MICROFILMED
MAR 25 1986

F-527 (11)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

275

KNO-13-15.93

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
KNO-13-15.93
MIDDLEBURY, WAYNE & MORRIS TOWNSHIPS
VILLAGE OF FREDERICKTOWN
KNOX COUNTY

CONVENTIONAL SIGNS

Limited Access & Right of Way	LA / RW
Limited Access Only	LA
Right of Way Only	RW
Township Line	
Section Line	
Center Line	
Fence Line	x x
Guard Rail (existing)	
Guard Rail (proposed)	
Power Poles	
Telephone Poles	
Buildings	
Trees	
Stream	or
Proposed Ditch	Sodded
Construction Limits	

INDEX OF SHEETS

Sheet Nos. 241 & 245 revised 9-21-65
Sheets No 10, 11 & 13 revised 12/13/65 C.E.H.
Sheet No. 241 revised 1-20-66

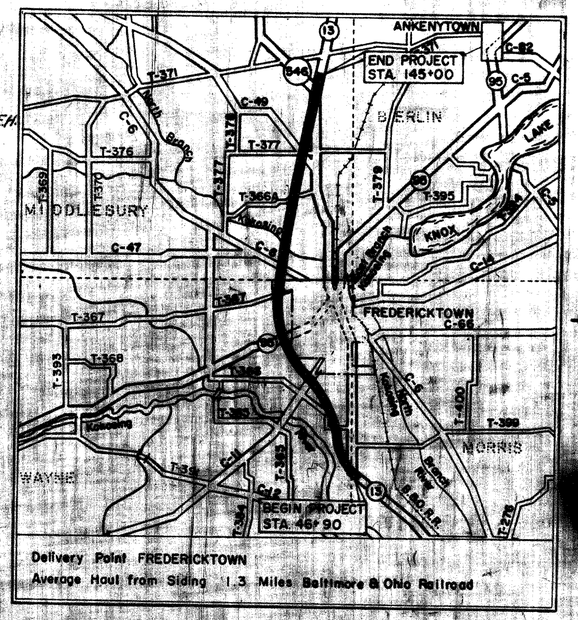
LINE DATA

Begin Project	STA 46+90.00	
Station Equation	STA 59+20.00	BK=838+00.00 Ahd.
Station Equation	STA 1097+38.29	BK=127+71.54 Ahd.
End Project	STA 145+00.00	
Net Length of Project		28,896.75 Lin. Ft. or 5.472 Miles

Begin Work	STA 45+49.49	
Station Equation	STA 52+20.00	BK=838+00.00 Ahd.
Station Equation	STA 1097+38.29	BK=127+71.54 Ahd.
End Work	STA 147+60.67	
Net Length of Work		29,297.93 Lin. Ft.
Add for South End Connection		376.00 Lin. Ft.
Add for County Road 11		1,036.14 Lin. Ft.
Add for S.R. 95		2,032.70 Lin. Ft.
Add for Twp. Road 367 (Relocated)		901.18 Lin. Ft.
Add for County Road 6		942.54 Lin. Ft.
Add for Twp. Road 377		1,471.38 Lin. Ft.
Add for North End Connection (S.R. 13)		683.69 Lin. Ft.
Add for S.R. 546		580.91 Lin. Ft.
Total Length of Work		37,322.47 Lin. Ft or 7.068 Miles

General Notes
tions

OX COUNTY KNO-13-15.93
Letting ______________ 19____
No.



Delivery Point FREDERICKTOWN
Average Haul from Siding 1.3 Miles Baltimore & Ohio Railroad

LOCATION MAP

SCALE OF MILES
0 1 2 3

Location of Project
Other Roads

SCALE IN FEET

Plan	50	0	50	100
Profile - Horizontal	50	0	50	100
Profile - Vertical	5	0	5	10
Cross - Sections	10	0	10	20
Schematic PLan	400	0	400	800

MICROFILMED
DEG
REPRODUCTION

I-14

JOS. A. STURRETT & ASSOC.
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E
CANTON. OHIO

Joseph A. Sturrett
REG. PROF. ENGR. OHIO 10559
DATE Feb. 12, 1965

LIMITED ACCESS

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

1963 SPECIFICATIONS

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

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

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

Approved ______________
Date 6-10-65 Division Deputy Director

Approved O. H. Altvater
Date 6-18-65 Engineer of Bridges

Approved R. N. Rickett
Date 6-24-65 Engineer of Location and Design

Approved R. E. Shultz
Date 6-25-65 Deputy Director of Design and Construction

Approved T. H. Board
Date 7-7-65 Deputy Director of Right of Way

N.R.R.
NEW
6-11-65

Approved F. W. Wilson
Date 7-7-65 Deputy Director of Planning and Programming

Approved ______________
Date 7/7/65 First Assistant Director

Approved ______________
Date 7/7/65 Director of Highways

AR-1-57	4-2-62
CSB-1-63 SHT. 1 & 4 OF 5	12-16-63
FSB-1-62	1-15-63

Standard Construction Drawings

T-35	1-2-56	HW-E	2-1-63	I-15 No. 2-A	8-17-60	RI-1	9-1-64
DR-1	1-3-55	I-1	11-15-60	L-5 No. 1	7-1-55	SP-53	6-30-61
F-1	2-1-63	I-8 CB. No. 2-2A&B	2-1-63	I-15 No. 5-B	2-1-63	I-15 No. 1	11-15-60
F-3	2-1-63	I-8 CB. No. 4	2-1-63	I-15 No. 6	2-1-63	L-1	4-1-50
FACI-1	2-25-64	I-8 CB. No. 6	2-1-63	I-21-23	3-10-64	AS-1-54	7-5-62
FACI-2	2-25-64	I-12	2-1-63	L-3	4-1-50	SD-2-64	11-25-64
G-7.07	4-1-64	I-14 G	1-22-58	L-3-A	4-1-50	CS-1-54	4-1-63

SD-1-63 SHT. 2 OF 4	11-12-63
CSB-4-63	12-30-63

Supplemental Specifications	
CE-101.04	5-22-56
S-101	7-12-62
L-120	R. 1-2-62
I-212	R. 6-23-61
S-307	R. 10-1-64
I-129	R. 4-5-61

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED ______________

DIVISION ENGINEER ______________ DATE

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

2
275

KNO-13-15.93

KOKOSING RIVER

WAYNE TWP.
MORRIS TWP.

℄ Temporary Run-Around Road

BEGIN PROJECT
STA. 46+90.00
SLM. 15.93

N 46°12'00" W
EXISTING SR 13

P.I. STA. 52+92.84
S.C. 51+69.83
C.S. 53+97.38
59°-2.0 Bk.
838'-0 Ahd.
ST. 57+97.38

CONNEC-TION

Township Line

EXISTING SR 13

P.I. STA. 3+10.05
S.A. 4+82.28

MORRIS TOWNSHIP
T.7 R.13 Q.2

BEGIN WORK
STA. 45+49.49

END WORK
STA 4+20

CENTER LINE OF SURVEY
SPIRAL CURVE DATA
P.I. STA. 52+92.84
Δ=31°24'27"
Dc=5°00'
Lc=400'
Ts=523.26
Lc=228.15
Rc=1145.92
Δs=10°00'
Es=50.38
X=398.78
Y=23.22
S.T.=133.72
L.T.=267.09

BEGIN WORK
STA.0+44

BEGIN WORK
STA. 44+00

BEGIN WORK
849+14

SERVICE ROAD 'A'

℄ Survey
N14° 47'33" W

P.C. 869+13.90

T.R. 366

END WORK
STA. 52+50

CENTERLINE OF SURVEY
CURVE DATA
P.I. = 881+83.51
Δ = 18° 52' 18"
D = 0° 45'
R = 7639.44'
T = 1269.61
L = 2516.22
E = 104.78

BEGIN WORK
STA 43+50

WAYNE TOWNSHIP
T.7 R.14 Q.1

END WORK
STA 2+10

SERVICE ROAD 'C'

P.T. 89+30.12
CR 11

END WORK
7+24

SERVICE ROAD 'B'

7 6 5 4 3 2 1

P.C. 910+00.00

℄ Survey
N 33°39'51" W

END WORK
STA 55+00

CORP. LIMIT

VILLAGE OF FREDERICKTOWN

CORP. LIMIT

CENTERLINE OF SURVEY
CURVE DATA
P.I. = 939+55.25
Δ = 46° 31' 06"
D = 0° 50'
R = 6875.50
L = 5582.21'
T = 2955.25'
E = 608.22'

S.W. RAMP

S.E. RAMP

MATCH LINE STA. 930+00

BEGIN WORK
STA 44+40

END WORK
STA 123+11.18

BEGIN WORK
STA 44+25

WAYNE TWP
MIDDLEBURY

WAYNE TOWNSHIP
T.7 R.14 Q.1

RELOCATED T.R. 367

P.I. STA. 939+55.25

BRIDGE NO.
KNO-13-1828 L/R

BEGIN WORK
STA 44+50

S.R. 95

S.W. RAMP
MATCH LINE 930+00

N.W. RAMP

℄ Survey
N 12°51'15 E

CORP. LIMIT

TR 367

Township Line

P.T. 965+82.21

CENTERLINE OF SURVEY
CURVE DATA
P.I. = 939+55.25
Δ = 46° 31' 06"
D = 0° 50'
R = 6875.50
L = 5582.21
T = 2955.25'
E = 608.22

VILLAGE OF FREDERICKTOWN

BRIDGE NO.
KNO-13-1794

N.E. RAMP

℄ TEMORARY RUN-AROUND ROAD

S.E. RAMP

S.R. 95

END WORK
STA 64+82.70

CR 6

KOKOSING RIVER

NORTH BRANCH

℄ RELOCATION RIVER

TOP OF DIKE

BRIDGE No. KNO-13-1895 L/R

MIDDLEBURY TOWNSHIP
T.8 R.14 Q.4

END WORK
STA 55+00

MATCH LINE 1020+00

BEGIN WORK
STA 45+00

BEGIN WORK
STA 43+00

END WORK
STA.45+52.26

BEGIN WORK
STA 45+07.75

MIDDLEBURY TOWNSHIP
T.8 R.14 Q.4

END WORK
STA.105+61.56

TR 366A

RELOCATED TR 366A

CR 49

℄ Survey
N 12°51'15"E

CENTERLINE OF SURVEY
SPIRALCURVE DATA
P.I. = 1074+00
Δ = 31° 12' 56"
D = 4° 00'
Rc = 1432.40' Δs = 8°00'
Lc = 380.39' X = 399.22'
Ts = 601.32' Y = 18.59'
Ls = 400.00' S.T. = 133.58'
E = 59.7' L.T. = 266.94'

TR 377

T.S. 1067+98.68
S.C. 1071+98.68
C.S. 1075+79.07
ST. 1079+79.07
℄ CONNECTION
S.C. 1083+93.41
T.S. 1082+93.40
S.C. 1086.93.40
C.S. 1087+68.41
ST. 1091+68.41

P.I. STA. 1074+00

END WORK
STA 9+33.69

℄ SURVEY
SPIRAL CURVE DATA
P.I. STA. 1087+37.41
Δ= 28°30'03"
Dc=6°00
Ls=400'
Δs=12°00'
Es= 37.8'
Ts= 444.01'
Δc= 4°30'03"
Lc=75.01'
Rc= 954.93
X= 398.25'
Y= 27.84'
ST.=133.89'
L.T.=267.28'

CURVE DATA
RELOCATION S.R. 546
P.I. STA. 3+42.82
Δ = 27° 21'
Dc= 8°
Rc= 716.20'
L = 341.88'
T = 174.26'

END WORK
STA.5+93.68

SR 546

P.T. 5+10.44

END PROJECT
STA. 145+00
S.L.M. 21.40

EXISTING SR13

P.I. STA. 2+19.94

P.I. STA. 1087+37.41

BEGIN WORK
STA 2+50

END WORK
STA 60+81.40

1097+38.29 Bk.
1271+71.54 Ahd.

℄ Temporary Run-Around Road

N15°34' 08" E

P.C. 1+68.56

BEGIN WORK
STA 0+12.77

END WORK
STA. 147+60.67

SCALE IN FEET
400 0 400 800

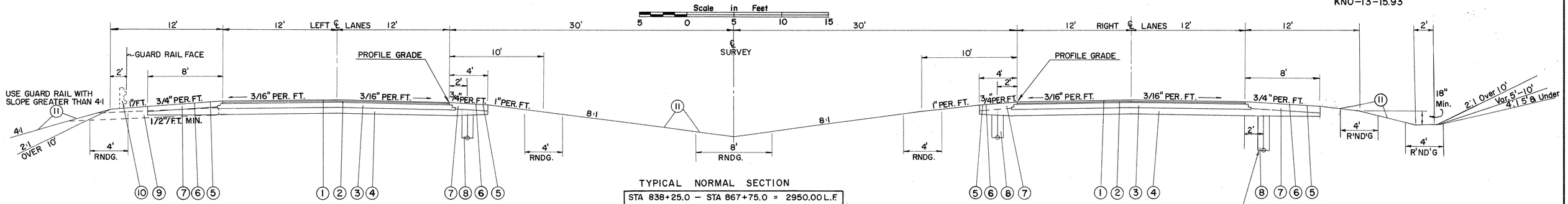
SCHEMATIC PLAN

TYPICAL SECTIONS T-35 ON B-21

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

3 / 275

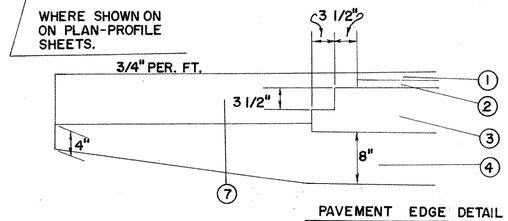
KNO-13-15.93



TYPICAL NORMAL SECTION

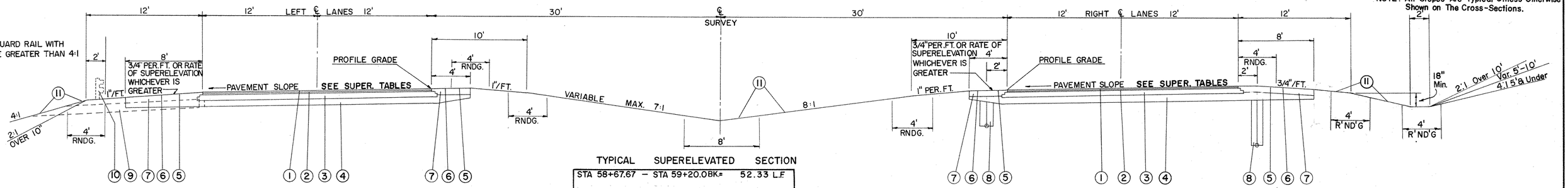
STA 838+25.0 – STA 867+75.0	=	2950.00 L.F
STA 895+75.0 – STA 908+50.0	=	1275.00 L.F
STA 967+25.0 – STA1068+05.0	=	10080.00 L.F
		14305.00 L.F

NOTE: DEPTH OF UNDERDRAINS AT MEDIAN SHOULDER WILL BE SHALLOW HAVING 18" MINIMUM COVER FROM BOTTOM OF SUBBASE TO TOP OF PIPE. UNDERDRAINS AT OUTSIDE SHOULDER SHALL BE DEEP WITH FLOWLINE OF THE PIPE 5 1/2 FEET BELOW EDGE OF PAVEMENT



PAVEMENT EDGE DETAIL

NOTE: All Slopes Are Typical Unless Otherwise Shown on The Cross-Sections.



TYPICAL SUPERELEVATED SECTION

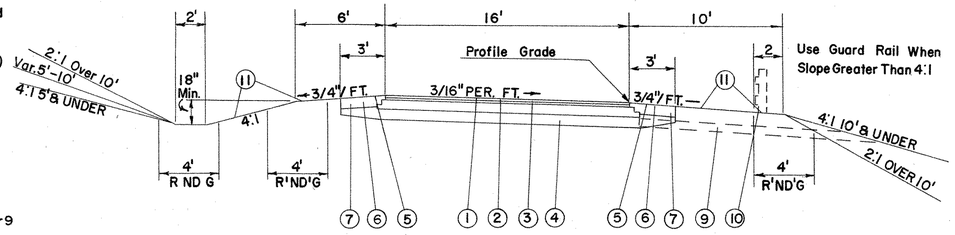
STA 58+67.67 – STA 59+20.08BK=		52.33 L.F
STA 838+00.0AHDSTA 838+25.0	=	25.00 L.F
STA 867+75.0 – STA 895+75.0	=	2800.00 L.F
STA 908+50.0 – STA 967+90.0	=	5940.00 L.F
		8807.33 L.F

NOTE: FOR DETAILS NOT SHOWN, REFER TO STANDARD DRAWING RI-1.

* Thicknessess shown are "designed" thicknesses as described in Sections T-35.01, B-35.01, and B-21.01.

(1)	T-35	*	1-1/4" Asphaltic Concrete Surface Course, Type "C" (70-85)
(2)	B-35	*	1-1/4" Asphaltic Concrete Leveling Course (70-85)
(3)	B-21	*	7" Waterproofed Aggregate Base (2-3-1/2" Courses)
(4)	I-22		8" Subbase
(5)	T-31		Bituminous Surface Treatment, using .008 C.Y. No. 6 Aggregate Per S.Y. and 0.30 gal. Per. S.Y. Sec. M-5.7 RT. 8 or 9 or Sec. M-5.12 CBAE-3.
(6)	T-30		Bituminous Prime Coat, Sec. M-5.7, RT 2 or 3 applied at a rate of 0.4 gal per S.Y.
(7)	B-19		8" Aggregate Base Course
(8)	I-1		6" Pipe Underdrain, Class I-3
(9)	I-9		Stone Underdrain No. 2
(10)	I-15		Guard Rail
(11)	L-9		Seeding and Protecting

NOTE: See note in proposal for the use of a hot longitudinal joint in the placing of T-35 Surface and B-35 leveling courses

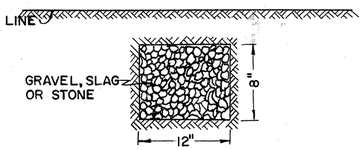


NORMAL RAMP SECTION

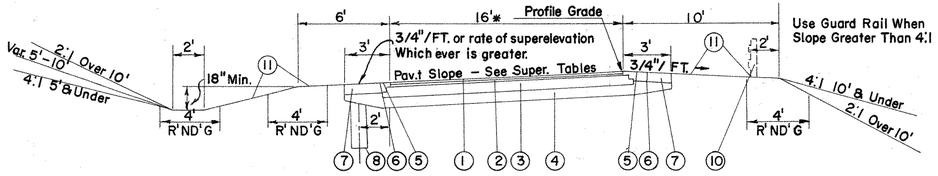
S.E. RAMP	STA. 6+76.67 – STA 9+00.00	=	223.33 L.F
S.W. RAMP	STA 3+00.00 – STA 10+39.68	=	739.68 L.F
N.W. RAMP	STA 0+85.64 STA 8+09.97	=	724.33 L.F
N.E. RAMP	STA 1+14.00 STA 4+00.00	=	286.00 L.F

NOTE: RAMP TYPICAL DRAWN IN THE DIRECTION OF TRAFFIC

I-9 STONE UNDERDRAIN NO. 2



NOTE: IN LIEU OF THE REQUIREMENTS OF ITEM I-9.03, THE STONE UNDERDRAINS MAY BE PLACED PRIOR TO THE CONSTRUCTION OF THE AGGREGATE SHOULDERS.



SUPERELEVATED RAMP SECTION

* See Plan For Ramp Width At Exit And Entrance Noses.

S.E. RAMP	STA. 0+00.00 – STA 6+76.67 = 676.67 L.F	N.W. RAMP	STA. 0+12.77 – STA 0+85.64 = 72.87 L.F
	STA 9+00.00 – STA 11+86.55 = 286.55 L.F		STA 8+09.97 STA 11+41.89 = 331.92 L.F
	963.22 L.F		404.79 L.F
S.W. RAMP	STA 0+00.00 – STA 3+00.00 = 300.00 L.F	N.E. RAMP	STA 0+12.25 – STA 1+14.00 = 101.75 L.F
	STA 10+39.68 STA 11+37.09 = 97.41 L.F		STA 4+00.00 – STA 10+37.36 = 637.36 L.F
	397.41 L.F		739.11 L.F

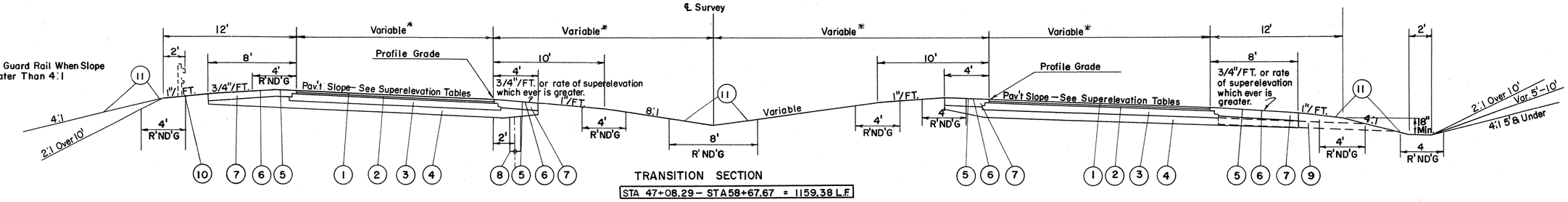
TYPICAL SECTIONS T-35 ON B-21

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

KNO-13-15.93

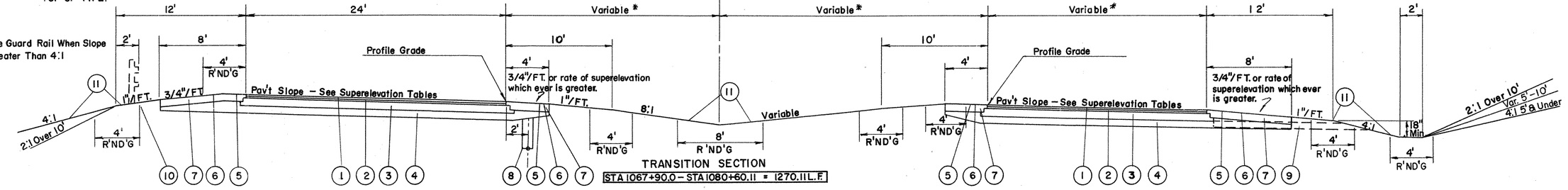
4/275

Scale in Feet
5 0 5 10 15



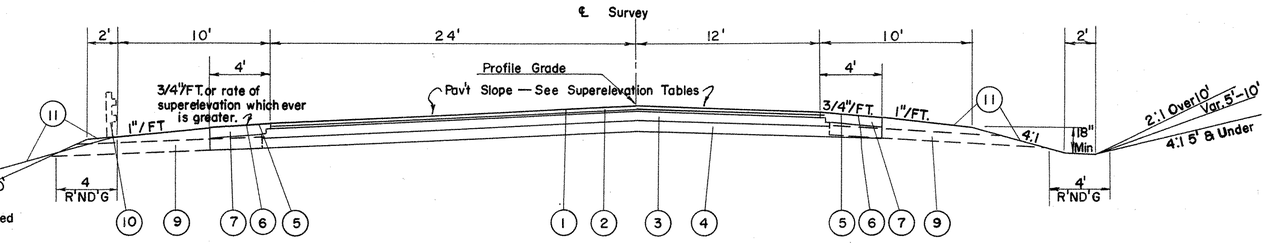
TRANSITION SECTION
STA 47+08.29 – STA 58+67.67 = 1159.38 L.F.

NOTE: DEPTH OF UNDERDRAINS AT MEDIAN SHOULDER WILL BE SHALLOW HAVING 18" MINIMUM COVER FROM BOTTOM OF SUBBASE TO TOP OF PIPE.



TRANSITION SECTION
STA 1067+90.0 – STA 1080+60.11 = 1270.11 L.F.

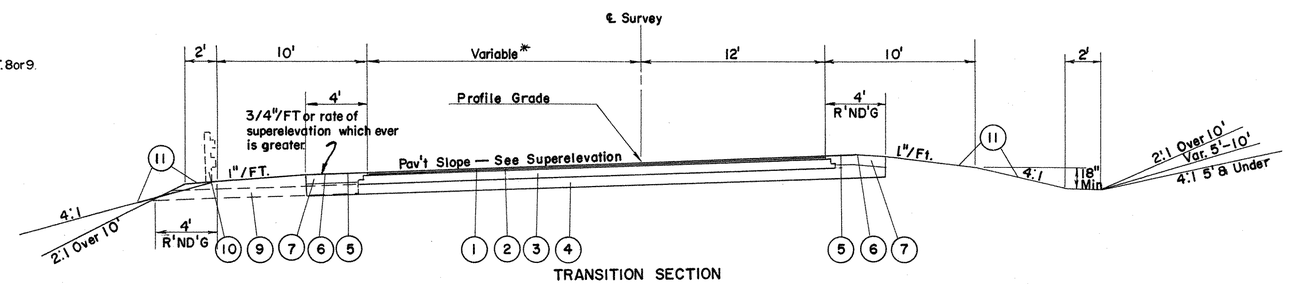
* See Cross-Section & Superelevation Tables for Width.



TRANSITION SECTION
STA 1080+60.11 – STA 1082+93.40 = 233.29 L.F.

NOTE: FOR DETAILS NOT SHOWN, REFER TO STANDARD DRAWING RI-1.
† Thicknessess shown are "designed" thicknesses as described in Sections T-35.01, B-35.01, and B-21.01.

(1)	T-35	†	1-1/4" Asphaltic Concrete Surface Course, Type "C" (70-85)
(2)	B-35	†	1-1/4" Asphaltic Concrete Leveling Course, Type "C" (70-85)
(3)	B-21	†	7" Waterproofed Aggregate Base (2-3-1/2" Courses)
(4)	I-22		8" Subbase
(5)	T-31		Bituminous Surface Treatment, using .008 C.Y. No. 6 Aggregate Per S.Y. and 0.30 gal. Per S.Y. Sec. M-5.7, RT. 8 or 9. or Sec. M-5.12 CBAE-3.
(6)	T-30		Bituminous Prime Coat, Sec. M-5.7, RT 2 or 3 applied at a rate of 0.4 gal per S.Y.
(7)	B-19		8" Aggregate Base Course
(8)	I-1		6" Pipe Underdrain, Class I-3
(9)	I-9		Stone Underdrain No. 2
(10)	L-15		Guard Rail
(11)	L-9		Seeding and Protecting



TRANSITION SECTION
STA 1082+93.40 – STA 1092+45.00 = 951.60 L.F.

NOTE: See note in proposal for the use of a hot longitudinal joint in the placing of T-35 Surface and B-35 leveling courses

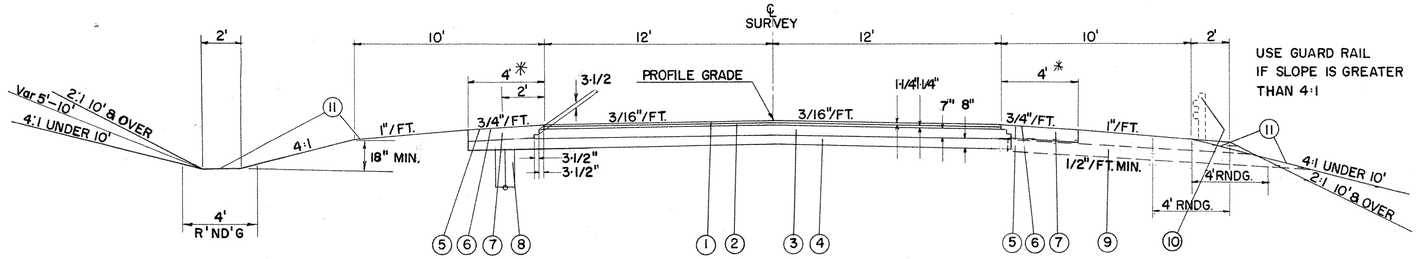
TYPICAL SECTIONS T-35 ON B-21

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

5/275

KNO-13-15.93

Scale in Feet
4 0 4 8 12



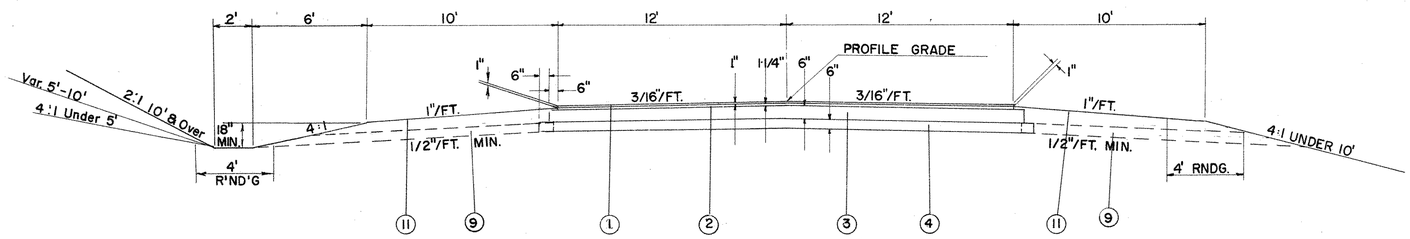
TYPICAL NORMAL SECTION

STA 46+90.00 – STA 47+08.29 = 18.29 L.F
STA 1092+45+00 – STA 1097+38.29Bk. 493.29 L.F

STA 127+71.54Ahd. – STA 145+50.00 = 1778.46 L.F.

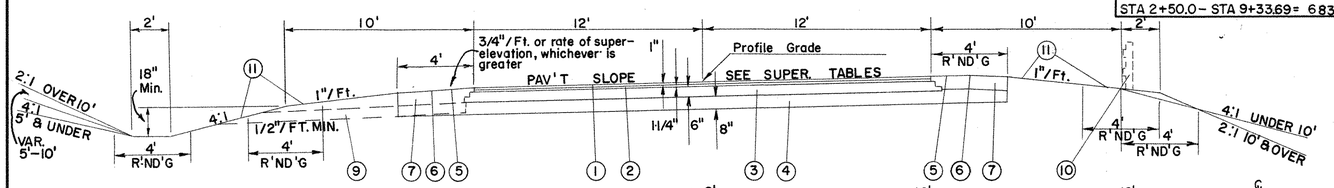
2290.04 L.F.

* Shoulders are 8' Wide Between STA. 46+90.00 and STA. 47+08.29



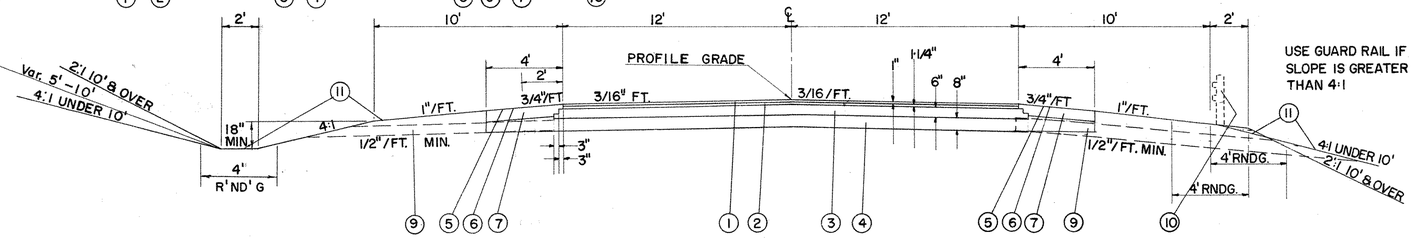
TYPICAL CONNECTION SECTION

SOUTH CONNECTION
STA 0+44.0 – STA 4+20.0 = 376.00 L.F
NORTH CONNECTION
STA 2+50.0 – STA 9+33.69 = 683.69 L.F



SUPERELEVATED SECTION SR.95

STA. 44+50.0 – STA 50+00.0 = 550.00 L.F



TYPICAL SECTION S. R. 95

STA 50+00.00 – STA 63+50.00 = 1350.00 L.F

NOTE: FOR DETAILS NOT SHOWN, REFER TO STANDARD DRAWING RI-1.
† Thicknesses shown are "designed" thicknesses as described in Sections T-35.01, B-35.01, and B-21.01.

(1)	T-35	†	Asphaltic Concrete Surface Course, Type "C" (70-85)
(2)	B-35	†	Asphaltic Concrete Leveling Course, Type "C" (70-85)
(3)	B-21	†	Waterproofed Aggregate Base
(4)	I-22		Subbase
(5)	T-31		Bituminous Surface Treatment, using .008 C.Y. No. 6 Aggregate Per S.Y. and 0.30 gal. Per S.Y. Sec. M-5.7 RT. 8 or 9 or Sec. M-5.12 CBAE-3.
(6)	T-30		Bituminous Prime Coat, Sec. M-5.7, RT 2 or 3 applied at a rate of 0.4 gal per S.Y.
(7)	B-19		8" Aggregate Base Course
(8)	I-1		6" Pipe Underdrain, Class I-3
(9)	I-9		Stone Underdrain No. 2
(10)	L-15		Guard Rail
(11)	L-9		Seeding and Protecting

NOTE: All slopes are typical unless otherwise shown on the cross-section.

TYPICAL SECTIONS

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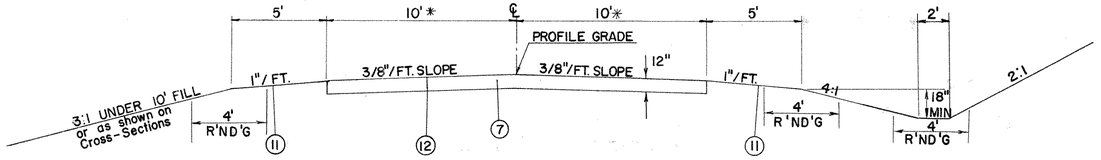
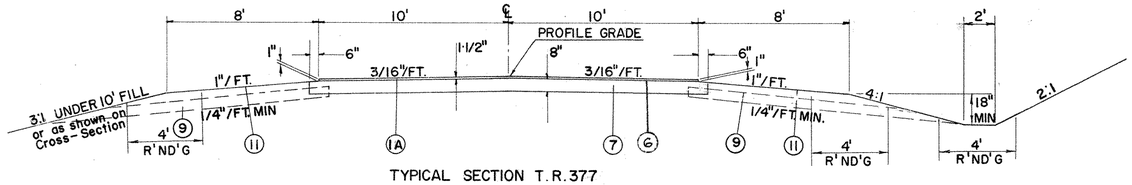
Scale in Feet
4 0 4 8 12



TYPICAL SECTION T.R.366 T.R. 366A, T.R. 367, C.R. 49 T.R. 377

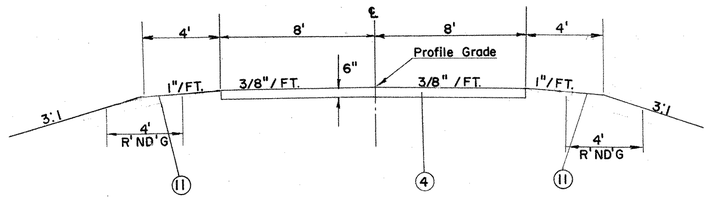
T.R. 367	STA 44+25.00 STA 45+21.02	=	96.00 L.F.
	STA 45+21.02 – STA 101+41.77		STA. EQ.
	STA 101+41.77 – STA 123+11.18	=	2120.62 L.F.
			2216.69 L.F.
C.R. 49	STA 43+00.0 – STA 45+49.50	=	249.59 L.F.

T.R. 366A	STA. 45+07.75 – STA 45+67.75	=	60.00 L.F.
	STA. 45+67.75 – STA 71+46.60	=	STA. EQ.
	STA. 71+41.60 – STA. 105+59.06	=	3417.46 L.F.
T.R. 377	STA 45+00.00 – STA 46+00.00	=	100.00 L.F.
T.R. 366	STA. 44+00.00 – STA 46+00.00	=	200.00 L.F.



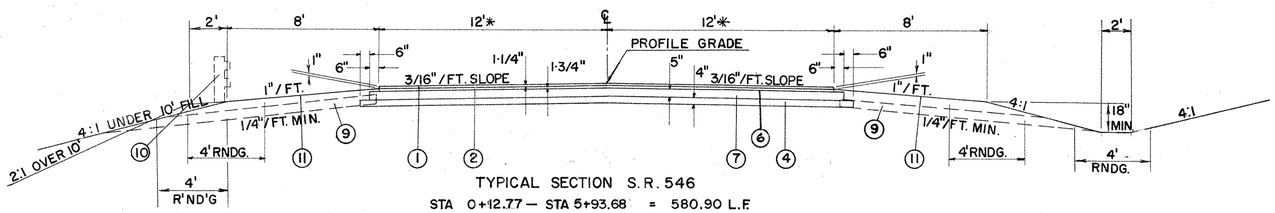
TYPICAL SECTION T.R.377

STA 47+00.0 – STA 49+44.99	=	244.99 L.F.
STA 50+55.01 – STA 60+81.40	=	1026.39 L.F.
		1271.38 L.F.

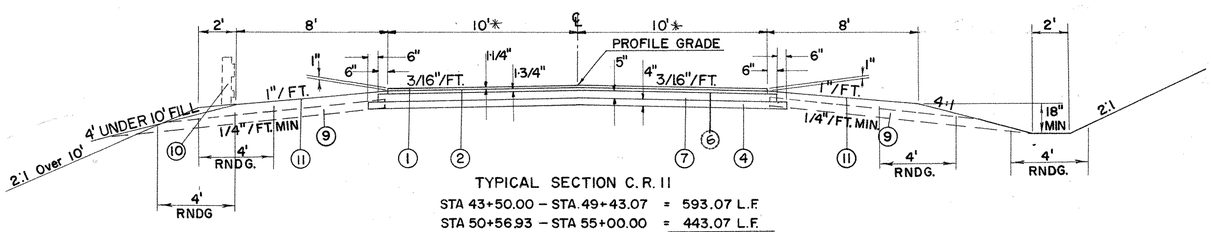


TYPICAL SECTION
SERVICE ROADS

SERVICE ROAD "A"	STA 849+14.00 –	STA 861+33.20	= 1219.20 L.F.
SERVICE ROAD "B"	STA 0+12.00 –	STA 7+24.00	= 712.00 L.F.
SERVICE ROAD "C"	STA 0+12.00 –	STA 2+10.00	= 198.00 L.F.



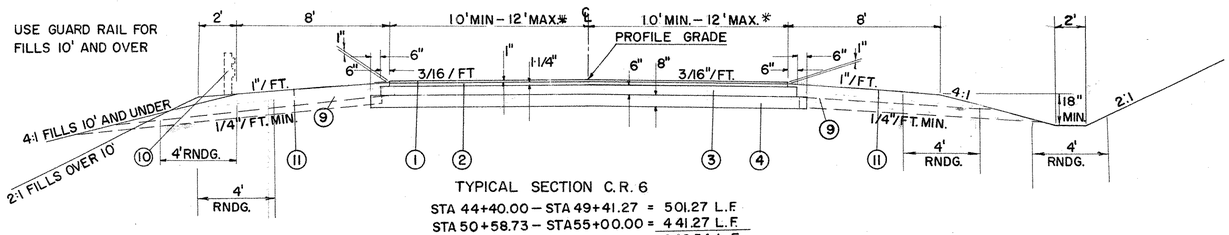
TYPICAL SECTION S.R. 546
STA 0+12.77 – STA 5+93.68 = 580.90 L.F.



TYPICAL SECTION C.R. 11

STA 43+50.00 – STA. 49+43.07	=	593.07 L.F.
STA 50+56.93 – STA 55+00.00	=	443.07 L.F.
		1036.14 L.F.

USE GUARD RAIL FOR FILLS 10' AND OVER



TYPICAL SECTION C.R. 6

STA 44+40.00 – STA 49+41.27	=	501.27 L.F.
STA 50+58.73 – STA 55+00.00	=	441.27 L.F.
		942.54 L.F.

*See Cross-Section For Transition Areas.

† Thicknesses shown are "designed" thicknesses as described in Section T-35.01, B-35.01, and B-21.01.

1A	T-35	†	Asphaltic Concrete Surface Course Type "A" (70-85)
1	T-35	†	Asphaltic Concrete Surface Course, Type "C" (70-85)
2	B-35	†	Asphaltic Concrete Leveling Course, Type "C" (70-85)
3	B-21	†	Waterproofed Aggregate Base
4	I-22		Subbase
7	B-19		Aggregate Base Course
9	I-9		Stone Underdrain No. 2
10	L-15		Guard Rail
11	L-9		Seeding and Protecting
12	SPECIAL		Furnishing and Applying Calcium Chloride using 1# per S.Y. Calcium Chloride.
6	T-30		Bituminous Prime Coat, Sec. M-5.7 RT-8 or RT-9. applied at 0.4 gal. per S.Y.

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GENERAL NOTES

AFFECTED UTILITY COMPANIES

1. OHIO POWER COMPANY
   SOUTHERN DIVISION
   MOUNT VERNON, OHIO

2. MOUNT VERNON TELEPHONE COMPANY
   15 EAST GAMBIER STREET
   MOUNT VERNON, OHIO

SURVEY CENTERLINE

THE CENTERLINE SHOWN AND STATIONED ON THE PLAN-PROFILE SHEETS AND MARKED ON THE CROSS SECTION SHEETS IS THE CENTERLINE OF SURVEY.

ROUNDING OF CORNERS ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON STD. DRW. RI-1, AS MODIFIED BY TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS, EVEN THOUGH OTHERWISE SHOWN IN THESE PLANS.

UTILITY ADJUSTMENT

ANY OR 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.

FIELD OFFICE

THE CONTRACTOR SHALL, IN ACCORDANCE WITH SEC. S-0.01 (b) PROVIDE FOR THE EXCLUSIVE USE OF THE STATE'S EMPLOYEES, A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 500 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL WIRING AND OUTLETS SUITABLE FOR CONNECTING ELECTRIC LIGHTS AND OFFICE EQUIPMENT IN THE FIELD OFFICE AND PROVIDE 110-VOLT ALTERNATING CURRENT TO THE OFFICE DURING THE ENTIRE PERIOD OF CONSTRUCTION OF THIS PROJECT. ALL OF THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR FIELD OFFICE.

DESIGN SPEED

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

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 GUARANTEE AS TO THEIR ACCURACY OR COMPLETENESS.

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONSTRUCTION LAYOUT STAKES

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

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.

CONTRACTOR'S MAINTENANCE RESPONSIBILITY

ON THIS PROJECT, THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF THE EXISTING PAVEMENT PER ITEM I-3 SHALL BE LIMITED TO THOSE PORTIONS OF THE EXISTING PAVEMENT LYING WITHIN THE PROPOSED WORK LIMITS.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

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

1. STATION 45 + 00 (SOUTH END) 25' RIGHT
2. STATION 44 + 00 S. R. 95 25' RIGHT
3. STATION 64 + 00 S. R. 95 25' LEFT
4. STATION 147 + 00 (NORTH END) 25' LEFT

SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. SIGN DETAILS SHALL BE SPECIFIED ON STANDARD DRAWING FACI - 1, "CODE N.-54(1)-96(2)". ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

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.

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 [illegible] 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	SIZES	NO. TREES	NO. STUMPS
12" - 18"	53		36" - 42"	5	1
18" - 24"	25		42" - 48"	3	
24" - 30"	19		OVER 48"	3	
30" - 36"	12				

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT OF WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM E-9 REMOVAL OF TREES AND STUMPS.

ITEM I-9 STONE UNDERDRAINS NO. 2

STONE UNDERDRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON THE OUTSIDE OF NORMAL CROWNED SECTIONS, AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, AND AT THE LOW POINT OF SAG VERTICAL CURVE, EXCEPT WHERE ITEM I-1 PIPE UNDERDRAINS HAVE BEEN PROVIDED. AN ESTIMATED QUANTITY OF 12636 LIN. FT. HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS ITEM.

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 BRICK LAID IN MORTAR OR A PRECAST CLAY OR CONCRETE STOPPER. PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION.

REMOVAL OF EXISTING PIPE

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

CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLAN PROVIDES FOR THE CONNECTION OF PROPOSED PIPE TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED PIPE.

PAYMENT FOR THIS ITEM AND FOR ANY NECESSARY PIPE SPECIALS TO COMPLETE THE CONNECTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT PIPE ITEM.

REINFORCED ENDS ON CORRUGATED METAL PIPE

REINFORCED ENDS SHALL BE PROVIDED FOR ALL CORRUGATED METAL CLASS F-1 AND F-4 SEC. M-6.4(c) PIPE FOR DRIVEWAYS, AND UNDERDRAIN OUTLETS, IF THE PIPE ENDS ARE UNPROTECTED BY HEADWALLS, CATCH BASINS OR MANHOLES.

SEALING OF PIPE JOINTS

WHERE CONNECTIONS ARE MADE BETWEEN RIGID AND FLEXIBLE PIPE SECTIONS OR BETWEEN PIPE SECTIONS OF DIFFERENT KIND OR TYPE OF END FABRICATION, WHETHER REQUIRED BY THE PLANS, ARISING FROM PERMISSIBLE USE OF OPTIONAL MATERIALS, OR ENCOUNTERED IN CONNECTION TO EXISTING FACILITIES THE JOINT SHALL BE SEALED, IF SEALING IS REQUIRED BY THE SPECIFICATIONS, BY MEANS OF A CLASS "E" CONCRETE COLLAR HAVING A MINIMUM THICKNESS OF 6 INCHES AND A MINIMUM LENGTH OF 12 INCHES. PAYMENT FOR SEALING AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT PIPE ITEM.

CUT-OFF WALLS

CUT-OFF WALLS SHALL BE CONSTRUCTED WHERE I-10 RIPRAP IS PROVIDED. PAYMENT FOR CUT-OFF WALLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR I-10 RIPRAP, USING SIX (6) INCH REINFORCED CONCRETE SLAB AS PER PLAN. SEE DETAIL ON SHEET NO. 194.

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 DRAINAGE OF THE BASE MATERIAL. THE ACTUAL AREA OF THE OUTCROP OF THE SUBBASE MATERIAL OR THE I-9 UNDERDRAINS SHALL NOT BE SEEDED.

APPROACH SLAB LONGITUDINAL JOINTS

LONGITUDINAL IMPRESSED OR SAWED JOINTS SHALL BE PROVIDED BETWEEN ALL LANE ELEMENTS, ON ALL APPROACH SLABS, IN ACCORDANCE WITH "STANDARD CONSTRUCTION DRAWING L.J. NO. 1."

CENTERLINE REFERENCE MONUMENTS AS PER PLAN

MONUMENTS SHALL BE CONSTRUCTED OF CLASS "C" CONCRETE, CAST-IN-PLACE IN A CIRCULAR HOLE EIGHT (8) INCHES IN DIAMETER AND FORTY-FOUR (44) INCHES IN DEPTH. TOP OF CONCRETE SHALL BE FINISHED AT A DEPTH OF TWO (2) INCHES BELOW GROUND LEVEL AND THE UPPER SIX (6) INCH PORTION OF THE CONCRETE SHALL BE FORMED. 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.

GUARD RAIL ADJACENT TO BRIDGE

ONE (1) ADDITIONAL GUARD RAIL POST SHALL BE PROVIDED IN THE CENTER OF EACH PANEL OF GUARD RAIL ADJACENT TO THE BRIDGE, PAYMENT FOR WHICH SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM I-15 GUARD RAIL.

SEEDING

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

SPECIAL SEEDING PREPARATION AREAS

THE REFERENCE 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:

STATION	1093 + 00 LT.	TO	1095 + 50 LT.	
STATION	129 + 50 LT.	TO	132 + 50 LT.	
STATION	52 + 40 LT.	TO	53 + 85 LT.	ON COUNTY ROAD 11
STATION	44 + 60 RT.	TO	47 + 15 RT.	ON S.R. 95
STATION	45 + 50 LT.	TO	47 + 50 LT.	ON S.R. 95
STATION	61 + 46 RT.	TO	62 + 20 RT.	ON S.R. 95
STATION	53 + 25 LT.	TO	54 + 80 LT.	ON TWP. ROAD 377

ITEM SPECIAL, DRILLED WELL ABANDONED

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

THE UNIT PRICE BID FOR EACH "DRILLED WELL ABANDONED" SHALL INCLUDE PAYMENT FOR ALL LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM. AN ESTIMATED QUANTITY OF 1 DRILLED WELL ABANDONED HAS BEEN PROVIDED IN THE GENERAL SUMMARY. SEE SHEET 27 - STA. 932+05, 15' LEFT.

ITEM S.S. CE-101.04 COMPACTION USING HEAVY PNEUMATIC-TIRED ROLLER

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE ON THE MAINLINE PAVEMENT AS DIRECTED BY THE ENGINEER. PROOF ROLLING WILL BE NONE PERFORMED WHERE ROCK OR SHALE OCCURS IN SUBGRADE AND IN AREAS WHERE SUBBASE HAS BEEN THICKENED TO REPLACE FROST SUSCEPTIBLE SILTS. IN LIEU OF THE REQUIREMENTS OF CE-101.04, A MINIMUM OF ONE COVERAGE WILL BE REQUIRED TO CHECK THE SUBGRADE. MOISTURE CONTENT OF THE TOP 12" OF SUBGRADE SHALL NOT EXCEED OPTIMUM AT THE TIME OF PROOF. TIRE PRESSURE AND TOTAL LOAD SHALL BE VARIED AS DIRECTED BY THE ENGINEER WITHIN THE LIMITS PROVIDED IN CE-101.04.

EROSION CONTROL

ITEMS I-10, I-14 AND L-10 AND L-120 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 NONPERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTION LIMITS

AFTER THE EXISTING PAVEMENT AS INDICATED ON THE PLANS HAS BEEN REMOVED, THE OLD ROADWAY SHALL BE PLOWED, HARROWED, AND DRAGGED TO A SMOOTH GRADE, THE OLD DITCHES FILLED, AND THE ENTIRE AREA SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT REMOVAL, ITEM E-8. SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM L-9.

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GENERAL NOTES

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM I-1 CLASS "J-1" PIPE.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY CLASS H-2 PIPE AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

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

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

ITEM I -	1	6"	300	LIN. FT.
ITEM I -	1	12" PIPE, CLASS H-2	500	LIN. FT.
ITEM I -	1	12" PIPE, CLASS F-4	200	LIN. FT.
ITEM I -	5	12" PIPE, SPECIALS, CLASS H-2	20	EACH
ITEM I -	10	DUMPED ROCK CHANNEL PROTECTION	30	CU. YD.

(NOTE: MATERIAL NOT TO BE ORDERED UNTIL DIRECTED BY ENGINEER.)

PRIVATE SEWER TAPS

ALL EXISTING SANITARY DRAINS ENCOUNTERED DURING CONSTRUCTION OPERATIONS THAT ARE NOW OUTLETTING INTO THE HIGHWAY DRAINAGE SYSTEM MAY BE CONNECTED TO THE HIGHWAY DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER, PROVIDED THE PROPERTY OWNER OBTAINS WRITTEN APPROVAL OF THE EFFLUENT FROM THE LOCAL BOARD OF HEALTH. IF THE PROPERTY OWNER FAILS TO SHOW PROOF OF SATISFACTORY EFFLUENT FROM THE HEALTH BOARD, THE DRAIN SHALL BE PLUGGED AT THE RIGHT-OF-WAY LINE AND QUANTITIES SHALL BE NONPERFORMED. COST OF PLUGGING DRAINS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION. AN ESTIMATED QUANTITY OF 5 INSPECTION WELLS HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS ITEM. SEE SHEET NO. 194 FOR INSPECTION WELL DETAIL. MATERIAL NOT TO BE ORDERED UNTIL DIRECTED BY THE ENGINEER.

SPECIAL DITCHES

ELEVATIONS OF SPECIAL DITCHES ARE SHOWN ON THE CROSS SECTIONS.

6" CLASS I-3 PIPE, AS PER PLAN

THE CLASS I-3 PIPE (FOR SPRING DRAINAGE) SHALL BE COVERED WITH TYPE 3 POROUS BACKFILL MATERIAL TO A HEIGHT OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. THE REMAINDER OF THE BACKFILL FOR THIS ITEM SHALL MEET THE SPECIFICATION REQUIREMENTS FOR TYPE 2 BACKFILL.

ESTIMATED QUANTITIES AS FOLLOWS ARE PROVIDED IN THE GENERAL SUMMARY IN REGARD TO THIS ITEM.

I - 1 6" PIPE DRAINS CLASS I-3 SEC. M-6.4(h)	150 LIN. FT.
I - 9 STONE UNDERDRAINS, NO. 1	15 LIN. FT.

SEE SHEET NO. 194 FOR SPRING DRAIN DETAIL.

CROSS SECTION QUANTITIES

ON THE CROSS SECTION SHEETS, IT SHOULD BE NOTICED THAT SOME + 50 STATIONS DO NOT CONTAIN QUANTITIES. THESE SECTIONS WERE USED ONLY TO DEVELOP THE DRAINAGE IN THE AREA AND CONSEQUENTLY QUANTITIES WERE FIGURED BETWEEN THE FULL STATIONS OR IF DEFINITE BREAKS OCCURRED BETWEEN THE STATIONS, THE QUANTITIES WERE FIGURED ACCORDINGLY.

ITEM I-5 FLAP GATES

THE 12" FLAP GATES ARE TO BE PIPE MOUNTED ARMCO MODEL 10c, NEENAH TYPE R-5 050CF OR APPROVED EQUAL. THE GATE SHALL BE FITTED WITH BRASS BOLTS, NUTS, AND BUSHINGS.

PAYMENT FOR FLAP GATES, ITEM I-5, SHALL INCLUDE FURNISHING AND PLACING BOLTS, NUTS, BUSHINGS, HINGE BARS, AND GATE COMPLETE IN PLACE ON THE PROPOSED PIPE.

ITEM I-5 PIPE SPECIALS

PIPE WITHOUT PERFORATIONS WILL BE PERMITTED FOR USE ON THIS PROJECT FOR ALL ITEMS I-5 PIPE SPECIALS.

ITEM S-15 MODIFIED AS PER PLAN

ALL PROVISIONS OF ITEM T-10 TRAFFIC COMPACTED SURFACE COURSE SHALL BE MET EXCEPT THAT NO. 3 OR NO. 34 AGGREGATE OR THE MATERIAL FROM THE EXISTING PAVEMENT MAY BE USED. MATERIAL FROM THE EXISTING PAVEMENT MAY BE USED WITHOUT FURTHER TEST FOR GRADATION OR QUALITY. PAYMENT SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM S-15 FURNISHING AND PLACING AGGREGATE, MODIFIED AS PER PLAN. AGGREGATE USED FOR S-15 MODIFIED SHALL BE MEASURED AS DESCRIBED UNDER SEC. T-10.08.

WHEN MATERIALS FROM THE OLD PAVEMENT ARE USED, MEASUREMENT SHALL BE BY VOLUMETRIC MEANS, EITHER VEHICLE BED MEASUREMENT AT POINT OF DELIVERY OR BY VOLUMETRIC CALCULATIONS OF EXISTING PAVEMENT BEFORE AND AFTER REMOVAL. WHEN USING NO. 3 OR NO. 34 AGGREGATE THE WEIGHTS TO BE USED IN CALCULATING THE YARDAGE TO BE PAID FOR UNDER THIS ITEM SHALL BE THE SAME AS INDICATED IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR CRUSHER RUN OR BANK RUN MATERIALS.

PART WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY OF BUILDING PORTIONS OF THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE PAVEMENT PART AT A TIME EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT 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 18 INCHES BEYOND THE CENTERLINE AND BY SURFACING NO CLOSER THAN 18 INCHES TO THIS EDGE OF THE ABOVE COURSES. WHEN THE SECOND PORTION OF THE PAVEMENT IS BUILT, AT LEAST 12 INCHES OF THE 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.

LIMITS OF WORK FOR SIDE ROADS

SOUTH END CONNECTION	
BEGIN WORK	STA. 0 + 44.00
END WORK	STA. 4 + 20.00
NET LENGTH OF WORK	376.00 LIN. FT.
COUNTY ROAD 11	
BEGIN WORK	STA. 43 + 50.00
END WORK	STA. 55 + 00.00
GROSS LENGTH OF WORK	1,150.00 LIN. FT.
DEDUCT FOR MAINLINE	113.86 LIN. FT.
NET LENGTH OF WORK	1,036.14 LIN. FT.
S. R. 95	
BEGIN WORK	STA. 44 + 50.00
END WORK	STA. 64 + 82.70
NET LENGTH OF WORK	2,032.70 LIN. FT.
TWP ROAD 367 (RELOCATED)	
BEGIN WORK	STA. 44 + 25.00
DEDUCT STA. 44+25.00 TO 114+10.00 (ABUTTING R/W)	
END WORK	STA. 123 + 11.18
NET LENGTH OF WORK	901.18 LIN. FT.
COUNTY ROAD 6	
BEGIN WORK	STA. 44 + 40.00
END WORK	STA. 55 + 00.00
GROSS LENGTH OF WORK	1,060.00 LIN. FT.
DEDUCT FOR MAINLINE	117.46 LIN. FT.
NET LENGTH OF WORK	942.54 LIN. FT.
TWP. ROAD 377	
BEGIN WORK	STA. 45 + 00.00
END WORK	STA. 60 + 81.40
GROSS LENGTH OF WORK	1,581.40 LIN. FT.
DEDUCT FOR MAINLINE	110.02 LIN. FT.
NET LENGTH OF WORK	1,471.38 LIN. FT.
NORTH END CONNECTION (S. R. 13)	
BEGIN WORK	STA. 2 + 50.00
END WORK	STA. 9 + 33.69
NET LENGTH OF WORK	683.69 LIN. FT.
S. R. 546	
BEGIN WORK	STA. 0 + 12.77
END WORK	STA. 5 + 93.68
NET LENGTH OF WORK	580.91 LIN. FT.

LENGTH OF WORK FOR EACH SIDE ROAD IS CARRIED TO THE TITLE SHEET.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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GENERAL NOTES
TRAFFIC

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

   (a) SOUTH CONNECTION STATE ROUTE 13 (SOUTH END) AND S. R. 546

   TWO WAY TRAFFIC WILL BE MAINTAINED AT ALL TIMES BY USE OF EITHER THE EXISTING PAVEMENT, THE PROPOSED PAVEMENT OR S-15 TEMPORARY RUN-AROUNDS SURFACED WITH T-10 AGGREGATE AND STABILIZED WITH CALCIUM CHLORIDE.

   (b) TOWNSHIP ROAD #367

   TRAFFIC WILL BE MAINTAINED ON EXISTING TOWNSHIP ROAD#367 UNTIL THAT TIME WHEN THE RELOCATED PORTION AND THE INTERSECTION OF COUNTY ROAD#6 CAN BE OPENED TO TRAFFIC, THEN THE EXISTING TOWNSHIP ROAD #367 MAY BE CLOSED.

   (c) TOWNSHIP ROAD #366 AND COUNTY ROAD #11

   THESE TWO ROADS MAY BE CLOSED TO TRAFFIC AS SOON AS IS DEEMED NECESSARY TO BEGIN WORK IN THE RESPECTIVE AREAS.

   (d) COUNTY ROAD #49

   THIS ROAD MAY BE CLOSED TO TRAFFIC ONLY AFTER THE INTERSECTION OF TOWNSHIP ROAD #377 IS COMPLETE AND OPEN TO TRAFFIC.

   (e) TOWNSHIP ROAD #366-A

   TRAFFIC WILL BE MAINTAINED ON TOWNSHIP ROAD #366-A UNTIL THE RELOCATED PORTION IS COMPLETE AND OPENED TO TRAFFIC, THEN THE EXISTING TOWNSHIP ROAD #366-A MAY BE CLOSED.

   (f) TOWNSHIP ROAD #377

   MAY BE CLOSED DURING CONSTRUCTION OF THE PROPOSED INTERSECTION, TRAFFIC WILL BE MAINTAINED ON COUNTY ROAD #49.

   (g) COUNTY ROAD #6

   MAY BE CLOSED TO TRAFFIC AND MUST BE RE-OPENED TO TRAFFIC BEFORE CLOSING OF TOWNSHIP ROAD #367.

   (h) STATE ROUTE #95 - EXISTING S. R. #13 (NORTH END OF PROJECT)

   TWO WAY TRAFFIC WILL BE MAINTAINED AT ALL TIMES BY USE OF EITHER THE EXISTING PAVEMENT, PROPOSED PAVEMENT OR TEMPORARY RUN-AROUND ROADS USING CLASS "B" PAVEMENT, AS SHOWN ON THE CROSS SECTIONS.

2. USE OF TEMPORARY PAVEMENTS

   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.

3. LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE PROVISIONS OF ITEM I-3.

4. THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF SECTION G-7.07, ON THIS PROJECT PERFORM THE FOLLOWING:

   (a) PROVIDE, ERECT, AND MAINTAIN MOVABLE GATES ON INTERSECTING ROADS CLOSED TO TRAFFIC AT ALL POINTS WHERE LOCAL TRAFFIC MOVEMENT TERMINATES.

   (b) PROVIDE, ERECT, AND MAINTAIN LIGHTS, SIGNS, AND BARRICADES AT THE WORK LIMITS ON ALL INTERSECTING ROADS WHICH REMAIN OPEN TO TRAFFIC.

   (c) PROVIDE, ERECT, AND MAINTAIN STANDARD 48" x 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

   1. TWP. ROAD #366, JUST WEST OF EXISTING S. R. #13 INTERSECTION.
   2. TWP. ROAD #366, JUST EAST OF COUNTY ROAD #11 INTERSECTION.
   3. COUNTY ROAD #11, JUST WEST OF EXISTING S. R. #13 INTERSECTION.
   4. COUNTY ROAD #11, JUST EAST OF TWP. ROAD #366 INTERSECTION.
   5. TWP. ROAD #367, JUST WEST OF COUNTY ROAD #6 INTERSECTION.
   6. COUNTY ROAD #6, JUST WEST OF EXISTING S. R. #13 INTERSECTION.
   7. COUNTY ROAD #6, JUST EAST OF TWP. ROAD #377 INTERSECTION.
   8. TWP. ROAD #366A, JUST WEST OF EXISTING S. R. #13 INTERSECTION.
   9. COUNTY ROAD #49, JUST WEST OF EXISTING S.R. #13 INTERSECTION.
   10. TWP. ROAD #377, JUST WEST OF EXISTING S. R. #13 INTERSECTION.
   11. TWP. ROAD #377, JUST EAST OF TWP. ROAD #378 INTERSECTION.

   LIGHTS, BARRICADES, AND DANGER AND WARNING SIGNS SHALL BE PROVIDED AT LOCATIONS SHOWN ABOVE IN ACCORDANCE WITH SECTION G-7.07.

   BARRICADES AND GATES SHALL BE AS DETAILED ON STANDARD CONSTRUCTION DRAWING NO. G-7.07.

   SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

   PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING BARRICADES, GATES, LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM I-3 "MAINTAINING TRAFFIC".

5. S-15 AGGREGATE

   THE AGGREGATE FOR MAINTAINING TRAFFIC WILL BE PAID FOR BY UNIT PRICE BID PER CUBIC YARD UNDER ITEM S-15 AGGREGATE AS PER SECTION T-10 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION.

   ESTIMATED QUANTITIES:

   S-15 TRAFFIC COMPACTED SURFACE COURSE 816 CU. YDS.
   S-15 TRAFFIC COMPACTED SURFACE COURSE, MODIFIED AS PER PLAN 1,224 CU. YDS.

GENERAL SUMMARY

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ITEM	SHEET NUMBER 7	8	9		12	14			15		17	18	19	20	21	22	23	24	25	26	27	28		32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		52	53	55	240	195	227		TOTAL ITEM	QUANT.	UNIT	DESCRIPTION TYPE CODE 6203 (Except as Shown)
																																																				ROADWAY
E-1						617,996*																																													E-1	617,996	C.Y.	Roadway Excavation-Method "B", as per plan
E-1						177,696																																													E-1	177,696	S.Y.	Compacted Subgrade
E-4						67423																																													E-4	67,423	C.Y.	Borrow - Using Granular Material, Including cost of Excavation of Unsuitable Material, as per Plan
SS.CE-101.04						80																																													SS.CE-101.04	80	Hrs.	Compaction Using Heavy Pneumatic Tired Roller
E-8									632		402																															565		889	736						E-8	3224	S.Y.	Removal and Disposal of Existing Pavement
E-9	LUMP																																																	E-9	LUMP	Lump	Removal of Trees and Stumps
E-11						3506																																													E-11	3506	M-Gal.	Water
E-12											20							30			90	16																						138	20						E-12	314	Lin. Ft.	Pipe Removed - 15" and Under
E-12																																															43			E-12	43	Lin. Ft.	Pipe Removed - Over 15"
I-8						15																																												I-8	15	Each	Standard Monument Assemblies
I-8						40																																												I-8	40	Each	Centerline Reference Monuments
I-15														25				2375			1575	912.5		9725	440	25	550		1181	1222	5595			25			25					100	1150						I-15	9000	Lin. Ft.	Guard Rail, Steel Beam Std. Type (Deep)
I-15																								110	90					90	110																			I-15	400	Lin. Ft.	Guard Rail, Steel Beam Barrier Type (Deep)
I-25						41139																																												I-25	41139	Lin. Ft.	Woven Wire Fence - Type 39
L-9						573851*																																										573851	L-9	573,851	S.Y.	Seeding and Protecting
L-9						52.27																																										52.27	L-9	52.27	Tons	Commercial Fertilizer (12-12-12)
L-9						261.36																																										261.36	L-9	261.36	Tons	Agricultural Liming Material
L-10											240		53	134				354		280	587	327		227		47	204		150			311		497	33	457	1940	622	116					31	256			12	6878	L-10	6878	S.Y.	Sodding
L-10																						66																										66	L-10	66	S.Y.	Sodding for Special Berm and Slope Protection
L-120											250		125		375	125	125	125		250	250			125	250	125	125		125	125	250	83	42	125	42	83	250		125									3500	L-120	3500	S.Y.	Jute Matting
E-10																																																	E-10	LUMP	Lump	Removal of 1 Story Frame House, Frame Tool Shed Parcel No. 26WL
E-10																																																		E-10	LUMP	Lump	Removal of Frame Shed, Parcel No. 28 WL
E-10																																																		E-10	LUMP	Lump	Removal of Frame Barn with Lean-to, Parcel No. 33
S-15									Lump																																										S-15	LUMP	Lump	Temporary Run-around Road
S-15																					LUMP	Lump																			Lump		Lump	Lump	Lump						S-15	LUMP	Lump	Temporary Run-around Roads- Using Class "B" Pavement
S-15			816																																														S-15	816	C.Y.	Furnishing and Placing Aggregate for Traffic Bound Surface Course
S-15			1224																																														S-15	1224	C.Y.	Furnishing and Placing Aggregate for Traffic Bound Surface Course, modified as per plan.
I-4						41																																												I-4	41	Tons	Calcium Chloride for Dust Control
Special						8																																												Special	8	Tons	Furnishing and Applying Calcium Chloride on Aggregate Shoulders and Approaches
																																																				DRAINAGE
E-3																																															11654		3594			E-3	15,248	C.Y.	Channel Excavation
I-1									80		2185		4000	900	2245	3574	1130	480	2600	2185	2954	1590		2353	1100	400	2380		470	1800	1540	1890	2000	1790	690	3700	3433	3600	1048		3100		1754	840						I-1	57901	Lin. Ft.	6" Pipe - Class I-3
I-1									10		40		20		40	10		20		20	40	10			10	10	40		20		60	20		20	20		40		20										I-1	470	Lin. Ft.	6" Pipe - Class F-4
I-1	150																																																	I-1	150	Lin. Ft.	6" Pipe - Class I-3 Sec. M-6.4(h)
I-1																									332																									I-1	332	Lin. Ft.	6" Pipe - Class H-2
I-1	300																			100				154																			28						I-1	582	Lin. Ft.	6" Pipe - Class J-1
I-1													20		20	10				26															20	20		20				10	20					I-1	166	Lin. Ft.	8" Pipe - Class F-4 Sec. M-6.4(c)
I-1																								98	284																									I-1	382	Lin. Ft.	10" Pipe - Class H-2
I-1																								86							52						700			28								I-1	866	Lin. Ft.	12" Pipe - Class E-1
I-1	200										54										138	76		62																			36						I-1	566	Lin. Ft.	12" Pipe - Class F-4
I-1									74		102				92					114				110	104																								I-1	596	Lin. Ft.	12" Pipe - Class J-1
I-1	500																																																	I-1	500	Lin. Ft.	12" Pipe - Class H-2
I-1																								222																									I-1	222	Lin. Ft.	15" Pipe - Class A-1
I-1																																															16			I-1	16	Lin. Ft.	15" Pipe - Class A-1 Sec. M-6.4(d)
I-1																				100																														I-1	100	Lin. Ft.	15" Pipe - Class E-1
I-1																													36	34								48												I-1	118	Lin. Ft.	15" Pipe - Class F-4
I-1															82	80					156						98		68	72	82			80	82		94		86										I-1	980	Lin. Ft.	15" Pipe - Class J-1
I-1																								80																									I-1	80	Lin. Ft.	15" Pipe - Class H-2
I-1																																															70			I-1	70	Lin. Ft.	18" Pipe - Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1																																																		I-1	90	Lin. Ft.	18" Pipe - Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1																																																		I-1	48	Lin. Ft.	18" Pipe - Class F-4
I-1																																																		I-1	352	Lin. Ft.	18" Pipe - Class J-1
I-1																								198																									I-1	198	Lin. Ft.	21" Pipe - Class A-1
I-1																						84																											I-1	84	Lin. Ft.	21" Pipe - Class J-1
I-1																																															544			I-1	544	Lin. Ft.	24" Pipe - Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1																						136																											I-1	136	Lin. Ft.	24" Pipe - Class J-1 Sec. M-6.6(c)

*Project Participation Split

Item	100% State	Normal Project	Total
E-1 Excav.	363	617,633	617,996 C.Y.
L-9 Seeding	2751	571,100	573,851 S.Y.

