP	NP	20	A-3a
		14.0-16.0	Dark-Gray Sedimentary Peat							112	Visual
		16.0-18.0	19	41	23	9	8	NP	NP	21	A-1-b
		18.0-22.0	0	4	19	49	28	50	16	51	A-7-5
		22.0-30.0	45	23	22	4	6	NP	NP	15	A-1-b
162+75	30'Lt	0.5-2.0	Dark-Brown Loamy Peat							142	Visual
		2.0-4.0	C	2	15	34	26	76	37	66	A-7-5
		4.0-9.C	52	31	14	- 3 -		NP	NP	6	A-1-a
		9.0-15.0	C	6	30	- 4 -		NP	NP	4	A-3
163+00	100'Lt	0.0-6.C	0	10	42	26	22	NP	NP	22	A-4a
		6.0-12.0	0	21	56	9	14	NP	NP	9	A-3a
		12.0-18.0	5	3	74	12	6	NP	NP	5	A-3a
163+00	CL	0.0-5.0	22	45	27	3	3	NP	NP	4	A-1-b
		5.0-9.0	Gray Sedimentary Peat							59	Visual
		9.0-14.0	13	45	26	7	9	NP	NP	5	A-1-b
		14.0-20.0	41	41	11	2	5	NP	NP	4	A-1-b
163+00	100'Rt	0.0-4.0	C	29	45	13	13	NP	NP	12	A-3a
		4.0-10.0	63	C	1	31	5	NP	NP	4	A-4a
		10.0-15.0	11	41	26	15	7	NP	NP	3	A-1-b
163+00	200'Rt	0.0-2.0	Black Loamy Peat							53	Visual
		2.0-5.0	17	40	30	7	6	NP	NP	16	A-1-b
		5.0-7.0	Gray Sedimentary Peat							47	Visual
		7.0-14.0	21	45	26	3	5	NP	NP	6	A-1-b
		14.0-21.0	57	23	12	4	4	NP	NP	5	A-1-a
164+00	100'Lt	0.3-1.5	36	22	15	13	12	NP	NP	14	A-2-4
		1.5-4.5	52	13	14	4	7	NP	NP	13	A-1-a
		4.5-10.0	25	47	21	- 7 -		NP	NP	5	A-1-b
		10.0-14.0	53	31	13	- 3 -		NP	NP	5	A-1-a
164+00	CL	2.0-6.C	C	3	40	36	15	NP	NP	32	A-4a
		6.0-12.0	C	3	52	29	14	NP	NP	26	A-4a
		12.0-18.C	66	15	8	7	4	NP	NP	5	A-1-a
164+00	100'Rt	2.0-6.C	C	7	45	30	18	NP	NP	61	A-4a
		6.0-10.0	13	62	16	- 9 -		NP	NP	17	A-1-b
		10.0-16.5	Gray Marly Sedimentary Peat							63	Visual
		16.5-20.C	4	9	70	11	6	NP	NP	13	A-3a
		20.0-24.5	64	13	13	1	4	NP	NP	10	A-1-a
165+00	100'Lt	0.2-1.5	C	22	63	4	11	NP	NP	13	A-3a
		1.5-5.C	61	22	14	- 3 -		NP	NP	6	A-1-a
		5.0-7.0	33	35	6	- 3 -		NP	NP	5	A-1-a
		7.0-8.0	64	21	11	- 4 -		NP	NP	7	A-1-a
165+00	CL	2.0-6.0	C	17	35	29	19	45	5	38	A-5
		6.0-8.0	Dark-Gray Sedimentary Peat							68	Visual
		8.0 14.0	56	13	21	6	4	NP	NP	7	A-1-b
		14.0-20.0	30	19	26	1	4	NP	NP	4	A-1-b
165+00	100'Rt	2.0-6.0	12	43	31	6	8	NP	NP	10	A-1-b
		6.0-11.C	Gray Sedimentary Peat							85	Visual
		11.0-16.0	4	16	64	4	12	NP	NP	22	A-3a
		16.0-20.0	4	23	60	3	10	NP	NP	21	A-3a
		20.0-26.C	27	34	31	4	4	NP	NP	14	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
165+00	125'Rt	C.0-2.C	Dark-Brown Loamy Peat							172	Visual
		2.0-3.0	C	23	69	- 8 -		45	NP	13	A-3
		3.0-5.0	C	10	28	44	18	NP	NP	28	A-4a
		5.0-8.5	C	2	15	63	20	62	27	51	A-7-5
		8.5-15.C	9	62	25	- 4 -		NP	NP	4	A-3a
166+00	100'Lt	0.0-5.0	27	33	25	1	9	NP	NP	10	A-1-b
		5.0-10.0	44	26	17	6	7	NP	NP	7	A-1-b
		10.C-16.0	39	26	27	1	7	NP	NP	6	A-1-b
166+00	CL	0.0-3.C	Dark-Brown Loamy Peat							154	Visual
		3.0-5.C	C	6	13	51	30	NP	NP	38	A-4b
		5.C-6.C	C	68	24	- 8 -		NP	NP	5	A-3a
		6.0-10.5	C	3	12	62	23	NP	NP	33	A-4b
		10.5-12.0	36	30	26	- 8 -		NP	NP	6	A-1-b
166+00	100'Rt	3.0-8.C	27	36	27	3	7	NP	NP	10	A-1-b
		8.C-9.0	0	6	27	50	17	NP	NP	66	A-4b
		9.0-14.0	0	32	61	2	5	NP	NP	3	A-3
		14.0-17.5	0	41	53	3	3	NP	NP	17	A-3
167+00	100'Lt	C.C-5.C	32	10	31	14	13	NP	NP	17	A-2-4
		5.0-10.C	66	17	20	2	5	NP	NP	5	A-1-b
		10.0-15.C	46	17	24	9	4	NP	NP	5	A-1-b
167+00	100'Lt	C.0-5.C	43	28	23	2	7	NP	NP	9	A-1-b
		5.C-10.C	32	33	10	23	2	NP	NP	5	A-1-a
		10.C-15.0	39	35	22	2	2	NP	NP	4	A-1-b
167+00	CL	0.3-5.C	57	9	18	9	7	NP	NP	14	A-1-b
		5.0-10.0	38	21	24	10	6	NP	NP	6	A-1-b
		10.0-15.C	88	34	28	4	6	NP	NP	6	A-1-b
167+00	100'Rt	0.0-4.0	36	6	28	22	16	NP	NP	8	A-4a
		4.0-10.C	36	34	24	2	3	NP	NP	6	A-1-b
		10.0-15.0	45	32	13	4	5	NP	NP	5	A-1-b
167+00	150'Rt	C.C-4.C	Brown Sedimentary Peat							83	Visual
		4.C-10.C	26	21	48	3	2	NP	NP	5	A-3
		10.C-15.0	49	23	15	3	6	NP	NP	7	A-1-b
167+50	50'Lt	2.5-3.C	58	35	11	1	3	NP	NP	5	A-1-a
		3.0-14.0	29	31	33	3	4	NP	NP	6	A-1-b
167+50	CL	1.0-2.C	C	8	77	5	10	NP	NP	6	A-3a
		2.0-4.C	Brown Sedimentary Peat							95	Visual
		4.0-6.0	C	2	26	51	21	NP	NP	20	A-4b
		6.C-11.0	54	13	27	4	2	NP	NP	7	A-1-b
		11.0-14.C	46	31	18	2	3	NP	NP	4	A-1-b
167+50	75'Rt	2.C-11.C	38	33	19	7	3	NP	NP	12	A-1-b
167+50	150'Rt	2.C-3.C	Brown Sand							-	Visual
		3.C-5.C	C	15	28	36	21	NP	NP	36	A-4a
		5.C-7.C	C	61	24	10	5	NP	NP	5	A-3a
		7.0-9.0	C	1	6	70	23	NP	NP	33	A-4b
		9.0-15.0	30	21	37	7	5	NP	NP	7	A-1-b
		15.0-18.0	63	16	11	5	3	NP	NP	7	A-1-a
168+00	150'Lt	0.0-4.0	C	15	58	20	7	NP	NP	7	A-3a
		4.C-10.0	29	30	32	5	4	NP	NP	6	A-1-b
		10.0 15.0	56	25	10	7	2	NP	NP	6	A-1-a
168+00	100'Lt	0.0-6.C	C	7	43	27	13	NP	NP	13	A-4a
		6.0-11.C	45	29	17	7	3	NP	NP	6	A-1-b
		11.0-15.0	49	23	17	1	5	NP	NP	5	A-1-b
168+00	25'Lt	0.0-5.0	13	29	32	15	11	NP	NP	15	A-3a
		5.0-10.C	47	31	15	2	5	NP	NP	7	A-1-b
		10.0-15.0	42	21	11	21	5	NP	NP	6	A-2-4
168+00	150'Rt	0.0-5.0	0	4	11	56	29	NP	NP	47	A-4b
		5.0-7.0	C	36	23	26	15	NP	NP	13	A-4a
		7.0-9.0	C	1	10	65	24	43	14	39	A-7-6
		9.0-12.0	C	30	44	18	8	NP	NP	11	A-3a
		12.0-19.0	C	4	41	38	17	NP	NP	25	A-4a
		19.0-23.0	49	32	13	3	2	NP	NP	14	A-1-b
168+25	100'Rt	0.0-5.0	0	2	8	61	29	103	31	51	A-7-5
		5.0-9.0	C	14	44	30	12	NP	NP	20	A-4a
		9.0-16.0	0	3	35	50	12	NP	NP	26	A-4b
		16.0-22.0	21	32	40	C	7	NP	NP	15	A-1-b
169+00	150'Lt	0.6-6.0	12	13	66	3	6	NP	NP	9	A-3
		6.0-9.0	Gray Sedimentary Peat							52	Visual
		9.0-16.C	30	33	30	2	5	NP	NP	6	A-1-b
169+00	120'Lt	0.0-2.0	0	4	18	41	37	62	35	41	A-7-6
		2.0-6.C	C	3	68	9	15	NP	NP	18	A-3a
		6.0-8.0	0	3	15	54	28	59	24	48	A-7-5
		8.C-14.C	34	41	15	3	6	NP	NP	5	A-1-b
		14.0-17.0	42	22	28	3	6	NP	NP	7	A-1-b
169+00	75'Lt	0.6-5.0	0	10	36	31	23	64	33	38	A-7-5
		5.0-7.0	Gray Sedimentary Peat							54	Visual
		7.0-14.0	15	24	34	3	4	63	NP	5	A-3
		14.0-18.0	14	12	38	26	11	NP	NP	19	A-4a
		18.C-20.0	14	14	66	4	2	NP	NP	7	A-3

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
169+00	CL	2.0-7.0	23	42	23	5	7	NP	NP	8	A-1-b
		7.0-10.C	0	6	11	76	5	38	10	34	A-4b
		10.C-16.0	0	31	45	20	4	NP	NP	9	A-3a
		16.0-19.0	0	2	15	64	19	NP	NP	26	A-4a
		19.0-23.0	39	19	29	6	7	NP	NP	12	A-1-b
169+00	60'Rt	C.6-1.0	0	1	4	29	66	111	63	77	A-7-5
		1.0-4.0	0	2	26	51	21	NP	NP	38	A-4b
		4.C-7.0	0	2	26	73	17	34	9	32	A-4b
		7.0-9.0	0	2	23	51	24	58	31	31	A-4b
		9.0-15.0	12	46	25	4	13	NP	NP	12	A-1-b
		15.0-22.0	12	43	28	5	12	NP	NP	17	A-1-b
		22.0-29.0	17	44	27	7	5	NP	NP	14	A-1-b
		29.0-30.0	C	6	21	49	24	41	4	61	A-5
		30.0-32.C	C	6	49	32	13	NP	NP	26	A-4a
		32.0-36.0	36	33	23	- 8 -		NP	NP	11	A-1-a
169+00	100'Rt	0.0-2.C	C	1	4	36	59	143	69	86	A-7-5
		2.0-6.C	13	38	29	11	12	NP	NP	12	A-3a
		6.0-12.C	C	38	39	15	11	NP	NP	13	A-3a
		12.0-18.0	20	36	34	4	6	NP	NP	16	A-1-a
169+00	150'Rt	0.6-5.0	0	2	5	54	41	91	41	59	A-7-5
		5.0-8.0	0	46	6	28	13	NP	NP	6	A-3a
		8.0-12.0	0	0	15	67	18	NP	NP	27	A-4b
		12.0-15.0	0	0	19	54	19	NP	NP	26	A-4b
		15.0-20.0	0	34	57	4	5	NP	NP	20	A-3
170+00	100'Rt	0.0-6.0	24	44	33	3	6	NP	NP	5	A-1-b
		6.0-12.C	20	51	19	5	5	34	9	5	A-1-b
		12.C-15.0	0	4	15	58	23	NP	NP	37	A-4b
		15.0-21.0	13	28	36	14	10	NP	NP	17	A-3a
170+00	150'Rt	0.0-3.C	C	13	3	7	77	137	99	99	A-7-5
		3.0-6.0	16	29	42	4	9	NP	NP	14	A-3a
		6.0-7.0	0	3	35	40	22	86	44	44	A-4b
		7.0-13.C	0	36	38	3	4	NP	NP	9	A-3
		13.0-20.C	0	36	56	3	5	NP	NP	19	A-3
170+15	175'Lt	0.8-6.0	0	24	58	14	12	NP	NP	19	A-3a
		6.0-12.C	Gray Marly Sedimentary Peat							50	Visual
		12.0-18.0	38	18	37	2	4	NP	NP	14	A-1-b
		18.0-22.0	8	44	40	C	7	NP	NP	5	A-1-b
170+15	125'Lt	C.0-3.0	C	1	4	17	78	150	100	105	A-7-5
		3.0-7.C	11	34	46	4	5	NP	NP	19	A-3
		7.0-13.0	Gray Sedimentary Peat							56	Visual
		13.0-19.C	0	21	57	14	8	NP	NP	18	A-3a
		19.0-24.0	33	40	22	1	4	NP	NP	5	A-1-b
170+15	CL	0.0-5.C	15	16	62	3	4	NP	NP	6	A-3
		5.0-9.0	17	27	44	6	7	NP	NP	7	A-3a
		9.0-14.0	0	3	13	57	25	NP	NP	12	A-6a
		14.0-20.0	0	49	23	19	9	NP	NP	19	A-3a
		20.0-25.0	17	46	27	5	5	NP	NP	13	A-1-b
171+00	170'Lt	0.0-6.0	17	37	37	5	4	NP	NP	13	A-1-b
		6.C-11.0	0	40	27	5	5	NP	NP	22	A-3a
		11.0-16.0	34	33	27	5	5	NP	NP	22	A-1-b
		16.0-20.0	9	28	54	5	4	NP	NP	4	A-3
171+00	120'Lt	0.0-6.0	0	35	41	14	10	NP	NP	29	A-3a
		6.0-8.0	Gray Sedimentary Peat							61	Visual
		8.0-14.0	36	26	29	4	5	NP	NP	5	A-1-b
		14.0-20.0	10	27	55	1	7	NP	NP	6	A-3
171+00	50'Lt	0.6-4.C	0	1	45	33	21	NP	NP	20	A-4a
		4.0-10.C	11	45	33	7	4	NP	NP	6	A-3a
		10.C-15.0	21	34	36	6	4	NP	NP	5	A-1-b
171+00	CL	0.0-5.5	9	12	47	13	14	NP	NP	23	A-3a
		5.5-10.0	20	14	58	1	7	NP	NP	5	A-3
		10.C-15.0	C	31	49	8	12	NP	NP	10	A-3a
171+00	100'Rt	3.0-9.C	37	26	23	6	8	NP	NP	7	A-1-b
		9.0-13.C	C	1	36	46	17	NP	NP	25	A-4a
		13.0-20.0	C	33	57	2	8	NP	NP	4	A-3
171+00	150'Rt	0.0-3.C	0	26	49	13	12	NP	NP	12	A-3a
		3.0-9.0	0	62	26	7	5	NP	NP	4	A-1-b
		9.0-10.0	0	3	10	63	24	76	32	32	A-4b
		10.0-15.0	7	15	64	4	6	NP	NP	10	A-3
		15.0-20.C	0	34	60	2	4	NP	NP	19	A-3
172+00	150'Lt	0.6-5.0	0	4	66	16	14	NP	NP	28	A-3a
		5.0-10.C	34	28	26	7	5	NP	NP	12	A-1-a
		10.C-13.0	0	22	73	2	3	NP	NP	6	A-3
172+00	100'Lt	3.0-9.0	12	12	68	8	5	NP	NP	7	A-3a
		9.0-15.0	5	41	42	7	5	NP	NP	4	A-2a
172+00	CL	0.6-4.C	19	12	43	11	15	NP	NP	6	A-2a
		4.0-10.0	3	25	63	3	6	NP	NP	3	A-3
		10.0-15.5	36	24	34	1	6	NP	NP	3	A-1-b
172+00	100'Rt	2.0-3.C	21	30	40	2	7	NP	NP	8	A-1-b
		3.C-9.0	C	3	10	45	42	65	23	45	A-7-5
		9.0-15.0	C	3	25	5	6	NP	NP	4	A-3a
		15.0-17.C	36	33	28	3	6	NP	NP	4	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
172+00	150'Rt	3.C-6.C	0	31	20	28	10	NP	NP	11	A-4a
		6.C-9.C	C	2	25	53	20	40	10	36	A-4b
		9.0-14.0	26	10	50	- 7 -		NP	NP	8	A-3a
		14.C-17.5	9	24	64	1	2	NP	NP	19	A-3
173+00	80'Lt	0.2-5.0	14	36	43	12	6	NP	NP	5	A-3a
		5.0-10.C	15	38	43	4	6	NP	NP	6	A-3a
		10.C-16.C	5	36	49	5	5	NP	NP	4	A-3
173+00	CL	C.0-4.C	C	6	30	10	4	NP	NP	2	A-3a
		4.C-10.C	C	7	36	6	5	NP	NP	4	A-3a
		10.C-13.C	4	29	57	7	3	NP	NP	4	A-3
173+00	75'Rt	0.6-4.C	11	24	51	3	6	NP	NP	8	A-3a
		4.C-4.5	C	5	20	32	22	39	22	72	A-7-5
		4.5-7.C	C	2	23	- 8 -		NP	NP	5	A-3
		7.C-8.C	C	4	14	39	23	44	16	41	A-7-6
		8.0-11.5	C	2	29	57	7	23	NP	3	A-3
		11.5-13.C	C	1	13	54	32	39	10	27	A-4a
		13.C-20.0	C	10	79	7	4	NP	NP	7	A-3a
173+00	150'Rt	2.5-5.C	13	33	39	6	4	NP	NP	6	A-1-b
		5.C-9.0	C	2	21	56	21	NP	NP	32	A-4b
		9.C-15.C	C	38	34	- 8 -		NP	NP	6	A-3
		15.C-20.C	7	39	33	16	3	NP	NP	7	A-3a
174+00	75'Lt	0.0-2.C	C	7	76	7	7	NP	NP	4	A-3a
		2.C-7.C	17	28	36	4	6	NP	NP	4	A-3a
		7.C-12.0	17	7	49	7	4	NP	NP	6	A-1-b
		12.0-16.C	6	10	74	3	7	NP	NP	6	A-3
174+00	CL	0.0-5.C	13	33	36	7	7	NP	NP	5	A-3a
		5.C-10.C	17	33	43	7	6	NP	NP	7	A-3a
		10.C-15.C	5	33	30	22	5	NP	NP	5	A-3a
		15.C-17.0	30	25	14	5	3	NP	NP	5	A-1-a
174+00	75'Rt	C.3-3.C	22	15	43	10	9	NP	NP	6	A-3a
		3.C-9.C	3	3	77	6	6	NP	NP	5	A-3a
		9.0-14.0	7	17	66	6	4	NP	NP	4	A-3
174+00	150'Rt	C.3-6.0	11	26	38	14	11	NP	NP	11	A-3a
		6.C-10.0	49	26	38	6	3	NP	NP	5	A-1-b
		10.C-13.C	12	34	31	- 3 -		NP	NP	3	A-3a
		13.C-17.0	26	42	33	1	4	NP	NP	4	A-1-b
175+50	80'Lt	0.4-5.C	26	33	30	-11-		NP	NP	4	A-1-b
		5.0-7.0	62	22	11	- 4 -		NP	NP	5	A-1-a
175+50	50'Lt	C.5-4.C	C	9	80	- 11 -		NP	NP	2	A-3a
175+50	100'Rt	0.3-2.0	0	1	5	33	56	46	26	30	A-7-6
		2.0-7.5	C	35	30	6	9	NP	NP	7	A-3a
		7.5-9.C	Dark-Gray Sedimentary Peat							64	Visual
		9.0-14.0	25	33	30	6	3	NP	NP	4	A-1-b
		14.C-18.0	9	28	53	6	4	NP	NP	5	A-3
175+50	150'Rt	0.3-2.C	25	7	37	13	13	NP	NP	12	A-2-4
		2.0-5.0	0	11	48	23	13	NP	NP	11	A-4a
		5.0-7.C	Dark-Gray Sedimentary Peat							50	Visual
		7.0-12.C	20	30	43	3	4	NP	NP	7	A-1-b
		12.0-16.0	19	34	39	4	4	NP	NP	6	A-1-b
		16.0-20.C	11	35	41	9	4	NP	NP	15	A-3a
176+00	CL	0.0-5.C	39	4	26	20	11	NP	NP	16	A-2-4
		5.C-11.C	74	10	6	6	4	NP	NP	10	A-1-a
177+00	75'Lt	1.0-5.C	42	17	29	7	5	NP	NP	6	A-1-b
		5.0-8.C	5	13	72	6	4	NP	NP	5	A-3
		8.0-13.0	26	49	15	7	3	NP	NP	7	A-1-b
177+00	30'Rt	0.2-1.5	C	1	4	34	61	46	17	26	A-7-6
		1.5-8.C	3	16	60	11	9	NP	NP	12	A-3a
		8.0-13.0	C	41	47	7	5	NP	NP	10	A-3a
		13.0-17.0	45	34	13	4	3	NP	NP	4	A-1-b
177+00	150'Rt	1.5-6.C	33	24	30	5	8	NP	NP	5	A-1-b
		6.0-11.C	19	35	37	4	5	NP	NP	6	A-1-b
		11.C-12.C	C	4	27	49	20	62	32	45	A-7-5
		12.0-15.0	C	29	56	5	10	NP	NP	4	A-3a
		15.0-16.0	44	28	25	- 3 -		NP	NP	4	A-1-b

SOIL PROFILE
SUMMIT COUNTY
SUM-277 -0.46
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

4/66

SUMMARY OF SOIL TEST DATA (Cont'd)
NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
179+00 CL	0.6-5.0	C	37	32	17	14	NP	NP	9	A-3a
	5.0-6.0	C	2	48	35	15	NP	NP	3	A-4b
	6.0-11.0	19	26	48	5	6	NP	NP	3	A-3
	11.0-17.0	0	4	46	39	11	NP	NP	7	A-4a
179+00 100'Rt	0.3-5.0	C	55	34	3	8	NP	NP	4	A-1-b
	5.0-6.0	C	3	29	47	36	NP	NP	13	A-4a
	6.0-11.0	6	15	60	9	10	NP	NP	6	A-3a
	11.0-17.0	3	22	63	2	5	NP	NP	7	A-3
180+00 100'Lt	0.6-5.0	13	13	45	24	5	NP	NP	9	A-3a
	5.0-10.0	35	40	17	4	4	NP	NP	7	A-1-b
	10.0-16.0	35	31	29	C	5	NP	NP	6	A-1-b
	16.0-21.0	18	14	57	4	7	NP	NP	18	A-3a
	21.0-26.0	18	21	56	3	3	NP	NP	18	A-3a
	26.0-30.0	11	20	57	7	5	NP	NP	8	A-3a
180+00 CL	0.8-5.0	12	8	49	15	16	NP	NP	12	A-3a
	5.0-10.0	62	14	15	4	5	NP	NP	5	A-1-a
	10.0-16.0	58	29	16	C	3	NP	NP	5	A-1-a
	16.0-21.0	11	46	34	3	6	NP	NP	7	A-1-b
	21.0-26.0	12	35	39	6	7	NP	NP	12	A-3a
	26.0-30.0	12	34	37	10	7	NP	NP	14	A-3a
180+00 100'Rt	0.6-4.0	38	11	26	17	12	NP	NP	3	A-2-4
	4.0-10.0	41	28	23	5	4	NP	NP	3	A-1-b
	10.0-16.0	38	34	14	5	4	NP	NP	5	A-1-a
	16.0-21.0	38	34	15	- 3 -		NP	NP	12	A-1-a
182+00 CL	0.0-6.0	21	13	29	19	18	NP	NP	10	A-4a
	6.0-11.0	25	24	37	10	4	NP	NP	10	A-3a
	11.0-16.0	36	31	24	4	5	NP	NP	6	A-1-b
	16.0-21.0	41	23	27	4	5	NP	NP	14	A-1-b
	21.0-25.0	29	31	29	7	4	NP	NP	16	A-1-b
183+50 125'Lt	0.0-5.0	12	21	58	3	6	NP	NP	12	A-3a
	5.0-10.0	16	6	54	14	10	NP	NP	7	A-3a
	10.0-17.0	33	4	48	10	5	NP	NP	7	A-3a
183+50 75'Lt	0.0-6.0	28	4	34	17	22	49	20	16	A-7-6
	6.0-11.0	26	5	36	28	11	NP	NP	18	A-4a
	11.0-16.0	4	1	69	20	6	NP	NP	7	A-3a
	16.0-21.0	0	2	96	- 2 -		NP	NP	12	A-3
	21.0-26.0	10	3	63	17	7	NP	NP	23	A-3a
	26.0-30.0	28	48	21	- 3 -		NP	NP	17	A-1-b
183+50 CL	0.0-5.0	24	28	40	4	4	NP	NP	16	A-1-b
	5.0-10.0	0	2	66	26	10	NP	NP	13	A-4b
	10.0-15.0	7	9	65	8	8	NP	NP	7	A-3a
	15.0-20.0	7	1	85	3	4	NP	NP	12	A-3
	20.0-23.0	68	22	7	- 3 -		NP	NP	11	A-1-a
	23.0-24.0	9	1	2	84	13	NP	NP	25	A-4b
	24.0-30.0	47	32	15	- 6 -		NP	NP	12	A-1-b
183+50 30'Rt	0.0-4.0	19	2	33	26	20	NP	NP	19	A-4a
	4.0-10.0	10	2	58	25	10	NP	NP	12	A-3a
	10.0-15.0	0	6	76	11	5	NP	NP	7	A-3a
	15.0-18.0	4	3	72	11	10	NP	NP	9	A-3a
184+00 CL	0.0-5.0	13	5	34	12	16	NP	NP	10	A-3a
	5.0-10.0	0	4	61	21	14	NP	NP	13	A-3a
	10.0-15.0	0	2	91	- 6 -		NP	NP	3	A-3
	15.0-20.0	0	1	86	- 13 -		NP	NP	7	A-3a
184+50 150'Lt	0.0-5.0	0	2	63	20	14	NP	NP	12	A-2a
	5.0-10.0	0	2	45	31	7	NP	NP	6	A-4b
	10.0-15.0	0	1	84	12	3	NP	NP	6	A-4a
	15.0-20.0	0	1	86	7	6	NP	NP	4	A-3a
185+50 150'Lt	0.0-5.0	20	6	51	13	10	NP	NP	9	A-3a
	5.0-7.0	0	10	36	36	18	77	28	68	A-7-5
	7.0-13.0	0	3	57	1	9	NP	NP	10	A-3a
	13.0-20.0	42	19	32	- 7 -		NP	NP	9	A-1-b
185+50 100'Lt	0.0-5.0	14	6	51	14	15	NP	NP	11	A-3a
	5.0-10.0	0	6	82	1	11	NP	NP	7	A-3a
	10.0-15.0	23	19	36	9	13	NP	NP	7	A-3a
	15.0-20.0	29	15	26	25	5	NP	NP	6	A-2-4
186+50 150'Lt	0.0-6.0	3	11	4	67	9	NP	NP	23	A-4b
	6.0-11.0	Dark-Gray Sedimentary Peat							582	Visual
	11.0-15.0	Dark-Gray Sedimentary Peat							72	Visual
	15.0-20.0	29	10	48	9	5	NP	NP	7	A-3a
	20.0-25.0	0	7	81	7	- 12 -	NP	NP	18	A-3a
	25.0-28.0	27	8	55	7	3	NP	NP	17	A-3
186+50 100'Lt	0.0-2.0	Cinders								Visual
	2.0-8.0	0	1	5	82	11	NP	NP	23	A-4b
	8.0-14.0	74	11	0	12	3	NP	NP	6	A-1-a
	14.0-20.0	0	1	63	30	6	NP	NP	11	A-4a
186+50 CL	0.0-5.0	29	41	22	1	7	NP	NP	5	A-1-b
	5.0-10.0	18	7	19	49	7	NP	NP	6	A-4a
	10.0-15.0	7	6	67	13	7	NP	NP	5	A-3a
	15.0-20.0	19	13	54	3	6	NP	NP	4	A-3a
186+50 30'Rt	0.0-5.0	28	3	19	33	17	NP	NP	41	A-4a
	5.0-6.0	0	4	27	42	27	60	34	30	A-7-6
	6.0-11.0	0	8	75	9	8	NP	NP	7	A-3a
	11.0-17.0	0	4	69	21	6	NP	NP	18	A-3a
	17.0-24.0	15	49	31	- 5 -		NP	NP	13	A-1-b

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
186+35 20'Rt	0.4-4.0	23	13	35	12	17	NP	NP	9	A-2-4
	4.0-6.0	22	27	36	6	9	NP	NP	6	A-3a
	6.0-12.0	0	6	90	- 4 -		NP	NP	3	A-3
187+00 150'Lt	0.0-6.0	13	16	6	57	8	NP	NP	18	A-4b
	6.0-8.0	0	2	3	35	60	89	55	64	A-7-5
	8.0-12.0	Dark-Brown Fine-Textured Peat							194	Visual
	12.0-16.0	Gray Sedimentary Peat							234	Visual
	16.0-20.0	C	1	2	60	37	63	35	37	A-7-5
	20.0-25.0	0	8	74	10	8	NP	NP	12	A-3a
	25.0-30.0	C	5	82	5	8	NP	NP	15	A-3a
187+00 100'Lt	0.0-4.0	0	3	5	78	14	NP	NP	28	A-4b
	4.0-8.0	17	20	11	36	16	NP	NP	220	A-4a
	8.0-13.0	Dark-Brown Fine-Textured Peat							232	Visual
	13.0-15.0	Gray Sedimentary Peat							175	Visual
	15.0-17.0	C	0	1	54	45	95	61	-	A-7-5
	17.0-21.0	C	6	25	12	5	NP	NP	7	A-3a
	21.0-24.0	C	2	74	10	11	NP	NP	19	A-3a
	24.0-27.0	C	4	74	10	12	NP	NP	22	A-3a
	27.0-30.0	21	36	34	- 9 -		NP	NP	14	A-3
187+00 50'Lt	0.4-5.0	0	2	3	82	13	NP	NP	27	A-4b
	5.0-9.0	0	3	3	74	14	NP	NP	24	A-4b
	9.0-13.0	Dark-Brown Fine-Textured Peat							266	Visual
	13.0-14.0	Gray Sedimentary Peat							136	Visual
	14.0-16.0	C	1	4	54	41	88	57	55	A-7-5
	16.0-22.0	C	1	70	13	16	NP	NP	9	A-3a
	22.0-28.0	22	17	24	27	10	NP	NP	12	A-4a
	28.0-30.0	21	22	46	- 4 -		NP	NP	16	A-1-b
187+00 65'Rt	0.0-5.0	0	6	44	31	19	NP	NP	15	A-4a
	5.0-10.0	0	8	46	33	13	NP	NP	15	A-4a
	10.0-15.0	0	8	38	43	14	NP	NP	7	A-4a
187+00 30'Rt	0.4-4.0	8	17	50	15	10	NP	NP	8	A-3a
	4.0-4.5	0	5	5	66	24	133	75	52	A-8a
	4.5-8.0	31	14	25	21	9	NP	NP	5	A-2-4
	8.0-13.0	54	28	15	- 3 -		NP	NP	5	A-1-a
	13.0-16.0	26	21	37	13	3	NP	NP	5	A-3a
187+50 150'Lt	0.0-10.0	Dark-Gray Silty Sand with Cinders and Ashes								Visual
	10.0-16.0	Dark-Brown Fine-Textured Peat							364	Visual
	16.0-21.0	C	3	73	7	6	NP	NP	9	A-3a
	21.0-25.0	C	15	75	- 10 -		NP	NP	9	A-3
187+50 100'Lt	0.0-5.0	C	4	5	79	12	NP	NP	25	A-4b
	5.0-8.0	0	36	15	34	15	25	0	31	A-4a
	8.0-13.0	Dark-Brown Fine-Textured Peat							306	Visual
	13.0-17.0	0	9	15	57	19	36	7	35	A-4b
	17.0-22.0	C	14	80	9	8	NP	NP	7	A-3
	22.0-30.0	18	26	39	9	8	NP	NP	15	A-3a
187+50 30'Lt	0.0-6.0	C	1	12	79	9	NP	NP	28	A-4b
	6.0-9.0	Brown Fine-Textured Peat							539	Visual
	9.0-13.0	C	4	34	45	17	46	16	158	A-4a
	13.0-19.0	C	3	75	12	4	NP	NP	16	A-3a
	19.0-22.0	9	32	53	4	4	NP	NP	13	A-3
	22.0-27.0	C	14	76	- 8 -		NP	NP	18	A-3
187+50 CL	0.0-6.0	Dark-Gray Sand, Cinders, and Ashes								Visual
	6.0-10.0	C	11	36	24	27	NP		29	A-4a
	10.0-15.0	C	9	69	12	10	NP	NP	7	A-3a
	15.0-20.0	C	18	67	7	8	NP	NP	6	A-3a
	20.0-23.0	C	9	72	13	7	NP	NP	26	A-3a
	23.0-30.0	22	9	41	21	7	NP	NP	14	A-3a
187+50 30'Rt	1.5-4.0	C	14	54	- 32 -		NP	NP	19	A-3a
	4.0-10.0	C	4	55	1	5	NP	NP	5	A-3a
	10.0-16.0	C	7	52	1	10	NP	NP	9	A-3a
187+50 100'Rt	3.0-4.0	C	8	45	30	17	NP	NP	13	A-3a
	4.0-5.0	C	6	42	25	27	NP	NP	26	A-4a
	5.0-9.0	C	6	42	34	18	37	13	34	A-7-5
	9.0-12.0	C	6	45	28	21	43	16	-	A-7-5
	12.0-14.0	C	5	65	23	11	NP	NP	15	A-3a
	14.0-18.0	C	7	75	5	8	NP	NP	17	A-3a
	18.0-20.0	C	16	76	- 9 -		NP	NP	17	A-3
	20.0-22.0	12	13	58	- 12 -		NP	NP	16	A-3a
	22.0-30.0	22	39	23	- 6 -		NP	NP	13	A-1-b
188+00 65'Rt	0.5-3.0	C	5	35	22	38	56	26	17	A-6a
	3.0-6.0	C	3	35	30	27	49	24	25	A-3a
	6.0-7.0	C	2	25	50	23	NP	NP	25	A-4b
	7.0-12.0	16	16	45	- 8 -		NP	NP	5	A-3
	12.0-15.0	17	20	51	- 12 -		NP	NP	6	A-3a
	15.0-16.0	C	16	77	- 7 -		NP	NP	4	A-3
188+00 100'Rt	2.5-6.0	C	12	62	10	16	NP	NP	15	A-3a
	6.0-8.0	C	9	61	15	15	47	20	40	A-2-7
	8.0-10.0	C	1	13	38	31	49	23	47	A-7-6
	10.0-16.0	C	15	44	30	11	NP	NP	17	A-4a
	16.0-18.0	C	13	24	52	22	26	6	28	A-4b
	18.0-24.0	34	19	42	- 7 -		NP	NP	15	A-1-b
188+25 100'Lt	0.0-5.0	0	3	64	27	6	NP	NP	6	A-3a
	5.0-9.0	21	40	27	5	7	NP	NP	6	A-1-b
	9.0-15.0	0	2	77	15	6	NP	NP	5	A-3a
	15.0-20.0	0	3	75	14	8	NP	NP	7	A-3a

