FED. RD DIVISION	STATE	PROJECT	
	OHIO	SU-242 (2)	

1/187

HAMILTON COUNTY OR 453-B

Red 359

1 – 100

SU-242 (2)

CONVENTIONAL SIGNS

SECTION LINE
TOWNSHIP LINE
CENTER LINE
CORPORATION LINE
FENCE LINE
GUARD RAIL-EXISTING
GUARD RAIL-PROPOSED
RAILROAD
POWER POLES
TELEPHONE POLES
TREES OR STUMPS-EXISTING
TREES OR STUMPS-TO BE REMOVED
EXISTING R/W
PROPOSED R/W

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
HAM-CR-453B
GRADE SEPARATION WITH PENNSYLVANIA RAILROAD, CITY OF READING, VILLAGE OF AMBERLEY AND CITY OF BLUE ASH
SYCAMORE TOWNSHIP
HAMILTON COUNTY

1963 SPECIFICATIONS

We the Commissioners of Hamilton County, in formal session hereby approve these plans and certify that the necessary right-of-way is available. We agree to maintain the project in a manner satisfactory to the Director of Highways, State of Ohio, or his duly authorized representative and will make ample provision each year for such maintenance done under authority of Section 5535.02 et. seq. and 5535.01 of the revised Code of Ohio.
BOARD OF COMMISSIONERS

APRIL 4, 1963
Date

HAMILTON COUNTY
Irwin Fleischmann
Jos. L. McCann Jr.
Vincent A. Boeckman

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

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

Approved George M. Hummel — County Engineer
Date 4/3/63

Approved J. P. Cooke — Division Deputy Director
Date 4-7-63

Approved D. A. Overmans — Engineer of Bridges
Date 4-5-63

Approved R. N. Ricketts — Engineer of Location and Design
Date 4-9-63

Approved O. E. Hamlet — Deputy Director of Design & Construction
Date 4-9-63

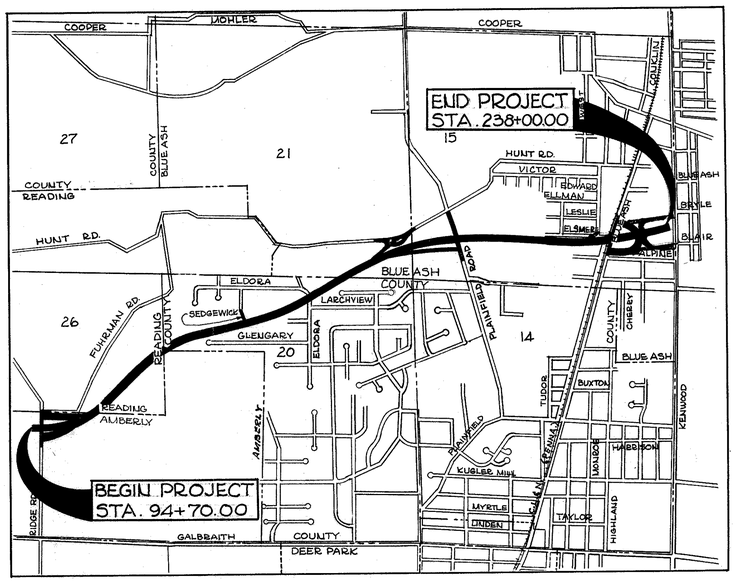
Approved T. H. Bovard — Deputy Director of Right of Way
Date 4-5-63

Approved J. W. Wilson — Deputy Director of Planning & Programing
Date 4-11-63

Approved _____ — First Assistant Director
Date _____

Approved 4/11/63 P. S. Mahin — Director of Highways
Date _____

INDEX OF SHEETS



LOCATION MAP

SCALE OF MILES
¼ 0 ⅛ ¼ ½ 1

Portion to be improved
Federal Highways
State Highways
Other Roads

LINE DATA

Begin Project Sta. 94+70.00
End Project Sta. 238+00.00
Add for Sta. Equation Sta. 202+45.23 Back = 202+39.22 Ahead
Total Length of Project — 14,330.00 Lin. Ft.
6.01 Lin. Ft.
14,336.01 Lin. Ft. = 2.715 miles

Add For Approaches:
Ridge Rd. Sta. 6+47 to Sta. 13+44 — 697.00 Lin. Ft.
Hunt Rd. Sta. 10+50 to Sta. 19+00 — 850.00 Lin Ft.
Plainfield Rd. Sta. 3+18.55 to Sta. 13+30 — 1011.45 Lin. Ft.
Blue Ash Rd. Sta. 4+68.73 to Sta. 14+40 — 971.27 Lin. Ft.
End of Project Sta. 238+00 to Sta 242+75 — 475.00 Lin. Ft.
Total Length of Work — 18,340.73 Lin. Ft. = 3.473 Miles

SCALES

Plan	1" = 50'
Profile-Horizontal	1" = 50'
Profile-Vertical	1" = 10'
Cross Sections	1" = 10'
Approaches & Intersections	1" = 20' & 1" = 50'

DELIVERY POINT

Pennsylvania Railroad, Blue Ash
Average Length of Haul 1¼ Miles

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

B.T. 70-71	11-15-60	I-8 C.B. No. 3	2-1-63	L-3	4-1-50	AR-1-57	4-2-62
B.T. 71-R	3-2-53	I-8 C.B. No. 3-A	2-1-63	L-3-A	4-1-50	C.S.B.-2-56 Sh 263	2-2-50
Dr-1	1-3-55	I-8 M.H. No. 1	2-1-63	L.J. No. 1	7-1-55	I-8 C.B. No. 7	2-1-63
I-8 M.H. No. 1A	2-1-63	I-8 M.H. No. 2	2-1-63	RI-1	7-15-58	FACI-1	3-8-63
G.-7.07	6-1-56	I-12	2-1-63	HW-E	2-1-63	FACI-2	3-8-63
I-1	11-15-60	I-15 No. 1	11-15-60	HW-D	11-15-60	SP-53	6-30-61
I-8 C.B. 2-2-AEB	2-1-63	I-15 No. 2-A	8-17-60	T-35	1-2-56	AS-1-54	7-5-62
I-8 C.B. 2-3 & 2-A	2-1-63	I-21-23	8-1-56	T.J.	9-12-60	I-8 C.B. No. 8	2-1-63

SUPPLEMENTAL SPECIFICATIONS

L-120	Rev.	1-2-62
S-101		7-12-62
S-107	Rev.	2-16-55
I-212	Rev.	6-23-61

PLANS PREPARED BY
SHAW, LENZ, & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:

DIVISION ENGINEER _____ DATE _____

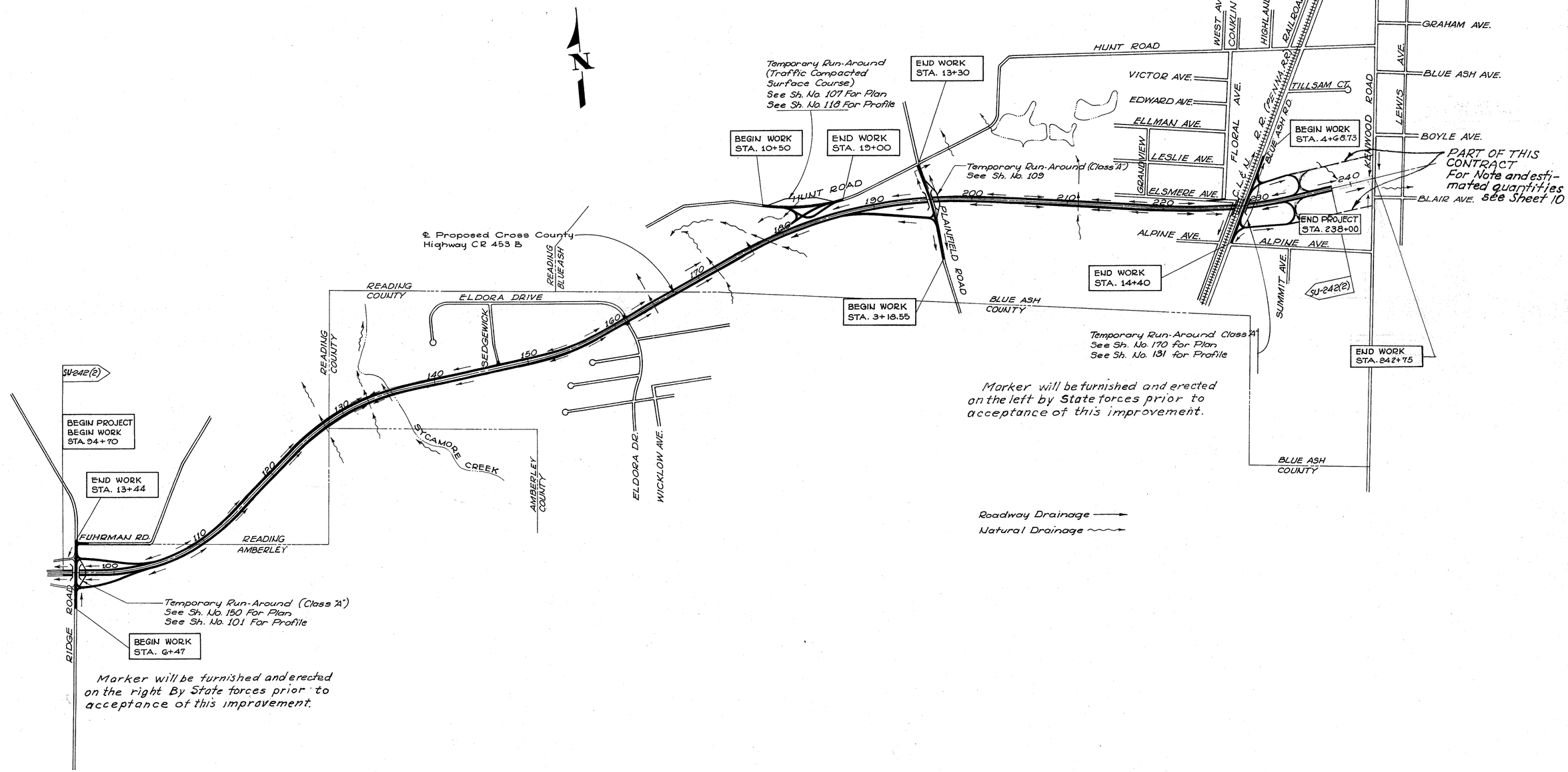
Rev. 4-17-63

FILE No.	HAMILTON COUNTY-CR-453B
	Date of Letting
	Contract No.

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

2
187

HAMILTON COUNTY C.R. 453-B



SCALE: 1"=500'

SCHEMATIC PLAN

Rev. 4-17-63

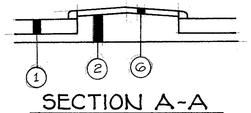
FED. AID DIVISION	STATE	PROJECT		3 / 187
	OHIO			

HAMILTON COUNTY C.R. 453-B

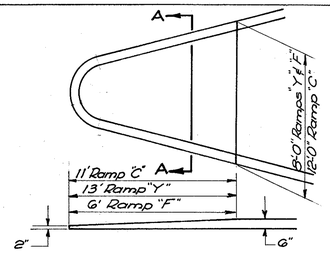
TYPICAL SECTIONS

TYPE T-71

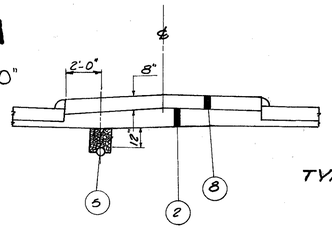
SCALE: 1/4" = 1'-0"



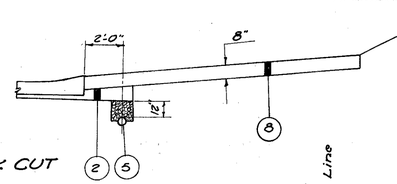
SECTION A-A



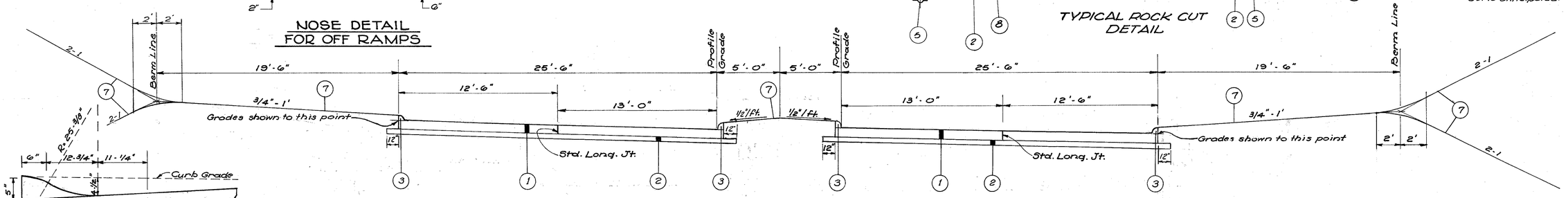
NOSE DETAIL FOR OFF RAMPS

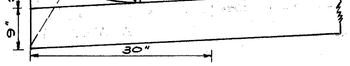


TYPICAL ROCK CUT DETAIL

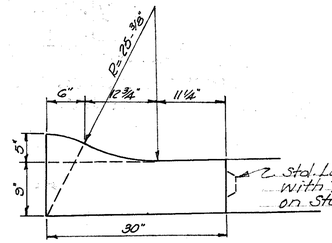


Note:
① For location of Rock Cut See notes under Typical Sections
② 8" Topsoil to be carried from edge of mainline curb to edge of curb on Ramps C & D in Ridge Road Interchange where Rock Cut is anticipated.





TYPICAL SECTION OF TYPE 3A MODIFIED CURB



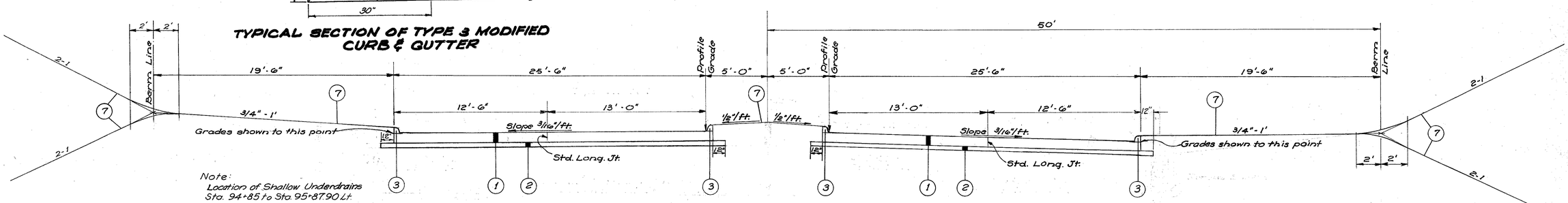
SUPERELEVATED SECTION

Sta. 95+87.90 to Sta. 105+19.00

Note:
Rock Cut is Anticipated from Sta. 94+86 to 105+19 (See detail this sheet)

Note:
Location of Shallow Underdrains
Sta. 95+87.90 to Sta. 101+50 Lt.
Sta. 96+50 to Sta. 105+19 Ctr.
Sta. 101+31.68 to Sta. 105+19 Lt.

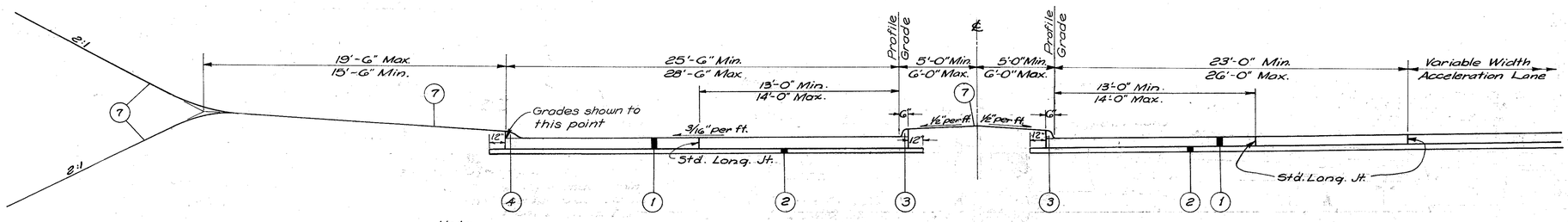
TYPICAL SECTION OF TYPE 3 MODIFIED CURB & GUTTER



Note:
Location of Shallow Underdrains
Sta. 94+85 to Sta. 95+87.90 Lt.

NORMAL SECTION

Sta. 94+70.00 to Sta. 95+87.90



Note
Location of Shallow Underdrains
Sta. 105+19 to Sta. 105+80 Ctr.
Sta. 105+19 to Sta. 105+80 Lt.

TRANSITION SECTION

Sta. 105+19.00 to Sta. 107+19.00

Note:
Rock Cut is Anticipated from Sta. 105+19.00 to Sta. 105+80 (See detail this sheet)

LEGEND

(1)	T-71	9" Reinforced Portland Cement Concrete Pavement
* (2)	I-22	6" Subbase "C" or "D"
(3)	I-12	Standard Type 2-A Curb
(4)	I-12	Type 3-A Curb Modified
* (5)	I-1	6" Pipe Underdrain Class I-3
(6)	I-21	4" Concrete Paved Median, Type I
(7)	L-9	Seeding and Protecting
(8)	L-3	Placing Stockpiled Topsoil. (8" Deep)

* I-22 to be 15" deep from Sta. 190+00 to Sta. 198+00
*Shallow Underdrains in Rock Cut to be Sec. M-6.4 h pipe

Note:
Refer to Std. Dwg. RI-1 for details not shown.

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN I
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AV
SCALE: 1/4" = 1'-0"

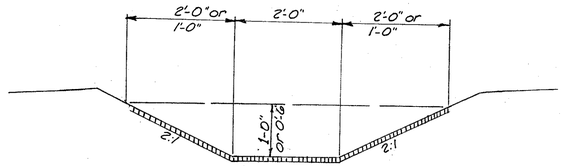
GEORGE M. LEMMEL — HAMILTON CO. ENG

TYPICAL SECTIONS

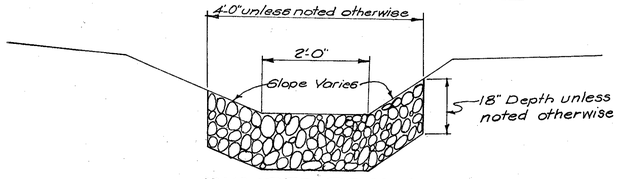
FED. ROAD DIVISION	STATE	PROJECT		4
	OHIO			187

HAMILTON COUNTY CR 453-B

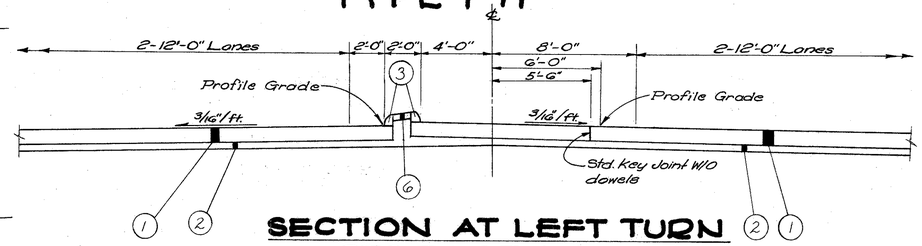
TYPICAL SECTIONS
TYPE T-71



SPECIAL DITCH SOD PLACEMENT DETAIL



DUMPED ROCK DITCH LINING PLACEMENT DETAIL

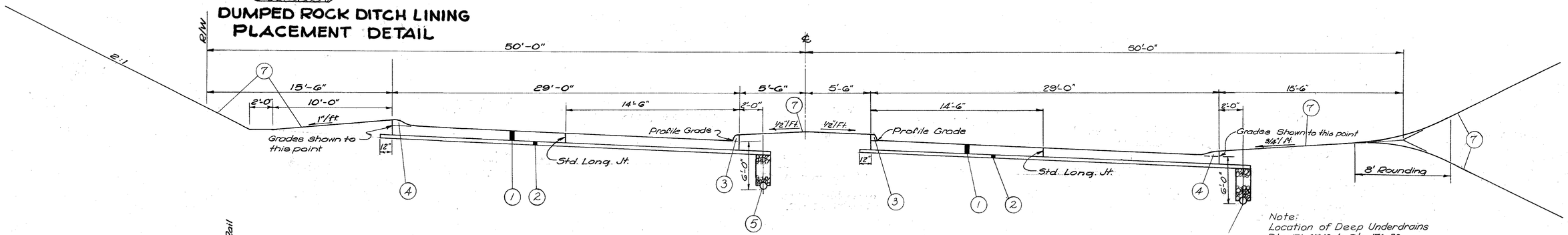


SECTION AT LEFT TURN STORAGE LANE

Sta. 156+75.20 to Sta. 160+75.20
Sta. 161+71.20 to Sta. 165+71.20

LEGEND

Note:
See Sheet No 3 for Legend

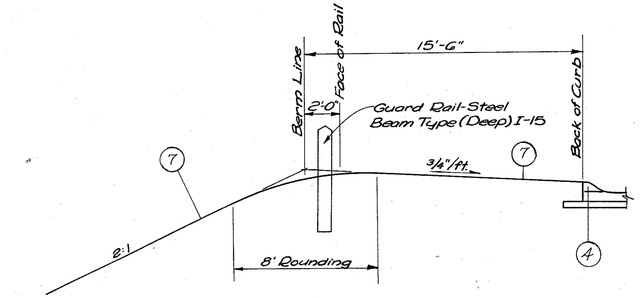


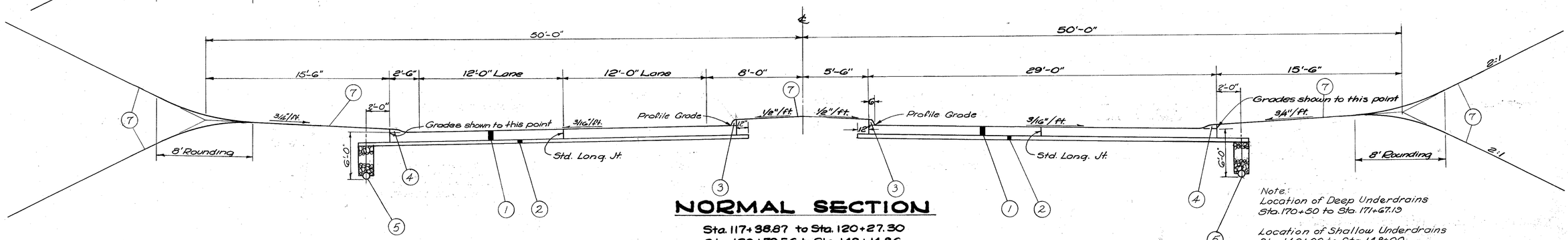
SUPERELEVATED SECTION

Sta. 107+19.00 to Sta. 117+38.87
Sta. 120+27.30 to Sta. 139+79.56
Sta. 148+14.86 to Sta. 160+70.08
Sta. 171+67.19 to Sta. 204+12.25
Sta. 218+76.00 to Sta. 235+87.64
Note: Rock Cut is Anticipated from:
Sta. 122+00 to Sta. 124+80
Sta. 226+00 to Sta. 233+50
(See detail Sheet 3)

Note:
Location of Deep Underdrains
Sta. 171+67.19 to Sta. 176+50
Sta. 183+50 to Sta. 202+00

Note:
Location of Shallow Underdrains
Sta. 122+00 to Sta. 124+80
Sta. 226+00 to Sta. 233+50





NORMAL SECTION

Sta. 117+38.87 to Sta. 120+27.30
Sta. 139+79.56 to Sta. 148+14.86
Sta. 160+70.08 to Sta. 171+67.19
Sta. 204+12.25 to Sta. 218+76.00
Sta. 235+87.64 to Sta. 242+41.39
Note: Rock Cut is Anticipated from
Sta. 140+00 to Sta. 148+00
(See detail - Sheet 3)

Note:
Location of Deep Underdrains
Sta. 170+50 to Sta. 171+67.19

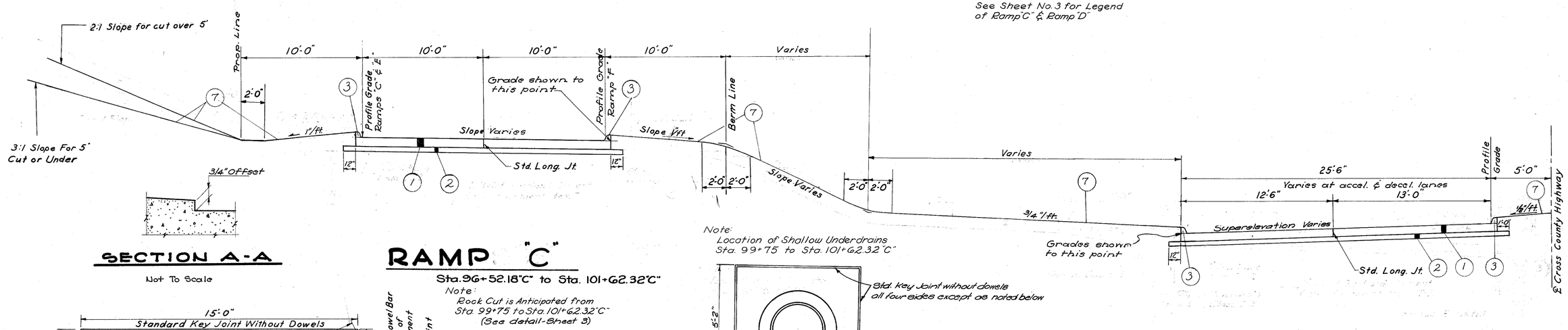
Location of Shallow Underdrains
Sta. 140+00 to Sta. 148+00

Note:
Refer to Std. Dwg. E2-1 for details not shown.

FED. RD DIVISION	STATE	PROJECT		5
	OHIO			187

HAMILTON COUNTY C.R. 453-B

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



3/4" Offset

SECTION A-A
Not To Scale

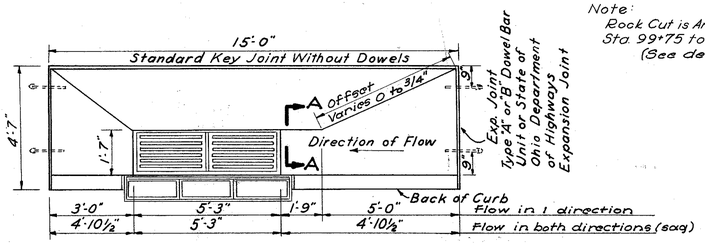
LEGEND

Note:
See Sheet No. 3 for Legend of Ramp "C" & Ramp "D"

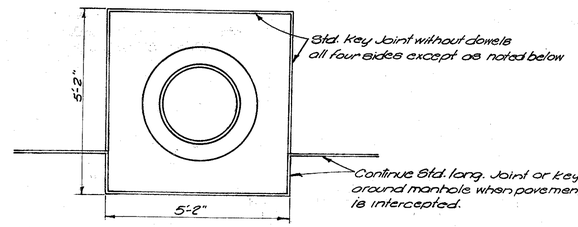
RAMP "C"
Sta. 96+52.18"C" to Sta. 101+62.32"C"

Note:
Rock Cut is Anticipated from Sta. 99+75 to Sta. 101+62.32"C"
(See detail-Sheet 3)

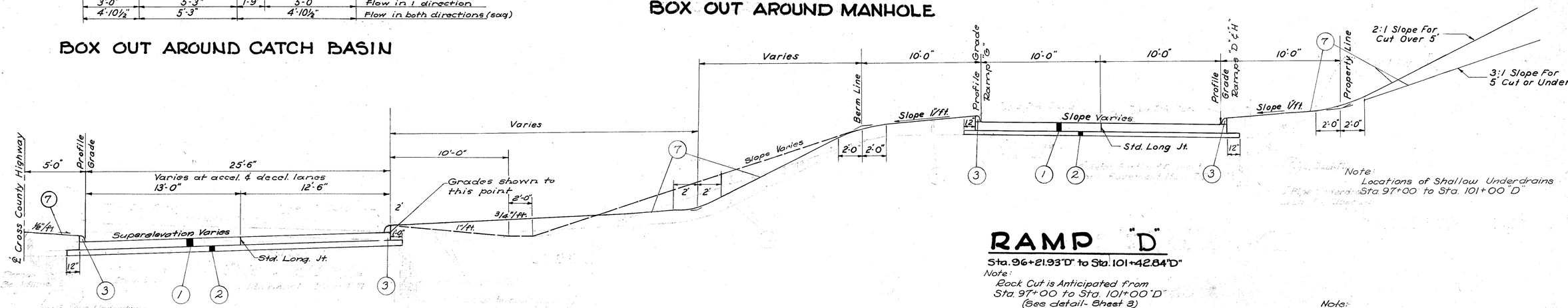
Note:
Location of Shallow Underdrains Sta. 99+75 to Sta. 101+62.32"C"



BOX OUT AROUND CATCH BASIN



BOX OUT AROUND MANHOLE



Note:
Locations of Shallow Underdrains Sta. 97+00 to Sta. 101+00 "D"

RAMP "D"
Sta. 96+21.93"D" to Sta. 101+42.84"D"

Note:
Rock Cut is Anticipated from Sta. 97+00 to Sta. 101+00 "D"
(See detail- Sheet 3)

Note:
Refer to Std. Dwg. R1-1 for details not shown.

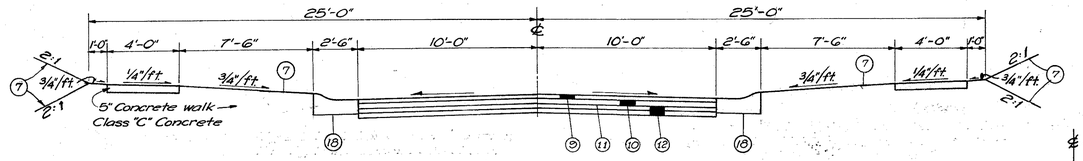
PROPOSED IMPROVEMENT
CROSS COUNTY HIGHWAY
FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: 1/4" = 1'-0"

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

TYPICAL SECTIONS

TYPICAL SECTIONS
TYPE T-71

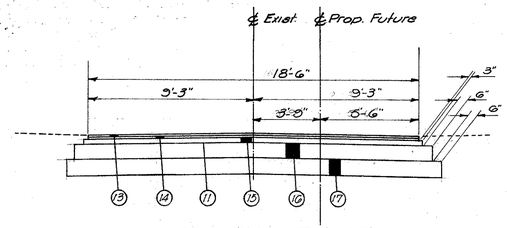
SCALE: 1/4" = 1'-0"



SEDGEWICK DRIVE TYPICAL SECTION

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

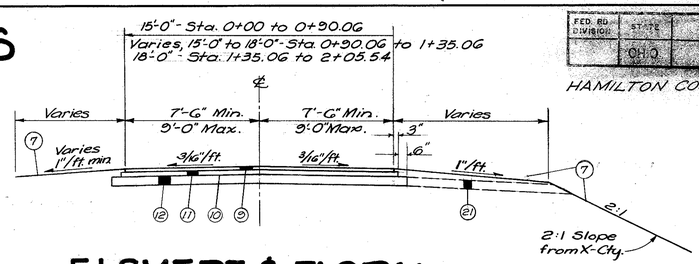
Sta. 0+34.50 to Sta. 2+51.89



FUHRMAN ROAD TYPICAL SECTION

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

Sta. 0+22 to Sta 1+25

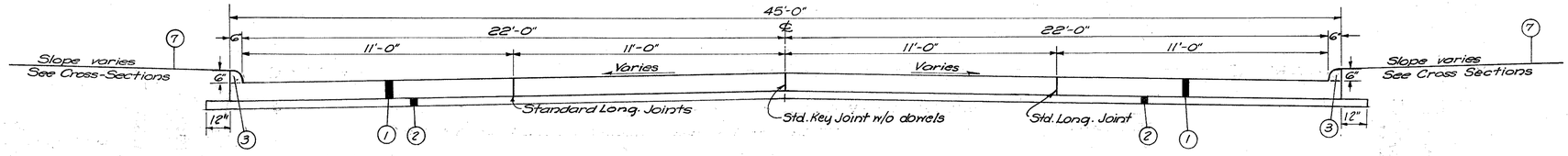


ELSMERE & FLORAL TYPICAL SECTION

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

Sta. 0+00 to Sta. 2+05.54

Note: Turnouts at Eldora Drive to be same composition as X-Cty. See sheet no. 104 for Geometry and Elevations.



LEGEND

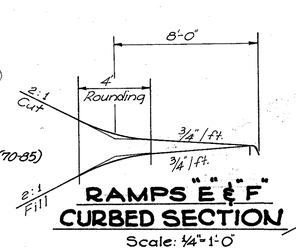
(1) T-71 9" Reinforced Portland Cement Concrete Pavement
(2) I-22 6" Subbase ("C" or "D")
(3) I-12 Standard Type 2-A Curb
(4) I-12 Standard Type 3-A Curb Modified
(5) I-1 6" Pipe Class I-3
(6) I-21 4" Concrete Paved Median, Type 1
(7) L-9 Seeding & Protecting
(8) L-3 Placing Stockpiled Topsoil (6" Deep)
* (9) T-35 2" Asphaltic Concrete Surface Course, Type A (70-85)
* (10) B-35 3" Asphaltic Concrete Leveling Course (70-85)
(11) T-30 Bituminous Prime Coat @ 0.4 gal./S.Y. M-5.7 or RT 2 or RT 3
(12) B-19 6" Aggregate Base Course
* (13) T-35 1 1/2" Asphaltic Concrete Surface Course Type A (70-85)
* (14) B-35 1 1/4" Asphaltic Concrete Leveling Course (70-85)
* (15) B-35 3" Asphaltic Concrete Base Course
(16) B-19 10" Aggregate Base Course
(17) I-22 11" Subbase ("C" or "D")
(18) I-12 Standard Type 3 Modified Comb. Curb and Gutter
* (19) T-35 6" Asphaltic Concrete Surface Course Type A (70-85) 2-3" Courses.
(20) I-18 5" Stabilized Crushed Aggregate Shoulders.
(21) I-9 Stone Underdrains No. 2

* Thicknesses shown are "designed" thicknesses as described in Sections T-35.01 and B-35.01

RIDGE ROAD TYPICAL SECTION

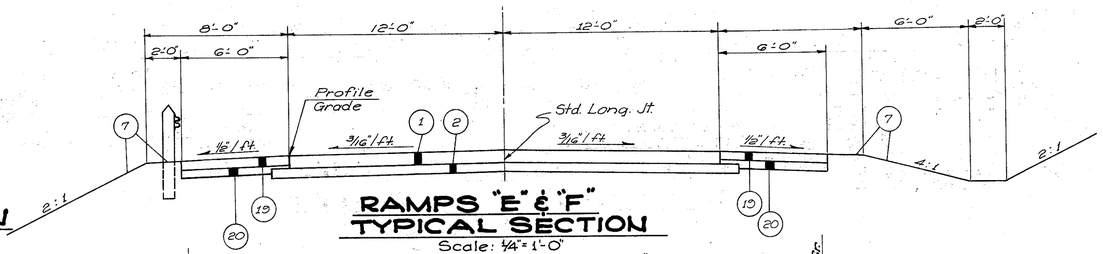
Scale: 3/8" = 1'-0"

Sta. 6+47.00 to Sta. 9+04.08
Sta. 10+95.72 to Sta. 13+43.50



RAMPS "E" & "F" CURBED SECTION

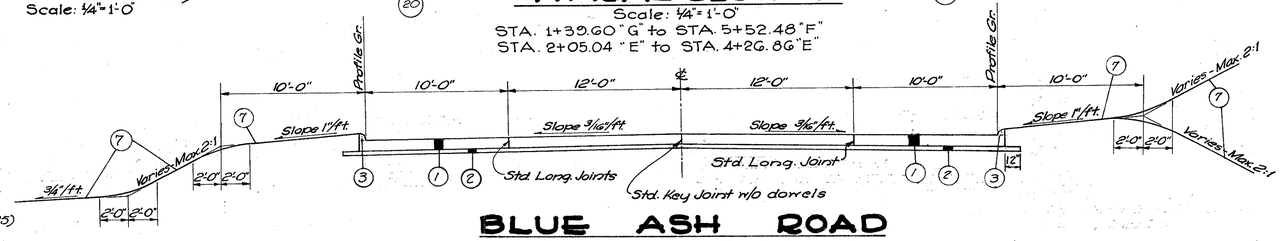
Scale: 1/4"=1'-0"



RAMPS "E" & "F" TYPICAL SECTION

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

STA. 1+39.60 "G" to STA. 5+52.48 "F"
STA. 2+05.04 "E" to STA. 4+26.86 "E"



BLUE ASH ROAD TYPICAL SECTION

Scale: 1" = 5'-0"

Sta. 4+68.73 to Sta. 8+87.10
Sta. 11+06.98 to Sta. 14+40±

JOINT LEGEND

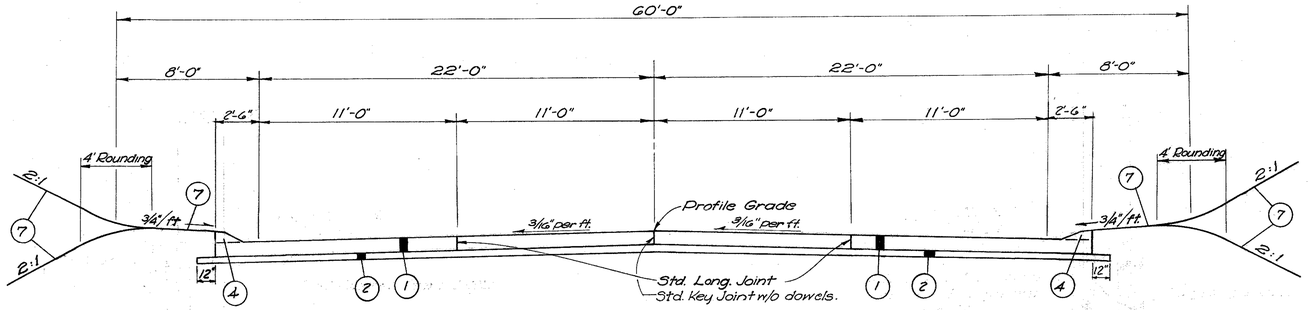
——— or (1) Std. Longitudinal Joint
——— or (2) Std. Long. Key Jt. w/ Tie Bars
——— or (3) Expan. Jt. w/ dowels
═══ or (4) Std. Expansion Jt.
– – – – or (5) Std. Contract. Jt.

Note: Refer to Std. Dwg. R1-1 for details not shown.

TYPICAL SECTIONS
TYPE T-71

FED. RD. DIVISION	STATE	PROJECT		7
	OHIO			87

HAMILTON COUNTY C.R. 453-B

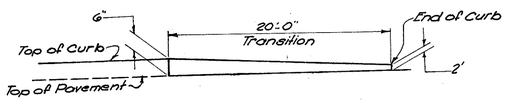


NORMAL SECTION

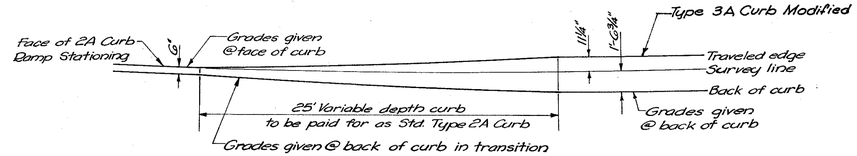
PLAINFIELD ROAD
Scale: 1/4" = 1'-0"
Sta. 6+46.59 to Sta. 8+63.42
Sta. 10+72.52 to Sta. 13+30 ±

LEGEND

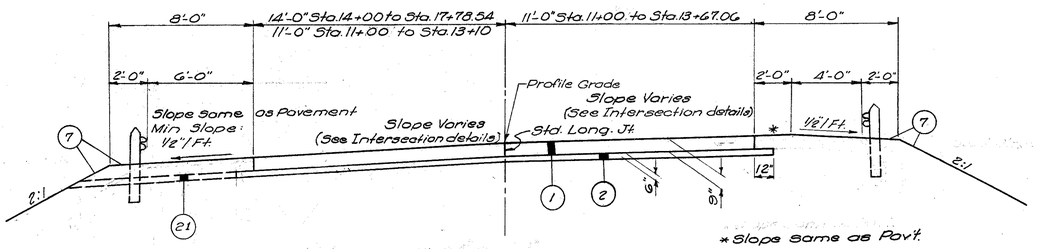
Note:
See Sheet No. 6



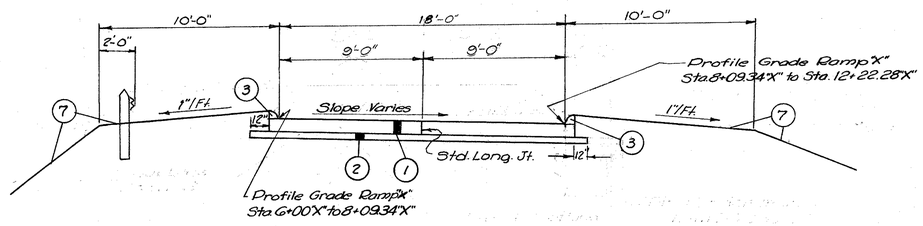
TYPICAL CURB TRANSITION
Not to Scale



TYPICAL CURB TRANSITION
AT INTERCHANGES
Scale: 1"=5'-0"

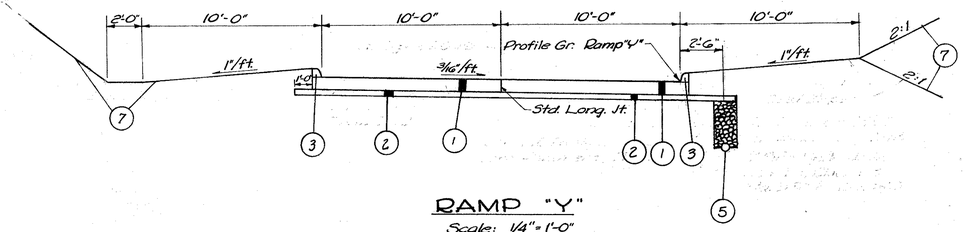


HUNT ROAD
Sta. 11+00.00 to Sta. 17+78.54
Scale: 1/4" = 1'-0"



RAMP "X"
Scale: 1/4" = 1'-0"
Sta. 6+00 to Sta. 10+11.53

Note: Typical Section for E.B. Hunt Road is Similar to Ramp X. Width face to face of Type 2-A curbs varies from 14'-0" to 22'-0". Sta. 0+00 E.B.H. to Sta. 4+69.56 E.B.H. (See intersection details)



RAMP "Y"
Scale: 1/4" = 1'-0"
Sta. 2+68.85 to Sta. 10+80.25

Note:
Location of Deep Underdrain
Sta. 2+80 to Sta. 10+00

Note:
Refer to Std. Drwg. R1-1 for details not shown.

PROPOSED IMPROVEMENT
CROSS COUNTY HIGHWAY
FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE)
SCALE: 1"=20'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

TYPICAL SECTIONS

SUPERELEVATION TABLES

D_c = 3°-00′ — S=0.049 ft/ft

Max. Superelevation for 28.5=1.25′

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WEST BOUND LANES ℄	WEST BOUND LANES Outer edge
95+87.90	779.21	779.01	778.81	779.01	778.81
96+00	779.40	779.22	779.03	779.20	779.00
+25	779.80	779.64	779.49	779.60	779.40
+50	780.20	780.08	779.96	780.00	779.80
+75	780.60	780.51	780.42	780.40	780.20
97+00	781.00	780.94	780.88	780.80	780.60
+25	781.40	781.38	781.37	781.20	781.00
+47.26	781.76	781.76	781.76	781.56	781.36
+50	781.80	781.81	781.81	781.60	781.40
+75	782.20	782.27	782.34	782.00	781.80
98+00	782.60	782.74	782.88	782.40	782.20
+25	783.00	783.20	783.39	782.80	782.57
+26.94	783.03	783.23	783.43	782.83	782.60
+50	783.40	783.66	783.91	783.14	782.89
P.C. 98+72.21	783.76	784.08	784.38	783.44	783.14
+75	783.80	784.13	784.44	783.47	783.16
99+00	784.20	784.59	784.96	783.81	783.44
+25	784.60	785.09	785.49	784.15	783.71
+50	785.00	785.51	786.01	784.49	784.99
+75	785.40	785.98	786.54	784.82	784.26
+97.16	785.75	786.49	787.00	785.11	784.50
100+00	785.80	786.44	787.05	785.16	784.55
+25	786.20	786.84	787.45	785.56	784.95
+50	786.60	787.24	787.85	785.96	785.35
+75	787.00	787.64	788.25	786.36	785.75
101+00	787.40	788.04	788.65	786.76	786.15
See 20	Scale	Interchange	Detail	Sheet No.	
107+25	797.07	797.76	798.47	796.38	795.67
+50	797.22	797.91	798.62	796.53	795.82
+75	797.29	797.98	798.69	796.60	795.89
108+00	797.29	797.98	798.69	796.60	795.89
+25	797.22	797.91	798.62	796.53	795.82
+50	797.08	797.77	798.48	796.39	795.68
+75	796.86	797.55	798.26	796.17	795.46
109+00	796.57	797.26	797.97	795.88	795.17
+25	796.21	796.90	797.61	795.52	795.81
+50	795.78	796.47	797.10	795.09	794.38
+75	795.27	795.96	796.67	794.58	793.87
110+00	794.69	795.38	796.09	794.00	793.29
+25	794.04	794.73	795.44	793.35	792.64
+50	793.32	794.01	794.72	792.63	791.92
+75	792.56	793.25	793.96	791.87	791.16
111+00	791.80	792.49	793.20	791.11	790.40
+25	791.04	791.73	792.44	790.35	789.64
+50	790.28	790.97	791.68	789.59	788.88
+75	789.52	790.21	790.92	788.83	788.12
112+00	788.76	789.45	790.16	788.07	787.36
+25	788.00	788.69	789.40	787.31	786.60
+50	787.24	788.93	788.64	786.55	785.84
+75	786.48	787.17	787.88	785.79	785.08
+81.45	786.28	786.97	787.68	785.59	784.88
113+00	785.72	786.36	787.02	785.08	784.42
+25	784.96	785.54	786.14	784.38	783.78
+50	784.20	784.72	785.25	783.68	783.15
+75	783.44	783.90	784.37	782.98	782.51
114+00	782.68	783.07	783.48	782.29	781.88
P.T. 114+21.10	782.04	782.38	782.74	781.70	781.34
+25	781.92	782.25	782.60	781.59	781.24
+50	781.16	781.43	781.71	780.89	780.60

Continued

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
114+71.69	780.50	780.72	780.95	780.28	780.05
+75	780.40	780.61	780.82	780.18	779.92
115+00	779.64	779.79	779.94	779.42	779.19
+25	778.88	778.96	779.05	778.66	778.43
+50	778.12	778.14	778.17	777.90	777.67
+60.75	777.79	777.79	777.79	777.57	777.34
+75	777.36	777.34	777.32	777.14	776.91
116+00	776.60	776.55	776.50	776.38	776.15
+25	775.83	775.75	775.67	775.61	775.38
+50	775.03	774.92	774.80	774.81	774.58
+75	774.21	774.07	773.92	773.99	773.76
117+00	773.36	773.19	773.01	773.14	772.91
+25	772.49	772.29	772.08	772.27	772.04
+38.87	772.00	771.78	771.55	771.78	771.55

D_c = 2°30′ — S=0.041 ft/ft

Max. Superelevation for 28.5=1.17

Station	Profile Grade	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
120+27.30	760.03	759.81	759.58	759.81	759.58
+50	758.95	758.73	758.50	758.76	758.56
+75	757.74	757.52	757.29	757.58	757.41
121+00	756.49	756.27	756.04	756.36	756.23
+25	755.24	755.02	754.79	755.14	755.04
+50	753.95	753.73	753.50	753.88	753.81
+75	752.64	752.42	752.19	752.60	752.56
122+00	751.30	751.08	750.85	751.30	751.29
+05.42	751.01	750.79	750.56	751.01	751.01
+25	749.96	749.74	749.51	750.01	750.06
+50	748.61	748.39	748.16	748.72	748.83
+75	747.28	747.06	746.83	747.45	747.63
+94.48	746.21	745.99	745.76	746.43	746.66
123+00	745.91	745.68	745.44	746.14	746.38
P.C. 123+22.32	744.71	744.42	744.12	745.00	745.30
+25	744.56	744.27	743.96	744.85	745.16
+50	743.21	742.86	742.49	743.56	743.93
+75	741.86	741.44	741.01	742.28	742.71
124+00	740.52	740.05	739.55	740.99	741.49
+25	739.17	738.63	738.07	739.71	740.27
+39.22	738.40	737.83	737.23	738.97	739.57
+50	737.82	737.25	736.65	738.39	738.99
+75	736.47	735.90	735.30	737.04	737.64
125+00	735.12	734.55	733.95	735.69	736.29
+25	733.77	733.20	732.60	734.34	734.94
+50	732.42	731.85	731.25	732.99	733.59
+75	731.07	730.50	729.90	731.64	732.24
126+00	729.73	729.16	728.56	730.30	730.90
+25	728.38	727.81	727.21	728.95	729.55
+50	727.03	726.46	725.86	727.60	728.20
+75	725.68	725.11	724.51	726.25	726.85
127+00	724.34	723.77	723.17	724.91	725.51
+25	722.99	722.42	721.82	723.56	724.16
+50	721.64	721.07	720.47	722.21	722.81
+75	720.29	719.72	719.12	720.86	721.46
128+00	718.95	718.38	717.78	719.52	720.12
+25	717.60	717.03	716.43	718.17	718.77
+50	716.25	715.68	715.08	716.82	717.42
+75	714.90	714.33	713.73	715.47	716.07
129+00	713.55	712.98	712.38	714.12	714.72
+25	712.24	711.67	711.07	712.81	713.41
+50	711.03	710.46	709.86	711.60	712.20
+75	709.90	709.33	708.73	710.47	711.07
130+00	708.87	708.30	707.70	709.44	710.04

Continued

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
130+25	707.92	707.35	706.75	708.49	709.09
+50	707.06	706.49	705.89	707.63	708.23
+75	706.29	705.72	705.12	706.86	707.46
131+00	705.61	705.04	704.44	706.18	706.78
+25	705.02	704.45	703.85	705.59	706.19
+50	704.52	703.95	703.35	705.09	705.69
+75	704.10	703.53	702.93	704.67	705.27
132+00	703.78	703.21	702.61	704.35	704.95
+25	703.54	702.97	702.37	704.11	704.71
+50	703.40	702.83	702.23	703.97	704.57
+75	703.34	702.77	702.17	703.91	704.51
133+00	703.37	702.80	702.20	703.94	704.54
+25	703.49	702.92	702.32	704.06	704.66
+50	703.70	703.13	702.53	704.27	704.87
+75	704.00	703.43	702.83	704.57	705.17
134+00	704.39	703.82	703.22	704.96	705.56
+25	704.86	704.29	703.69	705.43	706.03
+50	705.43	704.86	704.26	706.00	706.60
+75	706.08	705.51	704.91	706.65	707.25
135+00	706.83	706.26	705.66	707.40	708.00
+25	707.66	707.09	706.49	708.23	708.83
+50	708.58	708.01	707.41	709.15	709.75
+67.64	709.29	708.72	708.12	709.86	710.46
+75	709.59	709.03	708.46	710.15	710.72
136+00	710.69	710.19	709.68	711.19	711.70
+25	711.88	711.45	711.00	712.31	712.76
+50	713.16	712.79	712.40	713.53	713.92
+75	714.52	714.21	713.89	714.83	715.15
P.T. 136+84.54	715.08	714.80	714.49	715.36	715.65
137+00	715.98	715.73	715.47	716.23	716.49
+12.38	716.72	716.50	716.27	716.94	717.17
+25	717.48	717.26	717.03	717.67	717.86
+50	718.98	718.76	718.53	719.11	719.24
+75	720.48	720.26	720.03	720.54	720.61
138+00	721.98	721.76	721.53	721.99	721.99
+01.44	722.07	721.85	721.62	722.07	722.07
+25	723.48	723.26	723.03	723.45	723.42
+50	724.98	724.76	724.53	724.92	724.86
+75	726.48	726.26	726.03	726.39	726.30
139+00	727.98	727.76	727.53	727.86	727.73
+25	729.48	729.26	729.03	729.33	729.17
+50	730.98	730.76	730.53	730.80	730.61
+75	732.48	732.26	732.03	732.27	732.05
+79.56	732.75	732.53	732.30	732.53	732.30

D_c = 2°-30′ — S=0.041 ft/ft

Max. Superelevation for 28.5′=1.17′

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
148+14.86	782.87	782.65	782.42	782.65	782.42
+25	783.48	783.27	783.06	783.26	783.03
+50	784.97	784.79	784.61	784.75	784.52
+75	786.42	786.27	786.12	786.20	785.97
149+00	787.82	787.71	787.59	787.60	787.37
+25	789.16	789.08	788.99	788.94	788.71
+50	790.46	790.41	790.35	790.24	790.01
+75	791.72	791.70	791.67	791.50	791.27
+92.98	792.59	792.59	792.59	792.37	792.14
150+00	792.92	792.94	792.96	792.70	792.47
+25	794.07	794.15	794.23	793.85	793.62
+50	795.18	795.33	795.48	794.96	794.73
+75	796.23	796.43	796.64	796.01	795.78
+82.04	796.52	796.74	796.97	796.30	796.07

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

HAMILTON COUNTY 453-B

2 / 187

Dc = 2°-30' S = 0.041 ft/ft

Continued Max. Superelevation for 28.5' = 1.17'

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
151+00	797.24	797.51	797.78	796.97	796.70
PC. +09.88	797.62	797.90	798.20	797.34	797.04
+25	798.20	798.52	798.86	797.88	797.54
+50	799.11	799.50	799.90	798.72	798.32
+75	799.97	800.42	800.88	799.52	799.06
152+00	800.78	801.29	801.82	800.27	799.74
+25	801.55	802.12	802.71	800.98	800.39
+26.78	801.60	802.17	802.77	801.03	800.43
+50	802.26	802.83	803.43	801.69	801.09
+75	802.94	803.51	804.11	802.37	801.77
+85	803.18	803.75	804.35	802.61	802.01
153+00	803.54	804.11	804.71	802.97	802.37
+25	804.10	804.67	805.27	803.53	802.93
+50	804.63	805.20	805.80	804.06	803.46
+75	805.09	805.66	806.26	804.52	803.92
154+00	805.52	806.09	806.69	804.95	804.35
+25	805.89	806.46	807.06	805.32	804.72
+50	806.21	806.78	807.38	805.64	805.04
+75	806.49	807.06	807.66	805.92	805.32
155+00	806.72	807.29	807.89	806.15	805.55
+25	806.90	807.47	808.07	806.33	805.73
+50	807.02	807.59	808.19	806.45	805.85
+75	807.10	807.67	808.27	806.53	805.93
156+00	807.14	807.71	808.31	806.57	805.97
+25	807.12	807.69	808.29	806.55	805.95
+50	807.06	807.63	808.23	806.49	805.89
+58.16	807.03	807.60	808.20	806.46	805.86
+75	806.94	807.47	808.02	806.41	805.86
157+00	806.78	807.25	807.74	806.31	805.82
+25	806.57	806.98	807.40	806.16	805.74
+35	806.47	806.85	807.25	806.09	805.69
+50	806.32	806.67	807.03	805.97	805.61
P.T. +75.06	806.07	806.35	806.65	805.79	805.49
158+00	805.81	806.04	806.27	805.58	805.32
+02.90	805.78	806.00	806.23	805.56	805.33
+25	805.55	805.71	805.88	805.33	805.10
+50	805.30	805.40	805.51	805.08	804.85
+75	805.04	805.08	805.12	804.82	804.59
+91.96	804.87	804.87	804.87	804.65	804.42
159+00	804.79	804.78	804.77	804.57	804.34
+25	804.53	804.49	804.44	804.31	804.08
+50	804.28	804.21	804.13	804.06	803.83
+75	804.02	803.92	803.81	803.80	803.57
160+00	803.76	803.63	803.49	803.54	803.31
+25	803.51	803.34	803.17	803.29	803.06
+50	803.25	803.05	802.85	803.03	802.80
+70.08	803.05	802.83	802.60	802.83	802.60

Dc = 1°-10'-00" S = 0.020 ft/ft

Max. Superelevation for 28.5' = 0.57'

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
171+67.19	791.82	791.60	791.37	791.60	791.37
+75	791.74	791.52	791.29	791.53	791.32
172+00	791.48	791.26	791.03	791.30	791.12
+25	791.23	791.01	790.78	791.08	790.93
+50	790.97	790.75	790.52	790.86	790.74
+75	790.72	790.50	790.27	790.64	790.55
173+00	790.46	790.24	790.01	790.41	790.35
+25	790.20	789.98	789.75	790.18	790.15
+45.31	790.00	789.78	789.55	790.00	790.00
+50	789.95	789.73	789.50	789.96	789.97
+75	789.69	789.47	789.24	789.76	789.84

Continued

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
174+00	789.44	789.22	788.99	789.57	
P.C. 174+02.31	789.41	789.19	788.96	789.55	
+25	789.18	788.96	788.73	789.38	
+34.37	789.08	788.86	788.63	789.30	
+50	788.93	788.67	788.41	789.18	
+59.31	788.83	788.55	788.26	789.11	
+75	788.67	788.39	788.10	788.95	
175+00	788.46	788.18	787.89	788.74	
+25	788.33	788.05	787.76	788.61	
+50	788.30	788.02	787.73	788.58	
+75	788.34	788.06	787.77	788.62	
176+00	788.47	788.19	787.90	788.75	
+25	788.69	788.41	788.12	788.97	
+50	789.00	788.72	788.43	789.28	
+75	789.39	789.11	788.72	789.67	
177+00	789.87	789.59	789.30	790.35	
+25	790.44	790.16	789.87	790.72	
+50	791.05	790.77	790.48	791.33	
+75	791.66	791.38	791.09	791.94	
178+00	792.27	791.99	791.70	792.55	
+25	792.88	792.60	792.31	793.16	
+50	793.49	793.21	792.92	793.77	
+75	794.10	793.82	793.53	794.38	
179+00	794.71	794.43	794.14	794.99	
+25	795.32	795.04	794.75	795.60	
+50	795.93	795.65	795.36	796.21	
+75	796.54	796.26	795.97	796.82	
180+00	797.15	796.87	796.58	797.43	
+25	797.76	797.48	797.19	798.04	798.33
+50	798.37	798.09	797.80	798.65	798.94
+75	798.98	798.70	798.41	799.26	799.55
181+00	799.59	799.31	799.02	799.87	800.16
+25	800.20	799.92	799.63	800.48	800.77
+50	800.81	800.53	800.24	801.09	801.38
+75	801.42	801.14	800.85	801.70	801.99
182+00	802.03	801.75	801.46	802.31	802.60
+25	802.64	802.36	802.07	802.92	803.21
+50	803.25	802.97	802.68	80353	803.82
+75	803.86	803.58	803.29	804.14	804.43
183+00	804.47	804.19		804.75	805.04
+25	805.08	804.80		805.36	805.65
+50	805.69	805.41		805.97	806.26
+75	806.30	806.02		806.58	806.87
184+00	806.91	806.63		807.19	807.48
+25	807.52	807.24		807.80	808.09
+50	808.13	807.85		808.41	808.70
+75	808.74	808.46		809.02	809.31
185+00	809.36	809.08		809.64	809.93
+25	809.98	809.70		810.26	810.55
+50	810.61	810.33		810.89	811.18
+75	811.24	810.96		811.52	811.81
186+00	811.88	811.60		812.16	812.45
+25	812.52	812.24		812.80	813.09
+50	813.16	812.88		813.44	813.73
+75	813.81	813.53		814.09	814.38
187+00	814.46	814.18		814.74	815.03
+25	815.11	814.83		815.39	815.68
+50	815.75	815.47		816.03	816.32
+75	816.40	816.12		816.60	816.97
188+00	817.05	816.77		817.33	817.62
+25	817.70	817.42		817.98	818.27
+50	818.35	818.07		818.63	818.92
+75	819.00	818.72		819.28	819.57
189+00	819.64	819.36		819.92	820.21

See 20 Scale Interchange Detail Sheet No.

See 20 Scale Interchange detail Sheet No.

Continued

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
189+25	820.28	820.00	819.71	820.56	820.85
+50	820.93	820.65	820.36	821.21	821.50
+75	821.58	821.30	821.01	821.86	822.15
190+00	822.23	821.95	821.66	822.51	822.80
+25	822.87	822.59	822.30	823.15	823.44
+50	823.52	823.24	822.95	823.80	824.09
+75	824.17	823.89	823.60	824.46	824.74
191+00	824.82	824.54	824.25	825.10	825.39
+25	825.46	825.18	824.89	825.74	826.03
+50	826.11	825.83	825.54	826.39	826.68
+75	826.76	826.48	826.19	827.04	827.33
192+00	827.41	827.13	826.84	827.69	827.98
+25	828.05	827.77	827.48	828.33	828.62
+50	828.70	828.42	828.13	828.98	829.27
+75	829.35	829.07	828.78	829.63	829.92
193+00	830.00	829.72	829.43	830.28	830.57
+25	830.64	830.36	830.07	830.92	831.21
+50	831.29	831.01	830.72	831.57	831.86
+75	831.94	831.66	831.37	832.22	832.51
194+00	832.58	832.31	832.02	832.87	833.16
+25	833.23	832.95	832.66	833.51	833.80
+50	833.88	833.60	833.31	834.16	834.45
+75	834.53	834.25	833.96	834.81	835.10
195+00	835.18	834.90	834.61	835.46	835.75
+25	835.82	835.54	835.25	836.10	836.39
+50	836.47	836.19	835.90	836.75	837.04
+75	837.12	836.84	836.55	837.40	837.69
196+00	837.77	837.49	837.20	838.05	838.34
+25	838.41	838.13	837.84	838.69	838.98
+50	839.06	838.78	838.49	839.34	839.63
+75	839.71	839.43	839.14	839.99	840.28
197+00	840.36	840.08	839.79	840.64	840.93
+25	841.00	840.72	840.43	841.28	841.57
+50	841.65	841.37	841.08	841.93	842.22
+75	842.30	842.02	841.73	842.58	842.87
198+00	842.95	842.67	842.38	843.23	843.52
+25	843.59	843.31	843.02	843.87	844.16
+50	844.24	843.96	843.67	844.52	844.81
+75	844.89	844.61	844.32	845.13	845.46
199+00	845.54	845.26	844.97	845.82	846.11
+25	846.18	845.91	845.62	846.47	846.76
+50	846.83	846.55	846.26	847.11	847.40
+75	847.48	847.20	846.81	847.76	848.05
200+00	848.13	847.85	847.56	848.41	848.70
+25	848.75	848.47	848.18	849.03	849.32
+50	849.32	849.04	848.75	849.60	849.89
+75	849.84	849.56	849.27	850.12	850.41
201+00	850.30	850.02	849.73	850.58	850.87
+25	850.70	850.42	850.13	850.98	851.27
+26.14	850.72	850.44	850.15	851.00	851.29
+50	851.05	850.82	850.53	851.28	851.51
+51.08	851.07	850.85	850.62	851.29	851.52
+75	851.35	851.13	850.90	851.52	851.68
+ 83.14	851.44	851.22	850.99	851.58	851.72
202+00	851.59	851.37	851.14	851.65	851.79
+25	851.78	851.56	851.33	851.82	851.86
+40.14	851.86	851.64	851.41	851.86	851.86
48.23 Back = 39.22 Ahead	851.89	851.67	851.44	851.89	851.88
+50	851.94	851.72	851.49	851.92	851.90
+75	852.00	851.78	851.55	851.95	851.90
203+00	852.01	851.79	851.56	851.93	851.85
+25	851.97	851.75	851.52	851.86	851.74
+50	851.87	851.65	851.42	851.72	851.58
+75	851.71	851.49	851.26	851.54	851.36
204+00	851.50	851.28	851.05	851.30	851.09
+12.26	851.38	851.17	850.94	851.16	850.94

SUPERELEVATION TABLES

FED. NO. DIVISION	STATE	PROJECT		10
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HAMILTON COUNTY C.R.453-B

D_c = 1°-20′ — Max. Superelevation for 285′ = 0.4453 — S = 0.022 ft/ft

STATION	PROFILE GRADE	EASTBOUND LANES ℄	EASTBOUND LANES Outer Edge	WESTBOUND LANES ℄	WESTBOUND LANES Outer Edge
218+76.00	853.89	853.67	853.44	853.67	853.44
219+00	854.05	853.86	853.66	853.83	853.60
+25	854.15	853.99	853.82	853.93	853.70
+50	854.17	854.03	853.91	853.95	853.72
+75	854.12	854.02	853.92	853.90	853.67
220+00	853.99	853.92	853.85	853.77	853.54
+25	853.79	853.75	853.71	853.57	853.34
+50	853.52	853.51	853.51	853.30	853.07
+54.12	853.47	853.47	853.47	853.25	853.02
+75	853.17	853.22	853.27	852.95	852.72
221+00	852.75	852.86	852.98	852.53	852.30
P.C. 221+16.82	852.44	852.59	852.75	852.27	851.99
+25	852.26	852.43	852.61	852.04	851.81
+43.18	851.85	852.07	852.30	851.63	851.40
+50	851.69	851.93	852.17	851.45	851.21
+75	851.05	851.34	851.65	850.76	850.45
+79.52	850.92	851.23	851.55	850.61	850.29
222+00	850.33	850.64	850.96	850.02	849.70
+25	849.35	849.66	849.98	849.04	848.72
+50	848.68	848.99	849.31	848.37	848.05
+75	847.75	848.06	848.38	847.44	847.12
223+00	846.73	847.04	847.36	846.42	846.10
+25	845.65	845.96	846.28	845.34	845.02
+50	844.49	844.80	845.12	844.18	843.86
+75	843.30	843.61	843.93	842.99	842.67
224+00	842.10	843.41	842.73	841.79	841.47
+25	840.91	841.22	841.54	840.60	840.28
+50	839.71	840.02	840.34	839.40	839.08
+75	838.52	838.83	839.15	838.21	837.89
225+00	837.32	837.63	837.95	837.01	836.69
+25	836.13	836.44	836.76	835.82	835.50
+50	834.93	835.24	835.56	834.62	834.30
+75	833.74	834.05	834.37	833.43	833.11
+87.50	833.14	833.45	833.77	832.83	832.51
226+00	832.55	832.86	833.18	832.24	831.92
+25	831.45	831.76	832.08	831.14	830.82
+50	830.42	830.73	831.05	830.11	829.79
+75	829.48	829.79	830.11	829.17	828.85
227+00	828.62	828.93	829.25	828.31	827.99
+25	827.85	828.16	828.48	827.54	827.22
+50	827.17	827.48	827.80		
+75	826.57	826.88	827.20		
228+00	826.05	826.36	826.68		
+25	825.62	825.93	826.25		
+50	825.28	825.59	825.91		
+75	825.02	825.33	825.65		
229+00	824.84	825.15	825.47		
+25	824.75	825.06	825.38		
+50	824.75	825.06	825.38		
+75	824.83				
230+00	824.99				
+12.50	825.11				
+25	825.24				
+50	825.49				
+75	825.74				
231+00	825.99				
+25	826.24				
+50	826.49				
+75	826.74				
232+00	826.99				
+25	827.24				
+50	827.49				

See 20 Scale Plan For Eastbound Elevations from Sta. 229+75 to Sta. 235+87.64
See 20 Scale Plan For Westbound Elevations from Sta. 227+50 to Sta. 235+87.64

ADDITIONAL RAMP CONSTRUCTION

Subsequent to completion of plan details, provisions have been made for the construction of additional interchange ramps at Kenwood Road. Details will be furnished at the time of construction. The following estimated quantities have been carried to the General Summary:

E-1	22804	Cu.Yds	Roadway Excavation, Method "B," as per plan
E-1	8550	Sq.Yds	Compacted Subgrade
E-11	50	M.Gals.	Water
I-15	462.5	Lin.Ft.	Guard Rail, Steel Beam Std. Type (Deep)
L-9	8780	Sq.Yds	Seeding and Protecting, As Per Plan
L-9	0.79	Ton	Commercial Fertilizer (12-12-12)
L-9	3.95	Tons	Agricultural Liming Material, As Per Plan
E-8	368	Lin.Ft.	Removal & Disposal of Existing Curb, As Per Plan
T-71	6948	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement
I-22	1222	Cu.Yds.	Subbase, Grading "C" or "D," As Per Plan
T-35	269	Cu.Yds.	Asphaltic Concrete Surface Course, Type "A" (70-85)
I-18	207	Cu.Yds	Stabilized Crushed Aggregate Shoulders & Approaches
I-12	2791	Lin.Ft.	Standard Type 2-A Concrete Curb
B-19	3	Cu.Yds	Aggregate Base Course
B-35	1	Cu.Yd.	Asphaltic Concrete Leveling Course (70-85)
T-30	1	Gal.	Bituminous Tack Coat
T-70	585	Sq.Yd.	9" Plain Portland Cement Concrete Pavement
I-1	171	Lin.Ft.	12" Pipe, Class A-1, M-6.6(c)
I-1	318	Lin.Ft.	15" Pipe, Class A-1, M-6.6(d)
I-1	140	Lin.Ft.	48" Pipe, Class A-1, M-6.6(b)
I-1	88	Lin.Ft.	12" Pipe, Class A-1, M-6.6(b) or M-6.8(b)
I-1	480	Lin.Ft.	12" Pipe, Class A-1, M-6.6(a) or M-6.8(b)
I-1	245	Lin.Ft.	21" Pipe, Class A-1, M-6.6(a) or M-6.8(b)
I-1	68	Lin.Ft.	18" Pipe, Class A-1, M-6.6(a) or M-6.8(b)
I-1	62	Lin.Ft.	15" Pipe, Class A-1, M-6.6(a) or M-6.8(b)
I-2	2.2	Cu.Yds	Masonry
I-8	1	Each	Standard No. 2 Manhole
I-8	4	Each	Standard No. 3 Catch Basins
I-8	5	Each	Standard No. 3A Catch Basins
I-8	6	Each	Standard No. 2-2A Catch Basins
I-8	1	Each	Standard No. 7 Catch Basin
I-10	12	Cu.Yds	Dumped Rock Channel Protection
L-10	8	Sq.Yds	Sodding

Any necessary adjustments in quantities will be covered by change order.

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HAMILTON COUNTY C.R. 453-B

GENERAL NOTES

FIELD OFFICE

The Contractor shall provide a suitable Field Office for the exclusive use of the State Employees, in accordance with Section S-0-01.(b), having a minimum of 500 sq. ft. of floor space. The Contractor shall have a telephone installed and and maintained in the Field Office during the construction of this project.

The Contractor shall also install wiring and outlets suitable for connecting the electric office equipment. He shall provide 110 volt alternating current during the construction of this project.

DESIGN SPEED

The geometrics for this project have been planned for a design speed of 50 miles per hour.

FEDERAL AID CONSTRUCTION SIGNS

The Contractor shall furnish, erect, maintain and subsequently remove Federal Aid Construction Identification Signs at each of the following approximate locations: C.R. 453 B Sta. 32+00 Rt. Ridge Ave. Sta. 6+47 Rt. & 13+44 Lt., Plainfield Rd. Sta. 3+19 Rt. & 13+00 Lt., Blue Ash Ave. Sta. 4+69 Rt. & 14+30 Lt.

Sign details shall be as specified on Std. Dwg. FACI-1, Code N-45(2) 78, and the signs shall be erected in accordance with Std. Dwg. FACI-2. Additional requirements shall be in accordance with notes in the Proposal.

MAINTENANCE OF TRAFFIC

Two-way traffic shall be maintained at all times by use of either the existing pavement, the proposed pavement, temporary roadways surfaced with T-10 aggregate and stabilized with I-4 calcium chloride, or Temporary Run-Around, Item S-15.

The limits and duration of use of temporary roadways shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer.

Temporary Run-Arounds have been provided as per plans at: Ridge Road, Hunt Road, Plainfield Road, and Blue Ash Road.

Traffic compacted surface course, Item T-10, and calcium chloride, Item I-4, shall be applied on temporary roadways as directed and in the amounts requested by the Engineer.

The hardness and soundness requirements of the Specifications shall be waived on all of the T-10 material used for the maintenance of traffic.

In addition to the above, Section G-4.05, Maintenance of Local Traffic and Section G-7.01, Barricades and Warning Signs, shall be in force during the entire life of contract.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

The rounded corners shown on Standard Drawing R1-1, as modified by the typical sections, apply to all cross sections, even though otherwise shown on the plans.

UNDERGROUND UTILITIES

The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio makes no guarantees as to their accuracy or completeness.

SPECIAL DITCHES

For special ditch grades, see Cross Sections.

UTILITIES

The Contractor shall notify at least 48 hours before breaking ground all Public Service Corporations having wire, poles, conduits, manholes, pipe or other structures that may be affected by this operation, including all structures which are affected and not 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.

CONSTRUCTION LAYOUT STAKES

See note in proposal describing the work included in this lump sum pay item.

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.

ELEVATION DATUM

All elevations are based on U.S.G.S. datum.

LOCATION AND SIZE OF PIPES

The location, type, depth, and size of all existing pipes are shown as near exact as the available information will permit. The State will not be responsible for any variations found during construction.

REINFORCED ENDS ON CORRUGATED METAL PIPE

Reinforced ends will be required on all corrugated metal, Class F-4 Sec. M-6.4(c) pipe for driveways and underdrain outlets, if the pipe ends are unprotected by headwalls, catch basins, manholes or connecting pipe.

SINK HOLES

The cost of uncovering and excavation of sink holes as shown on the plan shall be included in the unit price bid for Item I-2, Masonry as per plan.

REMOVAL OF EXISTING PIPE

The removal of all existing pipe within the limits of construction, whose inverts are above the finished grade, shall be included for payment in the unit price bid for Item E-1 Roadway Excavation

All existing pipe with cover of less than 3 feet to finish grade, shall be removed and paid for under Item E-12, "Removal of Pipe 24" or Smaller" or "Removal of Pipe over 24," unless removed under Item E-1. If cover is more than 3 feet pipe shall be abandoned unless otherwise noted

Pipe abandoned or removed shall be sealed in accordance with requirements outlined under note headed "Plugging Pipe Ends."

SEEDING

Quantities for seeding are calculated for the soil areas between lines two (2) feet outside the work limits, as shown on the cross sections.

SEEDING FORMULA

The following seed mixture shall in lieu of the mixture listed in Sect. L-9.11, be used throughout the limits of this project:

1. Seed Mixture to be used adjacent to residential properties or at the direction of the Engineer:
   - 40 % Kentucky Bluegrass (Poa-pratensis)
   - 45 % Illahee Fescue (Festuca rubra var. Illahee)
   - 10 % Red Top (Agrostis alba)
   - 5 % White Clover (Trifolium repens)
2. All remaining areas shall be seeded with the following mixture:
   - 25 % Kentucky Bluegrass (Poa-pratensis)
   - 65 % Kentucky 31 Fescue (Festuca elatior Var. kentucky 31)
   - 10 % Alsike Clover (Trifolium hybridum)

L-9 COMMERCIAL FERTILIZER

All areas to be Seeded under Item L-9, or sodded under Item L-10, shall have commercial fertilizer 12-12-12, applied at the rate of twenty (20) pounds per 1000 sq. ft., as per specs.

AGRICULTURAL LIMING MATERIALS

Agricultural Liming Materials L-9.02, shall be applied to all seeded or sodded areas at the rate of 100 lbs/1000 ft.², as per Specifications.

SCARIFICATION OF EXISTING PAVEMENT

Within the limits of construction where the existing flexible pavement will have less than six (6) inches 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 planes of separation between it and the embankment placed thereon. Payment for scarification as described above shall be included in the unit price bid for Item E-1, Roadway Excavation.

REMOVAL OF TREES AND STUMPS

All trees and stumps lying within the construction limits of this project shall be removed under the lump sum price bid for Item E-9, Removal of Trees and Stumps, except that those trees and stumps for which protection and preservation work is indicated elsewhere in these plans shall not be removed.

The following is an approximate estimate of the number of trees and stumps to be removed:

Sizes	No. Trees	No. Stumps
12"-18"	586	33
18"-24"	183	
24"-30"	71	
30"-36"	22	
36"-42"	8	
42"-48"	0	
over 48"	2	

The above estimate is approximate and the State of Ohio reserves the the right to order the removal of additional trees and 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 bid for Item E-9, Removal of Trees and Stumps.

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 length is encountered which shall be blocked with concrete, flat stone or 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.

All pipes entering or leaving existing manholes, catch basins, inlets, culverts or ditches which are indicated to be abandoned, sealed, removed, filled or otherwise made inoperative shall be filled at both ends if practicable, unless otherwise indicated on the plans. Payment for this work shall be included in the unit price bid for Item I-16.

GUARD RAIL REMOVAL

The removal of any Guard Rail or Guard Posts lying within the limits of Roadway Excavation or Embankment (and not specifically paid for under a specific Item) is included in the Contract unit price bid for Item E-1, Roadway Excavation. All resulting materials shall become the property of the Contractor and shall be disposed of by him at no extra cost to the State, except that the steel rail on all existing steel beam type or steel cable on steel cable type Guard Rails shall be stored on the Right-of-Way at the disposal of the State.

SLOPE AGREEMENT

Slope agreements have been acquired to a point 2' beyond the limits of construction shown on the plans. The Contractor shall confine his operations within these limits.

ITEM T-10, AS PER PLAN

The weights to be used in calculating the yardage to be paid for under this Item shall, if a standard size coarse aggregate is specified, be the same as those indicated in the Construction and Material Specifications for crusher run or bank run materials.

SUPERELEVATION

Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in the portion between the beginning of the transition and the point where the superelevation equals twice the crown.

CONNECTIONS TO EXISTING PIPE

At places where the plans provided for proposed drainage pipe to be connected to existing pipes, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed pipe. The cost of this operation shall be included in the unit price bid for the pertinent pipe item.

REMOVAL OF HOUSE DRAINS (EXISTING)

The removal of all existing house connections which includes sanitary, yard, roof, basement or other similar pipe drains within the Roadway Construction Limits shall be classified and paid for as Item E-1, Roadway Excavation, unless otherwise itemized for payment in the plans.

TYPES OF PIPE

Pipe designations shown in the General Summary shall govern if and where there are differences between the General Summary and the plan details.

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GENERAL NOTES (CONT.)

EROSION CONTROL

Items I-10, I-14 and L-10 are provided in these plans for erosion control. Rock of a stable nature will not be removed in order to place any of these items. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction

PROTECTION AT CULVERTS AND OTHER OUTLETS

Erosion protection, such as Paved Gutters, Dumped Rock Channel Protection, etc., where provided in the plan at structures and other pipe outlets, shall be placed immediately after installation of the pipe or structure.

EXCAVATION FOR DRIVEWAY PIPES

Excavation for all pipe is included in the 1963 specifications in the price bid for the pertinent pipe item. The intent is not to duplicate payment for pipe excavation where same has already been included in E-1 Roadway Excavation. Attention is specifically directed to pipe for driveways where excavation is normally paid for in Item E-1, and no deductions will be made from E-1 where drive pipes are to be laid in the ditch excavated under Item E-1.

MAINTENANCE OF SEWER FLOWS

The Contractor shall conduct his operations so as to maintain at all times sewer flows through existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed into use.

Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit prices bid for the respective pipe items.

INLETS

The proposed elevations and locations of inlets, manholes, and pipes and the estimated lengths of pipe may be adjusted by the Engineer during construction.

CURB & GUTTER

The Contractor shall have the option of either placing the 29 foot width pavement one half width at a time with the Std. Type 3A Modified Curb being placed integral, or place a 24 foot width in one operation and the Std. Type 3 Modified Curb and Gutter sections as a separate operation.

ITEM I-9 STONE UNDERDRAINS NO. 2

Stone underdrains shall be placed at fifty (50) feet intervals on the south side of Elsmere Ave. and at twenty five (25) feet intervals on the north side of Hunt Rd.

DRAINAGE OF BASE MATERIAL

Where the base material is drained by I-9 Stone Underdrains, the Contractor shall finish, seed, and mulch the slopes so as not to impede the drainage at the outlets.

ROCK SUBGRADE

The Contractor shall be paid for the thickness of I-22 material shown on the typical sections in rock excavation areas. Any pockets in the rock below the plan subgrade elevation shall drain either longitudinally or laterally and all irregularities in the rock below this elevation shall be filled with I-22 material at no additional cost to the State.

ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used as directed by the engineer shall be made a matter of record by incorporation into the final change order governing completion of this project.

PAYMENT FOR CUT-OFF WALL

Payment for cut-off wall shall be included in payment for I-10 Rip Rap.

WATER MAIN NOTES

Water main items are to be constructed in accordance with the Provisions of City of Cincinnati General Construction and Material Specifications for Highways and Sewers, Latest Revision and the Specifications of the Cincinnati Water Works governing the installation of water mains and appurtenances in force at the time of the opening of the bids, copies of these specifications are on file at the office of The Engineer of Contract Sales for State Highway Department and at the offices of the City Engineer of Cincinnati, Ohio.

The Contractor shall Determine, in the field ahead of construction, the exact location of any sub-surface utility to be crossed by the proposed water mains, any condition, between the proposed water mains and the existing sub-surface utilities or structures, caused by the contractor's failure to locate said sub-surface features far enough in advance of construction to be avoided shall be the responsibility of the Contractor and he shall assume the cost of all engineering, labor and material required in order to by-pass or change the Utility or structure in the path of the proposed water main. The Contractor must support all utilities that are encountered during the installation of proposed Water Mains.

Payment will be made only for work performed and no payment will be made for non-performance of any item or for non-performance of any portion of the estimated quantity given for any item.

All pipe specials and appurtenances used on this project shall be that which has been inspected at site of manufacture by the Cincinnati Water Works. All cast iron pipe and specials shall be cement lined.

Pipe shall be compression Joint, Class 250, and specials shall be mechanical Joint, Class D.

Contractor is to notify Cincinnati Water Works Inspection office prior to water main relocation

Pipe removed for construction purposes is no longer the property of the Hamilton County Sanitary Engineering Department and shall be disposed of by the Contractor. No payment will be made for hauling this material.

Any sanitary Sewer or house connection lying directly above any of the proposed Water Mains shall be encased in concrete and payment for this work will be made at the unit price bid for concrete masonry Item W-48.

Provide 12" minimum clearance and cushion between sewer pipes or structures and proposed water mains, except where noted on plans.

Additional concrete and steel for backing or reinforcing bends may be added at the discretion of the Water Works Engineer or Inspector. Payment for this work will be made at the unit price bid for concrete masonry Item W-49 and reinforcing steel Item C-3.

Whenever an existing water main is plugged or removed under Item W-21, W-22, W-15 or W-16, the dead-end or abandoned portion of the main shall be completely bulkheaded and sealed with concrete by the Contractor. No extra payment will be made for this work. The cost of this work should be included in the price bid for these Items.

Adequate water service must be maintained by the Contractor at all times for required usage and fire protection at his expense.

The size and length of any temporary water lines if required shall be as specified by the Superintendent of the Cincinnati Water Works Department. The cost of the temporary pipe line shall be included in the cost of laying the water mains in this project. No extra charge will be allowed.

The unit price bid for laying pipe shall include all restoration, in kind, or as directed by the Engineer.

Permits must be taken out by the Prime Contractor on all utility work outside the limits of new pavement construction.

All walks, driveways, sod areas, steps, etc. that are disturbed during the laying of the proposed water mains shall be restored to their original state or better by the Contractor.

For Water Works plans on this project, See Sheets

ITEM L-1 TOPSOIL STOCKPILED

The material to be stockpiled for placement under Item L-3 on this project shall be obtained under Item L-1 from areas within the limits of the proposed right-of-way as tabulated elsewhere on these plans. (No borrow item is anticipated for this purpose.)

Provision of this separate L-1 item shall, in no way, be construed as a waiver of the provisions of Sec. E-1.03(a) and sod and incidental topsoil removed elsewhere on this project shall be salvaged and used as described in Item E-1 with payment therefore included in the unit price bid for Roadway Excavation.

ITEM L-3 PLACING STOCKPILED TOPSOIL, AS PER PLAN

On this project, the method of measurement for this item shall be in cubic yards compacted in place in lieu of square yards as specified in Sec. L-3.10. Furnishing and placing of commercial fertilizer in conjunction with this item shall be in accordance with Item L-9 and payment therefore shall be at the unit price bid for Item L-9 Commercial Fertilizer. Except as noted above, all other requirements of this item shall be in accordance with Item L-3.

SPECIAL SEEDING PREPARATION AREAS

The references in the first paragraph of Sec. L-9.11 to preparation of the seed bed in front of residences etc., shall, on this project, be considered to be particularly applicable in the following areas:

Sta. 108+50 to Sta. 110+50 Rt.
Sta. 190+30 to Sta. 192+50 Lt.
Sta. 226+50 to Sta. 228+50 Lt.
Sta. 4+50 to Sta. 6+50 Lt. Blue Ash Rd.
Sta. 13+00 to Sta. 14+35 Lt. Blue Ash Rd.
Sta. 4+00 to Sta. 5+50 Lt. Plainfield Rd.
Sta. 11+50 to Sta. 13+30 Lt. Plainfield Rd.
Sta. 7+00 to Sta. 8+00 Lt. Hunt Road
Sta. 12+00 to Sta. 13+50 Lt. Hunt Road

EXPANSION AND CONTRACTION JOINTS

Expansion Joints shall be used only at intersections as shown on the plans and at structures against which the pavement abuts.

Contraction Joints shall be steel plate and dowel type in accordance with Standard Drawing T.J. spaced at 30 foot intervals with impressed dummy joints at 15 foot intervals between same contraction joints.

There will be no sawing of joints permitted. Mesh is to be carried through the dummy 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 Drawing T.J.

CENTERLINE REFERENCE MONUMENTS, AS PER PLAN

(See table this sheet)

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. One-half (1/2) inch steel rods six (6) inches long shall be embedded in the wet concrete as directed by the Engineer to mark the centerline and station. For Monument Assemblies falling in Pavement, See Std. Construction Dwg. R1-1

TILE FOR SUBGRADE DRAINAGE

6" Drain Tile, Section M-6.7(b) shall be furnished and placed by the Contractor, in manholes, catch basins and inlets for subgrade drainage, where, and is directed by the Engineer. Payment for same shall be included in the price bid per "Each" for manholes, catch basins and inlets.

PART WIDTH CONSTRUCTION

Because of the necessity of building 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 on centerline in the B-19 and I-22 courses. This shall be accomplished by building the B-19 and I-22 courses, placed with the first portion of the pavement built, at least eighteen (18) inches beyond the centerline 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 (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.

LOCATION OF CENTERLINE MONUMENTS

NO.	STATION		LOCATION	
1	94+70		Centerline	
2	98+72.21		"	P.C.
3	103+72.21		"	
4	108+72.21		"	
5	113+72.21		"	
6	114+21.10		"	P.T.
7	119+21.10		"	
8	123+22.32		"	P.C.
9	128+00		"	
10	133+00		"	
11	136+84.54		"	P.T.
12	141+84.54		"	
13	146+84.54		"	
14	151+09.88		"	P.C.
15	156+09.88		"	
16	157+75.06	*	"	P.T.
17	162+75.06	*	"	
18	167+75.06		"	
19	172+75.06		"	
20	174+02.31		"	P.C.
21	179+02.31		"	
22	184+02.31		"	
23	189+02.31		"	
24	194+02.31		"	
25	199+02.31		"	
26	201+83.14		"	P.T.
27	206+77.13		"	
28	211+77.13		"	
29	213+01.80		"	℄ P.T.
30	218+01.80		"	
31	221+16.82		"	P.C.
32	226+16.82		"	
33	231+16.82		"	
34	233+46.82		"	P.T.
35	238+00		"	

* Monument Rolls in curb or pavement (Monument Assemblies)

General Notes Continued on Sheet 13

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GENERAL NOTES CONTINUED

PROPOSED SANITARY SEWERS AND WATER LINES BY OTHERS

The Contractors attention is directed to the proposed installation of sanitary sewers and water lines to be done by others in the vicinity of Stations 139+00 to 161+50. These utilities will be placed at the approximate time the contractor on this project places the storm sewers in the same area. The waterline and sanitary sewers will be completed within two weeks after the storm sewers are completed. It is the intent that all storm sewers, sanitary sewers and water line work in this area be completed prior to placing the pavement courses.

SUB-SUMMARY

EXCAVATION & EMBANKMENT			
Station	Excavation	Embankment	Embankment + 20%
From To	C.Y.	C.Y.	C.Y.
Ridge Rd.	363	130	156
Sta. 94+70 to Sta. 110+00	36,416	125	150
Sta. 110+00 to Sta. 126+00	36,497	5,234	6,281
Sta. 126+00 to Sta. 142+00	13,831	159,784	191,741
Sta. 142+00 to Sta. 158+00	87,751	2,349	2,818
Sta. 158+00 to Sta. 174+00	44,404	29,209	35,051
Sta. 174+00 to Sta. 190+00	50,507	41,155	49,386
Ramp "X"	2,154	6,523	7,828
Ramp "Y"	18,297	2,385	2,862
Hunt Rd.	1,344	4,251	5,101
Plainfield Rd.	970	3,258	3,909
Sta. 190+00 to Sta. 206+00	131,522	0	0
Sta. 206+00 to Sta. 222+00	26,307	2,034	2,441
Sta. 222+00 to Sta. 238+00	138,063	6,497	7,796
Blue Ash Road	1,607	0	0
Sta. 238+00 to Sta. 242+41.39	45	36320	43584
Sedgewick Dr.	6,116	0	0
Elsmere & Floral	52	45	54
Totals	656,252	299 299	359 158
Topsoil Stockpiled	-3,695		
	652,557		
Channel Excavation	3,427		
Total Excavation	655,984		
	359 158		
Excess Excavation	296 826		

SEEDING CALCULATIONS			
Items		S.Y.	S.Y.
Gross Area Between Seeding Limits			314,932
Deductions	Pavement	123,317	
	Paved Shoulders	361	
	D.R.C.P.	501	
	Sodding & Matting	364	
	Rip Rap	142	
Total Deductions		125,885	125,885
Net Area to be Seeded & Protected			189,047

FERTILIZER & LIMING MATERIAL		
Seeding Area	S.Y.	189,047
Sodding Area	S.Y.	855
Total	S.Y.	189,902
Fertilizer @ 20 lb. per 1000 S.F.	Ton	17.09
Lime @ 100 lb per 1000 S.F.	Ton	85.45

COMPACTED SUBGRADE	
Item	S.Y.
Pavement	119,967
Approach Slabs	756
Paved Shoulder	961
	121,684

TRAFFIC COMPACTED SURFACE COURSE ITEM 7-10	
Location	C.Y.
Hunt Road	240
Plainfield Road	120
Elsmere & Floral Aves.	45
Blue Ash Road	6
Ridge Road	15
Fuhrman Road	24
Eldora Drive	27
Total	486 C.Y.

WATER CALCULATION			
Items	C.Y.	Gals. per C.Y.	Item E-11 Water M-Gals.
Roadway	359,158	5	1796
I-18	135	5	1
I-22	24,730	5	124
B-19	726	5	4
Total			1925

I-4 CALCIUM CHLORIDE Furnished & Applied	
Temporary Roadway	14.54 Tons
Total	14.54 Tons

Item L-1 TOPSOIL STOCKPILED			Item L-3 PLACING STOCKPILED TOPSOIL	
Station	C.Y.	+20%	Station	S.Y.
94+85 to 105+80	1,022	1,946	94+85 to 105+80	7,238
122+00 to 124+80	214	257	122+00 to 124+80	964
140+00 to 148+00	642	770	140+00 to 148+00	2,889
226+00 to 233+50	602	722	226+00 to 233+50	2,708
Total		3,695 C.Y.	Total	13,859

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE)

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GEORGE M. LEMMEL — HAMILTON CO. ENGR.

SUB-SUMMARY

GENERAL SUMMARY

ITEM	10	12	13	19	20	23	25	26	27	30	31	34	35	138	ITEM	GRAND TOTAL	UNIT	DESCRIPTION
																		ROADWAY
E-1	22,804		656,252												E-1	679,056	C.Y.	Roadway Excavation Method B as per plan
E-1	8,550		121,684												E-1	130,234	S.Y.	Compacted Subgrade
E-10							Lump								E-10	Lump	Lump	Removal of One 2-Story Frame Residence left of Sta. 190+00
E-8				51				43				2186			E-8	2280	S.Y.	Removal & Disposal of Exist. Pavt. as per plan.
E-8				112						55					E-8	167	S.F.	Removal & Disposal of Exist. Sidewalk as per plan
E-8	368							43				764			E-8	1175	Lin. Ft.	Removal & Disposal of Exist. Curb as per plan.
E-9															E-9	Lump	Lump	Removal of Trees & Stumps
E-11	50		1925												E-11	1975	M-Gal.	Water
I-2				7				24							I-2	31	C.Y.	Masonry, as per Plan
I-13				107		1622		876		48		44			I-13	2,697	S.F.	4" Concrete Sidewalk
I-15	462.5			175		22625		2332.5		75		267.5			I-15	5575	Lin. Ft.	Guard Rail Steel Beam Std. Type (deep)
I-18																		
L-9	8780		189,047												L-9	197,827	S.Y.	Seeding and Protecting as per plan
L-9	0.79		17.09												L-9	17.88	Ton	Commercial Fertilizer (12-12-12)
L-9	3.95		85.45												L-9	90.40	Ton	Agricultural Liming Material as per plan
~~I-8~~		~~2~~													~~I-8~~	~~2~~	~~Each~~	~~Standard Monument Assemblies~~
~~I-8~~		~~33~~													~~I-8~~	~~33~~	~~Each~~	~~Centerline Reference Monuments, As Per Plan.~~
I-13												3			I-13	3	Lin. Ft.	Concrete Steps
I-4			14.54												I-4	14.54	Ton	Calcium Chloride for Dust Control
S-15								Lump							S-15	Lump	Lump	Temporary Run Around Road
T-10			324												T-10	324	C.Y.	Traffic Compacted Surface Course for Maintaining Traffic.
T-10			162												T-10	162	C.Y.	Traffic Compacted Surface Course for Maintaining
																		Traffic using Size #2 Material. as per plan
L-3			13,859												L-3	13,859	S.Y.	Placing Stockpiled Topsoil (8" deep)
L-1			3695												L-1	3,695	C.Y.	Topsoil Stockpiled
S-15				Lump							Lump		Lump		S-15	Lump	Lump	Temporary Runaround Roads Using Class A Pavement
S-15													Lump		S-15	Lump	Lump	Temporary Railroad Runaround, as per Plan
																		(Retaining Wall)
S-1														91	S-1	91	C.Y.	Conc. for Structures Class C
S-4														1626	S-4	1626	lbs	Reinforcing Steel
S-9														16	S-9	16	S.F.	1/2" Preformed Exp. Joint Filler
S-14														89	S-14	89	Lin. Ft.	Railing, 1 1/2" Dia. Welded Pipe
S-29														40	S-29	40	C.Y.	Porous Backfill
E-2														213	E-2	213	C.Y.	Excavation for Structures
																		PAVEMENT
T-71	6948				25,024	21,052			26,840		24,928		18,372		T-71	123,164	S.Y.	9" Reinforced Portland Cement Concrete Pavement
T-70					44										T-70	44	S.Y.	7" Plain Portland Cement Concrete Pavement
T-70	585														T-70	585	S.Y.	9" Plain Portland Cement Concrete Pavement
I-22	1222				5350	4288			5122		6570		3400		I-22	25,952	C.Y.	Subbase Grading C or D as per plan
													104		B-70	104	C.Y.	8" Portland Cement Concrete Base Course
T-35	269				27	21			14		41		253		T-35	625	C.Y.	Asphaltic Concrete Surface Course, Type A (70-85)
B-35	1				26	32			14		39		80		B-35	192	C.Y.	Asphaltic Concrete Leveling Course (70-85)
B-35					40				34		93				B-35	167	C.Y.	Asphaltic Concrete Base Course (70-85)
T-30					193	153			161		445		159		T-30	1,111	Gal.	Bituminous Prime Coat Sec. M-5.7, RT-2 or RT-3
T-30	1				27								181		T-30	209	Gal.	Bituminous Tack Coat Sec. M-5.5, MS-2 or RS-1 or Sec. M-5.2,
																		RC-1, or RC-2 as per Sec T-30.02
B-19	3				139	64			111		315		97		B-19	729	C.Y.	Aggregate Base Course
I-7					251						253		252		I-7	756	S.Y.	Reinforced Portland Cement Conc. Approach Slab (T=13")
I-18	207									2			133		I-18	342	C.Y.	Stabilized Crushed Aggregate, Shoulders & Approaches
I-12	2791				10066	6357			9040		7577		6252		I-12	42,083	Lin. Ft.	Std. Type 2-A Concrete Curb
I-12					4788	6279			5857		7056		2158		I-12	26,138	Lin. Ft.	Std. Type 3-A Modified Concrete Curb
I-12						345									I-12	345	Lin. Ft.	Std. Type 3 Concrete Curb & Gutter
I-21					11				51				3		I-21	65	S.Y.	Portland Cement Conc. Median Pavt. Std. type 1
I-24					114										I-24	114	Lin. Ft.	Std. Type I - Asphaltic Concrete Curb. (70-85)
													596		I-12	596	Lin. Ft.	Std. Type 2-B Concrete Curb

See Sheet 16 for Water Items.

See Sheet 151 for Estimated Quantities	STRUCTURES OVER 20' SPAN		
See Sheet 151 for Estimated Quantities	BRIDGE	RIDGE RD.	
See Sheet 161 for Estimated Quantities	BRIDGE	PLAINFIELD RD.	
See Sheet 169 for Estimated Quantities	BRIDGE	PENNSYLVANIA R.R.	
See Sheet 180 for Estimated Quantities	BRIDGE	BLUE ASH RD.	

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HAMILTON COUNTY C.R. 453-B

GENERAL SUMMARY

ITEM	SHEET NUMBER TYPE CODE 7221 10	19	23	26	30	34	138	140	141	142	143	144	145	146	147	148	149	ITEM	QUANTITY	NO FEDERAL PARTICIPATION	GRAND TOTAL	UNIT	DESCRIPTION
																							DRAINAGE
E-3								1940	23	66	90	4	54	252	58	378	562	E-3	3427		3,427	C.Y.	Channel Excavation
E-12		202	500		35	8												E-12	745		745	Lin. Ft.	Pipe Removed (24" & Under)
I-1	171																	I-1	171		171	Lin.Ft.	12"Pipe, Cl. A-1, M-6.6(c)
I-1						40												I-1	40		40	Lin. Ft.	12" Pipe, Cl. A-1, M-6.6(d) Under R.R.
I-1				171														I-1	171		171	Lin. Ft.	12" Pipe, Cl. A-1, M-6.4(d)
I-1	480	1934	1299	1670	1705	1379												I-1	8467		8467	Lin. Ft.	12" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1	88																	I-1	88		88	Lin.Ft.	12"Pipe, Cl. A-1 M-6.6(b) or M-6.8(b)
I-1	62	614	370	866	1010	350												I-1	3272		3,272	Lin. Ft.	15" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1			400															I-1		400	400	Lin. Ft.	15" Pipe, Cl. A-1, M-6.8(a), Sanitary, Encased as per plan
I-1	68	355	1000	301	702	41												I-1	2467		2467	Lin. Ft.	18" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1	318																	I-1	318		318	Lin. Ft.	15"Pipe, Cl. A-1, M-6.6(d)
I-1	245	1010	390	530														I-1	2175		2175	Lin. Ft.	21" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1			386															I-1		386	386	Lin. Ft.	21" Pipe, Cl. A-1, M-6.8(a), Sanitary, Encased as per plan
I-1		260	660	450	208	25												I-1	1603		1603	Lin. Ft.	24" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1				78							72							I-1	150		150	Lin. Ft.	24" Pipe, Cl. A-1, M-6.6(b) or M-6.8(b)
I-1												264						I-1	264		264	Lin. Ft.	24" Pipe, Cl. A-1, M-6.4(d)
I-1						150												I-1	150		150	Lin. Ft.	27" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1														54				I-1	54		54	Lin. Ft.	30" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1											82							I-1	82		82	Lin. Ft.	30" Pipe, Cl. A-1, M-6.6(b) or M-6.8(b)
I-1									88									I-1	88		88	Lin. Ft.	30" Pipe, Cl. A-1, M-6.6(d)
I-1						200												I-1	200		200	Lin. Ft.	36" Pipe, Cl. A-1, M-6.6(a) or M-6.8(b)
I-1														72				I-1	72		72	Lin. Ft.	42" Pipe, Cl. A-1, M-6.6(a)
I-1						420			102									I-1	522		522	Lin. Ft.	42" Pipe, Cl. A-1, M-6.6(d)
I-1						300												I-1	300		300	Lin.Ft.	42" Pipe, Cl. A-1 M-6.6(c)
I-1																	56	I-1	56		56	Lin. Ft.	60" Pipe, Cl. A-1, M-6.6(b)
I-1																178		I-1	178		178	Lin. Ft.	60" Pipe, Cl. A-1, M-6.4(g) 10-10 ga or M-6.6(d)
I-1															140			I-1	140		140	Lin. Ft.	48" Pipe, Cl. A-1, M-6.4(d) or M-6.6 (c)
I-1								258										I-1	258		258	Lin. Ft.	72" Pipe, Cl. A-1, M-6.4(g) 10-8 gage
I-1										427								I-1	427		427	Lin. Ft.	144" Pipe, Cl. A-1, M-6.4(g) 1-1 gage
I-1																106		I-1	106		106	Lin.Ft.	48" Pipe, Cl. A-1, M-6.4(d) 8 ga. or M-6.6(d)
													246					I-1	246		246	Lin. Ft.	54" Pipe Cl. A-1 M-6.6(d)
I-1		75				103												I-1	178		178	Lin. Ft.	6" Pipe, Cl. B-1, M-6.5(b) or M-6.8(b)
I-1			232		159	150												I-1		541	541	Lin. Ft.	12" Pipe, Cl. B-1, M-6.8(b) (Sanitary) w/ Compression Jts
I-1	140																	I-1	140		140	Lin.Ft.	48"Pipe, Cl. A-1, M-6.6(b)
							87											I-1	87		87	Lin.Ft.	6"Pipe, Cl I-3 M-6.8(e)
I-1						80												I-1		80	80	Lin. Ft.	18" Pipe, Cl. B-1, M-6.8(b) (Sanitary) with Compression Jts.
I-1						130												I-1	130		130	Lin. Ft.	12" Pipe, Cl. C-1, Gauge 14 M-6.4(d)
I-1						122												I-1	122		122	Lin. Ft.	21" Pipe, Cl. C-1, Gauge 14 M-6.4(d)
I-1				3207	4248													I-1	7,455		7,455	Lin. Ft.	6" Pipe, Cl. I-3
I-1		30	10	22	14	16												I-1	92		92	Lin. Ft.	6" Pipe, Cl. F-4, M-6.4(i)
I-1		3123	1616			1468												I-1	6,207		6,207	Lin. Ft.	6" Pipe Cl. I-3, M-6.4(h)
I-1						186												I-1		186	186	Lin. Ft.	10" Mech. Jt. Cast Iron Pipe Using Type I Backfill (Sanitary)
I-1						372												I-1		372	372	Lin. Ft.	12" Mech. Jt. Cast Iron Pipe Using Type I Backfill (Sanitary)
I-2	2.2	0.5		1.79	0.92			6.0	1.3	30.5	1.0	2.71	1.92	0.76	1.72	2.12	1.26	I-2	54.7		54.7	C.Y.	Masonry
I-5		15	6	13	7	8	4											I-5	53		53	Each	6" Pipe Specials, Cl. I-3
I-5				2														I-5	2		2	Each	12" Pipe Specials, Cl. A-1, M-6.4(d)
I-5					4	2												I-5	6		6	Each	12" Pipe Special, Cl. A-1, M-6.6(a) or M-6.8(b)
I-5										2								I-5	2		2	Each	144" Prefabricated Sectional Plate Bends, Cl. A-1, M-6.4(g) 1:1 Gage
I-8		14	15	13	16	11												I-8	64	5	69	Each	Std. No. 1 Manhole
I-8	1		2	2	1	3											1	I-8	8	2	10	Each	Std. No. 2 Manhole
I-8	4	2	4	3	2	3												I-8	18		18	Each	Std. No. 3 Catch Basin
I-8	5	32	20	28	27	18												I-8	130		130	Each	Std. No. 3-A Catch Basin
I-8	1	2																I-8	3		3	Each	Std. No. 7 Catch Basin
I-8	6	6	2	3	1	7												I-8	25		25	Each	Std. No. 2-2A Catch Basin
I-8						2												I-8		2	2	Each	Manholes, As Per Plan
I-8														1				I-8	1		1	Each	Std. No. 2-3 Catch Basin
I-8					2													I-8	2		2	Each	Std. No. 8 Catch Basin
				280		30												I-9	310		310	L.F.	Stone Underdrain No. 2
I-10	12		127	4				154	32	26	4	13	11		39	63	28	I-10	513		513	C.Y.	Dumped Rock Channel Protection
I-10									13	80			19		30			I-10	142		142	S.Y.	Riprap, Using 6" Reinforced Concrete Slab as per Plan
I-16			5															I-16	5		5	Each	Manholes, Catch Basins, or Inlets Abandoned
L-10	8		162	171		156			3	33	10		77				243	L-10	863		863	S.Y.	Sodding
L-120									29	49			31					L-120	109		109	S.Y.	Jute Matting
S-24															Lump			S-24			Lump	Lump	Removal of Existing Structure
																		I-3			Lump	Lump	Maintaining Traffic
																					Lump	Lump	Construction Layout Stakes

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HAMILTON COUNTY C.R. 453-B

☆WATER WORKS SUMMARY

* To be laid in concrete casing pipe paid for under Item Special (S-4).

ITEM	QUAN.	UNIT	DESCRIPTION TYPE CODE Y-060	CITY OF CINCINNATI SPECIFICATION NUMBER
SPECIAL	290	LIN. FT.	LAYING 12" CAST IRON PIPE, SPECIALS, & VALVES INCLUDING FURNISHING MATERIAL	W-1
"	100	LIN. FT.	LAYING 12" CAST IRON PIPE, INCLUDING FURNISHING MATERIAL, AS PER PLAN *	W-1
"	1050	LIN. FT.	LAYING 8" CAST IRON PIPE, SPECIALS & VALVES INCLUDING FURNISHING MATERIAL	W-1
"	95	LIN. FT.	LAYING 8" CAST IRON PIPE, INCLUDING FURNISHING MATERIAL, AS PER PLAN *	W-1
"	241	LIN. FT.	LAYING 6" CAST IRON PIPE, SPECIALS & VALVES INCLUDING FURNISHING MATERIAL	W-1
"	680	LIN. FT.	LAYING 8" CAST IRON PIPE & SPECIALS INCLUDING FURNISHING SPECIALS (SALVAGED PIPE ON PROJECT)	W-1
"	40	LIN. FT.	REMOVING EXISTING WATER MAINS - 6" THRU 12"	W-15
"	680	LIN. FT.	SALVAGING EXISTING 8" WATER MAIN	W-17
"	2	EACH	SALVAGING EXISTING M.H.C. & C.	W-20
"	1	EACH	PLUGGING EXISTING TEES & MAINS - 6"	W-21
"	20	LIN. FT.	LOWERING EXISTING SERVICE BRANCHES - 3/4" THRU 2"	W-25
"	100	LIN. FT.	INSTALLING 3/4" COPPER SERVICE PIPE & FITTINGS INCLUDING FURNISHING MATERIAL	W-28
"	120	LIN. FT.	INSTALLING 2" COPPER SERVICE PIPE & FITTINGS INCLUDING FURNISHING MATERIAL	W-29
"	2	EACH	INSTALLING CURB BOXES INCLUDING FURNISHING MATERIAL	W-30
"	5	EACH	INSTALLING AND FURNISHING VALVE BOXES	W-41
"	1	EACH	RESETTING EXISTING VALVE BOXES	W-44
"	5	CU. YDS.	ROCK EXCAVATION	W-45
"	5	CU. YDS.	ADDITIONAL EXCAVATION	W-46
"	7	CU. YDS.	BRICK MASONRY FOR VALVE CHAMBERS	W-47
"	60	CU. YDS.	CONCRETE MASONRY 1:5 MIX	W-48
"	1	EACH	REMOVING EXISTING M.H.C. & C.	W-54
"	3	EACH	REMOVING EXISTING VALVE BOXES	W-55
"	5	EACH	SALVAGING & RELOCATING EXISTING FIRE HYDRANT HEADS	W-80
"	2400	LBS.	REINFORCING STEEL	C-3
"	95	LIN. FT.	LAYING 21" CONC. PIPE CASING (MG.6b) INCLUDING FURNISHING MATERIAL	S-4
"	100	LIN. FT.	LAYING 24" CONC. PIPE CASING (MG.6b) INCLUDING FURNISHING MATERIAL	S-4
SPECIAL	4	EACH	ADJUSTING VALVE CHAMBERS	S-11

☆ No Federal Participation On Any Water Works Items.

SUPPLEMENTAL WATER WORKS SPECIFICATIONS

W-80 SALVAGING AND RELOCATING EXISTING FIRE HYDRANT HEADS.

W-80.01 DESCRIPTION: This Item Shall Cover The Salvaging And Relocation Of Existing Fire Hydrant Heads Where Shown On Plans Or As Directed By The Water Works Superintendent. The Contractor Shall Make The Necessary Excavation, Cut Out The Joints And Carefully Remove The Fire Hydrant Head From The Trench. The Fire Hydrant Shall Be Cleaned Of All Foreign Matter, Both Inside And Outside, To The Satisfaction Of The Water Works Inspector. The Fire Hydrant Will Be Hauled, By The Contractor, To The New Location And Installed As Shown On The Plans.

W-80.02 PAYMENT: Payment For Item W-80, "Salvaging And Relocating Existing Fire Hydrant Heads," Will Be Made In Accordance With The Provisions Of Section W-11.03.

WATER WORKS MATERIAL

QUAN.	UNIT	DESCRIPTION TYPE CODE Y-060
55	LIN. FT.	21" CONC. PIPE CASING (MG.6b)
100	LIN. FT.	24" CONC. PIPE CASING (MG.6b)
22	18' LGTHS.	12" C.I. PIPE
64	18' LGTHS.	8" C.I. PIPE
14	18' LGTHS.	6" C.I. PIPE
100	LIN. FT.	3/4" COPPER SERVICE PIPE
120	LIN. FT.	2" COPPER SERVICE PIPE
5	EACH	VALVE BOX HOOD, LID & TELESCOPES
2	EACH	CURB BOXES
		The Following Material Is Necessary To Complete The Water Main
		And Branch Relocation Work As Proposed On The Drawings.
		Separate Payment Will Not Be Made For These Items, The Cost
		Of Which Shall Be Included In The Unit Price Of The Pipe With
		Which They Are Installed.
1	EACH	8" x 8" CROSS 4 M.J.
2	EACH	12" 45° BENDS 2 M.J.
6	EACH	12" 22½° BENDS 2 M.J.
9	EACH	8" 45° BENDS 2 M.J.
1	EACH	8" 45° BEND M.J. x P.E.
2	EACH	8" 22½° BENDS 2 M.J.
1	EACH	6" OFFSET BEND M.J. x P.E.
5	EACH	6" 90° BENDS 2 M.J.
2	EACH	6" 90° BENDS M.J. x P.E.
2	EACH	6" 45° BENDS 2 M.J.
1	EACH	6" 11¼° BEND 2 M.J.
2	EACH	8" PLUGS M.J.
1	EACH	6" PLUG & CLAMP (H. & S. TYPE)
2	EACH	12" SOLID SLEEVES
5	EACH	8" SOLID SLEEVES
4	EACH	6" SOLID SLEEVES
3	EACH	8" x 6" TEES 3 M.J.
1	EACH	8" VALVES
6	EACH	6" VALVES
3	EACH	M.H.C. & C.
2	EACH	3/4" FERRULES
3	EACH	1" FERRULES
2	EACH	3/4" STOP COCKS
5	EACH	2" COPPER TO COPPER COUPLINGS

Pipe Shall Be Compression Joint, Class 250 And Specials Shall Be Mechanical Joint, Class D.

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HAMILTON COUNTY C.R. 4.63-B

PAVEMENT LEGEND

- Item T-71 9" Reinforced Portland Cement Concrete Pavement
  Item I-22 6" Subbase
- Item T-35 Variable Thickness Asphalt. Conc. Surface Course Type A (70-85)
  Item B-35 Variable Thickness Asphalt. Conc. Leveling Course (70-85)
  Item T-30 Bituminous Tack Coat @ 0.10 Gal./S.Y.
- Item T-35 11¼" Asphaltic Conc. Surface Course Type A (70-85)
  Item B-35 11¼" Asphaltic Conc. Leveling Course (70-85)
  Item B-35 3" Asphaltic Conc. Base Course (70-85)
  Item T-30 Bituminous Prime Coat @ 0.4 Gal./S.Y.
  Item B-13 10" Aggregate Base Course
  Item I-22 11" Subbase
- Item T-35 2" Asphaltic Concrete Surface Course Type A (70-85)
  Item T-30 Bituminous Prime Coat @ 0.4 Gal./S.Y.
  Item B-35 3" Asphaltic Concrete Leveling Course (70-85)
  Item B-13 6" Aggregate Base Course (2-3" Layers)
  Ambercrest Development Co., Inc.
- Item T-35 Var. Thickness Asp. Conc. Sur. Course Type A (70-85)
  Item B-70 8" Portland Cement Concrete Base Course
  Item T-30 Bituminous Tack Coat @ 0.10 Gal./S.Y.
  Item I-22 Subase (4" min.)
- Item T-35 2" Asphaltic Concrete Surface Course Type A (70-85)
  Item B-13 6" Aggregate Base Course
- Item T-70 7" Plain Port. Cement Conc. Pavt.
  Item I-22 4" Subbase
- I-18 Item I-18 6" I-18
- Item T-35 6" Asp. Conc. Surface Course Type A (70-85) 2-3 Courses.
  Item I-18 5" Stabilized Crushed Aggregate Shoulders.

CURVE DATA

P.I. = 106+92.09
Δ = 46°-28'-00"
D = 3°-00'-00"
R = 1909.86
T = 819.88
L = 1548.89
Superelev. = 0.040/Ft.

P.B.M. 2162Δ
Elev. 804.39

Steel Silo

Fr: Shed

Fr: Barn Conc. Toeing

Pool

1 Sty. Brick

Sta. 94+70 Begin Project

Ex. 36" sewer ?

Ex. 24"

Ex. 15"

Ex. C.B. to be modified. See detail Sh. 138

Relocate FH Sta. 7+67 Ridge Rd. 1'-9" W. of W. curb

Sta. 94+85 ± Std. No. 3A CB Located on Ex. 15" F.L. 769.7 ±

Ex. 18" 24" Stump

Ex. 6" Water main to be aban. Remove where depth of cover is less than 1 ft.

Ex. Conc. Pav't.

Ex. 36" M.H.

Ex. Conc. Pav.

Ex. Septic Tank

Ex. Gas Line

Ex. Locust

Ex. Maple

Ex. Cherry

Ex. Sign

Ex. Hydrant

Ex. Power Pole

Ex. Guy Wire

Ex. Mail Box

Ex. Fence

Ex. Bldg.

Ex. Drive Sta. 1+11

Ex. R/W

Ex. Bit. Mac. Pav. (Street Line)

Ex. Bit. Mac. Pav.

Ex. Conc. Drive

Ex. Conc. Pav.

Pool of Ditch

Sta. 12+61 12.0' Ex. Conc. Drive

1 Sty. Fr. #8593

2 M.B.

12 H.S.

R/W ?

RAMP "B"

RAMP "A"

RAMP "C"

RAMP "D"

RIDGE ROAD

FUHRMAN ROAD

Maurice Wesselmann

See Sh. No. 99 For Details

City of Reading Village of Amberley

Sta. 99+75 C, 8.5' Lt. Std. No. 2-2A C.B. T/Grate 787.35 F.L. @ C.B. 785.00

Sta. 99+50 C Std. No. 3A C.B. F.L. @ CB 784.37

Sta. 94+75 (Ridge Rd.) Std. No. 3A C.B. FL. @ C.B. 796.37 Connect to ex. 12" stub at MH.

Connect 18" pipe to exist. 14" & 4" with conc. collar.

To Be Paid For As I-2 Masonry - 0.5 C.Y.

18" SWP. pipe M-6.6(a) 59'± Conn. to exist. 18" stub at MH.

1½ St. Br.

Sta. 7+75 (ridge Rd.) Std. No. 3A C.B. FL. @ C.B. 796.37 Connect to ex. 12" stub at MH.

Remove exist. 6" C.I. Tile

Adj. Rim

Ex. 6" C.I. Tile

Slope to inlet

12" sewer pipe M-6.6(a) 44'± Conn. to ex. 12" stub @ MH

Connect ex. 6" to new 18"

Ex. 14" Conc. Pipe

Ex. Ring

Ex. 6" C.I.

Ex. 8" C.I.

2 St. Br.

1 St. Fr. Dog Kennel

6" Sewer Pipe M-6.6(b) 75'± F.L. of C.B. to Intercept Ex. 6" Clay Tile

Sta. 96+40, 11.5' Lt. Std. No. 1-MH Rim El. 779.04

Sta. 94+75, 11.5' Lt. Ex. Std. No. 1 MH

Sta. 97+70 ℄ Std. No. 1-MH Rim El. 782.81

Sta. 95+10, 11.5' Lt. Ex. Type D.D.C.B.

Remove top of exist. inlet & pour conc. slab

Connect to exist inlet structure.

Inv. 774.3 Lt.

Inv. 777.3 Ctr.

Inv. 779.5 Ctr.

Inv. 779.1 Lt.

24" Sewer pipe

18" Sewer pipe

6" I-3 Underdrain

Sta. 97+00 D Inv. 784.6 Rt.

Sta. 100+25 D Inv. 785.2 Rt.

Sta. 99+75 C Inv. 785.5 Lt.

+1.60%

Sta. 100+70 ℄ Std. No. 1-MH Rim El. 787.61

Sta. 101+00 D Inv. 785.4 Rt.

Sta. 101+13 C Inv. 782.5 Lt.

Inv. 784.0 Lt.

15" Sewer pipe

Inv. 783.1 Lt.

Inv. 784.3 Ctr.

Sta. 103+20 ℄ Std. No. 1-MH Rim El. 791.61

Inv. 788.3 Ctr.

12" Sewer pipe

Inv. 786.3 Lt.

Sta. 105+70 ℄ Std. No. 1-MH Rim El. 795.61

Inv. 792.3 Ctr.

Inv. 790.8 Lt.

12" sewer pipe

P.V.C. 796.20

P.V.I. 799.40

400' V.C.