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GENERAL SUMMARY

FED RD DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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ITEM	SHEET NUMBER	TYPE CODE Y005	TOTAL ITEM	TOTAL QUANT.	TOTAL UNIT	DESCRIPTION
	7 8 9 12 13 14 15 17 19 20 21 22 23 24 25 26 27 28 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 52 53 55	195 227				TYPE CODE 6203 (Except as Shown)
						DRAINAGE (continued)
I-1		172	I-1	172	Lin. Ft.	30" Pipe - Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1		88	I-1	88	Lin. Ft.	30" Pipe - Class A-1
I-1		184	I-1	184	Lin. Ft.	30" Pipe - Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1		242	I-1	242	Lin. Ft.	30" Pipe - Class A-1 Sec. M-6.6(c)
I-1		214	I-1	214	Lin. Ft.	36" Pipe - Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1		118	I-1	118	Lin. Ft.	36" Pipe - Class A-1 Sec. M-6.6(c)
I-1	43: 60		I-1	60	Lin. Ft.	36" Pipe - Class F-4
I-1		600	I-1	600	Lin. Ft.	42" Pipe - Class A-1 Sec. M-6.6(a)
I-1		242	I-1	242	Lin. Ft.	54" Pipe - Class A-1 Sec. M-6.6(a)
I-1		130	I-1	130	Lin. Ft.	54" Pipe - Class A-1 Sec. M-6.6(c)
I-1		206	I-1	206	Lin. Ft.	68" x 43" Pipe Sec. M-6.7(b) Class G-1
I-1		196	I-1	196	Lin. Ft.	76" x 48" Pipe Sec. M-6.7(a) Class G-1
I-2	15: 0.23; 21: 0.49; 22: 0.26; 23: 0.30; 26: 0.76; 28: 1.95; 32: 0.69; 33: 0.23; 35: 0.26; 37: 0.26; 38: 0.26; 39: 0.26; 40: 0.30; 42: 0.26; 43: 0.26; 45: 0.25; 47: 0.25; 48: 0.23; 52: 0.60	32.7	I-2	48.8	C.Y.	Masonry
I-5	8: 20		I-5	20	Each	12" Pipe Specials - Class H-2
I-5	15: 1; 17: 1; 19: 4; 21: 6; 22: 2; 24: 2; 26: 4; 27: 4; 28: 1; 32: 2; 33: 1; 34: 1; 35: 4; 37: 2; 39: 6; 40: 2; 42: 2; 43: 2; 44: 2; 45: 6; 47: 4; 52: 2		I-5	61	Each	6" Pipe Specials - Class I-3
I-5	26: 1; 32: 4		I-5	5	Each	6" Pipe Specials - Class J-1
I-5	48: 1		I-5	1	Each	12" Pipe Special - Class E-1
I-5	37: 2; 38: 2		I-5	4	Each	15" Pipe Specials - Class F-4
I-5	32: 1		I-5	1	Each	21" Pipe Special - Class H-2
I-5	32: 2		I-5	2	Each	12" Flap Gates, as per Plan
I-8	15: 1; 27: 2; 28: 1		I-8	4	Each	Catch Basin, Standard No. 2-2A
I-8	32: 2; 39: 2		I-8	4	Each	Catch Basin, Standard No. 2-2B
I-8	17: 1; 21: 2; 22: 1; 23: 1; 26: 2; 27: 2; 32: 1; 33: 1; 35: 1; 37: 1; 38: 1; 39: 1; 40: 1; 42: 1; 43: 1; 45: 2; 47: 1	3	I-8	24	Each	Catch Basin, Standard No. 4
I-8		1	I-8	1	Each	Catch Basin, Standard No. 4, modified as per plan
I-8	26: 2		I-8	2	Each	Catch Basin, Standard No. 6
I-8	8: 5		I-8	5	Each	Inspection Wells, as per plan
I-9	8: 15		I-9	15	Lin. Ft.	Stone Underdrains No. 1, as per plan
I-9	1: 12636		I-9	12636	Lin. Ft.	Stone Underdrains No. 2
I-10	8: 30; 28: 9; 33: 2; 37: 2; 38: 2; 39: 45; 45: 2; 52: 7	117 216	I-10	216	C.Y.	Dumped Rock Channel Protection
I-10	52: 3	34 37	I-10	37	S.Y.	Riprap; 6" Reinforced Concrete Slab, as per plan
I-14	28: 154	38 192	I-14	192	Lin. Ft.	Paved Gutter, Standard Type I
S-24		Lump	S-24	Lump	Lump	Removal of Existing Structures
Special	1		Special	1	Each	Drilled Well Abandoned
						PAVEMENT
B-19	21: 22127		B-19	22127	C.Y.	Aggregate Base Course
B-21	19: 33719		B-21	33719	C.Y.	Waterproofed Aggregate Base Course
B-35	19: 6091		B-35	6091	C.Y.	Asphaltic Concrete Leveling Course (70-85)
I-7	22: 826		I-7	826	S.Y.	Reinforced Concrete Approach Slab (T = 13")
I-12	22: 400		I-12	400	Lin. Ft.	Concrete Curb, Std. Type 6
I-12	22: 281		I-12	281	Lin. Ft.	Concrete Curb, Std. Type 7
I-12	22: 309		I-12	309	Lin. Ft.	Concrete Curb, Std. Type 8
I-18	27: 5; 43: 33; 45: 5	254	I-18	297	C.Y.	Stabilized Crushed Aggregate Shoulders and Approaches
I-21	22: 156		I-21	156	S.Y.	Portland Cement Concrete Median Pavement
I-22	21: 53175 *		I-22	53175 *	C.Y.	Subbase
T-23	22: 33		T-23	33	Each	Precast White Portland Cement Concrete Traffic Dividers
T-30	21: 31,944		T-30	31,944	Gal.	Bituminous Prime Coat, Sec. M-5.7 RT 2 or 3
T-31	21: 591		T-31	591	C.Y.	Bituminous Surface Treatment, No. 6 Aggregate
T-31	21: 22132		T-31	22132	Gal.	Bituminous Surface Treatment, Bit. Material, Sec. M-5.7 RT 8 or 9 or Sec. M-5.12 CBAE-3
T-35	19: 5952		T-35	5992	C.Y.	Asphaltic Concrete Surface Course, Type "C" (70-85)
T-35	19: 141		T-35	141	C.Y.	Asphaltic Concrete Surface Course, Type "A" (70-85)
						STRUCTURES OVER 20' SPAN
						See Sheet No. 229 for Quantities Bridge No. KNO-13-1794
						See Sheet No. 235 for Quantities Bridge No. KNO-13-1828 L/R
						See Sheet No. 241 for Quantities Bridge No. KNO-13-1895 L/R
I-3			I-3	Lump	Lump	Maintaining Traffic
				Lump	Lump	Field Office
				Lump	Lump	Construction Layout Stakes
						TRAFFIC CONTROL - For Quantities See Sheet 194A

* I-22 consists of 52,957 Cu. Yds. @ normal project participation and 218 Cu. Yds @ 100% State participation (Service Rd. B)

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CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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ITEM T-35 1 1/4" ASPHALTIC CONCRETE SURFACE COURSE TYPE "C" (70-85)

STATION	to	STATION		LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
MAINLINE							
46 + 90		47 + 08.29		18.29	24	438.96	N. B. & S. B.
47 + 08.29		48 + 49.83		141.54	27	3,821.58	S. B. & N. B. Taper
48 + 49.83		50 + 17.00		167.17	36.43	6,090.00	N. B. & S. B. Taper
50 + 17.00		50 + 68.29		51.29	23.15	1,187.36	N. B. Taper
50 + 68.29		59 + 03.31 BK.		835.02	24	20,040.48	N. B.
50 + 17.00		52 + 49.83		232.83	20.79	4,840.54	S. B. Taper
52 + 49.83		59 + 30.30 BK.		680.47	24	16,331.28	S. B.
838 + 00	Ahd.	949 + 98.75		11,198.75	48	537,540.00	N. B. & S. B.
951 + 15.25		992 + 96.75		4,181.50	48	200,712.00	N. B. & S. B.
995 + 33.25		1067 + 98.68		7,265.43	48	348,740.64	N. B. & S. B.
1067 + 98.68		1068 + 67.99		69.31	24	1,663.44	N. B.
1068 + 67.99		1080 + 48.38 BK.		1,180.39	18	21,247.02	N. B. Taper
1067 + 98.68		1080 + 80.84 BK.		1,282.16	24	30,771.84	S. B.
1080 + 60.11	Ahd.	1082 + 93.40		233.29	36	8,398.44	N. B. & S. B.
1082 + 93.40		1088 + 75.00		581.60	30	17,448.00	Taper
1088 + 75.00		1097 + 38.29 BK.		863.29	24	20,718.96	N. B. & S. B.
127 + 71.54	Ahd.	145 + 00.00		1,728.46	24	41,483.04	N. B. & S. B.
915 + 72.85		916 + 72.85		100.00	6	600.00	DEC. Lane Rt.
916 + 72.85		920 + 80.00		407.15	12	4,885.80	DEC. Lane Rt.
911 + 38.00		921 + 38.00		1,000.00	12.5	12,500.00	ACC. Lane Lt.
943 + 03.00		950 + 18.94		715.94	16.05	11,490.84	ACC. Lane Rt.
951 + 35.44		953 + 03.00		167.56	2.20	368.63	ACC. Lane Rt.
943 + 06.00		947 + 73.58		467.58	12	5,610.96	DEC. Lane Lt.
947 + 73.58		948 + 73.58		100.00	6	600.00	DEC. Lane Lt.
TOTAL MAINLINE						1,317,529.81	
SOUTH CONNECTION							
0 - 08		0 + 19	(Planimeter)			1,889.00	MEDIAN
TOTAL SOUTH CONNECTION						1,889.00	
COUNTY ROAD 11							
43 + 50.00		48 + 67.46		517.46	20	10,349.20	
48 + 67.46		49 + 43.07	(Planimeter)			2,888.00	Mainline Approaches
49 + 68.37		50 + 31.63	(Planimeter)			9,970.00	Includes 250' Taper
50 + 56.93		51 + 32.54	(Planimeter)			2,765.00	Mainline Approaches
51 + 32.54		55 + 00.00		367.46	20	7,349.20	
TOTAL COUNTY ROAD 11						33,321.40	
S. E. RAMP							
0 + 00		2 + 87.30	(Planimeter)			7,346.00	Includes 100' @ M/L
2 + 87.30		3 + 87.30		100.00	18.5	1,850.00	Taper
3 + 87.30		11 + 23.65		736.35	16	11,781.60	
11 + 23.65		11 + 84.55	(Planimeter)			2,590.00	S. R. 95 Approaches
TOTAL S. E. RAMP						23,567.60	
S. W. RAMP							
0 + 00		1 + 00		100	15	1,500.00	
1 + 00		2 + 00		100	17.5	1,750.00	Taper
2 + 00		2 + 84		84	19	1,596.00	
2 + 84		10 + 39.68		755.68	16	12,090.88	
10 + 39.68		11 + 37.09	(Planimeter)			3,725.00	S. R. 95 Approaches
TOTAL S. W. RAMP						20,661.88	
N. W. RAMP							
0 + 12.77		0 + 85.64	(Planimeter)			2,830.00	S. R. 95 Approaches
0 + 85.64		8 + 09.97		724.33	16	11,589.28	
8 + 09.97		9 + 09.97		100.00	18.5	1,850.00	Taper
9 + 09.97		11 + 41.89	(Planimeter)			6,159.00	Includes 100' @ M/L
TOTAL N. W. RAMP						22,428.28	
N. E. RAMP							
0 + 12.25		1 + 13.98	(Planimeter)			3,790.00	S. R. 95 Approaches
1 + 13.98		7 + 47.00		633.02	16	10,128.32	
7 + 47		8 + 37.36		90.36	19	1,716.84	
8 + 37.36		9 + 37.36		100.00	17.5	1,750.00	Taper
9 + 37.36		10 + 37.36		100.00	15	1,500.00	
TOTAL N. E. RAMP						18,885.16	
COUNTY ROAD 6							
49 + 67.37		50 + 32.63	(Planimeter)			9,341.00	Includes 250' Taper
TOTAL COUNTY ROAD 6						9,341.00	
TWP. ROAD 377							
49 + 69.44		50 + 30.56	(Planimeter)			9,068.00	Includes 250' Taper
TOTAL TWP. ROAD 377						9,068.00	
S. R. 546							
0 + 12.77		0 + 88.55	(Planimeter)			3,563.00	Mainline Approaches
0 + 88.55		4 + 93.68		405.13	24	9,723.12	
4 + 93.68		5 + 93.68		100.00	21	2,100.00	Taper
TOTAL S. R. 546						15,386.12	

TOTAL ITEM T-35 (1 1/4" Thick) TYPE "C" 1,472,078.25 Sq. Ft.
1,472,078.25 x 0.104 ÷ 27 = 5,670.23 Cu. Yds.

ITEM T-35 1" ASPHALTIC CONCRETE SURFACE COURSE TYPE "C" (70-85)

STATION	to	STATION		LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
SOUTH CONNECTION							
0 + 44		1 + 21.22	(Planimeter)			3,563.00	Mainline Approaches
1 + 21.22		4 + 20.00		298.78	24	7,170.72	
TOTAL SOUTH CONNECTION						10,733.72	
S. R. 95							
44 + 50		52 + 33.24		783.24	24	18,797.76	
55 + 18.76		63 + 50		831.24	24	19,949.76	
TOTAL S. R. 95						38,747.52	
COUNTY ROAD 6							
44 + 40		47 + 59.04		319.04	20	6,380.80	
47 + 59.04		48 + 59.04		100.00	22	2,200.00	Taper
48 + 59.04		49 + 41.27	(Planimeter)			2,940.00	Mainline Approaches
50 + 58.73		51 + 40.96	(Planimeter)			3,200.00	Mainline Approaches
51 + 40.96		52 + 40.96		100.00	22	2,200.00	Taper
52 + 40.96		55 + 00.00		259.04	20	5,180.80	
TOTAL COUNTY ROAD 6						22,101.60	
NORTH CONNECTION							
2 + 50		8 + 73.69		623.69	24	14,968.58	
8 + 73.69		9 + 33.69	(Planimeter)			2,856.00	Mainline Approaches
TOTAL NORTH CONNECTION						17,824.56	

TOTAL ITEM T-35 (1" Thick) TYPE "C" 89,407.40 Sq. Ft.
89,407.40 x 0.0833 ÷ 27 = 275.84 Cu. Yds.

TOTAL ITEM T-35, TYPE "C"

5,670.23
281.67
5,951.90 Cu. Yds.

USE 5,952 CU. YDS.

ITEM T-35 1 1/2" ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" (70-85)

STATION	STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
TWP. ROAD 377					
46 + 00.00	48 + 77.45	277.45	20	5,549.00	
48 + 77.45	49 + 44.99	(Planimeter)		2,362.00	Mainline Approaches
50 + 55.01	51 + 22.55	(Planimeter)		2,278.00	Mainline Approaches
51 + 22.55	60 + 30.43	907.88	20	18,157.60	
60 + 30.43	60 + 81.40	(Planimeter)		1,996.00	S. R. 13 Approaches
				30,342.60	Sq. Ft.

TOTAL ITEM T-35 Type "A"
30,342.60 x 0.125 ÷ 27 = 140.48 Cu. Yds.
USE 141 CU. YDS.

ITEM B-35 ASPHALTIC CONCRETE LEVELING COURSE (70-85)

LOCATION	SQ. FT.	DEPTH	CU. FT.
Mainline	1,317,529.81	0.104	137,023.10
South Connection	12,622.72	0.104	1,312.76
County Road 11	33,321.40	0.146	4,864.92
S. E. Ramp	23,567.60	0.104	2,451.03
S. W. Ramp	20,661.88	0.104	2,148.84
S. R. 95	38,747.52	0.104	4,029.74
N. W. Ramp	22,428.28	0.104	2,332.54
N. E. Ramp	18,885.16	0.104	1,964.06
County Road 6	31,442.60	0.104	3,270.03
TWP. Road 377	9,068.00	0.104	943.07
North Connection	17,824.56	0.104	1,853.75
S. R. 546	15,386.12	0.146	2,246.37
			164,440.21 Cu. Ft.

TOTAL ITEM B-35
164,440.20 ÷ 27 = 6,090.38
USE 6,091 CU. YDS.

ITEM B-21 7" WATERPROOFED AGGREGATE BASE (2 - 3 1/2" COURSES)

STATION	STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
MAINLINE					
46 + 90	47 + 08.29	18.29	24.875	454.96	N. B. & S. B.
47 + 08.29	48 + 49.83	141.54	27.875	3,945.43	S. B. & N. B. Taper
48 + 49.83	50 + 17.00	167.17	37.305	6,236.28	N. B. & S. B. Taper
50 + 17.00	50 + 68.29	51.29	24.025	1,232.24	N. B. Taper
50 + 68.29	50 + 03.31 BK.	835.02	24.875	20,771.12	N. B.
50 + 17.00	52 + 49.83	232.83	21.665	5,044.26	S. B. Taper
52 + 49.83	59 + 30.30 BK.	680.47	24.875	16,926.69	S. B.
838 + 00 Ahd.	949 + 98.75	11,198.75	49.75	557,137.81	N. B. & S. B.
951 + 15.25	992 + 96.75	4,181.50	49.75	208,029.63	N. B. & S. B.
995 + 33.25	1067 + 98.68	7,265.43	49.75	361,455.14	N. B. & S. B.
1067 + 98.68	1078 + 50.00	1,051.32	19.875	20,894.99	N. B. Taper
1078 + 50.00	1080 + 48.38 BK.	198.38	13.437	2,665.63	N. B. Taper
1067 + 98.68	1080 + 80.84 BK.	1,282.16	24.875	31,893.73	S. B.
1080 + 60.11 Ahd.	1082 + 93.40	233.29	36.875	8,602.57	N. B. & S. B.

(Continued)

ITEM B-21 7" WATERPROOFED AGGREGATE BASE (2 - 3 1/2" COURSES) (Continued)

STATION	STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
1082 + 93.40	1088 + 75.00	581.60	30.875	17,956.90	Taper
1088 + 75.00	1097 + 38.29 BK.	863.29	24.875	21,474.34	N. B. & S. B.
127 + 71.54 Ahd.	145 + 00.00	1,728.46	24.875	42,995.44	N. B. & S. B.
915 + 72.85	916 + 72.85	100.00	6.00	600.00	DEC. Lane Rt.
916 + 72.85	920 + 80.00	407.15	12.00	4,885.80	DEC. Lane Rt.
911 + 38.00	921 + 38.00	1,000.00	12.00	12,500.00	ACC. Lane Lt.
943 + 03.00	950 + 18.94	715.94	16.05	11,490.84	ACC. Lane Rt.
951 + 35.44	953 + 03.00	167.56	2.20	368.63	ACC. Lane Rt.
943 + 06.00	947 + 73.58	467.58	12.00	5,610.96	DEC. Lane Lt.
947 + 73.58	948 + 73.58	100.00	6.00	600.00	DEC. Lane Lt.
TOTAL MAINLINE				1,363,773.39	
S. E. RAMP					
0 + 00.00	2 + 87.30	(Planimeter)		7,470.00	Includes 100' @ M/L
2 + 87.30	3 + 87.30	100.00	18.958	1,895.80	Taper
3 + 87.30	11 + 23.65	736.35	16.875	12,425.91	
11 + 23.65	11 + 84.55	(Planimeter)		2,674.00	S. R. 95 Approaches
TOTAL S. E. RAMP				24,465.71	
S. W. RAMP					
0 + 00.00	1 + 00.00	100.00	15.458	1,545.80	Taper
1 + 00.00	2 + 00.00	100.00	17.958	1,795.80	Taper
2 + 00.00	2 + 84.00	84.00	19.458	1,634.47	
2 + 84.00	10 + 39.50	755.50	16.875	12,749.06	
10 + 39.50	11 + 37.09	(Planimeter)		3,840.00	S. R. 95 Approaches
TOTAL S. W. RAMP				21,565.13	
N. W. RAMP					
0 + 12.77	0 + 85.64	(Planimeter)		2,922.00	S. R. 95 Approaches
0 + 85.64	8 + 09.97	724.33	16.875	12,223.07	
8 + 09.97	9 + 09.97	100.00	18.958	1,895.80	Taper
9 + 09.97	11 + 41.89	(Planimeter)		6,255.00	Includes 100' @ M/L
TOTAL N. W. RAMP				23,295.87	
N. E. RAMP					
0 + 12.25	1 + 13.98	(Planimeter)		3,906.00	S. R. 95 Approaches
1 + 13.98	7 + 47.00	633.02	16.875	10,682.21	
7 + 47.00	8 + 37.36	90.36	19.458	1,758.22	
8 + 37.36	9 + 37.36	100.00	17.958	1,795.80	Taper
9 + 37.36	10 + 37.36	100.00	15.458	1,545.80	Taper
TOTAL N. E. RAMP				19,688.03	
SOUTH CONNECTION					
0 - 08	0 + 19	(Planimeter)		1,836.00	MEDIAN
COUNTY ROAD 11					
49 + 68.37	50 + 31.63	(Planimeter)		9,494.00	Includes 250' Taper
COUNTY ROAD 6					
49 + 67.37	50 + 32.63	(Planimeter)		9,182.00	Includes 250' Taper
TWP. ROAD 377					
49 + 69.44	50 + 30.56	(Planimeter)		9,068.00	Includes 250' Taper

TOTAL ITEM B-21 (2 - 3 1/2" COURSES) 1,482,368.13 Sq. Ft.
1,482,368.13 x 0.583 ÷ 27 = 32,008.17 Cu. Yds.

ITEM B-21 6" WATERPROOFED AGGREGATE BASE COURSE

STATION	STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
SOUTH CONNECTION					
0 + 44	1 + 21.22	(Planimeter)		3,534.00	Mainline Approaches
1 + 21.22	4 + 20.00	298.78	25	7,469.50	
TOTAL SOUTH CONNECTION				11,003.50	
S. R. 95					
44 + 50.00	52 + 33.24	783.24	24.75	19,385.19	
55 + 18.76	63 + 50.00	831.24	24.75	20,573.19	
TOTAL S. R. 95				39,958.38	
COUNTY ROAD 6					
44 + 40.00	47 + 59.04	319.04	21	6,699.84	
47 + 59.04	48 + 59.04	100.00	23	2,300.00	
48 + 59.04	49 + 41.27	(Planimeter)		2,956.00	Mainline Approaches
50 + 58.73	51 + 40.96	(Planimeter)		3,216.00	Mainline Approaches
51 + 40.96	52 + 40.96	100.00	23	2,300.00	
52 + 40.96	55 + 00.00	259.04	21	5,439.84	
TOTAL COUNTY ROAD 6				22,911.68	
NORTH CONNECTION					
2 + 50.00	8 + 73.69	623.69	25	15,592.25	
8 + 73.69	9 + 33.69	(Planimeter)		2,872.00	Mainline Approaches
TOTAL NORTH CONNECTION				18,464.25	

TOTAL ITEM B-21 (6" COURSE) 92,337.81 Sq. Ft.
92,337.81 x 0.50 ÷ 27 = 1,709.96 Cu. Yds.

TOTAL ITEM B-21

32,008.17
1,709.96
33,718.13 Cu. Yds.

USE 33,719 CU. YDS.

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

13/275

KNO-13-15.93

ITEM B-19 8" AGGREGATE BASE COURSE FOR SHOULDERS

STATION	to	STATION	LENGTH	AVG. WIDTH	SQ. FT.	VOL./FT.	CU. FT.	REMARKS
MAINLINE								
46 + 90		52 + 30	540.00	8	4,320.00	5.20	2,808.00	N. B. Rt.
52 + 30		53 + 95	231.00	8	1,848.00	5.20	1,201.20	S. CONN. App.
53 + 95		59 + 03.31 BK.	509.31	8	4,074.48	5.20	2,648.41	N. B. Rt.
50 + 17		51 + 07	90.00	2.75	247.50	1.70	153.00	N. B. Lt.
51 + 07		52 + 70	163.00	4	652.00	2.53	412.39	N. B. Lt.
53 + 29		59 + 03.31 BK.	574.31	4	2,297.24	2.53	1,453.00	N. B. Lt.
46 + 90		59 + 30.30 BK.	1,240.30	8	9,922.40	5.20	6,449.56	S. B. Lt.
50 + 17		51 + 07	90.00	2.75	247.50	1.70	153.00	S. B. Rt.
51 + 07		52 + 73	166.00	8	1,328.00	5.20	863.20	S. B. Rt.
53 + 35		59 + 30.30 BK.	595.30	8	4,762.40	5.20	3,095.56	S. B. Rt.
838 + 00 Abd.		896 + 18.54	5,818.54	8	46,548.32	5.20	30,256.41	N. B. Rt.
838 + 00 Ahd.		896 + 26	5,826.00	8	46,608.00	5.06	29,479.56	MED. Lt. & Rt.
838 + 00 Ahd.		895 + 61.27	5,761.27	8	46,090.16	5.20	29,958.60	S. B. Lt.
896 + 18.54		897 + 62.95	200.00	8	1,600.00	5.20	1,040.00	C. R. 11 App. Rt.
895 + 61.27		897 + 05.68	200.00	8	1,600.00	5.20	1,040.00	C. R. 11 App. Lt.
896 + 98		949 + 98.75	5,300.75	8	42,406.00	5.06	26,821.80	MED. Lt. & Rt.
897 + 62.95		920 + 80.00	2,317.05	8	18,536.40	5.20	12,048.66	N. B. Rt.
897 + 05.68		921 + 38.00	2,432.32	8	19,458.56	5.20	12,648.06	S. B. Lt
924 + 72.85		925 + 22.85	50.00	9	450.00	5.82	291.00	N. B. Rt. Taper
925 + 22.85		941 + 35.00	1,612.15	8	12,897.20	5.20	8,383.18	N. B. Rt.
941 + 35		943 + 03	168.00	14	2,352.00	9.16	1,538.88	N. B. Rt.
921 + 38.00		922 + 79.50	141.50	14	1,981.00	9.16	1,296.14	S. B. Lt
922 + 79.50		939 + 23.58	1,644.08	8	13,152.64	5.20	8,549.22	S. B. Lt
939 + 23.58		939 + 73.58	50.00	9	450.00	5.82	291.00	S. B. Lt. Taper
943 + 03		950 + 43.94	740.94	8	5,927.52	5.20	3,852.89	N. B. Rt.
943 + 06		950 + 03.56	697.56	8	5,580.48	5.20	3,627.31	S. B. Lt.
951 + 10.44		979 + 56.64	2,846.20	8	22,769.60	5.20	14,800.24	N. B. Rt.
950 + 70.06		980 + 40.32	2,970.26	8	23,762.08	5.20	15,445.35	S. B. Lt.
950 + 90.25		980 + 36.38	2,946.13	8	23,569.04	5.06	14,907.42	MED. Lt. & Rt.
979 + 56.64		980 + 99.44	172.00	8	1,376.00	5.20	894.00	C. R. 6 App. Rt.
980 + 40.32		981 + 83.12	172.00	8	1,376.00	5.20	894.00	C. R. 6 App. Lt.
981 + 03.38		993 + 21.75	1,218.37	8	9,746.96	5.06	6,164.95	MED. Lt. & Rt.
980 + 99.44		993 + 21.75	1,222.31	8	9,778.48	5.20	6,356.01	N. B. Rt.
980 + 83.12		993 + 21.75	1,238.63	8	9,909.04	5.20	6,440.88	S. B. Lt.
995 + 08.25		1064 + 55.03	6,946.78	8	55,584.24	5.06	31,150.71	MED. Lt. & Rt.
995 + 08.25		1064 + 32.10	6,923.85	8	55,390.80	5.20	36,004.02	N. B. Rt.
995 + 08.25		1064 + 01.21	6,892.96	8	55,143.68	5.20	35,843.39	S. B. Lt.
1064 + 32.10		1065 + 74.33	166.00	8	1,328.00	5.20	863.20	T. R. 377 App. Rt.
1064 + 01.21		1065 + 43.44	166.00	8	1,328.00	5.20	863.20	T. R. 377 App. Lt.
1065 + 20.51		1077 + 18.00	1,197.49	8	9,579.92	5.06	6,059.30	MED. Lt. & Rt.
1077 + 18.00		1077 + 93.00	75.00	5.5	412.50	3.40	255.00	MED. Lt. & Rt.
1065 + 74.33		1080 + 43.38 BK.	1,474.05	8	11,792.40	5.20	7,665.06	N. B. Rt.
1065 + 43.44		1080 + 80.84 BK.	1,537.40	8	12,299.20	5.20	7,994.48	S. B. Lt.
1080 + 60.11 Ahd.		1081 + 57.98	97.87	4	391.48	2.53	247.61	N. B. Rt.
1080 + 60.11 Ahd.		1097 + 38.29 BK.	1,678.18	4	6,712.72	2.53	4,245.80	S. B. Lt.
1081 + 57.98		1082 + 91.98	161.00	4	644.00	2.53	407.33	N. CONN. App.
1082 + 91.98		1097 + 38.29 BK.	1,446.31	4	5,785.24	2.53	3,659.16	N. B. Rt.
127 + 71.54 Ahd.		145 + 50.00	1,778.46	4	7,113.84	2.53	4,499.50	N. B. Rt.
127 + 71.54 Ahd.		132 + 19.58	448.04	4	1,792.16	2.53	1,133.54	S. B. Lt.
132 + 19.58		133 + 58.55	167.00	4	668.00	2.53	422.51	S. R. 546 App.
133 + 58.55		145 + 00	1,191.45	4	4,765.80	2.53	3,014.37	S. B. Lt.
TOTALS MAINLINE					628,146.98		400,465.36	
S. E. RAMP								
0 + 00.00		2 + 87.30	287.30	8	2,298.40	5.20	1,493.96	Rt.
2 + 87.30		3 + 87.30	100.00	5.5	550.00	3.74	374.00	Taper
3 + 87.30		11 + 23.65	736.35	6	4,418.10	4.56	3,357.76	Lt. & Rt.
11 + 23.65		11 + 84.55	193.00	3	579.00	2.28	440.04	S. R. 95 App.
TOTALS S. E. RAMP					7,845.50		5,665.76	
S. W. RAMP								
0 + 00.00		2 + 00.00	200.00	5.5	1,100.00	3.74	748.00	Taper
2 + 00.00		2 + 84.00	84.00	3	252.00	2.28	191.52	Lt.
2 + 84.00		10 + 39.68	755.68	6	4,534.08	4.56	3,445.90	Lt. & Rt.
10 + 39.68		11 + 37.09	262.00	3	786.00	2.28	597.36	S. R. 95 App.
TOTALS S. W. RAMP					6,672.08		4,982.78	
N. W. RAMP								
0 + 12.77		0 + 85.74	211.00	3	633.00	2.28	481.08	S. R. 85 App.
0 + 85.74		8 + 09.97	724.33	6	4,345.98	4.56	3,302.94	Lt. & Rt.
8 + 09.97		9 + 09.97	100.00	5.5	550.00	3.74	374.00	Taper
9 + 09.97		11 + 41.89	231.92	8	1,855.36	5.20	1,205.98	Lt.
TOTALS N. W. RAMP					7,384.34		5,364.00	
N. E. RAMP								
0 + 12.25		1 + 13.98	266.00	3	798.00	2.28	606.48	S. R. 95 App.
1 + 13.98		7 + 47	633.02	6	3,798.12	4.56	2,886.57	Lt. & Rt.
7 + 47		8 + 37.36	90.36	3	271.08	2.28	206.02	Rt.
8 + 37.36		10 + 37.36	200.00	5.5	550.00	3.74	748.00	Taper
TOTALS N. E. RAMP					5,417.20		4,447.07	

(Continued)

ITEM B-19 8" AGGREGATE BASE COURSE FOR SHOULDERS (Continued)

STATION	to	STATION	LENGTH	AVG. WIDTH	SQ. FT.	VOL./FT.	CU. FT.	REMARKS
S. R. 95								
44 + 50		49 + 71.52	521.52	8	4,172.16	5.06	2,638.89	Lt. & Rt.
51 + 14.5		52 + 58.24	143.74	8	1,149.92	5.06	727.32	Lt. & Rt.
54 + 93.76		56 + 40.00	146.24	8	1,169.92	5.06	739.97	Lt. & Rt.
57 + 84.65		63 + 50.00	565.35	8	4,522.80	5.06	2,860.67	Lt. & Rt.
TOTALS S. R. 95					11,014.80		6,966.85	

ITEM B-19 AGGREGATE BASE COURSE

STATION	to	STATION	LENGTH	AVG. WIDTH	DEPTH	CU. FT.	REMARKS
COUNTY ROAD 11							
43 + 50.00		48 + 67.46	517.46	21	.417	4,531.40	
48 + 67.46		49 + 43.07	(Planimeter 2,911 Sq. Ft.)		.417	1,213.89	Mainline App.
50 + 56.93		51 + 32.54	(Planimeter 2,788 Sq. Ft.)		.417	1,162.60	Mainline App.
51 + 32.54		55 + 00.00	367.46	21	.417	3,217.85	
TOTAL COUNTY ROAD 11						10,125.74	
TWP. ROAD 377							
46 + 00.00		48 + 77.45	277.45	21	.667	3,886.24	
48 + 77.45		49 + 44.99	(Planimeter 2,391 Sq. Ft.)		.667	1,594.80	Mainline App.
50 + 55.01		51 + 22.55	(Planimeter 2,297 Sq. Ft.)		.667	1,532.10	Mainline App.
51 + 22.55		60 + 30.43	907.88	21	.667	12,716.68	
60 + 30.43		60 + 81.40	(Planimeter 2,074 Sq. Ft.)		.667	1,383.36	S. R. 13 App.
TOTAL TWP. ROAD 377						21,113.18	
S. R. 546							
0 + 12.77		0 + 88.55	(Planimeter 3,625 Sq. Ft.)		.417	1,511.63	Mainline App.
0 + 88.55		4 + 93.68	405.13	25	.417	4,223.48	
4 + 93.68		5 + 93.68	100.00	22	.417	917.40	
TOTAL S. R. 546						6,652.51	
TWP. ROAD 366							
44 + 00		45 + 25	125.00	20.0	1.00	2,500.00	
45 + 25		46 + 00	75.00	19.0	1.00	1,425.00	Taper
51 + 54		52 + 50	(Planimeter 1,326 Sq. Ft.)		1.00	1,326.00	CUL-DE-SAC
TOTAL TWP. ROAD 366						5,251.00	
TWP. ROAD 367							
44 + 25.00		45 + 21.02 BK.	96.02	20.0	1.00	1,920.40	Taper
101 + 41.77 Ahd.		122 + 57.00	2,115.23	20.0	1.00	42,304.60	
122 + 57.00		123 + 11.18	(Planimeter 1,992 Sq. Ft.)		1.00	1,992.00	C. R. 6 App.
51 + 80		52 + 74	(Planimeter 1,326 Sq. Ft.)		1.00	1,326.00	CUL-DE-SAC
TOTAL TWP. ROAD 367						47,543.00	
TWP. ROAD 366 A							
45 + 07.75		45 + 67.75 Bk.	60.00	17.5	1.00	1,050.00	Taper
71 + 46.60 Ahd.		105 + 02.00	3,355.40	20.0	1.00	67,108.00	
105 + 02.00		105 + 61.56	(Planimeter 1,740 Sq. Ft.)		1.00	1,740.00	T. R. 377 App.
51 + 36		52 + 30	(Planimeter 1,326 Sq. Ft.)		1.00	1,326.00	CUL-DE-SAC
TOTAL TWP. ROAD 366 A						71,224.00	
COUNTY ROAD 49							
43 + 00		44 + 98	198	20	1.00	3,960.00	
44 + 98		45 + 52.26	(Planimeter 1,675 Sq. Ft.)		1.00	1,675.00	T. R. 377 App.
51 + 88		52 + 84	(Planimeter 1,326 Sq. Ft.)		1.00	1,326.00	CUL-DE-SAC
TOTAL COUNTY ROAD 49						6,961.00	
TWP. ROAD 377							
45 + 00		45 + 25	25.00	17.5	1.00	437.50	Taper
45 + 25		46 + 00	75.00	20.0	1.00	1,500.00	
TOTAL TWP. ROAD 377						1,937.50	
SUB-TOTAL ITEM B-19						598,697.70	Cu. Ft.
Deduct for Driveways and Mailbox Approaches in Shoulders						1,274.70	
TOTAL ITEM B-19						597,423.00	Cu. Ft.

597,423.00 ÷ 27 = 22,126.78

USE 22,127 CU. YDS.

ITEM T-31 BITUMINOUS SURFACE TREATMENT

BITUMINOUS MATERIAL Rate of Application 0.30 Gal. per S. Y.

TOTAL AREA OF MAINLINE, RAMPS and S. R. 95 SHOULDERS	666,480.90 Sq. Ft.
Deduct for Driveways & Mailbox Approaches	2,549.40
	663,931.50 Sq. Ft.

663,931.50 ÷ 9 x 0.30 = 22,131.05 Gal.

USE 22,132 GAL.

NO. 6 AGGREGATE Rate of Application 0.008 C. Y. per S. Y.

663,931.50 ÷ 9 x 0.30 = 590.16 Cu. Yds.

USE 591 CU. YDS.

Item T-30, Bituminous Prime Coat

T-31 Area Total	663,931.50	S.F.
T.R. 337 T-35 Type A Area	30,342.60	S.F.
T.R. 337 T-35 Type C Area	9,068.00	S.F.
S.R. 546 T-35 Type C Area	15,386.12	S.F.
Total	718,728.22	

Rate of Application 0.40 Gal. per S. Y.

718,728.22 ÷ 9 x 0.40 = 31,943.47

USE 31,944 GAL.

ITEM I-22 SUBBASE

STATION	to	STATION	SQ. FT.	DEPTH	CU. SQ. FT.	REMARKS
MAINLINE			1,317,529.81	0.667	878,792.38	Under T-35
MAINLINE			825.83	0.375	309.67	Under App. Slabs
RAMPS			85,542.92	0.667	57,057.13	Under T-35

STATION	to	STATION	LENGTH	AVG. WIDTH	DEPTH	CU. FT.	REMARKS
SOUTH CONNECTION							
0 - 08		0 + 19	(Planimeter 1,783 Sq. Ft.)		0.50	891.50	Median
0 + 44		1 + 21.22	(Planimeter 3,505 Sq. Ft.)		0.50	1,752.50	Mainline App.
1 + 21.22		4 + 20	298.78	26.0	0.50	3,884.14	
TOTAL SOUTH CONNECTION						6,528.14	
COUNTY ROAD 11							
43 + 50		48 + 67.46	517.46	22	0.333	3,790.91	
48 + 67.46		49 + 43.07	(Planimeter 2,924 Sq. Ft.)		0.333	973.69	Mainline App.
49 + 68.37		50 + 31.63	(Planimeter 9,494 Sq. Ft.)		0.667	6,332.50	Inc. 250' Taper
50 + 56.93		51 + 32.54	(Planimeter 2,742 Sq. Ft.)		0.333	913.09	Mainline App.
51 + 32.54		55 + 00.00	367.46	22	0.333	2,692.01	
TOTAL COUNTY ROAD 11						14,702.20	
S. R. 95							
44 + 50.00		52 + 33.24	783.24	25	0.667	13,060.00	
52 + 33.24		52 + 58.24	50.00	25	0.375	468.75	Under App. Slabs
54 + 93.76		55 + 18.76	50.00	25	0.375	468.75	Under App. Slabs
55 + 18.76		63 + 50.00	831.24	25	0.667	13,860.93	
TOTAL S. R. 95						27,858.43	
COUNTY ROAD 6							
44 + 40.00		47 + 59.04	319.04	22	0.667	4,681.59	
47 + 59.04		48 + 59.04	100.00	24	0.667	1,600.80	
48 + 59.04		49 + 41.27	(Planimeter 2,972 Sq. Ft.)		0.667	1,982.32	
49 + 67.37		50 + 32.63	(Planimeter 9,023 Sq. Ft.)		0.667	6,018.34	
50 + 58.73		51 + 40.96	(Planimeter 3,232 Sq. Ft.)		0.667	2,155.74	
51 + 40.96		52 + 40.96	100.00	24	0.667	1,600.80	
52 + 40.96		55 + 00.00	259.04	22	0.667	3,801.15	
TOTAL COUNTY ROAD 6						21,840.74	
TWP. ROAD 377							
49 + 69.44		50 + 30.56	(Planimeter 8,648 Sq. Ft.)		0.667	5,768.22	Inc. 250' Taper
TOTAL TWP. ROAD 377						5,768.22	
NORTH CONNECTION							
2 + 50.00		8 + 73.69	623.69	26	0.50	8,107.97	
8 + 73.69		9 + 33.69	(Planimeter 2,888 Sq. Ft.)		0.50	1,444.00	Mainline App.
TOTAL NORTH CONNECTION						9,551.97	
S. R. 546							
0 + 12.77		0 + 88.55	(Planimeter 3,587 Sq. Ft.)		0.333	1,194.47	Mainline App.
0 + 88.55		4 + 93.68	405.13	26	0.333	3,507.62	
4 + 93.68		5 + 93.68	100.00	23	0.333	765.90	
TOTAL S. R. 546						5,467.99	
SERVICE ROAD "A"							
849 + 14.00		861 + 33.20	1,219.20	16.0	0.50	9,753.60	
SERVICE ROAD "B"							
0 + 12.00		0 + 32.00	20.00	34.0	0.50	340.00	Taper } 100% State
0 + 32.00		7 + 24.00	692.00	16.0	0.50	5,536.00	
SERVICE ROAD "C"							
0 + 12.00		0 + 32.00	20.00	34.0	0.50	340.00	Taper
0 + 32.00		2 + 10.00	178.00	16.0	0.50	1,424.00	
TOTAL SERVICE ROADS						17,393.60	

I-22 SUBBASE UNDER SHOULDERS LENGTH	VOL./FT.	CU. FT.	REMARKS
51,006.70	4.93	251,463.03	8' SHOULDERS
54,608.66	2.06	112,493.84	4' SHOULDERS
90.00	4.57	411.30	STA 50 + 17 to 51 + 07
50.00	5.82	291.00	STA 924 + 72.85 to 925 + 22.85 RT.
50.00	5.82	291.00	STA 939 + 23.58 to 939 + 73.58 LT.
168.00	9.05	1,520.40	STA 941 + 35 to 943 + 03 RT.
141.50	9.05	1,280.58	STA 921 + 38.0 to 922 + 79.50 LT.
75.00	4.57	342.75	STA 1077 + 18 to 1077 + 93
6,805.12	1.95	13,269.98	3' SHOULDERS
600.00	3.56	2,136.00	RAMP TAPERS 8' to 3'
2,753.70	2.27	6,250.90	S. R. 95
		156.00	UNDER I-21 @ RAMPS
TOTAL ITEM I-22		1,435,178.15	Cu. Ft.

1,435,718.15 ÷ 27 = 53,174.75

USE 53,175 CU. YDS.

218 Cu. Yds. @ 100% State
52,957 Cu. Yds. @ Project Participation

Rev. 12/13/05 C.E.H.

CALCULATIONS

EXCAVATION, EMBANKMENT AND SEEDING

STATION	to STATION	ITEM E-1 Roadway Excavation Method "B" Cu. Yds.	Embankment Cu. Yds.	Embankment Plus 20% Cu. Yds.	ITEM L-9 Seeding and Protecting as Per Plan Sq. Yds.
MAINLINE					
45 + 49.49	50 + 00	836	479	575	2,684
50 + 00	59 + 18.49 BK.	1,383	28,370	34,044	14,310
838 + 00 Ahd.	840 + 00	379	10,169	12,203	4,089
840 + 00	850 + 00	2,043	14,421	17,305	15,553
850 + 00	860 + 00	11,044	4,337	5,204	19,937
860 + 00	870 + 00	3,786	14,680	17,616	18,278
870 + 00	880 + 00	22,812	810	972	16,120
880 + 00	890 + 00	65,509	0	0	18,279
890 + 00	900 + 00	109,577	166	199	19,822
900 + 00	910 + 00	21,006	219	263	13,518
910 + 00	920 + 00	32,132	16,112	19,334	17,093
920 + 00	930 + 00	40,338	2,567	3,080	24,289
930 + 00	940 + 00	16,544	1,407	1,688	22,470
940 + 00	950 + 00	16,532	25,064	30,077	15,879
950 + 00	960 + 00	46	61,183	73,420	16,081
960 + 00	970 + 00	21,409	6,285	7,542	14,455
970 + 00	980 + 00	3,576	47,010	56,412	18,633
980 + 00	990 + 00	831	68,705	82,446	18,439
990 + 00	1000 + 00	1,776	25,762	30,914	16,124
1000 + 00	1010 + 00	3,263	13,714	16,457	17,204
1010 + 00	1020 + 00	2,476	12,904	15,485	16,388
1020 + 00	1030 + 00	7,613	8,084	9,701	14,562
1030 + 00	1040 + 00	32,938	2,961	3,553	15,934
1040 + 00	1050 + 00	24,401	5,409	6,491	16,443
1050 + 00	1060 + 00	34,202	49	59	17,552
1060 + 00	1070 + 00	49,268	6	7	15,257
1070 + 00	1080 + 00	7,820	532	638	11,767
1080 + 00	1090 + 00	1,615	12,323	14,788	9,500
1090 + 00	1097 + 38.29 BK	4,369	4,845	5,814	6,717
127 + 71.54 Ahd.	130 + 00	1,354	1,941	2,329	2,124
130 + 00	140 + 00	8,215	33,057	39,668	10,710
140 + 00	147 + 60.67	3,299	4,995	5,946	5,621
TOTAL MAINLINE		552,372	428,526	514,231	465,862
SOUTH END CONNECTION					
0 + 72	4 + 20	26	369	443	1,743
COUNTY ROAD 11					
43 + 50	55 + 00	7,782	246	295	5,686
S. E. RAMP					
5 + 70	11 + 32	16,784	2,856	3,427	12,137
S. W. RAMP					
4 + 81	10 + 82	565	9,473	11,368	6,331
N. W. RAMP					
0 + 52	6 + 20	0	15,824	18,989	5,469
N. E. RAMP					
0 + 62	6 + 00	821	10,161	12,193	6,338
S. R. 95					
44 + 50	63 + 50	4,445	32,185	38,622	16,579
T. R. 367					
44 + 25	123 + 00	4,664	6,651	7,981	15,897
COUNTY ROAD 6					
44 + 40	55 + 00	916	5,479	6,563	6,734
T. R. 366 A					
45 + 07.75	105 + 74.04	16,607	3,870	4,644	21,115
COUNTY ROAD 49					
43 + 00	45 + 64.59	1,613	0	0	1,875
T. R. 377					
45 + 00	60 + 81.40	10,180	198	238	8,369
NORTH END CONNECTION					
2 + 50	9 + 00	273	742	890	3,266
S. R. 546					
0 + 00	62 + 00	899	5,305	6,366	2,868
SUBTOTALS		617,947	421,875	626,250	580,269
DRIVEWAYS (Sheet No.)		49	168	202	611
TOTALS		617,996	522,043	626,452	580,880

ITEM E-1 COMPACTED SUBGRADE

Under Item T-35	176,869.81	Sq. Yds.
Under Item I-7	825.83	Sq. Yds.
TOTAL ITEM E-1	177,695.64	Sq. Yds.

USE 177,696 SQ. YDS.

ITEM E-4 GRANULAR BORROW (AS PER PLAN)

STATION	STATION	CU. YDS.	PLUS 20%
947 + 00	958 + 00	56,186	67,423

USE 67,423 CU. YDS.

ITEM E-11 WATER

Embankment plus 20%	626,452	Cu. Yds.
I-22	52,548	Cu. Yds.
B-19	22,076	Cu. Yds.
TOTAL	701,076	Cu. Yds.

701,076 x 5 ÷ 1000 = 3,505.38 M-Gals.

USE 3,506 M-GALS.

ITEM SS.CE-101.04- COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER

Under T-35 (MAINLINE)	146,392.20	Sq. Yds.
Under T-35 (RAMPS)	9,504.77	Sq. Yds.
Under Approach Slabs (MAINLINE)	559.17	Sq. Yds.
Under T-35 (INTERSECTIONS)	3,363.11	Sq. Yds.
TOTAL ITEM SPECIAL	159,819.25	Sq. Yds.

159,819.25 ÷ 2000 Yds./Hr. = 79.91 Hrs.

USE 80 HOURS

ITEM SPECIAL - FURNISHING AND APPLYING CALCIUM CHLORIDE

Rate of Application 1 lb. Per S. Y.

TOTALS TWP. ROADS 366, 367, 366 A and COUNTY ROAD 49 132,916.50 Sq. Ft.

132,916.50 x 1.00/2000 ÷ 9 = 7.38 Tons

USE 8 TONS

ITEM L-9 SEEDING AND PROTECTING, AS PER PLAN

Tabulation from E-11 (Roadway Excavation)	580,880	Sq. Yds.
Deduct L-10 Sodding (Sheet No. 10)	6,944	Sq. Yds.
Deduct I-14 Paved Gutter (Sheet No. 11) 192' x 4' ÷ 9 =	85	Sq. Yds.
TOTAL ITEM L-9	573,851	SQ. YDS.

ITEM L-9 COMMERCIAL FERTILIZER (12-12-12)

Tabulation from L-9 Seeding	573,851	Sq. Yds.
Tabulation from L-10 Sodding	6,944	Sq. Yds.
TOTAL ITEM L-9	580,795	SQ. YDS.

580,795 x 9 x 20/1000 ÷ 2000 = 52.27 TONS

ITEM L-9 AGRICULTURAL LIMING MATERIALS

Tabulation from L-9 Seeding	573,851	Sq. Yds.
Tabulation from L-10 Sodding	6,944	Sq. Yds.
TOTAL ITEM L-9	580,795	SQ. YDS.

580,795 x 9 x 100/1000 ÷ 2000 = 261.36 TONS

ITEM I-7 REINFORCED CONCRETE APPROACH SLABS (T=13")

STATION	STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
949 + 98.75	950 + 23.75	25.00	24.00	600.00	Mainline Lt.
949 + 98.75	950 + 23.75	25.00	31.41	785.00	Mainline Rt.
950 + 90.25	951 + 15.25	25.00	24.00	600.00	Mainline Lt.
950 + 90.25	951 + 15.25	25.00	25.89	647.25	
992 + 96.75	993 + 21.75	25.00	48.00	1200.00	Mainline Lt. & Rt.
995 + 08.25	995 + 33.25	25.00	48.00	1200.00	Mainline Lt. & Rt.
52 + 33.24	52 + 58.28	25.00	48.00	1200.00	S. R. 95
54 + 93.76	55 + 18.76	25.00	48.00	1200.00	S. R. 95
TOTAL ITEM I-7				7,432.50	

7,432.50 ÷ 9 = 825.83 Sq. Yds.

USE 826 SQ. YDS.

ITEM I-8 CENTERLINE REFERENCE MONUMENTS

For Locations, See Sheet Nos. 247, 248, 249

USE 40 MONUMENTS

ITEM I-8 STANDARD MONUMENT ASSEMBLIES

For Locations, See Sheet Nos. 247, 248, 249

USE 15 MONUMENT ASSEMBLIES

ITEM I-12 CONCRETE CURB, TYPE 6

STATION	to STATION	LIN. FT.	REMARKS
2 + 87.30	3 + 87.30	100.00	S. E. RAMP
923 + 72.85	924 + 72.85	100.00	MAINLINE RT.
8 + 09.97	9 + 09.97	100.00	N. W. RAMP
939 + 73.58	940 + 73.58	100.00	MAINLINE LT.
		400.00	

USE 400 LIN. FT.

ITEM I-12 CONCRETE CURB, TYPE 7

STATION	to STATION	LIN. FT.	REMARKS
1 + 41	2 + 85	144.00	S. W. RAMP
7 + 32.36	8 + 69.36	137.00	N. E. RAMP
		281.00	

USE 281 LIN. FT.

ITEM I-12 CONCRETE CURB, TYPE 8

STATION	to STATION	LIN. FT.	REMARKS
0 + 00	1 + 41	141.00	S. W. RAMP
8 + 69.36	10 + 37.36	168.00	N. E. RAMP
		309.00	

USE 309 LIN. FT.

ITEM I-21 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT

STATION	to STATION	LENGTH	AVG. WIDTH	SQ. FT.	REMARKS
923 + 72.85	924 + 72.85	100	7	700	MAINLINE Rt.
939 + 73.58	940 + 73.58	100	7	700	MAINLINE Lt.
TOTAL ITEM I-21				1400	

1400 ÷ 9 = 155.56 Sq. Yds.

USE 156 SQ. YDS.

ITEM I-23 PRECAST WHITE PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS

STATION	to STATION	EACH
49 + 23	51 + 07	22
1077 + 18	1077 + 93	11
TOTAL I-23		33

ITEM I-4 DUST CONTROL

2040 C. Y. x 1 Ton/50 C. Y. = 40.8 Tons

USE 41 TONS

ITEM I-25 WOVEN WIRE FENCE, TYPE 39

STATION	to STATION	LIN. FT.	REMARKS
49 + 38	53 + 88	496	LT.
54 + 12	850 + 00	1,724	LT.
832 + 85 (F)	892 + 50	6,020	RT.
860 + 60	861 + 90	130	LT.
862 + 20	891 + 65	2,894	LT.
896 + 96	917 + 32	1,946	LT.
897 + 74	932 + 52	3,305	RT.
917 + 69	931 + 45	1,454	LT.
48 + 00	49 + 93	193	RT. S. R. 95
48 + 00	50 + 02	209	LT. S. R. 95
58 + 32	61 + 00	268	LT. S. R. 95
932 + 98	950 + 00	1,795	LT.
933 + 63	950 + 90	1,754	RT.
950 + 16	966 + 44	1,670	LT.
951 + 14	979 + 40	2,198	RT.
973 + 00	980 + 43	743	LT.
995 + 15	1034 + 50	3,935	LT.
995 + 00	1033 + 66	3,866	RT.
1033 + 88	1044 + 60	1,072	RT.
1044 + 80	1064 + 15	1,935	RT.
1065 + 70	1081 + 83	1,572	RT.
1075 + 75	1084 + 72	1,960	LT.
TOTAL ITEM I-25		41,139	

GRADING ANALYSIS

	CU. YDS. Embankment Plus 20%	CU. YDS. Excavation
Roadway	626,452	617,996
Channel Excavation	0	15,248
TOTALS	626,452	633,244

Z	OHIO	F-527(11)	

KNO.-13-15.93

AFFECTED UTILITY COMPANIES

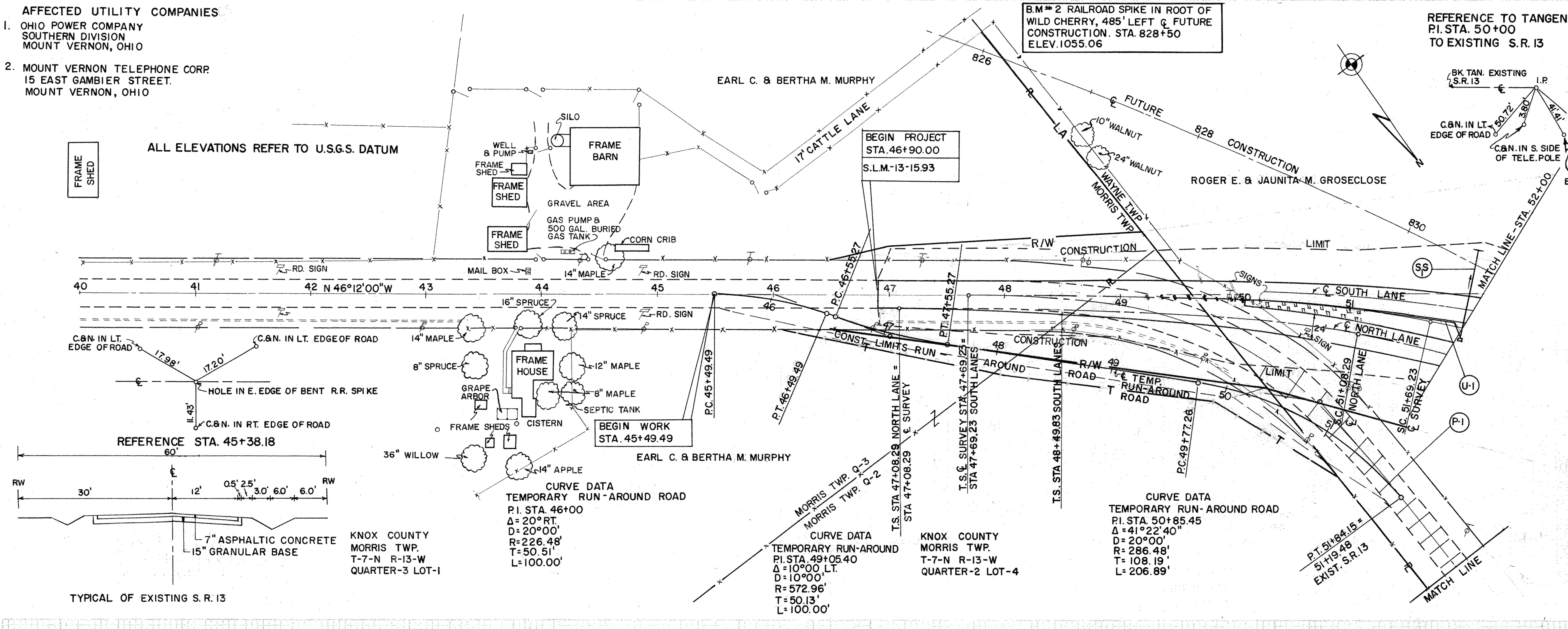
1. OHIO POWER COMPANY
   SOUTHERN DIVISION
   MOUNT VERNON, OHIO
2. MOUNT VERNON TELEPHONE CORP.
   15 EAST GAMBIER STREET.
   MOUNT VERNON, OHIO

ALL ELEVATIONS REFER TO U.S.G.S. DATUM

B.M.#2 RAILROAD SPIKE IN ROOT OF WILD CHERRY, 485' LEFT ℄ FUTURE CONSTRUCTION. STA. 828+50 ELEV. 1055.06

REFERENCE TO TANGENT
P.I. STA. 50+00
TO EXISTING S.R. 13

FOR DETAIL OF TRANSITION SECTION SEE SHEET No. 16


FRAME SHED
EARL C. & BERTHA M. MURPHY
17' CATTLE LANE
SILO
WELL & PUMP
FRAME SHED
FRAME BARN
GRAVEL AREA
GAS PUMP & 500 GAL. BURIED GAS TANK
CORN CRIB
MAIL BOX
14" MAPLE
RD. SIGN
40
41
42 N 46°12'00"W
43
44
45
46
47
48
16" SPRUCE
14" SPRUCE
14" MAPLE
8" SPRUCE
FRAME HOUSE
12" MAPLE
8" MAPLE
GRAPE ARBOR
SEPTIC TANK
CISTERN
FRAME SHEDS
36" WILLOW
14" APPLE
C.&N. IN LT. EDGE OF ROAD
C.&N. IN LT. EDGE OF ROAD
17.98'
17.20'
HOLE IN E. EDGE OF BENT R.R. SPIKE
11.43'
C.&N. IN RT. EDGE OF ROAD
REFERENCE STA. 45+38.18
60'
RW
30'
12'
0.5' 2.5'
3.0' 6.0' 6.0'
7" ASPHALTIC CONCRETE
15" GRANULAR BASE
TYPICAL OF EXISTING S.R. 13
BEGIN PROJECT STA. 46+90.00
S.L.M.-13-15.93
BEGIN WORK STA. 45+49.49
P.C. 45+49.49
P.T. 46+49.49
P.C. 46+55.27
P.T. 47+55.27
EARL C. & BERTHA M. MURPHY
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 46+00
Δ= 20° RT.
D= 20°00'
R= 226.48'
T= 50.51'
L= 100.00'
KNOX COUNTY
MORRIS TWP.
T-7-N R-13-W
QUARTER-3 LOT-1
MORRIS TWP. Q-3
MORRIS TWP. Q-2
CURVE DATA
TEMPORARY RUN-AROUND
P.I. STA. 49+05.40
Δ= 10°00 LT.
D= 10°00'
R= 572.96'
T= 50.13'
L= 100.00'
T.S. STA 47+08.29 NORTH LANE = STA 47+08.29 ℄ SURVEY
T.S. ℄ SURVEY STA. 47+69.23 = STA 47+69.23 SOUTH LANES
T.S. STA 48+49.83 SOUTH LANES
KNOX COUNTY
MORRIS TWP.
T-7-N R-13-W
QUARTER-2 LOT-4
CONST. LIMITS RUN-AROUND ROAD
CONSTRUCTION R/W
℄ TEMP. RUN-AROUND ROAD
LIMIT
P.C. 49+77.26
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 50+85.45
Δ= 41°22'40"
D= 20°00'
R= 286.48'
T= 108.19'
L= 206.89'
826
℄ FUTURE 828 CONSTRUCTION
830
10" WALNUT
24" WALNUT
WAYNE TWP.
MORRIS TWP.
ROGER E. & JAUNITA M. GROSECLOSE
R/W CONSTRUCTION LIMIT
SS
℄ SOUTH LANE
℄ NORTH LANE
SIGNS
SIGN
P.C. 51+08.29
S.C. 51+69.23 ℄ SURVEY
U-1
P-1
P.T. 51+84.15 = 51+19.48 EXIST. S.R. 13
MATCH LINE
MATCH LINE-STA. 52+00
BK. TAN. EXISTING S.R. 13
I.P.
C.&N. IN LT. EDGE OF ROAD
50.72'
3.80'
41.41'
C.&N. IN S. SIDE OF TELE. POLE
C.&N. IN LT. EDGE OF ROAD
FWD. TAN. EXISTING S.R. 13

STORM SEWER

	℄ STATION	I-8 STD. No. 2-2A CATCH BASIN	I-1 12" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	52+00	1	74	0.23	56

PAVEMENT REMOVAL

	E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT SQ YDS.	SEE HATCHED AREA
P-1	632	

UNDERDRAIN

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 45° BEND EACH
U-1	51+10	52+00	LT.:RT	80	10	1


1054.00
1054.20
1054.26
1054.35
1054.46
1054.60
1054.76
1054.95
1055.16
1055.40
1056.40
1057.40
1058.40
1058.90
ELEVATION FOR ℄ CONSTRUCTION STATIONS
P.I. STA. 48+00 1054.40
200' V.C.
+1.00%
1060
1055
1050
GRATE ELEV. 1057.00
F.L. 1054.00 ℄
F.L. 1052.20 LT.
1' RT. END 6" I-1 F.L. 1055.20
2' LT. 6" 45° BEND F.L. 1055.00
3' RT. OUTLET 6" I-1 F.L. 1054.80
1052.8
1053.0
1053.2
1053.5
1053.7
1053.9
1053.9
1054.0
1054.1
1054.2
1054.4
1054.5
1054.7
1055.4
1055.6
1052.8
1052.7
1052.8
1052.6
1053.3
40
41
42
43
44
45
46
47
48
49
50
51
52

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

16
275

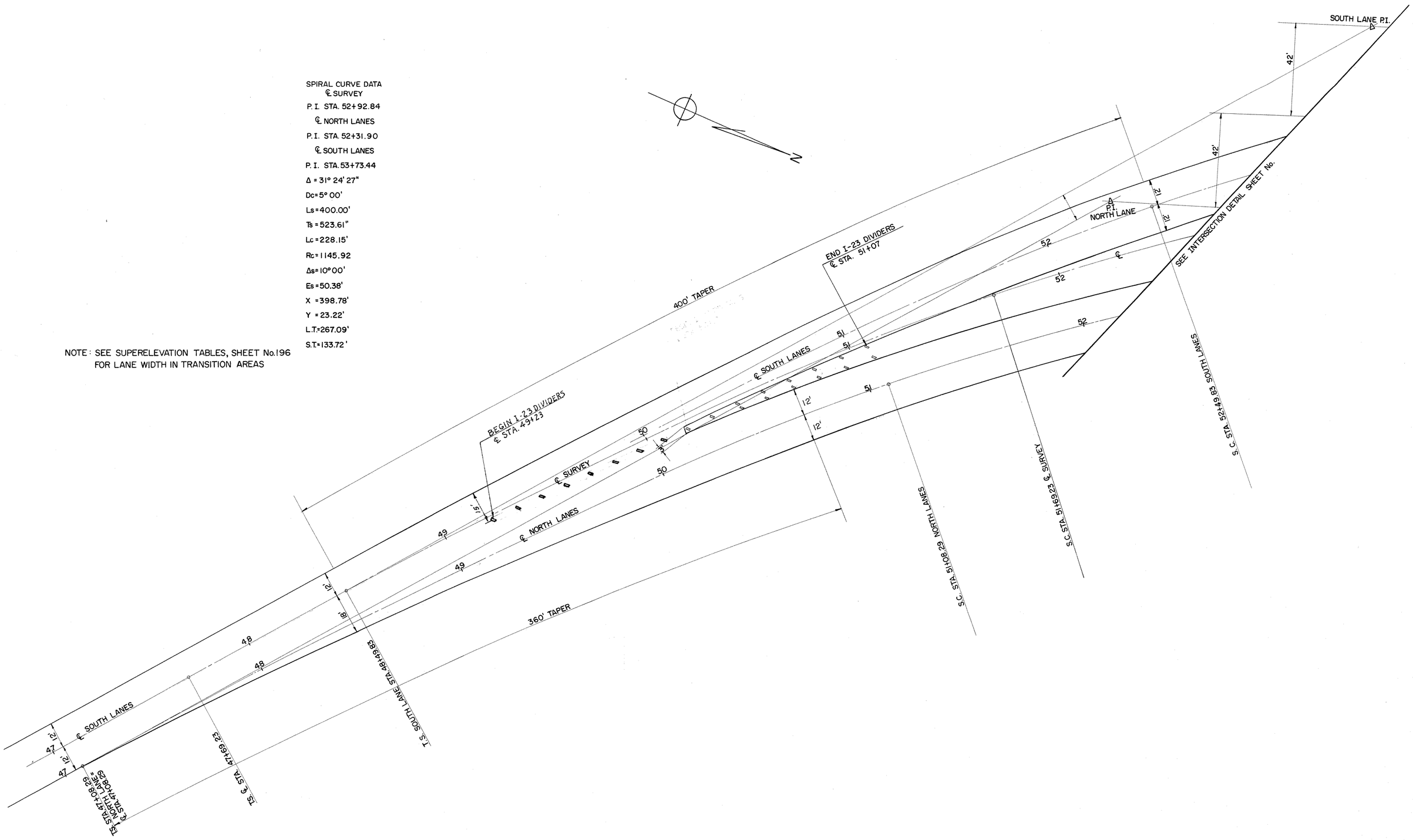
KNO-13-15.93

SOUTH END TRANSITION

SCALE: 0 20 40

SPIRAL CURVE DATA
℄ SURVEY
P.I. STA. 52+92.84
℄ NORTH LANES
P.I. STA. 52+31.90
℄ SOUTH LANES
P.I. STA. 53+73.44
Δ = 31° 24' 27"
Dc = 5° 00'
Ls = 400.00'
Ts = 523.61'
Lc = 228.15'
Rc = 1145.92
Δs = 10° 00'
Es = 50.38'
X = 398.78'
Y = 23.22'
L.T. = 267.09'
S.T. = 133.72'

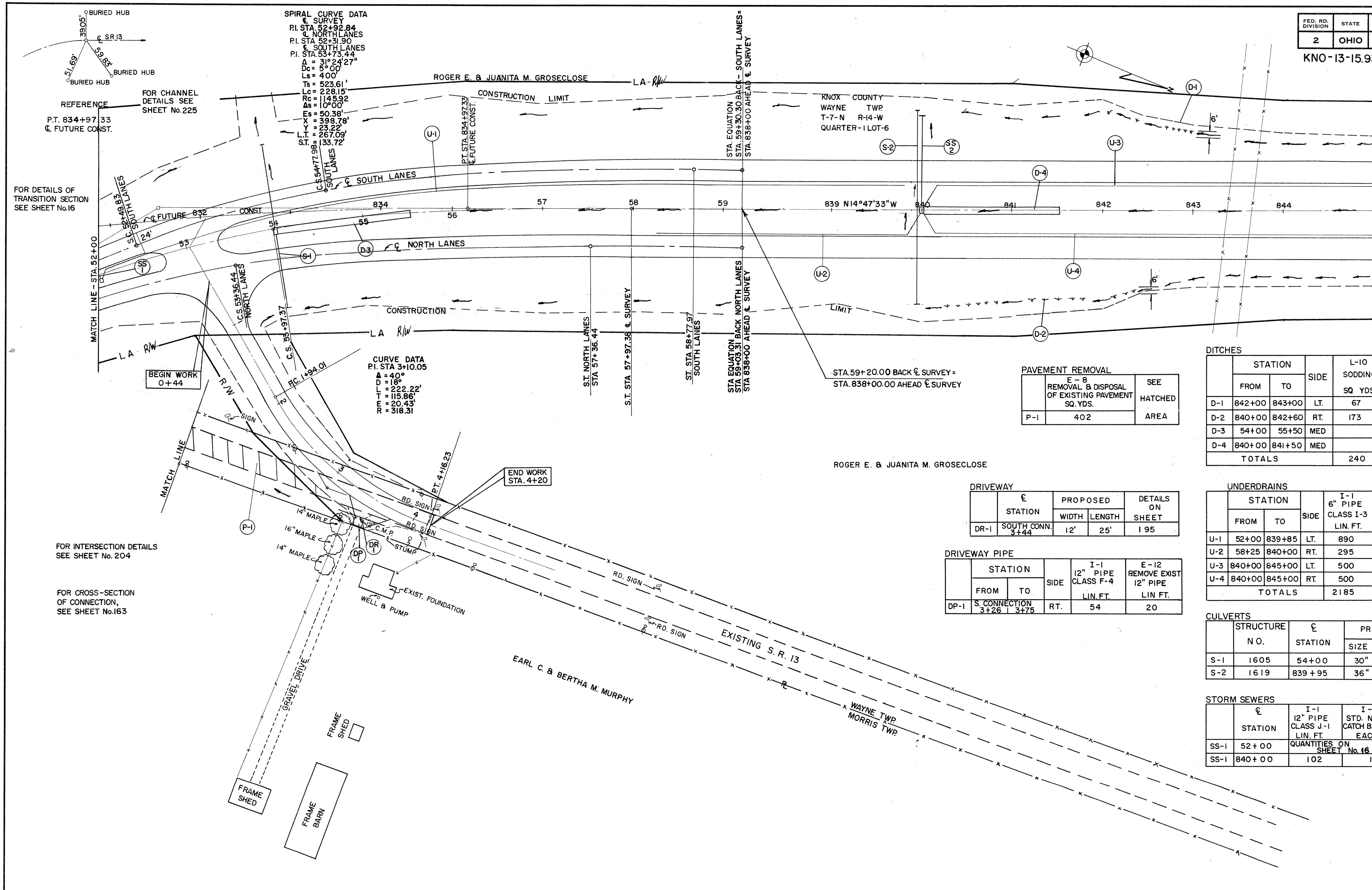
NOTE: SEE SUPERELEVATION TABLES, SHEET No. 196 FOR LANE WIDTH IN TRANSITION AREAS



DETAILS SOUTH END TRANSITION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93


BURIED HUB
39.05'
℄ SR 13
59.83'
51.69'
BURIED HUB
BURIED HUB
REFERENCE
P.T. 834+97.33
℄ FUTURE CONST.
FOR CHANNEL DETAILS SEE SHEET No. 225
SPIRAL CURVE DATA
℄ SURVEY
P.I. STA. 52+92.84
℄ NORTH LANES
P.I. STA 52+31.90
℄ SOUTH LANES
P.I. STA. 53+73.44
Δ = 31°24'27"
Dc = 5°00'
Ls = 400'
Ts = 523.61'
Lc = 228.15'
Rc = 1145.92
Δs = 10°00'
Es = 50.38'
X = 398.78'
Y = 23.22'
L.T. = 267.09'
S.T. = 133.72'
ROGER E. & JUANITA M. GROSECLOSE
LA-R/W
CONSTRUCTION LIMIT
KNOX COUNTY
WAYNE TWP.
T-7-N R-14-W
QUARTER-1 LOT-6
FOR DETAILS OF TRANSITION SECTION SEE SHEET No.16
MATCH LINE-STA. 52+00
MATCH LINE STA. 845+00
℄ SOUTH LANES
℄ FUTURE 832 CONST.
℄ NORTH LANES
839 N14°47'33"W
STA. EQUATION STA. 59+30.30 BACK-SOUTH LANES= STA. 838+00 AHEAD ℄ SURVEY
STA. EQUATION STA. 59+03.31 BACK NORTH LANES STA 838+00 AHEAD ℄ SURVEY
STA.59+20.00 BACK ℄ SURVEY = STA. 838+00.00 AHEAD ℄ SURVEY
P.T. STA. 834+97.33 ℄ FUTURE CONST.
C.S. 54+77.98 SOUTH LANES
S.C. 52+49.83 SOUTH LANES
C.S. 53+36.44 NORTH LANES
C.S. 55+97.37
S.T. NORTH LANES STA 57+36.44
S.T. STA 57+97.38 ℄ SURVEY
S.T. STA 58+77.97 SOUTH LANES
CURVE DATA
P.I. STA 3+10.05
Δ = 40°
D = 18°
L = 222.22'
T = 115.86'
E = 20.43'
R = 318.31
P.C. 1+94.01
P.T. 4+16.23
BEGIN WORK 0+44
END WORK STA. 4+20
MATCH LINE
FOR INTERSECTION DETAILS SEE SHEET No. 204
FOR CROSS-SECTION OF CONNECTION, SEE SHEET No.163
14" MAPLE
16" MAPLE
14" MAPLE
12" C.M.P.
STUMP
EXIST. FOUNDATION
WELL & PUMP
GRAVEL DRIVE
RD. SIGN
EXISTING S.R. 13
EARL C. & BERTHA M. MURPHY
WAYNE TWP.
MORRIS TWP.
FRAME SHED
FRAME SHED
FRAME BARN
ROGER E. & JUANITA M. GROSECLOSE

B.M. 3-Railroad Spike in top of 24" Stump
364' rt. of centerline Sta. 55+20
Elev. 1055.37

PAVEMENT REMOVAL

	E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT SQ. YDS.	SEE HATCHED AREA
P-1	402	AREA

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ YDS.	L-120 JUTE MATTING SQ YDS.
D-1	842+00	843+00	LT.	67	
D-2	840+00	842+60	RT.	173	
D-3	54+00	55+50	MED		125
D-4	840+00	841+50	MED		125
TOTALS				240	250

DRIVEWAY

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	SOUTH CONN. 3+44	12'	25'	195

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND LIN. FT.
U-1	52+00	839+85	LT.	890	10	1
U-2	58+25	840+00	RT.	295	10	1
U-3	840+00	845+00	LT.	500	10	1
U-4	840+00	845+00	RT.	500	10	1
TOTALS				2185	40	4

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	I-1 12" PIPE CLASS F-4 LIN. FT.	E-12 REMOVE EXIST 12" PIPE LIN FT.
DP-1	S. CONNECTION 3+26	3+75	RT.	54	20

CULVERTS

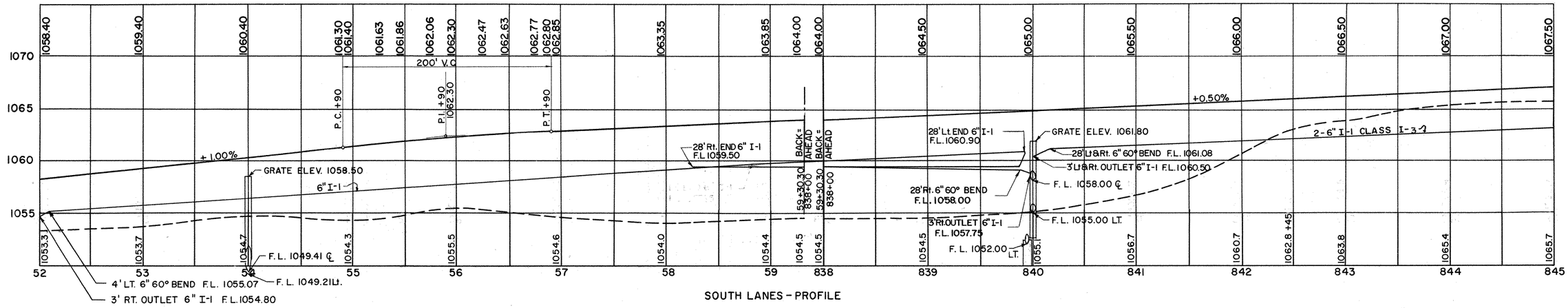
	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1	1605	54+00	30"	184'	208
S-2	1619	839+95	36"	214'	209

STORM SEWERS

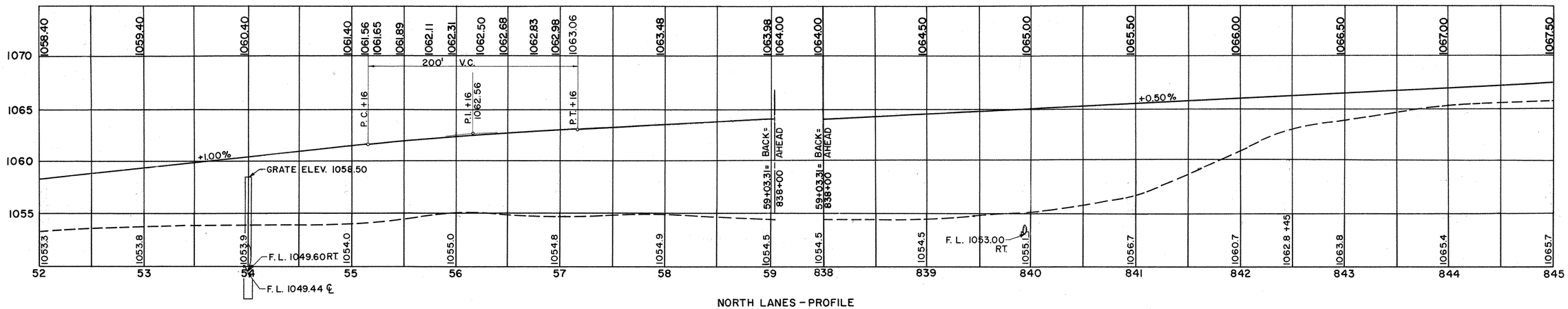
	℄ STATION	I-1 12" PIPE CLASS J-1 LIN. FT.	I-8 STD. No. 4 CATCH BASIN EACH	DETAILS ON SHEET
SS-1	52+00	QUANTITIES ON SHEET No. 16		56
SS-1	840+00	102	1	59