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
188+25 CL	0.0-5.0	6	5	23	54	12	NP	NP	11	A-4b
	5.0-10.0	22	30	31	13	4	NP	NP	11	A-1-b
	10.0-15.0	51	26	17	- 6 -		NP	NP	5	A-1-a
	15.0-20.0	38	33	20	- 9 -		NP	NP	6	A-1-b
192+50 25'Rt	0.3-3.0	44	27	19	4	6	NP	NP	5	A-1-b
	3.0-14.0	5	7	70	- 18 -		NP	NP	4	A-3a
193+00 CL	0.5-6.0	16	33	36	8	8	NP	NP	5	A-3a
	6.0-12.0	3	28	58	- 10 -		NP	NP	4	A-3
196+00 CL	0.2-2.0	21	14	44	11	10	NP	NP	6	A-2a
	2.0-4.0	C	6	89	- 5 -		NP	NP	3	A-3
	4.0-6.0	C	1	44	45	10	NP	NP	15	A-4a
	6.0-9.0	C	2	83	- 16 -		NP	NP	7	A-3a*
	9.0-11.0	C	1	45	39	15	NP	NP	18	A-4a*
	11.0-13.0	C	1	62	25	12	NP	NP	30	A-4b
	13.0-16.0	C	39	35	- 6 -		NP	NP	5	A-3
	16.0-20.0	C	1	47	42	10	NP	NP	19	A-4a
200+00 CL	0.0-3.0	64	14	11	5	6	NP	NP	7	A-1-a
	3.0-9.0	C	0	29	61	10	NP	NP	21	A-4b
	9.0-22.0	C	9	34	- 7 -		NP	NP	2	A-3*
203+00 100'Lt	0.2-11.0	40	14	31	3	7	NP	NP	7	A-1-b
	11.0-20.0	C	9	57	- 4 -		NP	NP	7	A-3
	20.0-28.0	67	19	12	- 2 -		NP	NP	15	A-1-a
	28.0-29.0	12	3	50	33		NP	NP	26	A-4b
	29.0-30.0	C	10	56	20	13	NP	NP	30	A-3a
203+00 CL	0.2-3.0	28	13	44	13	3	NP	NP	3	A-3a
	3.0-7.0	42	15	37	7	5	NP	NP	3	A-1-b
	7.0-14.0	C	3	82	- 13 -		NP	NP	3	A-3a
	14.0-20.0	C	1	83	15	1	NP	NP	22	A-4b*
	20.0-21.0	C	0	1	71	28	NP	NP	28	A-4b*
	21.0-28.0	7	2	7	50	34	NP	NP	27	A-4b*
	28.0-30.0	10	5	35	40	10	NP	NP	12	A-4a
206+00 CL	0.2-3.0	36	13	36	7	8	NP	NP	6	A-2-4*
	3.0-12.0	9	21	65	3	4	NP	NP	6	A-3*
	12.0-17.0	34	16	43	- 7 -		NP	NP	6	A-1-b*
210+00 CL	0.4-2.0	C	13	36	15	12	NP	NP	5	A-3a*
	2.0-10.0	C	7	68	11	14	NP	NP	22	A-4a
	10.0-13.0	C	5	37	37	14	NP	NP	19	A-4a
	13.0-15.0	C	5	29	30	16	NP	NP	19	A-4b
	15.0-17.0	C	15	56	16	12	NP	NP	13	A-3a
	17.0-20.0	45	16	28	7	4	NP	NP	5	A-1-b
213+20 CL	0.0-6.0	24	33	25	4	4	NP	NP	6	A-1-b
	6.0-9.0	5	2	22	51	15	NP	NP	13	A-4b
	9.0-15.0	26	11	31	20	13	NP	NP	14	A-3a
	15.0-16.0	25	11	31	20	13	NP	NP	14	A-2-4
215+00 100'Lt	0.5-1.5	Sand, Gravel and Bricks								Visual
	1.5-3.0	6	9	58	15	12	NP	NP	13	A-3a
	3.0-4.0	16	5	26	15	15	NP	NP	20	A-4a
	4.0-8.0	48	16	24	6	6	NP	NP	6	A-1-b
	8.0-10.0	13	7	24	37	19	NP	NP	14	A-4a
	10.0-18.0	25	6	19	32	18	NP	NP	13	A-4a
	18.0-26.0	23	22	23	13	14	NP	NP	12	A-2-4
215+00 CL	0.5-2.0	0	2	28	42	28	54	26	15	A-4a
	2.0-3.0	0	1	52	29	18	NP	NP	6	A-4a
	3.0-4.0	14	6	57	11	12	25	6	21	A-3a
	4.0-6.0	21	9	25	18	16	NP	NP	17	A-3a
	6.0-17.0	7	26	46	- 22 -		NP	NP	19	A-3a
215+00 100'Rt	0.5-3.0	0	10	44	26	20	NP	NP	10	A-4a
	3.0-4.0	28	10	40	10	14	NP	NP	23	A-2-4
	4.0-7.0	4	9	68	8	11	NP	NP	21	A-4a
	7.0-8.0	23	6	38	26	13	NP	NP	13	A-4a
	8.0-17.0	8	9	63	- 17 -		NP	NP	23	A-3a
	17.0-22.0	22	3	23	32	18	NP	NP	15	A-4a
215+40 70'Rt	0.4-2.0	0	9	36	31	24	NP	NP	22	A-4a
	2.0-4.0	0	42	44	7	7	NP	NP	19	A-3a
	4.0-6.0	0	11	64	23	31	NP	NP	18	A-4a
	6.0-12.0	0	21	64	9	6	NP	NP	15	A-3a
	12.0-15.0	60	23	9	- 3 -		NP	NP	13	A-1-a
215+30 CL	0.5-2.0	23	14	38	18	11	NP	NP	6	A-2-4
	3.0-4.0	32	21	15	4	6	NP	NP	11	A-1-a
	4.0-5.0	20	16	20	29	27	51	18	18	A-4a
	5.0-10.0	32	32	20	- 8 -		NP	NP	13	A-1-b
	10.0-15.0	32	32	20	10	8	NP	NP	14	A-1-b
217+50 CL	0.4-4.0	C	8	36	32	24	NP	NP	12	A-4a
	4.0-6.0	44	1	21	24	10	NP	NP	16	A-4a
	6.0-9.0	16	7	21	36	20	NP	NP	16	A-4a
	9.0-11.0	13	10	46	18	13	NP	NP	16	A-3a
	11.0-13.0	0	0	8	58	36	NP	NP	28	A-4b
	13.0-18.0	15	2	36	32	15	NP	NP	17	A-3a
	18.0-21.0	17	5	38	33	7	NP	NP	11	A-4a
	21.0-25.0	43	24	20	3	5	NP	NP	10	A-1-b
221+50 15'Rt	0.3-2.0	43	8	29	10	10	NP	NP	12	A-1-b
	2.0-5.0	27	5	28	27	21	30	9	13	A-4a
	5.0-7.0	0	2	16	50	30	NP	NP	19	A-4b
	7.0-12.0	6	13	77	- 4 -		NP	NP	22	A-3
	12.0-18.0	7	2	11	52	28	NP	NP	16	A-4b
	18.0-21.0	18	2	30	36	11	NP	NP	15	A-4a
	21.0-22.0	4	20	25	30	21	NP	NP	21	A-4a

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
222+50 75'Rt	0.5-2.0	0	C	3	43	54	39	17	27	A-6b
	2.0-3.0	C	C	3	23	75	-	-	28	A-7-6
	3.0-6.0	15	1	12	41	31	NP	NP	16	A-4a
	6.0-8.0	21	5	21	29	24	NP	NP	13	A-4a
	8.0-10.0	11	7	35	28	19	NP	NP	19	A-4a
	10.0-14.0	13	4	24	36	13	NP	NP	15	A-4a
224+00 CL	0.5-3.0	C	C	3	45	22	24	NP	11	A-4a
	3.0-7.0	C	C	1	6	45	45	NP	11	A-6a
	7.0-8.0	C	C	0	3	50	-	-	27	A-4b
	8.0-12.0	C	C	0	1	56	43	NP	24	A-4b
	12.0-15.0	C	C	1	16	50	33	NP	16	A-4b
	15.0-17.0	36	13	26	10	9	-	-	15	A-1-b
	17.0-25.0	0	1	3	54	42	NP	NP	21	A-4b
227+00 CL	0.5-4.0	C	C	2	12	41	45	22	11	A-6a
	4.0-6.0	C	C	3	5	68	29	NP	23	A-4b
	6.0-6.5	28	4	19	- 12 -		NP	NP	7	A-1-b
	6.5-9.0	37	3	6	44	10	20	NP	21	A-4a
	9.0-11.0	32	37	21	- 10 -		NP	NP	13	A-1-b
	11.0-17.0	17	7	13	41	23	NP	NP	14	A-4a
	17.0-21.0	9	42	42	- 7 -		NP	NP	18	A-3a
	21.0-25.0	63	9	9	11	8	NP	NP	12	A-1-b
223+00 100'Lt	0.5-5.0	C	C	3	68	29	NP	NP	14	A-4a
	5.0-6.0	C	C	3	58	- 9 -	NP	NP	23	A-3
	6.0-10.0	C	C	5	58	37	NP	NP	26	A-4b
	10.0-17.0	4	28	65	- 6 -		NP	NP	20	A-3
	17.0-20.0	4	39	23	- 27 -		NP	NP	17	A-1-b
223+00 75'Lt	0.5-4.0	C	1	17	23	57	37	NP	14	A-6a
	4.0-5.0	C	8	23	30	14	NP	NP	38	A-4a
	5.0-6.0	Gray Sand								Visual
	6.0-8.0	C	1	3	54	40	NP	NP	21	A-4b
	8.0-10.0	C	12	79	4	5	NP	NP	26	A-3
	10.0-14.0	14	26	45	- 15 -		NP	NP	15	A-3a
	14.0-15.0	33	10	29	16	12	NP	NP	12	A-2-4
223+00 50'Lt	0.0-5.0	31	3	22	27	17	22	6	14	A-4a
	5.0-12.0	3	11	66	15	5	NP	NP	19	A-3a
	12.0-13.0	C	1	5	65	29	NP	NP	24	A-4b
	13.0-17.0	C	24	57	- 11 -		NP	NP	20	A-3a
	17.0-20.0	5	15	66	7	7	NP	NP	22	A-3a
223+00 CL	0.2-1.0	C	6	56	15	21	NP	NP	15	A-4a
	1.0-4.0	29	7	27	23	14	NP	NP	27	A-4a
	4.0-5.0	C	1	5	67	27	NP	NP	24	A-4b
	5.0-11.0	28	21	23	9	7	NP	NP	15	A-1-b
	11.0-14.0	13	7	17	39	19	NP	NP	14	A-4a
	14.0-21.0	45	20	24	6	5	NP	NP	12	A-1-b
222+00 75'Rt	0.5-2.0	0	2	37	24	27	NP	NP	22	A-4a
	2.0-4.0	0	1	4	49	46	47	26	38	A-7-6
	4.0-6.0	0	0	30	61	47	21	-	38	A-7-6
	6.0-9.0	Dark-Gray Sedimentary Peat							97	Visual
	9.0-11.0	Gray Organic Clay							-	Visual
	11.0-15.0	16	5	24	35	20	NP	NP	19	A-4a
	15.0-20.0	12	6	22	40	20	NP	NP	16	A-4a
223+00 150'Rt	0.5-2.0	C	4	41	36	23	NP	NP	20	A-4a
	2.0-4.0	C	1	12	50	37	47	21	40	A-4b
	4.0-5.5	C	4	29	39	28	44	21	44	A-7-5
	5.5-6.0	C	1	11	35	53	128	40	39	A-7-5
	6.0-8.0	36	5	21	22	16	NP	NP	21	A-4a
	8.0-15.0	C	C	5	74	21	NP	NP	22	A-4b
	15.0-18.0	12	24	55	- 9 -		NP	NP	21	A-3
	18.0-20.0	18	5	11

REVISED 10/14/64

SOIL PROFILE
SUMMIT COUNTY
SUM-277-0.46
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

5/66

SUMMARY OF SOIL TEST DATA (Cont'd)

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		MAINLINE (Cont'd)									
224+00	CL	0.5-4.0	0	1	27	43	29	NP	NP	20	A-4a
		4.0-7.0	0	0	16	39	25	27	6	27	A-4b
		7.0-14.0	Dark-Brown Fine-Textured Peat							134	Visual
		14.0-19.0	Dark-Brown Sedimentary Peat							160	Visual
		19.0-29.0	C	0	2	61	37	36	27	36	A-7-6
		29.0-33.0	37	2	8	34	19	NP	NP	21	A-4a
		WATERLOO ROAD (Existing USR 224)									
9+00	30'Lt	0.0-5.0	50	32	11	5	2	NP	NP	5	A-1-a
		5.0-10.0	63	21	6	5	5	NP	NP	8	A-1-a
15+00	30'Lt	C.0-5.C	1	19	44	7	9	NP	NP	7	A-3a
		5.C-11.C	C	3	64	- 7 -		NP	NP	5	A-3
18+00	30'Lt	C.0-5.0	19	10	27	29	15	NP	NP	7	A-4a
		5.0-10.C	14	19	37	17	13	NP	NP	9	A-3a
		MANCHESTER ROAD INTERCHANGE									
		MANCHESTER ROAD (SR 93)									
23+50	30'Rt	0.0-6.0	37	29	15	11	8	NP	NP	6	A-1-b *
		6.0-12.0	28	27	38	5	5	NP	NP	13	A-1-b
		12.0-18.0	14	22	38	- 26 -		NP	NP	13	A-3a
25+00	26'Rt	0.0-3.C	48	24	16	7	5	NP	NP	3	A-1-b *
		3.C-7.C	62	3	67	14	10	NP	NP	15	A-3a
		7.0-11.C	C	2	70	- 28 -		NP	NP	21	A-3a
		11.0-14.C	62	27	8	- 3 -		NP	NP	13	A-1-a
		14.0-20.0	60	30	5	- 5 -		NP	NP	12	A-1-a
28+00	30'Rt	C.0-5.0	0	1	2	54	13	NP	NP	23	A-4b *
		5.0-11.0	4	1	9	74	16	NP	NP	24	A-4b
		11.0-17.0	4	23	65	- 8 -		NP	NP	21	A-3a
		17.0-20.0	63	1	14	19	3	NP	NP	9	A-1-b
31+00	30'Lt	0.0-4.0	22	15	29	15	19	24	6	16	A-2-4 *
		4.0-9.0	C	1	16	68	13	NP	NP	17	A-4b
		9.0-15.C	8	58	31	- 3 -		NP	NP	16	A-1-b
34+00	30'Lt	0.0-4.C	24	5	40	21	10	NP	NP	6	A-2-4 *
		4.C-7.C	C	16	6	67	11	NP	NP	12	A-4b
		7.C-11.0	0	2	14	51	33	29	7	27	A-4b
		11.0-15.0	31	7	18	27	17	NP	NP	11	A-4a
37+00	35'Lt	0.0-5.0	8	11	67	- 14 -		NP	NP	5	A-3a *
		5.0-11.C	0	2	31	53	14	NP	NP	15	A-4b
		11.0-16.0	0	4	41	43	12	NP	NP	19	A-4a
		16.0-20.0	13	21	40	18	8	NP	NP	16	A-3a
41+00	35'Lt	0.0-5.0	5	16	69	- 10 -		NP	NP	6	A-3a *
		5.0-10.0	57	23	14	2	4	NP	NP	8	A-1-a
		10.0-15.0	33	44	11	- 7 -		NP	NP	8	A-1-b
		15.0-20.0	0	3	16	52	29	NP	NP	20	A-4b
44+00	35'Lt	0.0-5.0	9	8	58	14	11	NP	NP	10	A-3a *
		5.0-11.0	52	27	6	7	8	NP	NP	11	A-1-b
		11.0-15.0	25	8	15	35	17	NP	NP	15	A-4a
46+00	35'Lt	0.0-5.0	18	8	50	16	8	NP	NP	7	A-3a *
		5.0-10.0	15	8	47	20	10	NP	NP	11	A-3a
		10.0-15.0	53	26	14	3	4	NP	NP	11	A-1-a
		RAMP A									
0+10	BL	0.0-5.C	11	7	48	21	13	NP	NP	14	A-3a
		5.0-10.C	35	7	19	26	13	NP	NP	12	A-4a
		10.0-16.C	Brown Weathered Sandstone							-	Visual *
3+00	BL	0.0-6.0	14	4	47	23	12	NP	NP	8	A-3a
		6.0-12.3	Brown Weathered Sandstone								Visual *
7+30	BL	0.3-6.0	7	7	59	16	11	NP	NP	12	A-3a *
		6.0-9.0	51	20	15	8	6	NP	NP	16	A-1-a *
		9.0-15.0	Brown Weathered Sandstone								Visual
11+00	BL	0.0-5.0	3	5	62	18	11	NP	NP	5	A-3a
		5.0-10.0	40	7	21	22	10	NP	NP	11	A-2-4 *
		10.0-15.0	Brown Weathered Sandstone								Visual *
		RAMP B									
0+30	BL	0.0-5.C	54	27	16	- 3 -		NP	NP	5	A-1-a *
		5.0-10.0	31	47	17	2	3	NP	NP	8	A-1-b
		10.0-15.0	38	40	22	- 5 -		NP	NP	6	A-1-b
3+00	BL	0.0-5.C	22	40	37	- 1 -		NP	NP	5	A-1-b
		5.0-11.0	47	37	11	- 5 -		NP	NP	5	A-1-b *
5+00	BL	0.0-7.0	41	36	11	6	6	NP	NP	9	A-1-b
		7.0-15.0	Brown Weathered Sandstone								Visual *
11+25	BL	0.0-6.0	0	6	61	19	14	NP	NP	9	A-3a
		6.0-11.0	34	8	21	21	16	NP	NP	12	A-4a *
		11.0-15.0	Brown Weathered Sandstone								Visual

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		SERVICE ROAD #1									
3+50	20'Rt	0.0-6.C	14	12	48	18	8	NP	NP	7	A-3a
		6.0-12.0	33	15	24	18	10	NP	NP	10	A-2-4
6+00	CL	C.C-5.C	8	5	43	31	13	NP	NP	13	A-4a
		5.0-10.0	15	3	26	41	16	NP	NP	11	A-4a
		10.0-15.0	Brown Weathered Sandstone								Visual
9+50	CL	C.0-5.0	23	8	37	22	10	NP	NP	7	A-2-4
		5.0-10.0	20	49	19	8	5	NP	NP	9	A-1-b
		10.C-15.0	45	15	24	9	6	NP	NP	8	A-1-b
10+50	20'Lt	C.0-6.0	28	6	44	13	9	NP	NP	8	A-3a
		6.0-12.0	3	3	23	50	16	NP	NP	13	A-4b
		ACCESS ROAD (LEY DRIVE) - (See sheet 36A for Stations 38+00 to 43+60)									
45+00	CL	0.0-5.0	Rubber Waste								Visual *
		5.0-7.0	Black Loamy Peat							191	Visual
		7.0-10.0	C	12	51	20	17	NP	NP	27	A-4a
		10.0-13.0	Gray Marly Sedimentary Peat							60	Visual
		13.0-19.0	9	12	71	1	7	NP	NP	8	A-3
		19.0-25.0	9	11	50	16	14	NP	NP	24	A-3a
47+00	CL	0.0-4.0	17	26	37	11	13	NP	NP	5	A-3a *
		4.0-10.0	10	17	52	10	11	NP	NP	13	A-3a
		10.0-15.0	6	3	21	56	14	NP	NP	13	A-4b
		15.0-20.0	0	1	14	64	21	NP	NP	16	A-4b
48+00	CL	C.0-7.0	15	15	56	5	9	NP	NP	10	A-3a *
		7.0-16.0	C	1	23	66	10	NP	NP	15	A-4b
49+00	CL	0.0-5.0	Dark-Brown Fine-Textured Peat							277	Visual *
		5.0-8.0	16	7	55	9	13	NP	NP	43	A-3a
		8.0-15.C	8	2	4	71	15	NP	NP	22	A-4b
		15.0-23.0	21	1	10	54	14	NP	NP	23	A-4b
		23.0-30.C	5	1	10	63	21	NP	NP	19	A-4b
51+00	CL	0.0-4.C	Black Fine-Textured Peat							165	Visual *
		4.0-6.0	14	3	40	36	7	NP	NP	16	A-4a
		6.0-8.0	9	28	33	19	14	61	18	58	A-2-7
		8.0-12.0	47	26	17	7	3	NP	NP	12	A-1-b
		12.0-20.0	6	5	18	57	14	NP	NP	21	A-4b
		20.C-30.0	0	1	2	72	25	NP	NP	24	A-4b
53+00	CL	C.0-6.C	12	14	47	13	14	NP	NP	6	A-3a *
		6.0-11.C	20	38	34	- 7 -		NP	NP	5	A-3
		11.0-18.C	0	C	3	46	51	NP	NP	19	A-4a
		18.0-25.C	0	1	8	79	12	NP	NP	22	A-4b
		25.0-30.C	0	1	3	79	17	NP	NP	21	A-4b
* * 51+50	CL		Rubber Waste								Visual
54+50	CL	0.0-5.5	Black Loamy Peat							266	Visual
		5.5-9.C	0	49	41	- 10 -		NP	NP	21	A-3
		9.C-11.C	Dark-Gray Sedimentary Peat							76	Visual
		11.0-18.C	Gray Sedimentary Peat							94	Visual
		18.0-27.C	0	1	9	54	36	NP	NP	33	A-4b
		27.0-30.0									
53+33	20'Rt	C.0-6.C	Dark-Brown Fine-Textured Peat							346	Visual
		6.C-12.0	0	33	33	8	6	NP	NP	21	A-3a
		12.0-24.C	Dark-Gray Sedimentary Peat							80	Visual
		24.0-33.C	Dark-Gray Sedimentary Peat							69	Visual
		33.C-36.C	0	16	66	9	9	NP	NP	16	A-3a
		SOUTH MAIN STREET INTERCHANGE									
		SOUTH MAIN STREET									
33+CC	30'Rt	C.C-5.0	47	21	19	6	7	NP	NP	8	A-1-b *
		5.0-10.C	33	25	25	5	7	NP	NP	10	A-1-b
40+CC	30'Rt	C.0-5.C	28	28	28	3	8	NP	NP	5	A-1-b *
		5.0-10.0	45	28	23	3	7	NP	NP	4	A-1-b
		10.0-14.0	30	26	31	12	7	NP	NP	7	A-1-b
		14.0-17.0	0	C	44	40	16	NP	NP	26	A-4a
		17.0-23.C	64	21	9	- 6 -		NP	NP	9	A-1-a
42+CC	35'Rt	C.0-6.C	23	21	27	13	11	NP	NP	5	A-2-4 *
		6.0-12.C	28	28	33	- 11 -		NP	NP	6	A-1-b
		12.0-18.C	35	42	13	- 9 -		NP	NP	9	A-1-b
		18.C-24.0	13	17	60	5	5	NP	NP	5	A-3
43+75	CL	0.0-5.C	12	10	62	6	8	NP	NP	4	A-3a
		5.0-10.C	0	5	89	4	4	NP	NP	3	A-3
		10.0-15.C	C	5	78	7	10	NP	NP	8	A-3a
		15.0-20.C	4	5	76	8	7	NP	NP	5	A-3a
51+CC	CL	0.C-5.C	18	8	41	24	9	NP	NP	9	A-2-4
		5.0-11.C	10	18	51	11	10	NP	NP	5	A-3a
		11.C-16.C	28	22	31	11	8	NP	NP	7	A-1-b
		16.0-22.0	30	27	34	2	7	NP	NP	3	A-1-b
53+CC	CL	0.C-5.C	38	20	25	7	10	NP	NP	9	A-1-b
		5.0-10.C	41	16	28	11	9	NP	NP	11	A-1-b
		10.0-16.0	10	11	57	7	15	NP	NP	8	A-3a
		16.0-22.0	22	15	42	9	12	NP	NP	9	A-3a
* * 51+50	CL	1.0-6.0	23	11	51	5	10	NP	NP	7	A-3a *
		6.0-9.0	0	0	2	57	41	NP	NP	22	A-4b
		9.0-20.0	0	0	26	59	15	NP	NP	19	A-4b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		SOUTH MAIN STREET (Cont'd)									
56+50	CL	C.C-5.0	47	19	24	5	5	NP	NP	7	A-1-b
		5.C-10.C	56	26	9	5	4	NP	NP	5	A-1-a
		10.0-15.C	29	19	39	7	6	NP	NP	4	A-3a
		15.C-20.C	10	5	61	15	9	NP	NP	6	A-2a
		20.C-25.0	31	7	24	30	8	NP	NP	5	A-4a
		25.0-28.C	20	24	41	7	8	NP	NP	4	A-3a
59+00	20'Lt	C.C-5.0	21	17	51	9	2	NP	NP	5	A-3a *
		5.0-10.C	10	5	76	4	5	NP	NP	4	A-3
		10.0-15.0	7	6	81	1	5	NP	NP	6	A-3
61+50	50'Lt	0.0-6.0	32	16	34	10	7	NP	NP	25	A-3a *
		6.0-11.0	0	2	41	46	11	NP	NP	22	A-4a
		11.0-16.0	7	2	43	36	12	NP	NP	21	A-4a
		16.0-20.0	C	1	48	41	10	NP	NP	24	A-4a
		20.0-26.0	C	1	63	26	10	NP	NP	21	A-4b
		26.0-30.C	C	0	77	15	8	NP	NP	18	A-3a
		RAMP C									
0+00	BL	0.0-4.C	41	34	17	3	5	NP	NP	6	A-1-b
		4.0-9.C	26	13	44	6	11	NP	NP	18	A-3a
		9.0-15.0	15	8	18	31	28	NP	NP	10	A-4b
1+25	20'Rt	1.C-6.C	34	17	36	23	15	24	3	12	A-4a
		6.0-10.C	12	7	42	27	12	NP	NP	5	A-4a
		10.C-13.5	31	14	39	6	10	NP	NP	6	A-3a
		13.5-18.C	C	1	89	C	11	NP	NP	11	A-3a
		18.0-23.0	16	14	55	4	11	NP	NP	5	A-3a
3+00	BL	2.0-6.0	C	1	12	41	46	36	15	31	A-6a
		6.0-8.0	C	1	10	46	43	37	15	24	A-6a
4+30	BL	0.6-3.C	0	2	4	31	63	43	14	27	A-7-5
		3.C-6.0	28	3	17	34	18	NP	NP	19	A-4a
		6.0-9.C	28	42	22	4	7	NP	NP	8	A-1-b
		9.0-10.5	C	4	83	17	11	NP	NP	19	A-3a
		10.5-15.0	C	26	74	3	3	NP	NP	7	A-3
		15.0-16.5	C	5	4	50	44	NP	NP	18	A-4b
		16.5-22.C	43	12	39	2	4	NP	NP	5	A-1-b
		RAMP C-1									
7+00	BL	2.0-6.C	28	3	10	31	28	36	14	21	A-6a
		6.C-11.C	28	3	10	- 59 -		NP	NP	4	A-3a
		11.C-16.C	28	41	30	3	3	NP	NP	5	A-1-b
		16.0-20.0	17	32	39	4	8	NP	NP	6	A-3a
		20.0-25.0	16	31	48	- 5 -		NP	NP	13	A-3
		25.0-30.0	2	48	45	- 5 -		NP	NP	21	A-3a
		RAMP C-2									
0+00	BL	C.C-5.0	41	32	16	5	6	NP	NP	7	A-1-b
		5.0-10.C	7	41	40	- 12 -		NP	NP	5	A-3a
		10.0-15.C	C	3	60	28	9	NP	NP	7	A-4a
		15.0-18.0	C	7	34	51	8	NP	NP	10	A-4b
5+00	BL	0.3-5.0	44	5	26	6	9	NP	NP	7	A-2-4
		5.0-10.0	17	6	54	12	11	NP	NP	7	A-3a
		10.0-13.5	2	10	31	C	7	NP	NP	22	A-3
		13.5-16.0	49	23	19	1	3	NP	NP	4	A-1-b
7+00	20'Lt	C.5-2.C	C	3	23	41	31	27	6	27	A-4a
		2.C-3.C	C	3	36	28	33	32	15	33	A-6a
		3.C-5.C	C	3	23	29	45	32	15	26	A-7-6
		5.C-7.0	C	3	34	- 7 -		NP	NP	15	A-3
		7.0-13.0	C	33	38	- 9 -		NP	NP	15	A-1-b
		13.C-18.0	12	33	38	8	9	NP	NP	16	A-3a
		18.0-23.C	13	10	45	19	13	NP	NP	13	A-3a
		23.0-27.C	C	4	68	10	9	NP	NP	20	A-3a
		27.0-30.0	23	18	49	3	7	NP	NP	17	A-3
		RAMP D									
0+50	BL	0.0-5.C	48	33	16	- 2 -		NP	NP	5	A-1-b
		5.0-11.0	2	90	76	10	3	NP	NP	3	A-3a
		11.0-15.0	C	7	88	- 5 -		NP	NP	3	A-3
2+CC	BL	0.C-5.0	49	17	28	- 6 -		NP	NP	3	A-1-b
		5.0-10.C	46	13	23	- 18 -		NP	NP	4	A-1-b
		10.0-15.C	51	29	17	- 5 -		NP	NP	7	A-1-a
		15.0-22.5	15	41	30	7	7	NP	NP	6	A-1-b
5+00	BL	C.0-6.0	28	17	31	14	10	NP	NP	5	A-2-4
		6.0-12.0	13	38	28	11	10	NP	NP	6	A-1-b
		12.C-13.C	5	55	38	- 7 -		NP	NP	22	A-3
		13.C-24.C	76	15	6	- 3 -		NP	NP	11	A-1-a
		24.C-30.0	80	12	5	- 3 -		NP	NP	13	A-1-a
		RAMP D-1									
8+25	BL	0.0-5.0	28	37	28	- 7 -		NP	NP	4	A-3 *
		5.0-10.C	28	20	31	23	5	NP	NP	4	A-3a *
		10.0-16.0	11	38	14	33	5	NP	NP	3	A-1-b
		16.0-20.C	26	4	11	53	7	NP	NP	3	A-4b
10+CC	BL	C.3-5.0	15	32	25	9	9	NP	NP	7	A-3a
		5.0-10.C	48	15	26	5	6	NP	NP	16	A-4a
		10.0-14.C	28	20	41	2	9	NP	NP	9	A-1-b
		14.0-18.0									

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		RAMP D-1 (Cont'd)									
11+50	75'Rt	0.0-5.0	Dark-Brown Fine-Textured Peat							257	Visual
		5.0-8.0	0	4	11	53	32	123	39	84	A-7-5
		8.0-10.5	Gray Sedimentary Peat							114	Visual
		10.5-15.C	C	9	31	5	5	NP	NP	3	A-3
		15.C-18.C	C	14	78	3	5	NP	NP	18	A-3
		18.0-24.C	36	34	15	11	4	NP	NP	15	A-1-b
11+50	125'Rt	3.0-5.C	26	7	26	27	14	24	5	16	A-4a
		5.0-9.C	29	16	41	7	5	NP	NP	8	A-3a
		9.C-15.C	46	36	11	3	4	NP	NP	24	A-1-b
12+CC	75'Rt	1.C-7.5	Dark-Brown Fine-Textured Peat							401	Visual
		7.5-9.0	C	18	63	6	7	NP	NP	12	A-3a
		9.C-12.C	C	15	54	17	14	35	15	26	A-2-6
		12.C-17.C	5	9	67	11	8	NP	NP	16	A-3a
		17.C-22.C	11	11	78	C	C	NP	NP	15	A-3
		22.C-27.C	11	17	59	7	6	NP	NP	19	A-3a
		27.0-30.C	12	19	57	- 12 -		NP	NP	18	A-3a
12+CC	125'Rt	2.0-4.C	Dark-Brown Fine-Textured Peat							175	Visual
		4.0-7.C	Dark-Brown Fibrous Peat							303	Visual
		7.C-10.C	Dark-Brown Sedimentary Peat							141	Visual
		10.C-15.C	8	1	54	29	9	NP	NP	29	A-4a
		15.C-19.0	7	6	71	10	6	NP	NP	12	A-3a
		19.0-25.0	25	38	32	- 5 -		NP	NP	12	A-1-b
12+30	35'Rt	2.0-7.0	22	5	32	22	19	18	4	15	A-4a
		7.0-11.C	9	9	52	10	11	NP	NP	9	A-3a
		11.0-15.0	9	25	46	10	10	NP	NP	7	A-3a
		RAMP D-2									
4+00	BL	0.3-2.C	0	1	27	35	37	24	5	18	A-4a
		2.C-7.C	66	17	13	1	4	NP	NP	6	A-1-a
		7.C-12.0	49	32	14	2	3	NP	NP	5	A-1-b
		12.0-16.0	38	26	28	4	4	NP	NP	5	A-1-b
6+CC	BL	0.C-2.C	C	1	12	31	56	41	20	-	A-7-6
		2.C-4.0	46	21	15	1	13	NP	NP	14	A-1-b
		4.C-9.0	47	19	28	1	5	NP	NP	4	A-1-b
		9.0-16.C	43	31	17	1	8	NP	NP	6	A-1-b
7+CC	BL	C.C-1.0	C	2	16	24	58	43	17	28	A-7-6
		1.C-5.C	C	1	13	46	40	NP	NP	13	A-7-6
		5.0-9.C	28	12	39	10	11	NP	NP	7	A-3a
		9.C-13.0	20	25	49	C	6	NP	NP	16	A-3
		13.C-19.0	7	4	9	68	12	NP	NP	27	A-4b
		19.0-24.0	10	5	67	9	9	NP	NP	23	A-3a
		24.0-28.C	C	15	66	9	10	NP	NP	27	A-3a
7+CC	75'Rt	0.C-1.C	C	11	30	26	33	NP	NP	22	A-4a
		1.C-5.C	27	26	31	9	7	NP	NP	13	A-1-b
		5.C-9.0	65	22	6	4	3	NP	NP	10	A-1-a
		9.C-12.C	C	1	59	29	11	NP	NP	20	A-4a
		12.C-15.0	9	3	77	5	6	NP	NP	16	A-3a
7+CC	125'Rt	C.3-2.0	C	5	33	27	35	28	6	21	A-4a
		2.C-7.0	C	18	63	6	13	NP	NP	19	A-3a
		7.C-12.0	23	17	38	6	11	NP	NP	13	A-3a
		12.C-17.C	C	3	80	10	7	NP	NP	20	A-3a
		17.0-20.C	62	0	28	7	3	NP	NP	10	A-1-b
8+CC	BL	1.0-3.0	22	18	31	12	17	NP	NP	9	A-2-4
		3.0-8.C	58	18	17	3	4	NP	NP	5	A-1-a
		8.C-14.C	C	3	21	64	12	NP	NP	20	A-4b
		14.0-19.0	2	22	68	- 8 -		NP	NP	18	A-3
		19.C-23.0	0	20	61	- 13 -		NP	NP	13	A-3a
		23.0-30.0	7	14	16	54	9	NP	NP	37	A-4b
10+CC	BL	C.C-5.C	21	21	34	12	12	NP	NP	7	A-3a
		5.C-9.C	48	12	21	11	8	NP	NP	3	A-1-b
		9.0-15.0	44	18	23	7	8	NP	NP	6	A-1-b
		15.0-20.C	50	18	17	9	6	NP	NP	3	A-1-b
		RAMP D-3									
2+CC	BL	0.4-5.C	16	31	41	6	6	NP	NP	5	A-3a
		5.C-7.C	14	19	36	18	13	NP	NP	12	A-2-4
		7.C-10.0	13	11	27	30	19	22	6	16	A-4a
		10.C-16.C	19	35	29	9	8	NP	NP	11	A-1-b
		CEMETERY ENTRANCE RELOCATION									
1+CC	BL	0.C-6.0	26	28	41	- 5 -		NP	NP	6	A-1-b
		6.0-12.0	39	36	20	- 5 -		NP	NP	5	A-1-b
		SWARTZ ROAD									
1+00	30'Rt	0.C-6.0	4	12	76	- 8 -		NP	NP	9	A-3 *
		6.C-9.0	46	25	15	- 4 -		NP	NP	3	A-1-b *
		9.0-15.C	12	24	45	14	5	NP	NP	4	A-3a
4+CC	30'Rt	0.0-5.C	22	49	26	- 3 -		NP	NP	5	A-1-b *
		5.0-9.C	38	43	17	- 2 -		NP	NP	5	A-1-b
		9.0-15.0	6	10	70	9	5	NP	NP	7	A-3a

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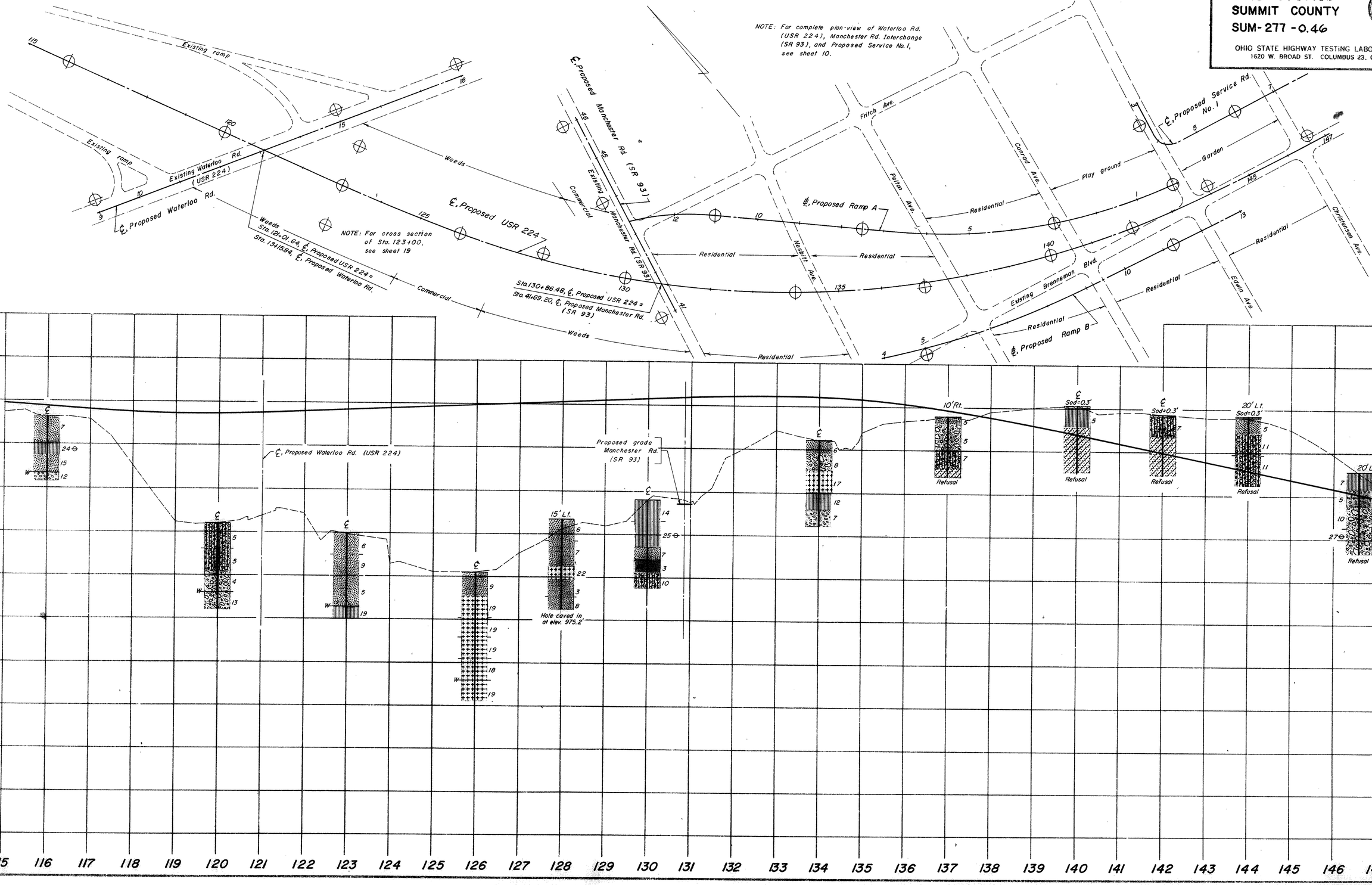
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: For complete plan-view of Waterloo Rd. (USR 224), Manchester Rd. Interchange (SR 93), and Proposed Service No.1, see sheet 10.