-3.04%

FL. 773.65 (24")

FL. 775.33 (24")

FL. 775.68 (18")

FL. 779.73 (18")

FL. 779.98 (15")

FL. 784.22 (15")

FL. 784.47 (12")

FL. 788.67 (12")

FL. 789.63 (12")

130'-24" @ 1.60 %

300'-18" @ 1.30 %

250'-15" @ 1.70 %

250'-12" @ 1.68 %

Exist. 36"

Ex. 24"

Inv. 767.90 (Ex. 24")

Inv. 771.17 (New 24")

130'-24" @ 1.60%

Sta. 94+85 Std. No. 3A CB F.L. @ C.B. 772.70 F.L. @ MH 772.20

Sta. 96+50 Std. No. 3 A C.B. F.L. @ CB 775.70 F.L. @ MH 776.20

Sta. 97+00 415 Rt. Std. No. 2-2A C.B. T/Grate 880.55 F.L. @ C.B. 777.00

Sta. 98+50 D Std. No. 3A CB F.L. @ CB 787.00

Sta. 100+19 D, 105' Rt. Std. No. 2-2A C.B. T/Grate 787.6 F.L. @ C.B. 784.0

Sta. 100+25 D Std. No. 3A CB F.L. @ CB 783.90

Sta. 103+30 Std. No. 3A CB F.L. @ CB 786.58 F.L. @ MH 786.08

Sta. 105+80 Std. No. 3A CB F.L. @ CB 790.58 F.L. @ MH 790.08

Sta. 109+80 Std. No. 3A CB F.L. @ CB 789.42 F.L. @ MH 788.92

Sta. 110+00, 45.5' Rt. Std. No. 2-2A C.B. T/Grate 795.75 F.L. @ C.B. 791.7 F.L. @ MH. 791.2

Sta. 101+19.33 C Std. No. 3 C.B. FL. @ CB 780.73

Sta. 103+30 Std. No. 3A CB FL. @ CB 785.13 FL. @ MH 784.63

Sta. 105+80 Std. No. 3A CB FL. @ CB 789.33 FL. @ MH 788.83

Sta. 109+80 Std. No. 3A C.B. F.L. @ C.B. 790.67 F.L. @ MH 790.17

Median Crossover ℄ Sta 104+20 See Sh. 100 for Detail of Crossover

Begin 6" I-3 Sta. 99+75 C

End 6" I-3 Sta. 101+50 102 C

End 6" I-3 Sta. 101+00 D

End 6" I-3 Sta. 105+80 Lt. & Ctr.

6" I-3 Pipe Underdrain

Top of Cut

Begin 6" I-3 Sta. 97+00 D

P.C. 98+72.21 B.M. Elev. 796.54

P.O.T. 103+94.98 B.M. Elev. 80.4.23

P.I. 106+92.09

R/W

E/W ?

See Sh. 135 For Sewer Profile

See Sh. 135 For Sewer Profile

See Sh. 135 For Sewer Profile

See Sh. 100 For Detail of Crossover

Ambercrest Development Co., Inc.

See Sheet No. 99 For W. M. Details

Note:
1. See Sh. 138 for detail of conn. of pipe Underdrains to catch basins & manholes.

94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 94+70 TO STA. 110+00

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HAMILTON COUNTY C.R. 453-B

Concrete Mix For Filling Sink Holes ⊕

1 Part Cement
6 Parts fine and Course Aggregates
using Max. ½" Course Aggregates
6" Slump

Ward A. & Loretta G. Holcomb

Sta. 115+72, 46' Lt.
Sink Hole to be
filled with conc.

Sta. 112 + 80
Std. No. 3A C.B.
FL @ C.B. 780.59
FL @ MH 780.08

P.T. 114+21.10
B.M. Elev. 781.09

Sta. 115+70, 62 Lt.
Std. No. 7 C.B.
T/G El. 773.6
F.L. 771.87

Sta. 115 + 80
Std. No. 3A C.B.
FL @ C.B. 771.47
FL @ MH 771.00

Sta. 118 + 80
Std. No. 3A C.B.
FL @ C.B. 761.65
FL @ MH 761.15

Sta. 121 + 00
Std. No. 3A C.B.
FL @ C.B. 751.96
FL @ MH 751.46

Sta. 121 + 80
Std. No. 3A C.B.
FL @ C.B. 747.87
FL @ MH 747.37

Wooded

Sta. 124 + 80
Std. No. 3A C.B.
FL @ C.B. 731.70
FL @ MH 731.20

Sta. 125+00, 45.5' Lt.
Std. No. 2-2A C.B.
T/Grate 735.95
FL @ C.B. 732.1
FL @ MH 731.6

Begin Guard Rail
Sta. 125+75

Top of Cut

110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126

12" Sewer Pipe
15" Sewer Pipe
21" Sewer Pipe
6" I-3 Pipe Underdrain

15-D 16-D 17-D 18-D 19-D 20-D 21-D 24-D 30-P 31-P 6-D 5-R 6-R 7-R

R/W

Sta. 112 + 80
Std. No. 3A C.B.
FL @ C.B. 781.93
FL @ MH 781.33

Sta. 115 + 80
Std. No. 3A C.B.
FL @ C.B. 772.71
FL @ MH 772.21

Sta. 115+63, 62' Rt.
Sink Hole to be
filled with Conc.

℄ Median Crossover
Sta. 116+20

Sta. 118 + 80
Std. No. 3A C.B.
FL @ C.B. 761.65
FL @ MH 761.15

Top of Cut

Sta. 121 + 80
Std. No. 3A C.B.
FL @ C.B. 747.47
FL @ MH 746.97

Median Cross
Sta. 122+20

+00

6" I-3 Pipe Underdrain

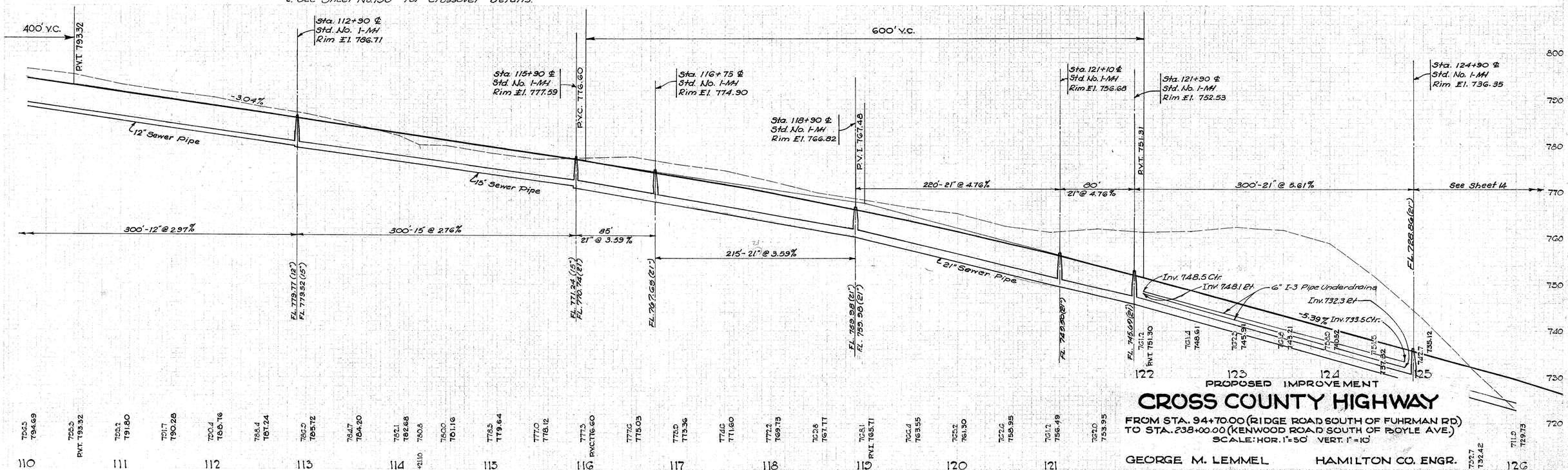
P.C. 123+22.32
B.M. Elev. 762.26

Sta. 124 + 80
Std. No. 3A C.B.
FL @ C.B. 730.65
FL @ MH 730.15

Begin Guard Rail
Sta. 125+25

Ward A. & Loretta G. Holcomb

Note
1. See Sheet No. 138 for detail of conn. of pipe. underdrains to Catch basins & manholes
2. See Sheet No. 138 for crossover details.



CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 110+00 TO STA. 126+00

ESTIMATED QUANTITIES

SUB-SUMMARY SHEETS

FED. RD DIVISION	STATE	PROJECT	
	Ohio		

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HAMILTON COUNTY C.R.433-B

Location			Item E-8		Item I-2		Item I-13			Item I-15			S-15
			Removal & Disposal of Exist. Pavt.	Removal & Disposal of Exist. Sidewalk	Concrete Masonry as Per Plan		4" Conc. Sidewalk			Guard Rail			Tem. P. Pavement Road
Ref. No.	Station to Station	Side	S.Y.	S.F.	C.Y.		S.F.			Lin. Ft.			Lump
	ROADWAY												
1-R	12+41 (Ridge)	Lt.	15										
2-R	13+14 (Ridge)	Lt.	8										
3-R	1+11 (Fuhrman)	Lt.	28										
4-R	0+24.5 to 0+43 (Fuhrman)	Lt.		112			107						
5-R	125+75 to 126+00	Lt.								25			
6-R	125+25 to 126+00	Rt.								75			
7-R	115+63	Rt.			3								
8-R	115+72	Lt.			4								
9-R	10+83 to 11+20.5 Ridge	Lt.								37.5			
10-R	8+76 to 9+13.5 Ridge	Rt.								37.5			
	Sub-Total		51	112	7		107			175			Lump

Location			Item I-1									I-2	I-5 Pipe Specials		Item I-8 Manholes		Item I-8 Catch Basins & Inlets					E-12		L-10
				12" Sewer Pipe Cl. A-1	15" Sewer Pipe Cl. A-1	18" Sewer Pipe Cl. A-1	21" Sewer Pipe Cl. A-1	24" Sewer Pipe Cl. A-1		6" Sewer Pipe Cl. B-1		6" Pipe Underdrain Cl. I-3 Mg. A(h)	6" Pipe Outlets For Underdrain Cl. F-4	Cl. C Masonry (Hdwl. Retain. Wall etc)	6"-30° Bend	6"-45° Bend	Std. No. 1	Std. No. 2	Std. No. 3 C.B.	Std. No. 3-A C.B.	Std. No. 7 C.B.	Std. No. 2-2-A C.B.	Std. No. 2-2-B C.B.	Removal of Pipe 24" and under	Removal of Pipe over 24"	Sodding
Ref. No.	Station to Station	Side		Lin. Ft.	Lin. Ft.	Lin. Ft.		Lin. Ft.		Lin. Ft.		Lin. Ft.	Lin. Ft.	Cu. Yd.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Lin. Ft.	Lin. Ft.	S.Y.
	DRAINAGE																								
1-D	Sta. 13+37 Ridge Rd.	Rt.		8													1							
2-D	12+24 Ridge Rd.	Lt. & Rt.		114												1		2		1				
3-D	10+39 to 11+05 Ridge	Lt. & Rt.		52												1*		2						
4-D	9+85	Lt. & Rt.		41														2						
5-D	8+07 Ridge Rd.	Rt.		44						75									1					
6-D	7+75 Ridge Rd.	Rt.		20		55								0.5				1						
7-D	8+75 to 10+75 Ridge	Lt. & Rt.																					202	
8-D	95+00 to 105+70	Ctr.		250	250	300		260								5								
9-D	96+50 to 97+00	Rt. & Ctr.		80														1		1				
10-D	97+70 to 99+00	Lt. & Rt.		341														4		1				
11-D	100+00 to 101+00	Lt. & Rt.		187													1	3		1				
12-D	103+20 to 103+30	Lt. & Ctr.		50														2						
13-D	105+70 to 105+80	Lt. & Ctr.		48														2						
14-D	109+80 to 109+90	Lt. & Rt.		94														2		1				
15-D	109+90 to 126+00	Ctr.		300	300		1010									7								
16-D	112+80 to 112+90	Lt. & Ctr.		48														2						
17-D	115+70 to 115+90	Lt. & Ctr.		12	64													2	1					
18-D	118+80 to 118+90	Lt. & Rt.		70														2						
19-D	121+00 to 121+10	Lt.		35														1						
20-D	121+80 to 121+90	Rt. & Ctr.		48														2						
21-D	124+80 to 124+90	Rt. & Ctr.		92														2		1				
22-D	94+85 to 101+50	Lt.										656	6			3								
23-D	96+50 to 105+80	Ctr.										914	8			4								
24-D	99+75 Ramp "C" to 100+80	Lt.										610	6			3								
25-D	97+00 Ramp "D" to 101+00	Rt.										391	6			3								
26-D	122+00 to 124+80	Rt. & Ctr.										552	4			2								
	Sub Total			1934	614	355	1010	260		75		3123	30	0.5		15		14		2	32	2	6		202	

*Adjust to grade

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES

SUB-SUMMARY- SHEETS

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

Ref No.	Station to Station	Side	Item T-71 9" Reinforced Portland Cement Concrete Pavement S.Y.	Item T-70 7" Plain Portland Cement Concrete Pavement S.Y.	Item I-22 Subbase C.Y.	Item T-35 Asphaltic Concrete Surface Course C.Y.	Item B-35 Asphaltic Concrete Leveling Course C.Y.	Item B-35 Asphaltic Concrete Base Course C.Y.	Item B-19 Aggregate Base Course C.Y.	Item T-30 Bituminous Prime Coat Gal.	Item T-30 Bituminous Tack Coat Gal.	Item I-12 Standard Type 2-4 Concrete Curb Lin.Ft.	Item I-12 Standard Type 3-A Mod. Conc. Curb Lin.Ft.	Item I-21 4" Concrete Paved Median Type 1 S.Y.	Item I-24 Type I Asphaltic Concrete Curb Lin.Ft.	Item I-7 13" Reinforced Concrete Approach Slab S.Y.
	PAVEMENT															
1-P	94+70 to 110+00	Rt&Lt.	10260		2338											
2-P	7+67(Ridge) to 9+04.08(Ridge)	Rt&Lt.	684		117											
3-P	96+82 "D" to 101+42.84 "D"	Lt.	1224		271											
4-P	96+52.6 "C" to 101+62.32 "C"	Rt.	1272		245											
5-P	10+35.32(Ridge) to 13+4.4(Ridge)	Rt&Lt.	1152		197											
6-P	0+22(Fuhrman) to 1+25(Fuhrman)	Rt&Lt.			105	11	11	27	93	129						
7-P	9+04.08(Ridge) to 10+35.32(Ridge)	Rt&Lt.														251
8-P	6+47(Ridge) to 7+67(Ridge)	Ctr.				9	9				27					
9-P	6+47(Ridge) to 7+67(Ridge)	Rt&Lt.			57	6	6	13	44	64						
10-P	7+37(Ridge)	Lt.				1			2							
11-P	12+61(Ridge)	Lt.		19	2											
12-P	13+14 (Ridge)	Lt.		9	1											
13-P	1+11(Fuhrman)	Lt.		16	3											
14-P	94+70 to 110+00	Ctr.										3011				
15-P	94+70 to 10+35.32(Ridge)	Lt.										1228				
16-P	94+70 to 9+04.08 (Ridge)	Rt.										1200				
17-P	7+62 (Ridge) to 7+67 (Ridge)	Lt.													5	
18-P	7+67(Ridge) to 7+58.5(Ridge)	Lt.										23				
19-P	8+48(Ridge) to 9+04.08 (Ridge)	Lt.										58				
20-P	10+35.32(Ridge) to 11+41(Ridge)	Lt.										45				
21-P	11+36(Ridge) to 13+25 (Ridge)	Lt.										123				
22-P	13+20(Ridge) to 13+4.4 (Ridge)	Rt.										26				
23-P	0+24.5(Fuhrman) to 0+62(Fuhrman)	Rt&Lt.													101	
24-P	7+59(Ridge) to 7+67(Ridge)	Rt.													8	
25-P	7+67(Ridge) to 101+34	Rt.										653				
26-P	101+34 to 110+00	Rt.											806			
27-P	12+43(Ridge) to 102+37.32 "C"	Lt.										641				
28-P	102+37.32 "C" to 110+00	Lt.											782			
29-P	110+00 to 126+00	Lt&Rt.	10432		2014											
30-P	110+00 to 126+00	Ctr.										3052				
31-P	110+00 to 126+00	Lt&Rt.											3200			
32-P	101+26 to 101+37	Lt.												11		
	Sub-Total		25024	44	5350	27	26	40	139	193	27	10066	4788	11	114	251

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 488-B

Sta. 127+84
14"-30° Skew Lt. Fwd.
72" Pipe Culvert
See Sheet 140

See Sh. 135 for Profile on 15" San.

Sta. 127+80
Std. No. 3A CB.
FL @ CB 715.52
FL @ MH 715.02

Ex. MH

Prop. No. 1-MH
Ex. 12" sanit.

Prop. 30"-24"-22

Sta. 132+65 Lt.
30°-42" Pipe Culvert
See Sheet 141

Prop. No. 1 MH
at ± 16" Ø pipe

Ex. MH #47

Proposed 12" San. Sewer
See Sheet 135 for Profile

Ex. Drop Manhole
Ex. 12" Sewer

Existing 12" San. sewer outside the limits of the embankment to be abandoned

Prop. 20" Gas (By Others)
T/L "A"

24" to 20" Reducer

Sta. 135+27
120" Pipe Culvert
See Sheet 142

PROP. 12" SAN. SEWER (BY OTHERS)

Sta. 130+80
Std. No. 3A CB.
FL @ CB 701.65
FL @ MH 701.15

P.I. to P.O.T. 193.4'
B.M. Elev. 703.23

Sta. 132+78.58
Std. No. 3 CB
FL @ CB 698.83
FL @ MH 698.33

Sta. 134+60
Std. No. 3A CB.
FL @ CB. 701.13
FL @ MH 700.68

Ex. MH #48

Toe of Fill

Sta. 138+60
Std. No. 3A CB.
FL @ C.B. 721.08
FL @ MH 720.58

Ex. SWR MHs. to be taken above

Ex. SWR MHs. to be removed.

24" Sewer Pipe

24" to 20" Reducer

24" Sewer Pipe

Ex. MHs #48 & 49 and San. Swr. Within the limits of the embankment to be abandoned & removed.

End Guard Rail Sta. 128+00

Heavily Wooded

End Guard Rail Sta. 139+00

Heavily Wooded Area

Sta. 140+00
Std. No. 3A CB.
FL @ CB 729.22
FL @ MH 728.72

21" Sewer Pipe

18" Sewer Pipe

PROP. 12" SAN. SEWER - 46.5' North of ℄ (By Others)

6" E-3 Pipe Underdrain

Top of Cut
Ex. 18" Gas T/L "B"
(To Be Abandoned)

Begin Guard Rail Sta. 132+00

Sta. 130+80
Std. No. 3A CB.
FL @ CB 700.60
FL @ MH 700.10

Sta. 132+78.58
Std. No. 3 CB
FL @ CB 697.78
FL @ MH 697.28

Prop. San. Swr.

Ex. MH

Prop. No. 2 MH on Ex. 12" sanitary

Sta. 127+80
Std. No. 3A CB
FL @ CB 714.47
FL @ MH 713.97

Ex. 12" P.S.

Ward A. & Loretta G. Holcomb

City of Reading

Village of Amberley

Median Cross & Sta. 128+20

CORP. LINE

Ex. 4" I.P. Gas Main (To Be Abandoned)

HAMILTON COUNTY
VILLAGE OF AMBERLEY

Arborcrest Amended 5th Subdivison

Median Cross & Sta. 133+50

See Sh. 135 for Profile of prop. 21" San. Sewer

Sta. 134+60
Std. No. 3A CB.
FL @ CB 700.13
FL @ MH 699.63

Ex. MH #49

PT. 136+04.54
B.M. Elev. 681.21

Toe of Fill

End Guard Rail
Sta 138+75

Sta. 138+60
Std. No. 3A CB.
FL @ CB 720.68
FL @ MH 720.18

Prop. No. 1 MH

D.R.C.P.
136+00 Rt. to 137+50 Rt.

Wooded Area
Begin 6" E-3
Sta. 139+00

Prop. 8" W.M. (By Others)
39.25' North of ℄

16" Locust

2-12" crab apple

6" E-3 Pipe Underdrain

Armagh Corp.

Exist. MH on 18" sanit.

Ex. 18" P.S.

Sod
126+50 Rt. to 127+50 Rt.
4' Wide

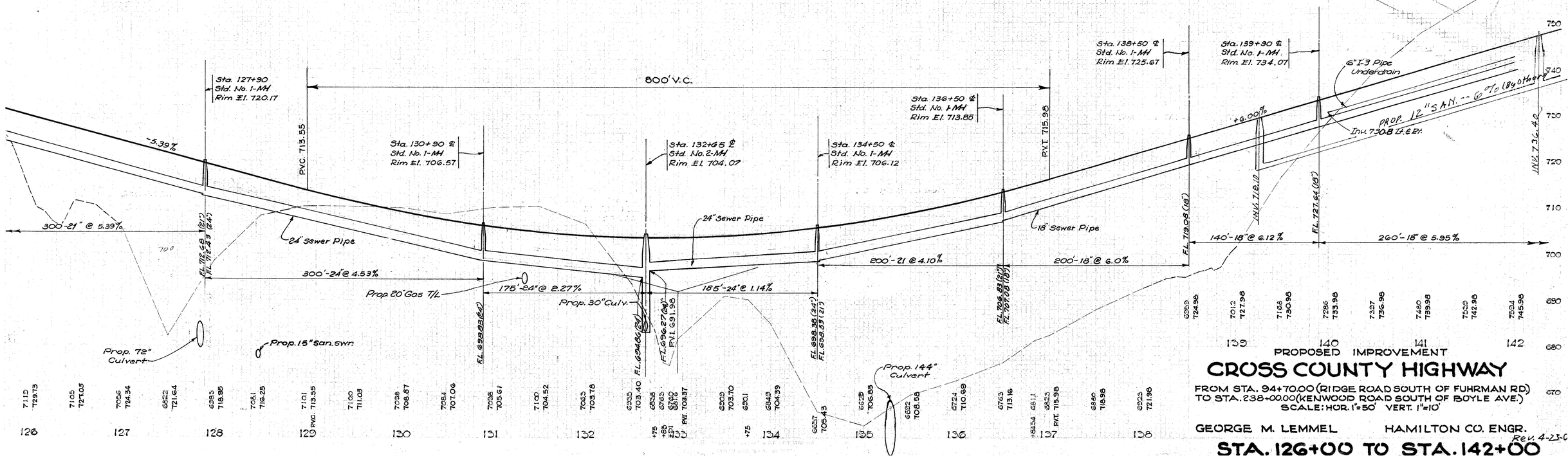
D.R.C.P.
133+30 Lt. to 139+00 Lt., 4' wide, 18" deep
Sod
139+00 Lt. to 140+75 Lt., 6' wide

Lillian Dillon

CURVE DATA
P.I. = 130+24.22
Δ = 34°-03'-20"
D = 2°-30'-00"
R = 2291.83
L = 1362.22
T = 701.90
Superelev. 0.041'/ft.

1. See Sheet No. 138 for detail of conn. of pipe underdrains to catch basins & manholes.

2. See Sheet No. 138 for crossover details.



PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

Rev. 4-23-0

STA. 126+00 TO STA. 142+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

HAMILTON COUNTY C.R.453-B

Note:
1. See Sheet No. 138 for detail of conn. of pipe underdrains to catch basins & manholes.
2. See Sheet No. 138 for crossover details.

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

Rev. 4-23-63

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 142+00 TO STA. 158+00

FED. RD DIVISION	STATE	PROJECT
	OHIO	

HAMILTON COUNTY CR453-B

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ESTIMATED QUANTITIES

SUB-SUMMARY SHEETS

Ref. No.	Location: Station to Station	Side	Item I-13 5" Concrete Sidewalk	Item I-15 Guard Rail
			S.F.	Lin. Ft.
	ROADWAY			
1-R	126+00 to 128+00	Rt.		200 ✓
2-R	126+00 to 139+00	Lt.		1300 ✓
3-R	132+00 to 138+75	Rt.		675 ✓
4-R	0+46.5 (Sedgewick) to 2+51.89 (Sedgewick)	Lt.&Rt.	1622 ✓	
5-R	157+12.5 to 158+00	Lt.		87.5 ✓
	Sub-Total		1622	2262.5

Ref. No.	Location: Station to Station	Side	Item T-71 9" Reinforced Port. Cem. Conc. Pavt.	Item I-22 Subbase	Item T-35 Asphaltic Conc. Surface Course	Item B-35 Asphaltic Conc. Leveling Course	Item B-19 Aggregate Base Course	Item T-30 Bituminous Prime Coat	Item I-12 Std. Type 2-A Conc. Curb	Item I-12 Std. Type 3-A Mod. Conc. Curb	Item I-12 Std. Type 3 Conc. Curb & Gutter
			S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	Gal.	Lin. Ft.	Lin. Ft.	Lin. Ft.
	PAVEMENT										
1-P	126+00 to 142+00	Lt.&Rt.	10,432	1993							
2-P	126+00 to 142+00	Ctr.							3052		
3-P	126+00 to 142+00	Lt.&Rt.								3200	
4-P	142+00 to 158+00	Lt.&Rt.	10,408	2257							
5-P	0+34.50 (Sedge) to 0+79.50 (Sedge)	Lt.&Rt.	212	38							
6-P	142+00 to 158+00	Ctr.							3150		
7-P	142+00 to 146+09.39	Lt.								409	
8-P	142+00 to 158+00	Rt.								1600	
9-P	147+30.39 to 158+00	Lt.								1070	
10-P	146+09.39 to 0+79.50 (Sedge)	Lt.							76		
11-P	0+79.50 (Sedge) to 2+51.89 (Sedge)	Lt.&Rt.									345
12-P	0+79.50 (Sedge) to 2+51.89 (Sedge)	Lt.&Rt.			21 ✓	32 ✓	64 ✓	153 ✓			
13-P	0+79.50 (Sedge) to 147+30.39	Lt.							79		
	Sub Total		21,052	4288	21	32	64	153	6357	6279	345

Ref. No.	Location: Station to Station	Side	Item I-1 12" Sewer Pipe Cl. A-1	Item I-1 15" Sewer Pipe Cl. A-1	Item I-1 15" Std. Str. Vit. Sew. Pipe Conc. Enc. Cl. A-1	Item I-1 18" Sewer Pipe Cl. A-1	Item I-1 21" Sewer Pipe Cl. A-1	Item I-1 21" Std. Str. Vit. Sew. Pipe Conc. Enc. Cl. A-1	Item I-1 24" Sewer Pipe Cl. A-1	12" Sewer Pipe Cl. B-1	18" Sewer Pipe Cl. B-1	6" Pipe Underdrain Cl. I-3 M6.4(h)	6" Pipe Outlets for Underdrain Cl. F-4	I-5 Pipe Specials 6" 30° Bend	I-5 Pipe Specials 6" 45° Bend	6" 90° Bend	Item I-8 Manholes Std. No. 1	Item I-8 Manholes Std. No. 2	Item I-8 Catch Basins & Inlets Std. No. 3 C.B.	Std. No. 3-A C.B.	Std. No. 7 C.B.	Std. No. 2-2-A C.B.	Std. No. 2-2-B C.B.	I-10 Dumped Rock Channel Protection	I-16 MH C.B. or Inlets Abandon	L-10 Sodding	E-12 Removal of Pipe 24" and under
			Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Cu. Yds.	Ea.	Sq. Yd.	Lin. Ft.
	DRAINAGE																										
1-D	Sta. 126+00 to 132+65	ctr.					190		475								2	1									
2-D	127+80 to 127+90	Rt.&Ctr.	48																	2							
3-D	128+46	Lt.&Rt.			400												1	1							3		
4-D	130+80 to 130+90	Rt.&Ctr.	48																	2							
5-D	132+65 to 132+78.58	Rt.&Ctr.	48																2								
6-D	132+65 to 142+50	ctr.				600	200		185								4										
7-D	134+50 to 134+60	Rt.&Ctr.	48																	2							
8-D	134+71	Lt.&Rt.						386									2								2		390
9-D	133+50 to 135+00	Lt.								232																	110
10-D	138+50 to 138+60	Rt.&Ctr.	48																	2							
11-D	139+90 to 140+00	Lt.	35																	1							
12-D	142+50 to 154+50	ctr.	500	300		400											5										
13-D	142+50 to 142+60	Lt.&Rt.	70																	2							
14-D	146+50 to 147+21	Lt.&Rt.	140	70															2	2							
15-D	149+50 to 149+60	Lt.&Ctr.	92																	2		1					
16-D	152+50 to 152+60	Lt.&Ctr.	48																	2							
17-D	154+50 to 155+60	Lt.&Rt.	154																	2		1					
18-D	157+80 to 158+00	Ctr.	20														1			1							
19-D	140+00 to 148+00	Lt.&Rt.										1616	10		5	1											
20-D	126+50 to 127+50	Rt.																								45	
21-D	133+00 to 140+00	Lt.																						127		117	
1-S	127+84	Lt.&Rt.		See Sheet No. 140 for Quantities																							
2-S	132+65	Lt.&Rt.		See Sheet No. 141 for Quantities																							
3-S	135+28.5	Lt.&Rt.		See Sheet No. 142 for Quantities																							
	Sub-Total		1299	370	400	1000	390	386	660	232		1616	10		5	1	15	2	4	20		2		127	5	162	500

PROPOSED IMPROVEMENT
CROSS COUNTY HIGHWAY
FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

110' - Furn. & Install 8" C.I. Pipe
2 - Adjust Ex. Valve Chamber
3 - 8" 45° Bends 2 M.J.
1 - 8" 45° Bend M.J. x P.E.
1 - 8" Sleeve
4 - - Cu. Yds. Conc. Masonry - 1:5 Mix
6' - Remove Ex. 8" W.M.

Concrete Mix For Filling Sink Holes ⊕

1 Part Cement
8 Parts fine and course Aggregate's
Using Max. ½" Course Aggregates
6" Slump

Note:

1. See Sheet No. 138 for detail of conn. of pipe underdrains to catch basins & manholes.
2. See Sheet No. 138 for crossover details.

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 158+00 to STA. 174+00

Rev. 4-23-6

Irving S. Benjamin, Tr.

Sta. 176+60 24" Pipe See Sheet No. 135

Sta. 176+50 Std. No. 3 C.B. FL @ CB 782.50 FL @ MH 782.0

Sta. 175+58.96 Std. No. 3 C.B. FL @ CB 781.81 FL @ MH 781.31

Begin Guard Rail Sta. 176+50

Sta. 176+74 78' Lt.

DRCP 18" Deep

54" Elm, 56" Elm, 36" Locust, 14" Willow, 18" Willow, 12" Willow, 24" Ash, 24" Willow, 16" Willow, 16" Maple, 24" Maple, 36" Hickory, 24" Oak, 24" Sewer Pipe, 18" Sewer Pipe, 15" Sewer Pipe, 36" Maple, 12" Elm, 28" Ash, 18" Wild Cherry, 14" Elm, 18" Elm, 16" W. Cherry, 8" Elm, 16" Wild Cherry, 6-8" Elms, 12" Cherry, 36" Ash, 16" Maple, 3-Ash

P.C. 174+02.31 Mon. B.M. Elev. 809.17

Sta. 175+58.96 Std. No. 3 C.B. FL @ CB 781.24 FL @ MH 780.74

Begin Guard Rail Sta. 176+50

Sta. 176+50 Std. No. 3A C.B. FL @ CB 783.82 FL @ MH 783.32

Sta. 176+10, 26° R.F. 48" Pipe Culvert See Sheet No. 145

Toe of Fill

Sta. 179+60 Std. No. 3A C.B. FL @ CB 791.16 FL @ MH 790.66

End Guard Rail Sta. 182+25

Sta. 183+60 Std. No. 3A C.B. FL @ C.B. 800.92 FL @ MH 800.42

Sta. 179+60 Std. No. 3A C.B. FL @ C.B. 791.67 FL @ M.H. 791.17

See Sheet 106 for Additional Guard Rail

Sta. 7+75 Ramp X. Std. No. 3A C.B. FL. 793.20

Ramp "X" 400 - 30 X-City

AC. 6+04.10 Ramp "X"

See Sheet 148 For DRCP 30" Deep P.C. 0+00 E.B. Hunt 13+67.06 Hunt

Toe of Fill

24" Maple, 12" Maple, 24" Ash

RAMP X

10+00 "X", 8+00 "X", 7+00 "X"

See Sheet 113 for Profile P.T. 7+54.77 Ramp "X"

See Sheet 135 for Sewer Profile

See Sh. 107 for details

E. B. HUNT

Sta. 14+14 Hunt Rd., Skew 42°50' L.F. 48" Pipe Culvert See Sh. 148 for Profile

HUNT ROAD

For Temporary Run-Around See Sh. No. 101

Florence Fabe

Sta. 17+42, 27' Lt. Std. HW-E Endwall Inv. 812.0

Sta. 183+60 Std. No. 3A C.B. FL @ CB 801.43 FL @ MH 800.93

Hunt Temp. Run-Around

Sta. 184+00.45 Lt. Std. No. 2-2A C.B. T/Grate 807.15 FL 803.30

Sta. 184+00, 28' Rt. Std. No. 2-2A C.B. T/Grate 815.90 FL @ C.B. 812.5

P.T. 188+31.11

P.O.T. 186+41 From P.T. El. 837.66

Nancy Wilder

Special Drains See X-Sects.

Sta. 188+00 Std. No. 3A C.B. FL @ CB 810.5 FL @ MH 810.0

Item E-10 Bldg. Removal

6" I-3 Pipe Underdr.

Top of Cut

6" Walnut, 24" Walnut, 16" Elm, 24" Elm, 14" Walnut, 18" Walnut, 12" Elm, 12" W.Ch., 16" Ch., 15" Elm, 6" I-3 Underdrain, 12" Elm, 18" W.Ch., 24" Elm, 18" Elms, 12" Locust, 10" Locust, 18" Locust, 12 Ash, 18" Sewer Pipe, 12" Ash

1+00 "Y", 2+00 "Y"

Sta. 2+80 Ramp Y Std. No. 3A C.B. FL. 810.0

RAMP Y 400

5+00

Sta. 188+00 Std. No. 3A C.B. FL @ C.B. 809.75 FL @ MH 809.5

Hartzell Memorial Methodist Church

P.T. 2+35.38 Back "Y" Sta. 2+50.30 Ahead

P.C. 0+00 Ramp "Y" 1854+13.63 X-County

SECTION LINE

SEC. 21

SEC. 15

Ramp "X" CURVE DATA
P.I. = 6+79.68
Δ = 11°18'00"
D_c = 7°30'
R = 763.94'
T = 75.58'
L = 150.67'

Ramp "Y" CURVE DATA
P.I. Sta. 1+43.76
Δ = 17°07'21" Dt.
D_c = 6°00'00"
R = 954.93'
T = 143.76'
L = 285.38'

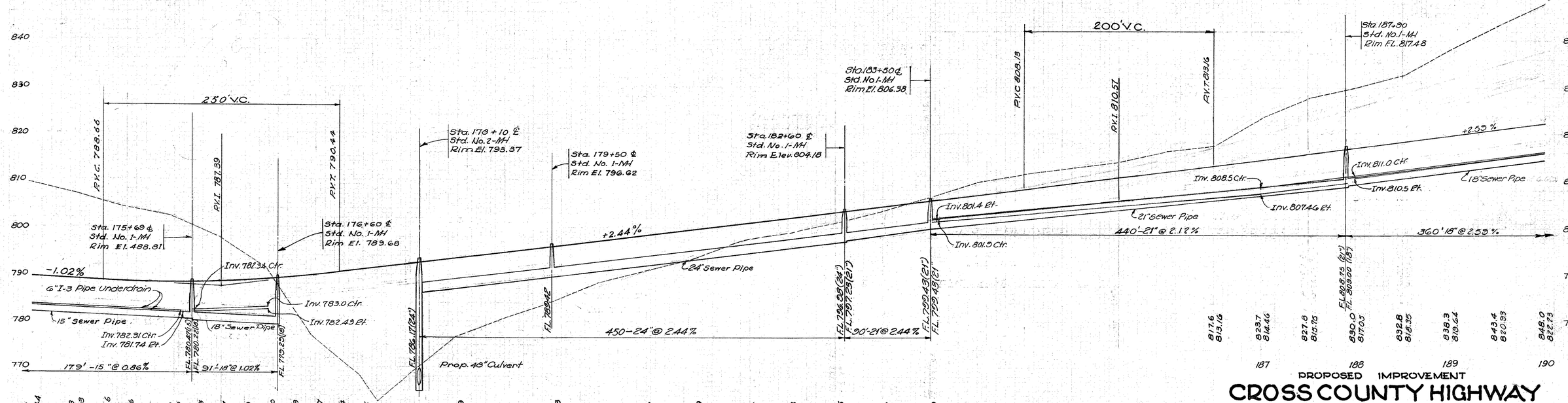
CURVE DATA
P.I. = 188+31.11
Δ = 32°24'36"
D = 12°10'00"
R = 471.07'
L = 2780.83
T = 1428.80
Superelev. 0.020/ft.

Sod 176+50 Rt. to 178+50 Rt., 4' Wide

Irving S. Benjamin, Tr.

Note:
1. See Sheet No. 138 for detail of conn. of pipe underdrains to catch basins & manholes.
2. See Sheet No. 138 for crossover details.

See Sheet No. 107 for W.M. Details on Hunt Rd.



PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 174+00 to STA. 190+00

ESTIMATED QUANTITIES

SUB SUMMARY SHEETS

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

Location			Item E-8		Item I-2		Item I-13				Item I-16				Location			S-13
			Removal & Disposal of Exist. Pavk.	Removal & Disposal of Exist. Curb.	Conc. Masonry as per Plan		5' Concrete Sidewalk				Guard Rail							Temporary Run-Around
Ref. No.	Station to Station	Side	S.Y.	Lin. Ft.	Cu. Yd.		S.F.				Lin. Ft.				Ref. No.	Station to Station	Side	Lump
	ROADWAY															ROADWAY (Cont.)		
1-R	158+00 to 158+50	Lt.									50 ✓				16-R	11+00 to 15+00 (Hunt.)	Lt.	Lump
2-R	159+93 to 160+80.50	Lt.									87.5 ✓							
3-R	165+82.50 to 170+46	Lt.									462.5 ✓							
4-R	169+50 to 170+75	Rt.									125 ✓							
5-R	160+70.70 to 9+37.20 (Eld.)	Lt.					134 ✓											
6-R	9+37.20 (Eldora) to 161+85.70	Lt.					220 ✓											
7-R	160+60.70 to 10+69.05 (Eld.)	Rt.					242 ✓											
8-R	10+69.05 (Eld.) to 161+85.70	Rt.					220 ✓											
9-R	10+69.05 (Eldora) to																	
	10+84.50 (Eldora)	Lt. & Rt.	43 ✓															
10-R	9+15.50 (Eldora) to																	
	9+37.20 (Eldora)	Lt. & Rt.		43 ✓														
11-R	176+50 to 12+04.5 (Hunt.)	Lt.									782.5 ✓							
12-R	176+50 to 182+25	Rt.									575 ✓							
13-R	13+00 (Hunt.) to 15+50 (Hunt.)	Lt.									250 ✓							
14-R	164+47	Rt.			20 ✓													
15-R	164+50	Lt.			4 ✓													
	Sub-Total		43	43	24		876				2332.5					Sub-Total		Lump

Location			I-1								I-2	I-5 Pipe Specials					I-8 Manholes					I-8 Catch Basins & Inlets					I-10		L-10	I-9	E-3	S-24
			12" Sewer Pipe Cl. A-1	15" Sewer Pipe Cl. A-1		18" Sewer Pipe Cl. A-1	21" Sewer Pipe Cl. A-1	24" Sewer Pipe Cl. A-1			12" Bit. Coated C.M.P. Gauge 14 Mark.	6" Pipe Under-drain Cl. I-3	6" Pipe Outlets for Under-drain Cl. F-4	Class "C" Masonry (Hdwl, Retain. Wall, Etc.	6" 90° Bend	6" 45° Bend	6" 60° Bend	6" 60° "Y"	12" 30° Bend	Std. No. 1	Std. No. 2	Std. No. 3 C.B.	Std. No. 3-A C.B.	Std. No. 2-2-A C.B.			Rip Rap Grouted Type "B"	Dumped Rock Channel Prot.	Sodding	Stone Under-Drains No. 2	Channel Exc.	Removal of Exist. Struct.
Ref. No.	Station to Station	Side	Lin. Ft.	Lin. Ft.		Lin. Ft.	Lin. Ft.	Lin. Ft.			Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yd.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.			Sq. Yd.	Cu. Yd.	Sq. Yd.	Lin. Ft.	Cu. Yd.	L. S.
	DRAINAGE																														
1-D	158+00 to 164+50	Ctr.	190	457																3											
2-D	159+50 to 159+90	Lt. & Ctr.	106																				2	1							
3-D	161+80 to 161+90	Rt.	128																				3								
4-D	164+37 to 164+47	Lt. & Rt.	70																				2								
5-D	165+80 to 170+20	Rt. & Ctr.	235	230																2	1		1								
6-D	167+80 to 167+90	Lt. & Rt.	70																				2								
7-D	169+80 to 170+20	Rt.	55																				1								
8-D	171+80 to 171+90	Lt. & Rt.	70																				2								
9-D	171+90 to 172+00	Ctr.	200	10																2											
10-D	173+80 to 173+90	Rt.	35																				1								
11-D	170+50 to 171+80	Lt.										130	2			1															
12-D	170+50 to 176+50	Rt.										500	4			2															
13-D	172+00 to 176+50	Ctr.										435	4			2															
14-D	176+50 to 178+50	Rt.																											89		
15-D	174+00 to 176+60	Ctr.		169		91														2											
16-D	175+88.26 to 175+60	Rt. & Ctr.	48																			2									
17-D	176+50 to 176+60	Lt. & Rt.	48					78						1.1									2				4				
18-D	179+50 to 179+60	Rt. & Ctr.	48																				2								
19-D	13+69 Hunt Rd.	Rt.									41			.23					2				1								
20-D	182+60 to 2+00 E.B. Hunt	Lt.	156																			1	2	1							
21-D	183+50 to 3+06 E.B. Hunt	Rt. & Lt.	136																				3								
22-D	187+90 to 2+80 Ramp Y	Rt. & Ctr.	75																				3								
23-D	178+10 to 190+00	Ctr.				210	530	450												4	1										
24-D	183+60 to 190+00	Ctr.										634	4			2															
25-D	183+60 to 5+00 Ramp Y	Rt.										648	4			2															
26-D	188+00 to 190+00	Rt.										197	2			1															
27-D	7+75 "X"	Lt.									50			.23									1								
28-D	171+70 Hunt Rd.	Lt. & Rt.									80			.23										1							
29-D	188+00 to 190+00	Lt. & Ctr.										573	2				1	2													
30-D	168+65 to 170+50	Rt.																											82		
31-D	11+00 to 17+78.54 Hunt	Lt.																												280	
1-S	164+47	Lt. & Rt.	See Sheet No. 143 for Quantities																												
2-S	170+20	Lt. & Rt.	"	"	"	144 "																									
3-S	178+10	Lt. & Rt.	"	"	"	145 "																									
4-S	14+14 Hunt Rd.	Lt. & Rt.	"	"	"	148 "																									
	Sub-Total		1670	866		301	530	528			171	3207	22	1.79		10	1	2	2	13	2	3	28	3		4	171	280			

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES

SUB-SUMMARY SHEETS

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R.483-B

Ref. No.	Location: Station to Station	Side	Item T-71 9" Reinforced Portland Cement Concrete Pavement S.Y.	Item I-22 Subbase C.Y.	Item T-36 Asphaltic Concrete Surface Course C.Y.	Item B-36 Asphaltic Concrete Leveling Course C.Y.	Item B-36 Asphaltic Concrete Base Course C.Y.	Item T-30 Bituminous Prime Coat Gal.	Item B-10 Aggregate Base Course C.Y.	Item I-21 Portland Cement Concrete Median Pavement Type 1 S.Y.	Item I-12 Std. Type 2-A Conc. Curb Lin.Ft.	Item I-12 Std. Type 3-A Mod. Conc. Curb Lin.Ft.
	PAVEMENT											
1-P	158+00 to 174+00	Lt.&Rt.	11,100	1995								
2-P	158+00 to 158+75.20	Ctr.									150	
3-P	158+75.20 to 160+75.20	Ctr.								22	400	
4-P	161+71.20 to 163+71.20	Ctr.								22	400	
5-P	163+71.20 to 174+00	Ctr.									2008	
6-P	158+00 to 160+62.70	Lt.										263
7-P	160+62.70 to 9+15.50 (Eldora)	Lt.									81	
8-P	9+15.50(Eldora) to 161+93.70	Lt.									86	
9-P	161+93.70 to 174+00	Lt.										1206
10-P	158+00 to 160+52.70	Rt.										253
11-P	160+52.70 to 10+84.50(Eldora)	Rt.									86	
12-P	10+84.50(Eldora) to 161+83.70	Rt.									81	
13-P	161+83.70 to 174+00	Rt.										1216
14-P	9+15.50(Eldora) to 9+65.50(Eldora)	Lt.&Rt.	236	42								
15-P	10+34.50(Eldora) to 10+84.50 (Eldora)	Lt.&Rt.	236	42								
16-P	174+00 to 190+00	Lt.&Rt.	11,280	2047								
17-P	174+00 to 190+00	Ctr.									3101	
18-P	174+00 to 178+75	Lt.										475
19-P	178+75 to 13+67.06 (Hunt)	Lt.									411	
20-P	179+75 to 17+78.54 (Hunt)	Lt.									670	
21-P	0+81.52(E.B.Hunt) to 1+03.71(E.B.Hunt)	Rt.									77	
22-P	14+07.86(Hunt) to 15+66(Hunt)	Rt.									348	
23-P	9+28.08 "X" to 17+26.28 (Hunt)	Rt.									526	
24-P	179+75 to 190+00	Lt.										1025
25-P	174+00 to 1+93.85 "Y"	Rt.										1307
26-P	1+93.85 "Y" to 5+00 "Y"	Rt.									282	
27-P	5+00 "Y" to 188+88	Rt.									323	
28-P	188+88 to 190+00	Rt.										112
29-P	6+00 "X" to 10+11.53 "X"	Lt.&Rt.	548	173								
30-P	0+35(E.B.Hunt) to 1+03.71(E.B.Hunt)	Lt.	248	44								
31-P	1+27(E.B.Hunt) to 4+19.54(E.B.Hunt)	Lt.	616	113								
32-P	11+00(Hunt) to 17+78.54(Hunt)	Lt.&Rt.	1668	303								
33-P	10+50(Hunt) to 11+00(Hunt)	Lt.&Rt.		92	4	4	9	42	29			
34-P	17+78.54(Hunt) to 19+00(Hunt)	Lt.&Rt.		91	10	10	25	119	82			
35-P	2+68.85 "Y" to 5+00 "Y"	Lt.	508	235								
36-P	187+86 to 187+99	Rt.								7		
	Sub-Total		26,840	5122	14	14	34	161	111	51	9040	5857

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

FED. RD DIVISION	STATE	PROJECT		28 187
	OHIO			

HAMILTON COUNTY C.R. 453-B

HUNT ROAD

PLAINFIELD ROAD

Virginia B. McCafferty

John W. & Geo. F. Cole

Nancy Wilder

Chas. H. & Erma S. Schmidt 1 Sty. Brick w/ Bs

Bernard M. Workstein Jr.

Special Drains See X-Sects.

Conc. Blk. Gar.

2 Sty. Br.

Frame Shed

Sta. 10+72.52 End Approach Slab

Sta. 191+60 Std. No. 3A CB. F.L. @ C.B. 813.9 F.L. @ MH. 813.4

Sta. 192+00, 45.5 Lt. Std. No. 2-2A C.B. T/Grate 827.65 FL. @ C.B. 824.40

Sta. 194+60 Std. No. 3A CB. F.L. @ C.B. 827.6 F.L. @ MH. 827.1

Sta. 3+72.72 Plainfield + Sta. 195+72.70 X-County

Sta. 198+20 Std. No. 3A CB F.L. @ C.B. 837.0 F.L. @ MH 836.5

Sta. 201+40 Std. No. 3A CB. F.L. @ C.B. 844.5 F.L. @ MH 844.0

Sta. 204+40 Std. No. 3-A C.B. F.L. @ C.B. 846.25 F.L. @ MH 845.75

Spike & ⌀ of Plainfield P.O.T. 591.82 from P.T.

P.O.T. 532.19 from P.T.

B.M. Elev. 857.67

P.T. 201+83.14 B.M. Elev. 858.11

Ex. Sign 85'

Std. HW-E Endwalls

Prop. Pipe

Lightly Wooded Area

Top of Cut

End 6"I-3 Sta. 201+40 Ctr. ℄ Rd.

15" Sewer Pipe

12" Sewer Pipe

Sta. 191+60 Std. No. 3A CB. F.L. @ C.B. 819.3 F.L. @ MH. 818.8

6"I-3 Pipe Underdrain

Sta. 6+60 Y Std. No. 3A CB. F.L. 831.75

Sta. 194+60 Std. No. 3A CB F.L. @ C.B. 827.1 F.L. @ MH. 826.6

Sta. 198+20 Std. No. 3A CB. F.L. @ C.B. 836.4 F.L. @ MH. 835.9

Sta. 201+40 Std. No. 3A CB. F.L. @ C.B. 843.3 F.L. @ MH. 843.4

Sta. 204+40 Std. No. 3A CB. F.L. @ C.B. 846.25 F.L. @ MH. 845.75

Sta. 205+90 Std. No. 3A-CB. F.L. @ C.B. 844.88 F.L. @ MH. 844.38

See Sh. 78 for elev.

Sta. 8+56 Plainfield. New No. 1 M.H. on ex. 12" Sanit. Abandon ex. 12" N. of new MH. Remove where depth of cover is less than 1' ℄ plug end

Sta. 8+63.42 Begin Approach Slab

Exist. 12" sanit. sewer

Sta. 198+05.75 Rt. Std. No. 8 C.B. Ditch 10' long E & W sides See Sheet 79

Hess & Eisenhardt Mfg. Co.

Sta. 11+03.20 Pamp Y = Sta. 7+74.68 Plainfield Rd.

Joseph C. Hansman

Rosscraft Industries, Inc.

EQUATION OF LINE Sta. 202+45.23 Back = Sta. 202+39.22 Ahead

Median Crossover ℄ Sta. 203+80

See Sheet 135 for detail of conn. of pipes underdrains to catch basins & manholes.

See Sheet No. 138 for crossover details.

See Sht. 109

8" Water line to be relocated See Sheet 109

For Temporary Runaround see Sheet 109

6" Underdrain to be shifted left if necessary to clear pier footing 15" Sewer to be 6' right of ℄.

See Sheet 109

See Sheet 27

Sta. 11+88

Sta. 198+00 ℄ Std. No. 1-MH Rim El. 843.90

Sta. 201+30 ℄ Std. No. 1-MH Rim El. 851.47

Sta. 206+00 ℄ Std. No. 1 MH. Rim El. 850.38

Sta. 204+50 ℄ Std. No. 1-MH Rim El. 851.75

Sta. 191+50 ℄ Std. No. 1-MH Rim El. 826.80

Sta. 194+50 ℄ Std. No. 1-MH Rim El. 834.57

Sta. 196+24; 6' Rt. Std. No. 1 MH Rim El. 838.30

℄ Plainfield Rd.

8" water main to be relocated. See Sheet 109

PVC. 848.18 Sta. 200+02

PVT. 853.36 Sta. 202+02

PVT. 851.54 Sta. 203+93.55

400' V.C.

FL. 818.3 (6")

FL. 818.56 (15")

FL. 826.33 (6")

FL. 830.84

FL. 835.69 (15")

FL. 833.80 (12")

FL. 843.49 (12")

FL. 845.66 (12")

FL. 844.29 (12")

FL. 844.1

Inv. 844.3 Clr.

Inv. 844.4 Et.

Inv. 837.5 Clr.

Inv. 836.3 Et.

Inv. 828.1 Clr.

Inv. 827.6 Et.

Inv. 820.4 clr.

Inv. 819.8 Et.

+2.59%

-0.91%

6"I-3 Underdrain

15" Sewer Pipe

12" Sewer Pipe

300'-15" @ 2.59%

360'-15" @ 2.59%

320'-12" @ 2.37%

150'-12" @ 0.91%

Sta. 202+45.23 Back

Sta. 202+39.22 Ahead

851.30 851.94 | 852.01 857.6 | 851.87 856.5 | 851.51 856.4 | 851.06 856.2 | 850.60 855.6 | 850.15 854.8 | 849.69 854.1

847.8 822.23 | 852.2 823.52 | 854.6 824.92 | 855.3 826.11 | 856.2 827.41 | 857.0 828.70 | 858.0 830.00 | 858.0 831.23 | 858.0 832.53 | 857.7 833.88 | 858.0 835.18 | 857.9 836.47 | 857.5 837.77 | 857.3 839.06 | 856.2 840.36 | 854.7 841.65 | 851.4 842.95 | 850.7 844.24 | 854.5 845.54 | 854.4 846.83 | 853.4 848.13 | 854.21 849.32 | 856.8 850.90 | 857.5 851.05 | 857.9 851.59

190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206

810 820 830 840 850 860

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

SCALE: HOR. 1" = 50' VERT. 1" = 10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 190+00 TO STA. 206+00

FED. RD DIVISION	STATE	PROJECT		
	OHIO			

HAMILTON COUNTY C.R.453-B

Notes:
1. See Sheet 138 for detail of conn. of pipe underdrains to catch basins.
2. See Sheet No. 138 for crossover details.

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

STA. 206+00 TO STA. 222+00

ESTIMATED QUANTITIES

SUB SUMMARY SHEETS

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

Location			Item E-8		Item I-15	Item I-13	Item I-18
			Removal & Disposal of Exist. S.W.		Guard Rail	5" Concrete Sidewalk	Stabilized Crushed Aggr. Approaches
Ref. No.	Station to Station	Side	S.F.		Lin. Ft.	S.F.	C.Y.
	ROADWAY						
1-R	4+30 (Plainfield)	Lt.	55			48	
2-R	4+80 "	Lt.					2
3-R	10+71.1 to 11+08.5 "	Rt.			37.5		
4-R	8+30.5 to 8+68 "	Lt.			37.5		
	Sub-Total		55		75	48	2

Location			Item I-1								I-2	I-5 Pipe Specials				I-8 Manholes		I-8 Catch Basins & Inlets					E-3		E-12	
			12" Sewer Pipe Cl. A-1	15" Sewer Pipe Cl. A-1		18" Sewer Pipe Cl. A-1	24" Sewer Pipe Cl. A-1			12" Sewer Pipe Cl. B-1		6" Pipe Underdrain Cl. I-3	6" Pipe Outlets for Underdrains Cl. F-4	Class "C" Masonry (Hdwl. Retain. wall Etc)	6"-30° Bend	6"-45° Bend	6"-60° Bend	12"-30° Bend	Std. No. 1	Std. No. 2	Std. No. 3 C.B.	Std. No. 3A C.B.	Std. No. 2-3 C.B.	Std. No. 2-2A C.B.	Std. No. 8 C.B.	Channel Excavation		Removal of Pipe 24" and Under	
Ref. No.	Station to Station	Side	Lin. Ft.	Lin. Ft.		Lin. Ft.	Lin. Ft.			Lin. Ft.		Lin. Ft.	Lin. Ft.	Cu. Yd.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Eq.	Cu. Yds.		Ea.	
	DRAINAGE																												
1-D	190+00 to 201+30	Ctr.	320	660		150													5										
2-D	191+50 to 192+00	Rt. & Ctr.	207																		3				1				
3-D	194+50 to 194+60	Rt. & Ctr.	48																		2								
4-D	198+10 to 198+20	Rt. & Ctr.	92															2			2				1				
5-D	201+30 to 201+40	Rt. & Ctr.	48																		2								
6-D	204+40 to 204+50	Lt. & Rt.	70																		2								
7-D	204+50 to 206+00	Ctr.	150																2										
8-D	205+90 to 206+00	Rt.	35																		1								
9-D	190+00 to 201+40	Ctr.										1126	6			3													
10-D	190+00 to 201+40	Rt.										1126	6			3													
11-D	12+35 Plainfield	Lt. & Rt.	94											.23								1	1						
12-D	5+00 Ramp Y" to 10+00	Rt.										496	2			1													
13-D	196+24 to 196+42	Rt.	82															2							1				
14-D	8+56 Plainfield	Rt.																	1									35	
														.23					4			1	1						
15-D	206+00 to 211+08	Ctr.		150		150	208																						
16-D	207+40 to 207+50	Lt. & Rt.	70																		2								
17-D	208+90 to 209+00	Rt.	35																		1								
18-D	210+43.28 to 210+53	Lt. & Rt.	70																		2								
19-D	211+08 to 217+10	Ctr.		200		402													3										
20-D	213+10 to 213+20	Lt. & Rt.	70																		2								
21-D	215+10 to 215+20	Lt. & Rt.	70																		2								
22-D	217+10 to 217+20	Lt. & Rt.	70																		2								
23-D	221+40 to 221+50	Lt. & Ctr.	48																		2								
24-D	221+50 to 222+00	Ctr.	50																1										
25-D	221+10	Lt. & Rt.								159										1									
26-D	195+25 to 196+01	Lt.	76											.46															
27-D	190+00 to 195+00	Lt.										1500																	
1-S	211+08	Lt. & Rt.	See Sheet No. 146 for Quantities																										
	Sub Total		1705	1010		702	208			159		4248	14	.92		7		4	16	1	2	27		1	2			35	

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL — HAMILTON CO. ENGR

ESTIMATED QUANTITIES

ESTIMATED QUANTITIES

SUB-SUMMARY SHEETS

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY CR 453-B

Ref No.	Location	Side	Item T-71 9" Reinforced Portland Cement Concrete Pavement S.Y.	Item I-22 Subbase C.Y.	Item T-35 Asphaltic Concrete Surface Course C.Y.	Item B-36 Asphaltic Concrete Leveling Course C.Y.	Item B-36 Asphaltic Concrete Base Course C.Y.	Item T-30 Bituminous Prime Coat Gal.	Item B-10 Aggregate Base Course C.Y.	Item I-12 Std. Type 2-A Conc. Curb Lin.Ft.	Item I-12 Std. Type 3-A Mod. Conc. Curb Lin.Ft.	Item I-7 13" Reinforced Cement Concrete Approach Slabs S.Y.	S-15 Temp. Runaround Road
	PAVEMENT												
1-P	190+00 to 206+00	Lt&Ph.	10,392	9358									
2-P	190+00 to 206+00	Ctr.								3101			
3-P	190+00 to 206+00	Lt&Ph.									3200		
4-P	5+00 "Y" to 10+80.20 "Y"	Lt.	1488	539									
5-P	5+00 "Y" to 6+46.58 (Plainfield)									684			
6-P	3+18.55 Plnfield) to 6+46.58 (Plnfield)	Lt&Ph.		362	39	39	93	445	309				
7-P	4+80 Plainfield)	Lt.			2				6				
8-P	5+00 "Y" to 8+31 (Plainfield)	Lt.								584			
9-P	8+31 (Plnfld) to 8+68 Plnfld)	Lt.									37		
10-P	6+46.58 (Plnfld) to 8+63.42 (Plnfld)	Rt.	1132	195									
11-P	8+63.42 (Plnfld) to 10+72.52 (Plnfld)	Lt&Ph.										253	
12-P	6+46.58 (Plnfld) to 8+58 (Plnfld)	Ph.									212		
13-P	10+72.52 (Plnfld) to 13+30± (Plnfld)	Lt&Ph.	1484	258									
14-P	10+68 (Plnfld) to 12+74.33 (Plnfld)	Lt.									219		
15-P	10+77 (Plnfld) to 12+37.41 (Plnfld)	Ph.									188		
16-P	12+74.93 (Plnfld) to 23+28.03 (Hunt)	Lt.								80			
17-P	12+37.41 (Plnfld) to 30+34.07 (Hunt)	Ph.								66			
18-P	206+00 to 222+00	Lt&Ph.	10432	1858									
19-P	206+00 to 222+00	Ctr.								3052			
20-P	206+00 to 222+00	Lt&Ph.									3200		
	Sub-Total		24,928	6570	41	39	93	445	315	7577	7056	253	Lump

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

CROSS COUNTY HIGHWAY

PROPOSED IMPROVEMENT

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

STA. 222+00 TO STA. 238+00

CURVE DATA

P.I. = 227+36.05
Δ = 16° 24' 00"
Main ℄
D = 1° 20' 00"
R = 4297.18
L = 1230.00
T = 619.23
Superelev. 0.022/Ft.

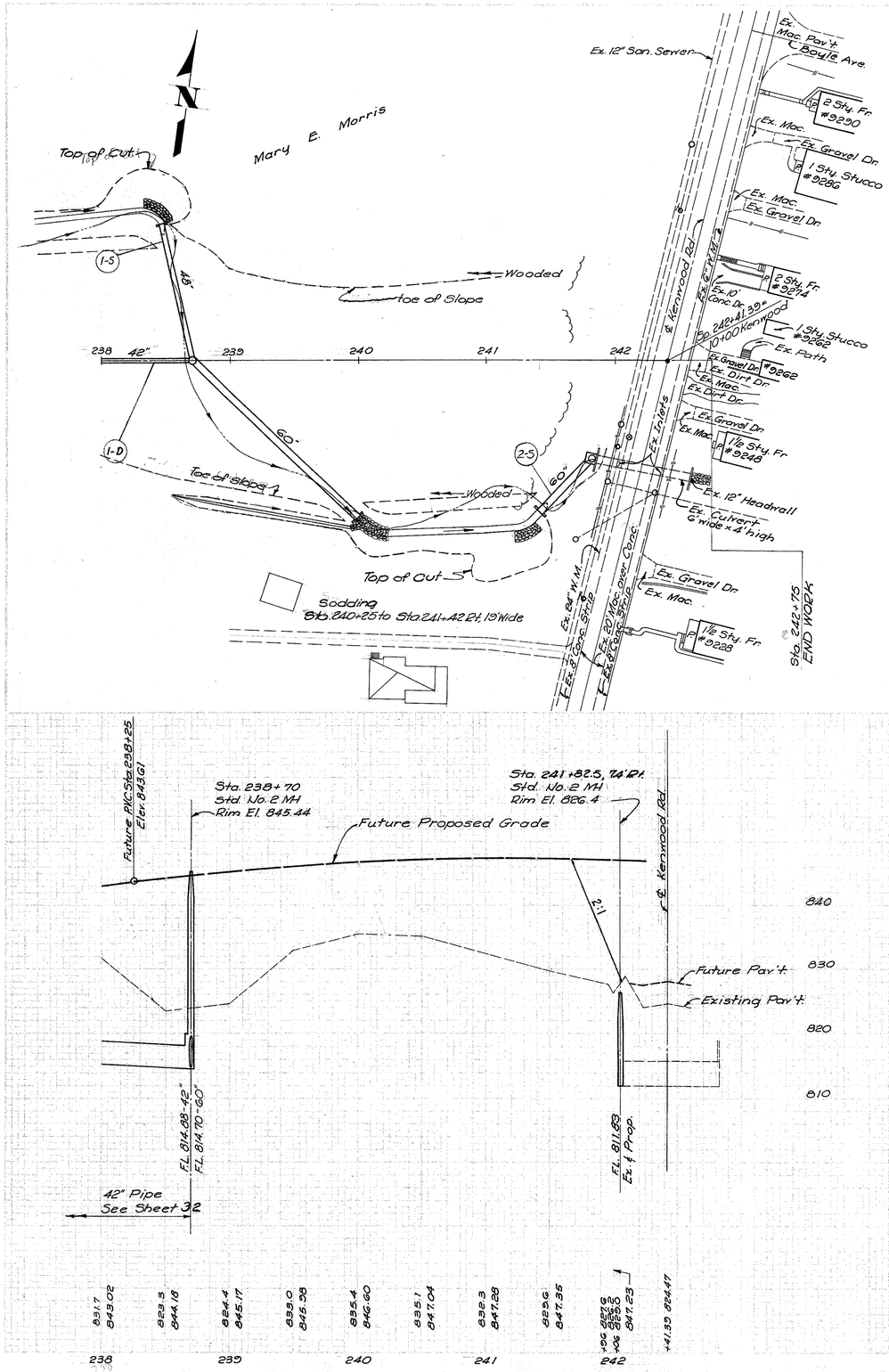
ELSMERE AVE WATER MAIN

Furnish & install 175' 6" C.I. Pipe
1-6" Valve & Chamber
1-Sal. & Use ex. M.H.C. & C.
1-Remove ex. M.H.C & C.
1-6" Offset Bend M.J. x P.E.
2-6" Sleeves
2-6" 45° Bends 2 M.J.
1-6" 11-¼° Bend 2 M.J.
6 Lin. Ft. - Remove Ex. 6" W.M.
3.5 Cu. Yds. Conc. Masonry - 1:5 Mix
1.3 Cu. Yds. Brick Masonry

Notes:
1. See Sheet 138 for detail of conn. of pipe underdrains to catch basins & manholes.
2. 12" pipe connecting catch basins to manholes shall be M-6.6 (a).
3. See Sheet No. 138 for crossover details.

See Sheet 17 for Pavement Legend.

Sheet 170



FED. RD. DIVISION	STATE	PROJECT		33 / 187
	OHIO			

HAMILTON COUNTY C.R. 453-B

PROPOSED IMPROVEMENT

CROSS-COUNTY-HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: HOR. 1"=50' VERT. 1"=10'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

STA. 238+00 TO STA. 242+41

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R.453-B

ESTIMATED QUANTITIES

SUB-SUMMARY SHEETS

	Location		Item E-8		Item I-13		Item I-16
			Removal & Disposal of Exist. Pavt.	Removal & Disposal of Exist. Curb	Concrete Steps	4" Concrete Sidewalk	Guard Rail
Ref. No.	Station to Station	Side	S.Y.	Lin. Ft.	Lin. Ft.	S.F.	Lin. Ft.
	ROADWAY						
1-R	4+68.73 Blue Ash to 6+63	Lt. & Rt.		389			
2-R	6+63 to 12+55 Blue Ash	Lt. & Rt.	2186				
3-R	12+55 to 14+40 Blue Ash	Lt. & Rt.		375			
4-R	227+30, 103' Rt.	Rt.					25
5-R	225+41 to 227+44	Lt.					205
6-R	5+46 Blue Ash	Lt.			3	44	
7-R	10+86 to 11+23.5 Blue Ash	Lt.					37.5
	Sub Total		2186	764	3	44	267.5

	Location		Item I-1																		
			12" Sewer Pipe Cl. A-1	15" Sewer Pipe Cl. A-1	18" Sewer Pipe Cl. A-1	24" Sewer Pipe Cl. A-1	27" Sewer Pipe Cl. A-1	36" Sewer Pipe Cl. A-1	42" Sewer Pipe M-6.6(c) Cl. A-1	24" Culvert Pipe Cl. A-1	12" Sewer Pipe Under R.R. Cl. A-1	42" Sewer Pipe M-6.6(d) Cl. A-1	12" Bit. Coated C.M.P. M6.4(d) Cl. C-1	21" Bit. Coated C.M.P. M6.4(d) Cl. C-1	6" Sewer Pipe M6.8(b) Cl. B-1	12" Sewer Pipe Cl. B-1	18" Sewer Pipe M-6.8(b) Cl. B-1	10" Mech. Jt. Cast Iron Pipe	12" Mech. Jt. Cast Iron Pipe	6" Pipe Underdrain Cl. I-3 M6.4(h)	6" Pipe Outlet for Underdrain Cl. F-4
Ref. No.	Station to Station	Side	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
	DRAINAGE																				
1-D	222+00 to 238+70	Ctr.	350	250			150	200	300			420									
2-D	225+40 to 226+50	Lt. & Ctr.	90																		
3-D	225+78 to 227+33 Elsmere	Rt.														150					
4-D	228+00 to 228+10	Lt.	46		24										60						
5-D	0+31 Ramp "E" to 229+50	Lt.				25								122							
6-D	0+98 Ramp "E" to 231+50	Lt.	344																		
7-D	227+50, 90' Rt. to 227+50	Rt.	28	39	17								55		43						
8-D	1+90 Floral to 227+70	Lt.	73										75								
9-D	226+00 to 233+50	Lt. & Ctr.																		1468	16
10-D	0+53 Ramp "F" to 229+50	Rt.	290	61																	
11-D	7+00 Ramp E to 8+00 Ramp F	Lt. & Rt.	158																		
12-D	229+00 Siphon	Lt. & Rt.															80	186	372		
13-D	224+00 to 227+00	Rt.																			
14-D	8+14 Blue Ash	Lt.																			
15-D	0+00 to 1+50 Elsmere	Rt.																			
16-D	227+50 to 227+70	Rt.								40											
1-S	238+70	Lt. & Rt.	See	Sheet	No. 148	for Quantities															
2-S	241+82.5, 74' Rt.	Rt.	"	"	" 149	"	"														
	Sub Total		1379	350	41	25	150	200	300		40	420	130	122	103	150	80	186	372	1468	16

	Location		I-2	I-5 Pipe Specials			I-8 Manholes		I-8 Catch Basins & Inlets				Manholes	E-3	L-10	E-12	I-9
			Class "C" Masonry (Hdwl. Ret. wall etc.)	12"-30° Bend	6"-45° Bend	6"-60° Bend	Std No. 1	Std. No. 2	Std. No. 3 C.B.	Std. No. 3-A C.B.	Std No 7 C.B.	Std. No. 2-2-A C.B.	Manhole As per Plan	Channel Excavation	Sodding	Removal of Pipe 24" & Under	Stone Underdrain No. 2
Ref. No.	Station to Station	Side	Cu. Yd.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea	Cu. Yd.	S.Y.	Lin. Ft.	Lin. Ft.
	DRAINAGE																
1-D	222+00 to 238+70	Ctr.					5	2									
2-D	225+40 to 226+50	Lt. & Ctr.		2						2		1					
3-D	225+78 to 227+33 Elsmere	Rt.					2										
4-D	228+00 to 228+10	Lt.								1							
5-D	0+31 Ramp "E" to 229+50	Lt.					2		2								
6-D	0+98 Ramp "E" to 231+50	Lt.								6							
7-D	227+50, 90' Rt. to 227+50	Rt.								1		2					
8-D	1+90 Floral to 227+70	Lt.						1				2					
9-D	226+00 to 233+50	Lt. & Ctr.			8												
10-D	0+53 Ramp "F" to 229+50	Rt.							1	4		1					
11-D	7+00 Ramp E to 8+00 Ramp F	Lt. & Rt.								4							
12-D	229+00 Siphon	Lt. & Rt.					2						2		156		
13-D	224+00 to 227+00	Rt.															
14-D	8+14 Blue Ash	Lt.														8	
15-D	0+00 to 1+50 Elsmere	Rt.															30
16-D	227+50 to 227+70	Rt.										1					
1-S	238+70	Lt. & Rt.															
2-S	241+82.5, 74' Rt.	Rt.															
												7	2		156	8	30
	Sub Total			2	8		11	3	3	18							

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

ESTIMATED QUANTITIES

SUB- SUMMARY SHEETS

Ref. No.	Station to Station	Side	Item T-71 9" Reinforced Portland Cement Concrete Pavement S.Y.	Item I-22 Subbase C.Y.	Item B-10 8" Portland Cement Concrete Base Course C.Y.	Item T-35 Asphaltic Concrete Surface Course C.Y.	Item B-35 Asphaltic Concrete Leveling Course C.Y.	Item B-35 Asphaltic Concrete Base Course C.Y.	Item T-30 Bituminous Prime Coat Gal.	Item T-30 Bituminous Tack Coat Gal.	Item B-13 Aggregate Base Course C.Y.	Item I-18 Stabilized Crushed Aggregate Shoulder C.Y.	Item I-7 13" Reinforced Portland Cement Concrete Approach Slab S.Y.	Item I-21 Portland Cement Concrete Median Pavement S.Y.	Item I-12 Std. Type 2-A Conc. Curb Lin. Ft.	Item I-12 Std. Type 3-A Mod. Conc. Curb Lin. Ft.	Item I-12 Std. Type 2-B Concrete Curb Lin. Ft.	S-15 Temp. Railroad Runaround Lump	S-15 Temp. Runaround Road Lump
	PAVEMENT																		
1-P	222+00 to 238+00	Lt.&Rt.	1145G	2106															
2-P	222+00 to 238+00	Ctr.																	
3-P	0+00 Elsmere to 2+05.54 Floral	Lt.&Rt.				21	33		159		74				3151				
4-P	1+70.30 Floral	Rt.				6					14								
5-P	4+68.73 to 6+63 Blue Ash	Lt.&Rt.				23	23			67									
6-P	4+68.73 to 6+63 Blue Ash	Lt.&Rt.		26	43	7				19									
7-P	0+00 to 8+21 Ramp "F"	Lt.&Rt.	2716	482															
8-P	5+93 Blue Ash (drive)	Lt.				1					1								
9-P	5+30 Blue Ash (drive)	Lt.				1					2								
10-P	5+19 Blue Ash (drive)					1					2								
11-P	4+68.73 to 6+06.73 Blue Ash	Lt.															138		
12-P	4+68.73 to 6+63 Blue Ash	Rt.															195		
13-P	12+55 to 14+35 Blue Ash	Lt.		18	31	5				13									
14-P	12+55 to 14+40 Blue Ash	Lt.&Rt.				23	23			65									
15-P	12+55 to 14+48 Blue Ash	Rt.		19	30	4	1			17	2								
16-P	12+55 to 14+25 Blue Ash	Rt.															170		
17-P	13+71 Blue Ash (drive)	Lt.				1					2								
18-P	13+42 to 14+40 Blue Ash	Lt.															93		
19-P	8+87.10 to 11+06.92 Blue Ash	Lt.&Rt.											252						
20-P	6+63 to 8+87.10 Blue Ash	Lt.&Rt.	1108	180															
21-P	6+63 to 8+87.10 Blue Ash	Rt.													235				
22-P	11+06.38 to 12+55 Blue Ash	Rt.													138				
23-P	11+06.38 to 12+55 Blue Ash	Lt.&Rt.	732	125															
24-P	0+00 to 1+39.60 Ramp "F"	Lt.&Rt.													615				
25-P	5+52.48 "F" to 232+59.10	Lt.&Rt.													703				
26-P	0+00 to 7+41.02 Ramp "E"	Lt.&Rt.	2360	425															
27-P	4+12.30 to 7+41.02 Ramp "E"	Lt.&Rt.													631				
28-P	0+00 to 2+05.04 Ramp "E"	Lt.&Rt.													779				
29-P	222+00 to 232+89.10	Rt.														1089			
30-P	222+00 to 232+68.66	Lt.														1069			
31-P	2+05.04 to 4+12.30 Ramp "E"	Rt.				23						19							
32-P	2+05.04 to 1+00 Ramp "E"	Lt.				34						29							
33-P	1+39.60 to 1+00 Ramp "F"	Rt.				57						47							
34-P	1+39.60 to 5+52.48 Ramp "F"	Lt.				46						38							
35-P	233+81 to 233+87	Rt.												3					
	Sub-Total		18372	3400	104	253	80		159	181	97	133	252	3	6252	2158	596	Lump	Lump

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

ESTIMATED QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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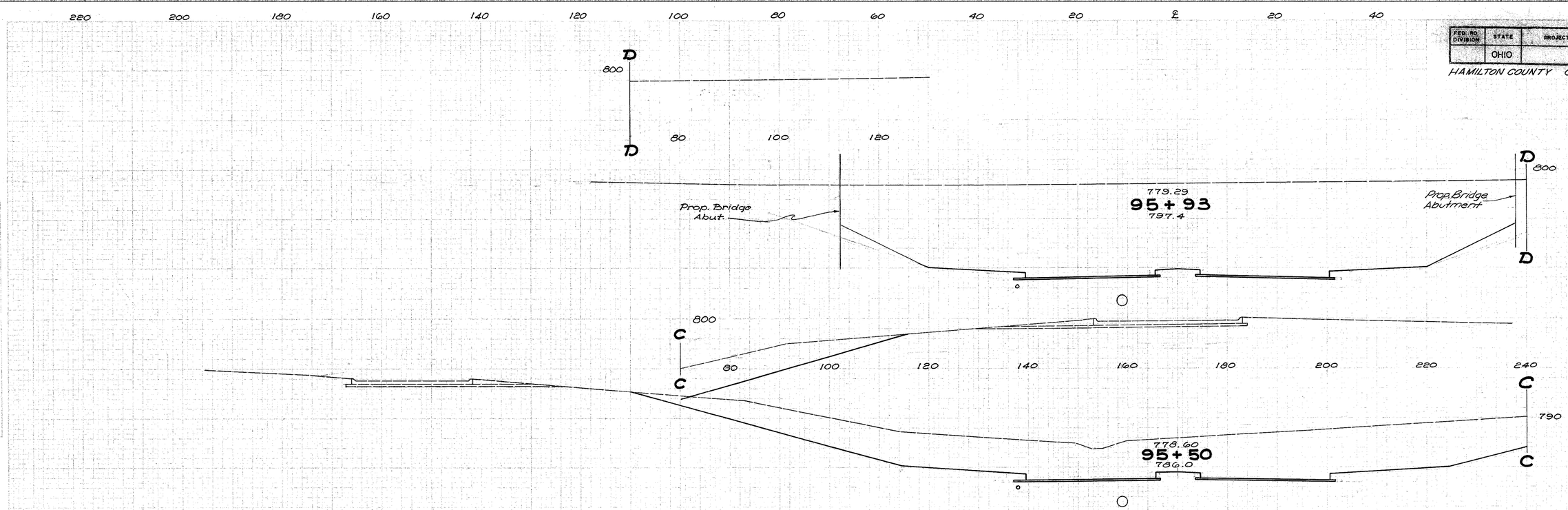
HAMILTON COUNTY C.R 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
2206	0		
		2880	0
1321	0		
		1290	4
72	4		
		40	2
0	0		

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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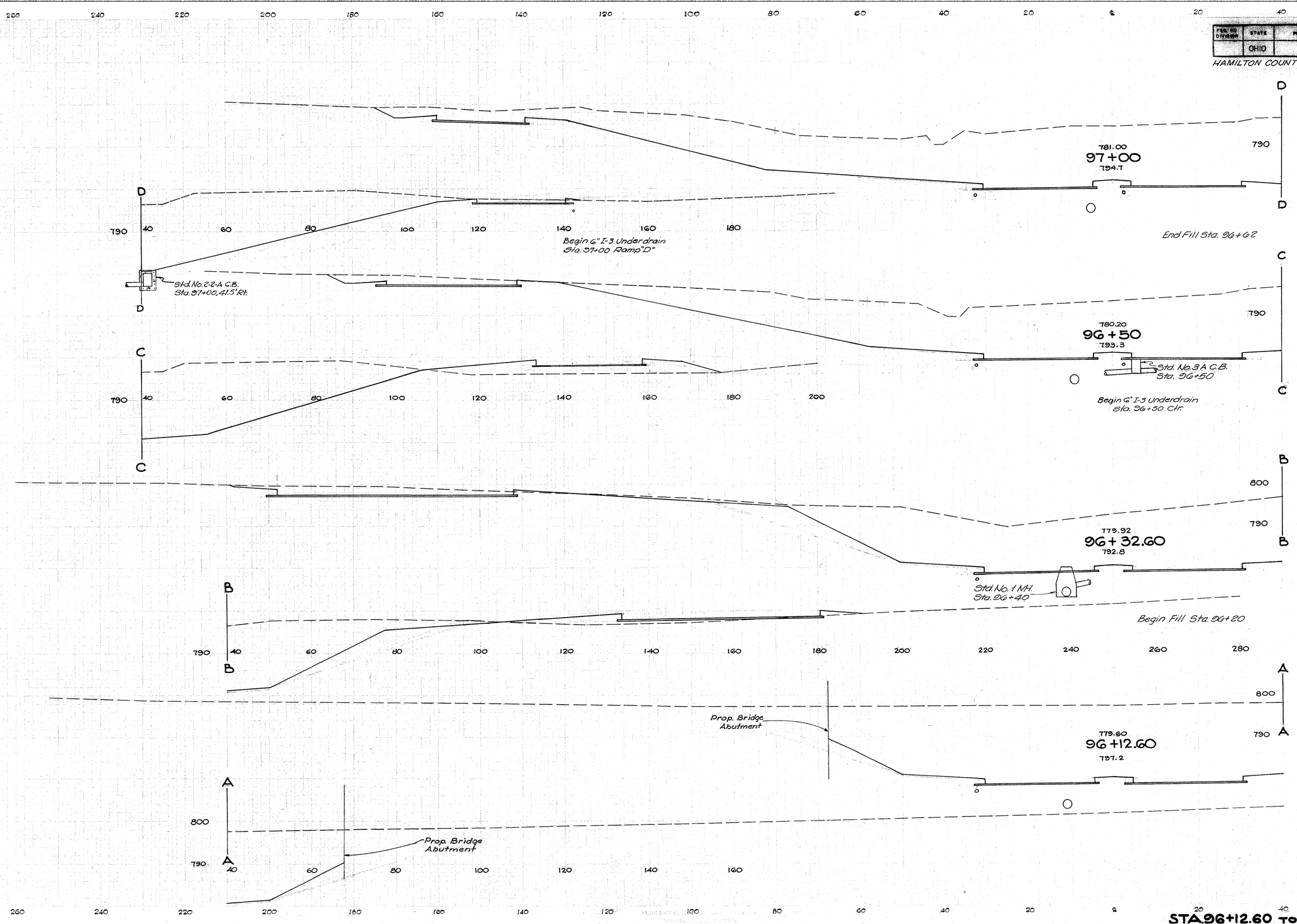
HAMILTON COUNTY CR 453-B



End Area Co. Yd.			
Cut	Fill	Cut	Fill
2773	0		
		4954	32
2578	14.4		
		1478	73
2008	58		
		1574	14
2242	0		
		1647	0
2206	0		

STA. 96+12.60 to STA. 97+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.E. 453-B

220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

784.20
99+00
796.4

790

D D

D
790 80 100 120 140 160
D

783.40
98+50
795.9

800

C C

C
800 100 120 140 160
C

B 800

782.60
98+00
795.6

Std. No. 1 MH. Sta 97+70
For Profile See Sheet No.

B
800 100 120 140 160 180
B

A A

781.80
97+50
796.1

A
100 120 140 160 180
A

220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

STA 97+50 TO STA. 99+00

End Area Cu. Yd			
Cu+	Fill	Cu+	Fill
3136			
		5852	0
3184	0		
		5804	0
3084	0		
		5599	0
2963	0		
		5311	0
2773	0		

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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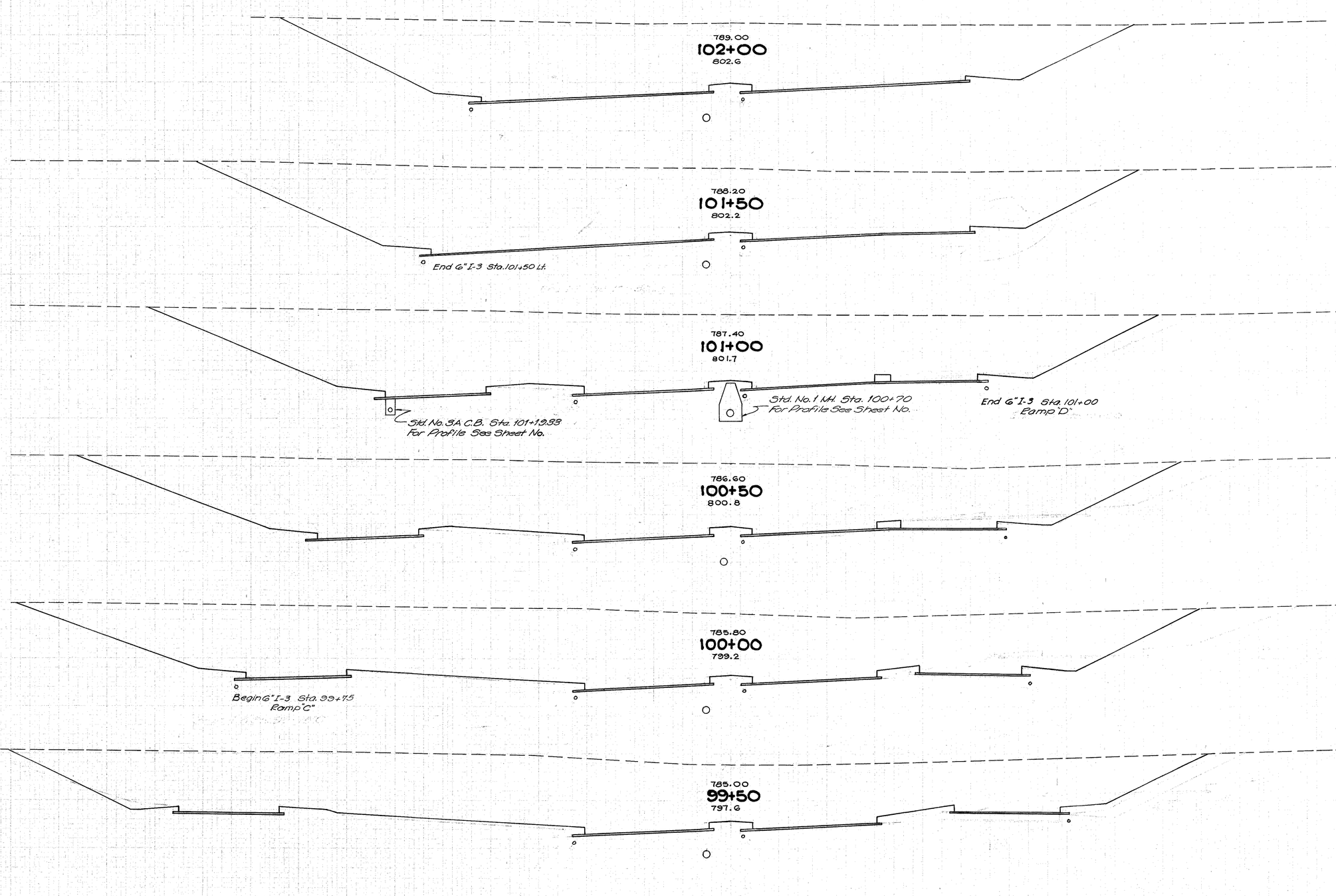
HAMILTON COUNTY C.R. 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
2172	0		
		4319	0
2402	0		
		4810	0
2703	0		
		5154	0
2863	0		
		5443	0
3015	0		
		5512	0
2938	0		
		5624	0
3136	0		

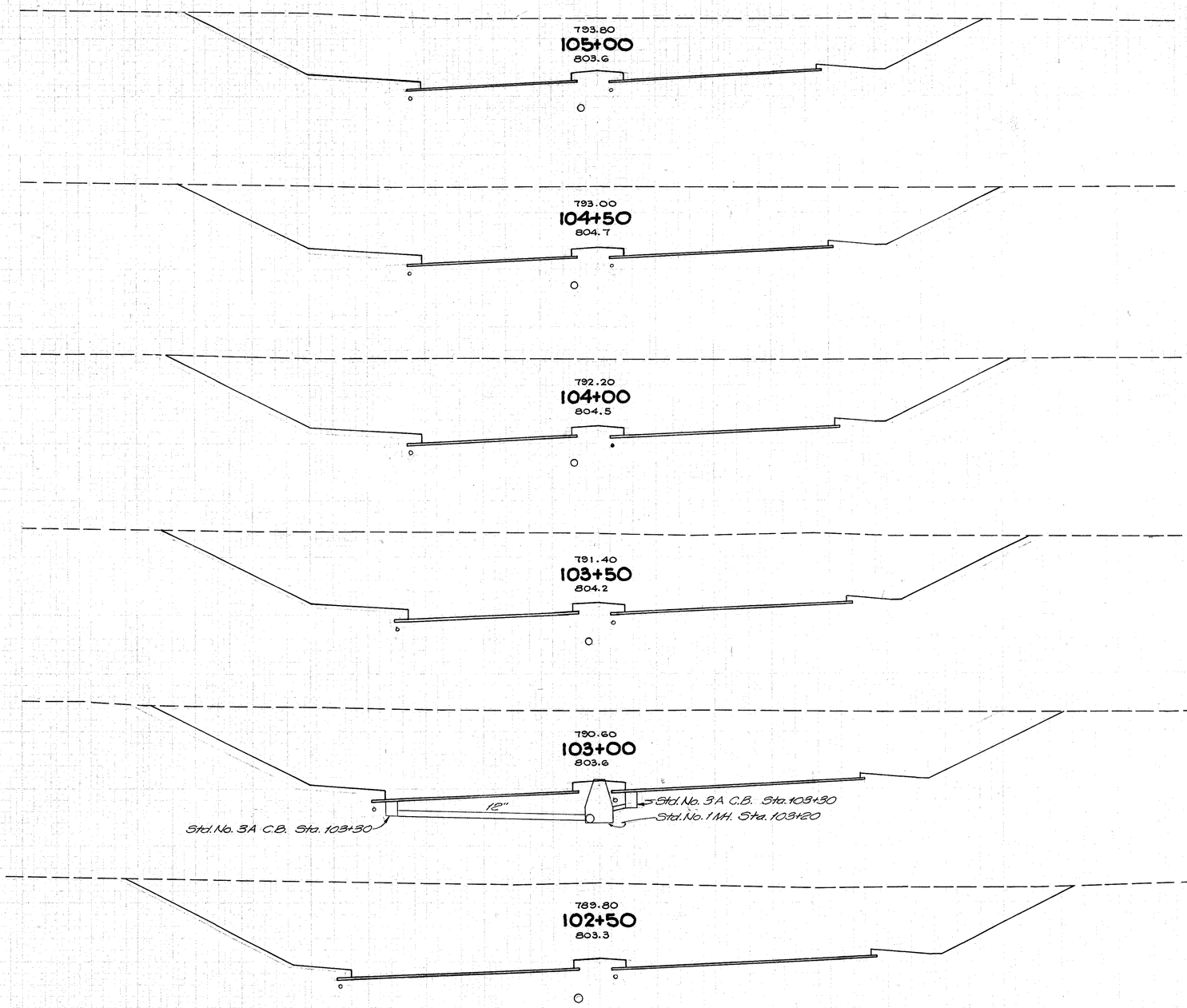
Sta. 94+70 to 110+00
Excavation 9641 6 Cu. Yd.
Embankment 125 Cu. Yd.
Embankment +20% 150 Cu. Yd.

STA. 99+50 to STA. 102+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

40
187

HAMILTON COUNTY C.R. 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
1233	0		
		2439	0
1401	0		
		2730	0
1557	0		
		2965	0
1646	0		
		3154	0
1760	0		
		3365	0
1874	0		
		3746	0
2178	0		

STA. 102+50 to STA. 105+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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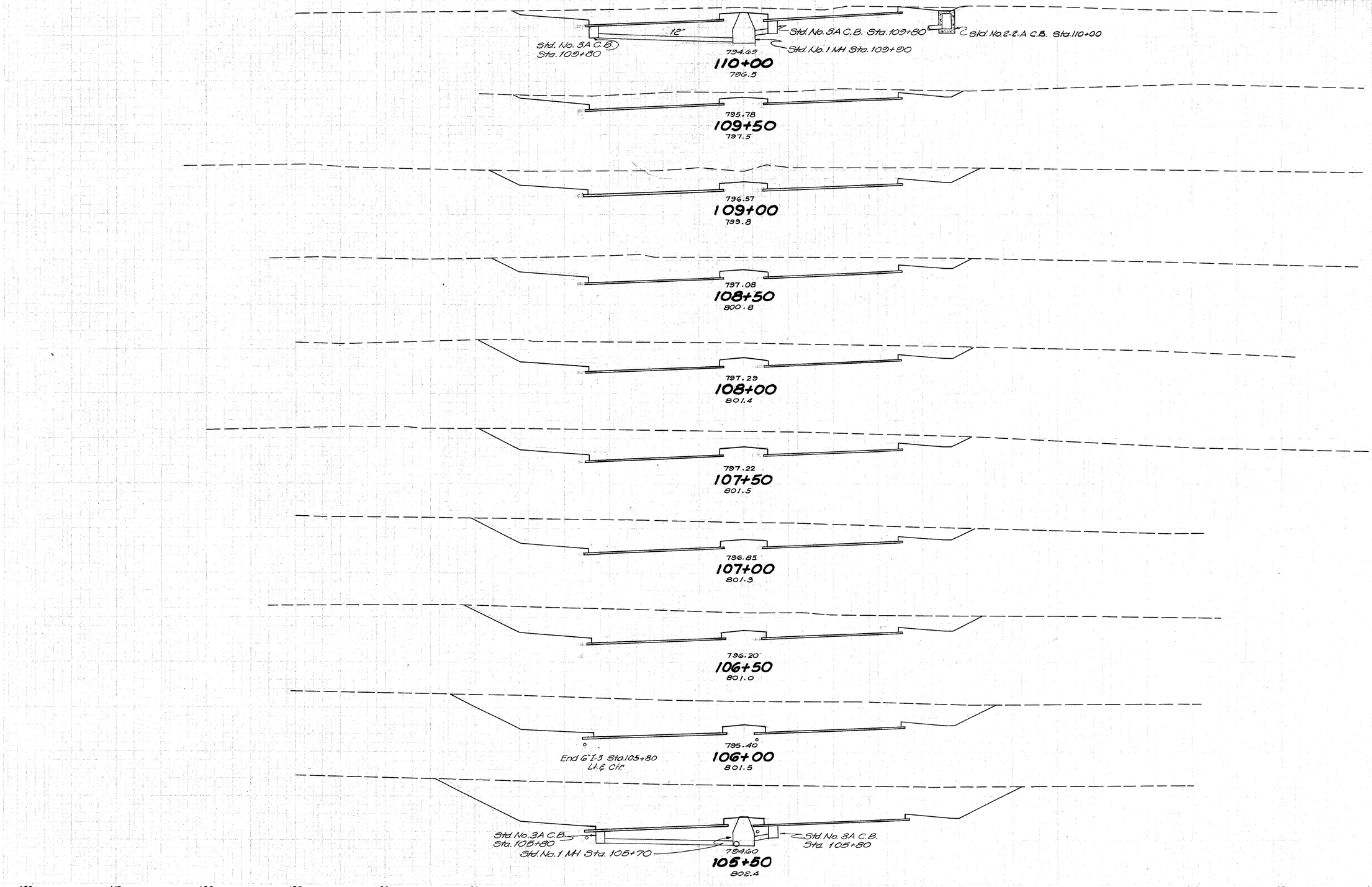
187

HAMILTON COUNTY CR 453-B



End Area Co. Yd			
Cut	Fill	Cut	Fill
242	0		
		456	0
250	0		
		660	0
463	0		
		836	0
430	0		
		870	0
501	0		
		936	0
510	0		
		907	0
534	0		
		1043	0
502	0		
		1252	0
761	0		
		1630	0
1000	0		
		2067	0
1293	0		

STA. 105+50 TO STA. 110+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

42
187

HAMILTON COUNTY C.R. 453-B

End Cut Sta. 114+56

781.16
114+50
780.0

782.04
114+21.10
780.8

782.68
114+00
782.1

784.20
113+50
784.7

12"
Std. No. 3A C.B. Sta. 112+80
Std. No. 1 M.H. Sta. 112+90
Std. No. 3A C.B. Sta. 112+80

785.72
113+00
786.9

787.24
112+50
788.4

788.76
112+00
790.4

790.28
111+50
791.7

791.80
111+00
793.2

793.32
110+50
795.3

Begin Fill Sta. 110+46

End Area Cu. Yds.			
Cut	Fill	Cut	Fill
76	222		
		26	258
32	223		
		31	150
48	160		
		146	185
110	40		
		864	63
178	28		
		334	46
186	23		
		346	37
187	18		
		364	41
206	27		
		309	48
225	80		
		416	87
225	20		
		432	2
842	0		

STA 110+50 To STA 114+50

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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187

HAMILTON COUNTY C.R. 453-B

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

761.30
120+00
765.2

763.55
119+50
766.4

Std. No. 3A C.B. Sta. 118+80
12"
Std. No. 1 MH Sta. 118+90
765.71
119+00
768.1
Std. No. 3A C.B. Sta. 118+80

767.77
118+50
769.8

769.73
118+00
772.7

771.60
117+50
774.6

Std. No. 1 MH Sta. 116+75
778.36
117+00
775.0

775.03
116+50
777.6

End Fill Sta. 116+12

Std. No. 7 C.B. Sta. 115+70, 62' Lt.
18"
18"
Std. No. 3A C.B. Sta. 115+80
Std. No. 3A C.B., Sta 115+80
Std. No. 1 MH., Sta. 115+00
776.60
116+00
777.3

Begin Cut Sta. 115+57

Sink hole
Sink hole
778.12
115+50
777.0

End Cut Sta. 114+56

778.64
115+00
778.8

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

STA. 115+00 to STA. 120+00

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
610	0		
		983	0
453	0		
		785	0
395	0		
		689	0
349	0		
		641	3
344	3		
		678	3
389	0		
		698	0
359	0		
		630	1
322	1		
		361	25
68	112		
		0	398
0	318		
		0	559
0	287		
16	222	2	472

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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187

HAMILTON COUNTY CR 483-B

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

743.21
123+50
761.8

744.70
123+22.32
762.0

745.91
123+00
762.3

748.61
122+50
761.4

751.30
122+00
761.2

Std. No.1 MH
Sta. 121+90

Std. No.3A C.B.
Sta. 121+80

Std. No.3A C.B.
Sta. 121+80

12"

Begin 6" I-3
Sta. 122+00 Ctr.& El.

753.05
121+50
762.0

Std. No.3A C.B.
Sta. 121+00

12"

Std. No.1 MH
Sta. 121+10

756.49
121+00
761.2

758.95
120+50
762.66

End Area Cu Yd.			
Cut	Fill	Cut	Fill
2597	0		
		2383	0
2082	0		
		1635	0
1804	0		
		3319	0
1680	0		
		2806	0
1351	0		
		2241	0
1070	0		
		1712	0
779	0		
		1241	0
561	0		
		1083	0
610	0		

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

STA. 120+50 -- STA. 123+50

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

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HAMILTON COUNTY CR 453-B

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

727.03
126+50
710.5

729.73
126+00
711.9

End Cut Sta. 125+84

Sta 110+00 to 126+00
Excavation 36,497 Cu.Yd.
Embankment 5,234 Cu.Yd.
Embankment +20% 6,281 Cu.Yd.

732.42
125+50
732.7

Begin Fill Sta. 125+36

Std. No. 2 A C.B. Sta. 125+00

Std. No. 3A C.B., Sta. 124+80

18"

Std. No. 1 MH, Sta. 124+00

735.12
125+00
742.70

End 6" I 3 Sta. 124+80 Cir. & Ell.

Std. No. 3A C.B. Sta. 124+80

737.82
124+50
751.5

740.52
124+00
758.9

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

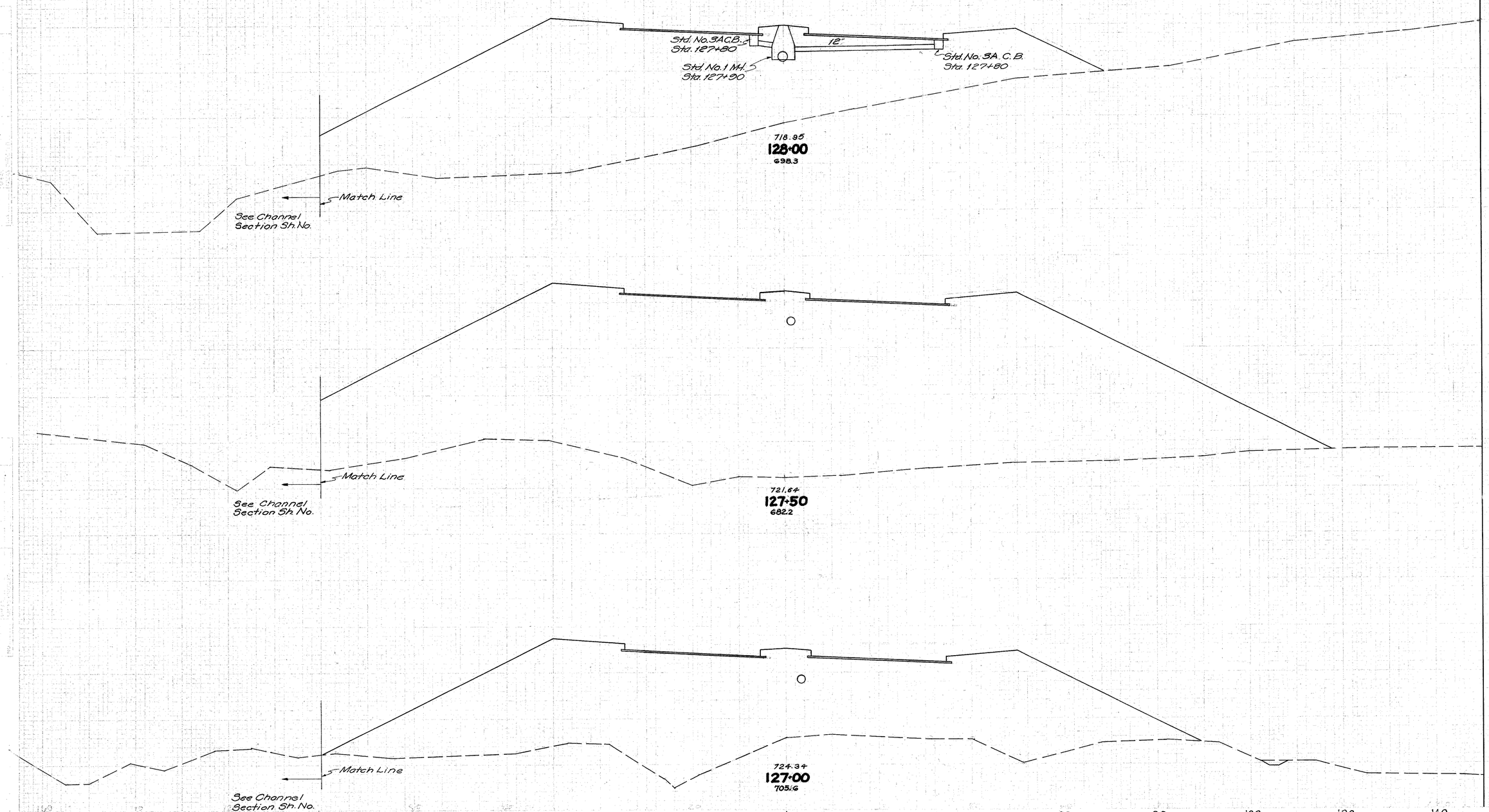
STA 124+00 - STA 126+50

End Area Cu.Yd.			
Cut	Fill	Cut	Fill
0	2703		
		0	4910
0	2510		
		38	8681
128	377		
		1017	250
970	0		
		2418	0
1642	0		
		5745	0
2403	0	4630	0
2507	0		

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

46
1.87

HAMILTON COUNTY CR 453-B



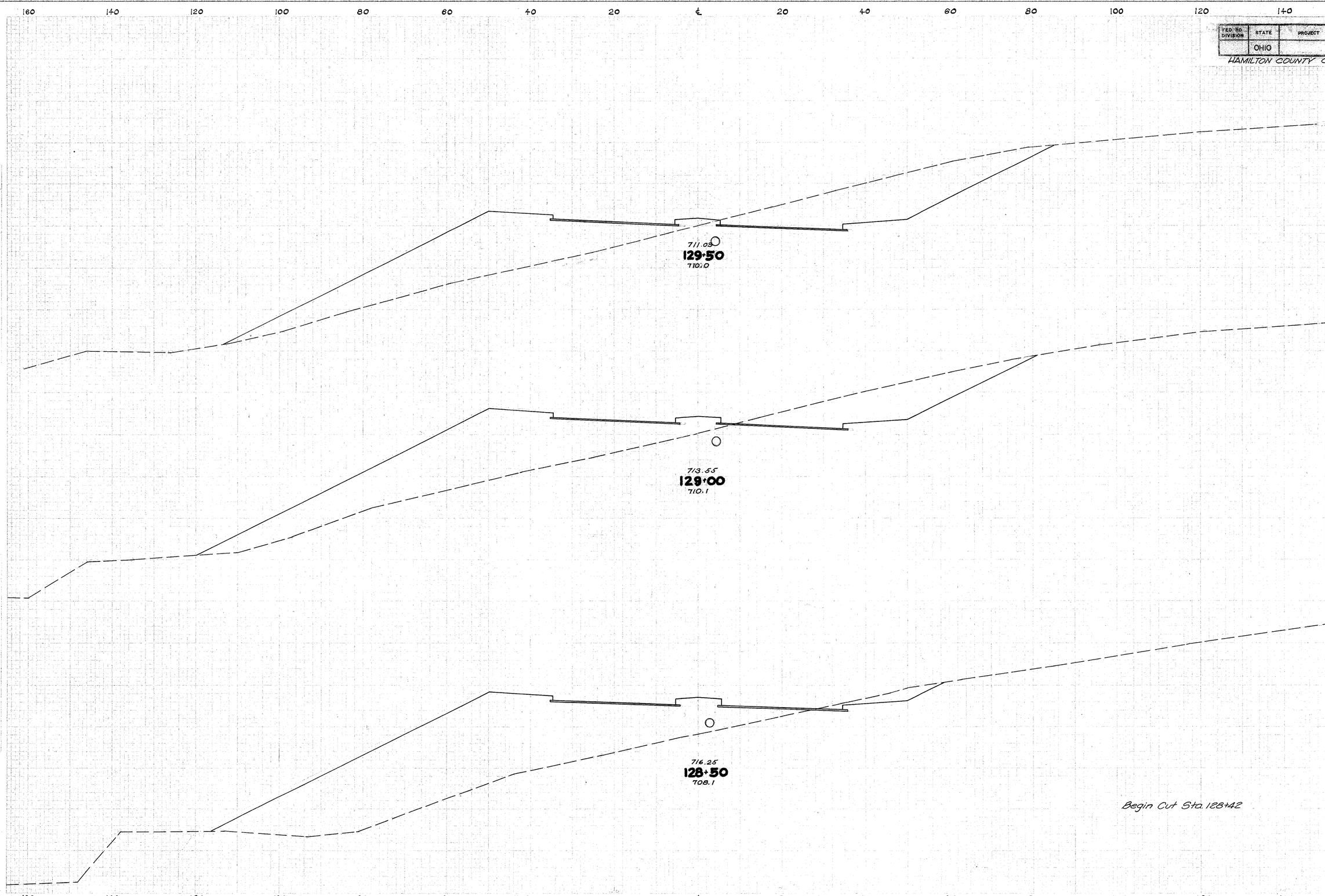
End Area Cu.Yd.			
Cut	Fill	Cut	Fill
0	3238		
		0	8754
0	6221		
		0	8697
0	3177		
		0	5528
0	2793		

STA. 127+00 TO STA. 128+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

47
187

HAMILTON COUNTY C.R. 433-B



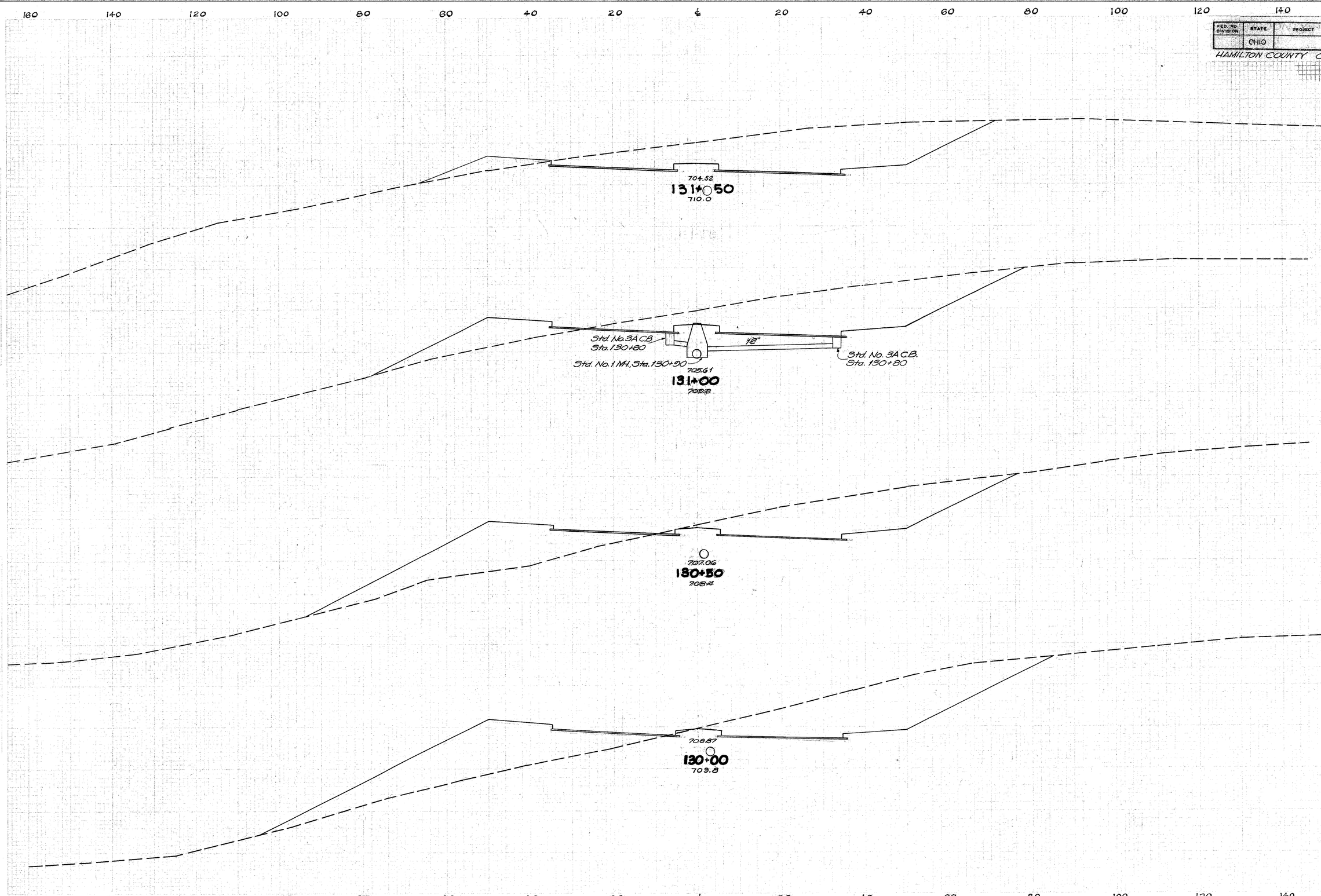
End Area Cu. Yd.			
Cut	Fill	Cut	Fill
542	868		
		854	1835
381	1114		
		402	2674
53	1774		
		8	4640
0	3238		

STA. 128+50 — STA. 129+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

48
187

HAMILTON COUNTY C.E. 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
748	63		
		1337	220
606	181		
		1130	604
524	472		
		1137	952
704	557		
		1154	1319
542	868		

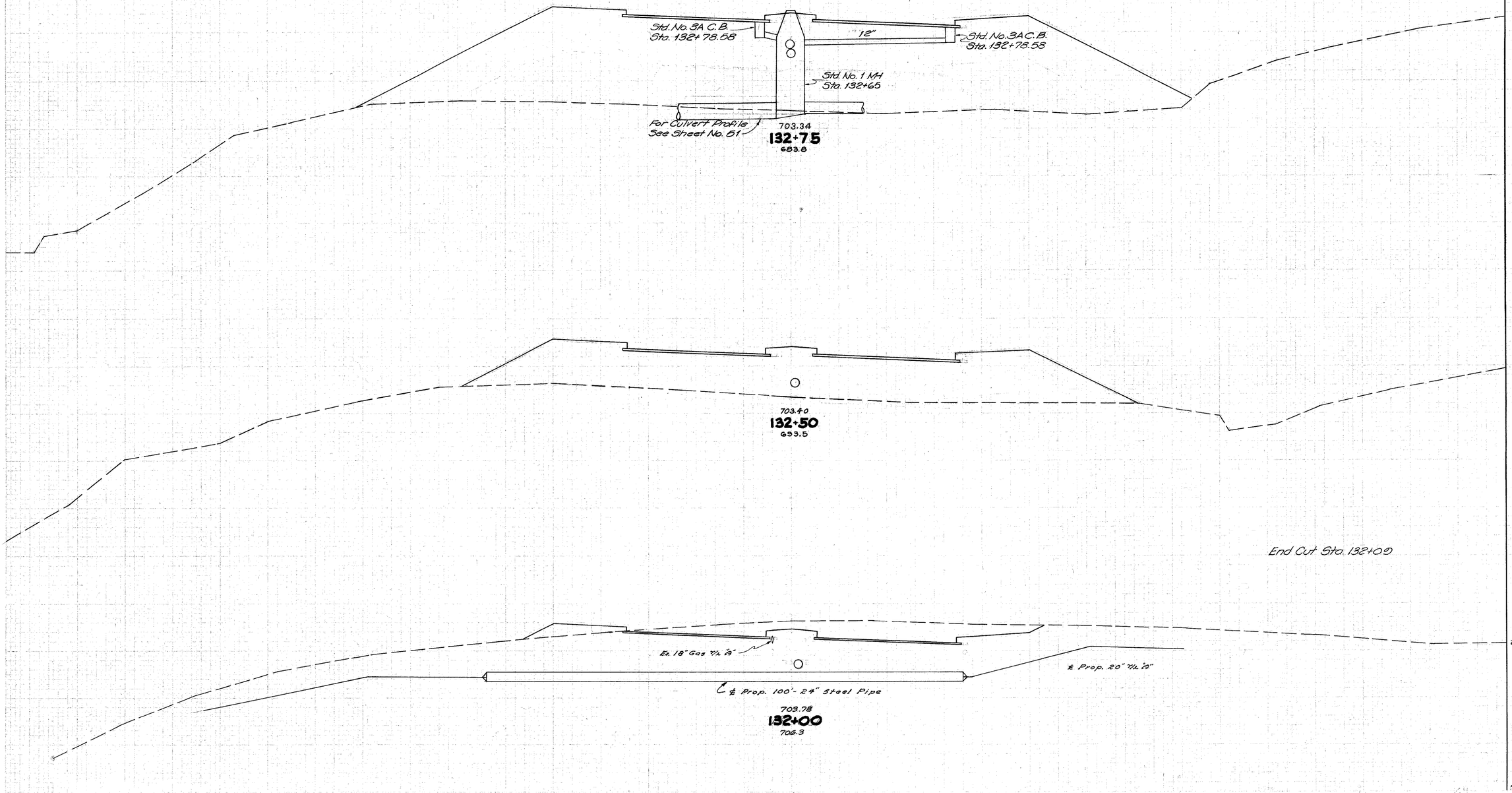
STA. 130+00 TO STA. 131+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

42
187

HAMILTON COUNTY C.R. 453-B

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



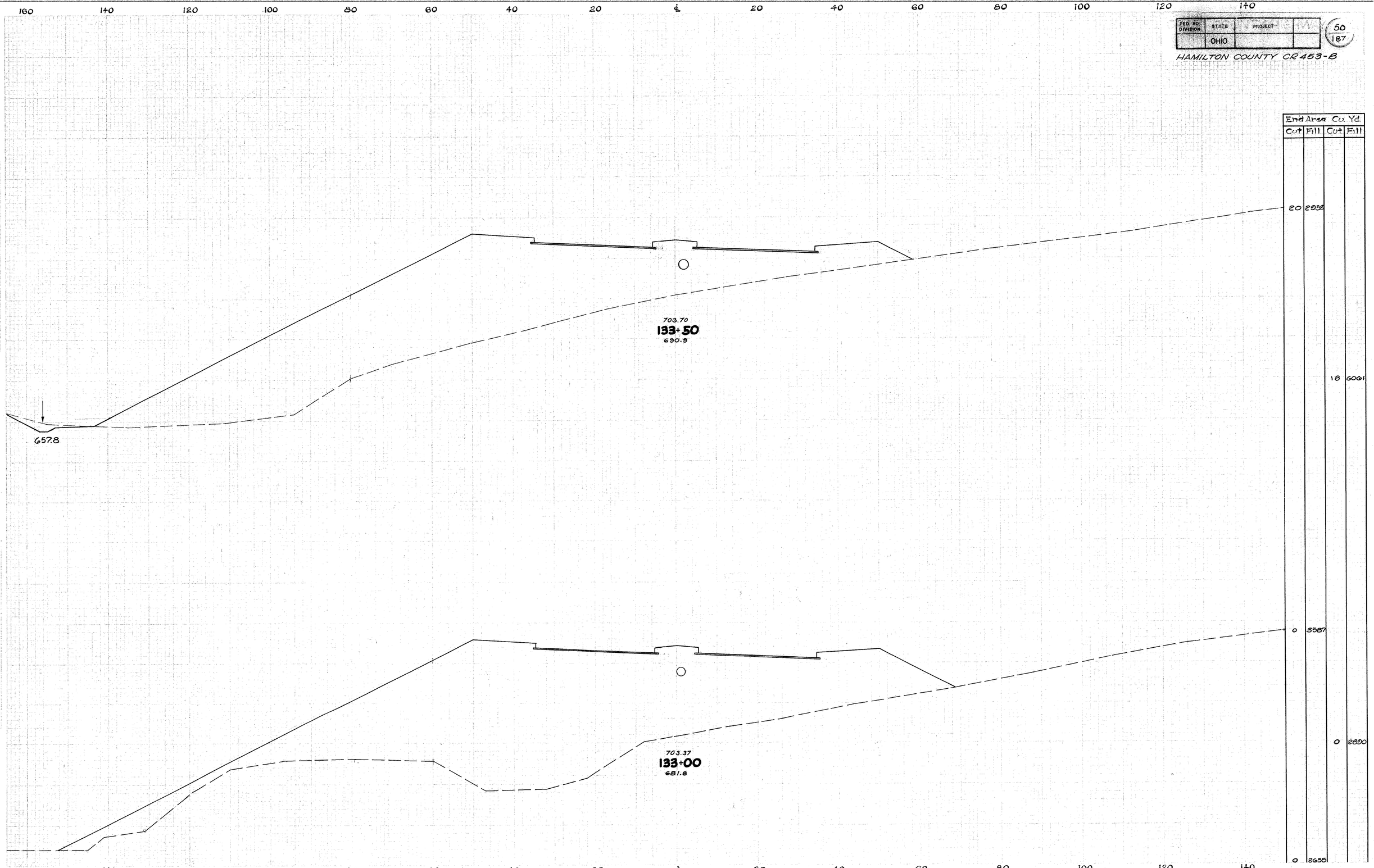
End Area Co.Yd.			
Cut	Fill	Cut	Fill
0	2655		
		0	1785
0	1135		
		43	1087
250	30		
		931	84
748	68		

STA. 132+00 to STA. 132+75

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

50
187

HAMILTON COUNTY CR 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
20	2939		
		18	6061
0	3587		
		0	2690
0	2655		