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

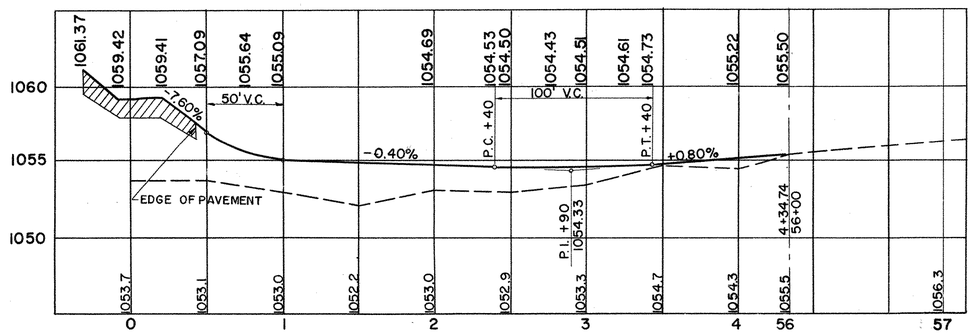
KNO-13-15.93



SOUTH LANES - PROFILE



NORTH LANES - PROFILE



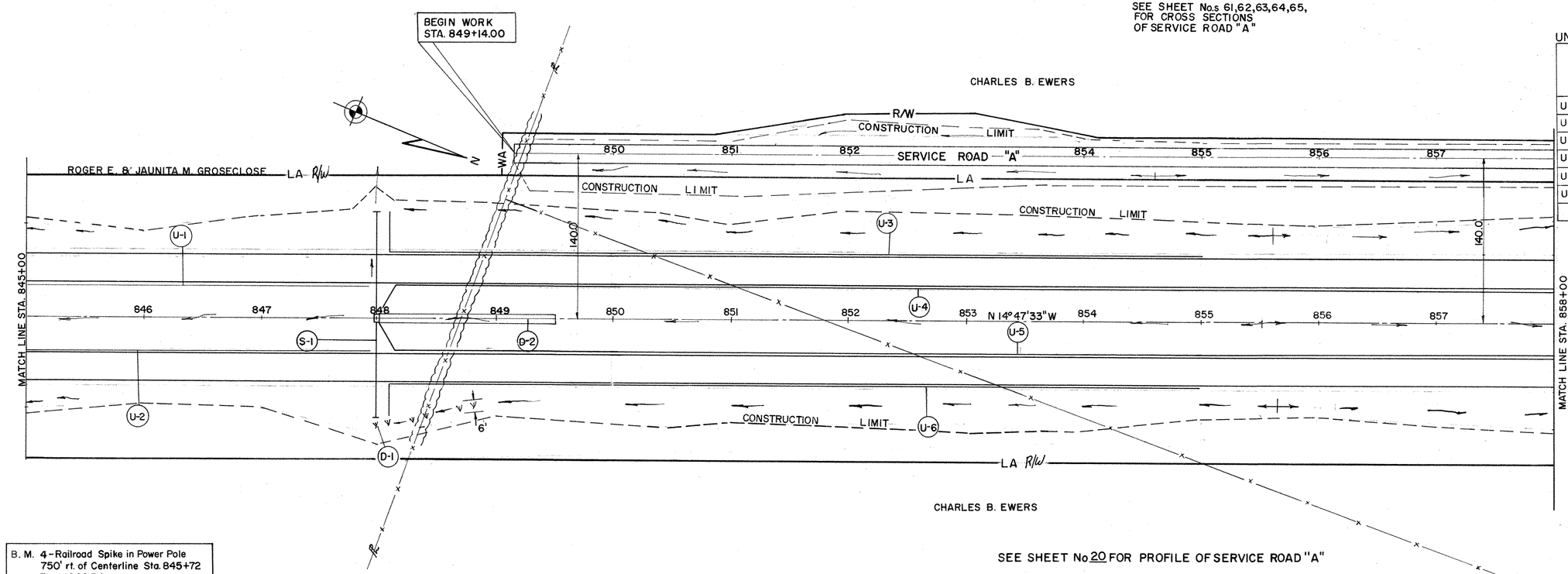
SOUTH END CONNECTION - PROFILE

PROFILE STA. 52+00 TO STA. 845+00
PROFILE EXIST. SR. 13 CONNECTION

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

19
275

SEE SHEET Nos 61,62,63,64,65,
FOR CROSS SECTIONS
OF SERVICE ROAD "A"



SEE SHEET No 20 FOR PROFILE OF SERVICE ROAD "A"

B. M. 4 – Railroad Spike in Power Pole
750' rt. of Centerline Sta. 845+72
Elev. 1062.34

UNDERDRAINS KNO-13-15.93

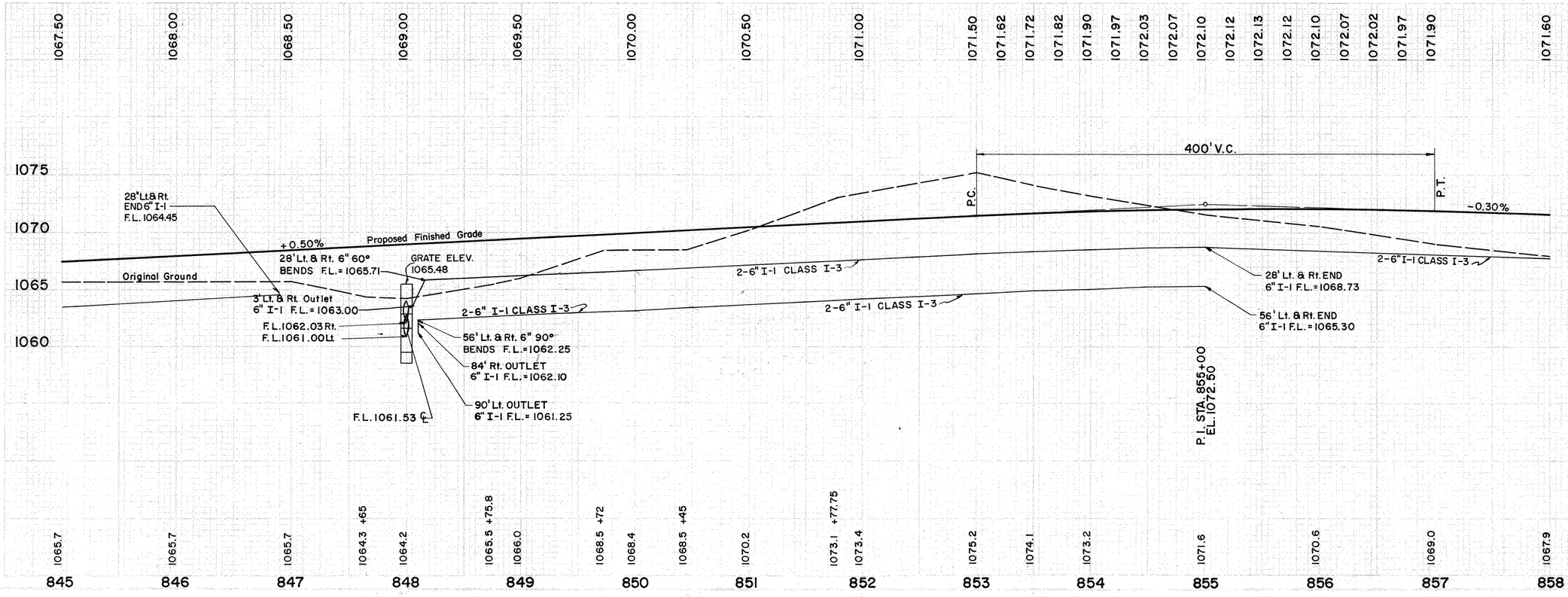
	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-64(c) LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH	I-5 6" SPECIAL CLASS I-3 90° BEND EACH
U-1	845+00	847+90	LT.	290				
U-2	845+00	847+90	RT.	290				
U-3	848+10	855+00	LT.	713		10		1
U-4	848+00	858+00	LT.	1000	10		1	
U-5	848+00	858+00	RT.	1000	10		1	
U-6	848+10	855+00	RT.	707		10		1
TOTAL				4000	20	20	4	

CULVERT

	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1	1634	848+00	24"	170'	210

DITCHES

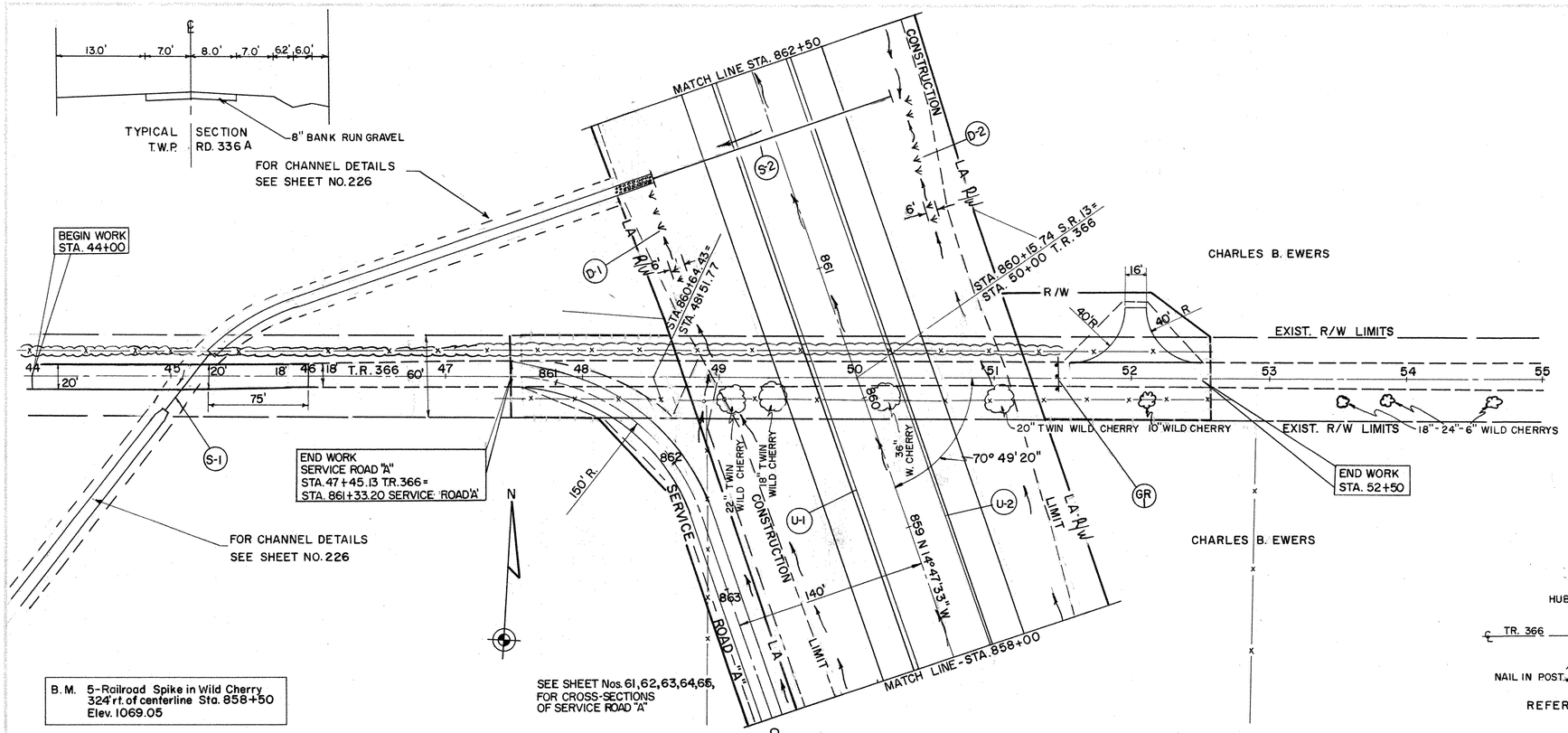
	STATION FROM	STATION TO	SIDE	L-110 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	848+00	848+80	RT.	53	
D-2	848+00	849+50	MED.		125
TOTALS				53	125



PLAN-PROFILE SHEET STA. 845+00 TO STA. 858+00

FED. AID PROJECT	STATE	PROJECT		20
2	OHIO	F-527(11)		275

KNO-13-15.93



B.M. 5-Railroad Spike in Wild Cherry
324' rt. of centerline Sta. 858+50
Elev. 1069.05

SEE SHEET Nos. 61, 62, 63, 64, 65, FOR CROSS-SECTIONS OF SERVICE ROAD "A"

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.
D-1	861+00	862+00	LT.	67
D-2	861+00	862+00	RT.	67
TOTALS				134

CULVERTS

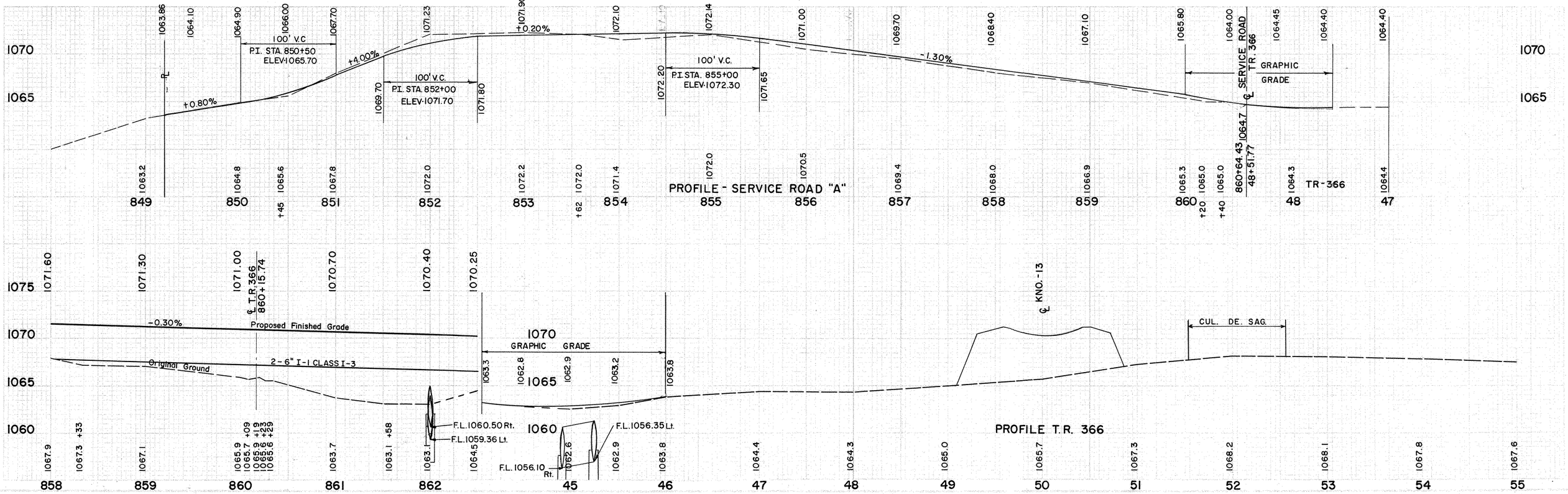
	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1		T.R. 366 45+16.53	54"	56'	211
S-2	1660	862+00	54"	186'	212

GUARD RAIL

	℄ STATION	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	T.R. 366 51+47	LT. RT.	25

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.
U-1	858+00	862+50	Lt.	450
U-2	858+00	862+50	Rt.	450
TOTALS				900

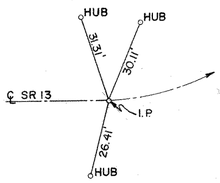


PLAN-PROFILE SHEET STA. 858+00 TO STA. 862+00

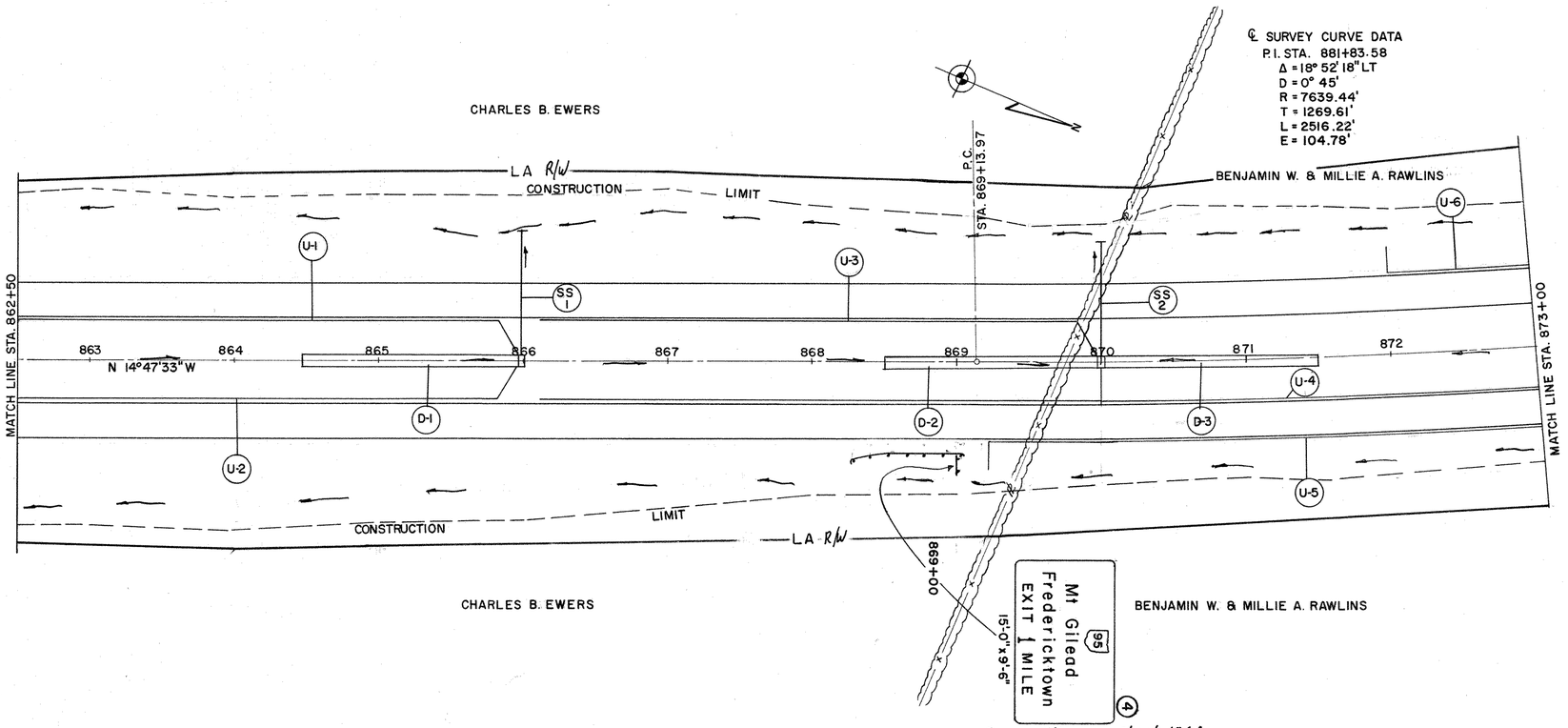
STA. NO.	COUNTY	PROJECT	
2	KNOX	F-527(11)	

21
275

KNO-13-15.93



REFERENCE
P.C. STA. 869+13.97



For quantities see Sheet 194A

UNDERDRAINS

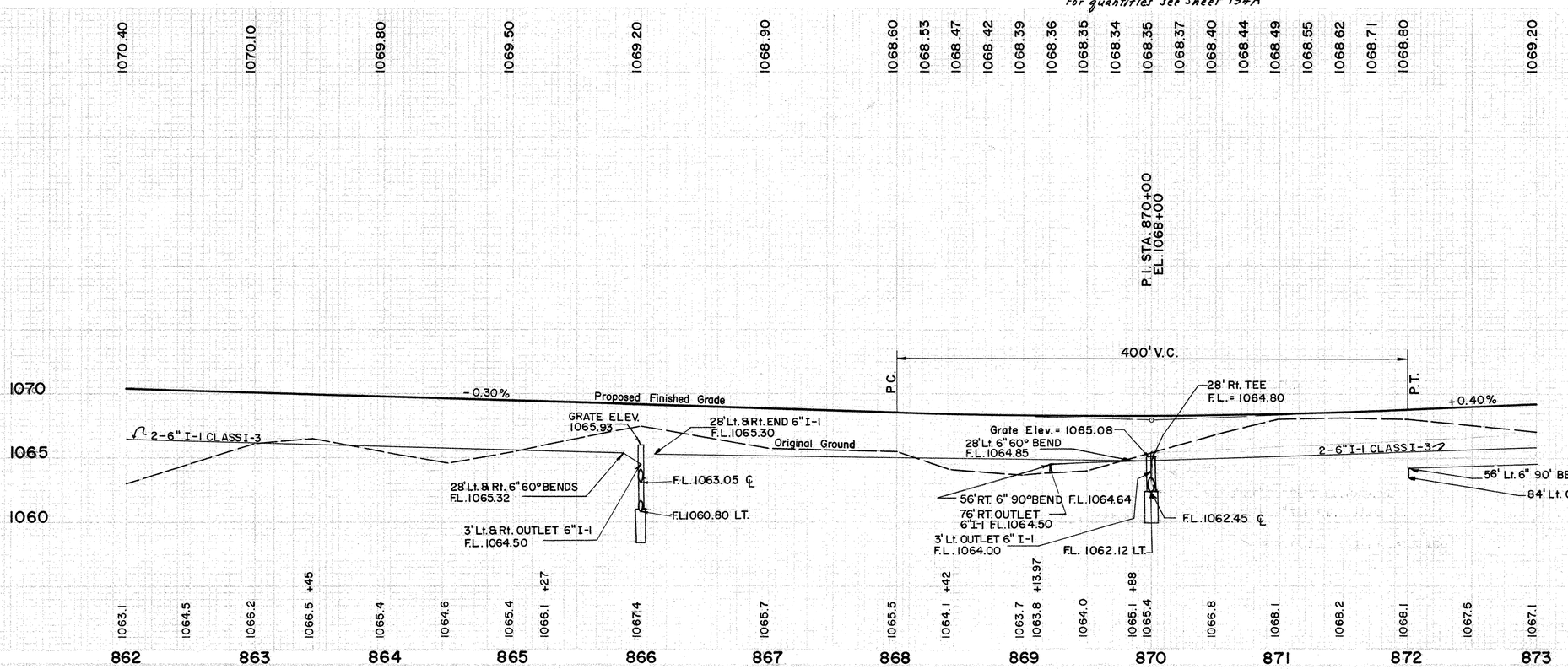
	STATIONS FROM	STATIONS TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. Ft.	I-1 8" PIPE CLASS F-4 SEC. M-64(c) LIN. Ft.	I-1 6" PIPE CLASS F-4 LIN. Ft.	I-5 6" SPECIALS CLASS I-3 60° BEND EACH	90° BEND EACH	TEE EACH
U-1	862+50	866+00	Lt.	350		10	1		
U-2	862+50	866+00	Rt.	350		10	1		
U-3	866+10	870+00	Rt.	390		10	1		
U-4	866+10	873+00	Rt.	708		10			1
U-5	869+20	873+00	Lt.	330	10			1	
U-6	872+00	873+00	Lt.	117	10			1	
TOTALS				2245	20	40	6		

DITCHES

	STATIONS FROM	STATIONS TO	SIDE	L-120 JUTE MATTING SQ. YDS.
D-1	864+50	866+00	MED.	125
D-2	868+50	870+00	MED.	125
D-3	870+00	871+50	MED.	125
TOTALS				375

STORM SEWERS

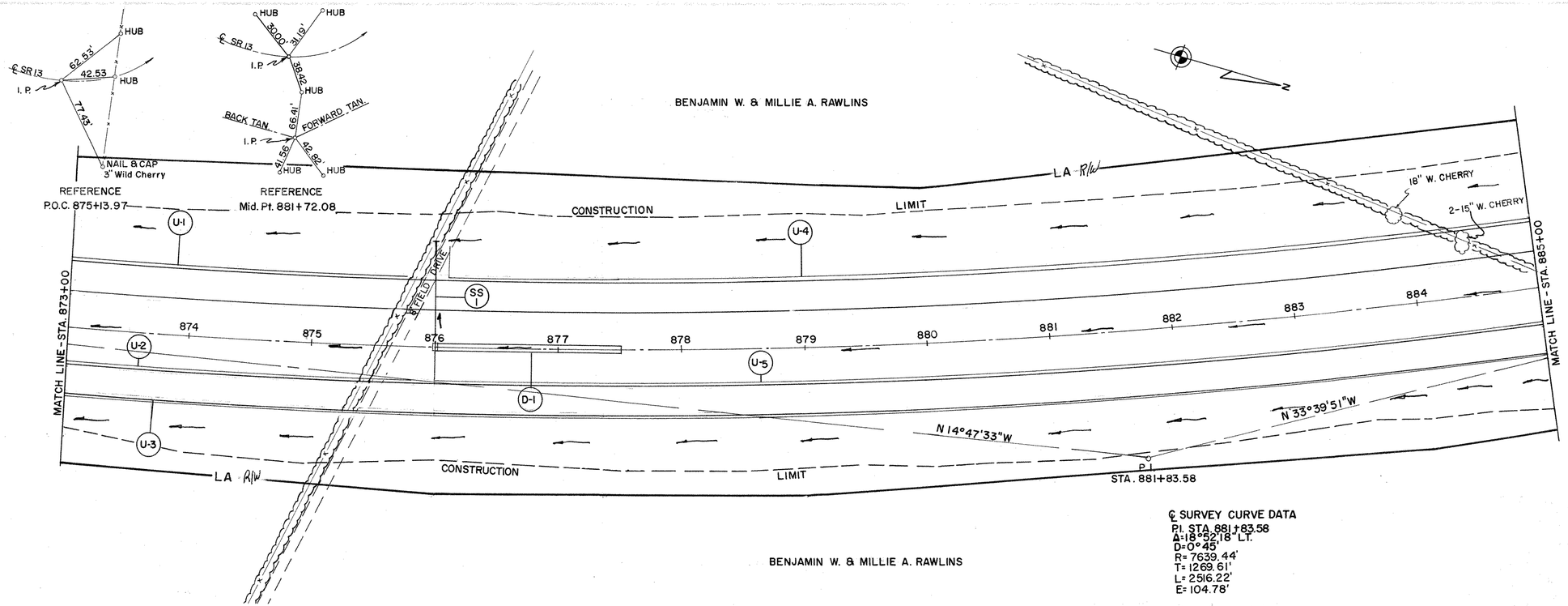
	℄ STATION	I-8 STD. No. 4 CATCH BASIN EACH	I-1 12" PIPE CLASS J-1 LIN. Ft.	I-1 15" PIPE CLASS J-1 LIN. Ft.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	866+00	1	92		0.23	66
SS-2	870+00	1		82	0.26	68
TOTALS		2	92	82	0.49	



PLAN-PROFILE SHEET STA. 862+00 TO STA. 873+00

FED. ROAD DIVISION	STATE	PROJECT		
5	OHIO	F-527(11)		

KNO-13-15.93



B.M. 6-Railroad Spike in 18" Wild Cherry Stump
249' rt. of centerline Sta. 874+35
Elevation 1070.75

℄ SURVEY CURVE DATA
P.I. STA. 881+83.58
Δ=18°52'18" LT.
D=0°45'
R= 7639.44'
T= 1269.61'
L= 2516.22'
E= 104.78'

STORM SEWER

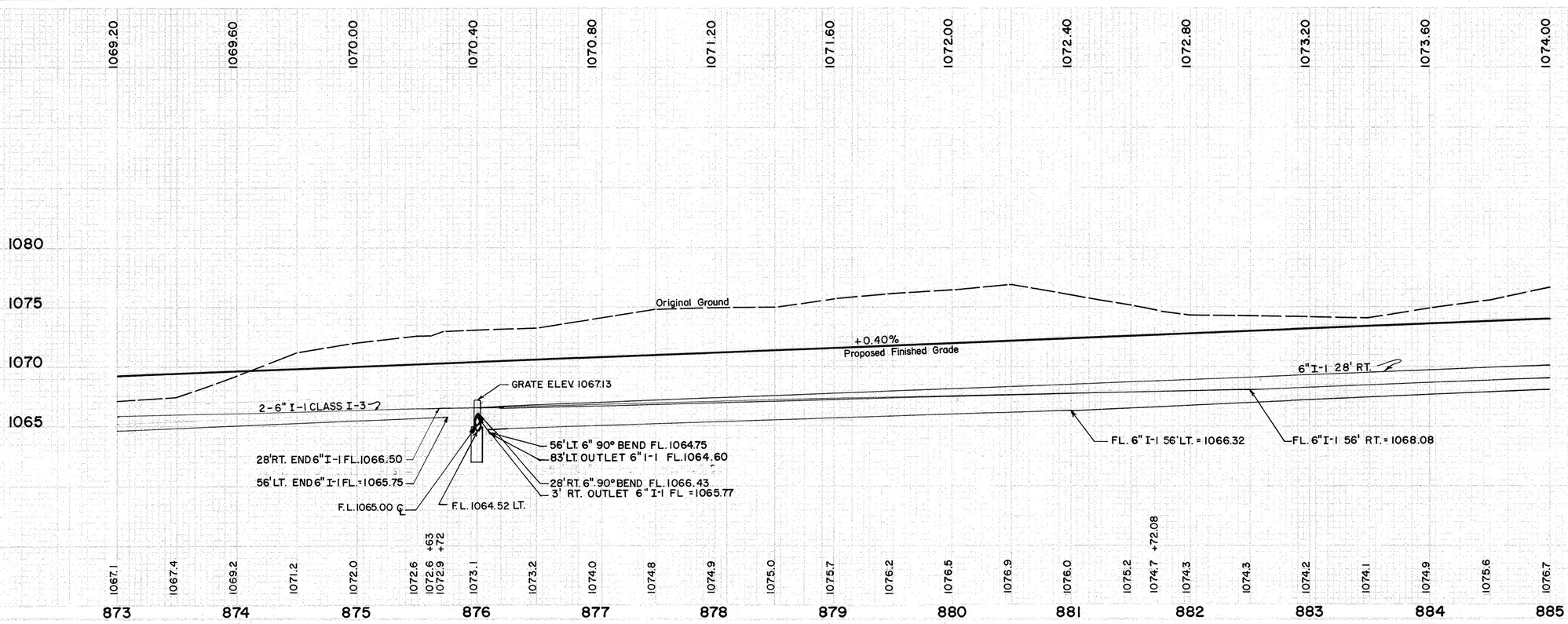
	℄ STATION	I-8 STD. No. 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAIL ON SHEET
SS-1	876+00	1	80	0.26	71

DITCHES

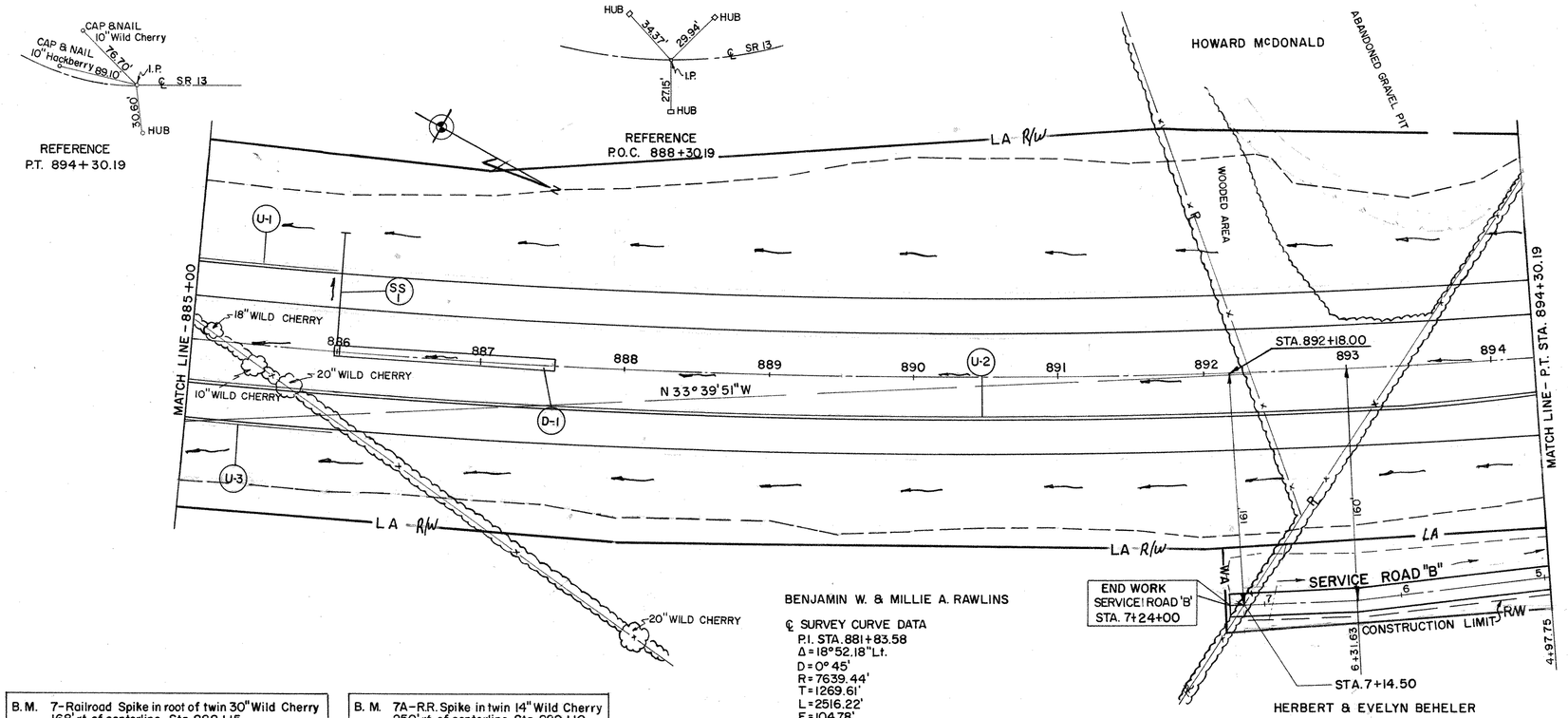
	STATION FROM	STATION TO	SIDE	L-120 JUTE MATTING SQ. YDS
D-1	876+00	887+50	MED.	125

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-1 8" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIALS CLASS I-3 90° BEND EACH
U-1	873+00	875+75	LT.	275			
U-2	873+00	875+75	RT.	275			
U-3	873+00	885+00	RT.	1200			
U-4	876+10	885+00	LT.	906		10	1
U-5	876+00	885+00	RT.	918	10		1
	TOTALS			3574	10	10	2



PLAN-PROFILE SHEET STA. 873+00 TO STA. 885+00



B. M. 7-Railroad Spike in root of twin 30" Wild Cherry 168' rt. of centerline Sta. 888+15 Elev. 1087.50

B. M. 7A-R.R. Spike in twin 14" Wild Cherry 250' rt. of centerline Sta. 889+10 Elev. 1086.81

UNDERDRAINS

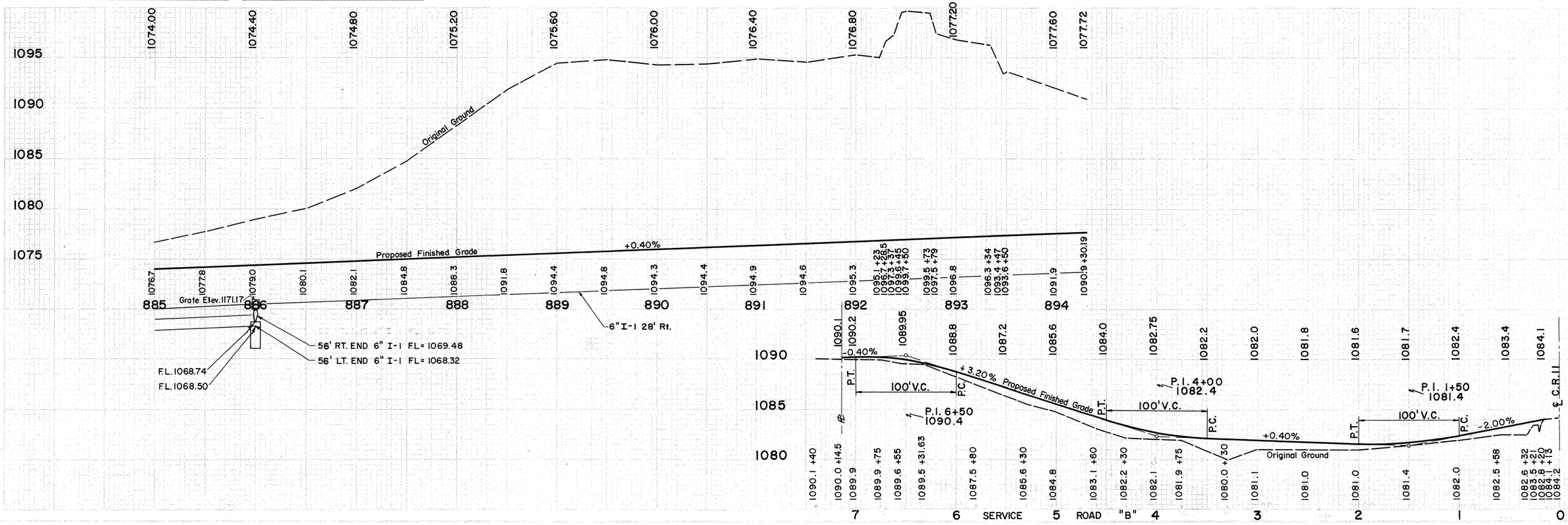
	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.
U-1	885+00	886+00	LT.	100
U-2	885+00	894+30	RT.	930
U-3	885+00	886+00	RT.	100
TOTALS				1130

DITCHES

	STATION FROM	STATION TO	SIDE	L-120 JUTE MATTING SQ. YDS.
D-1	886+00	887+50	MED.	125

STORM SEWER

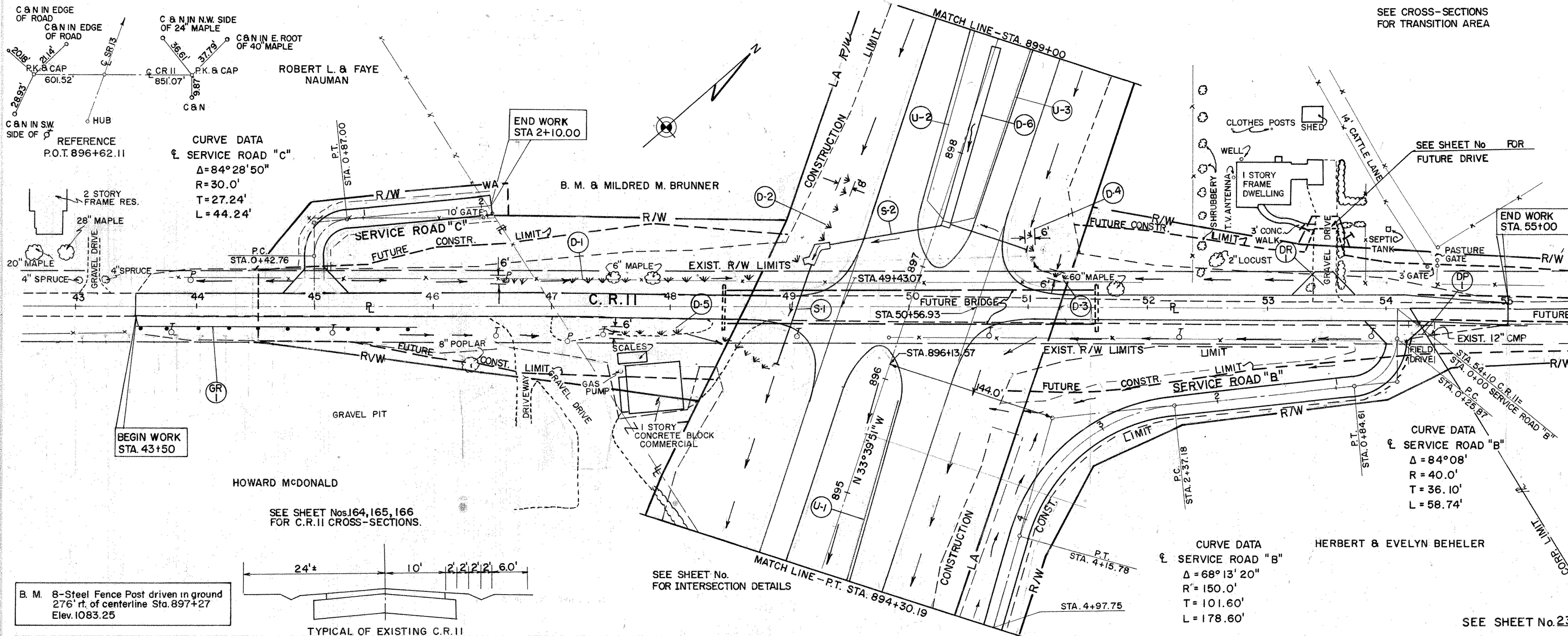
	℄ STATION	I-8 STD. No. 4 CATCH BASIN EACH	I-1 18" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	886+00	1	80	0.30	76



PLAN-PROFILE SHEET STA. 885+00 TO STA. 894+30.19
PLAN-PROFILE SHEET SERVICE ROAD "B"

F-527(II)

KNO-13-15.93



CULVERTS

	STRUCTURE No.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1		C.R.11 49+06	30"	88'	213
S-2	1726	897+40	30"	172'	213

PIPE REMOVAL

	STATION FROM	STATION TO	SIDE	E-12 REMOVAL OF 12" PIPE LIN. FT.
DP-1	C.R.11 54+14	C.R.11 54+44	RT.	30

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	C.R.11 43+50	C.R.11 45+87.5	RT.	237.5

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS
D-1	C.R.11 46+50	C.R.11 49+18	LT.	179	
D-2	896+88	897+50	LT.	55	
D-3	C.R.11 51+00	C.R.11 51+30	LT.	20	
D-4	897+40	897+50	RT.	7	
D-5	C.R.11 47+50	C.R.11 48+90	RT.	93	
D-6	897+40	898+90	MED.		125
TOTALS				354	125

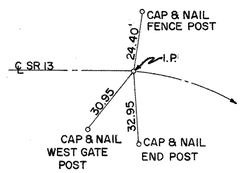
DRIVEWAY

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	C.R.11 53+48	12'	20'	195

SEE SHEET No. 23 FOR PROFILE OF SERVICE ROAD "B"

UNDERDRAINS

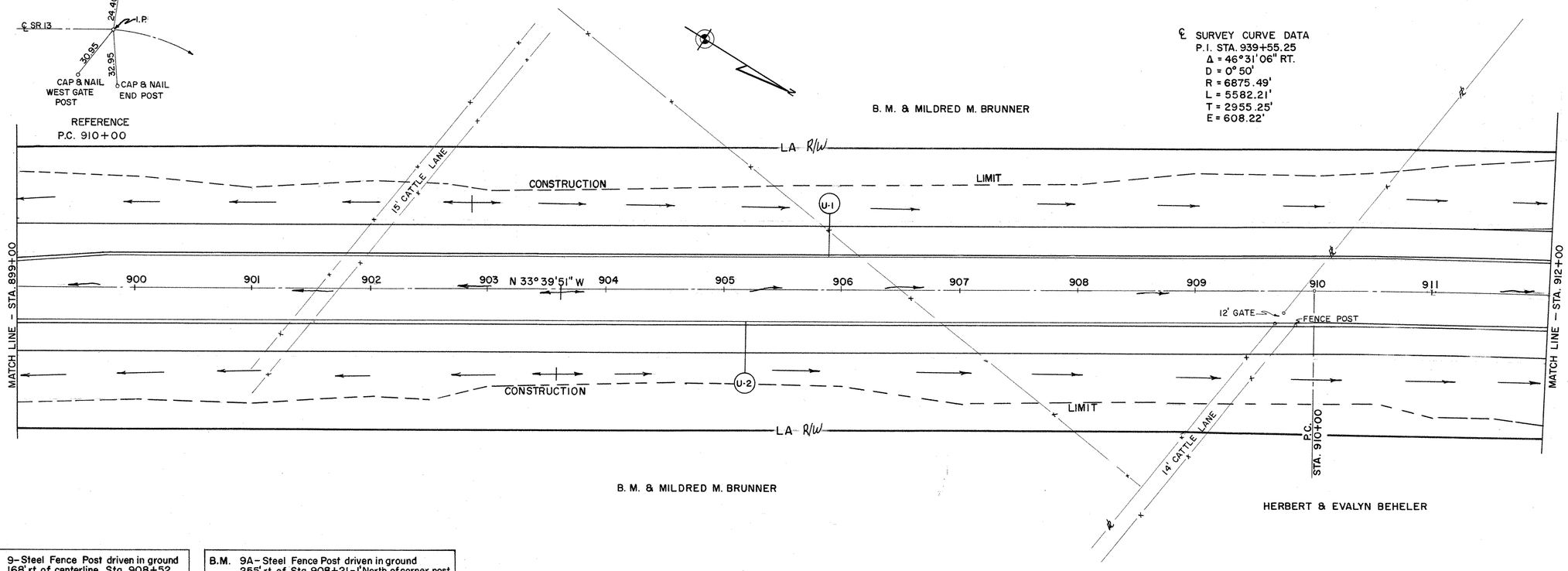
	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIALS CLASS I-3 60° BENDS EACH
U-1	894+30	895+90	RT.	160		
U-2	897+40	899+00	LT.	160	10	1
U-3	897+40	899+00	RT.	160	10	1
TOTALS				480	20	2



REFERENCE
P.C. 910+00

℄ SURVEY CURVE DATA
P.I. STA. 939+55.25
Δ = 46°31'06" RT.
D = 0°50'
R = 6875.49'
L = 5582.21'
T = 2955.25'
E = 608.22'

B. M. & MILDRED M. BRUNNER



B. M. & MILDRED M. BRUNNER

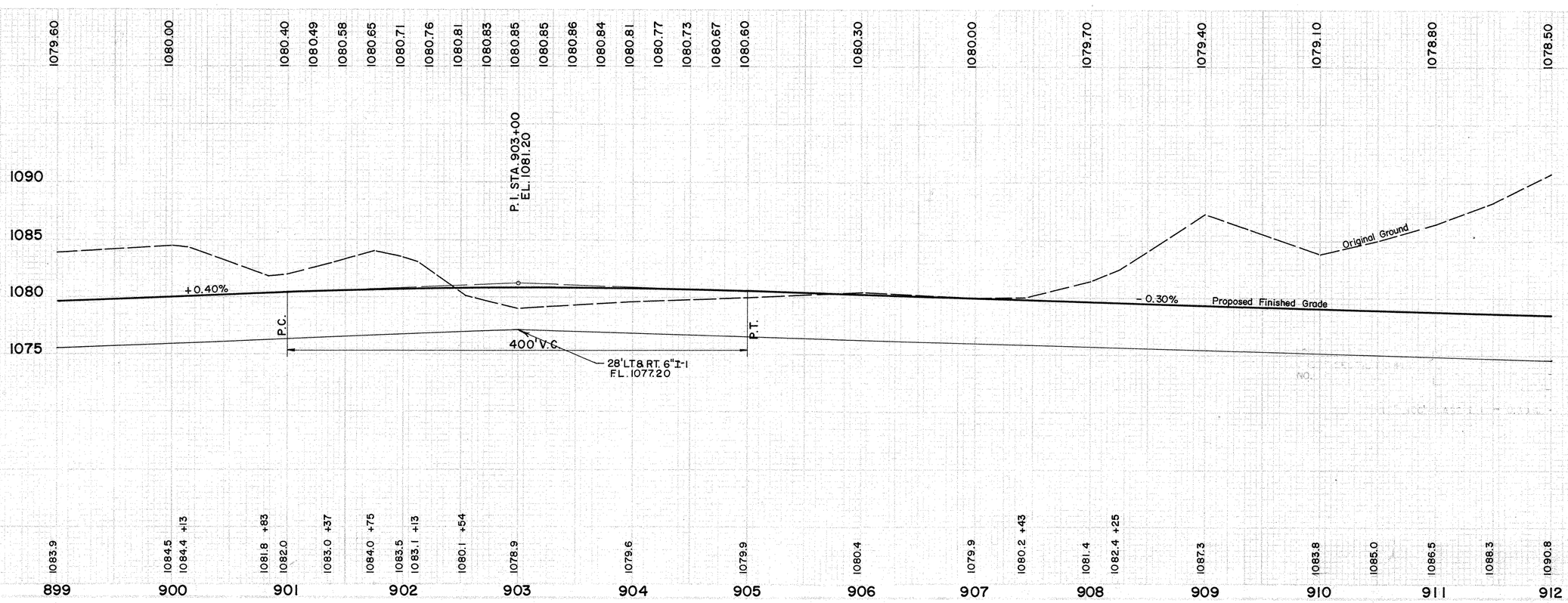
HERBERT & EVALYN BEHELER

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	T-1 6" PIPE CLASS I-3 LIN. FT.
U-1	899+00	912+00	LT.	1300
U-2	899+00	912+00	RT.	1300
TOTAL				2600

B. M. 9- Steel Fence Post driven in ground 168' rt. of centerline Sta. 908+52 Elev. 1082.17

B.M. 9A- Steel Fence Post driven in ground 255' rt. of Sta. 908+21-1' North of corner post Elev. 1079.79



PLAN-PROFILE SHEET STA. 899+00 TO STA. 912+00

KNO - 13 - 15.93

CAP & NAIL 4" ELM
CAP & NAIL 6" WILD CHERRY
13.79'
22.02'
30.80'
CAP & NAIL 8" TWIN BUCKEYE
℄ SR 13
I.P
REFERENCE
P.O.C. 920+00

FOR CHANNEL DETAILS SEE SHEET NO. 227

F. A. & VESTA M. BOLLINGER

WOODED AREA

CURVE DATA
S. W. RAMP
P. I. = STA. 1+55.34
Δ = 9° 18' LT.
D = 3° 00'
R = 1909.86'
L = 310.00'
T = 155.34'

P.T. STA. 3+10

STA. 921+38.00 = P.C. S.W. RAMP STA. 0+00

S.R. 95 RAMP

CONSTRUCTION

LA. R/W

LIMIT

CORP. LIMIT

MATCH LINE – STA. 912+00

MATCH LINE – STA. 925+00

HERBERT & EVALYN BEHELER

SEE SHEET No. 188, 189 FOR DETAILS OF ACCELERATION AND DECELERATION LANES

VILLAGE OF FREDERICKTOWN

JACK V. & BEVERLY L. FEARN

STA. 920+80.00 = S.E. RAMP STA. 0+00 P.C.

CURVE DATA
S. E. RAMP
P. I. = STA. 3+44.77
Δ = 27° 04' RT.
D = 4° 00'
R = 1432.39'
L = 676.67'
T = 344.77'

℄ SURVEY CURVE DATA
P.I. STA. 939+55.25
Δ = 46° 31' 06" RT.
D = 0° 50'
R = 6875.49'
L = 5582.21'
T = 2955.25'
E = 608.22'

Mt Gilead
Fredericktown
95

For quantities See Sheet 194A

B. M. 10–Railroad Spike in Twin 14" Oak 252' left of centerline Sta. 916+00 Elev. 1073.61

B. M. 11–Railroad Spike in 12" Ash 183' rt. of centerline Sta. 923+63 Elev. 1085.37

B. M. 11A–R.R. Spike in 14" Dead Elm 258' rt. of centerline Sta. 924+85 Elev. 1089.72

1078.50 1078.20 1077.90 1077.83 1077.77 1077.72 1077.69 1077.66 1077.64 1077.64 1077.65 1077.67 1077.69 1077.74 1077.79 1077.85 1077.92 1078.01 1078.10 1078.50 1078.90 1079.30 1079.70 1080.10 1080.50

1090
1085
1080
1075
1070

400' V.C.
P.C.
P.T.
-0.30%
+0.40%
Proposed Finished Grade
Original Ground
1080.90

GRATE ELEV. 1074.50
GRATE ELEV. 1074.48
F.L. 1072.50
115'X100' CLASS E-1
F.L. 1071.50 ℄
F.L. 1071.29 LT.
F.L. 1069.85 RT.
F.L. 1068.95 LT.
28' LT. 6" 60° BEND F.L.= 1073.39
3' LT. OUTLET 6" I-1 F.L.= 1072.80
P.I. STA. 916+00 EL. 1077.30
28' LT. 60° BEND F.L.= 1073.39
3' LT. OUTLET 6" I-1 F.L.= 1072.80
56' LT. 90° BEND FL 1076.05 OUTLET 62' LT. FL 1076.00
6" I-1 2' RT. S.E. RAMP
SEE SHEET No
68' RT. 6" 90° BEND F.L. 1072.80
98' RT. OUTLET 6" I-1 F.L. 1072.50
56' RT. 6" 90° BEND FL 1074.26
62' RT. OUTLET 6" I-1 F.L. 1074.00

1090.8 1091.5 +28 1090.2 1087.2 1085.5 1080.6 1078.4 +20 1077.5 1075.5 1074.1 1072.8 1071.6 1070.6 1070.0 1070.3 1071.7 1071.8 1072.5 1073.6 1074.3 +35 1075.4 1076.1 +77 1076.9 1078.8 1080.0 1080.0 1080.4 1081.2 1083.5 1084.7 1085.4

912 913 914 915 916 917 918 919 920 921 922 923 924 925

PLAN-PROFILE SHEET STA 912+00 TO STA 925+00

UNDERDRAINS

	STATION FROM	TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS J-1 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-6.4(c) LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS J-1 90° BEND EACH	I-5 6" SPECIAL CLASS J-3 90° BEND EACH	I-5 6" SPECIAL CLASS J-4 90° BEND EACH
U-1	912+00	916+00	LT.	400			10		1	
U-2	916+00	925+00	LT.	900			10		1	
U-3	921+50	925+00	LT.	350		8			1	
U-4	923+75	925+00	RT.	25	100	8		1		
U-5	920+00	4+20 S.E. RAMP	RT.	510	100	10	20		1	4
	TOTALS			2185	100	26	20	1		4

STORM SEWER

	STATION FROM	TO	SIDE	I-8 STD. NO. 4 CATCH BASIN EACH	I-8 STD. NO. 6 CATCH BASIN EACH	I-1 12" PIPE CLASS J-1 LIN. FT	I-1 15" PIPE CLASS E-1 LIN. FT	I-1 18" PIPE CLASS J-1 LIN. FT	I-2 MASONRY CU. YDS	DETAILS ON SHEET
SS-1	915+00	916+00	℄-LT.	1			100			89–90
SS-2	916+00	916+00	℄-LT.	1				106	0.30	90
SS-3	2+87	S.E. RAMP	RT.		1	82			0.23	167 93
SS-4	921+00	921+50	LT.		1	32			0.23	92
	TOTAL			2	2	114	100	106	0.76	

CULVERT

STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S–1	1765	917+50	76"x48"	196' 214

DITCHES

	STATION FROM	TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D–1	914+80	917+50	LT.	180	
D–2	923+00	925+00	LT.	100	
D–3	913+50	915+00	MED.		125
D–4	916+00	917+50	MED.		125
	TOTALS			280	250

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15-93

KNOX COUNTY
WAYNE TWP.
T-7-N R-14-W
QUARTER-1 LOT-10
U.S.M.R.

KNOX COUNTY
WAYNE TWP.
T-7-N R-14-W
QUARTER-1 LOT-10
U.S.M.R.
REFERENCE
P.I. 939+55.25
REFERENCE
P.I. 47+19.46
REFERENCE
P.O.T. 41+20.60
Hub
Back Tan. Curve No.4
Forward Tan. Curve No.4
Cap & Nail in W. Side of ℄
Cap & Nail in edge of road
Cap & Nail in side of ℄
R/W Mon.
Cap & Nail
S.R.-95 Curve Data
P.I. 47+19.46
Δ = 11°30'30"
D = 4°46'
R = 1202.01
L = 241.43'
T = 121.12'
E = 6.09'
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 47+19.46
Δ = 35° LT.
D = 25°
T = 72.26'
L = 140.00'
R = 229.18'
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. 48+35.00
Δ = 18°00' RT.
D = 20°
T = 45.37'
L = 90.00'
R = 286.48'
Mainline Curve Data
P.I. Sta. 939+55.25
Δ = 46°31'06"
D = 0°50'
R = 6875.50'
L = 5582.21'
T = 2955.25'
E = 608.22'
BRIDGE No. KNO-13-1794
TYPE: Continous steel beam with reinforced concrete deck and substructure
SPANS: 47.5'-68'-68'-47.5' c/c bearings
ROADWAY: 30' f f of 2'-0" safety curbs
LOADING: CF 400
WEARING SURFACE: 1" Monolithic concrete
SKEW: 4° 30' L. F.
ALIGNMENT: Tangent
APPROACH SLABS: 25' AS-1-54
TYPICAL OF EXISTING
SR 95 — STA. 53+50
1" ASPHALTIC CONCRETE
10" GRANULAR BASE
FREDERICK A. BOLLINGER
F. A. & VESTA M. BOLLINGER
GERALD & GERTRUDE ROBINSON
ALFRED & GEORGIA WANDLE
BERT & MEDA V. SHAFER
Conc. Bar-B-Que
Mail Boxes
BEGIN WORK
STA. 44+50
Gravel Drive
Chicken Brooder House
Frame Garage
Gas Tank
Septic Tank
2 Sty. Frame Res.
Mail Box
Clothes Posts
Out House
Frame Shed
Shed
Water Well
Barn
Gas Tank
P.C. 45+98.34
P.C. 46+47.20
P.T. 47+87.20
P.C. 47+89.63
P.T. 48+39.77
P.T. 48+79.63
N 33°39'51" W
See Sheet Nos. 168, 169
For Ramp Crossections
STA. 50+45.00 S.R. 95 = STA. 0+00 N.W. RAMP
Curve Data
P.I.~Sta. 9+60.02
Δ = 15°56'34" Rt
Dc = 8°00'
Lc = 199.29'
R = 716.20'
T = 100.29
CURVE DATA TEMPORARY RUN-AROUND ROAD
P.I. STA. 52+59.00
Δ = 7°15' RT.
D = 5°
T = 72.33
R = 1141.74'
L = 145.00'
Curve Data
P.I.~Sta. 3+68.50
Δ = 4°51'21" Rt.
Dc = 2°00'
Lc = 242.79'
Rc = 2864.79
T = 121.47
STA. 50+70.00 S.R. 95 = STA 11+49.09 S.W. RAMP
SEE SHEET No 205
FOR INTERSECTION DETAILS
Drilled Well With Elec. Pump To be PLUGGED
SEE GENERAL NOTES
P.T. 53+31.67
P.C. 51+86.67
932+48.93 ℄ Survey = 53+75.96 ℄ S.R. 95
MATCH LINE
Knox 13
S.W. RAMP
N.W. RAMP
S.R.-95
CONSTRUCTION LIMIT
LA R/W
TEMPORARY RUN-AROUND ROAD
PAVEMENT CLASS B

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6"PIPE CLASS I-3 LIN. FT.	I-1 6"PIPE CLASS F-4 LIN. FT.	I-5 6"SPECIAL CLASS I-3 45° BEND EACH
U-1	925+00	926+40	LT.	140		
U-2	925+00	926+40	LT.	140		
U-3	926+50	933+90	LT.	743	10	1
U-4	926+50	933+90	LT.	740	10	1
U-5	934+00	940+00	LT.	596	10	1
U-6	934+00	940+00	LT.	595	10	1
	TOTALS			2954	40	4

STORM SEWERS

	℄ STATION	I-8 STD. No.4 CATCH BASIN EACH	I-8 STD. No.2-2A CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	DETAILS ON SHEET
SS-1	926+50	1	1	84	95
SS-2	934+00	1	1	72	99
TOTALS		2	2	156	

MAILBOX APPROACH

	℄ STATION	I-18 AGGREGATE CU. YDS	T-35 ASPHALT CONCRETE CU. YDS
M8-1	S.R. 95 46+42	5	2

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	S.W. RAMP 9+45	S.R. 95 52+45	RT. RT.	250
GR-2	S.R. 95 52+47	N.W. RAMP 5+73	LT. RT.	675
GR-3	S.R. 95 49+45	N.W. RAMP 4+84	LT. RT.	550
GR-4	932+27	933+27	LT.	100
TOTALS				1575

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	926+50	926+90	LT.	27	
D-2	925+00	S.R. 95 48+75	LT. RT.	560	
D-3	926+50	928+00	MED.		125
D-4	934+00	935+50	MED.		125
TOTALS				587	250

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	I-1 12" PIPE CLASS F-4 LIN. FT.	E-12 REMOVE EXIST. 8" PIPE LIN. FT.
DP-1	S. R. 95 46+36	S. R. 95 47+74	RT.	138	
E-1	S. R. 95 46+25	S. R. 95 47+15	RT.		90
TOTALS				138	90

DRIVEWAYS

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	45+57	12'	20'	195
DR-2	47+11	12'	60'	195
DR-3	47+16 & 47+50	12'	30' & 20'	195
DR-4	47+50	12'	32'	195

PLAN SHEET STA. 925+00 TO STA. 940+00

MATCH LINE CENTERLINE PROPOSED S.R.-13
QUANTITIES FOR CATCH BASIN AND JUTE MATTING CARRIED ON SHEET No. 27
QUANTITIES FOR CATCH BASIN AND JUTE MATTING CARRIED ON SHEET No 27
MATCH LINE
CURVE DATA
P.I ~ Sta. 3+44.77
Δ = 27°04' Rt.
Dc = 4°-00'
R = 1432.39'
T = 344.77
L = 676.67
E = 40.91
KNOX COUNTY
WAYNE TWP.
T-7-N R-14-W
QUARTER-1-LOT-10
U.S.M.R.
FREDERICK A. BOLLINGER
CURVE DATA
PI ~ Sta. 7+53.78
Δ = 23° Rt.
Dc = 4°00'
R = 1432.39'
T = 291.42'
L = 575.00'
E = 29.34'
SEE SHEET NO. FOR RAMP CROSS-SECTIONS
CONSTRUCTION LIMIT
F. A. & VESTA M. BOLLINGER
CORP. LIMIT
STA.56+83.96 S.R.95 = STA.11+96.55 S.E. RAMP
STA.57+01.52 S.R.95 = 0+00 N.E. RAMP
Cap & Nail 8" Hackberry
Cap & Nail 4" Twin W. Cherry
REFERENCE P.O.C. 930+00
THE BOARD OF EDUCATION OF THE FREDERICKTOWN LOCAL SCHOOL DISTRICT
VILLAGE OF FREDERICKTOWN
Cap & Nail Edge of Road
Fredericktown Corp. Limit
REFERENCE P.O.T. 69+75
CURVE DATA
P.I. ~ Sta. 10+44.68
Δ = 21°22'21" Lt.
Dc = 12°-00'
R = 477.46
T = 90.13'
L = 178.10'
E = 8.43'
TRUSTEES FOREST CEMETERY
KNOX COUNTY
WAYNE TWP.
T-7-N R-14-W
QUARTER-1 LOT-1
U.S.M.R.
CURVE DATA
Temporary Run-Around Road
P.I. STA. 63+20.00
Δ = 23°11'25" Rt.
D = 15°
T = 78.37'
R = 381.97'
L = 154.60'
Construction Limit Run-Around Road
CURVE DATA
Temporary Run-Around Rd.
P.I. STA. 64+50.53
Δ = 24°56'55" Lt.
D = 25°
T = 50.70'
R = 229.18'
L = 99.79'
END NEW PAVEMENT SECTION STA. 63+50
P.C. 62+41.63
P.T. 63+96.23
P.C. 64+00.00
P.T. 64+99.79 = 64+82.70 S.R.95
End Work Sta 64+82.70
STA. 63+00
Gravel Drive
14" Maple
12" Maple
15" Maple

B.M. 12 Steel Fence Post Driven in Ground
246' rt. of centerline Sta. 932+38
Elev. 1085.21

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN.FT.
GR-1	S.E.RAMP 10+52	S.R.95 55+05	LT.-RT.	262.5
GR-2	S.E.RAMP 11+10	S.R.95 58+34	RT.-RT.	175
GR-3	S.R.95 55+05	N.E.RAMP 0+99	LT.-LT.	187.5
GR-4	S.R.95 58+26	N.E.RAMP 2+10	LT.-RT.	187.5
GR-5	931+77	932+77	RT.	100
TOTALS				912.5

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	I-14 PAVED GUTTER LIN. FT.	L-10 SODDING SPECIAL PROTECTION SQ. YDS.
D-1	926+50	927+00	RT.	33		
D-2	S.R.95 61+40	S.R.95 58+25	RT.	210		
D-3	N.E. RAMP 1+50	N.E. RAMP 2+00	RT.	33		
D-4	S.R.95 57+92	N.E. RAMP 1+50	LT.RT.	40	120	
D-5	S.R.95 57+92	S.R.95 58+26	LT.	11	34	
D-6	S.R.95	55+07	RT.			33
D-7	S.R.95	55+10	LT.			33
TOTALS				327	154	66

STORM SEWERS

	℄ STATION	I-8 STD. No.2-2A CATCH BASIN EACH	I-1 18" PIPE CLASS J-1 LIN.FT.	I-1 21" PIPE CLASS J-1 LIN.FT.	I-1 24" PIPE CLASS J-1 SEC. M-6.6 (c) LIN.FT.	I-2 MASONRY CU. YDS.	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	DETAILS ON SHEET
SS-1	926+50	1	84			0.41	9	95
SS-2	934+00			84		0.72		99
SS-3	N.E. RAMP 1+28				136	0.82		170
TOTALS		1	84	84	136	1.95	9	

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN.FT.	I-5 6" SPECIALS CLASS I-3 45° BEND EACH
U-1	925+00	926+90	RT.	190		
U-2	926+00	940+00	RT.	1400	10	1
TOTALS				1590	10	1

CULVERT

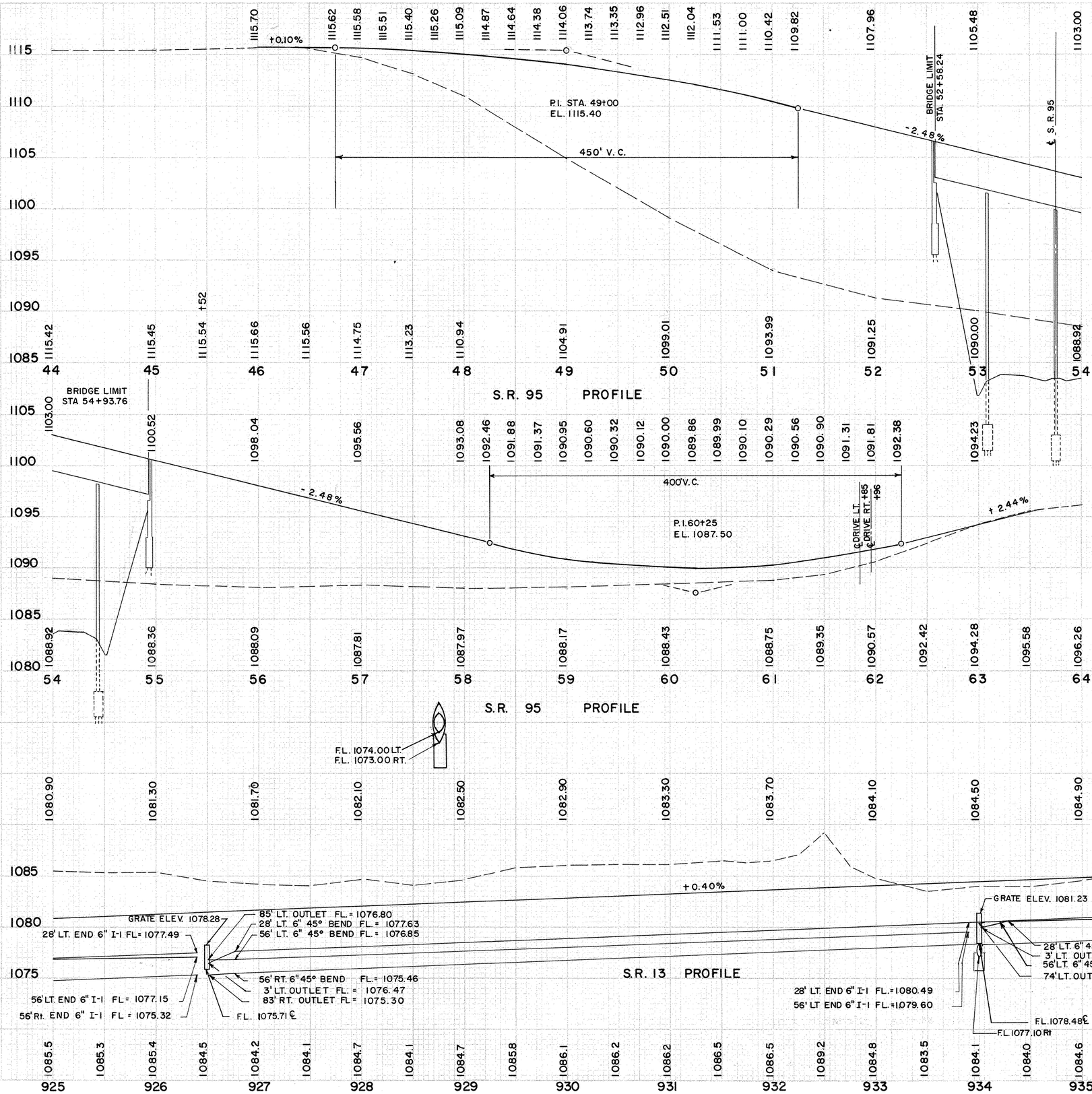
	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1	0432	SR.95 57+92	36"	118'	215

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	I-1 12" PIPE CLASS F-4 LIN. FT.	E-12 REMOVE EXISTING 8" PIPE LIN.FT.
DP-1	S.R.95 61+54	SR.95 62+00	LT.	46	16
DP-2	S.R.95 61+70	SR.95 62+00	RT.	30	
TOTAL				76	16

DRIVEWAYS

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	S.R.95 61+96	12'	35'	195
DR-2	S.R.95 61+85	12'	43'	195

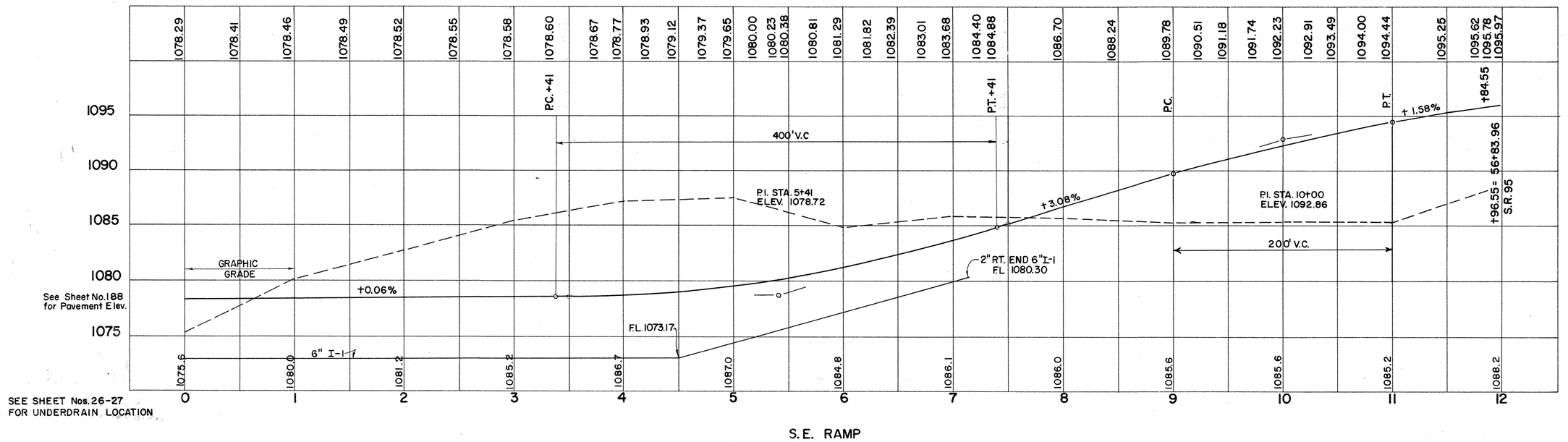


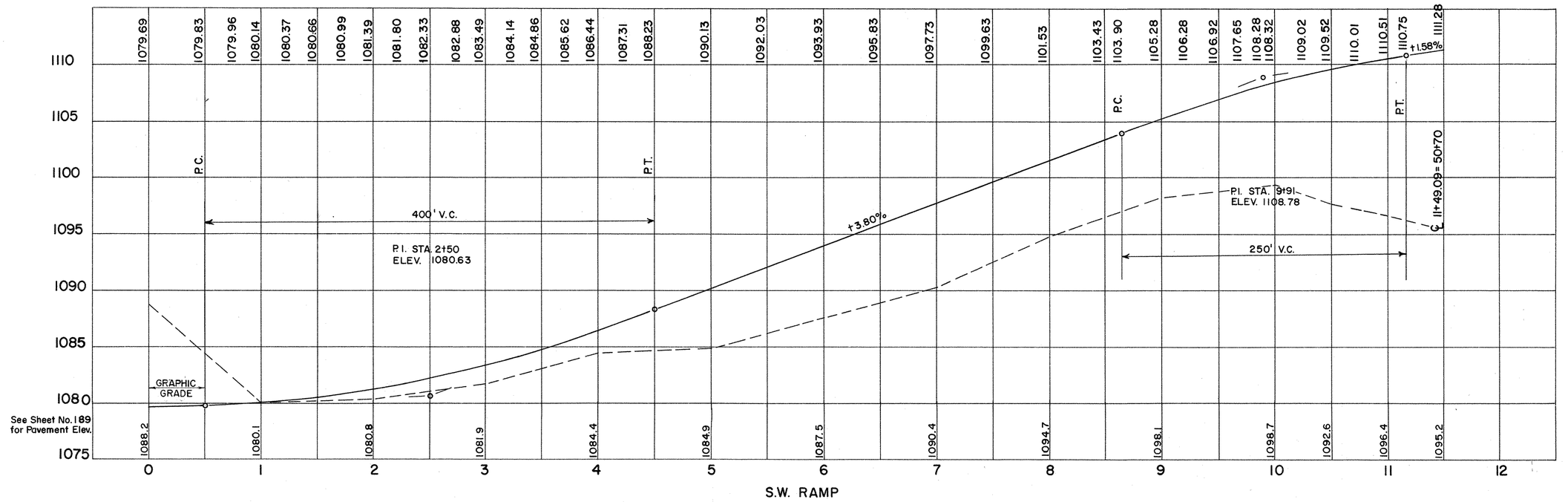
PROFILE SR.95 STA.44+00 TO STA.64+00 — SR.13 STA.925+00 TO 940+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