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REVISED 10/14/64

℄, Proposed Service Rd. No. 1
Open lot
NOTE: For complete profile of Proposed Access Rd., see sheet 13.
Match Line
℄, Proposed Access Rd. (Ley Drive)
Waterloo Road
Existing Ley Drive
Match Line
℄, Proposed Access Rd. (Ley Drive)
Pasture
Garden
Cultivated
Dump area
Cultivated
Swamp area
Wooded
Existing Brenneman Blvd.
Existing Neamith Lake Blvd.
CORPORATION LINE
CITY OF AKRON OHIO
Residential
Residential
Pasture
Sta. 153+34.42 ℄ Proposed USR 224
Sta. 5[illegible]+00.0[illegible] ℄ Proposed Access Rd. (Ley Drive)
℄, Proposed USR 224
Wooded
Swamp area
Wooded

CROSS SECTION INDEX			
STATION	SHEET	STATION	SHEET
151+53	19	166+00	26
151+21	20	167+00	26
154+50	20	167+50	26
155+50	21	168+00	27
156+00	21	169+00	27
157+00	22	170+00	27
158+00	22	171+00	28
159+00	23	172+00	28
160+00	23	173+00	28
161+00	24	174+00	29
162+00	24	175+50	29
163+00	25	177+00	29
164+00	25	178+00	30
165+00	25	179+00	30

Proposed Access Rd. (Ley Drive)

STATION	SHEET
38+00	36A
39+00	36A
40+50	36A

Dark-brown sand with cinders, ashes, and stone fragments
Brown sand with rubber waste
Rubber waste
Proposed grade, Access Rd., (Ley Drive)
Organic
Trace of organic
Organic
Slightly organic
Organic

20' Lt. Sod=0.3'
Refusal
10' Rt.
Refusal
20' Rt. TS=3.0
TS=20'
TS=0.8'
Hole caved in
TS=0.8'
Hole caved in at elev. 946.9'
Hole caved in
Hole caved in
TS=2.0'
TS=2.0'
Hole caved in at elev. 953.4'
TS=0.8'
TS=1.0'
Refusal (Boulders)
25' Lt.
TS=2.0'
TS=0.9'
TS=0.8'
Hole squeezed in at elev. 950.6'
TS=0.6'
Hole caved in at elev. 958.5'
Hole squeezed in at elev. 961.9'
Hole caved in at elev. 961.6'
Hole squeezed at elev. 964.3'
30' Rt.
Hole caved in at elev. 956.7'
TS=0.6'
Hole squeezed in at elev. 950.5'
TS=0.6'

1010 1000 990 980 970 960 950 940 930 920 910 900 890

147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: For complete plan-view of South Main St. Interchange, see sheet 14

℄ Proposed Ramp C-1
℄ Proposed Ramp C-2
℄ Proposed Ramp D-1
℄ Proposed Ramp D-2
℄ Relocated S. Main St.
Existing South Main St.
℄ Proposed USR 224
Sta. 189+66.35, ℄ Proposed USR 224 = Sta. 50+00, ℄ Relocated S. Main St.

Wooded
Standing water 7/25/63
Dry pond 7/25/63
Weeds
Residential
Weeds and scattered trees
Orchard
Nursery garden
Weeds and brush
Storage area
Land fill
Residence
Weeds and scattered trees
Wooded
Weeds and scattered trees
Cultivated
Weeds and brush
Nursery garden
Weeds and brush

CROSS SECTION INDEX			
STATION	SHEET	STATION	SHEET
180+00	30	187+00	32
183+50	31	187+50	33
184+50	31	188+00	34
185+50	32	192+37	34
186+50	32	203+00	35
South Main St. Interchange Ramp D-2			
7+00	36		

Proposed grade, Relocated S. Main St.
20' Rt.
Brown sand
Hole squeezed in at elev. 1016.9'
Sod=0.5'
Sod=0.2'
Hole squeezed in at elev. 988.0'
Hole squeezed in at elev. 1001.2'
Sod=0.2'
Sod=0.2'
Hole squeezed in at elev. 999.8'
Sod=0.4'
NOTE: For Drive Samples Soil Test Data, see cross section Sta 192+37, sheet 34
Dark-gray sand, cinders and ashes
TS=0.6'
TS=0.8'
Organic
Hole caved in
Trace of organic

1030
1020
1010
1000
990
980
970
960
950
940
930

179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST. COLUMBUS 23, OHIO

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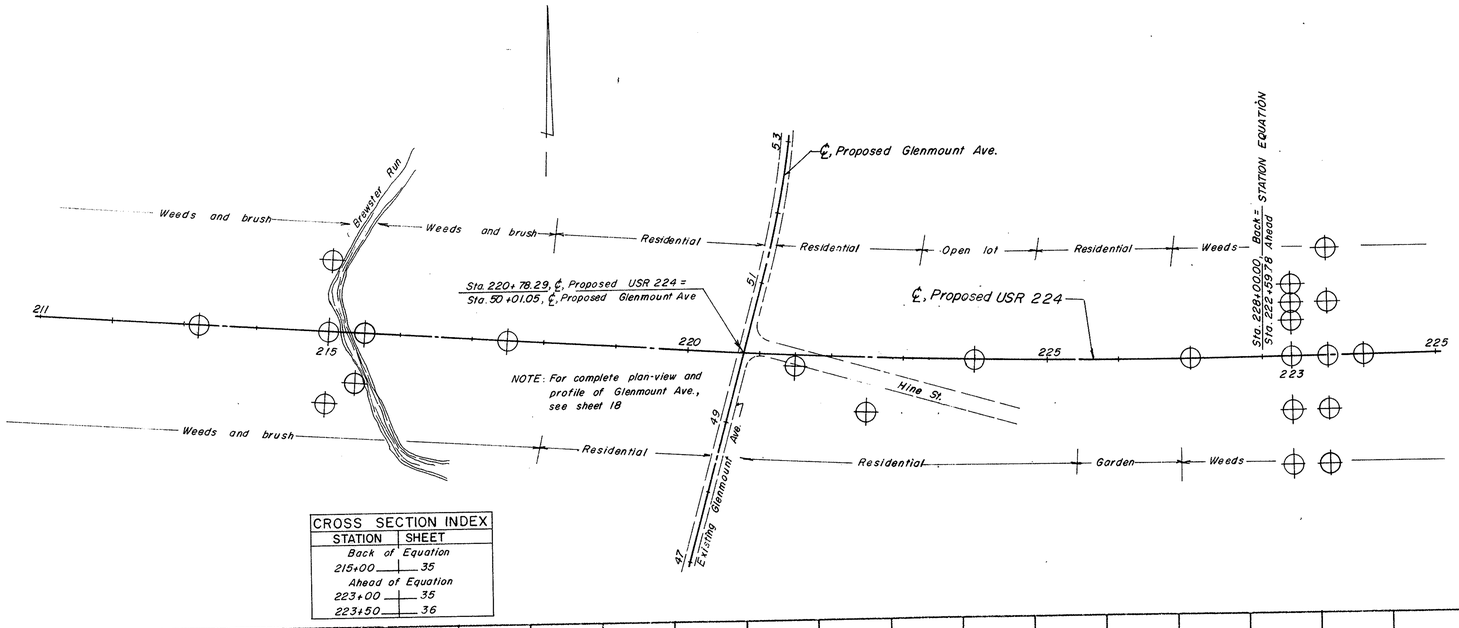
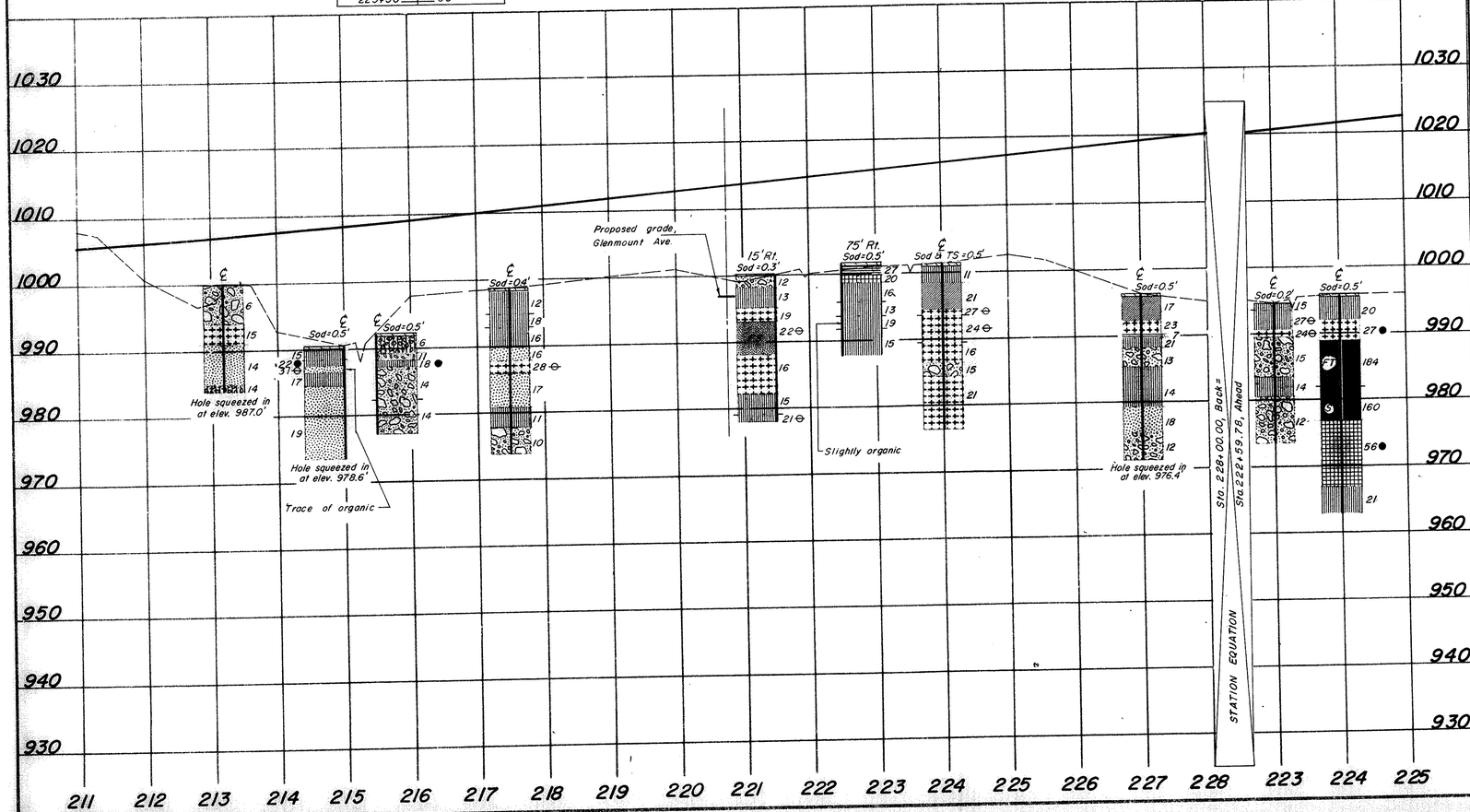


CROSS SECTION INDEX	
STATION	SHEET
Back of Equation	
215+00	35
Ahead of Equation	
223+00	35
223+50	36



TE-95
400-1-63

SOIL PROFILE
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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

MANCHESTER RD. (SR 93.) INTERCHANGE

NOTE: For complete plan-view of Service Rd. No.1, see inset this sheet.

PROFILE INDEX	
PROJECT	SHEET
Waterloo Rd. (USR 224)	11
Manchester Rd. (SR 93)	11
Ramp A	12
Ramp B	12
Service Rd. No.1	11

PROPOSED SERVICE RD. No.1

Nesmith Lake Blvd.
Christensen Ave.
℄, Proposed USR 224
℄, Proposed Service Rd. No.1
Fritch Ave.
Edwin Ave.
℄, Proposed Ramp A
Existing Conrad Ave.
Brenneman Blvd.
℄, Proposed Ramp B
Sta. 20+00. ℄ Proposed Waterloo Rd. (USR 224)= Sta. 47+93.58. ℄ Proposed Manchester Rd. (SR 93)
Existing Waterloo Rd. (USR 224)
Sta. 121+01.64, ℄ Proposed USR 224 = Sta. 13+15.84, ℄ Proposed Waterloo Rd. (USR 224)
Existing Ramp
℄, Proposed Waterloo Rd. (USR 224)
Sta. 130+86.48, ℄ Proposed (USR 224)= Sta. 91+69.20, ℄ Proposed Manchester Rd. (SR 93)
℄, Proposed USR 224
Conrad Ave.
Pelton Ave.
Nesbitt Ave.
℄, Proposed Manchester Rd. (SR 93)
Existing Manchester Rd. (SR 93)
MATCH LINE
Sta. 28+60
Sta. 28+50 MATCH LINE
℄, Proposed Manchester Rd. (SR 93)

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

WATERLOO RD. USR 224)

Proposed grade, USR 224

30' Lt. 7 9

30' Lt. 7 5

(Sta. 120+00, ℄ Proposed USR 224)
72' Lt. 5 5 4 W 13

30' Lt. 5 5 8

PROPOSED SERVICE RD. No. 1

20' Rt. 7 10

℄ 13 11

Approximate ground line

℄ 7 9 8

20' Lt. 8 19

MANCHESTER RD. (SR 93) INTERCHANGE

Proposed grade USR 224

35' Lt. 7 11

Proposed grade Ramp A

35' Lt. 10 11 15

35' Lt. 6 8 8 20

Proposed grade Ramp B

35' Lt. 5 19 W 19 16

30' Lt. 6 12 27 11

30' Lt. W 18 17 W 16

30' Rt. 28 24 W 21 9

26' Rt. 9 15 W 21 13 12

30' Rt. 8 5 W 19

MANCHESTER RD. (SR 93)

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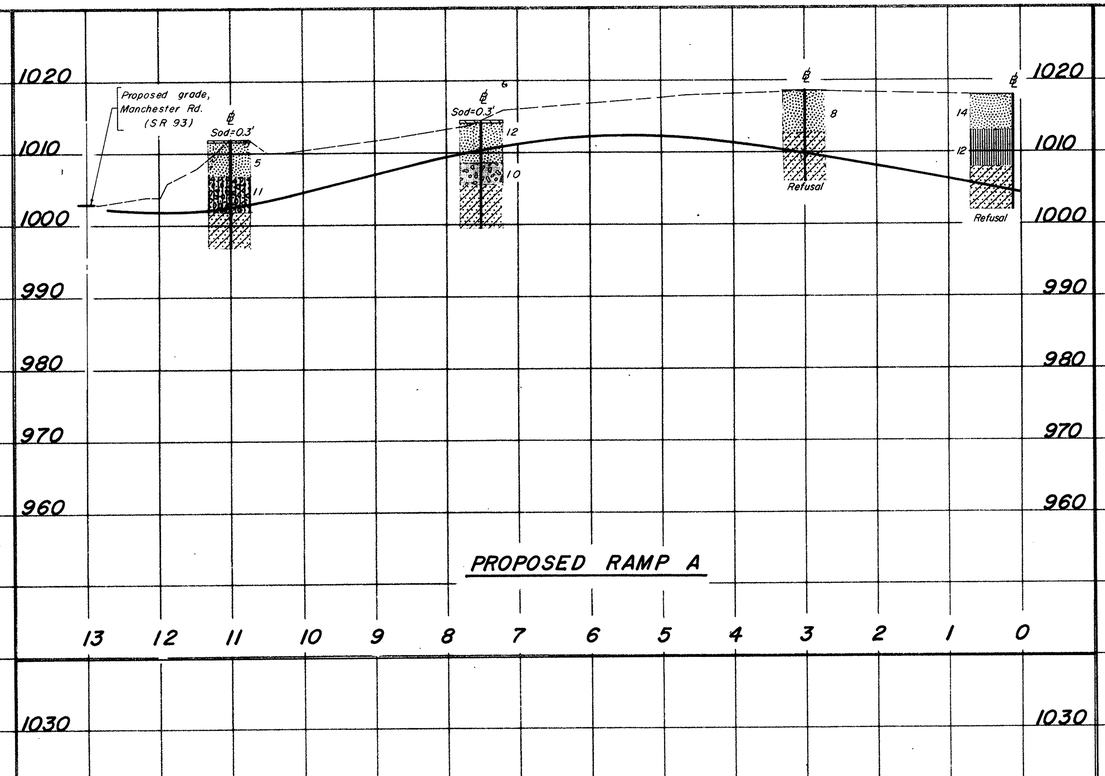
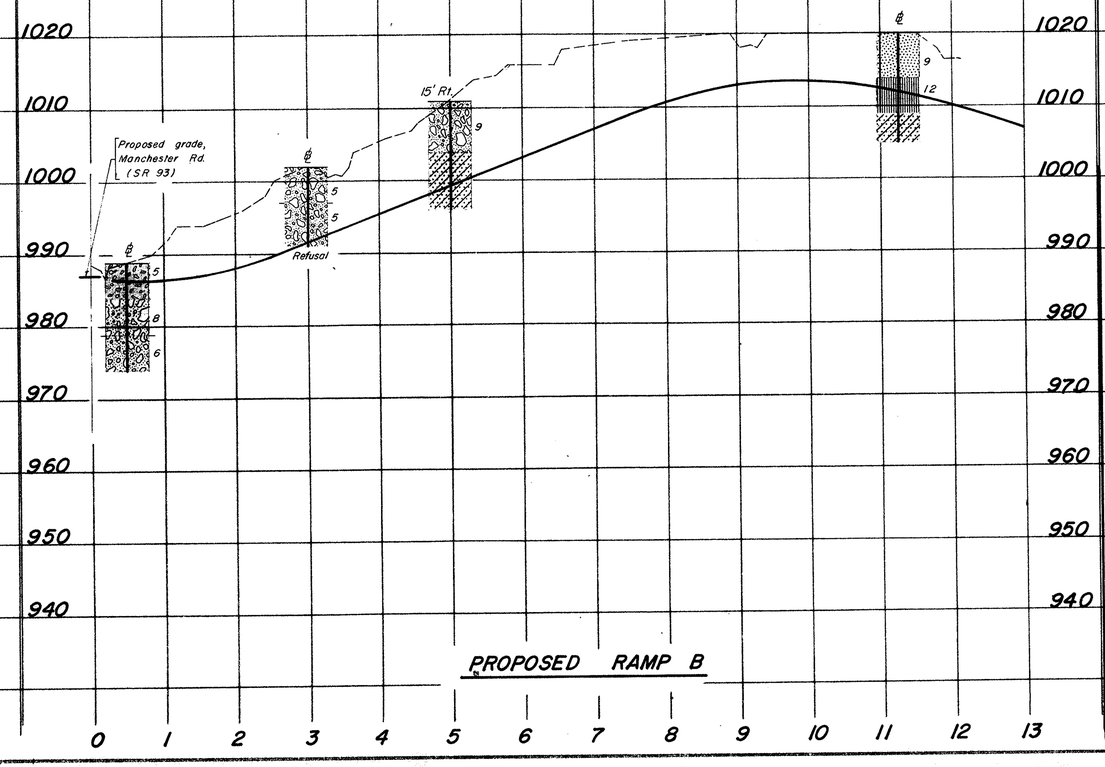
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

MANCHESTER RD. (SR 93) INTERCHANGE





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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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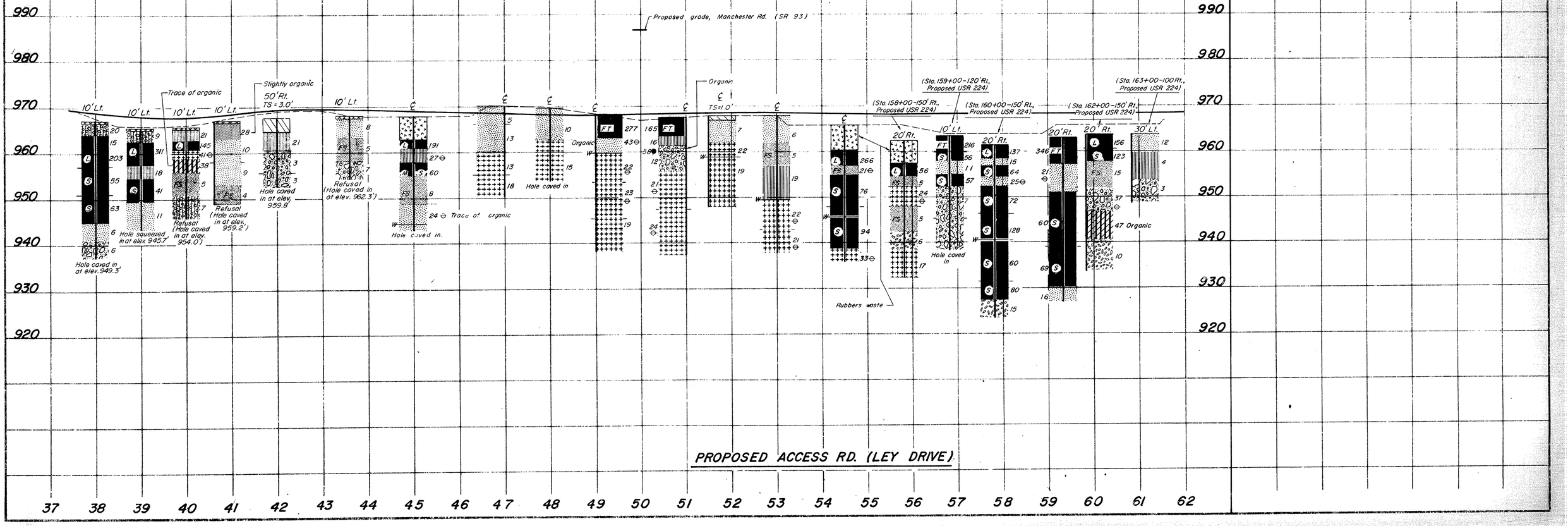
REVISED 10/14/64



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400-1-63

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

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SOUTH MAIN ST. INTERCHANGE

Sta. 60+50 MATCH LINE

℄, Relocated Cemetery Entrance

Cemetery entrance

℄, Proposed Ramp C

℄, Proposed Ramp C1

℄, Proposed Ramp C2

Sta 4+36, ℄, Proposed Ramp C1 =
Sta 4+36, ℄, Proposed Ramp C2 =
Sta 9+36, ℄, Proposed Ramp C2

Existing South Main St.

Sta 189+66.35, ℄, Proposed USR 224 =
Sta 50+00, ℄, Relocated South Main St.

℄, Proposed USR 224

℄, Relocated South Main St.

℄, Proposed Ramp D1

℄, Proposed Ramp D2

℄, Proposed Ramp D3

℄, Proposed Ramp D

Sta. 5+31, ℄, Proposed Ramp D =
Sta. 5+31, ℄, Proposed Ramp D1 =
Sta. 11+08.5, ℄, Proposed Ramp D2

℄, Proposed Swartz Rd.

Existing Swartz Rd.

MATCH LINE Sta. 39+50

Sta. 39+50 MATCH LINE

INDEX

PROFILE		CROSS SECTION			
PROJECT	SHEET	STATION	SHEET	STATION	SHEET
Swartz Rd.	15	169+00	27	180+00	30
Cemetery Entrance	15	170+00	27	183+50	31
South Main St.	15	171+00	28	184+50	31
Ramp C	16	172+00	28	185+50	31
Ramp C-1	16	173+00	28	186+50	32
Ramp C-2	16	174+00	29	187+00	32
Ramp D	17	175+50	29	187+50	33
Ramp D-1	17	177+00	29	188+00	34
Ramp D-2	17	178+00	30	192+37	34
Ramp D-3	17	179+00	30	Ramp D-2	
				7+00	36

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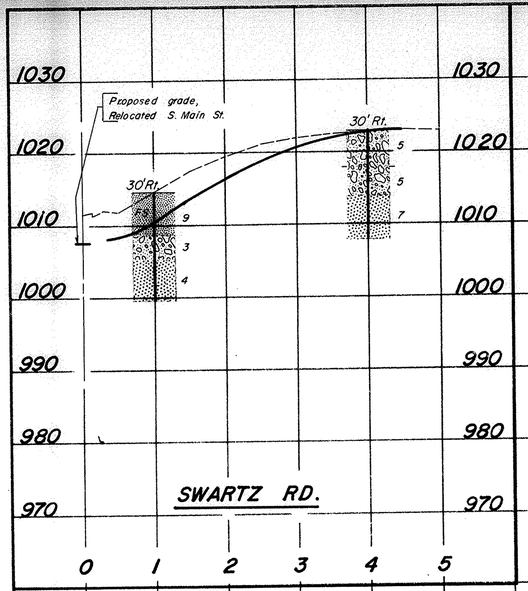
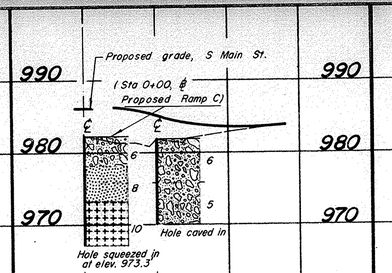
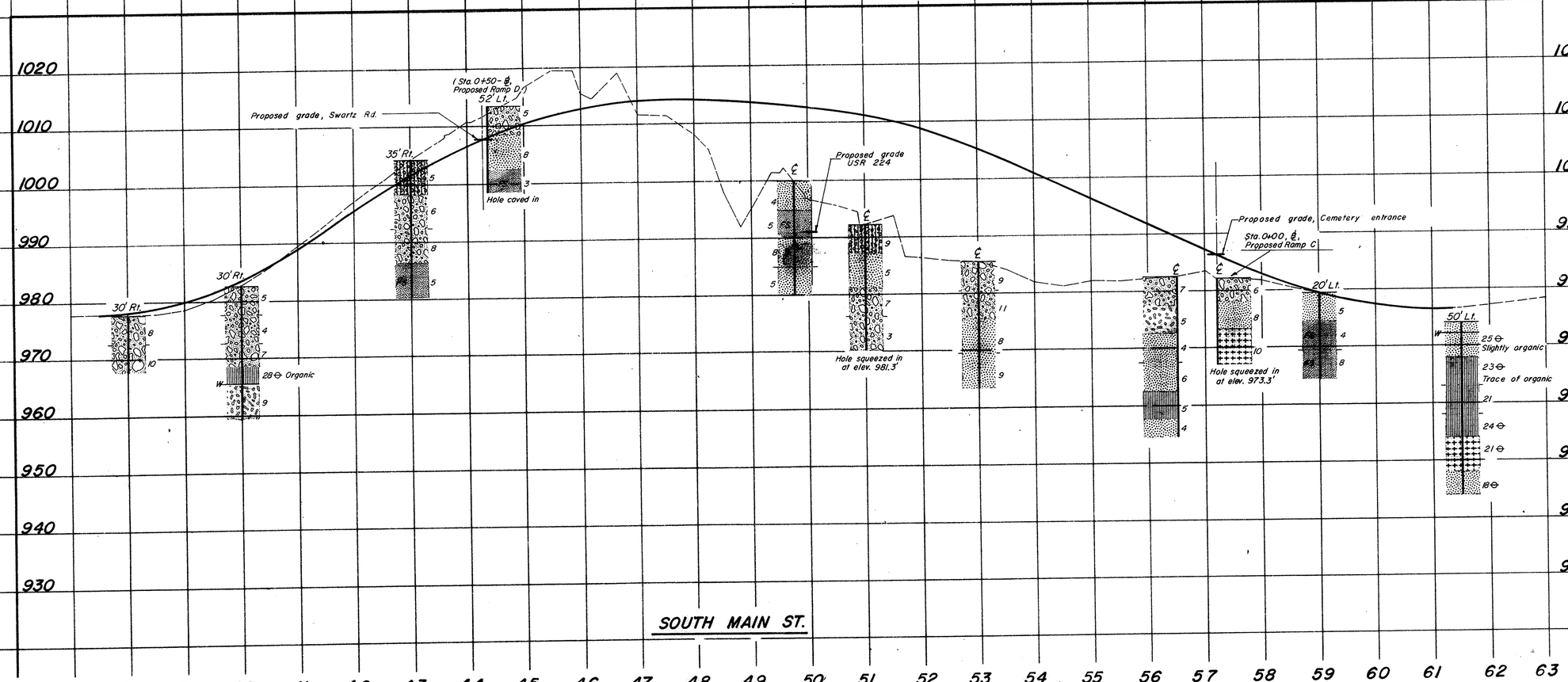
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

SOUTH MAIN ST. INTERCHANGE







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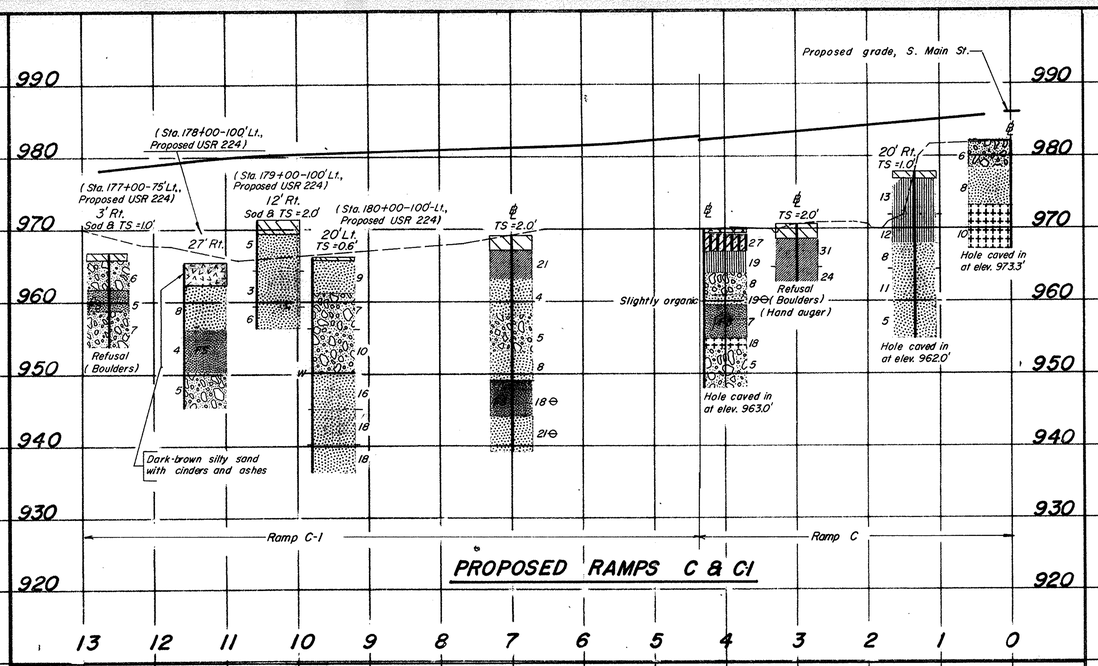
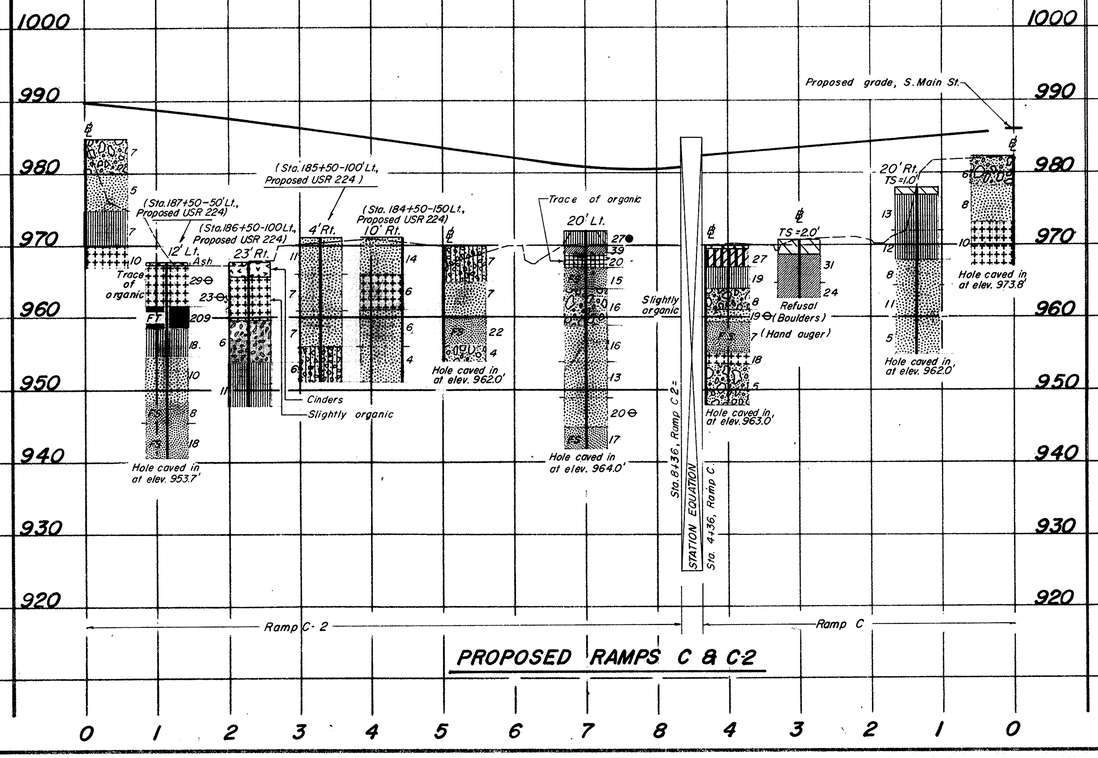
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