STA. 133+00 To STA. 133+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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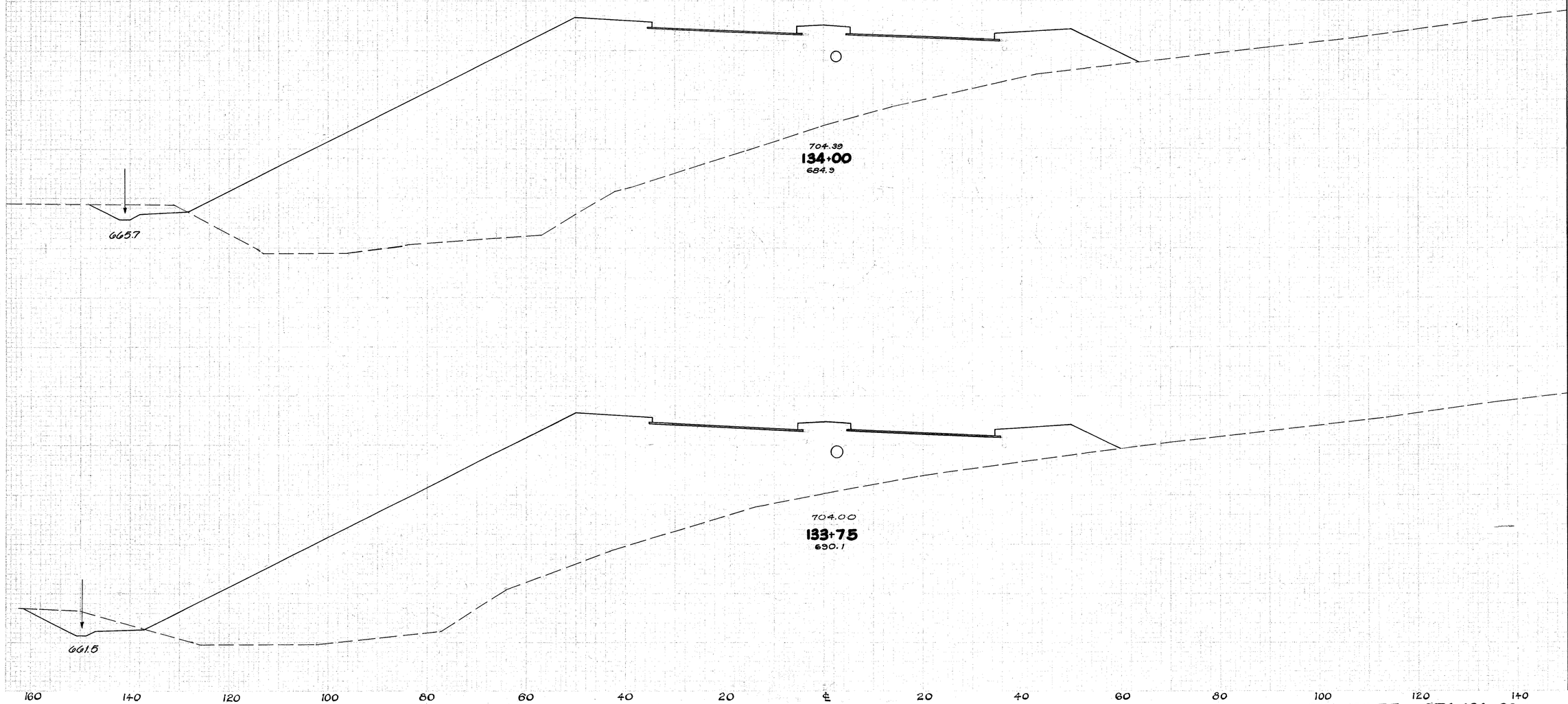
187

HAMILTON COUNTY C.E.453-B

FINAL SURVEY — ORIGINAL SURVEY

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



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
32	4106		
		40	3221
74	8351		
		44	2021
20	2052		

STA. 133+75 TO STA. 134+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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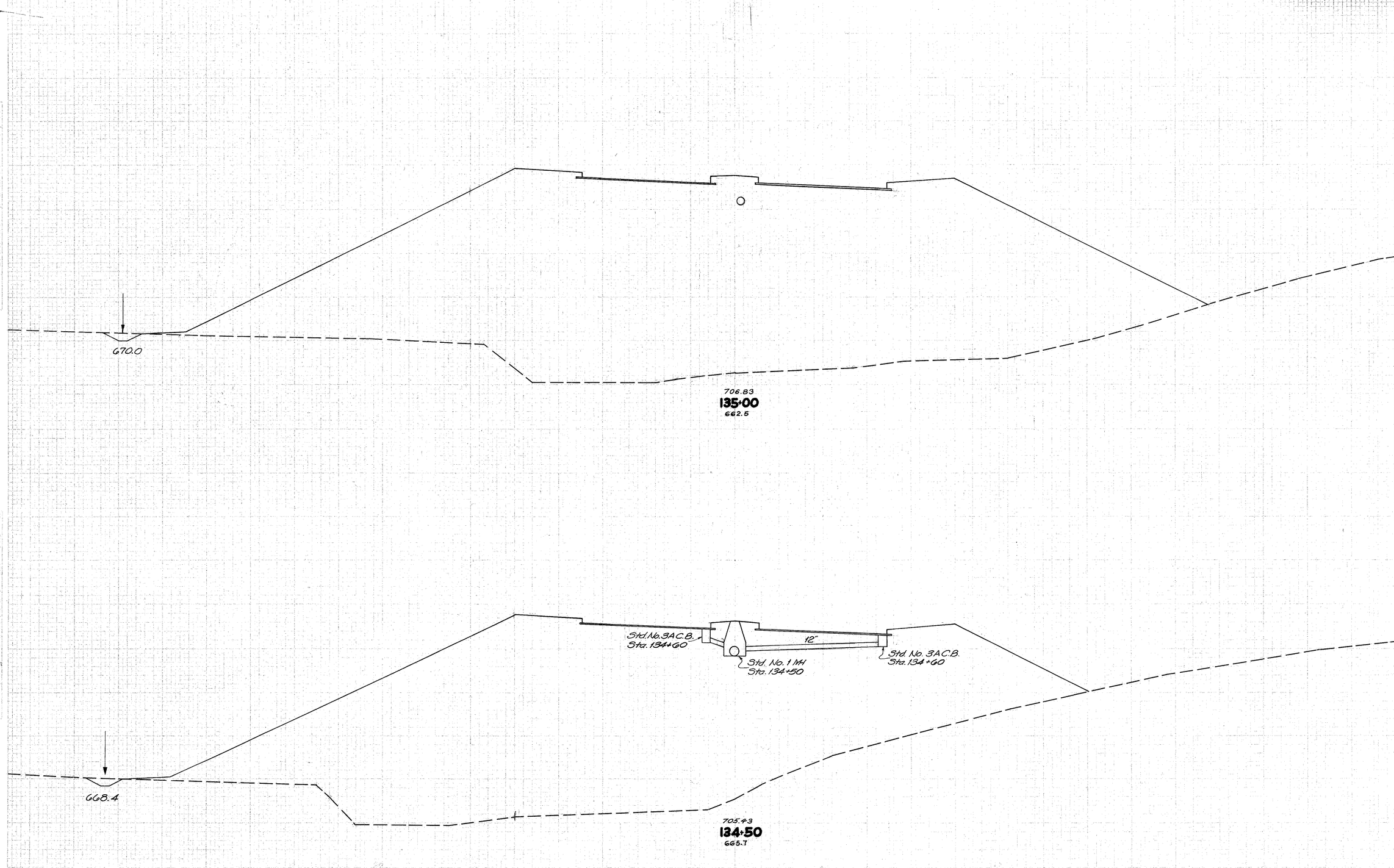
187

HAMILTON COUNTY C.R. 453-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
		8	7268
		13	10185
		6	5892
		35	9250
		32	4106

STA. 134+50 - STA. 135+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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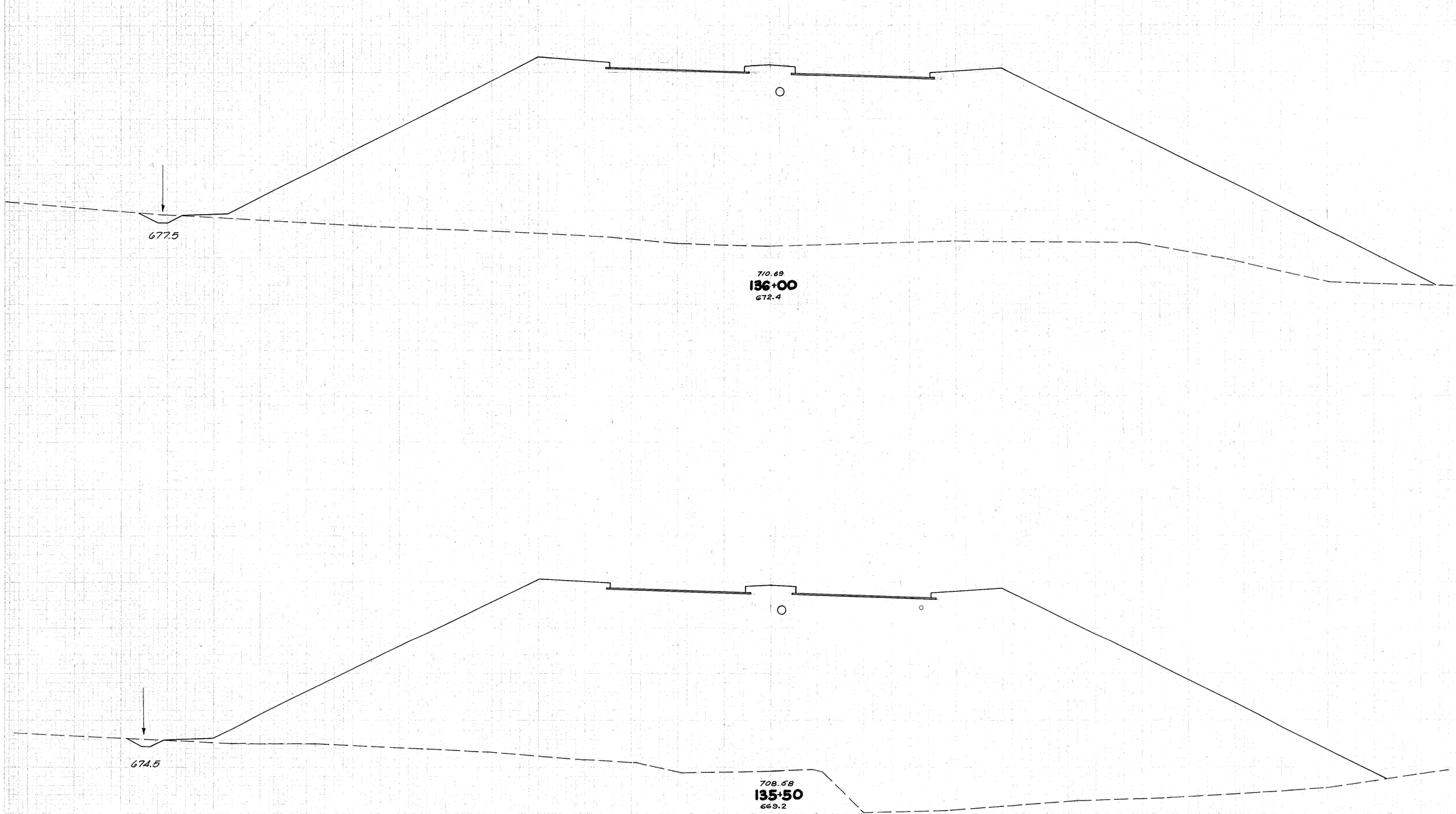
187

HAMILTON COUNTY C.R. 453-B



End Area Co Yd			
Cut	Fill	Cut	Fill
		12	6776
			662.7
		18	13233
	8	7515	
		15	13687
	8	7268	

STA. 135+50 to STA. 136+00

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

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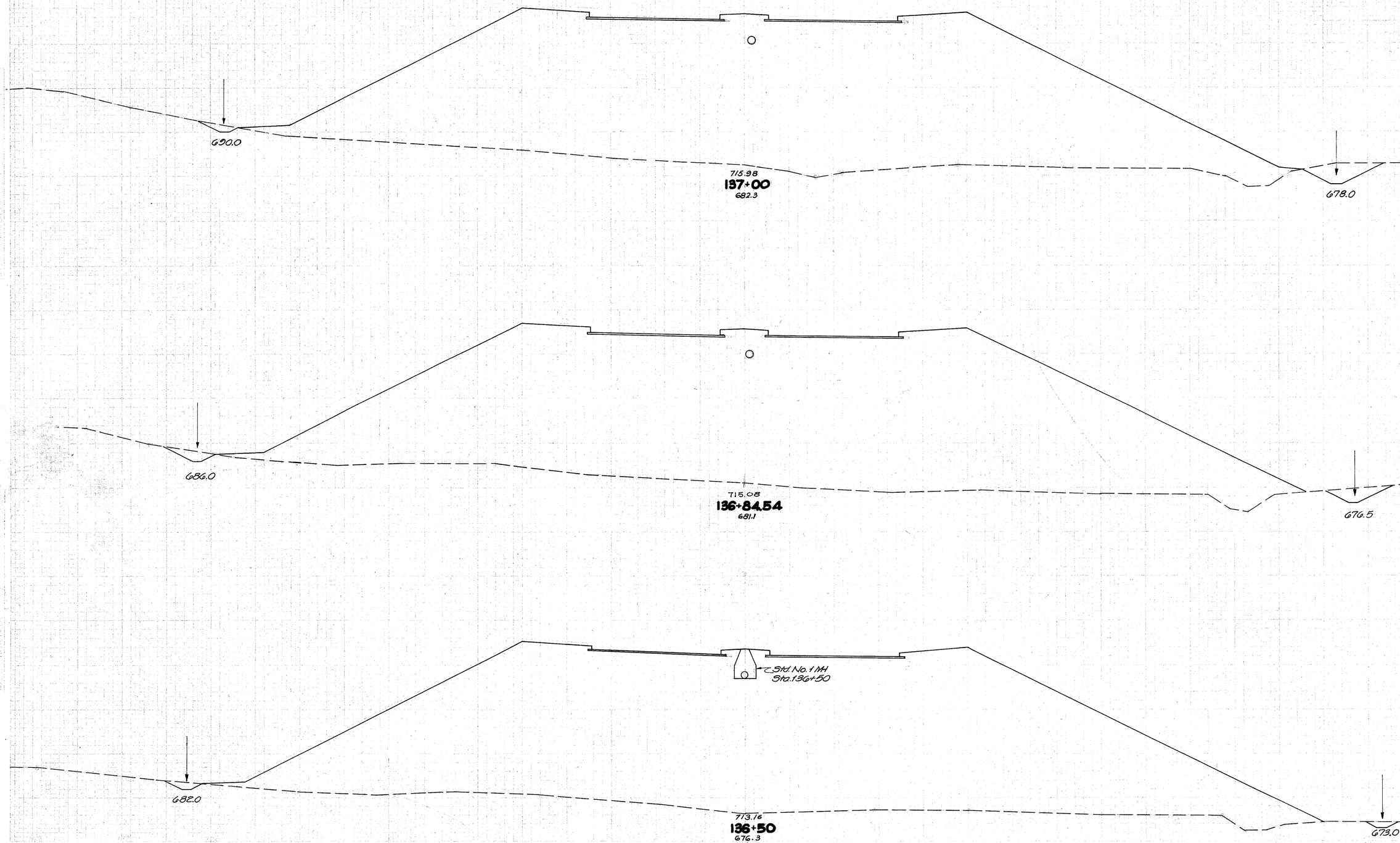
187

HAMILTON COUNTY CR 453-B



End Area Cu Yd.			
Cut	Fill	Cut	Fill
58	5513		
		27	3846
36	5825		
		32	7691
15	6199	25	16016
12	6778		

FED. AID DIVISION	STATE	PROJECT	
	Ohio		

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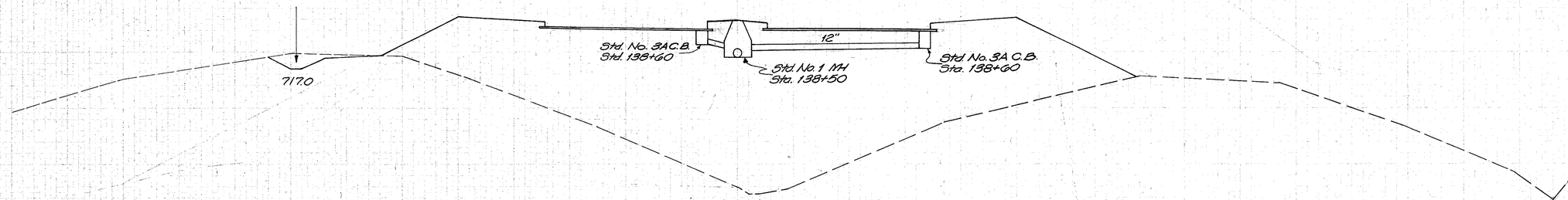
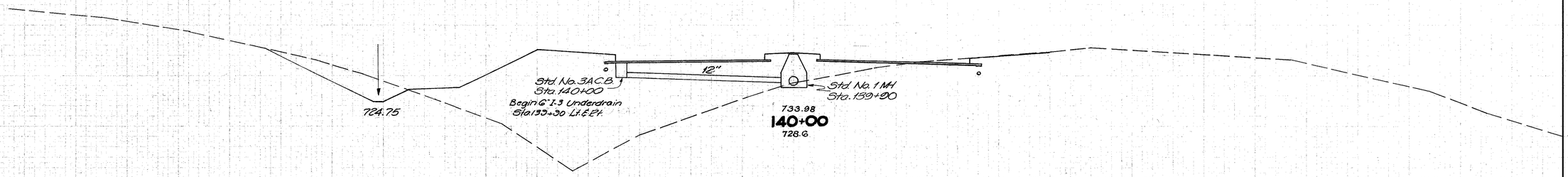
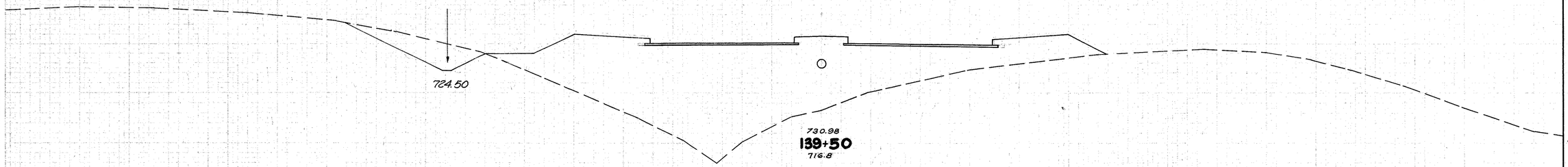
HAMILTON COUNTY CR 453-B

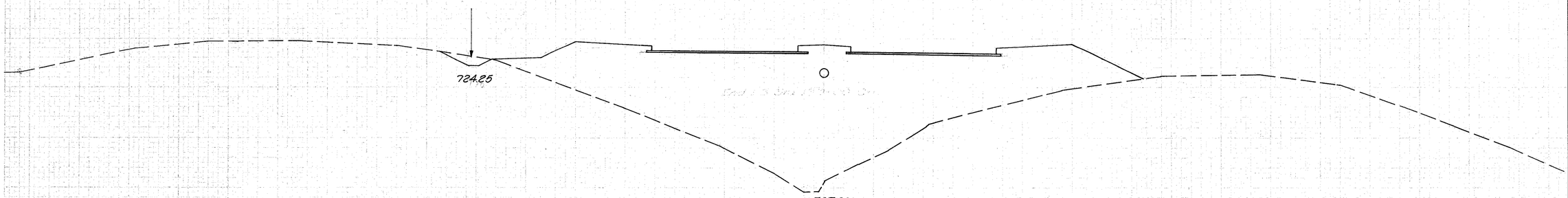


End Area Cu. Yd.			
Cut	Fill	Cut	Fill
20	2298		
		30	4775
22	2850		
		26	6597
6	4266	60	9059
58	5513		

STA. 137+50 - STA. 138+50







FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

HAMILTON COUNTY C.R. 453-B

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
93	926		
		165	2099
85	1341		
		88	2907
11	1799		
		28	3793
20	2298		

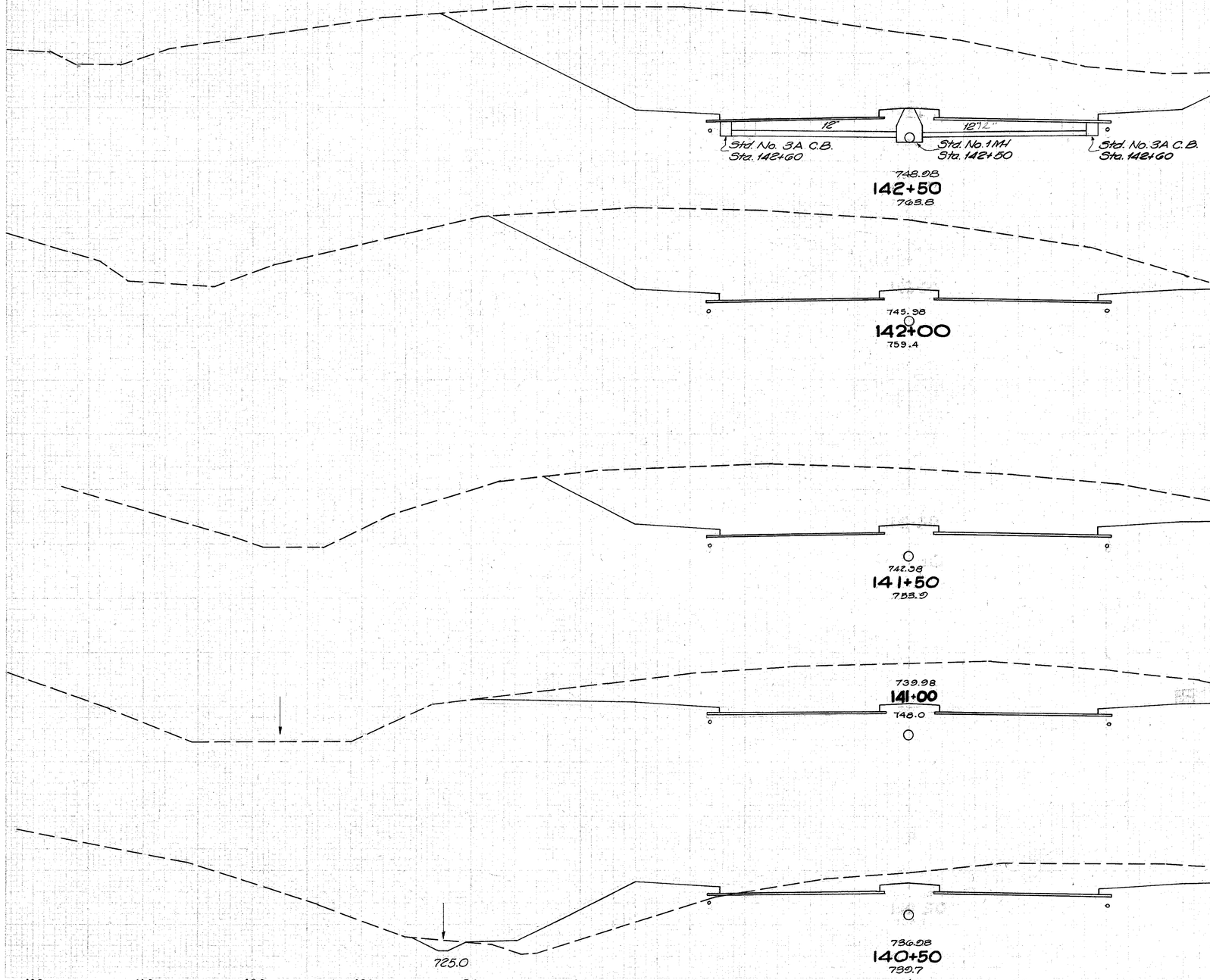
STA. 139+00 – STA. 140+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

57
187

HAMILTON COUNTY C.R. 453-B

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



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
1806	0		
		3141	0
1490	0		
		2528	0
1235	0		
		2004	0
929	0		
		1199	20
363	194	422	1087
93	926		

Sta 126+00 to 142+00
Excavation 13,831 cu.yd.
Embankment 159,784 cu.yd.
Embankment + 15% 191,741 cu.yd.

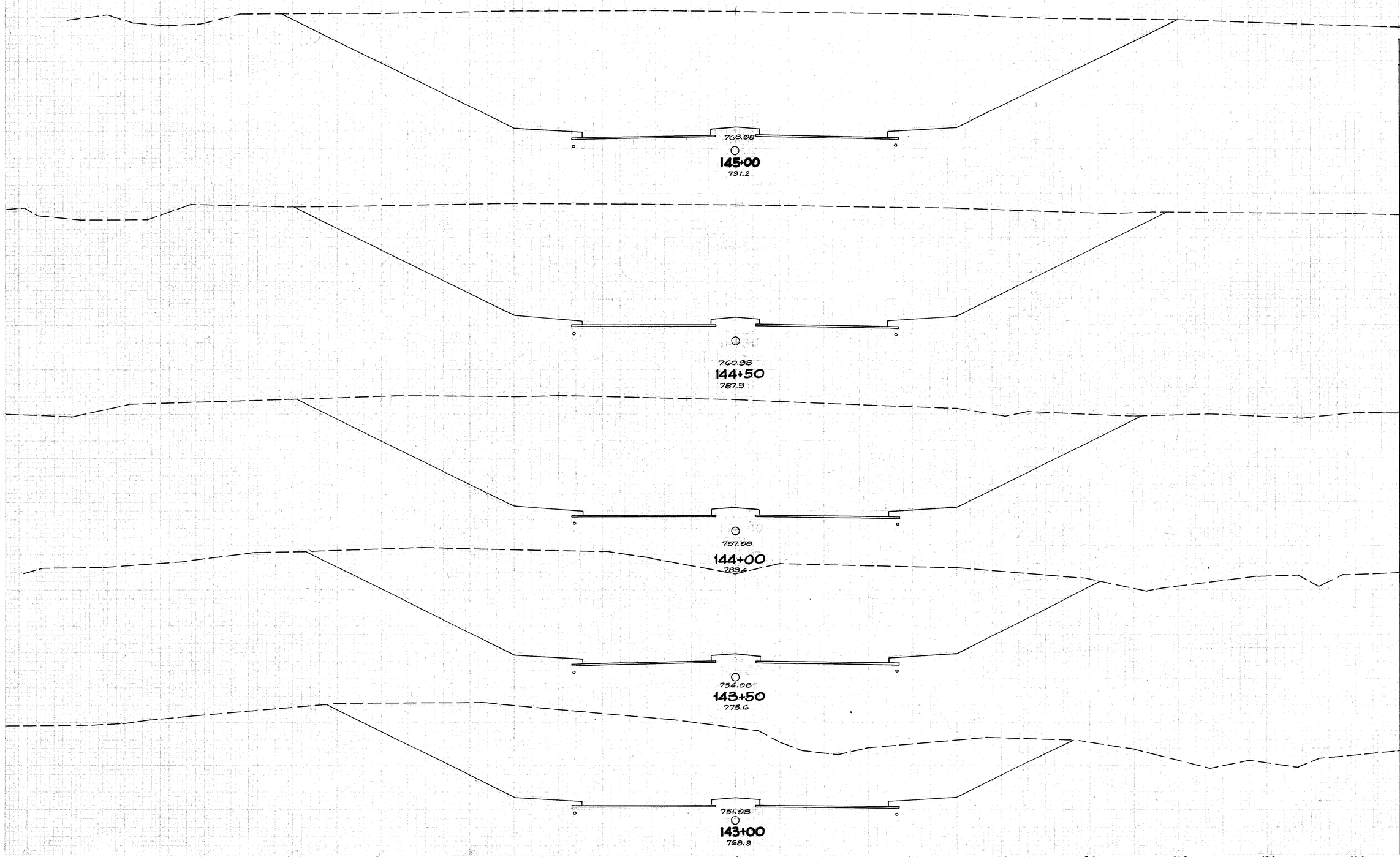
160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA 140+50 - STA 142+50

FED. RD. DIVISION	STATE	PROJECT		58
	OHIO			187

HAMILTON COUNTY CR 453-B

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



End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
4166	0		
		7490	0
3088	0		
		7008	0
3700	0		
		6328	0
3135	0		
		5102	0
2376	0		
		3054	0
1890	0		

STA 143+00 to STA 145+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

59
187

HAMILTON COUNTY C.R. 453-B

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

Std No. 3A C.B.
Sta. 147+21

775.98
147+00
786.1

For Sedgewick Dr.
See Sheet No. 25

SEDGEWICK DRIVE

15"

12"

Std. No. 3A C.B.
Sta. 0+69.2
Sedgewick Drive

Std. No. 1 M1
Sta. 146+50

Std. No. 3A C.B.
Sta. 146+60

772.98
146+50
791.9

768.98
146+00
794.3

766.98
145+50
794.1

End Area Cu. Yd			
Cut	Fill	Cut	Fill
1415	0		
		3528	0
2385	0		
		5430	0
3480	0		
		7032	0
4115	0		
		7612	0
4106	0		

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

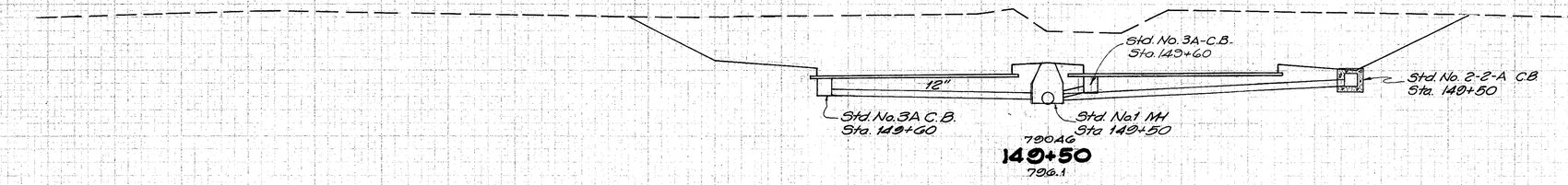
STA. 145+50 TO STA. 147+00

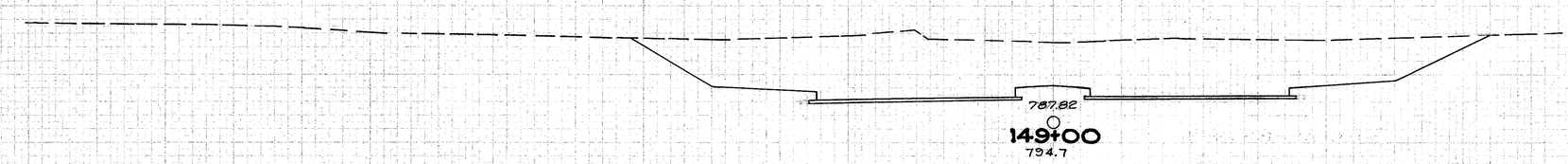
FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

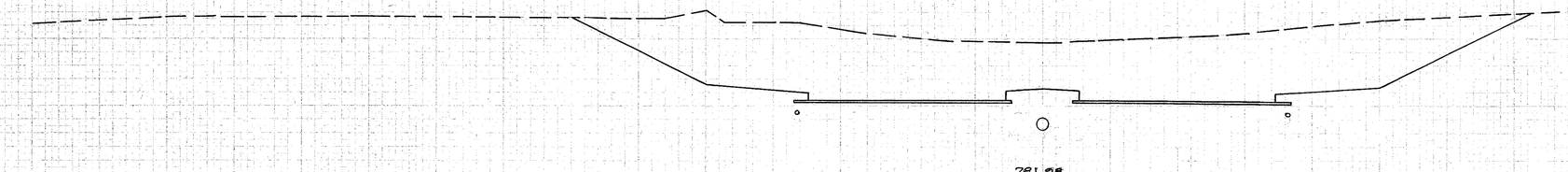
60
187

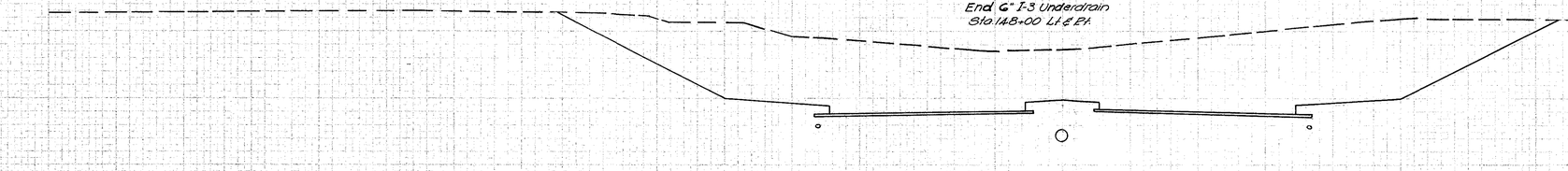
HAMILTON COUNTY CR 453-B

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









End Area Cu. Yd.			
Cut	Fill	Cut	Fill
937	0		
		1710	0
910	0		
		1750	0
880	0		
		2041	0
1225	0		
		2436	0
1405	0		
		2611	0
1415	0		

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

STA 147+50 to STA 149+50

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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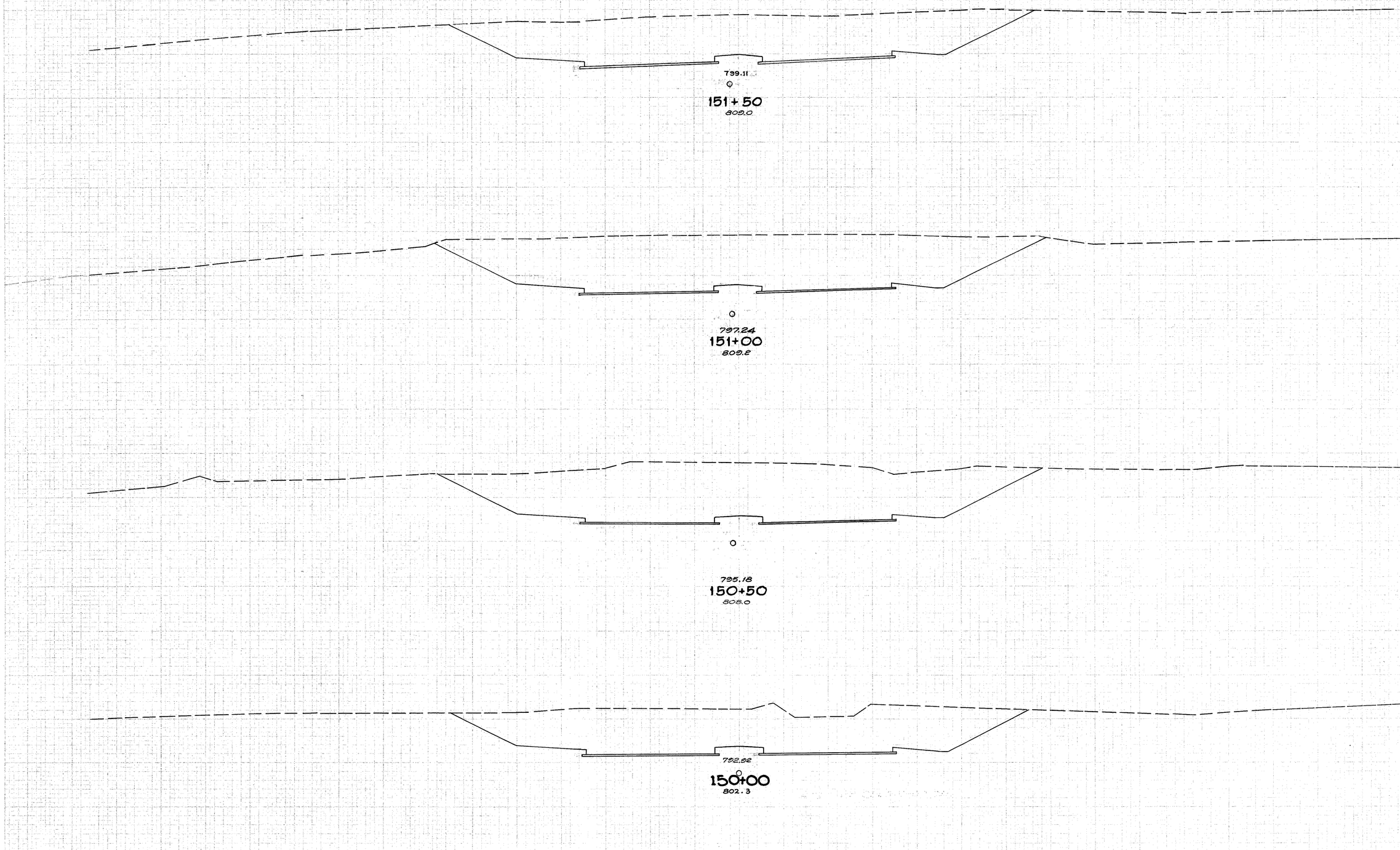
187

HAMILTON COUNTY C.R. 453-B



Station	End Area Cut	End Area Fill	Cu. Yd. Cut	Cu. Yd. Fill
151+50	1133	0		
			2394	0
151+00	1450	0		
			2748	0
150+50	1518	0		
			2452	0
150+00	1130	0		
			1014	0
	237	0		

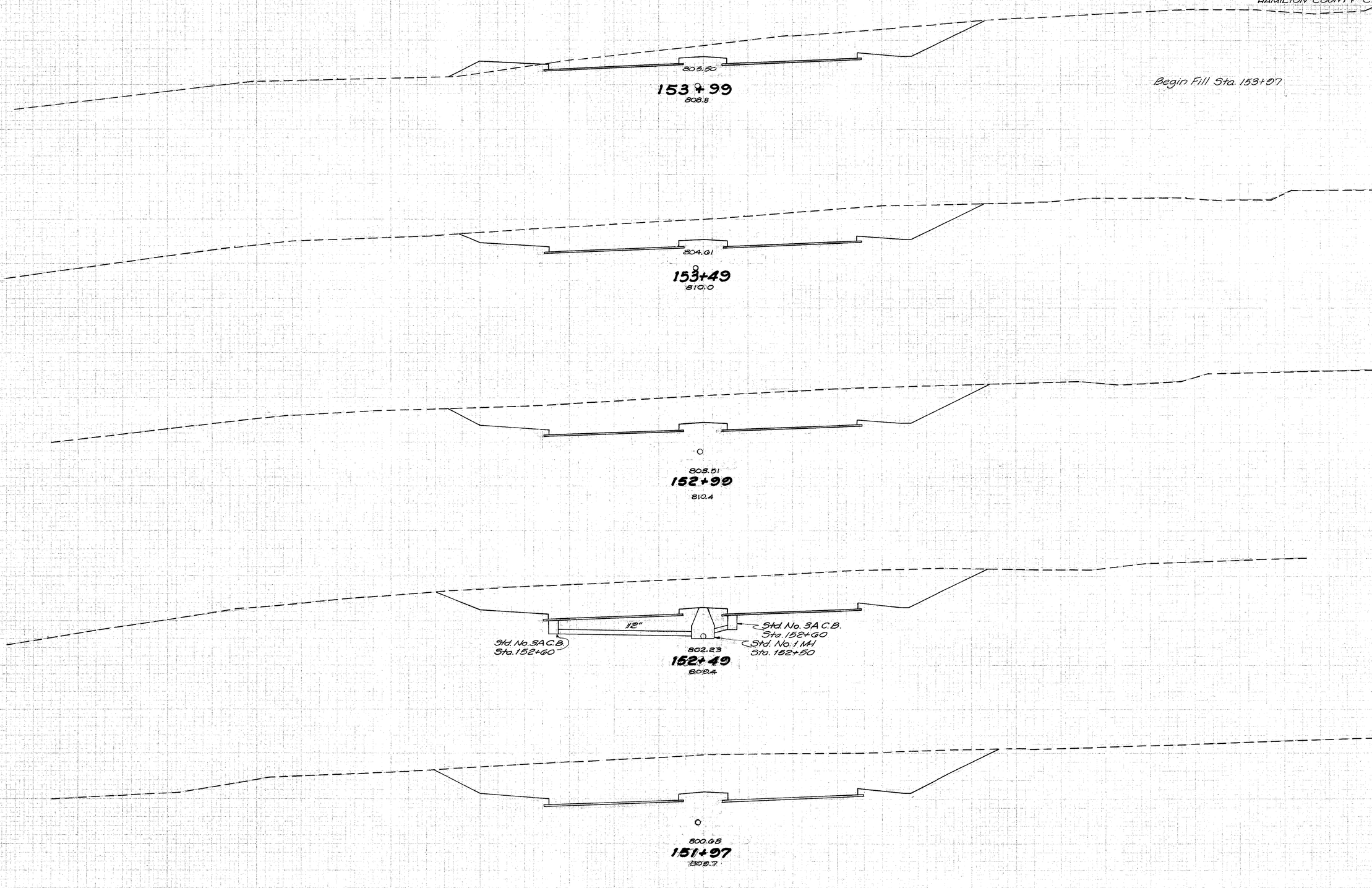
STA 150+00 to STA 151+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

C2
187

HAMILTON COUNTY C.P. 433-B

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



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
438	30		
		1011	2
655	0		
		1356	0
810	0		
		1592	0
845	0		
		1755	0
977	0		
		1838	0
1135	0		

STA. 151+97 TO STA. 153+99

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

63 / 187

HAMILTON COUNTY C.R. 453-B

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

807.07
156 + 47
808.4

Begin Fill Sta. 156+42

807.14
155 + 98
811.4

End Fill Sta. 155+50

807.02
155 + 48
808.3

Std. No. 2-2-A.C.B. Sta. 155+60

806.71
154 + 98
808.4

12" 806.20

Std. No. 3A C.B. Sta. 154+60

Std. No. 3A C.B. Sta. 154+60

154 + 48
808.7

Std. No. 1 MH, Sta. 154+50

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
263	6		
		785	1
548	0		
		704	1
213	8		
		484	107
256	109		
		541	195
328	88		
		605	62
438	30		

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

STA. 154+48 TO STA. 156+47

FED. AID PROJECT NO.	STATE	PROJECT	
	OHIO		

64
187

HAMILTON COUNTY C.R. 453-B

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

804.83
158+96
808.8

805.33
158 + 48
808.2

Std. No. 1 MH
Sta. 157+90

805.84
157 + 97
805.7

Std. No. 3A C.B., Sta. 157+80

806.35
157 + 47
800.5

806.80
156 + 97
805.3

Sta. 142+00 to 158+00
Excavation 87,751 Cu.Yd.
Embankment 2,349 Cu.Yd.
Embankment +20% 2,818 Cu.Yd.

Begin Cut Sta. 157+87

End Cut Sta. 157+07

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
525	25		
		834	102
413	90		
		542	282
162	209		
		30	861
0	721		
		31	022
171	274		
		402	258
245	6		

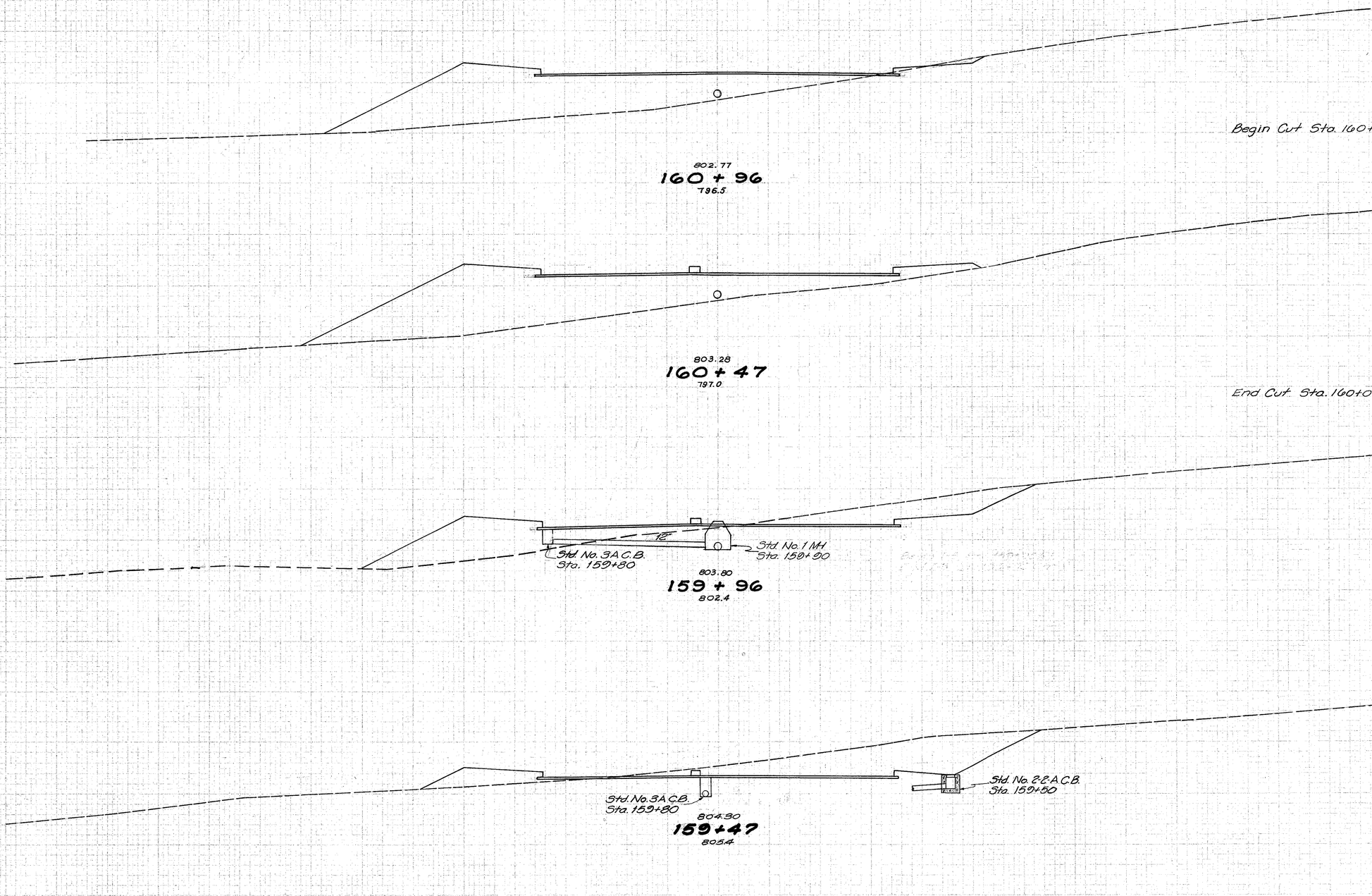
160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 156+97 TO STA. 158+96

FED. RD DIVISION	STATE	PROJECT		65 / 187
	OHIO			

HAMILTON COUNTY C.P. 433-B

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



End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
11	670		
		1	1967
0	857		
		86	1058
176	284		
		456	827
327	77		
		805	106
525	25		

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

STA 159 + 47 TO STA 160 + 96

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

66
187

HAMILTON COUNTY C.R. 453-B

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

800.21
163 + 47
802.0

800.73
162 + 96
803.4

Begin Fill Sta. 162+02

801.29
162 + 47
806.2

12"
Std. No. 1 M.H. Sta. 161+90
Std. No. 3A C.B. Sta. 161+80

801.75
161 + 96
808.0

End Fill Sta. 161+50

802.25
161 + 47
802.8

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

STA. 161+47 TO STA. 163+47

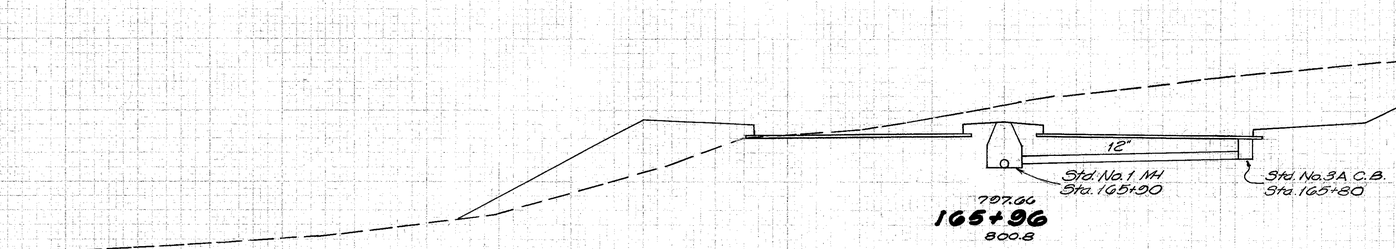
End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
340	80		
		750	140
465	68		
		1102	6
780	0		
		1496	0
895	0		
		998	3
865	46		
		261	1352
11	670		

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

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

67
187

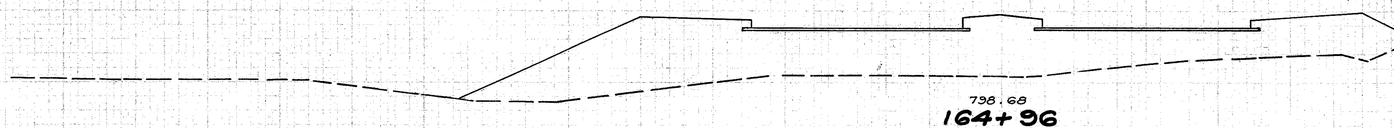
HAMILTON COUNTY C.D. 453-B



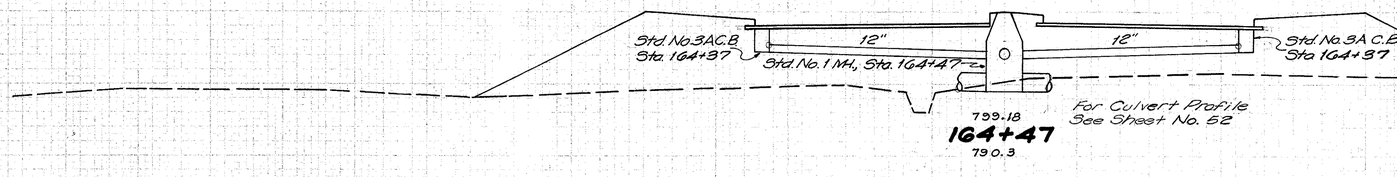
707.66
165+96
800.8

798.16
165+47
798.3

Begin Cut Sta. 165+38



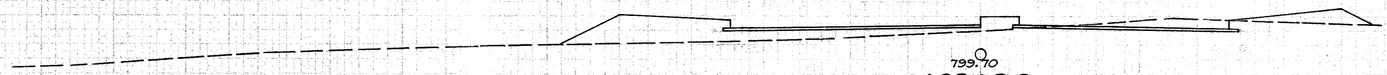
798.68
164+96
791.0



799.18
164+47
790.3

For Culvert Profile
See Sheet No. 52

End Cut Sta. 163+97



799.70
163+96
798.0

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

STA. 163+96 TO STA. 165+96

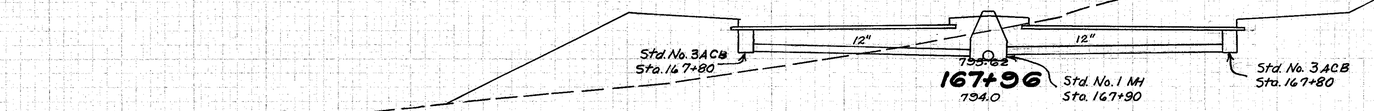
End Area Cut	End Area Fill	Cu. Yd. Cut	Cu. Yd. Fill
518	175		
		615	804
161	60		
		87	823
0	812		
		0	1680
0	1046		
		1	1111
28	181		
		334	198
340	80		

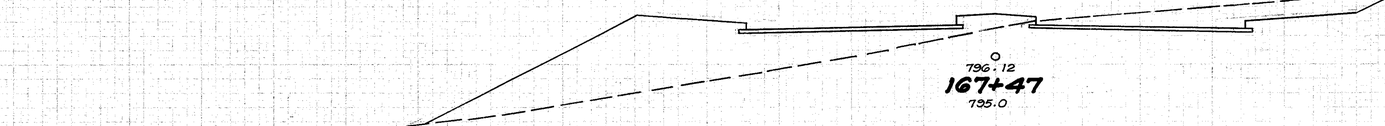
FED. RD DIVISION	STATE	PROJECT	
	OHIO		

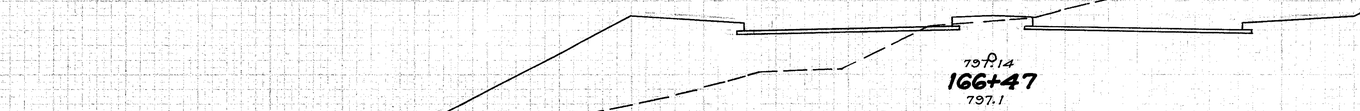
68
187

HAMILTON COUNTY C.R. 453-B

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







End Area Cu. Yd.			
Cut	Fill	Cut	Fill
461	405		
		304	778
150	452		
		406	1160
334	776		
		682	1146
417	487		
		882	531
518	175		

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

STA. 166+47 TO STA. 167+96

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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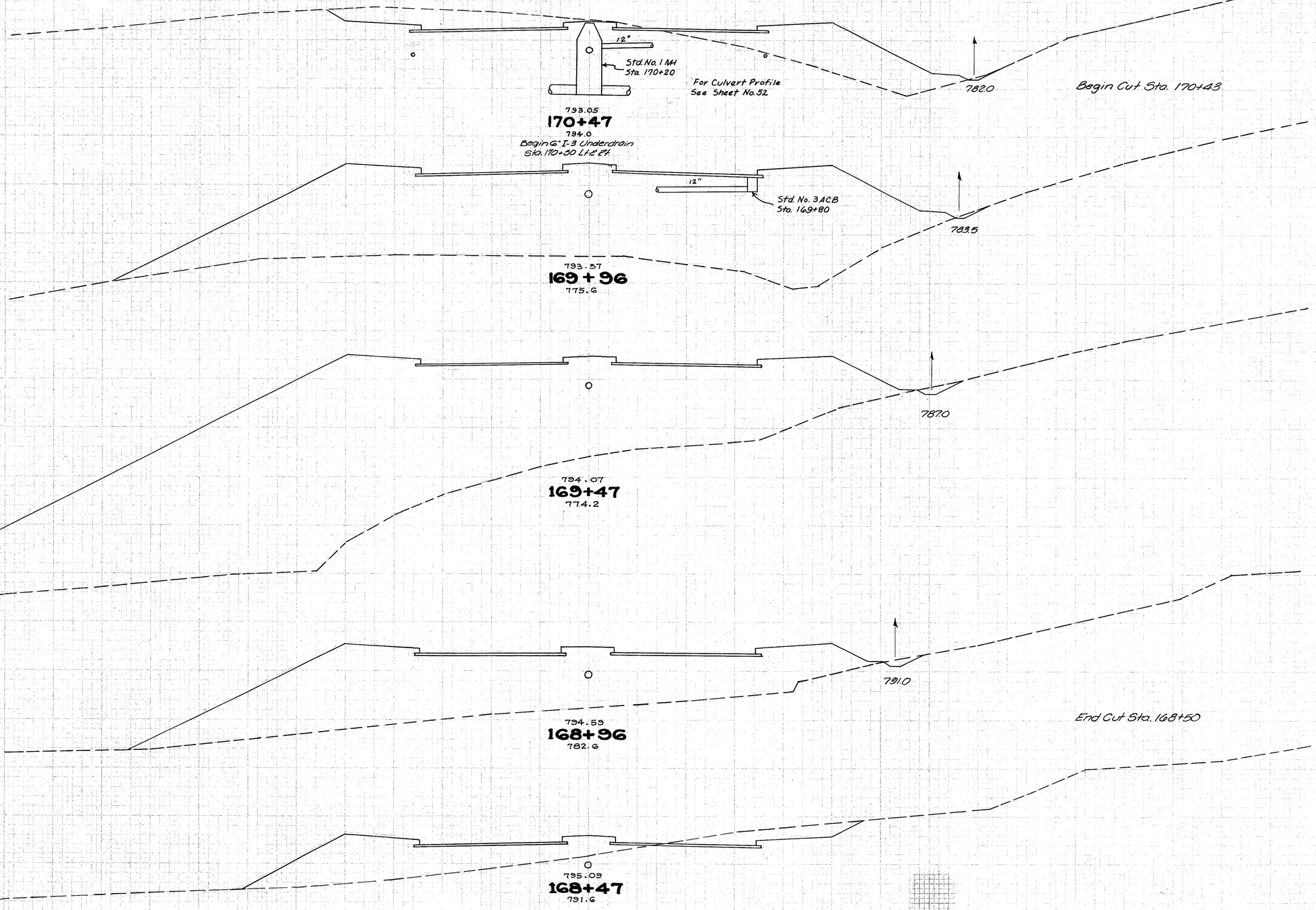
187

HAMILTON COUNTY C.D. 453-B

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



End Area		Cu Yd.	
Cut	Fill	Cut	Fill
198	317		
		15	2712
0	2855		
		0	6318
0	4405		
		0	5147
0	1582		
		6	1827
107	431		
		537	789
461	405		

CTA 168+47 TO CTA 170+47

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 455-B

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

790.50
172+96
813.2

791.00
172+47
814.2

791.52
171+96
814.1

Std. No. 3A-CB.
Sta. 171+80

Std. No. 3 ACB
Sta. 171+80

End I-18 Sta. 171+00

Begin 6" I-3 Underdrain ctr.
Sta. 172+00

792.02
171+47
812.7

792.55
170+96
806.2

Begin I-3 Sta. 170+50

End Area Cut	End Area Fill	Cu. Yd. Cut	Cu. Yd. Fill
3183	0		
		5753	0
3185	0		
		5835	0
2009	0		
		5147	0
2680	0		
		4099	0
1660	0		
		1686	47
198	317		

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

STA 170+96 TO STA 172+96

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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187

HAMILTON COUNTY C.R. 453-B

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

788.12
175+47
802.3

Std. No. 3 ACB
Sta. 175+58.96

12"

Std. No. 1 MH
Sta. 175+60.36

Std. No. 3 ACB
Sta. 175+58.96

788.44
174+97
804.2

788.95
174+47
807.0

789.48
173+96
809.1

12"

Std. No. 1 MH
Sta. 173+80

Std. No. 3 ACB
Sta. 173+80

789.98
173+47
811.7

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
1650	0		
		3846	0
1965	0		
		3928	0
2277	0		
			4571
2564	0		
		4987	0
2932	0		
		5748	0
3155	0		

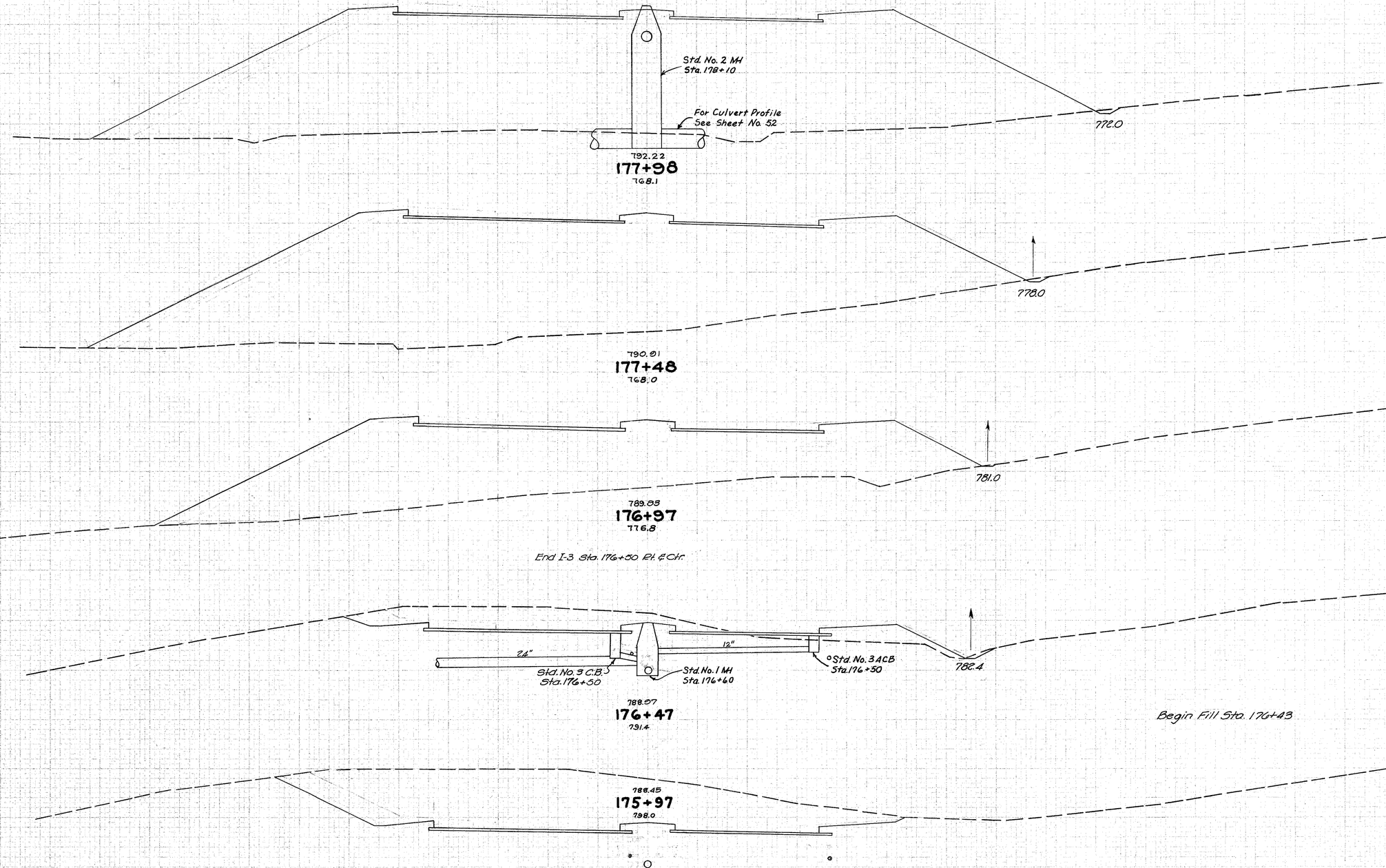
Sta. 158+00 to 174+00
Excavation 44,404 cu.yd.
Embankment 29,209 cu.yd.
Embankment +20% 35,051 cu.yd.

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

STA. 173+47 to STA. 175+47

FED. RD. DIVISION	STATE	PROJECT		72
	OHIO			187

HAMILTON COUNTY C.R. 453-B



End Area Cut	End Area Fill	Cu. Yd. Cut	Cu. Yd. Fill
4	3845		
		6	6685
3	3376		
		4	4989
1	1906		
		31	1846
280	80		
		1800	7
1185	0		
		2569	0
1650	0		

STA. 175+97 to STA. 177+98

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

73
187

HAMILTON COUNTY C.R. 453-B

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

See Sh. 120

Ahead

T98.34
180+49
791.0

Std. No. 3ACB
Sta. 6+61 Rampx

12"

T97.09
179+98
788.2

12" 12"

Std. No. 3ACB
Sta. 179+60

Std. No. 1MH
Sta. 179+50

Std. No. 3ACB
Sta. 179+60

795.87
179+48
784.0

794.65
178+98
780.5

793.43
178+48
776.8

769.0

	End Area Cu. Yd.			
	Cut	Fill	Cut	Fill
Ahead	0	842		
Back	0	1190		
			0	2546
	0	1507		
			0	3811
	0	2070		
			0	4097
	0	2938		
			6	5721
	6	3841		
			0	6561
	4	3845		

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

STA. 178+48 to STA. 180+49

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

74
187

HAMILTON COUNTY C.R. 453-B

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

Std No 22A CB
Sta. 184+00
See Sh. 121
Back
Ahead
806.91
184+00
809.7
Begin 6" I-3 Underdrain
Sta. 183+60 Ctr. Ert.

See Sh. 121
Std No. 3ACB
Sta. 183+60
Std No 1 MH
Sta. 183+50
Std. No. 3ACB
Sta. 183+60
805.69
183+50
804.6

See Sh. 121
804.44
182+99
803.6

See Sh. 121
For Sewer Profile
See Sheet No. 49
803.22
182+49
801.0
Std. No. 1 MH
Sta. 182+60

See Sh. 121
802.00
181+99
798.8

See Sh. 120
800.78
181+49
797.2

See Sh. 120
799.56
180+99
793.6

Begin Fill Sta. 183+05
End Fill Sta. 183+13
Begin Cut Sta. 182+00

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
296	80		
203	19		
		417	8
188	0		
		222	10
52	72		
		0	204
0	246		
		735	
548			
		926	
458			
		1037	
668			
		1308	
842			

Ahead

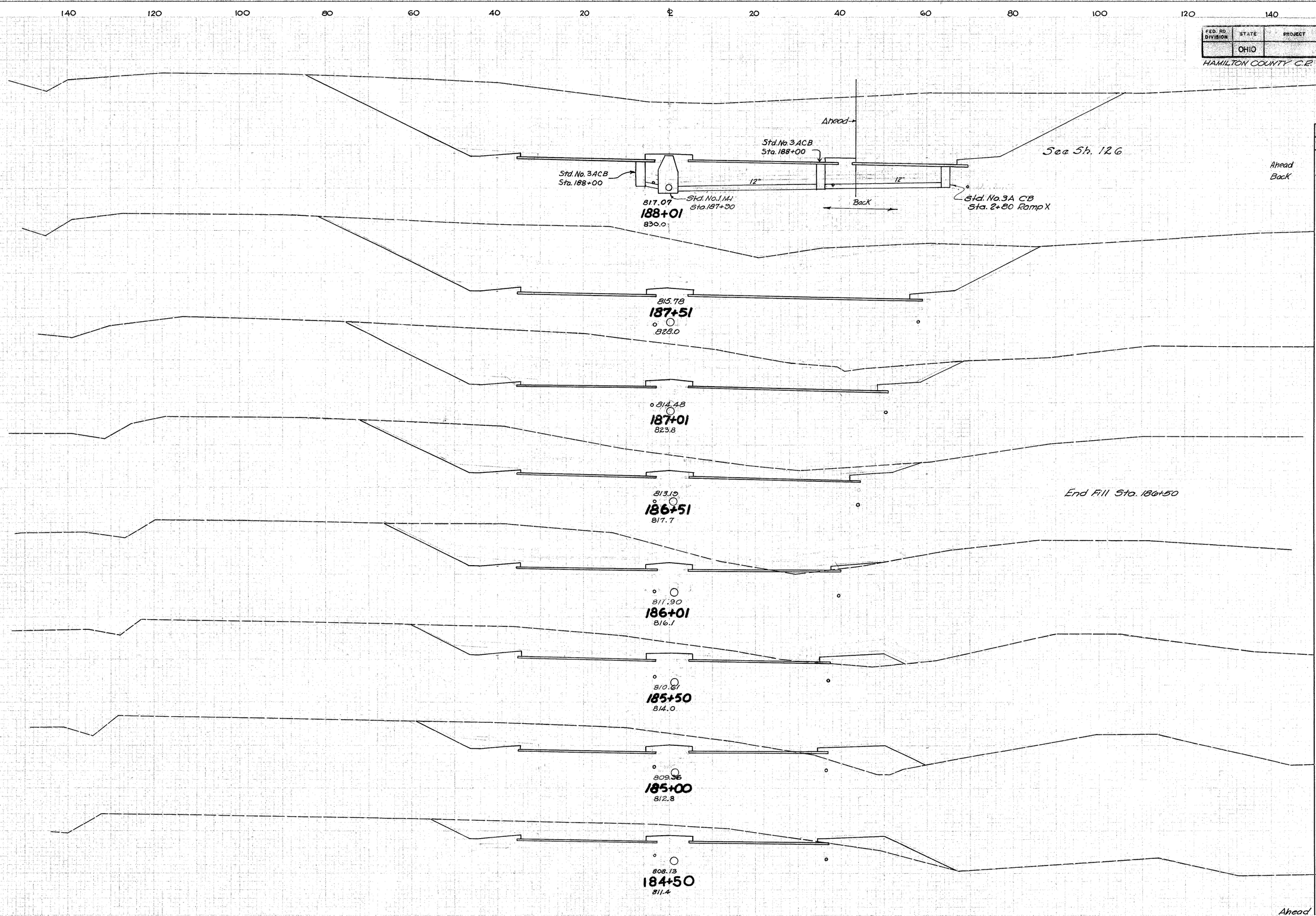
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 180+99 to STA. 184+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

75
187

HAMILTON COUNTY C.R. 453-B



End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
Ahead			
1680	0		
2390	0		
		3961	0
1848	0		
		2798	0
1175	0		
		1744	0
709	0		
		1160	1
553	15		
		914	51
403	46		
		780	135
385	106		
		650	167
328	75		
		578	87
Ahead	20		

STA. 184+50 to STA. 188+01

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

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

76
187

HAMILTON COUNTY C.R. 453-B

823.57
190+52
852.2

See Sh. 126

House

822.28
190+02
848.0

See Sh. 126

Sta 174+00 to 190+00
Excavation 50,507 Cu.Yd.
Embankment 41,155 Cu.Yd.
Embankment +20%=49,386 Cu.Yd.

Special Drains to be I-1, 6" pipe underdrain, with I-107 Class 3 backfill using M-6.4(h) perforated CMP. Upper most drain shall be installed and backfilled when cut (E-1) reaches top of trench. Same with succeeding lower levels of drains. No cut shall be made below top of trench until drain is installed and connected to outlet. Method of installation and outlet fitting shall be approved by the Engineer prior to beginning work.

820.98
189+52
843.8

See Sh. 126

819.69
189+02
838.2

See Sh. 126

818.37
188+51
833.1

See Sh. 126

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
1906	0		
		8450	0
4225	0		
		7198	0
3550	0		
		5028	0
2852	0		
		4795	0
2285	0		
		3615	0
Ahead 1680	0		

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

STA. 188+51 to STA. 190+52

FED. RD DIVISION	STATE	PROJECT		77 / 187
	OHIO			

HAMILTON COUNTY C.P. 453-B

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

828.78
192+53
857.0

See Sh. 127

827.47
192+03
856.4

Special Drains
See Note, Sheet

12"
Std. No. 2.2-A. C.B.
Sta. 192+00

See Sh. 127

820.16
191+52
855.3

Sta. No. 3A C.B.
Sta. 191+60

Std. No. 1 M.H
Sta. 191+50

Std. No. 3A C.B.
Sta. 191+60

12" Storm Sewer

See Sh. 127

824.87
191+02
854.5

See Sh. 127

End Area Cu Yd.			
Cut	Fill	Cut	Fill
5270	0		
		9805	0
5420	0		
		10157	0
5335	0		
		9800	0
5250	0		
		9400	0
4902	0		

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

STA. 191+02 to STA. 192+53

FED. NO. DIVISION	STATE	PROJECT	
	OHIO		

78
187

HAMILTON COUNTY C.P. 453-B

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

835.28
195+04
858.0

End Special Drains Sta. 195+00

See Sheet 128

833.96
194+53
857.7

Std. No. 3 ACB
Sta. 194+60

12"

Std. No. 3 ACB
Sta. 194+60

Std. No. 1 MH
Sta. 194+30

See Sheet 128

832.66
194+03
858.0

Special Drains
See Note, Sheet

See Sheet 127

831.37
193+53
858.0

See Sheet 127

830.07
193+03
858.0

See Sheet 127

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
3090	0		
		6143	0
9215	0		
		6654	0
3640	0		
		6843	0
8850	0		
		8856	0
5067	0		
		9570	0
5870	0		

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

STA. 193+03 to STA. 195+04

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

79
187

HAMILTON COUNTY C.R. 453-B

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

12"30° Bend
Std. No. 8 C.B.
Gr. El. 853.50
F.L. 851.00
14'
12" Cl. F-1 Pipe
12" 30° Bend
F.L. 839.00
Std. No. 3 A C.B.
Sta. 198+20
F.L. 836.40
Std. No. 1 M-1
Sta. 198+10
Std. No. 3 A C.B.
Sta. 198+20
F.L. 835.9
843.07

198+05
851.3

841.75

197+54
854.7

840.46

197+04
856.2

839.16

196+54
857.3

13'
12" Cl. F-1 Pipe
Sta. 8+76 P.R.L.
Std. No. 8 C.B.
Gr. El. 851.0
F.L. 834.50
12"-30° Bends
F.L. 833.50
F.L. 834.00

837.87

196+04
857.6

Bridge Abutment

836.57

195+54
858.0

Bridge Abutment

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
1100	0		
		2730	0
1800	0		
		3611	0
2100	0		
		4176	0
2410	0		
		4535	0
2489	0		
		4959	0
2868	0		
		5517	0
3020	0		

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

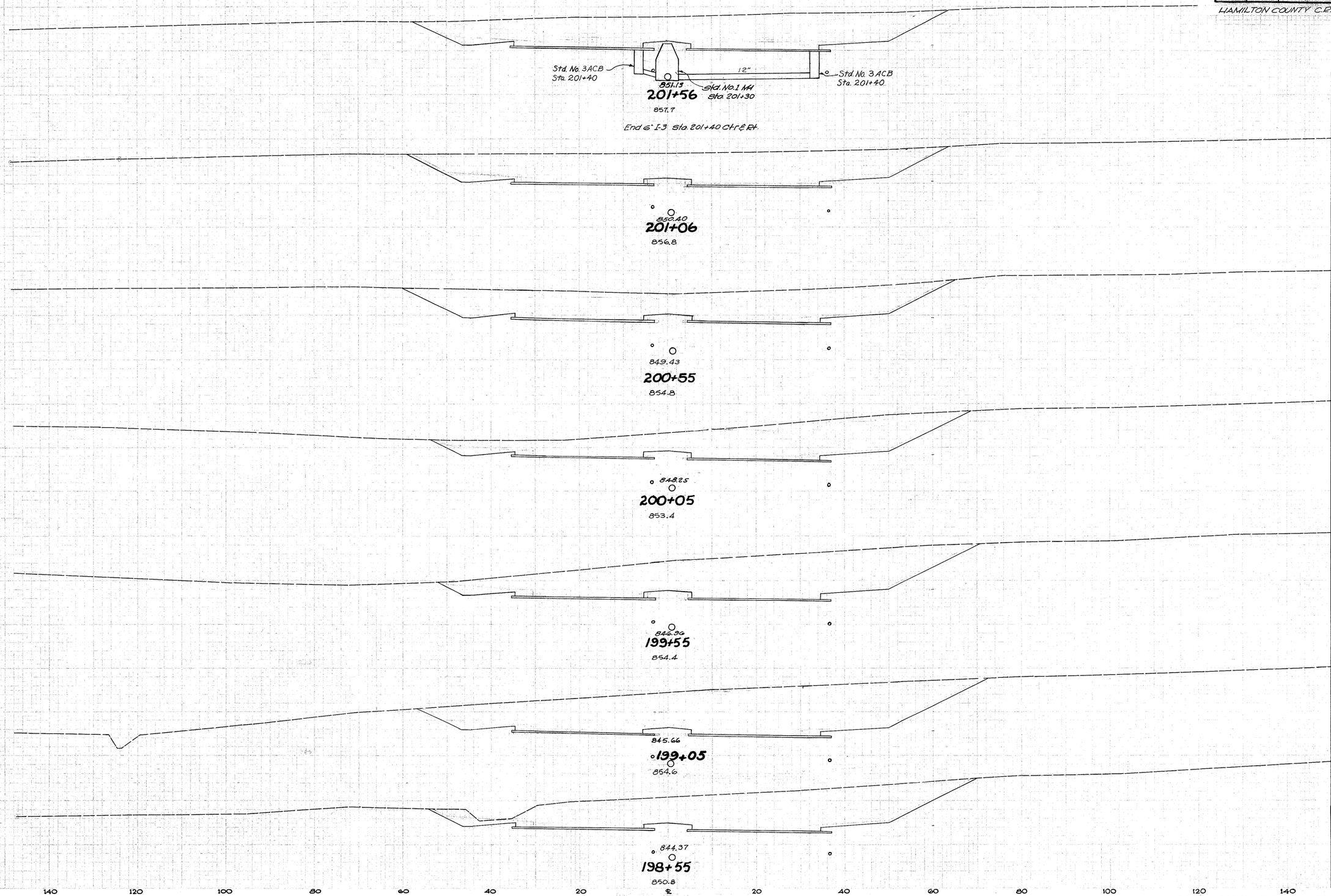
STA. 195+54 to STA. 198+05

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

80
187

HAMILTON COUNTY C.R. 463-B

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



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
775	0		
		1448	0
780	0		
		1445	0
740	0		
		1309	0
675	0		
		1490	0
880	0		
		1800	0
1065	0		
		1680	0
760	0		
		1723	0
1120	0		

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

STA. 198+55 to STA. 201+56

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

81
187

HAMILTON COUNTY C.R. 453-B

180 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

849.24
206+50
859.4

12"
Std. No. 1 MH Sta. 206+00
Std. No. 3 ACB Sta. 205+90
848.69
206+00
854.1

850.15
205+50
854.8

850.60
205+00
855.6

12" 12"
Std. No. 3 ACB Sta. 204+40
Std. No. 1 MH Sta. 204+50
Std. No. 3 ACB Sta. 204+40
851.06
204+50
856.2

851.51
204+00
856.4

851.87
203+50
856.6

852.01
203+00
857.6

851.90
202+45.23 BACK
202+39.22 AHEAD
858.0

851.64
202+06
858.0

Sta 190+00 to 206+00
Excavation 13,522 Cu. Yd.
Embankment 0 Cu. Yd.
Embankment+20% 0 Cu. Yd.

End Area Co. Yd.			
Cut	Fill	Cut	Fill
515	0		
		985	0
550	0		
		1050	0
585	0		
		1106	0
610	0		
		1134	0
615	0		
		1137	0
613	0		
		1113	0
590	0		
		1148	0
650	0		
		1380	0
710	0		
		912	0
718	0		
		1381	0
775	0		

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

STA 202+06 to STA 206+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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187

HAMILTON COUNTY CR 453-B

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

847.95
212+00
846.0

847.48
211+50
846.4

Std. No. 1 MH Sta. 211+08

847.73
211+00
846.7

For Culvert Profile
See Sheet No.

Std. No. 3 CB Sta. 210+43.28 — 12" — 12" — Std. No. 3 CB Sta. 210+43.28

Std. No. 1 MH Sta. 210+50

847.70
210+50
846.9

847.72
210+00
847.1

847.79
209+50
847.2

12" — Std. No. 1 MH Sta. 209+00 — Std. No. 3 ACB Sta. 208+90

847.91
209+00
847.8

848.08
208+50
848.7

848.30
208+00
849.6

Std. No. 3 ACB Sta. 207+40 — 12" — 12" — Std. No. 3 ACB Sta. 207+40

Std. No. 1 MH Sta. 207+50

848.67
207+50
850.7

848.89
207+00
852.0

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

STA. 207+00 to STA. 212+00

End Area Cu. Yds.			
Cut	Fill	Cut	Fill
12	160		
		31	867
28	122		
		24	257
3	195		
		37	224
37	107		
		102	150
73	65		
		148	113
88	57		
		180	74
107	23		
		216	34
127	14		
		301	23
198	11		
		461	10
300	0		
		596	0
345	0		
		796	0
615	0		

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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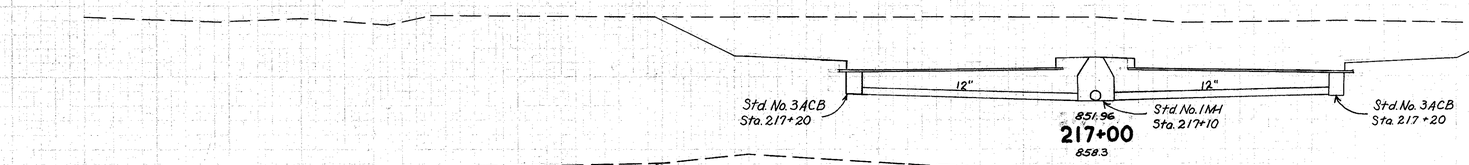
187

HAMILTON COUNTY C.R. 453-B

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

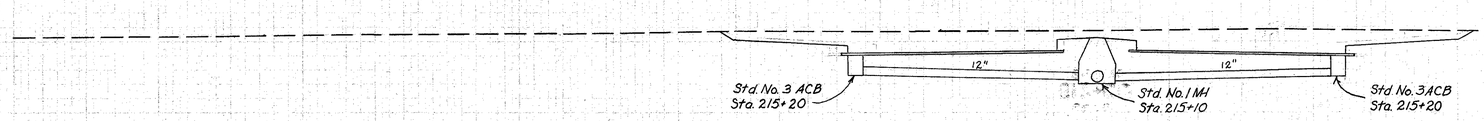


851.96
217+00
858.3

851.40
216+50
857.3

850.84
216+00
855.3

850.30
215+50
853.6



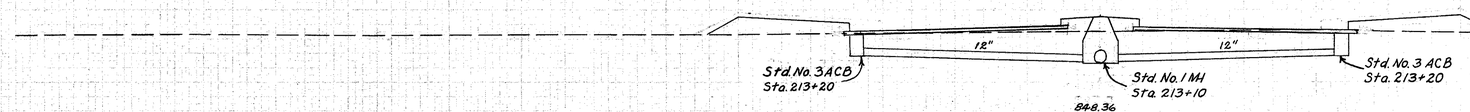
849.80
215+00
851.5

End Fill Sta. 214+58

849.37
214+50
848.7

848.99
214+00
848.7

848.65
213+50
847.8



848.36
213+00
847.0

Begin Cut Sta. 212+96

848.03
212+50
846.6

End Cut Sta. 212+04

℄

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
783	0		
		1380	0
748	0		
		1281	0
583	0		
		972	0
468	0		
		694	0
283	0		
		339	7
83	51		
		167	80
08	86		
		184	102
36	75		
		48	160
11	107		
		1	241
0	158		
		1	204
12	166		

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

STA. 212+50 to STA. 217+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R.453-B

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

851.69
221+50
859.5
Std No. 3ACB Sta. 221+40
Std No. 1 M1 Sta. 221+50
Std No. 3ACB Sta. 221+40

852.44
221+16.82
860.7

852.75
221+00
861.3

853.32
220+50
862.2

853.99
220+00
862.8

854.17
219+50
862.1

854.05
219+00
861.7

853.64
218+50
861.0

853.08
218+00
860.5

852.52
217+50
860.2

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

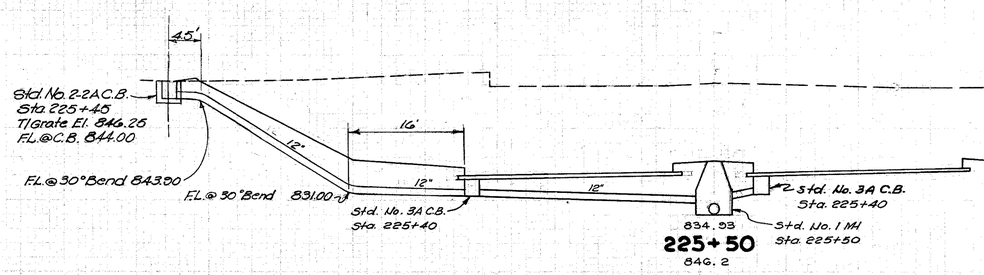
STA 217+50 — STA 221+50

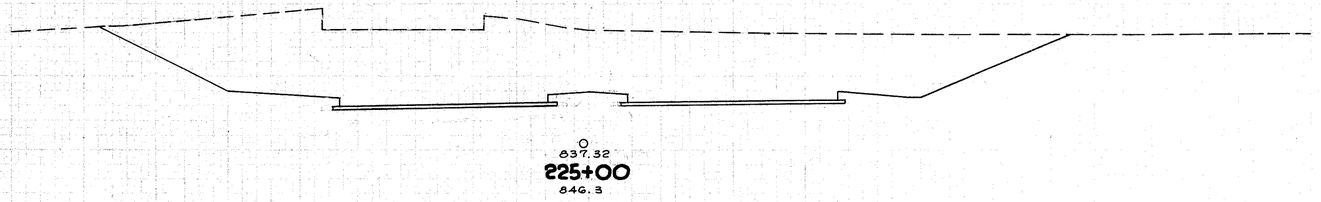
End Area Cu Yd			
Cut	Fill	Cut	Fill
924	0		
		1191	0
1014	0		
		682	0
985	0		
		1780	0
883	0		
		1787	0
1048	0		
		1882	0
985	0		
		1800	0
960	0		
		1730	0
918	0		
		1761	0
985	0		
		1765	0
921	0		
		1550	0
763	0		

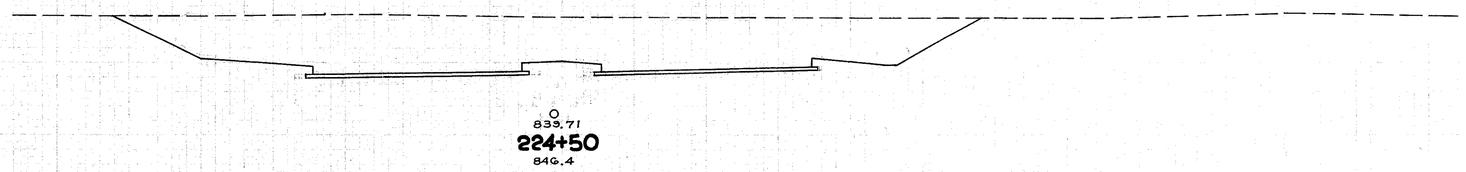
FED. RD. DIVISION	STATE	PROJECT		86
	OHIO			187

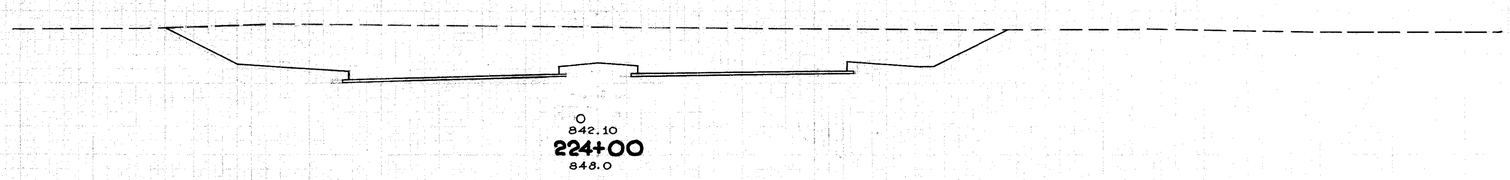
HAMILTON COUNTY C.R. 453-B

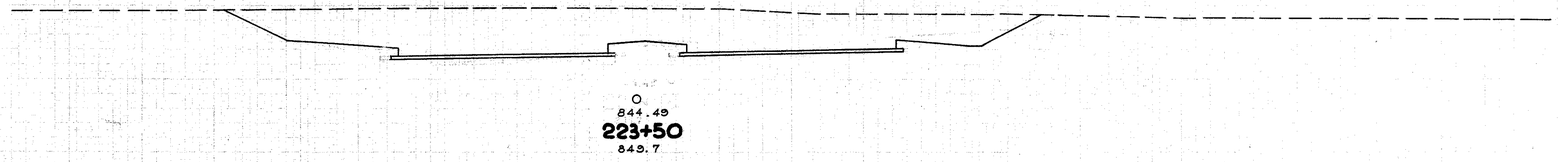
160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

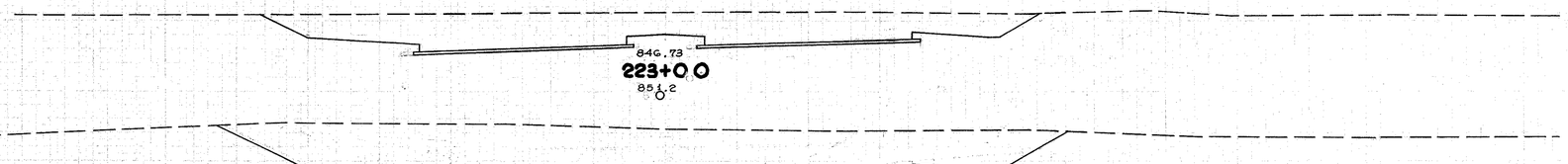


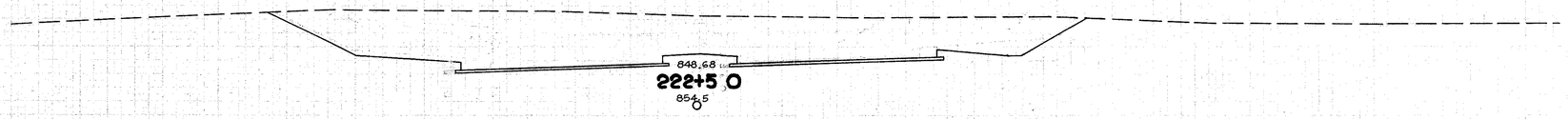


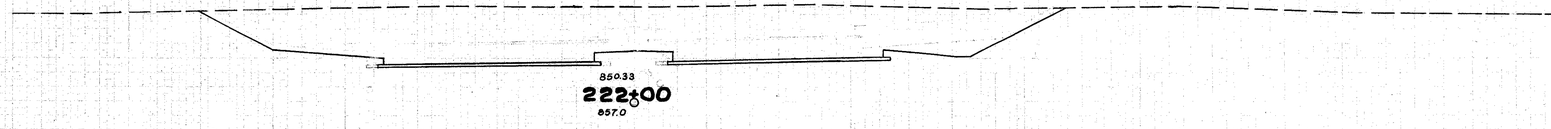












End Area Co. Yd.			
Cut	Fill	Cut	Fill
1306	0		
		2380	0
1182	0		
		1867	0
835	0		
		1402	0
680	0		
		1102	0
608	0		
		981	0
462	0		
		1131	0
760	0		
		1496	0
780	0		
		1587	0
924	0		

Sta. 206+00 to 222+00
Excavation 26,257 Cu Yd.
Embankment 2,034 Cu Yd.
Embankment +20% 2,441 Cu Yd.

STA. 222+00 to STA. 225+50

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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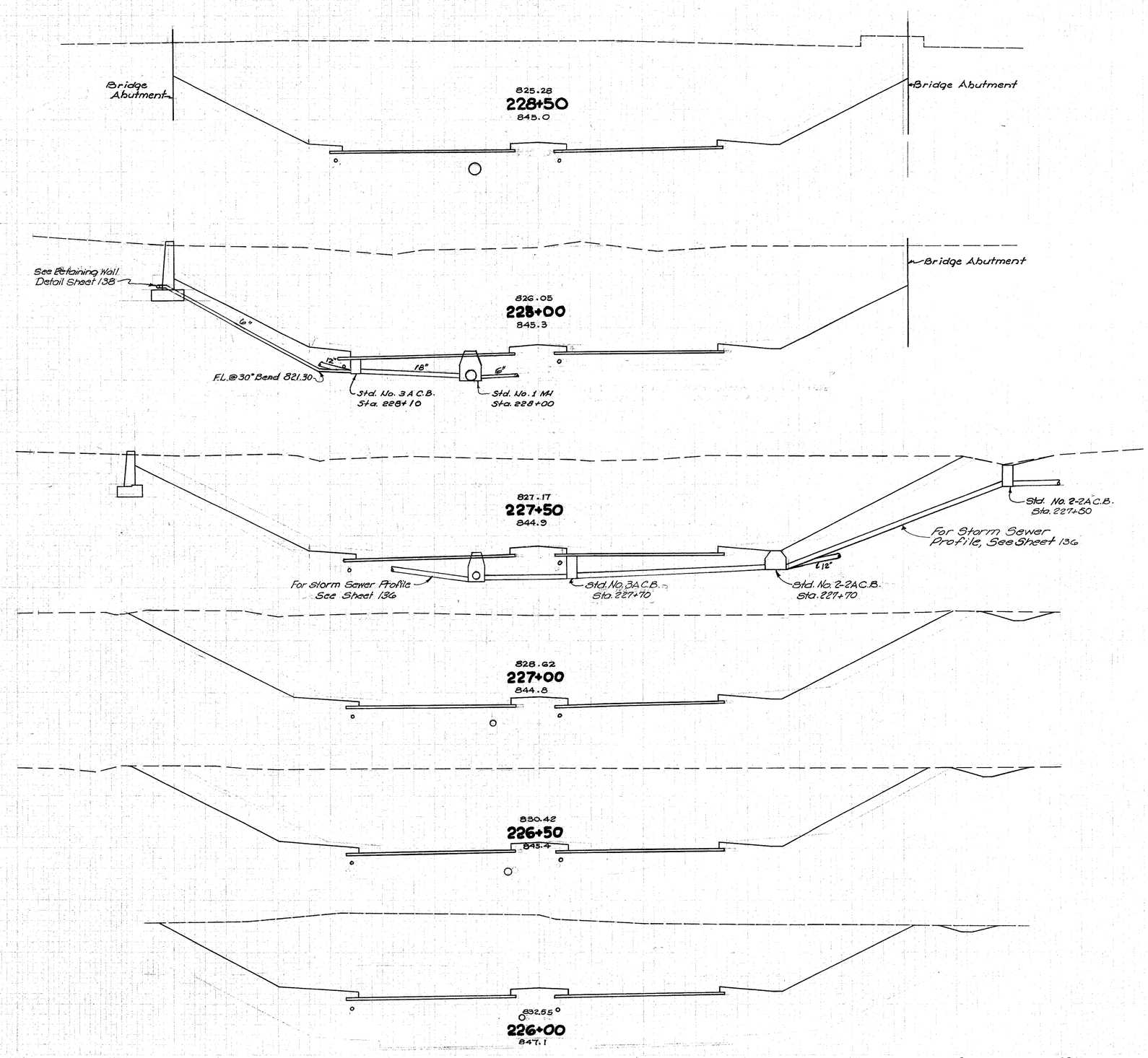
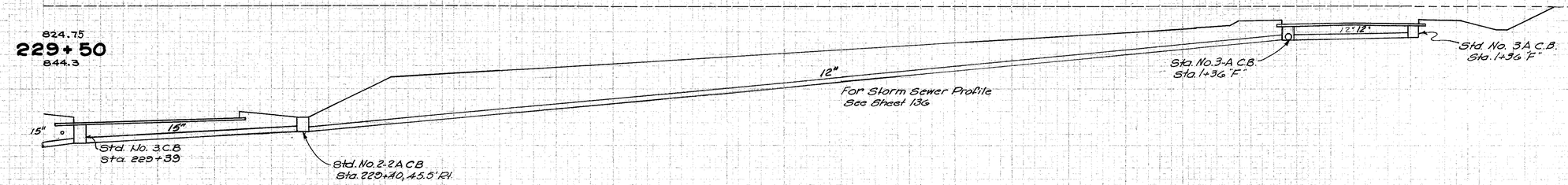
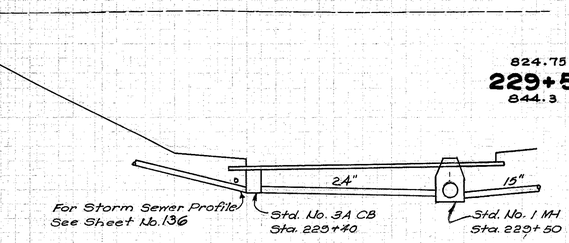
HAMILTON COUNTY C.R. 453-B

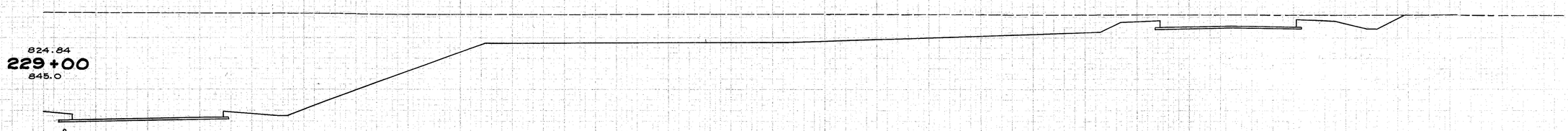


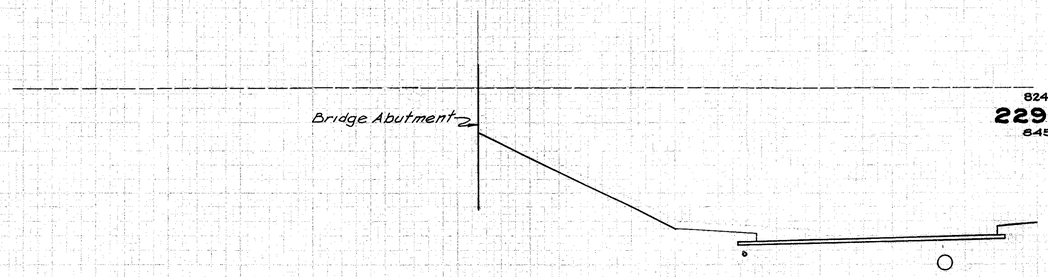
End Area Cu. Yd.			
Cut	Fill	Cut	Fill
2510	0		
		4624	0
			0
2485	0		
		4506	0
2382	0		
		4216	0
2170	0		
		3824	0
1961	0		
		3448	0
1763	0		
		2936	0
1308	0		

STA. 226+00 TO STA. 228+50









FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
3987	0		
		7057	0
3635	0		
		5690	0
2610	0		

STA. 229+00 to STA. 229+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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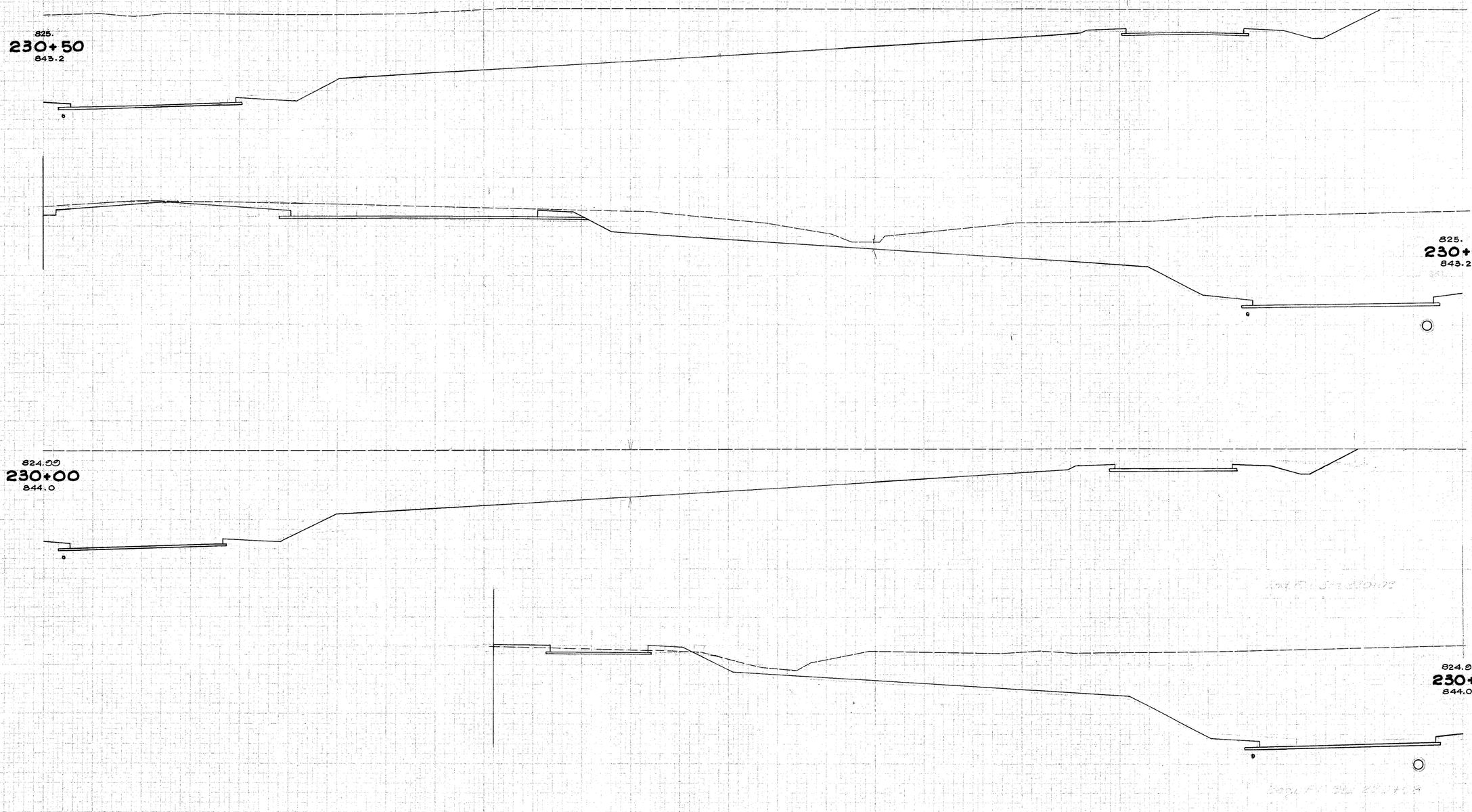
187

HAMILTON COUNTY C.R. 455-B

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄



End Area Cu.Yd.			
Cut	Fill	Cut	Fill
		4872	0
		8637	12
		4461	14
		7822	4
		3987	0

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄

STA 230+00 to 230+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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187

HAMILTON COUNTY C.R. 453-B

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄

827.68
231+50
843.3

12" Std. No. 3A C.B. Sta. 231+60

12" Std. No. 3A C.B. Sta. 2+02 E.

12" Std. No. 3A C.B. Sta. 2+02 E.

For Storm Sewer Profile See Sheet No. 136

827.68
231+50
843.3

12" Std. No. 1 MH Sta. 231+50

826.51
231+00
840.9

826.51
231+00
840.9

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄

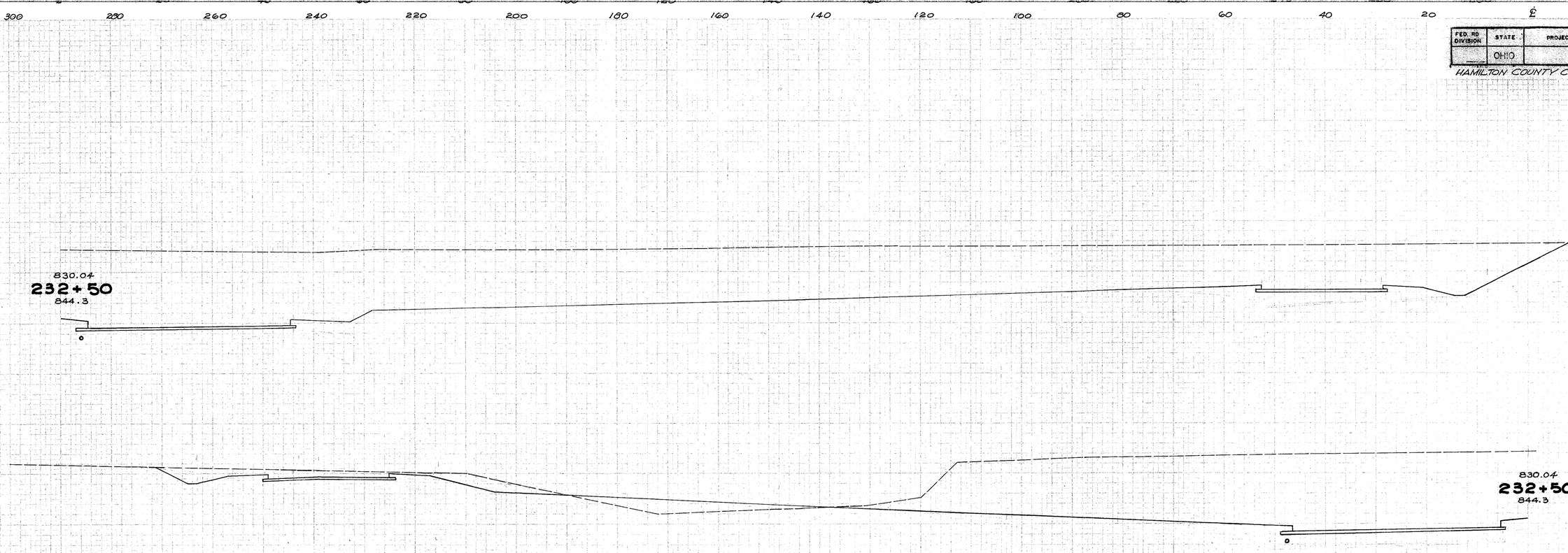
STA. 231+00 to 231+50

End Areas Cu. Yd.			
Cut	Fill	Cut	Fill
		1907	0
			3105 0
		4826	0
			8980 0
		4872	0

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

90
187

HAMILTON COUNTY C.R. 453-B



End Areas Cu. Yd.			
Cut	Fill	Cut	Fill
		830.04 232+50 844.3	
4946	80		
		828.86 232+00 844.3	
9131	120		
4915	50		
9095	23		
4907	0		

STA. 232+00 to 232+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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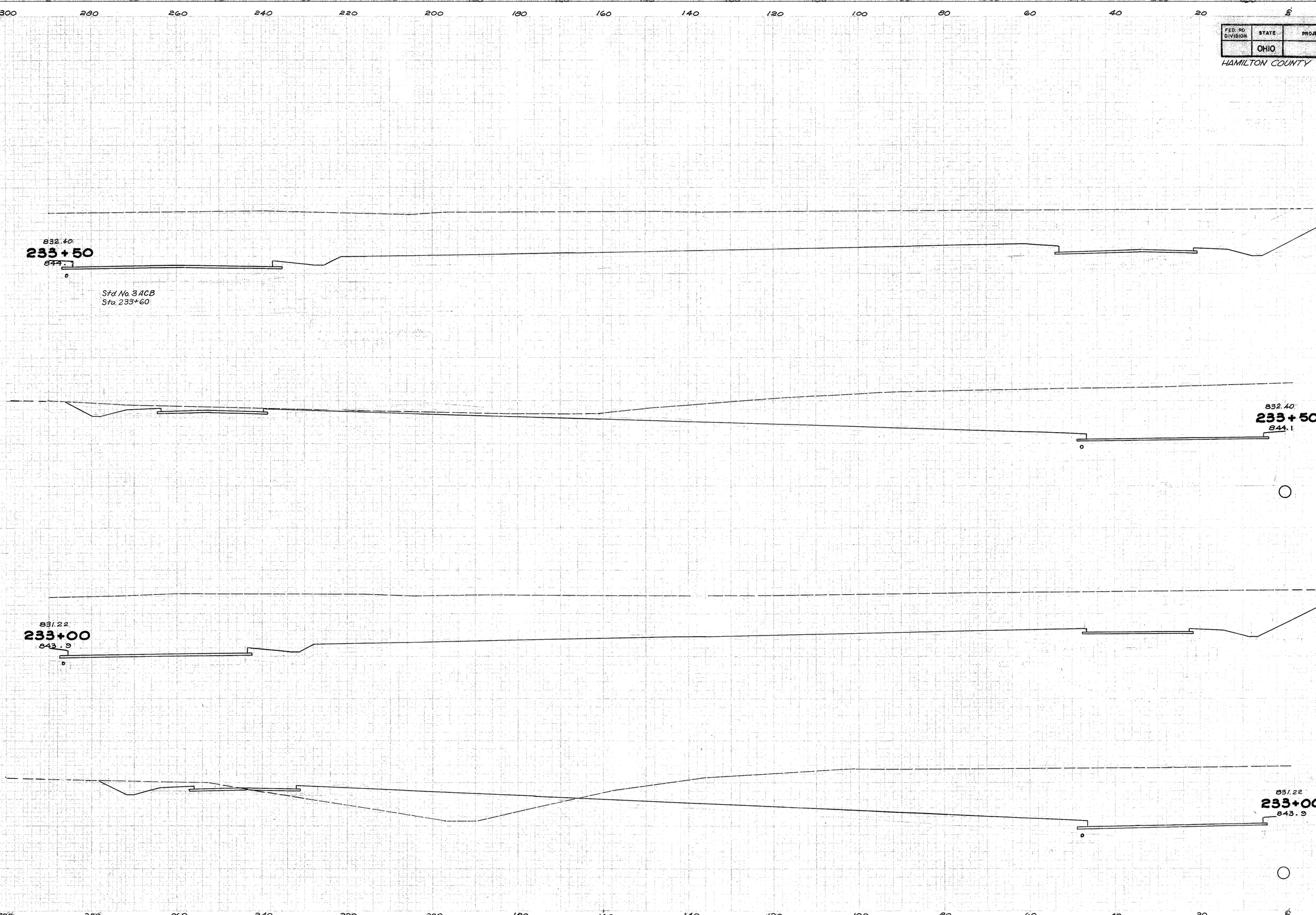
187

HAMILTON COUNTY C.R. 163-B

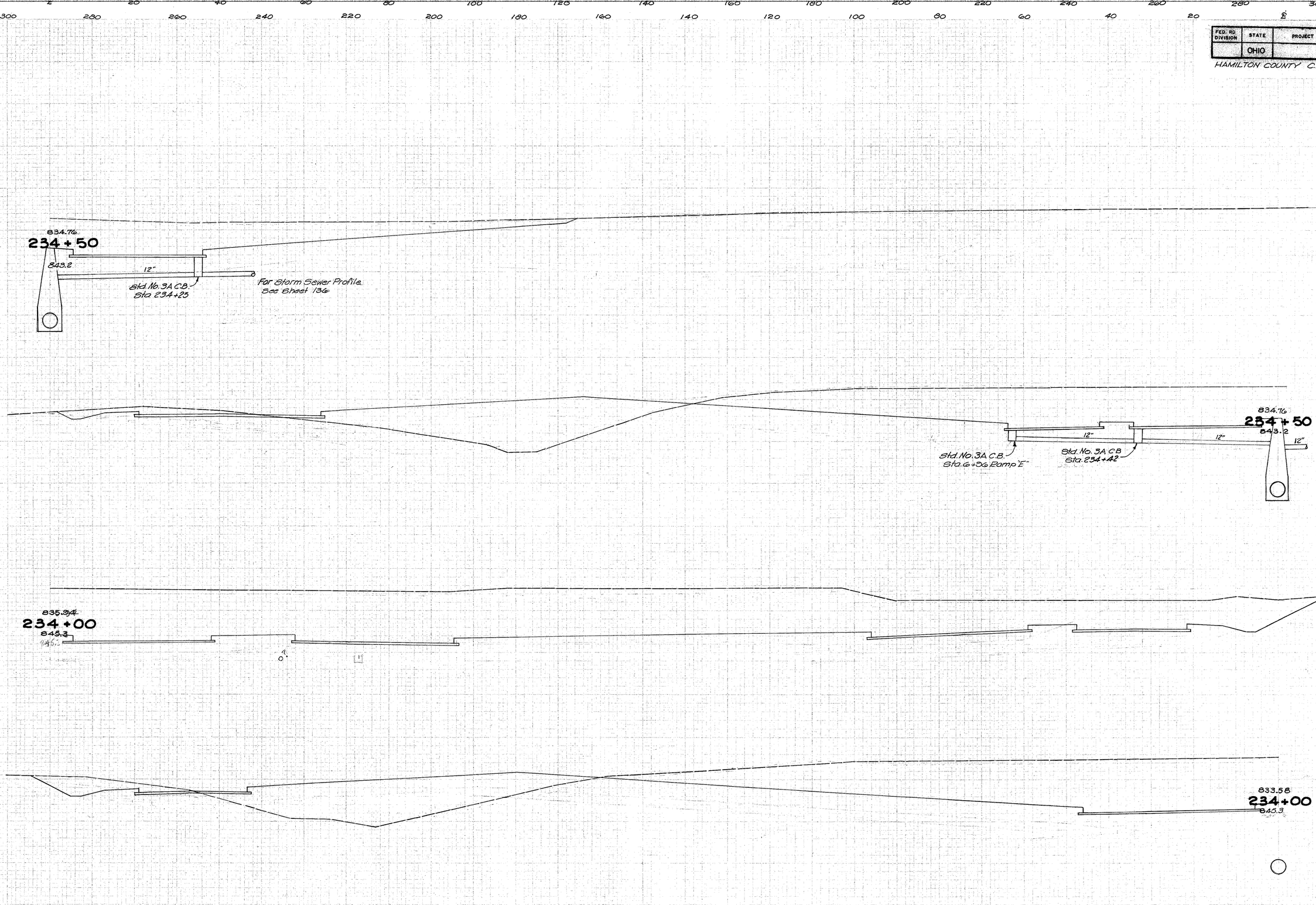


End Area Cu. Yd.			
Cut	Fill	Cut	Fill
		832.40 233+50 844.1	1176 0
			8670 245
		831.22 233+00 843.9	4893 294
			9110 346
			4946 80

STA. 233+00 to 233+50

FED. RD. DIVISION	STATE	PROJECT		92
	OHIO			187

HAMILTON COUNTY C.R. 483-B



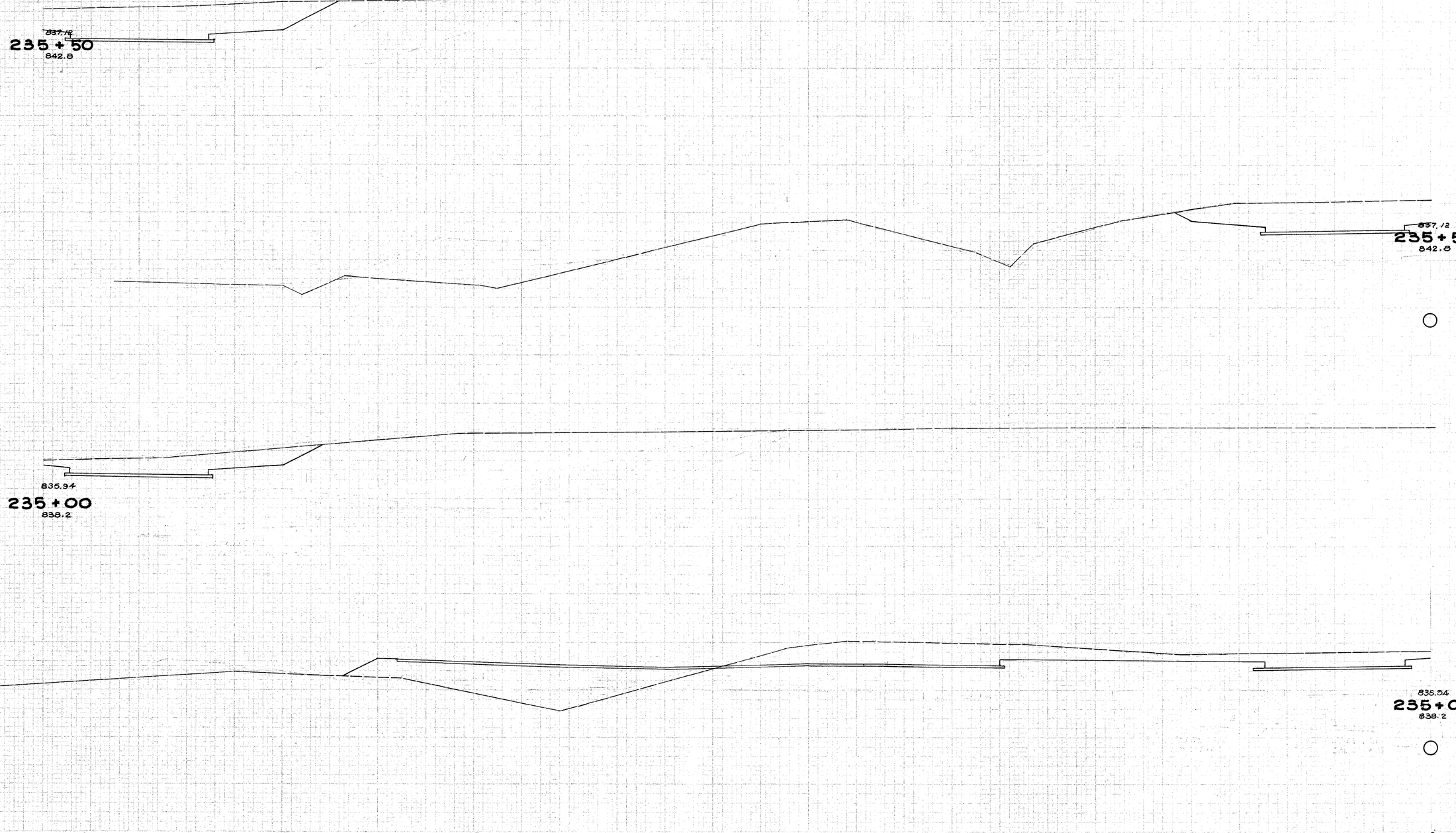
End Area Cu. Yd.			
Cut	Fill	Cut	Fill
		1686	622
		5739	1122
		4512	590
		8323	492
		4476	0

STA. 234+00 to 234+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

93
187

HAMILTON COUNTY C.R. 459-B



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
		1184	89
621	0		
		2170	932
1686	622		

837.12
235+50
842.8

835.94
235+00
838.2

STA. 235+00 to 235+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

94
187

HAMILTON COUNTY C.R. 433-B

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
		655	0
		1182	0
		621	0

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄

838.30
236+00
844.

838.30
236+00
844.