30
275

KNO -13-15.93



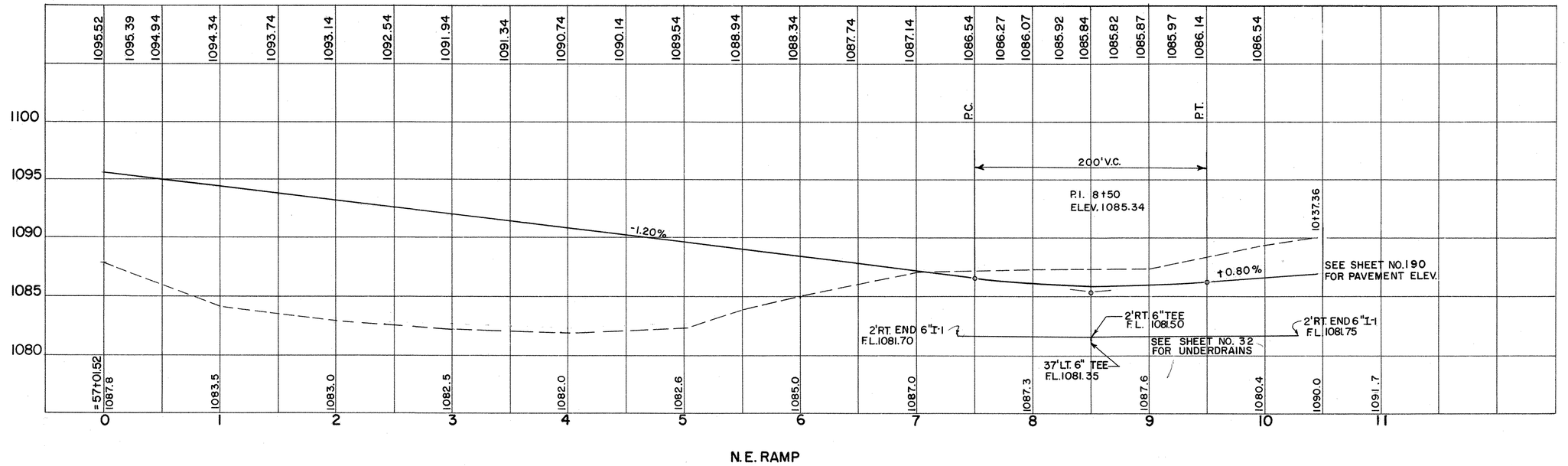


PROFILE: S.E. & S.W. RAMPS

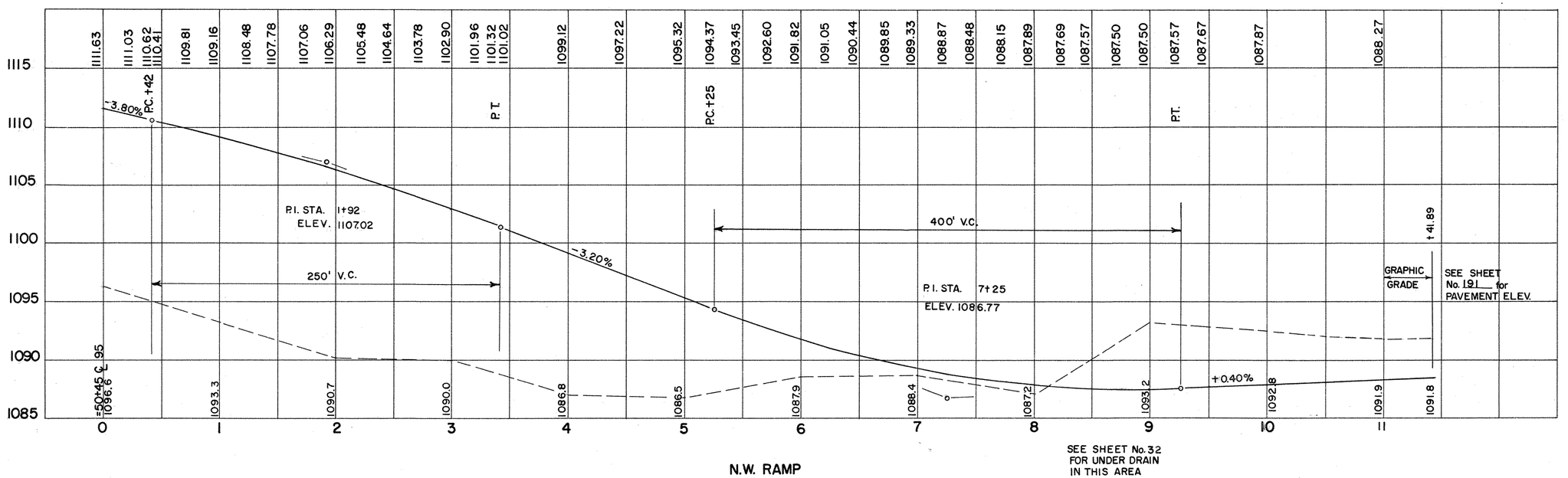
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

31
275

KNO-13-15.93



N.E. RAMP

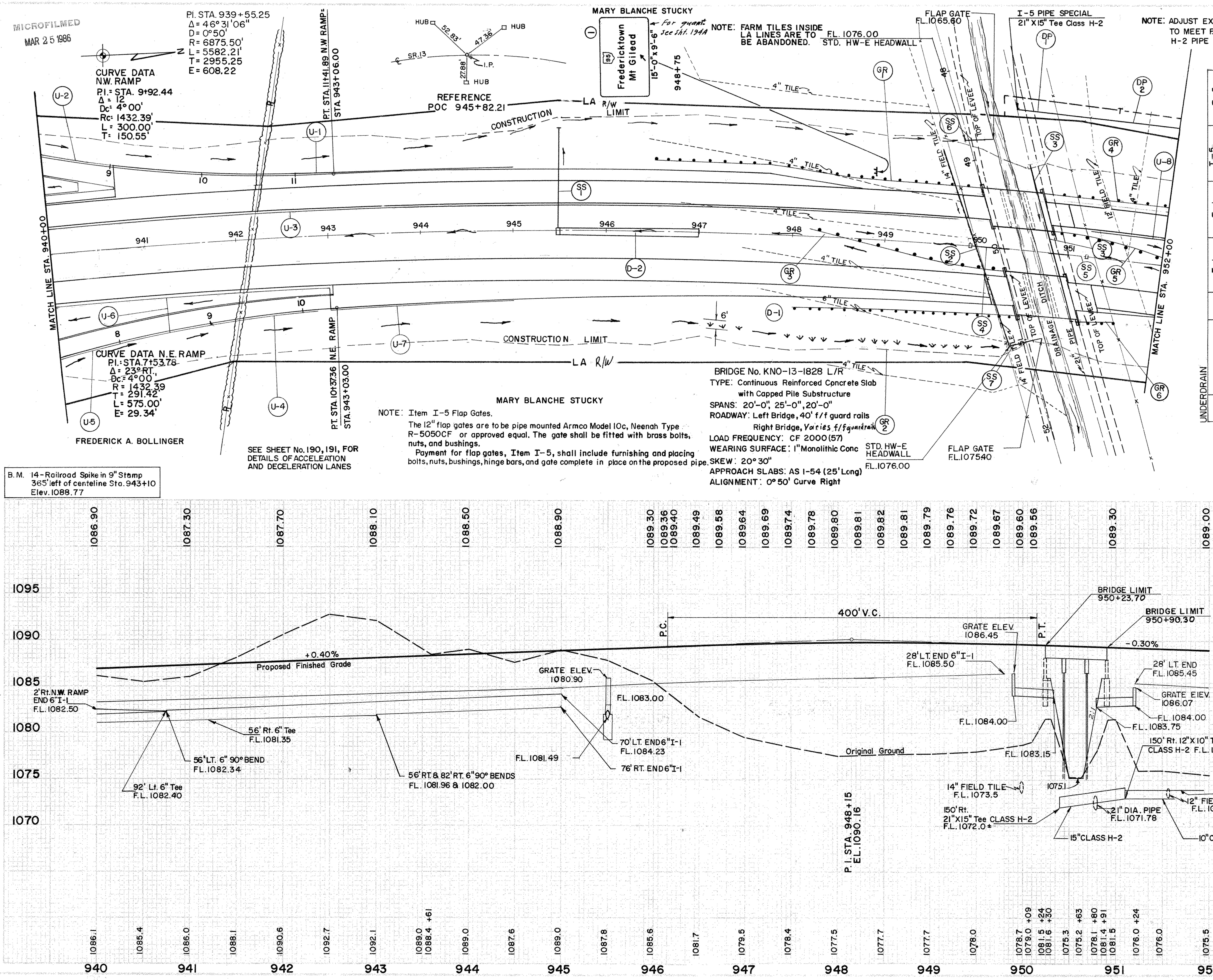


N.W. RAMP

SEE SHEET No. 32
FOR UNDER DRAIN
IN THIS AREA

PROFILE N.E. & N.W. RAMPS

KNO-13-15.93


MICROFILMED
MAR 25 1986
PI. STA. 939+55.25
Δ= 46°31'06"
D= 0°50'
R= 6875.50'
L= 5582.21'
T= 2955.25
E= 608.22
CURVE DATA
N.W. RAMP
P.I.= STA. 9+92.44
Δ= 12
Dc= 4°00'
Rc= 1432.39'
L= 300.00'
T= 150.55'
PT. STA. 11+41.89 N.W RAMP=
STA 943+06.00
REFERENCE
POC 945+82.21
MARY BLANCHE STUCKY
Fredericktown
Mt Gilead
15'-0"x9'-6"
948+75
NOTE: FARM TILES INSIDE LA LINES ARE TO BE ABANDONED.
F.L. 1076.00
STD. HW-E HEADWALL
FLAP GATE
F.L. 1065.60
I-5 PIPE SPECIAL
21" X 15" Tee Class H-2
NOTE: ADJUST EXIST FIELD TILE TO MEET F.L. OF CLASS H-2 PIPE
CONSTRUCTION LIMIT
LA R/W LIMIT
4" TILE
6" TILE
14" FIELD TILE
12" FIELD TILE
TOP OF LEVEE
DRAINAGE DITCH
21" PIPE
MATCH LINE STA. 940+00
MATCH LINE STA. 952+00
CURVE DATA N.E. RAMP
P.I.= STA. 7+53.78
Δ= 23° RT.
Dc= 4°00'
R= 1432.39
T= 291.42'
L= 575.00'
E= 29.34'
P.T. STA 10+37.36 N.E. RAMP
STA. 943+03.00
FREDERICK A. BOLLINGER
MARY BLANCHE STUCKY
SEE SHEET No. 190, 191, FOR DETAILS OF ACCELERATION AND DECELERATION LANES
NOTE: Item I-5 Flap Gates.
The 12" flap gates are to be pipe mounted Armco Model 10c, Neenah Type R-5050CF or approved equal. The gate shall be fitted with brass bolts, nuts, and bushings.
Payment for flap gates, Item I-5, shall include furnishing and placing bolts, nuts, bushings, hinge bars, and gate complete in place on the proposed pipe.
BRIDGE No. KNO-13-1828 L/R
TYPE: Continuous Reinforced Concrete Slab with Capped Pile Substructure
SPANS: 20'-0", 25'-0", 20'-0"
ROADWAY: Left Bridge, 40' f/f guard rails
Right Bridge, Varies f/f guardrails
LOAD FREQUENCY: CF 2000 (57)
WEARING SURFACE: 1" Monolithic Conc
SKEW: 20°30"
APPROACH SLABS: AS 1-54 (25' Long)
ALIGNMENT: 0°50' Curve Right
STD. HW-E HEADWALL
F.L. 1076.00
FLAP GATE
F.L. 1075.40
B.M. 14-Railroad Spike in 9" Stump 365' left of centerline Sta. 943+10 Elev. 1088.77
400' V.C.
P.C.
P.T.
+0.40%
-0.30%
Proposed Finished Grade
Original Ground
BRIDGE LIMIT 950+23.70
BRIDGE LIMIT 950+90.30
GRATE ELEV. 1086.45
28' LT. END 6" I-1 F.L. 1085.50
28' LT. END F.L. 1085.45
GRATE ELEV. 1086.07
F.L. 1084.00
F.L. 1083.75
F.L. 1083.15
GRATE ELEV. 1080.90
F.L. 1083.00
2' Rt. N.W. RAMP END 6" I-1 F.L. 1082.50
56' Rt. 6" Tee F.L. 1081.35
56' LT. 6" 90° BEND F.L. 1082.34
70' LT. END 6" I-1 F.L. 1084.23
76' RT. END 6" I-1
F.L. 1081.49
56' RT. & 82' RT. 6" 90° BENDS F.L. 1081.96 & 1082.00
92' Lt. 6" Tee F.L. 1082.40
150' Rt. 12" X 10" Tee CLASS H-2 F.L. 1073.0±
14" FIELD TILE F.L. 1073.5
150' Rt. 21" X 15" Tee CLASS H-2 F.L. 1072.0±
21" DIA. PIPE F.L. 1071.78
12" FIELD TILE F.L. 1073.2
150' PT. 10" X 4" Tee CLASS H-2 F.L. 1073.07±
15" CLASS H-2
10" CLASS H-2
P.I. STA. 948+15 EL. 1090.16
1095
1090
1085
1080
1075
1070
940
941
942
943
944
945
946
947
948
949
950
951
952

UNDERDRAIN

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS J-1 LIN. FT.	I-5 6" SPECIAL CLASS I-3 90° BEND EACH	I-5 6" SPECIAL CLASS J-1 90° BEND EACH	I-5 6" SPECIAL CLASS J-1 TEE EACH
U-1	940+00	945+00	LT.	425	110	1	1	
U-2	N.W. RAMP 8+25	N.W. RAMP 9+03	LT.	78				
U-3	940+00	949+80	LT.	980				
U-4	S.E. RAMP 8+55	S.E. RAMP 10+15	RT.	160				
U-5	S.E. RAMP 7+35	S.E. RAMP 8+55	RT.	120				
U-6	S.E. RAMP 8+55	941+20	RT.	20	20			2
U-7	940+00	945+00	RT.	500	24	1	1	
U-8	951+20	952+00	LT.	80				
TOTALS				2353	154	2	4	

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.	I-15 GUARD RAIL BARRIER TYPE LIN. FT.
GR-1	946+50	950+00	LT.	350	
GR-2	948+05	950+45	RT.	237.5	
GR-3	948+18	950+30	MED.	112.5	100
GR-4	950+70	952+00	LT.	135	
GR-5	950+83	952+00	MED.	112.5	10
GR-6	951+20	951+45	RT.	25	
TOTALS				972.5	110

STORM SEWER

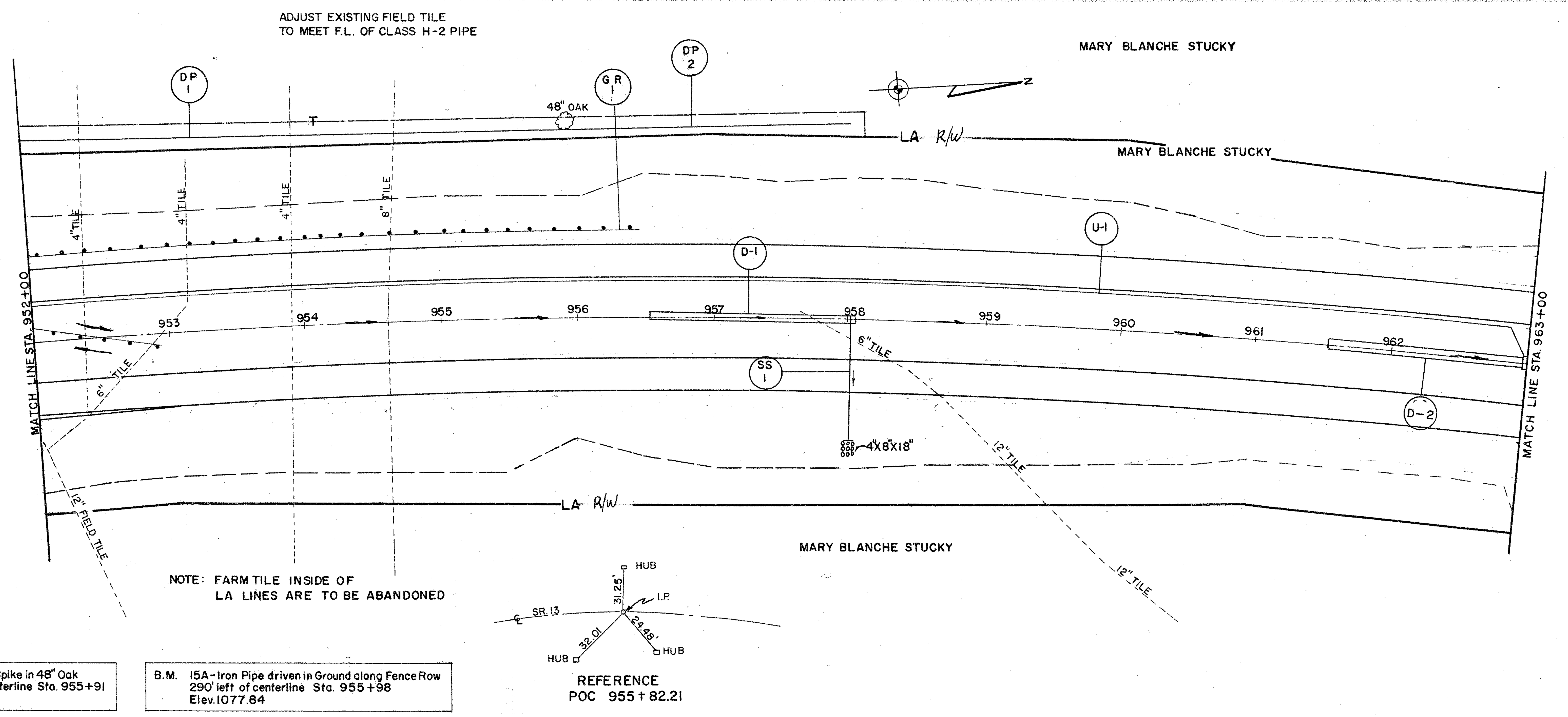
	STATION FROM	STATION TO	SIDE	I-1 12" PIPE CLASS J-1 LIN. FT.	I-1 12" PIPE CLASS F-4 LIN. FT.	I-1 12" PIPE CLASS E-1 LIN. FT.	I-1 15" PIPE CLASS A-1 LIN. FT.	I-1 21" PIPE CLASS A-1 LIN. FT.	I-8 STD. NO. 4 CATCH BASIN EACH	I-8 STD. NO. 2-2B CATCH BASIN EACH	I-2 MASONRY EACH	I-5 FLAP GATES EACH	DETAILS ON SHEET
SS-1	945+50	945+50	℄-LT.	110					1		0.23		105
SS-2	949+60	950+38	LT.-RT.				222						THIS SHEET
SS-3	950+52	951+20	LT.-RT.					198					
SS-4	949+90	950+34	MED			44				1			
SS-5	950+78	951+20	MED			42				1			
SS-6	949+79	951+14	LT.		30						0.23	1	
SS-7	951+48	951+76	RT.		32						0.23	1	
TOTALS				110	62	86	222	198	1	2	0.69	2	

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	947+00	950+40	RT.	227	
D-2	945+50	947+00	MED.		125
TOTAL				227	125

FIELD DRAIN

	STATION FROM	STATION TO	SIDE	I-1 15" PIPE CLASS H-2 LIN. FT.	I-1 10" PIPE CLASS H-2 LIN. FT.	I-5 21" SPECIAL EACH
DP-1	950+40	951+14	LT.	80		1
DP-2	951+14	952+00	LT		98	
TOTALS				80	98	1



B.M.	15-Railroad Spike in 48" Oak 160' left of centerline Sta. 955+91 Elev. 1077.34

B.M.	15A-Iron Pipe driven in Ground along Fence Row 290' left of centerline Sta. 955+98 Elev. 1077.84

DITCHES

	STATION		SIDE	L-120 JUTE MATTING SQ. YDS.
	FROM	TO		
D-1	956+50	958+00	MED	125
D-2	961+50	963+00	MED	125
TOTAL				250

GUARD RAIL

	STATION		SIDE	I-15 GUARD RAIL LIN. FT.	I-15 GUARD RAIL BARRIER TYPE LIN. FT.
	FROM	TO			
GR-1	952+00	956+40	LT.	440	
GR-2	952+00	952+90	MED		90
TOTALS				440	90

STORM SEWER

	℄ STATION	I-8 STD. NO. 4 CATCH BASIN EACH	I-1 12" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	I-10 DUMPED ROCK CH. PROTECTION CU. YDS.	DETAILS ON SHEET
SS-1	958+00	1	104	0.23	2	112

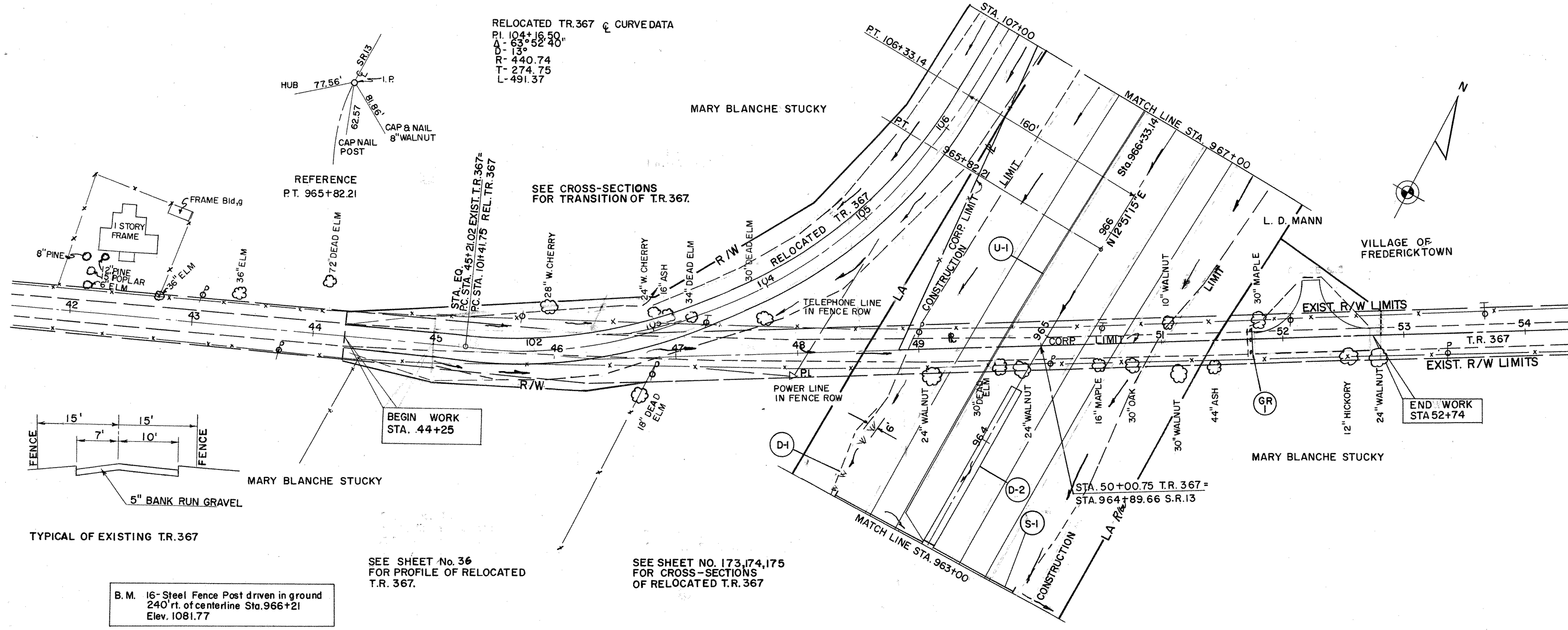
UNDERDRAIN

	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH
	FROM	TO				
U-1	952+00	963+00	LT.	1100	10	1

FARM DRAIN

	STATION		SIDE	I-1 10" PIPE CLASS H-2 LIN. FT.	I-1 6" PIPE CLASS H-2 LIN. FT.
	FROM	TO			
DP-1	952+00	954+22	LT.	284	
DP-2	954+72	958+00	LT.		332
TOTALS				284	332

KNO-13-15.93


RELOCATED TR. 367 ℄ CURVE DATA
P.I. 104+16.50
Δ- 63°52'40"
D- 13°
R- 440.74
T- 274.75
L- 491.37
HUB
77.56'
S.R.13
I.P.
62.57
81.86'
CAP NAIL POST
CAP & NAIL 8" WALNUT
REFERENCE
P.T. 965+82.21
MARY BLANCHE STUCKY
SEE CROSS-SECTIONS FOR TRANSITION OF T.R. 367.
STA. EQ.
P.C. STA. 45+21.02 EXIST. T.R. 367=
P.C. STA. 101+41.75 REL. T.R. 367
RELOCATED T.R. 367
P.T. 106+33.14
STA. 107+00
MATCH LINE STA. 967+00
Sta. 966+33.14
N 12°51'15" E
CORP. LIMIT
CONSTRUCTION
L. D. MANN
VILLAGE OF FREDERICKTOWN
EXIST. R/W LIMITS
T.R. 367
TELEPHONE LINE IN FENCE ROW
POWER LINE IN FENCE ROW
BEGIN WORK STA. 44+25
END WORK STA 52+74
STA. 50+00.75 T.R. 367 = STA. 964+89.66 S.R.13
MATCH LINE STA. 963+00
MARY BLANCHE STUCKY
FRAME Bldg
1 STORY FRAME
TYPICAL OF EXISTING T.R.367
15'
15'
7'
10'
FENCE
FENCE
5" BANK RUN GRAVEL
SEE SHEET No. 36 FOR PROFILE OF RELOCATED T.R. 367.
SEE SHEET NO. 173,174,175 FOR CROSS-SECTIONS OF RELOCATED T.R. 367
B. M. 16-Steel Fence Post driven in ground 240' rt. of centerline Sta. 966+21 Elev. 1081.77

DITCHES

	STATION		SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
	FROM	TO			
D-1	963+00	963+70	LT.	47	
D-2	963+00	964+50	MED		125
TOTALS				47	125

GUARD RAIL

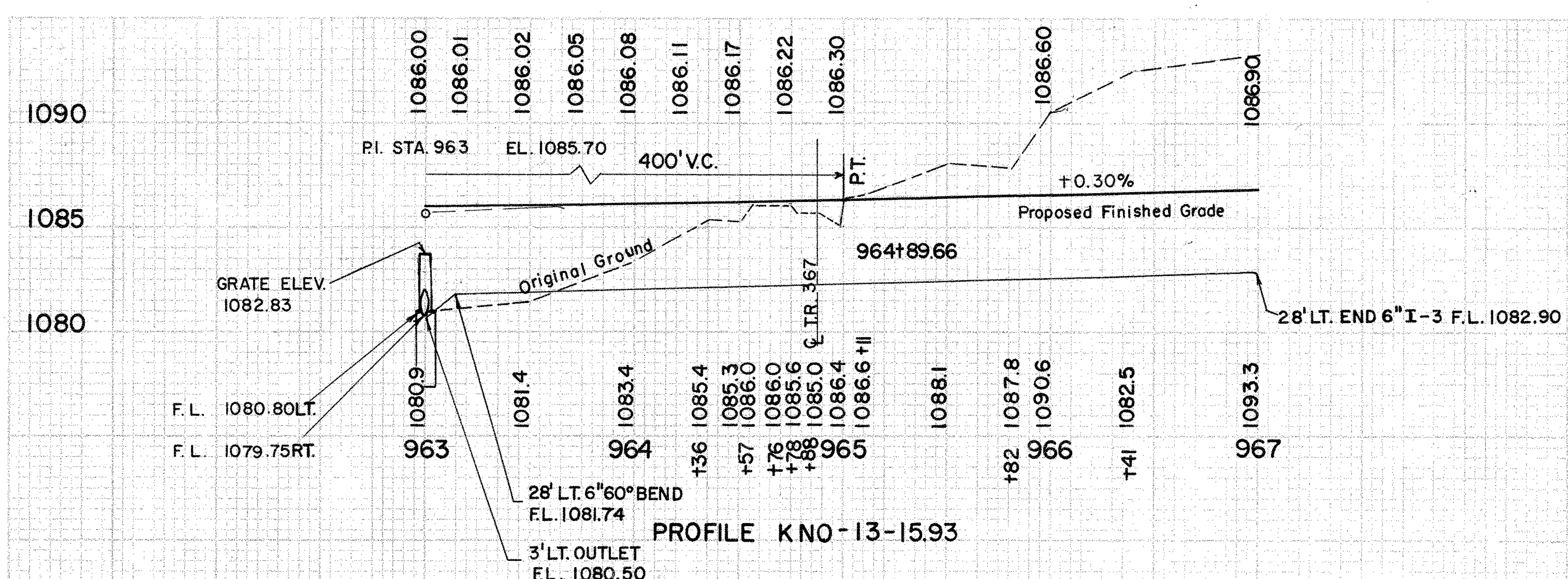
	℄ STATION	I-15 GUARD RAIL LIN. FT.
GR-1	T.R. 367 51+75	25

UNDERDRAIN

	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-2 60° BEND EACH
	FROM	TO				
U-1	963+00	967+00	LT.	400	10	1

CULVERT

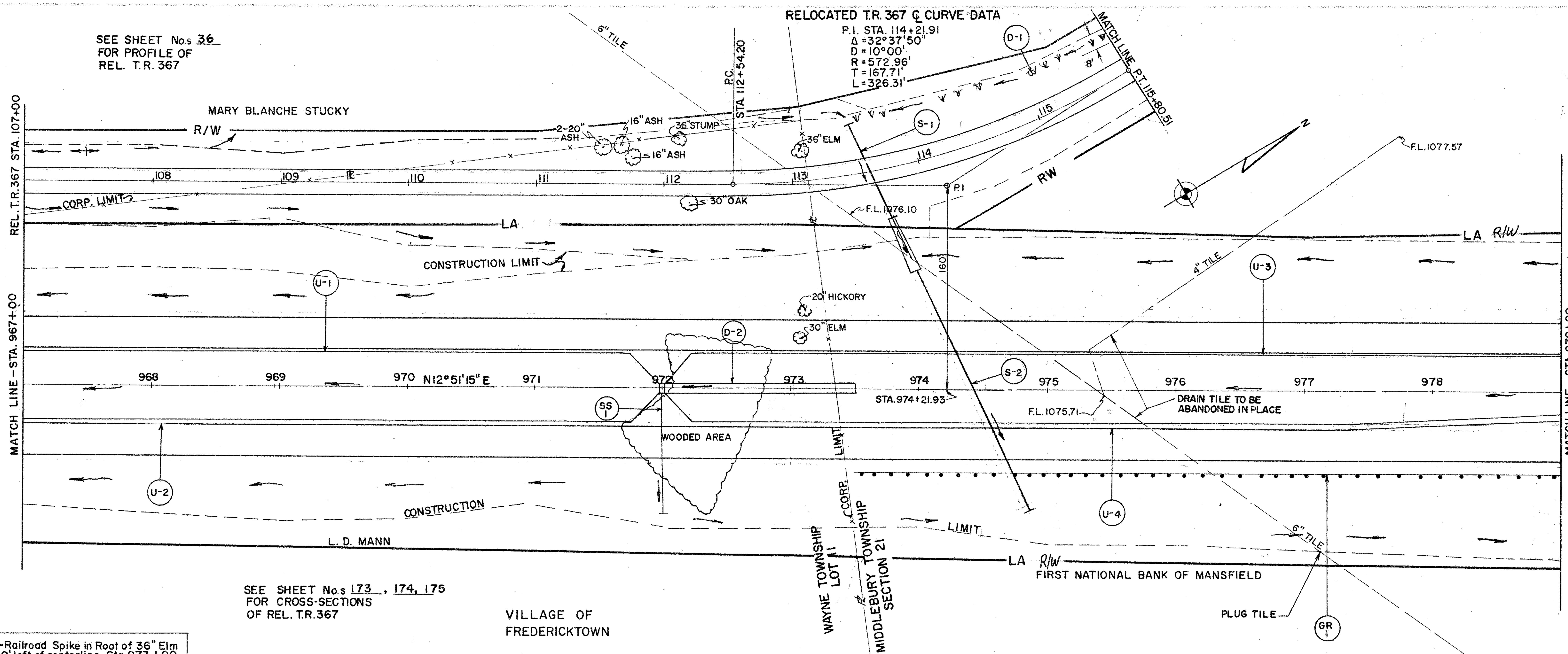
	STRUCTURE NO.	℄ STATION	PROPOSED		DETAILS ON SHEET
			SIZE	LENGTH	
S-1	1854	963+00	24"	166'	216



PROFILE KNO-13-15.93

PROFILE- T.R. 367

KNO-13-15.93



B. M. 17-Railroad Spike in Root of 36" Elm 240' left of centerline Sta. 973+00 Elev. 1078.28

STORM SEWER

	℄ STATION	I-8 STD. NO. 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	972+00	1	98	0.26	

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 45° BEND EACH
U-1	967+00	972+00	LT.	495	10	1
U-2	967+00	972+00	RT.	495	10	1
U-3	972+00	979+00	LT.	695	10	1
U-4	972+00	979+00	RT.	695	10	1
TOTALS				2380	40	4

CULVERTS

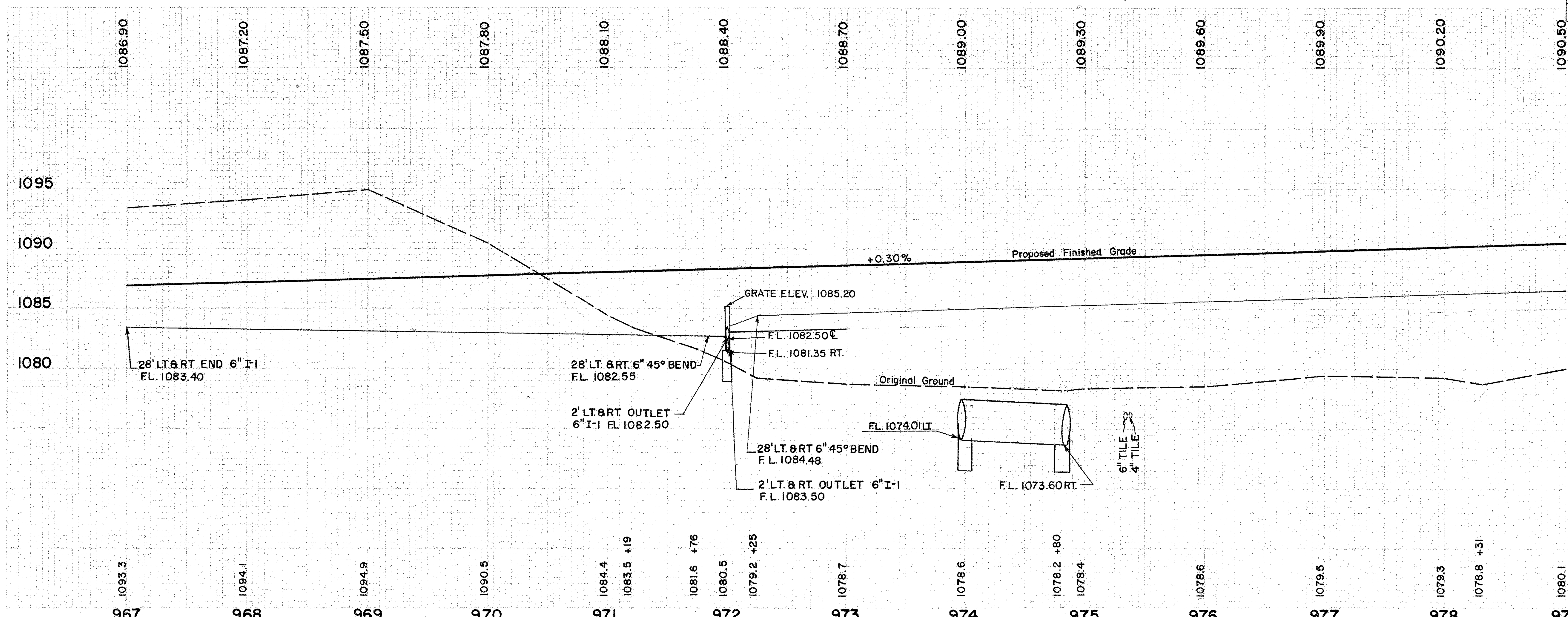
	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1		T.R. 367 113+60	42"	80'	217
S-2	1872	974+40	68"x 43"	206'	217

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS
D-1	T.R. 367 113+50	T.R. 367 115+80	LT.	204	
D-2	972+00	973+50	MED.		125
TOTALS				204	125

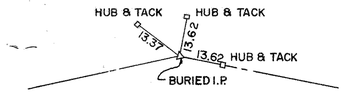
GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	973+50	979+00	RT.	550

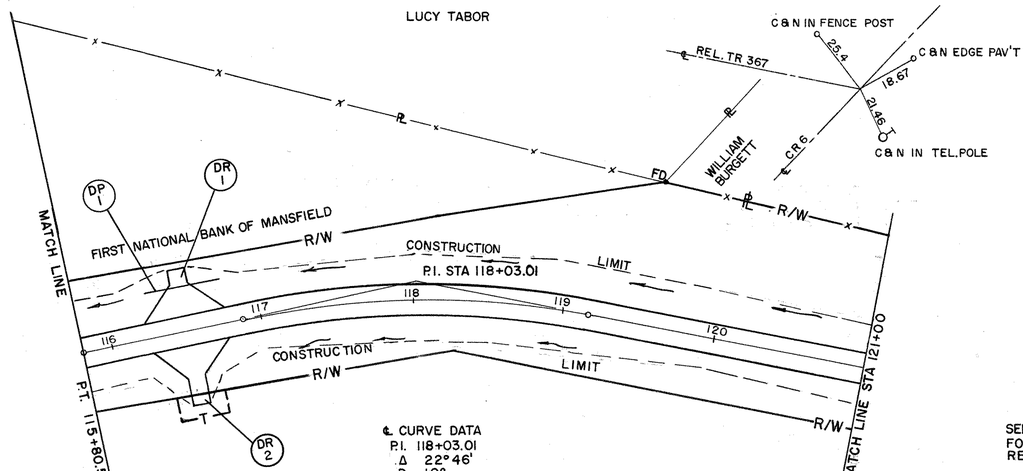


SHEET NO.	STATE	PROJECT		36
2	OHIO	F-527(11)		275

KNO-13-15.93



REFERENCE
P.I. STA 118+03.01



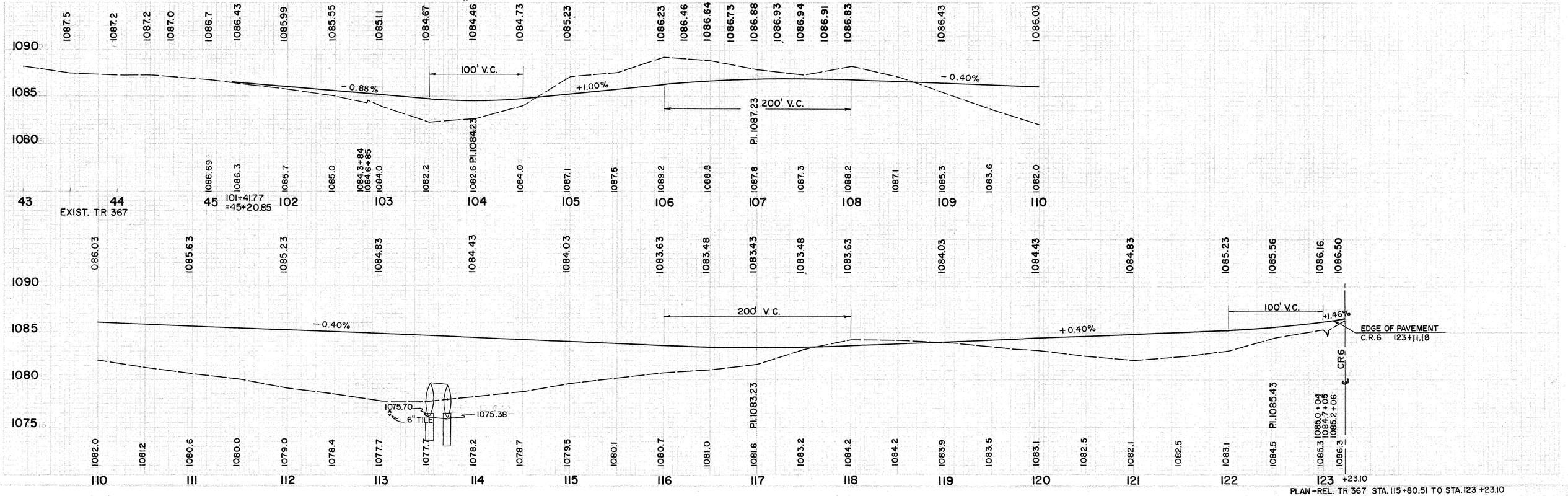
SEE SHEET NOS. 173, 174, 175
FOR CROSS-SECTION OF
RELOCATED T. R. 367

DRIVEWAYS

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	T.R.367 116+50	12'	30'	195
DR-2	T.R.367 116+50	12'	40'	195

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	T-1 18" PIPE CLASS F-4 LIN. FT
DP-1	T.R.367 116+26	T.R.367 116+74	LT.	48



PLAN - REL. TR 367 STA. 115+80.51 TO STA. 123+23.10
PROFILE - REL. TR 367 STA. 101+41.77 TO STA. 123+23.10

SHEET NO.	STATE	PROJECT		
2	OHIO	F-527(11)		

37
275

KNO-13-15.93

CULVERTS

	STRUCTURE No	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1	1888	982+40	30"	242'	219
S-2		S.R.6 53+22	42"	80'	218
S-3		C.R.6 53+37	15"	16'	218

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS
D-1	981+50	983+00	MED.		125
D-2	TR. 367 121+00	C.R. 6 44+60	LT.	150	
TOTALS				150	125

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARDRAIL LIN. FT.
GR-1	979+00	C.R.6 53+72	RT.	350
GR-2	C.R.6 53+22	983+00	LEFT	628
GR-3	C.R.6 53+86	983+00	LT.	203
TOTALS				1181

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIALS CLASS I-3 45° BEND EACH	I-5 6" SPECIALS CLASS I-3 60° BEND EACH
U-1	979+00	979+90	RT.	90			
U-2	979+00	979+90	LT.	90			
U-3	981+50	983+00	RT.	140	10		1
U-4	981+50	983+00	LT.	150	10	1	
TOTALS				470	20	2	

STORM SEWER

	℄ STATION	I-8 STD. NO. 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-1 15" PIPE CLASS F-4 LIN. FT.	I-5 15" SPECIALS CLASS F-4 EACH	I-2 MASONRY CU. YDS.	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	DETAILS ON SHEET
SS-1	981+50	1	68	36	2	0.26	2	122

SEE SHEET No.176 FOR CROSS-SECTIONS C.R. 6

SEE SHEET Nos. 39 & 240 FOR RELOCATION OF NORTH BRANCH KOKOSING RIVER

20.0' 5.0' 2' 2' 2.5 0.5' 8.0' ℄ 11.0' 0.5' 1.5' 2.0' 2.0' 3.0'

11" BANK RUN GRAVEL 4" ASPHALTIC CONC.

TYPICAL OF EXISTING CO. RD. 6

FUTURE CONSTR. LIMIT

R/W

END WORK STA. 123+11.18

BEGIN WORK STA. -44+40

CR6 STA 45+00 = RELOCATED TR 367 STA -123+23.10

FUTURE C.R.-6 BRUSH GRADE SEPARATION

2-30" WILLOW

24" OSAGE ORANGE

FIRST NATIONAL BANK OF MANSFIELD

EXIST. R/W LIMITS

CONST. LIMIT

WEEDS

C.R. 6

12" PIPE

GUY POLE TO HI-TOWER

HI-TOWER

I STORY CONC. BLOCK BLDG.

CONC. BLOCK BLDG.

WILLIAM BURGETT

GRAVEL DRIVE AND STORAGE AREA

RELOCATED TR 367

100' TAPER

20' TO 24'

EXIST. R/W LIMITS

CONST. LIMIT

STA. 47+59.04 BEGIN TAPER

MATCH LINE STA. 121+00

MATCH LINE - STA. 983+00

30" ELM

24" LOCUST

20" THORN

36" WILLOW

2-20" LOCUST

6'Y 4'X 18"

30" LOCUST

4-12"-24" LOCUST

2-24" SYCAMORE

FUTURE CR-6 GRADE SEPARATION

WEEDS

36" WILLOW

TO BE RELOCATED

8' GRAVEL DRIVE

2-24" WILLOW

2-48" WILLOW

60" WILLOW

2-24 BOIS D'ARC

NORTH BRANCH KOKOSING RIVER

60" WILLOW

100' TAPER 24 TO 20'

FUTURE CONSTR. LIMIT

50' TAPER

8' DIRT DRIVE

GAS PUMP

11' GRAVEL DRIVE

14" MAPLE

28" MAPLE

980 N 25° 51' 15" E

STA. 50+00 C.R.-6 = STA. 980+69.88 S.R. 13

STA 49+41.27 EDGE MAINLINE PAVEMENT.

STA 50+58.73 EDGE MAINLINE PAVEMENT

END WORK STA. 55+00

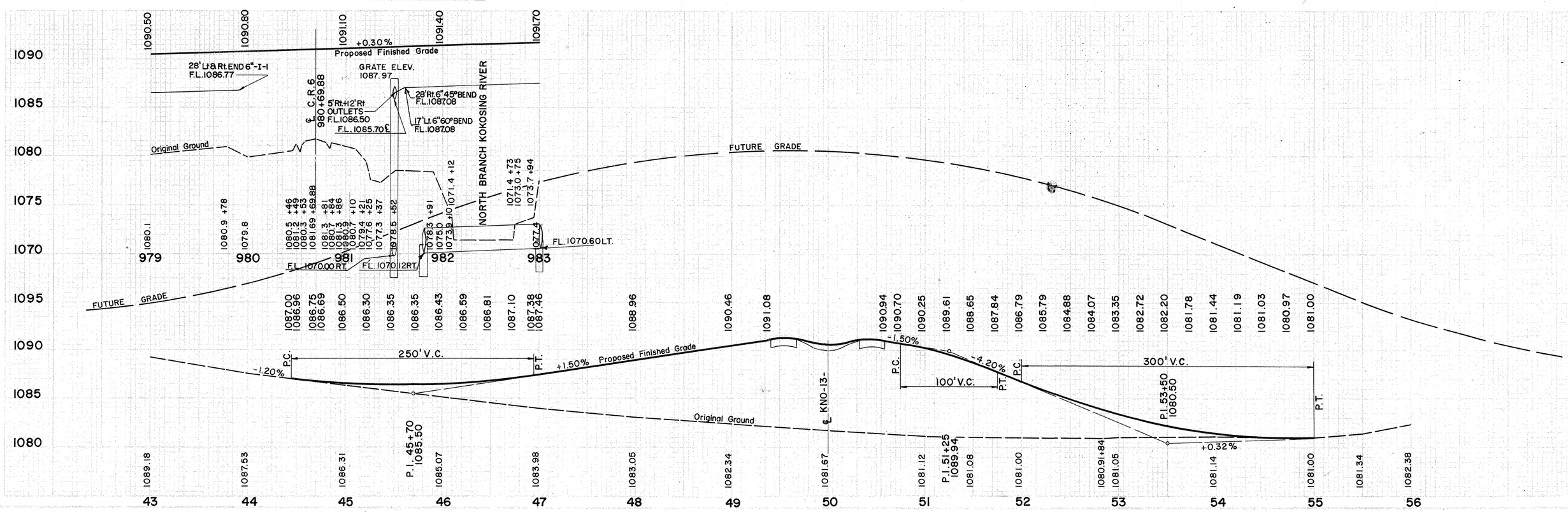
FIRST NATIONAL BANK OF MANSFIELD

BARN

STA. 52+40.96 END TAPER

B. M. 18-Railroad Spike in Root of Twin 18" Hedge Apple 144' rt. of centerline Sta. 982+31 Elev. 1079.08

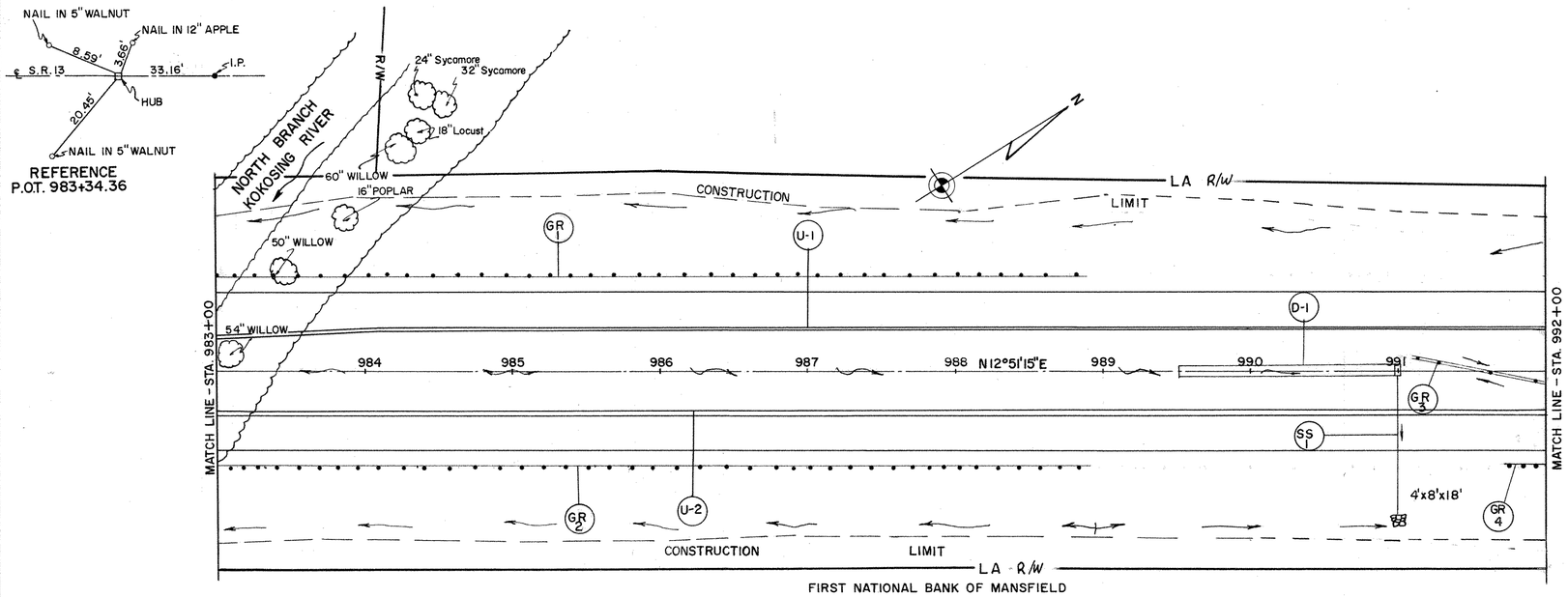
B. M. 18A- Railroad Spike in Triple 15" Honey Locust 250' rt. of Sta. 981+36 Elev. 1078.39



PLAN - PROFILE SHEET STA. 979+00 TO STA. 983+00
COUNTY ROAD NO. 6

FED. ROAD DIVISION	STATE	PROJECT		38
2	OHIO	F-527(11)		275

KNO-13-15.93



GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.	I-15 GUARD RAIL BARRIER TYPE LIN. FT.
GR-1	983+00	989+97	LT.	597	
GR-2	983+00	989+97	RT.	597	
GR-3	991+10	992+00	MED.		90
GR-4	991+72	992+00	RT.	28	
TOTALS				1222	90

DITCHES

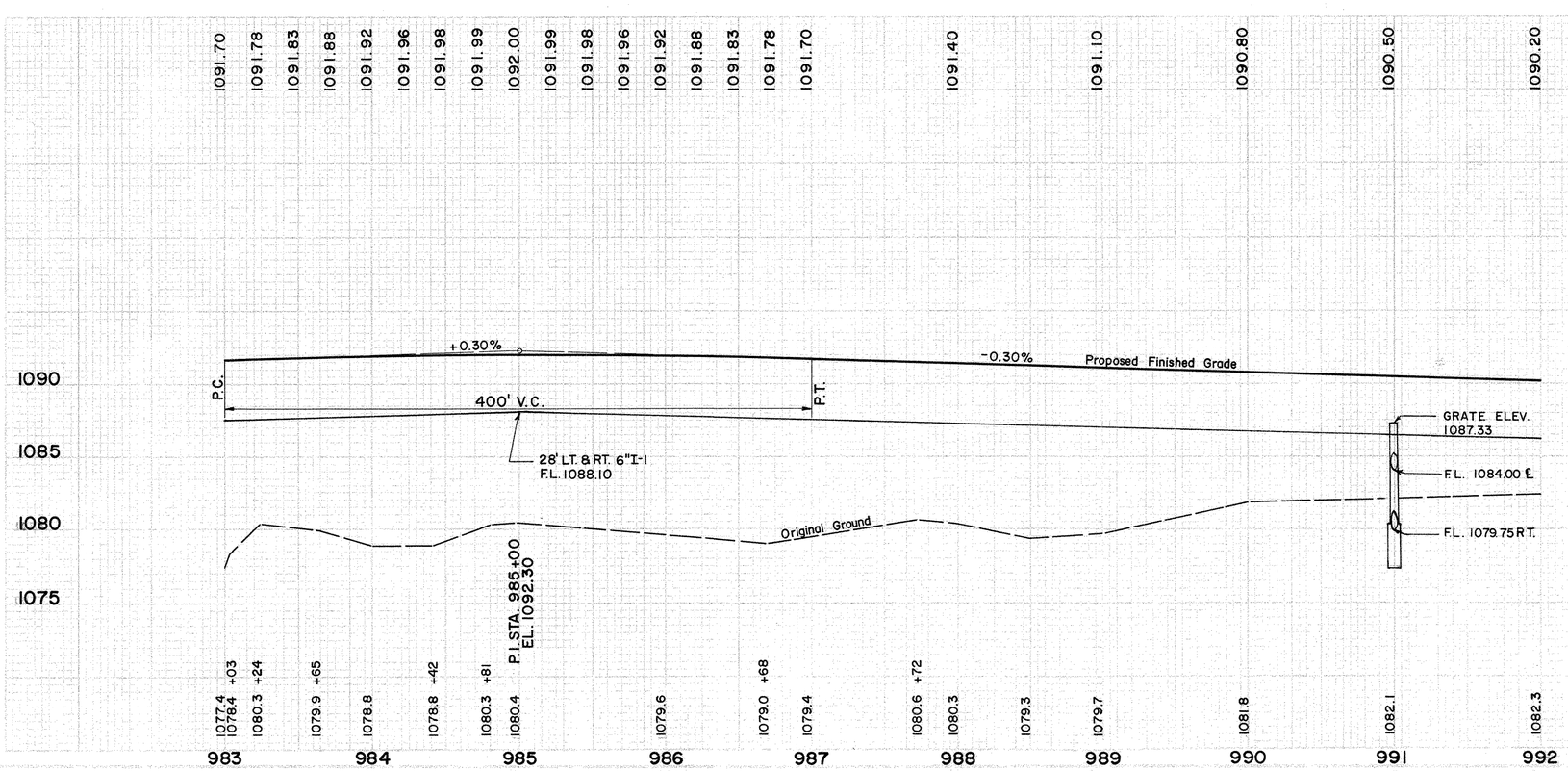
	STATION FROM	STATION TO	SIDE	L-120 JUTE MATTING SQ. YDS.
D-1	989+50	991+00	MED.	125

STORM SEWER

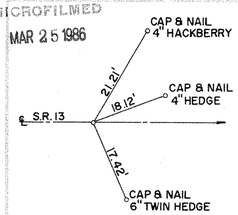
	℄ STATION	I-8 STD. No.4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-1 15" PIPE CLASS F-4 LIN. FT.	I-5 15" SPECIALS CLASS F-4 EACH	I-2 MASONRY CU. YDS.	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	DETAILS ON SHEET
SS-1	991+00	1	72	34	2	0.26	2	127

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.
U-1	983+00	992+00	LT.	900
U-2	983+00	992+00	RT.	900
TOTALS				1800



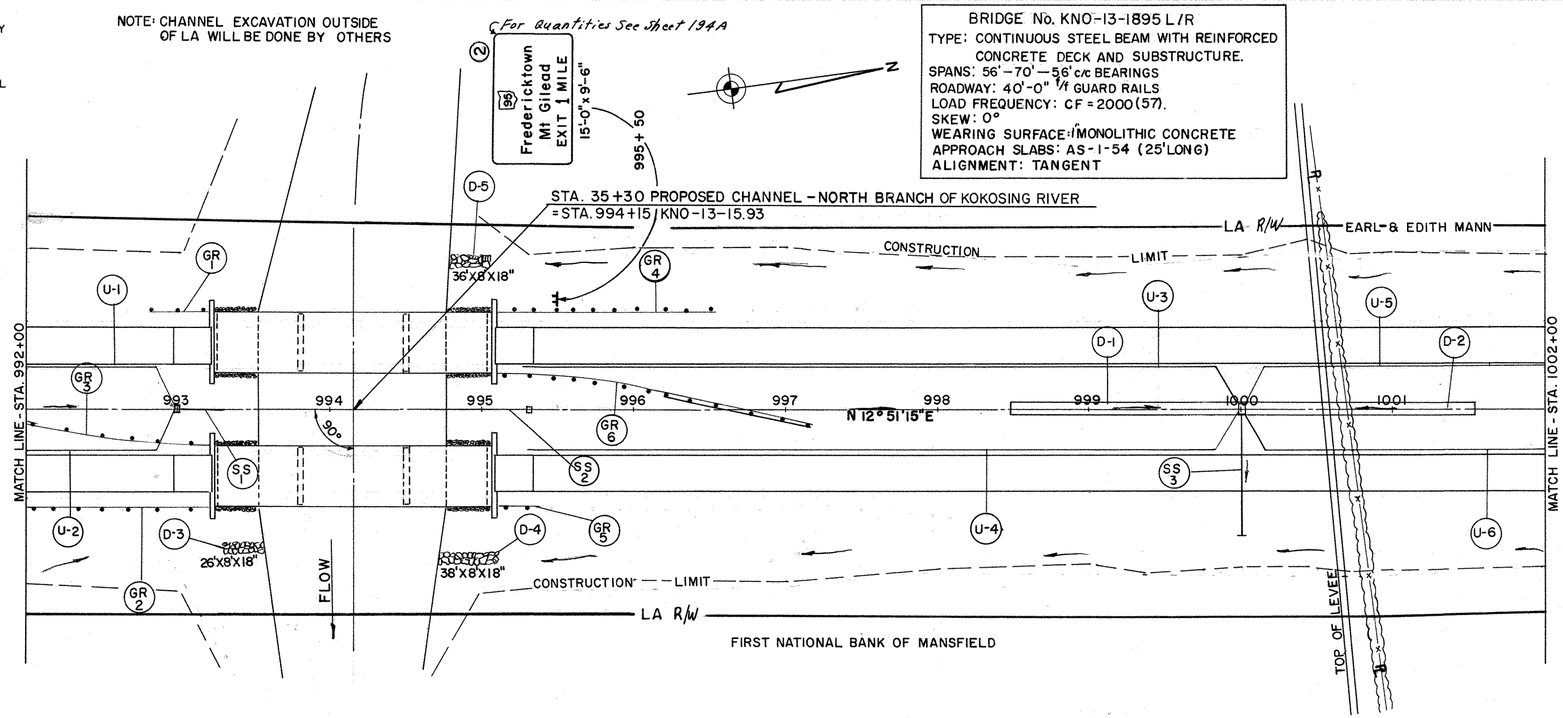
PLAN-PROFILE SHEET STA. 983+00 TO STA. 992+00



REFERENCE
P.O.T. 1000+55.66

NOTE: CHANNEL EXCAVATION OUTSIDE OF LA WILL BE DONE BY OTHERS

For Quantities See Sheet 194A

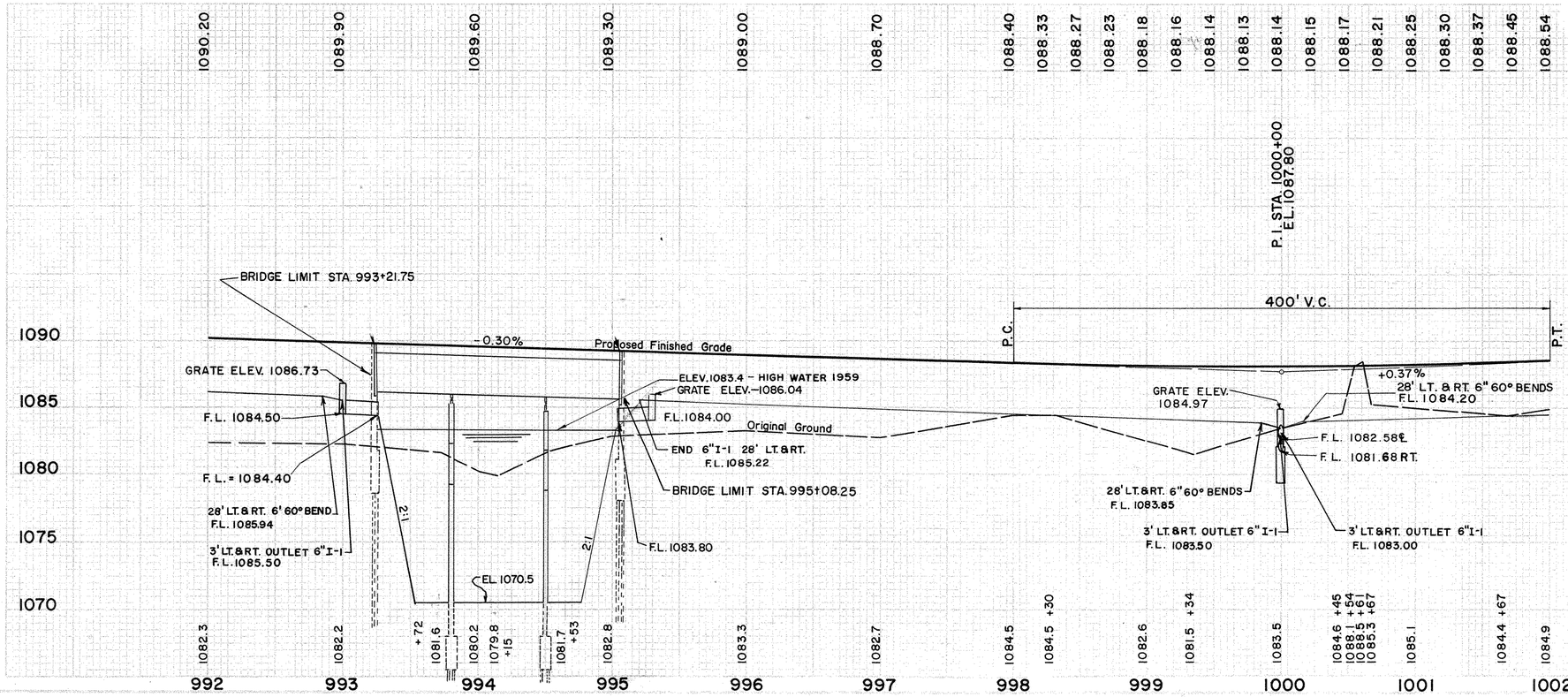


BRIDGE No. KNO-13-1895 L/R
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 56'-70'-56' c/c BEARINGS
ROADWAY: 40'-0" 1/1 GUARD RAILS
LOAD FREQUENCY: CF = 2000(57).
SKEW: 0°
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25' LONG)
ALIGNMENT: TANGENT

B. M. 19-Railroad Spike in 8" Silver Maple
360' left of centerline Sta. 993+95
Elev. 1087.62

B. M. 20-Steel Fence Post driven in ground
171' left of centerline Sta. 1000+49
Elev. 1085.66

B. M. 20A - Fence Post driven in ground
250' left of Sta. 1000+00
Elev. 1086.54



KNO-13-15.93

DITCHES

	STATION FROM	STATION TO	SIDE	L-120 JUTE MATTING SQ. YDS.	I-10 DUMPED ROCK CH. PROTECTION SQ. YDS.
D-1	998+50	1000+00	MED	125	
D-2	1000+00	1000+50	MED	125	
D-3	993+30	993+56	RT.		12
D-4	994+68	995+06	RT.		17
D-5	994+75	995+11	LT.		16
TOTALS				250	45

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.	I-15 GUARD RAIL BARRIER TYPE LIN. FT.
GR-1	992+84.5	993+22	LT.	37.5	
GR-2	992+00	993+22	RT.	122	
GR-3	992+00	993+22	MED	112.5	10
GR-4	995+08	996+58	LT.	150	
GR-5	995+08	995+33	RT.	25	
GR-6	995+08	997+18	MED	112.5	100
TOTALS				559.5	110

STORM SEWERS

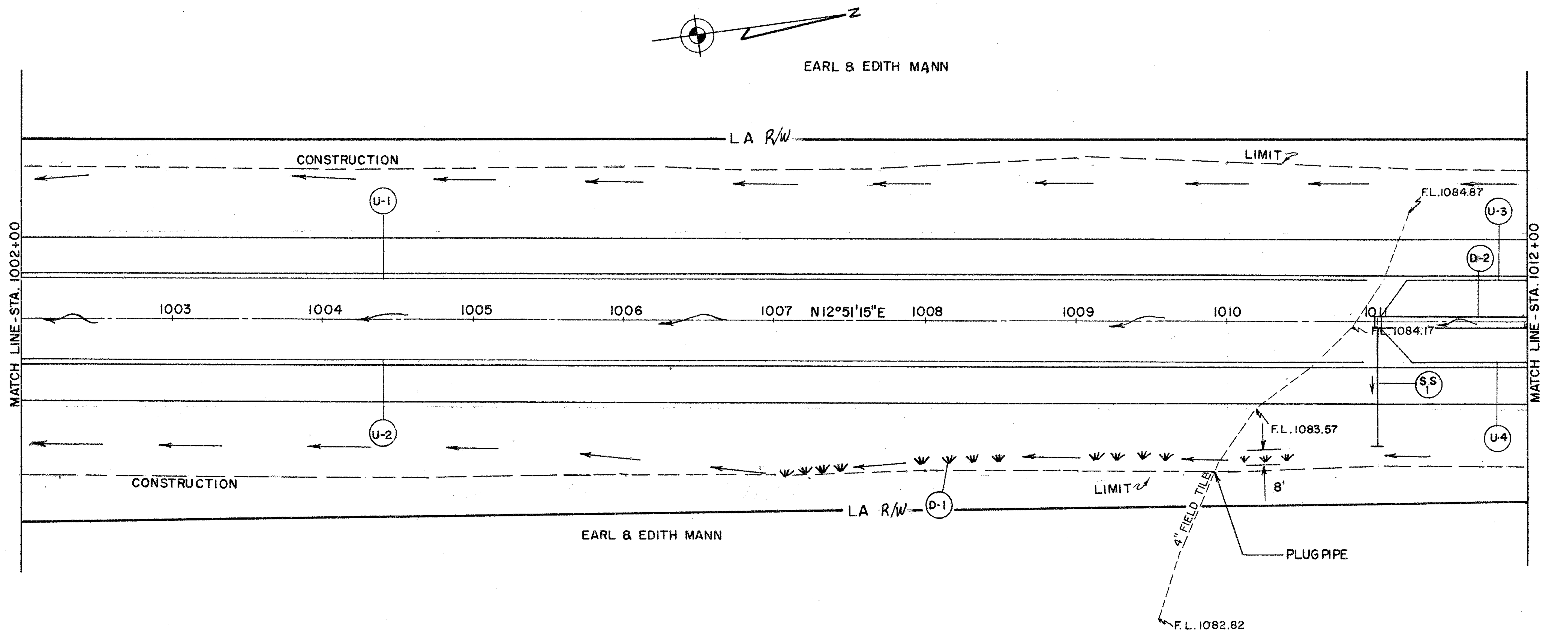
	STATION FROM	STATION TO	SIDE	I-8 STD. No-4 CATCH BASIN EACH	I-8 STD. No2-2B CATCH BASIN EACH	I-1 12" PIPE CLASS E-1 LIN. FT.	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	993+00	993+26	MED		1	26			THIS
SS-2	994+04	995+30	MED		1	26			SHEET
SS-3	1000+00	1000+00	℄-RT.	1			82	0.26	130
TOTALS				1	2	52	82	0.26	

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH
U-1	992+00	993+00	LT.	100	10	1
U-2	992+00	993+00	RT.	100	10	1
U-3	995+30	1000+00	LT.	470	10	1
U-4	995+30	1000+00	RT.	470	10	1
U-5	1000+00	1002+00	LT.	200	10	1
U-6	1000+00	1002+00	RT.	200	10	1
TOTALS				1540	60	6

PLAN-PROFILE SHEET STA. 992+00 TO STA. 1002+00

KNO-13-15.93



DITCHES

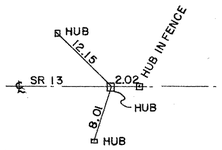
	STATION		SIDE	L-10 SODDING SQ.YDS	L-120 JUTE MATTING SQ.YDS
	FROM	TO			
D-1	1007+00	1010+50	RT.	311	
D-2	1011+00	1012+00	MED.		83
TOTALS				311	83

STORM SEWER

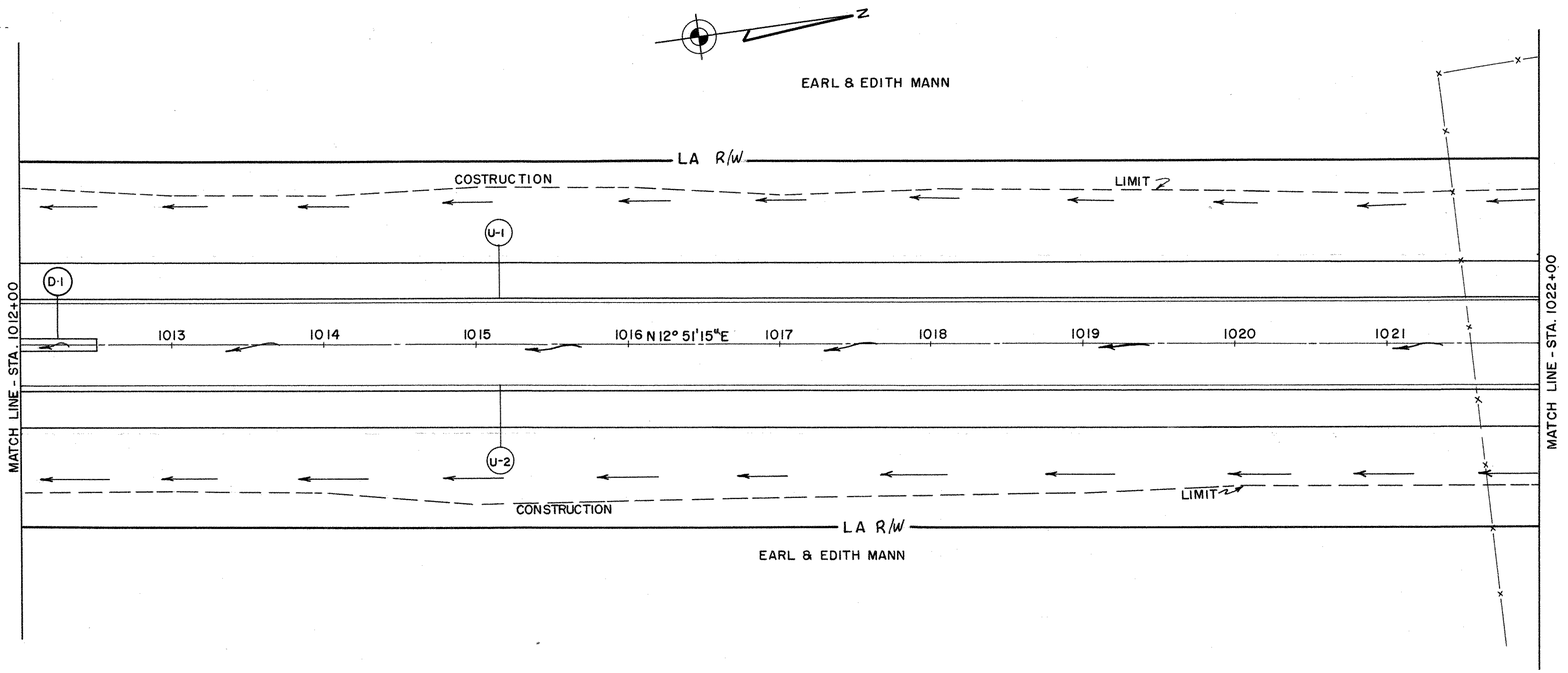
	℄ STATION	I-8 STD. NO. 4 CATCH BASIN EACH	I-1 18" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.
SS-1	1011+00	1	82	0.30

UNDERDRAINS

	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F.4 LIN. FT.	I-5 6" SPECIAL. CLASS I-3 60° BEND EACH
	FROM	TO				
U-1	1002+00	1010+95	LT.	895		
U-2	1002+00	1010+95	RT.	895		
U-3	1011+00	1012+00	LT.	100	10	1
U-4	1011+00	1012+00	RT.	100	10	1
TOTALS				1890	20	2