16/66

SOUTH MAIN ST. INTERCHANGE



PROPOSED RAMPS C & C1



PROPOSED RAMPS C & C-2

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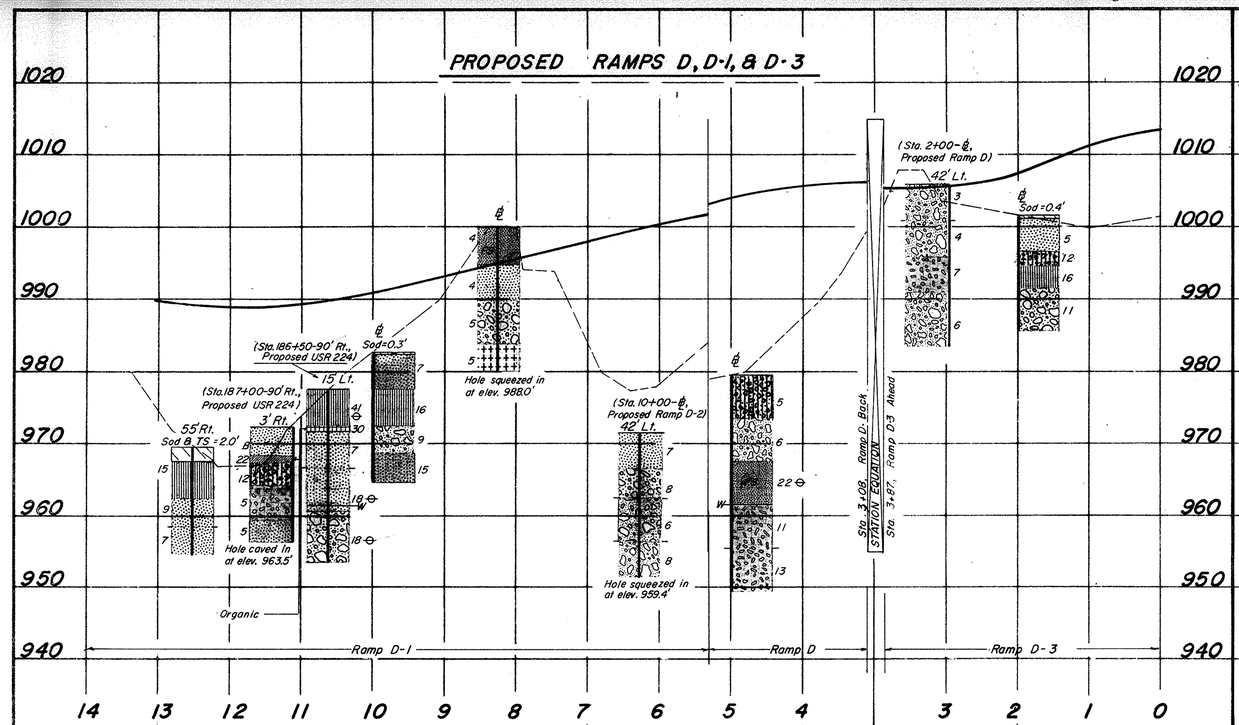
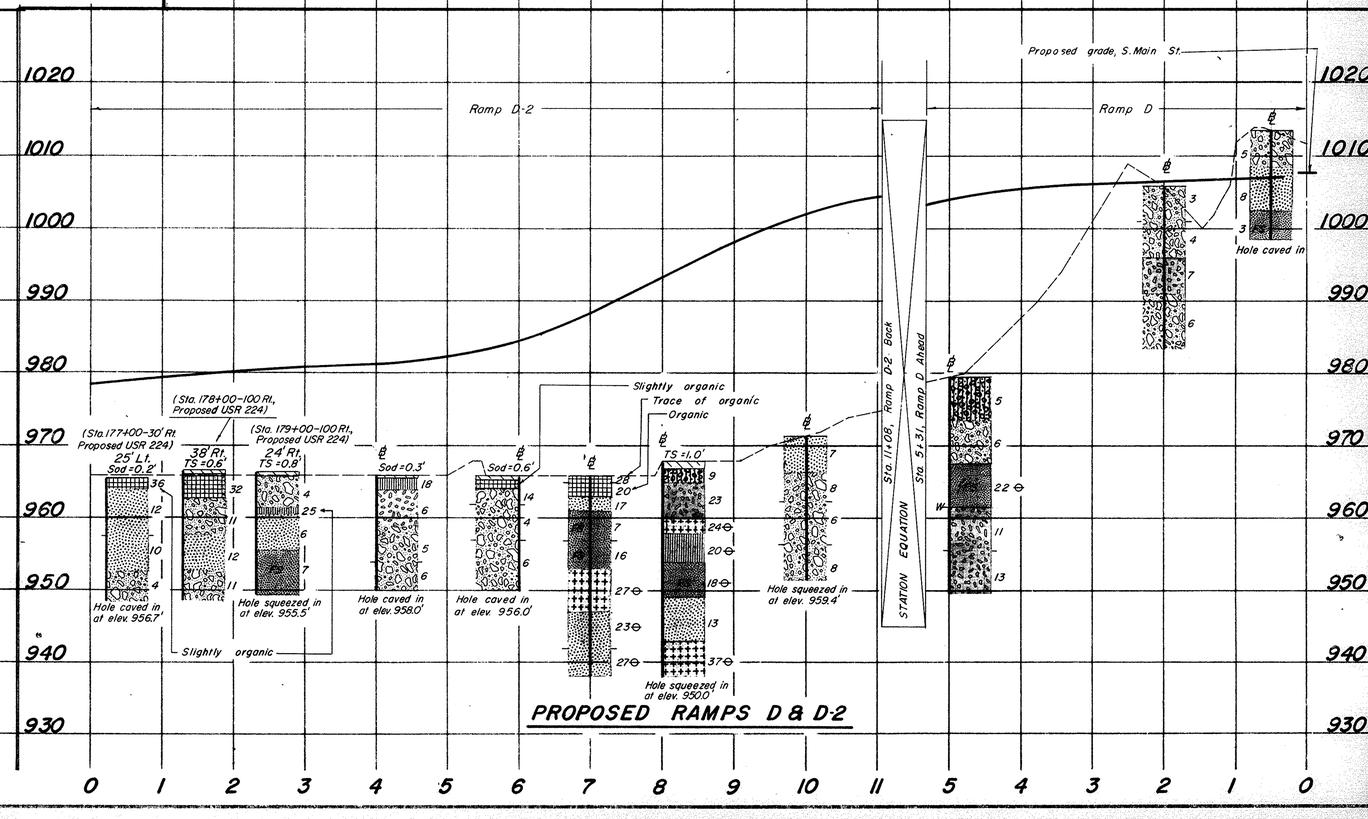
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

SOUTH MAIN ST. INTERCHANGE

PROPOSED RAMPS D, D-1, & D-3





PROPOSED RAMPS D & D-2

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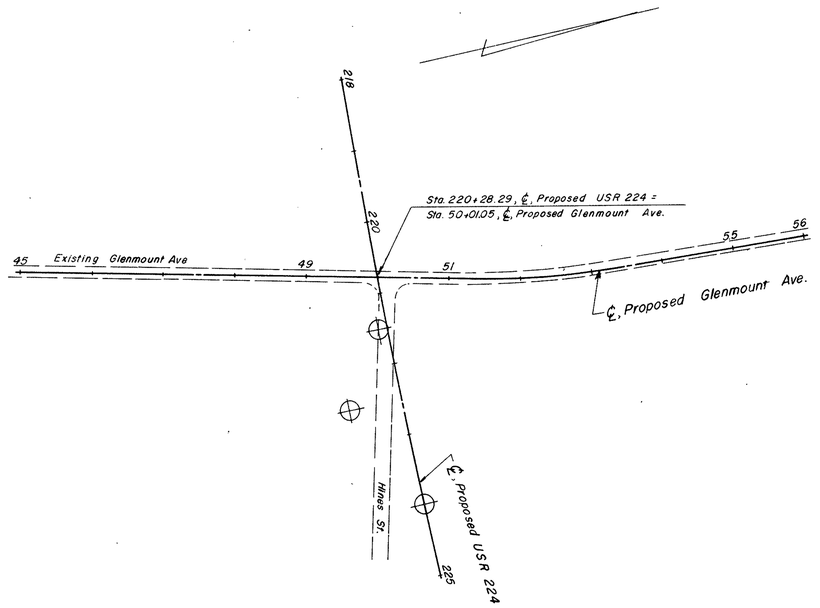
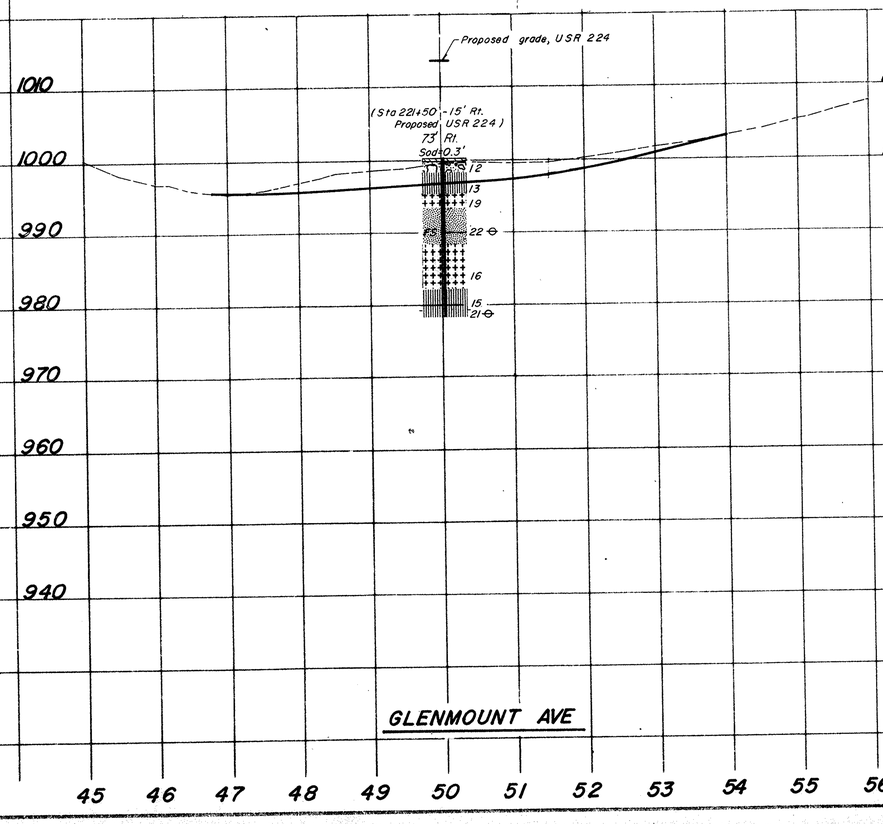
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO





SOIL PROFILE

SUMMIT COUNTY

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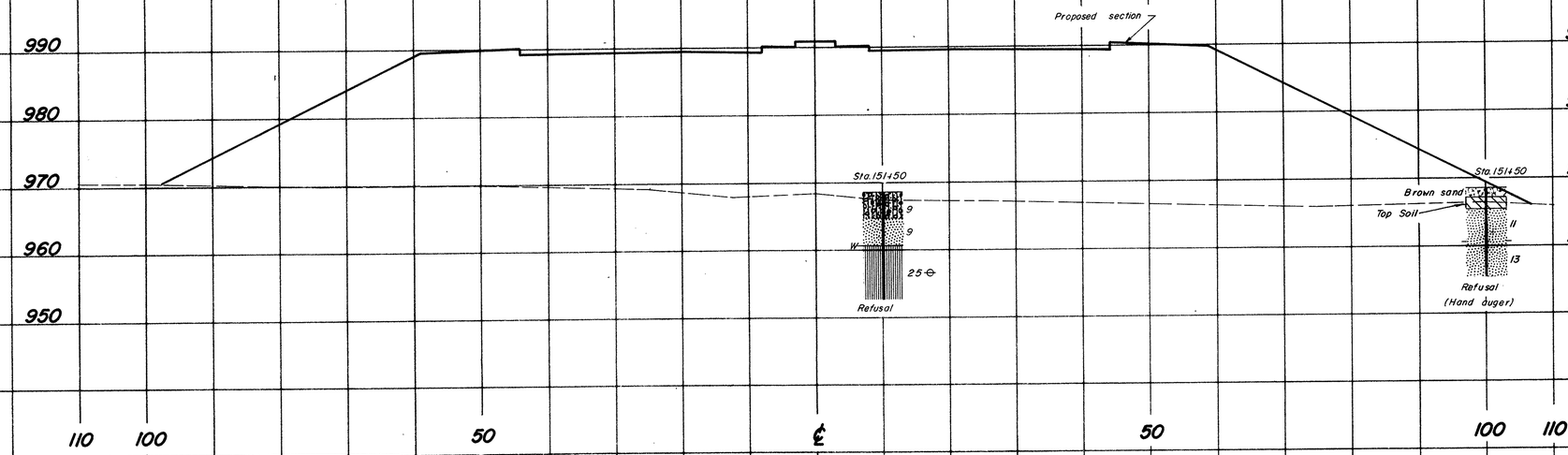
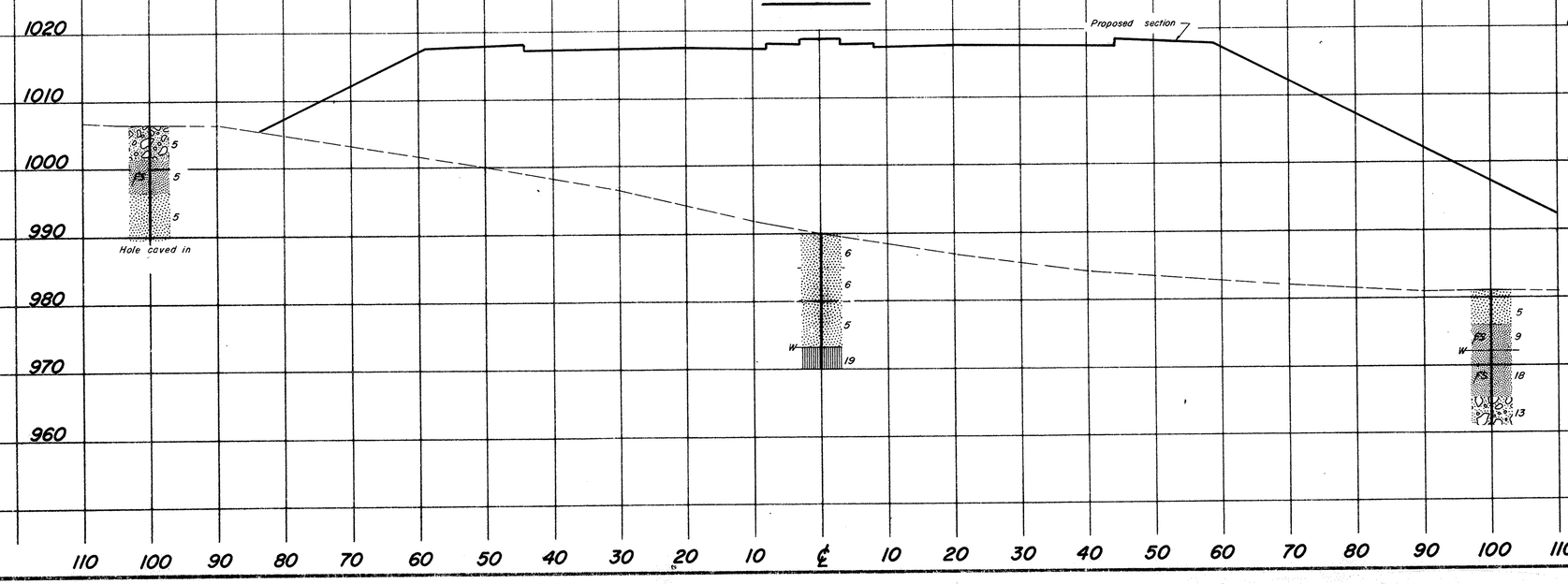
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

19/66

Sta. 151+53



Sta. 123+00



SOIL PROFILE

20/66

SUMMIT COUNTY

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 154+50

990 980 970 960 950 940 930

Sta. 48+00, ℄ Proposed Access Rd

Proposed Access Rd.

10 — 15

Hole caved in

Cinders

9 — 9 — 22 — 5

Hole caved in at elev. 962.0'

Proposed section

4 — 18 — 17

Sod=0.3'

4 — 5 — 16 — 19 — 21 ⊖ — 19 ⊖ — 20 ⊖

Proposed Access Rd.

160 150 100 50 ℄ 50 100 150 160

Sta. 151+81

1000 990 980 970 960 950 940 930

(Sta. 152+00)

265 W — 25 ⊖ FS — 22 ⊖ — 16 — 25 ⊖ FS

(Sta. 152+50) TS +0.5'

13 — W 25 — 6 — 13

(Sta. 152+00) TS +2.0

W — 203 — 23 ⊖ — 23 ⊖ — 26 ⊖ — 25 ⊖

Proposed section

Sta. 152+00

125 — 31 ● Trace of organic — W 15 — FS 24 ⊖

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 12 30 40 50 60 70 80 90 100 110 120 130 140 150 160

SOIL PROFILE

SUMMIT COUNTY

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

21/66

Sta. 156+00

990 980 970 960 950 940 930

Proposed Access Rd.

TS=3.0'

9 4 14

Hole caved in

Proposed section

Rubber waste

A 43 11 3 9

Hole caved in

Dark-brown sand with cinders, ashes, and stone fragments

78 Organic

W 4 18

Rubber waste

A 178

S 84

W

S 90

20

Proposed Access Rd.

10 5 23

W 14 17

Sod=0.2'

A-3 4 20 4

Hole caved in at elev. 959.5'

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 120 130 140 150 160 170 180

Sta. 155+50

990 980 970 960 950

(Sta. 47+00, ℄ Proposed Access Rd.)

5 13 13 18

Proposed section

TS=1.0

8 13 5

Proposed section

(Sta. 155+45) TS=0.8'

A-6 6 4 4 16

Hole caved in

TS=1.0'

A-6 11 8 4 12

Proposed Access Rd.

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

SOIL PROFILE

SUMMIT COUNTY

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

22/66

Sta. 158+00

980 970 960 950 940 930

Proposed Access Rd. — (Sta. 158+50) — TS+0.7' — Proposed section — Proposed Access Rd. — Dark-brown sandy silt with cinders and ashes

L 137 / 22 / FS 5 / FS 4

L 25 / 6 / FS 4 / FS 5 / FS 6 — Hole squeezed in at elev. 952.0'

L 191 / MS 99 / W 15 / 16 — Rubber waste

L 43 / S 95 / W / 12 — Rubber waste

S 69 / W 24 / S 80 / MS 110 / 14 — Rubber waste

L 181 / S 68 / 9 / 5 — Rubber waste

L 56 / 5 / 24 / FS 5 / 6 / 17 — Rubber waste

Sta. 158+25 — L 120 / 41 / 4 / 11

150 100 50 ℄ 50 100 120 150 180

Sta. 157+00

980 970 960 950 940 930

(Sta. 45+00-℄ Proposed Access Rd.) — Proposed section — (Sta. 54+50-℄, Proposed Access Rd.)

Rubber waste — L 145 / 12 / 19 / 7 — Hole caved in

L 191 / 27 / MS 60 / FS 8 / 24 Trace of organic / W / Hole caved in

Rubber waste — L 232 / 16 / W / 12 / 19

Brown sand with rubber waste — L 226 / S 117 / W / S 69 / S 70

Rubber waste — S 157 / 19 / S 63 / W / S 111 / S 75 — Gray sand

Cinders ashes and bricks bats — 272 / L / S 101 / 79 / S / 19

Rubber waste — L 266 / 21 / S 76 / W / S 94 / 33

L 104 / 13 / FS 5 / 10 / 5 — Hole caved in

Spoil -0.4' — 10 / 23 / FS 5 / 5 / 5 — Slightly organic 19 — Hole caved in at elev. 951.9'

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 120 130 140 150 160 170 180

SOIL PROFILE

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

23/66

Sta. 160+00

(Sta. 160+30)
Sod=0.4
Hole squeezed in at elev. 955.8'
TS=0.5'
Hole caved in
Hole caved in
Proposed section
Proposed Access Rd.
Approximate ground line
Hole caved in

Sta. 159+00

TS=0.8'
Hole caved in at elev. 946.9'
Proposed section
Proposed Access
Hole caved in

SOIL PROFILE

SUMMIT COUNTY

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

24/66

Sta. 162+00

Proposed section

Proposed Access Rd.

Sod=0.4'

L 27 / 26 ● / 7 / 16 / 5 — Hole caved in

L 163 / 12 / 3 / 21 / 4 / 6

L 91 / 7 / MS 67 / S 96 / 10 / 4 / 9 — Hole caved in

L 210 / S 58 / W 29 ⊖ / S 63 / 15 / 13

L 156 / S 123 / W / 15 / 37 ⊖ / 47 / 10

L 266 / W 31 ⊖ / W 20 ⊖ / S 112 / 21 / 51 ● Organic / 15

Sta. 161+00

Proposed section

Proposed section

(Sta. 59+33 - 20' Rt. Proposed Access Rd.)

L 65 / 7 / 5 / W 22 ⊖ / W 2 / 27 ⊖ / 6 — Refusal (Boulders)

TS=1.5'

46 ⊖ Trace of organic / 6 / 8 / 6 / 5 / 23 / 4 / 20 ⊖

L 77 / 11 / 32 Trace of organic / 6 / 4 — Hole caved in

79 / 23 ⊖ / MS 74 / 21 / 17 / 8 / 33 ⊖

291 / FT 346 / 28 ⊖ / 21 ⊖ / 23 ⊖ / S 60 / 85 / S 69 / 92 / S 16 / 75 / S / 14 Trace of organic

FT 296 / 36 ⊖ Trace of organic / S 69 / S 52 / W / 20 ⊖ / 22 ⊖ / 23 ⊖

980 970 960 950 940 930 920 910

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220

SOIL PROFILE

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23. OHIO

25/66

Sta. 165+00

Sod=0.2'
Refusol
13
6
5
7
Proposed section
TS=2.0'
35 Trace of organic
66
7
4
Hole squeezed in at elev 953.4'
TS=2.0'
W
10
S
65
22
21
W
14
Hole squeezed in at elev. 947.5'
Slightly organic
17
13
28
61
Organic
4

Sta. 164+00

Proposed section
14
13
5
5
Hole squeezed in at elev 957.2
TS=2.0'
32 Trace of organic
12
5
TS=2.0'
61
W
17
WS
68
13
10

Sta. 163+00

Proposed section
(Sta. 162+75)
Sod=0.5'
22
9
5
142
66 Organic
6
4
4
S
59
5
4
12
4
3
53
16
S
47
6
5
Hole caved in

SOIL PROFILE

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

26/66

Sta. 167+50

Proposed section

Sod BTS=2.5'
5
6
Refusal (Boulders)

TS=1.0'
6
95
20 Trace of organic
7
4
Refusal (Boulders)

TS=3.0'
12
Refusal (Boulders)

TS=2.0'
Brown sand
36
5
Trace of organic
33
7
7
Refusal (Hole caved in at elev. 953.5')

Sta. 167+00

Proposed section

17
5
5

TS=0.6'
9
5
4

TS=0.8'
14
6
6

8
6
5

5
82
5
7

Sta. 166+00

Proposed section

10
7
6
Refusal (Boulders)

154
38
5
33
Trace of organic
6
Hole caved in at elev. 953.4'

TS=3.0'
10
22 Slightly organic
3
W
17
Hole squeezed in at elev. 951.6'

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

940 950 960 970 980

SOIL PROFILE

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OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

27/66

Sta. 170+00

Approximate ground line

(Sta.170+15) TS=0.8'
A-2-4 19
MS 50
A-3a 14
A-3a 5

Sta. 170+15
105 Organic
A-2-4 19
S 56
A-3a 18
A-3a 5
Hole squeezed in at elev. 951.6'

Proposed section

(Sta.170+15) TS=0.9'
A-2-4 6
7
36 Organic
W
19 ⊖
19 ⊖
Hole squeezed in at elev 950.6'

A-2-4 5
OL 6
W 37 ● Organic
17

Organic 99
M
Organic 44 ●
5
A-3a
19 ⊖
A-3a

Sta. 169+00

Proposed section

TS=0.6'
A-2-4 9
S 52
A-3a 6

41
A-2-4 18
48 Slightly organic
A-3a 5
7

Sod=0.6'
38
S 54
A-3a 5
19 ⊖ Organic
A-3a 7
Hole caved in at elev. 952.6'

TS=2.0'
A-2-4 8
34 ● Organic
9
W 26 ⊖ Trace of organic
12 Trace of organic

Sod=0.6'
77 Organic
38 ⊖
32 ●
31 ●
12
17
14
51 ●
26 ⊖ Trace of organic
11

86 Organic
12
13
W
16

TS=0.8'
59 Trace of organic
A-2-4 6
27 ⊖ Organic
26 ⊖ Organic
W
A-3a 20

Sta. 168+00

Proposed section

7
A-2-4 6
6

13
A-2-4 6
5

15
7
6

Sta. 168+25
51 Trace of organic
20
25 ⊖ Slightly organic
W
15

47 ⊖
13
39 Organic
11
W
25 ⊖ Organic
14

SOIL PROFILE

28/66

SUMMIT COUNTY

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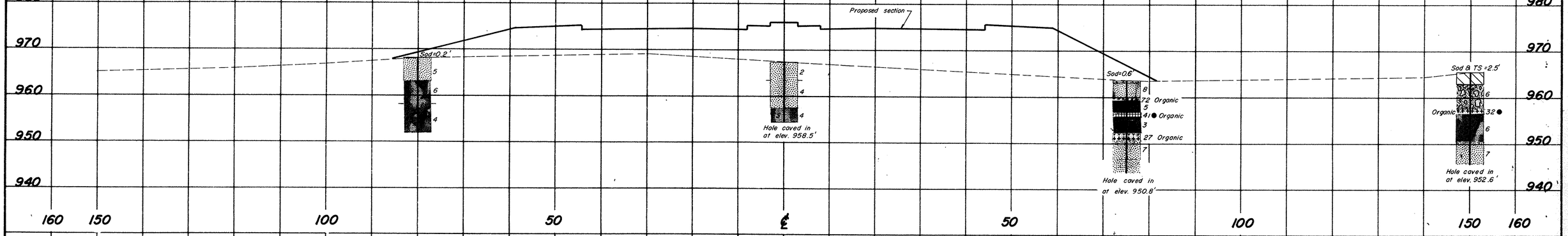
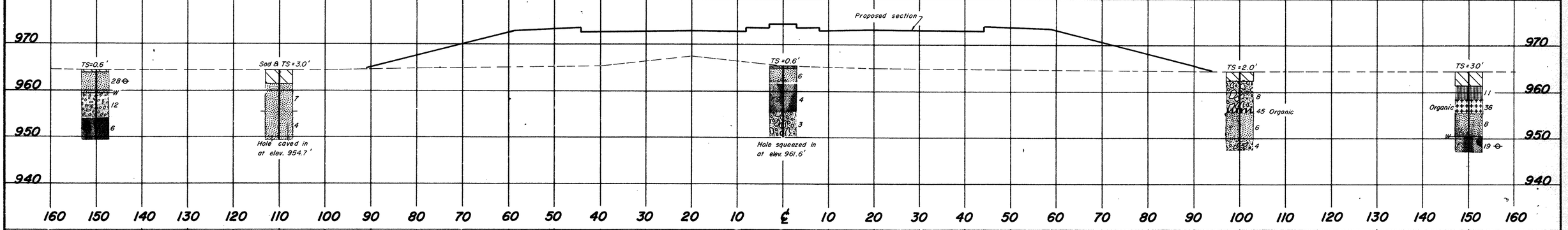
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

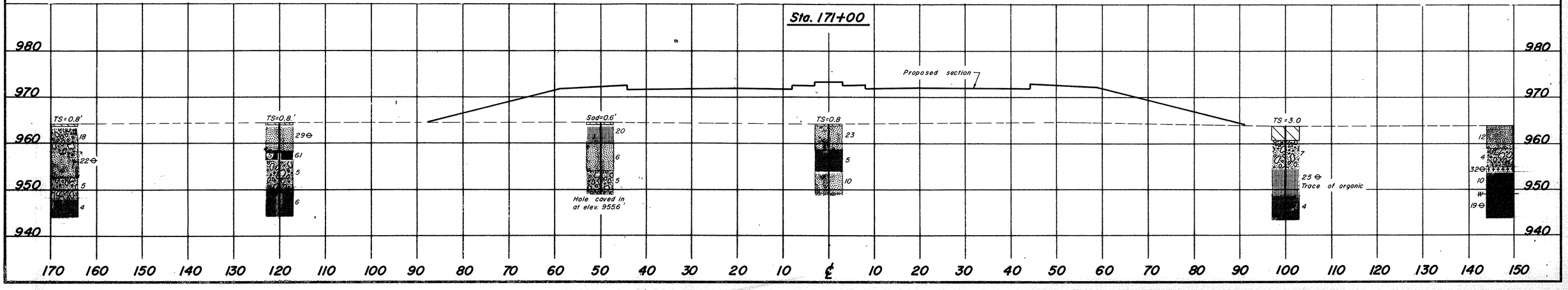
Sta. 173+00



Sta. 172+00



Sta. 171+00



SOIL PROFILE

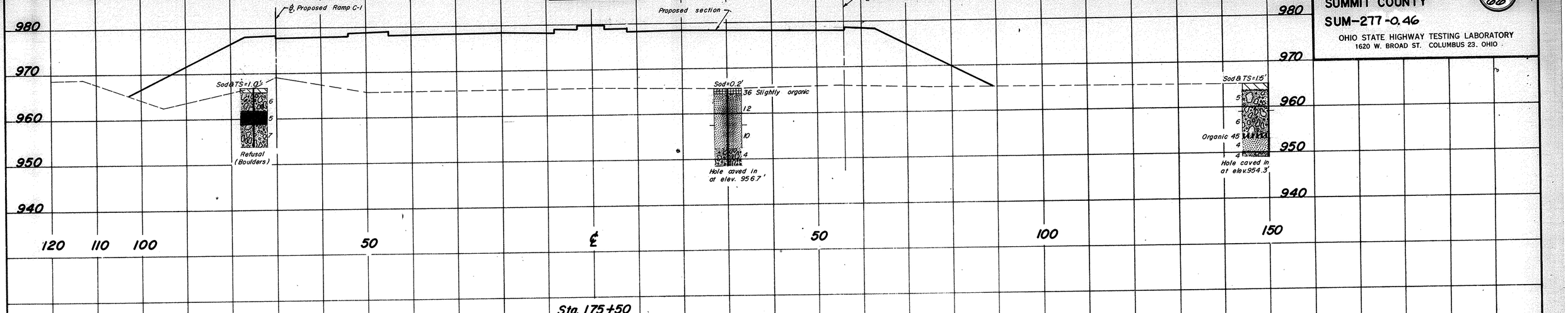
SUMMIT COUNTY

SUM-277-0.46

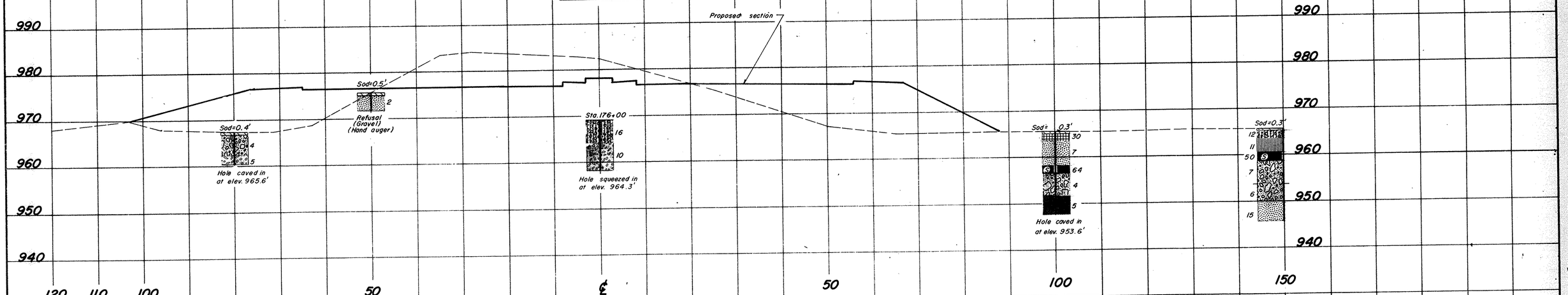
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

29/66

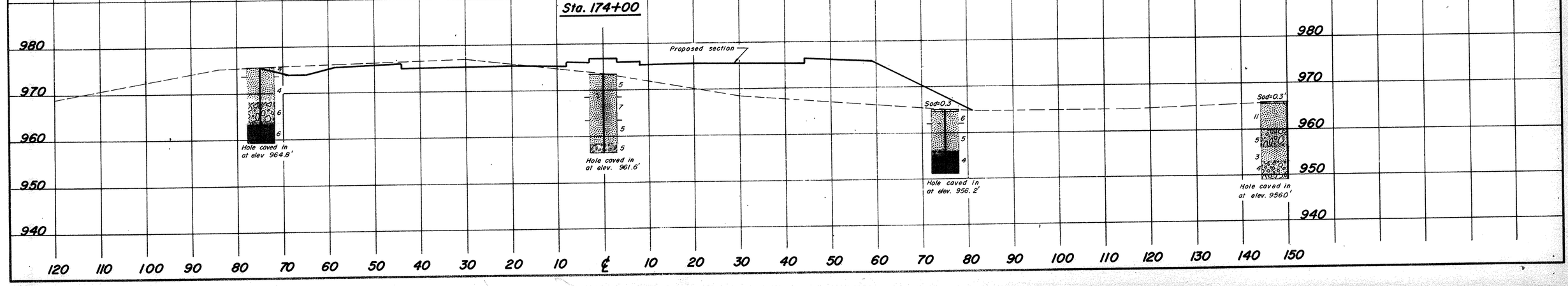
Sta. 177+00



Sta. 175+50



Sta. 174+00



SOIL PROFILE

SUMMIT COUNTY

SUM-277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

30/66

Sta. 180+00

Proposed section

℄ Proposd Ramp C-1

TS=0.6'
9
7
10
W
16
18
18

TS=0.8'
12
5
6
W
17
12
14

℄ Proposed Ramp D-2

TS=0.6'
9
6
15
W
12
Hole squeezed in at elev. 951.5

980 970 960 950 940 930

140 130 120 110 100 50 ℄ 50 100 110 120 130

Sta. 179+00

℄ Proposed Ramp C-1

Proposed section

℄ Proposed Ramp D-2

Sod & TS=2.0'
5
3
6

TS=0.6'
9
29 Organic
5
7

TS=0.8'
4
25 Slightly organic
6
7
Hole squeezed in at elev. 955.5'

990 980 970 960 950 940

140 130 120 110 100 50 ℄ 50 100 110 120 130

Sta. 178+00

℄ Proposed Ramp C-1

Proposed section

℄ Proposed Ramp D-2

Dark-brown silty sand with cinders and ashes.
8
4
5

51
Organic
7
4
W
16
Hole squeezed in at elev. 950.5'

TS=0.6'
32
11
12
11

990 980 970 960 950 940

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

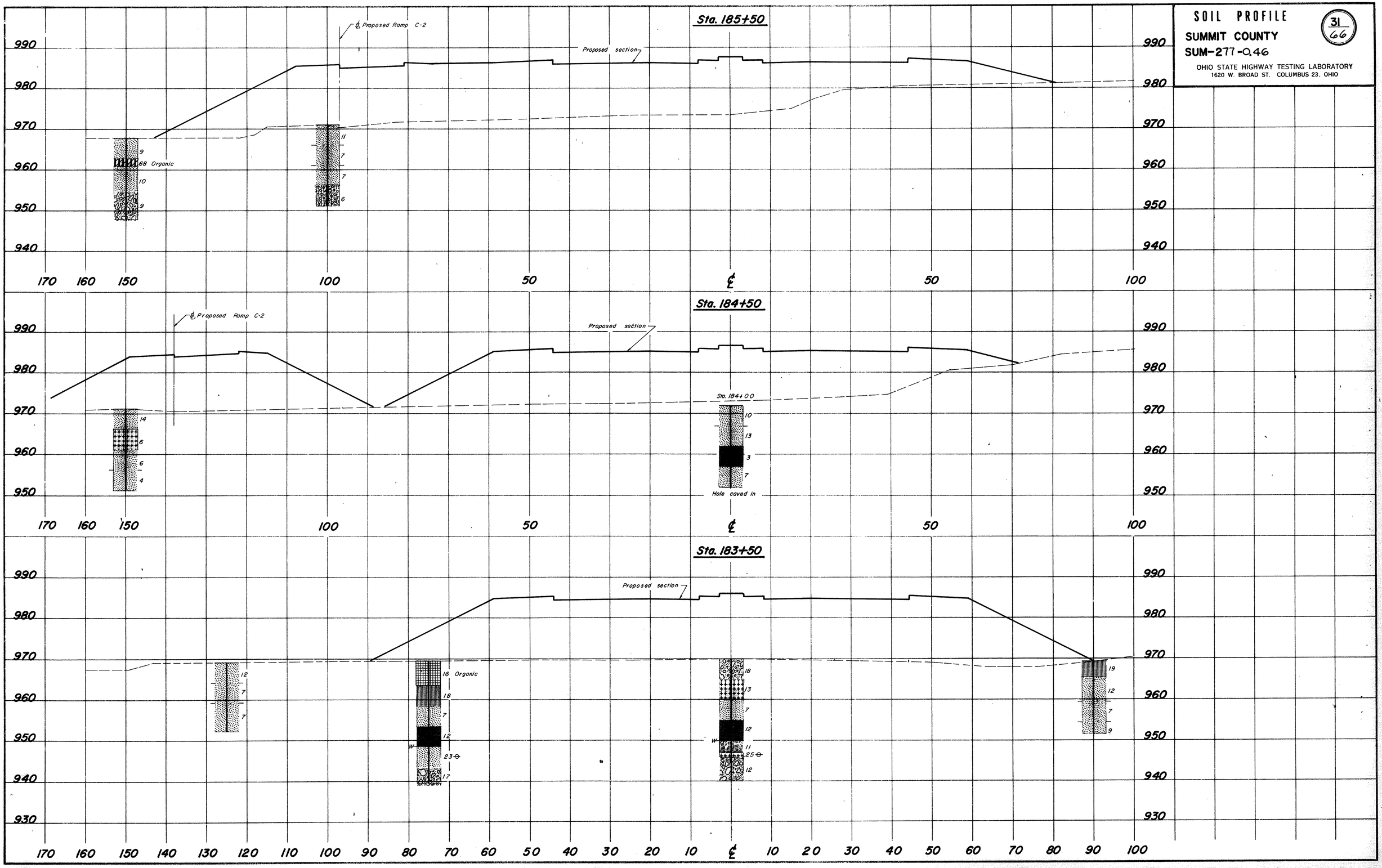
SOIL PROFILE

SUMMIT COUNTY

SUM-277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

31/66



SOIL PROFILE

SUMMIT COUNTY

SUM-277 -0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

32/66

Sta. 187+00

℄ Proposed Ramp C-2

Proposed section

℄ Proposed Ramp D-1

990 980 970 960 950 940

160 150 100 50 ℄ 50 100 150 160

18
64 Slightly organic
F.T. 194
S 234
37 Organic
12
15

Cinders
28
20
F.T. 232
S 175
Marly, with trace of organic
7
19
22
14

Cinders
27
24 Trace of organic
F.T. 266
S 86
55
9
12 Trace of organic
6
16

(Sta.186+85)
Sod=0.4'
9
6
3
Hole squeezed in at elev. 960.3'