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 ℄

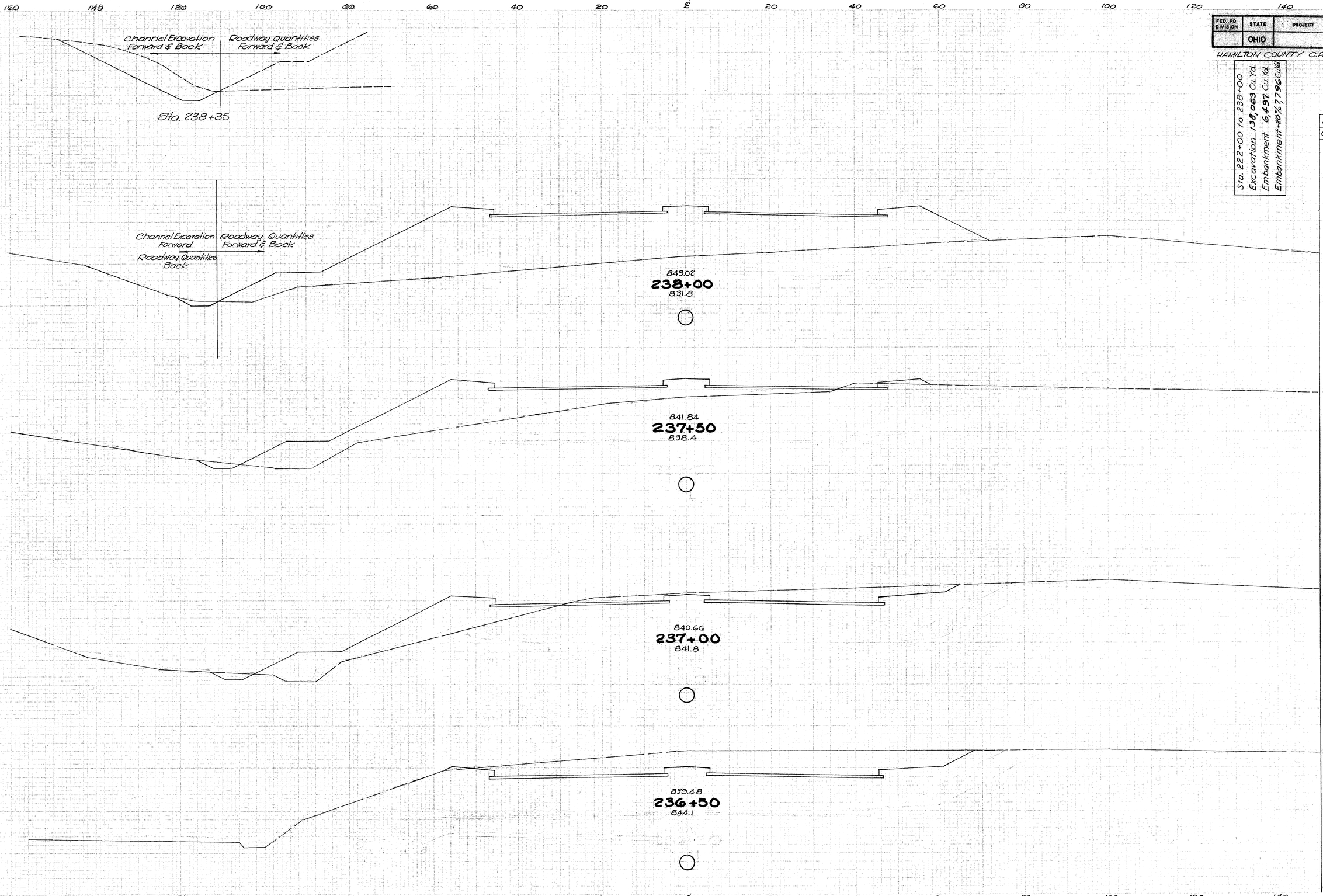
STA. 236+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

95
187

HAMILTON COUNTY C.R. 453-B

Sta. 222+00 to 238+00
Excavation 138,063 Cu. Yd.
Embankment 6,497 Cu. Yd.
Embankment +20% 7,796 Cub



End Area Cu. Yd.			
Cut	Fill	Cut	Fill
0	1700		
		22	2216
28	693		
		232	569
222	350		
		680	327
512	3		
		1080	0
655	0		

STA. 236+50 to 238+00

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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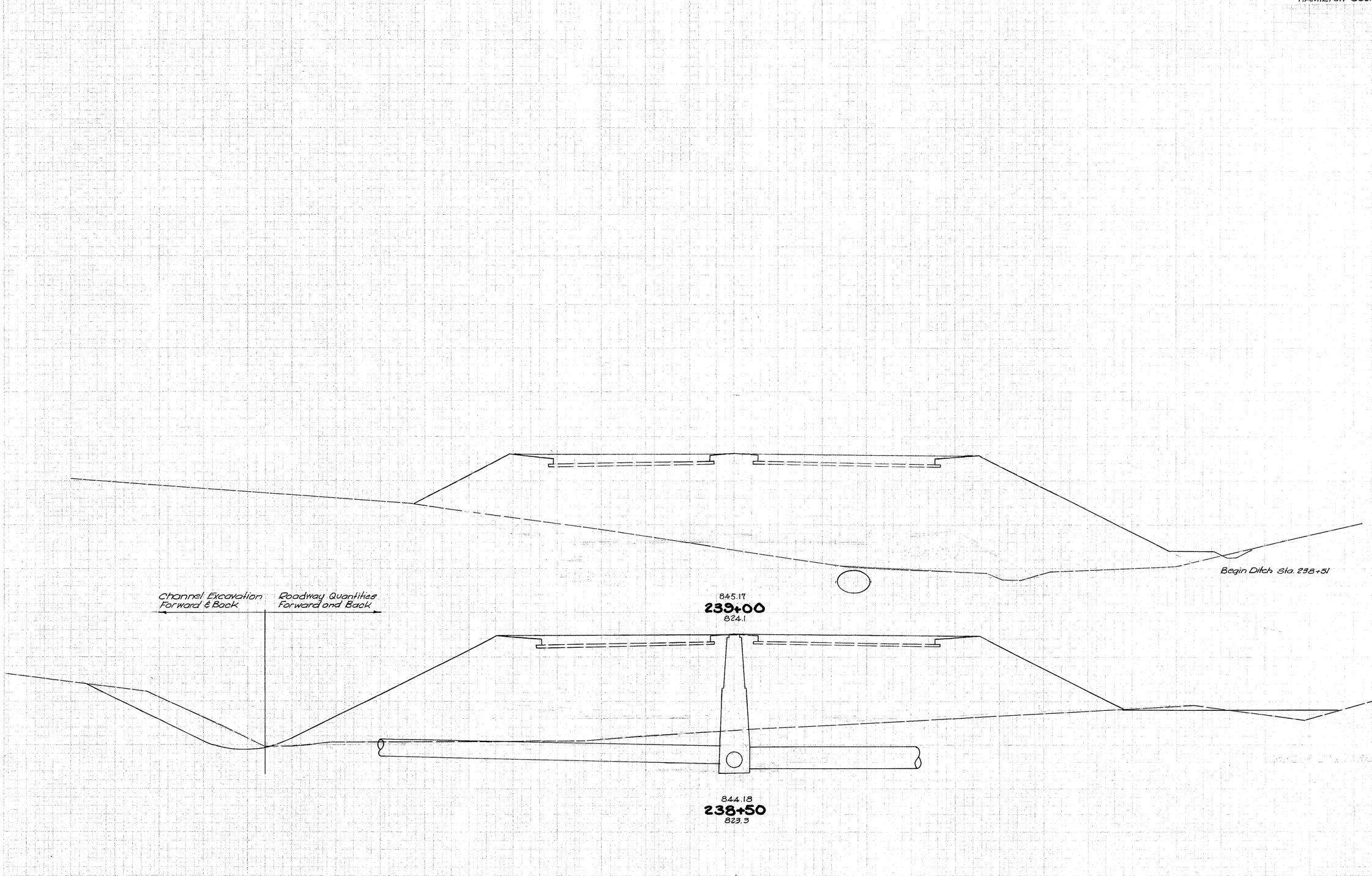
187

HAMILTON COUNTY C.R. 453-B

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
	6	3210	
			6011
	15		
	10	3282	
			4613
	10		
	0	1700	



STA. 238+50 to STA. 239+00

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

97
187

HAMILTON COUNTY CR 453-B

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

847.19
242+06
829.0
(Toe of 2:1 Slope) End Area = 0

847.32
241+67
828.2
(Top of 2:1 Slope) End Area 2870

Sta 238+00 to 242+41.39
43 Cu Yd.
Excavation 36,320 Cu Yd.
Embankment+20% 43,584 Cu Yd.

Channel Excav.

847.35
241+50
828.2

For channel section from station 240+50 to station 241+50 see Sheet 149

Roadway Quantities Fwd. & Back

Channel Excavation Fwd. & Back

847.28
241+00
832.4

847.04
240+50
835.1

Roadway Quantity Forward Channel Excavation & Back to Sta. 240+00 Fwd. & Back

Note:
End earthwork @ Sta. 240+22

Sta. 240+25

Channel Exc. Fwd. to 240+50
Channel Exc. Back to 240+00

846.60
240+00
835.4

Rwdwy. Qty. Fwd to 240+50 Channel Exc. Fwd to 240+25
Back to 239+50 Back to 239+50

Sta. 239+50

Channel Exc. Fwd to 240+00
Rwdwy. Qty. Back to 239+50

Roadway Quantities Back & Forward

Roadway Quantities Back & Forward to Sta. 239+50

845.38
239+50
833.1

End Area Cu. Yd.			
Cut	Fill	Cut	Fill
	0		2073
	2870		1778
	2778		
			4741
	2342		
			4080
	2064		3728
0	1962		4070
15		13	
2	2434	7	5226
6	3210		

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

STA. 239+50 -- 241+50

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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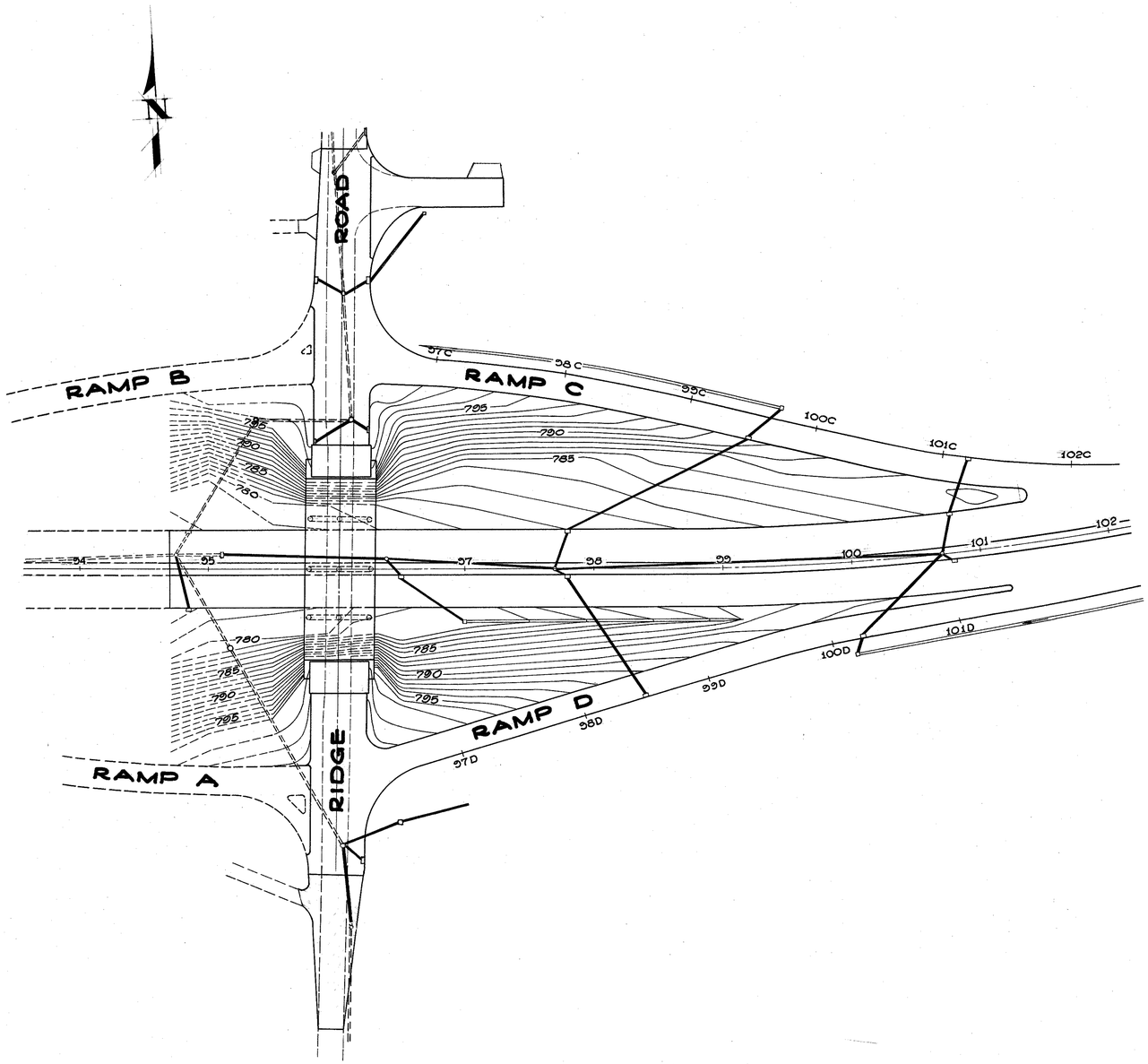
HAMILTON COUNTY 453-B



GRADING PLAN
RIDGE RD. INTERCHANGE

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

For Continuation See Sheet

Berm Line

Top of Fill

Type 2A Std. Curb

Type ZA Std. Curb

6' Type I Variable depth asphaltic concrete curb

5' TypeI Variable depth asphaltic concrete curb

Grade in a Plane

Toe of Fill

4:1 Slope

Ex. 10' Bit. Mac. Drive

Top of Cut

Berm Line

99C RAMP "C"

P.T. R=1220.00
Sta. 98+98.25 C

10' 10' 10'

Berm Line

Type 2A Std Curb

N. Edge Ramp "C"
To ℄ Ridge Road
Δ = 12°35'22"
R = 1220.00
T = 134.56
L = 268.07

Std 2A Curb

Sta. 11+05
Std. No. 3A C.B.
F.L. 793.50

Std 2A Curb

Bridge Approach Slab Begins Sta. 9+04.08
Bridge Approach Slab Ends Sta. 9+29.08

Grade in a Plane

R=15'

Approx. 2:1

Type 2A Std. Curb

R=60' D
96+66.00 D
Δ=12°34'42"
R=60.00
T=44.06
L=76.06

Furn. & Install 18'-6" C.I. Pipe
1-6" Sleeve
1-6" 90° Bend 2 M.J.
1-6" 90° Band M.J. x P.E.
1-6" Valve
1-6" F.H. Head - Sal. From Sta. 10+80 at Ridge Rd.
1-Valve Box Hood Lid & Tel.
1-Cu. Yd. Conc. Masonry 1:5 Mix
1.5 Cu. Yds. Brick Masonry

Type 2A Std. Curb

Grade in a Plane

Abandon Ex. 6" W.M.

See continuation, this sheet.

Type 2A Std. Curb

Future Construction

1-8 - Std. No. 2-2-A C.B. Open 4 Sides - Conc. Slab Top Location & Flow Line To Be Determined In Field By Project Engineer If Necessary

Sta. 12+24
Std. No. 3-A C.B.
F.L. @ C.B. 794.41
F.L. @ M.H. 793.91

R=60'
Sta. 97+09.15 C

CURVE DATA
Δ = 87°04'21"
D = 95°29'35"
R = 60'
T = 57.01'
L = 91.18'

1-24.36' Type 1 Asp. Conc. Curb

R=40'

R=60'

Top of Cut

Remove Ex. Std. Walk

Sta. 12+21.99

Grade in a Plane

1-Plug Ex. 8"x6" Tee
1-6" Plug & Clamp
1-Sal. & Reloc. Ex. 6" F.H. Head To Be Used At 12+40 Ridge
1-Remove Ex. Valve Box
1-Adjust Ex. Valve Chamber

1-29.49' Type 1 - Asp. Conc. Curb
1-13.4' Conc. Walk - 5" Thick
Sta. 13+37 - Std. No. 3 C.B. Flow Line To Be Determined In Field. Connect Prop. 12" Pipe To Ex. 12" Pipe.

R=35'

R=14'

Remove This Portion of Ex. Par't R/W & Remove Ex. C.B.

Ex. 4' Conc. Walk

Type 2-A Std. Curb

Ex. 8" San. Sewer

Adjust M.H. To Grade

Sta. 12+85.91 RIDGE RD.
Sta. 0+00 FUHRMAN RD.

Storm Sewer

Ex. 12" W.M.

Ex. M.H.

Abandon Ex. W.M.

Type 2A Std. Curb

Adjust M.H. to Grade

Sta. 11+68.95 Ridge Sta. 96+30.86

90°46'52"

Prop. ℄ Cross Ct. Hwy. 96+02.59
Prop. ℄ Ridge Road 10+00

RIDGE ROAD

Furn. & Install 20'-6" C.I. Pipe
3 Lin. Ft. Remove Ex. 6" W.M.
2 Cu. Yds. Conc. Masonry 1:5 Mix
2.6 Cu. Yds. Brick Masonry

1949
2 Chamber Ex. Val.
2 M.H.C. & C.

Ex. 10' Conc. Dr.

Ex. 8' Conc. Dr.

1 Remove Ex. Val. Box M-68248

Ex. 3/4" Branch

Sta. 12+24
Std. No. 3-A C.B.
F.L. @ C.B. 794.52
F.L. @ M.H. 794.02

Sta. 12+14
Std. No. 1 M.H.
F.L. 792.20

Sta. 12+40
1-6" F.H. Head
Sal. from Sta. 13+29 Ridge Rd.
1-6" Valve
1-6" 90° Bend M.J. x P.E.
1-6" 90° Bend 2 M.J.
1-6" Sleeve
1-Valve Box Hood, Lid & Tel.

Ex. Top of Cut

Ex. Ditch

Ex. Berm Line

Grade in a Plane

Bridge Approach Slab Begins Sta. 10+02.92
Bridge Approach Slab Ends Sta. 10+95.92

1-Salvage & Reloc. Ex. F.H. Head To Be Used @ Sta. 10+67
1-Remove Ex. Valve Box

Sta. 10+99
Std. No. 3A C.B.
F.L. 793.50

See Sheet 17 for drainage & topography

See Sheet 17 for Pavement Legend
See Sheet No. 6 for Joint Legend
See Sheet No. 17 for Inlet Details

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: 1"=20'

GEORGE M. LEMMEL HAMILTON CO. ENGR.

INTERSECTION DETAIL RAMPS "C" & "D"

FED. RD DIVISION	STATE	PROJECT		
	OHIO			

100 / 187

HAMILTON COUNTY C.R. 453-B

CURVE DATA
N. EDGE X-CTY.
Δ = 7°28'10"
R = 1000'
T = 65.28'
L = 130.37'

CURVE DATA
N. EDGE RAMP "C"
Δ = 29°28'28"
D = 7°38'22"
R = 750.00'
T = 197.28'
L = 385.82'
S.E. = .049/Ft.

RAMP "C"

PCC 100+01.31 R=1879.86' R=1000'

PC. R=750.00 Sta 100+66.31 C

PCC 101+31.68

PCR 101+62.82 C

PCC 104+31.91 R=1879.86' = Sta 104+51.19 C R=750.00

N

Top of Cut

Berm Line

Slope Varies 2:1 to 3.4:1 @ Sta. 98+50

2:1 Slope

See Typical Transition Sh. No. 7

25' Curb Transition

6" I-3

Type 2A Std. Curb

Grade in a Plane

1-21

Std. Type 3-AM Curb

Std. Type 2-A Curb

℄ Cross County Highway

Shoulder Width Varies, Keep back edge of ditch on R/W Line

6" I-3 Underdrain

Traveled Edge

Std. Type 3-AM Curb

Top of Cut

600' uniform taper to 107+19 See Table this sheet

Typical Transition See Sheet No. 7

150' Uniform Taper 20' to 16'

Type 2A Std. Curb

Berm Line

6" I-3

P.T. 100+23.81 D

PC. 99+41.81 D

P.I. 101+42.84 "D" X-Cty

P.T. 101+19.32

RT. R=1220.00' Sta 98+38.25 C

MATCH LINE STA. 105+00

MATCH LINE STA. 105+00

Sta 105+19

Sta 107+19

CURVE DATA
P.I. = 99+82.78
Δ = 6°33'35"
D_c = 8°00'
R = 716.20'
T = 40.97'
L = 82.00'

Note: Right Side Only

Station	Distance ℄ to Trav. Edge	Distance ℄ to ℄ X-Cty
101+19	22.00	50.00
101+69	20.24	48.24
102+19	18.49	46.49
102+69	16.73	44.73
103+19	14.98	42.98
103+69	13.22	41.22
104+19	11.47	39.47
104+69	9.71	37.71
105+19	7.96	35.96
105+69	6.20	35.19
106+19	4.45	34.44
106+69	2.69	33.69
107+19	0.94	32.938

Note:
200' Transition from old Typical Section to new Typical Section, Sta. 105+19 to 107+19
See Sheet No. 6 for Joint Legend

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: 1"=20'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

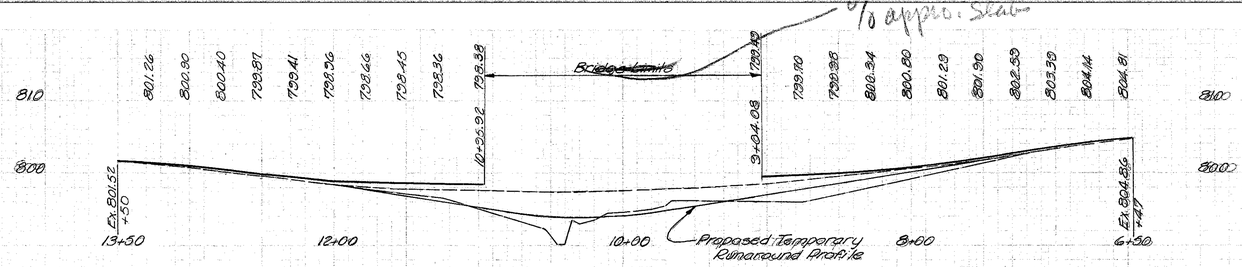
INTERSECTION DETAIL — RAMPS "C" & "F"

Red 360

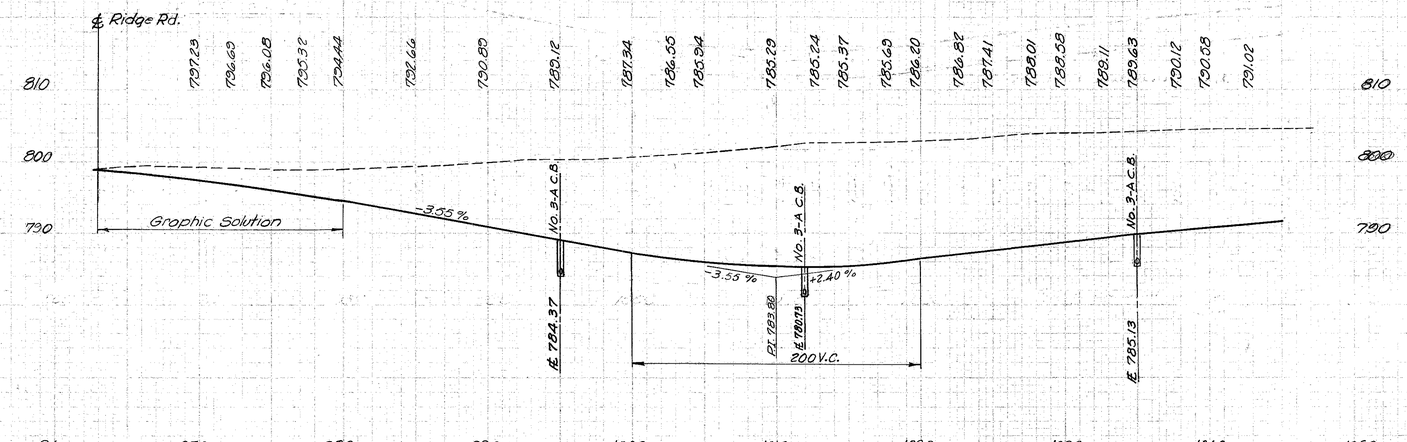
FED. RD DIVISION	STATE	PROJECT	PLAN SHT.
	OHIO	101-187	

101
187

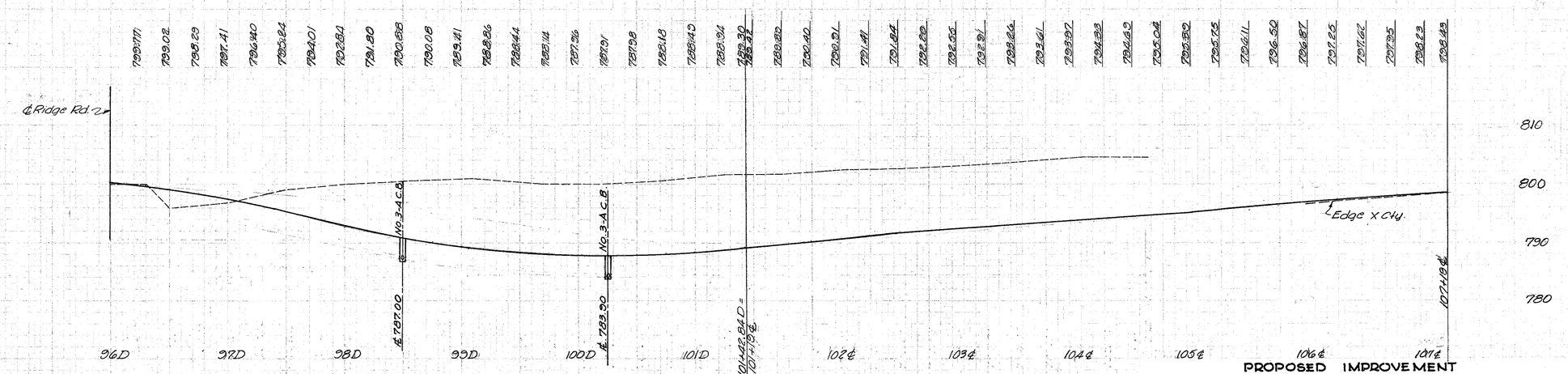
HAMILTON COUNTY CR 453-B



℄ PROFILE RIDGE ROAD



RAMP "C"



RAMP "D"

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: 1"=50 Hor. - 1"=10' Vert.

GEORGE M. LEMMEL HAMILTON CO. ENGR.

RIDGE RD. ~ RAMP PROFILES

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY CR463-B

60 40 20 ℄ 20 40 60

798.45
11+50
797.8

800

798.36
11+25
797.6

800

800.80
8+00
800.7

800

801.29
7+75
801.3

800

801.90
7+50
801.9

800

802.59
7+25
802.6

800

803.39
7+00
803.4

800

804.86
6+47
Meet Ex. Grade

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
39	9		
		21	27
6	50		
32	12		
		22	38
16	71		
		17	33
20	1		
		17	6
17	12		
		15	7
15	4		
		15	4
6	6		

801.52
13+50

800

801.26
13+25.29
Meet Ex. Grade

Ridge Road		
Excavation	369	C.Y.
Embankment	130	C.Y.
Embankment +20%	156	C.Y.

800

800.90
13+00
800.9

800

800.40
12+75
800.4

800

799.87
12+50
799.7

800

799.41
12+25
799.0

800

798.96
12+00
798.4

800

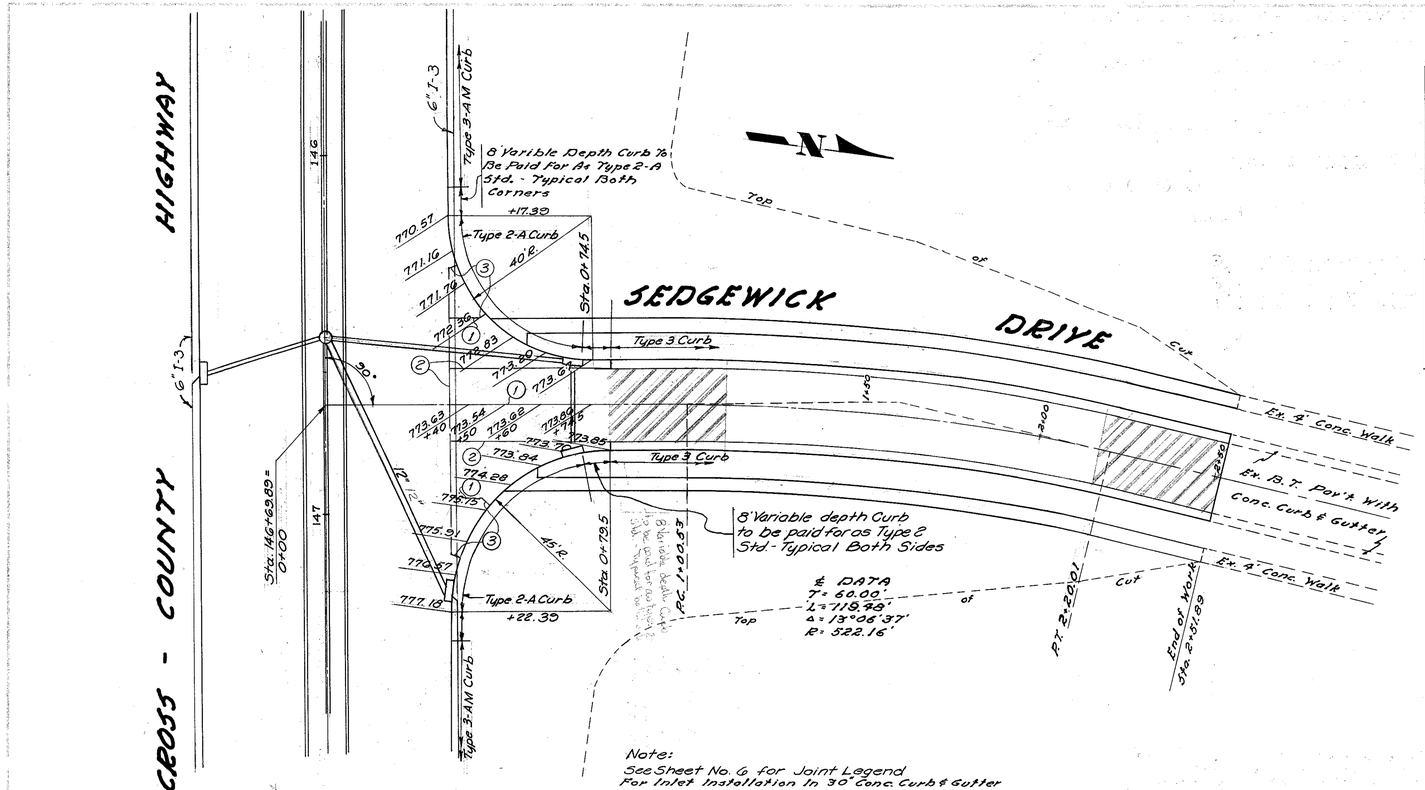
798.66
11+75
798.0

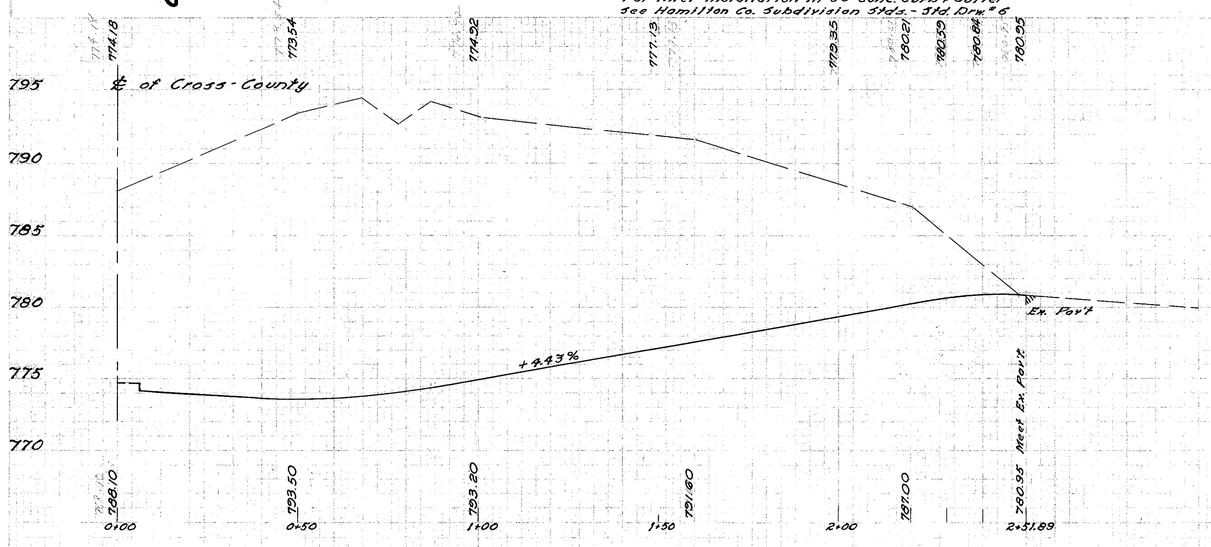
End Area Cu Yds.			
Cut	Fill	Cut	Fill
24	0		
		31	0
44	0		
		35	0
32	0		
		31	0
35	0		
		35	0
40	0		
		38	1
42	1		
		48	5
62	10		
		47	9
39	9		

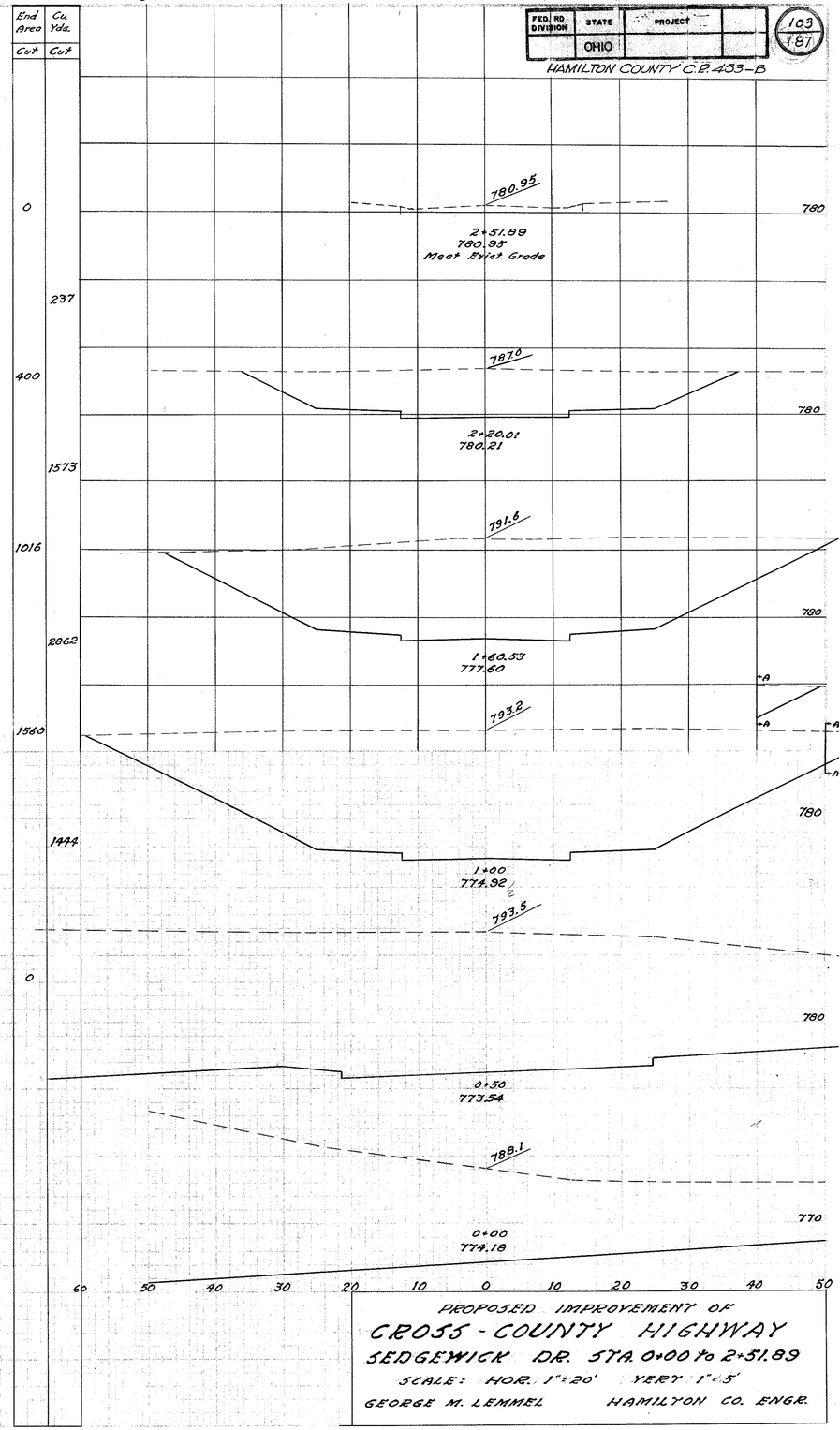
60 40 20 ℄ 20 40 60

RIDGE ROAD

Sedgewick Rd:	0+50 to 2+51.89
	C/G C.Y.
Excavation	0 C.Y.
Embankment	0 C.Y.
Embankment +20 %	0 C.Y.







PROPOSED IMPROVEMENT OF
CROSS - COUNTY HIGHWAY
SEDGEWICK DR. STA. 0+00 to 2+51.89
SCALE: HOR. 1"=20' VERT 1"=5'
GEORGE M. LEMMEL HAMILTON CO. ENGR.

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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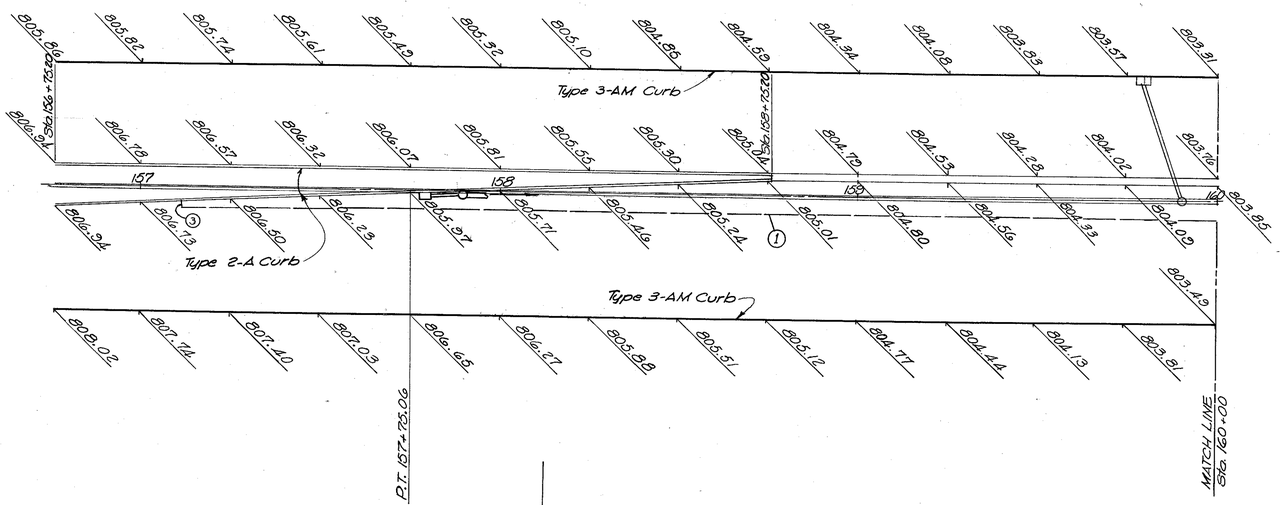
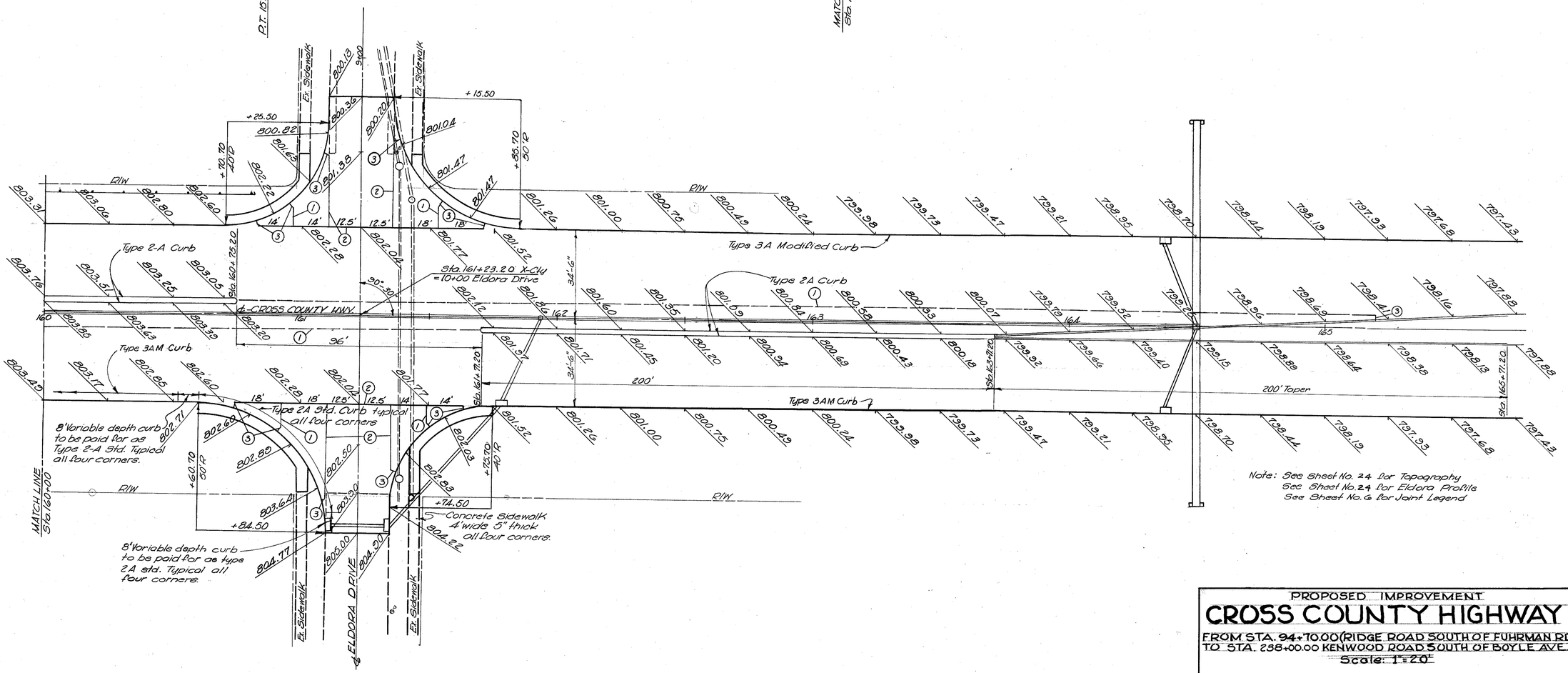
HAMILTON COUNTY C.R. 455-B





Note: See Sheet No. 24 for Topography
See Sheet No. 24 for Eldora Profile
See Sheet No. 6 for Joint Legend

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 KENWOOD ROAD SOUTH OF BOYLE AVE.)

Scale: 1"=20'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

INTERSECTION DETAIL - ELDORA DR.

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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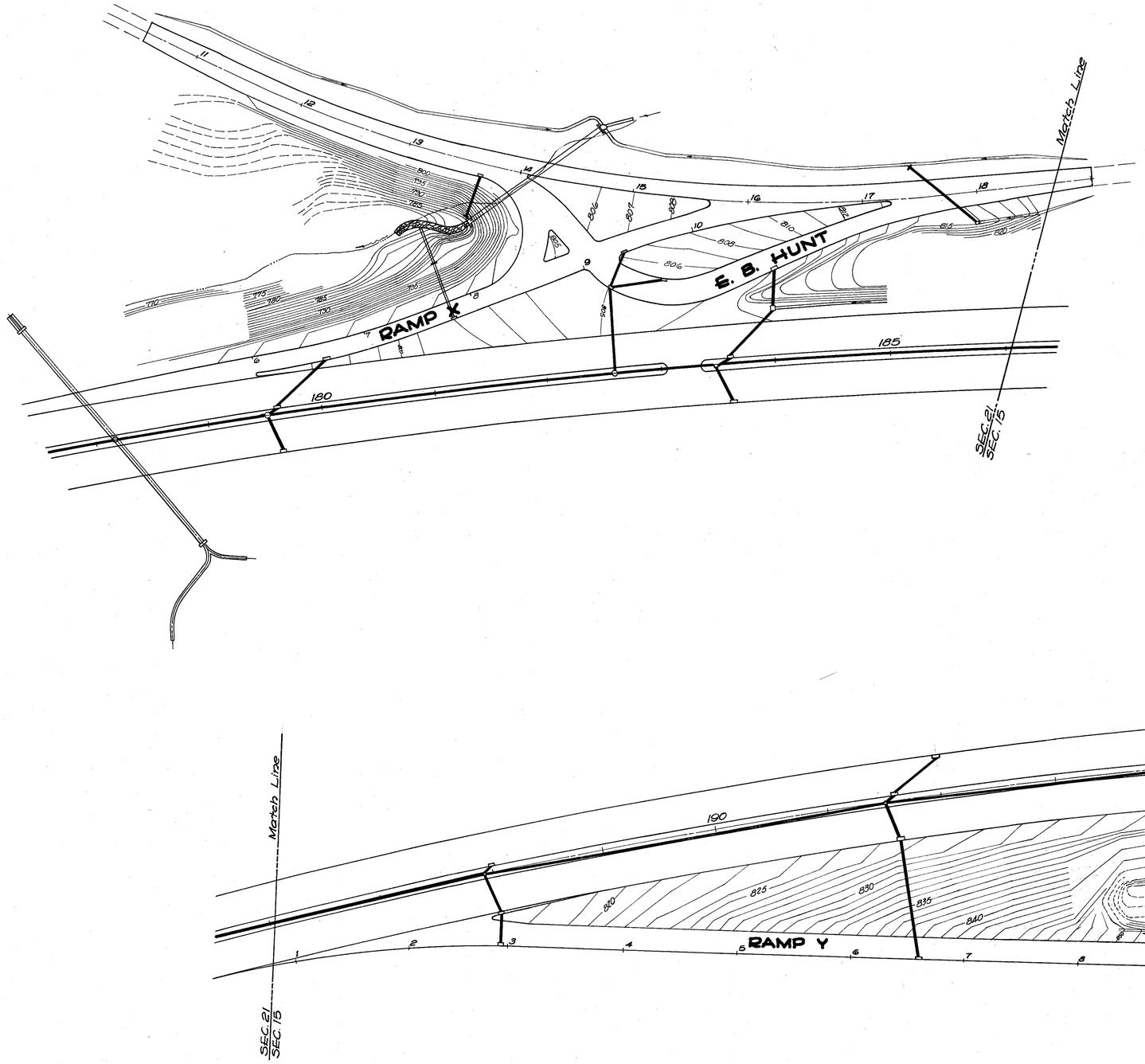
HAMILTON COUNTY CR 455-B



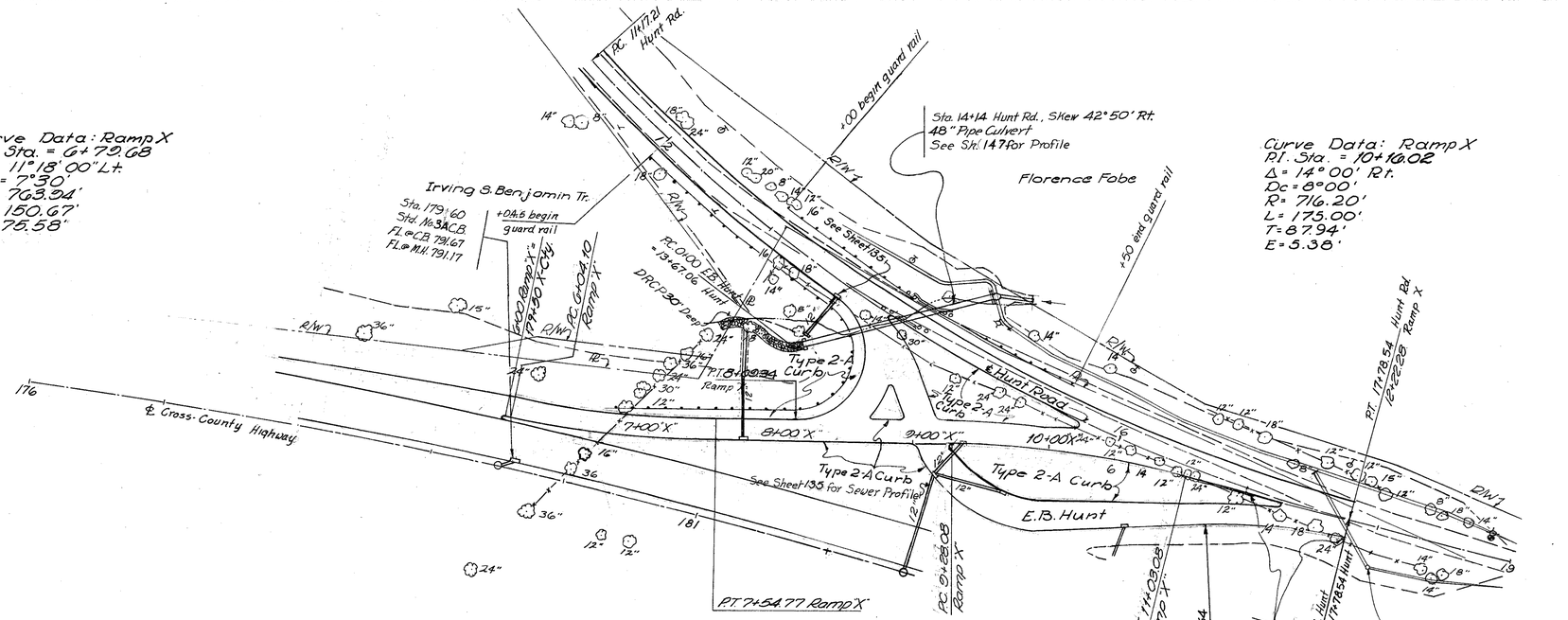
GRADING PLAN
PLAINFIELD RD. INTERCHANGE

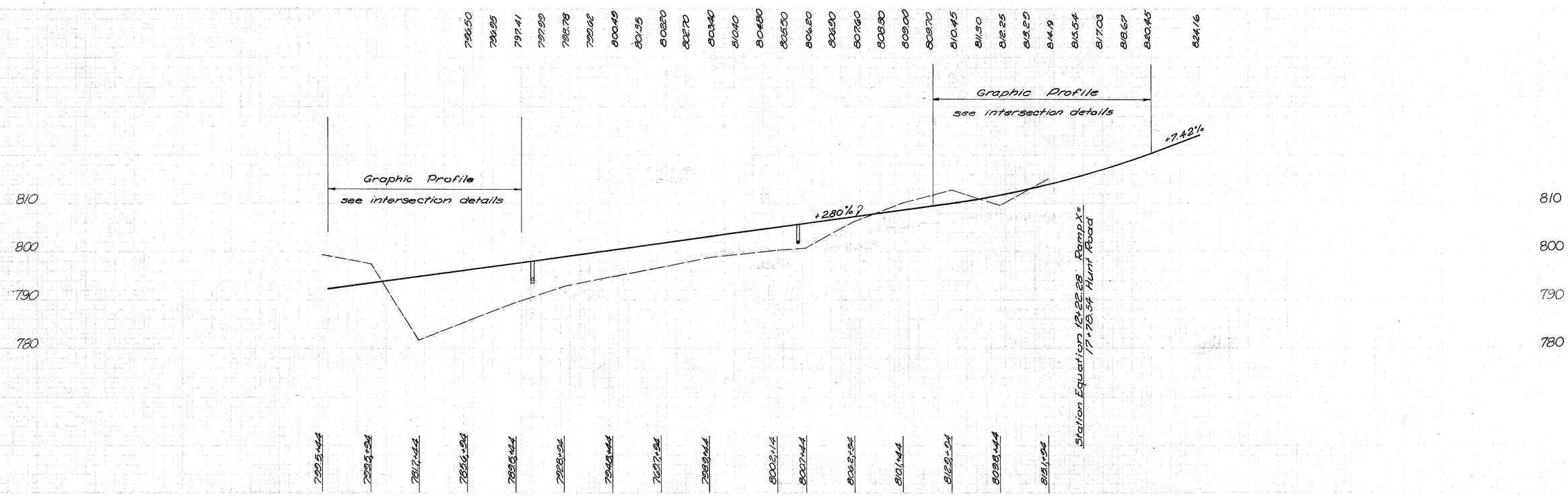
FED. RD DIVISION	STATE	PROJECT		106 / 187
	OHIO			

HAMILTON COUNTY C.R. 453-B

Curve Data: Ramp X
P.I. Sta. = 6+79.68
Δ = 11°18'00" Lt.
Dc = 7°30'
R = 763.94'
L = 150.67'
T = 75.58'

Curve Data: Ramp X
P.I. Sta. = 10+16.02
Δ = 14°00' Rt.
Dc = 8°00'
R = 716.20'
L = 175.00'
T = 87.94'
E = 5.38'





Sta. 0+00 to Sta. 12+22.28 Ramp X

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

HAMILTON COUNTY C.R.453-B

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Furn. & Install 8'-6" C.I. Pipe
Salvage And Relocate 680' Of Ex. 8" C.I. Pipe.
6'-Remove Ex. 8" W.M
1-Cu.Yd. Conc. Masonry 1:5 Mix

Curve Data : Hunt Road
P.I Sta. =14+57.37
Δ = 33° 04' Lt.
D_c = 5° 00'
R = 1145.92'
L = 661.33'
T = 340.16'
E = 49.42'

Temporary Run-Around, Traffic Compacted Surface Course to be 20' Wide with 26' out to out Shoulders For Profile See Sh. No. 118

Note: All water pipe & specials to be City inspected, Class 250 with compression Type joints

See Sheet 7 for Pavement Details.

Sta. 14+14 Hunt Rd., Skew 42° 50' Rt.
48" Pipe Culvert
See Sh. 147 for Profile

Florence Fobe

Irving S. Benjamin, Tr.

Relocate Exist. F.H.

1-Salv. & Relocate Ex. F.H. Head
1-6" Valve Box, Hood Lid & Tel.
1-6"x90° Bend & M.J.
1-8"x6" Tee & M.J.

1-90° end guard rail

Sta. 17+42, 27' Lt.
Std 144-E Endwall
Inv. 812.0

Relocated 8" W.M.

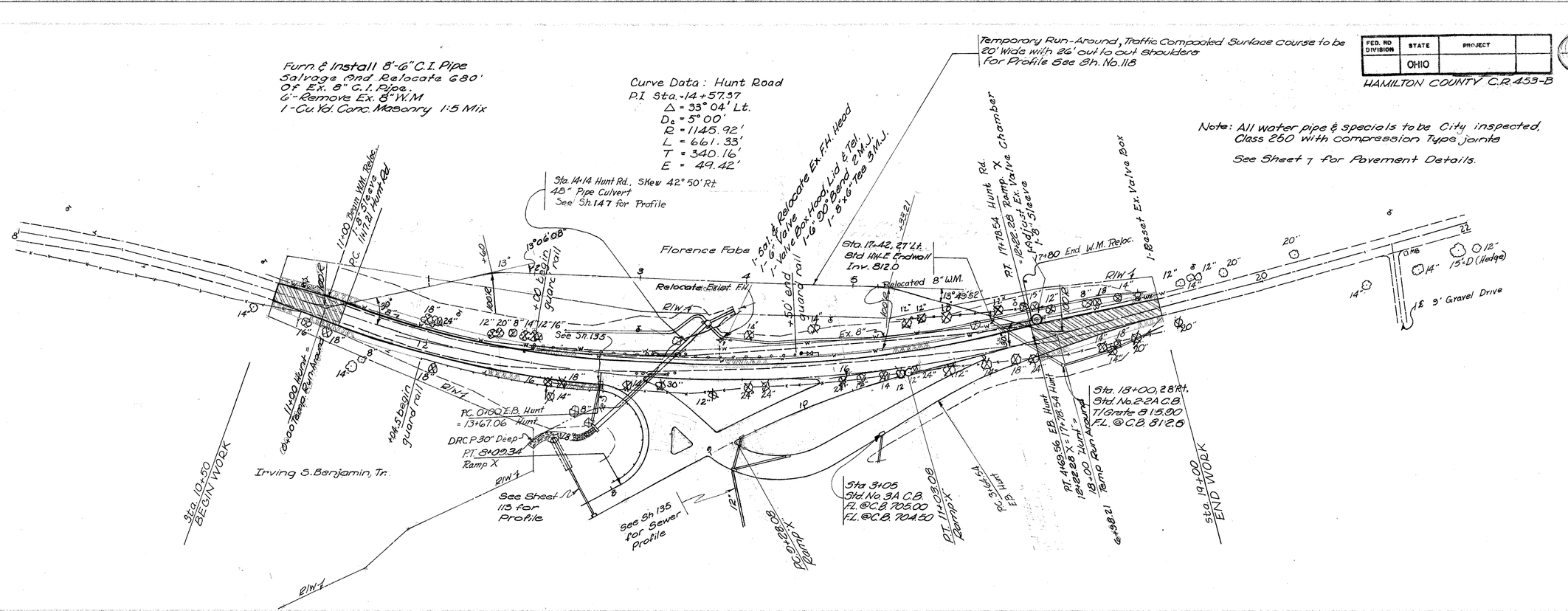
Sta. 17+80 End W.M. Reloc.

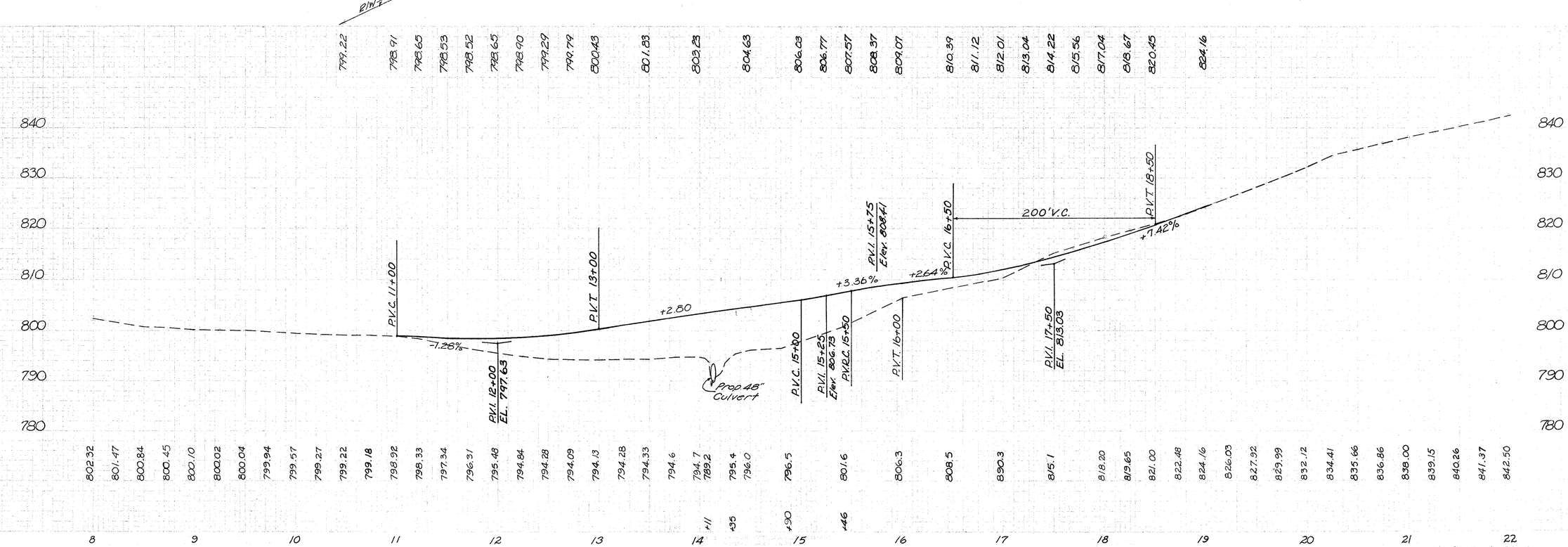
1-Adjust Ex. Valve Box

Sta. 13+00, 28' Rt.
Std. No. 22A C.B.
T/Grate 815.90
F.L. @ C.B. 812.6

Sta. 19+00
END WORK

Sta. 10+50
BEGIN WORK





FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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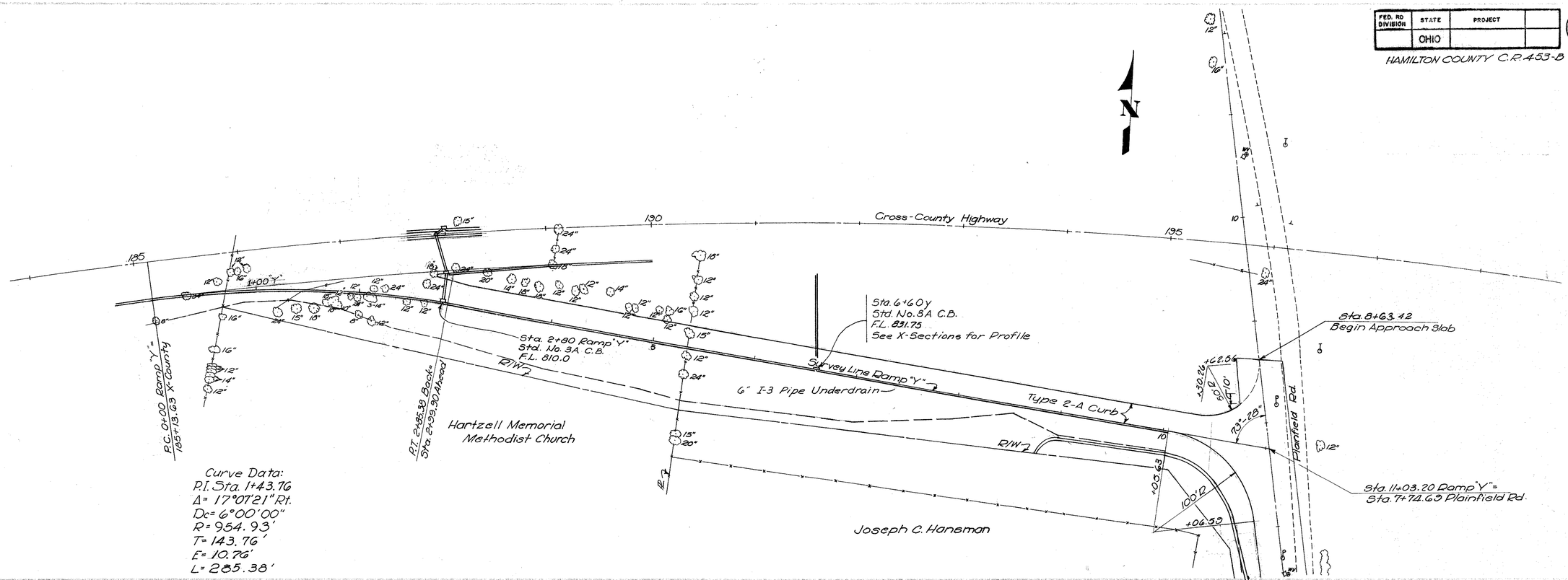
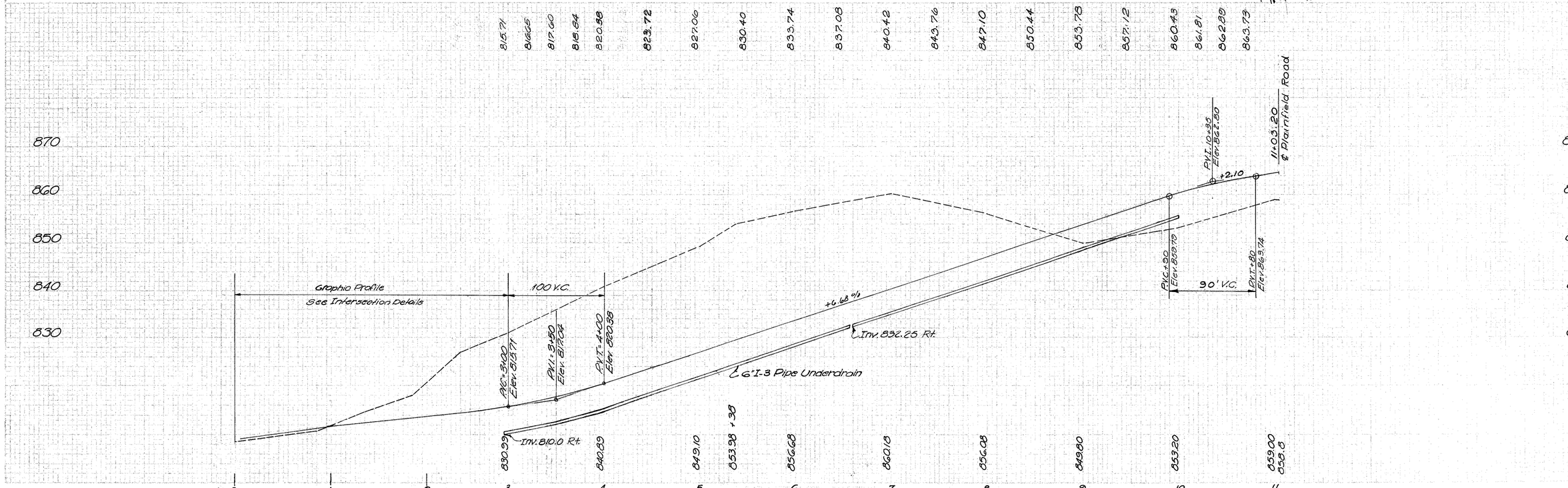
HAMILTON COUNTY C.R.453-B





Sta. 0+00 to 11+03.20 Ramp "Y"

FED. RD. DIVISION	STATE	PROJECT		103
	OHIO			127

HAMILTON COUNTY C.R. 453-B

PLAINFIELD ROAD

HUNT ROAD

RAMP Y

Joseph C. Hansman

Bernard M. Markstein Jr.

Virginia B. McCafferty

The Standard Oil Company

Garage

2 Sty. Brick W/B

Sta. 0+00 Begin W.M. Relocation

Sta. 0+50 1-8" Sleeve 2-8" 45° Bends E.M.J.

Sta. 1+85.55 BEGIN WORK

Sta. 4+50 50'-¾" Copper Pipe 1-¾" Ferrule 1-¾" Stop Cock 1-Curb Box

Sta. 6+70 1-8"x6" Tee E.M.J. 1-6" Valve 1-Valve Box Hood, Lid & Tel. 1-8"x6" Tee 3 M.J. 1-6"x6" 90° Bend 2 M.J.

Sta. 7+74.60 Plainfield Rd. Sta. 11+03.20 Ramp Y

Sta. 8+63.42 Begin Approach Slab

Sta. 9+72.72 Plainfield Rd. Sta. 195+72.70 Cross Country

Sta. 10+22.52 End Approach Slab

Sta. 11+85 1-8"x8"Cross-4 M.J. 2-8" Plugs-M.J.

Sta. 12+27 60'-¾" Copper Pipe 1-¾" Ferrule 1-¾" Stop Cock 1-Curb Box

Sta. 12+93 Lt. Std. No. 3-A C.B. FL. 841.00

Sta. 13+38.71 ℄ Hunt Rd.

Sta. 13+32, 62 Rt. Std. Endwall H.W-E FL. 840.28

Deepen ditch 0-2' FL. at outlet 840.0

Sta. 13+50± End Work

Sta. 12+98 Rt. Std. No. 3 C.B. FL. 840.80

Sta. 10+78 1-Air Lock Chamber 1-M.H.C.& C. 1-1" Ferrule

Sta. 12+70 1-Salt Relo. Ex. F.H. Head (From Sta. 10+50) 1-6" Valve Box Hood Lid & Tel. 1-8"x6" Tee 3 M.J. 1-6" 90° Bend 2 M.J.

Sta. 13+32 1-8" Valve & Chamber 1-M.H.C.& C (Salt from Sta. 13+0, 10' Left) 2-1" Ferrules (A.C.&P.Co.)

Sta. 8+56 Std. No. 1 MH on Exist. 12" Sanit. See Sheet 28 for Details

Sta. 8+75, 50' Rt. Std. No. 8 C.B. See Sheet No. 19 for Elev.

Min. 15 Ft. from pier & abut. footings.

Const. Limit

100' of Tangent

Re-locate Exist. F.H.

Ditch

Type 3-A.M Curb

Type 2A Curb

Type 3AM Curb

Existing Plainfield Rd. (To be removed)

Ex. R/W

Ex. W.M.

Ex. 8" W.M.

Ex. 12" Sanit.

Ex. 16" W.

Ex. 12" W.

Ex. 24" W.

Ex. 30" W.

Ex. 6" W.

Ex. 8" W.

Ex. 4" W.

Ex. 20" W.

Ex. 24" Storm

Ex. 18" Storm

Ex. 8" Storm

Ex. 10" Storm

Ex. 15" Storm

Ex. 30" Storm

Ex. 36" Storm

Ex. 42" Storm

Ex. 48" Storm

Ex. 54" Storm

Ex. 60" Storm

Ex. 72" Storm

Ex. 84" Storm

Ex. 96" Storm

Ex. 108" Storm

Ex. 120" Storm

Ex. 132" Storm

Ex. 144" Storm

Ex. 156" Storm

Ex. 168" Storm

Ex. 180" Storm

Ex. 192" Storm

Ex. 204" Storm

Ex.

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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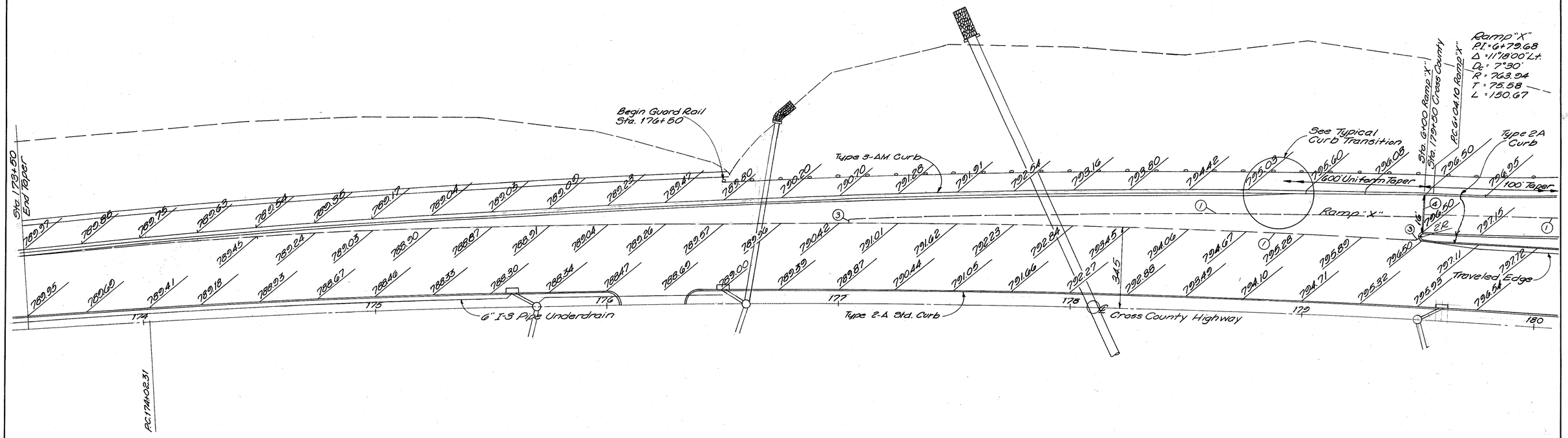
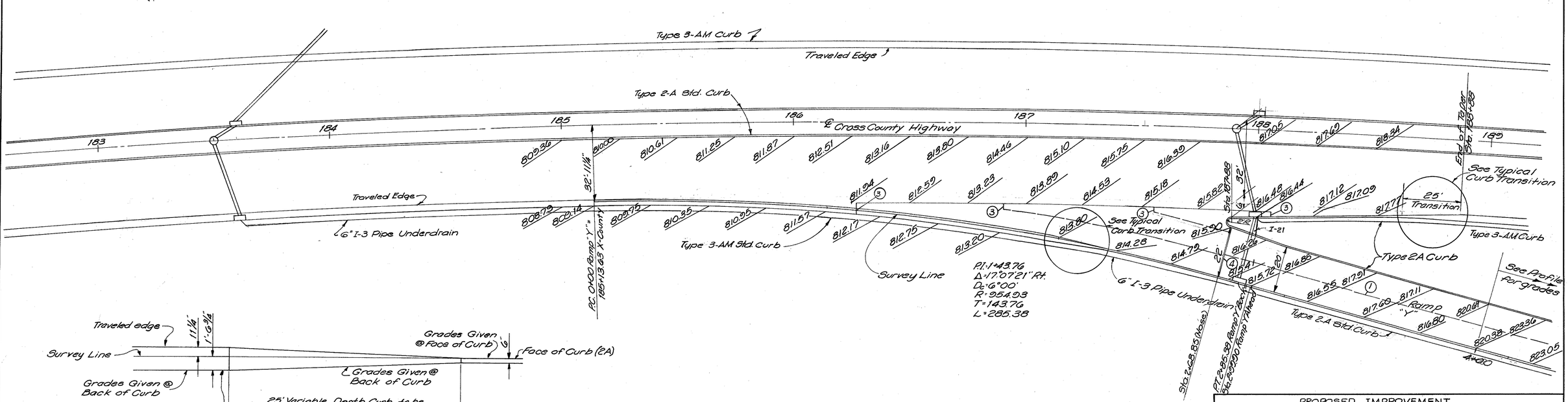
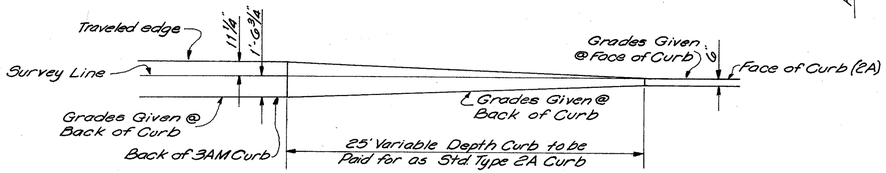
HAMILTON COUNTY C.R. 483-B







TYPICAL CURB TRANSITION

Note:
See Sheet 6 for Joint Legend

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN ROAD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVENUE)
SCALE: 1"=20'

GEORGE M. LEMMEL — HAMILTON CO. ENGINEER

INTERSECTION DETAILS — RAMPS X & Y

FED. RD. DIVISION	STATE	PROJECT	
	O-110		

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HAMILTON COUNTY C.R. 453-B

Hunt Road
P.C. 11+17.21
- See below

Match Line - See Above

15+00 Begin Guard Rail

12" ø Hunt Road

90' taper from 14'-0" to 11'-0"

Sta. 11+00 Begin Typical Section

Sta. 10+30 Begin Work

Taper pavement from existing width of 10+30 to 22'-0" width at 11+00.

30.00' ± 3%

Hunt Road
P.C. 11+17.21

Ex. 799.26
Ex. 799.01

Ex. 8"

Ex. 799.46

798.75

798.85

799.02

Match Line - See Above

Hunt Road
P.C. 11+17.21

Ramp "X"
P.C. 4+04.10
Cross Co. 199+50

Type 2-A Std. Curb

Taper

100'

Stationing along this line to sta. 8+09.34

Type 2A Std. Curb

8+09.34

Stationing along this line from Sta. 8+09.34

Type 3-AM Curb

Typical Curb Transition
See Sheet No. 7

Type 2-A Std. Curb

Cross County Highway

180 181 182 183 184 185

6" P-3

D = 5°00'

P.C. 1+14.59 E.B. Hunt

P.T. 0+55.65 E.B. Hunt

Type 2A Std. Curb

Ramp "X"
P.T. 14+54.27

P.C. 0+78.54 E.B. Hunt

Ramp "X"
P.C. 0+28.08

P.T. 14+03.08

P.C. 3+64.54 E.B. Hunt

Type 2-A Std. Curb

Taper from 22' to 44' on tangent between curves

P.T. 4+62.56 E.B. Hunt
12°22.28 Ramp "X" R/R 18+54 Hunt

Match Line (See above)

P.T. 17+78.54 Hunt Rd.
Match Line (See below)

15 ± 50 End Guard Rail

Sta. 19+00 End Work

Taper from 28'-0" to width of existing pavement

D_c = 17°30'

Note:
See Sheet 6 for Joint Legend

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 84+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: 1" = 20'

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

INTERSECTION DETAILS AT HUNT ROAD & RAMP X

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

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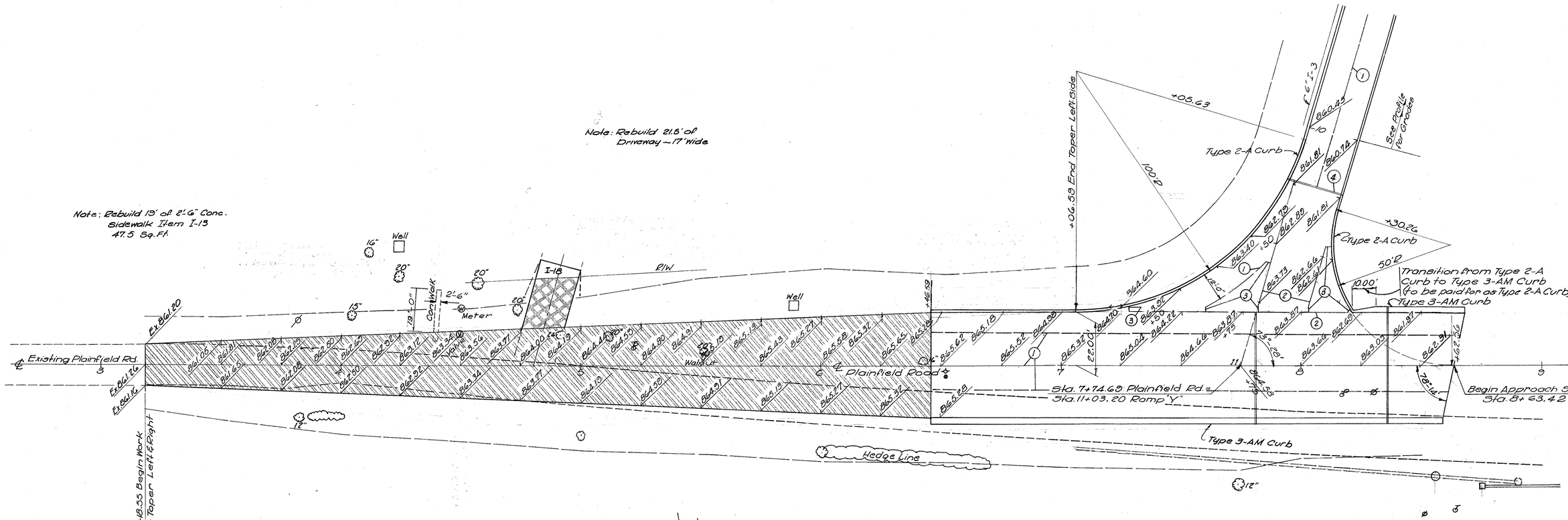
187

HAMILTON COUNTY C.R.453-B



Note: Sta. 3+18.55 to 4+46.59 Left edge and 3+18.55 to 4+50 Right edge, Provide Longitudinal Key Joint and female end of Hook Bolt for future pavement construction.

Note: See Sheet 6 for Joint Legend

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

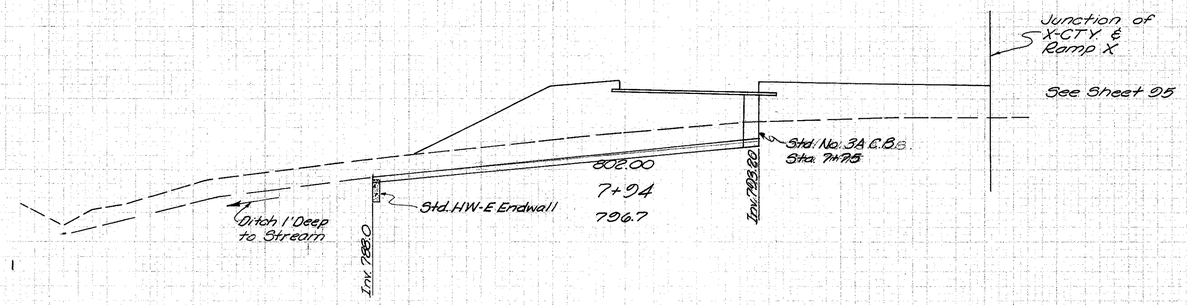
FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
SCALE: 1" = 20'

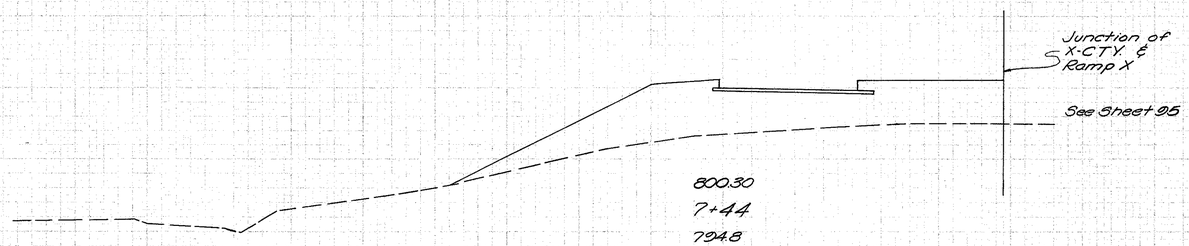
GEORGE M. LEMMEL — HAMILTON CO. ENGR.

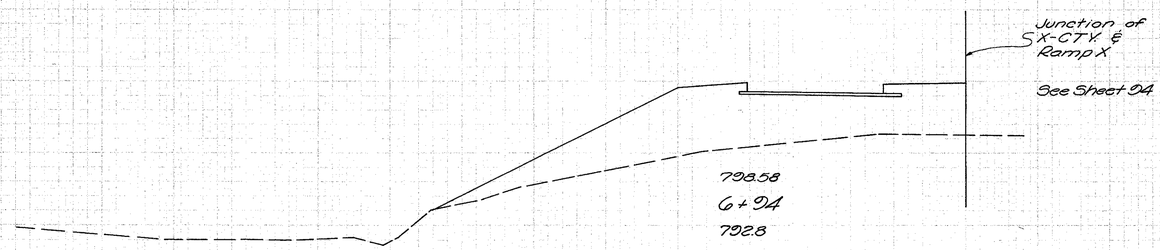
INTERSECTION DETAILS - RAMP Y & PLAINFIELD ROAD

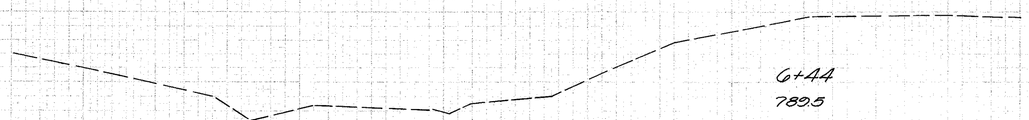
FED. RD. DIVISION	STATE	PROJECT		113 / 187
	OHIO			

HAMILTON COUNTY C.R. 453-B









	End Area		cu. yds.	
	Cut	Fill	Cut	Fill
	0	304		
			0	730
	0	405		
			0	703
Ahead	0	451		

100 80 60 40 20 ℄ 20 40 60 80 100

Sta. 6+44 to 7+94 Ramp "X"

FED. HWY. DIVISION	STATE	PROJECT	
	OHIO		

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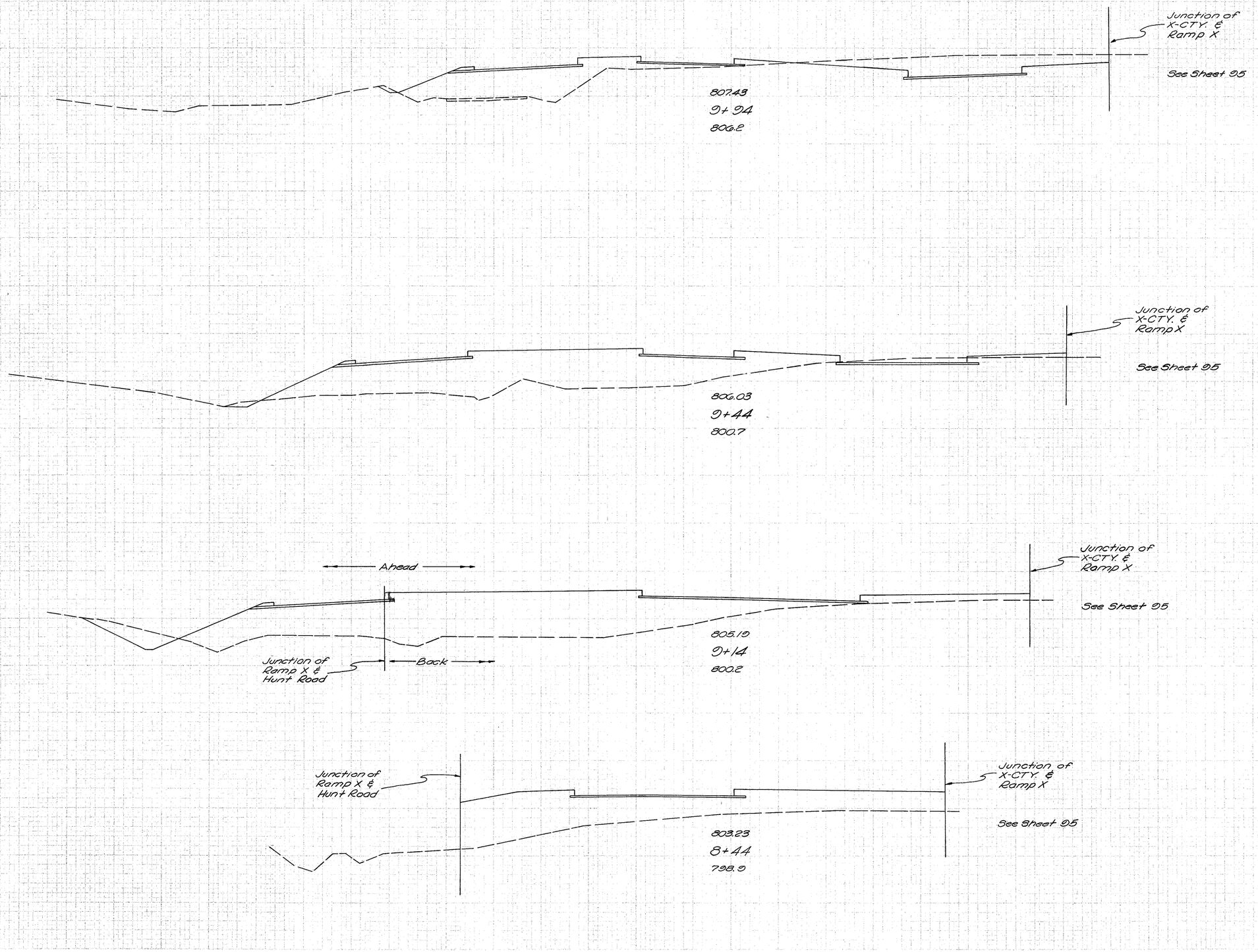
187

HAMILTON COUNTY CR 453-B



	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	187	259		
			207	915
	37	720		
			47	968
Ahead	47	1006		
Back	0	755		
			0	1732
	0	582		
			0	804
	0	304		

Sta. 8+44 to 9+94 Ramp "X"

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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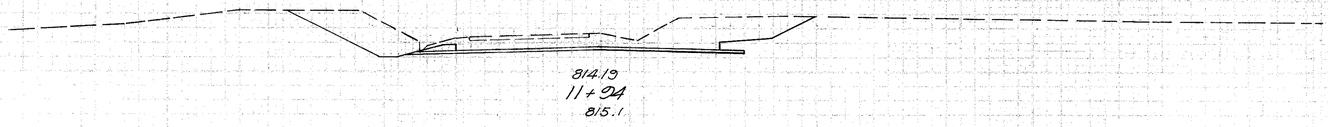
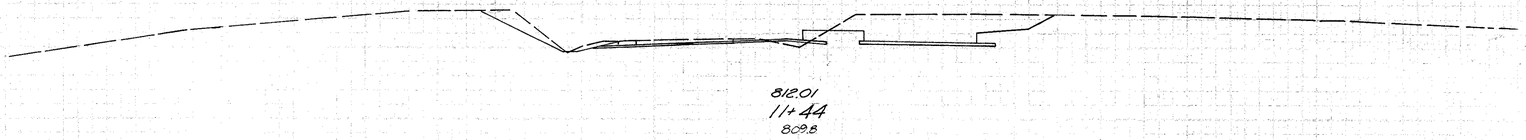
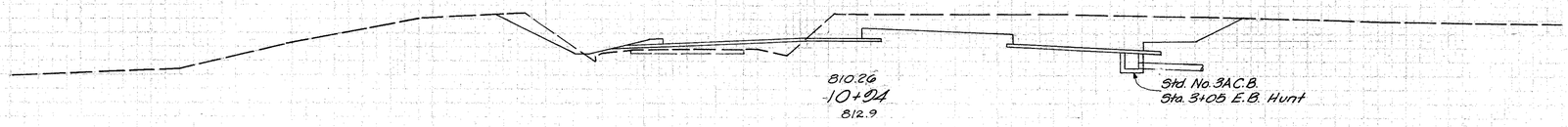
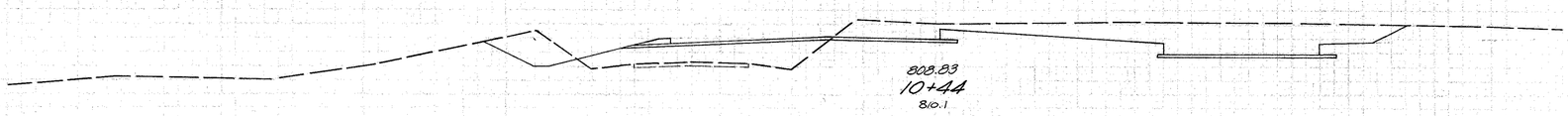
HAMILTON COUNTY CR 453-B









Ramp X-6+94 to 18+00 Hunt
Excavation 2154 Cu. Yd.
Embankment 6523 Cu. Yd.
Embankment + 20% 7828 Cu. Yd.

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
18+00 Hunt Road	261	6		
			415	8
	187	3		
			296	13
	132	11		
			325	32
	219	24		
			447	108
	264	93		
			417	326
	187	259		

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

Sheet No. 115 of 187 Sheets

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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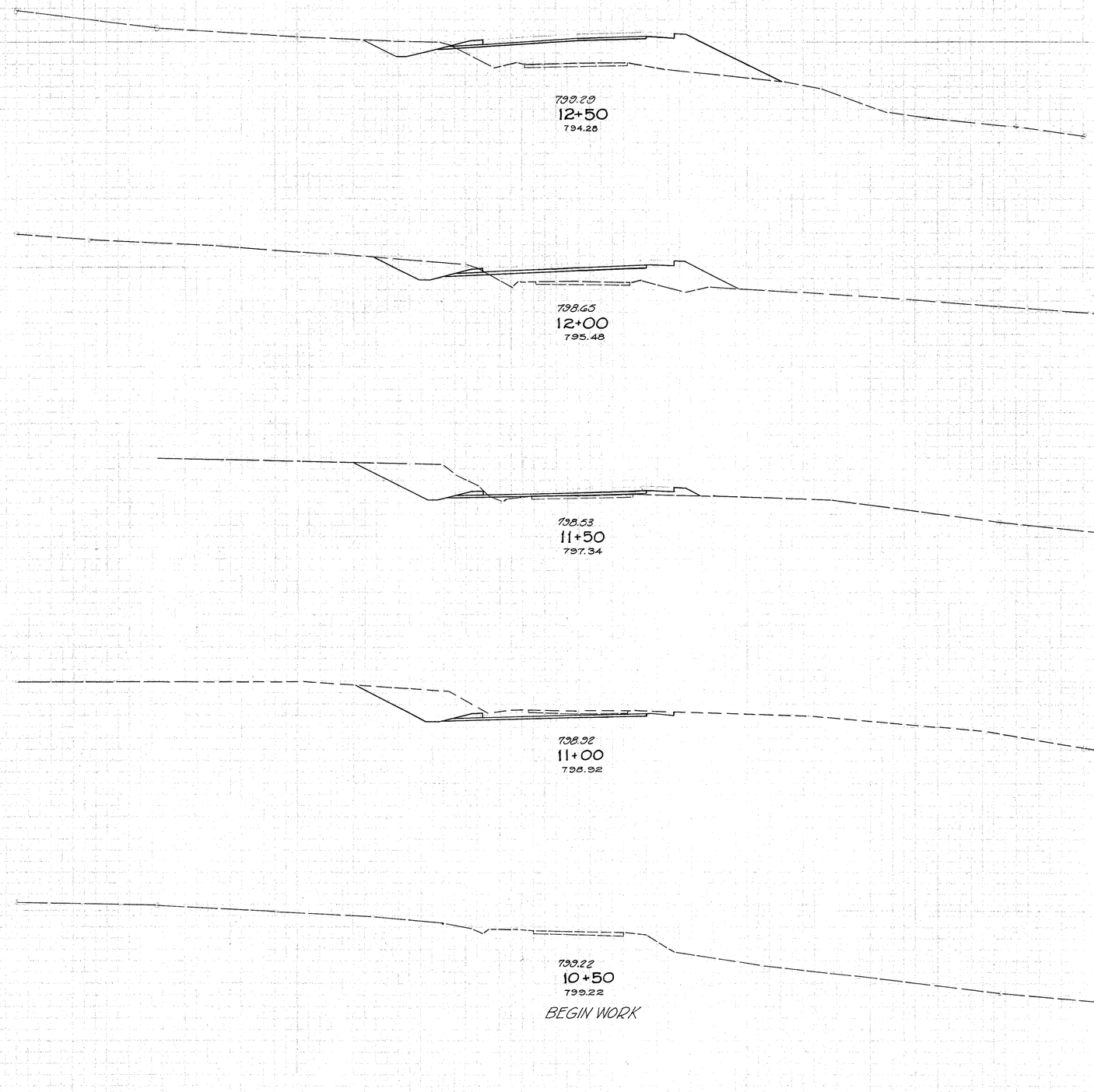
HAMILTON COUNTY CR 483-B



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
28	222		
		67	286
44	98		
		113	103
85	13		
		180	15
113	3		
		110	3
0	0		

Sta. 10+50 to Sta. 12+50 Hunt

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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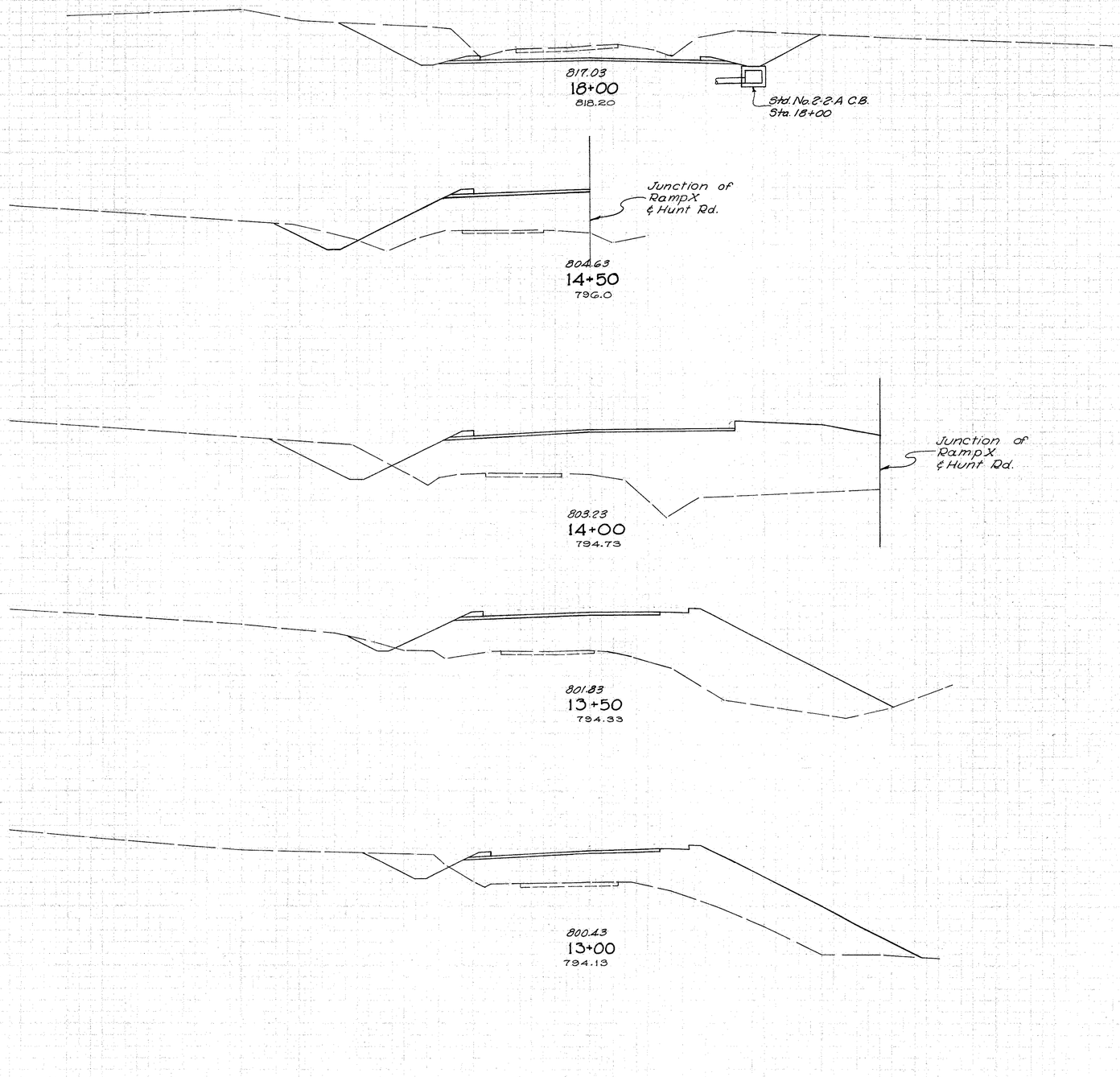
HAMILTON COUNTY CR 453-B



	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
AHEAD	261	6		
Deduction to Volume between 14+00 & 14+50 due to overlap of 9H4 Ramp X.			-6	-39
BACK	87	225		
			87	928
	67	799		
			63	1809
	7	626		
			42	1031
	38	488		
			61	658
	28	222		

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

Sta 13+00 to 18+00 Hunt

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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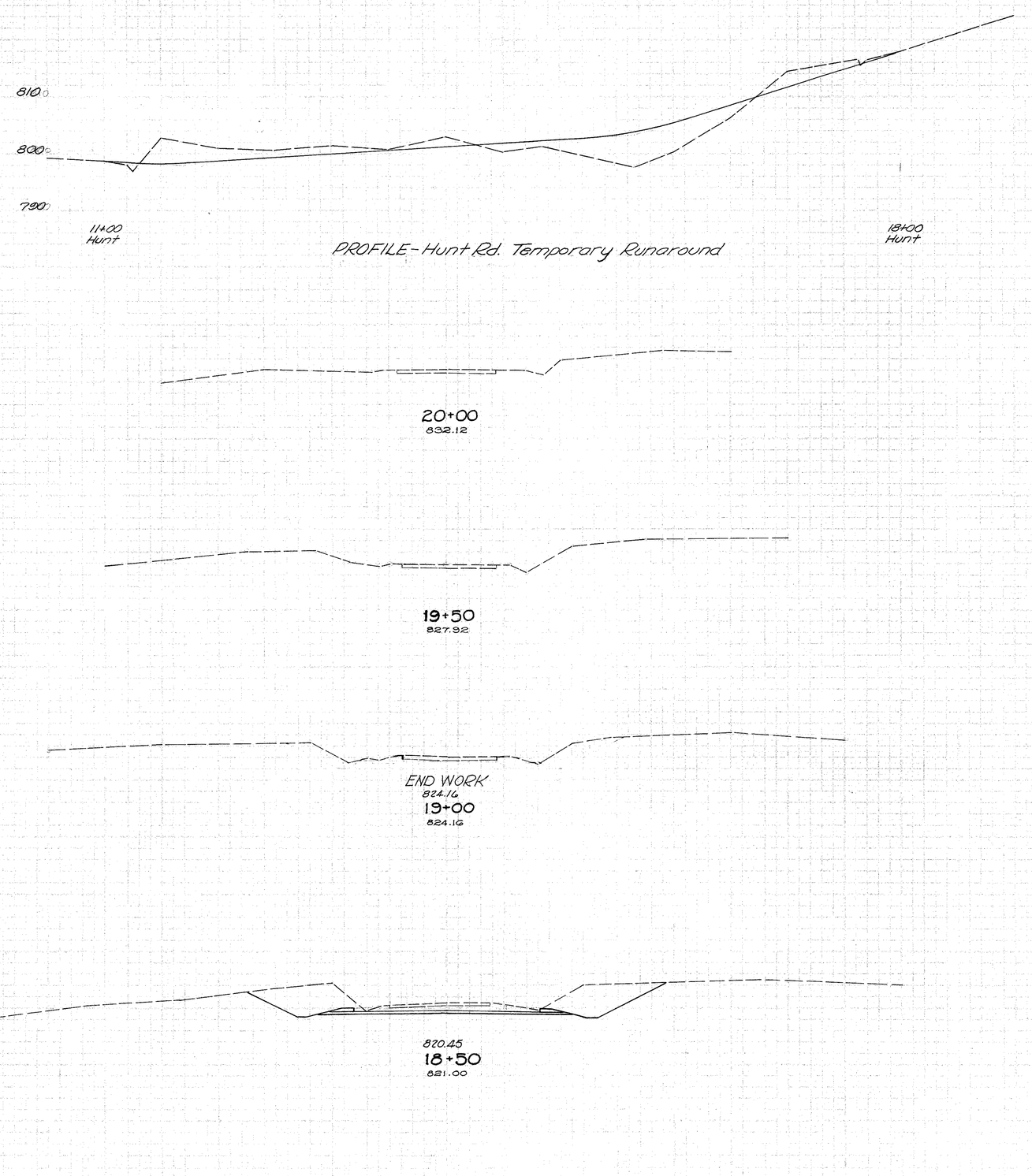
HAMILTON COUNTY C.R. 453-B



PROFILE - Hunt Rd. Temporary Runaround

HUNT ROAD 10+50 to 14+50 and 18+00 to 19+00

Excavation	1344 cu.yd.
Embankment	425 cu.yd.
Embankment +20%	510 cu.yd.

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		182	6
197	6		
		424	11
261	6		

Sta. 18+50 to 20+50 Hun

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY CR453-B

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
1255	4		
		1673	6
1122	4		
		3876	15
971	4		
		2970	15
693	4		

Sta 3+00 to 5+38 Ramp"

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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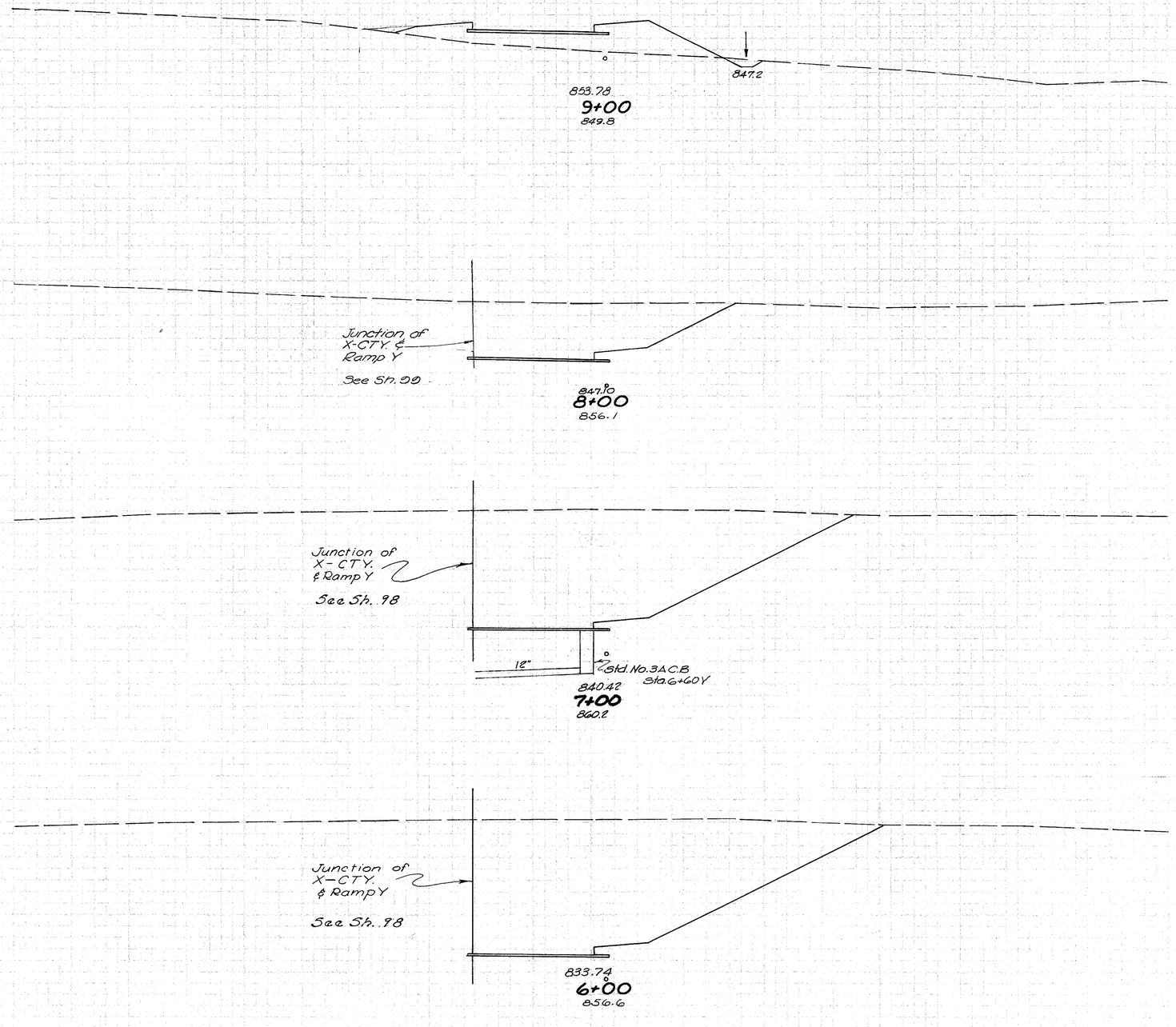
HAMILTON COUNTY C.R. 453-B



Sta. 8+80 Cut = 0
Fill = 0

End Areas		Cu. Yds.	
Cut	Fill	Cut	Fill
0	178		
		657	328
355	4		
		2433	15
959	4		
		3918	15
1157	4		
		2770	9
1255	4		

Sta. 6+00 to 9+00 Ramp "Y"

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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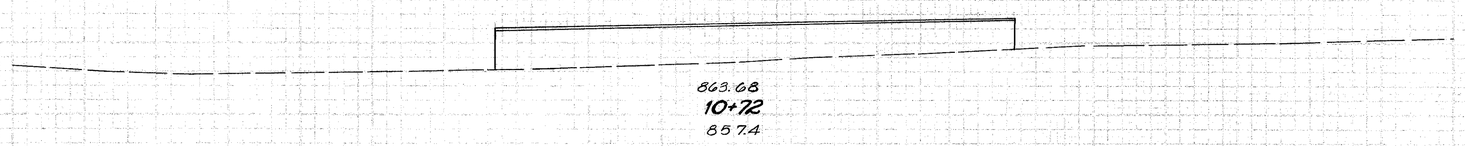
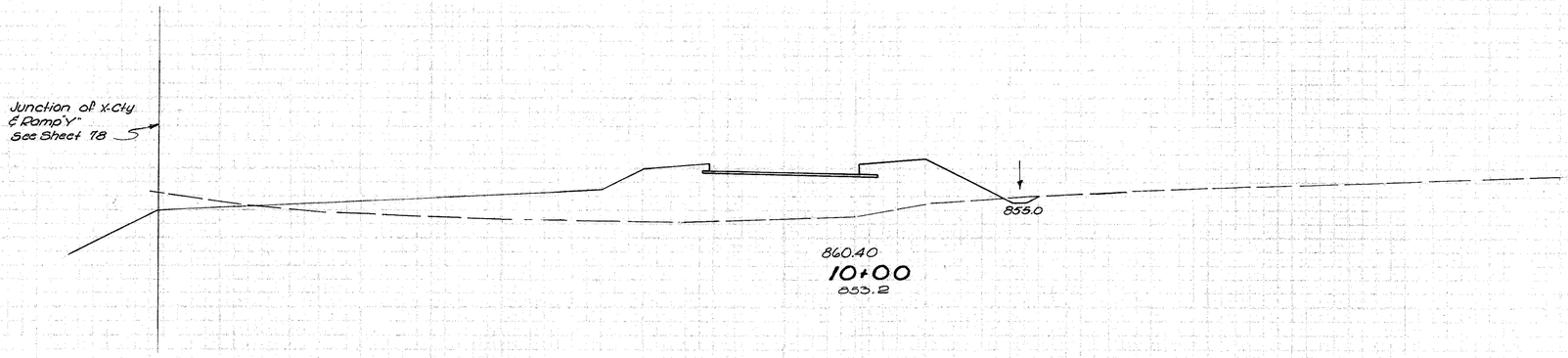
HAMILTON COUNTY CR 453-B



Ramp "Y" - 3+00 to 10+72

Excavation	18,297	Cu. Yds.
Embankment	2,385	Cu. Yds.
Embankment +20%	2,862	Cu. Yds.



	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
0		341		
			25	1084
19	472			
			35	1195
0	173			

100 80 60 40 20 ℄ 20 40 60 80 100

Sta 10+00 to 10+72 Ramp "Y"

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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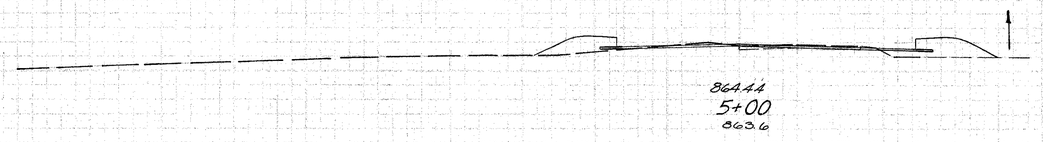
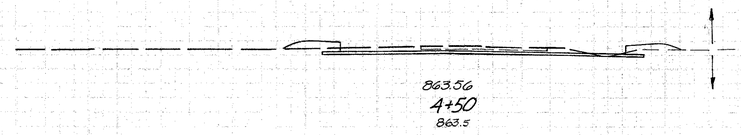
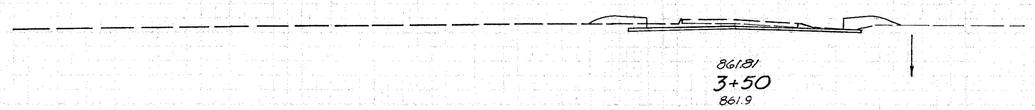
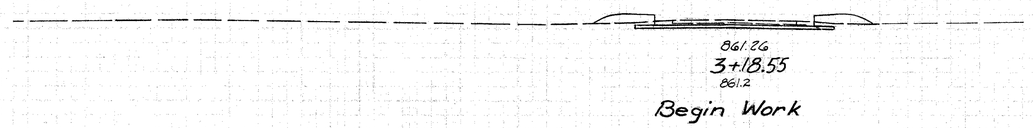
HAMILTON COUNTY CR 453-B









100 80 60 40 20 ℄ 20 40

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
13	50		
		48	60
39	15		
		81	31
50	10		
		81	35
38	19		
		36	20
25	16		

STA. 3+18.55 to STA. 5+00 PLAINFIELD R.D.

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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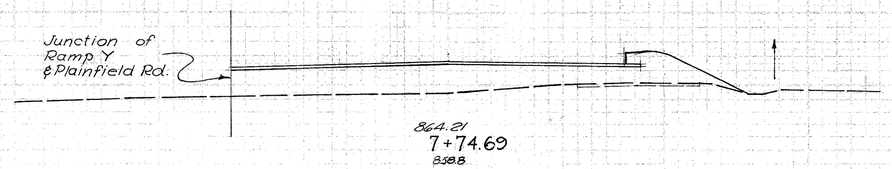
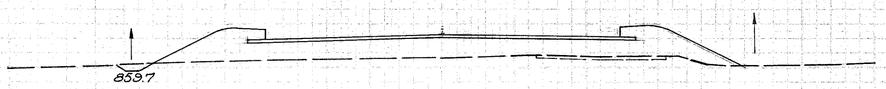
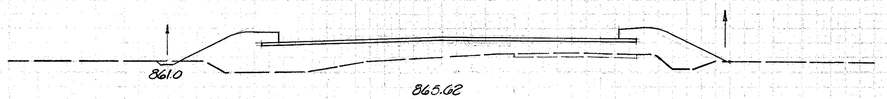
HAMILTON COUNTY CR 453-B



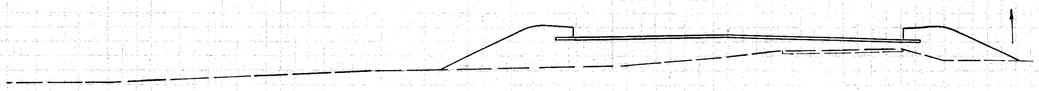
864.21
7+74.69
858.8



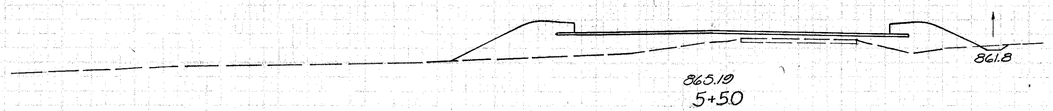
865.32
7+00
861.3



865.62
6+50
861.9



865.58
6+00
862.0



865.19
5+50
863.0

End Area		Cu Yds.	
Cut	Fill	Cut	Fill
0	235		
		0	631
0	221		
		0	398
0	211		
		0	407
0	230		
		0	352
0	150		
		1	185
13	50		

100 80 60 40 20 ℄ 20 40 60

STA 5+50 to STA 7+74.68 PLAINFIELD RD

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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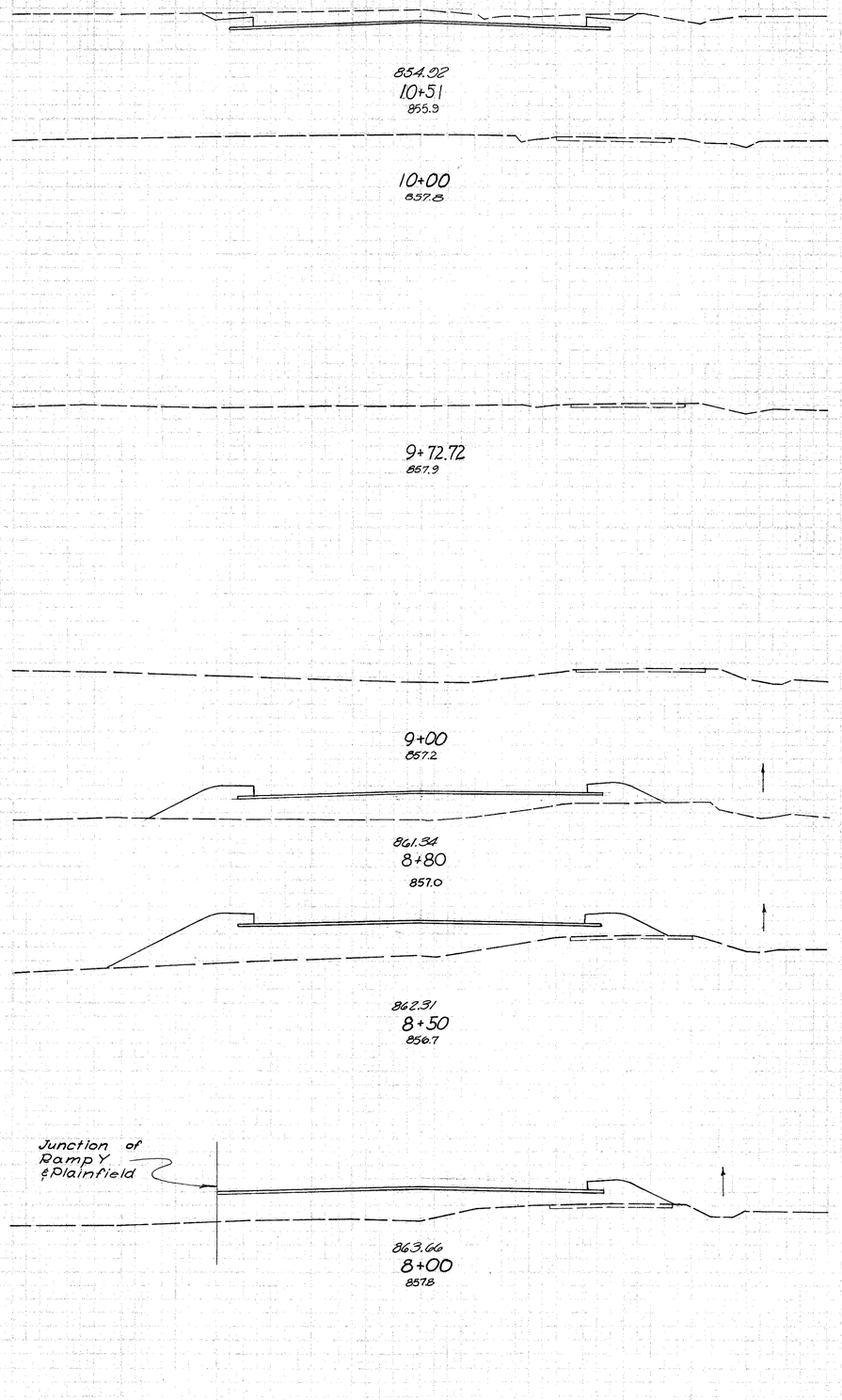
HAMILTON COUNTY CR 453-B



End Area		Cu Yds.	
Cut	Fill	Cut	Fill
106	0		
0	230	0	313
0	335	0	522
0	230	0	218
0	235		

STA 8+00 to STA 10+00 PLAINFIELD RD

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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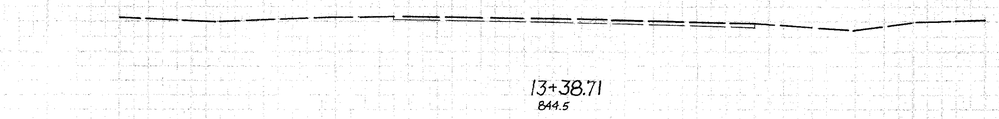
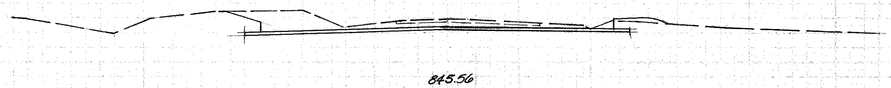
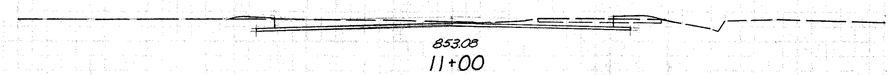
187

HAMILTON COUNTY CR453-B







60 40 20 ℄ 20 40 60

Plainfield Road - 3+85.56 to 13+30
Excavation 970 Cu. Yd.
Embankment 3,258 Cu. Yd.
Embankment +20% 3,909 Cu. Yd.

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		48	6
86	10		
		280	39
70	11		
		257	39
58	10		
		140	8
106	0		

STA.11+00 to STA.13+38.71 PLAINFIELD RD.

Curve Data
Elsmere Rd
Δ = 12° 28'
T = 10.92
L = 21.76
R = 100.00'

Curve Data
Floral Ave.
Δ = 80° 46'
T = 42.53
L = 70.48
R = 50.00

Spike in pavement on ℄ Floral 147.60' from P.I.

For Retaining Wall Details and additional information see sheets 32 & 138

Book

Spike in pavt. on ℄ Elsmere 175.08' from P.I.

N

R/W

R=100'

540 Deg. 21.76

R=15'

R=10'

45' Taper

1:50

1:00

Sta. 2+05.54

℄ Floral

2.00

R=50'

Sta 1+35.06

1+70.30

18.0'

R=25'

R=39'

80'

Spike in Pavement (P.I.)

0+50

0+00 Spike in Pavt. (P.I.)

℄ Elsmere

Steel Beam Guard Rail

4" Gas

Top of Cut

2:1

12"

4" Gas

2' 12" Sewer

Top of Cut

12" Sewer

4" Gas

End Acceleration Lane

Taper Berm from 15'-6" at Sta. 226+50 to 9'-6" at Sta. 227+50

15'-6"

28'-6"

29'-6"

10'-0"

2'-0"

2:1

2'-7"

C.L. E.N. R.R.

℄ Cross County Highway

15'

225

226

227

228

4" Gas 2

PLAN

SCALE: 1" = 20'

Elsmere & Floral 0+00 to 2+05.54	
Excavation	32 C.Y.
Embankment	45 C.Y.
Embankment +20%	54 C.Y.