REFERENCE
POT 1021+50.11



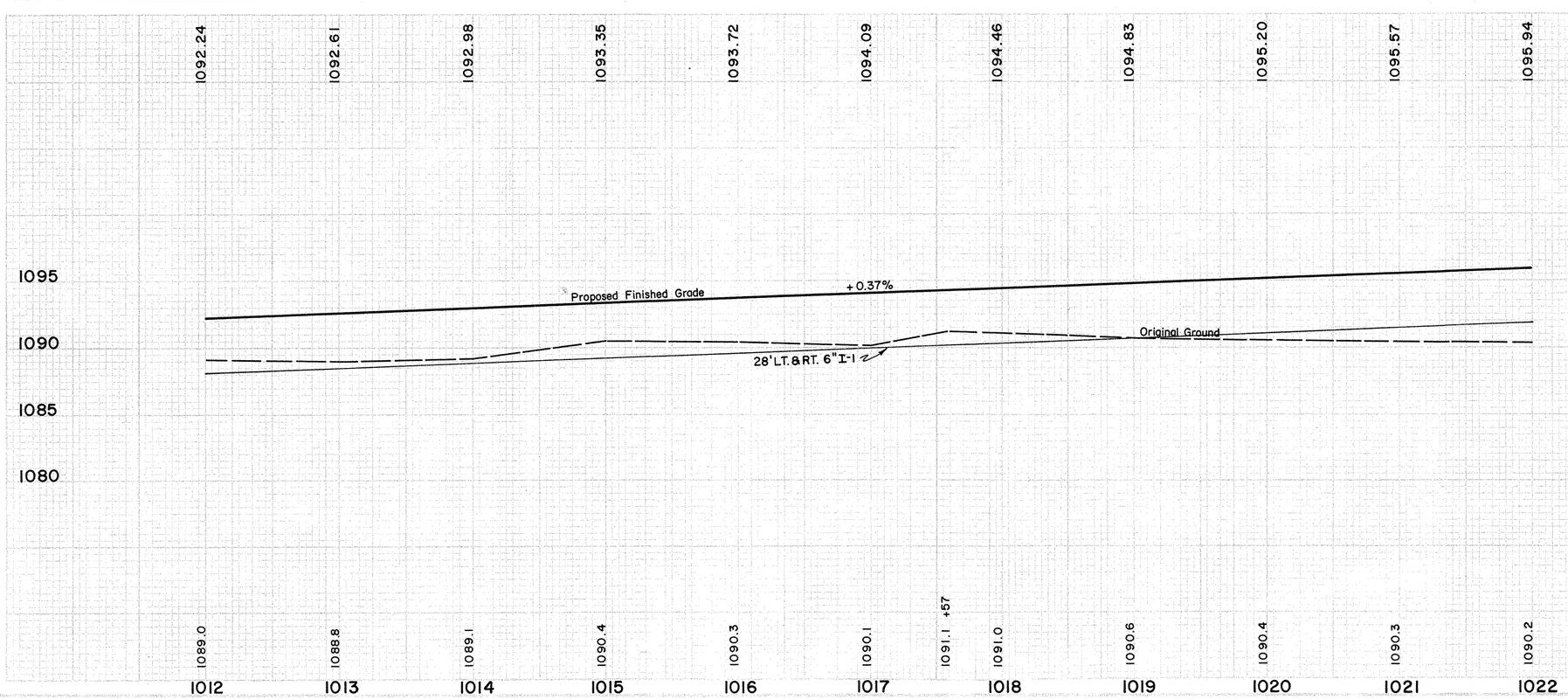
DITCHES

	STATION		SIDE	L-120 JUTE MATTING SQ.YDS.
	FROM	TO		
D-1	1012+00	1012+50	MED.	42
TOTAL				42

UNDERDRAINS

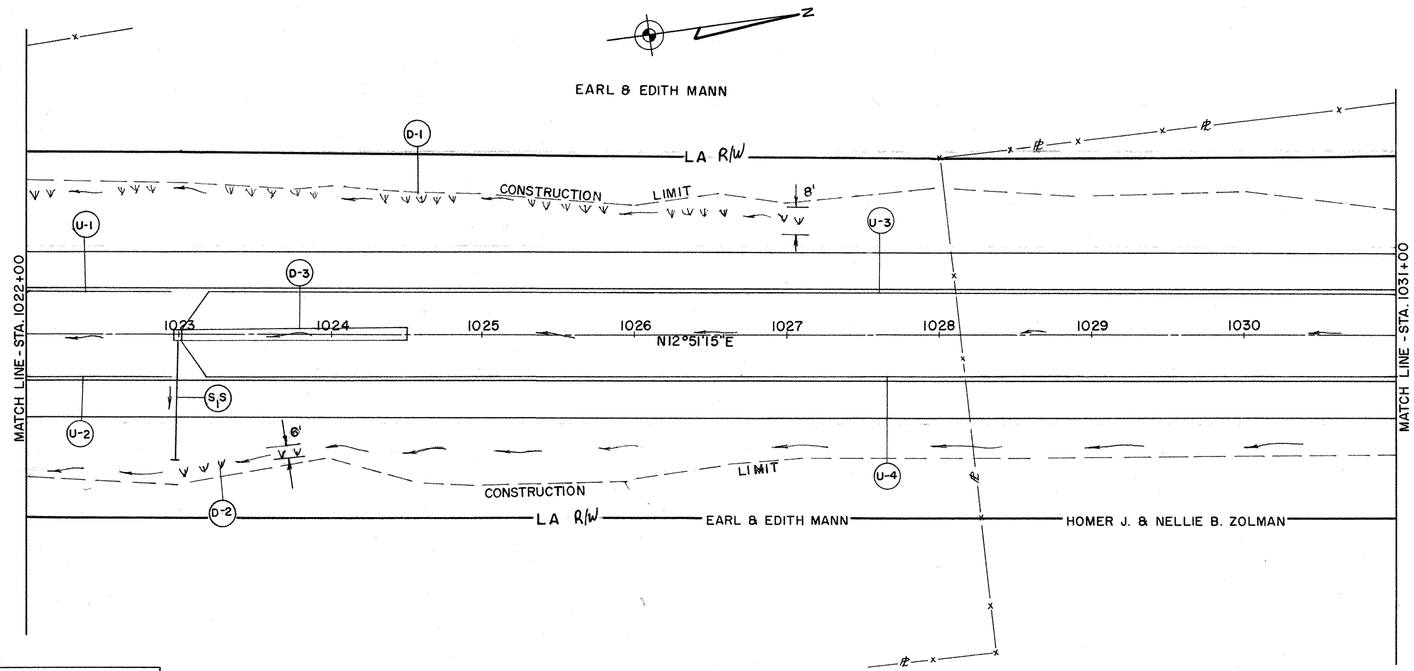
	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.
	FROM	TO		
U-1	1012+00	1022+00	LT.	1000
U-2	1012+00	1022+00	RT.	1000
TOTAL				2000

B. M. 21-Steel Fence Post driven in ground
408' rt. of centerline Sta. 1013+34
Elev. 1089.11



PLAN-PROFILE SHEET STA. 1012+00 TO STA. 1022+00

KNO-13-15.93



B. M. 22-Iron Pipe driven in ground by Rotten Stump
276' rt. of centerline Sta. 1023+15
Elev. 1093.15

UNDERDRAINS

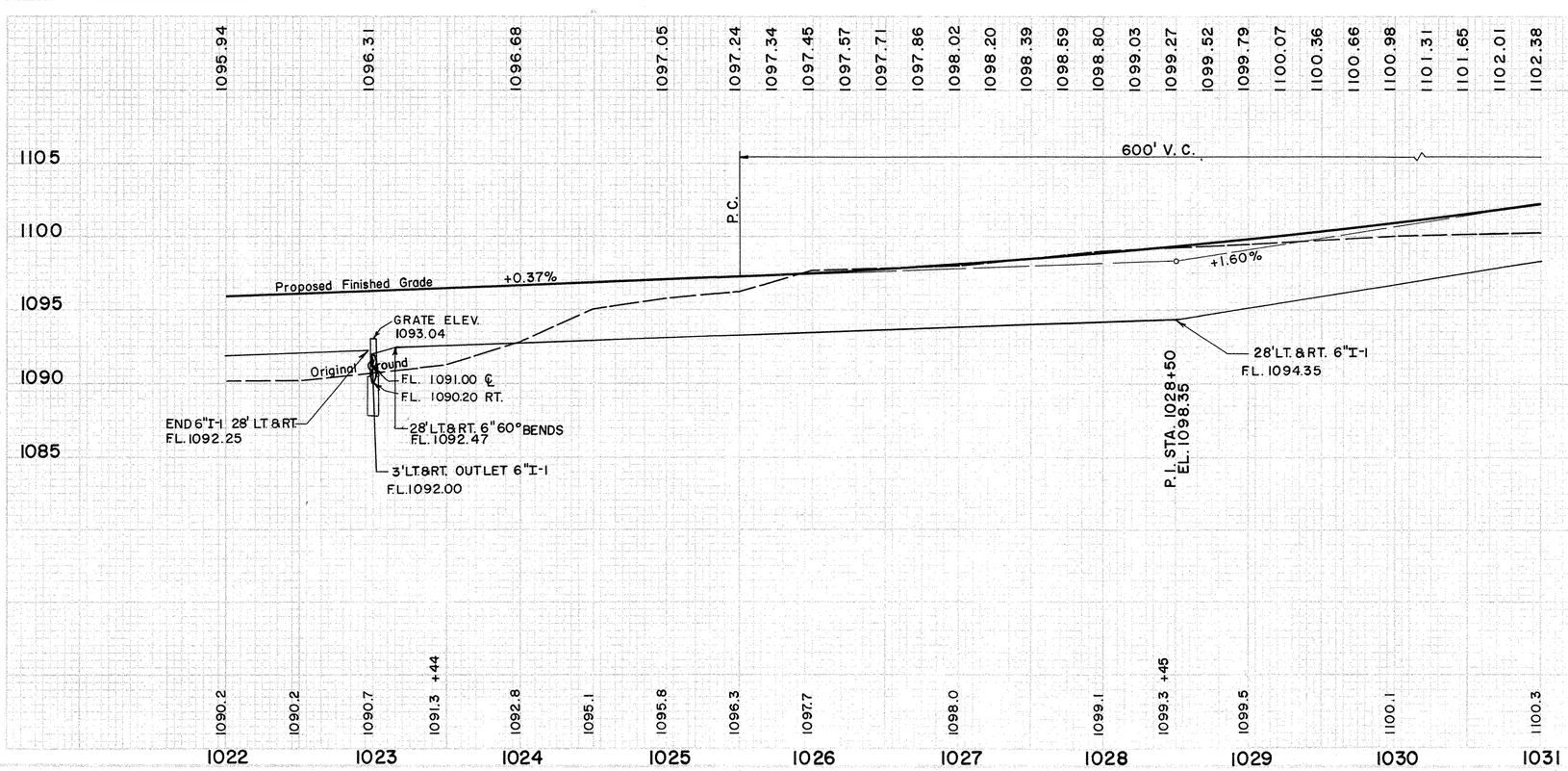
	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH
U-1	1022+00	1022+95	LT.	95		
U-2	1022+00	1022+95	RT.	95		
U-3	1023+00	1031+00	LT.	800	10	1
U-4	1023+00	1031+00	RT.	800	10	1
TOTALS				1790	20	2

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	1022+00	1027+00	LT.	444	
D-2	1023+00	1023+80	RT.	53	
D-3	1023+00	1024+50	MED.		125
TOTALS				497	125

STORM SEWER

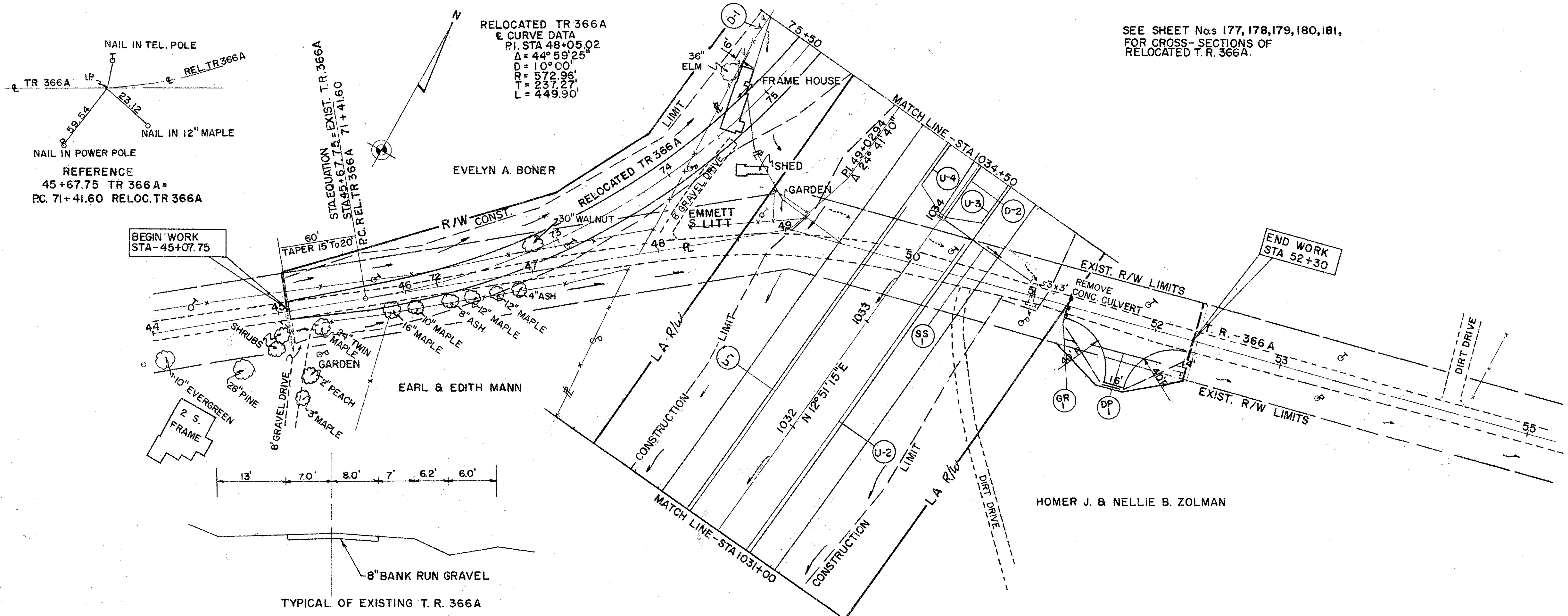
	℄ STATION	I-8 STD. No 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 EACH	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	1023+00	1	80	0.26	136



PLAN-PROFILE SHEET STA. 1022+00 TO STA. 1031+00

F-527(11)

KNO-13-15.93



B. M. 23—Railroad Spike in 30" Walnut
276' Left of centerline Sta. 1032+00
Elev. 1110.69

UNDERDRAINS

	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH
	FROM	TO				
U-1	1031+00	1033+95	LT.	295		
U-2	1031+00	1033+95	RT.	295		
U-3	1034+00	1034+50	RT.	50	10	1
U-4	1034+00	1034+50	LT.	50	10	1
TOTALS				690	20	2

DITCHES

	STATION		SIDE	L-10 SODDING SQ YDS.	L-120 JUTE MATTING SQ. YDS.
	FROM	TO			
D-1	T.R.366A 75+00	T.R.366A 75+50	LT.	33	
D-2	1034+00	1034+50	MED		42
TOTALS				33	42

STORM SEWER

	℄ STATION	I-8 STD. No. 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	1034+00	1	82	0.26	140

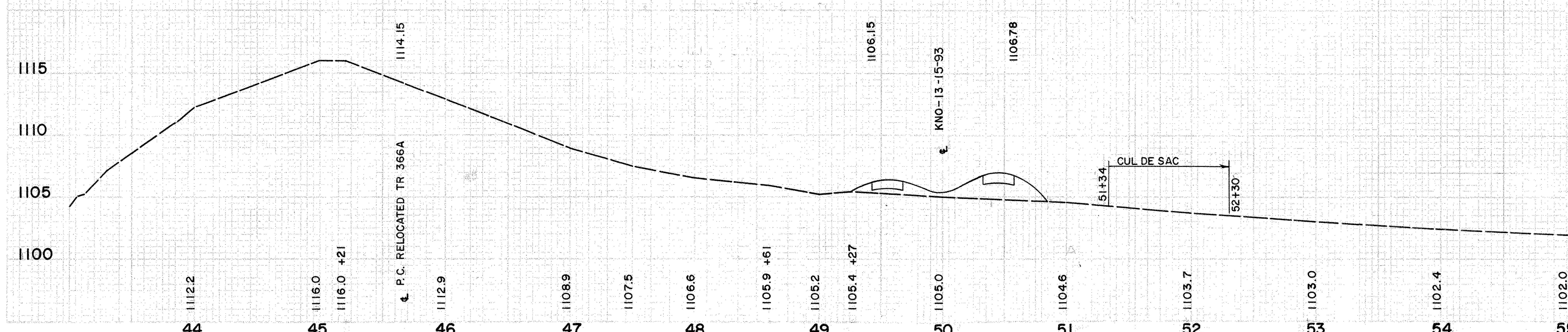
GUARD RAIL

	STATION		SIDE	I-15 GUARD RAIL LIN. FT.
	FROM	TO		
DP-1	T.R.366A	51+29	LT-RT	25

DRIVWAY PIPE

	STATION		SIDE	I-1 36" PIPE CLASS F-4 LIN. FT.
	FROM	TO		
DP-1	T.R.336A 51+54	T.R.336A 52+14	RT.	60

PROFILE-RELOCATED TR-366-A

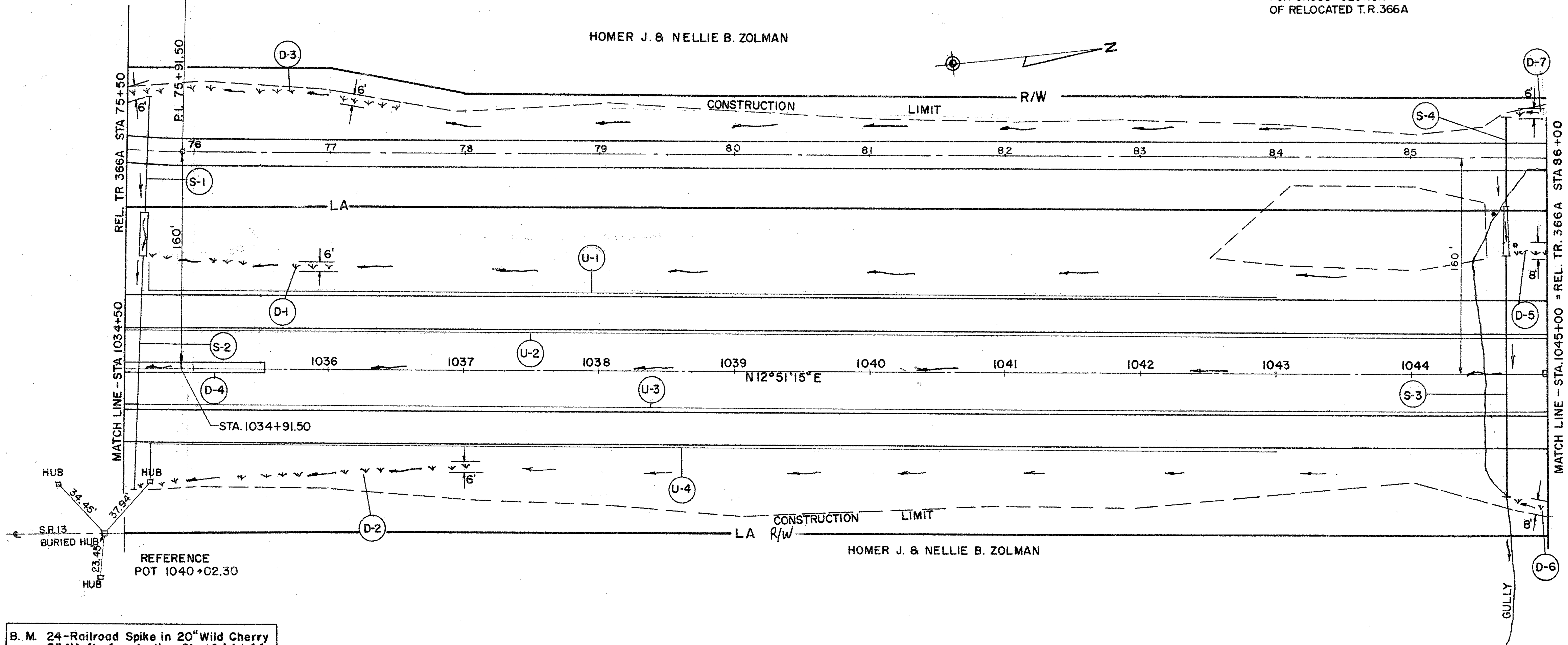


PLAN-PROFILE SHEET RELOCATED TR. 366A
PLAN-PROFILE SHEET STA. 1031+00 TO STA. 1034+50
PLAN-PROFILE SHEET TR. 366A STA. 44+00 TO STA. 55+00

F-527 (11)

SEE SHEET No. 177, 178, 179, 180, 181, FOR CROSS-SECTION OF RELOCATED T.R.366A

KNO-13-15.93



B. M. 24-Railroad Spike in 20" Wild Cherry 354' left of centerline Sta. 1044+44 Elev. 1124.45

DITCHES

	STATION		SIDE	L-10 SODDING SQ. YDS.	L-20 JUTE MATTING SQ. YDS.
	FROM	TO			
D-1	1034+65	1036+00	LT.	90	
D-2	1034+60	1037+00	RT.	160	
D-3	T.R. 366A 75+50	T.R. 366A 77+50	LT.	133	
D-4	1034+50	1035+50	MED.		83
D-5	1044+70	1045+00	LT.	27	
D-6	1044+70	1045+00	RT.	27	
D-7	T.R. 366A 85+70	T.R. 366A 86+00	LT.	20	
TOTALS				457	83

UNDERDRAINS

	STATION		SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-64(C) LIN. FT.	I-5 6" SPECIAL CLASS I-3 90° BEND EACH
	FROM	TO				
U-1	1034+65	1043+00	LT.	845	10	1
U-2	1034+50	1045+00	LT.	1050		
U-3	1034+50	1045+00	RT.	1050		
U-4	1034+70	1043+00	RT.	845	10	1
TOTALS				3790	20	2

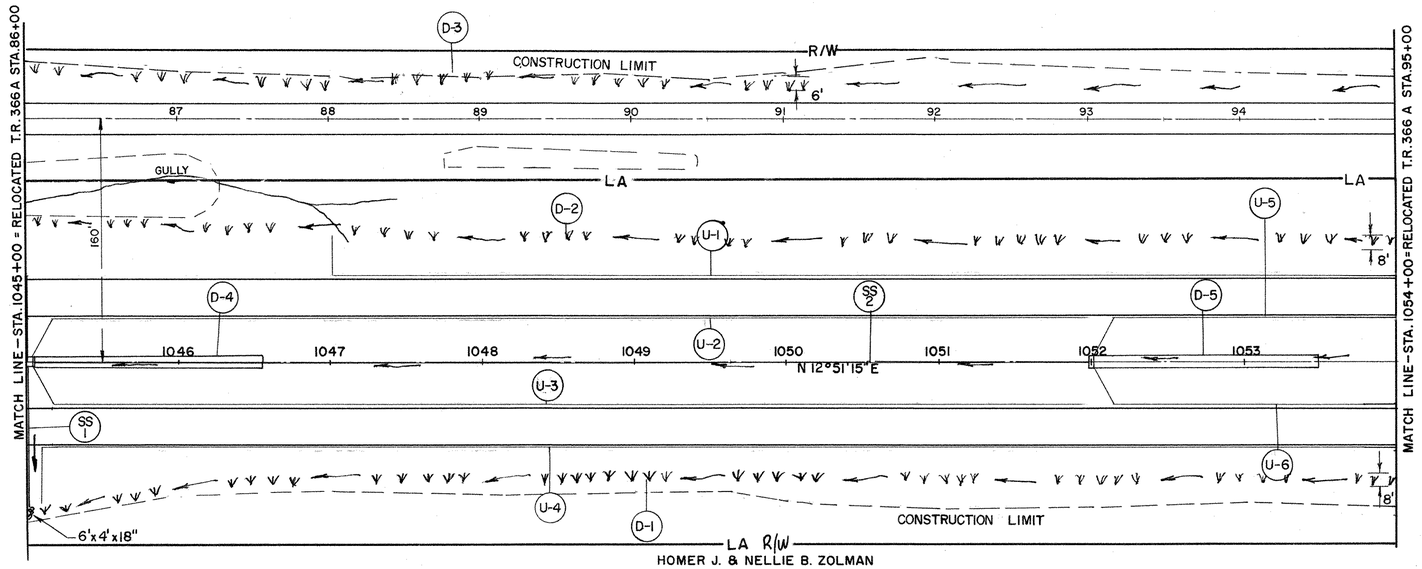
	STRUCTURE NO.	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1		T.R. 366A 75+69	42"	84'	220
S-2	1968	1034+60	42"	172'	220
S-3	2006	1044+70	42"	176'	221
S-4		T.R. 366A 85+70	24"	66'	221

SEE SHEET Nos. 177,178,179,180,181
FOR CROSS-SECTIONS
OF RELOCATED T.R. 366A.

DESIGN DIVISION	STATE	PROJECT	
12	OHIO	F-527(11)	

45
275

KNO-13-15.93



B. M. 25-Railroad Spike in 30" White Ash
460' left of centerline Sta. 1051+10
Elev. 1137.93

DITCHES

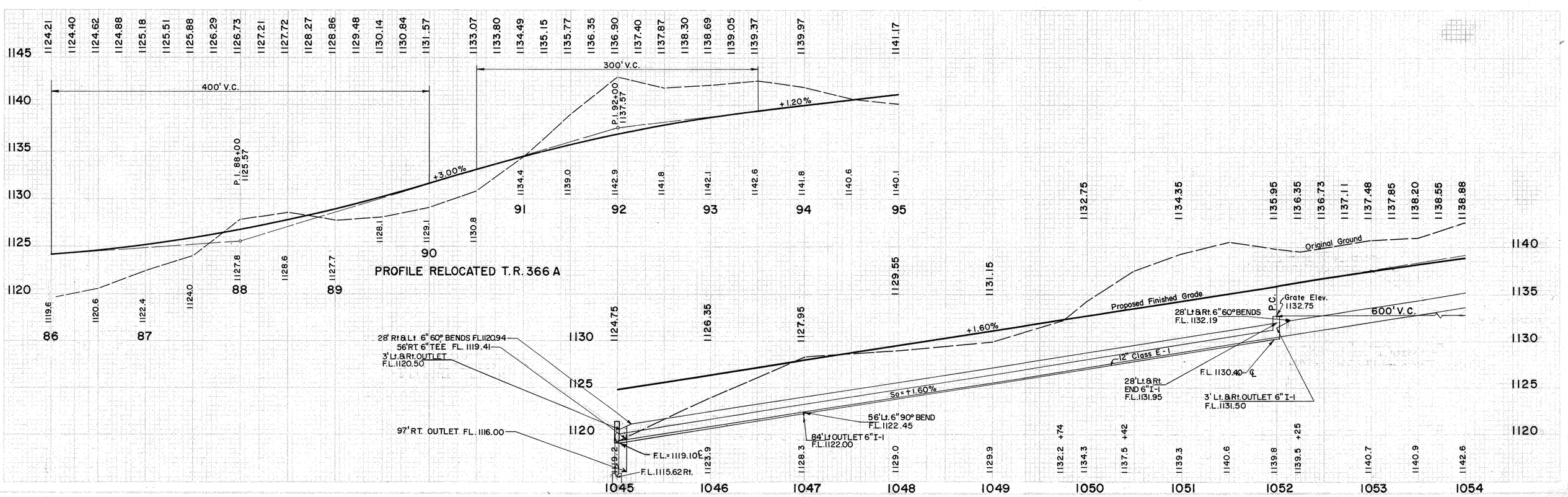
	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	1045+00	1054+00	R.T.	800	
D-2	1045+00	1054+00	L.T.	800	
D-3	T.R.366A 86+00	T.R.366A 91+10	L.T.	340	
D-4	1045+00	1046+50	MED.		125
D-5	1052+00	1053+50	MED.		125
TOTALS				1940	250

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-6.4(C) LIN. FT.	I-5 6" SPECIAL CLASS I-3 60° BEND EACH	I-5 6" SPECIAL CLASS I-3 TEE EACH
U-1	1047+00	1054+00	L.T.	715		10		1
U-2	1045+00	1052+00	L.T.	700	10		1	
U-3	1045+00	1052+00	R.T.	700	10		1	
U-4	1045+10	1054+00	R.T.	918		10		1
U-5	1052+00	1054+00	L.T.	200	10		1	
U-6	1052+00	1054+00	R.T.	200	10		1	
TOTALS				3433	40	20	6	

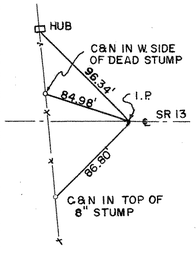
STORM SEWERS

	STATION FROM	STATION TO	SIDE	I-8 STD. No. 4 CATCH BASIN EACH	I-1 12" PIPE CLASS E-1 LIN. FT.	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	DETAILS ON SHEET
SS-1	1045+00	1045+00	L-RT.	1		94	0.26	2	144
SS-2	1045+00	1052+00	MED.	1	700				144,145,146
TOTALS				2	700	94	0.26	2	

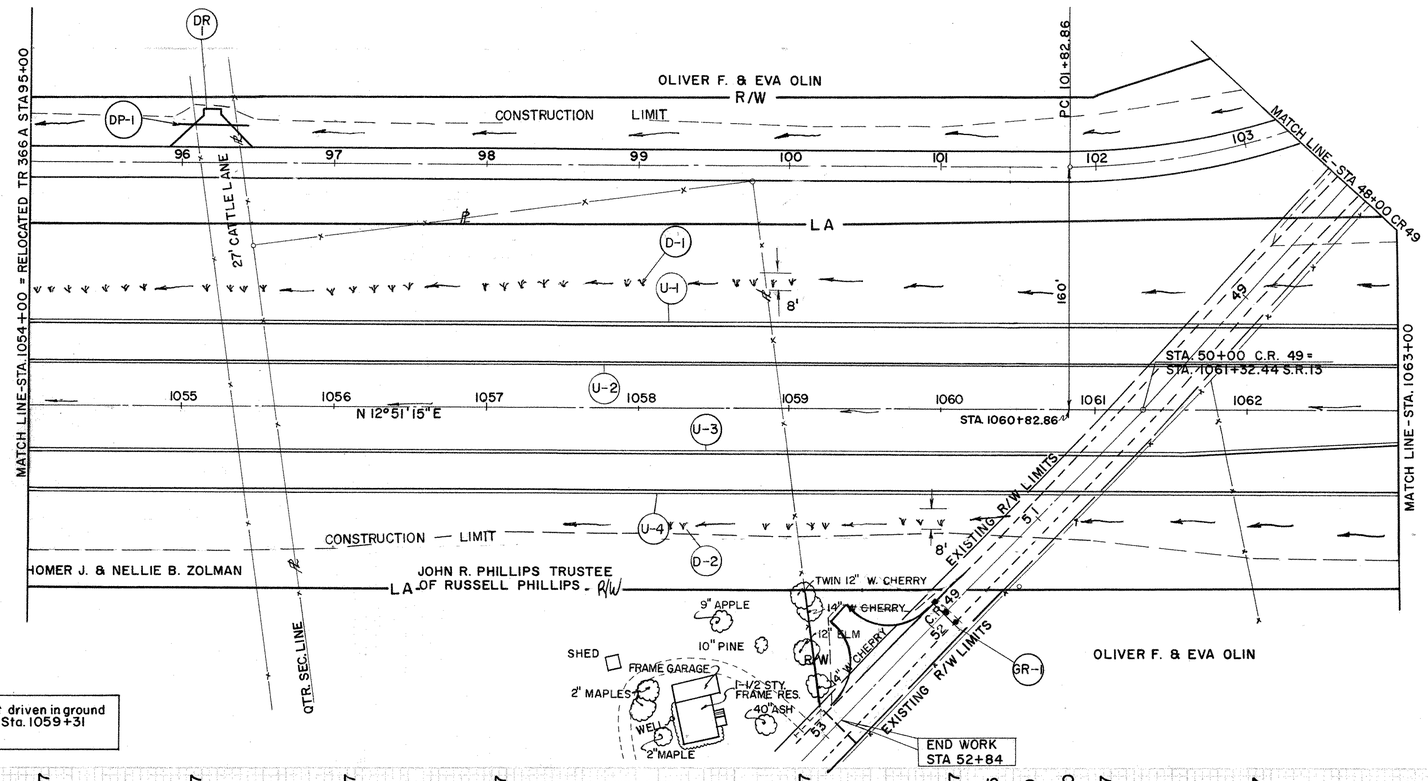


PLAN-PROFILE SHEET STA. 1045+00 TO STA. 1054+00

KNO-13-15.93



REFERENCE POT 1059+79.11



B. M. 26-Steel Fence Post driven in ground 306' rt. of centerline Sta. 1059+31 Elev. 1141.16

℄ CURVE DATA
RELOCATED TR 366 A
Δ = 48°05'15"
D = 13°
R = 440.74'
T = 196.63
L = 369.90

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.
D-1	1054+00	1063+00	L.T.	444
D-2	1058+00	1060+00	R.T.	178
TOTALS				622

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.
U-1	1054+00	1063+00	L.T.	900
U-2	1054+00	1063+00	L.T.	900
U-3	1054+00	1063+00	R.T.	900
U-4	1054+00	1063+00	RT	900
TOTALS				3600

GUARD RAIL

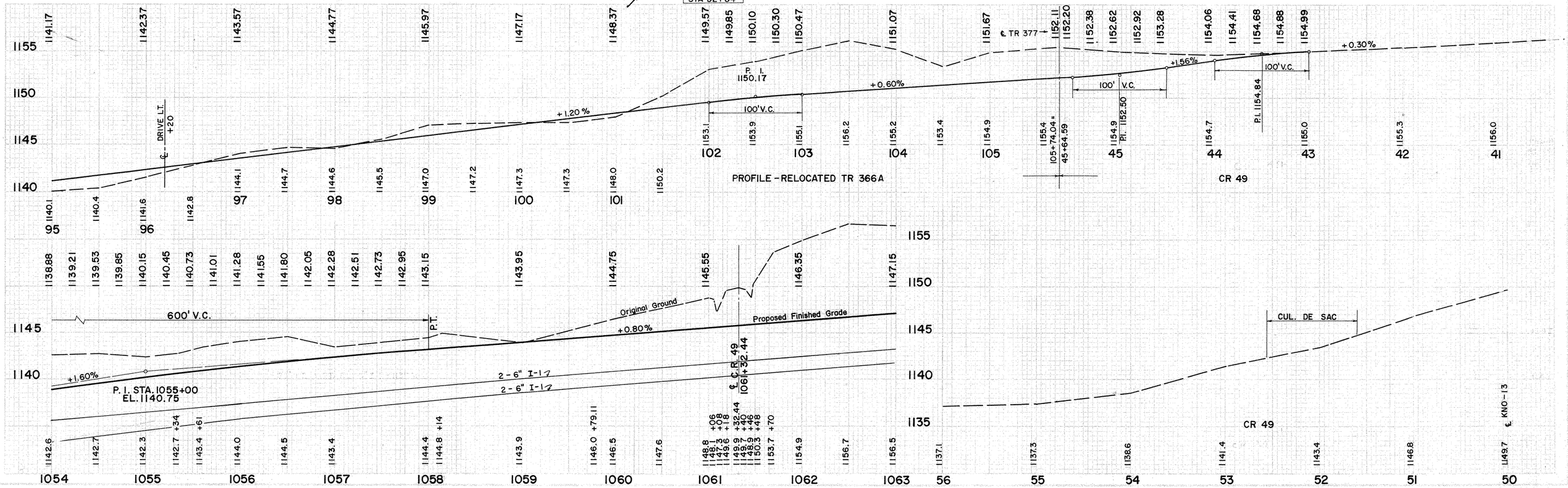
	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	CR.49	51+16	LT.-RT.	25

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	I-1 15" PIPE CLASS F-4 LIN. FT.
DP-1	T.R 366A 95+96	T.R 366A 96+44	LT.	48

DRIVEWAY

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	T.R 366A 96+20	12'	26'	195



PLAN-PROFILE SHEET STA. 1054+00 TO STA. 1063+00
PLAN-PROFILE SHEET CR 49 & RELOCATED TR 366A

NO. OF SHEETS	STATE	PROJECT	
2	OHIO	F-527(11)	

47
275

KNO-13-15.93

C&N IN NORTH SIDE OF RD

C&N IN 2ND POST EAST OF CORNOR

CAP & NAIL IN WEST SIDE OF BRACE POLE

REFERENCE
INTERSECTION-TR 377 WITH CR 49 AND REL. TR 366 A

TYPICAL OF EXISTING COUNTY RD. 49

TYPICAL OF EXISTING TWP. RD. 377

HOWARD & DOROTHY FARLEE

OLIVER F. & EVA OLIN

FOR PROFILE OF C.R. 49 & RELOCATED T.R.-366A See Sheet 46

FUTURE GRADE SEPARATION T.R.-49

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS F-4 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-6.4(C) LIN. FT.	I-5 6" SPECIAL CLASS I-3 90° BEND EACH	I-5 6" SPECIAL CLASS I-3 60° BEND EACH
U-1	1063+00	1064+25	LT.	125				
U-2	1063+00	1064+25	LT.	125				
U-3	1063+00	1064+25	RT.	125				
U-4	1063+00	1064+25	RT.	125				
U-5	1065+50	1067+00	RT.	145	10			1
U-6	1066+00	1067+00	RT.	118		10	1	
U-7	1065+50	1067+00	LT.	145	10			1
U-8	1065+70	1067+00	LT.	140		10	1	
TOTALS				1048	20	20	4	

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.	L-120 JUTE MATTING SQ. YDS.
D-1	1066+00	1066+50	RT.	33	
D-2	TR 377 47+50	TR 377 48+75	LT.	83	
D-3	1065+50	1067+00	MED.		125
TOTALS				116	125

STORM SEWER

	℄ STATION	I-8 STD. No. 4 CATCH BASIN EACH	I-1 15" PIPE CLASS J-1 LIN. FT.	I-2 MASONRY CU. YDS.	DETAILS ON SHEET
SS-1	1065+50	1	86	0.26	150

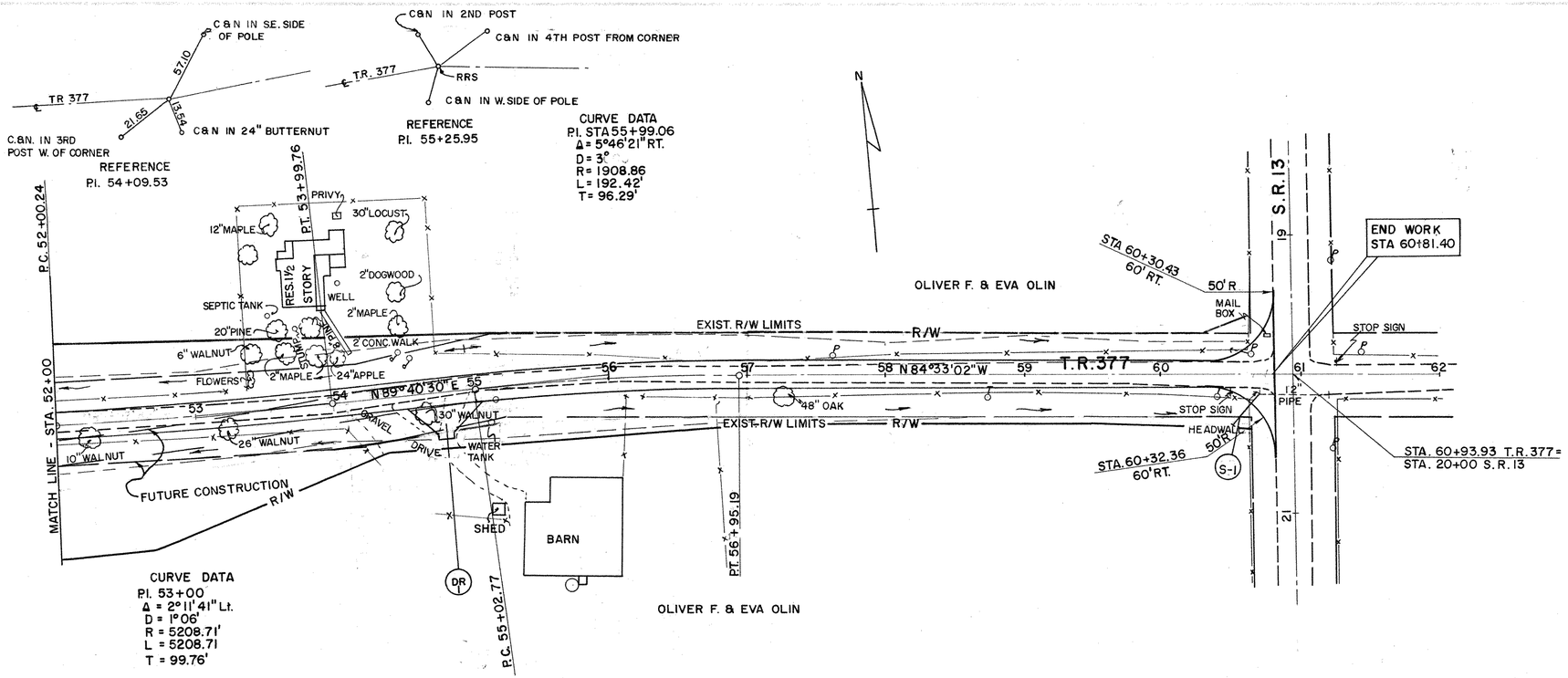
CULVERTS

	℄ STATION	PROPOSED SIZE	PROPOSED LENGTH	DETAILS ON SHEET
S-1	TR 49 49+20	24"	84'	222
S-2	TR 377 48+75	24"	58'	222
S-3	TR 377 50+00	18"	70'	222

PLAN-PROFILE SHEET STA. 1063+00 TO STA. 1067+00
PLAN-PROFILE SHEET TR 377 STA. 42+00 TO STA. 52+00

FED. ROAD DIV. NO.	STATE	PROJECT		
2	OHIO	F-527(11)		

KNO-13-15.93

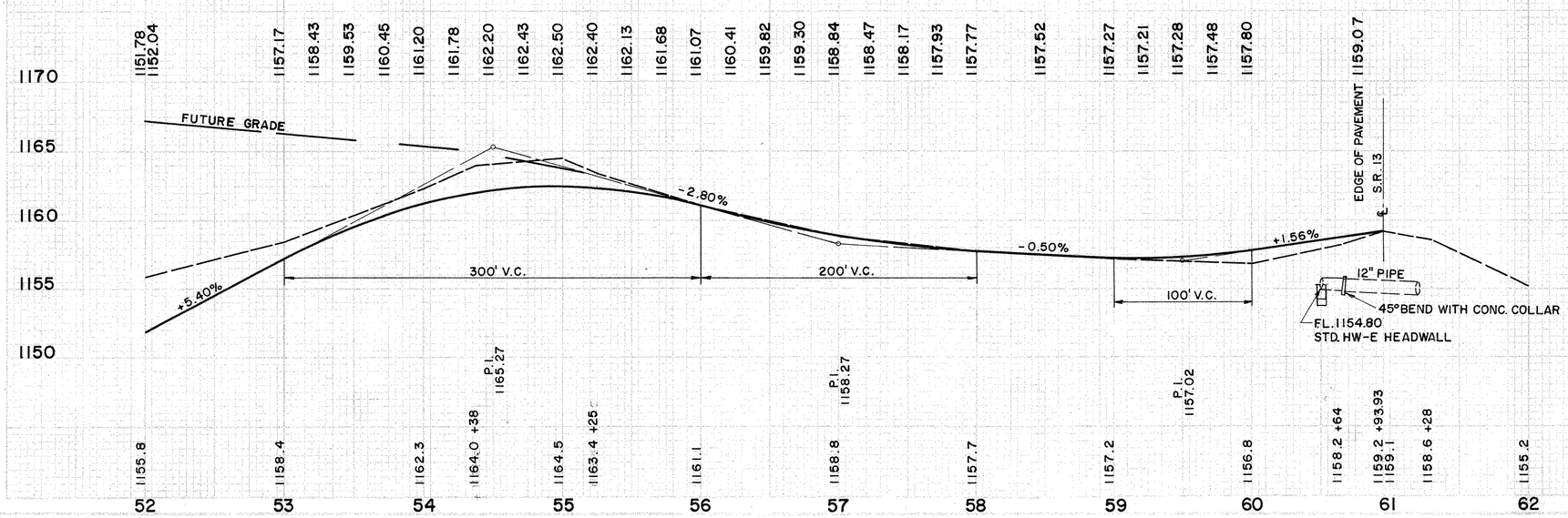


CULVERT

	STATION		SIDE	I-1 12" PIPE CLASS E-1 LIN. FT.	I-1 12" SPECIAL CLASS E-1 EACH	I-2 MASONRY CU. YDS.
	FROM	TO				
S-1	T.R 377 60+52	T.R 377 60+72	RT.	28	1	0.23

DRIVEWAY

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	54+78	12'	24'	195



PLAN-PROFILE SHEET T.R.-377 STA. 52+00 TO STA. 62+00

SHEET NO.	STATE	PROJECT		
2	OHIO	F-527(11)		

KNO-13-15.93

OLIVER F. & EVA OLIN

L.A. R/W

CONSTRUCTION

LIMIT

P.I. 1073+53.84

P.I. STA. 1074+00

P.I. 1074+69.31

N12°51'15"E

N44°04'11"E

T.S. 1068+85.41 ℄ SOUTH LANES

S.C. STA. 1072+85.41 ℄ SOUTH LANES

C.S. STA. 1072+85.41 ℄ SOUTH LANES

S.T. STA. 1078+05.67 ℄ SOUTH LANES

MATCH LINE - STA. 1067+00

MATCH LINE - STA. 1078+00

1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077

U-1 U-2 U-3 U-4

T.S. STA. 1067+98.68 = ℄ SURVEY & ℄ SOUTH LANES

T.S. STA. 1068+67.99 ℄ NORTH LANES

S.C. STA. 1071+98.68

S.C. STA. 1072+67.99 ℄ NORTH LANES

C.S. STA. 1075+79.07 ℄ NORTH LANES

C.S. STA. 1076+48.38

OLIVER F. & EVA OLIN

1 STORY FRAME SHED

N

SPIRAL CURVE DATA
℄ SOUTH LANES
P.I. STA. 1073+53.84
Δ = 31° 12' 56"
Dc = 6° 00'
Ts = 468.43'
Ls = 400'
Es = 48.77'
θs = 12° 00'
Δs = 7° 12' 56"
Lc = 120.26'
Rc = 954.93'
X = 398.25'
Y = 27.84'
L.T. = 267.28'
S.T. = 133.89'

SPIRAL CURVE DATA
℄ SURVEY
P.I. STA. 1074+00
℄ NORTH LANES
P.I. STA. 1074+69.31
Δ = 31° 12' 56"
Dc = 4° 00'
Rc = 1432.40'
Ls = 400.00'
Ts = 601.32'
Es = 59.70'
θs = 8° 00'
Δc = 15° 12' 56"
Lc = 380.39'
X = 399.22'
Y = 18.59'
L.T. = 266.94'
S.T. = 133.58'

B. M. 27—Railroad Spike in Twin 15" Pear 311' rt. of centerline Sta. 1067+57 Elev. 1157.85

B. M. 28—Steel Fence Post driven in ground 253' rt. of centerline Sta. 1075+28 Elev. 1157.75

B. M. 28A—Fence Post driven in ground 438' rt. of centerline Sta. 1072+60 Elev. 1153.13

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-I 6" PIPE CLASS I-3 LIN. FT.
U-1	1067+00	1077+00	LT.	1000
U-2	1067+00	1077+00	LT.	1000
U-3	1067+00	1068+00	RT.	100
U-4	1067+00	1077+00	RT.	1000
TOTAL				3100

1150.35 1151.15 1151.95 1152.75 1153.55 1154.35 1155.15 1155.95 1156.75 1157.55 1158.35 1159.15

P.C.V.C. SOUTH LANE +80

1160

1155

1150

Original Ground

FINISHED GRADE NORTH & SOUTH LANES

+0.80%

4' LT. END 6" I-1 F.L. 1154.35

32' LT. END 6" I-1 F.L. 1153.53

23' RT. END 6" I-1 F.L. 1151.83

28' RT. END 6" I-1 F.L. 1147.18

6" I-1 LT.

6" I-1 RT.

56' LT. & RT. 6" I-1 F.L. 1144.90

1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078

PLAN-PROFILE SHEET STA. 1067+00 TO STA. 1078+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93


MATCH LINE - STA. 1078+00
ST. 1079+79.07 ℄ SURVEY = STA. 1079+99.80 SOUTH LANES
STA. 1080+80.84 SOUTH LANES = STA. 1080+60.11 ℄ SURVEY
OLIVER F. & EVA OLIN
CONSTRUCTION LIMIT
T.S. 1082+93.40
S.W. 1/4 SEC. 11
N.W. 1/4 SEC. 20
N 84°30' W
P.C. EDGE PAVEMET
S.C. 1086+93.40
C.S. 1087+68.41
S.T. 1091.68.41
MARJORIE E. LEVERING
R/W
LA
N 44°04'11" E
1082+19.98 = 9+45.69
END WORK 9+33.69
S.T. STA. 1080+48.38 NORTH LANES = STA. 1080+60.11 ℄ SURVEY
REFERENCE P.I. 1087+37.41
HUB
I.P.
24.02'
36.63'
28.93'
N 15°34'08" E
P.I. STA. 1087+37.41
GUY
℄ Temporary Run-Around Road
CLASS B PAVEMENT
R/W MARKERS
CONSTRUCTION LIMIT
8" FIELD DR.
MATCH LINE - STA. 1092+00
P.I. STA. 122+11.73 = STA. 1091+74.88
P.T. 122+15.36
P.C. 121+04.10
P.T. 120+60.00
P.C.C. 119+40.00
OLIVER F. & EVA OLIN
PC STA. 116+48.32
8" PEAR
R/W MARKER
N 45°55'49" W
DR 1
DR 2
100' R
P.T. 5+49.93
EXIST. S.R. 13
MAIL BOX
12" GALV. PIPE
4" V.C.P. DRAIN
22" MAPLE
24" MAPLE
12" MAPLE
20" MAPLE
2-STORY FRAME RES.
S.E. 1/4 SEC. 11
N.E. 1/4 SEC. 20
N 4°20'12" E
P.I. 4+19.94
P.C. 108+70.61 = 2+70.61
BEGIN WORK STA. 2+50
WENDELL BURKHOLDER
P-1
PROFILE - DR 1
1160
1155
1150
0
+50
1+00
1+50
2+00
1155.05
1154.63
1154.97
1153.37
+0.40%
10'
+15

SPIRAL CURVE DATA
℄ SURVEY
P.I. STA. 1087+37.41
Δ = 28°30'03" LT.
Dc = 6°00'
Ls = 400'
θs = 12°00'
Es = 37.8'
Ts = 444.01'
Δc = 4°30'03"
Lc = 75.01'
Rc = 954.93'
X = 398.25'
Y = 27.84'
S.T. = 133.89'
L.T. = 267.28'

CURVE DATA
P.I. = 4+19.94
D = 18°
Δ = 50°16'01"
L = 279.26
T = 149.33

CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 120+00.22
Δ = 12° Rt.
D = 10°00'
T = 60.22'
R = 572.96
L = 120.00'

CURVE DATA - EXISTING - S.R. 13
P.I. STA. 122+11.73
Δ = 11° 13' 56" RT.
D = 1°00'
R = 5729.58'
L = 1123.22'
T = 563.41'
E = 27.63'

CURVE DATA
TEMPORARY RUN-AROUND RD.
P.I. STA. 121+59.78
Δ = 6°40'33" LT.
D = 6°
T = 55.68'
R = 954.93'
L = 111.26'

PAVEMENT REMOVAL

	STATION FROM	STATION TO	E-8 REMOVAL & DISPOSAL OF EXIST. PAVEMENT SQ. YDS.	SEE HATCHED AREA
P-1	EX.SR13 109+80	EX.SR15 112+28	565	

	℄ STATION	E-1 EMBANKMENT CU. YDS.	I-18 AGGREGATE CU. YDS.	T-35 ASPHALTIC CONCRETE CU. YDS.
DR-1	NORTH CONN. 5+49.93	54	33	13
DR-2	1090+24	SEE DETAILS — SHEET NO. 195		

← SEE SHEET No. 195 FOR TYPICAL SECTION

ITEM E-1 CARRIED TO CALCULATION SHEET

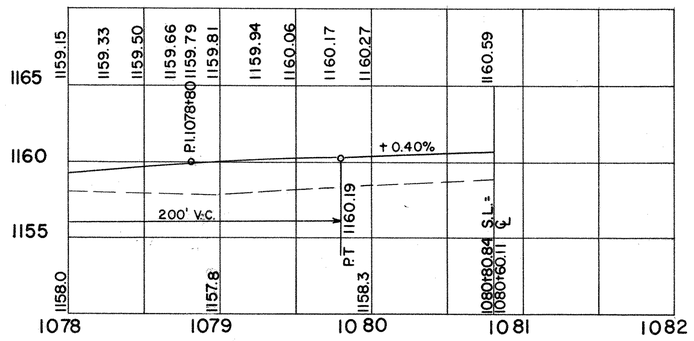
B. M. 29 - Railroad Spike in 48" Elm
122' left of centline Sta. 1084+44
Elev. 1159.95

B. M. 29A - Railroad Spike in 8" Wild Cherry
232' left of centerline Sta. 1083+46
Elev. 1161.66

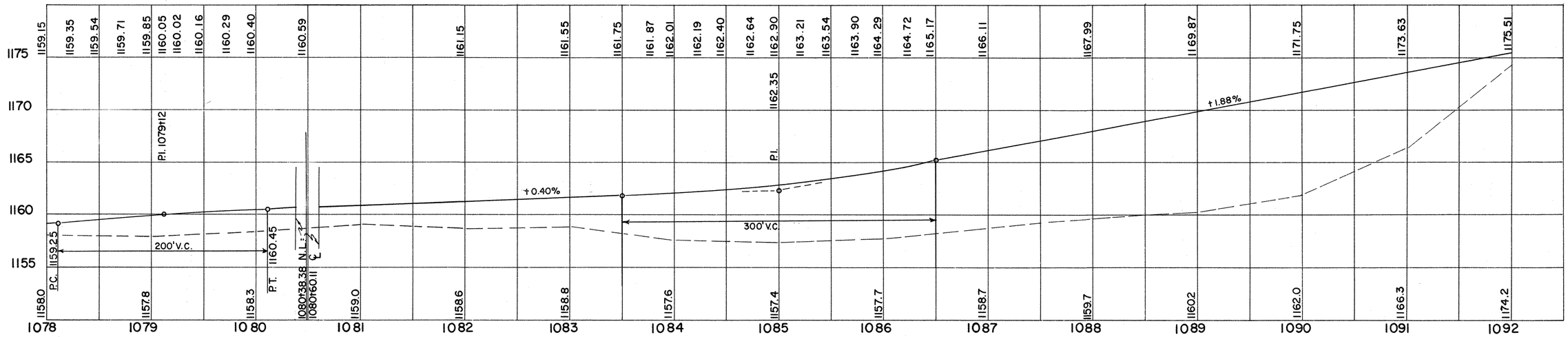
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

51
275

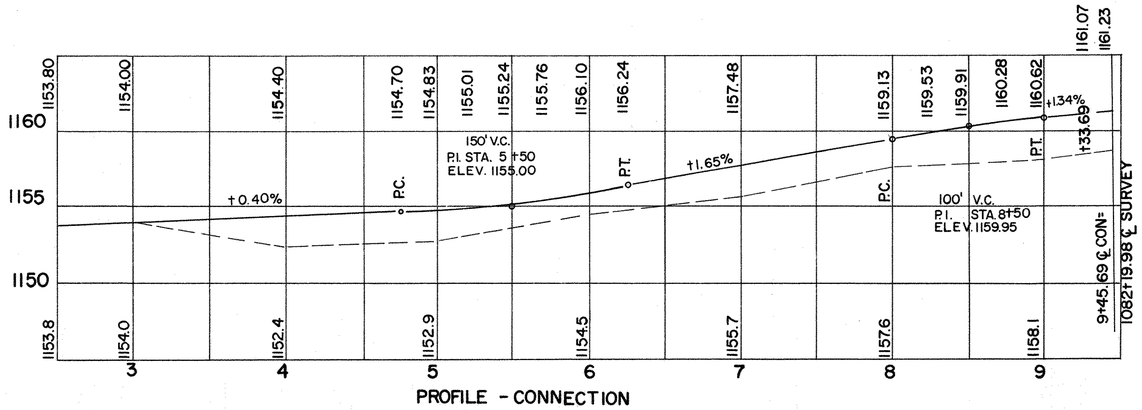
KNO - 13 - 15.93



PROFILE SOUTH LANE



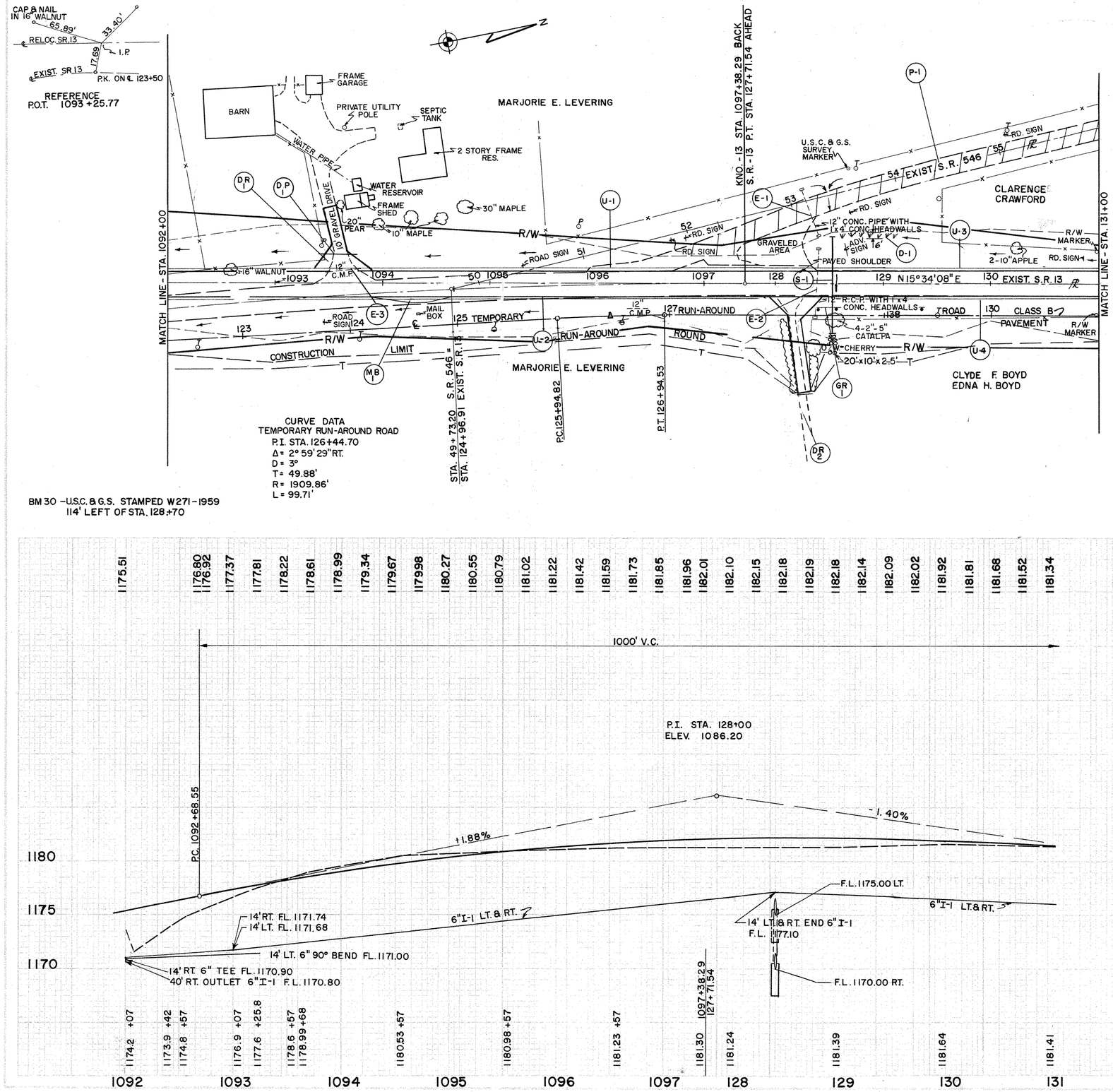
PROFILE NORTH & SOUTH LANES



PROFILE - CONNECTION

PROFILE STA. 1078+00 TO 1092+00
PROFILE CONNECTION

KNO-13-15.93



CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 126+44.70
Δ = 2° 59' 29" RT.
D = 3°
T = 49.88'
R = 1909.86'
L = 99.71'

BM 30 - U.S.C. & G.S. STAMPED W 271 - 1959
114' LEFT OF STA. 128+70

DRIVEWAY PIPE

	STATION FROM	STATION TO	SIDE	I-1 12" PIPE CLASS F-4 LIN. FT.
DP-1	1093+42	1093+76	LT.	36

UNDERDRAINS

	STATION FROM	STATION TO	SIDE	I-1 6" PIPE CLASS I-3 LIN. FT.	I-1 6" PIPE CLASS J-1 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-6.4(c) LIN. FT.	I-5 6" SPECIAL CLASS I-3 90° BEND EACH	I-5 6" SPECIAL CLASS I-3 TEE EACH
U-1	1092+00	128+55	LT.	624	28		1	
U-2	1092+00	128+55	RT.	640		10		1
U-3	128+55	131+00	LT.	245				
U-4	128+55	131+00	RT.	245				
TOTALS				1754	28	10	2	

PAVEMENT REMOVAL

	STATION FROM	STATION TO	SIDE	E-8 REMOVAL & DISPOSAL OF EXIST. PAVEMENT SQ. YDS.	SEE HATCHED AREA
P-1	1096+60	131+00	LT.	889	

MAILBOX APPROACH

	STATION FROM	STATION TO	SIDE	I-18 AGGREGATE CU. YDS.	T-35 ASPHALTIC CONCRETE CU. YDS.
MB-1	1093+92	1094+62	RT.	5	2

CULVERT

	STRUCTURE NO.	℄ STATION	I-1 18" PIPE CLASS A-1 SEC. M-6.6(b) or SEC. M-6.8(b) LIN. FT.	I-2 MASONRY CU. YDS.	I-10 DUMPED R. C. P. CU. YDS.	I-10 RIPRAP (6" REIN. CONC. SLAB) SQ. YDS.	DETAILS ON SHEET
S-1	2112	128+53	90	0.60	7	3	

DITCHES

	STATION FROM	STATION TO	SIDE	L-10 SODDING SQ. YDS.
D-1	128+53	129+00	LT.	31

GUARD RAIL

	STATION FROM	STATION TO	SIDE	I-15 GUARD RAIL LIN. FT.
GR-1	128+35	129+35	RT.	100

PIPE REMOVAL

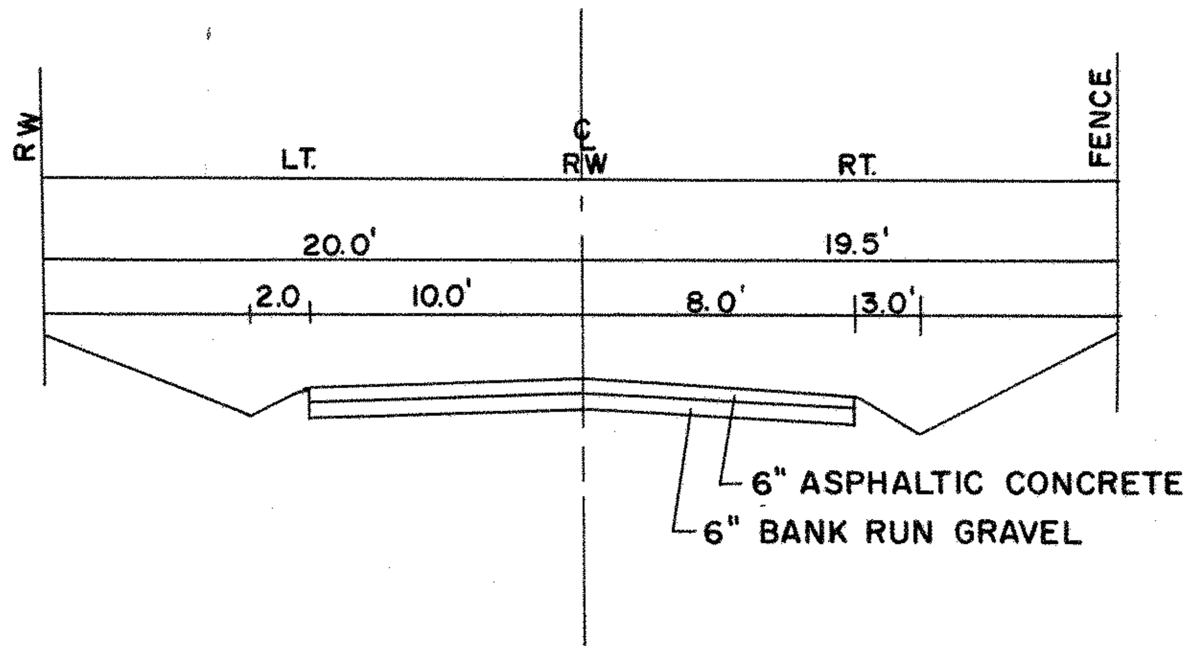
	STATION FROM	STATION TO	SIDE	E-12 REMOVE 12" PIPE LIN. FT.
E-1	128+26	128+41	LT.	44
E-2	128+27	128+42	LT-RT.	62
E-3	1093+51	1093+80	LT	32
TOTAL				138

DRIVEWAYS

	℄ STATION	PROPOSED WIDTH	PROPOSED LENGTH	DETAILS ON SHEET
DR-1	1093+70	12'	60'	195
DR-2	128+09	12'	90'	195

PLAN-PROFILE SHEET STA. 1092+00 TO STA. 131+00

KNO-13-15.93



TYPICAL OF EXISTING
S.R. 546

DITCHES

	STATION		SIDE	L-10 SODDING SQ. YDS
	FROM	TO		
D-1	135+00	135+50	RT.	33
D-2	138+15	141+50	LT.	223
TOTAL				256

DRIVEWAY

	℄ STATION	PROPOSED		DETAILS ON SHEET
		WIDTH	LENGTH	
DR-1	131+72	12'	30'	195

CULVERT

	STRUCTURE NO.	℄ STATION	PROPOSED		DETAILS ON SHEET
			SIZE	LENGTH	
S-1	2126	138+00	54"	130'	223

GUARD RAIL

	STATION		SIDE	I-15 GUARD RAIL LIN. FT.
	FROM	TO		
GR-1	135+00	140+50	LT.	550
GR-2	134+50	140+50	RT.	600
TOTAL				1150

UNDERDRAINS

	STATION		SIDE	I-1 6" PIPE CLASS-I-3 LIN. FT.	I-1 8" PIPE CLASS F-4 SEC. M-6.4(c) LIN. FT.	I-5 6" SPECIAL CLASS I-3 90° BEND EACH
	FROM	TO				
U-1	131+00	135+00	LT.	426	10	1
U-2	131+00	135+00	RT.	414	10	1
TOTALS				840	20	2

PAVEMENT REMOVAL

	STATION		E-8 REMOVAL & DISPOSAL OF EXIST. PAVEMENT SQ. YDS.	SEE HATCHED AREA
	FROM	TO		
P-1	S.R. 546 55+94	S.R. 546 58+38	736	

PIPE REMOVAL

	STATION		SIDE	E-12 REMOVE 12" PIPE LIN. FT.
	FROM	TO		
E-1	131+48	131+68	RT.	20.