15
15
7

Sod=0.4'
8
22 Organic
12
5
5
Hole caved in at elev. 963.5'

Sta. 186+50

℄ Proposed Ramp C-2

Proposed section

℄ Proposed Ramp D-1

990 980 970 960 950 940 930

W
23
S 56
S 72
7
18
17

Cinders
23
Slightly organic
6
11

5
6
5
4

41
30 Organic
7
18
W
18

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

SOIL PROFILE

SUMMIT COUNTY

SUM-277-0.46

33/66

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta:187+50 Left

℄ Proposed Ramp C-2

Proposed section

990 980 970 960 950 940 930

W Dark-gray silty sand with cinders and ashes
FT 364
9
FT 19
Hole squeezed in at elev. 957.7'

W 25
31 Organic
FT 308
35
FT 7
15

Ashes
29
Trace of organic
FT 209
18
10
FT 8
18
Hole caved in at elev. 953.7'

Dark-gray sand cinders, and ashes
29
Trace of organic
7
W
6
20
14

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄

Sta.187+50 Right

℄ Proposed Ramp D-1

Proposed section

990 980 970 960 950 940 930

Dark-gary sand, cinders, and ashes
29
Trace of organic
7
W
6
20
14

Sod & TS=1.5'
19
FT 5
9
Hole squeezed in at elev. 955.4'

Sod & TS=3.0'
12
26 Slightly organic
54 Trace of organic
Trace of organic
15
7
FT 17
16
13

(Sta. 11+50-75' Rt. Proposed Ramp D-1) (Sta.187+53)
Sod=0.8'
FT 257
84 Organic
S 114
8
FT 18
15
Hole caved in at elev. 956.5'

Approximate ground line

(Sta. 11+50-125' Rt. Proposed Ramp D-1) (Sta.187+62)
Sod & TS=3.0'
16
9
24

℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230

SOIL PROFILE

SUMMIT COUNTY

SUM-277 -0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

34/66

Sta 192+37

(Sta. 192+50) 13 (8/8) 17 (10/10) 19 (7/8) Brown sand (5/8) 17 (9/11) 18 (8/12) 16 (15/23) 20 (15/21) 19 (12/18)

(Sta. 192+50) Sod=0.3' 5 4 Hole caved in

Proposed section

10.30

DRIVE SAMPLE SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
192+30 20'Rt	5.0-6.0	39	22	31	- 8 -		NP	NP	13	A-3
	10.0-11.0	38	4	36	- 6 -		NP	NP	17	A-3
	15.0-16.0	26	8	55	-11 -		NP	NP	19	A-3a
	20.0-21.0	Brown Sand								Visual
	25.0-26.0	28	9	33	-16 -		NP	NP	17	A-3a
	30.0-31.0	0	4	86	-10 -		NP	NP	13	A-3
	35.0-36.0	0	0	70	19	11	NP	NP	16	A-3a
	40.0-41.0	0	0	41	48	11	NP	NP	20	A-4a
	45.0-46.0	0	2	75	15	8	NP	NP	19	A-3a

Sta. 188+00

℄, Proposed Ramp C-2

℄, Proposed Ramp D-1

Proposed section

Approximate ground line

Sta. 188+25' 6 9 5 7

(Sta. 188+25) 11 11 5 6

Sod=0.5' 17 10 2.5 ● 5 5 4 Hole squeezed in at elev. 950.5'

TS=2.5' 15 40-Slightly organic 47 ● Organic 17 28 ● 15 Hole squeezed in

(Sta. 12+00-75' Rt Proposed Ramp D-1) TS=1.0' FT 401 12 26 Organic 16 15 19 18.

(Sta. 12+00-125' Rt. Proposed Ramp D-1) (Sta. 188+05') Sod & TS=2.0' FT 175 308 141 Trace of organic 29 22 12 Hole caved in at elev. 956.3'

SOIL PROFILE

SUMMIT COUNTY

SUM-277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

35/66

Sta. 223+00
Ahead of Equation

Proposed section

Sod=0.5' 14 23 23 20 17

Sod=0.5' 38 15 25 26 15 12 — Gray Sand

Sod=0.8' 14 19 24 20 22

Sod=0.2' 15 27 24 15 14 12

Sod=0.5' 22 30 38 Trace of organic 87 Gray organic clay 19 16

Sod=0.5' 20 23 41 89 21 22 21 16 — Organic

Sta. 215+00
Back of Equation

Proposed section

Sod=0.5' 19 30 20 14 13 12 — Hole squeezed in at elev. 967.2'

Sod=0.5' 12 31 17 Trace of organic 19 — Hole squeezed in at elev. 978.6'

(Sta. 215+40) Sod=0.4' 22 19 18 15 13

Sod=0.5' 10 23 21 13 23 15 — Hole squeezed in at elev. 976.7'

Sta. 203+00

Proposed section

Sod=0.2' 7 7 15 25 30

Sod=0.2' 3 5 5 22 29 27 12

SOIL PROFILE

SUMMIT COUNTY

SUM-277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23. OHIO

36/66

Sta. 7+00

Proposed section

Approximate ground line

28 Trace of organic
20 Organic
17
7
16
27
23
27

22
13
10
20
16

Sod=0.9'
27
19
13
20
10

990 980 970 960 950 940 930

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

Proposed Ramp D-2

Sta. 223+50
Ahead of Equation

Proposed section

Approximate ground line

Sod=0.5'
33
64
48 Dark-brownish gray organic sandy clay
19
22

Sod=0.5'
33
30
24
S 87
24

Sod=0.5'
21
28 Trace of organic
FT 236
48 Organic
15

Sod=0.5'
26
44 Organic
FT 221
59 Organic
18

Sod=0.5'
23
25
Organic
FT 178
S
S
11

1030 1020 1010 1000 990 980 970 960

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

TE-95
400-1-63

GENERAL INFORMATION

INTRODUCTION

The project consists of the relocation of C.9 mile of USR 224, beginning 1000 feet east of Glenmount Avenue, C.3 mile south of existing USR 224, extending eastward, and terminating 300 feet west of Arlington Street. Included in the report are profiles of the SR 8 (IR 77) interchange ramps.

Proposed grades indicate the following maximum proposed cuts and fill embankments:

	CUTS (Max.)	FILL EMBANKMENTS (Max.)
USR 224	15'	35'
SR 8 (IR 77) Interchange		
Ramp A	-	36'
Ramp B	10'	41'
Ramp B-1	-	39'
Ramp B-2	-	38'
Ramp C	14'	27'
Ramp C-1	3'	26'
Ramp C-2	-	23'
Ramp D	2'	22'

GEOLOGY OF THE PROJECT

The alignment traverses an area of glacial, alluvial, and sedimentary deposits in the Tuscarawas River valley, on the glaciated Allegheny Plateau. Underlying bedrock is comprised of shales, indurated clays, and sandstones, of Lower Pennsylvanian and Upper Mississippian age.

INVESTIGATIONAL DISCLOSURES

Materials occurring immediately below proposed grade consist predominantly of sandy silts (A-4a) and occasional sandy gravels (A-2-4) and silts (A-4b), having generally low moisture contents or moisture contents in the lower portions, or below the plastic range, as well as indurated clay bedrock.

Indurated clay bedrock is anticipated in the excavations at the following locations:

Ramp C-1

Stations 12+00 to 13+00 - in the ditches.

Stations 13+00 to 15+00 - at grade, in the ditches, and lower portion of the backslopes.

Stations 15+00 to 16+00 in the ditches.

In the embankment foundation areas, soils are predominantly comprised of the following:

USR 224

Stations 224+00 to 230+00 - sands (A-3a), silts (A-4a, A-4b), clays (A-7-5, A-7-6), having generally high moisture contents or moisture contents in the upper portion of the plastic range, containing various amounts of organic matter, and wet, low strength, highly compressible peats.

Stations 230+00 to 274+00 - sandy gravels (A-1-a, A-1-b, A-2-4), sands (A-3a), and silts (A-4a, A-4b), generally having low moisture contents or moisture contents in the lower portion of the plastic range. Wet materials were encountered between stations 231+00 and 233+00 and at stations 243+00 and 248+50.

Ramps A, B, B-1, B-2, C, C-1, C-2, and D - unstratified gravels, sandy gravels, sandy silts and silts, in the A-1-a, A-1-b, A-2-4, A-4 and A-6 classifications, generally having low moisture contents or moisture contents in the lower portion of the plastic range. Wet materials, occasionally containing organic matter, were encountered at the following locations: Ramp A - station 18+00; Ramp B - station 5+00; Ramp B-1 - station 18+00; Ramp B-2 - station 13+30; Ramp C - stations 0+00 and 3+00; Ramp C-2 - station 0+00 and 3+00; and Ramp D - stations 14+00 and 21+60.

A 3-foot at-surface interval of peat was encountered overlying bedrock surface at Ramp B, station 12+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 358 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 and stone fragments	A-1-a(0)	A-1-a	63	16	10	7	4	NP	NP	12	7
Stone fragments with sand	A-1-b(0)	A-1-b	45	19	22	8	6	NP	NP	12	20
Fine sand	A-3(0)	A-3	12	18	63	- 7 -		NP	NP	18	11
Coarse and fine sand	-----	A-3a	7	3	60	12	8	27	0	17	39
Stone fragments with sand and silt	A-2-4(0)	A-2-4	43	6	21	18	12	22	2	15	33
Sandy silt	A-4(0)	A-4a	20	5	24	32	19	23	2	16	115
Silt	A-4(8)	A-4b	2	1	12	59	26	25	3	23	41
Elastic silt and clay	A-5(11)	A-5	0	1	14	49	36	54	8	27	1
Silt and clay	A-6(7)	A-6a	20	2	11	37	30	27	11	19	13
Silty clay	A-6(10)	A-6b	0	2	17	35	45	33	16	18	1
Elastic clay	A-7-5(20)	A-7-5	0	1	8	58	33	86	43	70	13
Clay	A-7-6(15)	A-7-6	3	1	8	53	35	49	24	43	8
Fine-textured peat			VISUAL CLASSIFICATION								17
Loamy peat			VISUAL CLASSIFICATION								1
Sedimentary peat			VISUAL CLASSIFICATION								21
Marly sedimentary peat			VISUAL CLASSIFICATION								1
Weathered indurated clay			VISUAL CLASSIFICATION								7
Weathered shale			VISUAL CLASSIFICATION								2
Weathered sandstone ●			VISUAL CLASSIFICATION								2
Shale			VISUAL CLASSIFICATION								2
Sandstone			VISUAL CLASSIFICATION								3
Various other materials			VISUAL CLASSIFICATION								
Random fill											

Berm material. Sod and/or Topsoil=X'=Approximate depth.

Auger boring - plan view.

Auger boring plotted to vertical scale only.

● Water content nearly equal to or greater than liquic limit.

Indicates a non-plastic material with high water content.

Free water. Static water level.

B Indicates broken rock interval.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

SOIL PROFILE

SUMMIT COUNTY

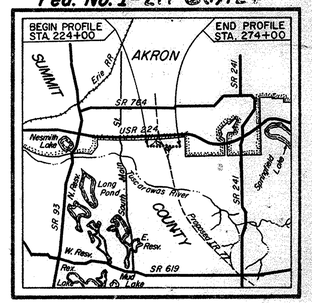
SUM - 277-0.46

37/66

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

Fed. No. I-277-6(1)124



LOCATION MAP

Recon - N.P.L - 7/31/63
Drilling - Auger - J.A.G., B.D.L., L.M.D., C.M.C., A.J.P., 8/7/63 - 8/20/63
Drafting - E.J.S., E.A. - 9/27/63

SOIL PROFILE

SUMMIT COUNTY

SUM - 277 - 0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

38/66

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicate that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		MAINLINE (USR 224)									
225+00	150'Lt	0.0-3.0	Brickpats, Stone Fragments and Wood with Soil								Visual
		3.0-7.0	C	C	34	54	12	NP	NP	23	A-4b
		7.0-10.0	C	1	16	46	37	31	12	32	A-6a
		10.0-16.0	C	1	31	45	23	NP	NP	29	A-4a
		16.0-24.0	Brown Sedimentary Peat					236	-	177	Visual
		24.0-35.0	C	C	2	68	30	131	60	96	A-7-5
		35.0-43.0	C	6	26	34	34	56	26	49	A-7-5
		43.0-46.0	Gray Sand							- -	Visual
225+00	75'Lt	0.0-4.0	C	5	19	47	29	28	11	18	A-6a
		4.0-8.0	C	1	14	54	31	29	10	26	A-4b
		8.0-11.0	C	1	58	27	14	NP	NP	21	A-4a
		11.0-13.0	C	1	13	51	35	47	16	35	A-7-5
		13.0-21.0	Brown Sedimentary Peat					217	-	177	Visual
		21.0-38.0	C	C	5	51	44	100	43	72	A-7-5
		38.0-43.0	C	18	70	- 12 -		NP	NP	24	A-3a
225+00	CL	0.5-2.0	C	3	17	50	30	NP	NP	28	A-4b
		2.0-4.0	C	14	46	21	19	NP	NP	24	A-4a
		4.0-6.0	C	1	41	37	21	NP	NP	24	A-4a
		6.0-9.0	C	0	2	54	44	34	10	36	A-4b
		9.0-15.0	Black Fine-Textured Peat							282	Visual
		15.0-20.0	Brown Sedimentary Peat					133	-	89	Visual
		20.0-28.0	C	C	3	65	32	48	13	32	A-7-5
		28.0-32.0	13	14	67	0	6	NP	NP	20	A-3
225+00	75'Rt	0.5-3.0	C	11	57	12	20	27	10	17	A-3a
		3.0-8.0	C	C	6	66	28	26	6	29	A-4b
		8.0-17.0	Black Fine-Textured Peat							183	Visual
		17.0-32.0	C	C	3	60	37	65	22	53	A-7-5
		32.0-35.0	C	3	24	54	19	NP	NP	21	A-4a
225+00	150'Rt	0.5-5.0	C	C	23	50	27	NP	NP	24	A-4b
		5.0-6.0	C	C	3	43	54	41	19	32	A-7-6
		6.0-12.0	Brown Sedimentary Peat					214	-	197	Visual
		12.0-14.0	Brown Sedimentary Peat					75	-	72	Visual
		14.0-20.0	12	19	58	1	10	NP	NP	20	A-3a
		20.0-22.0	C	2	17	55	26	NP	NP	24	A-4b
226+00	150'Lt	0.0-4.0	C	C	21	47	32	25	7	34	A-4a
		4.0-9.0	C	C	11	58	31	23	4	25	A-4b
		9.0-14.0	Black Fine-Textured Peat							174	Visual
		14.0-19.0	Brown Silty Sedimentary Peat					110	-	118	Visual
		19.0-23.0	Brown Silty Sedimentary Peat					100	-	76	Visual
		23.0-31.0	11	43	40	- 6 -		NP	NP	19	A-3a
226+00	75'Lt	0.0-2.0	C	3	38	38	21	NP	NP	22	A-4a
		2.0-4.0	C	3	60	22	15	NP	NP	21	A-4a
		4.0-10.0	C	3	2	58	37	29	9	34	A-4b
		10.0-15.0	Black Fine-Textured Peat							189	Visual
		15.0-22.0	Brown Silty Sedimentary Peat					130	-	100	Visual
		22.0-30.0	C	C	1	62	37	64	36	65	A-7-6
		30.0-38.0	C	C	4	64	32	60	31	59	A-7-6
		38.0-43.0	17	12	49	15	7	NP	NP	12	A-3a
226+00	20'Rt	0.5-4.0	C	1	46	32	21	NP	NP	21	A-4a
		4.0-6.0	C	8	60	10	22	NP	NP	20	A-3a
		6.0-11.0	C	2	12	74	12	26	6	37	A-4b
		11.0-15.0	Black Fine-Textured Peat							237	Visual
		15.0-28.0	Brown Silty Sedimentary Peat							171	Visual
		28.0-36.0	20	C 20	43	-17 -		NP	NP	12	A-3
226+00	75'Rt	0.0-3.0	13	8	32	25	22	27	12	21	A-6a
		3.0-9.0	C	C	5	57	38	29	11	31	A-6a
		9.0-16.0	Black Fine-Textured Peat							210	Visual
		16.0-23.0	C	C	2	65	33	71	36	105	A-7-5
		23.0-28.0	C	1	6	56	37	115	62	97	A-7-5
		28.0-31.0	4	14	68	9	5	NP	NP	19	A-3a
226+00	140'Rt	0.5-4.0	C	1	24	42	33	29	12	22	A-6a
		4.0-6.0	C	7	55	24	14	NP	NP	23	A-4a
		6.0-8.0	C	C	3	61	35	30	9	32	A-4b
		8.0-13.0	Black Fine-Textured Peat							202	Visual
		13.0-18.0	Brown Silty Sedimentary Peat					174	-	130	Visual
		18.0-25.0	Black Organic Clay							47	Visual
		25.0-31.0	32	24	33	-11 -		NP	NP	14	A-1-b
226+75	150'Lt	0.0-4.0	C	C	26	47	27	24	2	26	A-4a
		4.0-10.0	C	C	21	50	27	27	10	26	A-4b
		10.0-15.0	Black Fine-Textured Peat							258	Visual
		15.0-18.0	Brown Silty Sedimentary Peat					136	-	127	Visual
		18.0-22.0	C	C	5	63	32	96	51	67	A-7-5
		22.0-27.0	Gray Organic Clay					87	-	72	Visual
		27.0-29.0	7	31	55	- 7 -		NP	NP	17	A-3
226+75	75'Lt	0.0-3.0	9	13	12	48	18	NP	NP	19	A-4a
		3.0-5.0	C	1	4	70	25	22	3	24	A-4b
		5.0-12.0	C	2	4	64	30	51	23	47	A-7-6
		11.0-15.0	Black Fine-Textured Peat							144	Visual
		15.0-20.0	Brown Silty Sedimentary Peat					185	-	132	Visual
		20.0-26.0	C	2	5	66	27	130	78	91	A-7-5
		26.0-31.0	C	1	7	58	34	92	54	65	A-7-5
		31.0-33.0	11	14	67	- 8 -		NP	NP	17	A-3
227+00	CL	0.5-2.0	C	1	29	42	28	NP	NP	24	A-4a
		2.0-4.0	C	1	60	23	16	NP	NP	22	A-4a
		4.0-9.0	C	1	30	46	23	NP	NP	24	A-4a
		9.0-12.0	C	1	21	53	25	45	18	43	A-7-6
		12.0-19.0	Black Fine-Textured Peat							193	Visual
		19.0-24.0	Brown Silty Sedimentary Peat					182	-	137	Visual
		24.0-30.0	Brown Silty Sedimentary Peat					123	-	99	Visual
		30.0-43.0	C	C	1	9	33	37	66	35	A-7-5
		43.0-45.0	Brown Sand							-	Visual

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
227+00	75'Rt	0.3-4.0	C	3	10	41	46	41	16	46	A-7-6
		4.0-9.0	C	2	8	52	38	29	12	33	A-6a
		9.0-11.0	Black Fine-Textured Peat							250	Visual
		11.0-15.0	Brown Sedimentary Peat					132	-	117	Visual
		15.0-19.0	Brown Silty Sedimentary Peat					147		97	Visual
		19.0-21.0	C	0	8	60	32	49	23	41	A-7-6
		21.0-26.0	18	24	38	15	5	NP	NP	12	A-3a
227+00	150'Rt	0.5-2.0	C	2	26	41	31	60	7	23	A-4a
		2.0-4.0	C	6	75	11	8	NP	NP	19	A-3a
		4.0-5.0	C	1	14	49	36	54	8	27	A-5
		5.0-10.0	Black Silty Sedimentary Peat					265	-	146	Visual
		10.0-16.0	Brown Marly Sedimentary Peat					61	-	55	Visual
		16.0-20.0	C	7	75	13	5	NP	NP	22	A-3a
		20.0-26.0	30	47	20	- 3 -		NP	NP	16	A-1-b
227+50	75'Rt	0.5-2.0	C	5	59	20	16	NP	NP	23	A-4a
		2.0-4.0	C	3	47	30	20	NP	NP	16	A-4a
		4.0-5.0	Gray Organic Silty Clay					41	18	34	Visual
		5.0-6.0	Brown Silty Sedimentary Peat					331	-	200	Visual
		6.0-8.0	Gray Silty Sedimentary Peat					-	-	54	Visual
		8.0-14.0	C	14	49	22	15	NP	NP	21	A-4a
		14.0-20.0	C	2	73	14	11	NP	NP	22	A-3a
227+50	150'Rt	0.5-1.5	12	3	37	32	15	NP	NP	13	A-4a
		1.5-3.0	20	C	14	58	28	26	7	22	A-4b
		3.0-5.0	20	31	21	5	23	NP	NP	14	A-1-b
		5.0-7.0	13	16	48	15	8	NP	NP	13	A-3a
		7.0-14.0	C	31	52	10	7	NP	NP	17	A-3a
		14.0-20.0	62	20	11	- 7 -		NP	NP	14	A-1-a
228+00	150'Lt	2.0-5.0	C	1	22	54	23	19	3	23	A-4b
		5.0-9.0	Black Fine-Textured Peat							264	Visual
		9.0-19.0	Brown Silty Sedimentary Peat					53	-	47	Visual
		19.0-26.0	0	5	20	58	17	26	4	31	A-4b
		26.0-31.0	23	22	50	- 5 -		NP	NP	19	A-3
228+00	75'Lt	2.0-4.0	C	3	23	49	25	25	3	29	A-4a
		4.0-8.0	C	1	21	58	20	21	4	24	A-4b
		8.0-13.0	Black Fine-Textured Peat							167	Visual
		13.0-18.0	Brown Silty Sedimentary Peat					142	-	113	Visual
		18.0-24.0	0	2	18	58	22	97	58	75	A-7-5
		24.0-28.0	Black Organic Clay					30	5	41	Visual
		28.0-35.0	8	30	43	15	4	NP	NP	16	A-3a
228+00	CL	0.5-3.0	0	3	79	10	8	NP	NP	19	A-3a
		3.0-5.0	17	30	37	10	6	NP	NP	15	A-3a
		5.0-17.0	13	32	42	- 8 -		NP	NP	18	A-1-b
		17.0-20.0	29	6	24	28	13	NP	NP	16	A-4a
228+00	150'Rt	0.5-3.5	0	1	49	34	16	NP	NP	18	A-4a
		3.5-13.0	10	36	46	- 9 -		NP	NP	19	A-3
		13.0-15.0	0	15	63	13	9	NP	NP	19	A-3a
		15.0-22.0	52	28	10	-10 -		NP	NP	13	A-1-a
228+50	150'Lt	0.0-3.5	0	1	28	46	25	NP	NP	19	A-4a
		3.5-4.0	Black Fine-Textured Peat							97	Visual
		4.0-8.0	10	5	58	27	17	NP	NP	12	A-4a
		8.0-13.0	10	15	57	-18 -		NP	NP	15	A-3a
		13.0-15.0	0	4	17	57	22	NP	NP	19	A-4b
228+50	75'Lt	0.0-4.0	0	1	18	52	29	NP	NP	24	A-4b
		4.0-8.0	15	4	15	40	26	NP	NP	16	A-4a
		8.0-10.0	0	8	77	8	7	NP	NP	19	A-3a
		10.0-12.0	31	6	17	22	24	28	5	19	A-4a
		12.0-15.0	0	10	76	5	9	NP	NP	20	A-3a
228+50	CL	0.5-2.0	0	2	66	24	8	NP	NP	21	A-3a
		2.0-4.0	Black Loamy Peat							229	Visual
		4.0-6.0	30	10	44	10	6	NP	NP	22	A-3a
		6.0-20.0	14	22	55	- 9 -		NP	NP	18	A-3
229+00	15'Rt	0.4-3.0	5	13	58	12	12	NP	NP	7	A-2a
		3.0-8.0	13	3	12	56	26	24	6	15	A-4b
		8.0-9.0	13	5	27	36	19	20	4	14	A-4a
		9.0-10.5	20	7	26	30	18	NP	NP	12	A-4a
		10.5-13.0	C	15	73	- 12 -		NP	NP	24	A-3a
		13.0-15.0	23	5	19	31	22	18	6	15	A-4a
		15.0-21.0	C	1	95	- 4 -		NP	NP	25	A-3
		21.0-27.0	9	1	19	34	37	NP	NP	14	A-4a
		27.0-30.0	9	1	4	59	36	NP	NP	26	A-4b
231+00	CL	0.5-2.0	6	12	27	27	28	NP	NP	8	A-4a
		2.0-5.0	6	30	42	13	9	NP	NP	6	A-3a
		5.0-8.0	47	11	16	14	12	23	5	14	A-2-4
		8.0-13.0	4	2	45	28	20	NP	NP	23	A-4a
		13.0-16.0	0	1	19	62	18	NP	NP	26	A-4b
		16.0-26.0	8	43	42	- 7 -		NP	NP	19	A-1-b
233+30	CL	0.4-3.0	6	9	53	22	10	NP	NP	10	A-3a
		3.0-7.0	13	18	41	19	9	NP	NP	10	A-3a
		7.0-12.0	0	7	25	33	35	NP	NP	22	A-4a
		12.0-13.0	22	4	34	27	13	NP	NP	18	A-4a
		13.0-15.0	44	9	12	25	10	NP	NP	18	A-2-4

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
236+00	CL	0.4-3.0	15	4	20	36	25	26	5	14	A-4a
		3.0-12.0	20	0	2	57	21	23	5	18	A-4b
		12.0-15.0	17	7	19	33	24	22	5	13	A-4a
238+00	CL	0.5-3.0	18	3	18	38	23	NP	NP	12	A-4a
		3.0-12.0	19	2	7	50	22	NP	NP	20	A-4b
		12.0-15.0	33	6	32	10	19	NP	NP	12	A-2-4
		15.0-16.5	29	7	17	28	19	23	7	12	A-4a
		16.5-22.0	26	6	13	34	21	20	6	12	A-4a
240+00	75'Lt	0.4-3.0	20	3	12	38	27	42	24	13	A-7-6
		3.0-T5.0	36	4	14	24	20	24	5	12	A-4a
243+00	55'Lt	0.4-5.0	C	1	10	51	38	38	17	17	A-4b
		5.0-8.0	C	C	1	73	26	NP	NP	26	A-4b
		8.0-10.0	C	C	0	80	20	26	7	29	A-4b
		10.0-12.0	C	C	8	70	22	NP	NP	21	A-4b
		12.0-14.0	25	0	9	50	16	22	3	26	A-4b
		14.0-15.5	Brown Weathered Sandstone							13	Visual
246+00	CL	0.5-2.0	Brown Sandy Silt							-	Visual
		2.0-6.0	Brown Sandy Silt							-	Visual
		6.0-8.0	Brown Silty Clay							-	Visual
248+50	CL	0.0 5.0	50	2	11	24	13	25	10	22	A-4a
		5.0-10.0	76	12	6	- 6 -		NP	NP	14	A-1-a
251+00	CL	0.0-5.0	44	6	18	20	12	21	2	16	A-2-4
		5.0-11.0	38	5	15	19	23	28	8	21	A-4a
253+00	CL	0.0-5.0	18	8	46	18	10	NP	NP	6	A-3a
		5.0-11.0	68	5	12	10	5	NP	NP	9	A-1-a
255+00	CL	0.0-4.0	0	7	67	14	12	NP	NP	4	A-3a
		4.0-8.0	40	3	26	18	13	NP	NP	8	A-2-4
259+00	CL	0.0-4.0	38	6	26	20	10	NP	NP	15	A-2-4
		4.0-9.0	45	5	16	24	10	NP	NP	18	A-2-4
262+00	CL	0.0-5.5	29	5	13	30	23	27	9	14	A-4a
263+50	CL	0.0-5.0	56	5	20	11	8	NP	NP	14	A-1-b
		5.0-9.0	41	4	12	25	18	24	6	17	A-4a
		9.0-12.0	43	1	3	34	19	26	7	7	A-4a
		12.0-15.0	Gray Weathered Shale							13	Visual
266+35	CL	0.0-6.0	35	6	13	28	18	22	6	9	A-4a
267+10	80'Lt	0.0-4.0	35	5	22	22	6	NP	NP	6	A-4a
269+00	CL	0.0-5.0	37	9	8	26	20	28	6	12	A-4a
		5.0-9.0	41	4	20	21	14	28	8	14	A-2-4
		9.0-15.0	Gray Weathered Shale							10	Visual
273+00	CL	0.0-7.0	42	4	26	19	10	NP	NP	11	A-2-4
		7.0-11.0	45		18	21	9	18	4	14	A-2-4
		Ramp A									
0+00	BL	0.3-4.0	0	5	16	50	29	NP	NP	13	A-4b
3+00	BL	0.3-4.0	19	10	41	20	10	NP	NP	8	A-2-4
6+50	BL	0.0-7.0	Brown Clayey Silt W/Stone Fragments								Visual
		7.0-11.0	22	5	45	20	8	NP	NP	17	A-3a
		11.0-13.0	65	6	15	10	4	NP	NP	12	A-1-a
10+00	BL	0.2-5.0	0	2	38	40	19	NP	NP	22	A-4a
		5.0-9.0	27	8	20	31	14	NP	NP	15	A-4a
13+00	BL	0.3-5.0	Brown Sandy Clay with Stone Fragments							-	Visual
		5.0-7.0	Brown Sandy Clay with Stone Fragments							-	Visual
16+00	BL	0.3-2.0	0	6	34	36	24	26	9	18	A-4a
		2.0-6.0	25	8	25	30	12	NP	NP	11	A-4a
		6.0-10.0	40	7	17	25	11	NP	NP	14	A-4a
		10.0-12.0	44	8	14	26	8	NP	NP	15	A-2-4
		12.0-15.0	59	19	7	10	5	NP	NP	10	A-1-a
18+00	BL	0.8-6.0	24	7	21	29	19	21	3	15	A-4a
		6.0-9.0	18	6	20	40	16	20	2	18	A-4a
		9.0-15.0	53	6	17	18	6	NP	NP	13	A-1-b
		Ramp B									
5+00	BL	0.8-6.0	18	9	19	34	20	24	2	18	A-4a
		6.0-7.0	28	3	10	46	13	22	5	16	A-4a
		7.0-12.0	58	5	24	6	7	NP	NP	13	A-1-b
		12.0-14.0	32	4	34	14	16	26	6	23	A-2-4
		14.0-17.0	19	3	59	11	8	NP	NP	15	A-3a
8+00	BL	0.4-5.0	20	4	18	35	23	NP	NP	13	A-4a
		5.0-7.5	14	4	21	45	16	NP	NP	14	A-4a
12+00	BL	0.0-3.0	Brown Sedimentary Peat					77	-	72	Visual
		3.0-4.0	Brown Broken Sandstone							-	Visual
16+00	BL	0.6-6.0	35	4	16	25	20	24	8	11	A-4a
		6.0-10.0	0	4	66	17	13	NP	NP	14	A-3a
		10.0-12.5	27	3	33	25	12	NP	NP	13	A-4a
19+00	BL	0.3-6.0	0	1	7	58	34	25	6	16	A-4b
		6.0-12.0	26	7	16	29	22	18	6	13	A-4a
		12.0-20.0	33	5	16	24	17	15	4	11	A-4a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		Ramp B-1									
1+00	BL	0.3-5.0	28	6	13	41	12	24	3	12	A-4a
		5.0-7.0	29	9	19	15	30	NP	NP	15	A-4a
		7.0-11.0	Gray Weathered Indurated Clay							11	Visual
5+00	BL	0.3-4.0	51	8	22	11	8	NP	NP	6	A-1-b
8+00	BL	0.3-4.0	38	3	16	25	18	NP	NP	15	A-4a
12+00	BL	0.3-5.0	Brown Sandy Silt with Stone Fragments							-	Visual
15+00	BL	0.3-3.0	23	6	18	30	18	NP	NP	18	A-4a
		3.0-8.0	26	4	15	37	18	NP	NP	15	A-4a
		8.0-10.0	Brown Weathered Sandstone							8	Visual
18+00	BL	0.3-5.0	30	4	18	30	18	20	3	15	A-4a
		5.0-8.0	27	9	20	29	15	18	2	19	A-4a
		8.0-12.5	Brown Broken Shale							11	Visual
		Ramp B-2									
0+50	BL	0.3-6.0	59	2	13	16	10	NP	NP	8	A-2-4
		6.0-9.0	60	1	15	12	12	NP	NP	9	A-1-b
		9.0-12.5	57	3	5	21	14	23	2	16	A-2-4
		12.5-15.0	Gray Broken Shale							10	Visual
3+00	BL	0.4-5.0	37	6	21	21	15	21	4	15	A-4a
		5.0-11.0	48	4	13	23	12	NP	NP	16	A-2-4
		11.0-13.0	54	3	9	19	15	23	5	17	A-2-4
4+75	BL	0.4-2.0	41	13	27	8	11	NP	NP	14	A-1-b
		2.0-5.0	58	7	14	22	9	27	9	20	A-4a
		5.0-8.0	16	5	14	54	12	22	5	20	A-4b
		8.0-12.0	25	7	23	30	15	NP	NP	15	A-4a
		12.0-15.0	42	7	18	18	15	NP	NP	11	A-2-4
9+00	BL	0.4-3.0	19	10	22	27	22	28	6	16	A-4a
		3.0-5.0	13	5	12	58	22	30	8	16	A-4b
		5.0-9.0	18	4	20	45	14	NP	NP	17	A-4a
		9.0-11.0	28	5	18	35	14	NP	NP	17	A-4a
12+00	BL	0.3-7.0	62	6	20	6	6	NP	NP	7	A-1-b
13+50	BL	0.0-3.0	9	4	42	25	20	NP	NP	29	A-4a
		3.0-6.0	26	18	45	5	6	NP	NP	32	A-3a
16+00	BL	0.3-2.0	16	3	26	42	13	NP	NP	6	A-4a
		2.0-7.0	21	16	34	15	14	NP	NP	13	A-3a
		7.0-9.0	Brown Broken Sandstone							5	Visual
		Ramp C									
5+00	20'Lt	0.0-3.0	0	2	27	54	17	NP	NP	20	A-4b
		3.0-8.0	60	3	17	10	10	NP	NP	12	A-1-b
8+00	BL	0.3-6.0	28	13	18	28	13	NP	NP	8	A-4a
		6.0-10.0	0	2	3	61	23	NP	NP	24	A-4b
		10.0-15.0	0	0	3	81	16	NP	NP	26	A-4b
		15.0-19.0	52	23	9	4	5	NP	NP	15	A-1-a
		19.0-23.0	0	1	83	6	10	NP	NP	20	A-3a
9+25	BL	0.2-5.0	0	0	13	65	22	NP	NP	24	A-4b
		5.0-12.0	0	1	4	77	18	NP	NP	23	A-4b
		12.0-19.0	0	0	2	85	13	NP	NP	24	A-4b
		19.0-25.0	0	14	81	- 5 -		NP	NP	22	A-3
11+20	BL	0.3-8.0	39	6	20	22	13	NP	NP	11	A-4a
		8.0-12.0	47	1	36	9	7	NP	NP	16	A-2-4
13+00	BL	0.3-6.0	33	2	11	23	31	24	11	11	A-6a
		6.0-12.0	37	1	4	36	22	28	11	10	A-6a
17+35	BL	0.3-7.0	27	9	14	31	19	22	8	9	A-4a
21+38	BL	0.3-7.0	25	6	21	26	22	24	10	14	A-4a
		7.0-12.0	49	7	17	12	15	19	4	13	A-2-4
23+50	BL	0.3-5.0	30	4	21	22	23	21	8	12	A-4a
		5.0-11.0	33	4	25	20	18	16	3	11	A-4a
		Ramp C-1									
1+00	BL	0.4-4.0	40	7	20	20	13	NP	NP	13	A-2-4
		4.0-9.0	49	4	19	16	12	NP	NP	14	A-2-4
		9.0-13.0	37	8	32	15	8	NP	NP	18	A-2-4
		13.0-17.0	10	3	46	25	11	NP	NP	17	A-4a
		17.0-18.0	16	3	11	45	25	22	5	15	A-4a