850

845

840

Begin New Work Sta. 0+00, El. 846.00

-0.48%

End New Work Sta. 2+05.54, El. 845.01

0+00 0+25 0+50 0+75 1+00 1+25 1+50 1+75 2+00

PROFILE

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
13	2		
		10	3
15	3		
		3	8
0	11		
		0	7
✓	9		
		3	14
2	6		
		12	8
11	3		
		14	2
13	1		
		10	3
Ahead	13	7	

30 25 20 15 10 5 0 5 10 15 20 25

FED. RD DIVISION | STATE OHIO | PROJECT

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845.01 R/W

2 + 05.54

HAMILTON COUNTY CR 453-B

Exist 4" Gas

Exist. 12" Sewer

845.54 R/W

2 + 00

Exist. 4" Gas

Exist 12" Sewer

New Drive Elev. 846.0±

845

R/W

1 + 70.30 (At Drive)

Exist 4" Gas

Exist 12" Sewer

846.18 R/W

See Plan

See Sheet 86

845

1 + 50

Reloc. 4" Gas By others

12" Sewer

846.42 R/W

845

1 + 00

Reloc. 4" Gas By others

12" Sewer

846.66 R/W

6'-0"

845

0 + 50

Exist. 4" Gas Main

Reloc. 4" Gas By others

12" Sewer

Exist 12" Sewer

R/W

Existing Conc. Dr.

Flow line and top drive 846.0

13'-6"

0 + 20 (At Drive)

845

Exist. 4" Gas

Exist 12" Sewer

846.90 R/W

Std. No. 2-2-A C.B. See Sht 85 For Elev.

845

0 + 00

2:1 To Cross Cty.

Exist 4" Gas Main

Exist 12" Sewer

25 20 15 10 5 0 5 10 15 20 25

X-SECTIONS

Scale: 1"=5' Horiz. & Vert.

PROPOSED IMPROVEMENT OF

CROSS-COUNTY HIGHWAY

ELSMERE & FLORAL STA. 0+00 to 2+05.54

SCALE: As Shown

GEORGE M. LEMMEL HAMILTON CO. ENGR.

INTERSECTION DETAILS ELSMERE & FLORAL

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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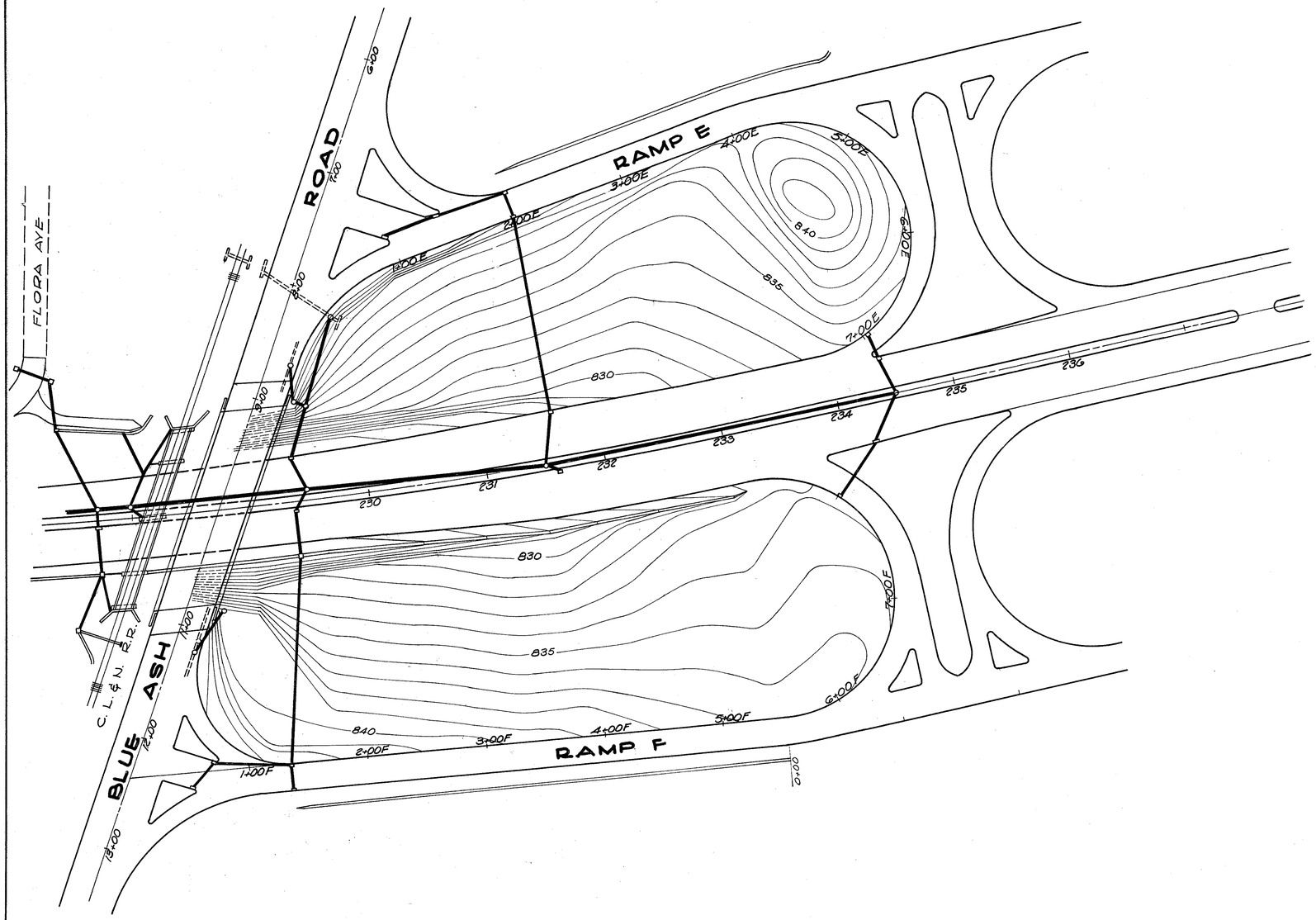
HAMILTON COUNTY CR433-B



GRADING PLAN
BLUE ASH RD. INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT		128
	OHIO			187

HAMILTON COUNTY C.R.453-B

Sta. 4+68.73
2' Transition to match exist curb
Type 2B Std. Curb
Remove exist curb
Ex. 41.95
Ex. 42.34
Ex. 41.95
Rack Dome of Ex. M.H. to Outside of Back of Curb
#9264
#9260
#9250
Type 2B Std. Curb
Relocate Ex. F.H.
Sta. 6+25 Match Type
P.C. Sta. 6+06.73 "Blue Ash" & Variable depth Curb to be Paid for as Type 2A Std.
Std. Type 2A Curb
Sta. 6+63
Type 2B Std. Curb
Sta. 6+85 Match Line
Type 2A Std. Curb
P.C. Sta. 6+06.73 "Blue Ash"
R.T. Sta. 2+05.04 Ramp "E"
Δ = 120°00'40"
T = 157.28
L = 168.88
R = 75'
Typical Curb Transition See sheet no. 7
Std. Type 2A Curb 20'
2' offset
BLUE ASH ROAD
Sta. 0+00.00 Ramp "E" Sta. 3+12.72 Blue Ash
2' R Typ.
Std. Type 2A Curb 20'
Typical Curb Transition See sheet no. 7
RAMP "E"
4+12.80 Ramp "E" 0.00 Outer Edge
4+26.86 Ramp "E" 0+11.31 Outer Edge
Std. Type 2A Curb
P.C. Sta. 4+28.00 Ramp "E" 100'R 124.12
P.T. Sta. 0+29.84 Ramp "E"
Δ = 50°58'20"
T = 71.53'
L = 133.48'
R = 150.0'
Std. Type 2A Curb
P.T. Sta. 1+41.02 Ramp "E" Sta. 233+33.66 Cross County
100'R
Sta. 8+87.10
P.C. Sta. 8+66.42 "Blue Ash"
See Skyline Detail Sheet 157
End Taper Sta. 227+43.66
450' Taper
200'
Std. Type 3-AM Curb
Traveled Edge
25' Curb Transition See Sheet 7
+6.48%
-6.48%
Sta. 228+18.55 ℄ R.R.
Sta. 228+73.22 Sta. 10+00 Blue Ash
228+00
229+00
230+00
231+00
232+00
233+00
234+00
℄ Cross County

Note: See Sheet No. 6 for Joint Legend
See Sheet No. 32 for additional Topo

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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HAMILTON COUNTY C.R. 453-B

RAMP "F"

P.C. Sta. 13+50.54 "Blue Ash" 150' R.
8' Variable depth curb to be paid for as Type 2A Std.
Type 2A Curb
150' R.
Type 2B Std. Curb
2'R Conc. Walk
3'R.
Ex. 10' Gravel Drive
8'R
Type 2B Std. Curb
Std. No. 3A C.B. Flow Line To Be Determined In Field.
Connect Prop. 12" Pipe to Ex. Inlet
ALPINE AVE.
Ex. Storm Sewer
Sta. 228+73.42
Sta. 10+00 Blue Ash
Sta. 11+06.98
For Siphon Detail See Sheet 137
P.T. Sta. 11+11.36 "Blue Ash" 175' R.
△ = 114°00'40"
R = 75.00'
T = 115.51'
L = 149.24
Sta. 0+00 Ramp "F" Sta. 12+56.97 Blue Ash
Std. Type 2A Curb
P.C. Sta. 11+39.60 Ramp "F" 75' R
Typical Curb Transition See Sheet No. 7
Sta. 12+55
Type 2B Std. Curb
Remove Ex. Curb
Ex. Blue Ash
△ = 65°59'20"
R = 150.00'
T = 97.39'
L = 172.76
8' Variable depth curb to be paid for as type 2-A Std.
P.T. Sta. 13+50.54 "Blue Ash" 150' R.
P.C. Sta. 1+10.79 Ramp "F" 150' R
End Taper Sta. 229+64.10
℄ Cross County
Profile Grade
Traveled Edge
Std. Type 3-A Modified Curb
200'
150'
25' Curb Transition See Sheet 7
P.T. Sta. 8+78.10 Ramp "F" 100' R
Sta. 233+14.10 "Cross County"
P.C. Sta. 5+52.48 Ramp "F" 100' R
141.43' R
Sta. 5+52.48 Ramp "F" (P.C. Sta. 0+00 Outer Edge)
P.T. 0+17.28 Outer Edge

Note: See Sheet No. 6 for Joint Legend
See Sheet No. 32 for Additional Topo

FED. RD. DIVISION	STATE	PROJECT		
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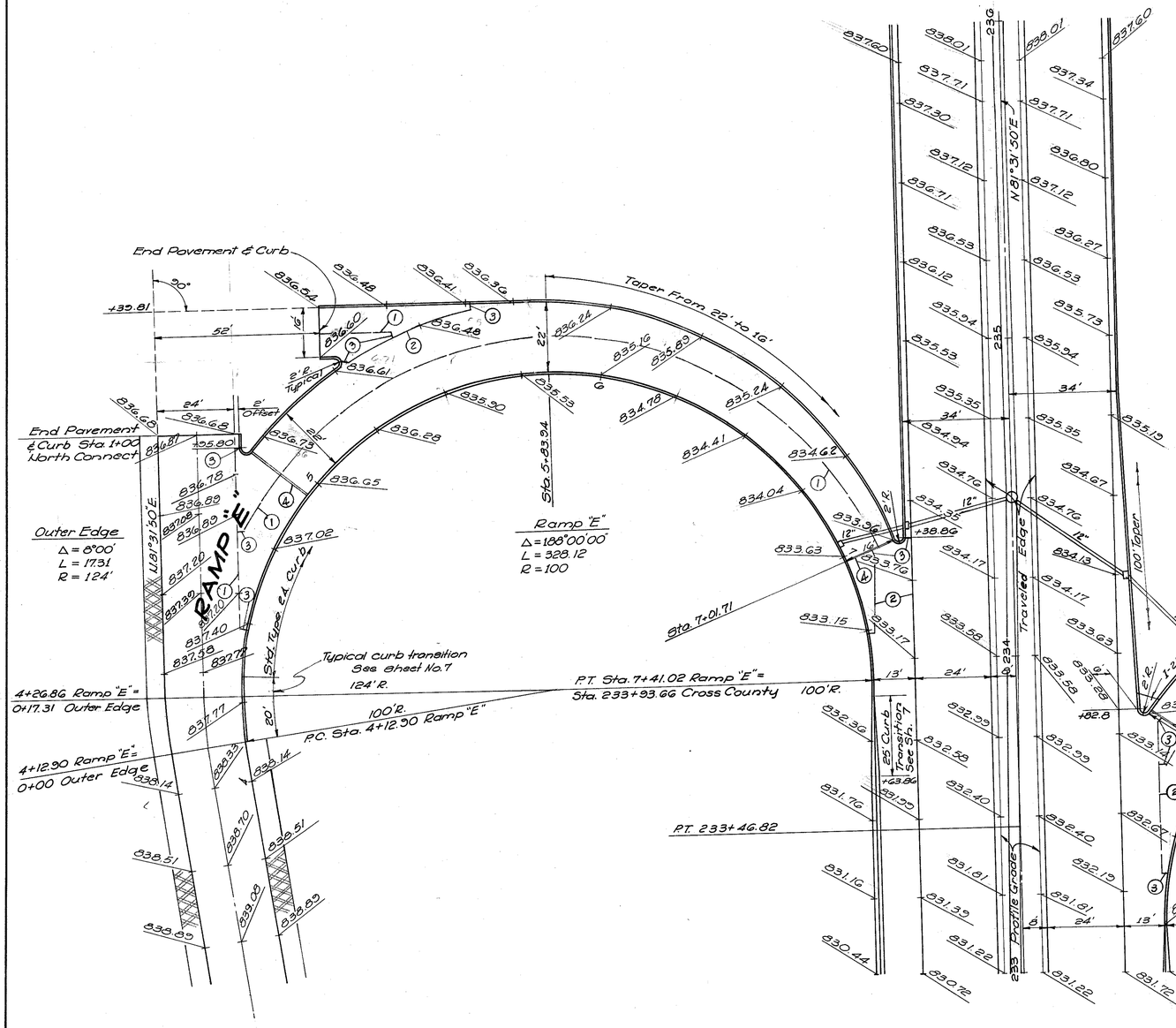
HAMILTON COUNTY C.R.453-B



Note: See Sheet No. 6 for Joint Legend

FED. RD. DIVISION	STATE	PROJECT		131 / 187
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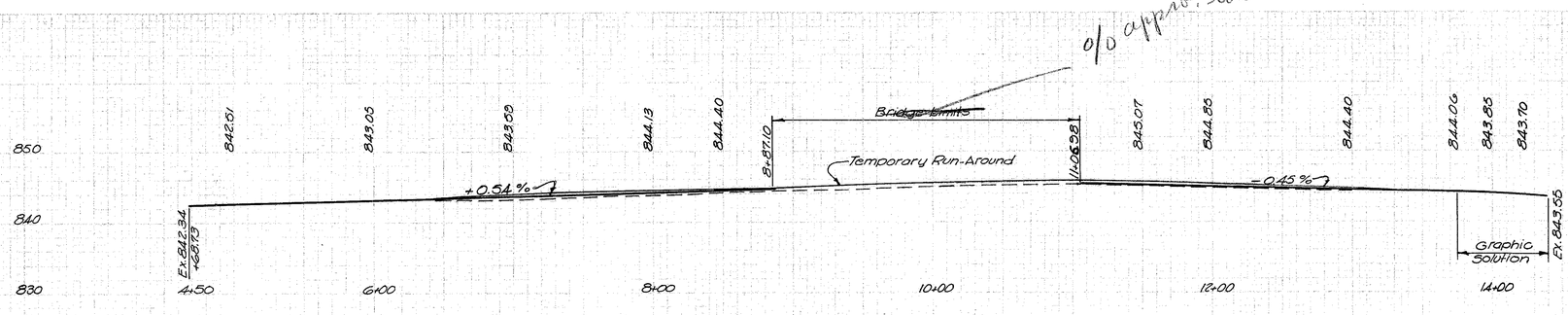
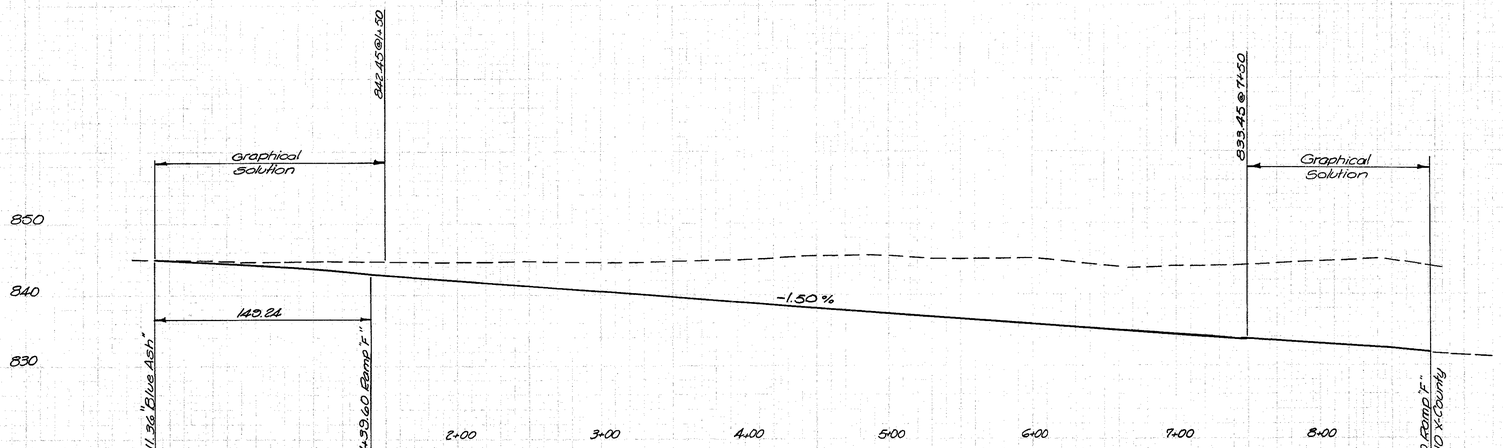
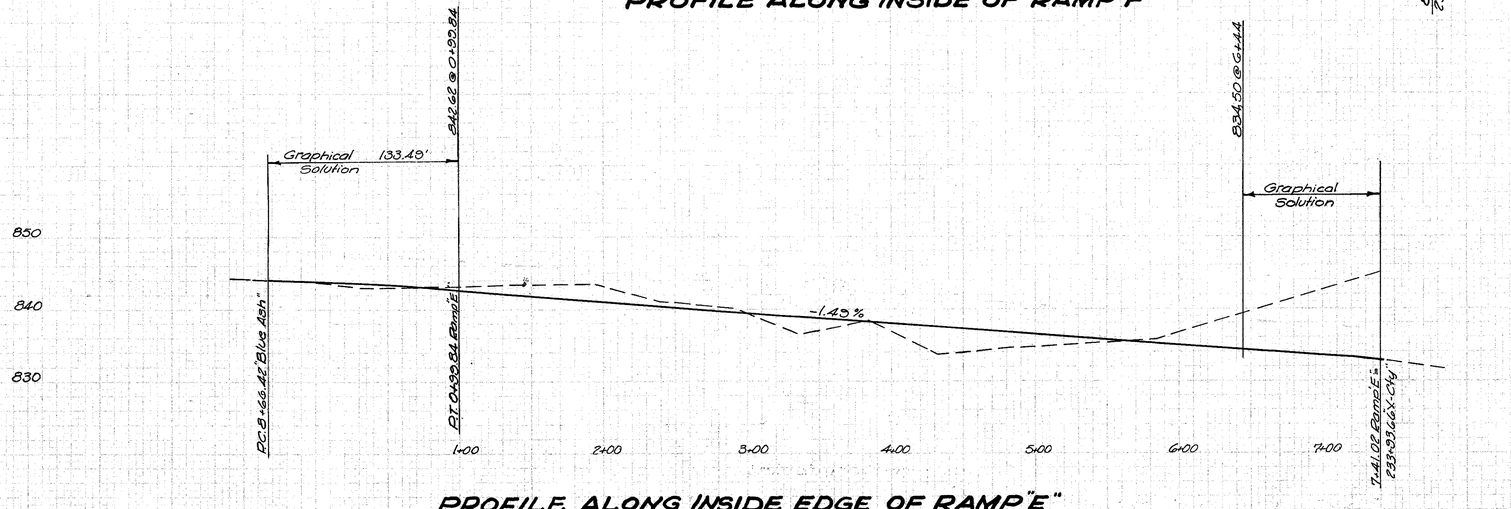
HAMILTON COUNTY CR 453-B



℄ PROFILE OF BLUE ASH RD.



PROFILE ALONG INSIDE OF RAMP "F"



PROFILE ALONG INSIDE EDGE OF RAMP "E"

PROFILE ALONG INSIDE EDGE OF RAMP "E"

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: 1" = 50' Hor. 1" = 10' Vert.

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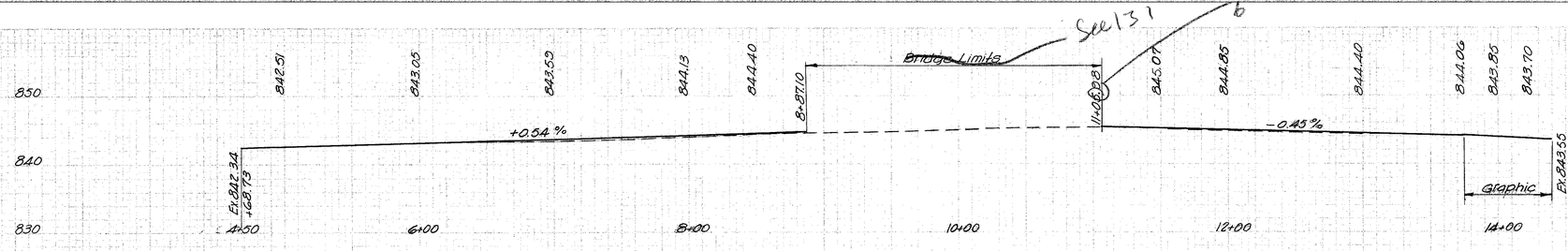
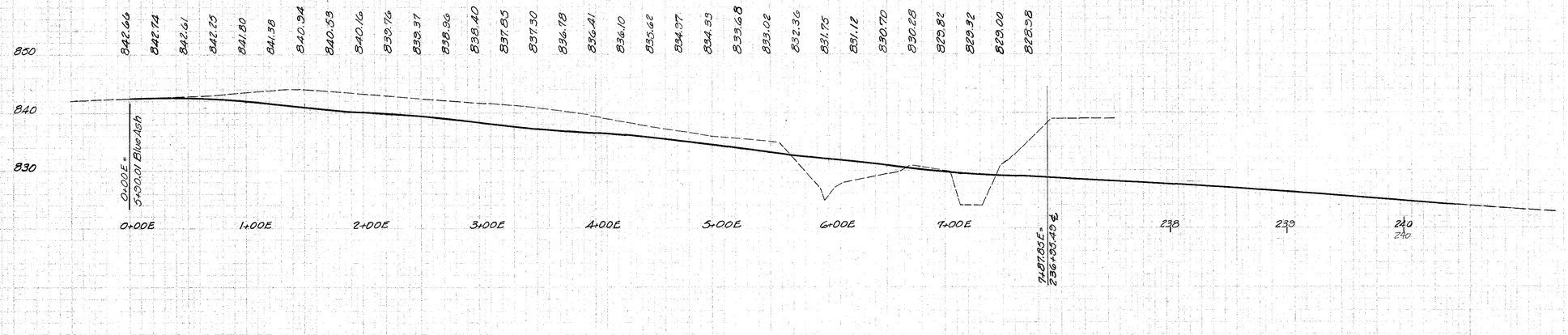
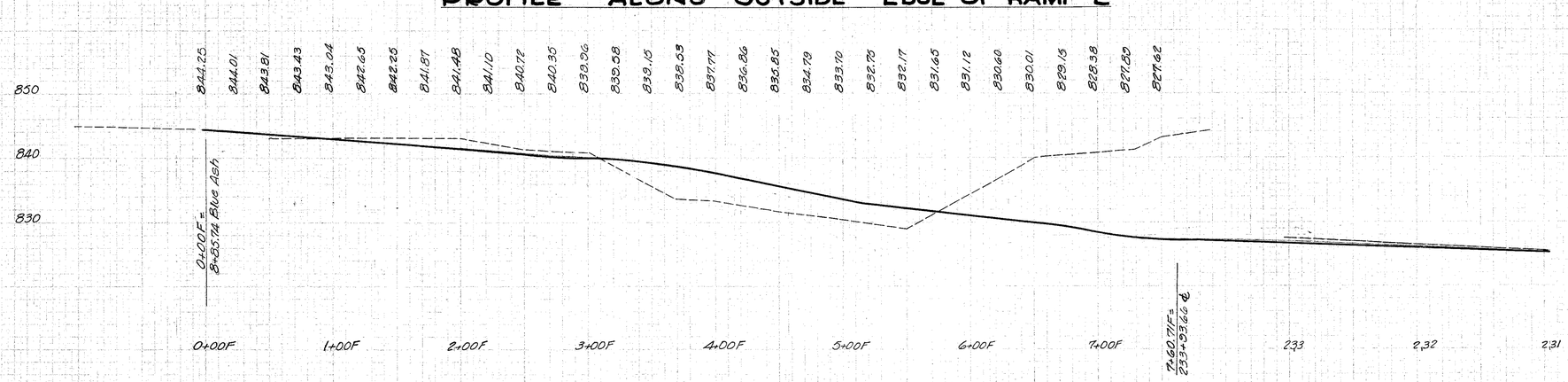
BLUE ASH RAMP PROFILES



℄ PROFILE OF BLUE ASH ROAD



PROFILE ALONG OUTSIDE EDGE OF RAMP "E"



PROFILE ALONG INSIDE EDGE OF RAMP "F"

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE)
Scale: 1" = 50' Hor. 1" = 10' Vert.

GEORGE M. LEMMEL HAMILTON CO. ENGR.

FED. RD. DIVISION	STATE	PROJECT		133
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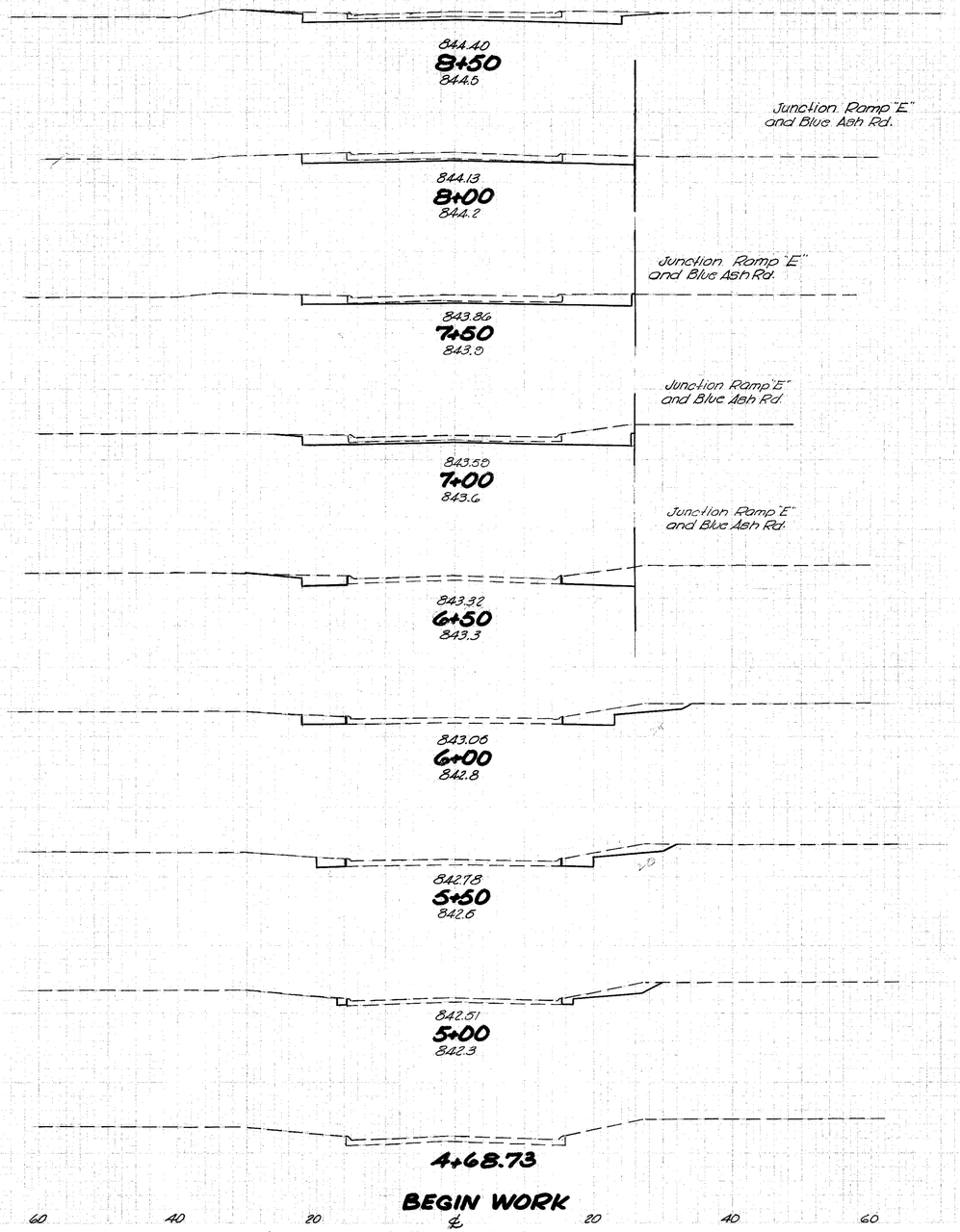
HAMILTON COUNTY CR 453-B



End Area		Cu Yds.	
Cut	Fill	Cut	Fill
75	0		
		136	0
72	0		
		122	0
60	0		
		117	0
66	0		
		89	0
30	0		
		56	0
31	0		
		52	0
25	0		
		37	0
16	0		
		9	0
0	0		

STA 4+68.73 to STA 8+50 BLUE ASH ROAD

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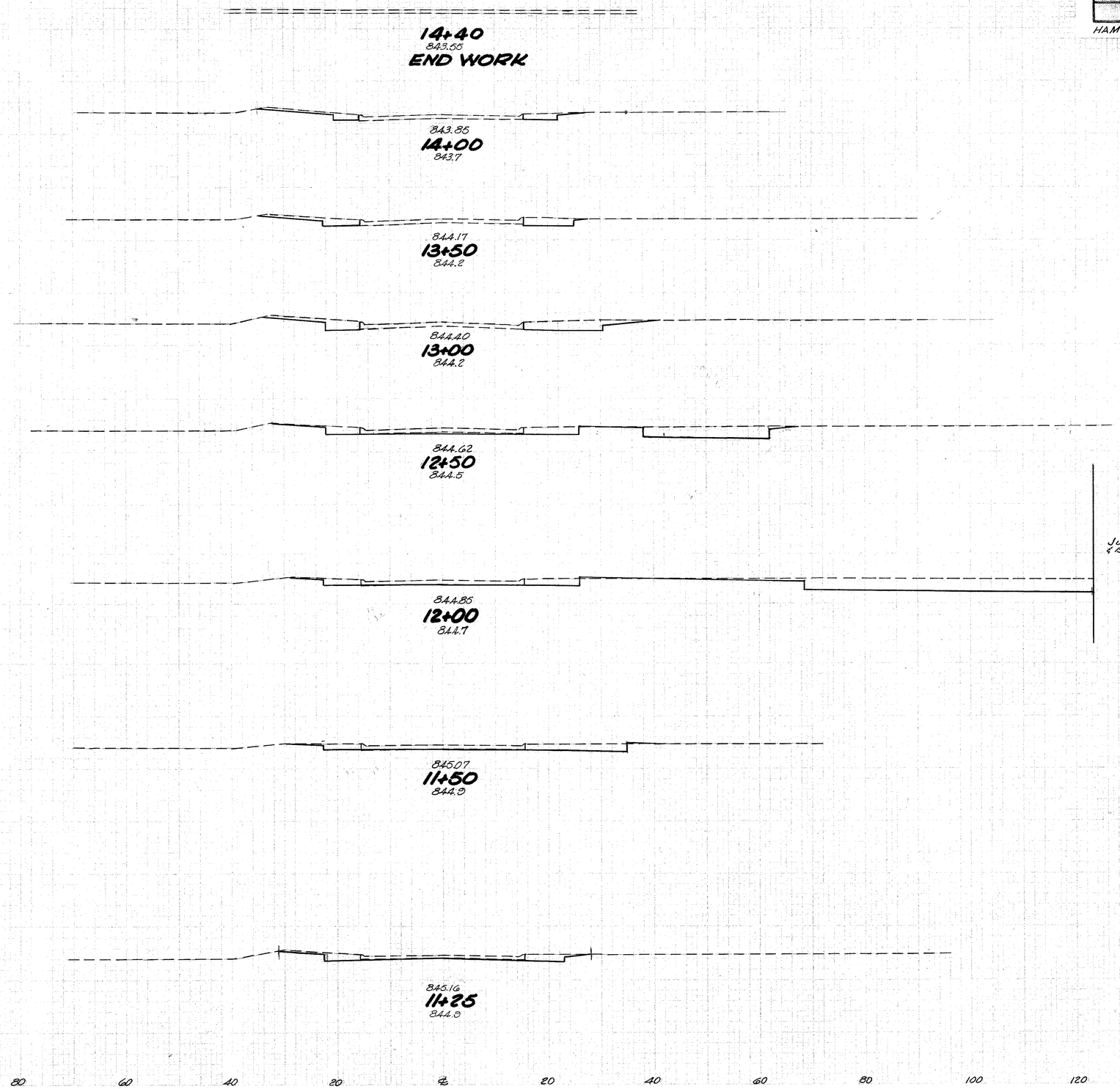
HAMILTON COUNTY CR 453-B



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		13	0
18	0		
		69	0
55	0		
		130	0
86	0		
		189	0
117	0		
		276	0
180	0		
		222	0
60	0		
		100	0
48	0		

Sta. 4+68.73 to 8+50
Sta. 11+25 to 14+45
Excavation 1607 C.Y.
Embankment 0 C.Y.

STA. 11+25 to STA. 14+40 BLUE ASH RD.

FED.-RD DIVISION	STATE	PROJECT	
	OHIO		

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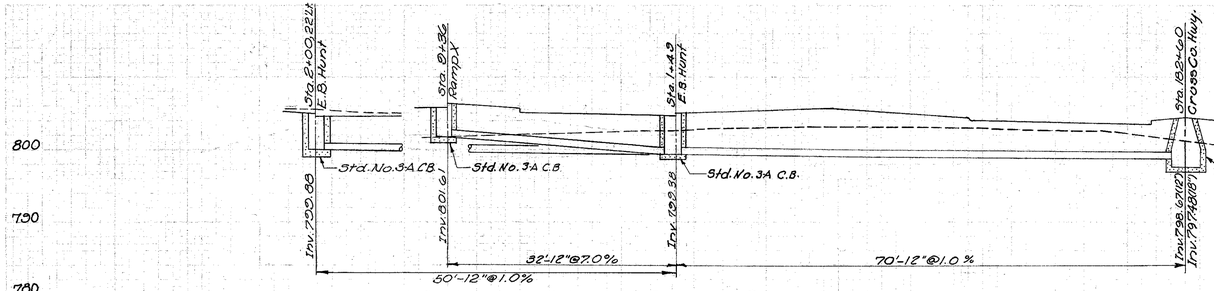
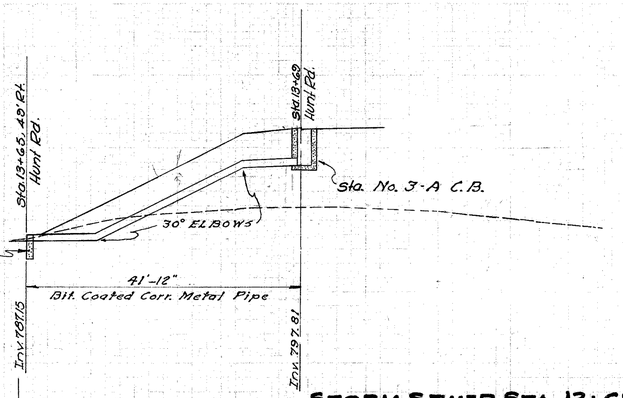
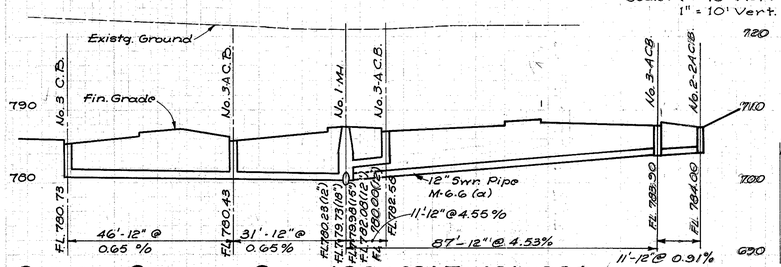
HAMILTON COUNTY C.R. 453-B



STORM SEWER STA. 182+60

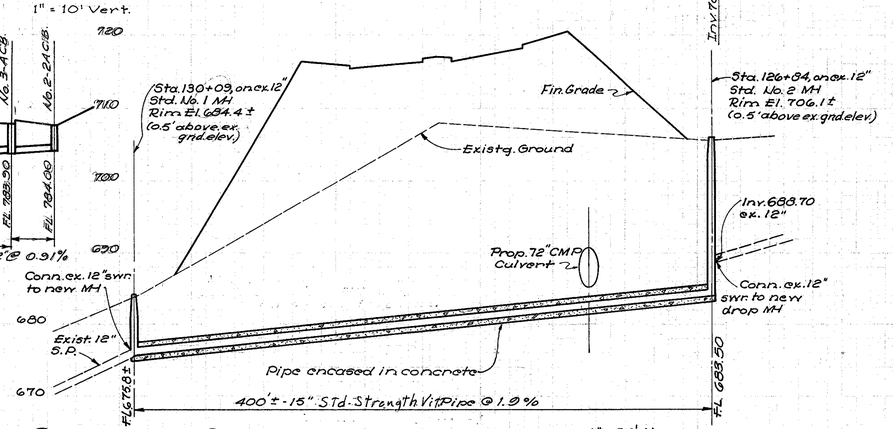


STORM SEWER STA. 13+69 HUNT RD.

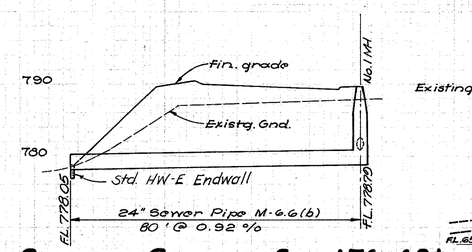


STORM SEWER STA. 100+00± TO 101+00±

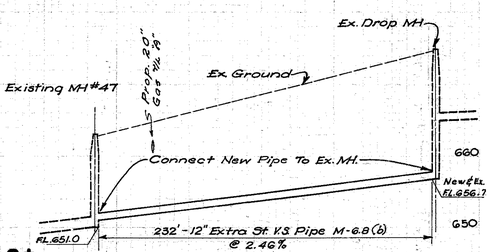
Scale: 1" = 10' Hor.
1" = 10' Vert.



SANITARY SEWER STA. 128+46 - Scale: 1" = 50' Hor. 1" = 10' Vert.

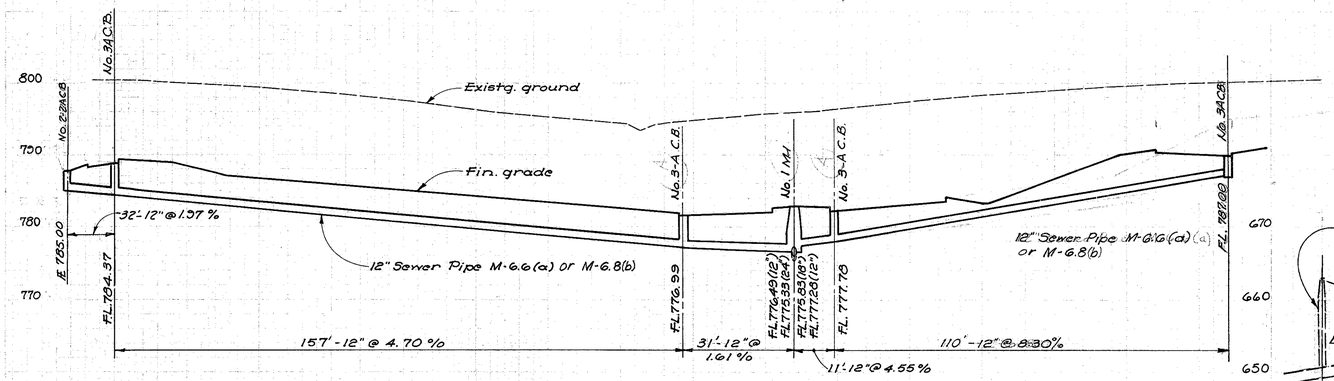


STORM SEWER STA. 176+60±

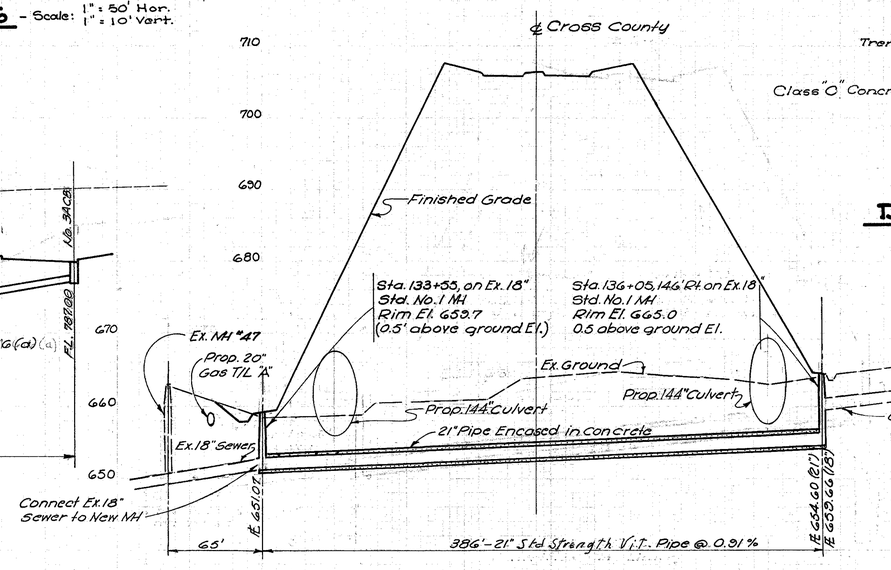


SANITARY SEWER STA. 133+50 TO STA. 135+00 LEFT

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

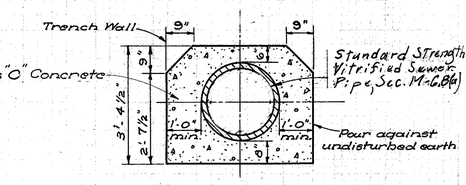


STORM SEWER STA. 97+70 TO 99+00 ±



SANITARY SEWER STA. 134+71

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



DETAIL OF PIPE ENCASEMENT

Scale ½" = 1'-0"

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: Hor. 1":20' Vert: 1":10'
(except as noted)

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

SEWER PROFILES

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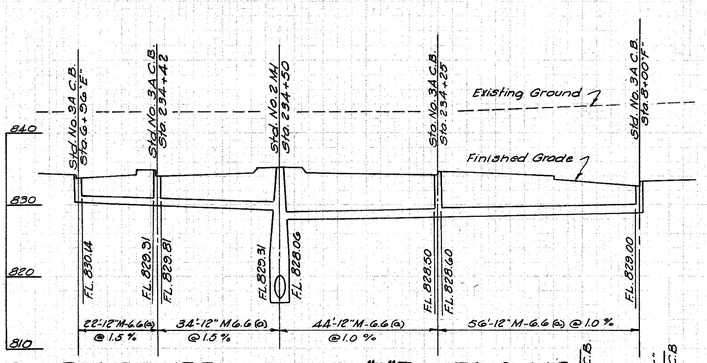
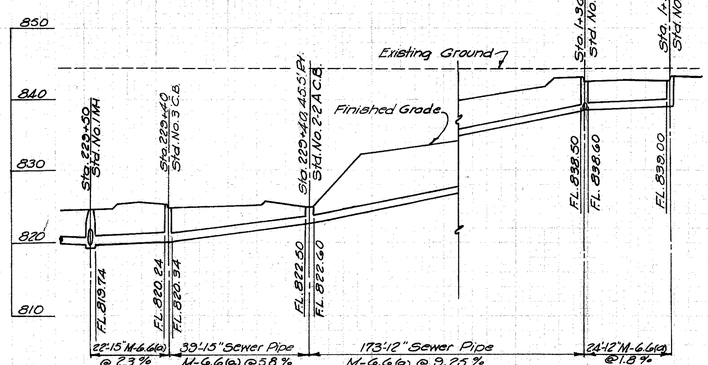
	OHIO			

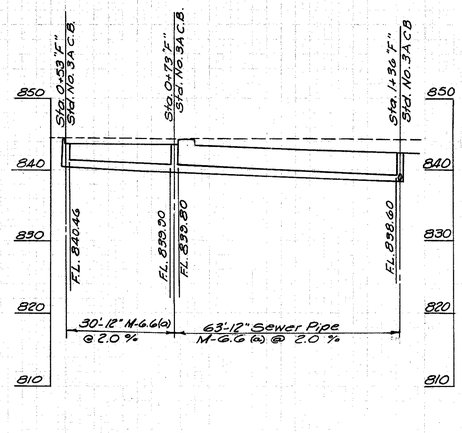
HAMILTON COUNTY C.R. 453-B



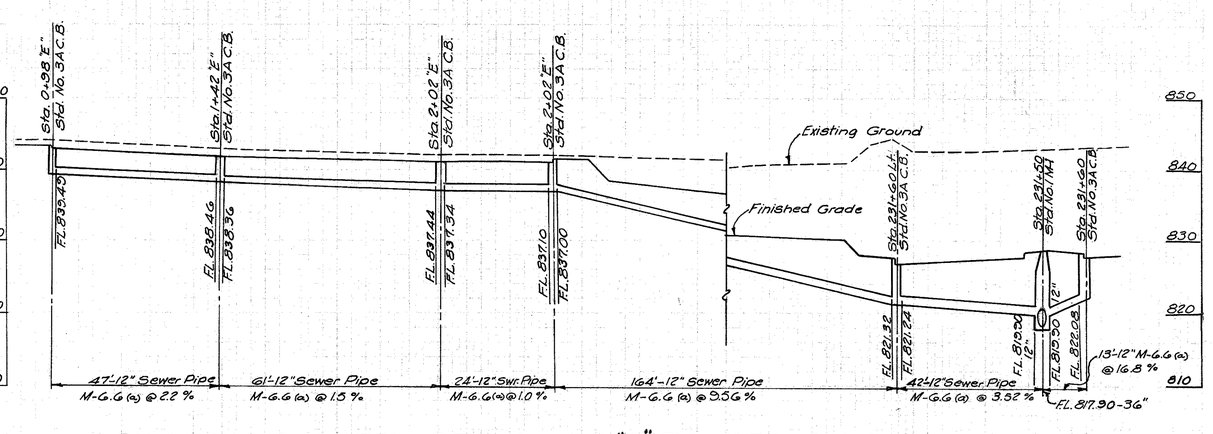
STORM SEWER STA. G+96 "E" TO STA. 8+00 "F"



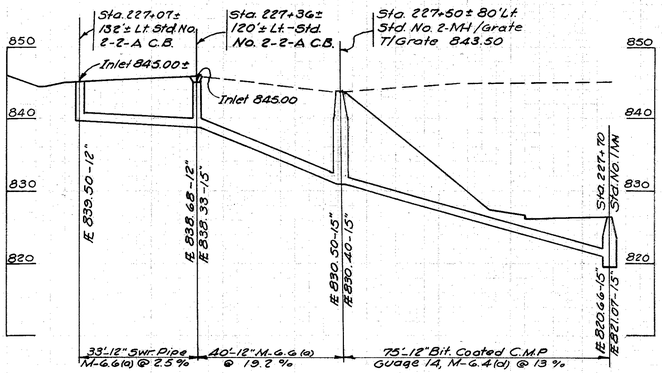
STORM SEWER STA. 1+36 "F" TO STA. 229+50



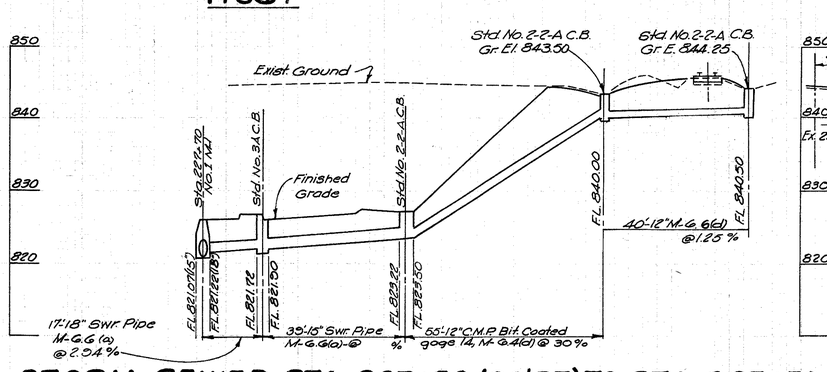
STORM SEWER STA. 0+53 F TO STA. 1+36 "F"



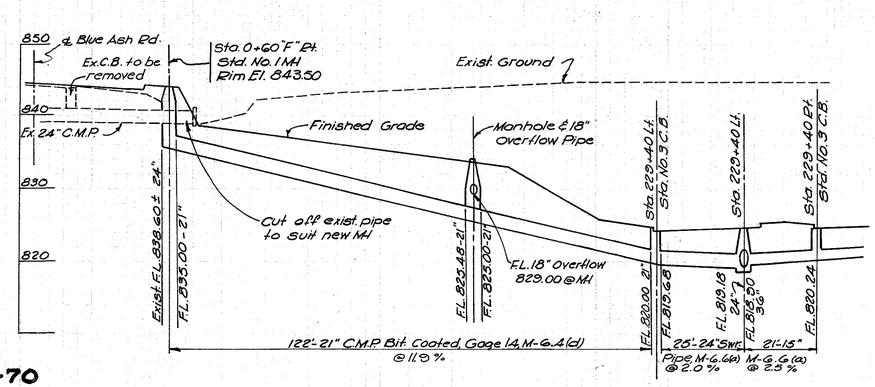
STORM SEWER STA. 0+98 "E" TO STA. 231+50



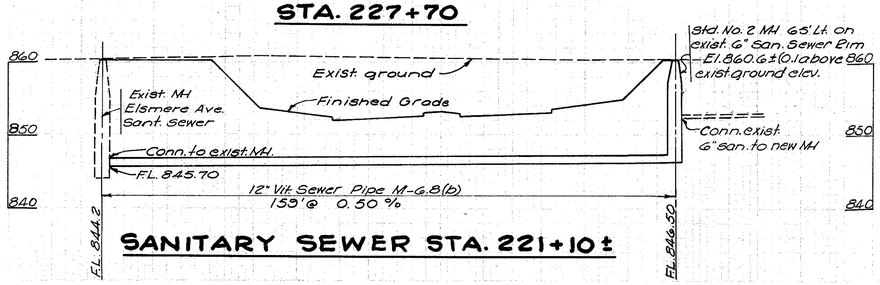
STORM SEWER STA. 227+00 (132 'LT.) TO STA. 227+70



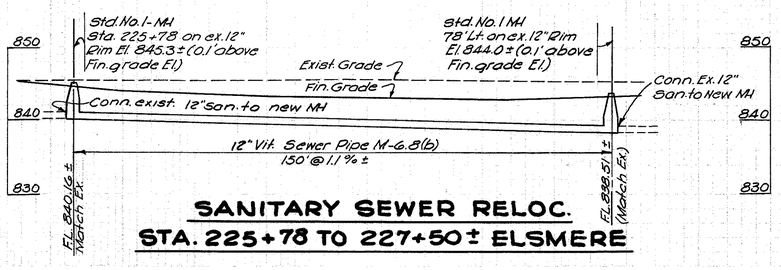
STORM SEWER STA. 227+50 (90' RT.) TO STA. 227+70



STORM SEWER STA. 0+31 "E" TO STA. 229+50



SANITARY SEWER STA. 221+10 ±



SANITARY SEWER RELOC. STA. 225+78 TO 227+50 ± ELSMERE

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

Scale: Hor: 1"=20' Vert: 1"=10' (except as noted)

GEORGE M. LEMMEL HAMILTON CO. ENGR.

SEWER PROFILES

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	OHIO		

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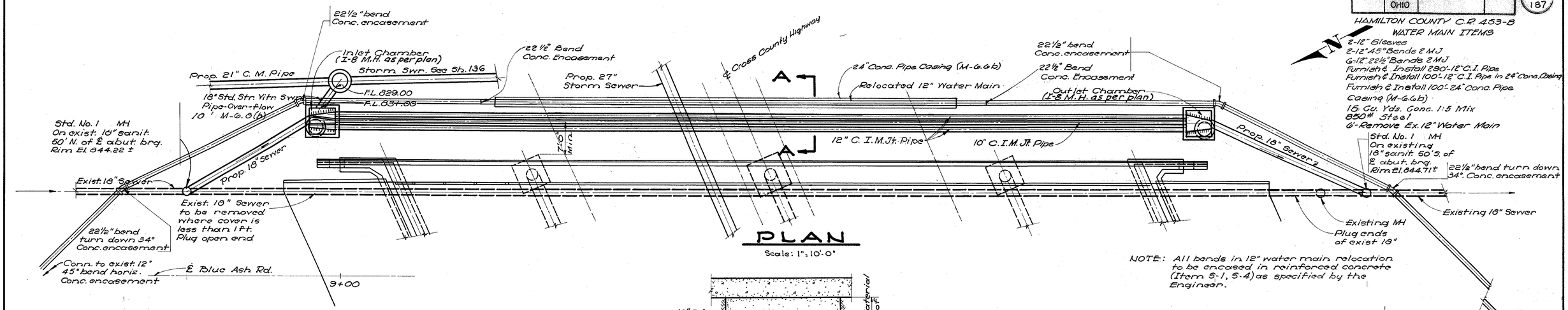
HAMILTON COUNTY C.R. 453-B

WATER MAIN ITEMS

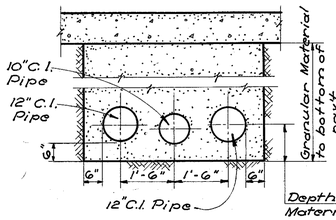
2-12" Sleeves
2-12" 45° Bends 2 MJ
6-12" 22½° Bends 2 MJ
Furnish & Install 290'-12" C.I. Pipe
Furnish & Install 100'-12" C.I. Pipe in 24" Conc. Casing
Furnish & Install 100'-24" Conc. Pipe Casing (M-6.6b)
15 Cu. Yds. Conc. 1:5 Mix
850# Steel
6'-Remove Ex. 12" Water Main



PLAN

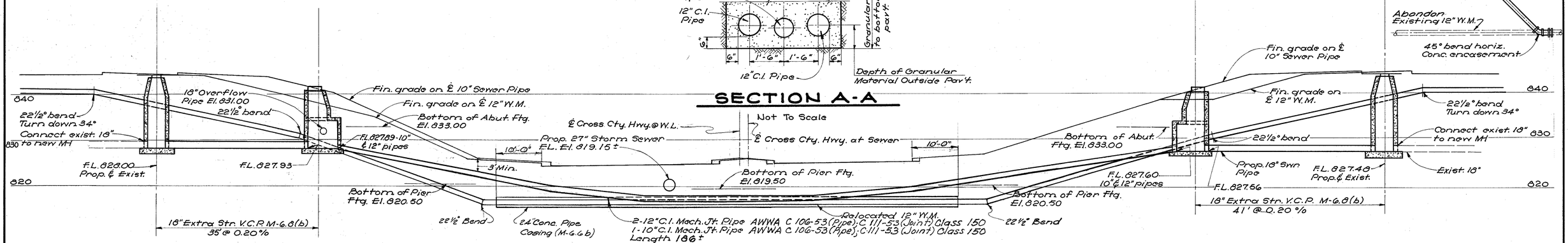
Scale: 1" = 10'-0"

NOTE: All bends in 12" water main relocation to be encased in reinforced concrete (Item 5:1, 5.4) as specified by the Engineer.



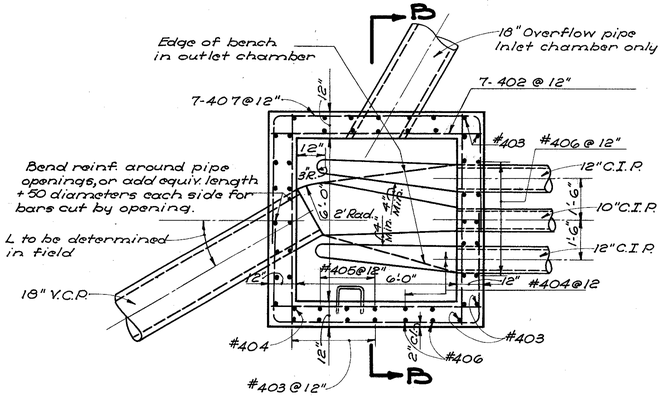
SECTION A-A

Not To Scale



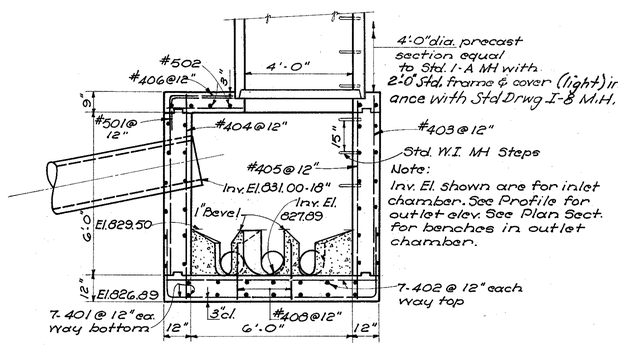
ELEVATION

Scale: 1" = 10'-0"



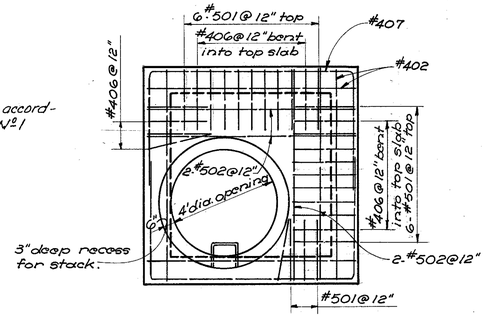
PLAN SECTION

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



SECTION B-B

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



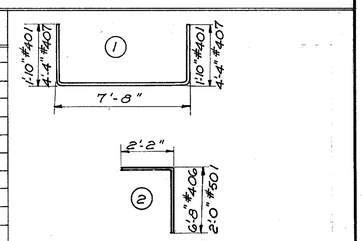
PLAN OF TOP

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

REINFORCING BAR LIST FOR ONE CHAMBER

MARK	NO.	LENGTH	TYPE
401	14	11-4	1
402	42	7-8	Str.
403	14	6-8	↕
404	18	7-5	↕
405	6	7-2	Str.
406	14	8-10	2
407	14	16-4	1
408*	12	2-2	Str.
501	16	4-2	2
502	4	7-8	Str.

* Inlet chamber only.



Note: Reinf. Steel To Be Included In The Unit Price Bid For I-8 Manhole, as per plan

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)
TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)
Scale: AS SHOWN

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

INVERTED SIPHON

FED. RD DIVISION	STATE	PROJECT		138
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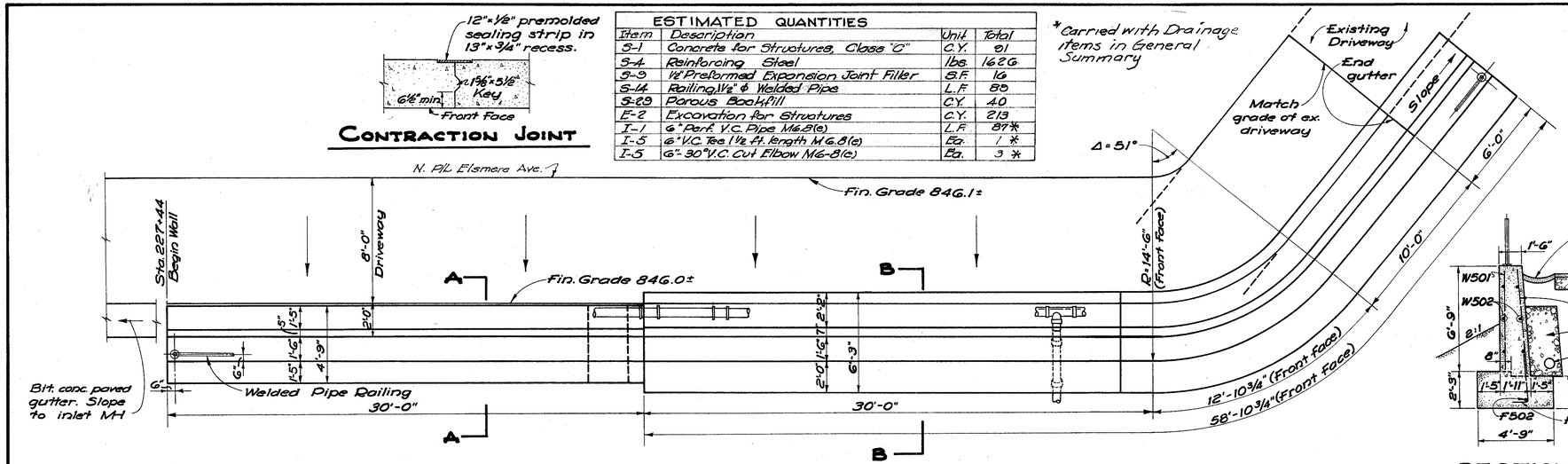
HAMILTON COUNTY C.P. 463-B

ESTIMATED QUANTITIES

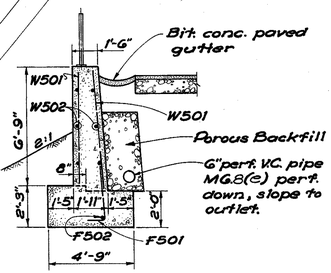
Item	Description	Unit	Total
S-1	Concrete for Structures, Class "C"	C.Y.	91
S-4	Reinforcing Steel	lbs.	1626
S-9	½" Preformed Expansion Joint Filler	S.F.	16
S-14	Railing, 1½" ϕ Welded Pipe	L.F.	80
S-29	Porous Backfill	C.Y.	40
E-2	Excavation for Structures	C.Y.	213
I-1	6" Perf. V.C. Pipe M6.8(e)	L.F.	87*
I-5	6" V.C. Tee 1½ ft. length M6.8(c)	Ea.	1*
I-5	6"-30° V.C. Cut Elbow M6-8(c)	Ea.	3*

*Carried with Drainage items in General Summary

CONTRACTION JOINT



PLAN

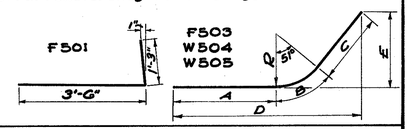


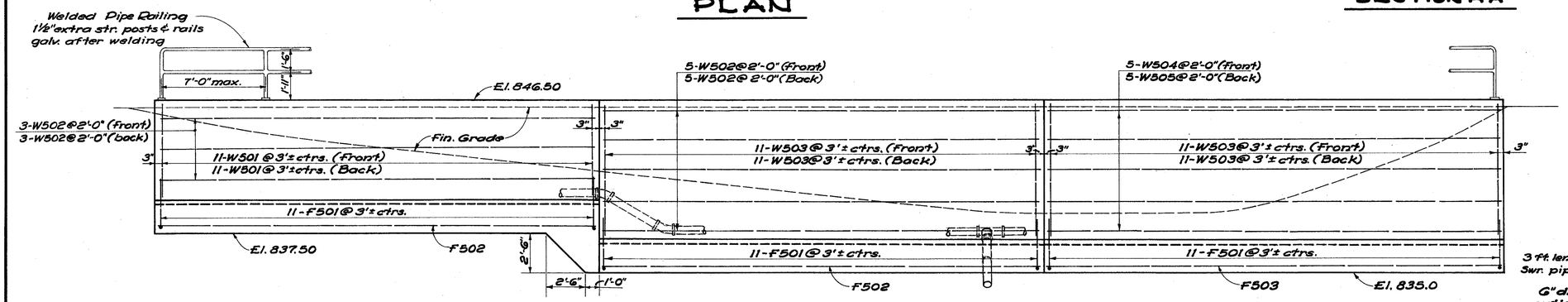
SECTION A-A

REINFORCING BAR LIST

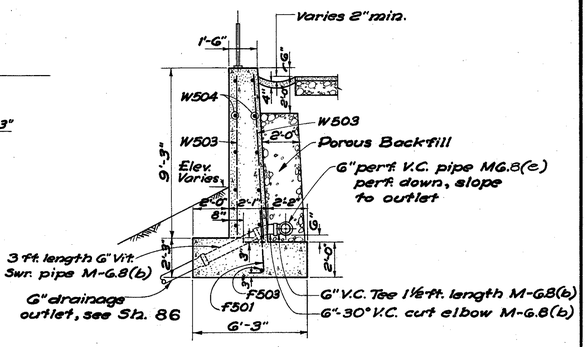
Mark	No. Req'd	Length	Type	A	B	C	D	E	R	Wt.
F501	33	4'-8	Bt.							161
F502	2	29'-6"	Str.							62
F503	1	28'-8"	Bt.	1'-9"	11'-2"	15'-9"	11'-6"	4'-8"	12'-7"	30
W501	22	6'-7"	Str.							151
W502	16	29'-8"	Str.							496
W503	44	9'-1	Str.							417
W504	5	30'-5"	Bt.	1'-10"	12'-9"	15'-10"	16'-2"	5'-4"	14'-4"	150
W505	5	29'-0"	Bt.	1'-9"	11'-7"	15'-8"	11'-10"	4'-10"	13'-0"	151
							Total Weight			1626

Note: All reinforcing bars #5 size.



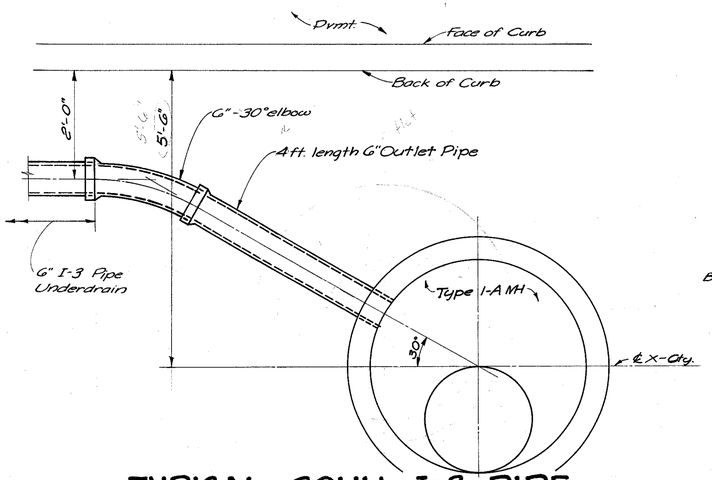


ELEVATION



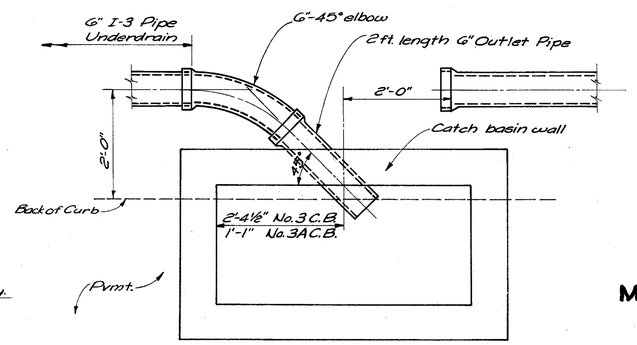
SECTION B-B

RETAINING WALL — STA. 227 + 44



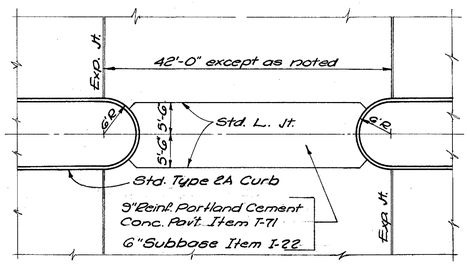
TYPICAL CONN. I-3 PIPE UNDERDRAIN TO MANHOLE

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



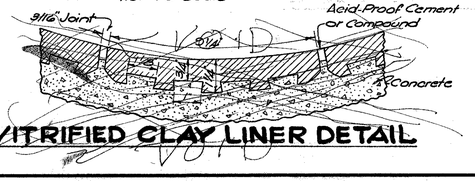
TYPICAL CONN. I-3 PIPE UNDERDRAIN TO CATCH BASIN

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



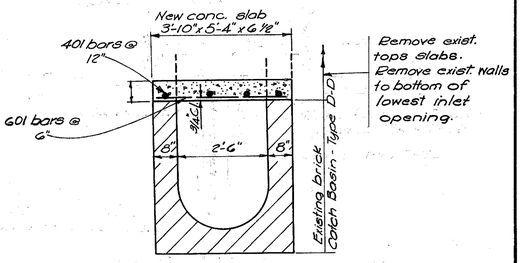
MEDIAN CROSSOVER DETAIL

Not to Scale



VITRIFIED CLAY LINER DETAIL

To be paid for as I-8 Remodel Ex. Catch Basin



CATCH BASIN MODIFICATION STA. 95+10

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

PROPOSED IMPROVEMENT

CROSS COUNTY HIGHWAY

FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD) TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)

Scale: As Shown

GEORGE M. LEMMEL — HAMILTON CO. ENGR.

MISCELLANEOUS DETAILS

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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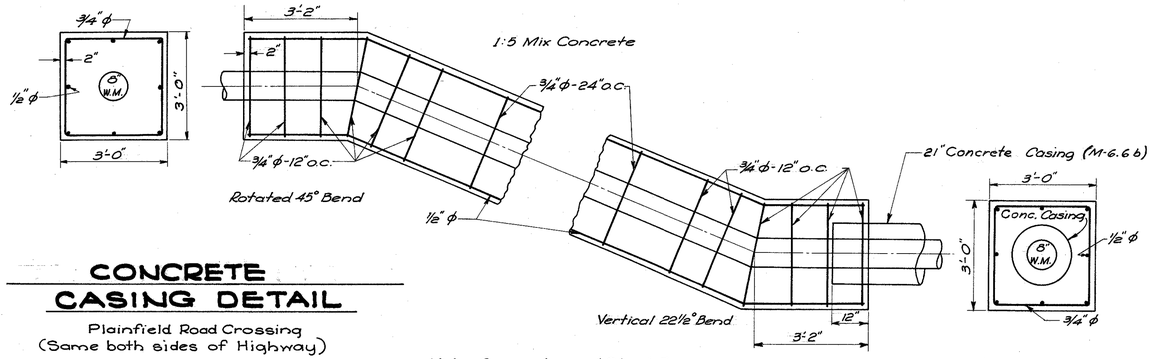
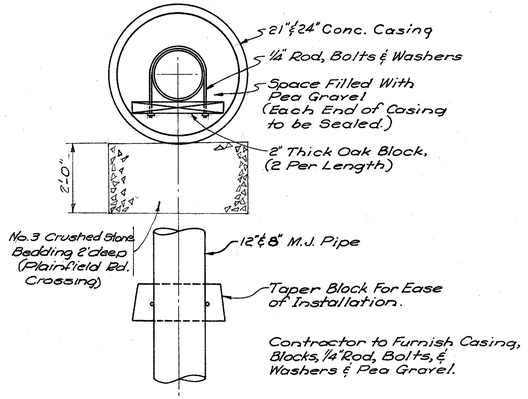


CONCRETE CASING DETAIL

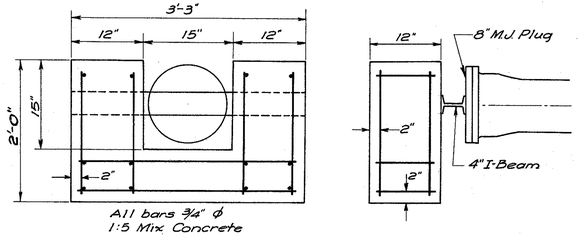
Plainfield Road Crossing
(Same both sides of Highway)

Note: Concrete and Steel For Backing All Other Bends & Tees Shall Be Determined By The Water Works Inspector At The Time of Construction.

Concrete Must Be Poured Against Solid Earth.

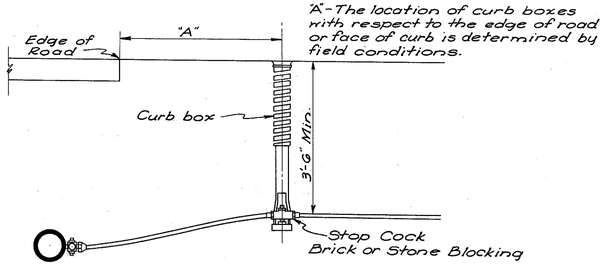


PIPE CASING DETAIL

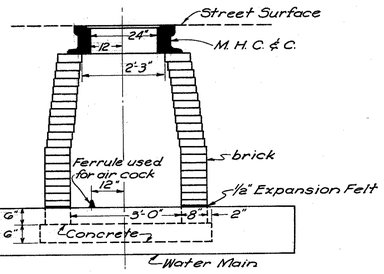


THRUST BLOCK FOR CROSS

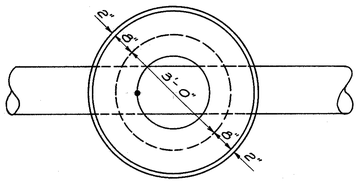
Plainfield Rd. & Hunt Rd.
(2 Required)



TYPICAL SERVICE BRANCH INSTALLATION

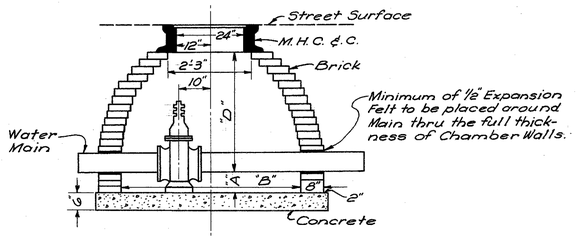


SECTION

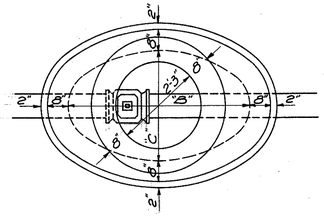


PLAN

STANDARD CHAMBER FOR AIR COCKS



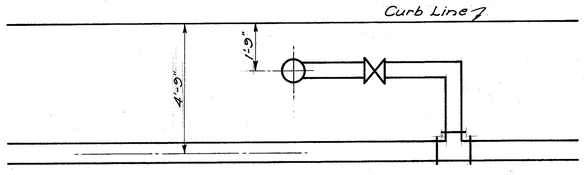
SECTION



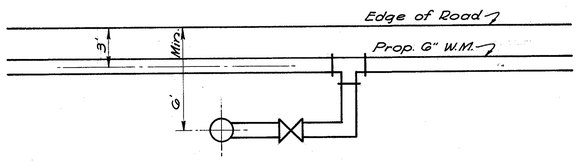
PLAN-COVER REMOVED

SIZE OF VALVE	A	B	C	D	CONC. Cu. Yds.	BRICK Cu. Yds.
4"-6"-8"	6"	5'-0"	3'-0"	2'-11"	0.5	1.3
10"-12"	6"	5'-0"	4'-0"	2'-11"	0.6	1.6

STANDARD CHAMBER FOR VERTICAL VALVES



TYPICAL FIRE HYDRANT & WATER MAIN INSTALLATION-ROADS WITH CURBS



TYPICAL FIRE HYDRANT & WATER MAIN INSTALLATION-ROADS WITHOUT CURBS

FED. RD DIVISION	STATE	PROJECT	
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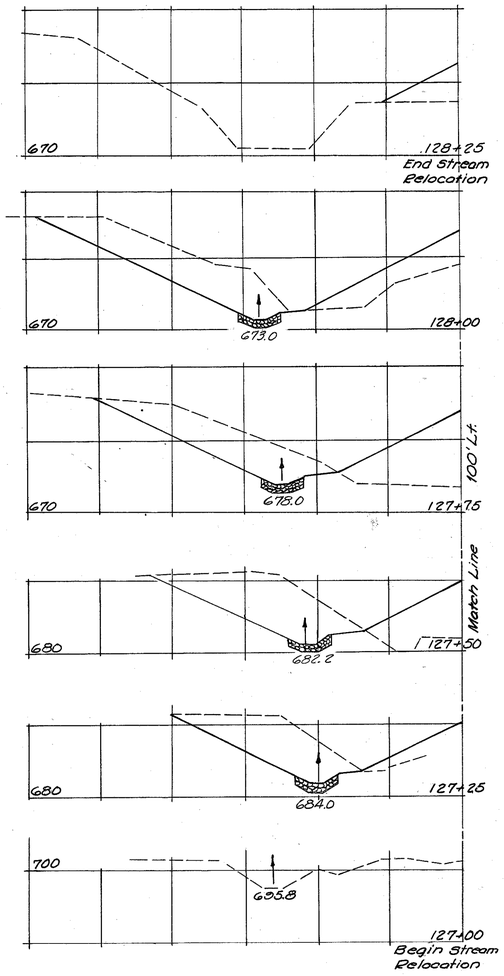
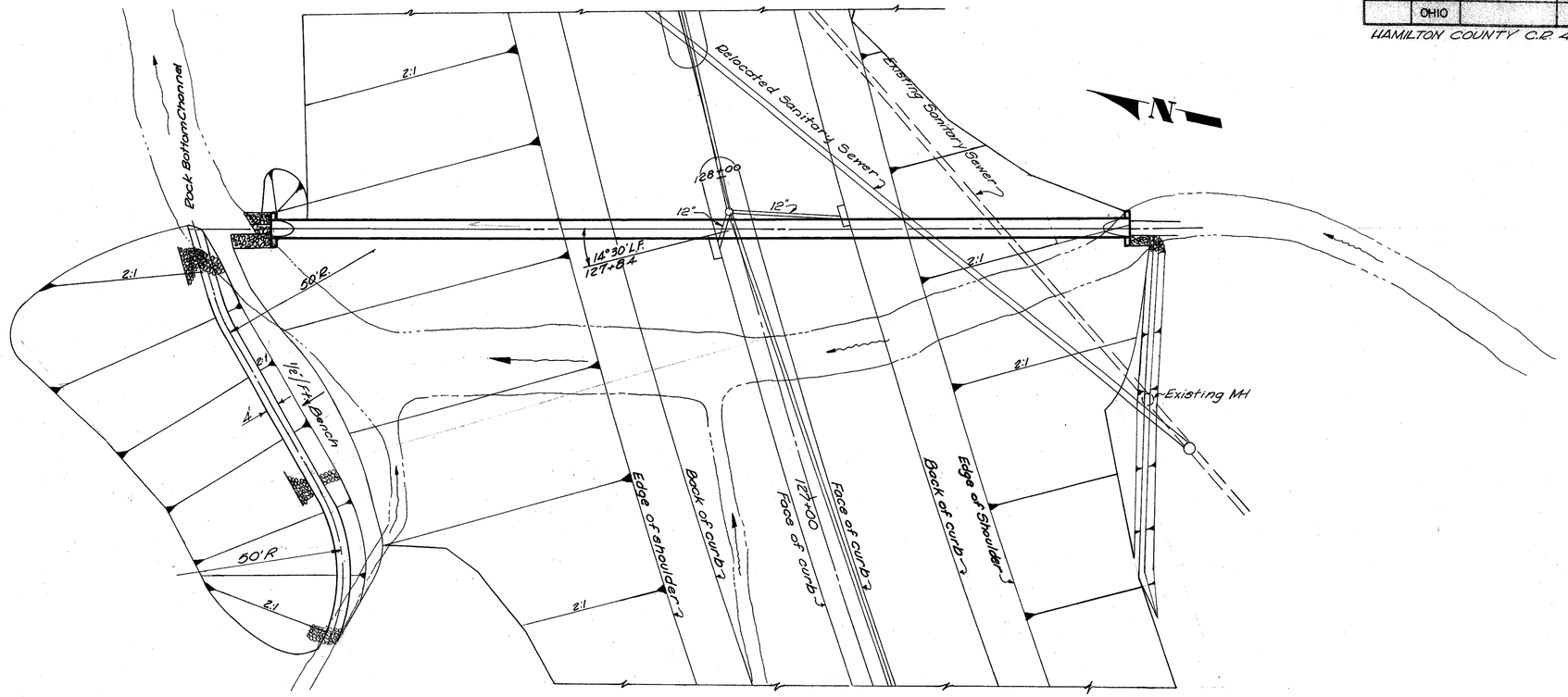
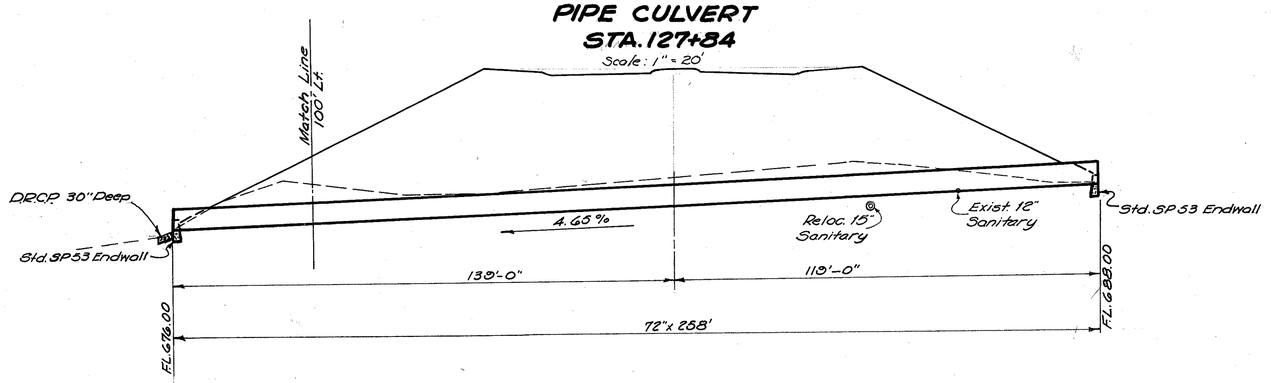


CHANNEL SECTIONS
Scale: 1"=20'



PIPE CULVERT
STA. 127+84
Scale: 1" = 20'



D.A.	370 Ac.
Q25	315 cfs

CULVERT DATA

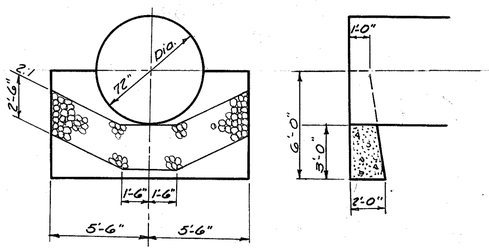
TYPE: Class A-1 Pipe for Roadway Culverts, M-6.4(g), Gage 10-8

SIZE: 72"x 258'

WORK REQD: Construct Pipe Culvert with Std. SP 53 Endwalls. Excavate and place Dumped Rock in Outlet Channel. Excavate and place Dumped Rock in Channel Relocation.

ESTIMATED QUANTITIES

E-3	Channel Excavation	1940	C.Y.
I-2	Concrete for Masonry, Class "C"	6.0	C.Y.
I-1	72" Pipe, Class A-1, Gage 10-8	258	L.F.
I-10	Dumped Rock Channel Protection	154	C.Y.



STD. - SP 53
ENDWALL DETAILS
Scale: 1/2"=1'-0"

PIPE CULVERT STA 127+84

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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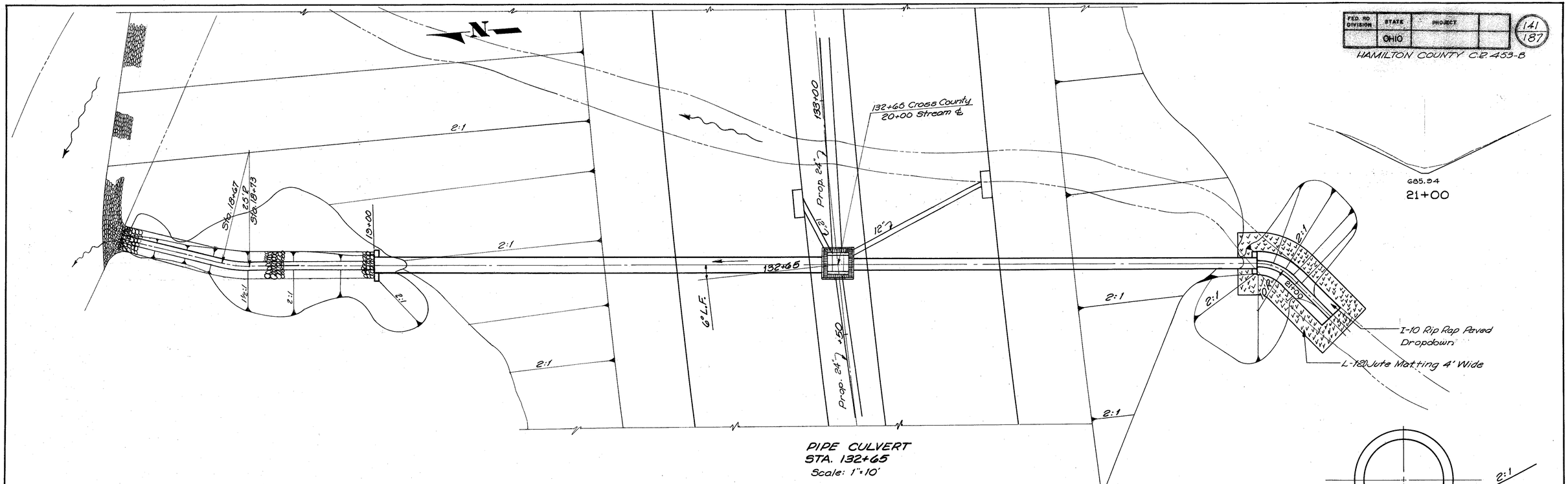
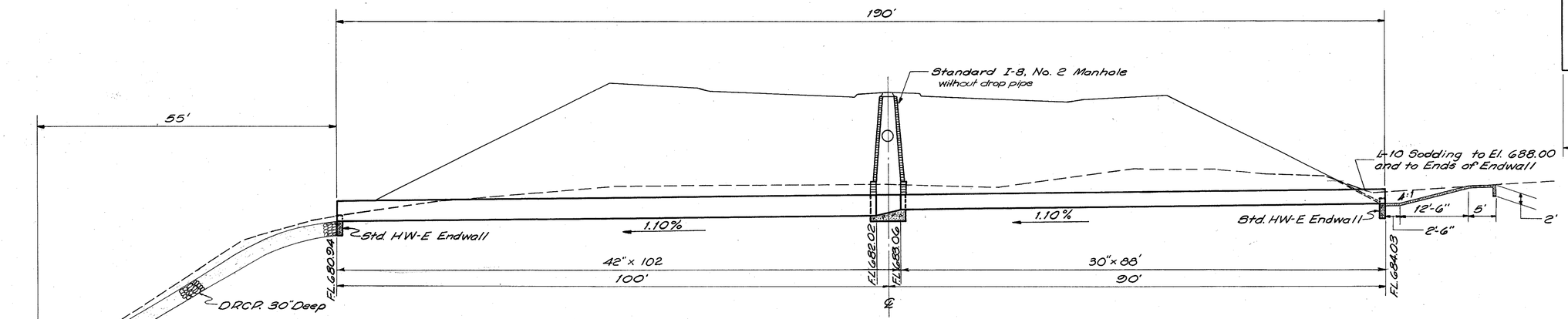
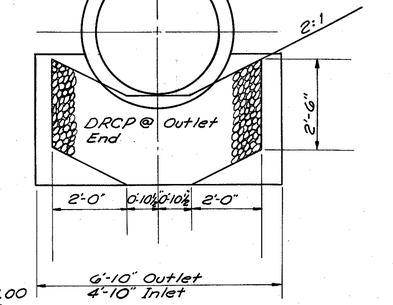


PIPE CULVERT
STA. 132+65
Scale: 1"=10'





STD. HW-E ENDWALL
Scale: ½"=1'

D.A.	10 Ac.
Q_{25}	28 c.f.s.

ESTIMATED QUANTITIES

E-3	Channel Excavation	23 C.Y.
I-2	Concrete for Masonry, Class C	1.3 C.Y.
I-1	42" Pipe, Class A-1	102 L.F.
	30" Pipe, Class A-1	88 L.F.
I-10	Dumped Rock Channel Protection	32 C.Y.
I-10	Rip-Rap	13 S.Y.
L-10	Sodding	3 S.Y.
L-120	Jute Matting	29 S.Y.

CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts. Sec. M-6.6 (d)

SIZE: 30" x 88'
42" x 102'

WORK REQ'D: Construct Pipe Culvert with Std. HW-E Endwalls. Excavate and Place DRCP. in Outlet Channel. Excavate and Construct Paved Drop Down as shown.

PIPE CULVERT STA. 132+65

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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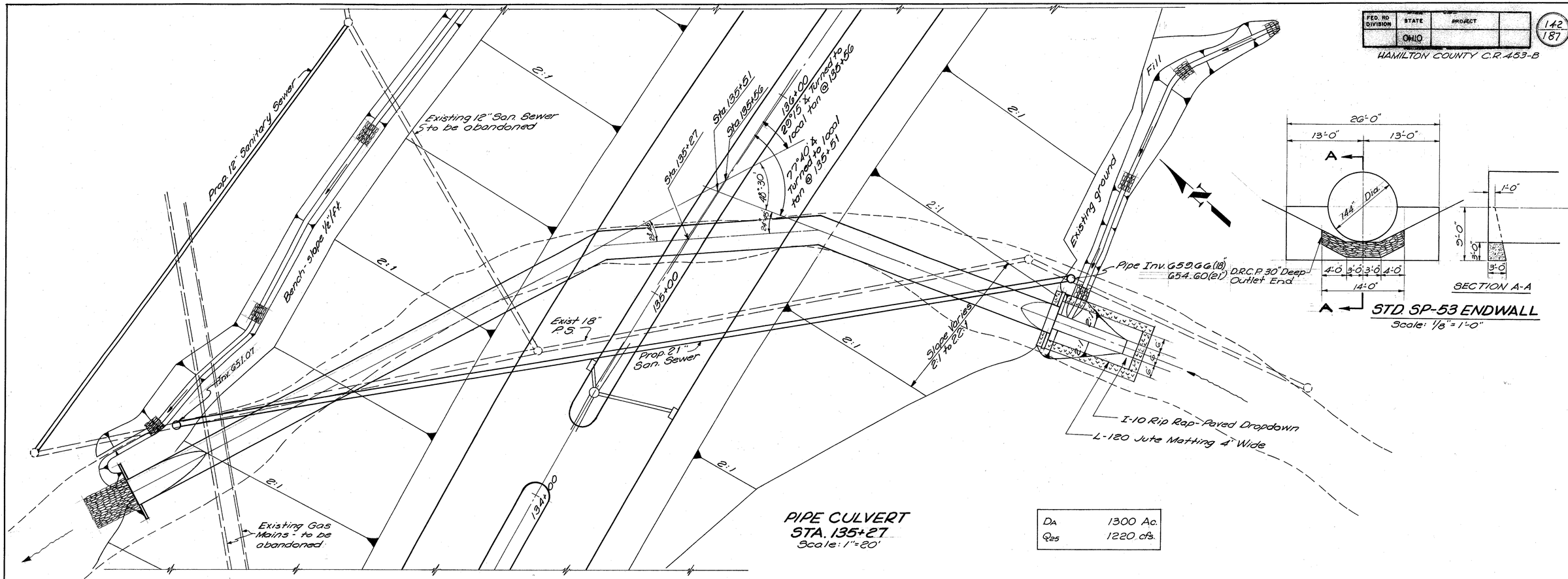


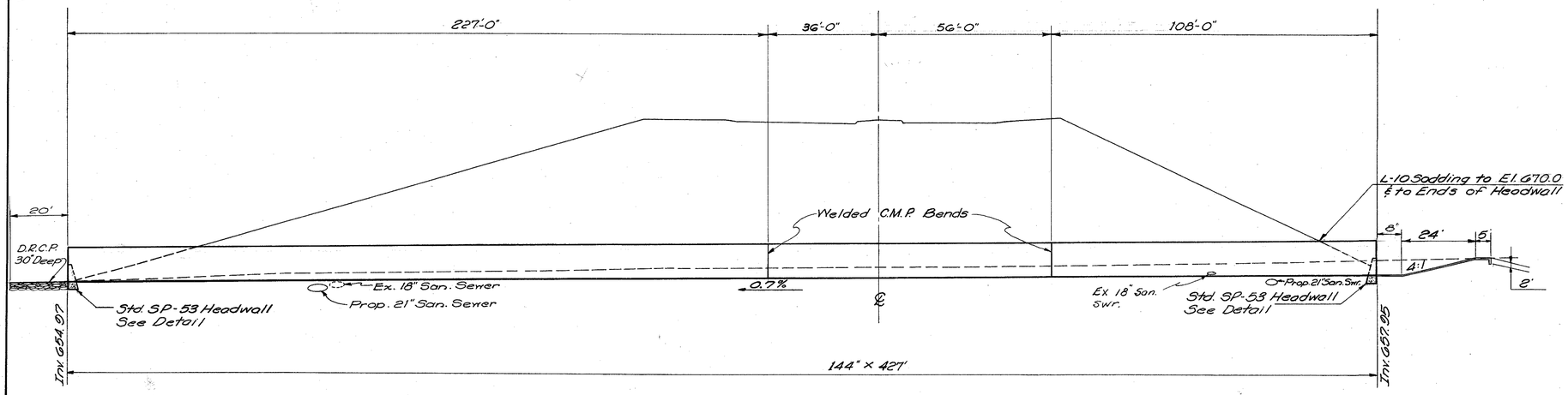
STD. SP-53 ENDWALL

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

PIPE CULVERT STA. 135+27

Scale: 1" = 20'

D_A	1300 Ac.
Q_{25}	1220 cfs.



ESTIMATED QUANTITIES

E-3	Channel Excavation	66 C.Y.
I-2	Concrete for Masonry, Class "C"	30.5 C.Y.
I-1	144" Pipe, Class A-1, Gage 1-1	427'-0" L.F.
I-10	Dumped Rock Channel Protection	26 C.Y.
I-10	Rip Rap	80 S.Y.
L-10	Sodding	33 S.Y.
L-180	Jute Matting	49 S.Y.
I-5	Prefabricated Sectional Plate Bends	2 Each

CULVERT DATA

TYPE: Class A-1 Pipe For Roadway Culverts M-6.4(g), Gage 1-1

SIZE: 144" × 427'

WORK REQ'D: Construct Pipe Culvert with Sectional Plate Bends and Std. SP-53 Endwalls. Excavate inlet channel and Construct Paved Dropdown as shown.

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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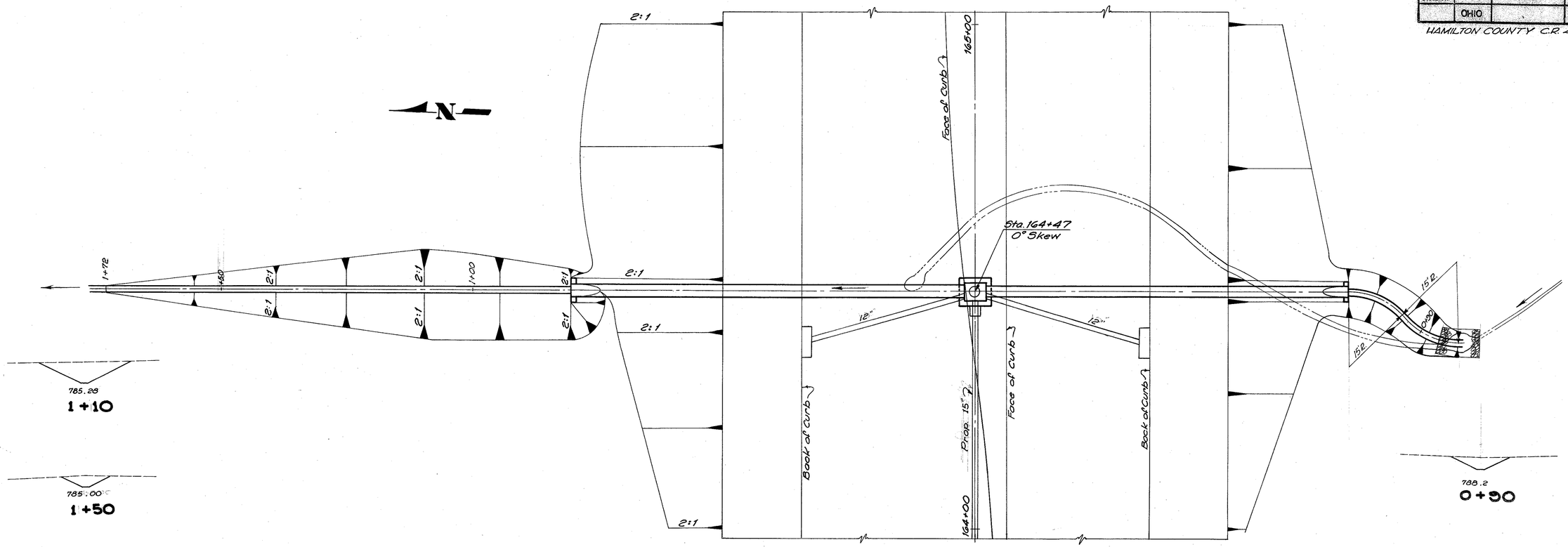
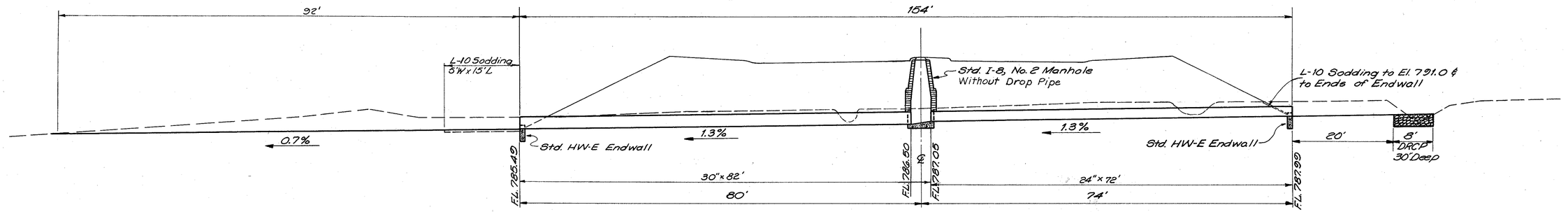


PIPE CULVERT
STA. 164+47
Scale: 1"=10'



D.A.	6 Ac.
Q_{25}	21 cfs.

ESTIMATED QUANTITIES

E-3	Channel Excavation	90 C.Y.
I-2	Concrete for Masonry, Class C	1.0 C.Y.
I-1	30" Pipe, Class A-1	82 L.F.
	24" Pipe, Class A-1	72 L.F.
I-10	Dump Rock Channel Protection	4 C.Y.
L-10	Sodding	10 S.Y.

CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts M-6.6(b) or M-6.8(b)

SIZE: 30"x 82'

24"x 72'

WORK REQ'D: Construct Pipe Culvert with Std. HW-E Endwalls. Excavate Outlet and Inlet Channels as shown.

FED. RD DIVISION	STATE	PROJECT	
-	OHIO		

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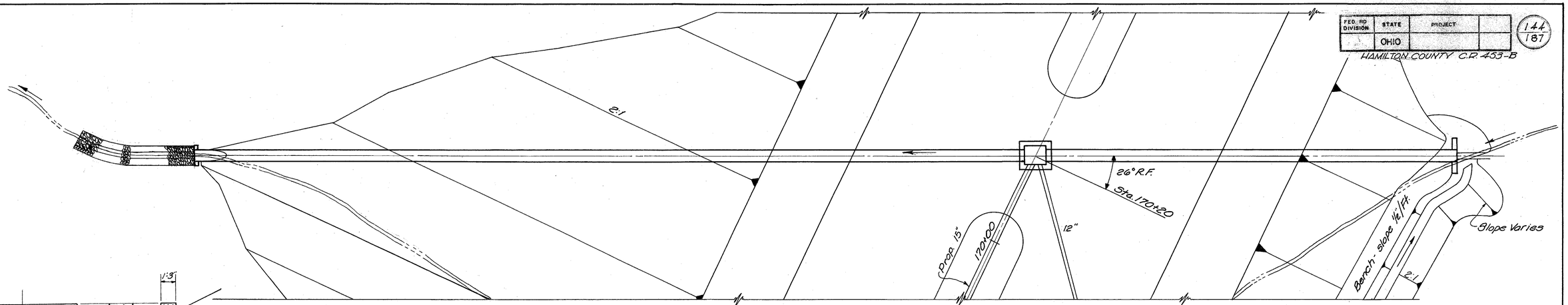
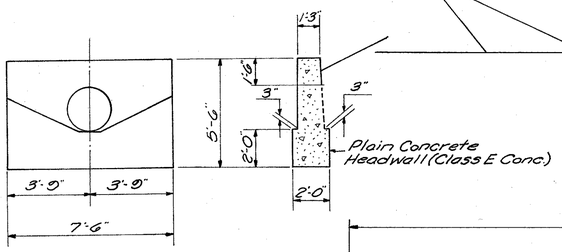
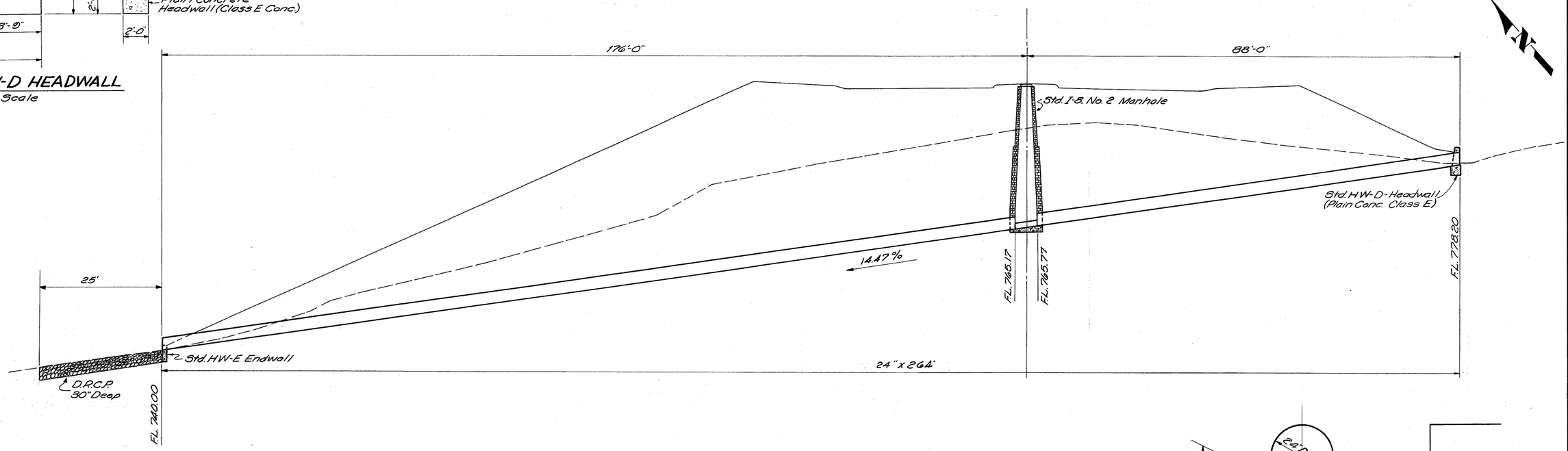


PIPE CULVERT
STA. 170+20
Scale: 1"=10'



STD. HW-D HEADWALL
No Scale



ESTIMATED QUANTITIES

E-3	Channel Excavation	4 C.Y.
I-2	Concrete for Masonry, Class "C"	2.71 C.Y.
I-1	24" Pipe Class A-1	264 L.F.
I-10	Dumped Rock Channel Protection	13 C.Y.

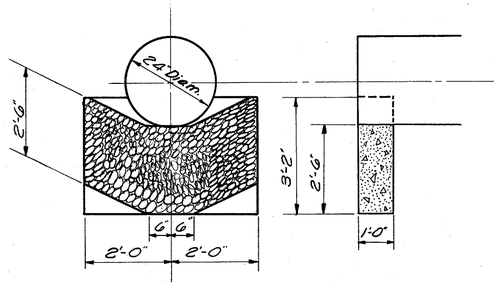
CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts, M-64 (d)

SIZE: 24" x 264'

WORK REQ'D: Construct Pipe Culvert with Std. HW-E & D Endwalls. Excavate and place Dumped Rock in Outlet Channel.

DA	1.9 Ac.
Q25	15.1 c.f.s.



STD. HW-E ENDWALL DETAILS
No Scale

PIPE CULVERT STA. 170+20

FED. HWY. DIVISION	STATE	PROJECT	
	OHIO		

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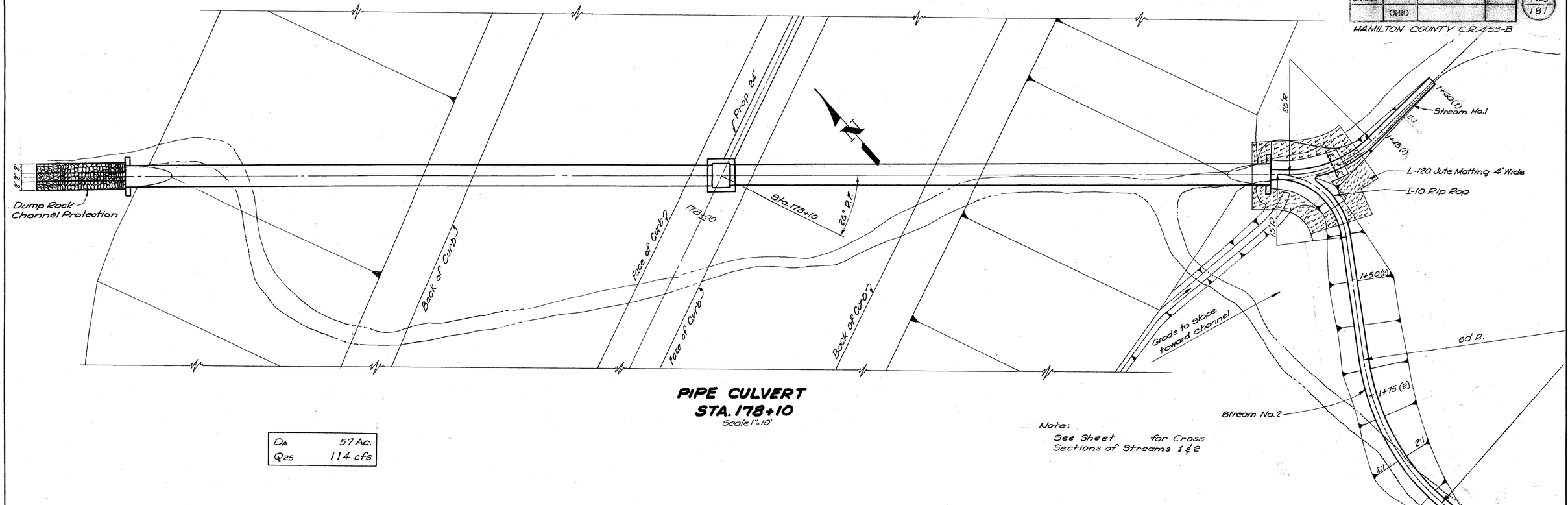
HAMILTON COUNTY C.R. 453-B

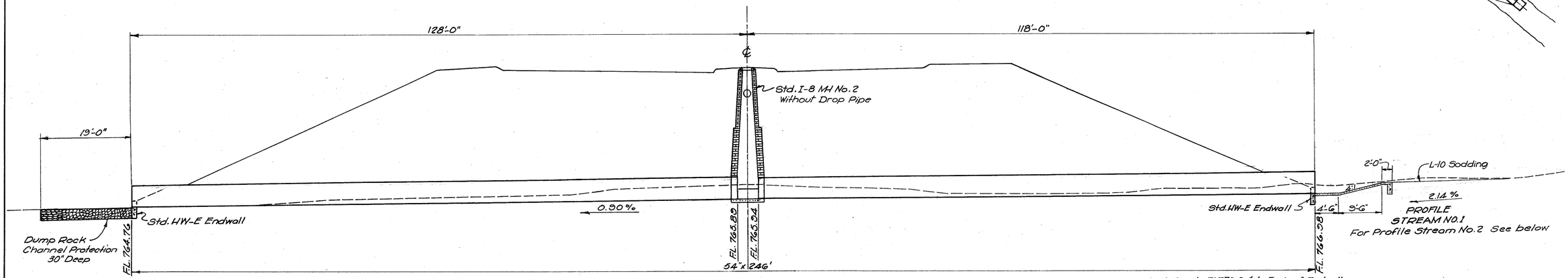


PIPE CULVERT STA. 178+10

Scale 1"=10'

D_A	57 Ac.
Q_{25}	114 cfs

Note:
See Sheet for Cross Sections of Streams 1 & 2



ESTIMATED QUANTITIES

E-3 Channel Excavation	54	C.Y.
I-2 Concrete for Masonry Class "C"	1.32	C.Y.
I-1 54" Pipe, Class A-1	246	L.F.
*I-8 Std. No. 2 Manhole	1	Ea.
I-10 Dumped Rock Channel Protection	11	C.Y.
I-10 Rip-Rap	19	S.Y.
L-120 Jute Matting, 4' wide	31	S.Y.
L-10 Sodding	77	S.Y.

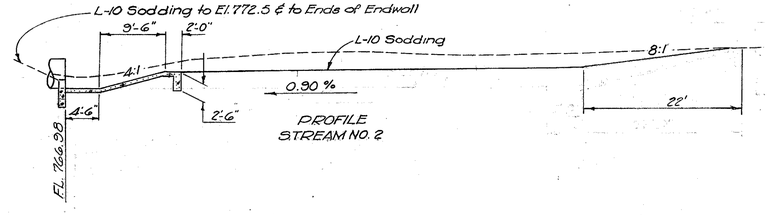
* Included in quantities on Plan & Profile sheet.

CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts M-6.6 (d)

SIZE: 54"x 246'

WORK REQ'D. Construct Pipe Culvert with Std. HW-E Endwalls, Excavate Inlet channels and Construct paved drop down as shown. Excavate and place D.P.C.P. in Outlet Channel.



PIPE CULVERT STA. 178+10

FED. RD DIVISION	STATE	PROJECT	
	OHIO		

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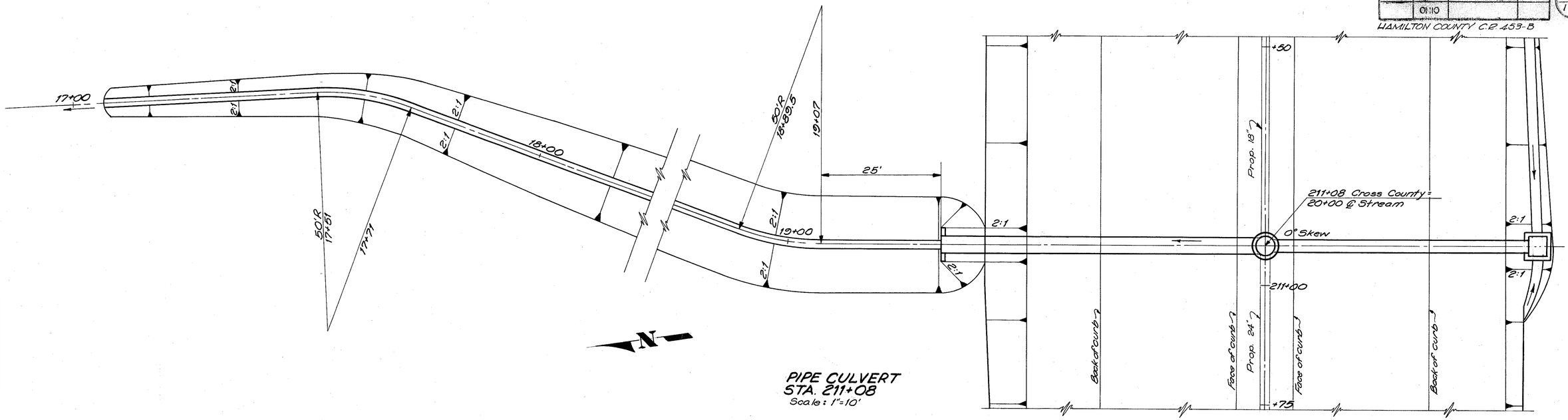
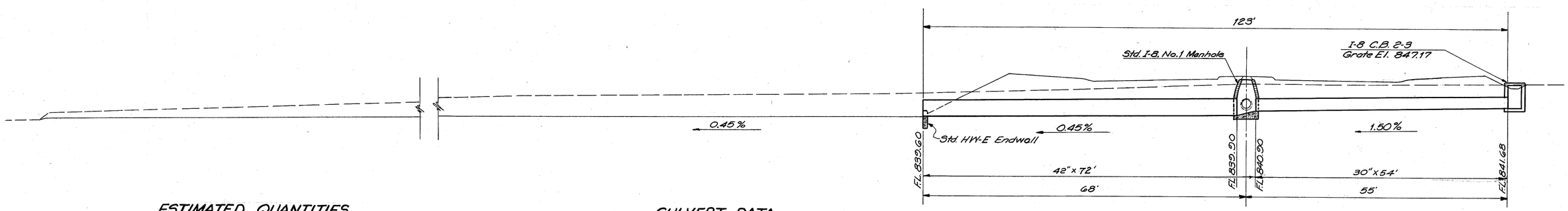
HAMILTON COUNTY C.R. 453-B



PIPE CULVERT
STA. 211+08
Scale: 1"=10'



ESTIMATED QUANTITIES

E-3	Channel Excavation	252 C.Y.
I-2	Concrete for Masonry, Class C	0.76 C.Y.
I-1	42" Pipe, Class A-1	72 L.F.
	30" Pipe, Class A-1	54 L.F.
I-8	2-3 Catch Basin	1 Ea.

CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts
M-6.6 (a) or M-6.8 (b) for 30"
M-6.6 (a) for 42"

SIZE: 42"x 72'
30"x 54'

WORK REQ'D: Construct Pipe Culvert with Std. HW-E Endwall at Outlet, Std. I-8 C.B. 2-3 at Inlet. Excavate Outlet Channel as shown.

D.A.	8 Ac.
Q_{25}	20 c.f.s.

PIPE CULVERT STA. 211+08

FED. RD DIVISION	STATE	PROJECT		
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770.00
1+60 (1)

769.57
1+40(1)

769.40
1+32 (1)

766.98
1+18

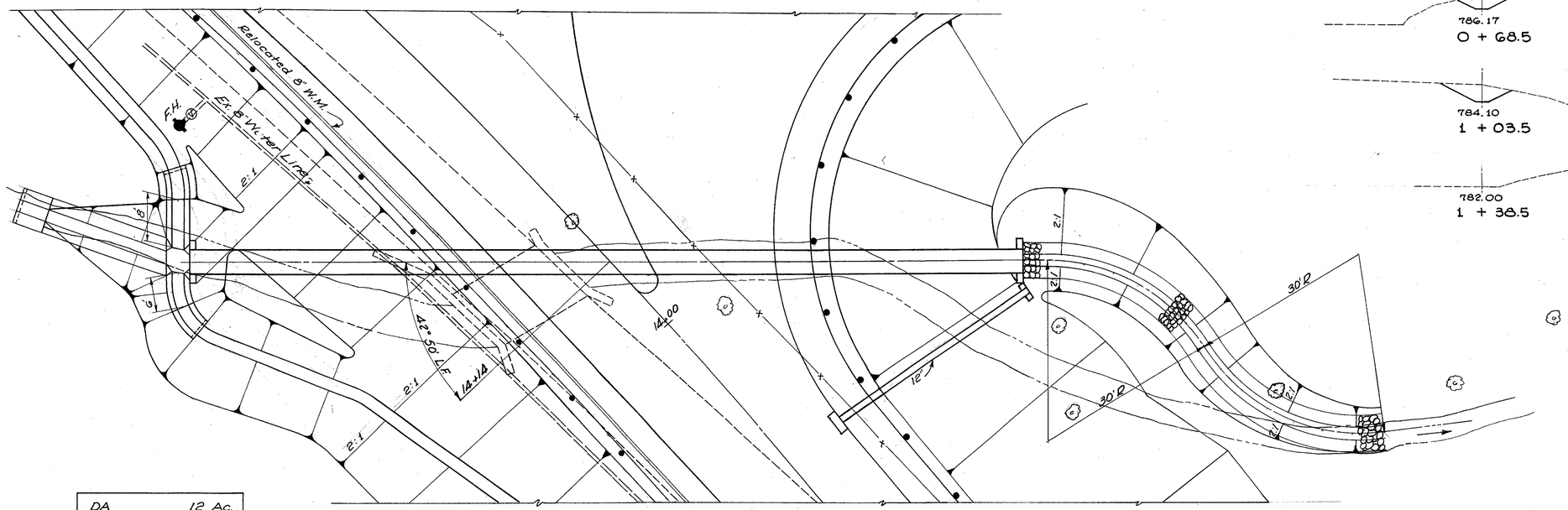
767.07
1+22.5(2)

769.40
1+32(2)

769.56
1+50(2)

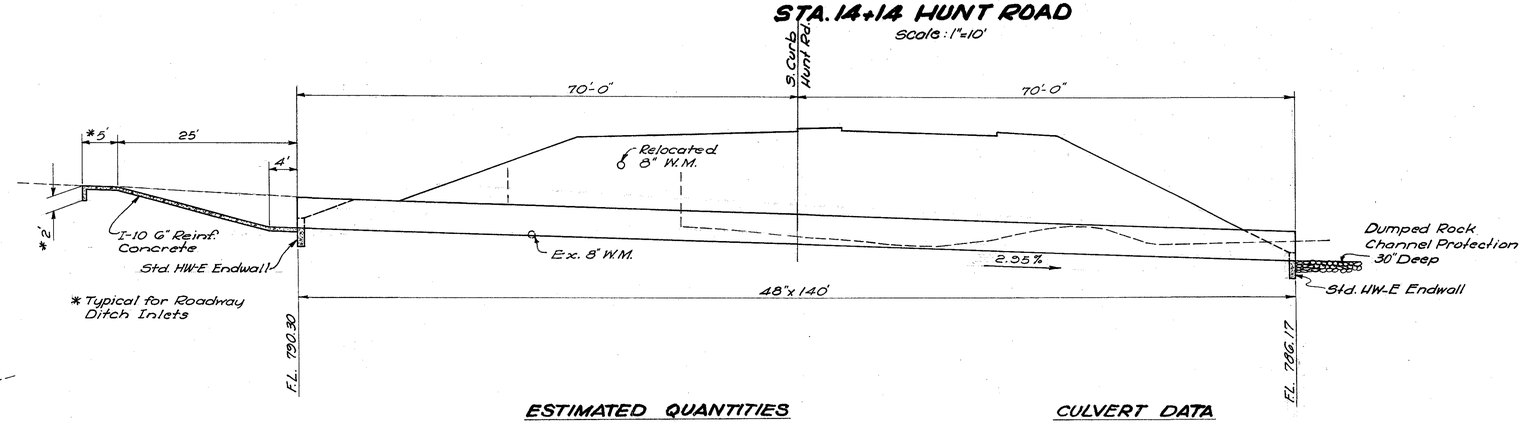
769.92
1+90(2)

772.42
2+12(2)



DA	12 Ac.
Q25	40 cfs

PIPE CULVERT
STA. 14+14 HUNT ROAD
Scale: 1"=10'



ESTIMATED QUANTITIES

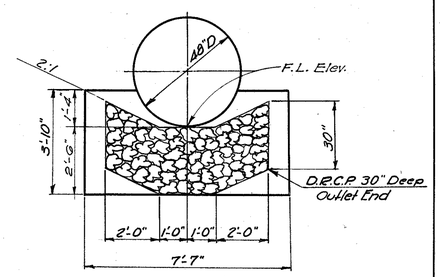
E-3 Channel Excavation	58	C.Y.
I-2 Concrete Masonry Class "C"	1.72	C.Y.
I-1 48" Pipe, Class A-1	140	L.F.
I-10 Dumped Rock Channel Protection	39	C.Y.
I-10 Riprap 6" Reinf. Concrete	30	S.Y.
S-24 Removal of Existing Structure		L.S.