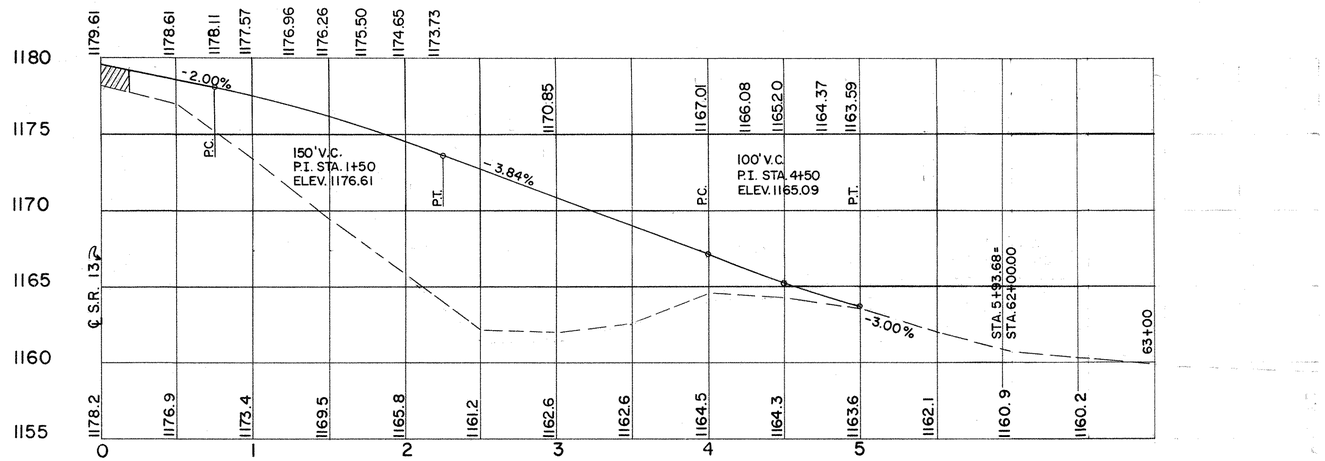
TYPICAL OF EXISTING
S.R. 13

37.0'
32.0'
6" ASPHALTIC CONCRETE
12" BANK RUN GRAVEL
24" CORR. PIPE
N 27°04'52" W
36" CORR. PIPE
18" STUMP
S.R. 546
END WORK
STA. 5+93.68
100' TAPER 24' TO 18'
STA.5+93.68 REL. S.R. 546=
STA.62+00 EXISTING S.R. 546
MARJORIE E. LEVERING
P.T. STA. 5+10.44
R/W
P.I.
STA. 59+42.20 EXIST S.R. 546 =
STA. 3+42.82 RELOCATED S.R. 546
CURVE DATA
P.I.-STA. 59+42.20 EXIST. S.R. 546 =
STA. 3+42.82 RELOCATED S.R. 546
Δ = 27° 21'
Dc = 8°
Rc = 716.20'
L = 341.88'
T = 174.26
P.I.
STA. 57+31.98
Δ-28°27'40"
CLARENCE CRAWFORD
P.C. STA. 1+68.56
BEGIN WORK
0+12.77
FRIENDS CEMETERY ASSOCIATION
FRAME SHED
CHICKEN HOUSE
CISTERN
WELL
18" MAPLE
10" MAPLE
14" APPLE
SEPTIC TANK
GRAVELED AREA
BARN
GATE
2-STORY FRAME RES.
MAPLE
GRAVEL PARKING AREA
36" MAPLE
RD. SIGN
CONSTRUCTION LIMIT
R/W MARKER
14" ELM
36" MAPLE
8" DEAD TREE
16" TREE
12" DEAD TREE
12" DEAD TREE
3'x5' BOX CULVERT TO BE REMOVED
END PROJECT
STA. 145+00
N 15°34'08" E
MATCH LINE-STA. 131+00
MATCH LINE STA. 146+00
12" C.M.P.
TEMPORARY
R/W MARKER
ADV. SIGN
CONST. SIGN
ADV. SIGN
ANCHOR POLE
RUN-AROUND
ROAD
CLASS B PAVEMENT
CONSTRUCTION LIMIT
R/W
RUN-AROUND
CURVE DATA
TEMPORARY RUN-AROUND RD.
P.I. STA. 131+98.52
Δ = 2°03'42" RT.
D = 2°
T = 51.54'
R = 2864.79'
L = 103.08'
P.C. 131+46.98
P.T. 132+50.06
STA.132+70.00 ℄ SURVEY
STA. 0+00.00 ℄ RELOCATED S.R. 546
CLYDE F. BOYD
EDNA H. BOYD
P.C. 136+47.30
P.T. 137+50.38
P.C. 138+13.79
P.T. 139+07.87
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 136+98.84
Δ = 2°03'42" LT.
D = 2°
T = 51.54'
R = 2864.79'
L = 103.08'
P.I. STA. 138.60.84
Δ = 1°52'54" LT.
D = 2°
T = 47.05'
R = 2864.79'
L = 94.08'
P.C. 144+54.31
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 145+39.19
Δ = 10°09'29" LT.
D = 6°
T = 84.88'
R = 954.93'
L = 169.30

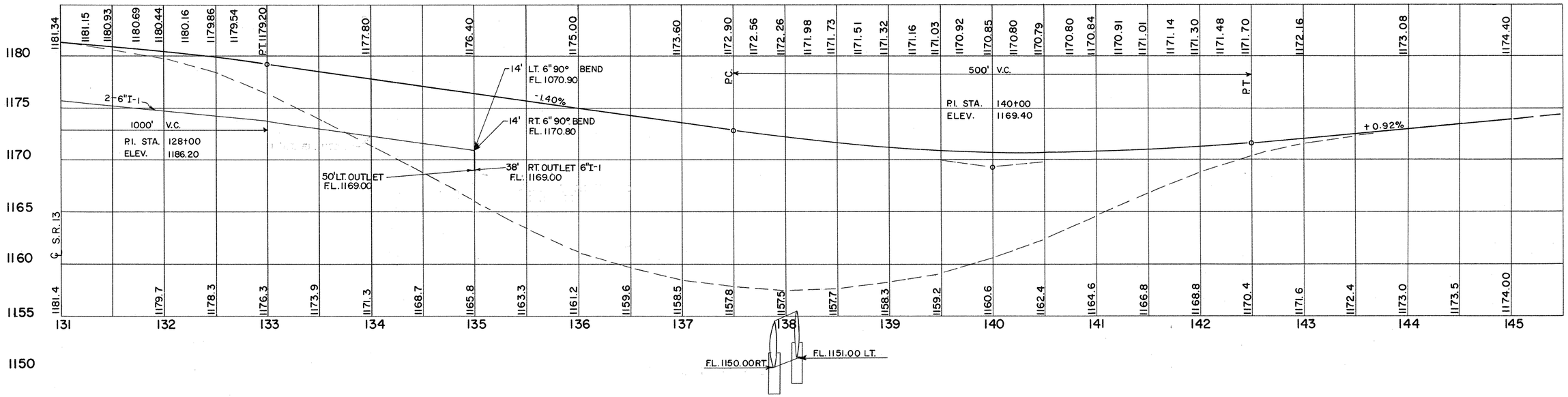
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

54
275

KNO - 13 - 15.93

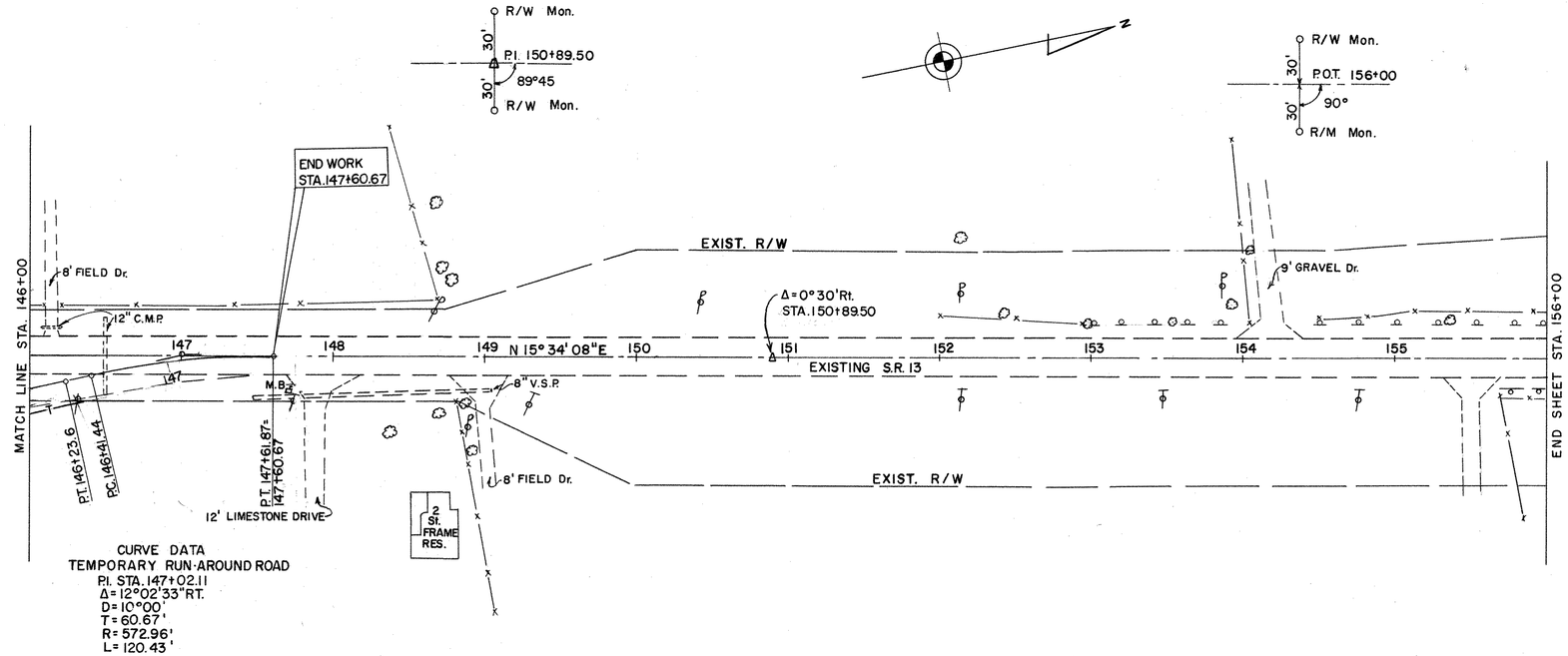


S.R. 546 PROFILE

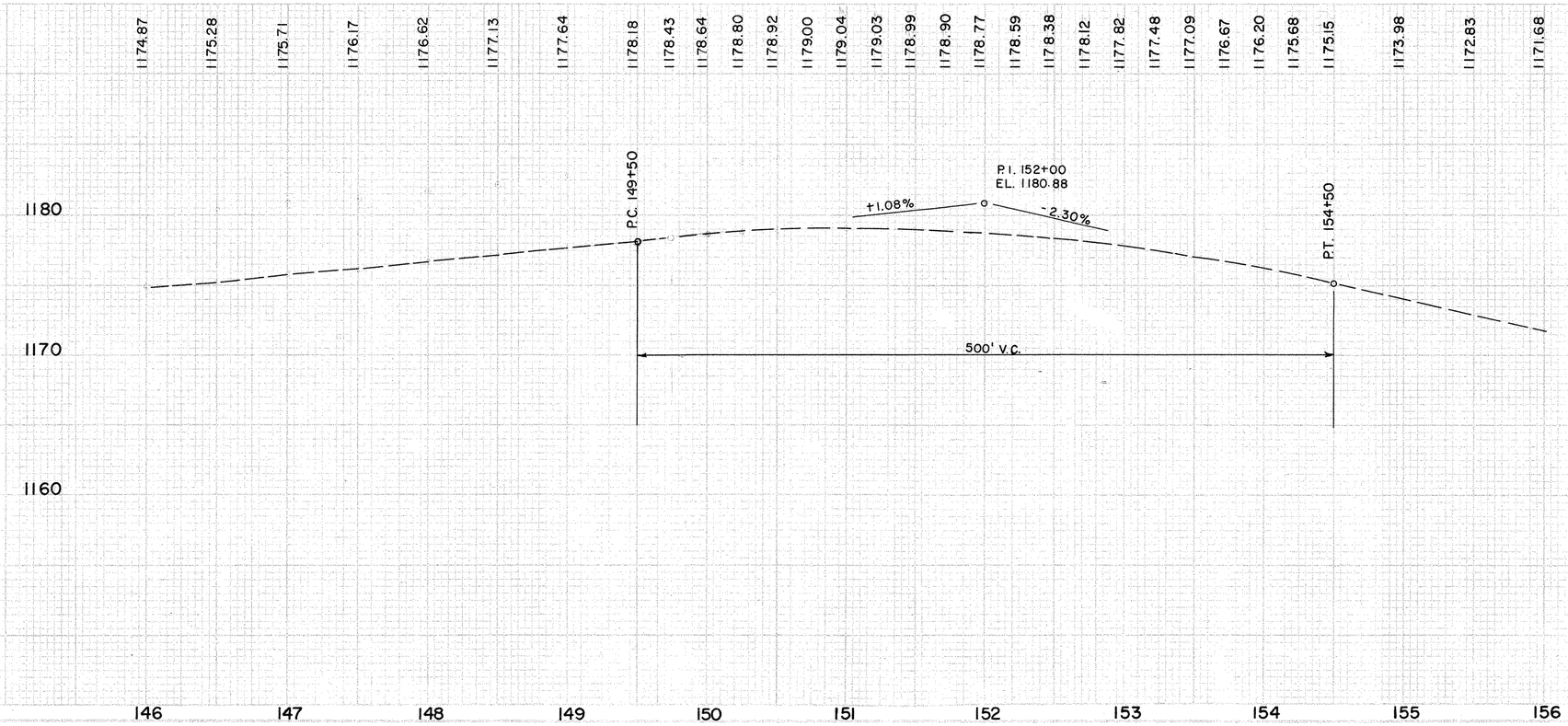


MAINLINE PROFILE

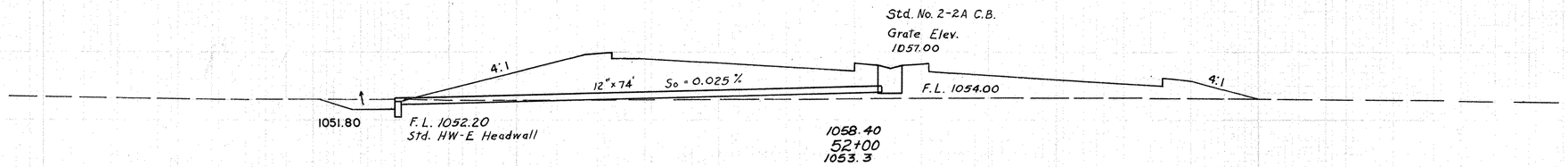
PROFILE STA. 131+00 TO STA. 145+00
PROFILE S.R. 546 STA. 0+00 TO STA. 8+00

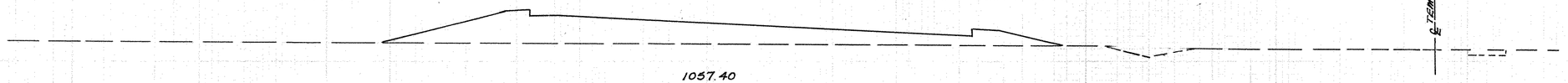


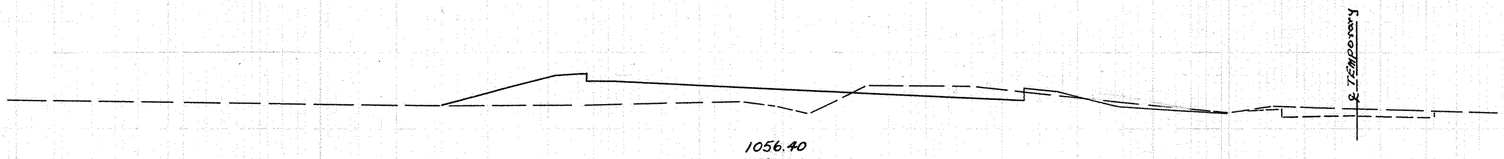
CURVE DATA
TEMPORARY RUN-AROUND ROAD
P.I. STA. 147+02.11
Δ=12°02'33"RT.
D=10°00'
T=60.67'
R=572.96'
L=120.43'

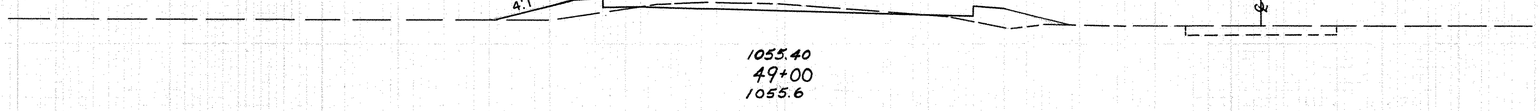


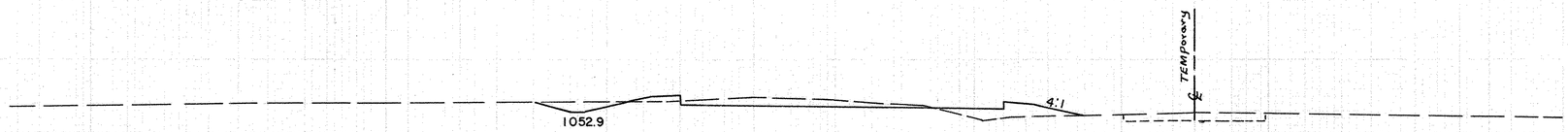
PLAN - PROFILE SHEET STA. 146+00 TO 156+00

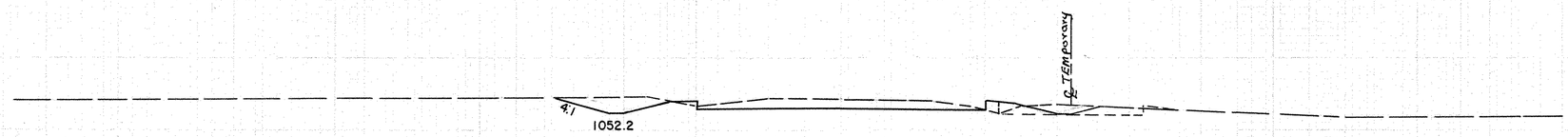












CROSS-SECTION SHEET STA. 47+00 TO 52+00

KNO-13-15.93

186

4:1

4:1

1050.96

1052.4

114 972

1062.31 N.B.
1062.30 S.B.
56+00
1054.8

1972

3243594

169

1050.76

1052.0

1061.40
55+00
1054.1

61 969

1789

167 3133

153

SEE SHEET No. 220
FOR CHANNEL DETAIL

F. L. 1049.2

1060.40
54+00
1054.6

4:1

4:1

1049.6

29 723

1178

78 2469

SOUTH CONNECTION
AREA

59

4:1

1051.4

1059.40
53+00
1053.6

817

13 610

56 2009

88

17 475

STA 52+00

STA 52+00

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

CROSS-SECTION SHEET STA. 53+00 TO 56+00

2	OHIO	F-527(11)

KNO-13-15.93

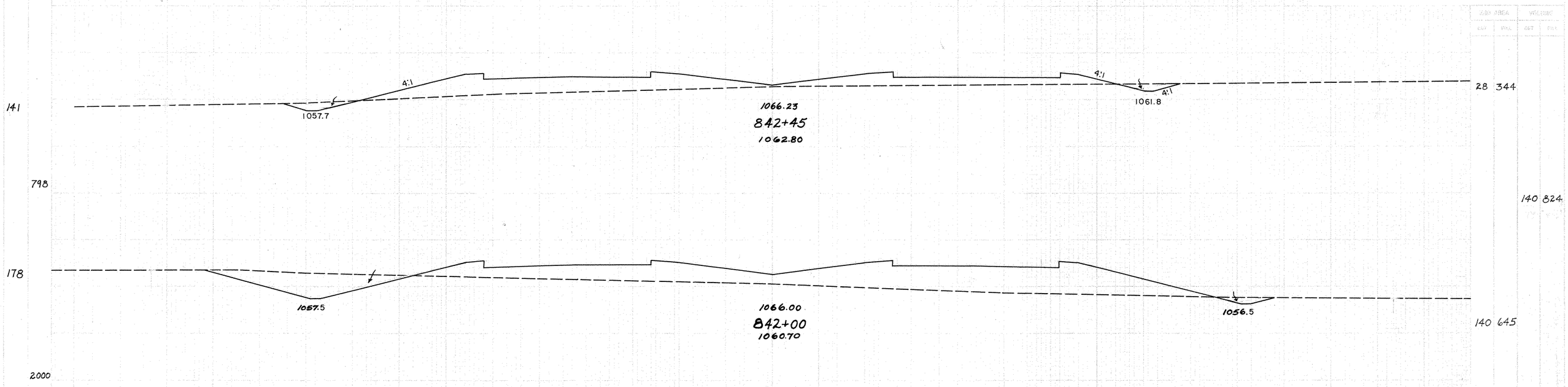
174
2017
189
49
191
2083
184
2028
181
2039
186

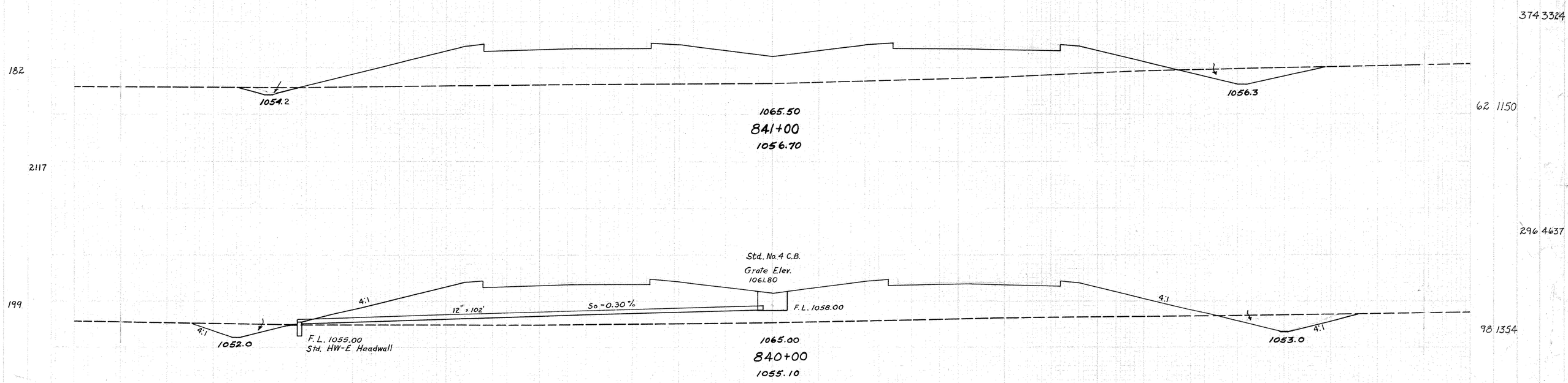
34	1329		
		135	5200
39	1479		
		25	986
37	1480		
		131	5194
34	1325		
		150	4683
47	1204		
		298	4030
114	972		

CROSS-SECTION SHEET STA. 57+00 TO 839+00

F-527(11)

KNO-13-15.93

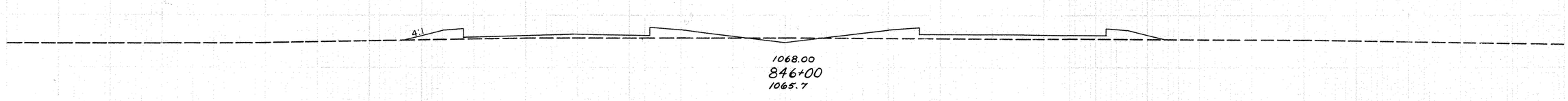


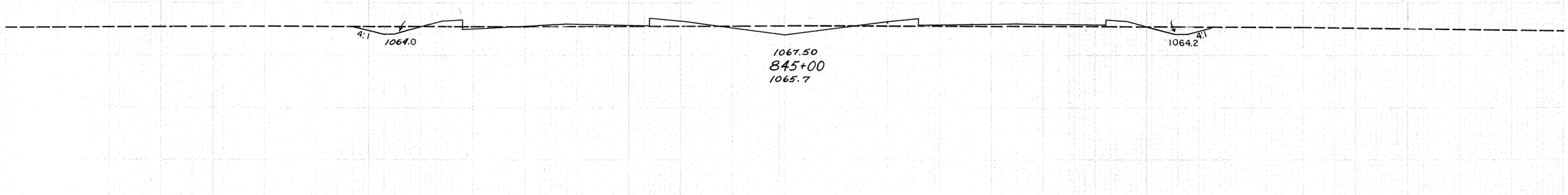


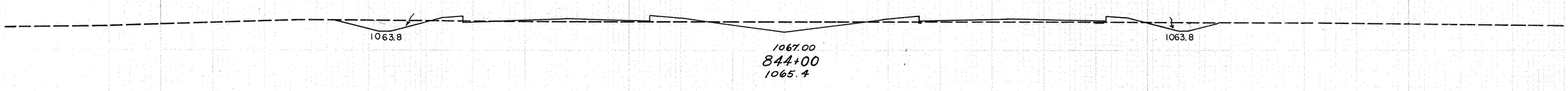
F-527(11)

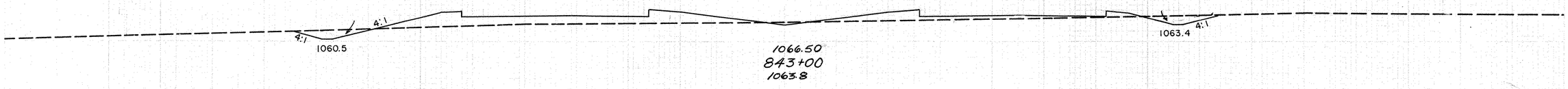
KNO-13-15.93

	EXC. AREA		EMBANK.	
	CUT	FILL	CUT	FILL
94				
1150			8	119
113			87	293
1289			39	39
119			211	156
1361			75	45
126			196	378
816			31	159
141			60	512
			28	344









STA 842+45

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

STA 842+45

CROSS-SECTION SHEET STA. 843+00 TO 846+00

F-527(11)

KNO-13-15.93

℄ SERVICE RD. 'A'

176

1063.8

1064.5

4:1

1070.00
850+00
1068.3

1067.3

4:1

165 105

344 707

℄ SERVICE RD. 'A'
BEGINS 849+14

1700

1062.7

1069.50
849+00
1066.0

1065.9

21 277

130

1650

Std. No. 4 C.B.
Grate Elev. 1065.48

1061.0

1061.53

1069.00
848+00
1064.1

1062.0

172 1406

72 482

167

1539

141 1428

4:1

4:1

1068.50
847+00
1065.8

110

4 289

1133

22 756

94

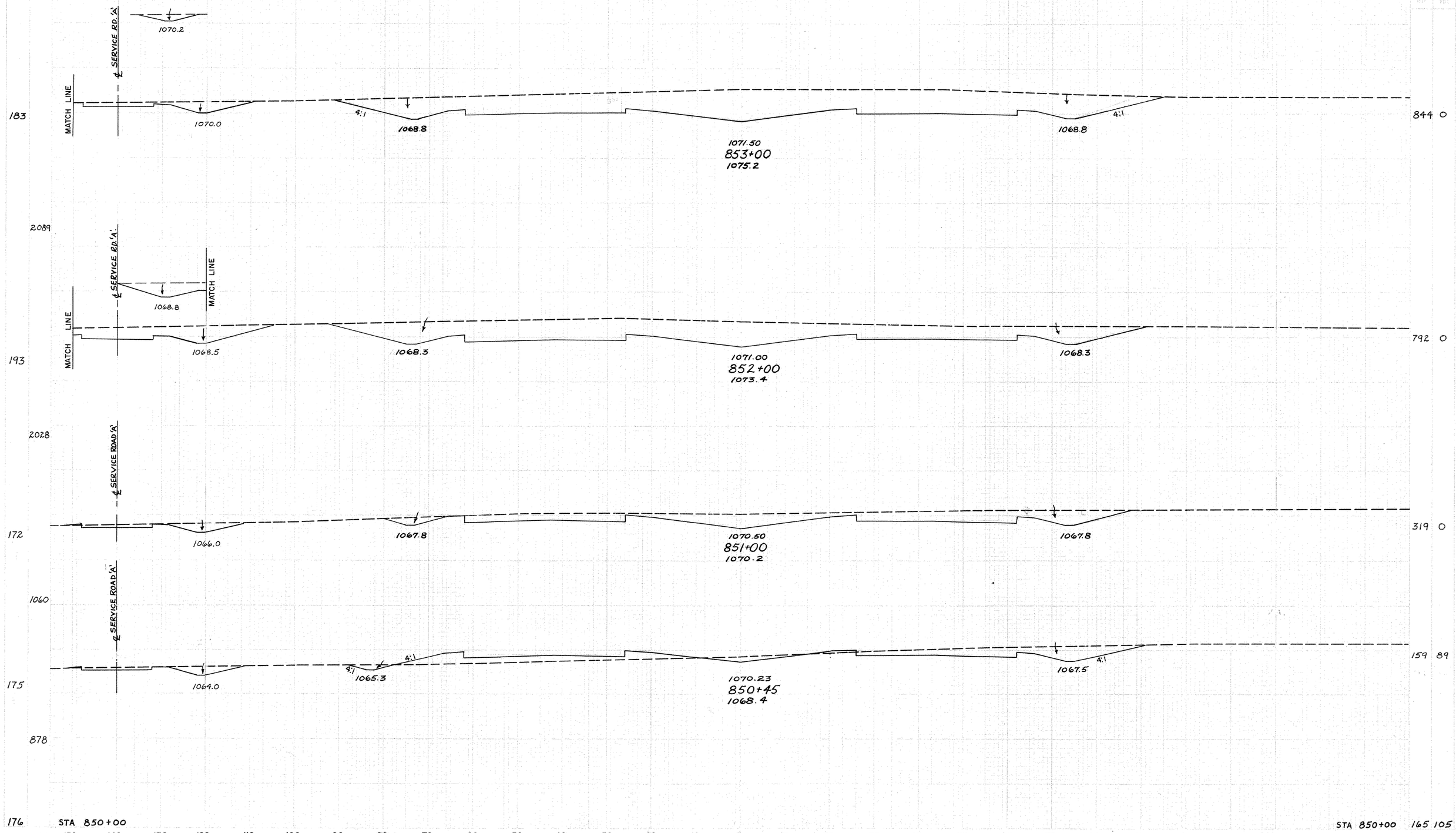
STA 846+00

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

STA 846+00

8 119

CROSS-SECTION SHEET STA. 847+00 TO 850+00

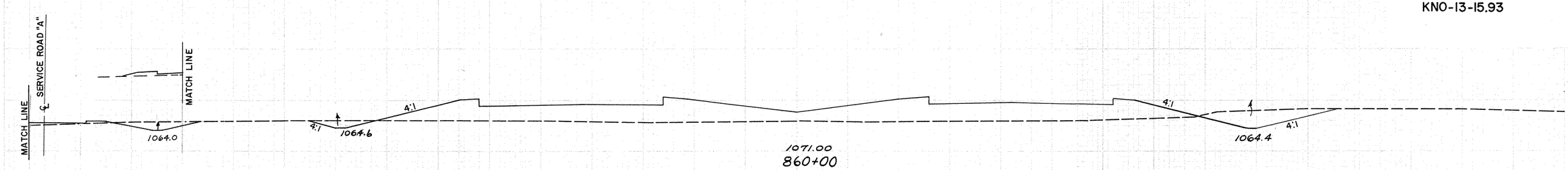

℄ SERVICE RD. 'A'
1070.2
MATCH LINE
183
1070.0
4:1
1068.8
1071.50
853+00
1075.2
1068.8
4:1
844 0
2089
℄ SERVICE RD.'A'
1068.8
MATCH LINE
MATCH LINE
193
1068.5
1068.3
1071.00
852+00
1073.4
1068.3
3030 0
792 0
2028
℄ SERVICE ROAD 'A'
172
1066.0
1067.8
1070.50
851+00
1070.2
1067.8
2057 0
319 0
1060
℄ SERVICE ROAD 'A'
4:1
4:1
1065.3
4:1
175
1064.0
1070.23
850+45
1068.4
1067.5
4:1
487 91
159 89
878
270 162
176
STA 850+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100
STA 850+00 165 105
CROSS-SECTION SHEET STA. 850+45 TO 853+00

OHIO F-527(11)

KNO-13-15.93

CROSS-SECTION SHEET STA. 853+62 TO 856+00

KNO-13-15.93



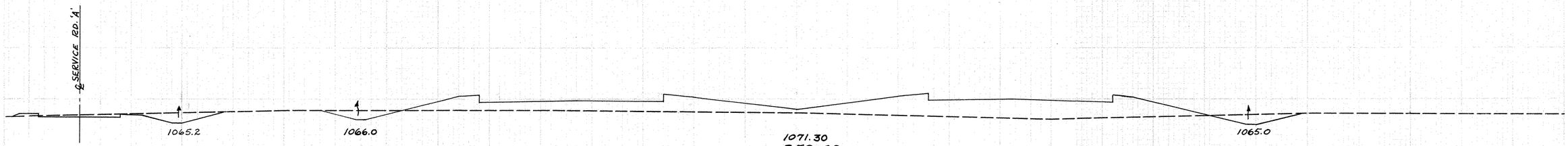
200

1071.00
860+00
1065.9

65 367

2133

213 1374



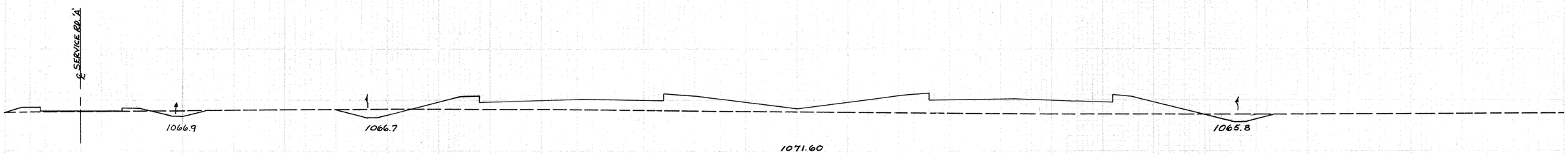
184

1071.30
859+00
1067.1

50 375

2022

148 1296



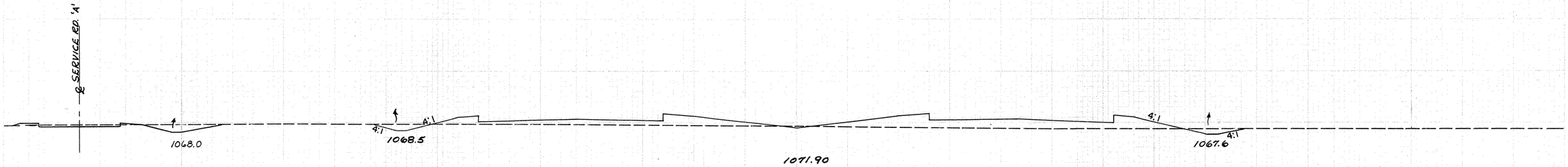
180

1071.60
858+00
1067.9

30 325

1961

102 937



173

1071.90
857+00
1069.1

25 181

1883

124 393

166

STA 856+00

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

STA 856+00 42 31

CROSS-SECTION SHEET STA. 857+00 TO 860+00

KNO-13-15.93

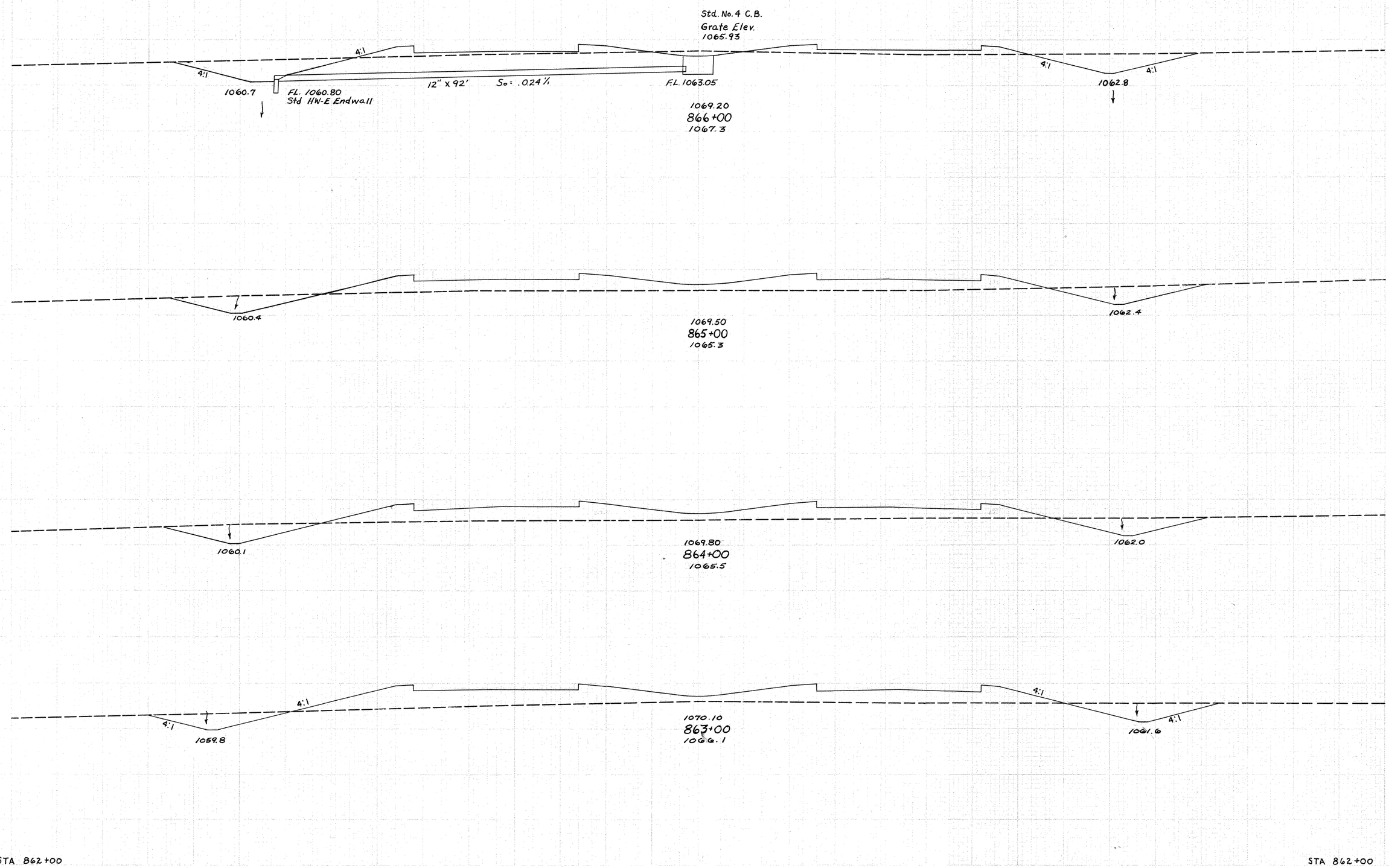

181
1878
157
1013
147
382
197
441
200
4:1
4:1
1059.5
1070.40
862+00
1063.7
4:1
4:1
1061.2
78 684
206 2691
1062.3
1070.70
861+00
1063.7
1063.8
33 769
67 1508
1063.9
1070.88
860+40
1065.6
1064.2
27 588
33 369
SERVICE ROAD "A"
MATCH LINE
MATCH LINE
4:1
4:1
1063.8
1064.5
1070.94
860+20
1065.8
4:1
4:1
1064.3
63 409
47 287
STA 860+00
STA 860+00
65 367
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

SHEET NO.	TOTAL SHEETS	PROJECT	
2	OHIO	F-527(11)	

66
275

KNO-13-15.93

CUT AREA		FILL AREA	
CUT	FILL	CUT	FILL
197	91		
613	772		
134	326		
530	1341		
152	398		
524	1663		
131	500		
387	2193		
78	684		



171
1917
174
1944
176
1989
182
1956
181

STA 862+00

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

STA 862+00

CROSS-SECTION SHEET STA. 863+00 TO 866+00

		STATE	PROJECT
	OHIO		F-527(11)

67
275

KNO-13-15.93

			END AREAS		VOLUMES	
			CUT	FILL	CUT	FILL
138	4:1 4:1	1061.56				
		1068.37				
		869+13.97				
	4:1 4:1	1063.8	32	397		
216					13	211
140		1061.52				
		1068.39				
		869+00				
		1063.6				
		1063.65	19	418		
1606					167	1230
149		1061.32				
		1068.60				
		868+00				
		1065.5				
		1063.57	71	246		
1761					443	902
168	4:1 4:1	1061.02				
		1068.90				
		867+00				
	4:1 4:1	1065.7				
		1063.17	168	241		
1883					676	615
171	STA 866+00		STA 866+00		197	91

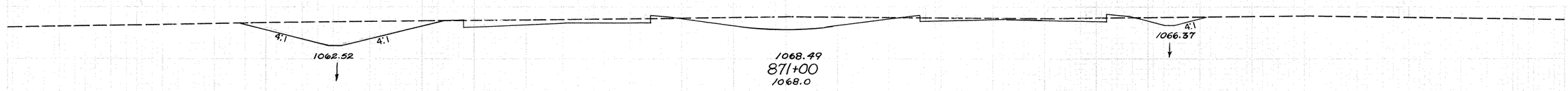
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 867+00 TO 869+13.97

F-527(11)

KNO-13-15.93

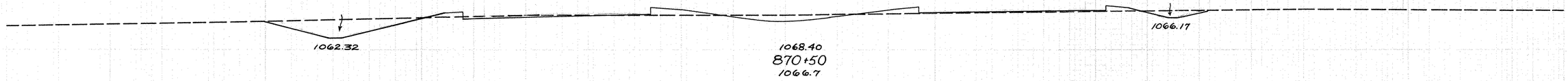
68
275



134

733

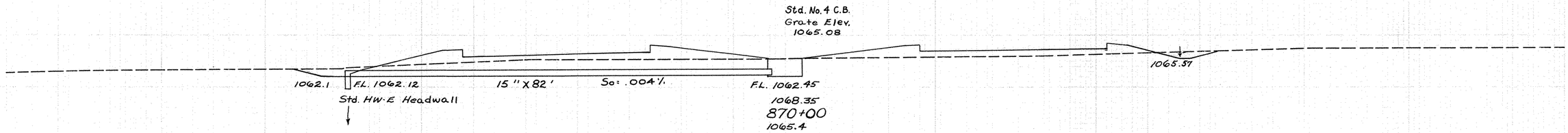
232 4



130

708

463 317

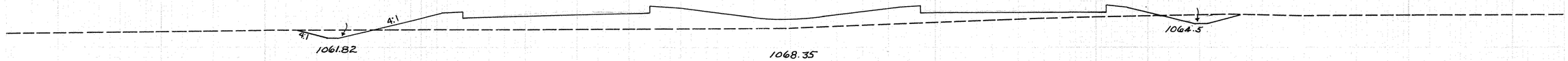


125

18 167

736

80 898



140

556

138 STA 869+13.97

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

STA 869+13.97 32 397

CROSS-SECTION SHEET STA. 869+50 TO 871+00

KNO-13-15.93

CROSS-SECTION SHEET STA. 871+50 TO 873+00

F-527(11)

KNO-13-15.93

END AREA		VOL.	
CUT	FILL	CUT	FILL

152

VAR. 1069.12

1070.00
875+00
1072.0

VAR. 1067.97

718 0

4:1 1063.92

1069.80
874+50
1071.3

VAR. 1067.77

2019 6

1672

149

4:1 1063.72

1069.60
874+00
1069.2

4:1 1067.57

372 3

1539

4:1 1063.52

1069.40
873+50
1067.3

4:1 1067.37

781 235

128

STA 873+00

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

STA 873+00 50 124

CROSS-SECTION SHEET STA. 873+50 TO 875+00

KNO-13-15.93

CROSS-SECTION SHEET STA. 875+50 TO 877+00

CROSS-SECTION SHEET STA. 877+50 TO 879+00

SECTIONS	
END AREA	VOLUME
CUT	FILL

FED. ROAD DIV. NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

73
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

156

VAR.

1066.52

1072.40
881+00
1076.0

1070.37

VAR.

1102 0

1733

1066.32

1072.20
880+50
1076.9

1070.17

4215 0

156

1066.12

1072.00
880+00
1076.6

1069.97

1174 0

1722

VAR.

1065.92

1071.80
879+50
1076.1

1069.77

VAR.

4183 0

154

STA 879+00

STA 879+00

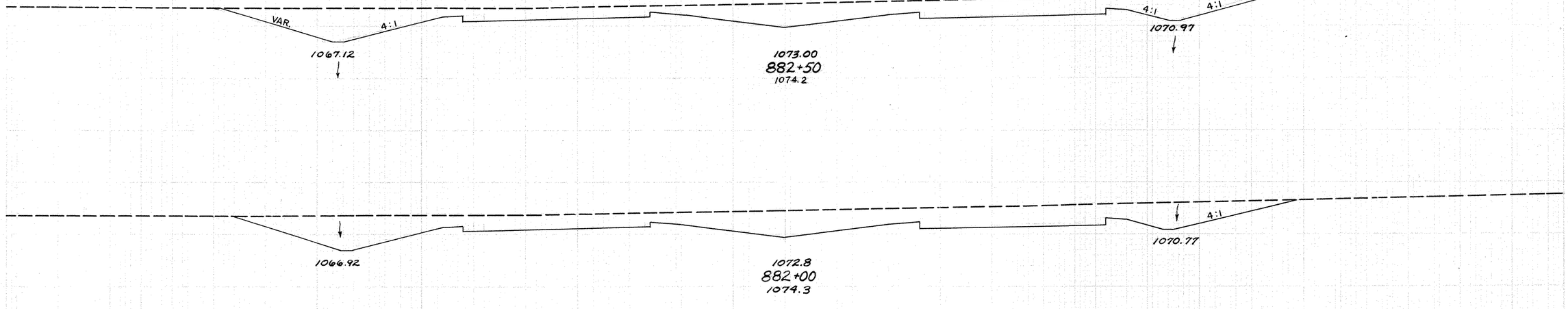
1085 0

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

CROSS-SECTION SHEET STA. 879+50 TO 881+00

F-527(11)

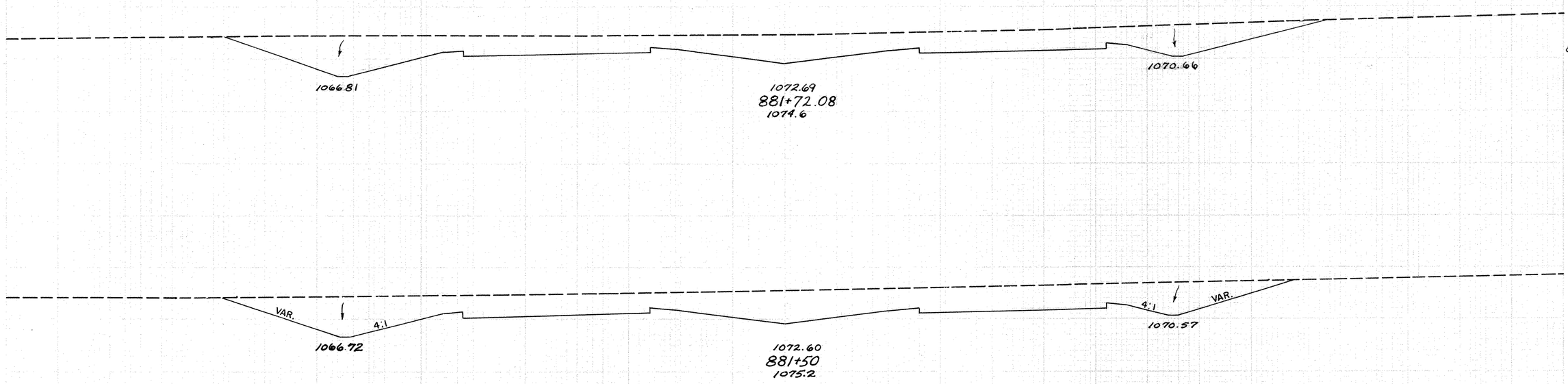
KNO-13-15.93



153

722 0

814 0



487

160

848 0

1265

2603 0

156

1102 0

STA 881+00

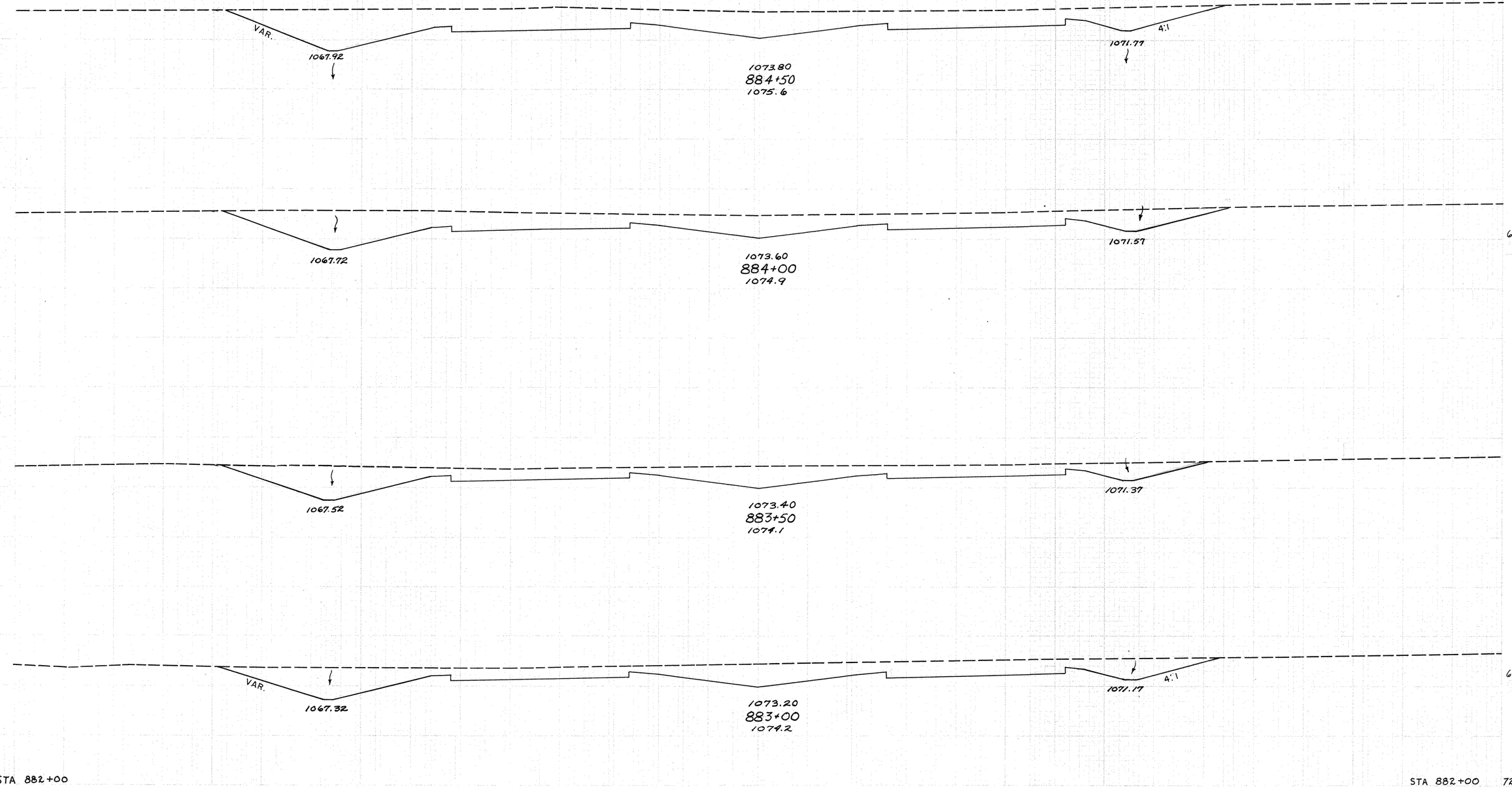
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

STA 881+00

CROSS-SECTION SHEET STA. 881+50 TO 882+50

KNO-13-15.93

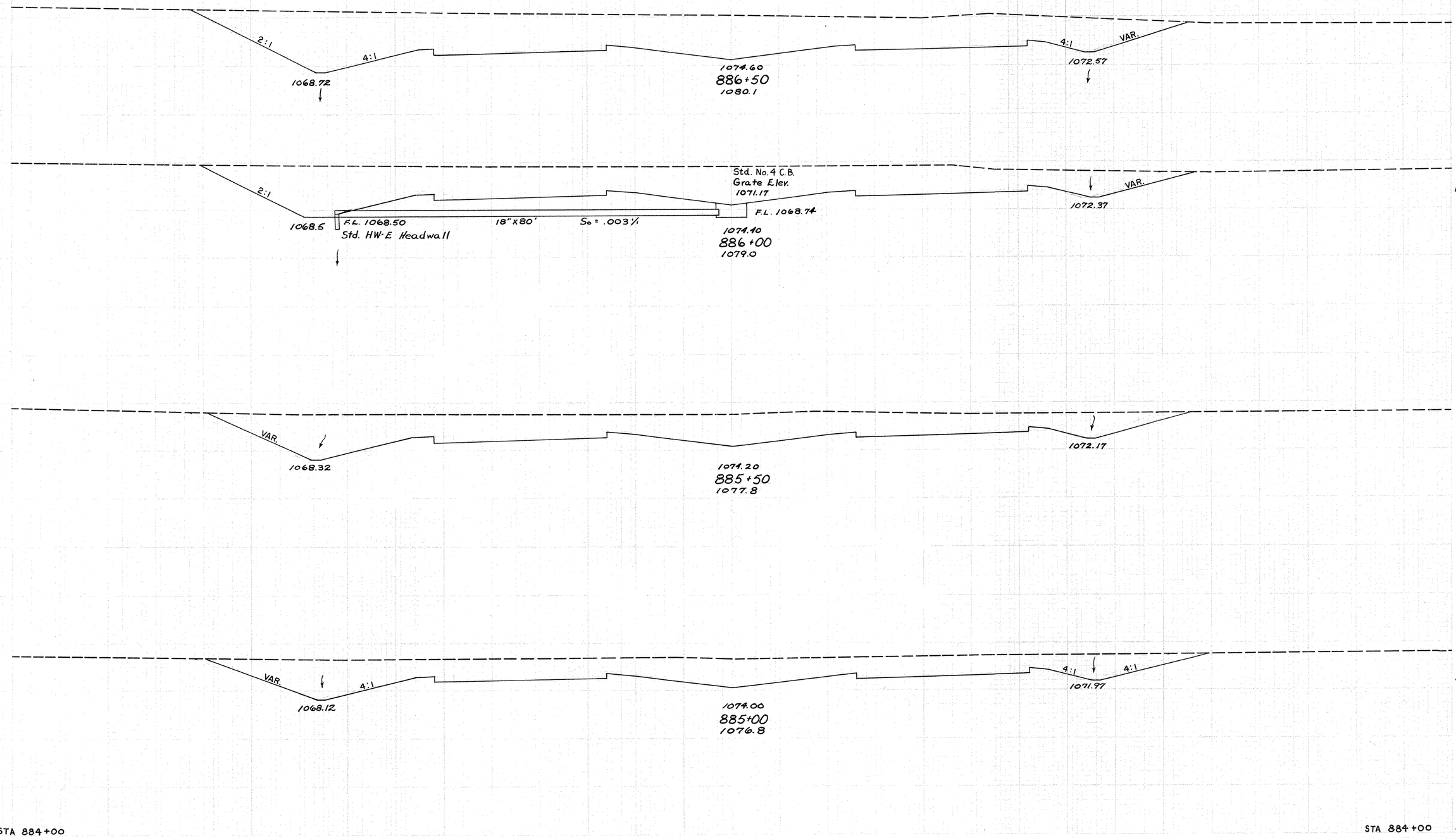
END AREA: CUT | FILL — VOLUME: CUT | FILL



CROSS-SECTION SHEET STA. 883+00 TO 884+50

F-527(11)

KNO-13-15.93



156

1231 O

1744

4022 O

158

941 O

1717

3002 O

151

STA 884+00

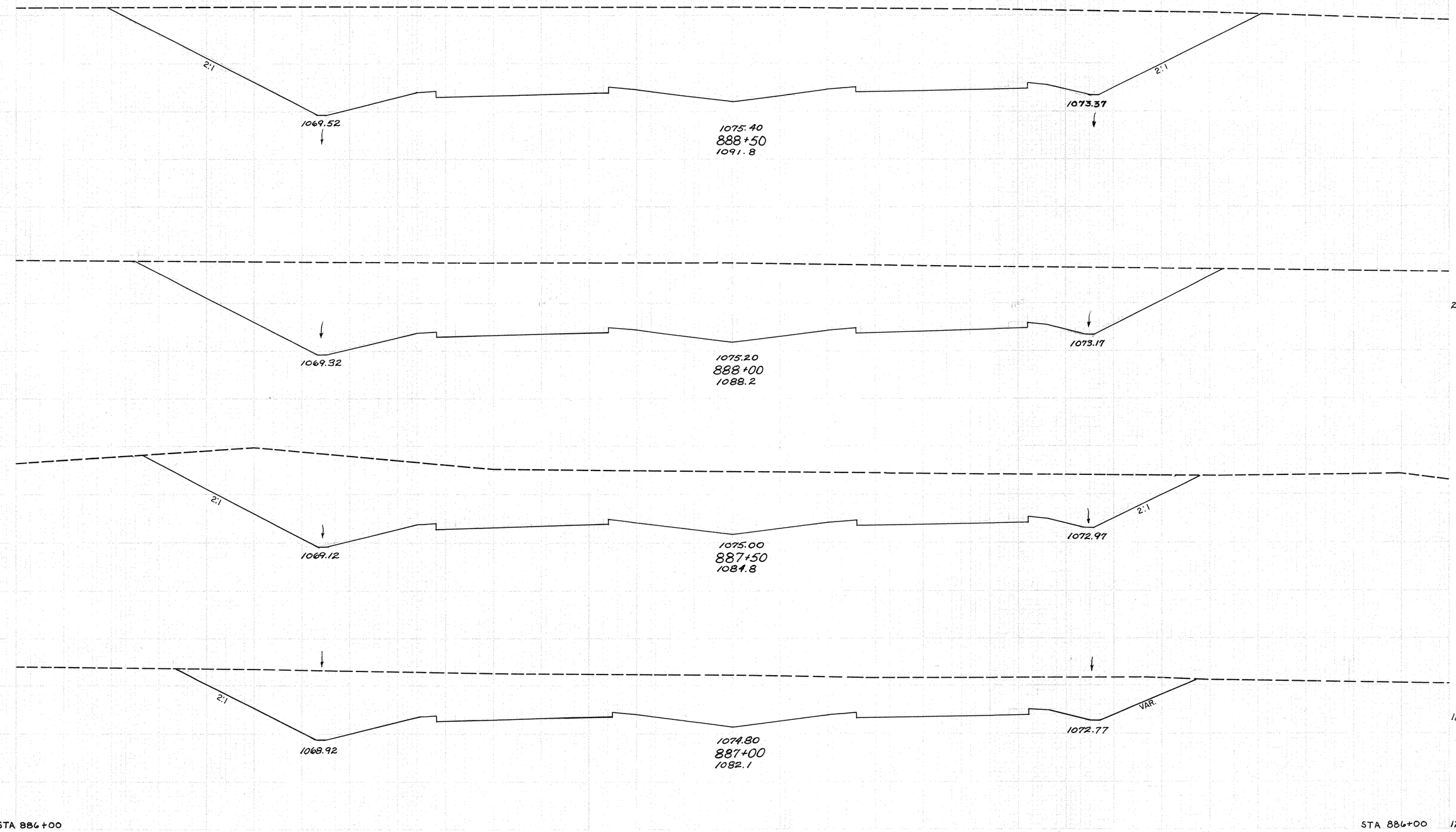
STA 884+00 680 O

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

CROSS-SECTION SHEET STA. 885+00 TO 886+50

F-527(11)

KNO-13-15.93



176

1878

162

1767

156

2823 O

8650 O

1848 O

5702 O

1231 O

STA 886+00

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

STA 886+00

CROSS-SECTION SHEET STA. 887+00 TO 888+50

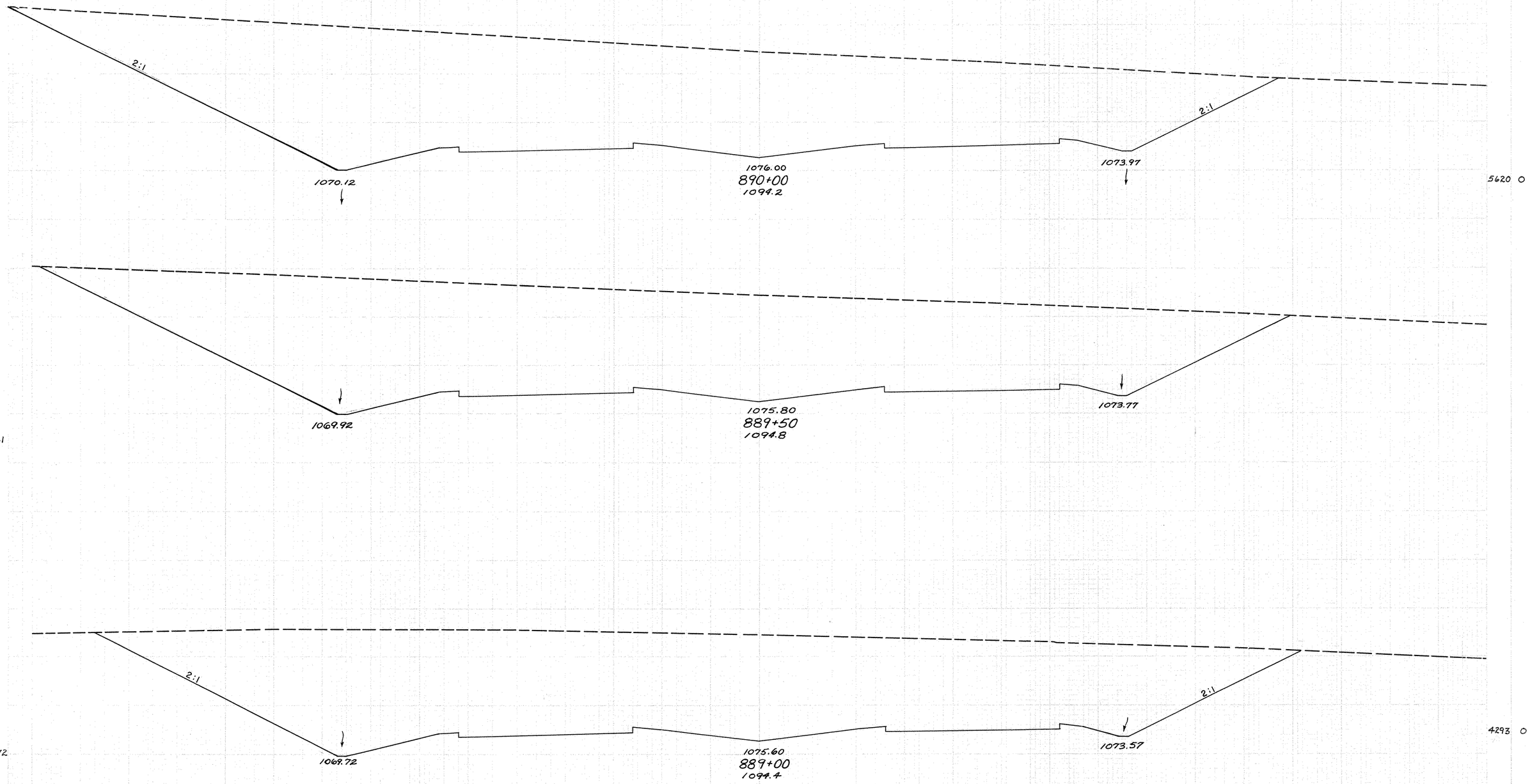
SECTION

END WIDTH	SQ. YDS

SHEET NO.	SHEET	PROJECT		
2	OHIO	F-527(11)		78 275

KNO-13-15.93

FOR AREA		FOR VOLUME	
CUT	FILL	CUT	FILL



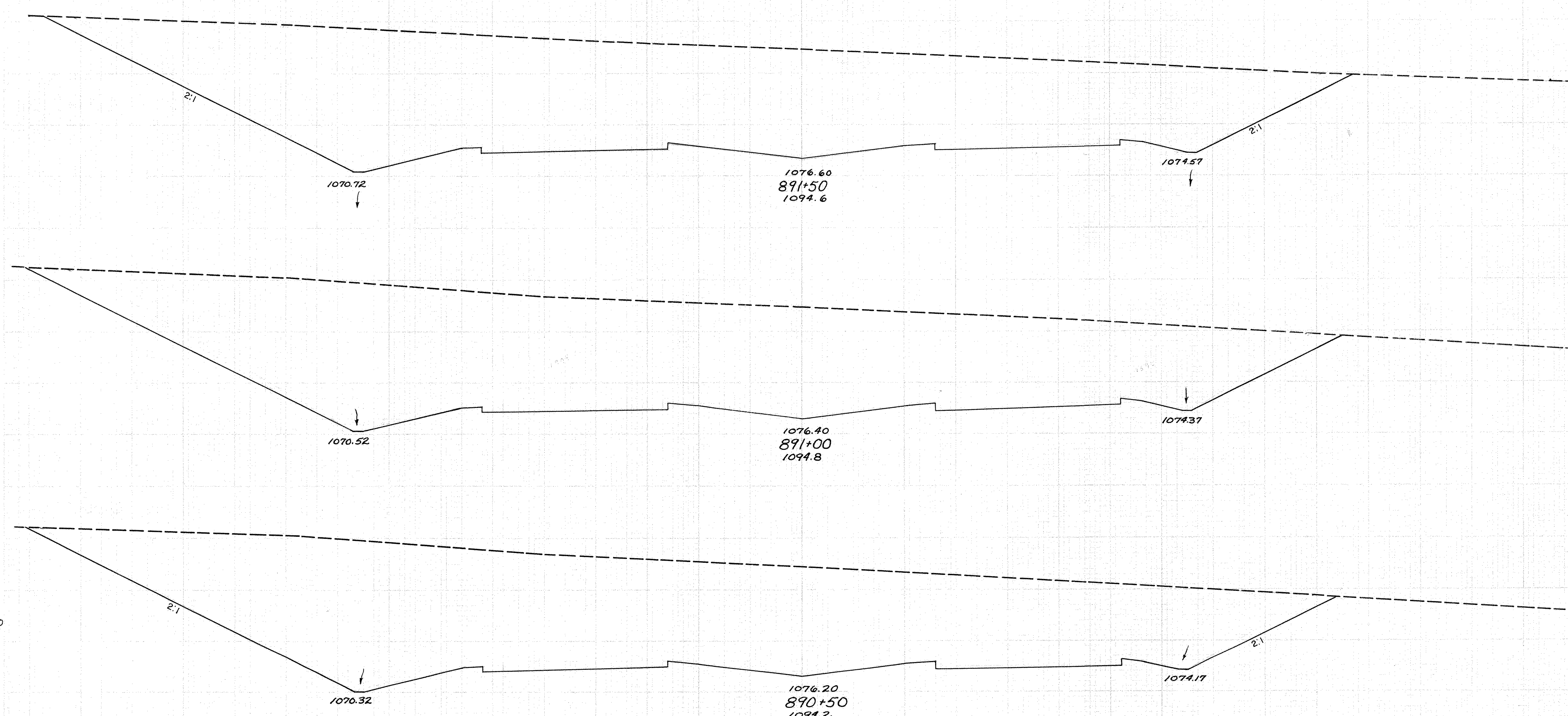
210
5620 0
2261
18357 0
197
4293 0
2072
13178 0
176
STA 888+00
2823 0

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

CROSS-SECTION SHEET STA. 889+00 TO 890+00

OHIO F-527(11)

KNO-13-15.93



204

4481 0

2300

18706 0

210 STA 890+00

STA 890+00 5620 0

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

CROSS-SECTION SHEET STA. 890+50 TO 891+50

KNO-13-15.93

BEFORE END WIDTH	BEFORE SQ. YDS.	CUT AREA	FILL AREA	CUT VOLUME	FILL VOLUME

STA. 892+78

SERVICE RD. 'B' ℄

150

1088.7

2:1

2:1

236

1071.23

1077.15

892+78

1097.7

1075.12

4818 5

STA. 892+50

SERVICE RD. 'B' ℄

150

1088.9

7133 8

1072

1071.12

1077.00

892+50

1099.7

1074.97

STA. 892+39

SERVICE RD. 'B' ℄

150

259

1089.0

1012

1071.08

1076.96

892+39

1097.3

1074.93

5059 6

1089.1

150

℄

SERVICE ROAD 'B' BEGINS STA. 892+08

208

7027 4

2:1

2:1

2289

1070.92

1076.80

892+00

1095.2

1074.77

4671 0

16948 0

204

STA 891+00

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

STA 891+00 4481 0

CROSS-SECTION SHEET STA. 892+00 TO STA. 892+78

SHEET NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

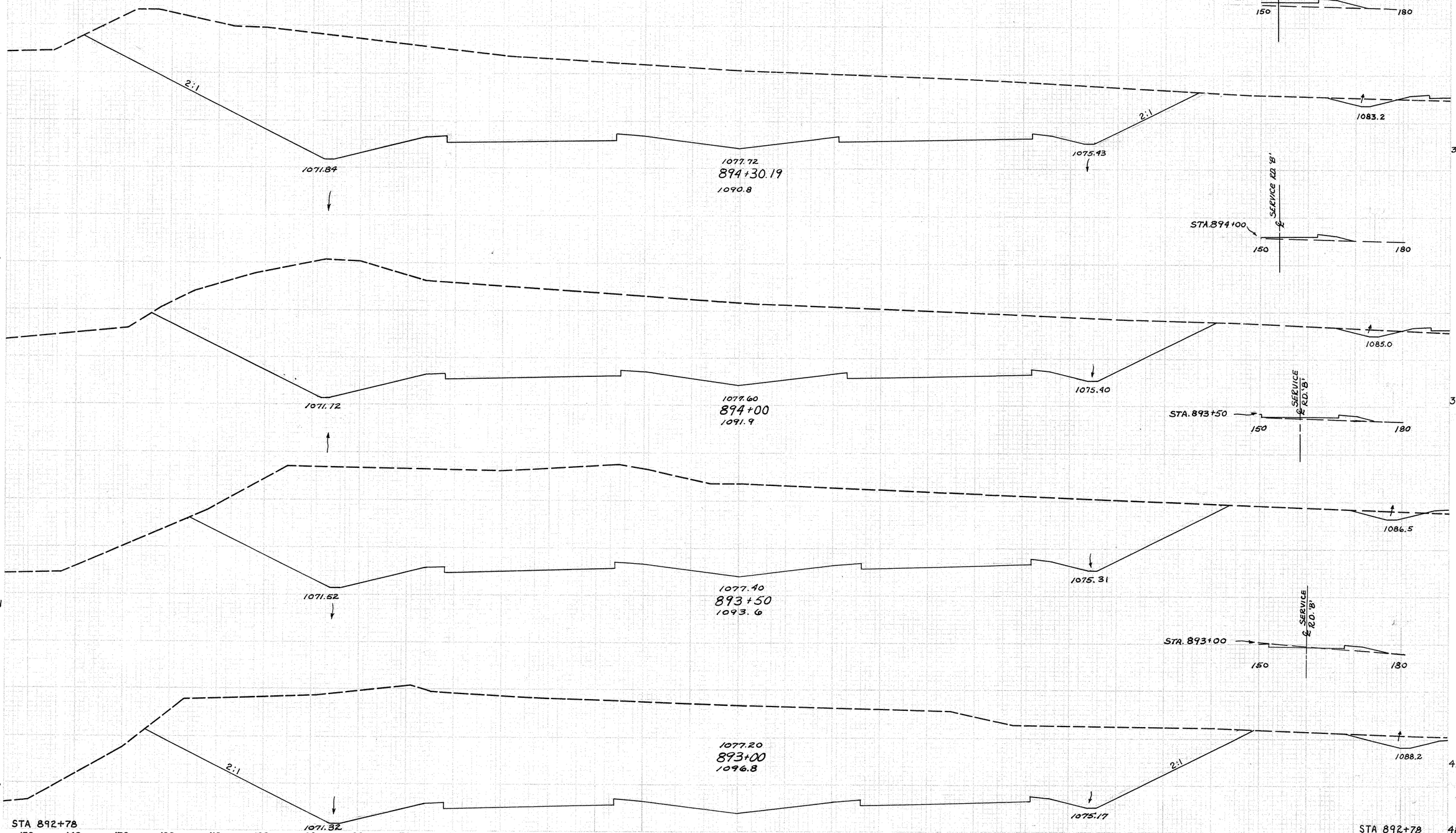
81
275

KNO-13-15.93

SLEEDING

CUT WIDTH	CUT SQ. YDS.
243	
787	
226	
2561	
235	
576	
236	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		3559	2.5
		3989	24
		3574	18
		14720	48
		4375	8
		3745	5
		4818	5



SEEDING

EHB WIDTH	SQ. YDS.

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

82
275

KNO-13-15.93

CUT	FILL	CUT	FILL
		2041	0
		2677	0
		1975	0
		3845	4
		2178	4
		4692	16
		2889	13
		3349	21
		3139	25
		4861	36
		3559	25

75
C.R.11 Area
1078.54
896+36
1085.6
VAR.
1075.81

496
C.R.11
C.R.11 Area
1078.40
896+00
1085.7
VAR.
1075.73

173
1067
211
2:1
1072.32
1078.20
895+50
1086.9
VAR.
1075.58
STA.895+50
℄ Service Rd. 8'
1080.9
150
180

1183
215
2:1
1072.12
1078.00
895+00
1088.1
VAR.
1075.48
1081.7
STA. 896+00
℄ Service RD 18'
150
180

733
225
2:1
1072.00
1077.88
894+70
1089.60
2:1
1075.46
1082.2
STA.894+70
℄ SERVICE RD 18'
150
180

1039
243

STA 894+30.19

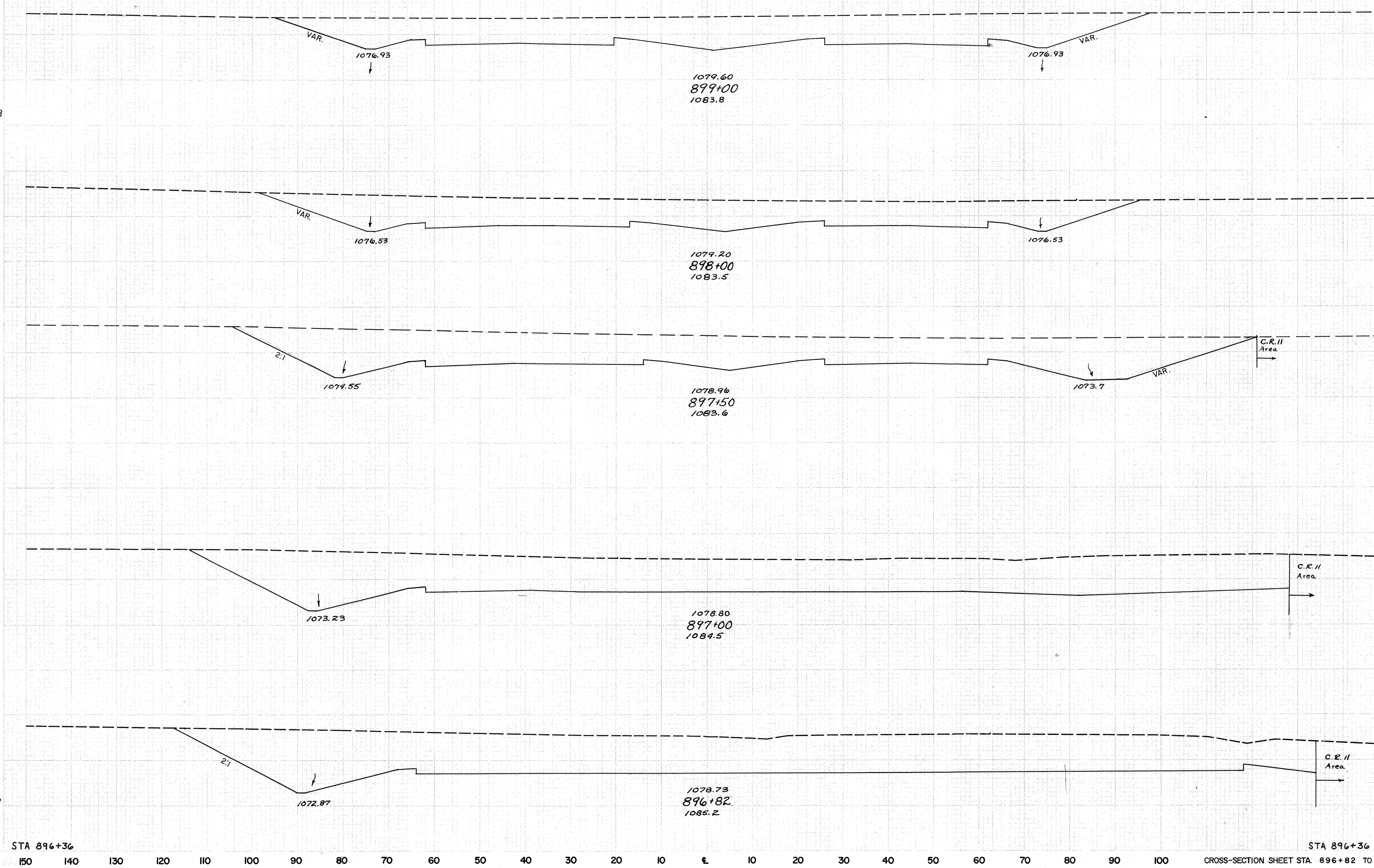
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

STA 894+30.19

CROSS-SECTION SHEET STA. 894+70 TO STA. 896+36

STATE	PROJECT	SHEET
OHIO	F-527(11)	83 / 275

KNO-13-15.93



Left margin: 124, 1339, 117, 750, 150, 603, 64, 148, 84, 406, 75

End Area Cut	End Area Fill	Volume Cut	Volume Fill
1057	0		
		3919	0
1059	0		
		2327	0
1454	0		
		3076	0
1868	0		
		1285	0
1986	0		
		3430	0
2041	0		

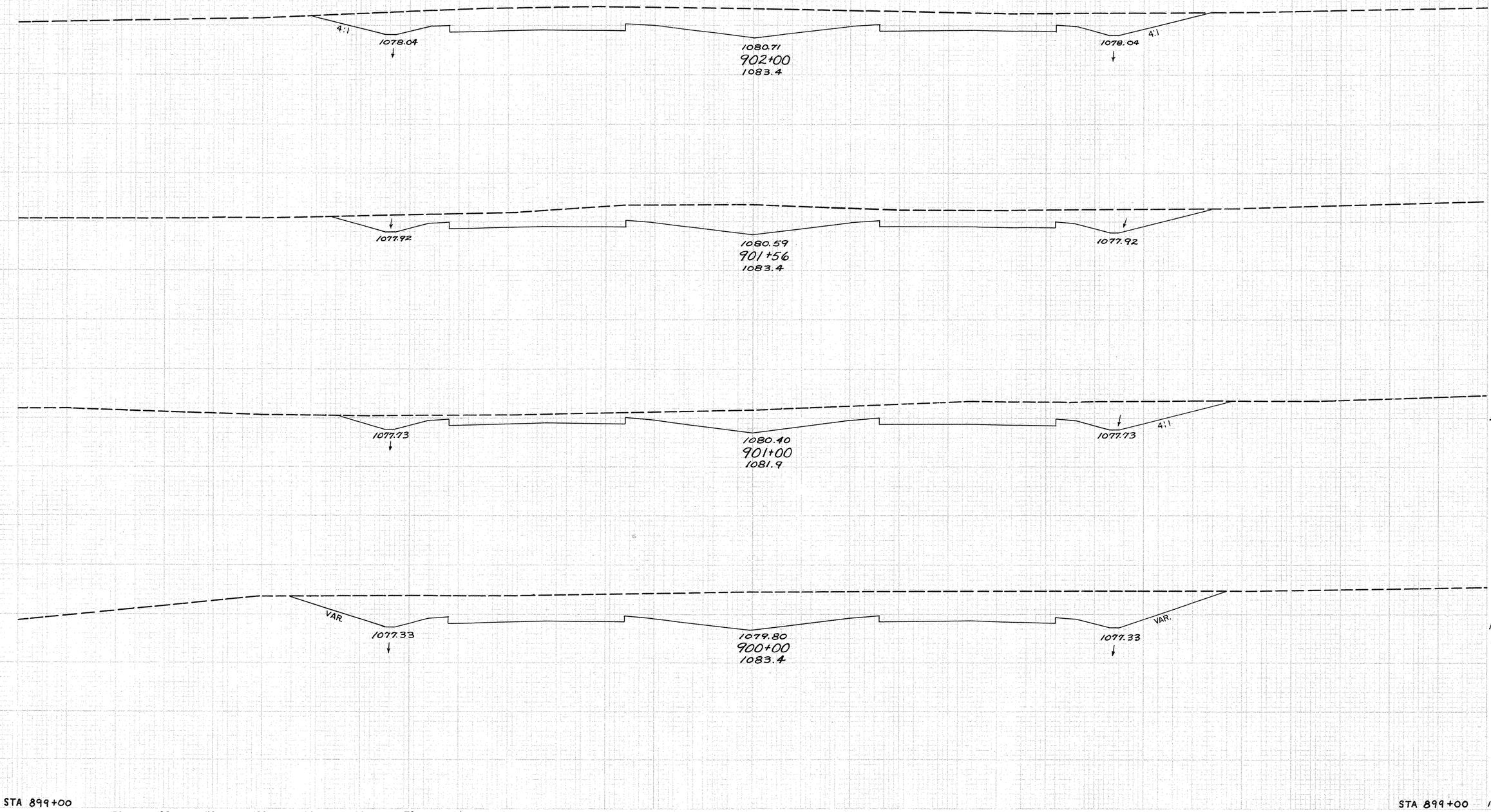
CROSS-SECTION SHEET STA. 896+82 TO STA. 899+00

FED. ROAD DIVISION	STATE	PROJECT	
5	OHIO	F-527(11)	

84
275

KNO-13-15.93

SECTION		END AREA		VOLUME	
EXC. STA.	EXC. VOL.	CUT	FILL	CUT	FILL
122					
		723	0		
	611			1093	0
128					
		619	0		
	802				
		1229	0		
130					
		566	0		
	1494			2919	0
139					
		1010	0		
	1461			3828	0
124					
STA 899+00				STA 899+00	1057 0



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

CROSS-SECTION SHEET STA. 900+00 TO 902+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

SEEDING	
SEED WIDTH	SQ. YDS.
114	
	1267
114	
	642
117	
	683
129	
	697
122	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
152	9		
		430	46
80	16		
		319	93
92	34		
		1509	63
723	0		

CROSS-SECTION SHEET STA. 902+50 TO STA. 905+00

KNO-13-15.93

CROSS-SECTION SHEET STA. 906+00 TO STA. 908+00

DIST. NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

87
275

KNO-13-15.93

SECTIONS		CUT AREA		CUT VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
160					
	1672			2050	0
				6107	0
141					
	1600			1248	0
				5222	0
147					
	1556			1572	0
				4376	9
133					
					791 0

2:1 — 1076.3 — 1078.80 — 911+00 — 1086.6 — 1075.5 — 2:1

VAR. — 1076.45 — 1078.95 — 910+50 — 1085.1 — 1075.71 — 2:1

VAR. — 1076.6 — 1079.10 — 910+00 — 1083.9 — 1075.9 — VAR.