SOIL PROFILE

39/66

SUMMIT COUNTY
SUM - 277 - 0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

END WORK
SUM - 277 - 0.46
STA. 229 + 82

END PROJECT
SUM - 277 - 0.46
STA. 228 + 68.84

N

Woods
Weeds
Weeds
Woods
Woods
℄, Ramp B
℄, Proposed US R 224
℄, Ramp A
℄, Ramp B-1
℄, Southbound IR 77
℄, Northbound IR 77
℄, Ramp B-2
℄, Ramp C-2

~~Note: For complete plan view of SR 8 (IR 77) interchange, see sheets 6 & 7.~~

CROSS SECTION INDEX	
Station	Sheet
225+00	40
226+00	40
227+00	41
227+50	41
228+00	42
228+50	42

1060 1050 1040 1030 1020 1010 1000 990 980 970 960

224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256

℄ Sod=0.5' 28 24 24 ● 36 252 F T 69 S ● 52 Organic 20 Trace of organic

20'Rt. ℄ Sod=0.5' 21 20 ● 37 Slightly organic 237 S 171 F T 12

℄ Sod=0.5' 19 21 259 F T 81 S 18 18

15'Rt. ℄ Sod=0.4' 7 15 14 W 12 24 15 25 14 26 Trace of organic

℄ Sod=0.5' 8 6 14 23 26 19

℄ Sod=0.4' 10 10 22 18 18

℄ Sod=0.4' 14 18 13

℄ Sod=0.5' 12 20 12 12 12

75' Lt. ℄ Sod=0.4' 13 12 Refusal (Boulders)

(Sta. 0+00, ℄, Ramp A)

55' Rt. Sod & TS=0.3' 13 Refusal

55' Lt. ℄ Sod=0.4' 17 25 29 ● 27 26 ● 13 Refusal

(Sta. 3+00, ℄, Ramp A)

67' Rt. Sod & TS=0.3' 8 Refusal (Hand auger)

℄ Sod=0.5' Brown sandy silt Brown sandy silt Brown silty clay Refusal

22 ● W 14 Refusal

(Sta. 1+00, ℄, Ramp B-1)

55' Lt. ℄ Sod=0.3' 12 15 11 W Refusal

16 21 Refusal

℄ Sod=0.3' 6 9 Refusal

℄ Sod=0.3' 4 8 Refusal

℄, Southbound IR 77

℄, Northbound IR 77

Proposed grade, Ramp C-2

SOIL PROFILE

SUMMIT COUNTY
SUM -277 -0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

40
66

Proposed section

1020
1010
1000
990
980
970
960
950

150 100 50 ℄ 50 100 150

34 ●
25 ●
F T 174
S 118
S 76
19

22 ⊖
21 ⊖
34 ● Slightly organic
F T 189
S 100
65 Organic
59 Organic
12

Sod=0.5'
21 ⊖
20 ⊖
Slightly organic
37 ●
F T 237
S 171
12

21
31 ● Slightly organic
F T 210
105 ● Organic
97 Organic
19

Sod=0.5'
22
23 ⊖
32 ●
F T 202
S 130
Black organic clay
47
14

Sta. 226+00

Proposed section

1020
1010
1000
990
980
970
960
950

Brickbats, stone fragments, and wood, with soil
23 ⊖
32 ●
29 ⊖ Trace of organic
S 177
96 Organic
49 Organic
Gray sand

18
26 ●
21
35 Organic
S 177
72 Organic
24 ⊖

Sod=0.5'
28 ⊖
24 ⊖
24 ⊖ Trace of organic
36 ● Trace of organic
F T 252
S 89
52 ● Organic
20 ⊖

Sod=0.5'
17
29 ● Slightly Organic
F T 183
53 Organic
21 Trace of organic

Sod=0.5'
24 ⊖
32
S 187
S 72
20 ⊖
24 ⊖

Sta. 225+00

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

SOIL PROFILE

41
66

SUMMIT COUNTY
SUM – 277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Proposed section

Approximate ground line

1020
1010
1000
990
980
970
960

150 100 50 ℄ 50 100 150

(Sta. 228+00)
Sod & TS = 2.0'
23 ●
F T 264
S 47
31 ● Organic
S 19

(Sta. 228+00)
Sod & TS = 2.0'
29 ●
24 ● Trace of organic
F T 167
S 113
75 Organic
41 Black organic clay ●
18

(Sta. 228+00)
Sod=0.5'
19
21 ⊖ Trace of organic
F T 259
S 81
18
S 18

Sta. 227+50

Sod=0.5'
23 ⊖
18
200 S 34 Gray organic silty clay
S 54
21 ⊖
22 ⊖

Sod=0.5'
Trace of organic
19
22
14
S 19
17
14

Proposed section

1020
1010
1000
990
980
970
960
950

(Sta. 226+75)
26 ●
26 ●
F T 252
S 127
67 Organic
72 Gray organic clay
17

(Sta. 226+75)
19
24 ● Trace of organic
47 Trace of organic
F T 144
S 132
91 Organic
65 Organic
S 17

Sod=0.5'
24 ⊖
22 ⊖
24 ⊖ Trace of organic
43 ● Slightly organic
F T 198
S 137
S 99
52 Organic
Brown sand

Sta. 227+00

Sod=0.3'
46 ●
33 ● Trace of organic
F T 250
S 117
S 97
41 Organic
12

Sod=0.5'
28 ●
19
27
S 146
M 55
Trace of organic
22 ⊖
16

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

SOIL PROFILE

SUMMIT COUNTY
SUM - 277-0.46

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 7, OHIO

42/66

Proposed section

Approximate ground line

1020
1010
1000
990
980
970
960

150 100 50 ℄ 50 100 150

Sod=0.5'
19
Fr 97
12
15
19

24
16
19
19
20

Sod=0.5'
21
229
22
18
F S

Sta. 228+50

Proposed section

Sod & TS =2.0'
23
P T 264
S 47
31 Organic
F S 19

Sod & TS =2.0'
29
24 Trace of organic
P T 167
S 113
75 Organic
Black organic clay 41
18

Sod =0.5'
19
21 Trace of organic
P T 259
S 81
18
F S 18

Sod=0.5'
22
16
18
16

Sod=0.5'
18
W
F S 19
19
13

Sta. 228+00

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

MAY 21

43/66
SUMMIT COUNTY
SUM-277-0.46

GEOLOGY OF THE SITE

The structure site is located in the valley of the Tuscarawas River, now occupying a deeply filled, pre-glacial stream valley. Glacial outwash, found to be at least 91 feet deep, overlies bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of three drive sample borings and nine drive rod penetration tests, made between September 18 and October 1, 1963.

INVESTIGATIONAL FINDINGS

Borings disclosed moist to wet, loose to dense sands, gravels, and silts with bouldery intervals. Borings B-4 and B-11 were terminated at 66 and 91-foot depths, elevations 927 and 899 feet, after penetrating 25 and 30 feet of material requiring more than 30 blows per foot in the standard penetration test. Boring B-4 was discontinued at 66-foot depth, elevation 931 feet, upon encounter with drilling difficulties, after penetrating 10 feet of very dense material.

Rod soundings met generally gradual, occasionally erratic, increase in penetration resistance with increase in depth. Soundings 1, 9, 10 and 12 met somewhat abrupt refusal or near refusal to penetration at 53 to 82-foot depths, elevations 946 to 908 feet. Soundings 3, 4, 6, 7, and 8, were discontinued at 60 and 62-foot depths, elevations 937 to 928 feet, in materials offering medium-high to high resistance to penetration. Abrupt flexures in the resistance curves are considered to be indicative of dense gravelly or bouldery intervals.

Free water level could not be determined in the rod sounding holes due to hole cave-in below 12 to 20-foot depths,

No test penetrated to bedrock.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View.
- (R) Electrical Resistivity Probe - Plan View.
- A — Indicates Auger Boring.
- B — Indicates Press and/or Drive Sample and/or Core Boring.
- (R) Electrical Resistivity Probe plotted to vertical scale only.
- TR — Top of Rock
- Water saturated zone.
- TD — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken.
- X-Y — Figures to the right of boring log in profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches; Y = Second 6 inches
- Casing
- Resistance "R" ≤ 10,000 lbs.
- Resistance "R" ≥ 10,000 lbs.
- 1/16 — Indicates final measurement of penetration in inches.
- W — Indicates Free Water elevation.
- Indicates Static Water elevation.
- Footing; Capped pile
- Footing on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description based on laboratory test results and the Casagrande A.C. classification system and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
	8"	3"	2.0mm (No 10 sieve)	0.42mm (No 40 sieve)	0.074mm (No 200 sieve)	0.005mm

See Soil Profile Correct Sheet No.; and add Structure Foundation Investigation Sheets in order

SUM-277-0259
on 5 sheets

Oot
All Sheets

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0259
OVER WATERLOO ROAD
SEC.

CHECKED BY	REVIEWED BY	DATE
R.P.W.	R.O.E.	10-24-63

04700

MIC
MAY 24
Reproduction

SUM-277-0.96

Test Location No. 1
Station & Offset 119+34.57'RT REAR ABUTMENT
Surface Elev. 989.7' Water Elev. DRY-Hole closed at elev. 983.7'
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 3
Station & Offset 120+46.57'LT REAR ABUTMENT
Surface Elev. 994.0' Water Elev. DRY-Hole closed at elev. 981.0'
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 4
Station & Offset 120+00.59'RT REAR PIER
Surface Elev. 985.7' Water Elev. DRY-Hole closed at elev. 972.7'
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 6
Station & Offset 121+12.57'LT REAR PIER
Surface Elev. 997.0' Water Elev. DRY-Hole closed at elev. 979.0'
Piling
Hammer
Formula
Reference
Rod Condition

Test Location No. 7
Station & Offset 120+89.57'RT FORWARD PIER
Surface Elev. 991.1' Water Elev. DRY-Hole closed at elev. 977.1'
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 9
Station & Offset 123+01.57'LT FORWARD PIER
Surface Elev. 993.2' Water Elev. DRY-Hole closed at elev. 984.2'
Piling
Hammer
Formula
Reference
Rod Condition POINT ROD BENT

Test Location No. 10
Station & Offset 121+55.57'RT FORWARD ABUT
Surface Elev. 988.1' Water Elev. DRY-Hole closed at elev. 976.1'
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. 12
Station & Offset 122+65.57'LT FORWARD ABUTMENT
Surface Elev. 998.4' Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition

1003 999 995 991 987 983 979 975 971 967 963 959 955 951 947 943 939 935 931 927 923 919 915 911 907

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0259
OVER WATER'OO ROAD
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.P.W.	E.D.P.	10-24-63

MAY 21

45/66

SUM-277-0.46

LOG OF BORING

Date Started 9-18-63 | Sampler Type SS Dia. 1 3/8" | Water Elev.
Date Completed 9-24-63 | Casing: Length 80' Dia. 3 1/2" | Surface Elev. 990.1'
Boring No. B-8 | Station & Offset 120+00, 57' Rt (REAR PIER)

Elev.	Depth	Std. Pen. (in)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
990.1	0														
987.6	2	8/5			Brown Sand with Stone Fragments	1		V	I	S	U	A	L		
985.1	4	8/10			Brown Sand (Wash Sample)	2		V	I	S	U	A	L		
982.6	6	11/12			Brown Sandy Gravel	3	49	20	24	-7	-	NP	NP	10	
980.1	8	8/8			Brown Sandy Gravel	4		V	I	S	U	A	L	13	
977.6	10	8/7			Brown Sandy Gravel	5	67	20	8	-5	-	NP	NP	9	
975.1	12	2/4			Brown Silty Gravelly Sand	6	32	32	17	-1	9	NP	NP	16	
972.6	14	3/4			Brown Silty Gravelly Sand	7	23	31	16	13	17	NP	NP	21	
970.1	16	1/2			Brown Sand (Wash Sample)	8		V	I	S	U	A	L		
	18														
	20														
965.1	22	2/3			Brown Sand	9	10	14	69	-7	-	NP	NP	22	
	24														
	26														
960.1	28	4/5			Brown Sandy Gravel	10	56	29	10	-5	-	NP	NP	14	
	30														
	32														
955.1	34	3/5			Gray Sand (Wash Sample)	11		V	I	S	U	A	L		
	36														
	38														
950.1	40	8/7			Gray Sand (Wash Sample)	12		V	I	S	U	A	L		
	42														
	44														
945.1	46	4/6			Gray Gravelly Sand	13	17	50	26	-7	-	NP	NP	15	
	48														
940.1	50	10/13			Gray Silty Sand	14	0	22	49	15	14	NP	NP	20	
	52														
	54														
935.1	56	9/10			Gray Silty Gravelly Sand	15	25	6	36	25	8	NP	NP	15	
	58														
930.1	60	12/13			Gray Silt	16	0	1	5	64	30	NP	NP	21	
	62														
	64														
925.1	66	14/16			Gray Silty Gravelly Sand	17	27	25	31	11	6	NP	NP	15	
	68														
920.1	70	19/22			Gray Silty Sandy Gravel	18	45	22	15	10	8	NP	NP	12	
	72														
	74														
915.1	76	15/21			Gray Gravelly Sandy Silt	19	9	5	15	43	28	NP	NP	13	
	78														
910.1	80	20/32			Gray Sandy Gravelly Silt	20	38	5	13	22	22	NP	NP	13	
	82														
	84														
905.1	86	25/30			Gray Gravelly Sand	21	40	26	27	-7	-	NP	NP	11	
	88														
900.1	90														
899.1		15/17			Gray Sandy Silt with Stone Fragments	22	V	I	S	U	AL	22	4	8	

BOTTOM OF BORING

LOG OF BORING

Date Started 9-24-63 | Sampler Type SS Dia. 1 3/8" | Water Elev.
Date Completed 9-26-63 | Casing: Length 60' Dia. 3 1/2" | Surface Elev. 997.2'
Boring No. B-9 | Station & Offset 122+01, 47' Lt. (FORWARD PIER)

Elev.	Depth	Std. Pen. (in)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
997.2	0														
994.7	2	6/6			Brown Silty Sand	1	0	27	36	23	14	NP	NP	15	
992.2	4	4/5			Brown Silty Sand	2	13	19	56	2	10	NP	NP	16	
989.7	6	4/5			Brown Gravelly Sand	3	34	35	25	-6	-	NP	NP	17	
987.2	8	4/4			Brown Gravelly Sand	4		V	I	S	U	A	L	14	
984.7	10	3/3			Brown Gravelly Sand	5	25	47	24	4	-	NP	NP	18	
982.2	12	5/6			Brown Sandy Gravel	6	62	17	18	-3	-	NP	NP	17	
979.7	14	7/8			Brown Silty Sand	7	0	13	64	13	10	NP	NP	15	
977.2	16	8/7			Brown Sandy Gravel	8	54	17	20	-9	-	NP	NP	12	
	18														
	20														
972.2	22	7/7			Brown Sandy Gravel	9	64	18	13	-5	-	NP	NP	13	
	24														
	26														
967.2	28	6/6			Brown Silty Gravelly Sand	10	33	25	30	-12	-	NP	NP	15	
	30														
	32														
962.2	34	8/10			Brownish-Gray Silty Gravelly Sand	11	32	21	26	-21	-	NP	NP	14	
	36														
	38														
957.2	40	9/11			Gray Sandy Silt	12	0	2	39	49	10	NP	NP	17	
	42														
	44														
952.2	46	12/14			Gray Sandy Silt	13	0	0	24	61	15	NP	NP	18	
	48														
947.2	50	12/13			Gray Silt	14	0	1	15	69	15	NP	NP	20	
	52														
	54														
942.2	56	13/19			Gray Silt	15	0	1	14	65	20	NP	NP	20	
	58														
937.2	60				No Sample Recovered - Boulder (Driller's Description)										
	62														
932.2	64														
931.2	66	15/25			No Sample Recovered - Hole caved in										

BOTTOM OF BORING

LOG OF BORING

Date Started 9-26-63 | Sampler Type SS Dia. 1 3/8" | Water Elev.
Date Completed 10-1-63 | Casing: Length 50' Dia. 3 1/2" | Surface Elev. 993.2'
Boring No. B-11 | Station & Offset 122+10, 0' Lt. (FORWARD ABUTMENT)

Elev.	Depth	Std. Pen. (in)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
993.2	0														
990.7	2	4/6			Brown Silty Sandy Gravel	1	48	11	30	3	8	NP	NP	10	
988.2	4	9/11			Brown Sandy Gravel	2	51	22	18	-9	-	NP	NP	9	
985.7	6	8/8			Brown Gravelly Sand	3	40	20	34	-6	-	NP	NP	12	
983.2	8	13/13			Brown Silty Gravelly Sand	4	31	31	27	-1	1	NP	NP	11	
980.7	10	11/12			Brown Sandy Gravel	5	51	30	11	-8	-	NP	NP	9	
978.2	12	12/15			Brown Silty Sandy Gravel	6	53	23	14	-1	0	NP	NP	8	
975.7	14	8/5			Brown Sandy Gravel	7	50	28	12	-1	0	NP	NP	9	
973.2	16	7/9			Brown Silty Gravelly Sand	8	33	35	21	-1	1	NP	NP	12	
	18														
	20														
968.2	22	10/10			Brown Sand (Wash Sample)	9		V	I	S	U	A	L		
	24														
	26														
963.2	28	2/2			Brown Gravelly Sand	10	16	48	28	-8	-	NP	NP	18	
	30														
	32														
958.2	34	13/17			Brown and Gray Sand (Wash Sample)	11		V	I	S	U	A	L		
	36														
	38														
953.2	40	11/19			Brown Sand (Wash Sample) - Heaved 2' in casing	12		V	I	S	U	A	L		
	42														
	44														
948.2	46	20* (0.3')			Gray Sand (Driller's Description)			V	I	S	U	A	L		
	48														
943.2	50	56/*			Gray Sand (Wash Sample)	13		V	I	S	U	A	L		
	52														
	54														
938.2	56	50* (0.4')			Gray Sandy Silt	14	0	2	20	67	11	NP	NP	17	
	58														
933.2	60	16/17			Gray Silt	15	0	1	8	81	10	NP	NP	21	
	62														
	64														
928.2	66	19/21			Gray Sandy Silt	16	0	27	26	26	21	NP	NP	13	
927.2															

*REFUSAL

BOTTOM OF BORING

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0259
OVER WATERLOO ROAD
SEC.

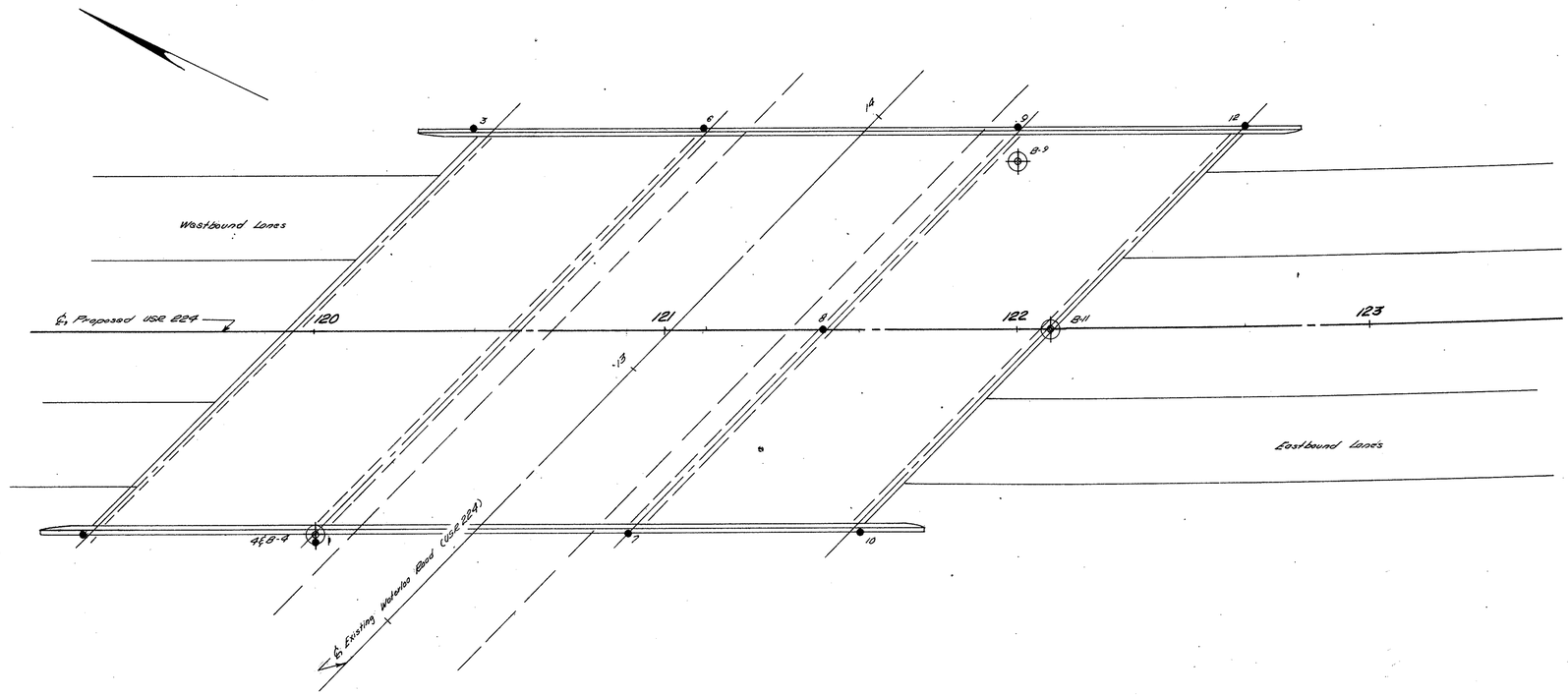
BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.C.	C.P.W.	R.O.R.	1-14-64

MAY 84

46
66

SUM-277-0.46



SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0259
OVER WATERLOO ROAD
SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	E.P.W.	R.D.R.	10-24-63

MAY 2-1

47
66

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

1003 999 995 991 987 983 979 975 971 967 963 959 955 951 947 943 939 935 931 927 923 919 915 911 907

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surfdce Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. B
Station & Offset 121+45 C L FORWARD PIER
Surface Elev. 995.7 Water Elev. DRY-HOLE closed at elev. 975.7
SUM-277-0.95
Piling ____
Harmmer ____
Formula ____
Reference ____
Rod Condition GOOD

999 995 991 987 983 979 975 971 967 963 959 955 951 947 943 939 935 931 927 923

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0.259
OVER WATERLOO ROAD
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.P.W.	R.O.R.	10-28-63

MAY 94

SUMMIT COUNTY
SUM-277-046

GEOLOGY OF THE SITE

The structure site is located on the north valley wall of the Tuscarawas river, presently occupied by a heavily filled pre-glacial stream valley. Glacial-derived materials overlie sandstone bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of two drive sample-core borings and nine drive rod penetration tests, made between September 24 and October 3, 1963.

INVESTIGATIONAL RESULTS

Borings disclose that sloping bedrock surface, occurring at approximately elevation 960 feet at the left side of the structure site and elevation 945 feet at the right side of the structure site is overlain by dense to very dense gravels, sands, and silts. Borings were terminated 6 and 8 feet below bedrock surface, elevations 953 and 937 feet.

Rod soundings encountered increase in penetration resistance with increase in depth, occasionally erratic, considered indicative of very dense gravelly zones, and were generally terminated because of abrupt refusal to penetration at 37 and 65-foot depths, considered to be upon or slightly below bedrock surface as revealed by the borings.

On the basis of the tests, bedrock surface is considered to slope downward from the left side of the structure site to the right side and from both ends of the structure to the center portion.

Free water was encountered in rod sounding hole number 7 at elevation 975 feet.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View.
- R — Electrical Resistivity Probe - Plan View.
- A — Indicates Auger Boring.
- B — Indicates Press and/or Drive Sample and/or Core Boring.
- R — Electrical Resistivity Probe plotted to vertical scale only.
- TR — Top of Rock
- Water saturated zone.
- TD — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken.
- X-Y — Figures to the right of boring log in profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches, Y = Second 6 inches
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" => 10,000 lbs.
- 1/16 — Indicates final measurement of penetration in inches.
- W — Indicates Free Water elevation.
- Indicates Static Water elevation.
- Footing — Capped pile
- Footing on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description-- based on laboratory test results and the Casagrande A.C classification system- and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)		0.005mm

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

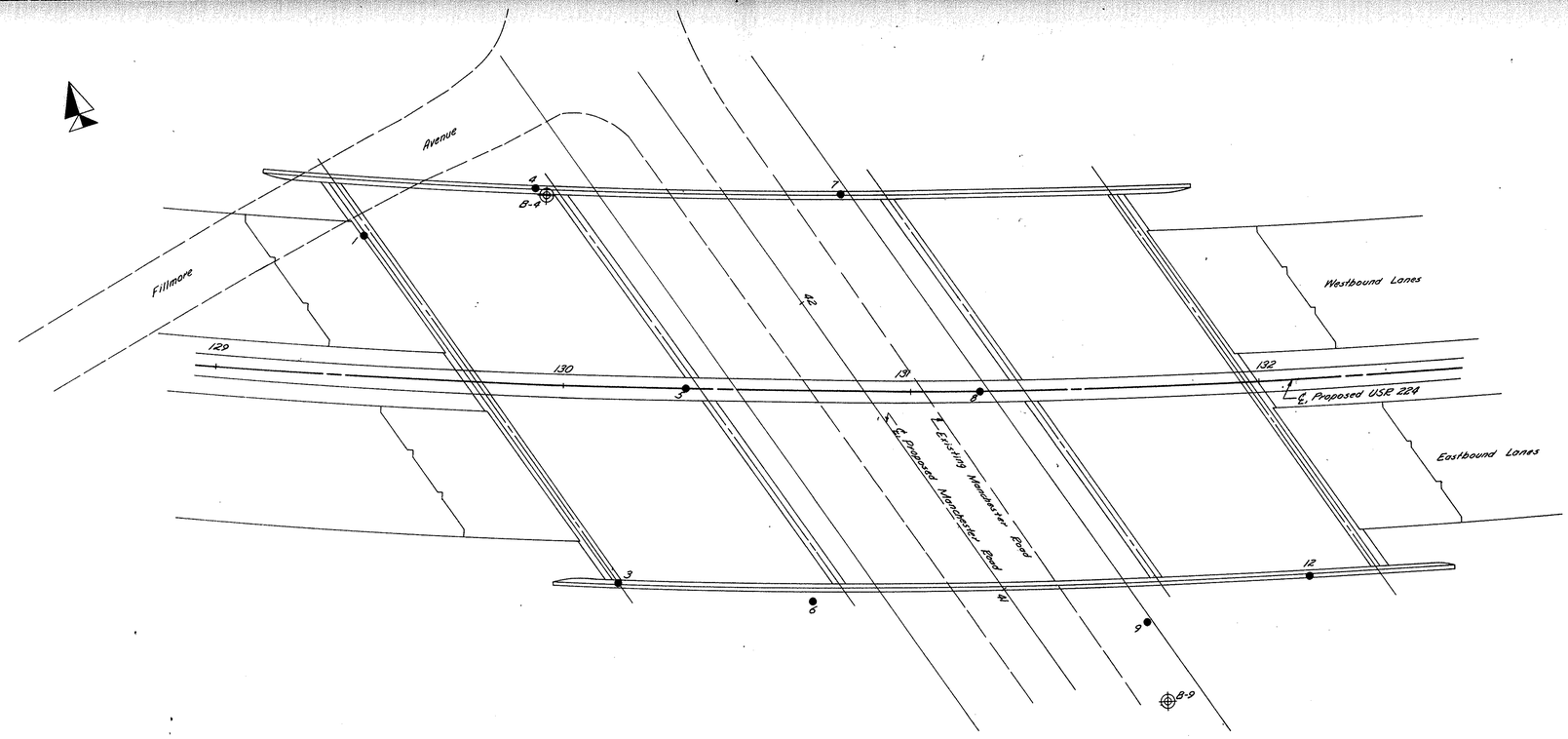
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
SEC. — — — — ont

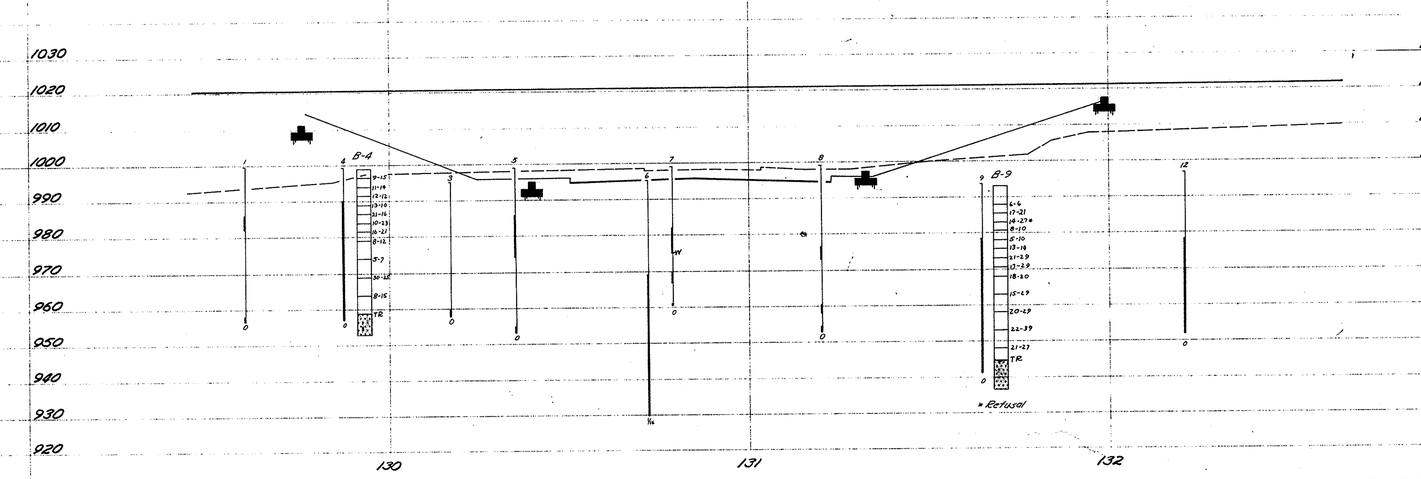
CHECKED BY	REVIEWED BY	DATE
R.O.E.	C.P.H.	10-29-63

SUM-277-0240
on 5 Sheets

MAY 24 1979

SUM-277-0.46





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.P.W.	R.D.R.	C.P.H.	10-29-63

MAY 21

SUM-277-0.46

LOG OF BORING

Date Started 10-1-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-2-63 | Casing: Length | Dia.
Boring No. B-4 | Station & Offset 129+93, 54' Lt (REAR PIER) | Surface Elev. 998.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
998.9	0														
	2														
996.4	4	9/15			Brown and Gray Sandy Silt	1	0	5	30	34	31	21	4	13	
993.9	6	11/14			Brown and Gray Sandy Silt	2	0	3	21	44	32	25	4	19	
991.4	8	12/12			Brown Sandy Gravelly Silt	3	27	3	12	35	23	26	7	16	
988.9	10	13/10			Brown Silty Gravelly Sand	4	36	19	28	10	7	NP	NP	10	
986.4	12	21/16			Brownish-Gray Silty Gravelly Sand	5	21	9	31	22	17	NP	NP	11	
983.9	14	10/23			Brown Silty Sandy Gravel	6	50	22	12	7	9	NP	NP	13	
981.4	16	16/21			Gray Silty Sandy Gravel	7	33	4	28	23	12	NP	NP	11	
978.9	18	8/12			Brown Sand	8	0	7	89	-4-		NP	NP	15	
	20														
	22														
973.9	24	5/7			Brown Sand	9	0	32	62	-6-		NP	NP	22	
	26														
	28														
968.9	30	30/25			Gray Gravel	10		V	I	S	U	A	L		
	32														
	34														
963.9	36	8/15			Brown Sand with Stone Fragments	11		V	I	S	U	A	L		
	38														
958.9	40				TOP OF ROCK										
	42														
	44		5.0	0.0	Sandstone, yellowish-brown, friable to firm, very damp and porous. No core loss.										
952.9	46				BOTTOM OF BORING										

LOG OF BORING

Date Started 10-2-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-3-63 | Casing: Length | Dia.
Boring No. B-9 | Station & Offset 131+70, 90' Rt (FORWARD PIER) | Surface Elev. 993.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
993.0	0														
	2														
	4														
988.0	6	6/6			Brown Silty Sandy Gravel	1	44	33	9	-14-		NP	NP	11	
985.5	8	17/21			Gray Gravel	2		V	I	S	U	A	L		
983.0	10	14/27* (0.3')			Brown and Gray Silty Sandy Gravel	3	45	6	10	22	17	NP	NP	15	
980.5	12	8/10			Gray Sandy Gravelly Silt	4	22	6	14	35	23	NP	NP	12	
978.0	14	5/10			Gray Gravelly Clay	5	25	5	7	23	40	28	11	18	
975.5	16	13/14			Gray Silty Sandy Gravel	6	33	4	14	28	21	20	4	13	
973.0	18	21/29			Brown and Gray Silty Gravelly Sand	7	24	12	27	23	14	NP	NP	14	
970.5	20	17/29			Brown Gravelly Sandy Silt	8	21	6	15	39	19	NP	NP	25	
968.0	22	18/20			Gray Gravelly Sandy Silt	9	24	8	26	11	31	16	2	9	
	24														
	26														
963.0	28	15/29			Gray Gravelly Silt	10	16	2	7	47	28	21	2	17	
	30														
	32														
958.0	34	20/29			Brown Sandy Gravel	11	57	24	11	-8-		NP	NP	12	
	36														
	38														
953.0	40	22/39			Brown Sand with Stone Fragments	12		V	I	S	U	A	L		
	42														
	44														
948.0	46	21/37			No Sample Recovered	*		V	I	S	U	A	L		
944.5	48				TOP OF ROCK										
	50														
	52		3.6	1.4	Sandstone, gray, friable to firm, medium-grained, damp, porous, very broken throughout, (comprises 80% of interval) interbedded with dark-gray soft moist, clay seams to beds 0.2' thick (comprise 20% of interval). Core loss 30%.										
	54														
936.5	56		0.9	0.6	BOTTOM OF BORING										

*REFUSAL

3

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
SEC.

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.C.	E.O.F.	S.M.K.	10-30-63

MAY 2 1

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

1014 1010 1006 1002 998 994 990 986 982 978 974 970 966 962 958 954 950 946 942 938 934 930 926

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 129+40.40' LT
REAR ABUTMENT
Surface Elev. 999.7 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT 8"

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 3
Station & Offset 130+17.56' RT
REAR ABUTMENT
Surface Elev. 999.1 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT 8"

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 129+90.56' LT
REAR PIER
Surface Elev. 999.3 Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 130+35.61
REAR PIER
Surface Elev. 998.9 Water Elev. DRY
SUM-277-0.46
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

1010 1006 1002 998 994 990 986 982 978 974 970 966 962 958 954 950 946 942 938 934

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

51/66

4

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0240
OVER MANCHESTER ROAD
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.O.R.	G.P.H.	10-29-63

MAY 84

52/66

SUM-277-046

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

Test Location No. 6
Station & Offset 130+72.60' RT REAR PIER
Surface Elev. 995.9' Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

Test Location No. 7
Station & Offset 130+79.56' LT FORWARD PIER
Surface Elev. 999.0' Water Elev. 925.0'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 8
Station & Offset 131+20 C.L. FORWARD PIER
Surface Elev. 999.1' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 9
Station & Offset 131+65.67' RT FORWARD PIER
Surface Elev. 993.8' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

Test Location No. 12
Station & Offset 132+11.56' RT FORWARD ABUTMENT
Surface Elev. 996.8' Water Elev. DRY
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT ROD BENT

1014 1010 1006 1002 998 994 990 986 982 978 974 970 966 962 958 954 950 946 942 938 934 930 926

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

TEST ROD

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0290
OVER MANCHESTER ROAD
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
RC	R.D.R	G.A.N.	10-29-63

MIC
MAY 21

53/66

SUMMIT COUNTY
SUM-277-0.46

GEOLOGY OF THE SITE

The structure site is located on a glaciated upland plain, in the buried valley of the Old Cleveland River of Deep Stage, over the Ohio Cansl, immediately adjacent to an area of deep peat deposits. Moderstely deep valley fill overlies sandstone and shale bedrock, of Pennsylvanian age.