CULVERT DATA

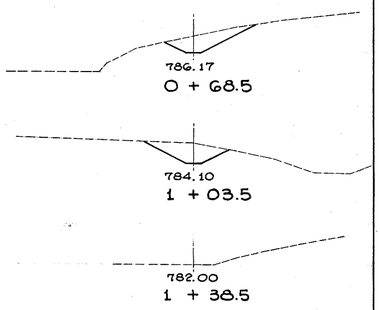
TYPE: Class A-1 Pipe for Roadway Culverts, M-6.4(c) or M-6.6 (c)

SIZE: 48"x140'

WORK REQ'D. Construct Pipe Culvert with Std. HW-E Endwalls. Construct paved drop-down entrance. Excavate and place D.R.C.P. in Outlet Channel. Remove existing structure.



STD. HW-E ENDWALL
Scale: 3/8"=1'-0"



Note:
These sections are for channel work at Culvert Sta. 178+10, Sheet No. Scale: 1"=10" Hor. & Vert.

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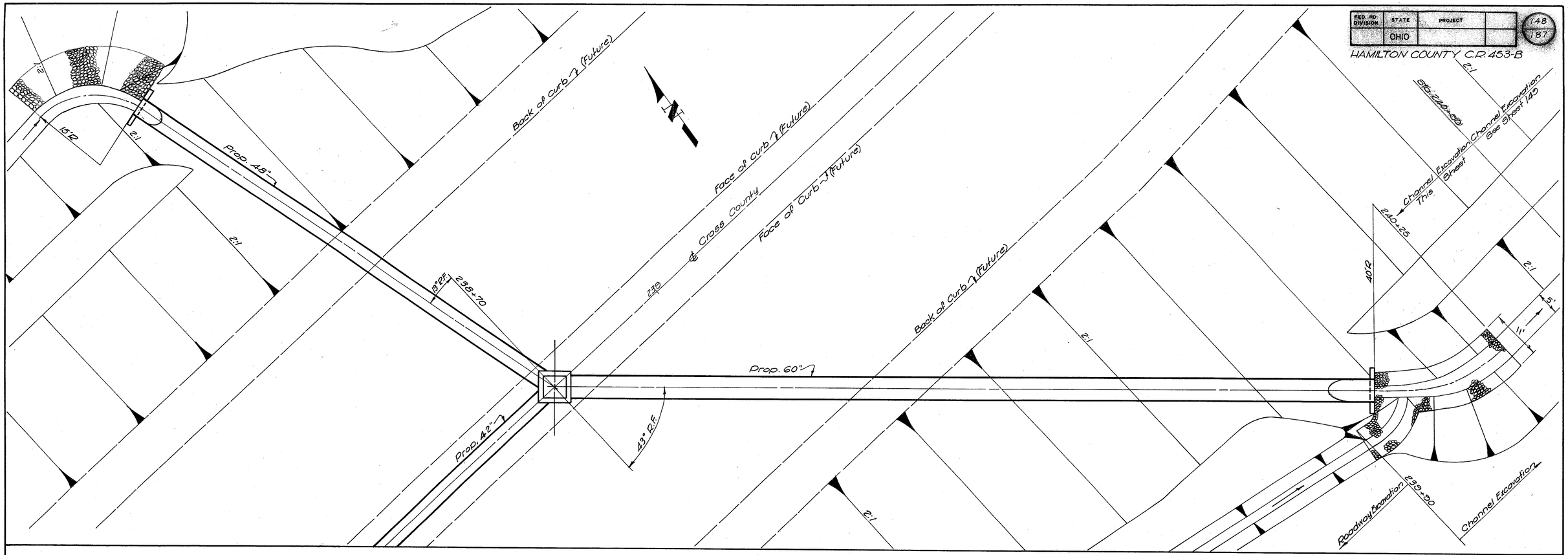
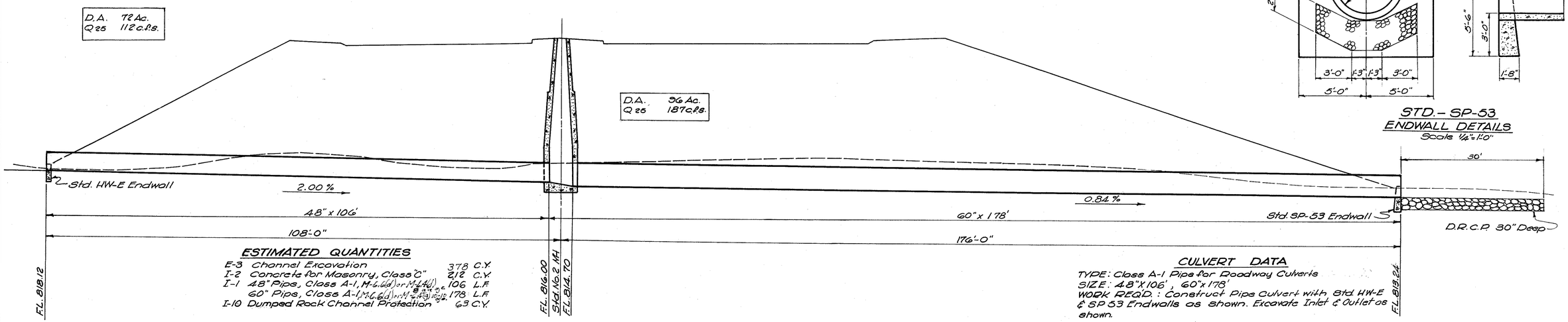


PIPE CULVERT
STA. 238+70

Scale 1"=10'-0"

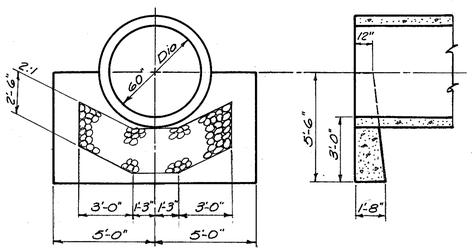


ESTIMATED QUANTITIES

E-3	Channel Excavation	378 C.Y.
I-2	Concrete for Masonry, Class "C"	212 C.Y.
I-1	48" Pipe, Class A-1, M-170(d) or M-144(d)	106 L.F.
	60" Pipe, Class A-1, M-170(d) or M-144(d)	178 L.F.
I-10	Dumped Rock Channel Protection	63 C.Y.

CULVERT DATA

TYPE: Class A-1 Pipe for Roadway Culverts
SIZE: 48"X 106', 60"x 178'
WORK REQD.: Construct Pipe Culvert with Std. HW-E & SP-53 Endwalls as shown. Excavate Inlet & Outlet as shown.



STD. - SP-53
ENDWALL DETAILS

Scale 1/4"=1'-0"

PIPE CULVERT STA. 238+70

FED. RD. DIVISION	STATE	PROJECT	
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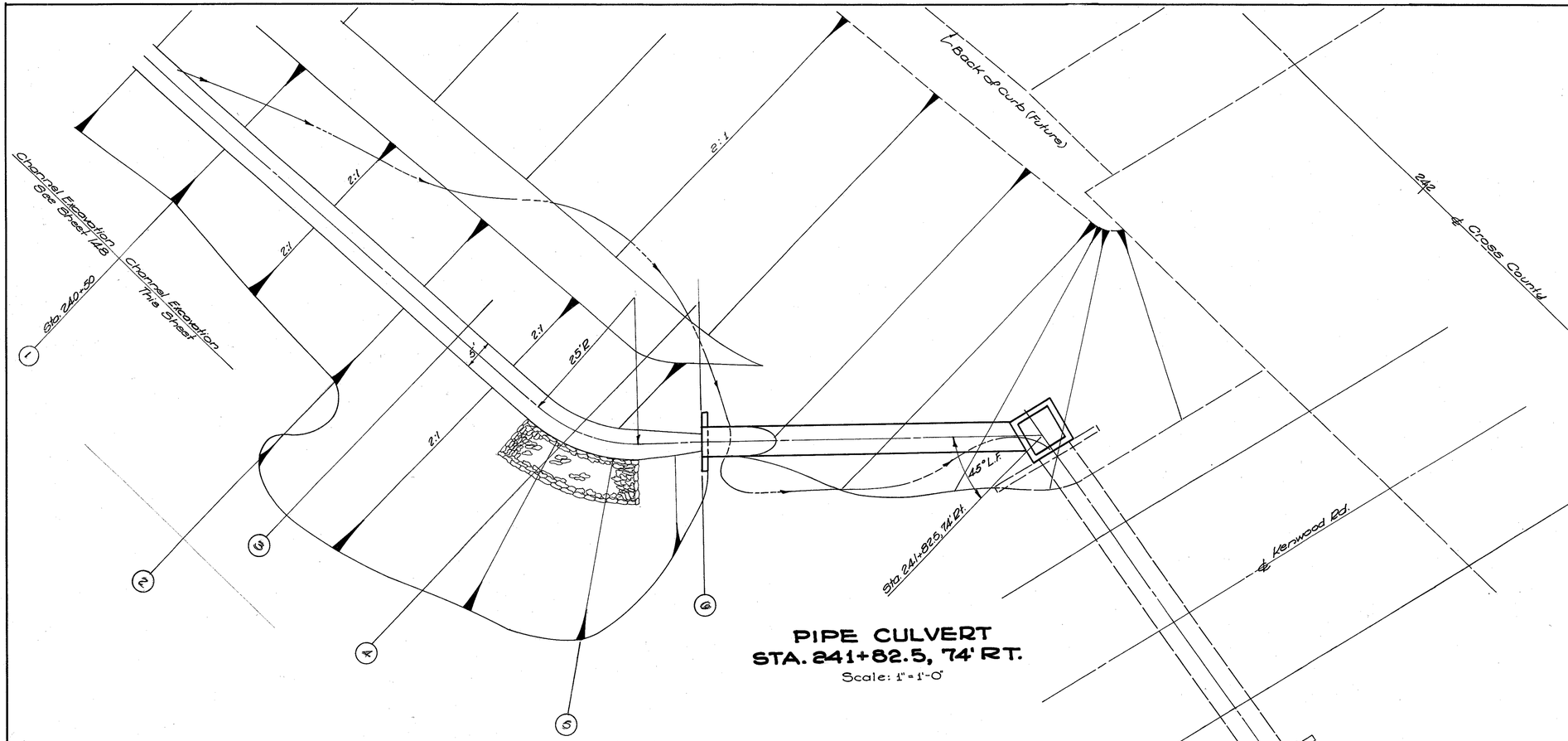
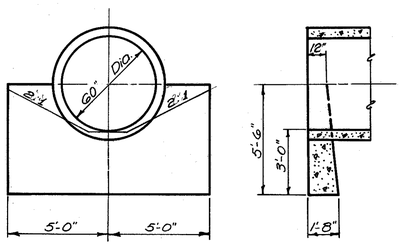


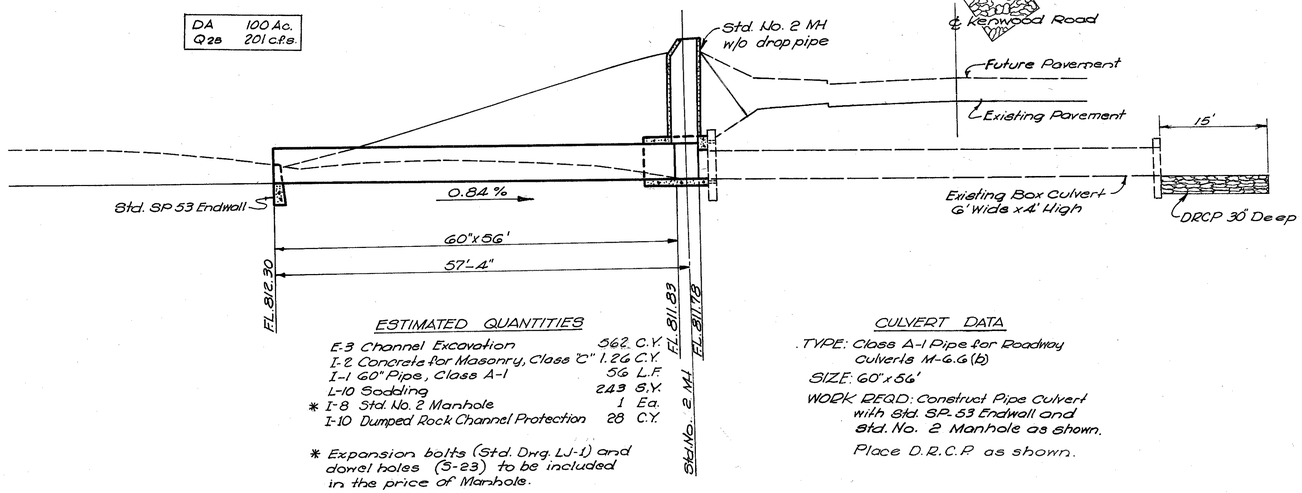
PIPE CULVERT
STA. 241+82.5, 74' RT.

Scale: 1" = 1'-0"



STD. - SP 53
ENDWALL DETAIL
Scale ¼" = 1'-0"

DA 100 Ac.
Q25 201 c.f.s.



ESTIMATED QUANTITIES

E-3	Channel Excavation	562 C.Y.
I-2	Concrete for Masonry, Class "C"	1.26 C.Y.
I-1	60" Pipe, Class A-1	56 L.F.
L-10	Sodding	243 S.Y.
* I-8	Std. No. 2 Manhole	1 Ea.
I-10	Dumped Rock Channel Protection	28 C.Y.

* Expansion bolts (Std. Drg. LJ-1) and dowel holes (S-23) to be included in the price of Manholes.

CULVERT DATA

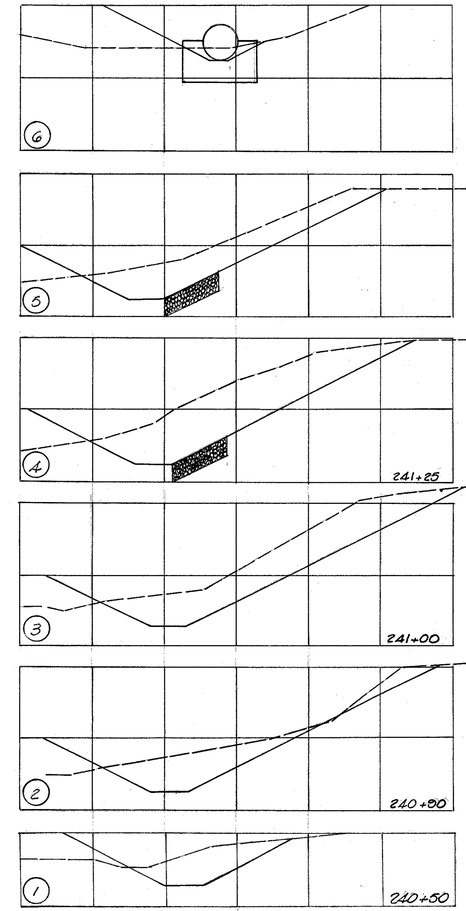
TYPE: Class A-1 Pipe for Roadway Culverts M-6.6 (A)

SIZE: 60" x 56'

WORK REQD: Construct Pipe Culvert with Std. SP-53 Endwall and Std. No. 2 Manhole as shown.

Place D.R.C.P. as shown.

CHANNEL SECTION



PIPE CULVERT STA. 241+82.5

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

HAMILTON COUNTY
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E1.792.40
E1.790.90 — 1.5' Top soil and brown silty clay, wet-soft.
5.5' Brown sandy clay, very moist-soft.
E1.785.40
E1.784.40 — 1.0' Brown and gray silty clay (weathered shale) with, limestone fragments, moist-stiff.
E1.781.90 — 2.5' Layered gray limestone and blue-gray shale.
5.0' Layered gray limestone, blue-gray shale and weathered shale.
E1.776.90
4.5' Layered gray limestone and blue-gray shale.
E1.772.40
Test Hole No. 1

E1.791.30
9.1' Top soil and brown silty clay with organic matter, wet-soft.
E1.782.20
4.9' Layered gray limestone and blue-gray shale with weathered shale.
E1.777.30
6.0' Layered gray limestone and blue-gray shale and weathered shale.
E1.771.30
Test Hole No. 2

E1.790.40
E1.787.90 — 2.5' Brown sandy clay with sand, gravel and cinders, fill, wet-very soft.
4.5' Brown and gray silty clay (weathered shale) with limestone fragments, moist-stiff.
E1.783.40
13.0' Layered gray limestone and blue-gray shale and weathered shale.
E1.770.40
Test Hole No. 3

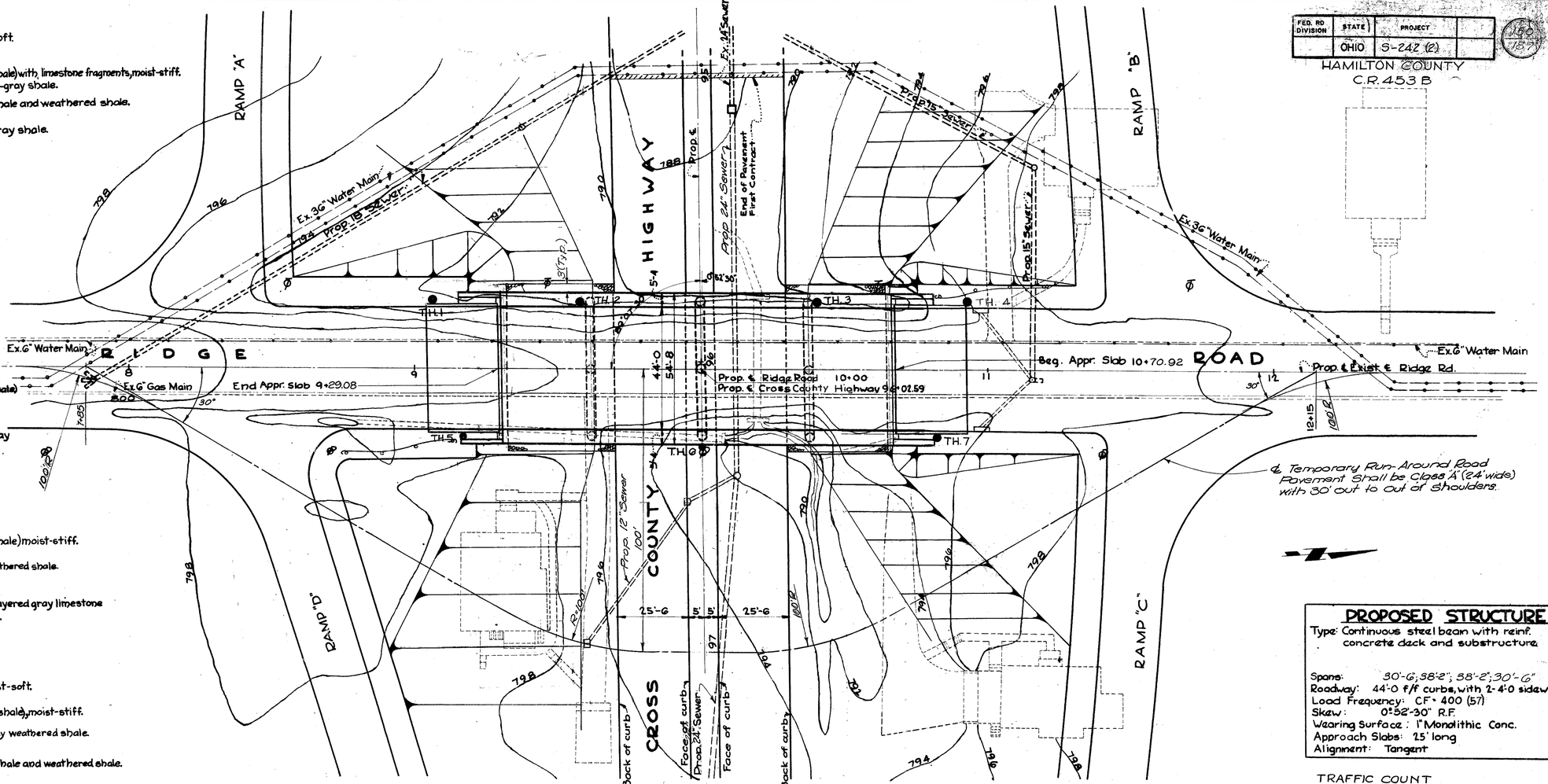
E1.795.70
E1.793.70 — 2.0' Top soil, brown sandy clay, wet-soft.
4.0' Brown and gray silty clay, (weathered shale) moist-stiff.
E1.789.70
5.0' Layered gray limestone and brown weathered shale.
E1.784.70
9.0' Brown weathered shale underlain by layered gray limestone and blue-gray shale and weathered shale.
E1.775.70
Test Hole No. 4

E1.797.50
5.5' Top soil, cinders and silty clay, fill, moist-soft.
E1.792.00
3.5' Brown and gray silty clay (weathered shale), moist-stiff.
E1.788.50
4.0' Layered gray limestone and blue-gray weathered shale.
E1.784.50
7.0' Layered gray limestone and blue-gray shale and weathered shale.
E1.777.50
Test Hole No. 5

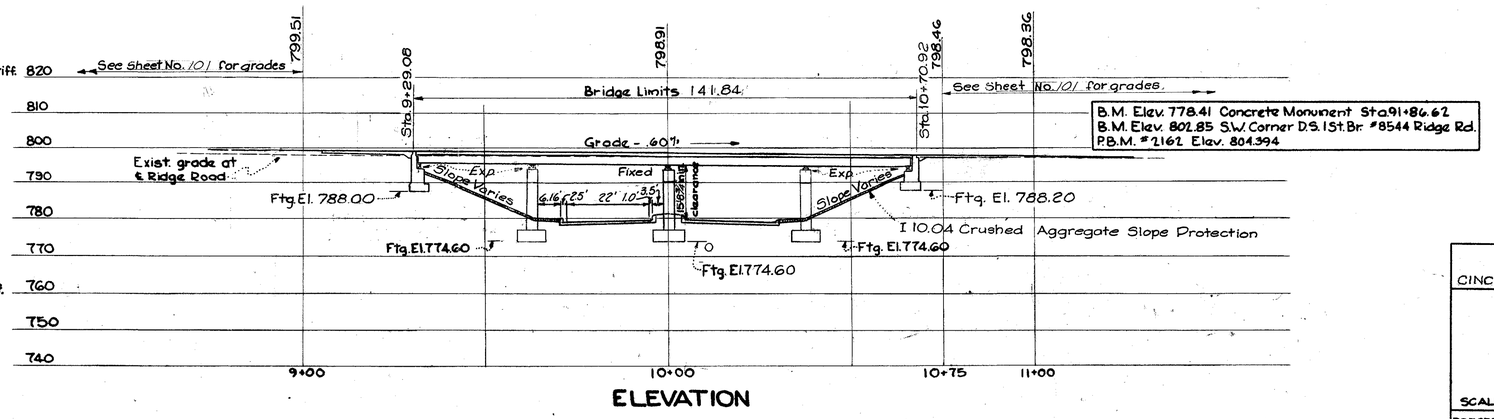
E1.792.70
E1.789.70 — 3.0' Top soil, and brown silty clay with broken stone, fill, moist-loose.
3.5' Brown and gray silty clay, moist-medium stiff.
E1.786.20
E1.785.00 — 1.2' Brown and gray silty clay (weathered shale) with limestone fragments, moist-stiff.
E1.780.20 — 4.8' Layered gray limestone and blue-gray shale and weathered shale.
4.5' Layered gray limestone and blue-gray shale and weathered shale.
E1.775.70
E1.772.70 — 3.0' Layered gray limestone and blue-gray shale and weathered shale.
Test Hole No. 6

E1.795.10
E1.792.60 — 2.5' Top soil and brown silty clay, moist-soft.
3.0' Brown and gray silty clay, wet-soft.
E1.789.60
E1.788.10 — 1.5' Brown and gray silty clay (weathered shale) with limestone fragments, moist-stiff.
E1.784.10 — 4.0' Layered gray limestone and brown and blue-gray weathered shale.
5.5' Layered gray limestone and blue-gray shale and weathered shale.
E1.778.60
E1.775.10 — 3.5' Layered gray limestone and blue-gray shale and weathered shale.
Test Hole No. 7

The State does not guarantee the accuracy of the sounding information.



PLAN



ELEVATION

PROPOSED STRUCTURE

Type: Continuous steel beam with reinf. concrete deck and substructure.

Spans: 30'-6", 38'-2", 38'-2", 30'-6"
Roadway: 44'-0 f/f curbs, with 2-4'-0 sidewalks
Load Frequency: CF-400 (57)
Skew: 0°-52'-30" R.F.
Wearing Surface: 1" Monolithic Conc.
Approach Slabs: 25' long
Alignment: Tangent

TRAFFIC COUNT
5228 Northbound } By Hamilton Co.
3978 Southbound } summer of 1961
9206 Total

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SITE PLAN

RIDGE ROAD BRIDGE OVER CROSS-COUNTY HIGHWAY

SCALE: 1" = 20'

PRESENT TOPOGRAPHY — PROPOSED WORK

SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVISED
M.D.	R.G. L.T.	E.R.B.	J.G.W.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242(2)	

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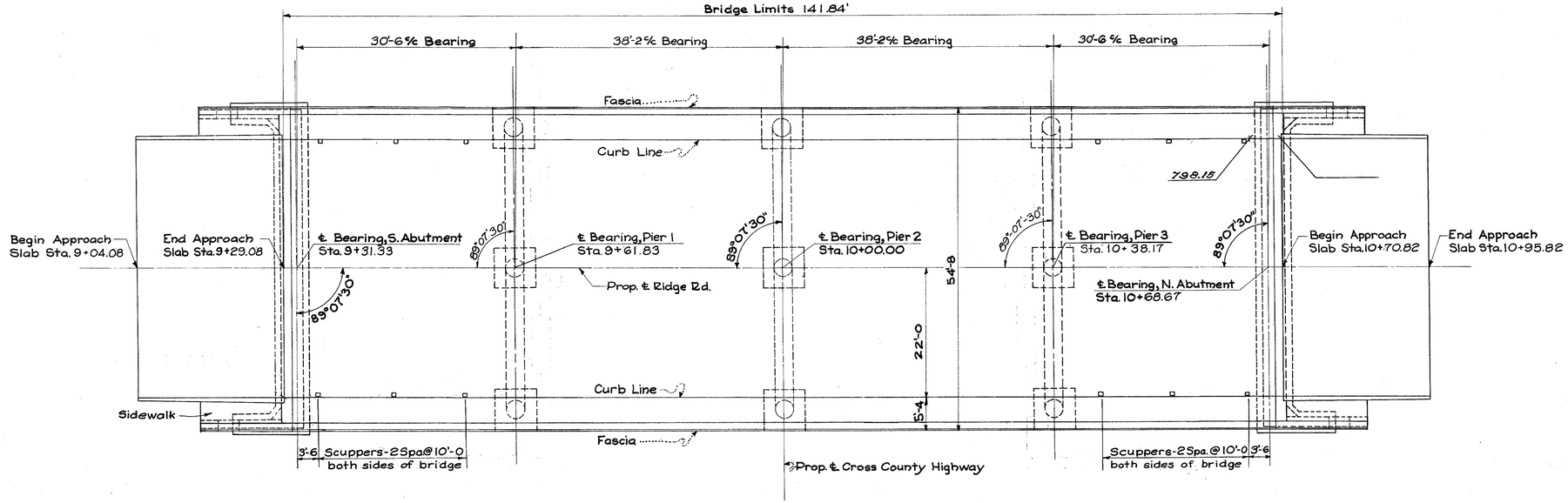
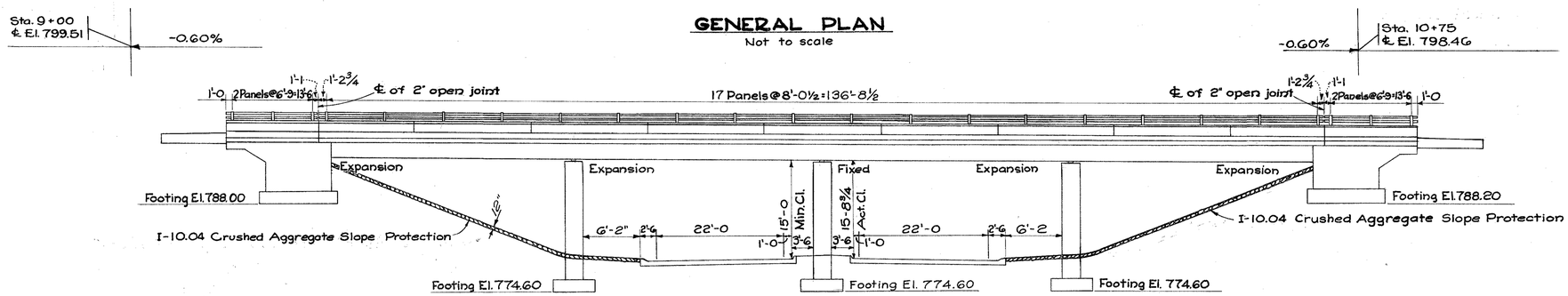
HAMILTON COUNTY
C.R. 453 B



GENERAL PLAN

Not to scale



ELEVATION

Not to scale

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	S. Abut.	N. Abut.	Pier 1	Pier 2	Pier 3	Gen'l
E-2	313	Cu. Yds.	Unclassified excavation, including rock & shale		176	137				
E-2	94	Cu. Yds.	Rock Excavation				32	30	32	
S-1	264	Cu. Yds.	Class "C" Concrete, superstructure	264						
S-1	106.5	Cu. Yds.	Class "C" Concrete, pier caps & columns				35.7	35.5	35.3	
S-1	127.7	Cu. Yds.	Class "E" Concrete, abutments above footings		68.0	59.7				
S-1	98.5	Cu. Yds.	Class "E" Concrete, footings		36.5	29.3	10.9	10.9	10.9	
S-4	94,386	Lbs.	Reinforcing steel	63471	3238	2929	8272	8264	8212	
S-7	119,300	Lbs.	Structural steel	119,300						
S-8	119,300	Lbs.	Field painting of structural steel	119,300						
S-14	340	Lin. Ft.	Railing (Type "L" Alum. Rail & Conc. Parapet)	278	31	31				
S-29	36	Cu. Yds.	Porous backfill		18	18				
S-29	12	Each	Scuppers, *including Supports*	12						
I-10	545	Sq. Yds.	Crushed Aggregate Slope Protection							545
S-9	48	Sq. Ft.	½" Preformed Expansion Joint Filler		24	24				
S-101	264	Each	Water reducing, set retarding admixture	264						

Note: Approach slabs included in roadway quantities.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CSB-2-56, Sheet 2 and 3, revised Feb. 2, 1959, and AR-1-57 dated April 9, 1957, revised 4-2-62 and Supplemental Specification S-101 dated 7-12-62.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Sept. 1, 1957 including latest revisions.
FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 6.4 tons per sq. ft.
Pier footings are designed for a maximum bearing pressure of 5.0 tons per sq. ft.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to the centerline of piers and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

SURFACE FINISH OF CONCRETE: The requirements of Sec. S-1.22, Rubbed Finish, shall apply to the following exposed concrete surfaces: the entire superstructure except the top and bottom surfaces of sidewalks and roadways and the entire surface of piers and abutments except bridge seats, backwalls and the face of abutments between outside beams.

MACHINE FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.

CONTINUOUS BEAM SPLICES: If beams having depths differing by more than ⅛" are to be spliced by butt welding, the depth of the smaller-depth beam shall be increased by splitting the web longitudinally at a distance of 1½" below the bottom of the top flange and for a distance sufficient to allow the flange to be bent up at a slope of not more than ⅜" per foot, after which the split in the web shall be completely welded with full depth penetration and ground flush.

SHOP PAINTING STEEL. The surface preparation of all steel, requiring shop painting as per the Plans and Specifications, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.

SHEET LEAD shall conform to the requirements of ASTM Designation B 29 without restriction to the Common Desilverized type.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

TEMPORARY RUN-AROUND ROAD: Pavement shall be class "A" (24' wide) with 30' out to out of shoulders.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

GENERAL PLAN & ESTIMATED QUANTITIES RIDGE ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242(2)	

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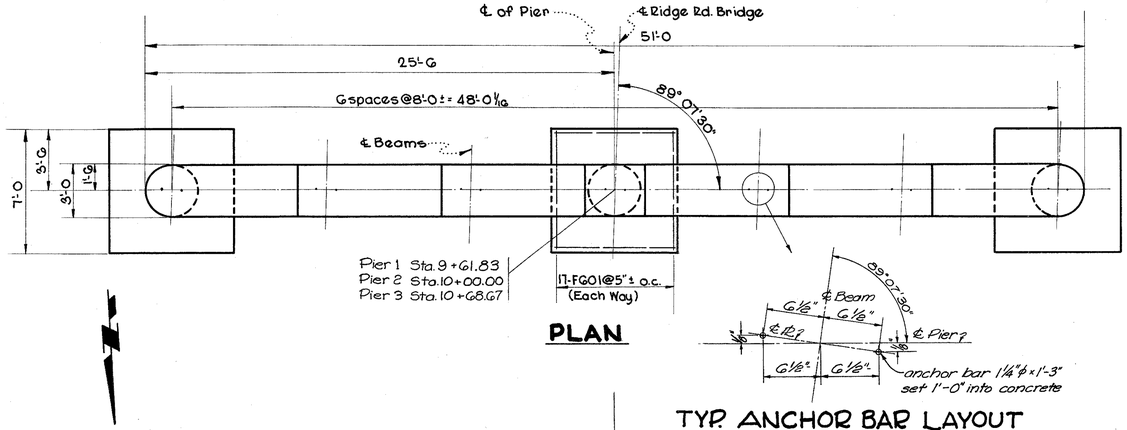
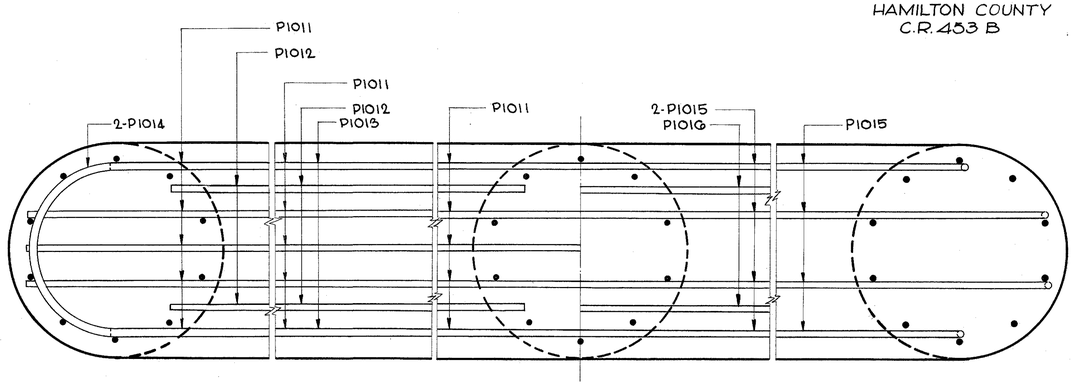
HAMILTON COUNTY
C.R. 453 B

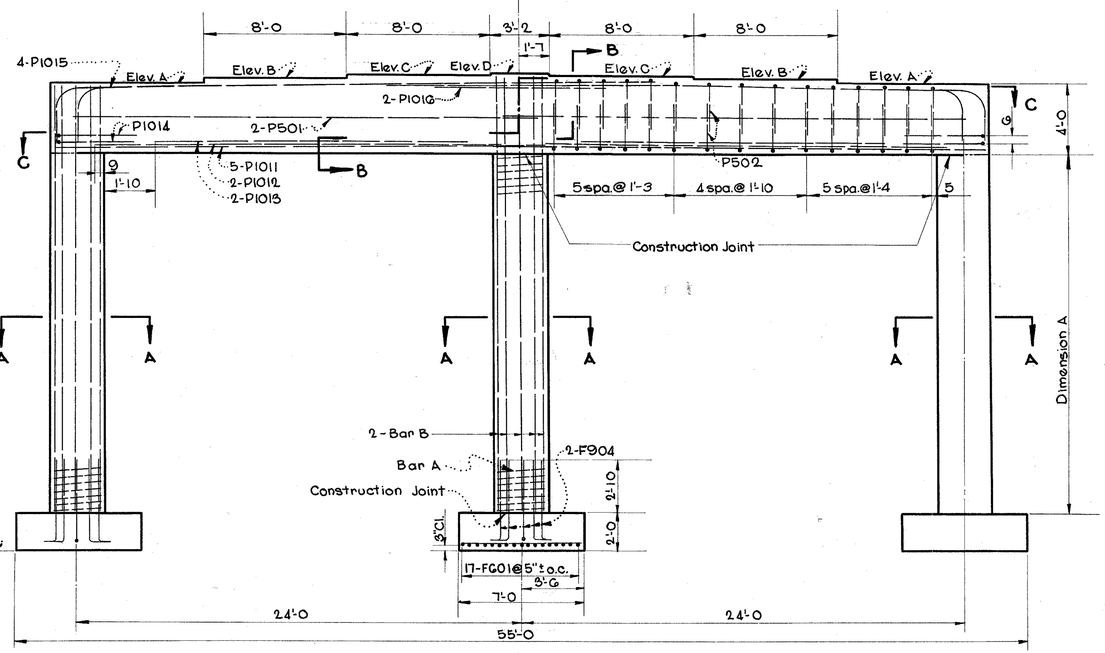


PLAN

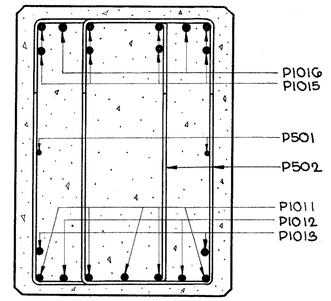
TYP. ANCHOR BAR LAYOUT



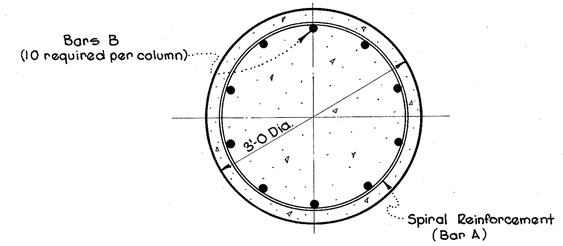
SECTION C-C



ELEVATION



SECTION B-B



SECTION A-A

	ELEVATION					BAR		DIMENSION
	A	B	C	D	E	A	B	A
PIER 1	795.62	795.74	795.87	795.99	774.60	SP401	P804	15'-0 1/4
PIER 2	795.47	795.60	795.72	795.85	774.60	SP402	P805	14'-10 7/16
PIER 3	795.16	795.28	795.41	795.54	774.60	SP403	P806	14'-6 3/4

NOTES:

Special care shall be taken in placing reinforcing steel in the pier cap to avoid interference with the anchor bars.

All footings of each pier are identical, and all footing reinforcement shall have the same spacing in both directions.

All pier details and reinforcement are symmetrical about the center line of the pier.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

PIER DETAILS
RIDGE ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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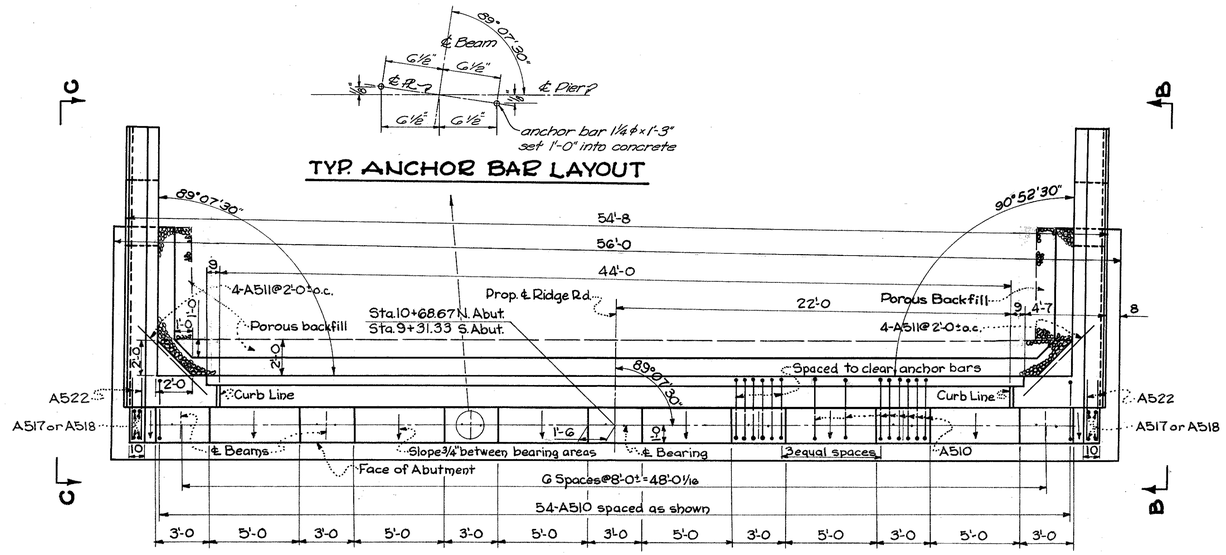
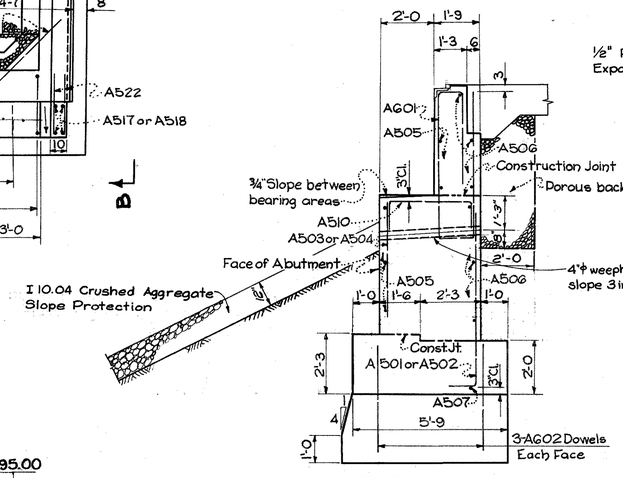
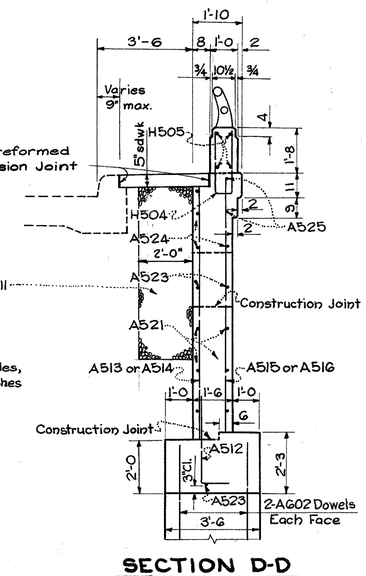
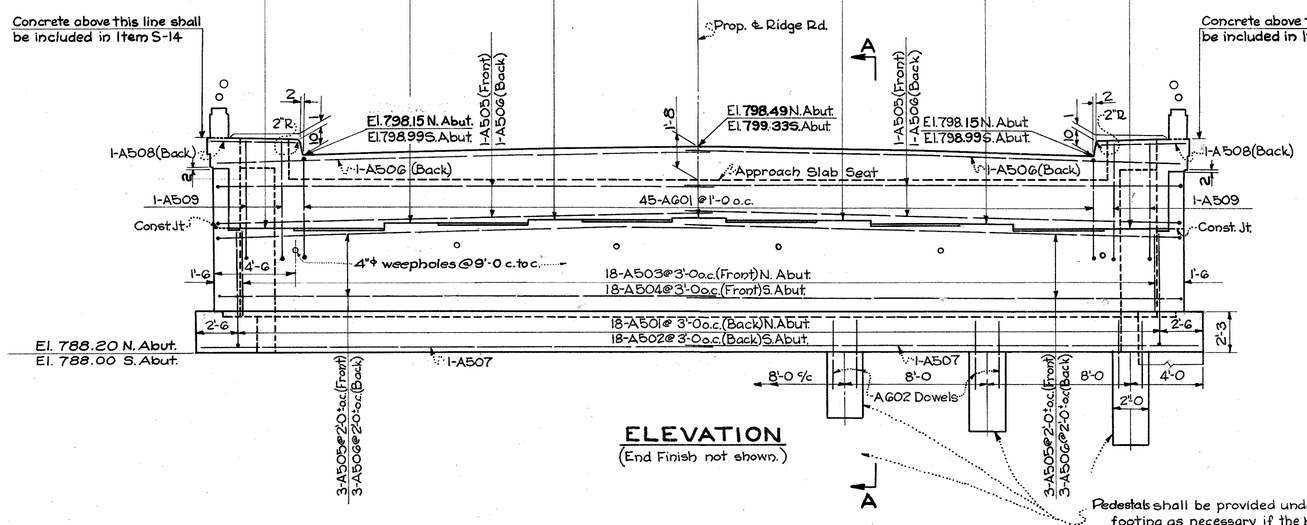
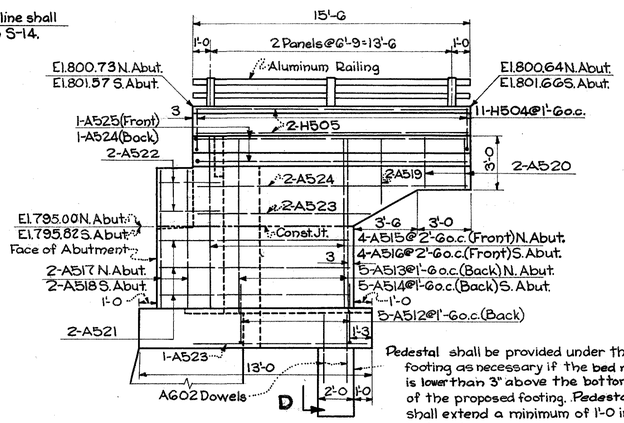






North Abut. Bridge Seat El.	795.00	795.12	795.25	795.37	795.25	795.12	795.00
South Abut. Bridge Seat El.	795.82	795.95	796.07	796.20	796.07	795.95	795.82





VIEW B-B

Note: VIEW C-C similar to VIEW B-B except opposite hand.

Note: Sidewalk included in Item S-1, Class "C" Concrete Abutments, above footings, for payment.

For End Finish details, see Sheet No. 154

For Aluminum Railing details, see Std. Dwg. AR-1-57, Type C, Rev. 4-2-62.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

ABUTMENT DETAILS
RIDGE ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242(2)	

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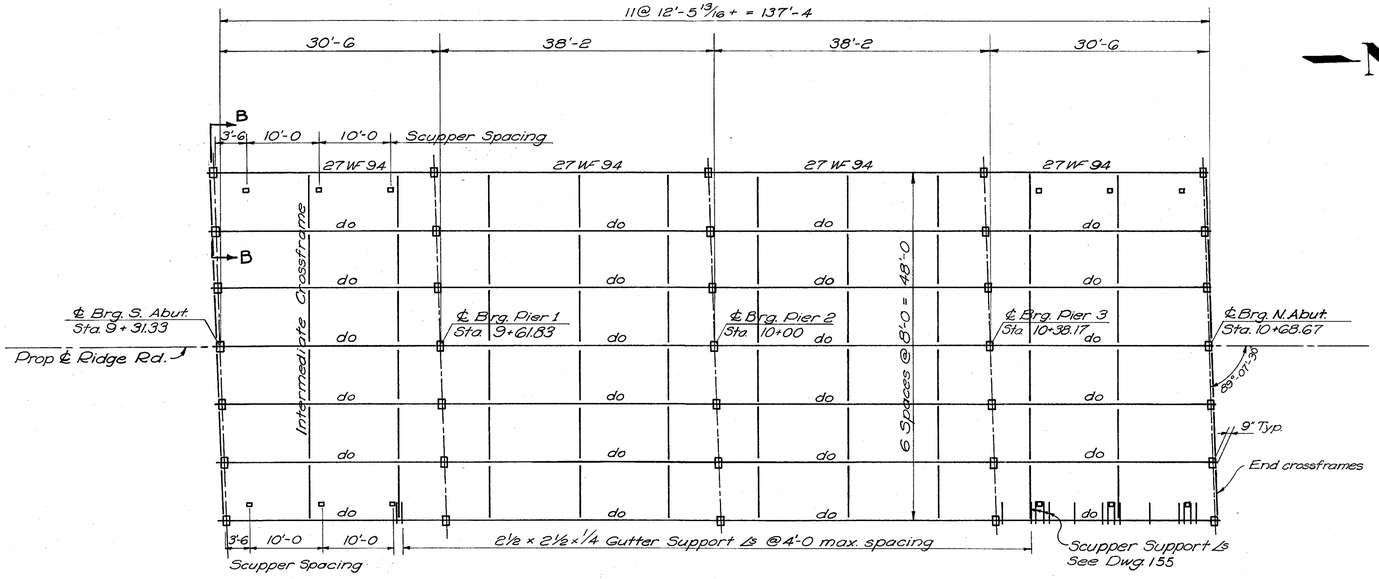
187

HAMILTON COUNTY
C.R. 453 B



FRAMING PLAN

DEFLECTION & CAMBER (INCHES)				
	Exterior Beams		Interior Beams	
	Spans 1 ℄ 4	Spans 2 ℄ 3	Spans 1 ℄ 4	Spans 2 ℄ 3
Deflection due to weight of steel	0	0	0	0
Deflection due to remaining D. L.	3/32	3/32	1/8	3/32
Total D.L. deflection	3/32	3/32	1/8	3/32
Required camber	0	0	0	0

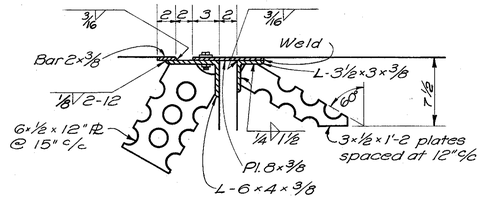
Note: No camber of beams is required. During erection beams shall be placed with any shop camber convex side up.

Notes: For details of Bearing Plates, see Std. Dwg. CSB-2-56, Sheet 3.

For details of Intermediate Crossframes, see Sheet No. 156

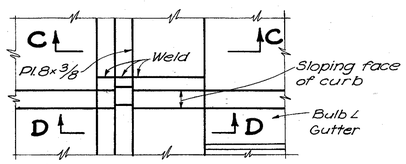
For Beam Splice detail, see Sheet No. 155

For other details not shown, see Std. Dwg. CSB-2-56, Sheets No. 2 ℄ 3.

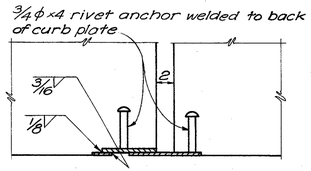


CURB END FINISH - SECTION C-C

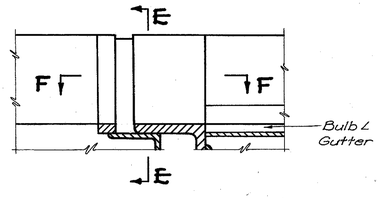
Note: For details not shown see Std. Dwg. CSB-2-56, Section C-C, Sheet No. 2.



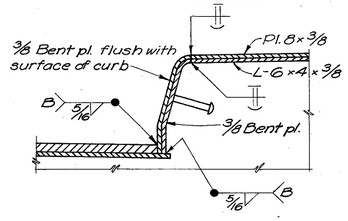
PART PLAN



SECTION F-F

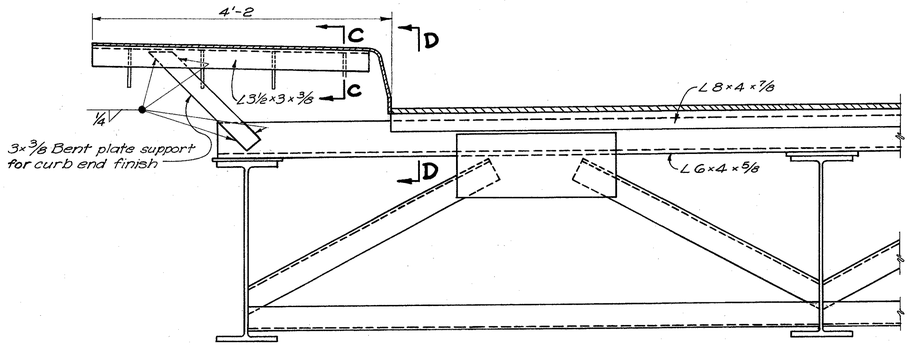


SECTION D-D



SECTION E-E

CURB PLATE DETAILS



SECTION B-B

(At ℄ of joint)

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

STEEL FRAMING PLAN & DETAILS
RIDGE ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242 (2)	

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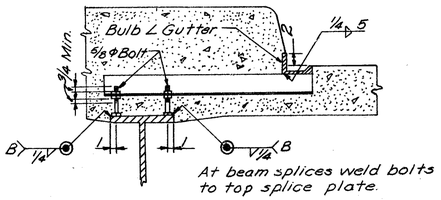
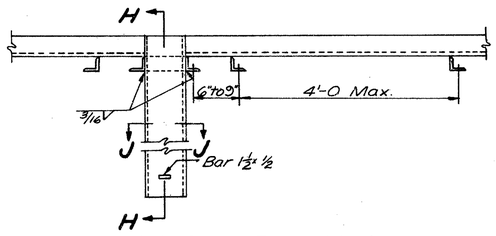
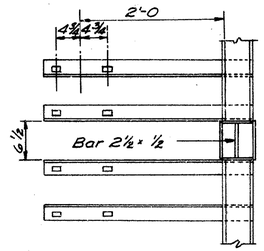
HAMILTON COUNTY
C.R. 453 B



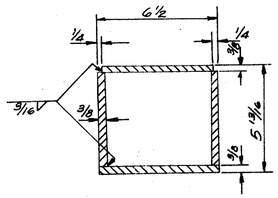
GUTTER SUPPORT



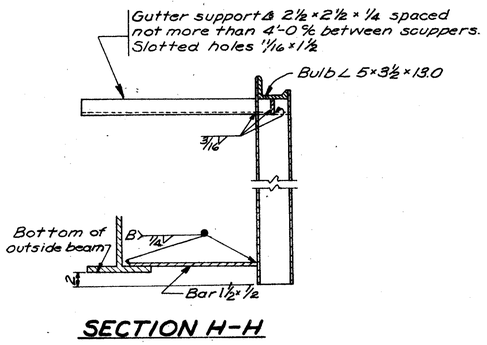
REAR ELEVATION



PART PLAN

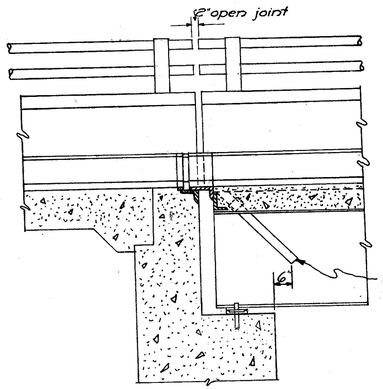


SECTION J-J



SECTION H-H

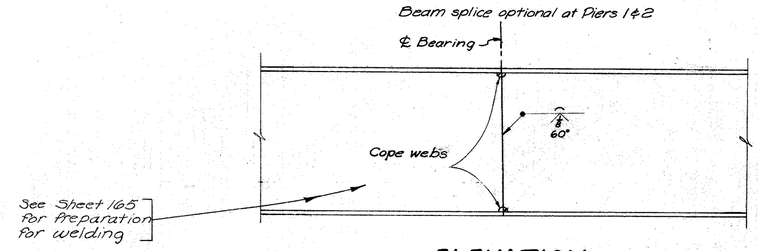
Note: Gutter shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.



Bulb angles & supports to be included in Item S-7

DRAIN PIPE AT END OF BULB ANGLE

GUTTER AND SCUPPER DETAILS



ELEVATION

BEAM SPLICE DETAILS

BEAM SPLICE WELDING PROCEDURE

① Welding Sequence:
Butt weld the beam flanges and web as follows:
a) - make one pass on each flange, then two on the web
b) - repeat, using one pass at each location, until welds are complete

② No raise is required at forward ends of spans while making welds.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

STRUCTURAL STEEL DETAILS
RIDGE ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.G.C.	R.A.M.	R.A.M.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242 (2)	

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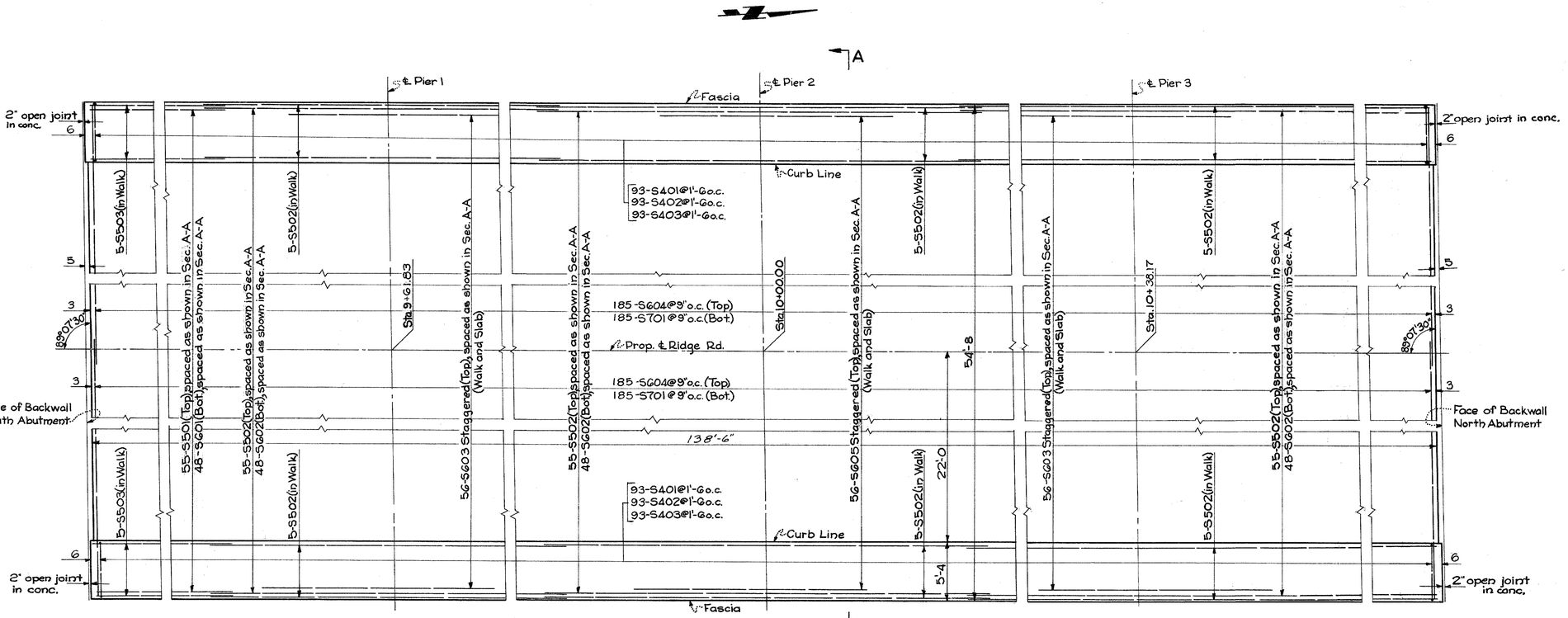
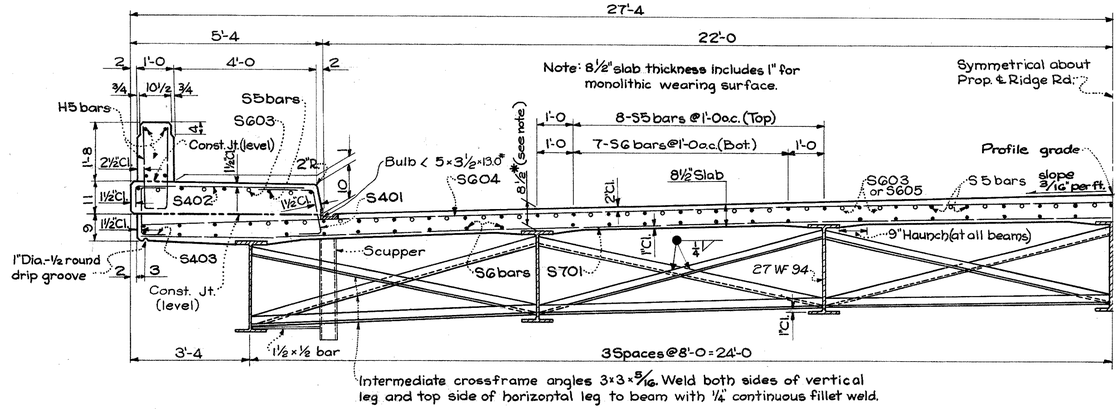
HAMILTON COUNTY
C.R. 453 B



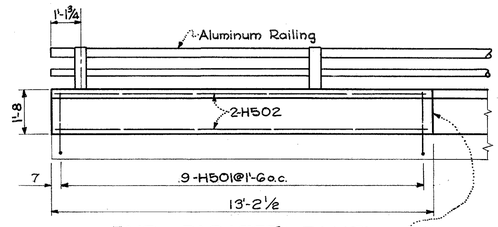
PLAN



Intermediate crossframe angles 3×3×5/16. Weld both sides of vertical leg and top side of horizontal leg to beam with ¼" continuous fillet weld.

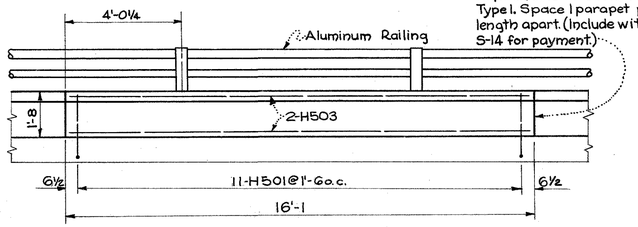
HALF TRANSVERSE SECTION A-A

*This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.



END PARAPET PANEL

¼" gray sponge rubber preformed expansion joint filler meeting the requirements of Section M-10.02, Type I. Space I parapet panel length apart. (Include with Item S-14 for payment.)



INTERMEDIATE PARAPET PANEL

TYPICAL RAILING DETAILS

Notes: DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 9" width.

Transverse bars shall be placed parallel to abutments.

All straight bars shall stop 2" from forms.

Provide the following minimum laps:
1'-3 for S4 bars
1'-7 for S5 bars
1'-11 for SG bars
2'-3 for S7 bars

For Diagram Showing Stagger of SG03 & SG05 bars over Piers, see Std. Dwg. CSB-2-56, Sheet No. 2.

For End Finish details, see Sheet No. 154

For location and details of Scuppers (not shown), see Sheets No. 154 & 155 respectively.

For Aluminum Railing details, see Std. Dwg. AR-1-57, Type C.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SLAB & RAILING DETAILS RIDGE ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242 (2)	

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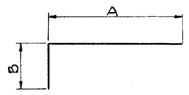
HAMILTON COUNTY
C.R. 453 B

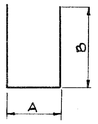
MARK	NO.	LENGTH	WEIGHT	SHP.
SOUTH ABUTMENT				
A502	18	8'-3	155	Bt.
A504	18	5'-3	99	Str.
A505	10	20'-7	309	Bt.
A506	12	27'-8	346	Str.
A507	2	28'-8	60	"
A508	2	4'-10	10	Str.
A509	4	11'-10	49	Bt.
A510	54	5'-1	286	Bt.
A511	8	5'-8	47	Str.
A512	10	4'-3	44	Bt.
A514	10	9'-7	100	Str.
A516	8	9'-6	70	"
A518	8	7'-8	64	"
A519	4	3'-4	14	"
A520	8	2'-8	22	"
A521	12	10'-8	134	"
A522	8	3'-5	29	"
A523	6	9'-9	61	"
A524	8	15'-2	127	Str.
A525	4	17'-1	71	Bt.
AG01	45	11'-6	777	Bt.
AG02	40	4'-0	240	Str.
H504	22	5'-0	115	Bt.
H505	8	15'-2		Str.
Total Weight 3238#				
NORTH ABUTMENT				
A501	18	7'-3	136	Bt.
A503	18	4'-3	80	Str.
A505	10	20'-7	309	Bt.
A506	12	27'-8	346	Str.
A507	2	28'-8	60	"
A508	2	4'-10	10	Str.
A509	4	11'-10	49	Bt.
A510	54	5'-1	286	Bt.
A511	8	5'-8	47	Str.
A512	10	4'-3	44	Bt.
A513	10	8'-3	86	Str.
A515	8	8'-5	70	"
A517	8	6'-8	56	"
A519	4	3'-4	14	"
A520	8	2'-8	22	"
A521	12	10'-8	134	"
A522	8	3'-5	29	"
A523	6	9'-9	61	"
A524	8	15'-2	127	Str.
A525	4	17'-1	71	Bt.
AG01	45	11'-6	777	Bt.
H504	22	5'-0	115	Bt.
H505	8	15'-2		Str.
Total Weight 2929#				

MARK	NO.	LENGTH	WEIGHT	SHP.
PIERS				
FG01	306	6'-8	3066	Str.
F904	90	5'-6	1683	Bt.
P904	30	18'-8	1904	Str.
P905	30	18'-7	1896	"
P906	30	18'-3	1862	"
P501	12	24'-10	311	Str.
P502	180	7'-8	1439	Bt.
P1011	30	26'-11	3475	Str.
P1012	12	22'-6	1162	"
P1013	12	22'-0	1136	Str.
P1014	12	9'-11	512	Bt.
P1015	24	34'-7	3571	Bt.
P1016	6	9'-10	254	Str.
Total Weight 22,271#				
SUPERSTRUCTURE				
S401	186	3'-4	414	Bt.
S402	186	5'-3	652	"
S403	186	2'-6	311	Bt.
S501	55	22'-11	1315	Str.
S502	195	40'-0	8135	"
S503	10	23'-5	244	"
SG01	48	23'-11	1724	"
SG02	144	40'-0	8632	"
SG03	112	15'-3	2565	"
SG04	370	28'-0	15561	"
SG05	56	19'-1	1605	"
S701	370	28-2	21302	Str.
H501	190	5'-0	991	Bt.
H502	16	12'-10		Str.
H503	56	15'-9		Str.
Total Weight 63,471#				

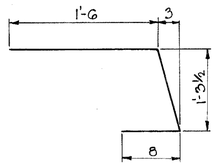
REPLACEMENT BARS			
MARK	NO.	LENGTH	SHP.
RE401	1	5'-3	Str.
RE501	1	5'-7	"
REG01	3	5'-11	"
RE701	2	6'-3	"
RE901	1	6'-10	"
RE1001	1	7'-2	Str.



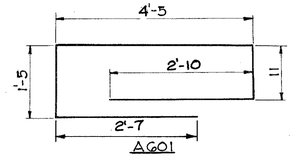
MARK	A	B
A501	6'-4	1'-0
A502	7'-4	1'-0
A505	27'-8	2'-0
A512	3'-4	1'-0
A525	15'-2	2'-0
S402	4'-8	0'-8
F904	4'-6	1'-2



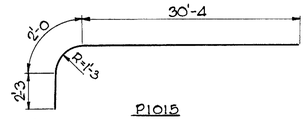
MARK	A	B
A509	1'-5	5'-4
A510	3'-4	1'-0
P502	2'-0	2'-10
S403	1'-4½	0'-8
H501	0'-7	2'-4
H504	0'-7	2'-4



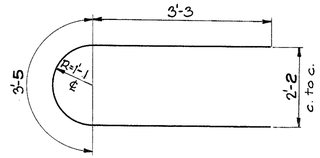
S401



AG01



P1015



P1014

Note:
H502, H503 & H505 shall be included in price bid for Item S-14.

Bar size is indicated in the bar mark. The first digit indicates the bar size number except when the first digit is one (1). In this case the first two digits indicate the bar size number.

Bar bending diagrams are dimensioned out to out.

SPIRAL REINFORCING BARS

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4.

1½ closed coils shall be provided at ends of each spiral unit.

Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft., shall be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

MARK	NO.	CORE DIA. c/c SPIRAL	LENGTH	PITCH	NO. TURNS	WEIGHT
SP401	3	32"	15'-0¼	4½	43	832
SP402	3	32"	14'-10⅝	4½	43	832
SP403	3	32"	14-6¾	4½	42	813

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

REINFORCING STEEL DETAILS
RIDGE ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R. J. L. 5-8-62	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-242(2)	

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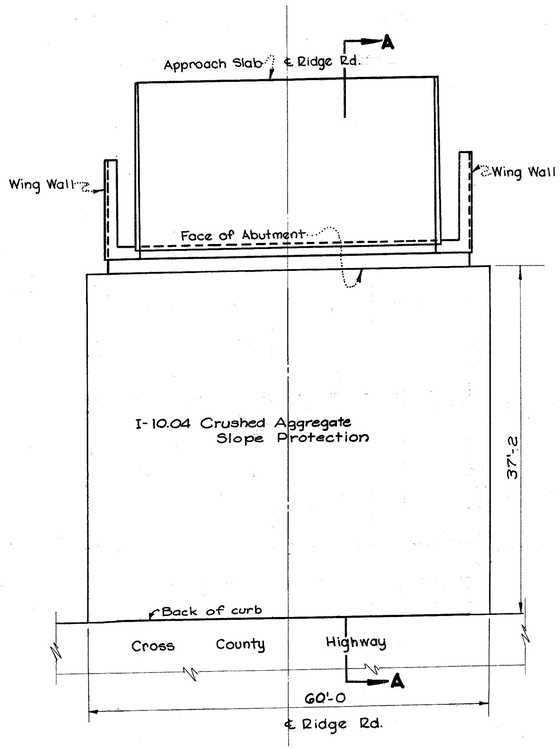
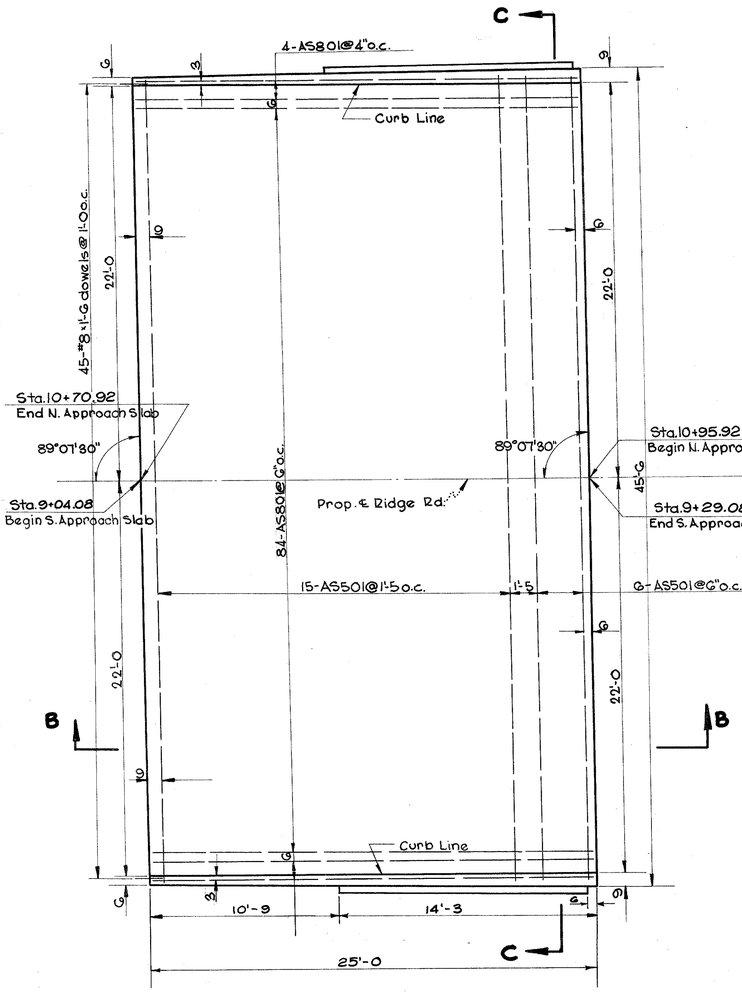
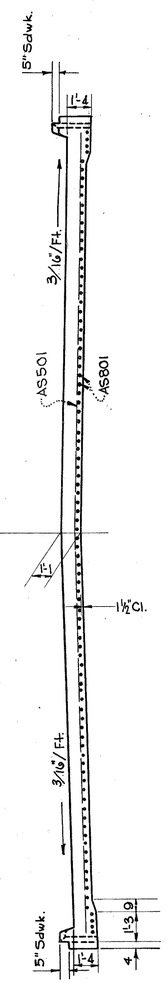
HAMILTON COUNTY
C.R. 453 B



PLAN



PLAN



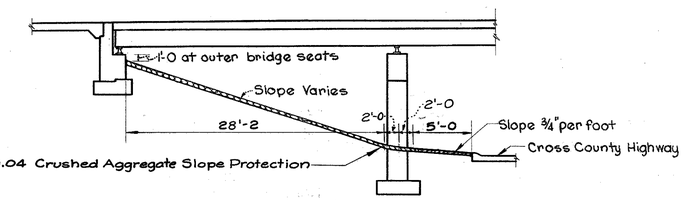
SECTION C-C

REINFORCING STEEL

MARK	NO.	LENGTH	SHAPE	BENDING
AS801	184	25'-9	Bt.	24'-8
AS501	42	44'-8	Str.	
90-#8 x 1'-6 dowels				

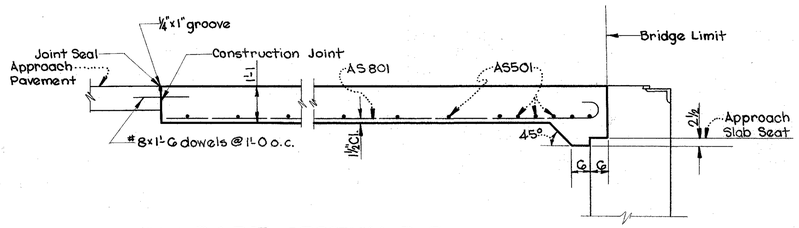
(Includes both slabs)

Note: Bar size is indicated in the bar mark. The first digit indicates the bar size number.



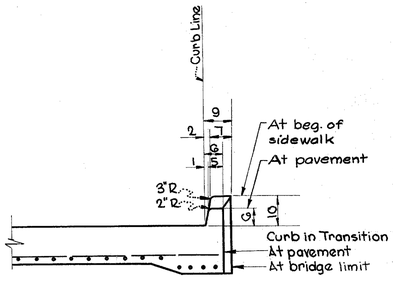
SECTION A-A

SLOPE PROTECTION



PART SECTION B-B

APPROACH SLABS



CURB DETAIL

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

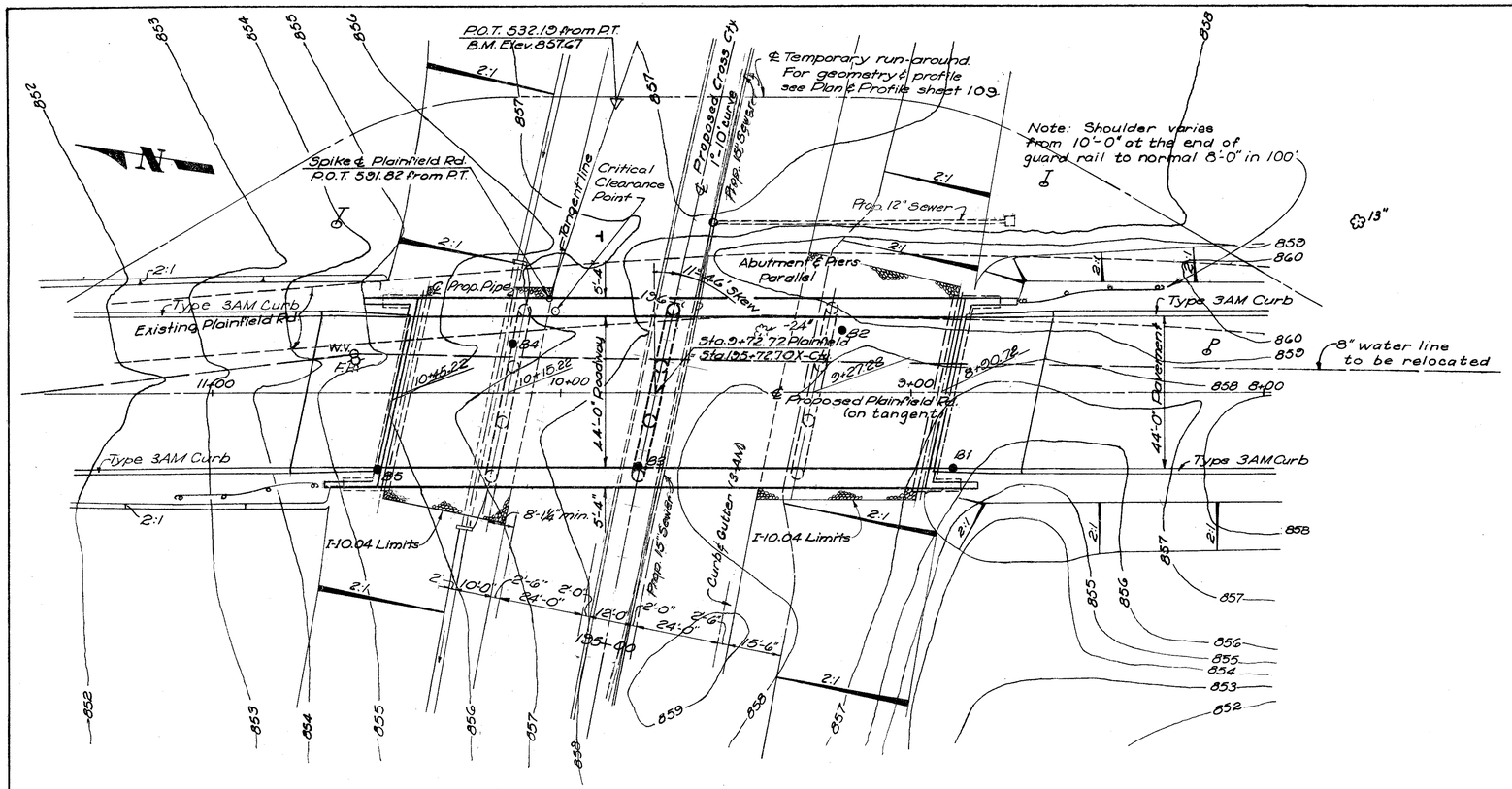
APPROACH SLAB & SLOPE PROTECTION RIDGE ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
E.R.B.	E.R.B.	R.R.L.	R.J.L.	R.J.L. 5-8-62	

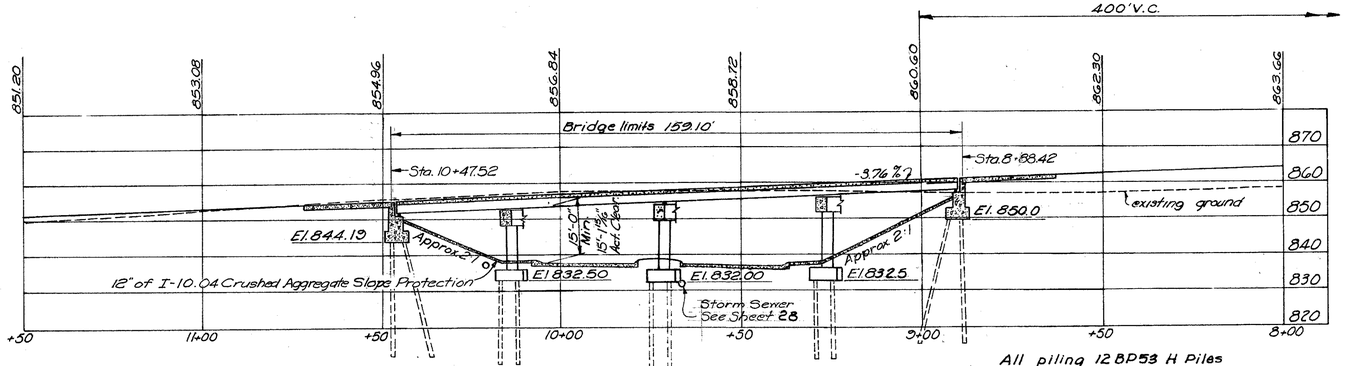
FED. RD. DIVISION	STATE	PROJECT	
	OH10	S-242 (2)	

159
187

HAMILTON COUNTY
C.R. 453 B



PLAN



SECTION ALONG ℄ OF PLAINFIELD RD.

All piling 12 BP 53 H Piles
Estimated pay lengths
N. Abut. 33' to 40'
N. Pier 25' to 29'
C. Pier 24' to 32'
S. Pier 24' to 30'
S. Abut. 38' to 44'

CROSS COUNTY CURVE DATA

P.I. Sta. 188+31.11
Δ = 32°-26'-35"
D = 1°-10'-00"
R = 4911.07
L = 2780.83
T = 1428.80
Superelev. = 0.020'/ft.

TRAFFIC COUNT

2050 Northbound } By Hamilton Co.
3119 Southbound } summer of 1961
5169 Total

PROPOSED STRUCTURE

TYPE: Continous steel beam with reinforced concrete deck and substructure.

SPANS: 30'-0, 42'-6, 45'-6, 36'-6

ROADWAY: 44'-0" f/f curbs, with 2-4'-0" sidewalks

LOAD FREQUENCY: CF 400 (57)

SKEW: 11°-46'-00" L.F.

WEARING SURFACE: 1" Monolithic Concrete

APPROACH SLABS: 25' Long

ALIGNMENT: Tangent

INDEX

Sheet No.	Description
	Steel Beam Bridge
159	Site Plan
160	Borings
161	General Plan & Estimated Quantities
162	Piers
163	Abutments
164	Steel Framing Plan & Details
165	Structural Steel Details
166	Slab & Railing Details
167	Reinforcing Steel Details
168	Approach Slabs

B.M. Elev. 857.67 P.O.T. 532.19' from P.T.
Sta. 201+83.14

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SITE PLAN
PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

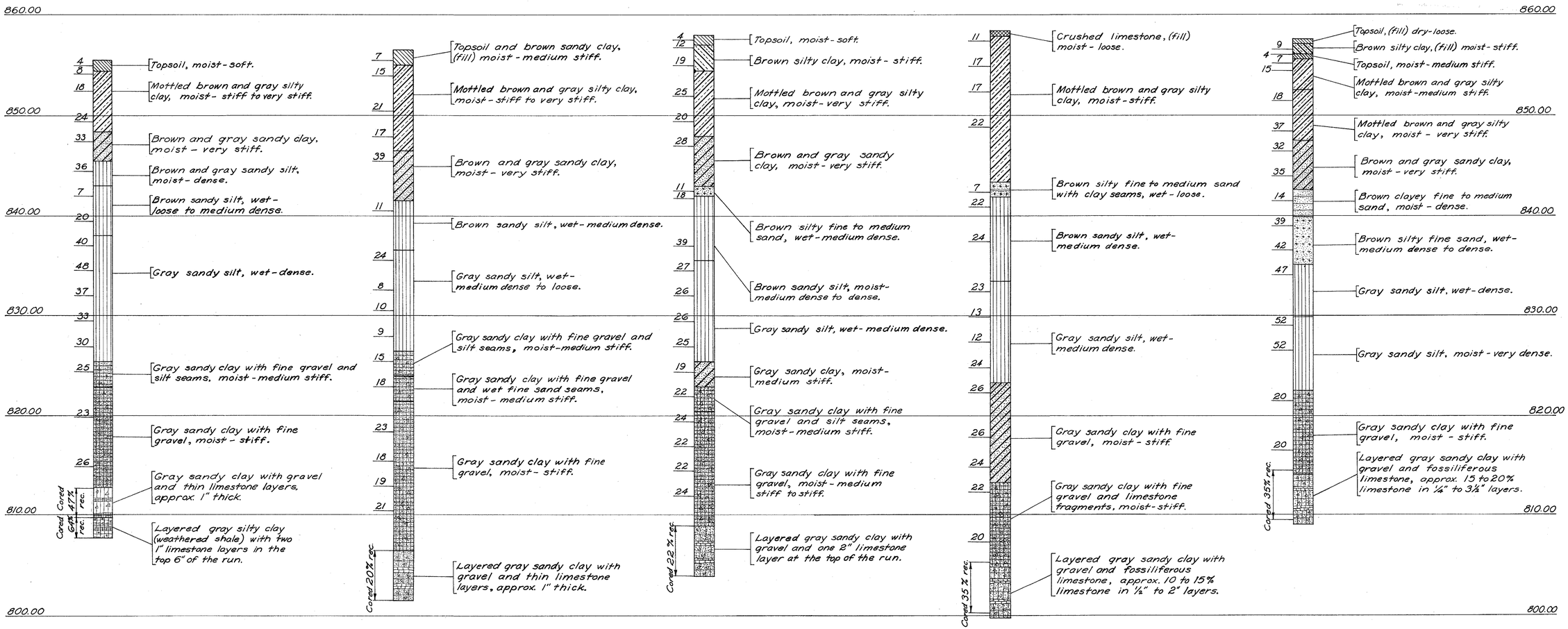
SCALE: 1" = 20'

PRESENT TOPO.		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEW
T.G.C.	V.W.S.	T.G.C.	V.W.S.	R.J.L. 6-11-62	R.J.L.

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

160/187

HAMILTON COUNTY
C.R. 453 B



The State does not guarantee the accuracy of the sounding information.

Test borings in overburden made with 2" O.D. split spoon. Blows per foot on split spoon sampler are for 140 lb. hammer dropping 30 inches. Borings were made between 7-10-61 and 7-20-61.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

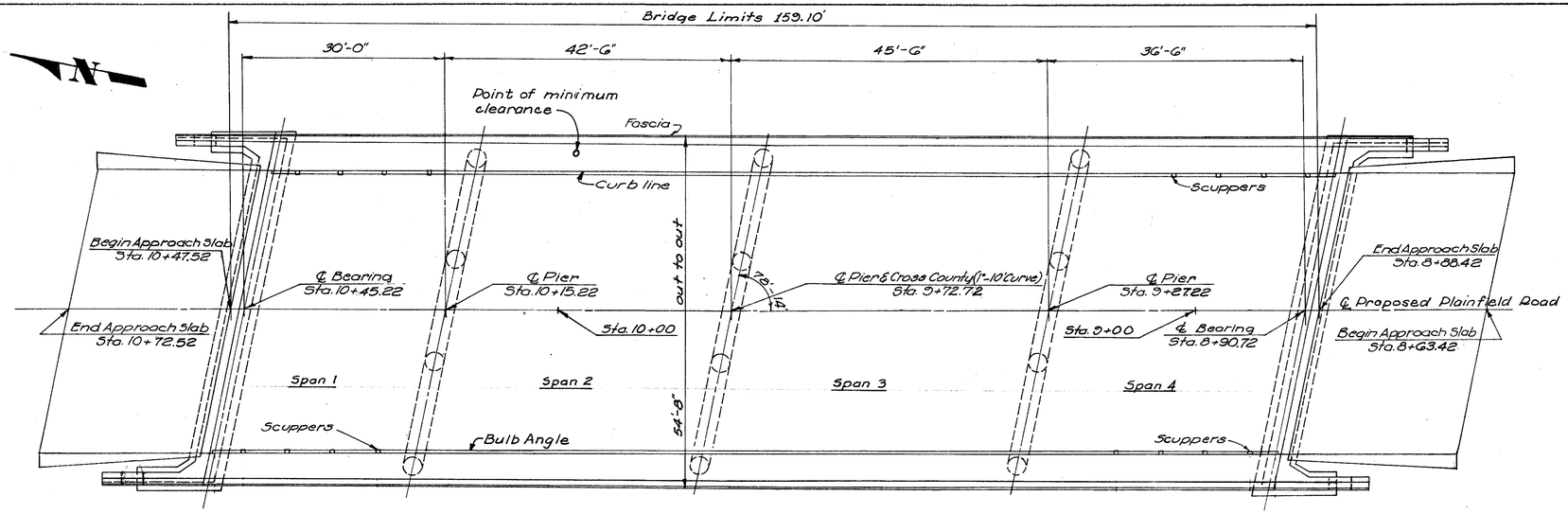
BORINGS
PLAINFIELD ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	R.R.L.	R.R.L.	L.R.C.	R.J.L.	6-11-62	

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

161/187

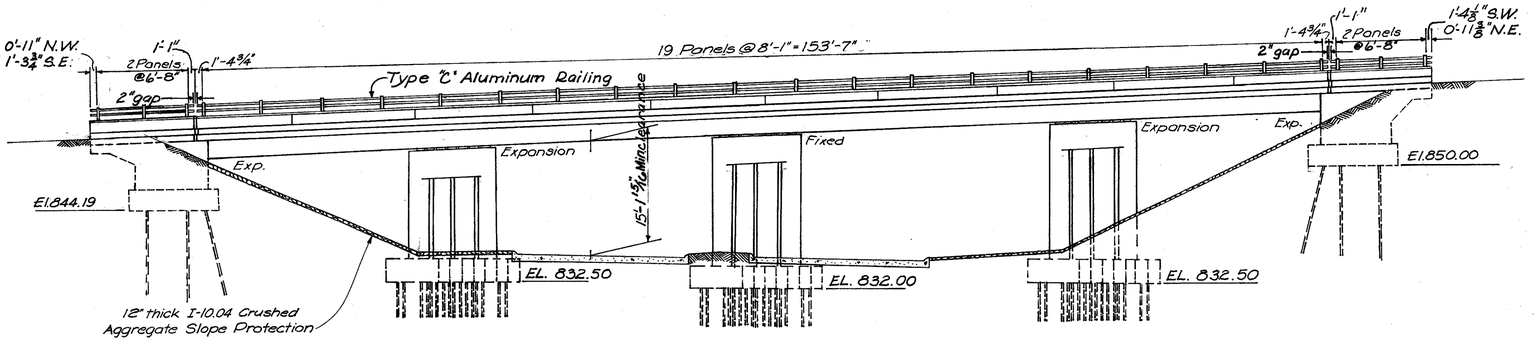
HAMILTON COUNTY
C.R. 453B



PLAN

Note: Pier & Abutment ℄'s are parallel

PAVEMENT ELEVATIONS	
Station	℄
8+50	862.30
8+62.5	862.91
8+75	863.50
8+87.5	864.06
9+00	860.60
9+12.5	860.13
9+25	859.66
9+37.5	859.19
9+50	858.72
9+62.5	858.25
9+75	857.78
9+87.5	857.31
10+00	856.84
10+12.5	856.37
10+25	855.90
10+37.5	855.43
10+50	854.96
10+62.5	854.49
10+75	854.02
10+87.5	853.55
11+00	853.08



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawing CSB-2-56 sheet No.2 revised 2-2-59 and AR-1-57 revised 4-2-62, and Supplemental Specification 510 dated 7-12-62.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

TEMPORARY DUN-AROUND ROAD: Pavement shall be Class A (20' wide) with 2G' out to out of shoulders.

EXCAVATION QUANTITY for the abutments in addition to that outlined in Sec. E-209 includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09, and by the finished slope of the cut.

PILES shall be driven, with a hammer of not less than 15,000 ft. lbs. per blow, to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 5-18.05 is not less than the following indicated value for a pile hammer.
For the abutment piles, 60 tons per pile using a 15,000 ft. lb. or greater hammer. *
For the pier piles, 65 tons per pile using a 15,000 ft. lb. or greater hammer. *

CONTINUOUS BEAM SPLICES: If beams having depths differing by more than 1/8" are to be spliced by butt welding, the depth of the smaller-depth beam shall be increased by splitting the web longitudinally at a distance of 1½" below the bottom of the top flange and for a distance sufficient to allow the flange to be bent up at a slope of not more than 3/8" per foot, after which the split in the web shall be completely welded with full depth penetration and ground flush.

WELDING of structural steel shall be class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

SHOP PAINTING STEEL. The surface preparation of all steel, requiring shop painting as per the Plans and Specifications, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.

SHEET LEAD shall conform to the requirements of ASTM Designation B29 without restriction to the Common Desilverized type.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

SURFACE FINISH OF CONCRETE: The requirements of Sec. 511.22, Rubbed Finish, shall apply to the following exposed concrete surfaces: the entire superstructure except the top and bottom surfaces of sidewalks and roadway and the entire surface of piers and abutments except the bridge seats, backwalls and faces of abutments between outside beams.

MACHINE FINISH: At the Contractors option, the concrete deck may be finished by the use of a finishing machine.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

*PILE DESIGN LOAD is 45 tons per pile for abutment and pier piles.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	South Abut.	North Abut.	North Pier	South Pier	Center Pier	Gen'l.
E2	528	Cu.Yds.	Unclassified excavation		137	153	67	87	84	
511	267	Cu.Yds.	Class "C" concrete, superstructure	267						
511	121.3	Cu.Yds.	Class "C" concrete, pier caps & columns				38.5	42.0	40.8	
511	106.1	Cu.Yds.	Class "E" concrete, abuts. above footings		53.7	52.4				
511	195.6	Cu.Yds.	Class "E" concrete, footings		48.0	48.0	33.2	33.2	33.2	
514	122911	Lbs.	Reinforcing steel	13859	5981	5951	11,866	12,786	12968	
517	154,476	Lbs.	Structural steel	154,476						
518	154,476	Lbs.	Field painting of structural steel	154,476						
514	374.6	Lin.Ft.	Railing (Type "C" Aluminum Railing & Concrete Parapet)	312.4	31.5	30.7				
516	Lump	Sum	First Test Pile							Lump
518	2570	Lin.Ft.	Steel piles, 12BP53		617	584	432	432	464	
529	32	Cu.Yds.	Porous backfill		16	16				
529	16	Each.	Scuppers, including supports	16						
1-10	697	Sq.Yds.	Crushed Aggregate Slope Protection							697
510	267	Each	Water reducing, set retarding admixture	267						

Note: Quantities for approach slabs not included.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

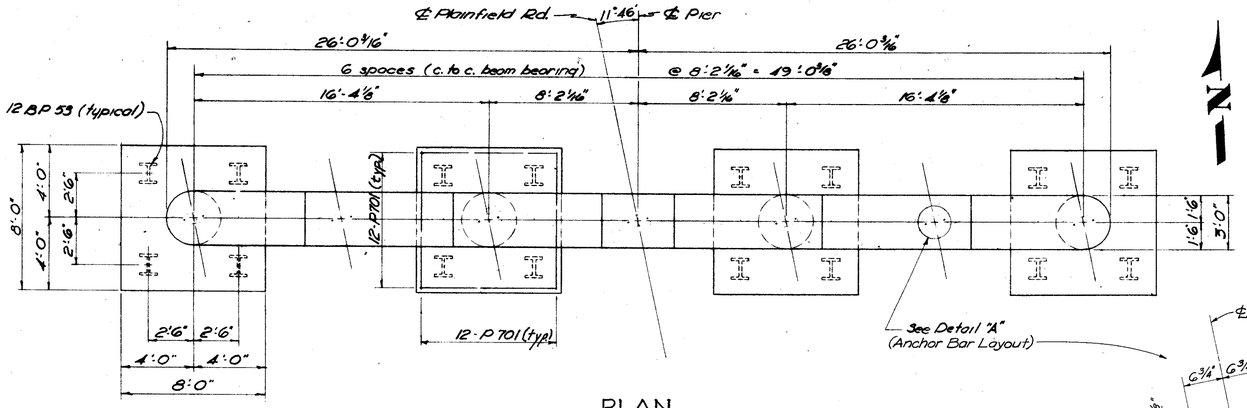
GENERAL PLAN & ESTIMATED QUANTITIES PLAINFIELD ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.G.C.	R.R.	V.W.S.	R.J.L.	R.J.L. 6-11-62	

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

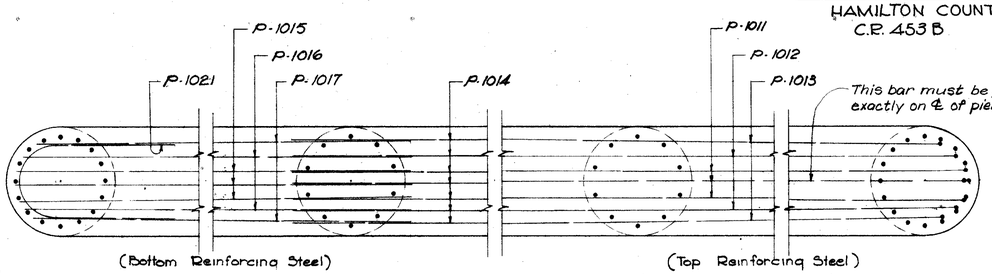
162/187

HAMILTON COUNTY
C.R. 453 B

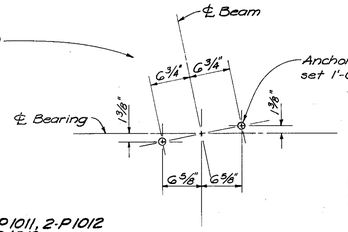


PLAN

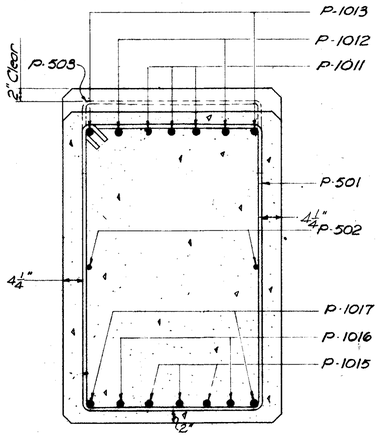
Special care shall be taken in placing reinf. steel in the pier cap so that it will not interfere with the anchor bars.



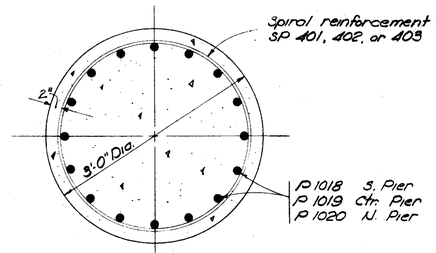
SECTION D-D



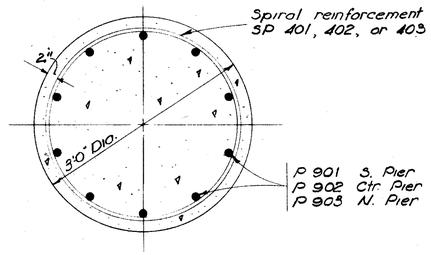
DETAIL "A"



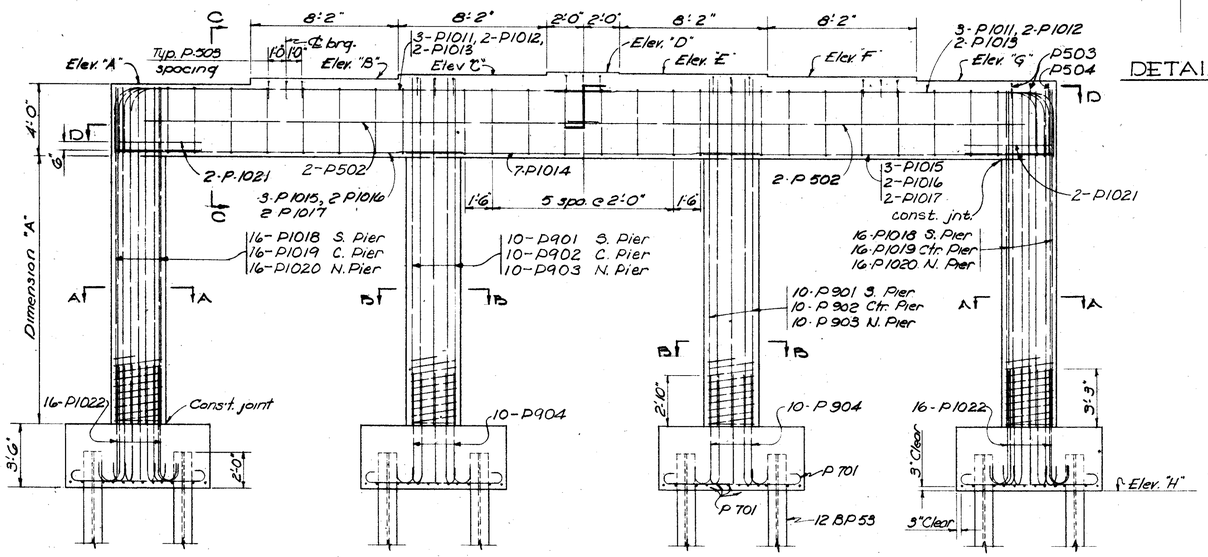
SECTION C-C



SECTION A-A
(Exterior columns only)
Scale: 1" = 1'-0"



SECTION B-B
(Interior columns only)



ELEVATION

	ELEVATION								DIM.
	A	B	C	D	E	F	G	H	A
NORTH PIER	852.30	852.49	852.68	852.87	852.80	852.74	852.68	832.50	12'-3⅜"
CENTER PIER	853.95	854.14	854.32	854.51	854.45	854.39	854.32	832.00	14'-5⅝"
SOUTH PIER	855.57	855.76	855.95	856.14	856.08	856.01	855.95	832.50	15'-6⅞"

Note: All Reinforcing steel shall have 2" min. cover unless otherwise noted.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

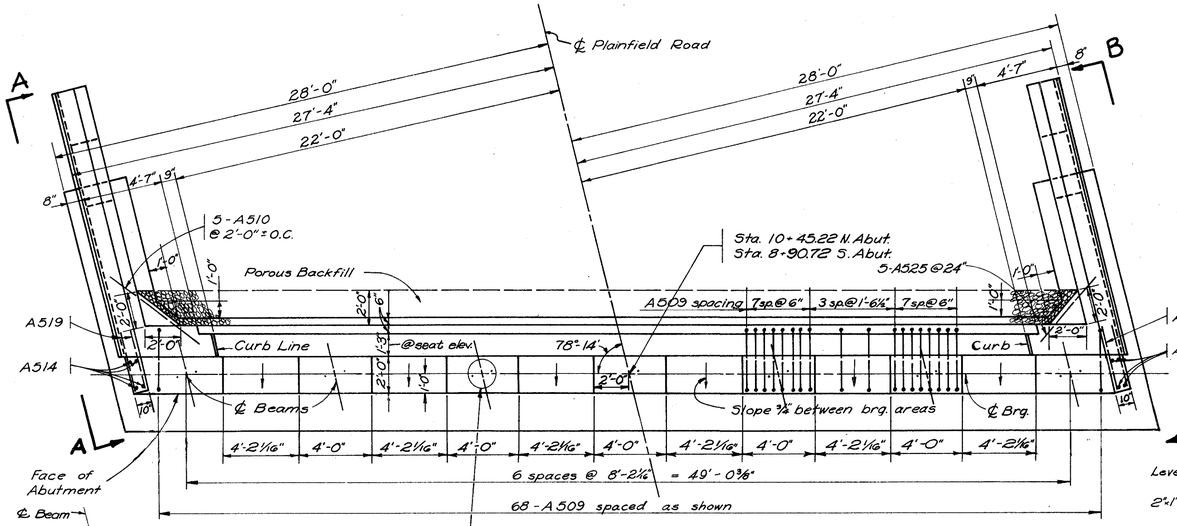
PIERS
PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.J.L.	T.G.C.	T.G.C.	W.B.S	R.J.L. 6-11-62	

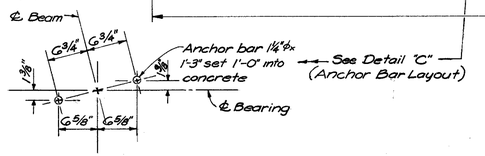
FED. RD DIVISION	STATE	PROJECT	
	OHIO	S 242 (2)	

HAMILTON COUNTY
C.R. 453 B

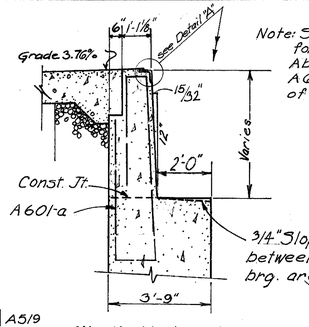
163
187



PLAN

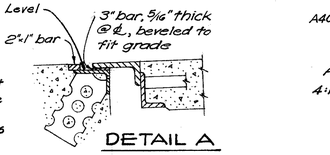


DETAIL C



(North Abutment)

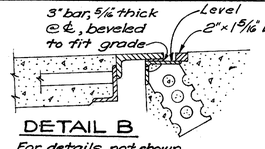
Note: Section CC similar for both North & South Abutments except for A601 bars and slope of backwall.



DETAIL A

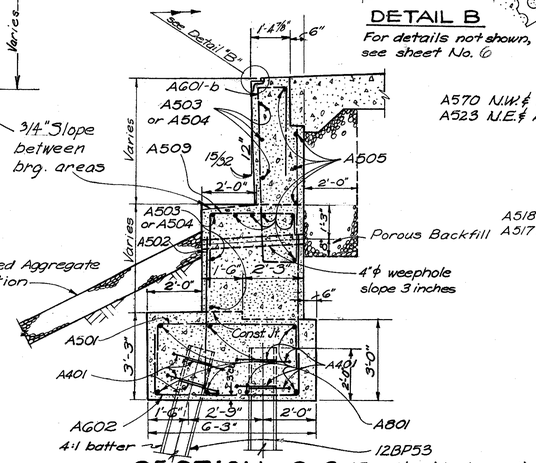
For details not shown, see sheet No. 164

Construction Procedure - The embankment shall be placed and compacted up to the finished spill-thru slope after which excavation shall be made and the piles driven.

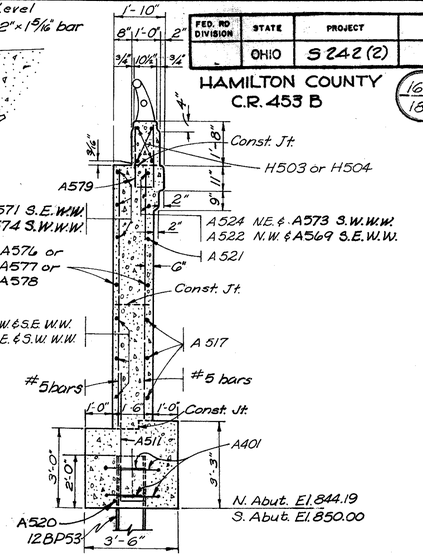


DETAIL B

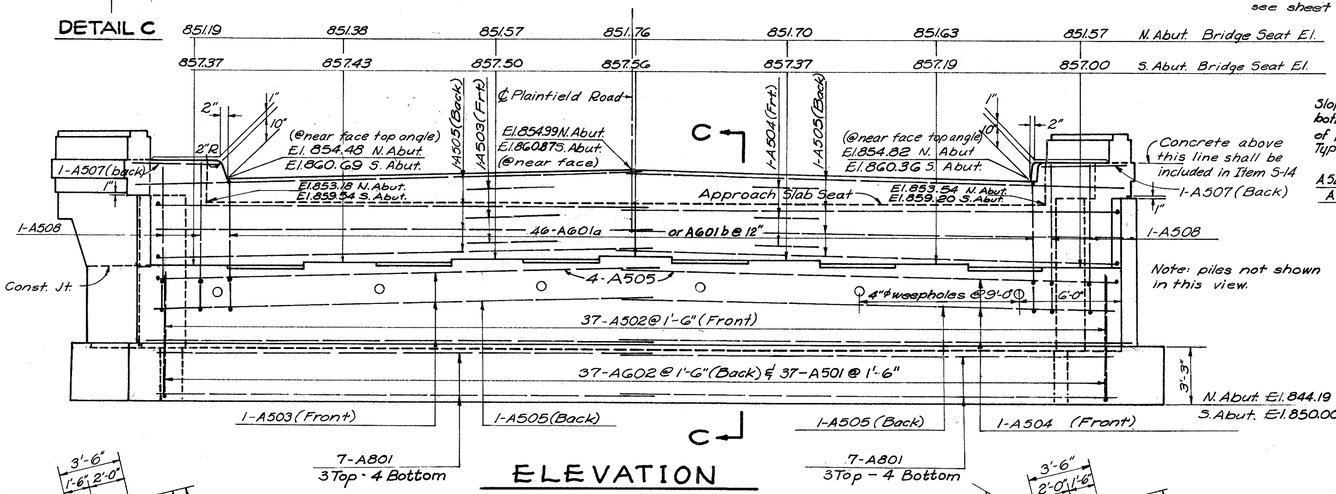
For details not shown, see sheet No. 6



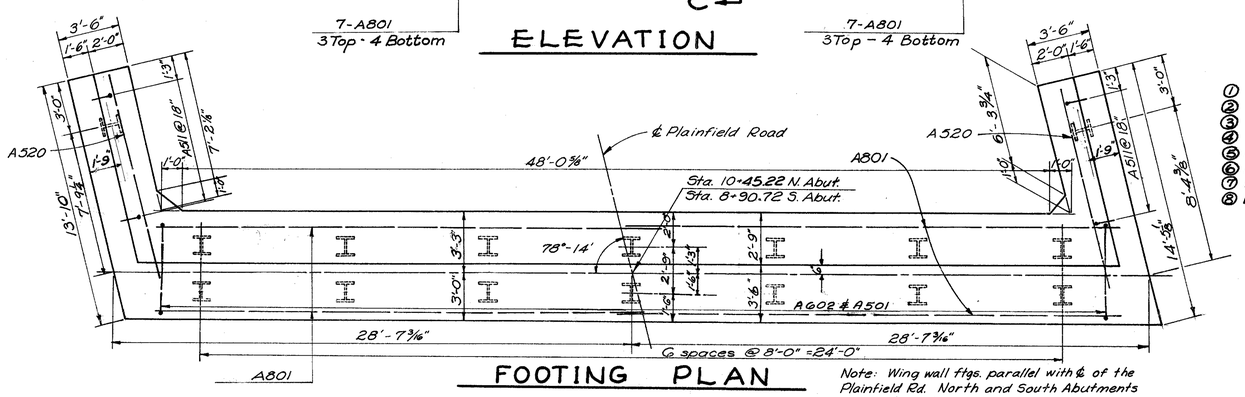
SECTION C-C (South Abutment)



SECTION D-D

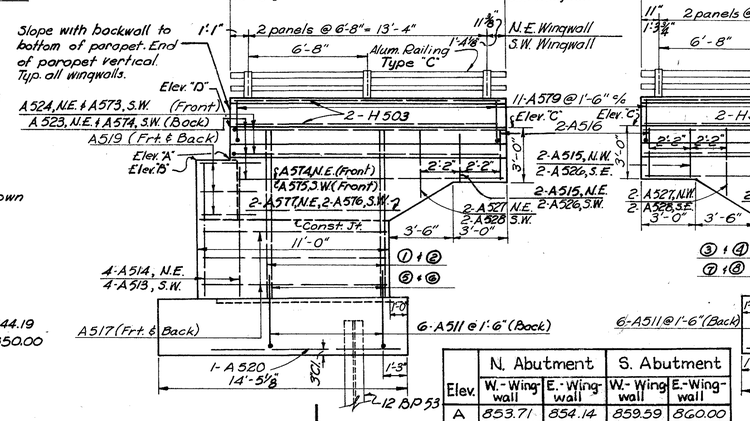


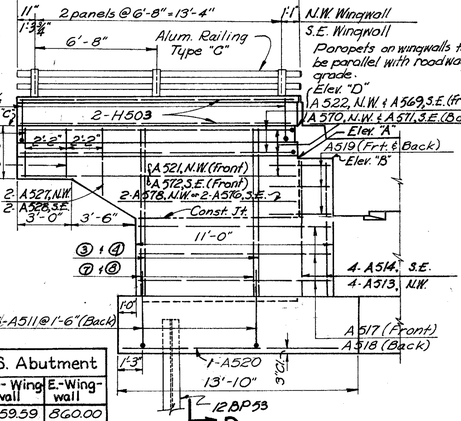
ELEVATION



FOOTING PLAN

Note: Wing wall ftgs. parallel with ℄ of the Plainfield Rd. North and South Abutments similar exept as noted.





Elev.	N. Abutment		S. Abutment	
	W.-Wing-wall	E.-Wing-wall	W.-Wing-wall	E.-Wing-wall
A	853.71	854.14	859.59	860.00
B	853.79	854.21	859.53	859.93
C	854.88	855.30	861.91	862.28
D	855.46	855.88	861.34	861.75

ELEVATION B-B

ELEVATION A-A

① 1-A529 thru A532 @ 2'-6" (Front N.E.)
② 1-A533 thru A536 @ 2'-6" (Front S.W.)
③ 1-A537 thru A540 @ 2'-6" (Front N.W.)
④ 1-A541 thru A544 @ 2'-6" (Front S.E.)
⑤ 1-A545 thru A550 @ 1'-6" (Back N.E.)
⑥ 1-A551 thru A556 @ 1'-6" (Back S.W.)
⑦ 1-A557 thru A562 @ 1'-6" (Back N.W.)
⑧ 1-A563 thru A568 @ 1'-6" (Back S.E.)

Note:

1. For End Finish Details, see Sh. No. 164
2. For Alum. Railing Details, see Std. Dwg. AR-1-57. Type "C."
3. All Reinf. steel to have 2" min. cover unless otherwise noted.

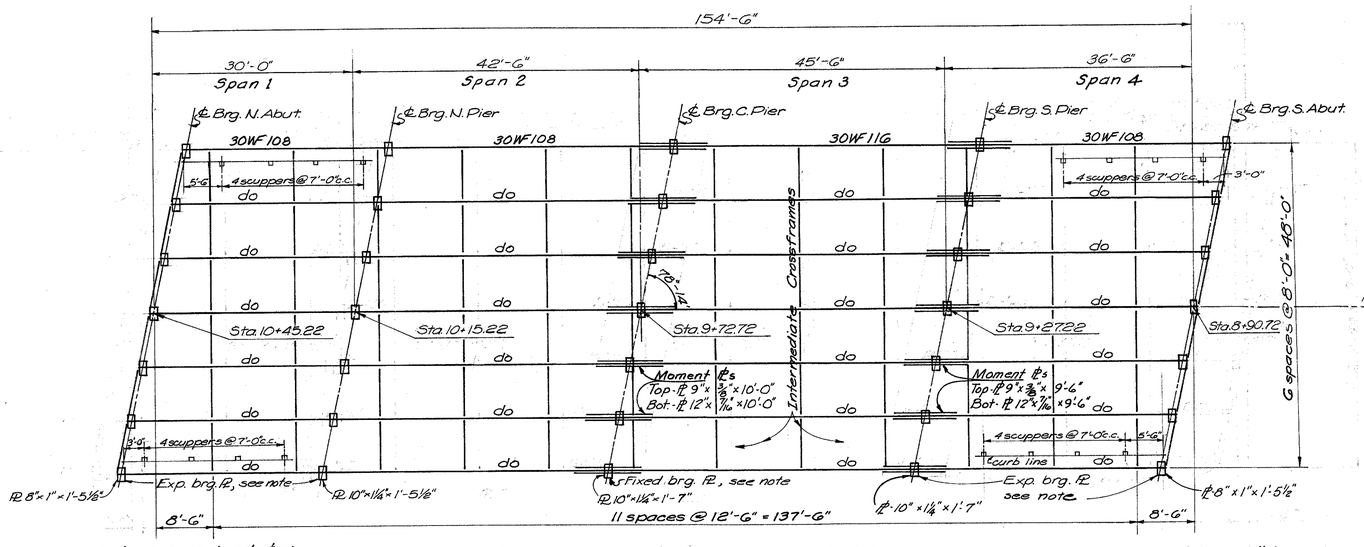
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

ABUTMENTS
PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.J.L.	R.R.L.	R.R.L.	W.B.S. T.G.C.	R.J.L. 6-11-62	

FED. RD. DIVISION	STATE	PROJECT		164 / 187
	OHIO	S-242(2)		

HAMILTON COUNTY
C.R.453 B



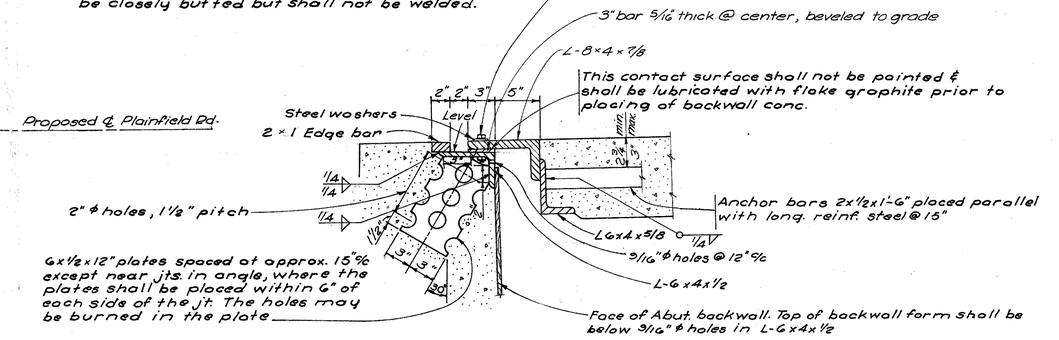
Note: Beam spliced at piers See detail Sheet 165

FRAMING PLAN

Note ~ All pier and abutment ℄s parallel

A welded butt jt. in the end finish, along the ℄ of roadway, will be required for that portion of the end finish attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the jts. at the apex of the crown. These shall be closely butted but shall not be welded.

5/8"x2" bolts at not more than 2'-0" ℄ with nuts tack-welded to under side of lower angle. 1 1/16" holes in upper angle. Center 5/8" bolts in 1 1/16" holes. Apply flake graphite between washers & angle. Turn bolt tight & release one-half turn. Remove bolts as soon as conc. has set, preferably within two hours after placing, to avoid damage due to temp. exp. or contraction of superstructure. Fill holes with bitu. material.



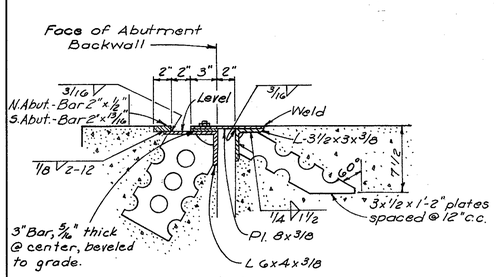
SECTION F-F
ROADWAY END FINISH
AT NORTH ABUTMENT

See Detail B, sheet No. 163 for S. Abut.