VAR. — 1076.9 — 1079.40 — 909+00 — 1087.3 — 1076.9 — VAR.

STA 908+00

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

STA 908+00

CROSS-SECTION SHEET STA. 909+00 TO STA. 911+00

OHIO F-527(11)

KNO-13-15.93

CROSS-SECTION SHEET STA. 911+50 TO STA. 913+00

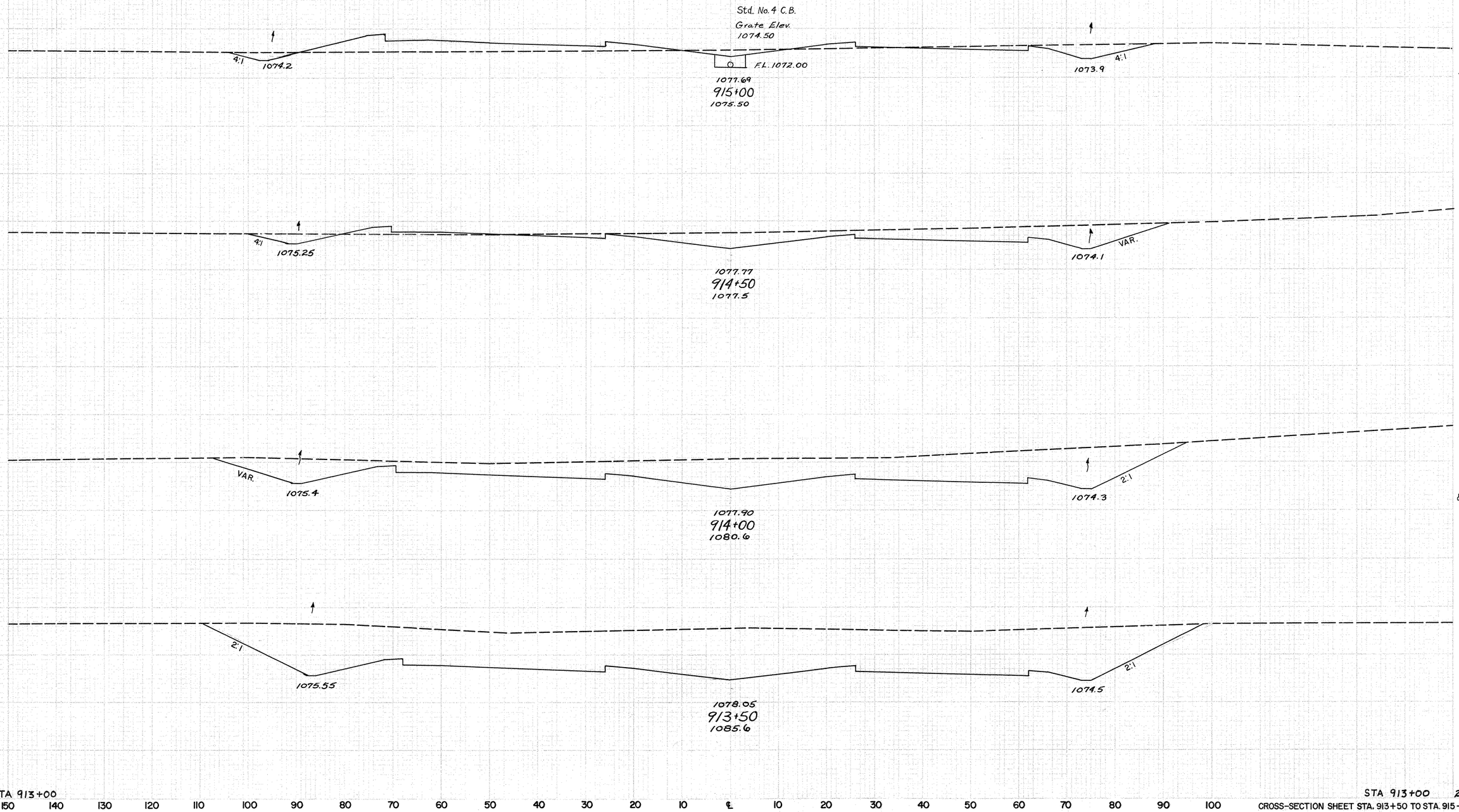
FED. RD. PROJECT NO.	STATE	PROJECT		89
	OHIO	F-527(11)		275

KNO-13-15.93

RECORD

END WIDTH	AC YDS
121	
1450	
140	
1667	
160	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		76	139
		1670	257
		826	0
		5372	0
		2075	0



CROSS-SECTION SHEET STA. 913+50 TO STA. 915+00

SHEETS	STATE	PROJECT	
2	OHIO	F-527(11)	

90
275

KNO-13-15.93

SHEDDING

END WIDTH	SQ. YDS.

END AREA

CUT	FILL

VOLUME

CUT	FILL

154

4:1 4:1 1069.0

1077.79
917+00
1070.50

4:1 4:1 1070.2

15 1108

1722

1069.9

1077.69
916+50
1071.5

1071.0

120 3091

156

1070.20

F.L. 1071.29
Std. HW-E Headwall

18" X 104' So = 0.002'/.

Std. No. 4 C.B.
Grate Elev.
1074.48

F.L. 1071.50

1077.65
916+00
1072.1

1071.8

50 561

1538

4:1 4:1 1072.4

F.L. 1071.75

4:1 1073.6

233 1296

1077.64
915+50
1074.1

121 STA 915+00

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

STA 915+00 76 139

CROSS-SECTION SHEET STA. 915+50 TO STA. 917+00

GRADING	
END AREA	VOLUME
CUT	FILL

SHEET NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

91
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

157

4:1 4:1 1071.9

1078.70
919+50
1072.6

4:1 4:1 1070.2

24 988

1071.15

1078.50
919+00
1071.8

1070.1

1783

1071.0

1078.30
918+50
1071.7

1070.0

74 4035

164

4:1 1069.8

1078.10
918+00
1070.3

1069.9

16 1191

1767

4:1 4:1 4:1

1077.92
917+50
1070.0

1069.85

57 4257

154 STA 917+00

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

STA 917+00 15 1108

CROSS-SECTION SHEET STA. 917+50 TO STA. 919+50

SEEDING

ROW WIDTH	NO. ROWS

AREA TO BE DES. (ACRE)	STATE	PROJECT	
	OHIO	F-527(11)	

92
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Sta - 921+50 62.3' Lt.
Std. No. 6 Catch Basin
FL. Grate = 1079.0

4:1 4:1

921+50
FL. 1075.62

12" X 38' Cl. J-1 So. 1.00%

FL. 12" = 1076.00

Std. HW-E Endwall

1079.50
921+50
1078.7

2:1 2:1

1070.6

179

1075.0

1079.30
921+00
1077.0

184 161

1070.5

1917

1074.0

1079.10
920+50
1075.4

2:1 2:1

1070.4

409 1644

166

4:1 4:1

1072.5

1078.90
920+00
1073.6

4:1 4:1

1070.3

37 727

1794

113 3176

157

STA 919+00

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

STA 919+00 24 988

CROSS-SECTION SHEET STA. 920+00 TO STA. 921+50

SECTIONS

END WIDTH	SQ. YDS.

Sta. 2+87.43; 62.33' Rt.
Std. No. 6 Catch Basin
F.L. Grate = 1079.92

KNO-13-15.93

F.L. 12"=1076.60

12" x 84' CL ASS J-1 So = 1.00%

F.L. 1073.18

STD. HW-E Headwall

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

93
275

END AREA		VOLUME	
CUT	FILL	CUT	FILL

4:1
1079.0

1080.30
923+50
1081.1

2:1
2:1
1171.0

192

1078.7

1080.10
923+00
1080.4

1170.9

860 4

2244

1078.5

1079.90
922+50
1079.9

1170.8

3011 7

4:1
1078.3

1079.70
922+00
1080.0

2:1
2:1
1170.7

766 0

212

2172

1759 298

179

STA 921+00

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

STA 921+00 184 161

CROSS-SECTION SHEET STA. 922+00 TO STA. 923+50

FED. RD. DIV. NO.	STATE	PROJECT	
2	OHIO	F-527(II)	

KNO-13-15.93

CROSS-SECTION SHEET STA. 924+00 TO STA. 925+00

SEEDING	
END WIDTH	SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

95
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

S.W. Ramp

50:1

1080.7

1081.90
927+50
1084.1

1078.6

S.E. Ramp

948 0

S.W. RAMP AREA

50:1

1080.5

1081.70
927+00
1084.2

1077.9

S.E. Ramp Area

163

85.5' Lt. Std. 2-2-A.C.B.
F.L. Grate = 1079.00
F.L. WINDOW = 1078.50

Ł Std. No. 4. C.B.
F.L. Grate. 1078.28

84' Rt. Std. 2-2-A.C.B.
F.L. Grate = 1077.70
F.L. Window = 1077.20

6093 0

S.W. RAMP

2200

4:1

8:1

15"X84' I-1 Class J-1

1.25%

F.L. 1076.76

F.L. 1076.73

F.L. 1075.71

1081.50
926+50
1084.5

8:1

18"X80' I-1 CLASS J-1

1.00%

F.L. 1074.91

F.L. 1074.66

50:1

0.7%

See Sheet No. 167 for Storm Sewer

S.E. Ramp

50:1

4:1

8:1

1079.3

MAINLINE AHEAD

MAINLINE BACK.

VAR.

1077.8

Var.

Ahead 2342 0

2356 272 Back Back

Ahead 233

337 Back

3539

4:1

1083.7

1081.30
926+00
1085.4

7943 557

2:1

2:1

1077.6

300

STA 925+00

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

STA 925+00 1933 29

CROSS-SECTION SHEET STA. 926+00 TO STA. 927+50

DESIGNED	
ERO WIDTH	SQ. YDS.

FED. AID DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

96
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

VAR.
1081.5
1082.70
929+50
1085.8
1079.4
S.E. RAMP
Z

203

VAR.
1081.3
1082.50
929+00
1084.7
1079.2
S.E. RAMP AREA
Z

912 O

2306

S.W. RAMP
Z

4:1
1081.1
1082.30
928+50
1084.1
1079.0
S.E. RAMP
Z

2937 O

212

S.W. RAMP AREA
Z

4:1
1080.9
1082.10
928+00
1084.7
1078.8
S.E. RAMP AREA
Z

674 O

2083

3004 O

163

STA 927+00

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

STA 927+00

948 O

CROSS-SECTION SHEET STA. 928+00 TO STA. 929+50

SEEDING	
END WIDTH	SQ. YDS.

FED. AID DIVISION	STATE	PROJECT	
5	OHIO	F-527(11)	

97
275

KNO-13-15.93

END AREA		VOLUMES	
CUT	FILL	CUT	FILL

VAR.

1082.3

1083.50
931+50
1086.5

1080.2

S.E. RAMP

260

1082.1

1083.30
931+00
1086.2

1080.0

S.E. RAMP AREA

1046 0

2711

1081.9

1083.10
930+50
1086.2

1079.8

S.E. RAMP

3809 0

228

VAR.

1081.7

1082.90
930+00
1086.1

1079.6

S.E. RAMP AREA

1011 0

2394

3561 0

203

STA 929+00

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

STA 929+00 912 0

CROSS-SECTION SHEET STA. 930+00 TO STA. 931+50

FED. HIGHWAY DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

98
275

KNO-13-15.93

SECOND

END WIDTH	SLOPE
113	
	2:1
	1082.7
	1083.90
	932+48.93
	1089.2
	S.R.95 AREA
	2:1
	1080.6
177	
	S.R.95 AREA
	1082.6
	1083.80
	932+25
	1087.1
	S.R.95
	1080.5
	S.R.95 RAMP
114	
369	
Ahead 114	
152 Back	
	S.R.95 AREA
	2:1
	1082.5
	1083.70
	932+00
	1086.5
	MAINLINE AHEAD
	2:1
	1080.7
	MAINLINE S.R.95 BACK
653	
	S.R.95
	VAR.
	1082.4
	1083.60
	931+75
	1086.3
	4:1
	1080.1
	S.E. RAMP AREA
318	
2408	
260	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1101	0		
		854	0
830	0		
699	0		
Ahead 679	0	Ahead	
159	0	Back	Back
		411	34
729	73		
		2465	101
1046	0		

STA 931+00

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

STA 931+00

CROSS-SECTION SHEET STA. 931+75 TO STA. 932+48.93

SEEDING

END WIDTH	NO. LBS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

99
275

KNO-13-15.93

75'Lt. Std. 2-2 - A.C.B
F.L. -Grate = 1082.50
F.L. WINDOW = 1082.00

℄ Std. No. 4. C.B.
F.L. Grade= 1081.23

184

4:1

15" I-1 CLASS J-1

F.L.=1080.20

F.L. 15" 1078.97

F.L. 18" 1078.73

F.L. 21" 1078.48

S_o = 0.0168'/.

21" I-1 CLASS J-1

S_o = 0.013'/.

F.L. 1077.10
Std. HW-E Headwall

1084.50
934+00
1084.1

END AREA CUT 544 FILL 4

939

730 7

4:1

1082.7

S.R.95 AREA

154

1084.30
933+50
1083.5

END AREA CUT 244 FILL 4

742

S.R.95 AREA

VAR.

1082.9

S.R.95 AREA

1080.8

1084.10
933+00
1084.8

END AREA CUT 528 FILL 4

113

END AREA CUT 326 FILL 0

314

END AREA CUT 413 FILL 0

113

S.R.95 AREA

2:1

1083.0

S.R.95. AREA

1080.6

1084.00
932+75
1085.9

END AREA CUT 566 FILL 0

326

END AREA CUT 805 FILL 0

113

STA 932+48.93

STA 932+48.93

END AREA CUT 1101 FILL 0

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

CROSS-SECTION SHEET STA. 932+75 TO STA. 934+00

FED. RD. DIVISION	STATE	HIGHWAY	
2	OHIO	F-527(11)	

100
275

KNO-13-15.93

SUBGRADE WIDTH	SUBGRADE AREA
251	
	2478
231	
	2306
184	

N.W. RAMP AREA
4:1
1082.9
1085.30
936+00
1084.3
1080.0
N.E. RAMP AREA
268 35

N.W. RAMP AREA
1082.8
1085.10
935+50
1086.4
50:1
1079.8
N.E. RAMP
878 78

1082.7
1084.90
935+00
1084.6
50:1
1079.6
N.E. RAMP AREA
206 7

4:1
1082.6
1084.70
934+50
1084.0
50:1
1079.4
N.E. RAMP
1389 20

STA 934+00
150 140 150 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100
STA 934+00 544 4

CROSS-SECTION SHEET STA. 934+50 TO STA. 936+00

SEEDING

END WIDTH	TO STA.

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	F-527(11)	

101
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Ahead 202
50 Back

MAINLINE AHEAD
N.W. RAMP AREA Back

4:1
1084.8

1086.10
938+00
1086.1

4:1
1082.9

N.E. RAMP AREA

Ahead 340
0 Back

Ahead 1
130 Back

39 481

2000

N.W. RAMP

1084.6

1085.90
937+50
1084.5

1082.5

N.E. RAMP

210

N.W. RAMP AREA

1083.1

1085.70
937+00
1083.6

1081.2

N.E. RAMP AREA

21 130

2561

N.W. RAMP

4:1
1083.0

1085.50
936+50
1083.4

4:1

1080.2

N.E. RAMP

535 306

251

STA 936+00

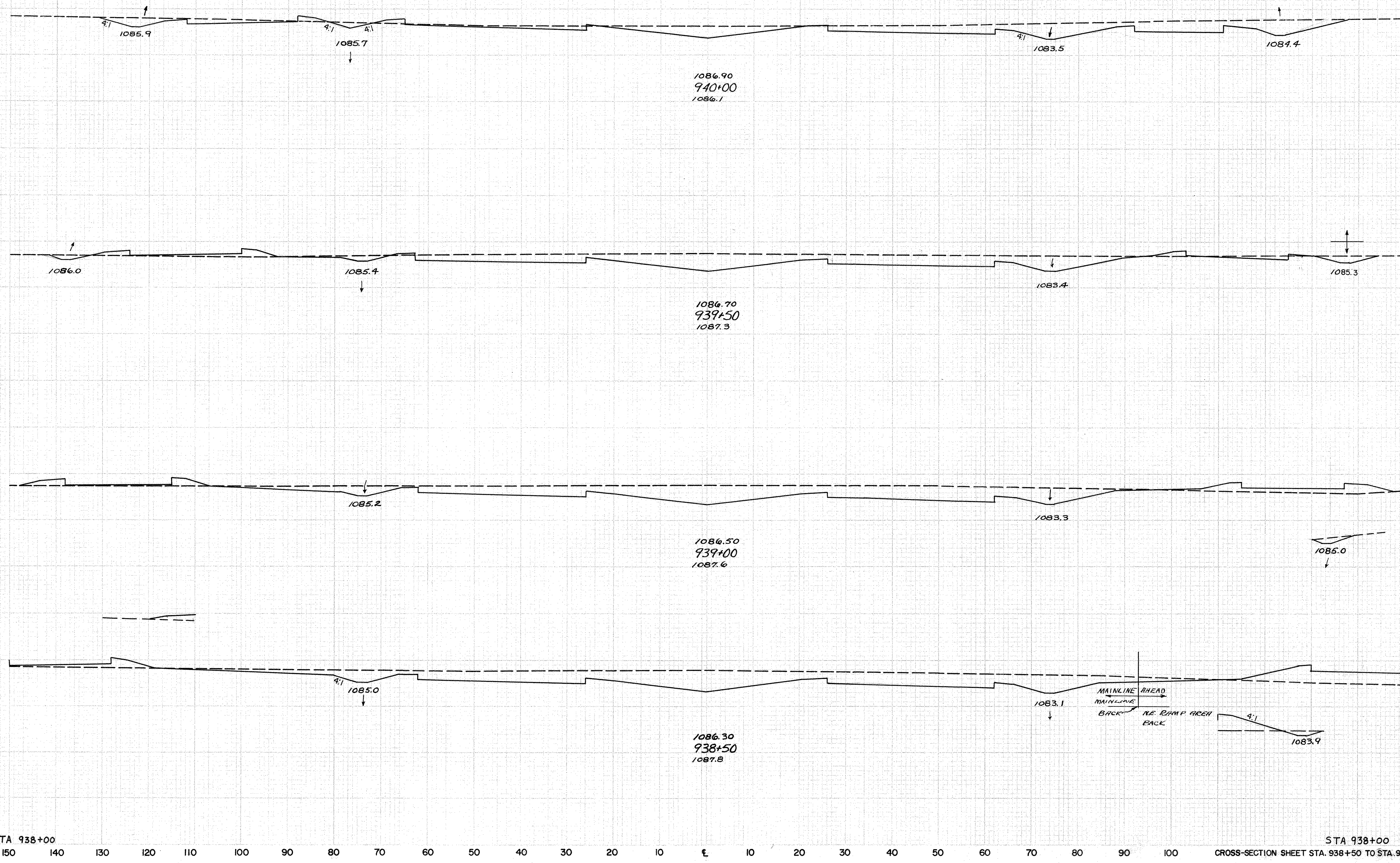
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

STA 936+00 268 35

CROSS-SECTION SHEET STA. 936+50 TO STA. 938+00

KNO-13-15.93

SEEDING | END AREA | VOLUME



168 — 331 9

2044 — 1404 139

427 66

200

1211 — 836 91

Ahead 236
169 Back

Ahead 476 / 469 Back — Ahead 32 / 156 Back

1031 — 749 146

202

Ahead 340 / 0 Back — Ahead 1 / 130 Back

CROSS-SECTION SHEET STA. 938+50 TO STA. 940+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

103
275

KNO-13-15.93

SEEDING END WIDTH	SEEDING SQ. YDS.
141	
	1539
136	
	1356
168	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1205	0		
		2813	15
314	8		
		1194	31
331	9		

CROSS-SECTION SHEET STA. 940+50 TO STA. 942+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

104
275

KNO-13-15.93

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
129		1085.1 4:1	1088.50 944+00 1089.1	1083.7 2:1	792 33
1539		1085.2	1088.30 943+50 1089.1	1083.73	3774 61
148		1085.3 4:1	1088.10 943+00 1092.0	1083.8	1246 0
1606		1085.4 VAR.	1087.90 942+50 1092.7	1083.9 2:1	4539 0
141		STA 942+00		STA 942+00	1205 0

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

CROSS-SECTION SHEET STA. 942+50 TO STA. 944+00

SEEDING	
END WIDTH	SQ. YDS.

FED. ROAD DISTRICT	STATE	PROJECT	
2	OHIO	F-527(11)	

105
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

140

4:1

1081.0

1089.30
946+00
1085.70

1083.3

VAR.

144 542

Std. No. 4 C.B.
Grate Elev.
1086.13

1081.2

F.L. 1081.49
Std. HW-E Headwall

12" Class J-1 So = 0.014'/.

F.L. 1083.00

1089.10
945+50
1087.30

1083.4

1209 1133

1489

128

1084.0

1088.90
945+00
1089.0

1083.5

VAR.

509 70

1428

4:1

4:1

1084.5

1088.70
944+50
1087.60

1083.6

2:1

2409 191

129

STA 944+00

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

STA 944+00 792 33

CROSS-SECTION SHEET STA. 944+50 TO STA. 946+00

SEEDING

ONE SIDE	SQ. YDS.

PROJ. NO. DESIGNATION	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
S	OHIO	F-527(11)		106	275

KNO-13-15.93

E-4 GRANULAR BORROW

END AREA		VOLUME	
AREA	VOL.	CUT	FILL
1128			
2089			
0			

148 — 1076.7 — 2:1 — 1089.81 — 948+00 — 1077.50 — 4:1 — 1078.8 — 4:1 — 14 1983

1606 — 1076.8 — 1089.75 — 947+50 — 1078.90 — 1080.6 — 81 6389

141 — 1076.9 — 1089.64 — 947+00 — 1079.60 — 4:1 — 1083.1 — 4:1 — 30 1467

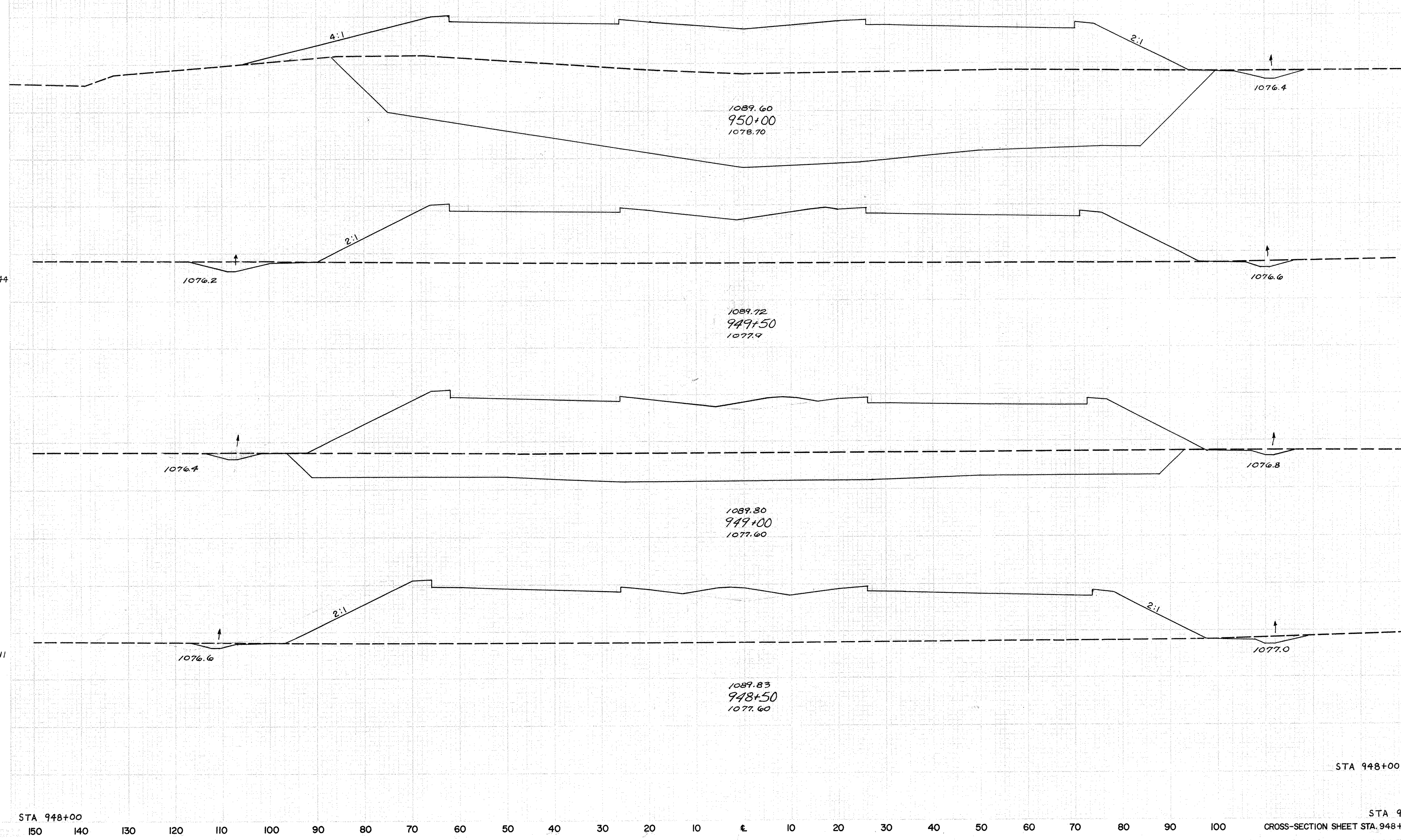
1561 — 1078.5 — 2:1 — 1089.45 — 946+50 — 1081.70 — VAR. — 1083.2 — 322 3720

140 — STA 946+00 — STA 946+00 — 144 542

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

CROSS-SECTION SHEET STA. 946+50 TO STA. 948+00

KNO-13-15.93



SEEDING END WIDTH	SQ. YDS.
172	
1944	
178	
1811	
148	

E-4 GRANULAR BORROW AREA	E-4 GRANULAR BORROW VOL.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2880		19	1592		
				55	3093
	7200	40	1748		
				57	3329
1008		21	1847		
	3956			43	3488
		25	1920		
				36	3614
STA 948+00 1128		14	1983		

STA 948+00

CROSS-SECTION SHEET STA. 948+50 TO STA. 950+00

2 OHIO F-527(11)

KNO-13-15.93


E-4 GRANULAR BORROW
AREA
VOL.
Structure
2:1
1089.33
950+90
1081.30
2720
0 883
131
0 401
2456
0 0
383
End Area
Sta. 950+65.5
Structure
0 0
1089.41
950+64
1075.10
134
2381
Zero Area
Sta. 950+49.5
208
0 0
Structure
134
3464
1089.45
950+50
1075.10
2583
0 0
0 0
362
End Area
Sta. 950+49.5
Structure
22 349
149
1089.52
950+27
1081.60
1076.3
2674
28 838
468
2770
24 1215
STA 950+00
2880
172
STA 950+00
STA 950+00
19 1592
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 950+27 TO STA. 950+90

SEEDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL

FED. AID PROJECT	STATE	PROJECT	
2	OHIO	F-527(11)	

109
275

KNO-13-15.93

E-4 GRANULAR BORROW

AREA	VOL.
727	
1948	4351
2324	
2178	
2790	
1020	
2720	

130

1089.00
952+00
1075.60

2:1

4:1

○ 2075

1099

1089.15
951+50
1076.0

○ 5280

142

1089.23
951+23
1076.0

○ 1628

351

Structure

2:1

○ 1205

133

1089.30
951+00
1081.50

○ 1202

147

○ 386

131

STA 950+90

STA 950+90

STA 950+90 ○ 883

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

CROSS-SECTION SHEET STA. 951+00 TO STA. 952+00

SEEDING	
ANG WIDTH	SQ YDS

FED. ROAD DESIGNATION	STATE	PROJECT	
2	OHIO	F-527(11)	

110
275

KNO-13-15.93

E-4 GRANULAR BORROW		END AREA		VOLUME	
AREA	VOL.	CUT	FILL	CUT	FILL
		0	2003		
851					
				0	3635
		3480	0	1923	
				0	3581
1028					
			0	1957	
		3250			0 3677
			0	2014	
					0 3786
STA 952+00	727				
			0	2075	

148

1088.90
954+00
1075.0

2:1

4:1

1628

1088.55
953+50
1075.10

145

1088.70
953+00
1075.3

2:1

4:1

1528

1088.85
952+50
1075.50

130 STA 952+00

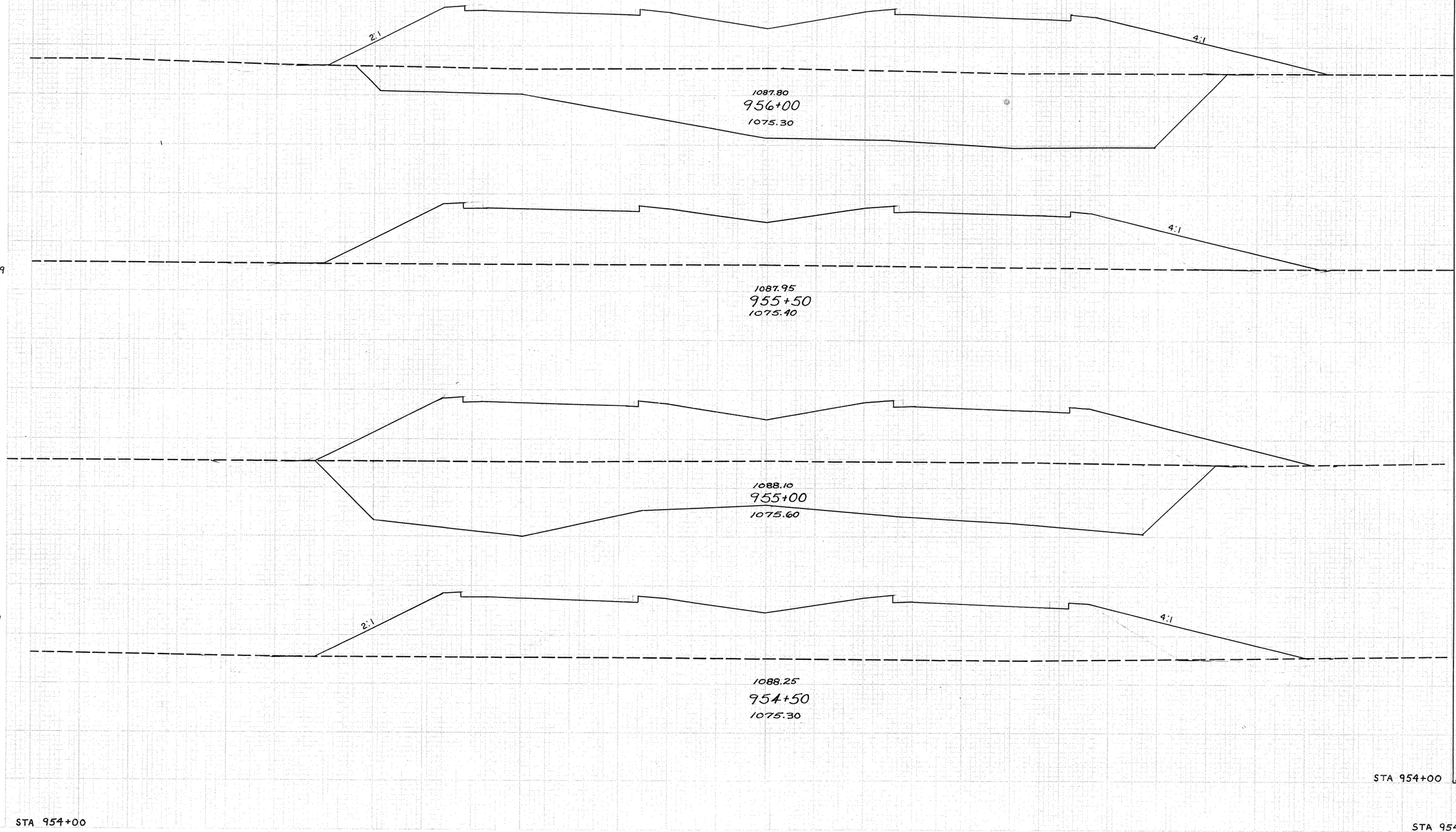
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

STA 952+00

CROSS-SECTION SHEET STA. 952+50 TO STA. 954+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93



	E-4 GRANULAR BORROW		END AREA		VOLUME	
	AREA	VOL.	CUT	FILL	CUT	FILL
	1962		0	1934		
		7578			0	7167
	2130		0	1936		
		5520			0	7294
			0			
STA 954+00	851					
STA 954+00			0	2003		

CROSS-SECTION SHEET STA. 954+50 TO STA. 956+00

SCALING
END WIDTH | VOL. TABS

FED. AID PROJECT	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
	OHIO	F-527(11)		112	275

KNO-13-15.93

E-4 GRANULAR BORROW

END AREA		VOLUME	
AREA	VOL.	CUT	FILL

157

Std. No. 4 C.B.
Grate Elev.
1083.93

4:1

72"X 104'

So = 0.0346'/.

4:1

F.L. 1081.60

End - E-4 Granular - Borrow
Area = 0
C.Y. 1606

F.L. 1075.07
Std. HW-E Headwall

1087.20
958+00
1077.1

0 | 0 | 1585

1778

1087.35
957+50
1076.7

0 | 6281

1620

163

1087.50
957+00
1076.0

E-4 AREA 867
C.Y. 5194

875 | 0 | 1807

5254

1606

4:1

4:1

1087.65
956+50
1075.3

0 | 6928

STA 956+00 | 1962

126 STA 956+00

STA 956+00 | 0 | 1934

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

CROSS-SECTION SHEET STA. 956+50 TO 958+00

KNO-13-15.93


END AREA CUT FILL
VOLUME CUT FILL
141
4:1
4:1
1086.60
960+00
1079.2
0 1006
1617
1086.75
959+50
1078.0
0 4463
150
1086.90
959+00
1077.2
0 1404
1706
4:1
4:1
1087.05
958+50
1077.0
0 5535
157
STA 958+00
STA 958+00
0 1585
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

OHIO | F-527(11)

114
275

KNO-13-15.93

CROSS-SECTION SHEET STA. 960+50 TO 962+00

SEEDING	
END WIDTH	SQ. YDS.

FED. RD. DIST. NO.	STATE	PROJECT	
7	OHIO	F-527(11)	

115
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

129

4:1 4:1 1082.23

1086.08
964+00
1083.4

4:1 1080.35

30 184

1544

4:1 1080.2

1086.02
963+50
1081.4

4:1 1079.50

74 1389

149

Std. No. 4 C.B. SEE DETAIL ON SHEET No. 216
Grate Elev.
1082.83

4:1

24"X83.33' So=0.002'/. 24"X77.33' So=0.002'/.

F.L. 1080.08
Std. HW-E Headwall

F.L. 1079.91

1086.00
963+00
1081.0

F.L. 1079.90

F.L. 1079.75
Std. HW-E Headwall

10 566

1406

4:1 4:1

1086.02
962+50
1081.0

89 1209

104

STA 962+00

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

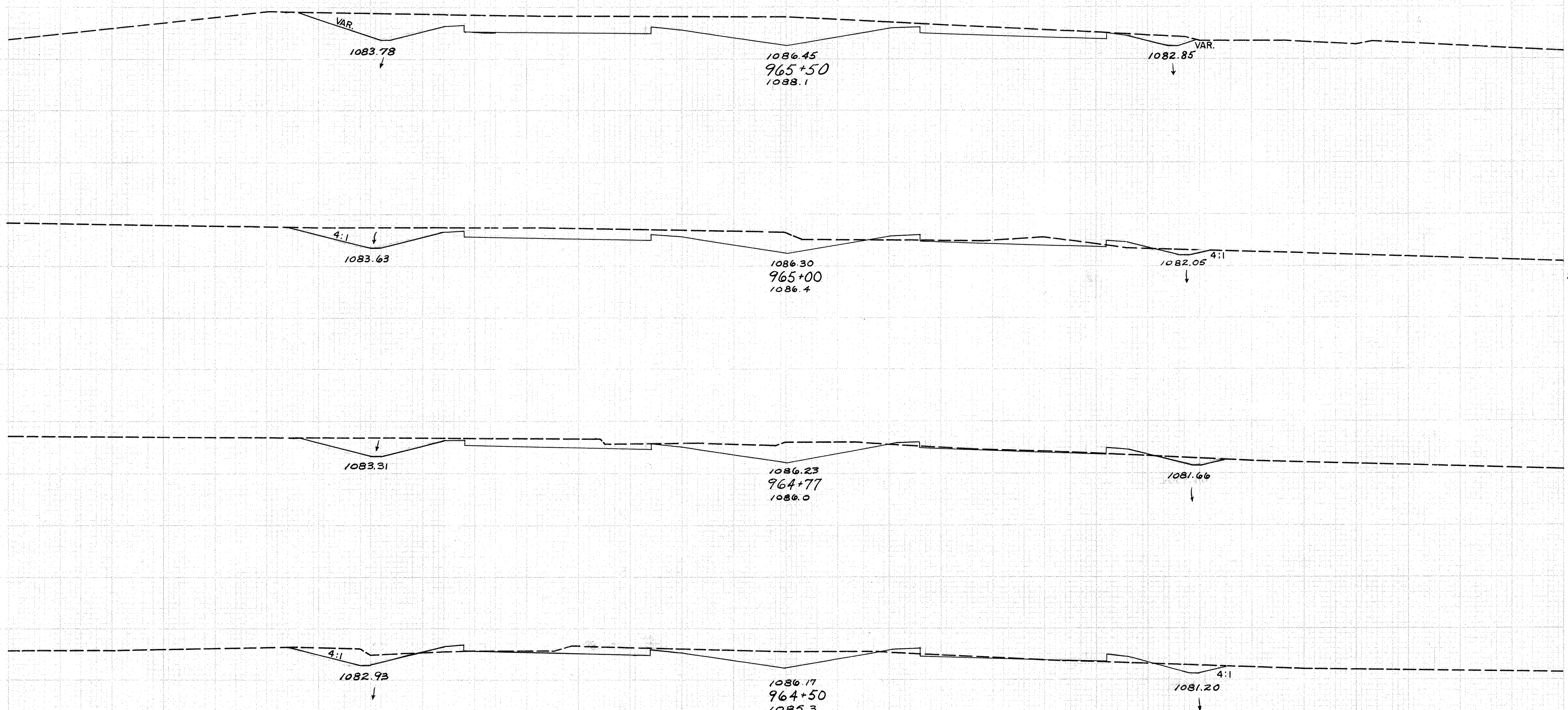
STA 962+00 38 87

CROSS-SECTION SHEET STA. 962+50 TO 964+00

OHIO	F-527(11)	116 275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL



127 ... 262 17

1422 ... 541 372

129 STA 964+00 ... STA 964+00 30 184

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

CROSS-SECTION SHEET STA. 964+50 TO 965+50

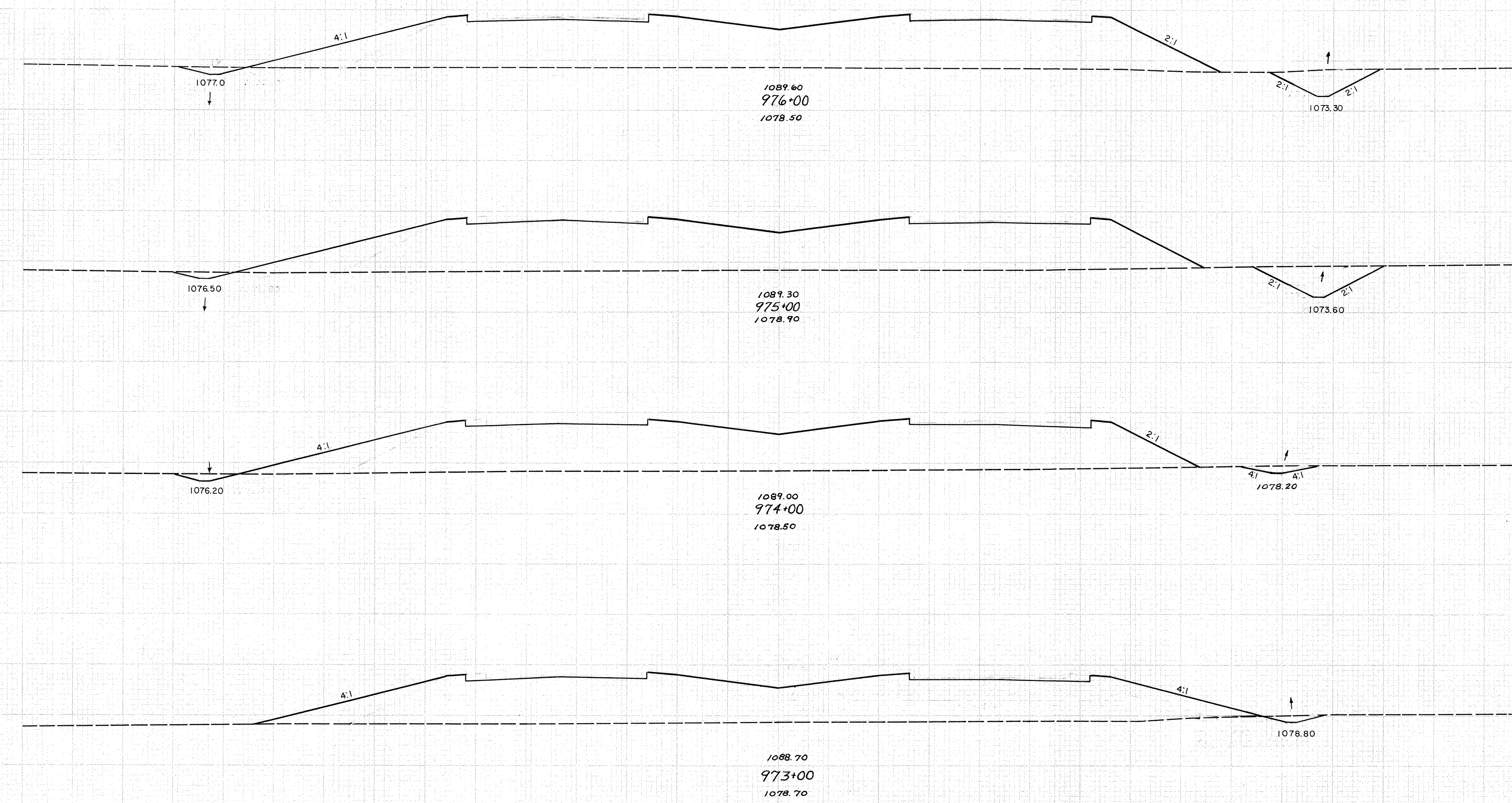
139	1556		1531	0
			5357	0
131	1444		1362	0
			4050	0
129	1422		825	0
			2013	31
127			262	17

KNO-13-15.93


Std. No. 4 C.B.
Grate Elev.
1085.20
4:1
4:1
15" x 96'
So = 0.012 %
F.L. 1082.50
1088.40
972+00
1080.50
F.L. 1081.35
Std. HW-E Headwall
7 1019
133
107 2483
1439
4:1
1088.18
971+00
1084.40
1085.43
4:1
51 322
126
1406
1370 596
4:1
1085.13
1087.80
970+00
1090.50
VAR.
1085.13
127
689 0
1494
3822 0
VAR.
1084.83
1087.50
969+00
1094.80
VAR.
1084.83
142
1375 0
1561
5381 0
139
STA 968+00
STA 968+00
1531 0
END AREA
CUT FILL
VOLUME
CUT FILL
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 969+00 TO STA. 972+00

KNO-13-15.93



186			83	1602
2078			348	5867
188			105	1566
2017			239	5622
175			24	1470
1861			63	5428
160			10	1461
1628			0	4593
133	STA 972+00	STA 972+00	7	1019

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

CROSS-SECTION SHEET STA. 973+00 TO STA. 976+00

OHIO F-527(11)

KNO-13-15.93

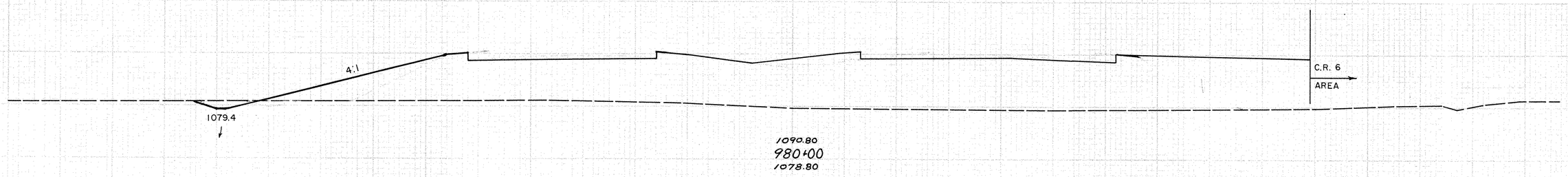
CROSS-SECTION SHEET STA. 977+00 TO STA. 979+11

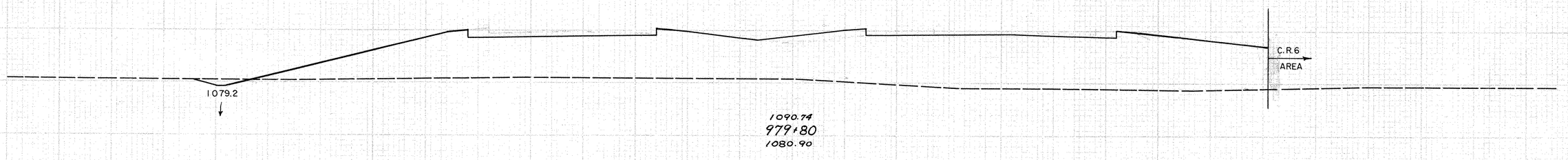
F.A. NO. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

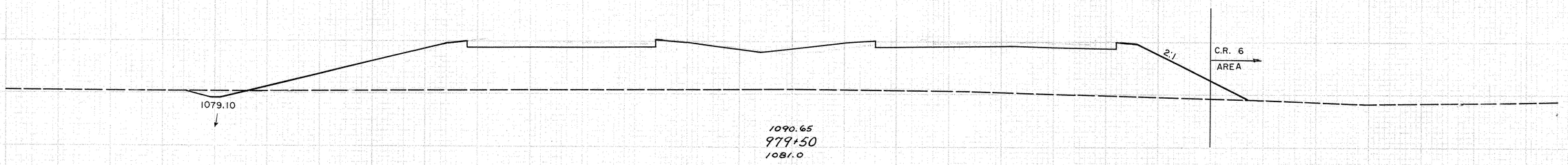
121
275

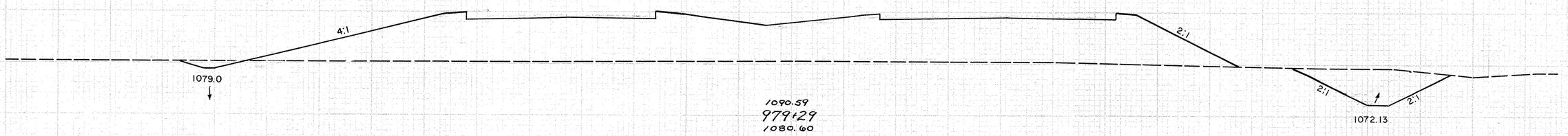
KNO-13-15.93

SECTIONS		END AREA		VOLUME	
SECTION	SQ. YDS.	CUT	FILL	CUT	FILL
161					
				11	1710
	348				
				7	1230
152					
				7	1610
				8	1682
505					
				8	1417
151					
				47	1101
399					
191				113	1414
381					
				76	942
190				114	1412









STA 979+11 — STA 979+11

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

CROSS-SECTION SHEET STA. 979+29 TO STA. 980+00

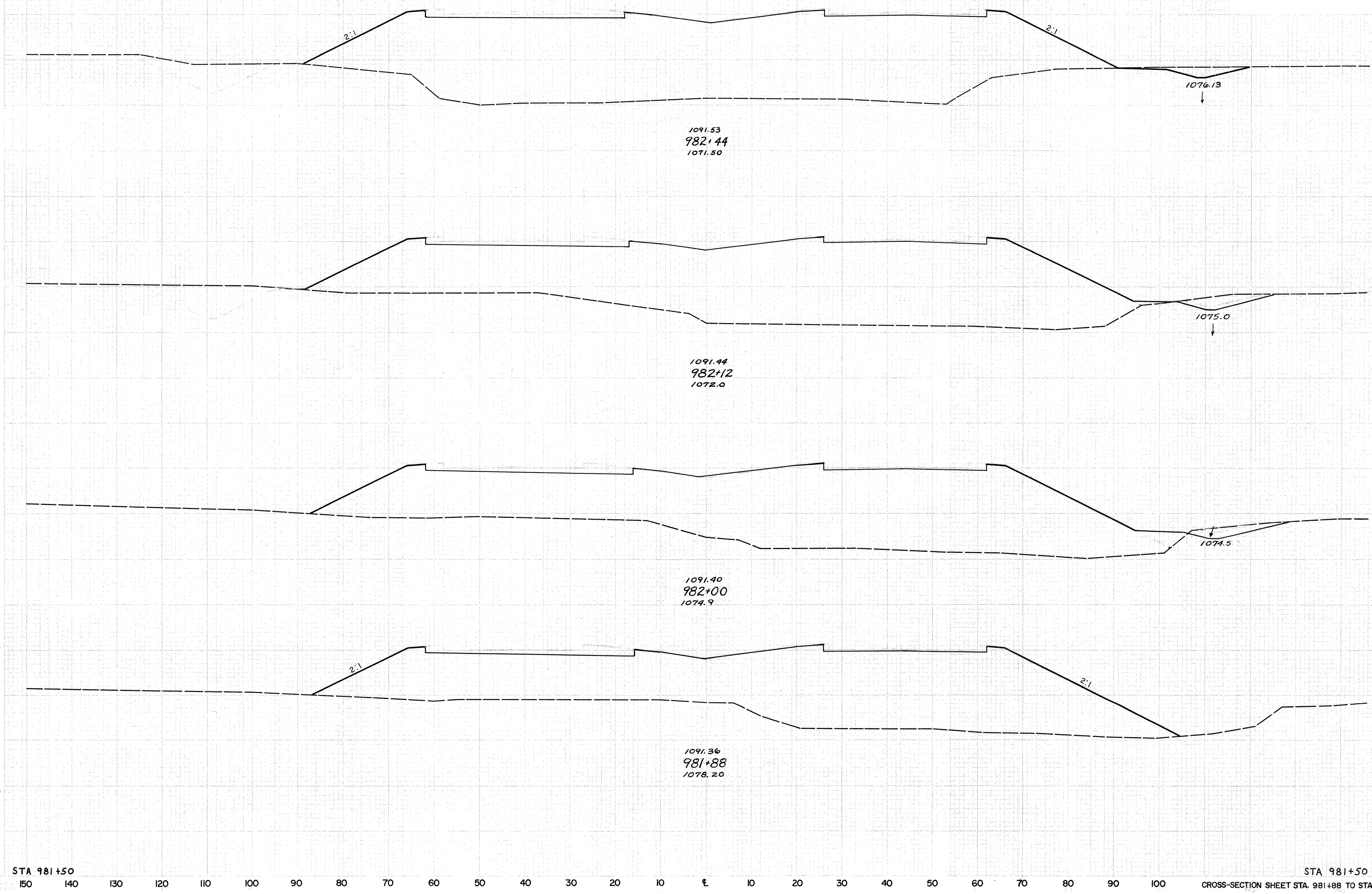
F-527(11)

KNO-13-15.93


Std. No. 4 C.B.
Grate Elev.
1087.98
C.R. 6
Area
VAR.
F.L. 1085.70
So = .004%
2:1
1091.25
981+50
1078.3
Std. - HW-E - Endwall
F.L. 1070.00
139
235
o 2490
C.R. 6
Area
84
1091.19
981+31
1077.3
214
o 1645
o 2237
C.R. 6
Area
40
1091.10
981+00
1080.8
158
o 2477
o 2078
C.R. 6
Area
VAR.
2:1
95
1091.00
980+79
1081.38
233
o 1692
o 2273
C.R. 6
Area
VAR.
VAR.
C.R. 6
115
1090.98
980+59
1081.42
905
16 5827
161
STA 980+00
STA 980+00
11 1710
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 980+59 TO STA. 981+50

KNO-13-15.93



157	
567	
162	
217	
163	
370	
140	
589	
139	

End Area Cut	End Area Fill	Volume Cut	Volume Fill
29	2737		
		39	3100
37	2495		
		15	1088
32	2399		
		7	1041
0	2285		
		0	3360
0	2490		

CROSS-SECTION SHEET STA. 981+88 TO STA. 982+44

SHEET NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

124
275

KNO-13-15.93

SECTIONS

END AREA		VOLUME	
CUT	FILL	CUT	FILL

181

1077.00

2:1

1091.92
984+00
1078.70

2:1

1076.60

31 1856

1956

102 7737

171

1076.30

1091.70
983+00
1077.20

24 2322

152

1076.28

1091.68
982+92
1073.10

6 704

171

18 2431

280

2:1

2:1

1076.21

1091.63
982+77
1071.60

8 1417

165

12 2669

590

25 3304

157

STA 982+44

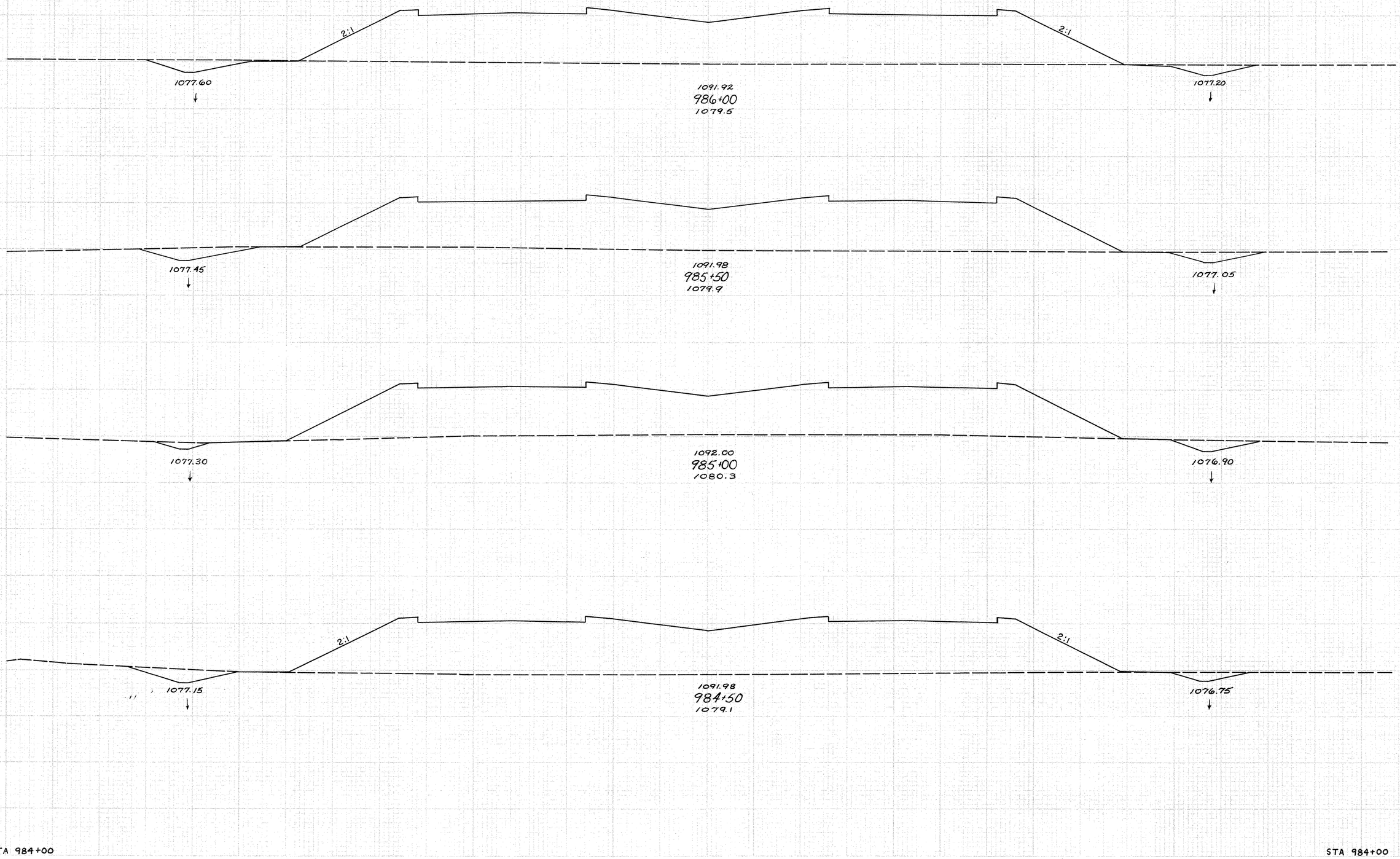
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

STA 982+44 29 2737

CROSS-SECTION SHEET STA. 982+77 TO STA. 984+00

KNO-13-15.93

SHEETING		END AREA		VOLUME	
END WIDTH	XQ. YDS.	CUT	FILL	CUT	FILL
186				50	1692
2056				139	6170
84				25	1640
2028				104	6474
181				31	1856



CROSS-SECTION SHEET STA. 984+50 TO STA. 986+00

OHIO F-527(11)

KNO-13-15.93


SEEDING
END WIDTH
SQ. YDS.
END AREA
VOLUME
CUT
FILL
4:1
4:1
1079.2
1090.90
990+00
1081.9
1079.80
180
22 1329
2011
89 5081
4:1
4:1
1079.0
1091.10
989+00
1079.7
1080.30
182
26 1415
1961
76 5428
2:1
2:1
1078.20
1091.40
988+00
1080.3
1078.90
171
15 1516
1917
70 5917
2:1
2:1
1077.90
1091.70
987+00
1079.3
1077.50
174
23 1679
2000
135 6243
186
STA 986+00
STA 986+00
50 1692
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 987+00 TO STA. 990+00

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

127
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Structure

994+00
1080.2

Proposed Channel Relocation

S=-0.00156'/.

F.L. Elev. 1070.5

End Area
993+53

Full Area
993+24

Begin Bridge Sta. 993+21.75

199 641 199 493 171 1828

4:1 4:1 1081.5 4:1 4:1 1078.6

1089.90
993+00
1082.2

0 0

17 568

32 1058

26 1001

27 1195

115 4193

158 1833

1081.3

1090.20
992+00
1082.3

1079.0

35 1069

122 4131

172 1956

Std. No. 4 C.B.
Grate Elev.
1087.33

F. L. 1084.00

So = 0.042 %

4:1 4:1 1080.8 4:1 4:1

1090.50
991+00
1082.0

F. L. 1079.80
Std. HW-E Headwall

31 1170

98 4628

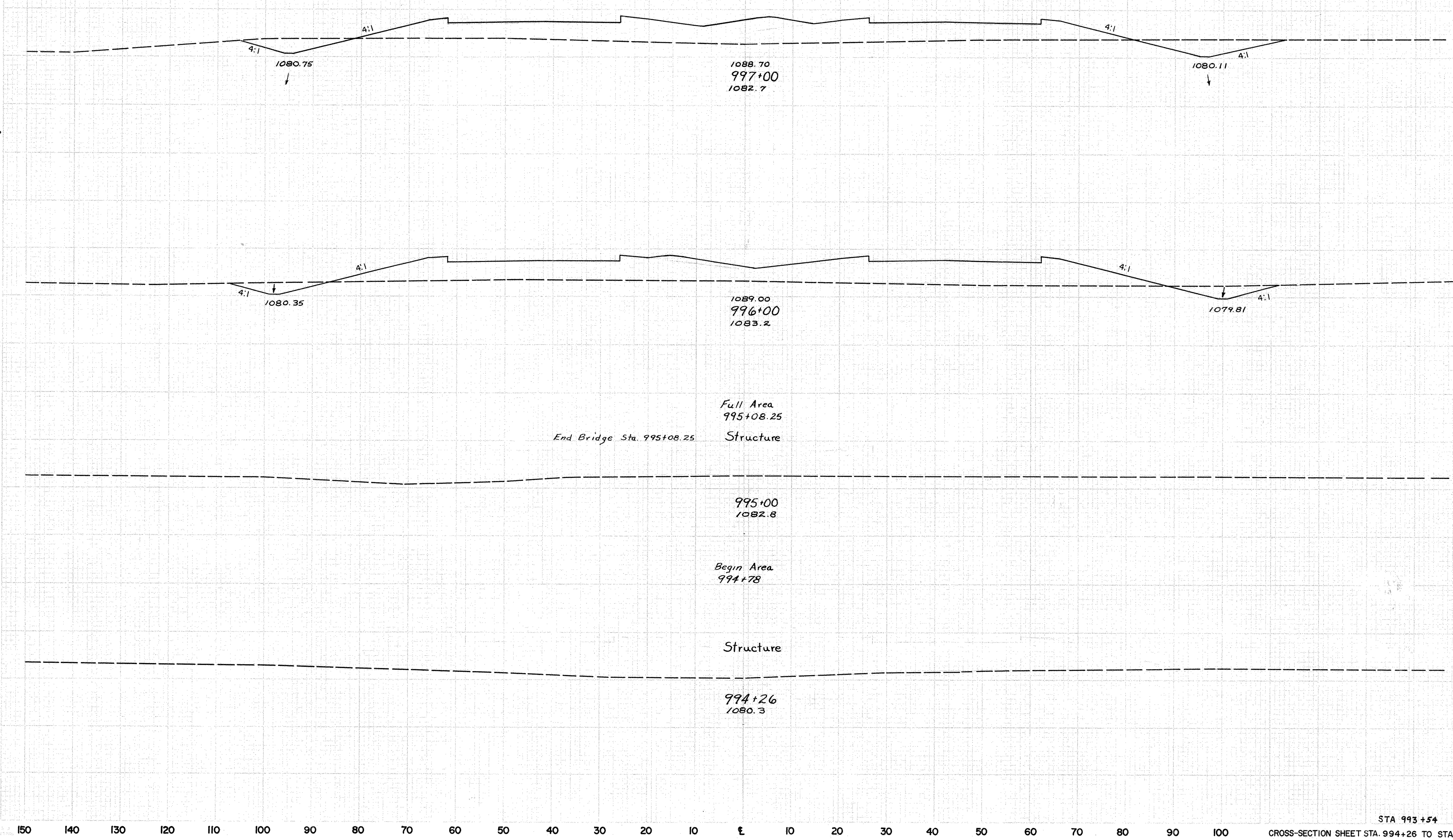
180 STA 990+00

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

STA 990+00 22 1329

CROSS-SECTION SHEET STA. 991+00 TO STA. 994+00

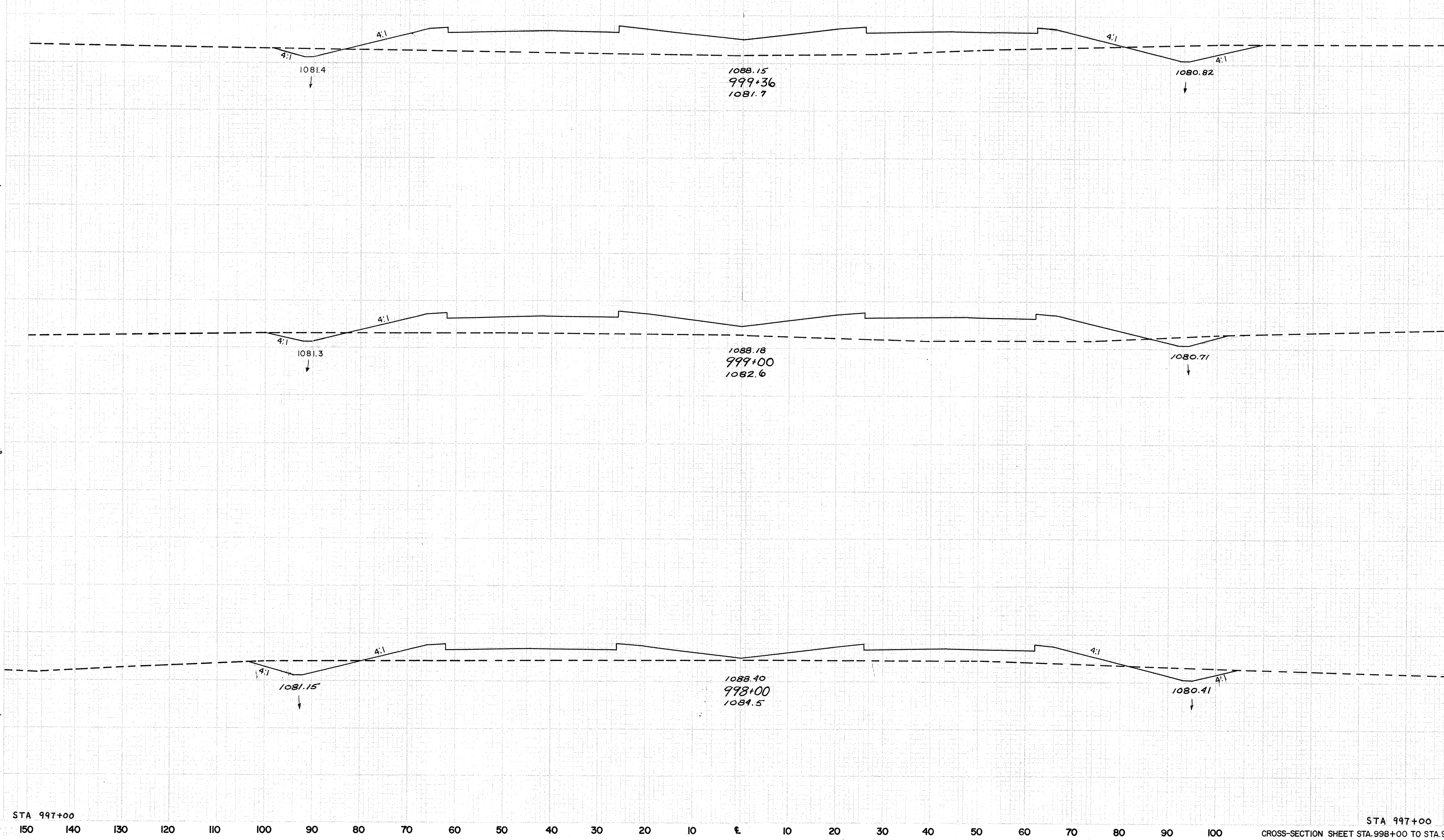
KNO-13-15.93



Seeding End Width	Seeding Sq. Yds.	Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
166		997+00	103	612		
	1856				315	2439
168		996+00	67	728		
	1733				228	2474
171		995+08.25	67	728		
	570				38	408
171		994+78	0	0		
		994+26			0	0
		993+54	0	0		

KNO-13-15.93

SEEDING END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
156		63	674		
	612			65	879
150		34	645		
	1706			220	1896
157		85	379		
	1794			348	1835
166		103	612		



SEEDING

FOR WATER	SQ. YDS.

REV. BY	DATE	PROJECT
CHKD		F-527(11)

130
275

KNO-13-15.93

END AREA		VOLUME	
CUT	FILL	CUT	FILL

155

4:1 4:1 1081.8

1088.20
1000+68
1085.1

4:1 VAR. 1081.21

303 242

174

102 69

159

4:1 1081.7

1088.18
1000+58
1088.7

4:1 1081.18

248 130

269

VAR. 1081.6

1088.17
1000+43
1084.3

1081.14

123 107

164

193 255

760

227 547

Std. No. 4 C.B.
GRATE ELEV. 1084.97

4:1 4:1 1081.5

F.L. 1082.50 S= .01 Y.