EXPLORATION

The exploration consisted of two drive sample-core borings, made on October 3, 4, 10 and 11, 1963, and eight drive rod penetration tests, made between September 26 and October 1, 1963.

INVESTIGATIONAL FINDINGS

Borings disclose that materials overlying sloping bedrock surface are comprised of loose to very dense, wet to moist sands and silts and extremely dense gravelly and bouldery intervals occurring immediately above bedrock surface. Bedrock surface slopes downward from the rear portion of the structure site to the forward portion of the structure between elevations 924 and 899 feet. Borings were terminated 8 and 16 feet below bedrock surface, elevations 906 and 892 feet.

Rod soundings, cased to proposed footer elevations at the proposed pier locations as noted on the site plan, encountered very gradual increase in penetration resistance with increase in depth and were terminated at 34 and 57-foot depths, elevations 932 and 910 feet, upon encounter with medium-high resistance and refusal to penetration, considered to be above bedrock surface, as revealed by the borings.

Free water was encountered in the rod sounding holes, with exception of test locations numbers 6 and 9, between elevations 958 and 944 feet.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View.
- (R) Electrical Resistivity Probe - Plan View.
- A — Indicates Auger Boring.
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- Resistance "R" ≥ 10,000 lbs.
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- Indurated Clay
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- Shale
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- Dolomite
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- Limestone

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Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

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The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description - based on laboratory test results and the Casagrande A C classification system - and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

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		No. 10 sieve	No. 40 sieve		No. 200 sieve	

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OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0199
OVER OHIO CANAL
SEC.

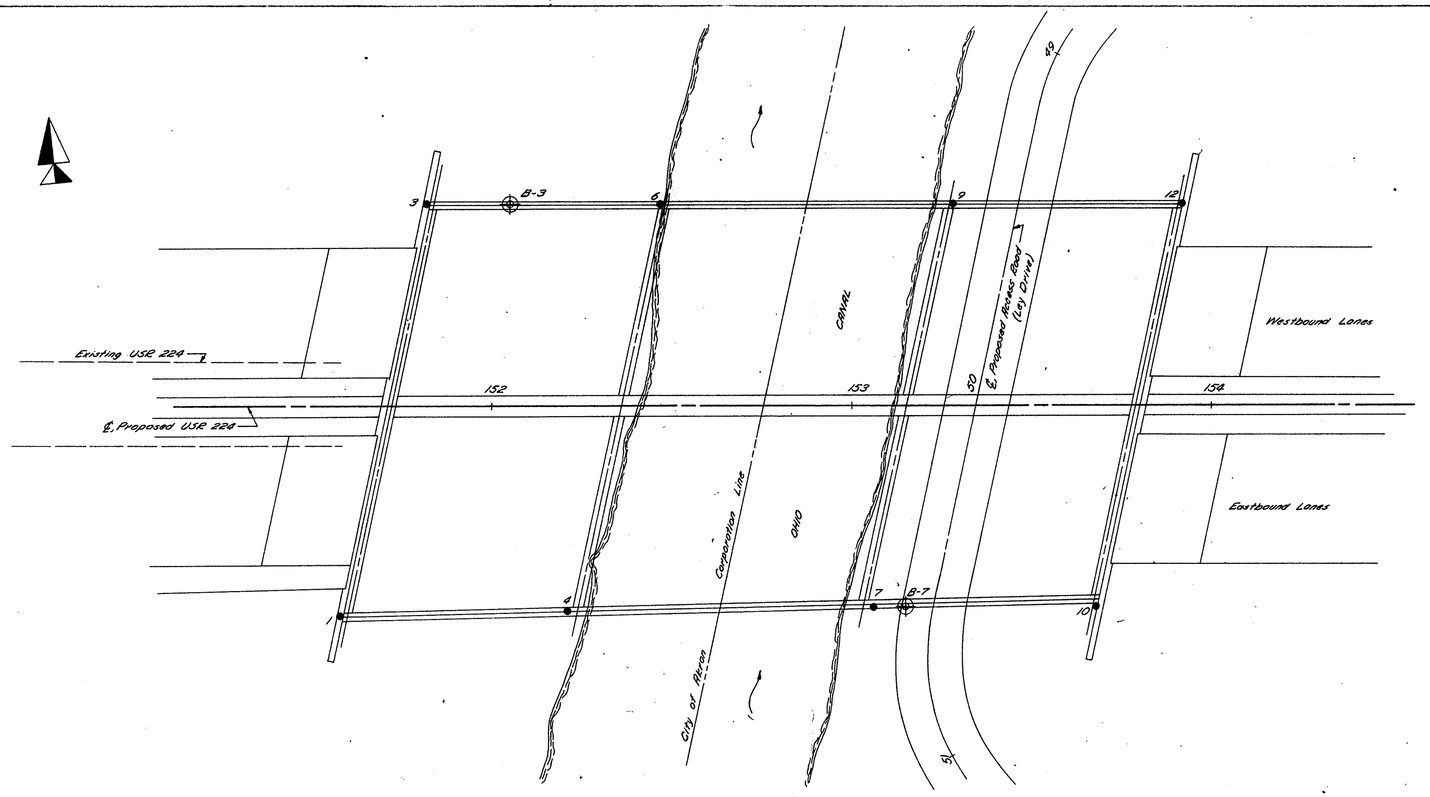
CHECKED BY	REVIEWED BY	DATE
R.O.R.	G.P.W.	10-30-63

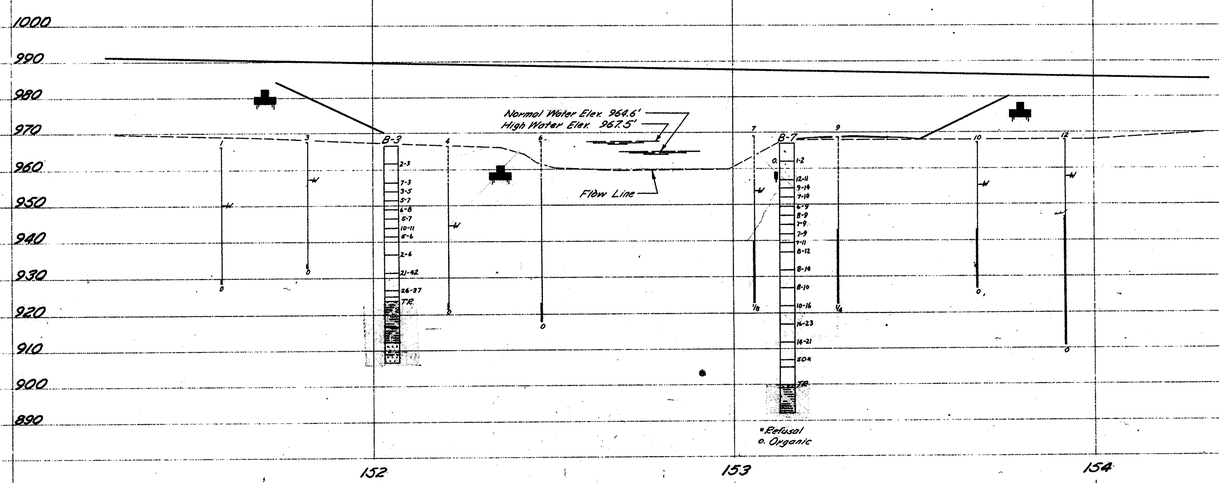
SUM-277-0/99
on 4 Sheets

MAY 2-

54/66

SUM-277-0.46





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0199
OVER OHIO CANAL
SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
E.R.W.	P.D.E.	E.P.H.	10-30-63

MAY 21

SUM-277-0.46

LOG OF BORING

Date Started 11-1-63 Sampler Type SS Dia. 1 3/8"
Date Completed 11-4-63 Casing: Length ____ Dia. ____
Boring No. B-3 Station & Offset 154+25, 64' Lt (REAR ABUTMENT)

Water Elev. ____
Surface Elev. 957.4

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
957.4	0														
	2														
	4														
951.4	6	7/9			Brown and Gray Silty Granular Soil	1	37	5							
	8														
946.4	10														
	12														
944.0	14														
941.4	16	7/9			Brown Silty Soil	2							NP	NP	19
	18														
936.4	20	7/9			Brown Silty Soil										
	22														
933.9	24														
931.4	26														
929.0	28	7/9			Gray Silty Soil								NP	NP	20
926.4	30	7/12			Gray Sandy Silt										
	32														
	34														
931.5	36	23/24			English-Brown Silty Gravelly Sand	3							NP	NP	16
	38														
926.5	40														
924.8	42	26/37			Gray Clay with Stone Fragments	12	V	I	S	U	A	L			
923.5					Clay Soil and Sandstone Gravel										
	44		3.3	0.7	TOP OF ROCK										
	46				Clay shale, dark-gray, soft, crumbly, moist; with few firm broken shale seams comprising 10% of total interval. Core loss 20%.										
	48		2.0	3.0											
916.5	50				Shale, dark-gray, iron-stained (comprising 60% of interval) interbedded with soft, dark-gray, clay shale. Core loss 6%.										
	52														
912.3	54		1.8	3.2											
	56				Sandstone, gray, firm, fine-grained, very calcareous-in-part, (comprising 85% of interval) interbedded with soft, crumbly, dark-gray, clay shale in seams and beds to 0.2' thick and comprising 15% of interval. Core loss 8%.										
	58														
906.5	60		4.6	0.4											

BOTTOM OF BORING

LOG OF BORING

Date Started 10-10-63 Sampler Type SS Dia. 1 3/8"
Date Completed 10-11-63 Casing: Length ____ Dia. ____
Boring No. B-7 Station & Offset 153+15, 56' Rt (FORWARD) PIER

Water Elev. ____
Surface Elev. 966.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
966.9	0														
	2														
	4														
961.9	6	1/2			Dark-Gray Organic Sandy Clay and Decayed Wood	1	0	4	49	31	16	62	41	49	
	8														
956.9	10	12/11			Gray Sandy Gravel	2	46	14	24	12			NP	NP	16
	12														
954.4	14	9/14			Gray Sandy Gravel	3	69	14	14	3			NP	NP	19
951.9	16	7/10			Gray Gravel	4	4	17	11	5	11	A	L		
949.4	18	6/9			Dark-Gray Carbonaceous-Gray Silt (Part Earth Description)	5	1	1							
946.9	20	8/9			Gray Sandy Silt	6	0	0	28	63	9	NP	NP	29	
944.4	22														
941.9	24	7/9			Gray Silt	7	0	0	3	86	11	NP	NP	21	
	26	7/9			Gray Silt	8	0	0	10	79	11	NP	NP	20	
939.4	28	7/11			Gray Silt	9	0	0	4	88	8	NP	NP	20	
936.9	30	8/12			Gray Sandy Silt	10	0	0	30	60	10	NP	NP	24	
	32														
	34														
931.9	36	8/14			Gray Sandy Silt	11	0	0	28	60	12	NP	NP	21	
	38														
926.9	40	8/10			Gray Sandy Silt	12	0	0	28	60	12	NP	NP	21	
	42														
921.9	44														
	46	10/16			Gray Silty Sand	13	0	4	73	17	6	NP	NP	23	
	48														
916.9	50	16/23			Gray Silty Sand	14	0	2	79	13	6	NP	NP	23	
	52														
	54														
911.9	56	14/21			Gray Silty Sand	15	0	0	72	17	6	NP	NP	24	
	58														
906.9	60	50* (0.2')			Gray Silty Sand	16	0	3	62	27	8	NP	NP	21	
904.9	62														
	64		1.8	2.0	Sandstone boulders (0.7' thick), cobbles (0.1' to 0.3' thick), gravel and clay-silt-glacial till.										
	66														
899.9					TOP OF ROCK										
899.0	68		4.0	1.0	Sandstone, gray, firm, medium-grained, with carbonaceous, argillaceous laminae, **										
	70														
	72				Shale, gray, very firm, dense, arenaceous with numerous clay seams separating beds 0.2' to 0.7' thick which comprises 95% of interval. (Below 73.2' interval becomes firm with soft shale seams). Core loss 4%.										
	74		4.8	0.2											
891.9					BOTTOM OF BORING										

*REFUSAL
** and few clay seams. No core loss.

3

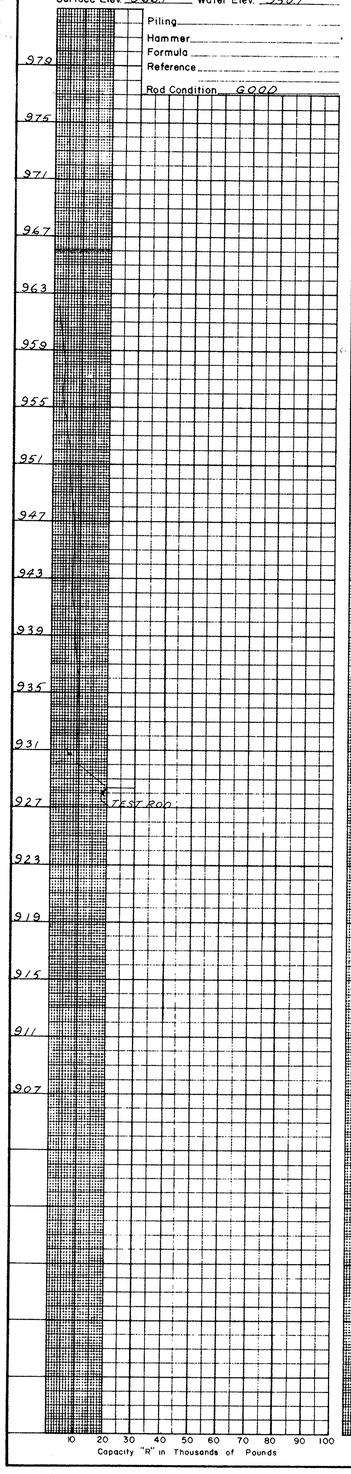
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO SUM-277-0199
OVER OHIO CANAL
SEC

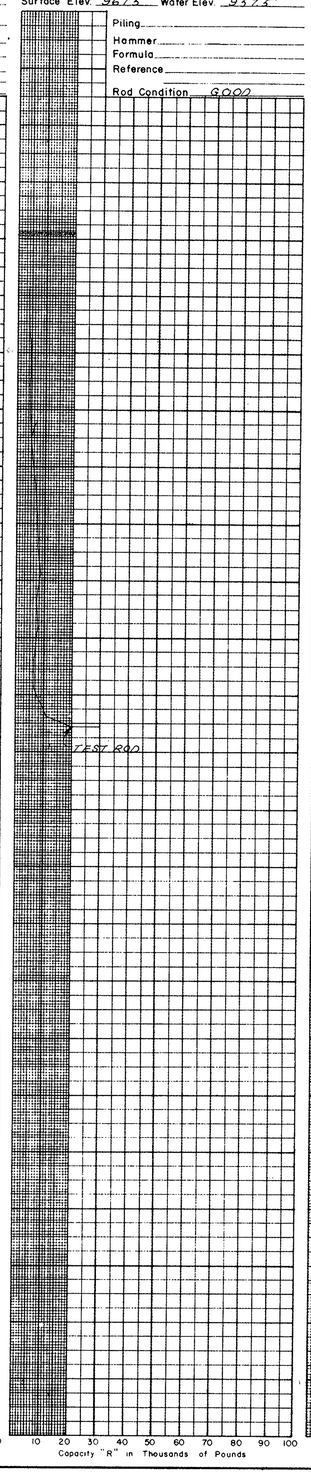
BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.C.	E.D.E.	G.P.K.	10-30-63

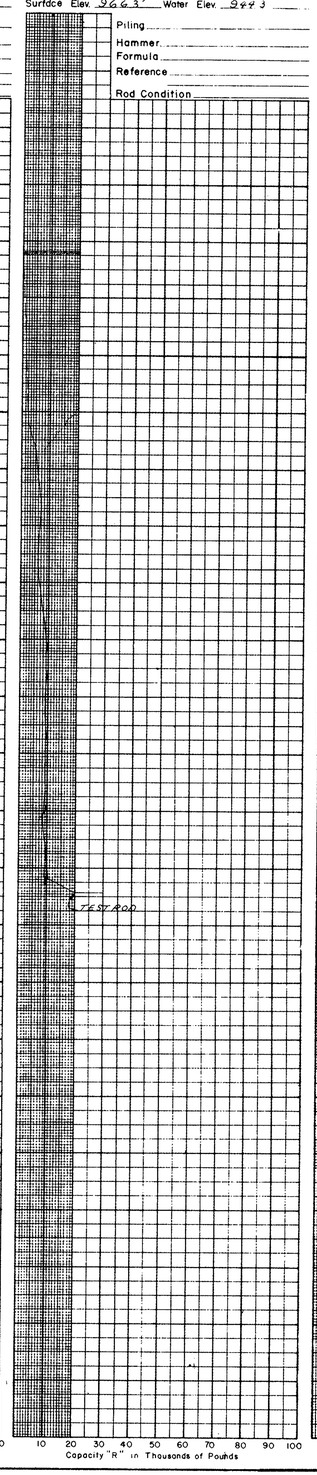
Test Location No. 1
Station & Offset 151+58.58' RT. REAR ABUTMENT
Surface Elev. 966.1 Water Elev. 950.1
Piling
Hammer
Formula
Reference
Rod Condition GOOD



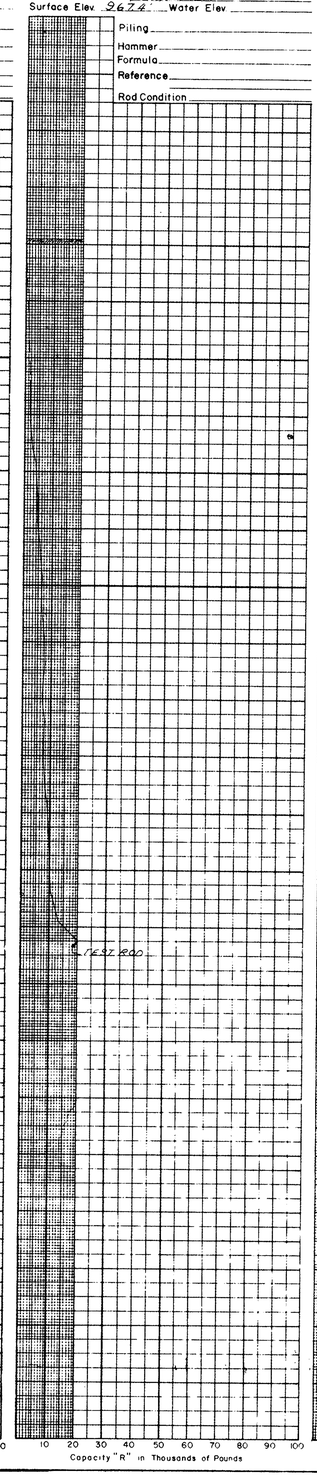
Test Location No. 3
Station & Offset 151+82.56' LT. REAR ABUTMENT
Surface Elev. 967.5 Water Elev. 957.5
Piling
Hammer
Formula
Reference
Rod Condition GOOD



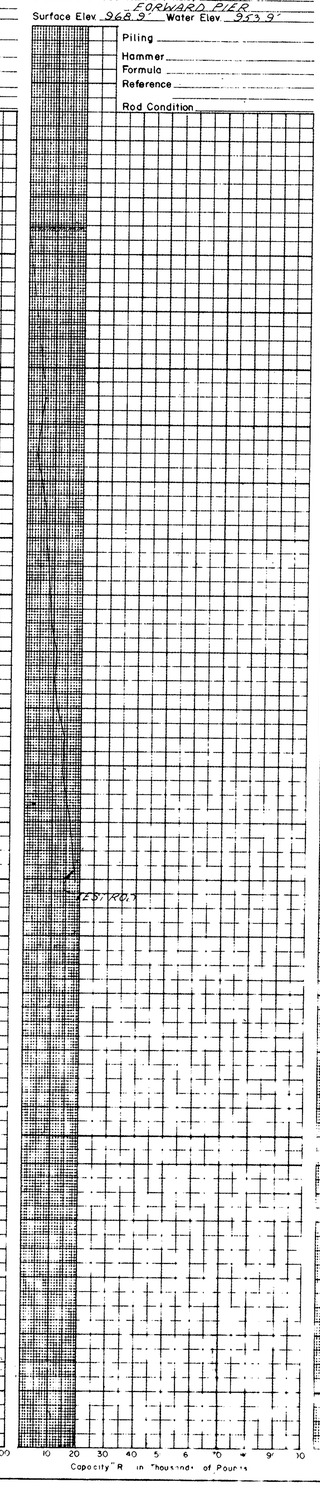
Test Location No. 4
Station & Offset 152+21.57' RT. REAR PIER
Surface Elev. 966.3 Water Elev. 944.3
Piling
Hammer
Formula
Reference
Rod Condition



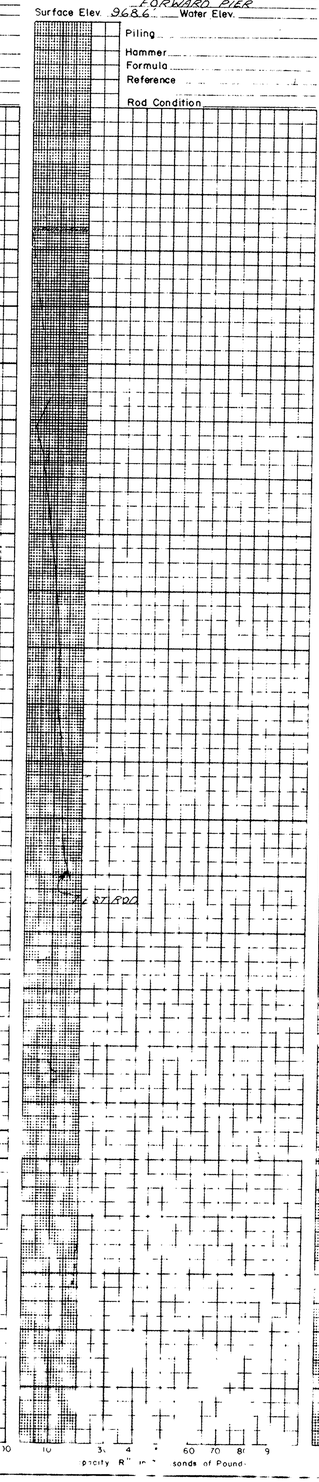
Test Location No. 6
Station & Offset 152+47.56' LT. REAR PIER
Surface Elev. 967.4 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition



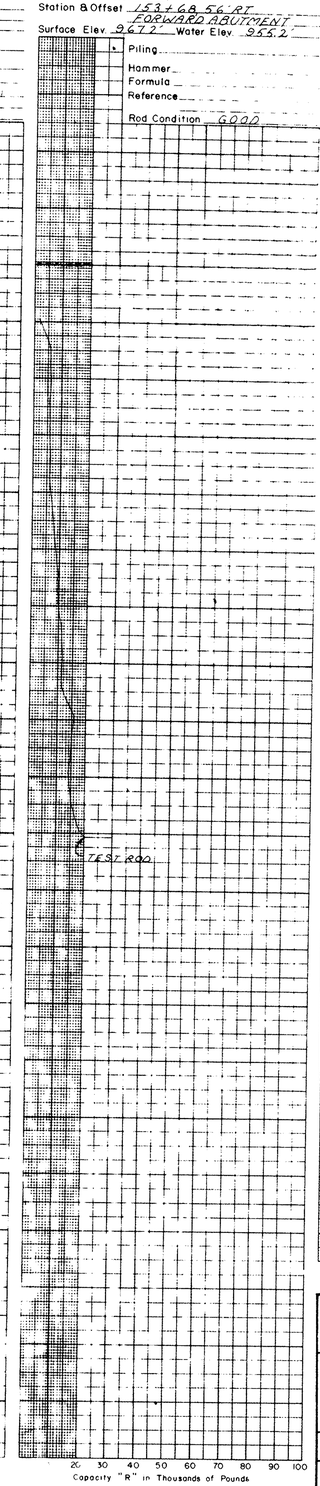
Test Location No. 7
Station & Offset 153+06.56' RT. FORWARD PIER
Surface Elev. 968.9 Water Elev. 953.9
Piling
Hammer
Formula
Reference
Rod Condition



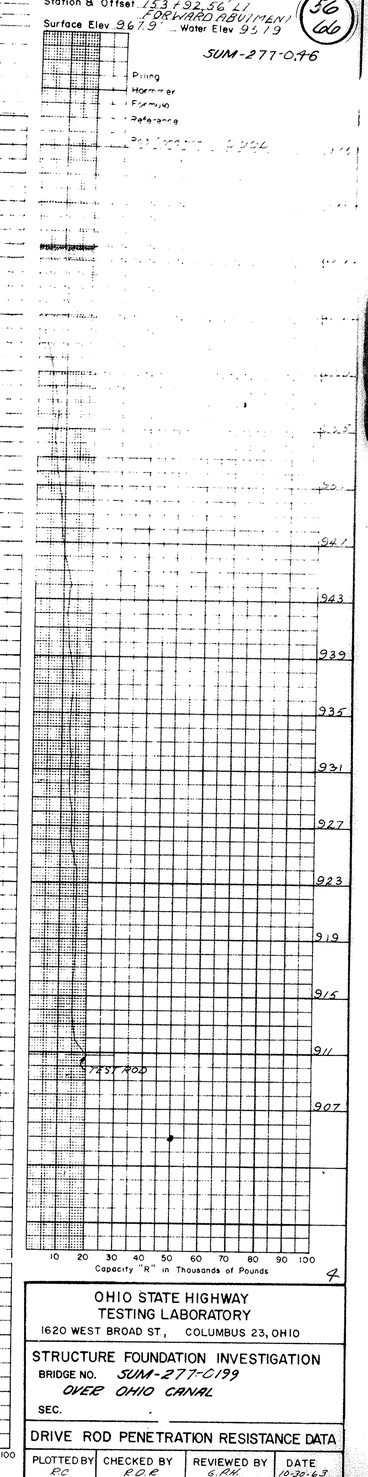
Test Location No. 9
Station & Offset 153+28.56' LT. FORWARD PIER
Surface Elev. 968.6 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition



Test Location No. 10
Station & Offset 153+68.56' RT. FORWARD ABUTMENT
Surface Elev. 967.2' Water Elev. 955.2
Piling
Hammer
Formula
Reference
Rod Condition GOOD



Test Location No. 12
Station & Offset 153+92.56' LT. FORWARD ABUTMENT
Surface Elev. 967.9' Water Elev. 957.9
SUM-277-0.96
(56 66)
Piling
Hammer
Formula
Reference
Rod Condition GOOD



4

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0.99
OVER OHIO CANAL
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
RC	R.D.E.	G.P.M.	10-30-63

MAY 8

57
66

SUMMIT COUNTY
SUM-277-0.46

GEOLOGY OF THE SITE

The structure site is located on a glaciated upland plain, in the buried valley of the old Cleveland River of Deep Stage, on the side of a hilly kame deposit. Valley fill is reported to be as much as 300 feet in depth.

EXPLORATION

The exploration consisted of two drive sample borings and fifteen drive rod penetration tests, made between September 25 and October 10, 1963.

INVESTIGATIONAL FINDINGS

Boring B-4, on the right side of the site, encountered loose to medium-dense silty sands to 32-foot depth, elevation 986 feet; below this, medium-dense to dense sandy silts to 66-foot depth, elevation 952 feet. Below elevation 952 feet, medium-dense to dense silt was encountered. Boring B-12, on the left side of the site, disclosed very loose to very dense sands, gravels, and occasional silts to 101-foot depth, elevation 886 feet. Both borings were terminated at 101-foot depth, elevations 917 feet (B-4) and 886 feet (B-16) after penetrating 25 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings made on the right side of the site (locations numbers 1, 4, 7, 10, and 13) met increasing resistance with increase in depth and were terminated due to refusal or near refusal from 28 to 64-foot depths, between elevations 970 and 939 feet, considered to have terminated in the dense sandy silt and silt revealed by boring B-4. The soundings made in the center and left side of the site penetrated to much greater depth, and met very gradual increase in resistance or uniform resistance to penetration with increase in depth and were terminated due to high resistance, refusal, or near refusal to penetration at 64 to 102-foot depths, elevations 930 to 886 feet, considered to be in the sands and gravels revealed by boring B-16.

No free water was encountered in any of the rod sounding holes.

No test penetrated to bedrock surface.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View.
- (R) Electrical Resistivity Probe - Plan View.
- A — Indicates Auger Boring.
- B — Indicates Press and/or Drive Sample and/or Core Boring.
- (R) Electrical Resistivity Probe plotted to vertical scale only.
- TR — Top of Rock
- Water saturated zone.
- TD — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken.
- X-Y — Figures to the right of boring log in profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches; Y = Second 6 inches
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" => 10,000 lbs.
- 1/16 — Indicates final measurement of penetration in inches.
- W — Indicates Free Water elevation.
- S — Indicates Static Water elevation.
- Footing — Capped pile
- Footing, on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8 I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description - based on laboratory test results and the Casagrande A-C classification system - and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
	6"	3" 2.0mm	0.42mm		0.074mm	0.005mm
			No. 10 sieve	No. 40 sieve	No. 200 sieve	

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0131
UNDER RELOC. S. MAIN ST.
SEC

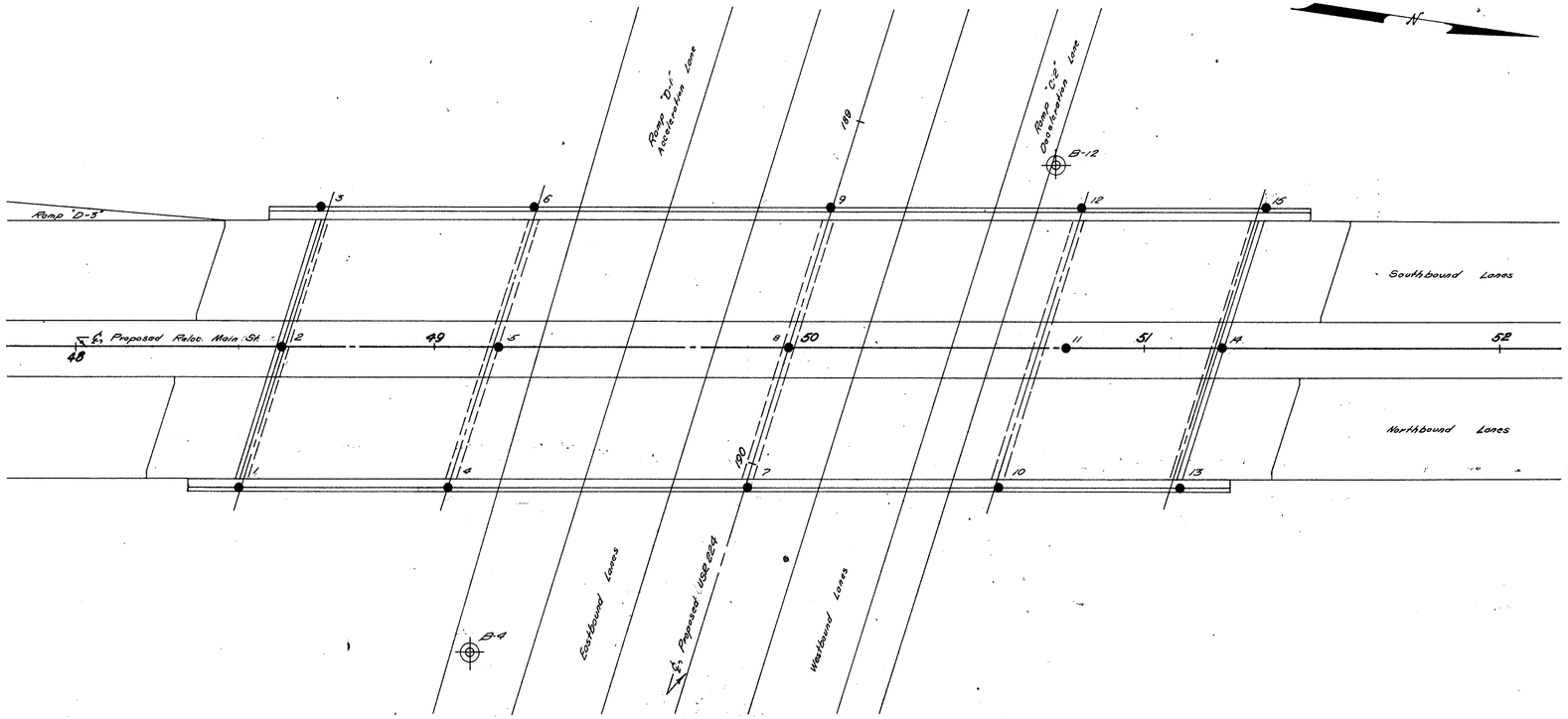
CHECKED BY	REVIEWED BY	DATE
R.P.W.	E.D.R.	10-23-63

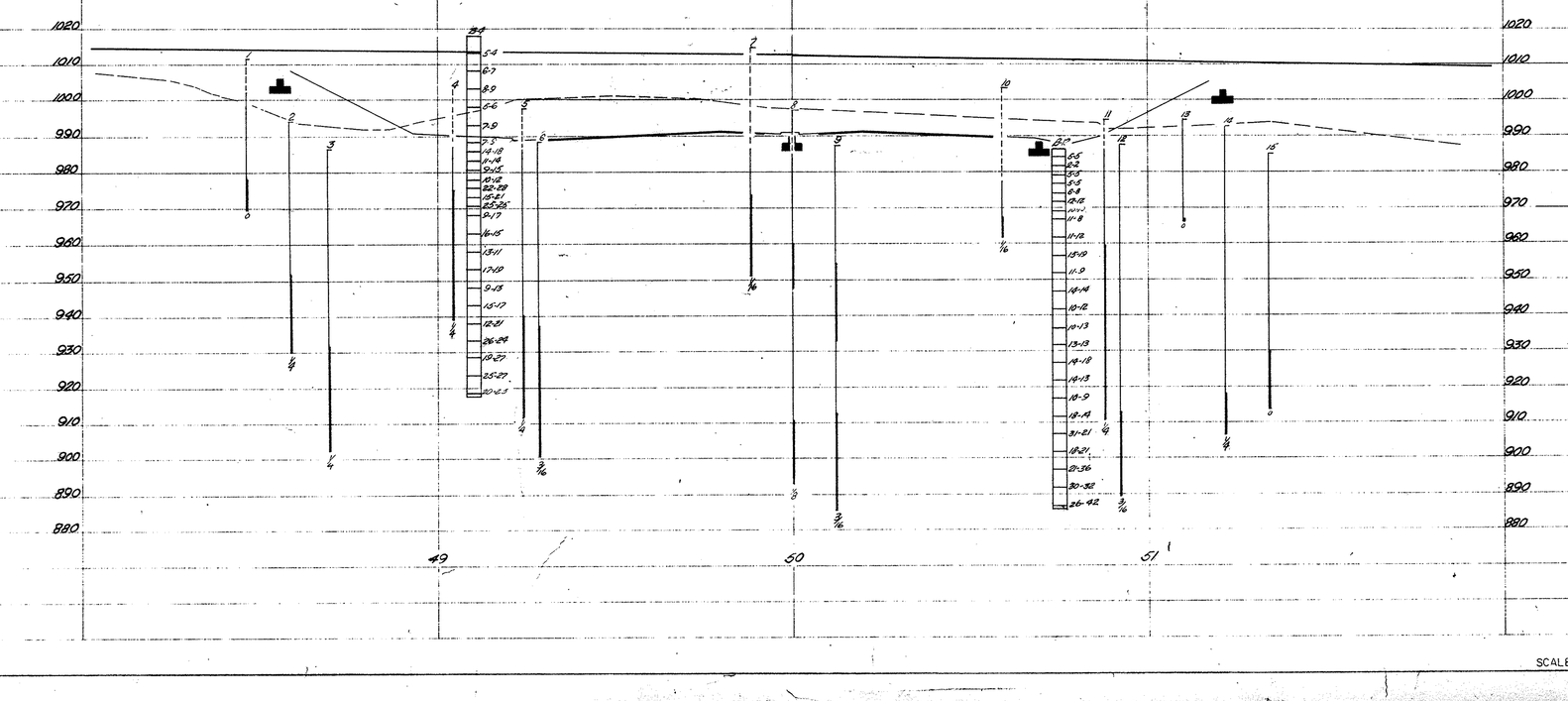
SUM-277-0131
on 6 sheets

MAY 25

58/66

SUM-277-0.46





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0131
UNDER RELOC. S. MAIN ST.
SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	R.P.W.	B.O.R.	10-23-63