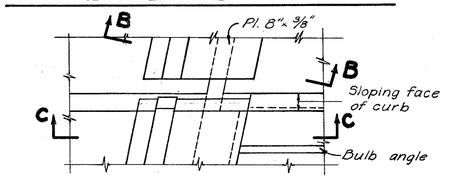
Omit shop coat on all portions of end finish. Portions in contact with steel or with conc. shall not be painted. All other portions shall be cleaned & given the shop coat in the field as well as the two field coats.

Span	Deflection due to weight of steel		Deflection due to remaining dead load	
	ext. beams	int. beams	ext. beams	int. beams
1	0	0	1/16"	1/16"
2	0	0	1/8"	1/8"
3	0	0	3/16"	1/8"
4	0	0	1/8"	1/8"

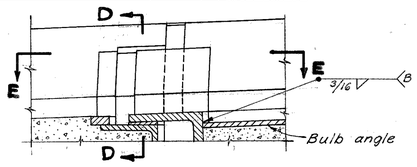
No Shop Camber required.



SECTION B-B
CURB END FINISH

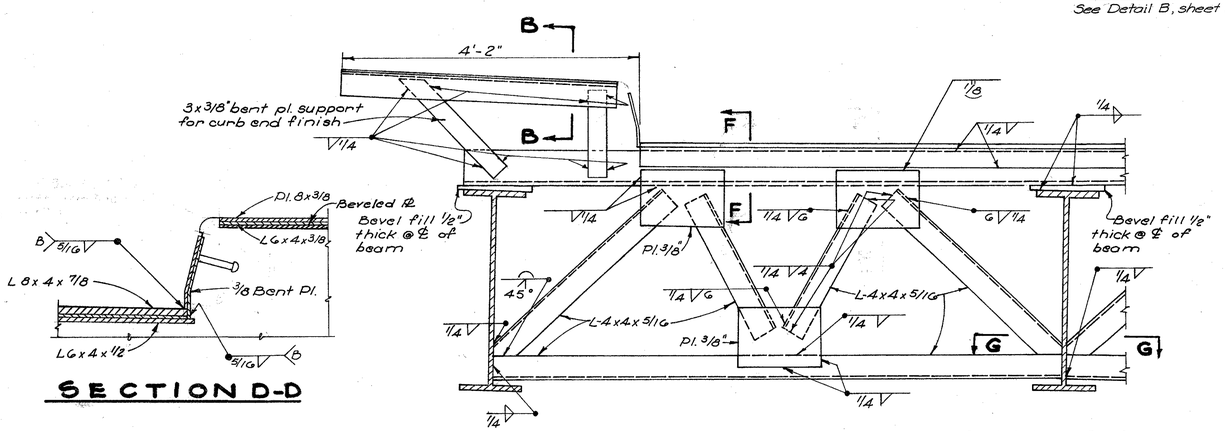


PART PLAN



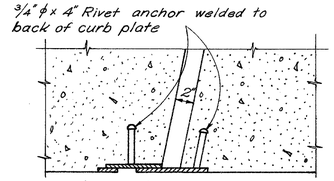
SECTION C-C

CURB PLATE DETAILS

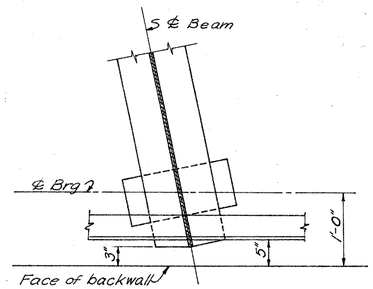


SECTION D-D

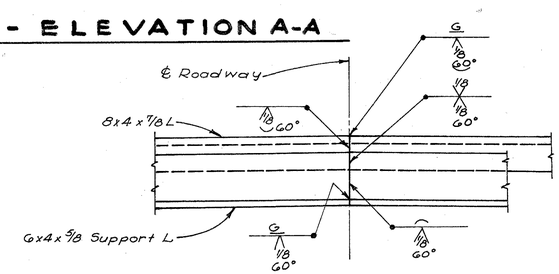
END CROSS FRAME - ELEVATION A-A



SECTION E-E



SECTION G-G



WELDED BUTT JT. IN SUPERSTRUCTURE
END FINISH ANGLES AT ℄ OF ROADWAY

NOTES:

For Bearing Plate details, see Std. Dwg. CSB-2-50, Sh. No. 3

For Scupper Details, see Sh. No. 165

For Details of Intermediate Crossframes, see Sh. No. 166

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

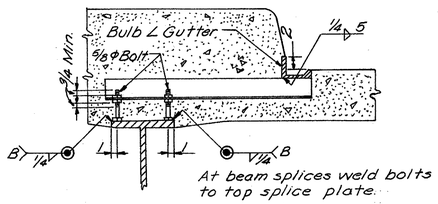
STEEL FRAMING PLAN & DETAILS PLAINFIELD ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.G.C.	V.W.S.	V.W.S.	W.B.S.	R.J.L.	G-11-62	

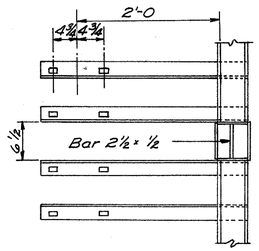
FED. RD DIVISION	STATE	PROJECT	
	OHIO	5-242(2)	

165/187

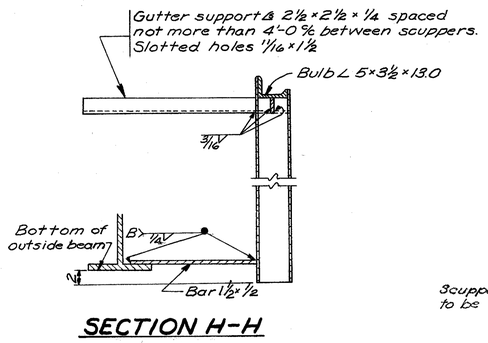
HAMILTON COUNTY
C.R. 453 B



GUTTER SUPPORT



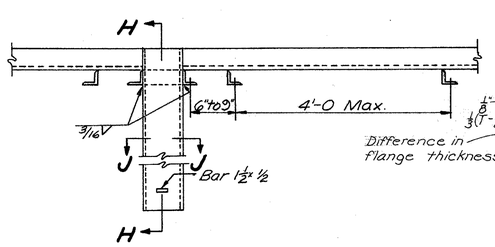
PART PLAN



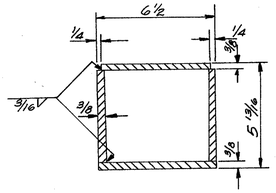
SECTION H-H

Scuppers, bulb angles, & supports to be included in Item 3-7.

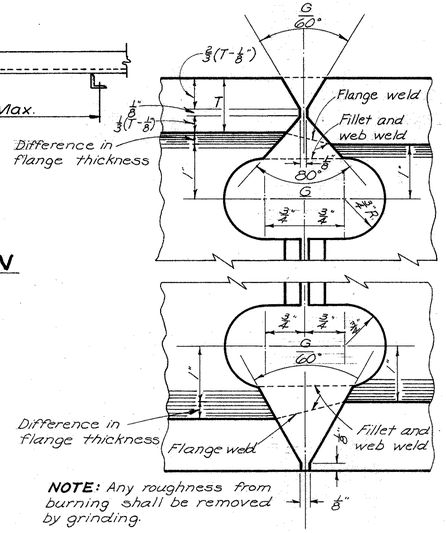
Note: Gutter shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.



REAR ELEVATION

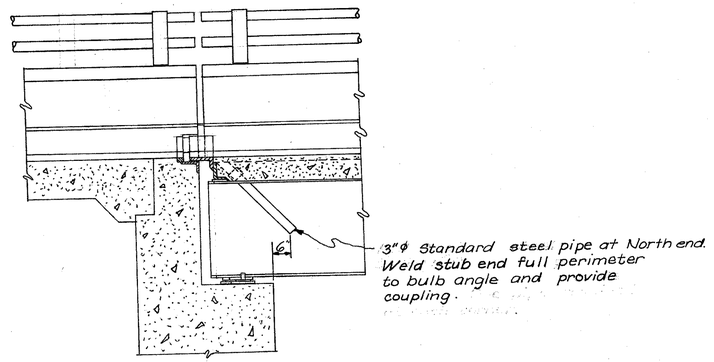


SECTION J-J



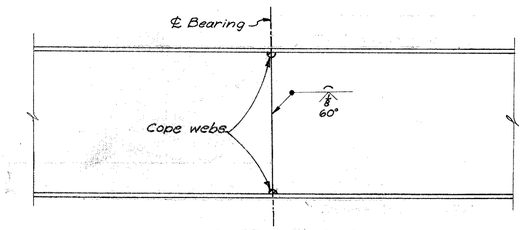
NOTE: Any roughness from burning shall be removed by grinding.

END PREPARATION of ROLLED BEAMS FOR FIELD WELDING

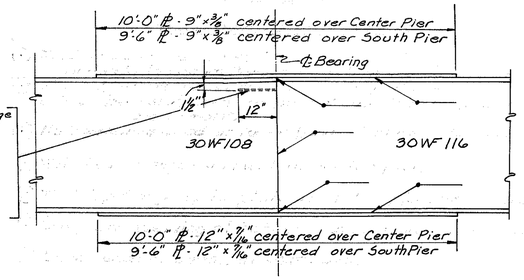


DRAIN PIPE AT END OF BULB ANGLE

GUTTER AND SCUPPER DETAILS



ELEVATION
BEAM SPLICE - NORTH PIER



Cut Web and slope top flange of 30 WF 108 to meet top flange of 30 WF 116. Close opening with butt weld. (detail shown for Center Pier) Also see general notes, sheet 161

ELEVATION
BEAM SPLICE - SOUTH & CENTER PIERS

BEAM SPLICE WELDING PROCEDURE

① Welding Sequence:
Butt weld the beam flanges and web as follows:
a) make one pass on each flange, then two on the web
b) repeat, using one pass at each location, until welds are complete.
Weld the bottom and top moment plates.

② No raise is required at forward ends of spans while making welds

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

STRUCTURAL STEEL DETAILS
PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.G.C.	R.A.M.	R.A.M.	R.J.L.	R.J.L.	G-11-62	

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

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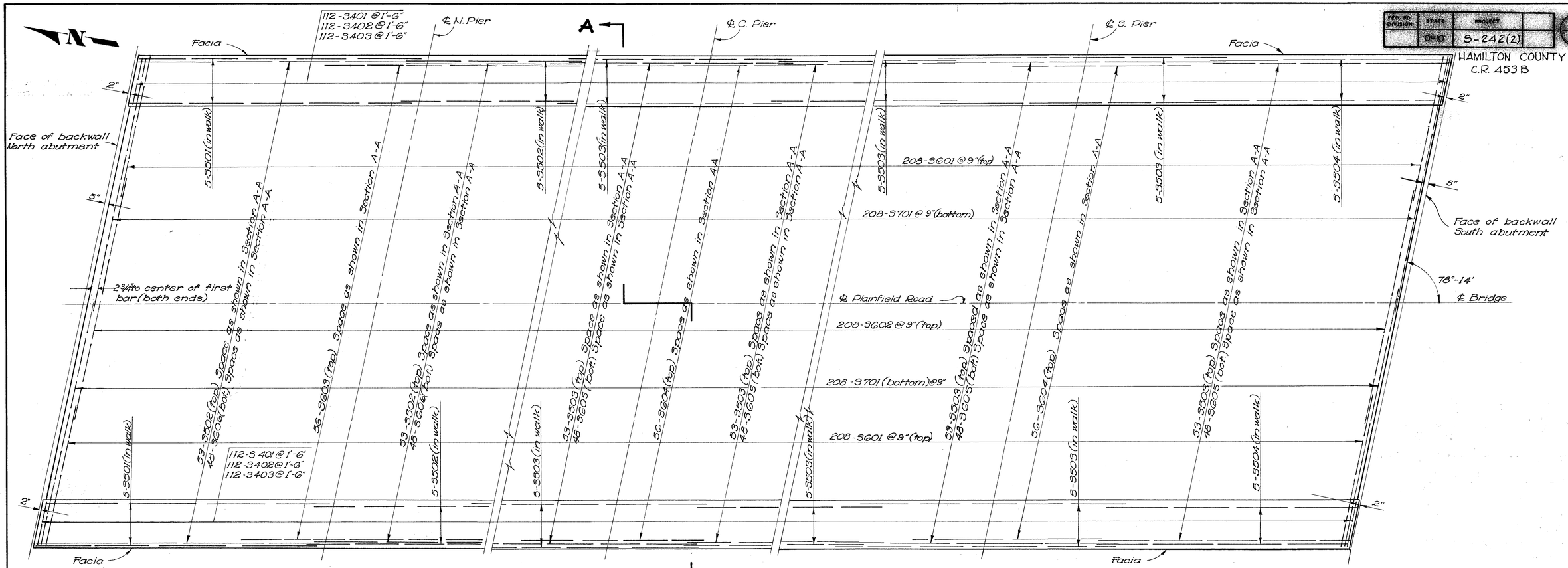
187

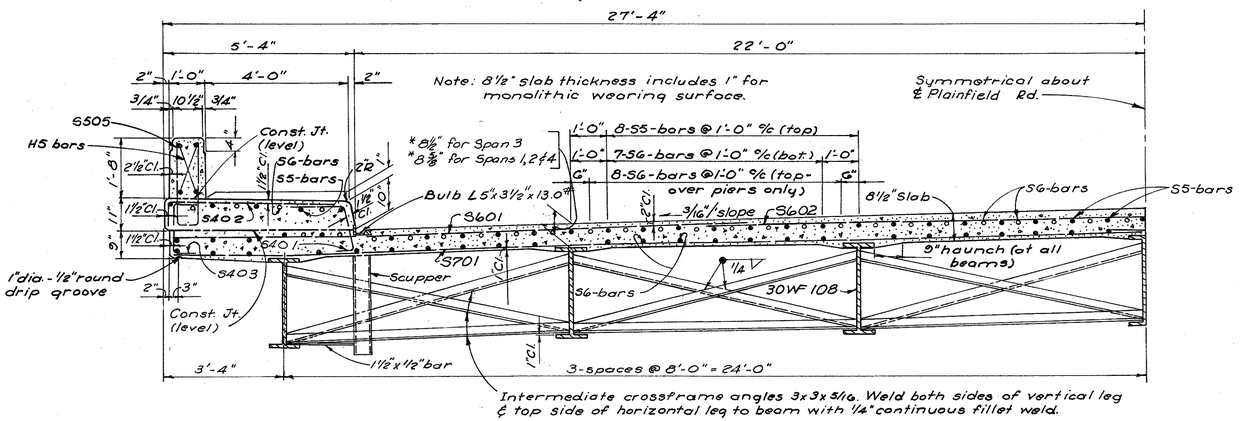
HAMILTON COUNTY
C.R. 453 B



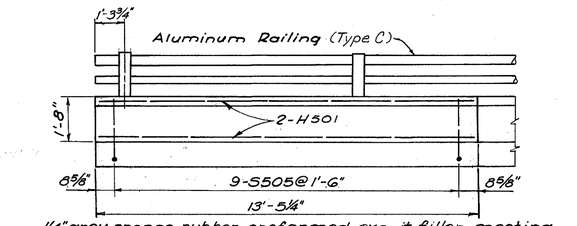
DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 3" wide, may vary from this dimension between the limits of ½" and 12", except that the maximum slope shall not exceed 3" per foot. Payment for deck slab concrete shall be based on the 9" width.

*This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or confirmation required to place it parallel to the finished grade.

PLAN

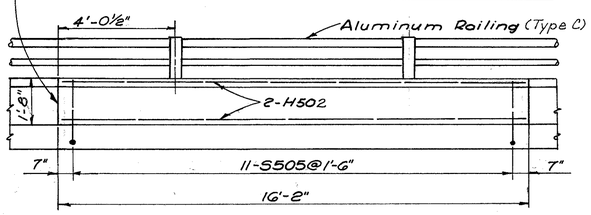


HALF TRANSVERSE SECTION A-A



¼" grey sponge rubber preformed exp. jt. filler meeting the requirements of Sect. M-10.02, Type 1. Space two panel lengths apart. (Incl. with Item S-14 for payment)

END PARAPET PANEL



INTERMEDIATE PARAPET PANEL

Note:

Lap reinf. bars 30d min.

For end finish details, see Sh. 164

For location & details of scuppers (not shown), see Shs. 164 & 165 respectively.

For aluminum railing details, see State of Ohio Std. Dwg. AR-1-57, Type "C".

For diagram showing stagger of S-603 & S-604 bars over piers, see Std. Dwg. CSB-2-56, sheet No. 2.

TYPICAL RAILING DETAILS

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SLAB & RAILING DETAILS PLAINFIELD ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.G.C.	WIK	V.W.S.	R.J.L.	R.J.L. 6-11-62	

FED. HIGHWAY DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

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187

HAMILTON COUNTY
C.P. 453 B

NORTH ABUTMENT				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A401	64	4'-10"	207	Bt.
A501	37	8'-11"	344	Bt.
A502	37	6'-2"	238	Bt.
A503	6	30'-3"	189	Bt.
A504	6	30'-3"	189	Bt.
A505	18	28'-4"	532	Str.
A507	2	4'-10"	10	Str.
A508	4	15'-6"	65	Bt.
A509	68	7'-2"	508	Bt.
A510	5	6'-6"	34	Str.
A511	12	5'-3"	65	Bt.
A513	4	6'-1"	25	Str.
A514	4	6'-6"	27	Str.
A515	4	2'-9"	11	Str.
A516	4	2'-8"	11	Str.
A517	9	10'-7"	99	Str.
A518	3	10'-10"	34	Str.
A519	12	3'-7"	45	Str.
A520	2	9'-8"	20	Str.
A521	1	14'-11"	16	Str.
A522	2	16'-10"	35	Bt.
A523	3	14'-10"	46	Str.
A524	2	17'-0"	35	Bt.
A525	5	5'-0"	26	Str.
A527	4	3'-6"	15	Str.
A529	1	7'-11"	8	Str.
A530	1	8'-0"	8	Str.
A531	1	8'-1"	8	Str.
A532	1	8'-2"	9	Str.
A537	1	7'-6"	8	Str.
A538	1	7'-7"	8	Str.
A539	1	7'-8"	8	Str.
A540	1	7'-9"	8	Str.

NORTH ABUTMENT (Cont.)				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A545	1	8'-2"	9	Str.
A546	1	8'-3"	9	Str.
A547	1	8'-3"	9	Str.
A548	1	8'-4"	9	Str.
A549	1	8'-5"	9	Str.
A550	1	8'-5"	9	Str.
A557	1	7'-9"	8	Str.
A558	1	7'-10"	8	Str.
A559	1	7'-11"	8	Str.
A560	1	7'-11"	8	Str.
A561	1	8'-0"	8	Str.
A562	1	8'-11"	9	Str.
A570	3	15'-2"	47	Str.
A574	1	15'-1"	16	Str.
A577	2	9'-1"	19	Str.
A578	2	9'-5"	20	Str.
A579	22	5'-3"	120	Bt.
AG01a	46	13'-8"	944	Bt.
AG02	37	12'-10"	713	Bt.
A801	14	28'-10"	1078	Str.
* H503	8	14'-10"		Str.

Total Weight 5,951

NORTH PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	24	12'-11"	323	Bt.
P502	4	25'-4"	106	Str.
P503	17	4'-4"	77	Bt.
P504	1	3'-8"	4	Bt.
P701	96	9'-4"	1831	Bt.
P903	20	15'-11"	1082	Str.
P904	20	7'-4"	499	Bt.
P1011	6	30'-9"	794	Bt.
P1012	4	30'-4"	522	Bt.
P1013	4	29'-11"	515	Bt.
P1014	7	19'-7"	591	Str.
P1015	6	19'-2"	495	Str.
P1016	4	19'-0"	327	Str.
P1017	4	18'-9"	323	Str.
P1020	32	15'-11"	2192	Str.
P1021	4	9'-9"	168	Bt.
P1022	32	7'-11"	1090	Bt.

Total Weight 10,939

CENTER PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	24	12'-11"	323	Bt.
P502	4	25'-4"	106	Str.
P503	17	4'-4"	77	Bt.
P504	1	3'-8"	4	Bt.
P701	96	9'-4"	1831	Bt.
P902	20	18'-1"	1230	Str.
P904	20	7'-4"	499	Bt.
P1011	6	30'-9"	794	Bt.
P1012	4	30'-4"	522	Bt.
P1013	4	29'-11"	515	Bt.
P1014	7	19'-7"	591	Str.
P1015	6	19'-2"	495	Str.
P1016	4	19'-0"	327	Str.
P1017	4	18'-9"	323	Str.
P1019	32	18'-1"	2490	Str.
P1021	4	9'-9"	168	Bt.
P1022	32	7'-11"	1090	Bt.

Total Weight 11,385

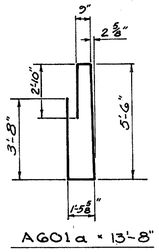
SOUTH PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	24	12'-11"	323	Bt.
P502	4	25'-4"	106	Str.
P503	17	4'-4"	77	Bt.
P504	1	3'-8"	4	Bt.
P701	96	9'-4"	1831	Bt.
P901	20	19'-3"	1309	Str.
P904	20	7'-4"	499	Bt.
P1011	6	30'-9"	794	Bt.
P1012	4	30'-4"	522	Bt.
P1013	4	29'-11"	515	Bt.
P1014	7	19'-7"	591	Str.
P1015	6	19'-2"	495	Str.
P1016	4	19'-0"	327	Str.
P1017	4	18'-9"	323	Str.
P1018	32	19'-3"	2651	Str.
P1021	4	9'-9"	168	Bt.
P1022	32	7'-11"	1090	Bt.

Total Weight 11,625

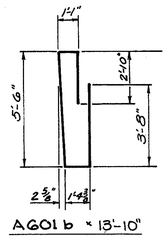
SUPERSTRUCTURE				
MARK	NO.	LENGTH	WEIGHT	SHAPE
S401	224	3'-4"	499	Bt.
S402	224	5'-2"	773	Bt.
S403	224	2'-6"	374	Bt.
S501	10	28'-3"	295	Str.
S502	116	28'-0"	3388	Str.
S503	242	26'-10"	6773	Str.
S504	10	27'-1"	282	Str.
S505	212	5'-0"	1106	Bt.
S601	416	16'-0"	11,055	Str.
S602	208	27'-4"	8539	Str.
S603	56	17'-0"	1430	Str.
S604	112	18'-0"	3028	Str.
S605	192	27'-2"	7834	Str.
S606	96	28'-0"	4037	Str.
S701	416	28'-9"	24,446	Str.
* H501	16	13'-1"		Str.
* H502	64	15'-10"		Str.
Total Weight			73,859	

SOUTH ABUTMENT				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A401	64	4'-10"	207	Bt.
A501	37	8'-11"	344	Bt.
A502	37	6'-2"	238	Bt.
A503	6	30'-3"	189	Bt.
A504	6	30'-3"	189	Bt.
A505	18	28'-4"	532	Str.
A507	2	4'-10"	10	Str.
A508	4	15'-6"	65	Bt.
A509	68	7'-2"	508	Bt.
A510	5	6'-6"	34	Str.
A511	12	5'-3"	66	Bt.
A513	4	6'-1"	25	Str.
A514	4	6'-6"	27	Str.
A516	4	2'-8"	11	Str.
A517	9	10'-7"	99	Str.
A518	3	10'-10"	34	Str.
A519	12	3'-7"	45	Str.
A520	2	9'-8"	20	Str.
A525	5	5'-0"	26	Str.
A526	4	2'-7"	11	Str.
A528	4	3'-8"	15	Str.
A533	1	8'-3"	9	Str.
A534	1	8'-2"	9	Str.
A535	1	8'-1"	8	Str.
A536	1	8'-0"	8	Str.
A541	1	8'-8"	9	Str.
A542	1	8'-7"	9	Str.
A543	1	8'-6"	9	Str.
A544	1	8'-5"	9	Str.
A551	1	8'-6"	9	Str.
A552	1	8'-5"	9	Str.
A553	1	8'-5"	9	Str.
A554	1	8'-4"	9	Str.
A555	1	8'-4"	9	Str.
A556	1	8'-3"	9	Str.
A563	1	8'-11"	9	Str.
A564	1	8'-10"	9	Str.
A565	1	8'-10"	9	Str.
A566	1	8'-9"	9	Str.
A567	1	8'-8"	9	Str.
A568	1	8'-8"	9	Str.
A569	2	17'-3"	36	Bt.
A571	3	15'-7"	49	Str.
A572	1	15'-4"	16	Str.
A573	2	17'-3"	36	Bt.
A574	3	15'-1"	47	Str.
A575	1	15'-4"	16	Str.
A576	4	9'-11"	41	Str.
A579	22	5'-3"	120	Bt.
AG01b	46	13'-10"	956	Bt.
AG02	37	12'-10"	713	Bt.
A801	14	28'-10"	1078	Str.
* H504	8	15' 3"		Str.
Total Weight			5981	

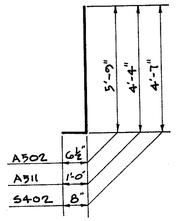
REPLACEMENT BARS			
MARK	NO.	LENGTH	WEIGHT
RE401	1	5'-3"	
RE501	2	5'-7"	
RE601	3	5'-11"	
RE701	2	6'-3"	
RE801	1	6'-6"	
RE901	1	6'-10"	
RE1001	2	7'-3"	



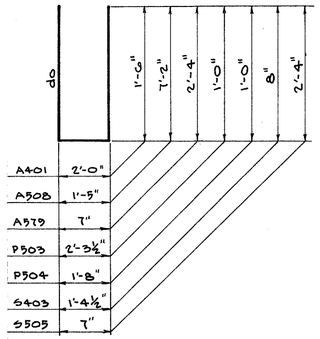
AG01a × 13'-8"



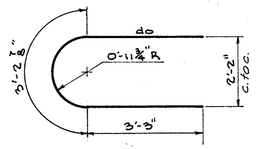
AG01b × 13'-10"



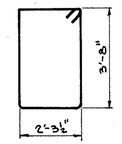
A502 × 6'-2"
A511 × 5'-3"
S402 × 5'-2"



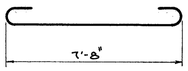
A401 × 4'-10"
A508 × 15'-6"
A579 × 5'-0"
P503 × 4'-4"
P504 × 3'-8"
S403 × 2'-6"
S505 × 5'-0"



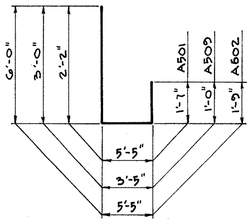
P1021 × 9'-9"



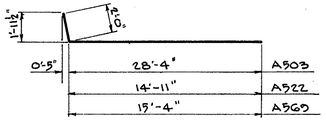
P501 × 12'-11"



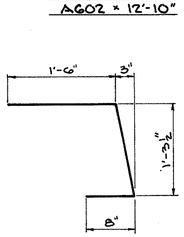
P701 × 9'-4"



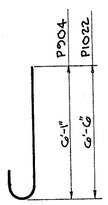
A501 × 8'-11"
A509 × 7'-2"
A602 × 12'-10"



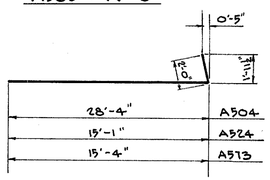
A503 × 30'-3"
A522 × 16'-10"
A569 × 17'-3"



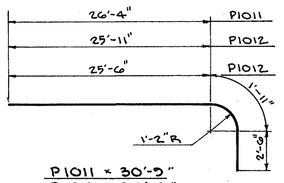
S401 × 3'-4"



P904 × 7'-4"
P1022 × 7'-11"



A504 × 30'-3"
A524 × 17'-0"
A573 × 17'-3"



P1011 × 30'-9"
P1012 × 30'-4"
P1013 × 29'-11"

SPIRAL REINFORCING BARS

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 5-4.

1½ closed coils shall be provided at ends of each spiral unit.

Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft., shall be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

PIER	MARK	NO.	CORE DIA. & SPIRAL	LENGTH	PITCH	NO. TURNS	WEIGHT
NORTH	SP401	4	32"	12'-3⅜"	4½	36	927
CENTER	SP402	4	32"	14'-5¾"	4½	42	1083
SOUTH	SP403	4	32"	15'-7⅝"	4½	45	1161

NOTE:

** H501, H502, H503, & H504 shall be included in price bid for Item 5-14.*

Bar size is indicated in the bar mark. The first digit indicates the bar size number except when the first digit is one (1). In this case the first two digits indicate the bar size number.

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ENGINEERS
CINCINNATI OHIO

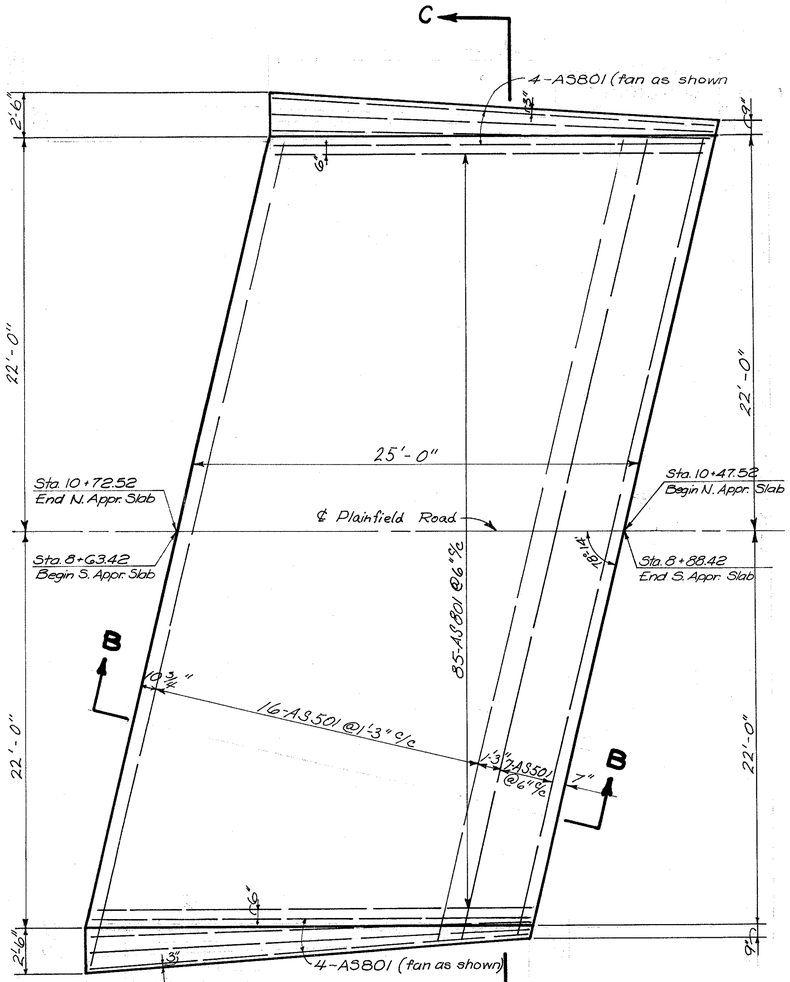
REINFORCING STEEL DETAILS
PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.G.C.	T.G.C.	D.S	R.J.L.	R.J.L.G-11-62	

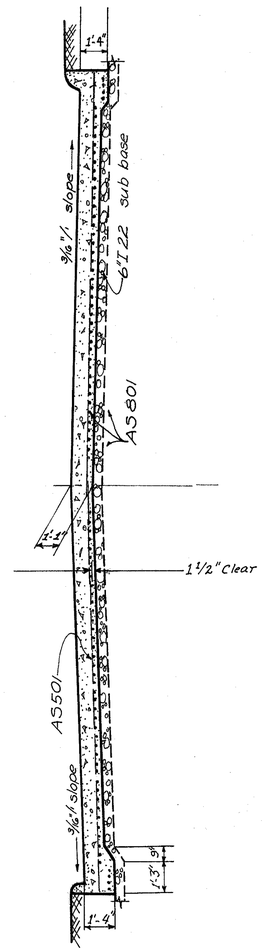
FED. RD DIVISION	STATE	PROJECT	
	OHIO	S 242 (2)	

166
187

HAMILTON COUNTY
C.R. 453 B



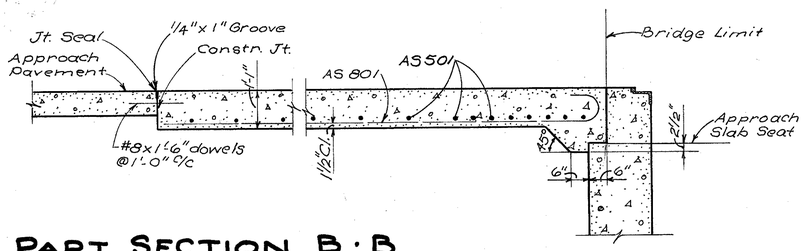
PLAN



SECTION C-C

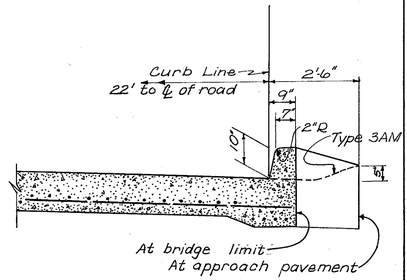
REINFORCING STEEL
(including both approach slabs)

Mark	No.	Length	Shape	Bending
A3501	92	25'-9"	Str.	
A3801	186	25'-7"	Bt.	A3801 24'-6"



PART SECTION B·B

APPROACH SLABS



CURB DETAIL

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

APPROACH SLABS

PLAINFIELD ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

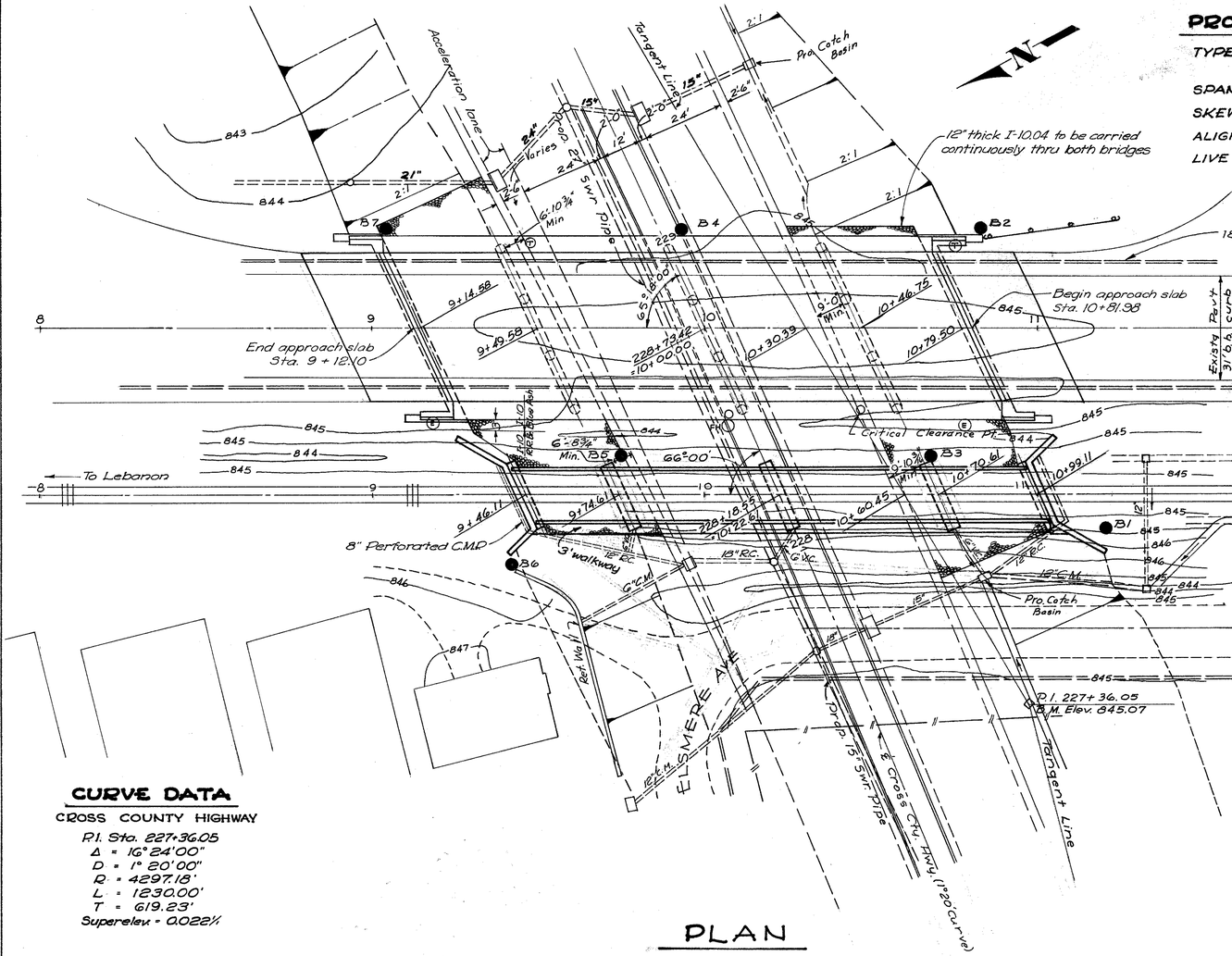
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.G.C.	R.R.	R.R.	R.V.L.	R.J.L. 6-11-62	

FED. ROAD DIVISION	STATE	PROJECT		69
	OHIO	S-242 (2)		187

HAMILTON COUNTY
CR 453 B

PROPOSED STRUCTURE

TYPE : Through girder with reinforced concrete deck.
SPANS: 27'-6", 4@ 40'-0", 40'-0", 27'-6"
SKEW: 24°-00'-00"
ALIGNMENT: Tangent
LIVE LOAD: E-72 Diesel

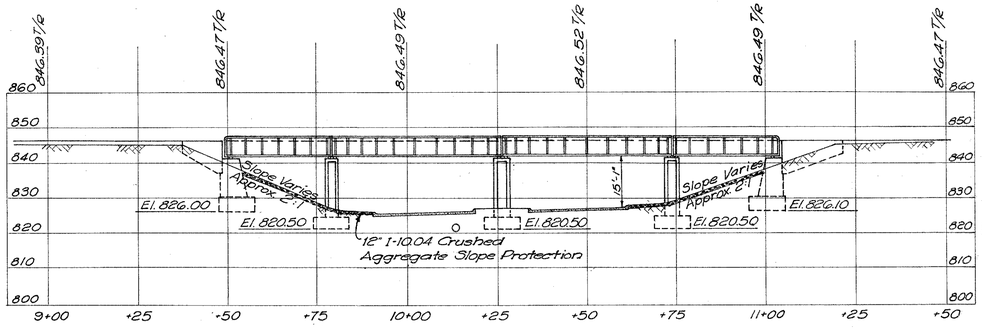


PLAN

CURVE DATA

CROSS COUNTY HIGHWAY

P.I. Sta. 227+36.05
Δ = 16°24'00"
D = 1°20'00"
R = 4297.18'
L = 1230.00'
T = 619.23'
Superelev. = 0.022%



WEST ELEVATION C.L. & N. R.R. BRIDGE

GENERAL NOTES

SPECIFICATIONS: State of Ohio, Department of Highways, Construction and Material Specifications, Jan 1, 1961, unless otherwise indicated.

DESIGN SPECIFICATIONS: A.R.E.A. Specifications for Steel Railway Bridges, current edition.

GENERAL NOTES ON STRUCTURAL STEEL: See sheet No. 175

MAXIMUM FOUNDATION BEARING PRESSURES:
Abutments – 4.1 tons per sq. ft.
Piers – 4.2 tons per sq. ft.

EXCAVATION QUANTITY for the abutments, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finished slope of the cut.

RAILROAD AERIAL LINES will be relocated by the railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.

ALIGNING RAILROAD TRACKS: After the Contractor completes all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company, nothing in Sec. E-2.04, E-2.08, or E-3.07 of the Specs. shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

TEMPORARY RAILROAD RUN-AROUND : The Contractor shall furnish all necessary material and labor for grading the temporary run-around, including the subballast. The embankment shall be constructed of the materials, and in the manner prescribed in Item E-1 of the Construction and Material Specifications. Subballast shall conform to the requirements of Item I-22 "Subbase." See "Construction Sequence," Sheet 2, for work to be performed by the Railroad. The Contractor shall expect a three week delay from the time of request for temporary run-around track to the time of completion.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

REFERENCE shall be made to Supplemental Specifications S-101 dated 7-12-62, and S-107 revised 2-16-55.

FOOTING EXCAVATIONS: Immediately upon completion of any footing its excavation shall be backfilled, to top of footing, with an impervious material.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	N. Abut	S. Abut	N. Pier	C. Pier	S. Pier	Gen'l.
E-2	Lump	Sum	Cofferdams, cribs & sheeting							Lump
E-2	342	Cu. Yds.	Unclassified excav., incl. rock & shale		171	171				
E-2	194	Cu. Yds.	Rock & Shale Excavation				57	61	76	
S-1	125.3	Cu. Yds.	Class "C" Concrete, superstructure	125.3						
S-1	164.3	Cu. Yds.	Class "E" Concrete, piers above ftgs.				52.9	58.3	53.1	
S-1	106	Cu. Yds.	Class "E" Concrete, abuts. above ftgs.		53.0	53.0				
S-1	202.2	Cu. Yds.	Class "E" Concrete, footings		42.6	42.6	36.6	43.8	36.6	
S-3	305	Sq. Yds.	Type "B" Waterproofing incl. 3" conc. protection (1)	305						
S-4	42,694	Lbs.	Reinforcing Steel	15,284	8459	8491	3514	3493	3513	
S-107	241,021	Lbs.	Structural Steel	241,021						
S-8	241,021	Lbs.	Field Painting of Structural Steel	241,021						
S-9	20	Sq. Ft.	½" Premolded Expansion Joint Filler		10	10				
S-9	37.4	Lin. Ft.	Rubber Water Stop (6")		18.7	18.7				
S-9	56	Lin. Ft.	Structural expansion joint, wrought iron (2)	56						
S-29	30.8	Cu. Yds.	Porous Backfill		15.4	15.4				
S-29	150	Lin. Ft.	4" Cast Iron Soil Pipe (3)							150
S-29	46	Lin. Ft.	8" Perf. Corrugated Metal Pipe		23	23				
S-29	313	Lin. Ft.	Special Perforated W.I. Deck Drain	313						
I-10	338	Sq. Yds.	Crushed Aggregate Slope Protection							338
S-4	840	Lbs.	Welded Wire Mesh Reinforcement	840						
S-101	125	each	Water-reducing, Set-retarding admixture	125						

(1) Same as described in S-3.06 of Specs. except use five (5) instead of two layers of waterproofing fabric and 6 moppings.

(2) Includes 9" water stop and mastic.

(3) Includes drains and fittings.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SITE PLAN

PENNSYLVANIA RAILROAD
OVER
CROSS COUNTY HIGHWAY

PRESENT TOPO		PROPOSED WORK			
SURVEYOR	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
W.C.T.	W.I.K.	W.I.K.	W.I.K. E.R.L.	E.R.B.	R.J.L. 6-15-62

FED. AID DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

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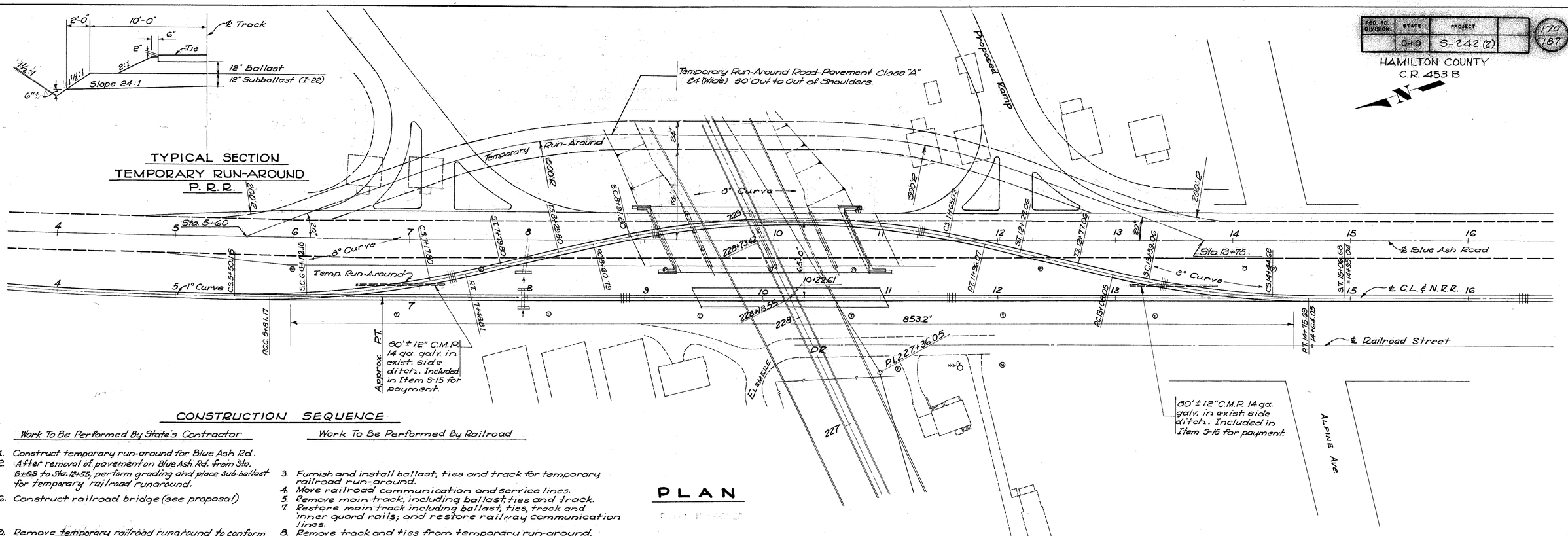
187

HAMILTON COUNTY
C.R. 453 B

TYPICAL SECTION
TEMPORARY RUN-AROUND
P. R. R.



PLAN

CONSTRUCTION SEQUENCE

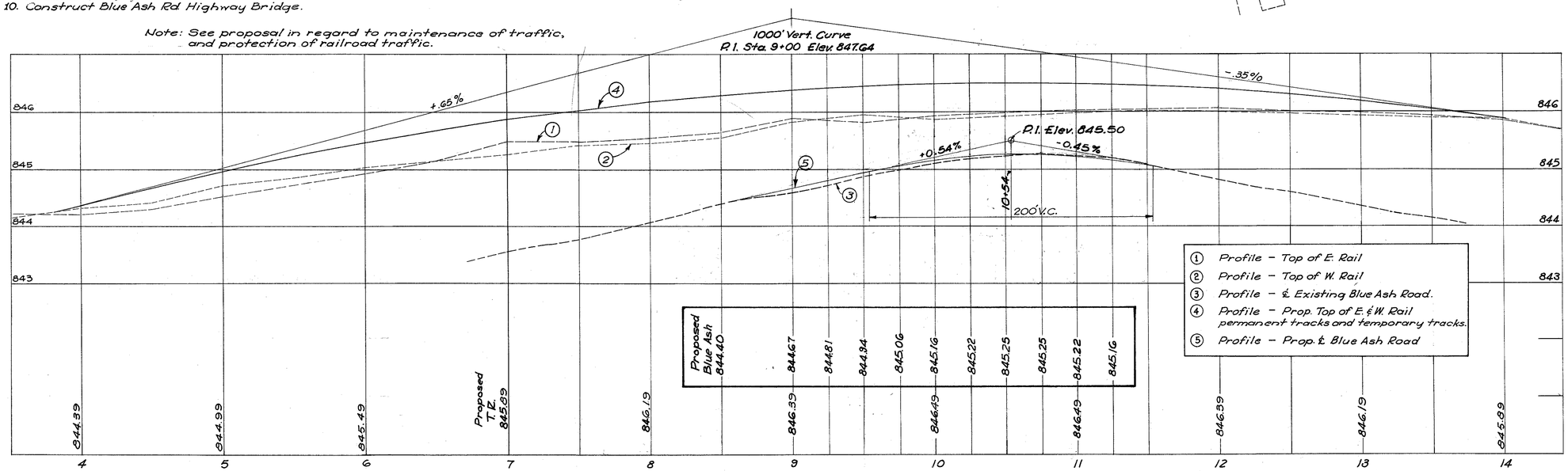
Work To Be Performed By State's Contractor

1. Construct temporary run-around for Blue Ash Rd.
2. After removal of pavement on Blue Ash Rd. from Sta. 6+63 to Sta. 12+55, perform grading and place sub-ballast for temporary railroad runaround.
6. Construct railroad bridge (see proposal)
9. Remove temporary railroad runaround to conform with Item S-15.
10. Construct Blue Ash Rd. Highway Bridge.

Work To Be Performed By Railroad

3. Furnish and install ballast, ties and track for temporary railroad run-around.
4. Move railroad communication and service lines.
5. Remove main track, including ballast, ties and track.
7. Restore main track including ballast, ties, track and inner guard rails; and restore railway communication lines.
8. Remove track and ties from temporary run-around.

Note: See proposal in regard to maintenance of traffic, and protection of railroad traffic.



PROFILES

NOTE:
Provide 1" of superelevation on 8° curves of railroad temporary run-around.

Poles carrying overhead telegraph or power lines to be raised or relocated by others. Min. overhead clearance above tracks 27 ft.

Existing culvert under Blue Ash Road at Sta. 7+95 to be adequately protected against railroad loadings on run-around. Details are to be furnished by the Contractor 15 days before construction starts. This work is included in Item S-15 for payment.

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ENGINEERS
CINCINNATI, OHIO

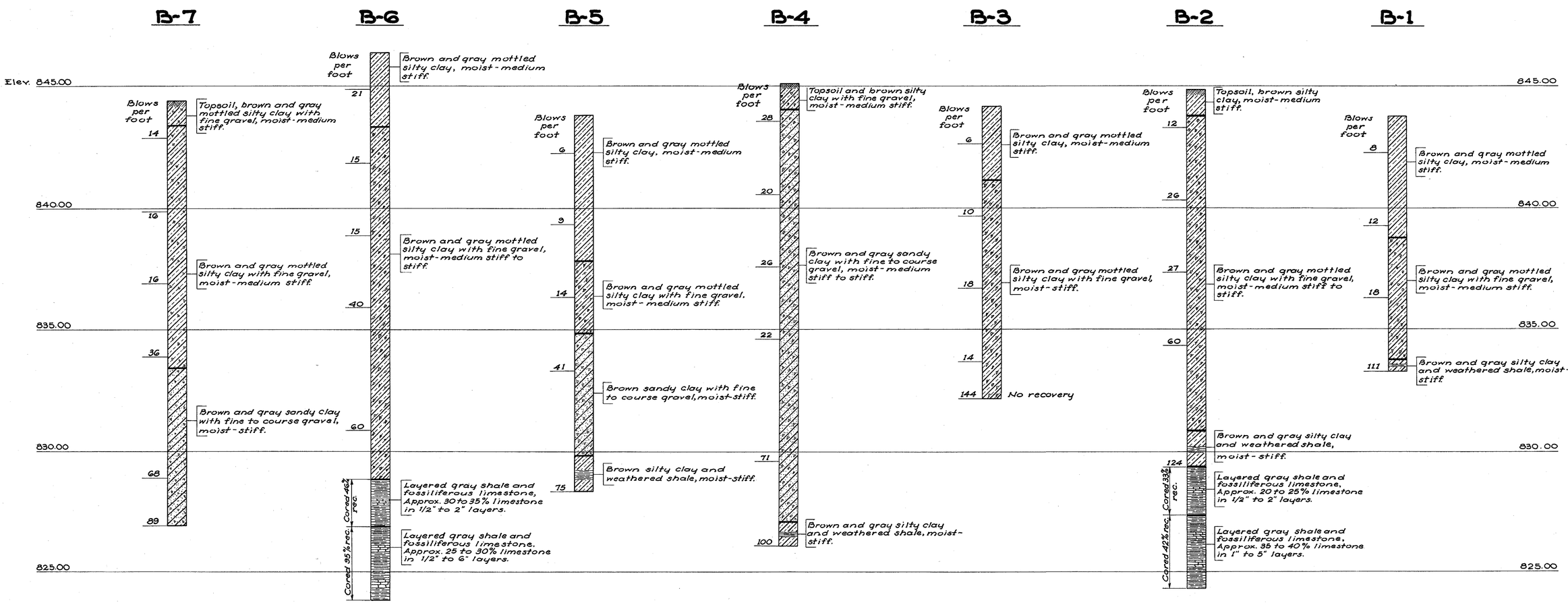
SUPPLEMENTARY SITE PLAN BLUE ASH ROAD & PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

PRESENT TOPO		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
W.C.T.	W.I.K.	W.I.K.	W.I.K. R.R.L.	E.R.B.	R.J.L. G-15-62

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

171/187

HAMILTON COUNTY
C.R. 453 B



The State does not guarantee the accuracy of the sounding information.

Test borings in overburden made with 2" O.D. split spoon. Blows per foot on split spoon sampler are for 140 lb. hammer dropping 30 inches. Borings were made between 10-28-57 and 11-1-57.

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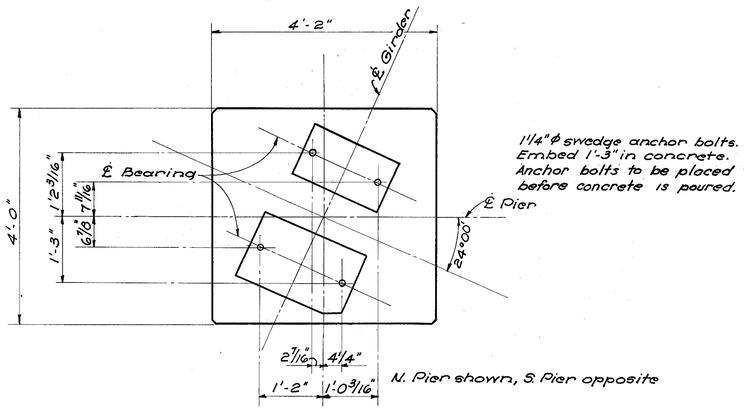
CINCINNATI, OHIO

BORINGS
BLUE ASH ROAD & PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.J.I.	S.J.I.	W.C.T.	R.J.L. 6-15-62	

FED. HWY. DIVISION	STATE	PROJECT		172 / 187
	OHIO	S-242(2)		

HAMILTON COUNTY
C.R. 453 B

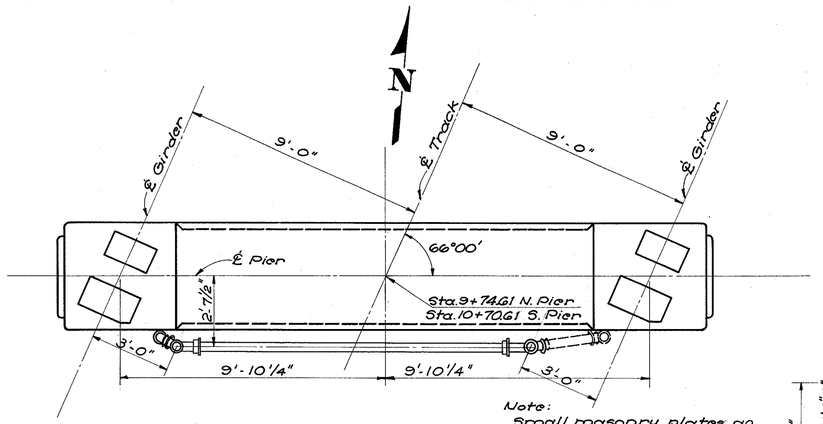


1 1/4"ϕ swedge anchor bolts. Embed 1'-3" in concrete. Anchor bolts to be placed before concrete is poured.

N. Pier shown, S. Pier opposite

ANCHOR BOLT LAYOUT

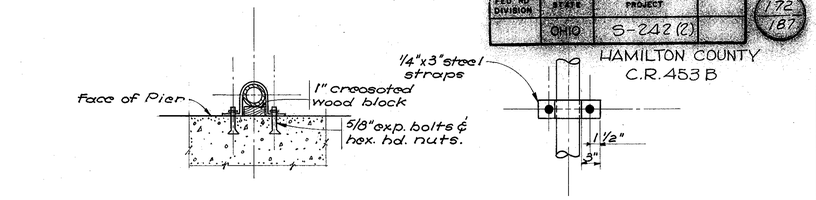
Scale: 3/4" = 1'-0"



Note: Small masonry plates go on South side of South Pier.

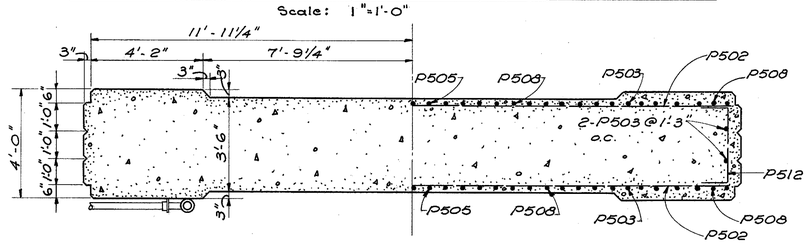
PLAN

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



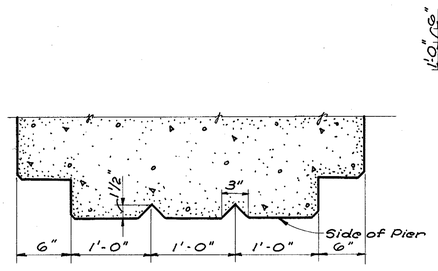
DETAIL - PIPE SUPPORT BRACKET

Scale: 1"=1'-0"



SECTION C-C

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



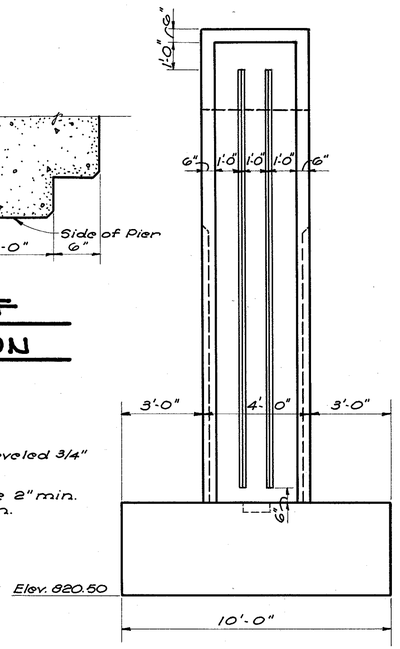
DETAIL OF RUSTICATION

Not To Scale

Notes:

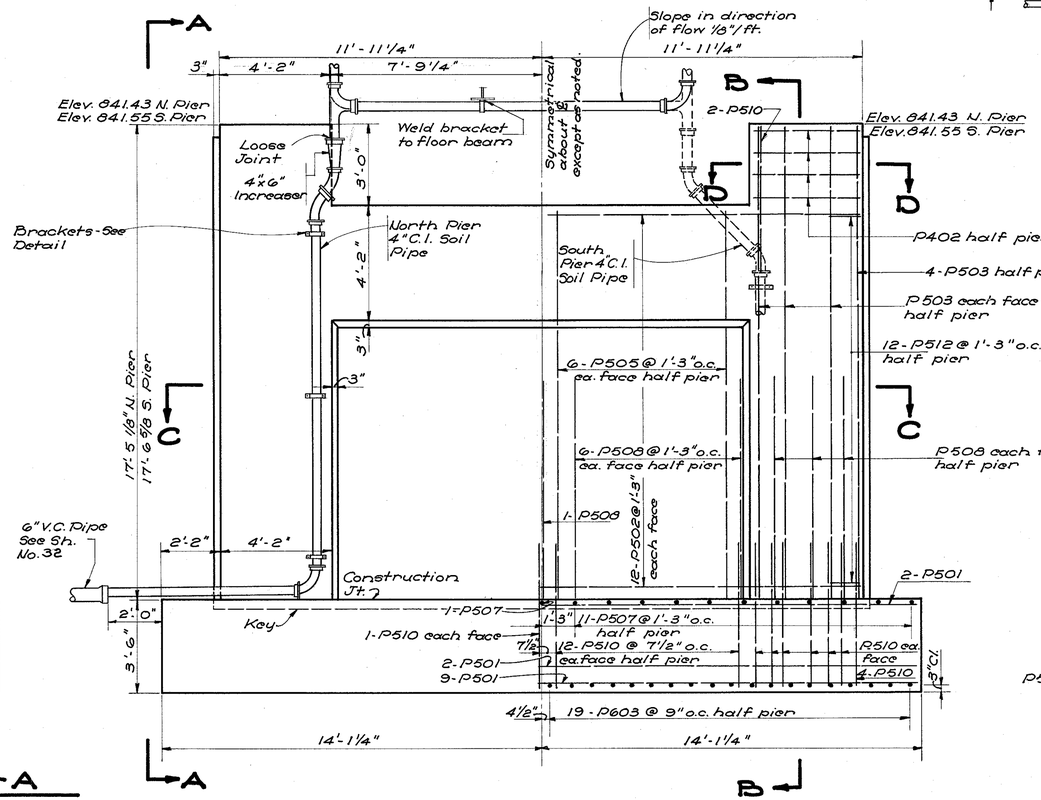
All corners above footings beveled 3/4" unless noted.

All reinforcing steel to have 2" min. cover, unless otherwise shown.



ELEVATION A-A

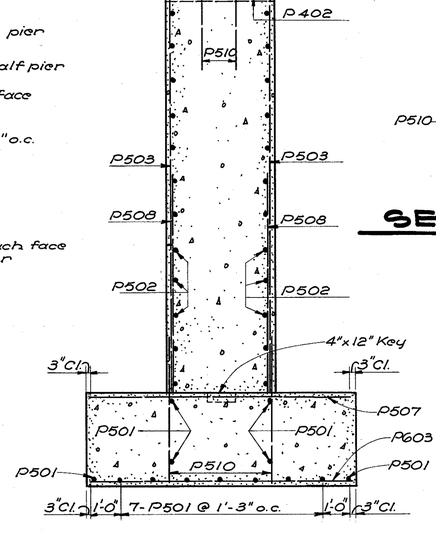
Scale: 3/8" = 1'-0"



ELEVATION OF NORTH PIER

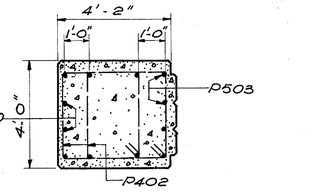
South Pier Similar

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



SECTION B-B

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



SECTION D-D

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

Unit Stresses for Concrete:

Compression	1,000 p.s.i.
Bond	180 p.s.i.
Shear (no web reinf.)	90 p.s.i.
Shear (with web reinf.)	160 p.s.i.
Reinf. steel, tension	18,000 p.s.i.

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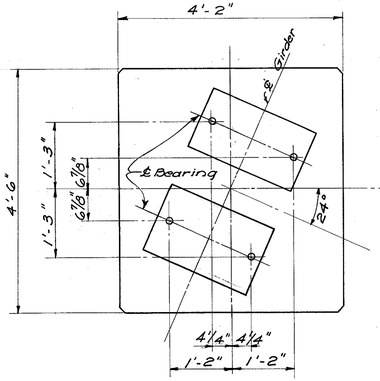
CINCINNATI OHIO

NORTH & SOUTH PIERS PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.H.P.	R.L.B.	N.B.	R.J.L.	R.J.L.	6-15-62	

FED. RD DIVISION	STATE	PROJECT		173 / 187
	OHIO	S-242 (2)		

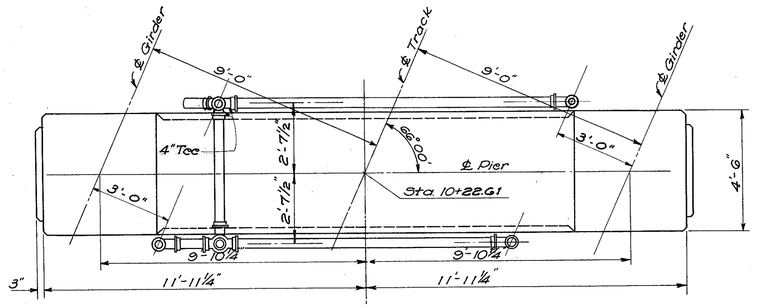
HAMILTON COUNTY C.R. 453 B



1¼" ϕ swedge anchor bolts. Embed 1'-3" in concrete. Anchor bolts to be placed before concrete is poured.

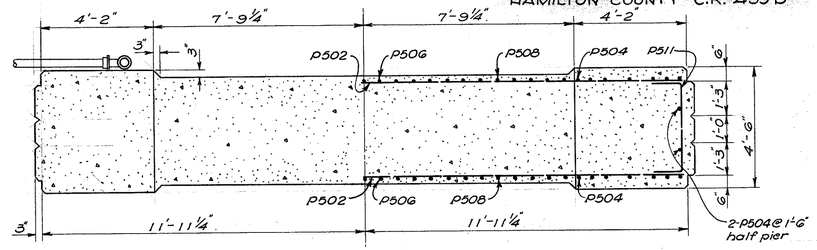
ANCHOR BOLT LAYOUT

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



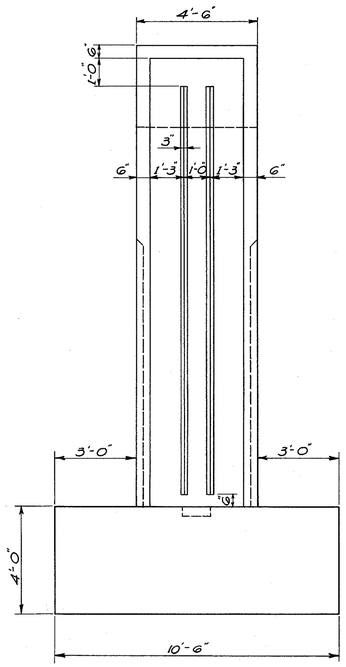
PLAN

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



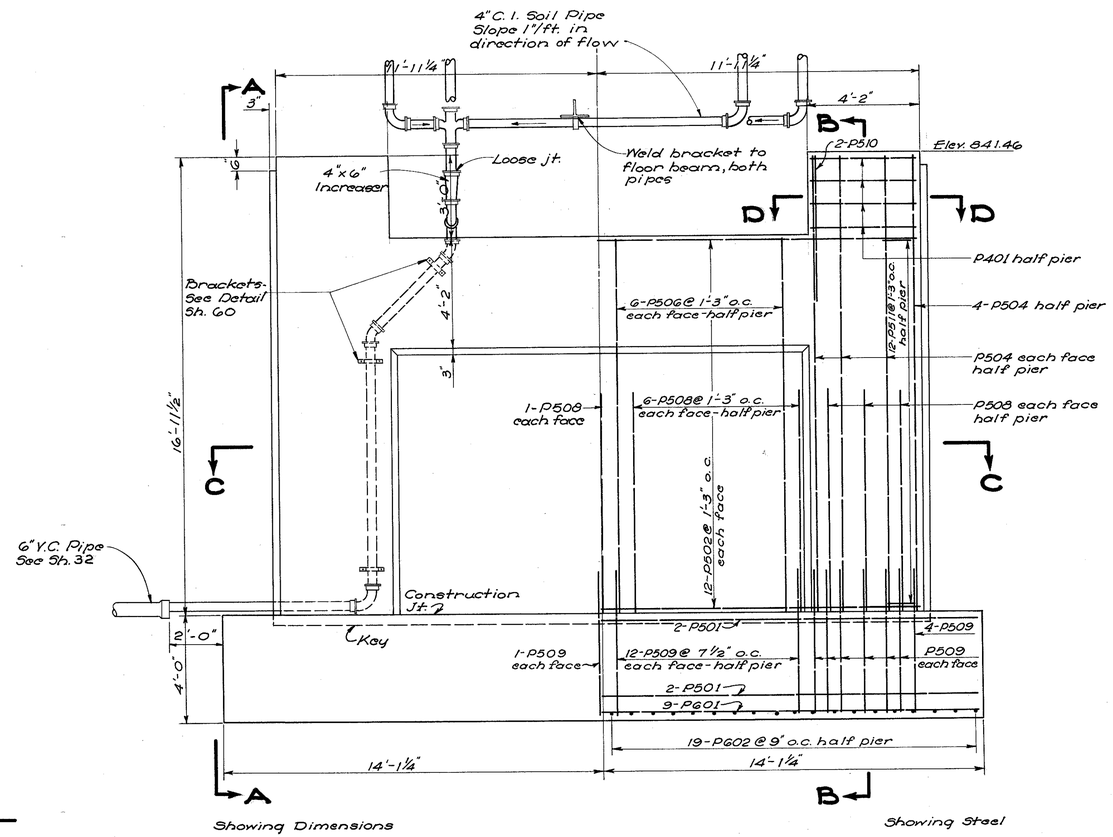
SECTION C-C

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



ELEVATION A-A

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

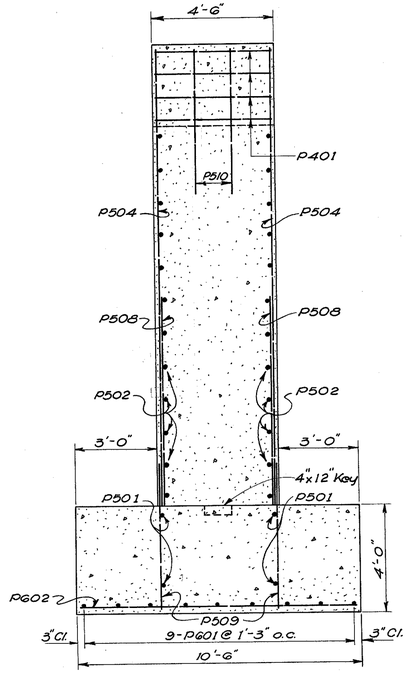


Showing Dimensions

Showing Steel

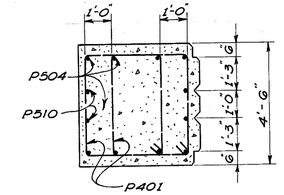
ELEVATION OF CENTER PIER

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



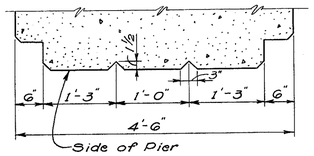
SECTION B-B

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



SECTION D-D

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



DETAIL OF RUSTICATION

Not to Scale

Notes:

All corners above footing beveled ¾" unless noted.

All reinforcing steel to have 2" min. cover, unless otherwise shown.

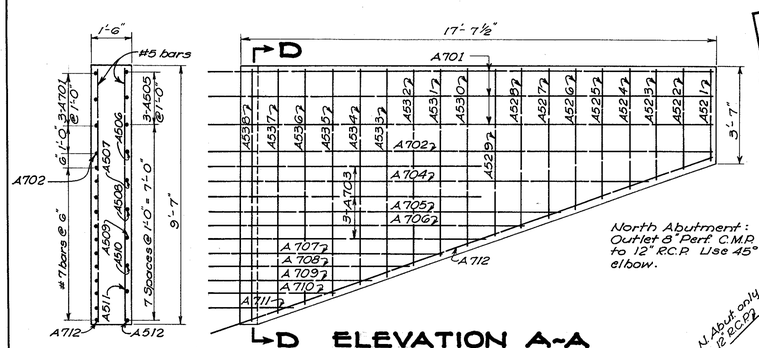
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI, OHIO

CENTER PIER
PENNSYLVANIA RAILROAD
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
E.L.S.	N.B.	S.J.I.	R.J.L.	R.J.L. 6-15-62	

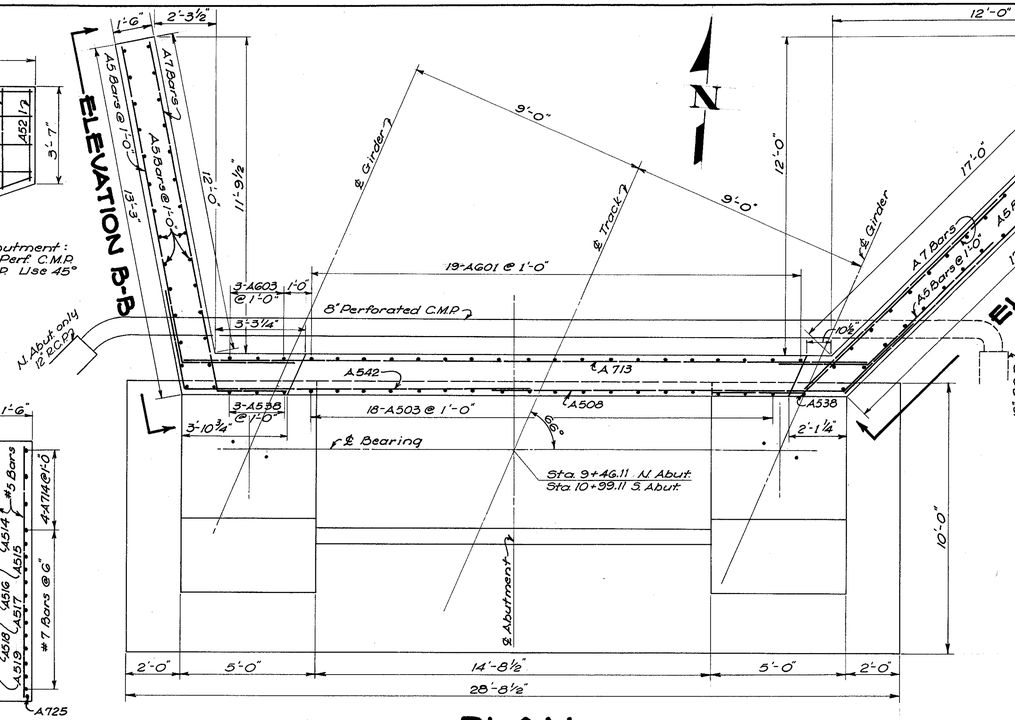
FED. RD DIVISION	STATE	PROJECT		(174) (187)
	OHIO	S-242 (2)		

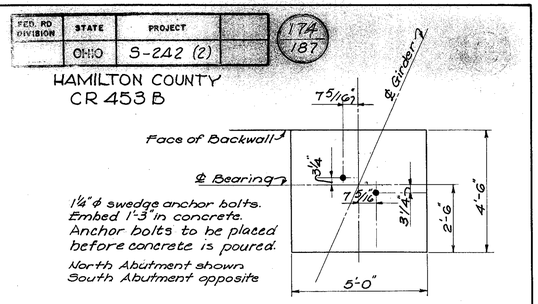
HAMILTON COUNTY
CR 453 B



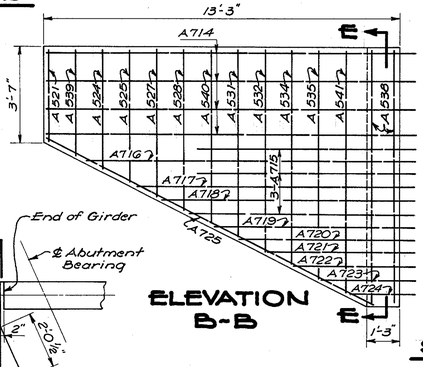
SECTION D-D

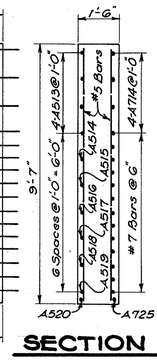
ELEVATION A-A

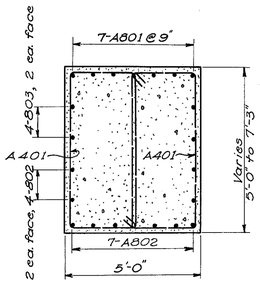


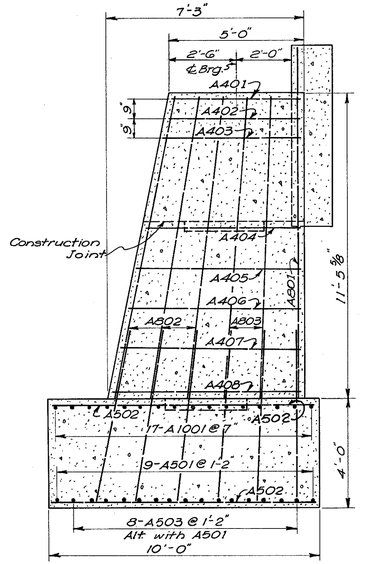


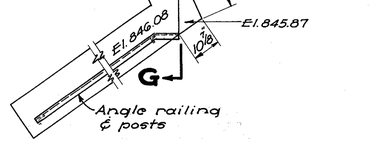
ANCHOR BOLT LAYOUT

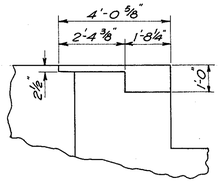


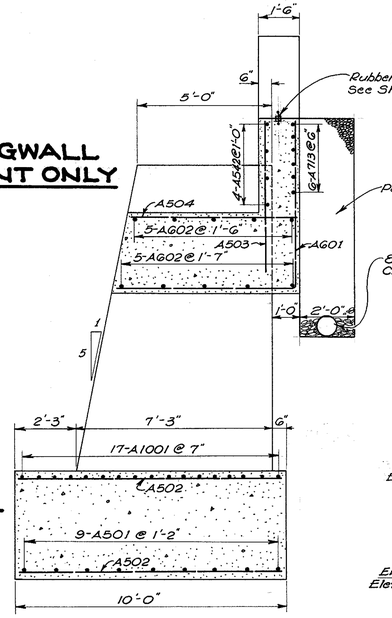


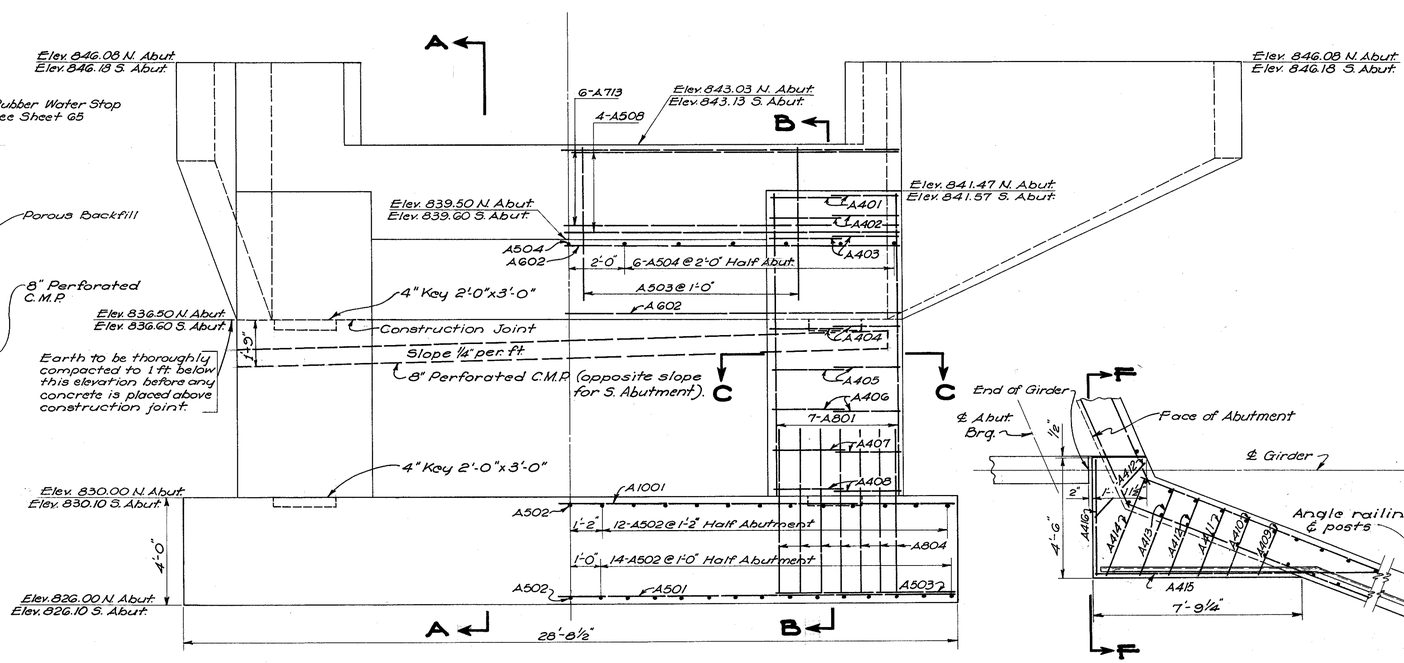


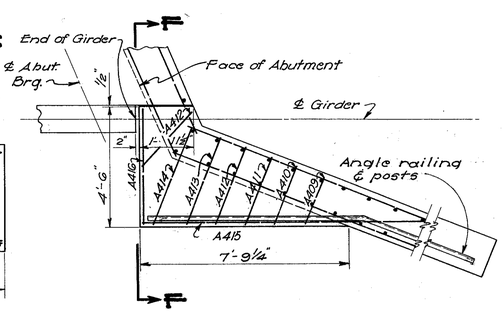


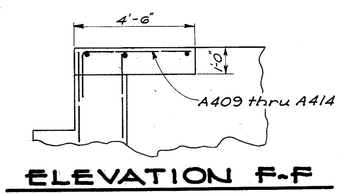












Note: All exposed corners beveled ¾"

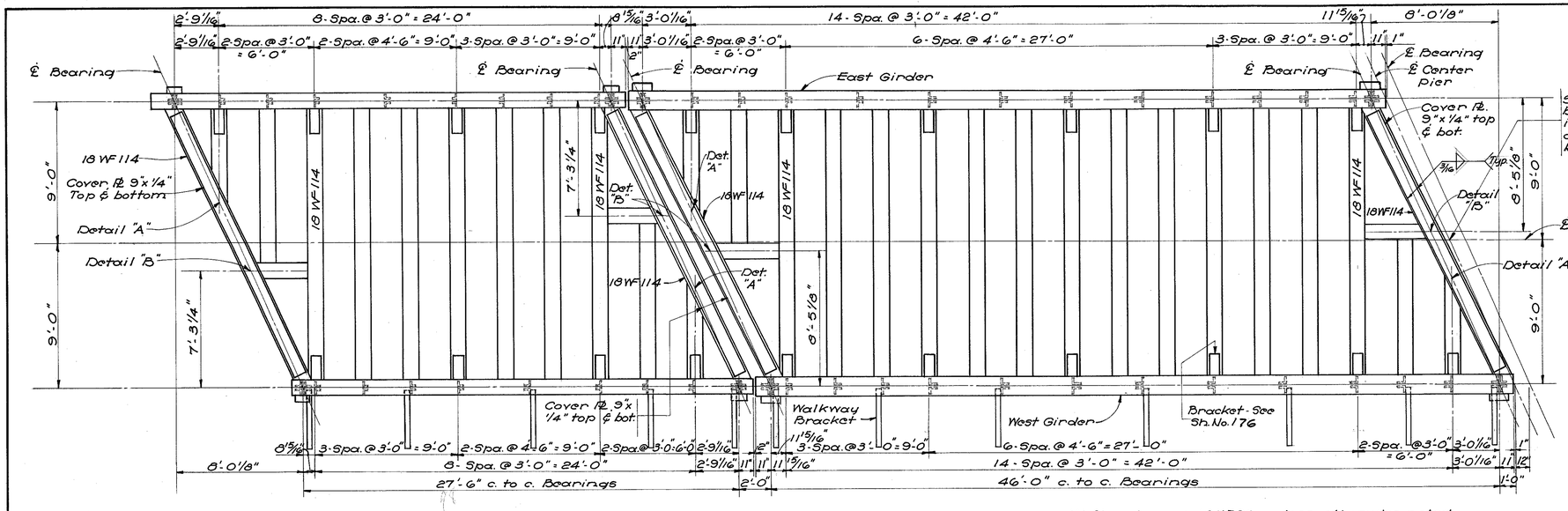
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI ~ OHIO

ABUTMENTS PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.R.B.	R.L.B.	S.J.I.	R.J.L.	R.J.L.	6-15-62	

FED. RD. DIVISION	STATE	PROJECT		175 / 187
	OHIO	S-242 (2)		

HAMILTON COUNTY
C.R. 453 B

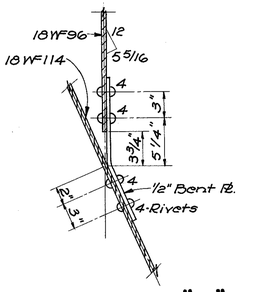


Structure symmetrical by rotation about the intersection of the ℄s of Center Pier & Pennsylvania R.R. track.

All floor beams 18 WF 96 unless otherwise noted. See Sh. No. 176 for girder details.

PLAN

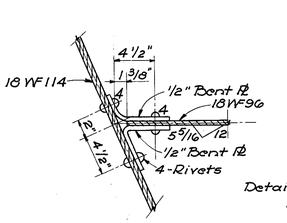
Scale: 1/4" = 1'-0"



DETAIL "A"

S.B.P. Skewed Connection

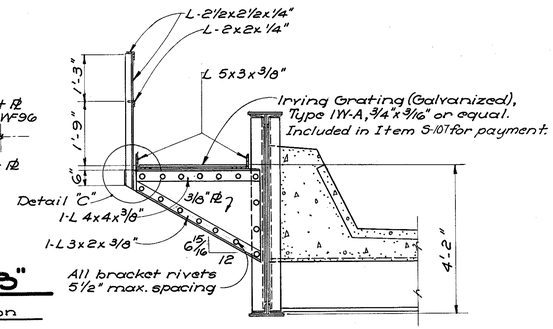
Scale: 1 1/2" = 1'-0"



DETAIL "B"

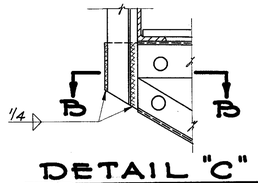
B.P. Skewed Connection

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



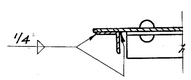
SECTION A-A

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



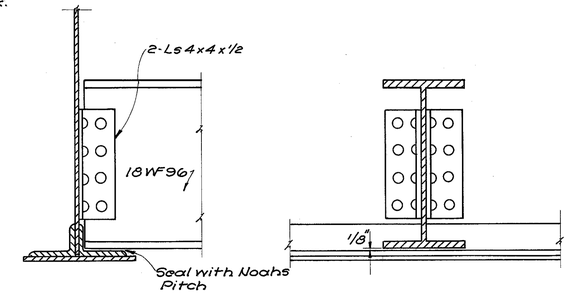
DETAIL "C"

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



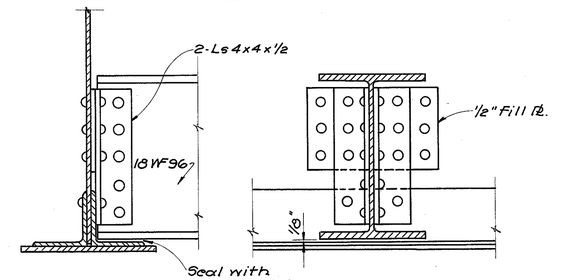
SECTION B-B

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



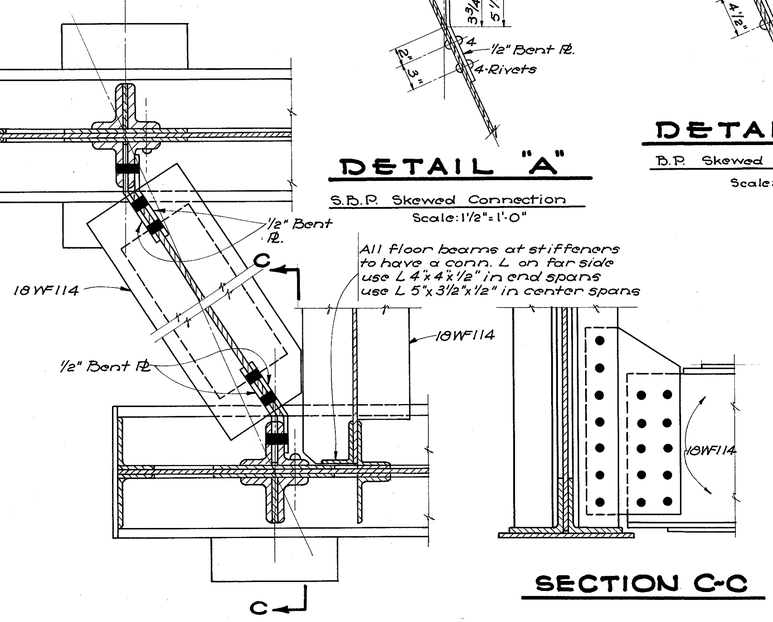
TYPICAL BEAM CONN. BETWEEN STIFFENERS · SPANS 1 & 4

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



TYPICAL BEAM CONN. BETWEEN STIFFENERS · SPANS 2 & 3

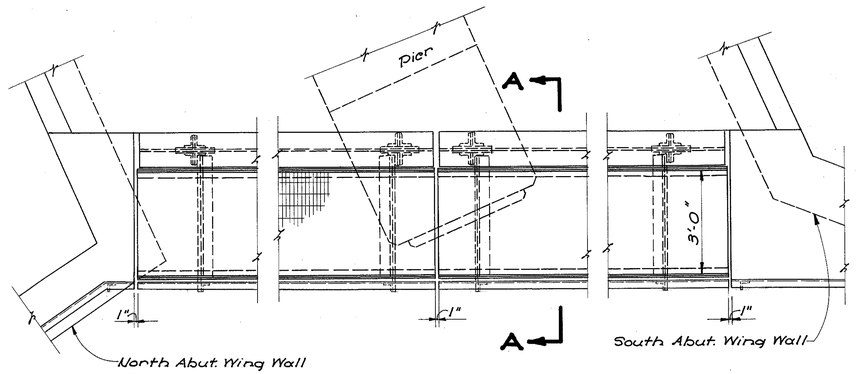
Scale: 1 1/2" = 1'-0"



END FLOOR BEAM CONNECTIONS

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

SECTION C-C



WALKWAY PLAN

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

GENERAL NOTES

Loading: Coopers E-72 live load, impact based on diesel locomotives.

Structural Steel: All structural steel unless otherwise noted shall conform to A.S.T.M. Specifications Designation A7 as amended to date.

Rivets: Rivets shall be 7/8" ϕ and shall conform to A.S.T.M. Specifications, Designation A141 as amended to date.

Paint: All structural steel shall be given one shop coat of lead chromate primer M-9.20 and two field coats of aluminum paint M-9.12. Shop and field coats shall be applied by brushing in accordance with Item 513 of Specifications. Spray application will not be permitted.

Welding of Structural Steel shall be Class "A"

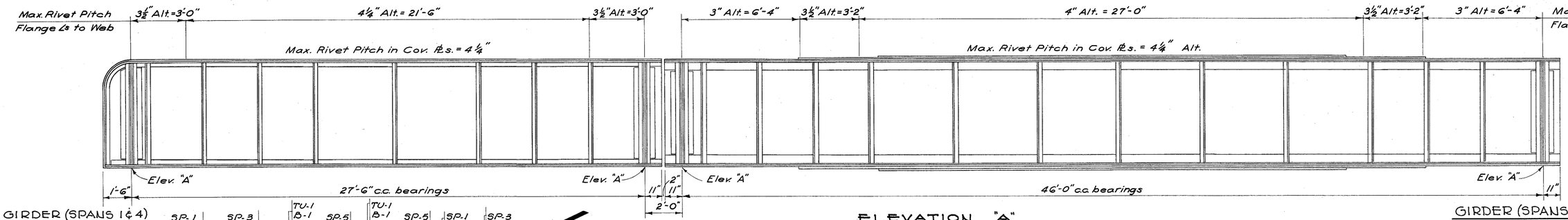
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI - OHIO

SUPERSTRUCTURE FRAMING PLAN & WALKWAY DETAILS PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K	N.B.	R.J.L.	R.J.L. 6-15-62	

FED. RD. DIVISION	STATE	PROJECT		176 / 187
	OHIO	S-242 (2)		

HAMILTON COUNTY CR 453 B



ELEVATION

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

GIRDER (SPANS 1 & 4)

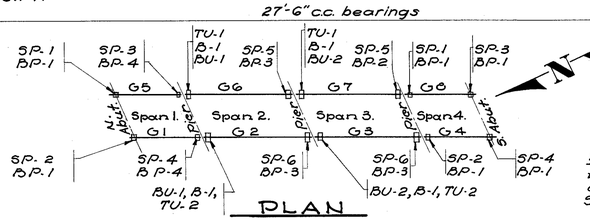
1-Web Pl. 66" x 3/8"
4-Flange Ls 5" x 3½" x ½"
2-Cov. Pls. 12" x 7/16" full length

INT. STIFFENERS

2-Ls 4" x 3" x 3/8"
2-Fills 3" x ½"

RIVETS

All rivets ⅞" ϕ

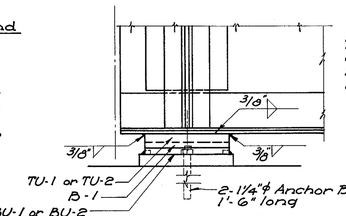


PLAN

Note:
Expansion plates at North end of all girders & fixed plates at South end.

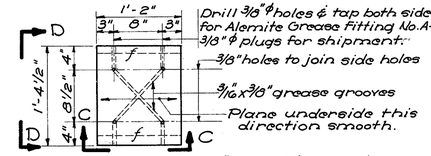
ELEVATION "A"

Girder	North End	South End
G1	841.87	841.88
G2	841.88	841.91
G3	841.91	841.94
G4	841.94	841.96
G5	841.86	841.88
G6	841.87	841.90
G7	841.90	841.93
G8	841.94	841.96

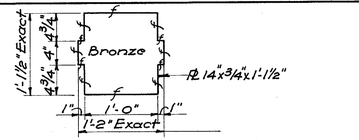


⅛" Sheet lead to be used under all masonry plates. Payment to be included under Item 5-107.

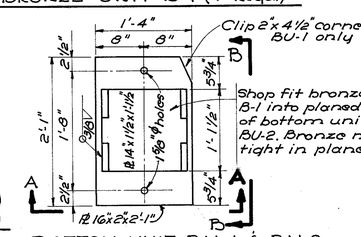
EXPANSION END



TOP UNIT TU-1 Pl 14" x 2¼" x 1'-4½" (2-Req'd.)
TOP UNIT TU-2 Pl 14" x 2 5/16" x 1'-4½" (2-Req'd.)



BRONZE UNIT B-1 (4-Req'd.)



BOTTOM UNIT BU-1 & BU-2

GIRDER (SPANS 2 & 3)

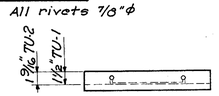
1-Web Pl. 66" x 7/16"
4-Flange Ls 6" x 6" x ½"
2-Cov. Pls. 15" x ½" Full length
2-Cov. Pls. 15" x ½" x 33'-6"
2-Cov. Pls. 15" x ½" x 25'-0"

INT. STIFFENERS

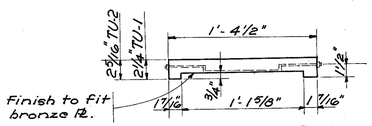
2-Ls 5" x 3½" x 3/8"
2-Fills 3½" x ½"

RIVETS

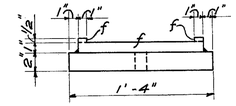
All rivets ⅞" ϕ



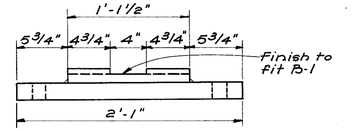
VIEW C-C



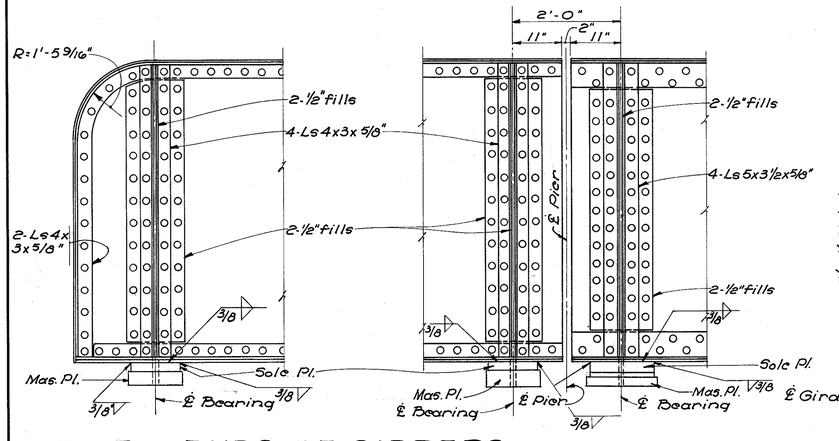
VIEW D-D



VIEW A-A



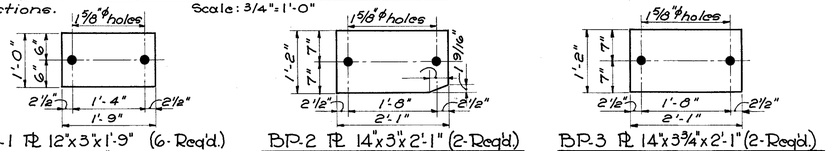
VIEW B-B



ENDS OF GIRDERS

See Sh. No. 1775 for end beam connections.

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

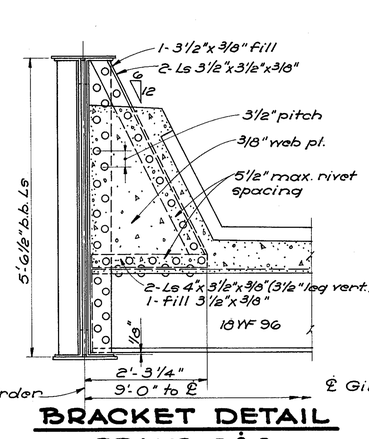


BP-1 Pl 12" x 3" x 1'-9" (6-Req'd.)
BP-4 Pl 12" x 3¾" x 1'-9" (2-Req'd.)

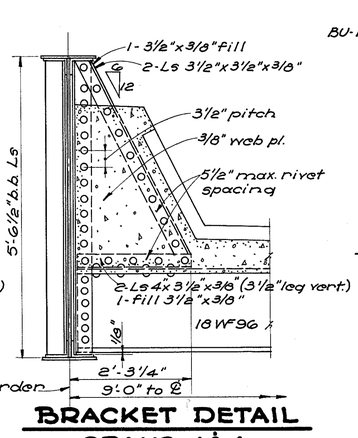
BP-2 Pl 14" x 3" x 2'-1" (2-Req'd.)

BP-3 Pl 14" x 3¾" x 2'-1" (2-Req'd.)

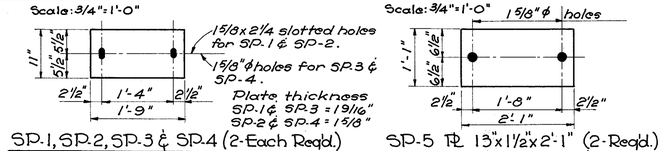
MASONRY PLATES



BRACKET DETAIL SPANS 2 & 3



BRACKET DETAIL SPANS 1 & 4



SP-1, SP-2, SP-3 & SP-4 (2-Each Req'd.)

SP-5 Pl 13" x 1½" x 2'-1" (2-Req'd.)
SP-6 Pl 13" x 19/16" x 2'-1" (2-Req'd.)

SOLE PLATES

DESIGN DATA

Girders 18'-0" c.c. Span 27'-6" c.c. bearings 5'-6½" b.b. Fig. Ls

	End Reaction	Moment	Assumed DL./Lin.ft.	Girder Composition	Gross A	Net A	Gross I	Net I
D	47.3	326		1-Web GG x 3/8	24.75	18.57	8984	6738
E-72	107.6	638	Floor	4-Ls 5 x 3½ x ½	16.00	12.00	16,006	12,058
I	47.2	283	Girder	2-Cov. Pls 12 x 7/16	10.50	8.75	11762	10,925
Total	212.1 K	1247 IK	Total	3400 #	51.25 "²	39.32 "²	30,752	29,721

Gross Web area req'd. = 212.1 ÷ 11 = 19.3 "² Use Web Pl GG x 3/8 = 24.75 "²

Actual unit stress, top flg. = 1248 x 12000 x 33.69 / 30,752 = 13,750 #/in²; Allow. = 17,595 #/in²

Actual unit stress, Btm. flg. 1248 x 12000 x 33.69 / 29,721 = 17,000 #/in² Allow. = 18,000 #/in²

End Stiffeners 4 Ls 4 x 3 x 5/8 Int. Stiffeners 2-Ls 4 x 3 x 3/8

Girders 18'-0" c.c. Span 46'-0" c.c. bearings 5'-6½" b.b. Fig. Ls

	End Reaction	Moment	Assumed DL./Lin.Ft.	Girder Composition	Gross A	Net A	Gross I	Net I
D	82.6	950		1-Web GG x 7/16	28.88	21.66	10482	7862
E-72	149.0	1493	Floor	4-Ls G x G x ½	23.00	17.00	23003	20140
I	62.9	630	Girder	2-Cov. Pls 15 x ½	15.00	13.00	16838	14593
Total	294.5 K	3073 IK	Total	3589 #	15.00	13.00	17340	15028
				2-Cov. Pls 15 x ½	15.00	13.00	17858	15477
				Total	99.88 "²	80.66 "²	85,521	73,100

Gross Web area req'd. = 294.5 ÷ 11 = 26.8 "² Use Web Pl GG x 7/16 = 28.88 "²

Actual Unit Stress Top flg = 3073 x 12000 x 34.75 / 82051 = 15,640 #/in²; Allow = 17,702 #/in²

Actual Unit Stress Btm flg = 3073 x 12000 x 34.75 / 69,630 = 17,530 #/in², Allow = 18,000 #/in²

End Stiffeners 4 Ls 5 x 3½ x 5/8 Int. Stiffeners 2 Ls 5 x 3½ x 3/8

EXPANSION PLATES FOR 46' SPANS

Floor Beams Span 18'-0" c.c. girders
Spacing 3'-0"

	Shear	Moment	
D	9.81	37.5	44.69 ÷ 11 = 3.76 "² Req'd.
E-72	24.30	158.0	Gross Web A
I	10.58	71.1	266.6 x 12 / 18 = 178.2 Req'd.
Total	44.69 K	266.6 IK	Net S.M.

Use 18WF96 SM = 1844

266.6 IK used as design moment, Gross Web Area = 8.45 "²
(2.5' from ℄)

Assumed D.L./Lin. Ft. Fl Beam

Rails	17
Ties & Ballast	528
9" Conc. Protection	113
5/16 Pl.	265
Fl. Beam	135
Total	1027

Load increased at ends due to conc. curbs

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

GIRDER DETAILS PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.K.	W.I.K.	J.D. N.B.	R.J.L.	R.J.L	G-15-62	

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

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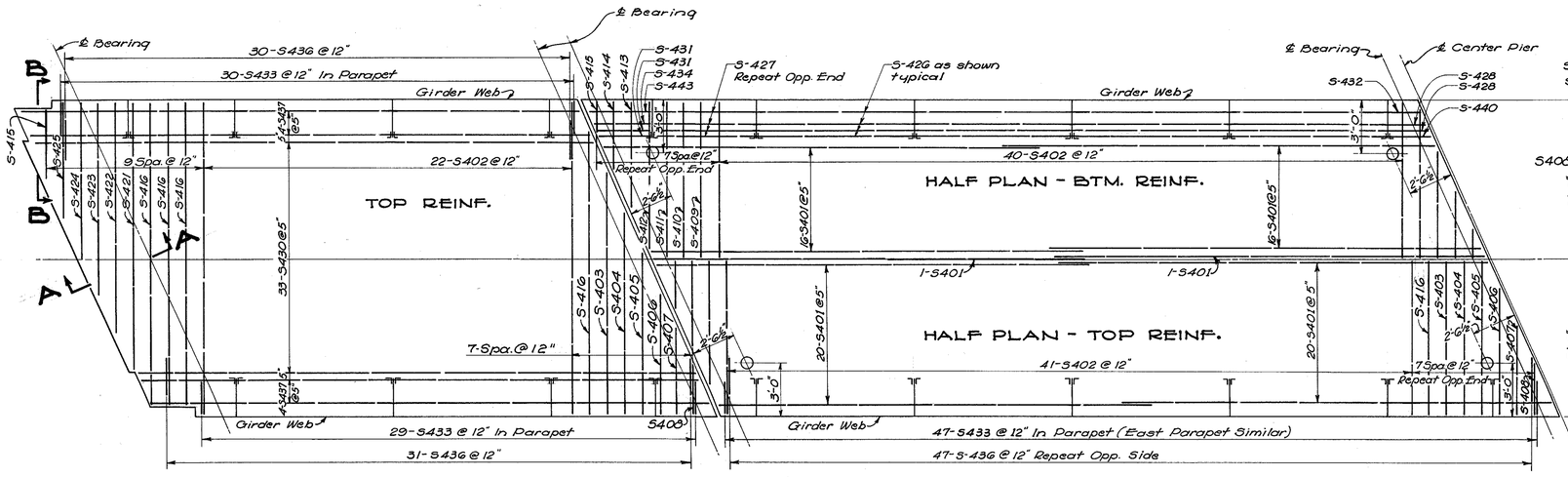
HAMILTON COUNTY C.R. 453 B



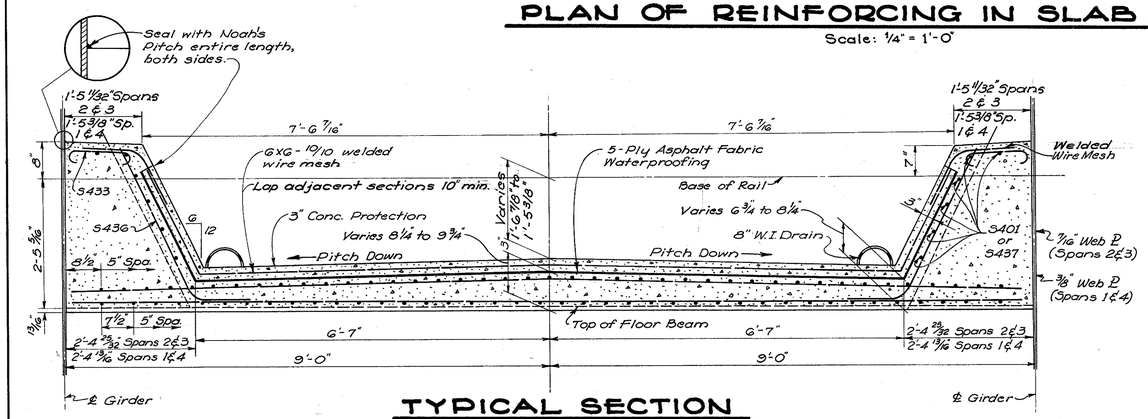
SPANS 1 & 4 - SIMILAR BY ROTATION

SPANS 2 & 3 - SIMILAR BY ROTATION

SPANS 1 & 4 - SIMILAR BY ROTATION

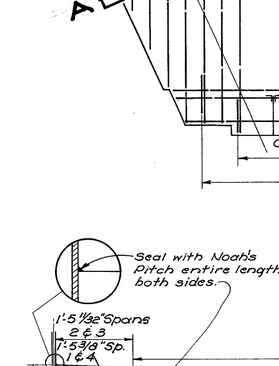
PLAN OF REINFORCING IN SLAB FLOOR

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



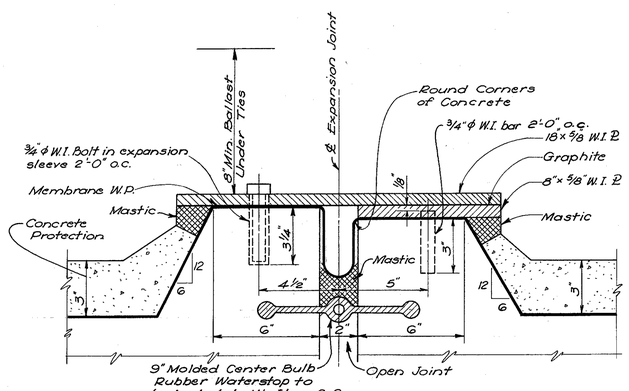
TYPICAL SECTION

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



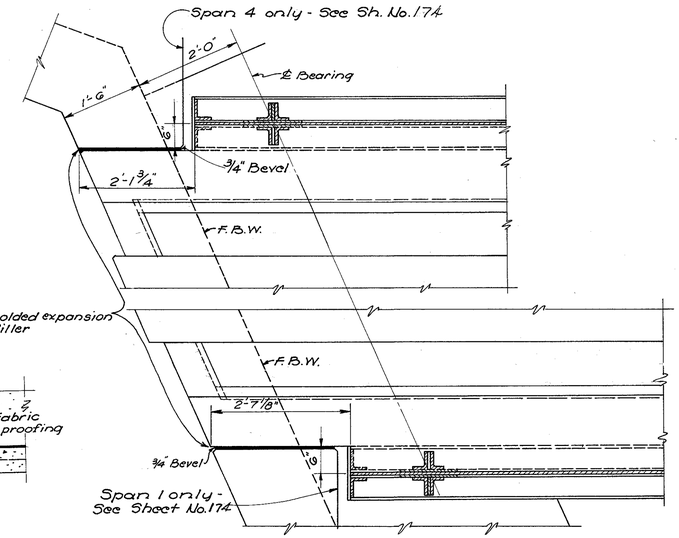
SECTION B-B

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



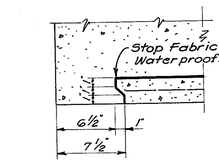
EXPANSION JOINT AT PIER

Typical, Deck, and sides to top of 3" concrete protection course.



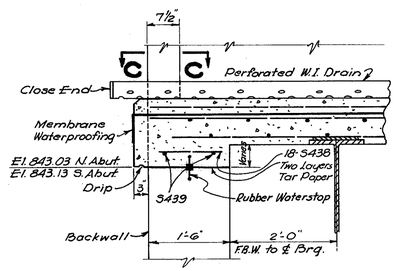
PLAN AT ABUTMENT ~ SPANS 1 & 4

Scale: 3/4" = 1'-0" (3" Concrete Protection Not Shown)



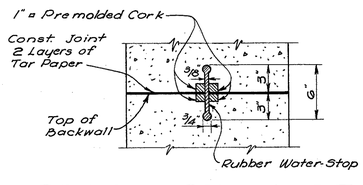
SECTION C-C

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



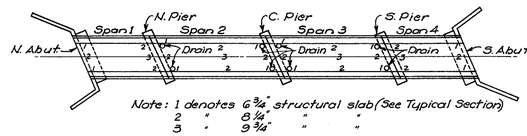
SECTION A-A

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



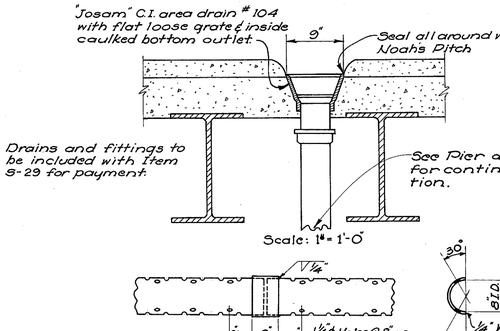
DETAIL OF WATER-STOP AT BACKWALLS

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



Note: 1 denotes 6 3/4" structural slab (See Typical Section)
2 " 8 1/4" " "
3 " 9 3/4" " "
Slope surface uniformly between points.

SCHEMATIC PLAN OF BRIDGE SHOWING LOCATION OF DRAINS



Scale: 1" = 1'-0"

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

DRAIN DETAILS

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI ~ OHIO

REINFORCED CONC. DECK PENNSYLVANIA RAILROAD OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K.	S.J.I.	R.J.L.	R.J.L. 6-15-62	

FED. AID PROJECT	STATE	PROJECT	
	OHIO	S-242(2)	

HAMILTON COUNTY
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SUPERSTRUCTURE

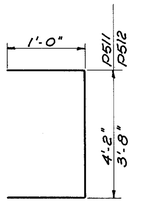
MARK	NO.	LENGTH	WEIGHT	SHAPE
S401	340	24'-8"	5603	Str.
S402	250	17'-8"	2951	↑
S403	6	14'-11"	60	↕
S404	6	12'-8"	51	↕
S405	6	10'-5"	42	↕
S406	6	8'-2"	33	↕
S407	6	5'-11"	24	↕
S408	8	3'-8"	20	↕
S409	6	16'-1"	64	↕
S410	6	13'-10"	55	↕
S411	6	11'-7"	46	↕
S412	6	9'-4"	37	↕
S413	6	7'-1"	28	↕
S414	6	4'-10"	19	↕
S415	6	2'-7"	10	↕
S416	14	17'-1"	160	↕
S417	2	13'-3"	18	↕
S418	2	11'-0"	15	↕
S419	2	8'-9"	12	↕
S420	2	6'-6"	9	↕
S421	2	14'-4"	19	↕
S422	2	12'-1"	16	↕
S423	2	9'-10"	13	↕
S424	2	7'-7"	10	↕
S425	8	5'-4"	28	↕
S426	96	8'-9"	561	↕
S427	34	5'-9"	131	↕
S428	12	2'-2"	17	↓
S429	2	1'-8"	2	Str.
S430	66	31'-10"	1403	Bt.
S431	10	2'-10"	19	Str.
S432	6	1'-11"	8	Str.
S433	306	2'-3"	460	Bt.
S434	6	3'-1"	12	Str.
S435	64	31'-4"	1340	Str.
S436	310	4'-2"	863	Bt.
S437	44	31'-11"	938	Str.
S438	36	1'-2"	28	↑
S439	4	18'-4"	49	↕
S440	8	2'-6"	13	↕
S441	4	5'-0"	13	↓
S442	4	5'-6"	15	Str.
S443	4	3'-4"	9	Str.
Total Weight = 15,224 #				

WELDED WIRE MESH

4000 Sq. ft. 6"x6" 19/0 — 84.0#

CENTER PIER

MARK	NO.	LENGTH	WEIGHT	SHAPE
P601	9	27'-8"	374	Str.
P602	38	10'-0"	571	Str.
P501	4	27'-8"	115	Str.
P502	24	23'-6"	588	↑
P504	20	16'-10"	351	↕
P506	24	13'-10"	346	↕
P508	38	8'-2"	324	↕
P509	82	5'-10"	499	↓
P510	4	5'-4"	22	Str.
P511	24	5'-11"	148	Bt.
P401	16	14'-6"	155	Bt.
Total Weight = 3493#				

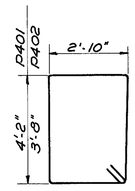


NORTH & SOUTH PIERS

QUANTITIES TOTAL TWO PIERS

MARK	NO.	LENGTH	WEIGHT	SHAPE
P603	76	9'-6"	1084	Str.
P501	26	27'-8"	750	Str.
P502	48	23'-6"	1177	↑
P503	40	17'-4"	723	↕
P505	48	14'-4"	717	↕
P507	46	9'-6"	456	↕
P508	76	8'-2"	648	↓
P510	164	5'-4"	912	Str.
P512	48	5'-5"	271	Bt.
P402	32	13'-6"	289	Bt.
Total Weight = 7027#				

Note: Total Weight shown is for North & South Piers combined.



NORTH & SOUTH ABUTMENTS

QUANTITIES SHOWN FOR ONE ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHAPE	"A"
A1001	17	28'-2"	1998	Str.	
A801	14	12'-10"	480	Str.	
A802	22	11'-6"	676	↕	
A803	8	11'-4"	242	↕	
A804	44	6'-0"	705	Str.	
A701	3	18'-8"	114	Str.	
A702	1	22'-2"	45	Bt.	18'-8"
A703	3	14'-4"	88	↑	10'-10"
A704	1	20'-4"	42	↕	16'-10"
A705	1	17'-2"	35	↕	13'-8"
A706	1	15'-9"	32	↕	12'-3"
A707	1	12'-11"	26	↕	9'-5"
A708	1	11'-6"	24	↕	8'-0"
A709	1	10'-1"	21	↕	6'-7"
A710	1	8'-8"	18	↓	5'-2"
A711	1	7'-3"	15	Bt.	3'-9"
A712	1	23'-0"	47	Str.	
A713	6	24'-2"	296	Str.	
A714	4	15'-7"	127	Bt.	13'-1"
A715	3	11'-3"	69	↑	8'-9"
A716	1	15'-5"	32	↕	12'-11"
A717	1	13'-5"	27	↕	10'-11"
A718	1	12'-5"	25	↕	9'-11"
A719	1	10'-5"	21	↕	7'-11"
A720	1	9'-5"	19	↕	6'-11"
A721	1	8'-5"	17	↕	5'-11"
A722	1	7'-5"	15	↕	4'-11"
A723	1	6'-5"	13	↓	3'-11"
A724	1	5'-5"	11	Bt.	2'-11"
A725	1	17'-0"	35	Str.	
A601	19	12'-10"	366	Bt.	6'-2"
A602	10	24'-2"	363	Str.	
A603	3	15'-11"	72	Bt.	9'-3"
Total Weight = 6,116 #					

NORTH & SOUTH ABUTMENTS

QUANTITIES SHOWN FOR ONE ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHAPE	"A"
A501	9	28'-2"	264	Str.	
A502	54	9'-6"	535	↑	
A503	34	5'-6"	195	↕	
A504	13	6'-0"	81	↕	
A505	3	17'-3"	54	Str.	
A506	1	19'-6"	20	Bt.	16'-0"
A507	1	18'-6"	19	↑	15'-0"
A508	5	15'-8"	82	↕	12'-2"
A509	1	12'-10"	13	↕	9'-4"
A510	1	10'-0"	10	↓	6'-6"
A511	1	7'-2"	7	Bt.	3'-8"
A512	1	23'-0"	24	Str.	
A513	4	15'-10"	66	Bt.	11'-10"
A514	1	14'-8"	15	↑	10'-8"
A515	1	12'-8"	13	↕	8'-8"
A516	1	10'-8"	11	↕	6'-8"
A517	1	8'-8"	9	↕	4'-8"
A518	1	6'-8"	7	↓	2'-8"
A519	1	4'-8"	5	Bt.	0-8"
A520	1	17'-0"	18	Str.	
A521	4	3'-3"	14	↑	
A522	2	3'-7"	7	↕	
A523	2	3'-11"	8	↕	
A524	4	4'-4"	18	↕	
A525	4	4'-9"	20	↕	
A526	2	5'-0"	10	↕	
A527	4	5'-4"	22	↕	
A528	4	5'-9"	24	↕	
A529	2	6'-1"	13	↕	
A530	2	6'-5"	13	↕	
A531	4	6'-9"	28	↕	
A532	4	7'-3"	30	↕	
A533	2	7'-6"	16	↕	
A534	4	7'-10"	33	↕	
A535	4	8'-3"	34	↕	
A536	2	8'-7"	18	↕	
A537	2	8'-11"	19	↕	
A538	10	9'-3"	96	↕	
A539	2	3'-9"	8	↓	
A540	2	6'-3"	13		
A541	2	8'-9"	18	Str.	
A542	4	17'-9"	74	Bt.	13'-9"
A401	4	14'-8"	39	Bt.	4'-8"
A402	4	15'-0"	40	↑	4'-10"
A403	4	15'-4"	41	↕	5'-0"
A404	4	16'-9"	45	↕	5'-8½"
A405	4	17'-4"	46	↕	6'-0"
A406	4	18'-0"	48	↕	6'-4"
A407	4	18'-6"	49	↓	6'-7"
A408	4	19'-2"	51	Bt.	6'-11"
Total Weight = 2343#					

SOUTH ABUTMENT ONLY

MARK	NO.	LENGTH	WEIGHT	SHAPE	"A"
A409	1	3'-7"	2	Bt.	1'-8"
A410	1	4'-0"	3	↑	2'-1"
A411	1	4'-5"	3	↕	2'-6"
A412	2	4'-10"		↕	2'-11"
A413	1	5'-3"	4	↓	3'-4"
A414	1	5'-8"	4	Bt.	3'-9"
A415	1	11'-2"	7	Str.	
A416	1	4'-2"	3	Str.	
Total Weight = 32#					

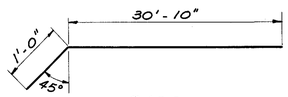
Total Weight for South Abutment = 8,503#
Total Weight for North Abutment = 8,470#

REPLACEMENT BARS

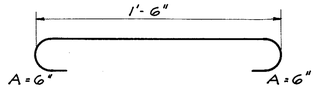
MARK	NO.	LENGTH	SHAPE
RE401	1	5'-3"	Str.
RE501	1	5'-7"	↑
RE601	1	5'-11"	↕
RE701	1	6'-3"	↕
RE801	1	6'-6"	↓
RE1001	1	7'-3"	Str.
Total Weight=80#			

Note:
Bar size is indicated in the bar mark.
The first digit indicates the bar size number except when the first digit is one (1). In this case the first two digits indicate the bar size number.