MAY 25

59/66

SUM-277-0.46

LOG OF BORING

Date Started 9-26-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-1-63 | Casing: Length | Dia.
Boring No. B-6 | Station & Offset 49+10, 85' Rt (REAR PIER) | Surface Elev. 1018.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1018.2	0														
	2														
1013.2	4														
	6	5/4			Brown Silty Sand	1	7	7	75	11	-	NP	NP	13	
	8														
1008.2	10	6/7			Brown Silty Sand	2	0	0	61	30	9	NP	NP	18	
	12														
	14														
1003.2	16	8/9			Brown Silty Sand	3	0	2	78	10	10	NP	NP	17	
	18														
998.2	20	5/6			Brown Sandy Silt	4	0	1	56	34	9	NP	NP	14	
	22														
	24														
993.2	26	7/9			Brown Silty Sand	5	0	0	74	17	9	NP	NP	19	
	28														
988.2	30	7/9			Brown Silty Sand	6	0	2	86	2	10	NP	NP	15	
985.7	32	14/18			Brown Sandy Silt	7	0	0	55	31	14	NP	NP	12	
983.2	34	11/14			Brown Sandy Silt	8	0	1	33	57	9	NP	NP	19	
980.7	36	9/15			Brown Silt	9	0	0	7	60	33	27	3	28	
978.2	38														
	40	10/12			Brown Silt	10	0	0	19	70	11	NP	NP	25	
975.7	42	22/28			Brown Sandy Silt	11	0	0	56	33	11	NP	NP	15	
973.2	44	15/21			Brown Sandy Silt	12	0	0	30	55	15	NP	NP	23	
970.7	46	25/25			Brownish-Gray Sandy Silt	13	0	0	31	58	11	NP	NP	19	
968.2	48	9/17			Gray Sandy Silt	14	0	1	36	52	11	NP	NP	24	
	50														
	52														
963.2	54														
	56	16/15			Gray Sandy Silt	15	0	18	41	33	8	NP	NP	17	
	58														
958.2	60	13/11			Gray Sandy Silt	16	0	2	26	60	12	NP	NP	21	
	62														
	64														
953.2	66	17/19			Gray Silty Gravelly Sand	17	22	11	35	25	7	NP	NP	17	
	68														
948.2	70	9/13			Gray Silt	18	0	5	5	78	12	NP	NP	22	
	72														
	74														
943.2	76	15/17			Gray Silt	19	0	0	2	87	11	NP	NP	21	
	78														
938.2	80	12/21			Gray Silt	20	0	0	1	83	16	NP	NP	25	
	82														
	84														
933.2	86	26/24			Gray Silt	21	0	0	2	86	12	NP	NP	24	
	88														
928.2	90	19/27			Gray Silt	22		V	I	S	U	A	L	21	
	92														
	94														
923.2	96	25/27			Gray Silt	23	0	0	4	82	14	NP	NP	22	
	98														
918.2	100														
917.2		20/23			No Sample Recovered										

BOTTOM OF BORING

LOG OF BORING

Date Started 9-25-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 9-26-63 | Casing: Length | Dia.
Boring No. B-12 | Station & Offset 50+75, 51' Lt (FORWARD PIER) | Surface Elev. 986.7'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
986.7	0														
	2														
984.2	4	5/5			Brown Gravelly Sand	1	30	31	29	3	7	NP	NP	9	
981.7	6	2/2			Brown Silty Gravelly Sand	2	34	29	13	17	7	NP	NP	11	
979.2	8	5/5			Brown Sand	3	0	36	57	7	-	NP	NP	17	
976.7	10	5/5			Brown Sandy Gravel	4		V	I	S	U	A	L	13	
974.2	12	6/8			Brown Silty Sand	5	0	8	72	13	7	NP	NP	11	
971.7	14	12/12			Brown Gravel	6		V	I	S	U	A	L		
969.2	16	10/10			Brown Sandy Silt	7	0	1	22	68	9	NP	NP	13	
966.7	18	11/8			Brown Sandy Silt	8	0	5	29	56	10	NP	NP	13	
	20														
	22														
961.7	24	11/12			Brown Sandy Gravel	9	51	12	30	7	-	NP	NP	9	
	26														
956.7	28	15/19			Brown Gravelly Sand	10	44	24	26	6	-	NP	NP	10	
	30														
951.7	32	11/9			Brown and Gray Silty Gravelly Sand	11	19	12	34	21	14	NP	NP	15	
	34														
946.7	36	14/14			Gray and Brown Silty Gravelly Sand	12		V	I	S	U	A	L	13	
	38														
941.7	40	10/12			Brown Sand	13	0	35	58	7	-	NP	NP	24	
	42														
936.7	44	10/13			Brown and Gray Sand	14	10	25	58	3	4	NP	NP	21	
	46														
931.7	48	19/13			Gray Silty Sand	15	0	8	81	11	-	NP	NP	23	
	50														
926.7	52	14/18			Gray Silty Sand	16	0	2	87	4	7	NP	NP	23	
	54														
921.7	56	14/13			Gray Sand	17	0	3	90	3	4	NP	NP	24	
	58														
916.7	60	10/9			Gray Gravel	18		V	I	S	U	A	L		
	62														
911.7	64	18/14			Gray Silty Gravel	19	51	2	11	17	19	NP	NP	24	
	66														
906.7	68	31/21			Gray Silty Sand	20	0	13	61	11	15	NP	NP	14	
	70														
	72														
901.7	74	18/21			Gray Silty Sand	21	0	20	61	10	9	NP	NP	17	
	76														
896.7	78	21/36			Gray Silty Sand	22	0	4	71	16	9	NP	NP	16	
	80														
891.7	82	30/32			Gray Silty Sand	23	0	0	68	22	10	NP	NP	18	
	84														
886.7	86														
885.7		26/42			Gray Silt	24	0	0	2	86	12	NP	NP	26	

BOTTOM OF BORING

3

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-01.31
UNDER RELOC. S. MAIN ST.
SEC.

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.C.	A.P.W.	R.D.F.	11-25-63

60/66

SUM-277-0.46

MAY 25

Test Location No. 1
Station & Offset 48+45, 39' RT REAR ABUTMENT
Surface Elev. 1011.8 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD
1012 1008 1004 1000 996 992 988 984 980 976 972 968 964 960 956 952 948 944 940 936 932 928 924 920 916
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 2
Station & Offset 48+57 CL REAR ABUTMENT
Surface Elev. 994.0 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 3
Station & Offset 48+68, 39' LT REAR ABUTMENT
Surface Elev. 986.5 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition GOOD
10 20 30 40 50 60 70 80 90 100
(CONT'D NEXT COLUMN)
Capacity "R" in Thousands of Pounds

Test Location No. (3)
Station & Offset
Surface Elev. Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition
912 908 904 TEST ROD 900 896 892 888 884
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 49+04 39' RT REAR PIER
Surface Elev. 1003.0 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 49+18 CL REAR PIER
Surface Elev. 997.8 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD
10 20 30 40 50 60 70 80 90 100
(CONT'D NEXT COLUMN)
Capacity "R" in Thousands of Pounds

Test Location No. (5)
Station & Offset
Surface Elev. Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition
912 908 904 900 896 892 888 884
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 6
Station & Offset 49+28, 39' LT REAR PIER
Surface Elev. 988.6 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition POINT BENT-B
1008 1004 1000 996 992 988 984 980 976 972 968 964 960 956 952 948 944 940 936 932
10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0131
UNDER RELOC S. MAIN ST.
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
E.C.	E.P.W.	R.D.E.	10-23-63

MAY 85

61/66

SUM-277-0.46

Test Location No. (6)

Station & Offset _____

Surface Elev. (Casing) _____ Water Elev. _____

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition _____

1012 1008 1004 1000 996 992 988 984 980 976 972 968 964 960 956 952 948 944 940 936 932 928 924 920 916

912 908 904 900 896 892 888 884

(CONT'D NEXT COLUMN)

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. 7

Station & Offset 49+88, 39' RT
CENTER PIER

Surface Elev. 1015.0 Water Elev. DRY

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. 8

Station & Offset 50+00 C'
CENTER PIER

Surface Elev. 997.0' Water Elev. DRY

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition GOOD

(CONT'D NEXT COLUMN)

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. (8)

Station & Offset _____

Surface Elev. (Casing) _____ Water Elev. _____

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition _____

912 908 904 900 896 892 888 884

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. 9

Station & Offset 50+12.39' LT
CENTER PIER

Surface Elev. 987.8' Water Elev. DRY

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition GOOD

(CONT'D NEXT COLUMN)

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. (9)

Station & Offset _____

Surface Elev. (Casing) _____ Water Elev. _____

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition _____

912 908 904 900 896 892 888 884

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. 10

Station & Offset 50+59.39' RT
FORWARD PIER

Surface Elev. 1003.6' Water Elev. DRY

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

Test Location No. 11

Station & Offset 50+70 C L
FORWARD PIER

Surface Elev. 992.8' Water Elev. DRY

Piling _____

Hammer _____

Formula _____

Reference _____

Rod Condition GOOD

1008 1004 1000 996 992 988 984 980 976 972 968 964 960 956 952 948 944 940 936 932

(CONT'D NEXT SHEET)

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

5

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. SUM-277-0131
UNDER RELOC. S. MAIN ST.

SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.P.W.	R.D.E.	10-23-63

MAY 25

Test Location No. (11)
Station & Offset
Surface Elev. 1004.2 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition

Test Location No. 12
Station & Offset 50+82 39' LT FORWARD PIER
Surface Elev. 9875 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. (12)
Station & Offset
Surface Elev. 1004.2 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition

Test Location No. 13
Station & Offset 51+10 39' RT. FORWARD ABUTMENT
Surface Elev. 9950 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD
TEST ROD

Test Location No. 14
Station & Offset 51+22 C.L. FORWARD ABUTMENT
Surface Elev. 9928 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition

Test Location No. (13)
Station & Offset
Surface Elev. 1004.2 Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition
TEST ROD

Test Location No. 15
Station & Offset 51+34 39' LT FORWARD ABUTMENT
Surface Elev. 9851' Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD

Test Location No. (15)
Station & Offset
Surface Elev. Water Elev.
Piling
Hammer
Formula
Reference
Rod Condition

62/66

SUM-277-0.46

1012 1008 1004 1000 996 992 988 984 980 976 972 968 964 960 956 952 948 944 940 936 932 928 924 920 916

912 908 904 900 896 892 888 884

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

(continued next column)

(continued from previous column)

6

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-013/
UNDER RELOC. S. MAIN ST.
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.R.W.	R.O.P.	11-23-63

MICROFILMED
MAY 85

63
66

SUMMIT COUNTY
SUM-277-0.46

GEOLOGY OF THE SITE

The structure site is located on a glaciated upland plain, in the buried valley of the Old Cleveland River of Deep Stage origin. Moderately deep to deep valley fill overlies sandstone bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of nine drive sample-core borings, two drive sample borings, and eight drive rod penetration tests, made between October 8 and 17, 1963.

INVESTIGATIONAL FINDINGS

Borings disclose that bedrock surface, encountered only in boring B-6 at elevation 941 feet, is overlain by dense gravels, sands, and silts as well as scattered intervals of extremely dense large gravels and cobbles. Borings B-10 and B-11 were terminated after penetrating in excess of 30 feet of material requiring in excess of 30 blows per foot in the standard penetration test, at 60 and 76-foot depths, elevations 942 and 925 feet. Boring B-6 encountered bedrock surface at 54-foot depth, elevation 941 feet and was terminated after penetrating 11 feet below bedrock at elevation 930 feet. Hydrostatic pressure was encountered in borings B-6 and B-11 at various depths.

Rod soundings, cased to proposed footing elevation as shown on the site plan, encountered very gradual increase in penetration resistance with increase in depth and were terminated because of medium-high resistance or refusal to penetration at 40 and 50-foot depths, between elevations 950 and 938 feet, considered to be above bedrock surface, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance Soundings - Plan View
- Electrical Resistivity Probe - Plan View
- A — Indicates Auger Boring.
- B — Indicates Press and/or Drive Sample and/or Core Boring.
- Electrical Resistivity Probe plotted to vertical scale only
  - TR — Top of Rock
  - Water saturated zone.
  - TD — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken
- X-Y — Figures to the right of boring log profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches, Y = Second 6 inches
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" ≥ 10,000 lbs
- 1/16 — Indicates final measurement of penetration in inches
- W — Indicates Free Water elevation.
- Indicates Static Water elevation
- Footing — Capped pile
- Footing on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 3/4 inch diameter steel rod, with a 45° cone point, into the ground, using a 22 pound drop hammer with a free fall of five feet. At one or two foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with post performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are by means of a rotary type drilling, employing a 2" O.D., 1-3/8 I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary type drilling, employing a 2" O.D., 1-3/8 I.D. drive sampler, and 3 O.D. thin wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drilling.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6 inch increments, depths of press samples, field sample number, sample description based on laboratory test results and the Casagrande A.C. classification system, and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm	0.42mm	0.074mm	0.005mm	
		No 10 sieve	No 40 sieve	No 200 sieve		

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION

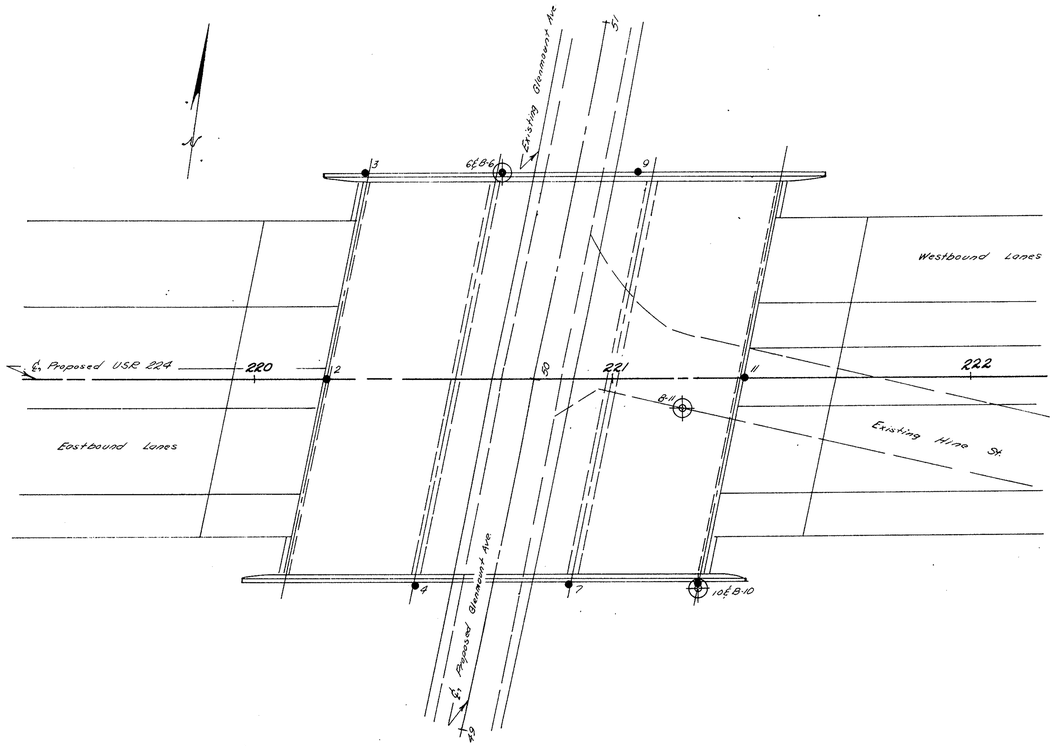
BRIDGE NO SUM-277-0071
OVER GLENMOUNT AVE.

SEC

CHECKED BY	REVIEWED BY	DATE
R.O.R.	G.P.N.	4-8-63

SUM-277-0071
on 4 Sheets

MICROFILMED
MAY 85
RECEIVED



SCALE 1" = 20'

OHIO STATE HIGHWAY TESTING LABORATORY 1620 WEST BROAD ST., COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. SUM-277-0071 OVER GLENMOUNT AVE SEC. PLAN AND PROFILE			
DRAWN BY R.L.F.	CHECKED BY R.D.K.	REVIEWED BY G.A.H.	DATE 11-4-63

MAY 85

65
66

SUM-277-0.46

LOG OF BORING

Date Started 10-8-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-9-63 | Casing: Length 45' | Dia. 3 1/2"
Boring No. B-6 | Station & Offset 220+69, 57' Lt (REAR PIER) | Surface Elev. 995.4'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W. C.	SHTL Class.
995.4	0														
	2														
	4														
990.4	6	15/15			Brown Sand (Wash Sample)	1		V	I	S	U	A	L		
987.9	8	3/6			Brown Gravelly Sand (Wash Sample)	2		V	I	S	U	A	L		
985.4	10	13/13			Gray Sandy Gravelly Silt	3	14	1	15	58	12	NP	NP	20	
982.9	12	14/19			Gray Sandy Gravelly Silt	4	20	5	12	41	22	NP	NP	12	
980.4	14														
	16	17/25			Gray Sand (Wash Sample	5		V	I	S	U	A	L		
977.9	18	24/26			Gray Sand (Wash Sample)	6		V	I	S	U	A	L		
975.4	20	12/12			Gray Sand (Wash Sample)	7		V	I	S	U	A	L		
972.9	22	13/18			Gray Sand (Wash Sample)	8		V	I	S	U	A	L		
970.4	24														
	26	9/13			No Sample Recovered - Sand Heaved in Casing 2'										
	28														
965.4	30	9/11			No Sample Recovered - Sand and Gravel			V	I	S	U	A	L		
	32														
	34														
960.4	36	6/6			Gray Sandy Gravelly Silt	9	21	5	10	39	25	22	5	19	
	38														
955.4	40	46/16			Gray Gravelly Sand (Wash Sample)	10		V	I	S	U	A	L		
	42														
	44														
950.4	46	15/34			Gray Silty Sandy Gravel	11	52	8	15	15	10	18	5	10	
	48														
945.4	50	33/*			Gray Silty Sand and Sandstone Fragments	12	55	8	12	13	12	PL=	15	14	
	52														
941.4	54				TOP OF ROCK										
	56														
	58		4.9	0.1	Sandstone, mottled orange-gray and gray, firm, medium-to coarse-grained, porous and damp, cross-bedded, broken at friable laminae into beds 0.1' to 1.0' thick. Below 60.0' interval contains quartz pebbles, with loosely cemented, cross-bedded seams of quartz pebble conglomerate in basal 2.0' of interval. Core loss 1%.										
	60														
	62		5.0	0.0											
930.4	64				BOTTOM OF BORING										

*REFUSAL

LOG OF BORING

Date Started 10-16-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-17-63 | Casing: Length 55' | Dia. 3 1/2"
Boring No. B-10 | Station & Offset 221+24, 58' Rt (FORWARD ABUTMENT) | Surface Elev. 1001.7'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W. C.	SHTL Class.
1001.7	0														
	2														
999.2	4	20/32			Brown Silty Gravelly Sand	1	23	10	36	11	20	NP	NP	14	
996.7	6	15/25			Brown Silty Sand	2	0	17	65	9	9	NP	NP	10	
994.2	8	13/14			Brown Silty Gravelly Sand	3	23	20	27	20	10	NP	NP	16	
991.7	10	6/10			Brown Gravelly Silt	4	16	5	8	47	24	NP	NP	19	
989.2	12														
	14				No Sample Recovered - Hole caved - Gray Silty Sand (Driller's Description)			V	I	S	U	A	L		
986.7	16	8/12			Gray Sandy Silt	5	11	9	22	44	14	NP	NP	14	
984.2	18	15/16			Gray Sandy Silt	6	4	6	28	50	12	NP	NP	14	
981.7	20	18/27			Gray Silty Gravelly Silt	7	28	7	26	25	14	NP	NP	15	
	22														
	24														
976.7	26	17/28			Gray Silty Gravelly Sand	8	18	15	55	6	6	NP	NP	18	
	28														
971.7	30	20/22			Gray Gravelly Sand	9	35	53	8	4	-	NP	NP	12	
	32														
	34														
966.7	36	13/13			Gray Sand (Wash Sample)	10		V	I	S	U	A	L		
	38														
961.7	40														
	42	12/15			Gray Sand (Wash Sample)	11		V	I	S	U	A	L		
	44														
956.7	46	14/17			Gray Gravelly Silt	12	22	5	6	39	28	NP	NP	13	
	48														
951.7	50	14/20			Gray Silty Sandy Gravel	13	57	12	13	9	9	NP	NP	11	
	52														
	54														
946.7	56	50/*			Gray Sandy Silt with Gravel and Stone Fragments	14		V	I	S	U	A	L	6	
	58														
941.7	60				(Driller's Description) No Sample Recovered- Gray Gravel and Stone Fragments			V	I	S	U	A	L		
					BOTTOM OF BORING										

*REFUSAL

LOG OF BORING

Date Started 10-10-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 10-15-63 | Casing: Length 65' | Dia. 3 1/2"
Boring No. B-11 | Station & Offset 221+20, 8' Rt (FORWARD ABUTMENT) | Surface Elev. 1000.8'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W. C.	SHTL Class.
1000.8	0														
	2														
998.3	4	11/14			Brownish-Gray Sandy Silt	1	12	7	30	31	20	NP	NP	14	
995.8	6	6/10			Brown and Gray Clayey Silt	2	0	3	15	51	31	25	7	21	
993.3	8	9/8			Brown Silty Sand	3	0	22	57	13	8	NP	NP	17	
990.8	10	9/11			Brown Sand (Wash Sample)	4		V	I	S	U	A	L		
988.3	12														
	14	6/8			Brown Sand (Wash Sample)	5		V	I	S	U	A	L		
985.8	16	6/12			Grayish-Brown Sandy Silt	6	13	6	17	40	24	NP	NP	19	
983.3	18	23/23			No Sample Recovered - Gray Gravel and Cobbles (Driller's Description)			V	I	S	U	A	L		
980.8	20	6/9			Gray Gravel	7		V	I	S	U	A	L		
	22														
	24														
975.8	26	15/13			Gray Gravelly Silt	8	31	1	11	48	9	NP	NP	18	
	28														
970.8	30	12/14			Gray Gravelly Sand	9	39	30	21	5	5	NP	NP	10	
	32														
	34														
965.8	36	7/10			No Sample Recovered - Sand Upheaved 3' in casing										
	38														
960.8	40				No Sample Recovered - Sand Upheaved 5' in casing										
	42														
	44														
955.8	46	8/12			Gray Silty Sandy Gravel	10	43	8	9	27	13	NP	NP	12	
	48														
950.8	50	19/44			Gray Silty Sandy Gravel	11	68	10	7	9	6	NP	NP	10	
	52														
	54														
945.8	56	15/75			Gray Silty Sandy Gravel	12		V	I	S	U	A	L	11	
	58														
940.8	60	50/*			Gray Silty Sandy Gravel	13	55	15	11	-19	-	NP	NP	14	
	62														
	64														
935.8	66	26/41			Gray Sand (Wash Sample)	14		V	I	S	U	A	L		
	68														
930.8	70	50/*			Gray Sandy Gravel	15	53	12	31	4	-	NP	NP	10	
	72														
	74														
925.8	75	50* (0.7')			Brown and Gray Silt with Stone Fragments	16		V	I	S	U	A	L	38	
925.1					BOTTOM OF BORING										

*REFUSAL

3

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

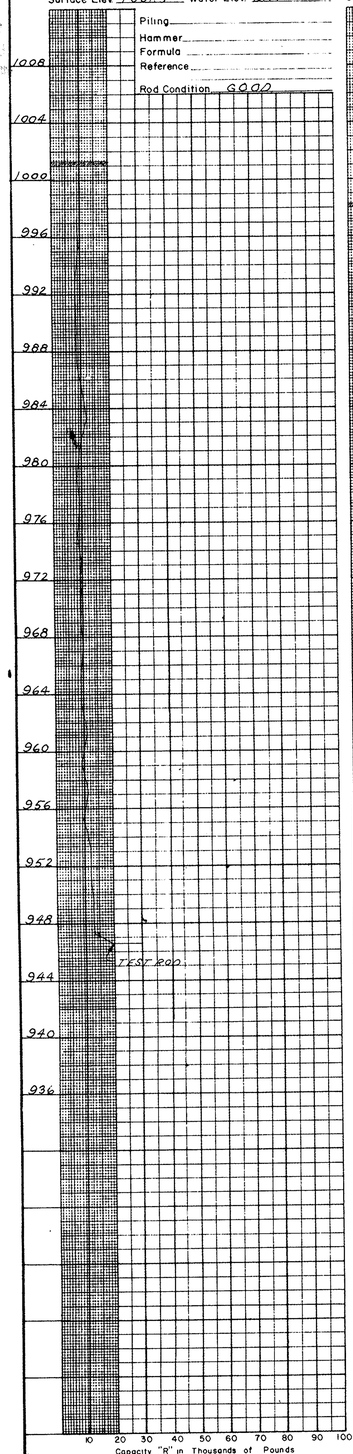
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0071
OVER GLENMONT AVE.
SEC.

BORING DATA

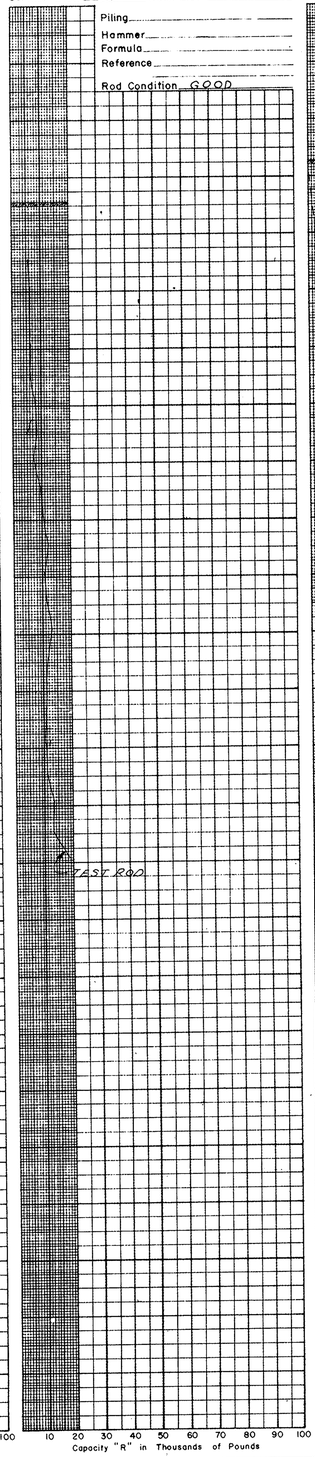
TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.J.T.	W.D.E.	G.A.K.	1-8-64

MAY 25

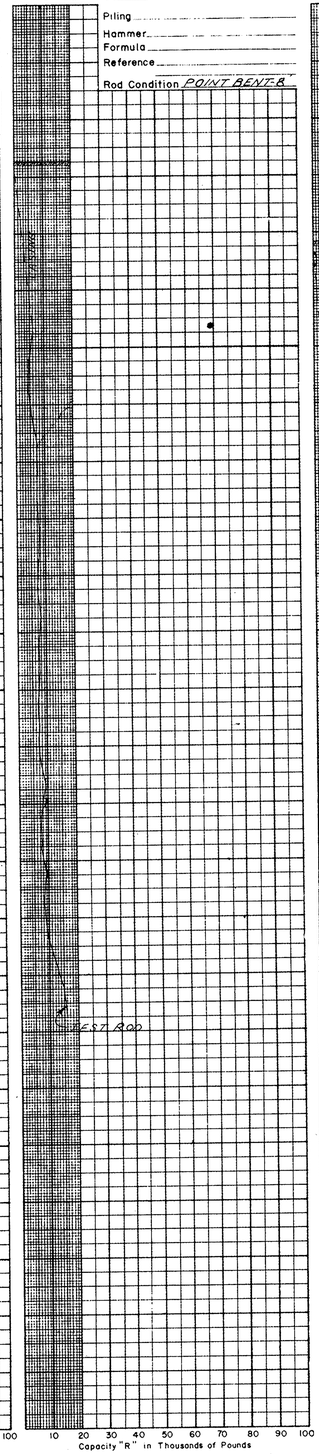
Test Location No. 2
Station & Offset 220+20 C.L. REAR ABUTMENT
Surface Elev. 1001.3 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD



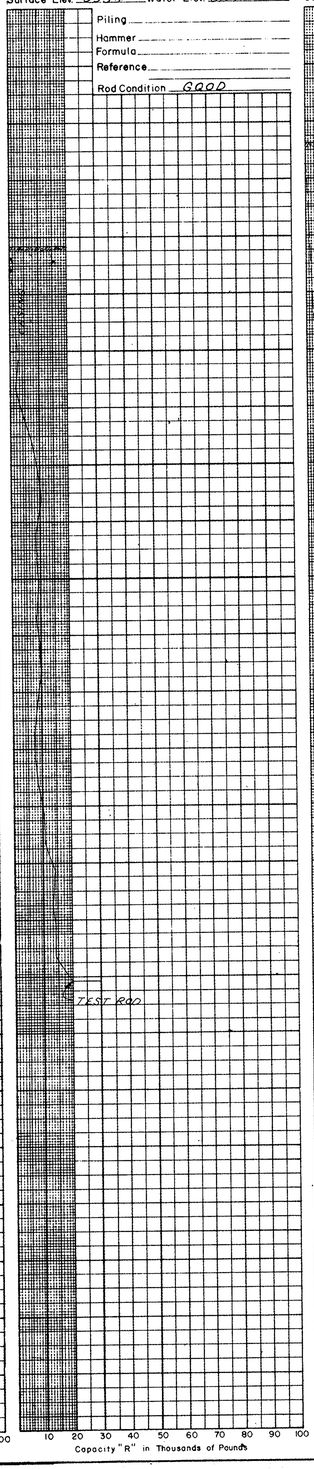
Test Location No. 3
Station & Offset 220+31.5 7'LT. REAR ABUTMENT
Surface Elev. 998.3 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD



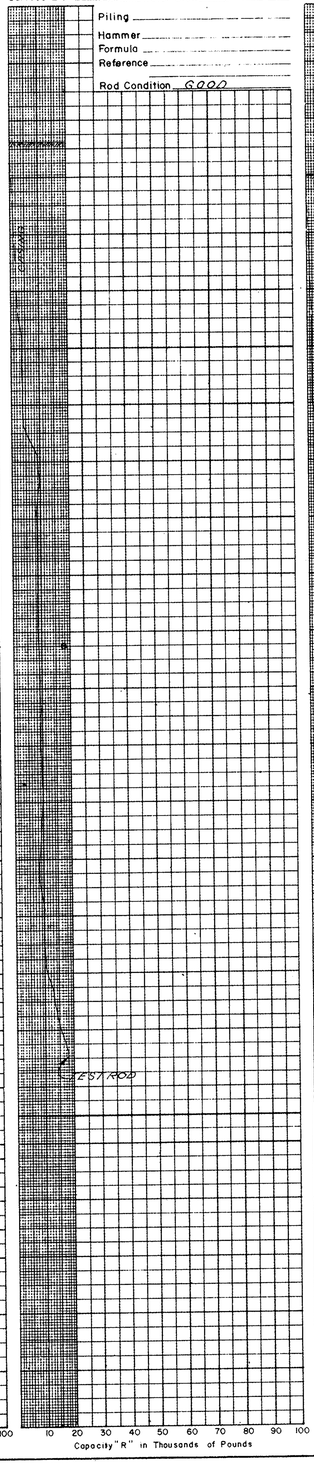
Test Location No. 4
Station & Offset 220+45.5 7'RT. REAR PIER
Surfdce Elev. 1001.1 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition POINT BENT-B



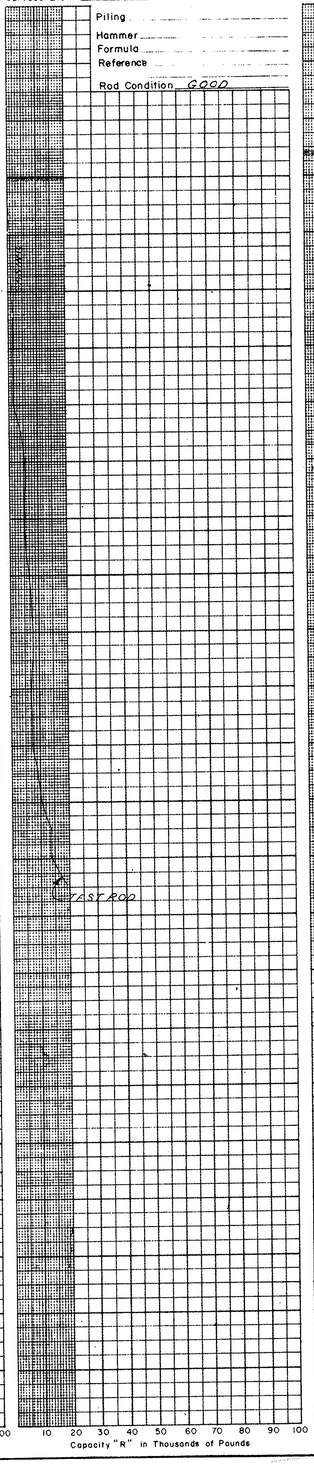
Test Location No. 6
Station & Offset 220+69.5 7'LT
Surface Elev. 995.4 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD



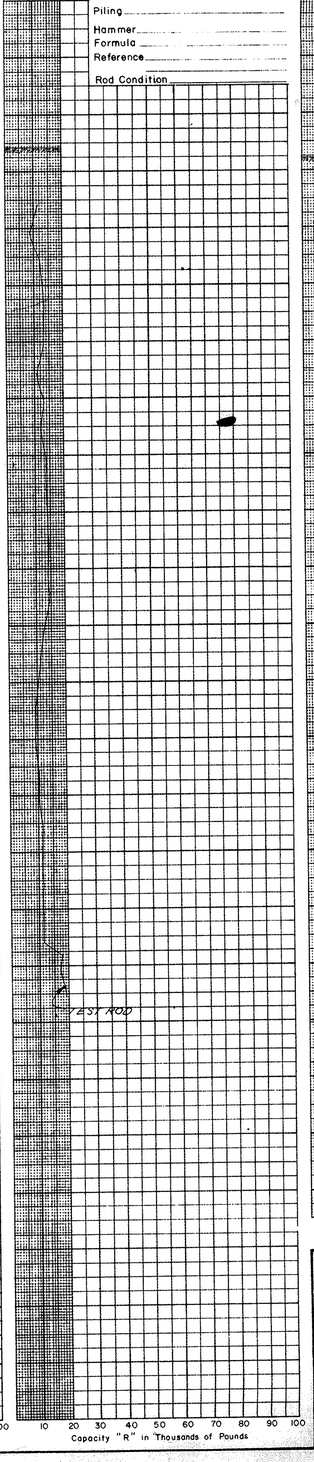
Test Location No. 7
Station & Offset 220+88.5 7'RT FORWARD PIER
Surface Elev. 1002.5 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD



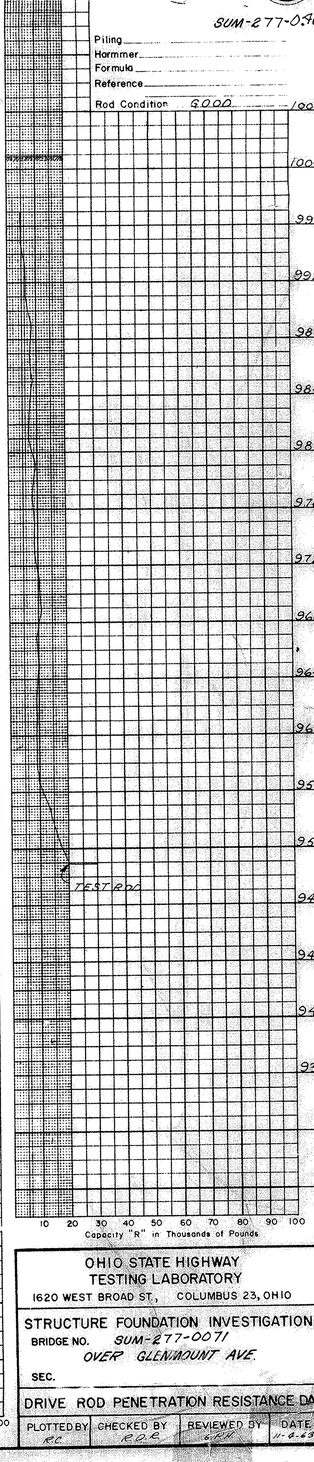
Test Location No. 9
Station & Offset 221+12 7'LT FORWARD PIER
Surface Elev. 1000.1 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition GOOD



Test Location No. 10
Station & Offset 221+24 7'RT FORWARD ABUTMENT
Surface Elev. 1001.7 Water Elev. DRY
Piling
Hammer
Formula
Reference
Rod Condition



Test Location No. 11
Station & Offset 221+37 C.L. FORWARD ABUTMENT
Surface Elev. 1000.9 Water Elev. DRY
SUM-277-0096
Piling
Hammer
Formula
Reference
Rod Condition GOOD



OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SUM-277-0071
OVER GLENMOUNT AVE.
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
RC	COE	[illegible]	11-6-63