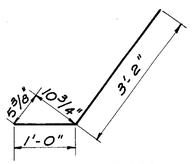
Reinforcing Steel lists shown for South Abutment. North Abutment same, except as noted.



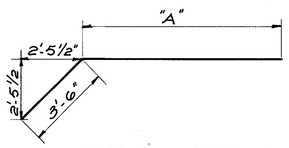
S430



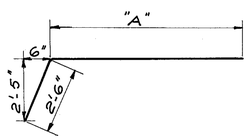
S433



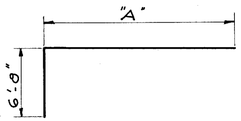
S436



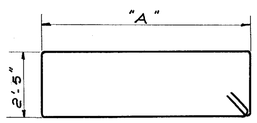
A702 thru A711 inclusive
A506 thru A511 inclusive



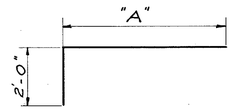
A714 thru A724 inclusive



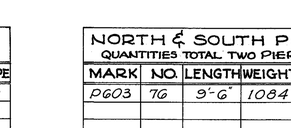
A601
A603



A401 thru A408 inclusive



A409 thru A414



A513 thru A519 inclusive & A542

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI - OHIO

REINFORCING STEEL LISTS
PENNSYLVANIA RAILROAD
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.L.B.	R.L.B.	N.B.	E.R.B.	R.J.L.G-15-62	

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

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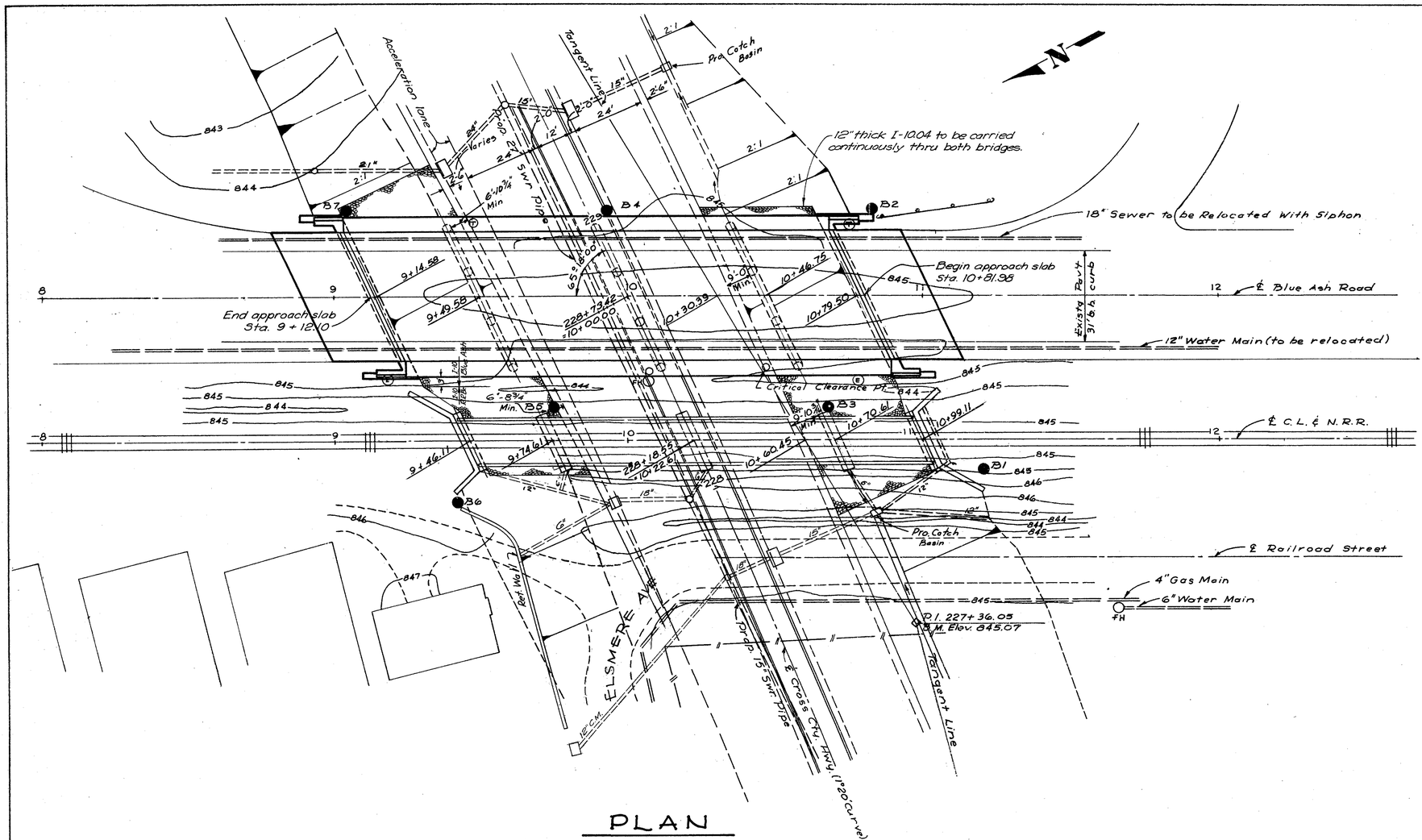
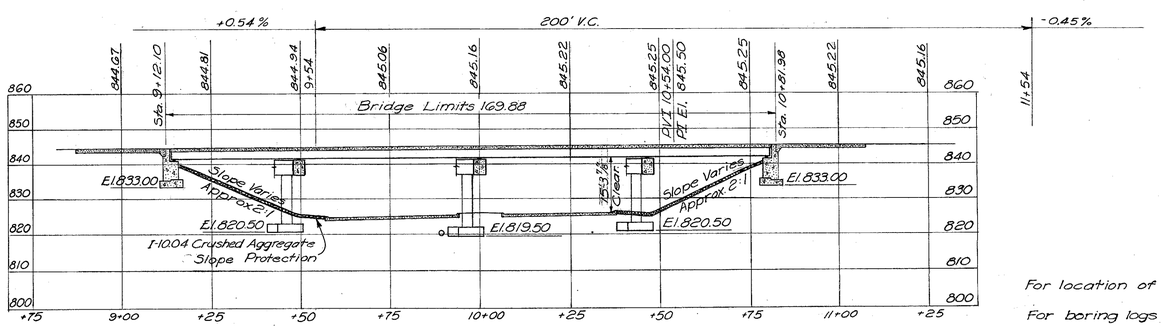
HAMILTON COUNTY
C.R. 453 B



PLAN



SECTION ALONG ℄ OF BLUE ASH

CURVE DATA

CROSS COUNTY HIGHWAY

P.I. Sta. 227+36.05
Δ = 16°24'00"
D = 1°20'00"
R = 4297.18'
L = 1230.00'
T = 619.23'
Superelev. = 0.022'/'

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinf. conc. deck and substructure.

SPANS: 35'-0", 50'-5", 46'-9", 32'-9"

ROADWAY: 44'-0" f/f curbs, with 2 - 4'-0" sidewalks

LOAD FREQUENCY: CF = 400(37)

SKEW: 24°42' R.F.

WEARING SURFACE: 1" Monolithic Concrete

APPROACH SLABS: 25' Long

ALIGNMENT: Tangent

B.M. Elev. 845.07 Concrete Monument
P.I. 227+36.05

For location of temporary run-around, see Supplemental Site Plan. Sheet No. 170

For boring logs see sheet No. 171

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

SITE PLAN
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

PRESENT TOPO		PROPOSED WORK			
SURVEYOR	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
W.C.T.	W.I.K.	W.I.K.	W.I.K. R.R.L.	E.R.B.	R.J.L. 6-15-62

FED. RD DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

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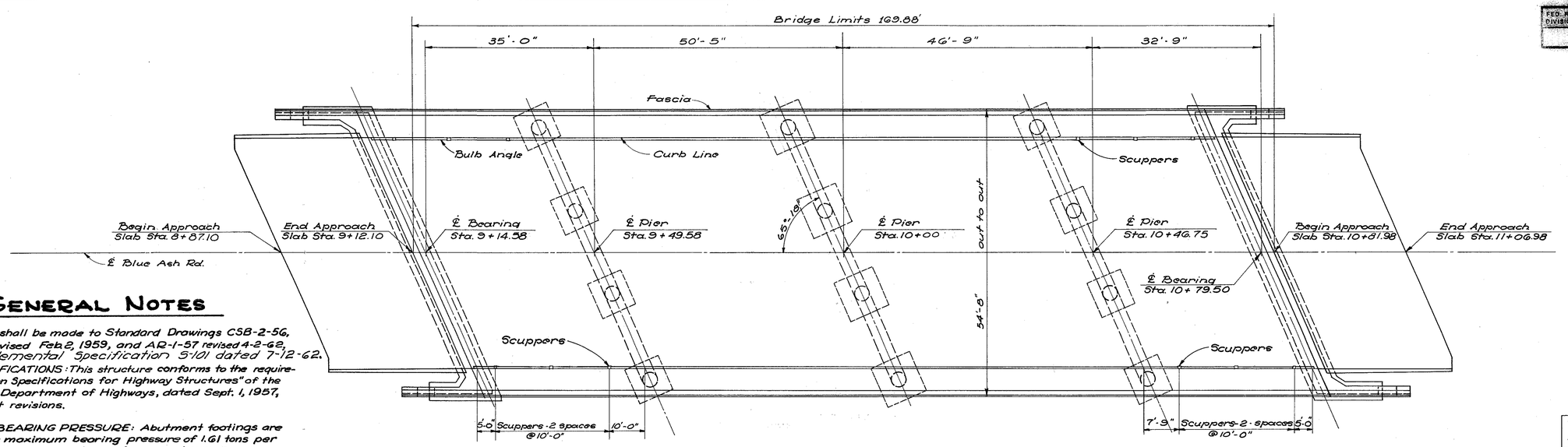
187

HAMILTON COUNTY
C.R. 453 B



PLAN

NOTE: Pier & Abutment ℄'s are all parallel.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CSB-2-56, sheets 2&3, revised Feb. 2, 1959, and AR-1-57 revised 4-2-62, and to Supplemental Specification 5-101 dated 7-12-62.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Sept. 1, 1957, including latest revisions.

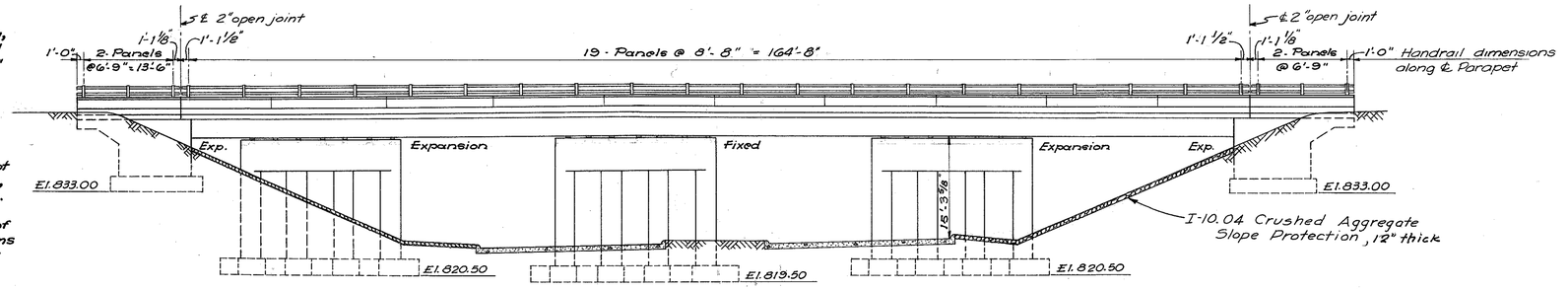
FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1.61 tons per sq. ft. Pier footings are designed for a maximum bearing pressure of 4.3 tons per sq. ft.

EXCAVATION QUANTITY for the abutments, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finished slope of the cut.

CONTINUOUS BEAM SPLICES: If beams having depths differing by more than 1/8" are to be spliced by butt welding, the depth of the smaller-depth beam shall be increased by splitting the web longitudinally at a distance of 1 1/2" below the bottom of the top flange and for a distance sufficient to allow the flange to be bent up at a slope of not more than 3/8" per foot, after which the split in the web shall be completely welded with full depth penetration and ground flush.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the contractor, be made in the shop.

SHOP PAINTING STEEL. The surface preparation of all steel, requiring shop painting as per the Plans and Specifications, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.



ELEVATION

GENERAL NOTES CONT.

SHEET LEAD shall conform to the requirements of ASTM Designation B 29 without restriction to the Common Desilverized type.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to the centerline of piers and are located near the center of any span.

SURFACE FINISH OF CONCRETE

The requirements of Sec. S-1.22, Rubbed Finish, shall apply to the following exposed concrete surfaces:

a. The entire superstructure except the top and bottom surfaces of sidewalks and roadways.

b. The entire surface of piers and abutments except bridge seats, backwalls, and the face of spill-through abutments between outside beams.

MACHINE FINISH: At the Contractor's Option, the concrete deck may be finished by the use of a finishing machine.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

TEMPORARY RUN-AROUND ROAD: Pavement shall be Class "A" (24' wide) with 30' out to out of shoulders.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	South Abut.	North Abut.	North Pier	South Pier	Center Pier	Gen'l.
E-2	344	Cu.Yds.	Unclassified excavation		176	168				
S-1	299	Cu.Yds.	Class "C" Conc., superstructure	299						
S-1	124	Cu.Yds.	Class "C" Conc., pier caps & columns				41	41	42	
S-1	153	Cu.Yds.	Class "E" Conc., abuts. above ftgs.		80	73				
S-1	124	Cu.Yds.	Class "E" Concrete, footings		32	32	18	18	24	
S-4	113,132	Lbs.	Reinforcing Steel	76,693	3593	3563	9575	9647	10061	
S-7	179,200	Lbs.	Structural Steel	179,200						
S-6	179,200	Lbs.	Field Painting of Struc. Steel	179,200						
S-14	395.5	Lin.Ft.	Railing (Type "C" Aluminum Rail & supports & concrete parapet)	333.5	31	31				
S-29	42	Cu.Yds.	Porous Backfill		21	21				
S-29	12	Each	Scuppers, including supports	12						
I-10	640	Sq.Yds.	Crushed Aggregate Slope Protection							640
E2	122	Cu.Yds.	Rock & Shale Excavation				28	36	58	
S-101	299	Each	Water reducing, set retarding admixture	299						

NOTE: Quantities for approach slabs not included.

PAVEMENT ELEVATIONS	
Station	℄
8+87.5	844.60
9+00	844.67
9+12.5	844.74
9+25	844.81
9+37.5	844.87
9+50	844.94
9+62.5	845.00
9+75	845.06
9+87.5	845.11
10+00	845.16
10+12.5	845.19
10+25	845.22
10+37.5	845.24
10+50	845.25
10+62.5	845.26
10+75	845.25
10+87.5	845.24
11+00	845.22
11+12.5	845.19

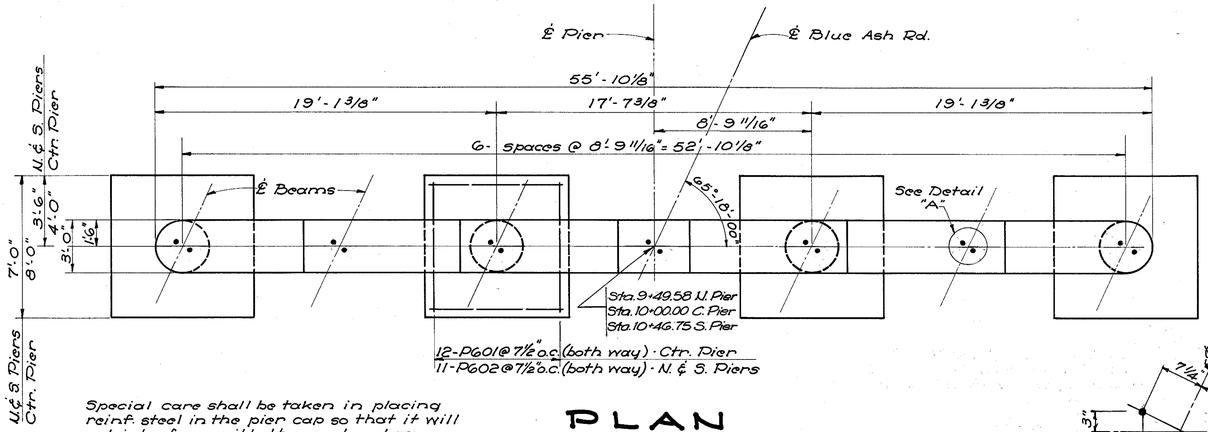
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI, OHIO

GENERAL PLAN & ESTIMATED QUANTITIES BLUE ASH ROAD BRIDGE OVER CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L 6-15-62	

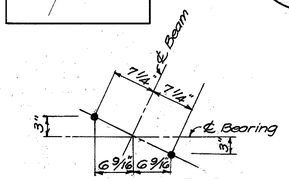
FED. RD. DIVISION	STATE	PROJECT		181 / 187
	OHIO	S-242 (2)		

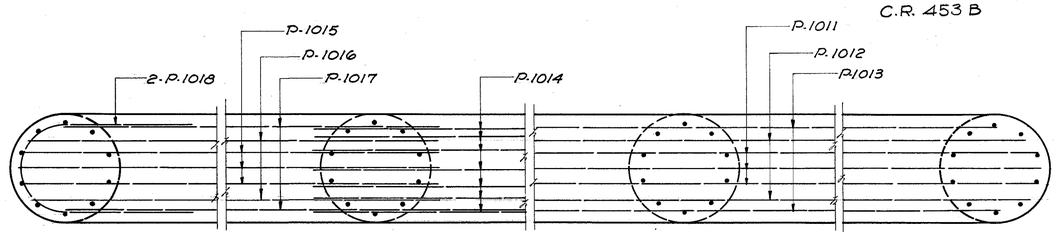
HAMILTON COUNTY
C.R. 453 B



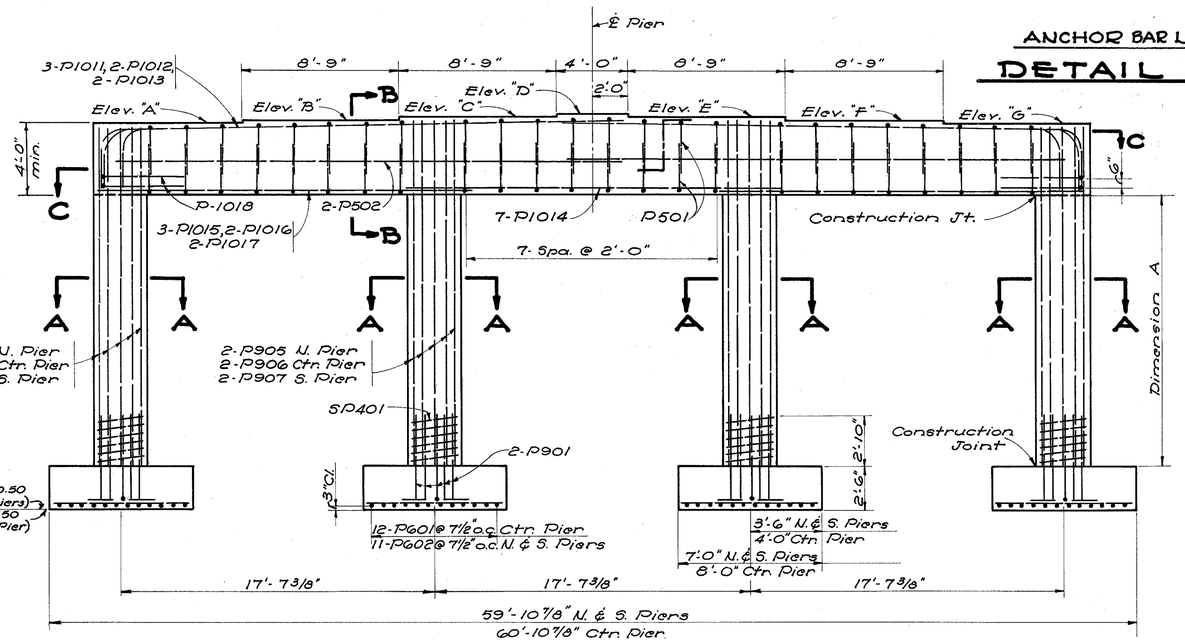
Special care shall be taken in placing reinf. steel in the pier cap so that it will not interfere with the anchor bars.

PLAN



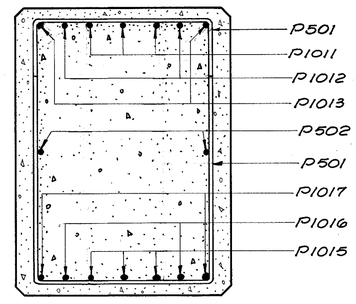


SECTION C-C

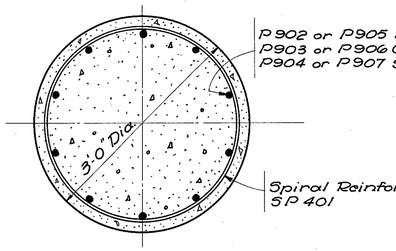


ELEVATION

ANCHOR BAR LAYOUT
DETAIL "A"



SECTION B-B



SECTION A-A

	ELEVATION							DIMENSION
	A	B	C	D	E	F	G	A
North Pier	840.81	840.96	841.10	841.25	841.14	841.04	840.93	13.81
Center Pier	841.14	841.28	841.42	841.55	841.44	841.32	841.21	15.14
South Pier	841.17	841.30	841.43	841.56	841.44	841.31	841.19	14.17

Notes:

All footings of each pier are identical, and all footing reinforcement of each pier shall have the same spacing in both directions.

All pier details & reinforcements are symmetrial about the center line of the pier.

All reinf. steel shall have 2" min. cover unless otherwise noted.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI — OHIO

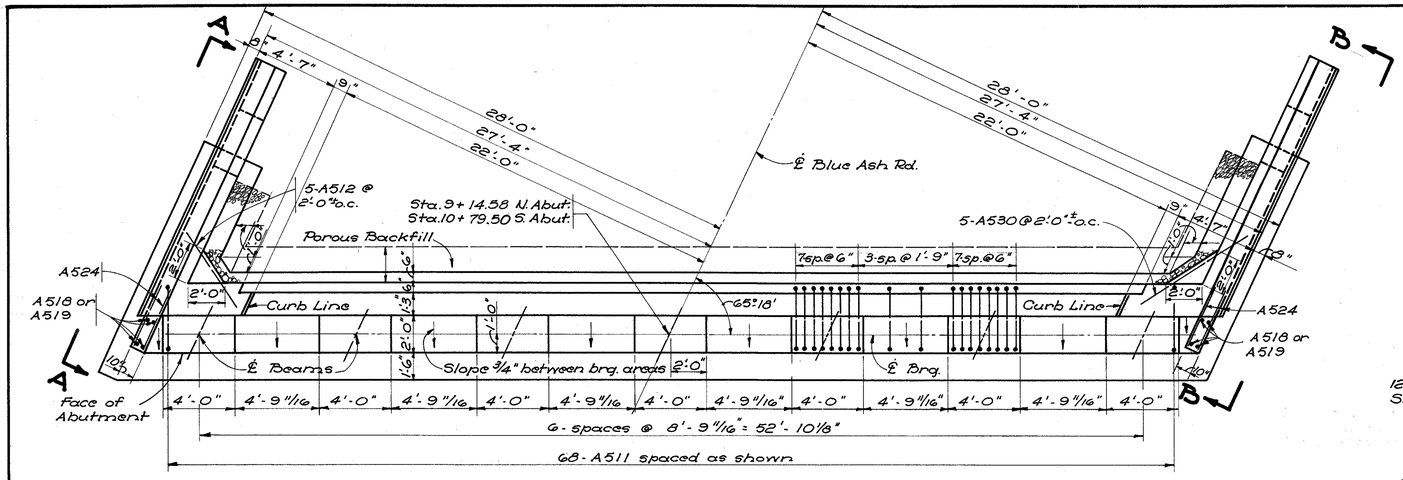
PIERS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L.	6-15-62	

FAP NO. DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

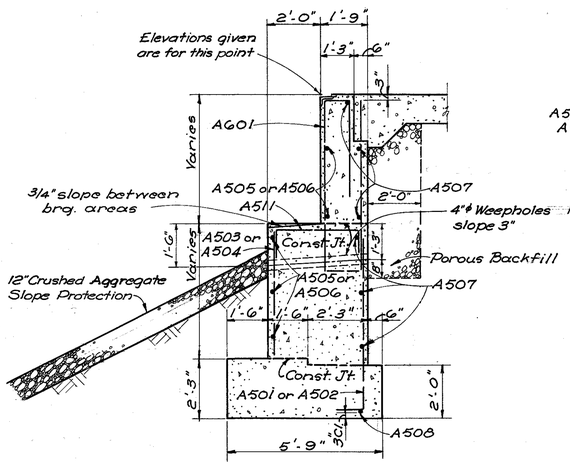
HAMILTON COUNTY
C.R. 453B

182/187

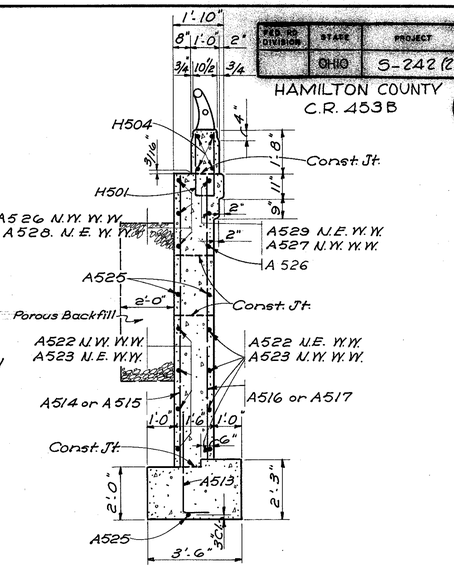


PLAN

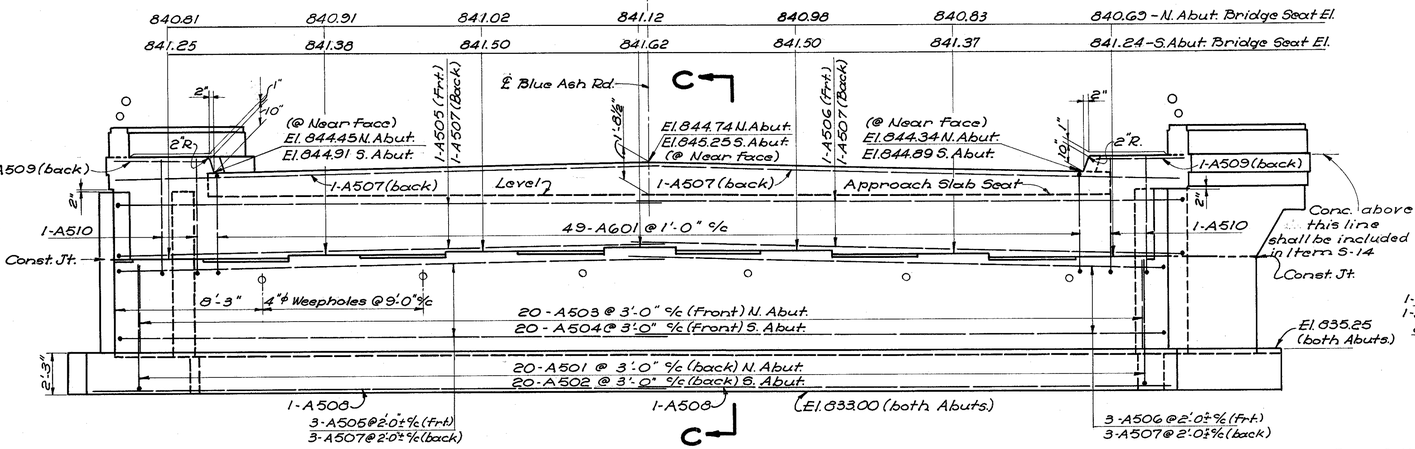
(End finish not shown)



SECTION C-C

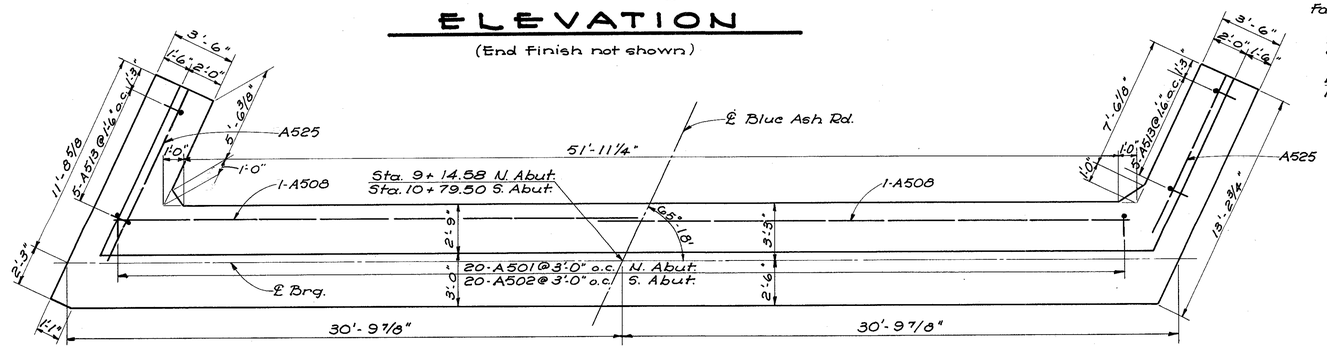


SECTION D-D



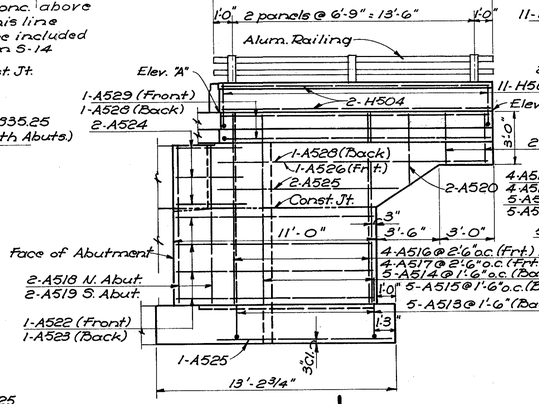
ELEVATION

(End finish not shown)



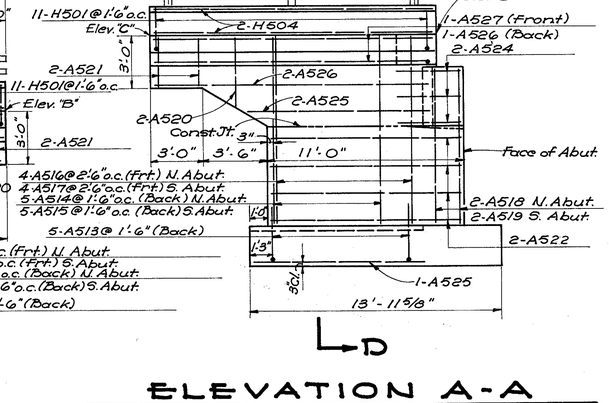
FOOTING PLAN

Note: Wing wall ftgs. parallel with ℄ of the Blue Ash Rd. North & South Abuts. similar except as noted.



D

ELEVATION B-B



D

ELEVATION A-A

ELEVATIONS

	Elev. A	Elev. B	Elev. C	Elev. D
No. Abutment	845.25	845.17	845.30	845.38
So. Abutment	845.81	845.73	845.82	845.83

Notes:
1. For End Finish Details, see Sh. No. 183
2. For Alum. Railing Details, see Std. Dwg. AR-1-57, Type "C", Rev. 4-2-62.
3. All reinf. steel to have 2" min. cover unless otherwise noted.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI - OHIO

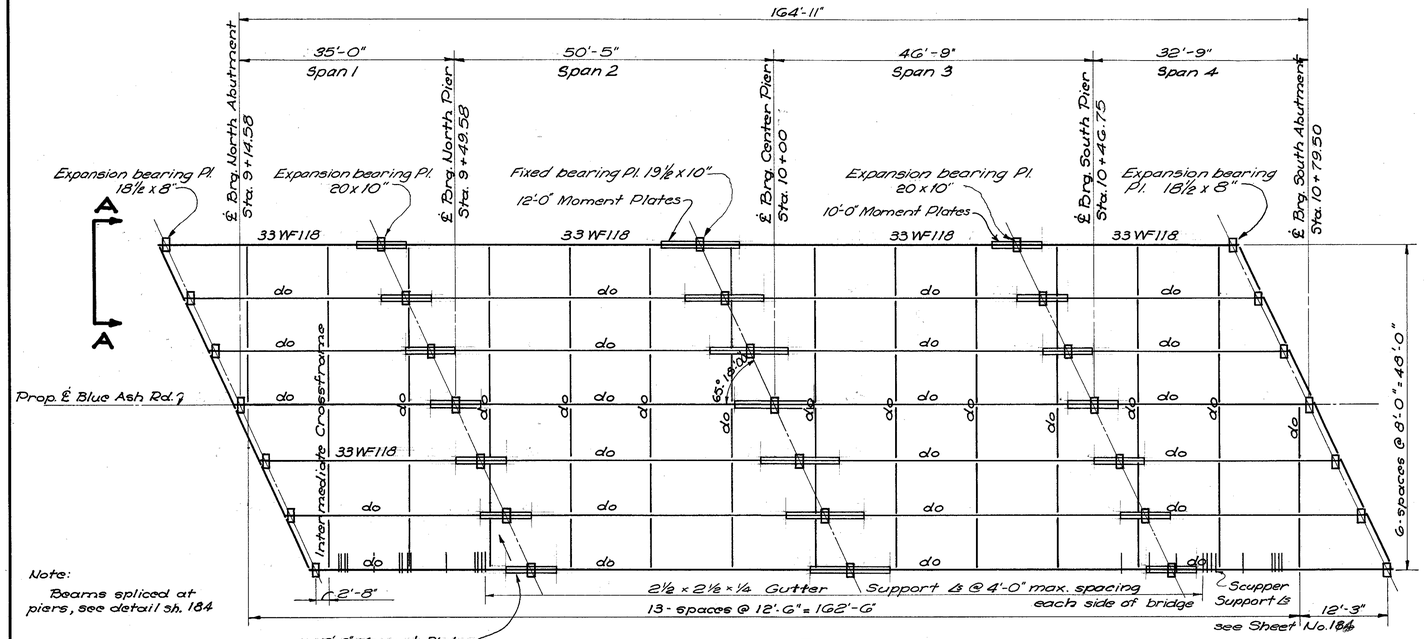
ABUTMENTS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L. 6-15-62	

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

183
187

HAMILTON COUNTY
CR 453 B

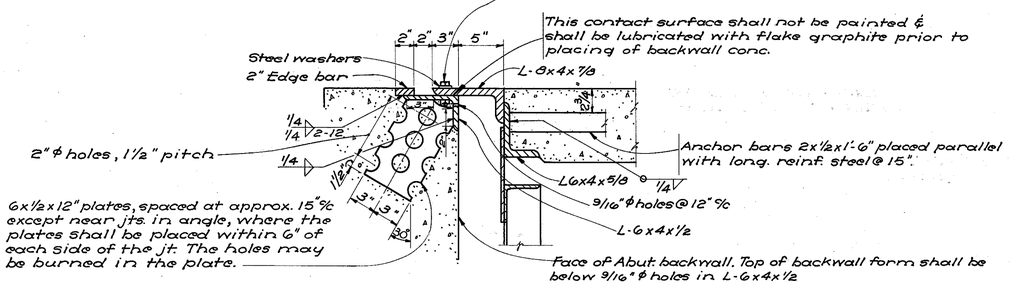


FRAMING PLAN

10'-0" Moment Plates
10" x 7/16" Top - Typ.
13" x 1/2" Bot. - Typ.

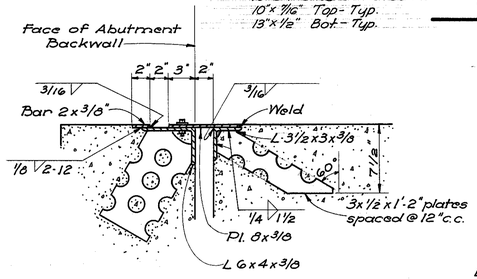
A welded butt jt. in the end finish, along the ℄ of roadway, will be required for that portion of the end finish attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the jts. at the apex of the crown. These shall be closely butted but shall not be welded.

5/8" x 2" bolts at not more than 2'-0" % with nuts tack-welded to under side of lower angle. 1 1/16" holes in upper angle. Center 5/8" bolts in 1 1/16" holes. Apply flake graphite between washers ℄ angle. Turn bolt tight ℄ release one-half turn. Remove bolts as soon as conc. has set, preferably within two hours after placing, to avoid damage due to temp. exp. or contraction of superstructure. Fill holes with bitu. material.

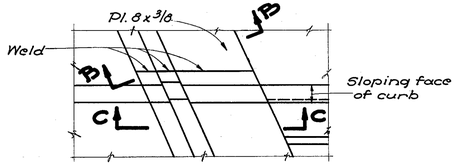


SECTION F-F
ROADWAY END FINISH

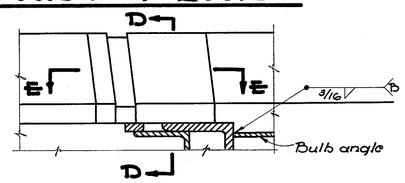
Omit shop coat on all portions of end finish. Portions in contact with steel or with conc. shall not be painted. All other portions shall be cleaned ℄ given the shop coat in the field as well as the two field coats.



SECTION B-B
CURB END FINISH

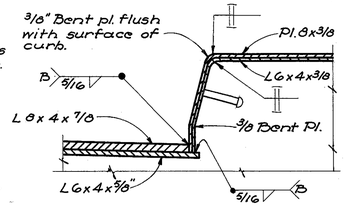


PART PLAN

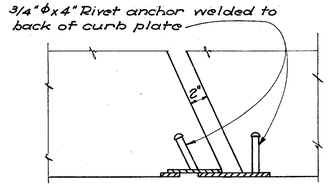


SECTION C-C

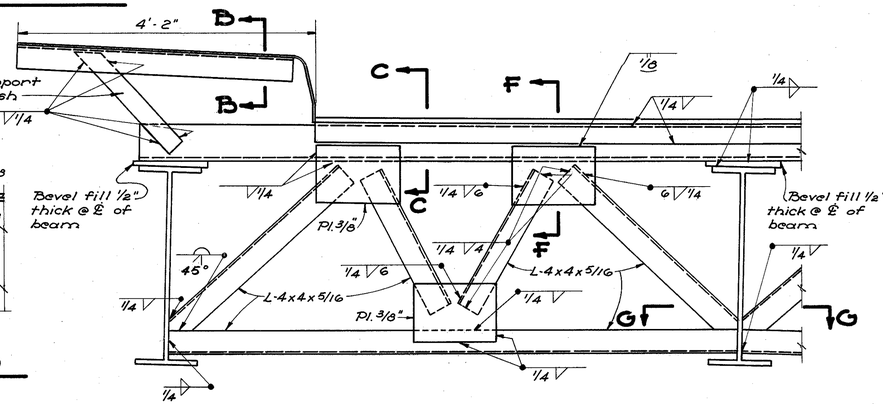
CURB PLATE DETAILS



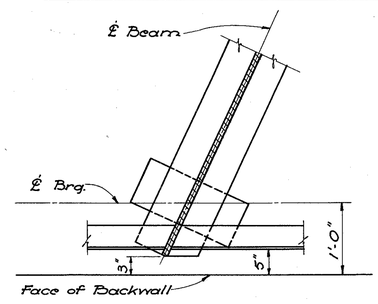
SECTION D-D



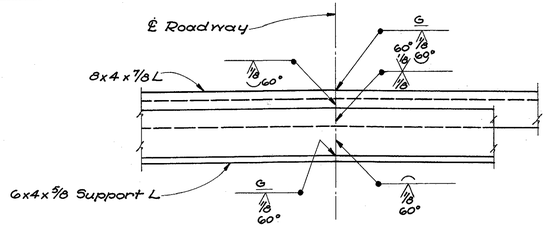
SECTION E-E



END CROSS FRAME - ELEVATION A-A



SECTION G-G



WELDED BUTT JT. IN SUPERSTRUCTURE
END FINISH ANGLES AT ℄ OF ROADWAY

BEAM DEFLECTION (Inches)

	SPAN 1		SPAN 2		SPAN 3		SPAN 4	
	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.
Deflection due to weight of steel	0	0	0	0	0	0	0	0
Deflection due to remaining dead load	1/16	1/16	3/16	3/16	1/8	1/8	1/16	1/16
Convexity required for vertical curve	—	—	3/16	3/16	3/16	3/16	1/16	1/16
Sum of deflection and convexity	1/16	1/16	3/8	3/8	5/16	5/16	1/8	1/8

Notes:

CAMBER: No camber of beams is required. During erection beams shall be placed with any shop camber, convex side up.

For details of Bearing Plates, see Std. Dwg. CSB-2-56, sh. 3

For Scupper Details, see Sh. No. 184

For Details of Intermediate Crossframes, see Sh. No. 185

For other details not shown, see Std. Dwg. CSB-2-56, Sheets No. 2 & 3.

SHAW, LENZ & ASSOCIATES
Engineers
CINCINNATI — OHIO

STEEL FRAMING PLAN & DETAILS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L 6-15-62	

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242 (2)	

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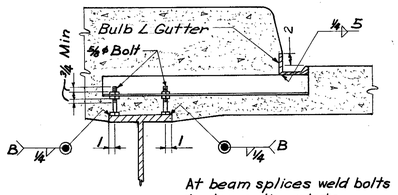
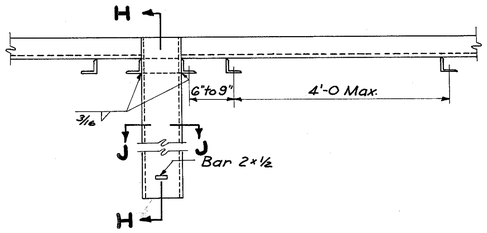
HAMILTON COUNTY
C.R. 453 B

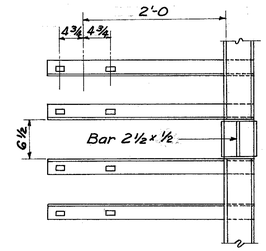


At beam splices weld bolts to top splice plate.

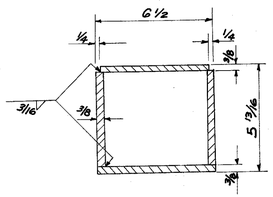
GUTTER SUPPORT



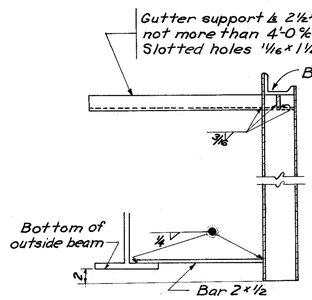
REAR ELEVATION



PART PLAN

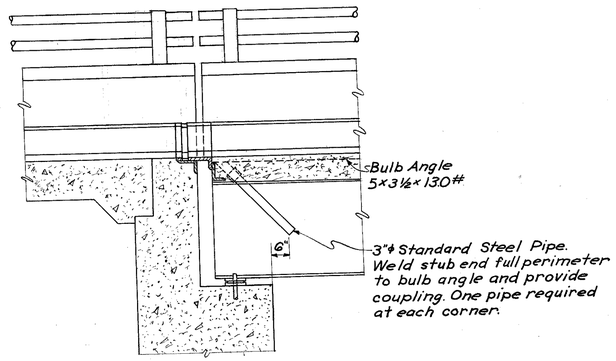


SECTION J-J



Bulb angles & supports included in Item 5-7

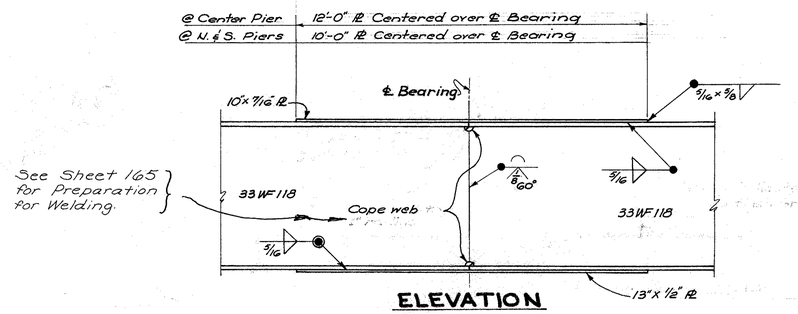
SECTION H-H



DRAIN PIPE AT END OF BULB ANGLE

Note: Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.

GUTTER AND SCUPPER DETAILS



ELEVATION

BEAM SPLICE DETAILS

Beam Splice Welding Procedure

1. Make first welded splice at North Pier. No raise is required at far ends of beams.
2. Raise end of beams at south pier ½".
3. Make second welded splice at center pier.
4. Lower ends of beams at south pier.
5. Place beams in end span and complete welded splice at South pier. It is not necessary to raise beam at abutment.

Welding Sequence

Butt-weld the beam flanges and webs as follows:
a) make one pass on each flange, then two on the web.
b) repeat using one pass at each location until welds are complete.

Weld the bottom and top moment plates.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI — OHIO

STRUCTURAL STEEL DETAILS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.K.	W.I.K.	E.V.	E.R.B.	R.J.L.	6-15-62	

FED. RD. DIVISION	STATE	PROJECT	
	OHIO	S-242(2)	

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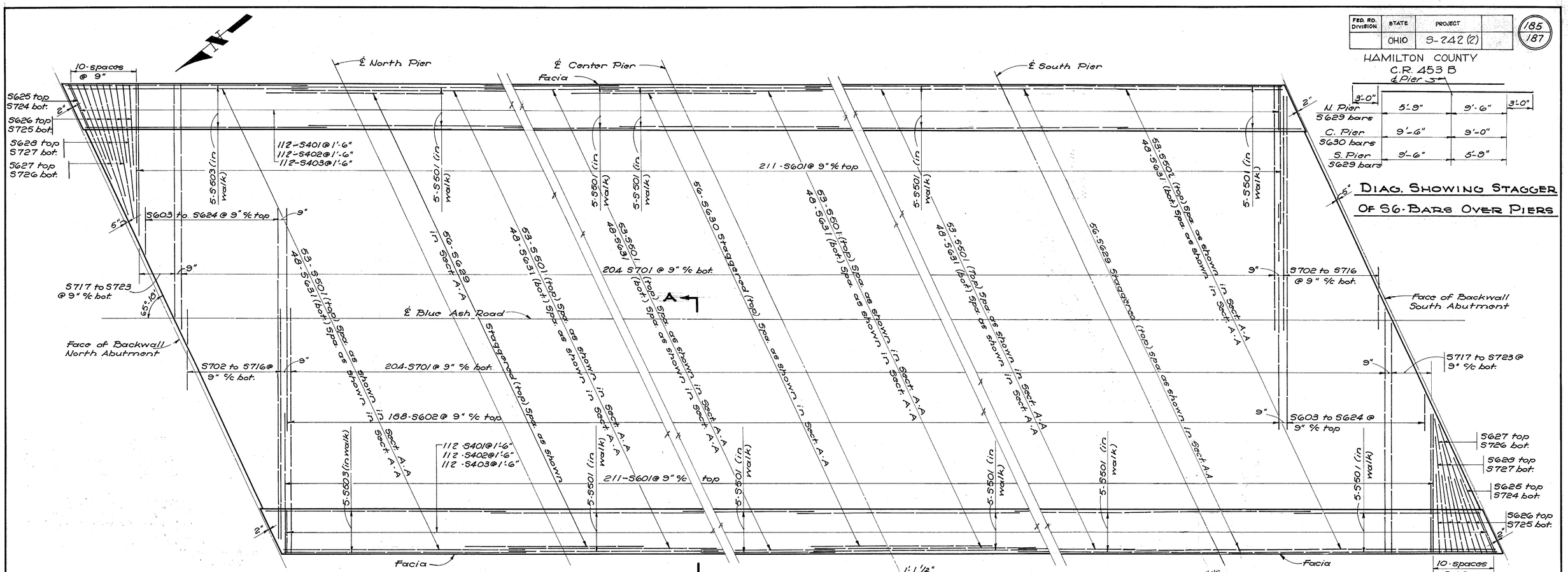
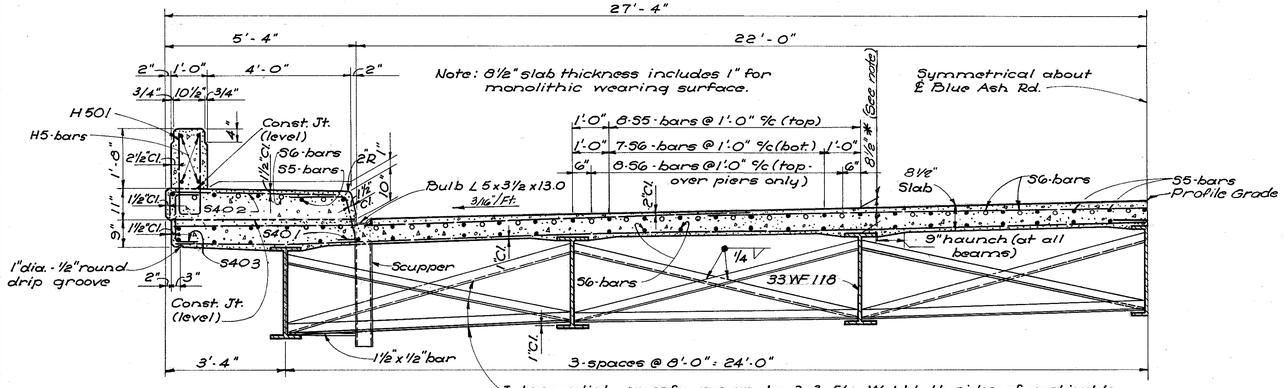
HAMILTON COUNTY
C.R. 453 B
℄ Pier 3

	3'-0"			3'-0"
N. Pier S629 bars		5'-9"	9'-6"	
C. Pier S630 bars		9'-6"	9'-0"	
S. Pier S629 bars		9'-6"	5'-9"	

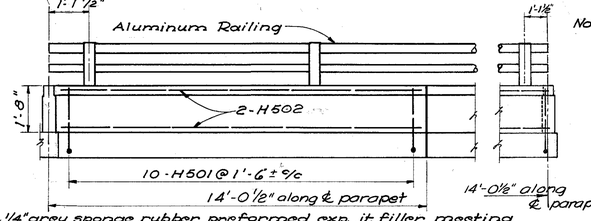
DIAG. SHOWING STAGGER OF S6-BARS OVER PIERS



PLAN

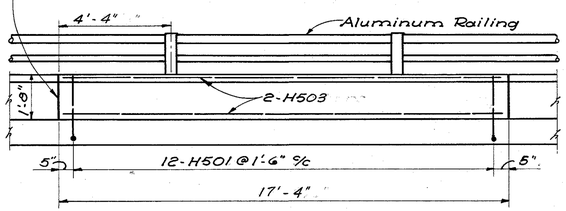


HALF TRANSVERSE SECTION A-A



¼" grey sponge rubber preformed exp. jt. filler meeting the requirements of Sect. M-10.02, Type 1. (Incl. with Item S-14 for payment.)

END PARAPET PANEL



INTERMEDIATE PARAPET PANEL

TYPICAL RAILING DETAILS

Notes: DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 3" wide, may vary from this dimension between the limits of 6" and 12" except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 3" width.

Lap reinf bars 30d min.

Forend finish details, see Sh. 183

For location & details of scuppers (not shown), see Shs. 180 & 184 respectively.

For aluminum railing details, see State of Ohio Std. Dwg. AP-1-57, Type 2" Revised 4-2-62

SLAB DEPTH *: This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI - OHIO

SLAB & RAILING DETAILS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L	6-15-62	

FED. RD. DIVISION	STATE	PROJECT		
	OHIO	S-242 (2)		

186
187

HAMILTON COUNTY C.R. 453 B

NORTH ABUTMENT				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A501	20	8'-1"	169	Bt.
A503	20	5'-2"	108	Str.
A505	5	32'-5"	169	Bt.
A506	5	32'-5"	169	Bt.
A507	12	30'-5"	381	Str.
A508	2	31'-0"	65	Str.
A509	2	5'-4"	11	Str.
A510	4	13'-0"	54	Bt.
A511	68	5'-1"	361	Bt.
A512	5	5'-0"	26	Str.
A513	10	4'-3"	44	Bt.
A514	10	10'-1"	113	Str.
A516	8	9'-9"	82	Str.
A518	8	7'-11"	66	↓
A520	4	3'-3"	14	
A521	8	2'-8"	22	
A522	12	10'-5"	130	
A523	4	11'-3"	47	
A524	12	3'-6"	44	
A525	6	9'-8"	60	↓
A526	5	15'-0"	78	Str.
A527	2	17'-4"	36	Bt.
A528	3	15'-4"	48	Str.
A529	2	17'-0"	35	Bt.
A530	5	7'-0"	37	Str.
AG01	49	14'-8"	1079	Bt.
H501	22	5'-0"	115	Bt.
H504	8	15'-2"		Str.
Total Weight 3,563				

SOUTH ABUTMENT				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A502	20	8'-8"	181	Bt.
A504	20	5'-9"	120	Str.
A505	5	32'-5"	169	Bt.
A506	5	32'-5"	169	Bt.
A507	12	30'-5"	381	Str.
A508	2	31'-0"	65	Str.
A509	2	5'-4"	11	Str.
A510	4	13'-0"	54	Bt.
A511	68	5'-1"	361	Bt.
A512	5	5'-0"	26	Str.
A513	10	4'-3"	44	Bt.
A515	10	10'-7"	110	Str.
A517	8	10'-4"	86	Str.
A519	8	8'-6"	71	Str.
A520	4	3'-3"	14	Str.
A521	8	2'-8"	22	↑
A522	12	10'-5"	130	
A523	4	11'-3"	47	
A524	12	3'-6"	44	
A525	6	9'-8"	60	↓
A526	5	15'-0"	78	Str.
A527	2	17'-4"	36	Bt.
A528	3	15'-4"	48	Str.
A529	2	17'-0"	35	Bt.
A530	5	7'-0"	37	Str.
AG01	49	14'-8"	1079	Bt.
H501	22	5'-0"	115	Bt.
H504	8	15'-2"		Str.
Total Weight 3593				

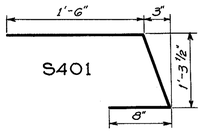
NORTH PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	48	8'-8"	409	Bt.
P502	4	27'-6"	115	Str.
PG02	88	6'-8"	882	Str.
P901	40	6'-0"	816	Bt.
P902	20	17'-6"	1190	Str.
P905	20	17'-9"	1207	Str.
P1011	6	32'-3"	833	Bt.
P1012	4	31'-10"	548	Bt.
P1013	4	31'-1"	535	Bt.
P1014	7	20'-11"	630	Str.
P1015	6	20'-7"	532	Str.
P1016	4	20'-0"	344	Str.
P1017	4	19'-3"	331	Str.
P1018	4	9'-11"	171	Bt.
Total Weight 8,543				

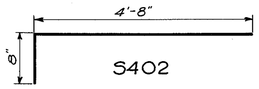
CENTER PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	48	8'-2"	409	Bt.
P502	4	27'-6"	115	Str.
PG01	96	7'-8"	1106	Str.
P901	40	6'-0"	816	Bt.
P903	20	18'-10"	1281	Str.
P906	20	19'-1"	1298	Str.
P1011	6	32'-3"	833	Bt.
P1012	4	31'-10"	548	Bt.
P1013	4	31'-1"	535	Bt.
P1014	7	20'-11"	630	Str.
P1015	6	20'-7"	532	Str.
P1016	4	20'-0"	344	Str.
P1017	4	19'-3"	331	Str.
P1018	4	9'-11"	171	Bt.
Total Weight 8,949				

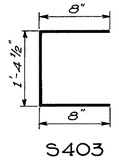
SOUTH PIER				
MARK	NO.	LENGTH	WEIGHT	SHAPE
P501	48	8'-2"	409	Bt.
P502	4	27'-6"	115	Str.
PG02	88	6'-8"	882	Str.
P901	40	6'-0"	816	Bt.
P904	20	17'-10"	1213	Str.
P907	20	18'-1"	1230	Str.
P1011	6	32'-3"	833	Bt.
P1012	4	31'-10"	548	Bt.
P1013	4	31'-1"	535	Bt.
P1014	7	20'-11"	630	Str.
P1015	6	20'-7"	532	Str.
P1016	4	20'-0"	344	Str.
P1017	4	19'-3"	331	Str.
P1018	4	9'-11"	171	Bt.
Total Weight 8,589				

SUPERSTRUCTURE				
MARK	NO.	LENGTH	WEIGHT	SHAPE
SG01	422	16'-0"	10,142	Str.
SG02	188	26'-0"	7342	Str.
SG03	2	4'-6"	14	Str.
SG04	2	6'-2"	19	Str.
SG05	2	7'-10"	24	Str.
SG06	2	9'-6"	29	Str.
SG07	2	11'-2"	34	Str.
SG08	2	12'-10"	39	↑
SG09	2	14'-6"	44	
SG10	2	16'-2"	49	
SG11	2	17'-10"	54	
SG12	2	19'-6"	59	
SG13	2	21'-2"	64	
SG14	2	22'-10"	69	
SG15	2	24'-6"	74	
SG16	2	26'-2"	79	
SG17	2	27'-10"	84	
SG18	2	29'-6"	89	
SG19	2	31'-2"	94	
SG20	2	32'-10"	99	
SG21	2	34'-6"	104	
SG22	2	36'-2"	109	
SG23	2	37'-10"	114	
SG24	2	39'-6"	119	
SG25	2	12'-0"	36	
SG26	10	9'-3"	139	
SG27	4	15'-10"	95	
SG28	4	13'-5"	81	
SG29	112	18'-3"	3070	↓
SG30	56	21'-6"	1808	Str.
SG31	288	29'-3"	12,653	Str.
Total Weight 36,829				

SUPERSTRUCTURE				
MARK	NO.	LENGTH	WEIGHT	SHAPE
S701	408	28'-2"	23,490	Str.
S702	2	4'-4"	18	↑
S703	2	5'-11"	24	
S704	2	7'-7"	31	
S705	2	9'-3"	38	
S706	2	10'-11"	45	
S707	2	12'-7"	51	
S708	2	14'-3"	58	
S710	2	17'-7"	72	
S711	2	19'-3"	79	
S712	2	20'-11"	86	
S713	2	22'-7"	92	
S714	2	24'-3"	99	
S715	2	25'-11"	106	
S716	2	27'-7"	113	
S717	2	17'-0"	69	
S718	2	18'-8"	76	
S719	2	20'-4"	83	
S720	2	22'-0"	90	
S721	2	23'-8"	97	
S722	2	25'-4"	104	
S723	2	27'-0"	110	
S724	2	12'-0"	49	
S725	10	9'-3"	189	
S726	4	15'-10"	129	
S727	4	13'-5"	110	↓
S709	2	15'-11"	65	Str.
S401	224	3'-4"	499	Bt.
S402	224	5'-3"	786	Bt.
S403	224	2'-6"	374	Bt.
S501	315	29'-0"	9528	Str.
S502	53	28'-9"	1589	Str.
S503	10	29'-3"	305	Str.
H501	232	5'-0"	1210	Bt.
H502	16	13'-7"		Str.
H503	64	17'-0"		Str.
Total Weight 39,864				







SPIRAL REINFORCING BARS

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4.

1½ closed coils shall be provided at ends of each spiral unit.

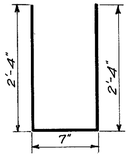
Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft, shall be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

PIER	MARK	NO.	CORE DIA. % SPIRAL	LENGTH	PITCH	NO. TURNS	WEIGHT
NORTH	SP401	4	32"	13'-10"	4 ½	40	1032
CENTER	SP401	4	32"	15'-2"	4 ½	43	1112
SOUTH	SP401	4	32"	14'-2¼	4 ½	41	1058

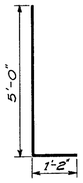
NOTE:

H502, H503 & H504 shall be included in price bid for Item S-14.

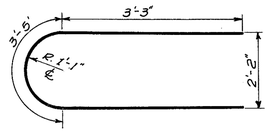
Bar size is indicated in the bar mark. The first digit indicates the bar size number except when the first digit is one (1). In this case the first two digits indicate the bar size number.



H501



P901



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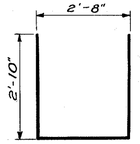

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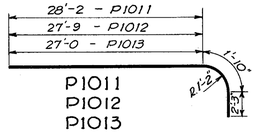
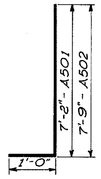
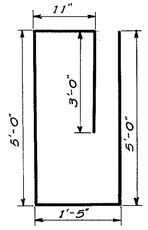


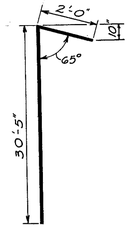
P1011
P1012
P1013



A501
A502



AG01



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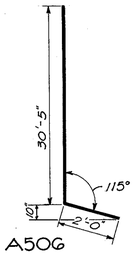

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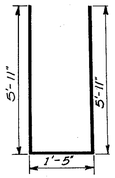

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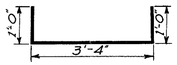

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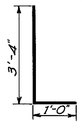

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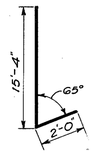

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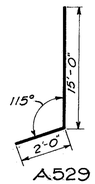


A529

REPLACEMENT BARS			
MARK	NO.	LENGTH	SHP
RE401	1	5'-3"	Str.
RE501	1	5'-7"	↑
REG01	3	5'-11"	
RE701	2	6'-3"	
RE901	1	6'-6"	↓
RE1001	1	6'-10"	Str.

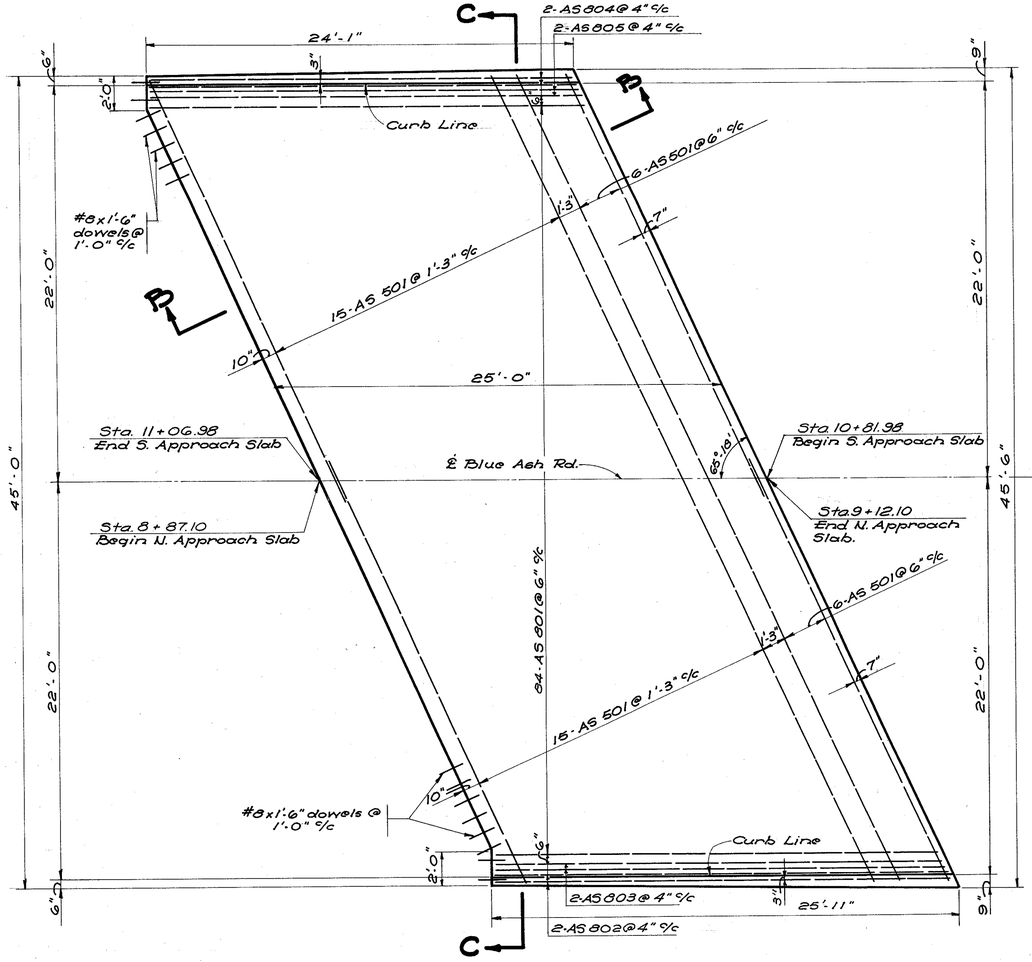
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

REINFORCING STEEL DETAILS
BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

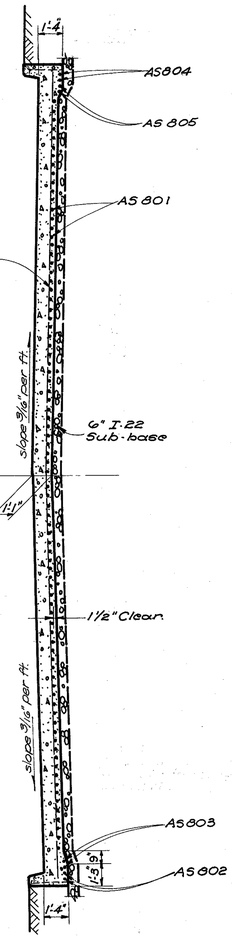
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.I.K.	W.I.K.	S.J.I.	E.R.B.	R.J.L. 6-15-62	

FED. RD. DIVISION	STATE	PROJECT		187
	OHIO	S-242 (2)		187

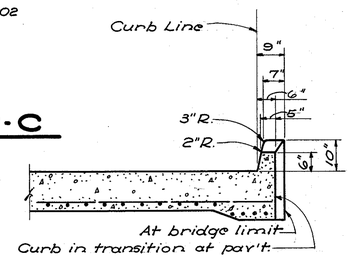
HAMILTON COUNTY
CR 453 B



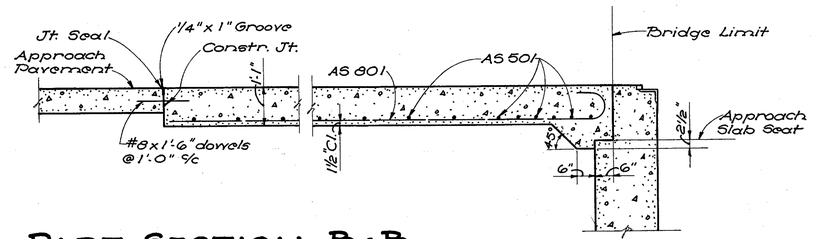
PLAN



SECTION C-C



CURB DETAIL



PART SECTION B-B

REINFORCING STEEL
(Incl. both Approach Slabs)

Mark	No.	Length	Shape	Bending
AS501	84	26'-0"	Str.	
AS801	168	25'-9"	Bt.	
AS802	4	26'-5"	Bt.	
AS803	4	26'-2"	Bt.	
AS804	4	24'-6"	Bt.	
AS805	4	25'-3"	Bt.	

AS801-24'-9"
AS802-25'-4"
AS803-25'-1"
AS804-23'-6"
AS805-24'-2"

100-#8x1'-6" dowels

APPROACH SLABS

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI - OHIO

APPROACH SLABS

BLUE ASH ROAD BRIDGE
OVER
CROSS COUNTY HIGHWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.K.	W.I.K.	N.B.	E.R.B.	R.J.L	6-15-62	

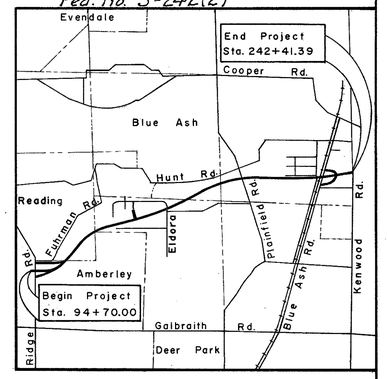
SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

1/8

H. C. NUTTING CO.
CINCINNATI, 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. S-242(2)



LOCATION MAP

Topsoil = X' = Approximate depth.

Auger boring-plan view.

Drive sample or core boring-plan view.

Water content nearly equal to or greater then liquid limit.

NOTE: Figures beside borings indicates water content in percent. e.g. 15

(X/Y) Number of blows for "Standard Penetration" test.
X = number of blows for first 6 inches.
Y = number of blows for second 6 inches.

W Free Water

LEGEND FOR PROJECT — AVERAGE RESULTS OF TESTS — 240 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C.SAND	% F.SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel with Sand	A-1-b(0)	A-1-b	68	10	3	— 19 —		NP	NP	21	1
Coarse and fine Sand	——	A-3a	1	6	67	19	7	NP	NP	20	7
Gravel with Sand, Silt and Clay	A-2-6 (1)	A-2-6	54	10	8	15	13	30	14	12	2
Sandy Silt	A-4(4)	A-4a	10	6	25	36	23	23	7	19	21
Silt	A-4(6)	A-4-b	1	3	10	64	22	26	6	23	31
Silt and Clay	A-6(9)	A-6-a	8	4	9	47	32	31	13	20	39
Silty Clay	A-6(10)	A-6-b	10	7	9	38	36	37	18	20	35
Elastic Clay	A-7-5(20)	A-7-5	0	2	2	24	72	77	47	33	1
Clay	A-7-6(16)	A-7-6	3	3	7	36	51	51	28	24	103
Shale			VISUAL CLASSIFICATION								
Limestone			VISUAL CLASSIFICATION								

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

Station & Offset	STRATUM Depth From To	% Agg	% C S	% F S	% Silt	% Clay	L L	P I	% W C	SHTL Class
97+00 C.L.	0.0-1.5	0	3	8	28	61	61	39	26	A-7-6
	1.5-6.0	0	5	10	28	57	59	36	25	A-7-6
	6.0-7.5	38	10	5	14	33	37	18	17	A-6b
101+00 C.L.	0.6-4.5	0	0	1	56	43	44	21	27	A-7-6
	4.5-7.5	0	5	11	32	52	57	36	26	A-7-6
	7.5-8.5	0	3	7	35	55	50	31	21	A-7-6
105+00 C.L.	0.7-1.5	0	2	4	46	48	44	22	26	A-7-6
	1.5-5.5	0	1	3	55	41	44	21	28	A-7-6
	5.5-9.2	4	5	7	22	62	66	39	29	A-7-6
109+00 C.L.	0.7-1.5	0	1	1	56	42	44	22	30	A-7-6
	1.5-8.0	0	1	2	22	75	68	39	29	A-7-6
	8.0-8.5	0	3	2	29	66	57	31	26	A-7-6
	8.5-12.5	7	8	3	38	44	39	18	19	A-6b
113+00 C.L.	0.6-1.5	0	1	1	55	43	45	21	29	A-7-6
	1.5-5.5	0	1	2	54	43	42	21	29	A-7-6
	5.5-10.5	0	6	6	28	60	54	30	38	A-7-6
	10.5-13.0	41	6	4	23	26	31	13	21	A-6a
	13.0-13.5	0	1	2	57	40	37	10	19	A-4b
117+00 C.L.	0.3-5.0	0	1	6	56	37	34	14	21	A-6a
	5.0-7.0	1	4	17	31	47	43	23	19	A-7-6
	7.0-9.5	0	8	19	44	29	24	7	18	A-4a
	9.5-10.1	32	6	7	20	35	43	24	17	A-7-6
121+00 C.L.	0.7-2.0	0	3	9	41	47	39	16	25	A-6b
	2.0-3.5	0	1	4	23	72	68	40	35	A-7-6
	3.5-7.1	1	2	3	32	62	50	27	25	A-7-6
124+00 C.L.	0.6-4.0	0	3	5	52	40	36	17	25	A-6b
	4.0-7.0	0	4	7	25	64	64	34	26	A-7-6
	7.0-9.0	0	1	4	33	62	55	28	28	A-7-6
	9.0-12.0	0	3	3	45	49	40	19	19	A-6b
125+00 C.L.	0.7-4.5	0	1	2	57	40	31	9	24	A-4b
	4.5-6.0	0	2	4	24	70	73	45	33	A-7-6
	6.0-7.5	0	2	4	47	47	42	21	16	A-7-6
	7.5-8.5	0	3	2	34	61	50	29	19	A-7-6
126+00 C.L.	0.4-3.0	0	4	6	45	45	46	25	25	A-7-6
	3.0-6.8	4	3	5	39	49	44	23	20	A-7-6
129+00 C.L.	0.1-2.7	15	4	5	34	42	42	20	26	A-7-6
130+00 C.L.	1.5-3.0	0	4	17	50	29	34	15	20	A-6a
	3.0-4.5	0	2	5	38	55	47	25	23	A-7-6
	4.5-5.7	33	4	3	20	40	46	24	22	A-7-6
131+75 C.L.	0.4-2.0	0	2	4	55	39	29	7	24	A-4b
	2.0-4.5	1	10	23	40	26	24	7	18	A-4a
	4.5-10.0	1	7	20	29	43	45	25	19	A-7-6
	10.0-13.0	10	28	19	18	25	38	19	19	A-6b
133+00 C.L.	0.5-3.0	0	0	2	36	62	57	33	26	A-7-6
	3.0-5.5	15	5	2	47	31	35	16	17	A-6b
135+00 C.L.	0.0-3.0	50	23	8	16	13	31	13	11	A-2-6
	3.0-3.5	0	8	3	48	41	38	18	13	A-6b
139+00 C.L.	1.3-3.0	12	6	13	33	36	39	22	14	A-6b
	3.0-6.0	8	9	16	34	33	25	11	12	A-6a
141+00 C.L.	0.3-4.5	0	0	3	58	39	36	14	23	A-6a
	4.5-8.5	17	5	14	35	29	27	10	19	A-4a
	8.5-9.0	3	3	12	34	48	40	22	25	A-6b
	9.0-10.5	22	9	12	27	30	29	13	15	A-6a

Station & Offset	STRATUM Depth From To	% Agg	% C S	% F S	% Silt	% Clay	L L	P I	% W C	SHTL Class
145+00 C.L.	0.4-3.0	0	1	4	52	43	39	21	23	A-6b
	3.0-9.0	1	1	18	68	32	29	13	21	A-6a
	9.0-13.5	0	2	12	40	46	36	19	23	A-6b
	13.5-15.5	0	1	2	36	61	46	23	26	A-7-6
149+00 C.L.	0.5-2.5	1	7	11	59	22	27	7	18	A-4b
	2.5-5.0	0	4	17	46	33	24	9	20	A-4a
	5.0-7.5	0	2	10	34	54	44	21	21	A-7-6
	7.5-10.0	0	3	14	33	50	41	23	21	A-7-6
153+00 C.L.	0.4-1.0	0	1	3	60	36	35	12	25	A-6a
	1.0-1.5	0	5	14	50	31	27	10	20	A-4b
	1.5-9.0	0	7	19	44	30	24	9	17	A-4a
	9.0-10.5	0	0	2	32	66	54	32	25	A-7-6
	10.5-13.5	21	7	4	35	33	36	17	21	A-6b
157+00 C.L.	0.5-1.5	0	3	11	25	61	58	32	27	A-7-6
	1.5-4.5	0	4	12	28	56	53	32	25	A-7-6
	4.5-7.5	58	8	7	14	13	29	14	13	A-2-6
	7.5-10.0	6	3	5	34	52	41	21	21	A-7-6
159+00 C.L.	0.0-3.5	0	1	3	57	39	33	13	23	A-6a
	3.5-6.5	0	1	1	62	36	35	15	25	A-6a
	6.5-10.0	0	5	16	47	32	25	8	20	A-4a
	10.0-13.5	0	2	4	28	66	55	31	27	A-7-6
	13.5-16.0	21	0	17	32	30	29	14	15	A-6a
161+00 C.L.	0.0-6.0	0	7	11	39	43	33	16	20	A-6b
	6.0-8.5	1	4	10	45	40	32	14	26	A-6a
	8.5-11.5	0	3	6	37	54	49	28	22	A-7-6
	11.5-12.0	0	1	3	64	32	49	28	24	A-7-6
163+50 C.L.	0.6-3.5	0	1	3	20	76	64	35	34	A-7-6
	3.5-6.5	23	2	2	25	48	48	27	26	A-7-6
	6.5-9.5	9	2	2	40	47	39	20	19	A-6b
164+00 C.L.	0.4-1.0	0	4	6	19	71	49	23	27	A-7-6
	1.0-5.0	0	1	2	26	71	68	41	25	A-7-6
	5.0-8.8	7	2	2	27	62	44	19	16	A-7-6
164+75 C.L.	0.5-4.5	0	1	2	69	28	31	8	27	A-4b
	4.5-8.0	0	3	11	57	29	34	13	25	A-6a
	8.0-10.9	0	1	6	55	38	37	15	21	A-6a
166+00 C.L.	0.5-5.0	0	4	11	42	43	47	22	23	A-7-6
	5.0-8.0	0	0	7	49	44	48	24	25	A-7-6
	8.0-12.0	0	1	5	54	40	39	17	31	A-6b
	12.0-20.0	0	0	12	64	24	29	11	26	A-6a
	20.0-23.0	0	1	22	59	18	23	6	23	A-4b
168+00 C.L.	0.5-6.0	0	2	8	40	50	50	28	24	A-7-6
	6.0-10.0	0	0	50	30	20	23	6	22	A-4a
	10.0-14.0	0	1	20	63	16	24	6	24	A-4b
	14.0-15.5	0	2	6	67	25	24	7	18	A-4b
	15.5-17.0	1	2	2	61	34	27	9	21	A-4b
	17.0-20.0	0	0	5	47	48	41	18	33	A-7-6
169+75 C.L.	0.6-1.5	2	3	7	33	55	57	34	21	A-7-6
	1.5-6.0	1	5	6	69	19	44	26	19	A-7-6
	6.0-10.0	9	6	10	36	39	42	24	16	A-7-6
170+50 C.L.	0.7-3.0	0	2	9	29	60	51	28	23	A-7-6
	3.0-5.0	31	8	9	19	33	36	18	14	A-6b
	5.0-8.0	10	10	11	31	38	39	21	15	A-6b
	8.0-10.0	27	6	11	28	28	34	17	17	A-6b
	10.0-12.0	0	1	65	34	0	NP	NP	18	A-2-4

SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

2/8

H. C. NUTTING CO.
CINCINNATI, OHIO

Station & Offset	STRATUM Depth From To	% Agg	% C S	% F S	% Silt	% Clay	LL	PI	% W C	SHTL Class
174+00 C.L.	0.5-9.0	0	4	4	46	46	46	23	23	A-7-6
	9.0-12.0	0	5	15	44	36	38	16	18	A-6b
	12.0-15.0	25	7	9	34	25	31	13	11	A-6a
	15.0-19.0	8	7	11	40	34	27	12	13	A-6a
	19.0-24.0	6	8	12	52	22	28	11	14	A-6a
	24.0-28.0	25	5	17	31	22	20	4	14	A-4a
	28.0-30.0	15	6	16	41	22	22	7	16	A-4a
176+50 C.L.	0.4-4.0	0	2	8	42	48	47	26	25	A-7-6
	4.0-8.0	41	5	8	23	23	36	17	16	A-6b
	8.0-12.0	36	5	7	30	22	42	21	17	A-7-6
178+00 C.L.	0.7-1.5	7	11	13	42	27	28	10	30	A-4a
	1.5-4.5	68	10	3	- 19 -				21	A-1-b
181+50 C.L.	0.5-5.0	0	2	4	61	33	35	14	24	A-6a
	5.0-8.0	1	4	15	32	48	47	28	15	A-7-6
	8.0-10.0	32	9	17	30	12	24	6	22	A-4a
184+00 C.L.	0.5-5.5	0	1	2	64	33	41	18	27	A-7-6
	5.5-10.0	1	5	16	28	50	53	30	24	A-7-6
	10.0-13.0	21	6	8	31	34	41	23	21	A-7-6
188+00 C.L.	0.6-3.5	0	1	3	43	53	55	25	31	A-7-6
	3.5-6.5	9	5	8	57	21	27	8	24	A-4b
	6.5-8.1	26	8	9	32	25	33	13	16	A-6a
192+00 C.L.	0.0-5.0	0	1	6	59	34	38	16	25	A-6b
	5.0-10.0	1	14	11	39	35	52	27	21	A-7-6
	10.0-14.0	0	0	16	63	21	30	11	23	A-6a
	14.0-18.5	0	0	28	58	14	NP	NP	27	A-4b
	18.5-21.5	0	1	3	71	25	26	5	32	A-4b
	21.5-26.0	3	3	10	65	19	NP	NP	19	A-4b
	26.0-29.0	3	3	26	53	15	NP	NP	19	A-4b
	29.0-30.5	2	2	9	72	15	NP	NP	18	A-4b
	30.5-36.0	8	8	12	41	31	28	13	11	A-6a
	36.0-40.0	22	11	11	34	22	26	12	16	A-6a
195+50 C.L.	0.5-2.5	0	1	2	59	38	41	15	26	A-7-6
	2.5-9.5	1	2	8	35	54	62	36	22	A-7-6
	9.5-14.0	6	20	36	20	18	29	16	14	A-6b
	14.0-18.0	0	3	79	- 18 -				19	A-2-4
	18.0-22.0	5	3	8	61	23	NP	NP	17	A-4b
	22.0-25.0	1	4	9	69	17	19	2	18	A-4b
	25.0-28.0	0	2	8	47	43	NP	NP	19	A-4a
	28.0-32.0	0	3	41	56	0	NP	NP	12	A-4b
199+50 C.L.	0.5-5.0	0	1	5	53	41	42	22	22	A-7-6
	5.0-8.0	0	3	14	32	51	49	30	21	A-7-6
	8.0-10.0	0	3	66	9	22	NP	NP	16	A-2-4
	10.0-11.0	0	2	8	69	21	31	13	23	A-6a
	11.0-18.0	1	29	56	- 14 -				23	A-2-4
203+50 C.L.	1.0-2.0	0	2	3	58	37	38	16	29	A-6b
	2.0-5.0	0	6	12	53	29	28	11	17	A-6a
	5.0-10.5	1	6	11	34	48	47	27	22	A-7-6
207+50 C.L.	1.3-2.5	0	1	2	55	42	26	4	29	A-4b
	2.5-8.0	1	5	11	36	47	47	27	23	A-7-6
	8.0-9.5	37	9	4	22	28	41	23	11	A-7-6
	9.5-13.0	18	12	20	29	21	23	9	13	A-4a
211+50 C.L.	0.9-1.5	0	9	6	58	27	30	6	27	A-4b
	1.5-5.0	0	2	6	42	50	59	37	24	A-7-6
	5.0-8.5	0	7	11	30	52	68	47	24	A-7-6
	8.5-10.0	9	4	3	45	39	32	12	21	A-6a
215+50 C.L.	0.6-3.0	0	1	2	62	35	39	17	25	A-6b
	3.0-7.0	0	5	9	41	45	39	19	20	A-6b
	7.0-10.5	7	8	3	26	56	44	22	16	A-7-6
219+50 C.L.	0.8-2.0	0	0	1	61	38	45	20	29	A-7-6
	2.0-6.5	0	2	2	24	72	77	47	33	A-7-5
	6.5-9.8	14	11	7	29	39	38	18	17	A-6b
223+65 C.L.	0.9 -1.5	0	6	4	59	31	34	10	30	A-4b
	1.5-2.5	0	4	2	53	41	36	14	28	A-6a
	2.5-5.5	0	0	2	49	49	57	37	24	A-7-6
	5.5-12.1	0	3	6	26	65	72	46	27	A-7-6
227+40 C.L.	0.4-5.0	0	3	3	51	43	60	37	25	A-7-6
	5.0-11.1	0	3	9	33	55	59	37	20	A-7-6
231+50 C.L.	0.6-1.5	0	1	3	63	33	37	15	24	A-6a
	1.5-9.0	1	6	11	49	33	58	36	19	A-7-6
	9.0-13.0	19	6	8	37	30	35	19	15	A-6b
235+50 C.L.	0.4-3.0	0	4	16	49	31	34	16	23	A-6b
	3.0-6.0	39	5	7	23	26	33	17	16	A-6b
	6.0-12.8	10	9	11	34	36	30	14	11	A-6a
238+50 C.L.	0.5-3.0	3	15	9	36	37	37	16	14	A-6b
	3.0-4.5	36	6	4	15	39	50	28	19	A-7-6
	4.5-5.5	0	1	1	33	65	50	28	18	A-7-6
	5.5-6.5	2	6	4	37	51	31	11	22	A-6a
240+00 C.L.	0.5-4.5	2	4	10	47	37	31	13	22	A-6a
	4.5-6.0	0	4	9	39	48	45	24	26	A-7-6
	6.0-7.5	35	14	11	27	13	26	7	17	A-4a
	7.5-9.4	32	5	3	27	33	38	18	21	A-6b
192+00 - 60 L. of C. L.	0.5-3.0	0	1	3	60	36	51	30	28	A-7-6
	3.0-9.0	28	0	6	46	20	33	15	18	A-6a
	9.0-15.0	0	13	22	52	13	28	6	25	A-4b
	15.0-17.0	1	1	61	33	4	NP	NP	30	A-4a
	17.0-22.0	0	1	76	17	6	NP	NP	25	A-3a
	22.0-25.0	9	6	50	28	7	NP	NP	21	A-3a
	25.0-27.7	18	10	24	35	13	18	4	16	A-4a

RAMP BORINGS

Station & Offset	STRATUM Depth From To	% Agg	% C S	% F S	% Silt	% Clay	LL	PI	% W C	SHTL Class
99+00 C, Ramp C	0.6-5.5	0	1	6	51	42	46	26	26	A-7-6
	5.5-9.0	0	4	13	38	45	38	21	20	A-6b
	9.0-11.0	0	5	14	34	47	51	34	21	A-7-6
	11.0-15.4	12	7	16	25	40	28	13	13	A-6a
97+00 D, Ramp D	2.0-6.0	2	3	9	29	57	53	30	31	A-7-6
	6.0-7.1	20	2	1	28	49	35	15	22	A-6a
5+00 X, Ramp X	0.6-8.0	0	5	10	23	62	57	33	28	A-7-6
	8.0-9.5	0	3	5	80	12	22	1	18	A-4b
	9.5-10.0	0	0	0	67	33	32	15	22	A-6a
5+00 Y, Ramp Y	0.6-5.0	0	7	11	48	34	34	12	21	A-6a
	5.0-6.5	12	27	17	11	33	50	24	25	A-7-6
	6.5-9.0	1	3	52	13	31	35	16	24	A-6b
	9.0-12.0	0	2	8	76	14	30	7	24	A-4b
	12.0-15.0	0	0	5	71	24	34	12	28	A-6a
	15.0-18.0	0	1	2	80	17	NP	NP	36	A-4b
	18.0-20.0	0	0	22	73	5	NP	NP	26	A-4b
	20.0-23.0	0	3	5	77	15	20	2	20	A-4b
	23.0-24.5	0	0	16	72	12	20	2	20	A-4b
	24.5-32.0	15	3	5	58	19	21	5	19	A-4b
9+00 Y, Ramp Y	3.5-4.5	1	7	19	43	30	26	10	20	A-4a
	4.5-6.5	2	3	57	13	25	NP	NP	17	A-4a
	6.5-7.5	0	0	74	20	6	NP	NP	20	A-2-4
	7.5-11.0	0	2	61	26	11	NP	NP	23	A-4a
	11.0-15.0	0	0	52	34	14	NP	NP	24	A-4a
	15.0-15.5	0	1	4	80	15	24	4	26	A-4b
2+00 E, Ramp E	0.6-2.5	0	2	2	55	41	44	20	28	A-7-6
	2.5-5.0	0	1	8	41	50	51	31	23	A-7-6
	5.0-9.0	0	2	9	36	53	53	34	19	A-7-6
	9.0-10.5	16	5	8	30	41	44	27	22	A-7-6
	10.5-12.0	23	8	9	28	32	33	17	14	A-6b
5+00 E, Ramp E 37' L.	0.7-3.0	1	3	9	33	54	50	27	26	A-7-6
	3.0-4.9	0	3	5	18	74	78	50	28	A-7-6
5+50 E, Ramp E 37' R.	0.6-3.0	2	10	13	28	47	50	27	22	A-7-6
	3.0-7.5	0	1	4	30	65	61	34	24	A-7-6
	7.5-10.0	0	0	2	22	76	71	45	30	A-7-6
3+00 H, Ramp H	1.0-4.0	0	2	2	55	41	42	20	29	A-7-6
	4.0-7.0	0	3	13	40	44	43	27	23	A-7-6
	7.0-9.0	0	11	12	32	45	46	26	19	A-7-6
	9.0-12.0	0	2	10	33	55	47	30	23	A-7-6
7+00 H, Ramp H	0.7-5.0	0	1	3	61	35	50	26	29	A-7-6
	5.0-9.5	0	2	11	38	49	51	32	21	A-7-6
	9.5-12.5	28	9	11	31	21	26	10	12	A-4a
	12.5-14.5	32	7	8	29	24	29	13	11	A-6a
	14.5-18.5	8	4	6	34	48	43	25	23	A-7-6
	18.5-21.0	8	9	9	36	38	31	15	13	A-6a

SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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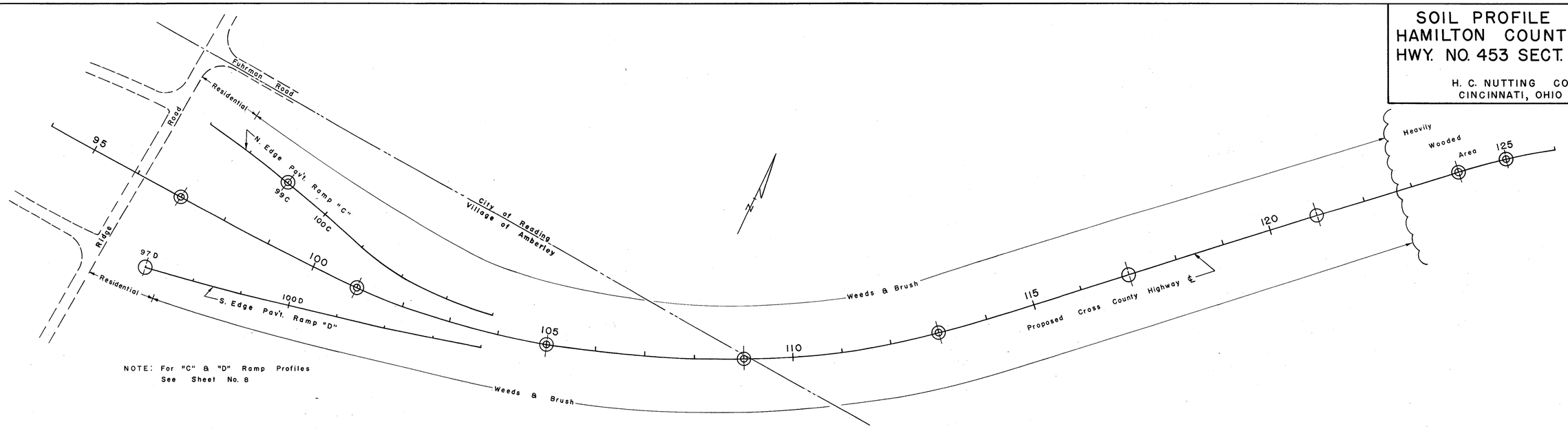
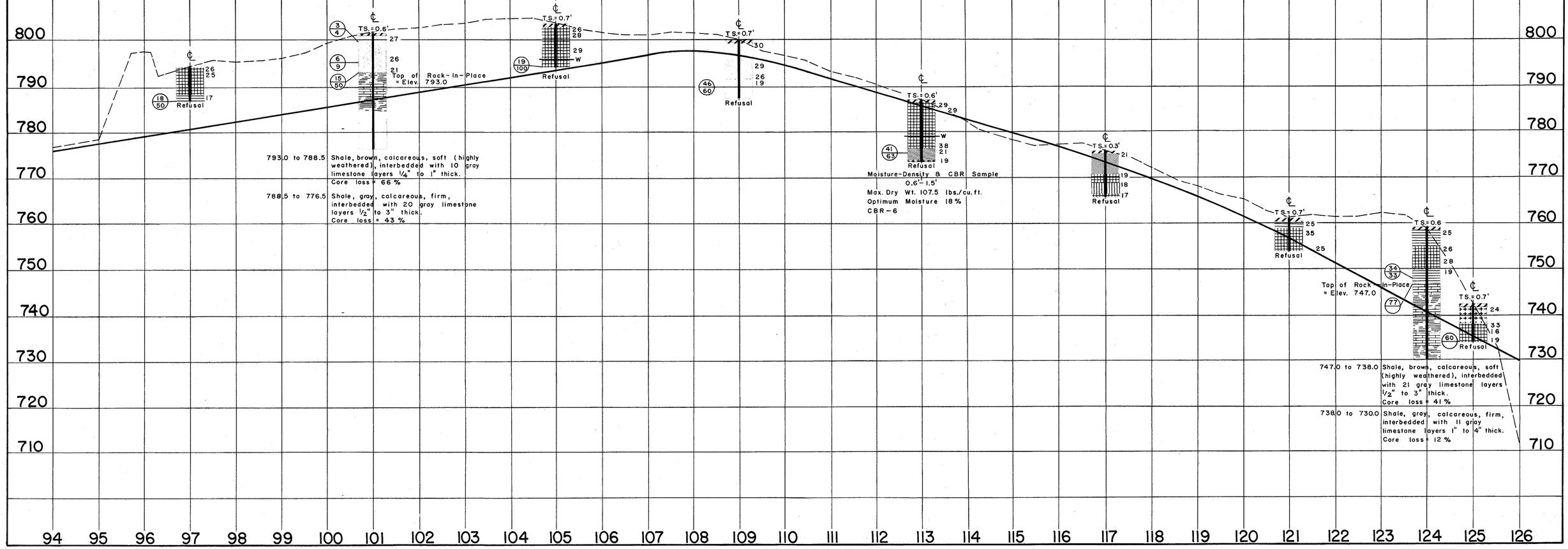
H. C. NUTTING CO.
CINCINNATI, OHIO



NOTE: For "C" & "D" Ramp Profiles
See Sheet No. 8



793.0 to 788.5 Shale, brown, calcareous, soft (highly weathered), interbedded with 10 gray limestone layers 1/4" to 1" thick.
Core loss = 66 %

788.5 to 776.5 Shale, gray, calcareous, firm, interbedded with 20 gray limestone layers 1/2" to 3" thick.
Core loss = 43 %

Moisture-Density & CBR Sample
0.6'–1.5'
Max. Dry Wt. 107.5 lbs./cu.ft.
Optimum Moisture 18 %
CBR–6

747.0 to 738.0 Shale, brown, calcareous, soft (highly weathered), interbedded with 21 gray limestone layers 1/2" to 3" thick.
Core loss = 41 %

738.0 to 730.0 Shale, gray, calcareous, firm, interbedded with 11 gray limestone layers 1" to 4" thick.
Core loss = 12 %

SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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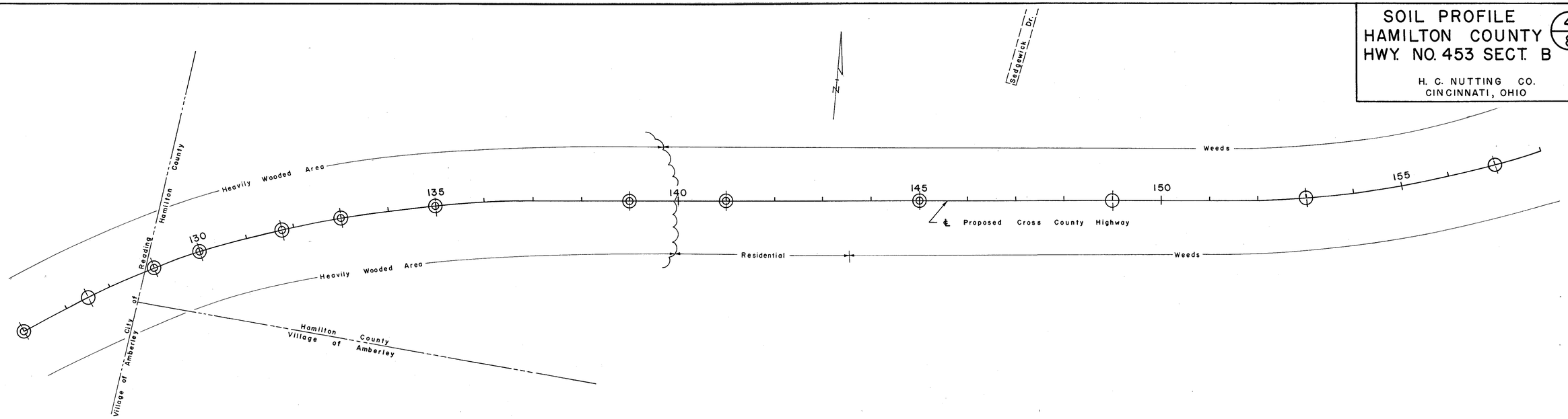
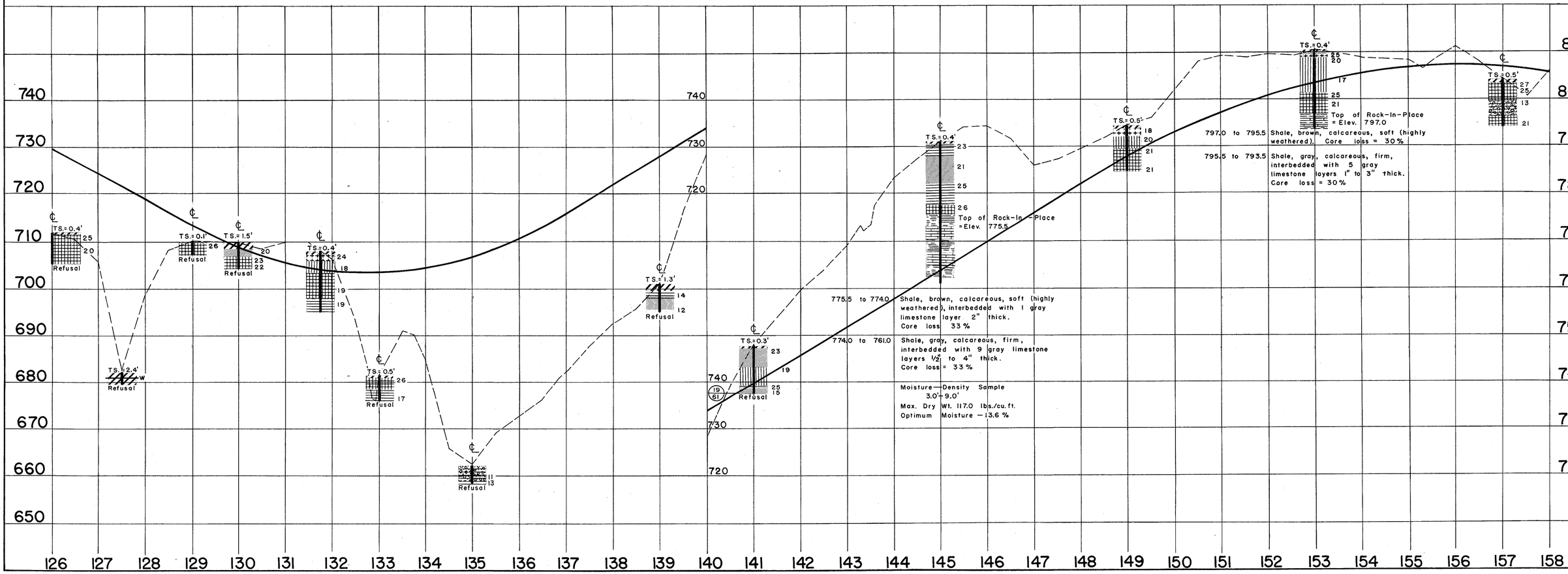
H. C. NUTTING CO.
CINCINNATI, OHIO





SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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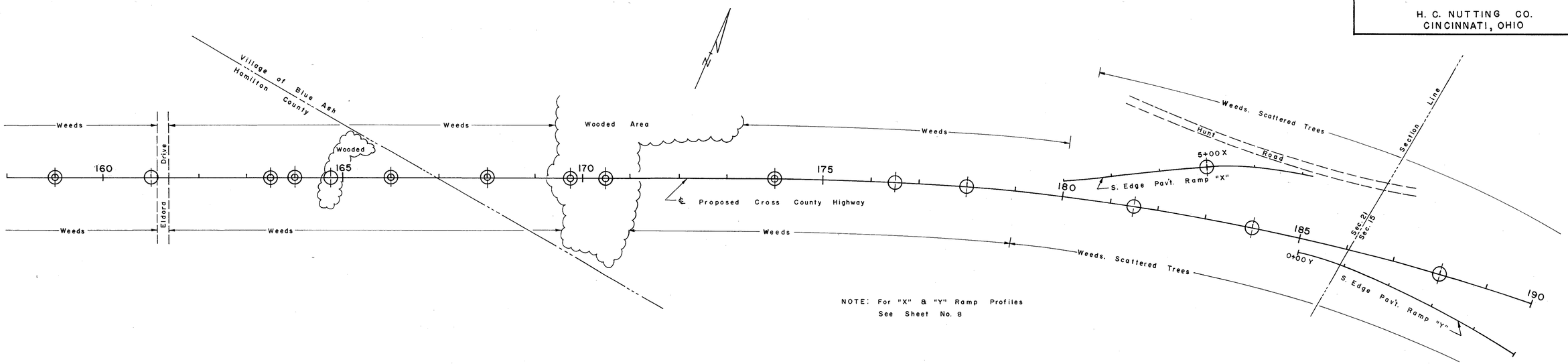
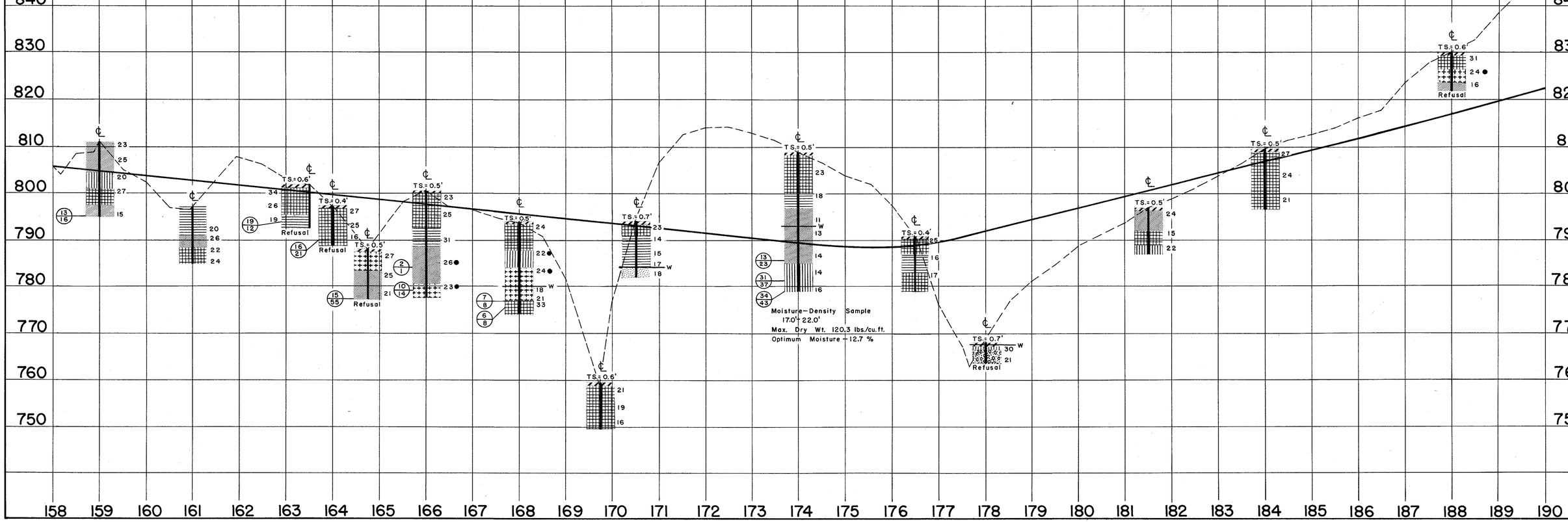
H. C. NUTTING CO.
CINCINNATI, OHIO



NOTE: For "X" & "Y" Ramp Profiles
See Sheet No. 8



SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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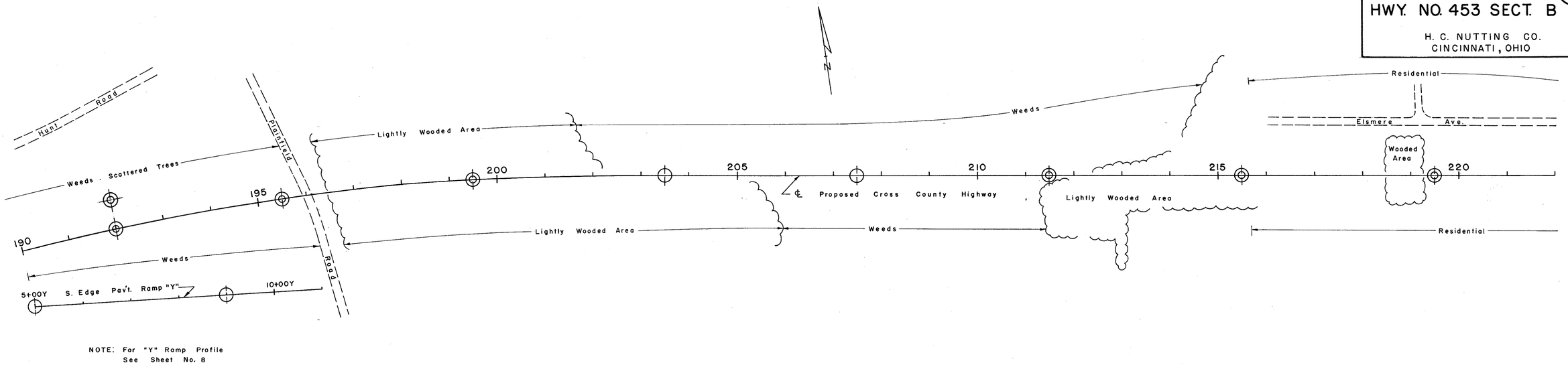
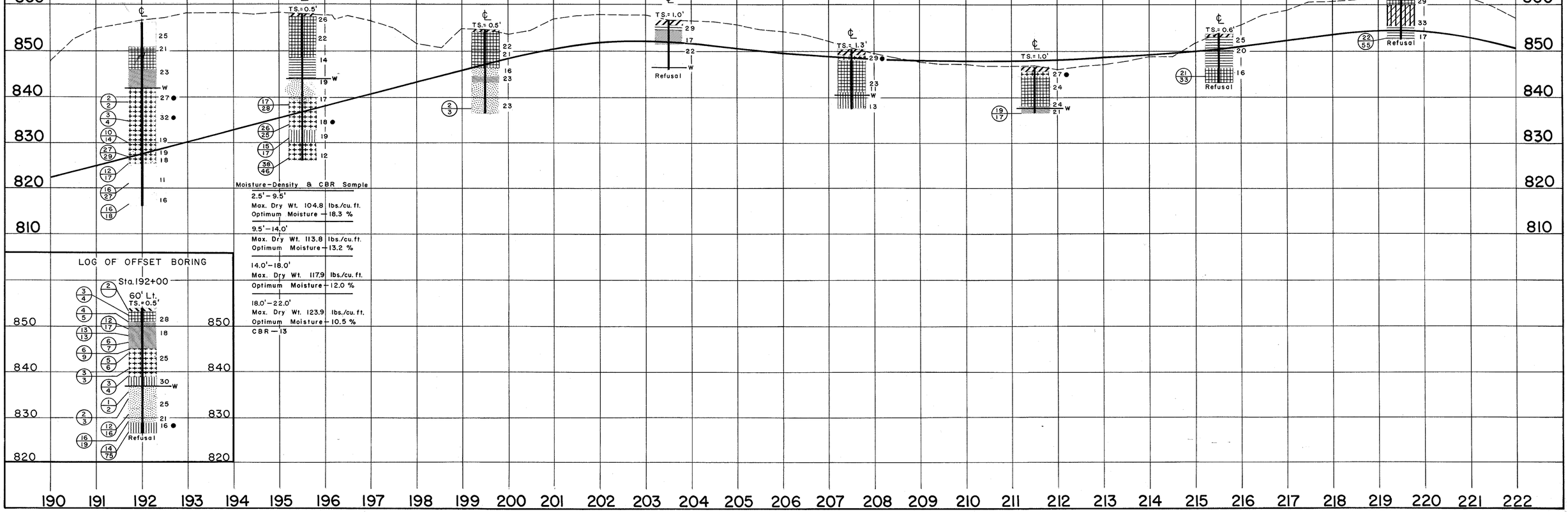
H. C. NUTTING CO.
CINCINNATI, OHIO



NOTE: For "Y" Ramp Profile
See Sheet No. 8



SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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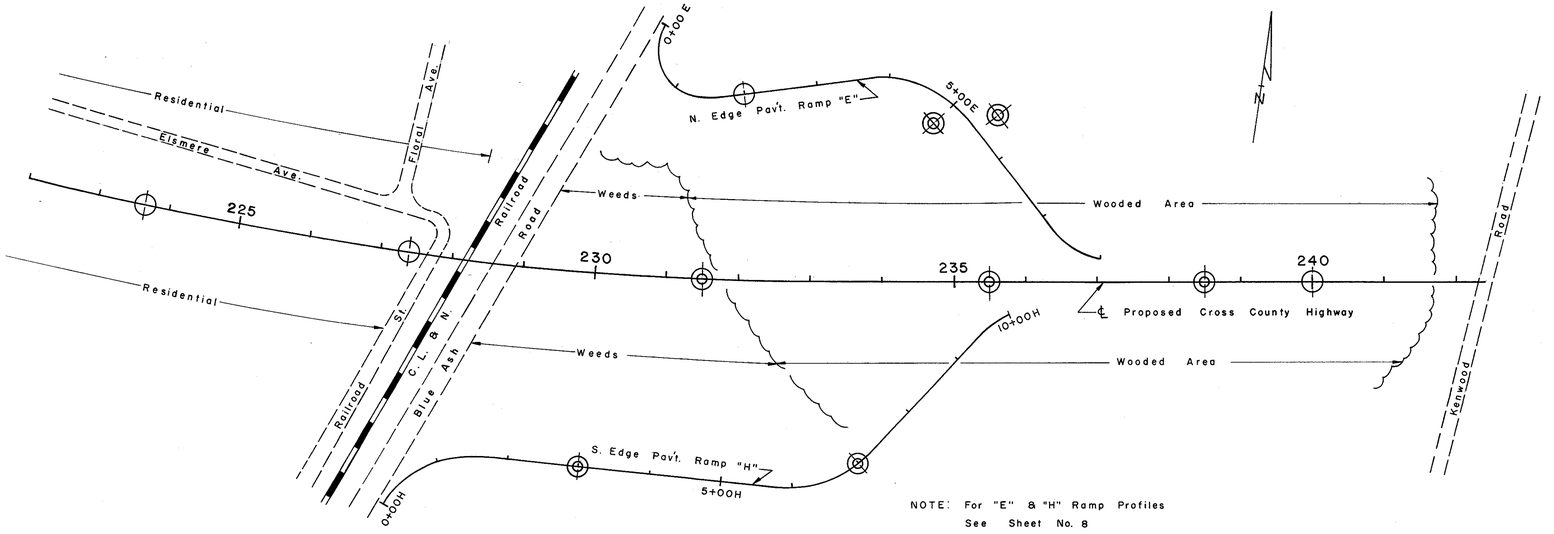
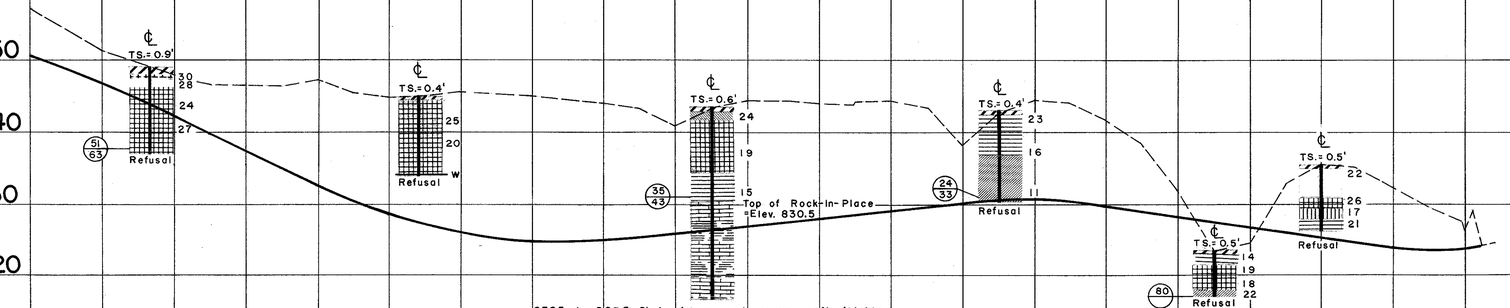
H. C. NUTTING CO.
CINCINNATI, OHIO



NOTE: For "E" & "H" Ramp Profiles See Sheet No. 8



830.5 to 820.5 Shale, brown, calcareous, soft (highly weathered), interbedded with 8 gray limestone layers 1" to 4" thick.
Core loss = 82%

820.5 to 816.5 Shale, gray, calcareous, firm, interbedded with 5 gray limestone layers 1/2" to 4" thick.
Core loss = 50%

850 840 830 820 810

222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243

SOIL PROFILE
HAMILTON COUNTY
HWY. NO. 453 SECT. B

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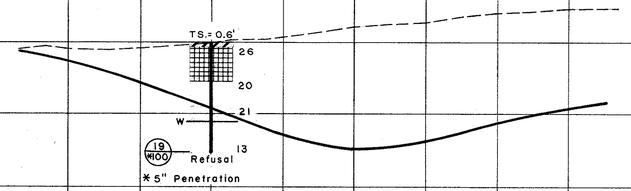
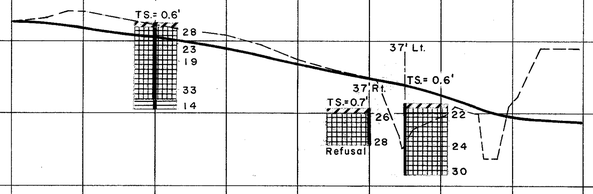
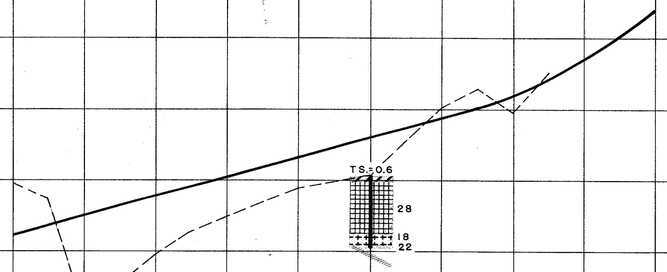
H. C. NUTTING CO.
CINCINNATI, OHIO



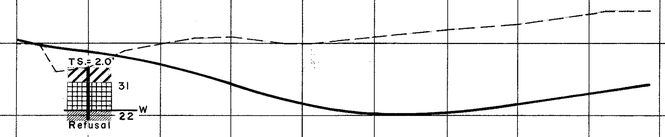
PROFILE RAMP "C" N. EDGE OF PAV'T.



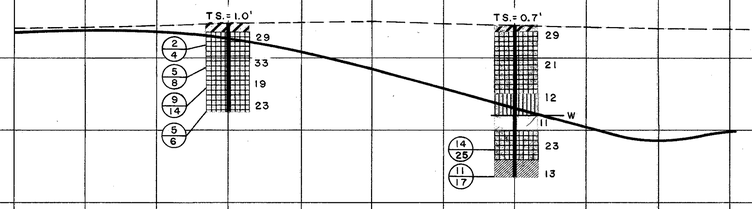
PROFILE RAMP "E" N. EDGE OF PAV'T.



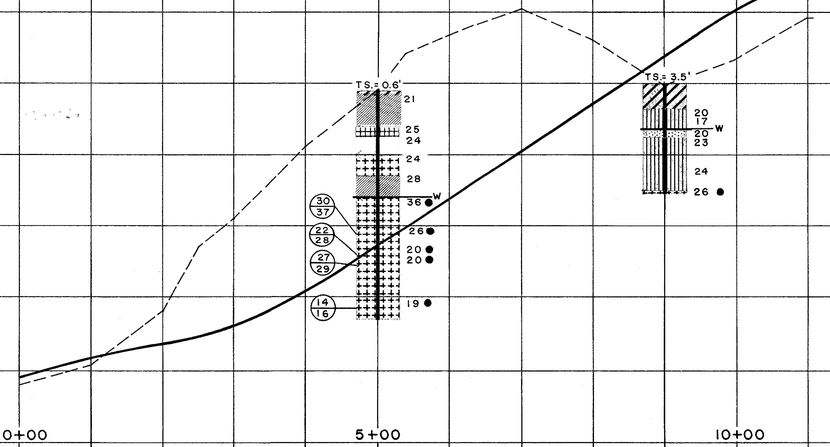
PROFILE RAMP "X" S. EDGE OF PAV'T.



PROFILE RAMP "D" S. EDGE OF PAV'T.



PROFILE RAMP "H" S. EDGE OF PAV'T.



PROFILE RAMP "Y" S. EDGE OF PAV'T.