F.L. 1081.68 4:1 1081.01

Std. HW-E-Endwall

1088.14
1000+00
1083.5

154

92 437

1102

184 1317

156

STA 999+36

STA 999+36 63 674

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

CROSS-SECTION SHEET STA. 1000+00 TO STA. 1000+68

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

SEEDING END WIDTH	SEEDING SQ. YDS.
154	
	1711
154	
	1717
155	
	1739
158	
	556
155	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
61	366		
		257	1304
78	338		
		285	1341
76	386		
		398	1089
139	202		
		262	263
303	242		

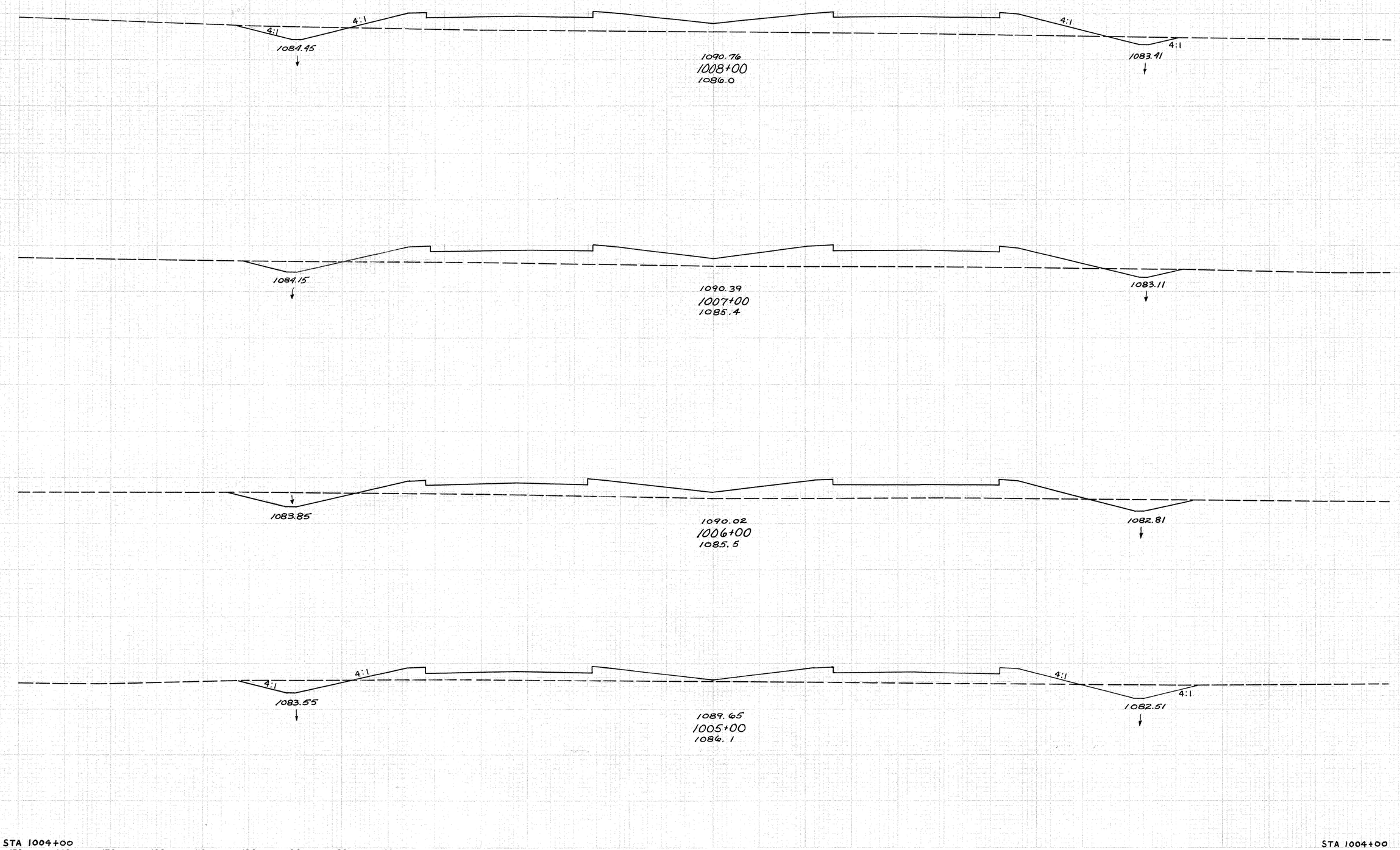
CROSS-SECTION SHEET STA. 1001+00 TO STA. 1004+00

FED. RD. DIV. NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

132
275

KNO-13-15.93

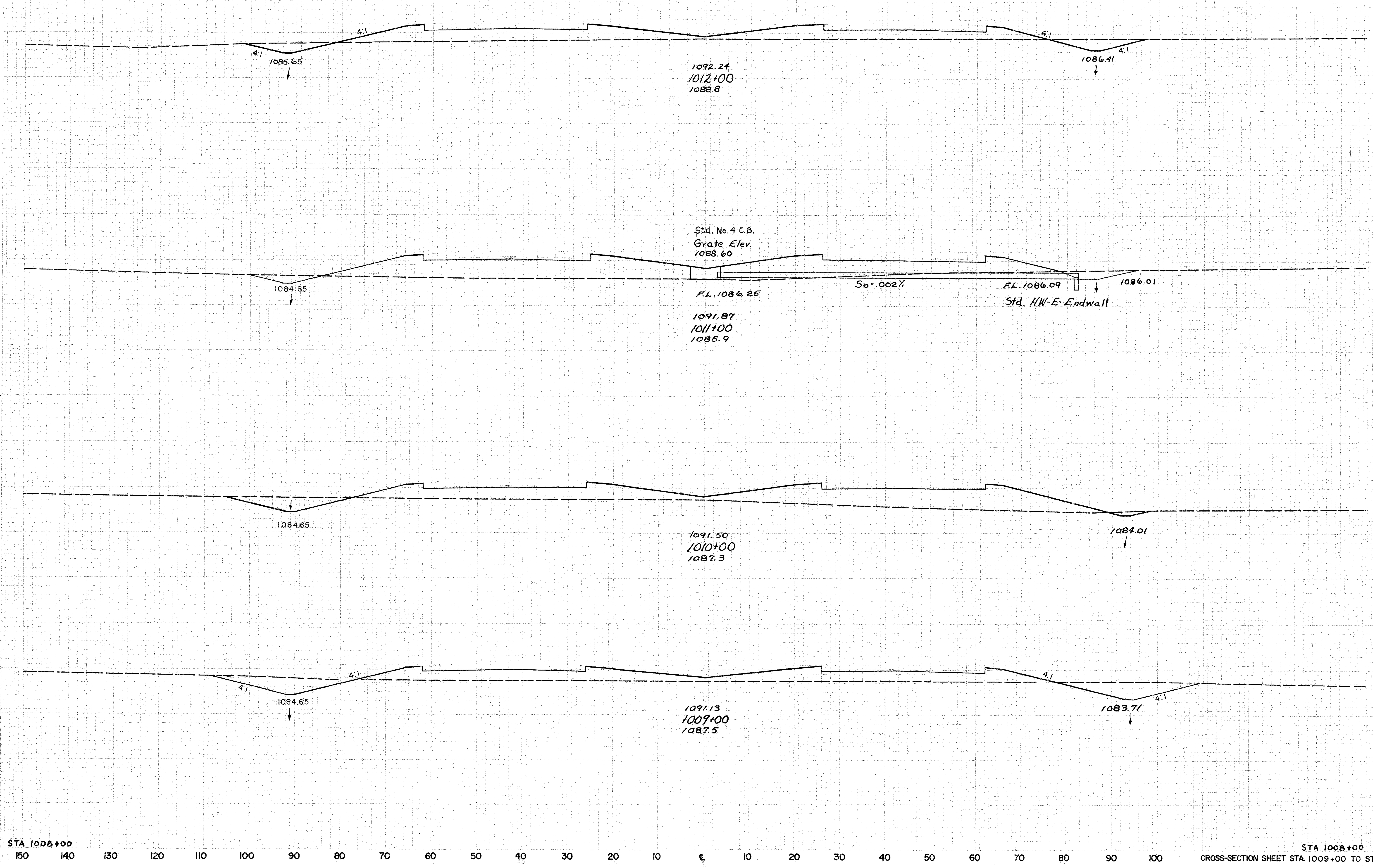
SCORING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
151					
		50	486		
1678					
				172	1789
151					
		43	480		
1711					
				200	1631
157					
1739		65	401		
				246	1337
156					
1722		68	321		
				239	1272
154					
		61	366		



STA 1004+00 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 STA 1004+00

CROSS-SECTION SHEET STA. 1005+00 TO STA. 1008+00

KNO-13-15.93



Seeding

End Width	Sq. Yds.
146	
	1611
144	
	1644
152	
	1717
157	
	1711
151	

End Area Cut	End Area Fill	Volume Cut	Volume Fill
57	326		
		200	1635
51	557		
		206	1915
60	477		
		385	1474
148	319		
		367	1491
50	486		

CROSS-SECTION SHEET STA. 1009+00 TO STA. 1012+00

SHEET NO.	STATE	PROJECT	
3	OHIO	F-527(11)	

134
275

KNO-13-15.93

SHEDING

END WIDTH	SIDE SLOPE
154	4:1
158	4:1
144	4:1
140	4:1

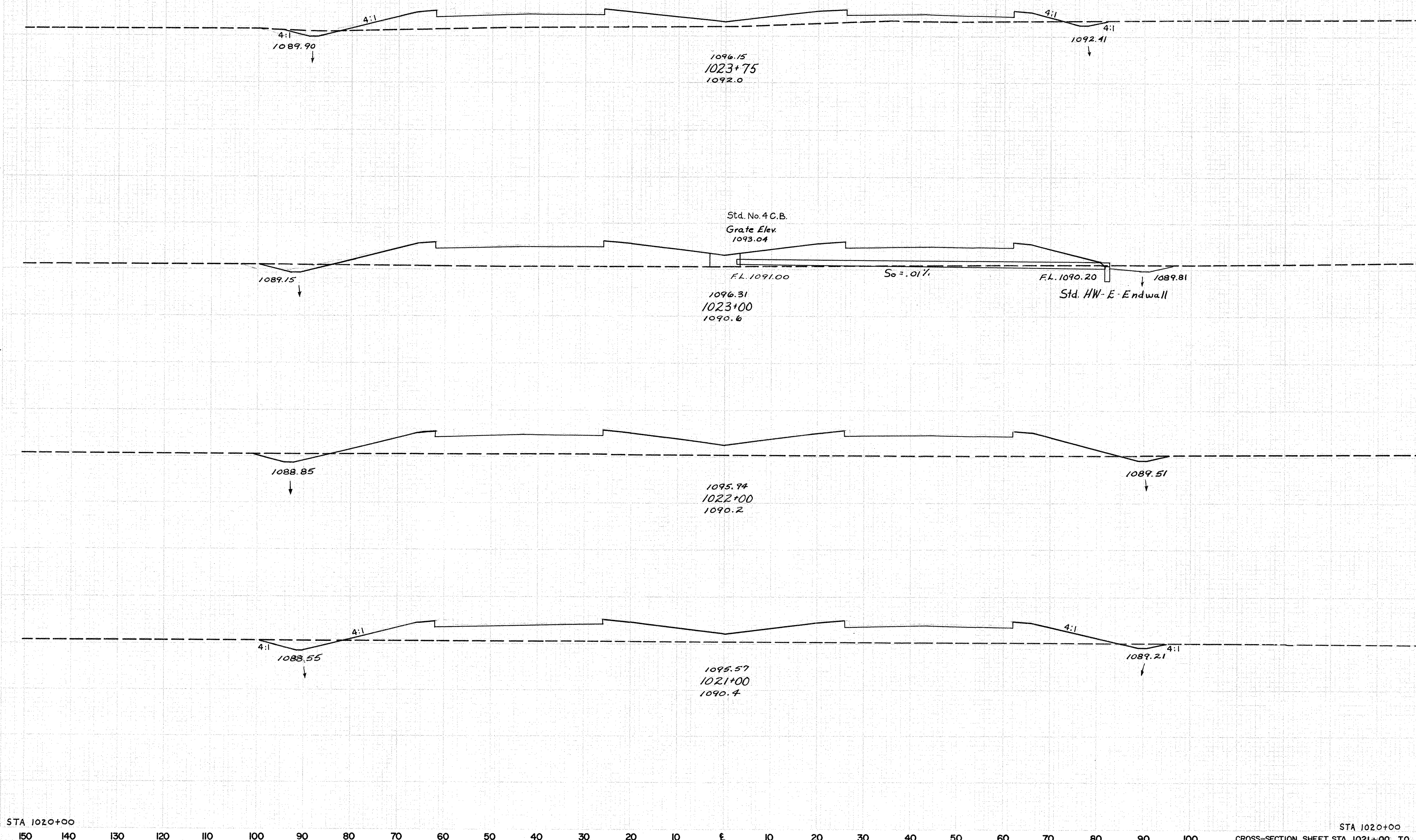
		END AREA		VOLUME	
		CUT	FILL	CUT	FILL
1087.05					
1733					
1093.72					
1016+00					
1090.3					
1087.71		110	230		
				456	813
1086.75					
1678					
1093.35					
1015+00					
1090.3					
1087.41		136	209		
				337	939
1086.35					
1578					
1092.98					
1014+00					
1089.1					
1087.11		46	298		
				144	1261
1085.95					
1589					
1092.61					
1013+00					
1088.5					
1086.81		32	383		
				165	1319
STA 1012+00					
		STA 1012+00		57	326

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

CROSS-SECTION SHEET STA. 1013+00 TO STA. 1016+00

KNO-13-15.93


140
1594
147
1650
150
1694
146
1667
154
4:1
4:1
1088.25
1095.20
1020+00
1090.4
4:1
4:1
1088.91
39 475
157 1569
1087.95
1094.83
1019+00
1090.6
1088.61
46 372
224 1265
1087.65
1094.46
1018+00
1090.8
1088.31
75 311
261 1169
4:1
4:1
1087.35
1094.09
1017+00
1090.1
4:1
4:1
1088.01
66 320
326 1019
STA 1016+00
STA 1016+00
110 230
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100



123		18	265
	1108	80	1135
143		25	552
	1594	128	2024
144		44	541
	1594	148	1887
143		36	478
	1572	139	1765
140		39	475

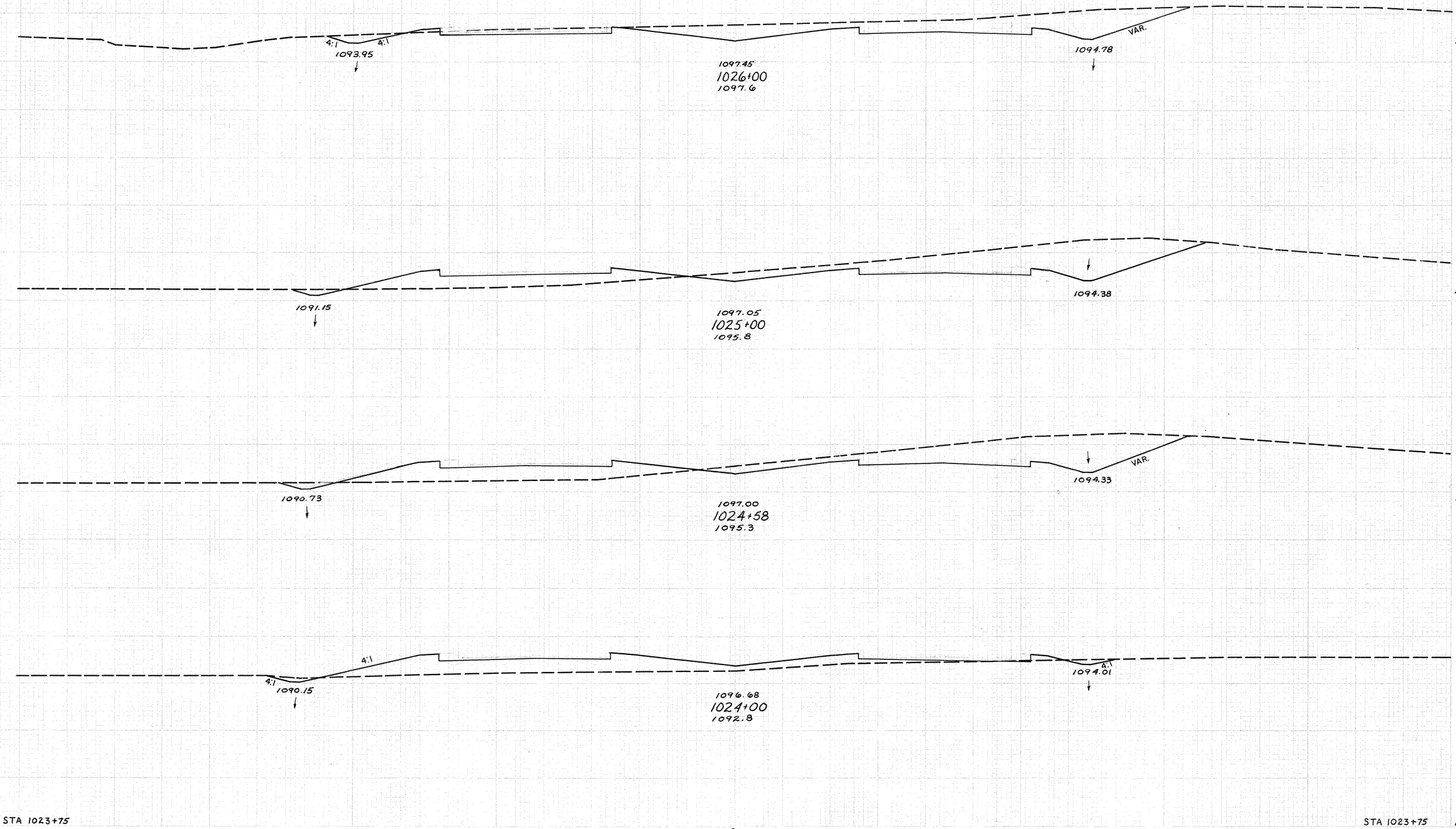
SECTION	STATE	PROJECT	
P	OHIO	F-527(11)	

137
275

KNO-13-15.93

SECTIONS

REQ WIDTH	SP VOL
129	
1489	
139	
651	
140	
857	
126	
346	
123	



REQ AREA CUT	REQ AREA FILL	VOLUME CUT	VOLUME FILL
365	4		
		1456	281
421	148		
369	185	614	259
		415	477
17	259		
		16	243
18	265		

STA 1023+75

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

STA 1023+75

CROSS-SECTION SHEET STA. 1024+00 TO 1026+00

KNO-13-15.93

SEEDING: END WIDTH, SQ. YDS.

END AREA: CUT, FILL — VOLUME: CUT, FILL

Seeding	End area (cut / fill)	Volume (cut / fill)
111	325 0	
1317		1296 0
126	375 0	
1356		1128 0
118	234 0	
610		453 0
126	310 0	
779		688 4
129	365 4	

CROSS-SECTION SHEET STA. 1026+55 TO 1029+00

KNO-13-15.93

SEEDING END AREA	SQ. YDS.
116	
	1261
111	
	1289
121	
	1289
111	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	132		
		107	337
42	50		
		548	102
254	5		
		1072	9
325	0		

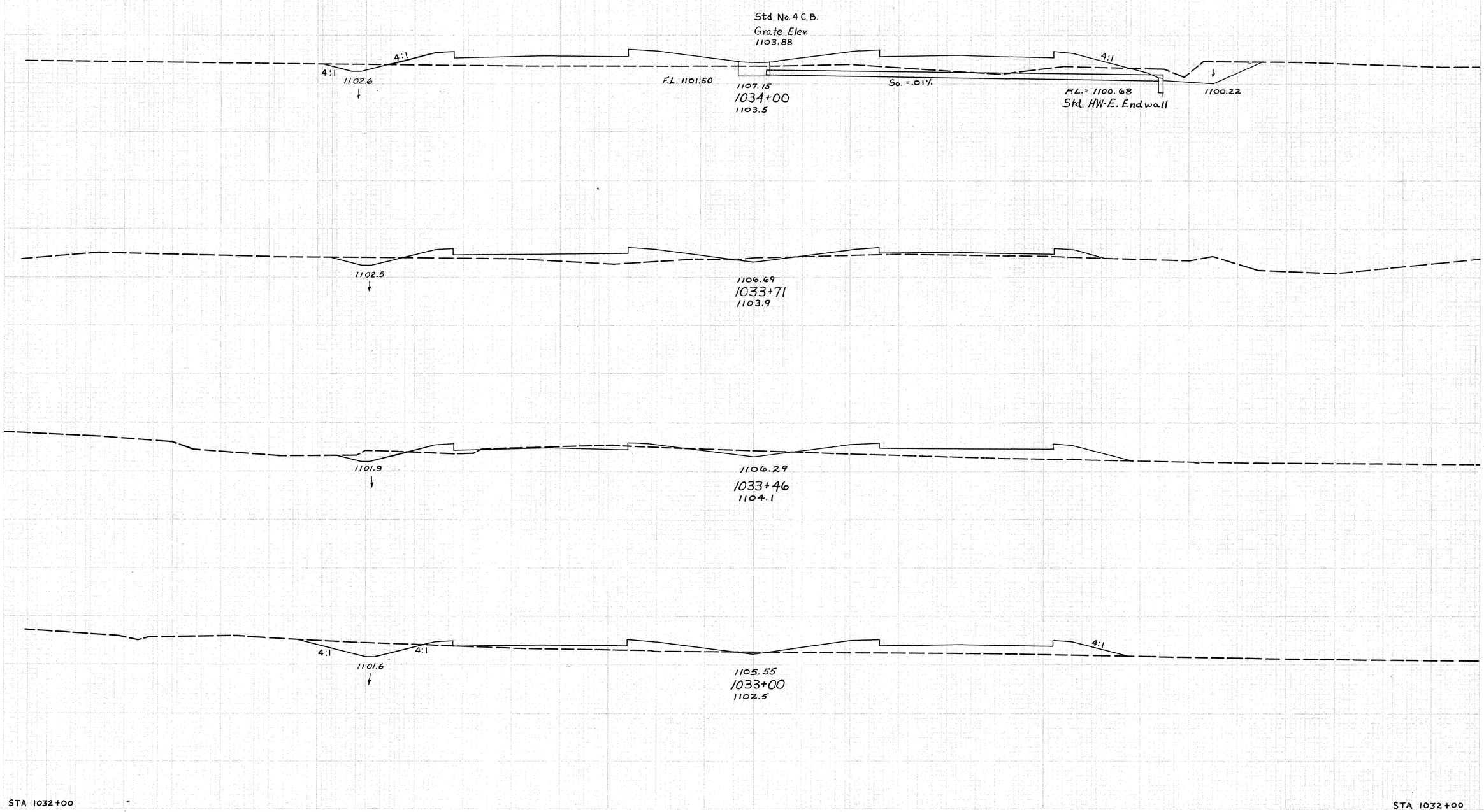
CROSS-SECTION SHEET STA. 1030+00 TO 1032+00

SHEET NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

140
275

KNO-13-15.93

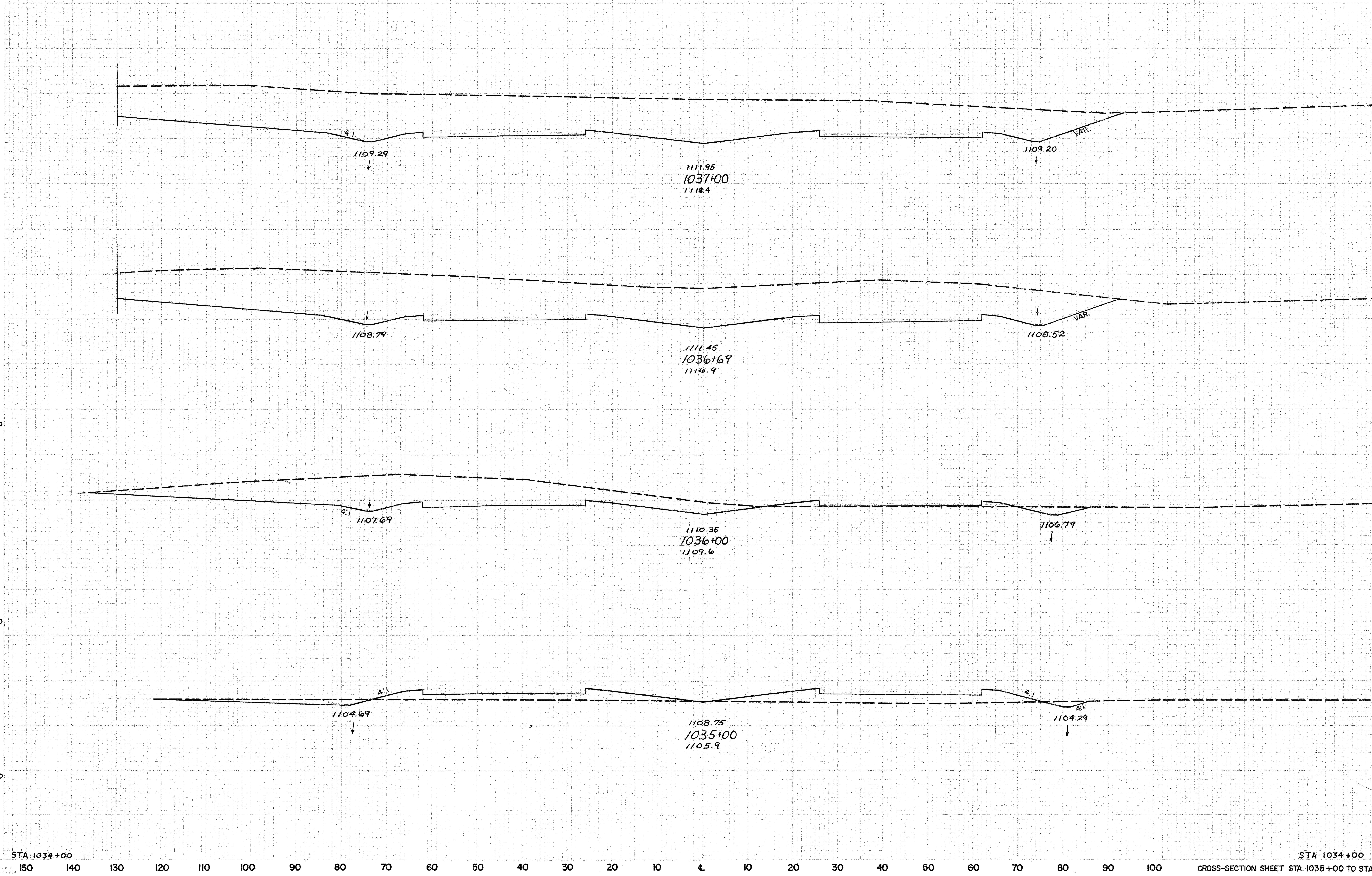
CLEARING		END AREA		VOLUME	
FRO WIDTH	SQ FEET	CUT	FILL	CUT	FILL
142					
				66	298
	401				
				45	221
107					
				18	114
	304				
112					
				27	114
	606				
				41	132
				58	268
120					
	1311			27	183
				80	583
116				16	132



CROSS-SECTION SHEET STA. 1033+00 TO STA. 1034+00

OHIO F-527(11)

KNO-13-15.93



SEEDING (left margin): 161, 382, 161, 1230, 160, 1700, 146, 1600, 142

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1793	0		
		2094	0
1855	0		
		3152	18
612	14		
		1200	396
36	200		
		189	922
66	298		

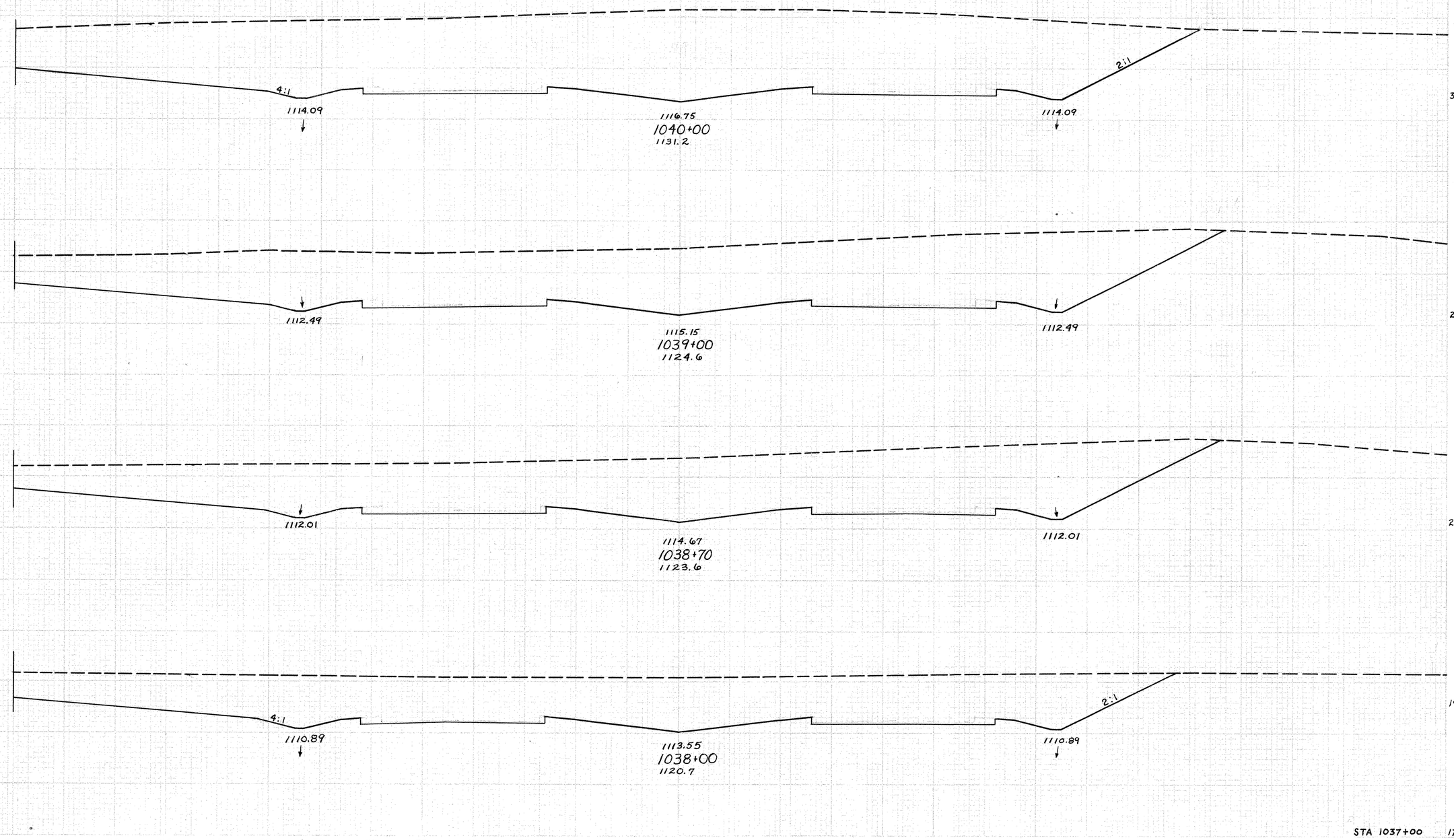
CROSS-SECTION SHEET STA. 1035+00 TO STA. 1037+00

SEEDING	
EFFD WIDTH	SQ. YDS
180	
	2027
185	
560	
184	
1396	
175	
1867	
161	

FED. AID PROJECT NO.	STATE	PROJECT	
2	OHIO	F-527(11)	

142
275

KNO-13-15.93



END AREA		VOLUME	
CUT	FILL	CUT	FILL
3146	0		
		10422	0
2482	0		
		2657	0
2300	0		
		5476	0
1924	0		
		6883	0
1793	0		

STA 1037+00

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

STA 1037+00

CROSS-SECTION SHEET STA. 1038+00 TO STA. 1040+00

OHIO F-527(11)

KNO-13-15.93

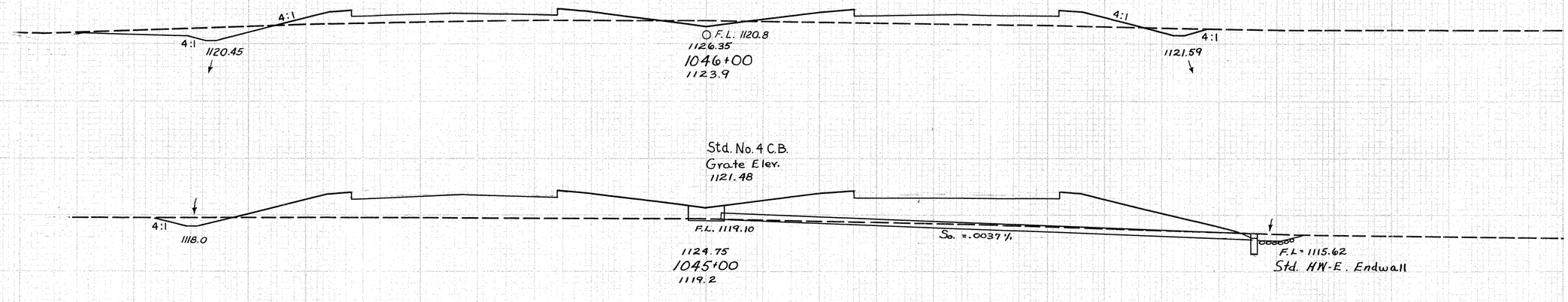
CROSS-SECTION SHEET STA. 1040+52 TO STA. 1043+00

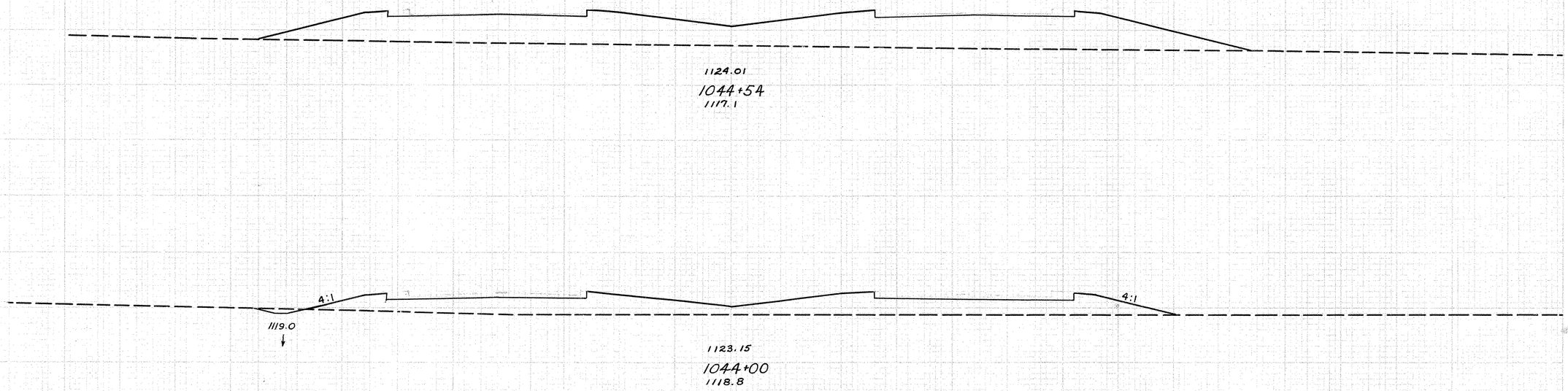
SHEET NO.	TOTAL SHEETS
144	275

OHIO F-527 (11)

KNO-13-15.93

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
48	179		
		109	1531
11	648		
		9	1315
0	896		
		3	1321
3	425		
		394	787
210	0		



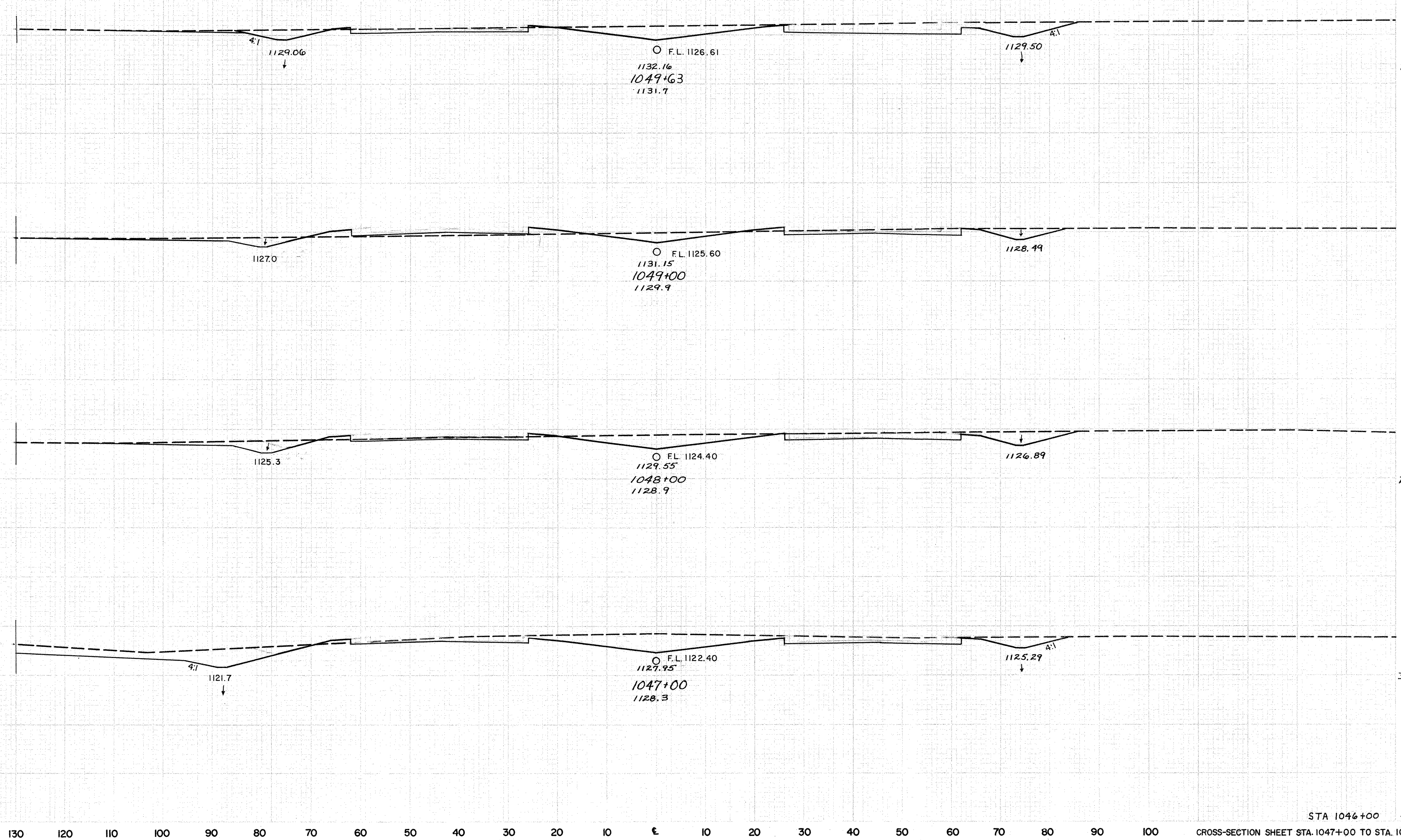


146 1644 148 702 127 726 115 1289 117

STA 1043+00 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 STA 1043+00

CROSS-SECTION SHEET STA. 1044+00 TO STA. 1046+00

KNO-13-15.93



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
154		213	1		
	1068			356	35
151		92	29		
	1689			583	63
153		223	5		
	1694			1011	17
152		323	4		
	1656			687	339
146		48	179		

STA 1046+00

STA 1046+00

F-527(11)

146
275

KNO-13-15.93


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
VOLUME
CUT
FILL
161
1800
163
1822
165
1794
158
641
154
4:1
1133.65
1137.48
1053+00
1140.7
4:1
1134.82
1074 0
4450 0
Std. No. 4 C.B.
Grate Elev.
1132.75
F.L. 1130.40
1132.45
1135.95
1052+00
1139.8
1133.29
1329 0
5342 0
1131.05
F.L. 1128.80
1034.35
1051+00
1139.3
1131.69
1556 0
4074 0
4:1
1129.65
F.L. 1127.20
1132.75
1050+00
1134.3
4:1
1130.09
644 0
587 1
STA 1049+63
STA 1049+63
213 1
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

CROSS-SECTION SHEET STA. 1050+00 TO STA. 1053+00

FED. RD. DIV. NO.	STATE	PROJECT
7	OHIO	F-527(11)

KNO-13-15.93

SEEDING GRD WIDTH	SEEDING SQ. YDS.
158	
	889
162	
	902
163	
	1811
163	
	1800
161	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
904	0		
		1658	0
887	0		
		1564	0
802	0		
		3456	0
1064	0		
		3959	0
1074	0		

CROSS-SECTION SHEET STA. 1054+00 TO STA. 1056+00

SEEDING

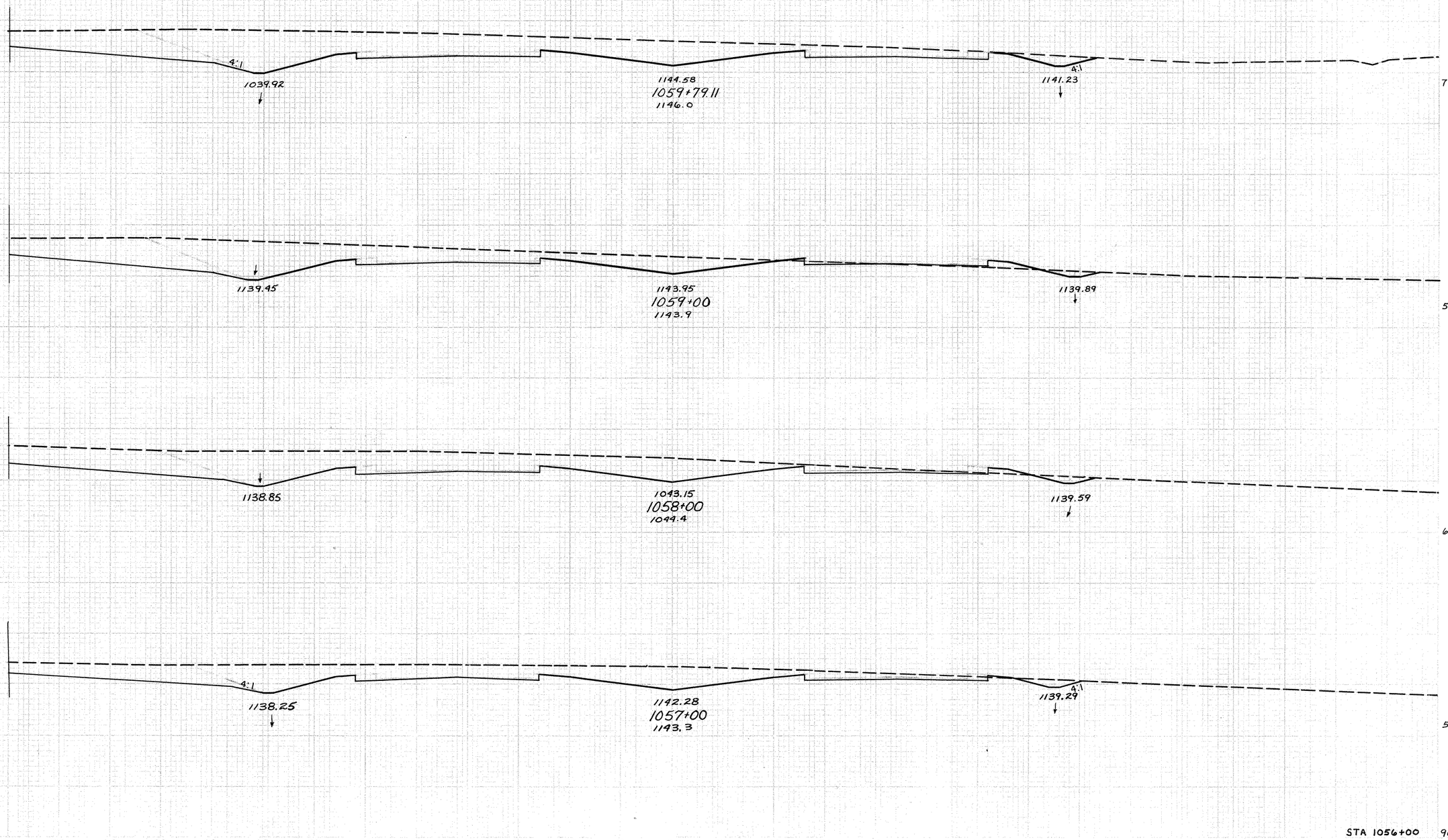
END WIDTH	SQ. YDS.
151	
	1326
152	
	1678
150	
	1661
149	
	1717
158	

SHEET NO.	STATE	PROJECT	
	OHIO	F-527(11)	

148
275

KNO-13-15.93

END AREA CUT	END AREA FILL	VOLUMES CUT	VOLUMES FILL
		772	0
		1947	10
		557	7
		2252	24
		659	6
		2215	13
		537	1
		2669	2
		904	0



STA 1056+00

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

STA 1056+00

CROSS-SECTION SHEET STA. 1057+00 TO STA. 1059+79.11

SEEDING

LBS/1000	SQ. YDS.

SHEET NO.	TOTAL SHEETS	PROJECT	
2		F-527(11)	

149
275

KNO-13-15.93

166

4:1

1142.3

1146.35
1062+00
1154.8

1143.6

VAR.

1793 O

1783

5633 O

155

1142.1

1145.55
1061+00
1148.7

1142.5

4:1

1249 O

881

2134 O

162

1090.35

1145.13
1060+50
1147.7

1091.89

1056 O

867

1738 O

150

4:1

1090.05

1149.75
1060+00
1146.5

4:1

1091.59

821 O

352

616 O

151

STA 1059+79.11

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

STA 1059+79.11 772 O

CROSS-SECTION SHEET STA. 1060+00 TO STA. 1062+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

150
275

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
161					
	1056				
		1326	0		
				4520	0
29					
	1038	1115	0		
				5272	0
158					
	1744			1732	0
				7124	0
156					
	1789			2115	0
				7237	0
166					

2:1

1143.5

1143.3

F.L. 1143.99
STD. HW-E. Headwall

15" Class V-1 So = 0.003'/'

1149.55
1066+00
1154.0

Std. No. 4 C.B.
Grate Elev.
1146.40

F.L. 1144.25

1147.15
1065+50

1144.8

2:1

T.R. 377
ARRA

1143.2

1148.75
1065+00
1153.1

T.R. 377
ARRA

1142.7

1147.95
1064+00
1154.9

1144.0

2:1

1142.5

1147.15
1063+00
1156.5

2:1

1143.8

STA 1062+00

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

CROSS-SECTION SHEET

F-527(11)

KNO-13-15.93

131

4:1

1152.4

1154.35
1072+00
1154.7

4:1

1150.6

390 0

1428

1263 4

126

4:1

1152.1

1153.55
1071+00
1153.8

1150.2

292 2

1361

1220 9

119

1151.3

1152.75
1070+00
1153.7

4:1

1149.8

367 3

1422

2350 6

137

4:1

1149.4

1151.95
1069+00
1155.4

VAR.

1149.0

902 0

1522

3741 0

137

VAR.

1149.0

1151.10
1068+00
1156.3

1148.8

1118 0

1511

I-14

4567 0

135

VAR.

1148.0

1150.35
1067+00
1157.2

VAR.

1048.0

1348 0

1644

4952 0

161

STA 1066+00

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

STA 1066+00

1326 0

CROSS-SECTION SHEET STA. 1067+00 TO 1072+00

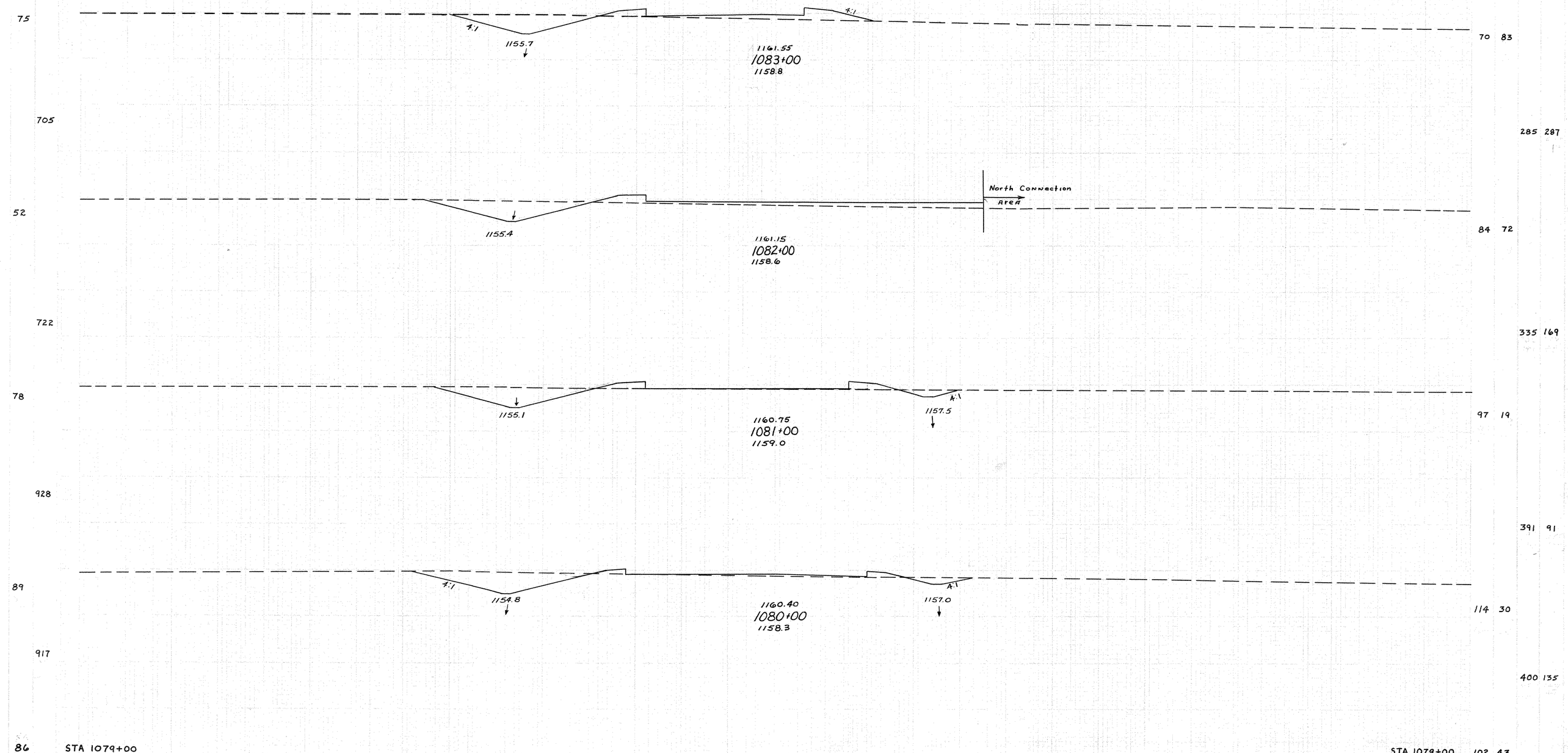
F-527(11)

KNO-13-15.93

CROSS-SECTION SHEET STA. 1073+00 TO 1079+00

F-527(11)

KNO-13-15.93



CROSS-SECTION SHEET STA. 1080+00 TO STA. 1083+00

F-527(11)

KNO-13-15.93

97

4:1

4:1

1157.5

1166.11
1087+00
1157.8

16 516

1061

56 1976

94

1056.6

1164.29
1086+00
1157.7

14 551

950

54 1617

77

1056.3

1162.90
1085+00
1157.4

15 322

817

96 974

70

4:1

4:1

1056.0

1162.00
1084+00
1157.6

37 204

806

198 531

75

STA 1083+00

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

STA 1083+00 70 83

CROSS-SECTION SHEET STA. 1084+00 TO STA 1087+00

OHIO F-527(11)

155
275

KNO-13-15.93

END AREA VOLUME
CUT FILL CUT FILL

111

1166.0

1173.63
1091+00
1166.3

Temporary

33 407

1244

87 1946

113

1160.5

1171.75
1090+00
1062.0

Temporary

14 644

1250

48 2465

112

1158.6

1169.87
1089+00
1160.2

Begin Temporary
Run-around Road
Sta. 1089+09

12 687

1172

72 2270

99

1158.3

1167.99
1088+00
1159.7

27 539

1089

80 1954

97

STA 1087+00

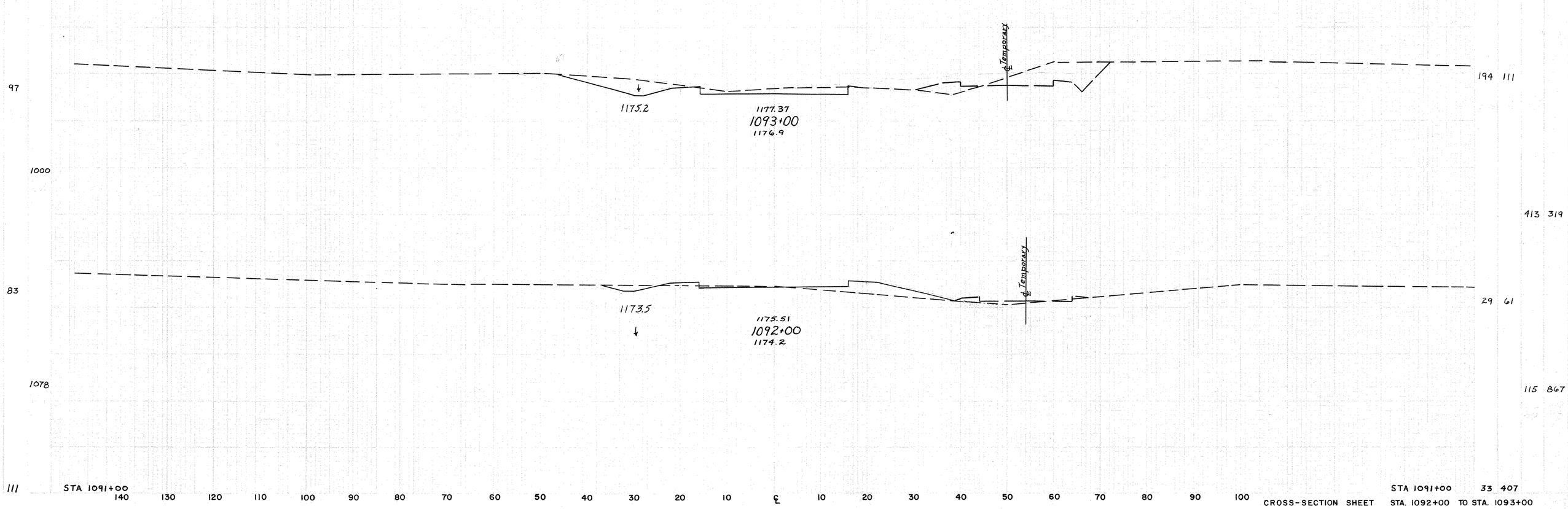
140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

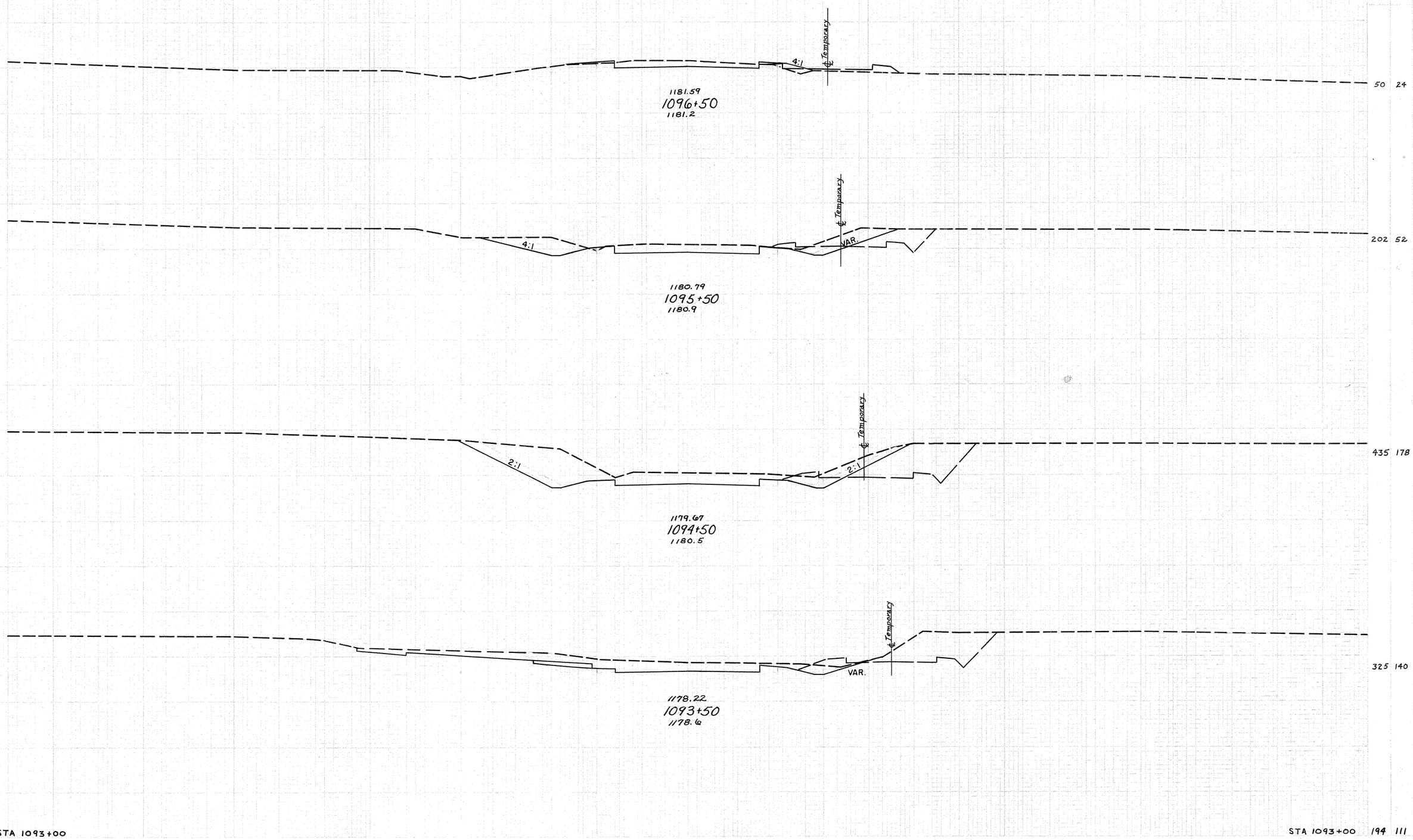
STA 1087+00 16 516

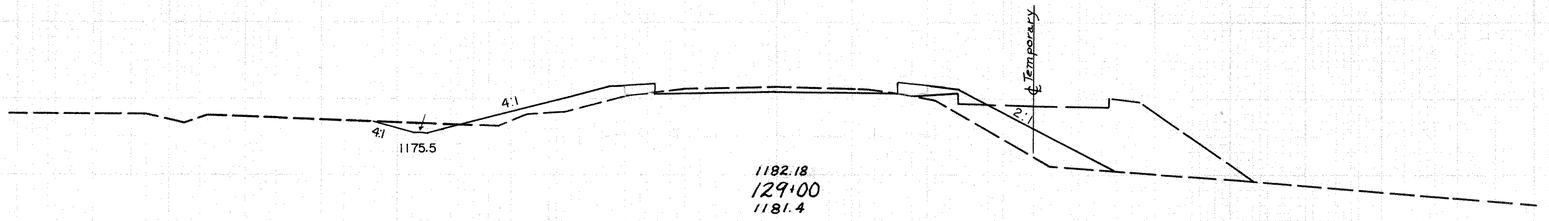
CROSS-SECTION SHEET STA. 1088+00 TO STA. 1091+00

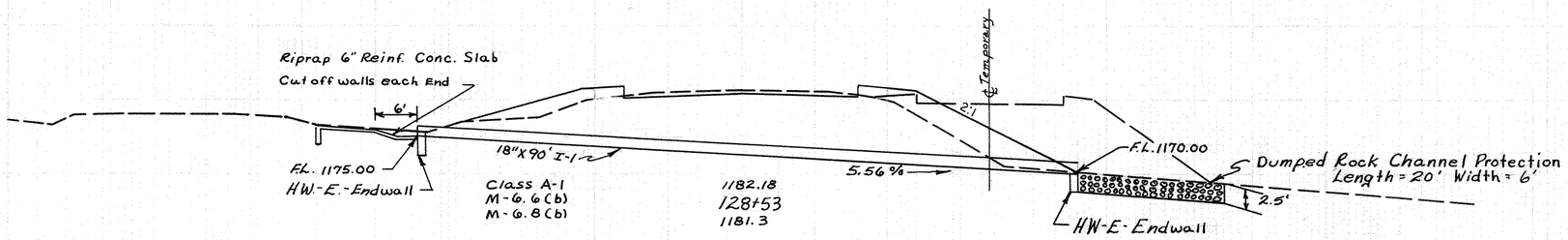
F-527(11)

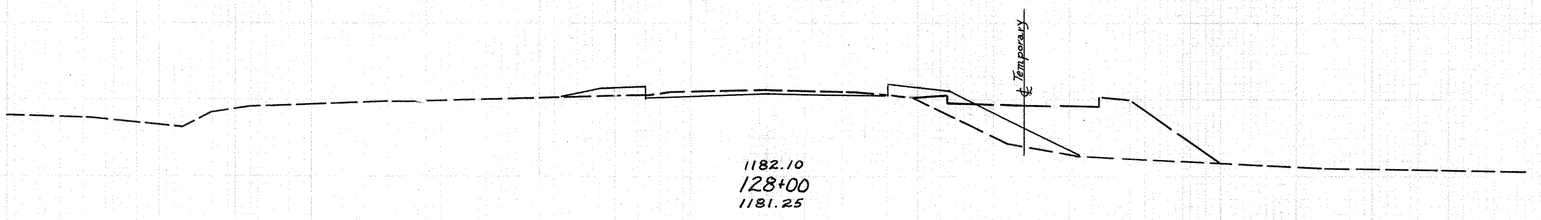
KNO-13 – 15.93

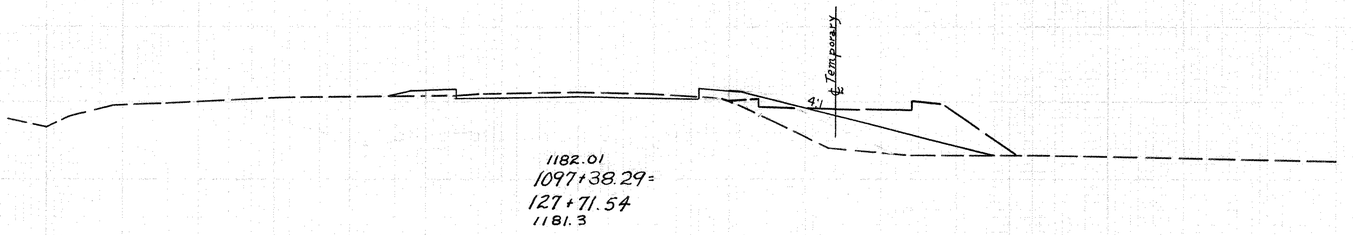



47
611
861
4:1
℄ Temporary
1181.59
1096+50
1181.2
50 24
467 141
63
4:1
℄ Temporary
VAR.
1180.79
1095+50
1180.9
202 52
1180 426
92
972
2:1
℄ Temporary
2:1
1179.67
1094+50
1180.5
435 178
1407 589
83
500
℄ Temporary
VAR.
1178.22
1093+50
1178.6
325 140
481 233
97
STA 1093+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100
STA 1093+00 194 111
CROSS-SECTION SHEET STA. 1093+50 TO STA. 1096+50









STA 1096+50

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

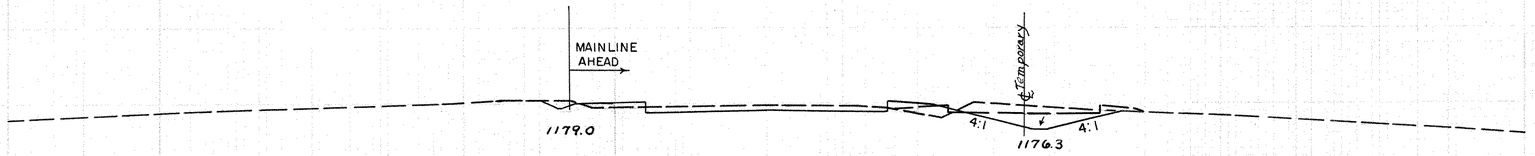
STA 1096+50

CROSS-SECTION SHEET STA. 127+71.54 TO STA. 129+00

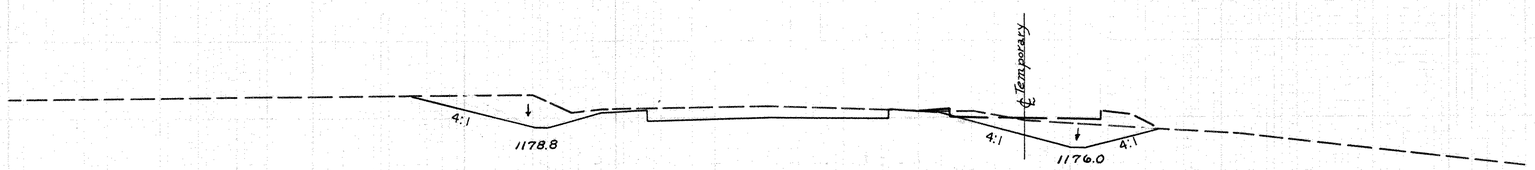
F-527(11)

KNO-13-15.93

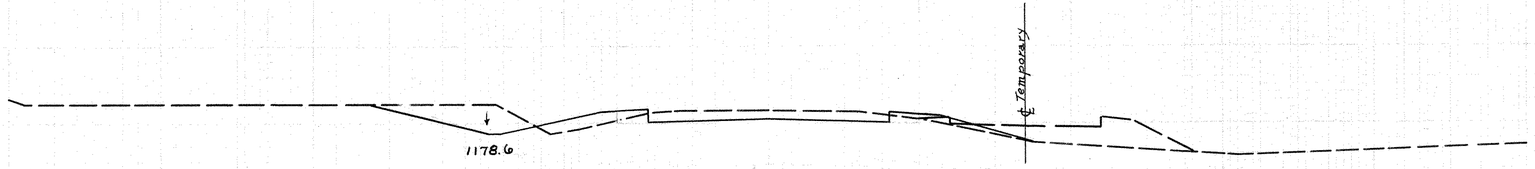
159
275



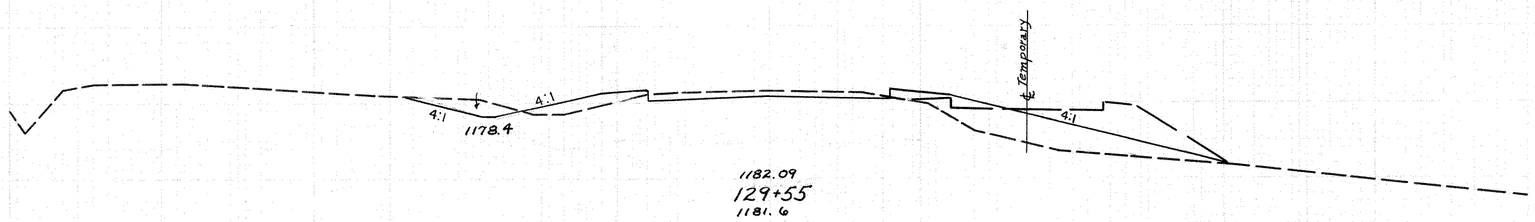
1180.44
132+00
1179.7



1181.34
131+00
1181.4



1181.92
130+00
1181.6



1182.09
129+55
1181.6

Ahead 48
Back 64

783

77

889

83

388

72

523

99

Ahead 66
Back 72

Ahead 20
Back 20

448 65

170 15

589 194

148 90

209 237

103 195

307 486

198 282

STA 129+00

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

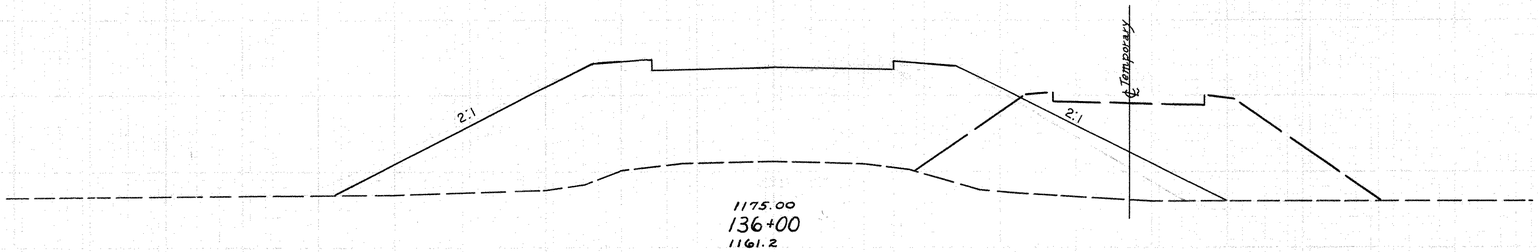
STA 129+00

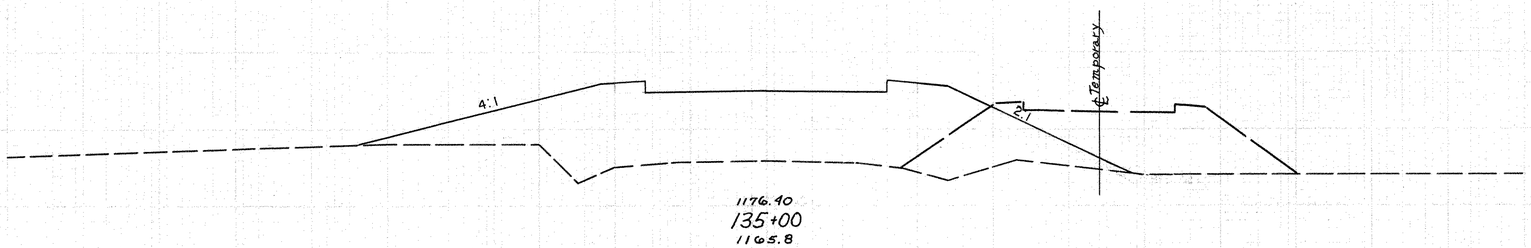
CROSS-SECTION SHEET STA. 129+55 TO STA. 132+00

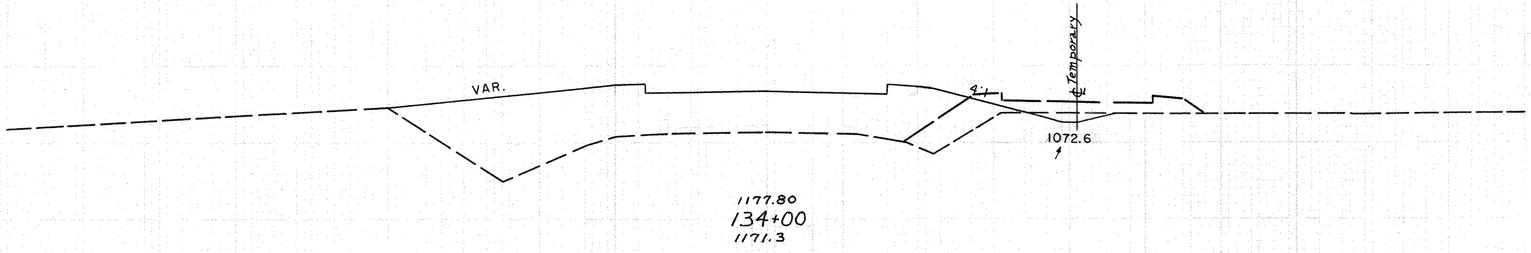
F-527(11)

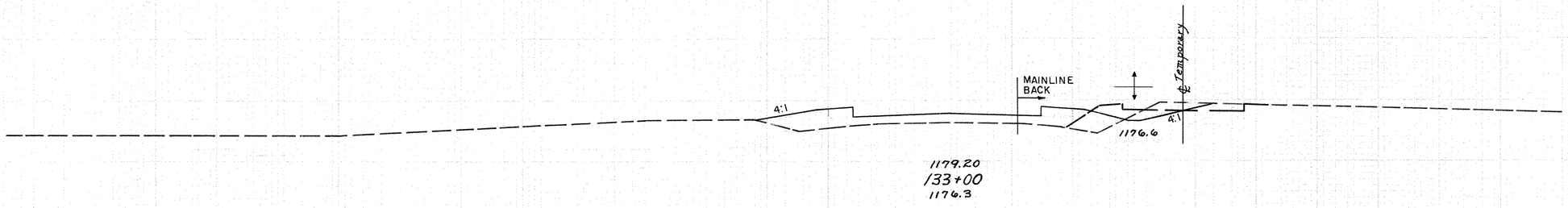
KNO-13-15.93

160
275









114

1244

110

1089

86

811

Ahead 60
Back 30

433

48

STA 132+00

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

320 1550

1000 4620

220 945

500 2743

50 536

150 1252

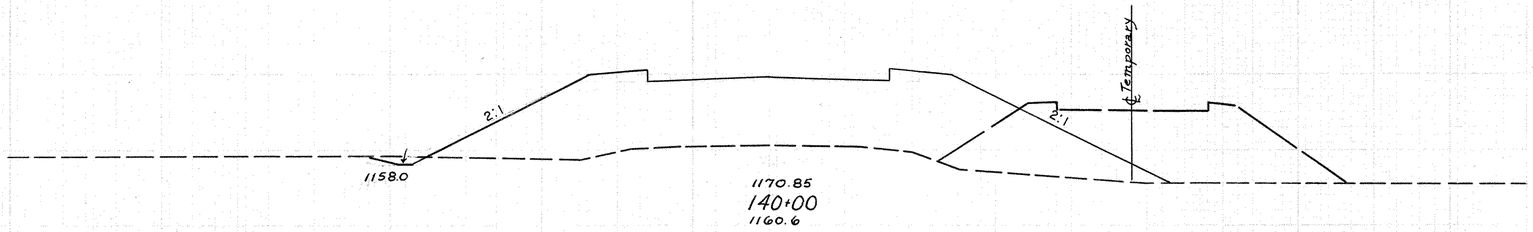
Ahead 31 Ahead 140

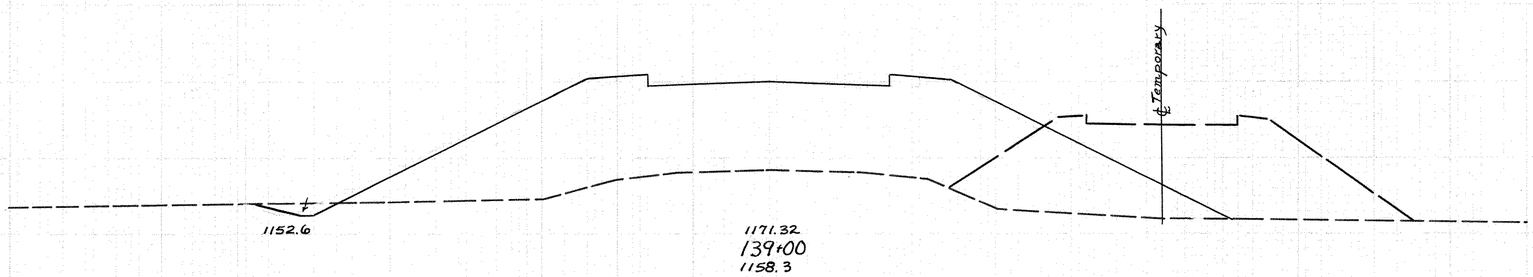
Back 31 Back 53

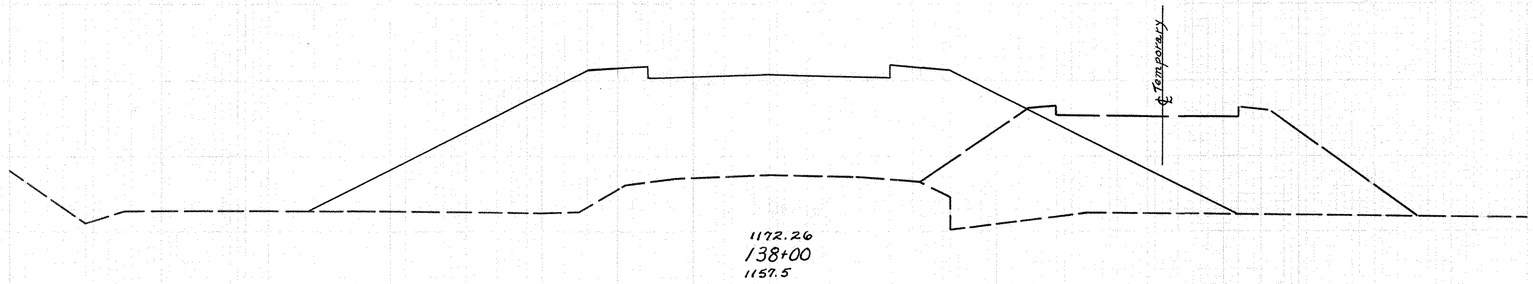
180 135

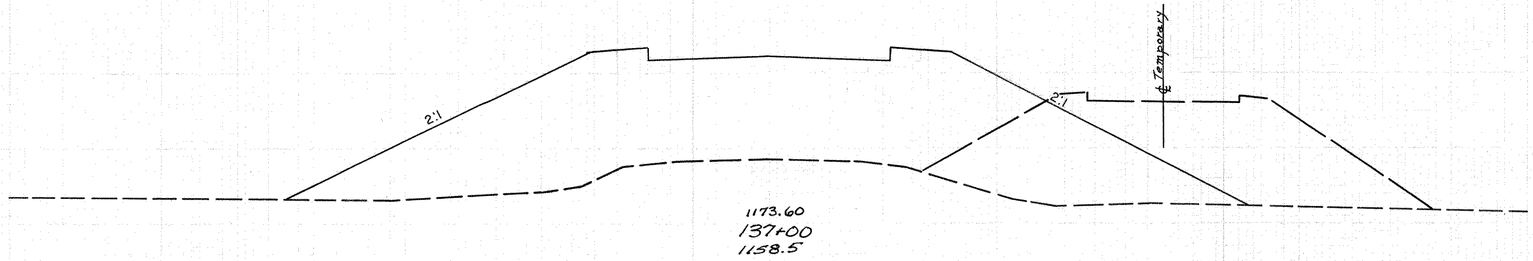
STA 132+00 66 20

CROSS-SECTION SHEET STA. 133+00 TO STA. 136+00





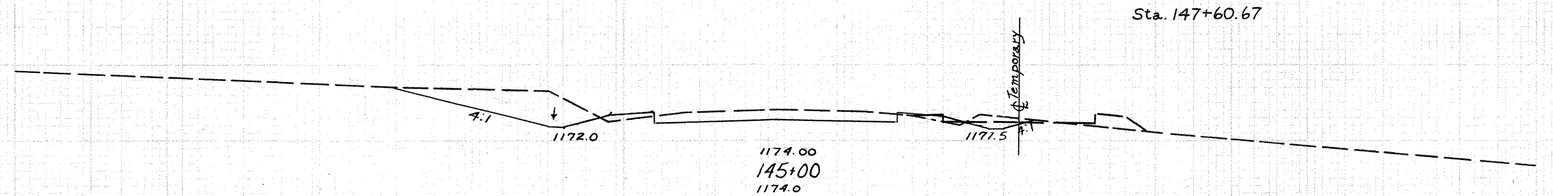


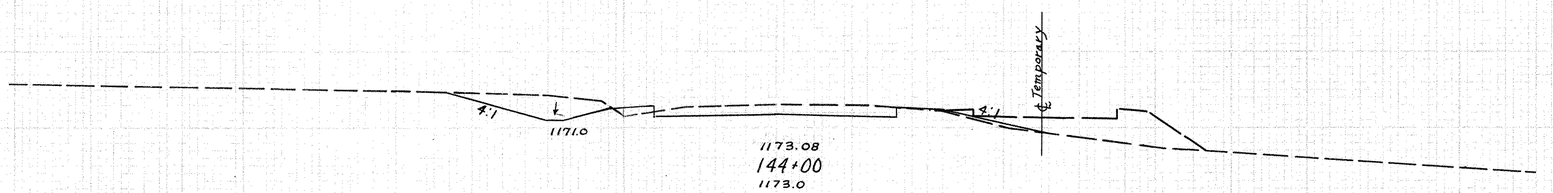


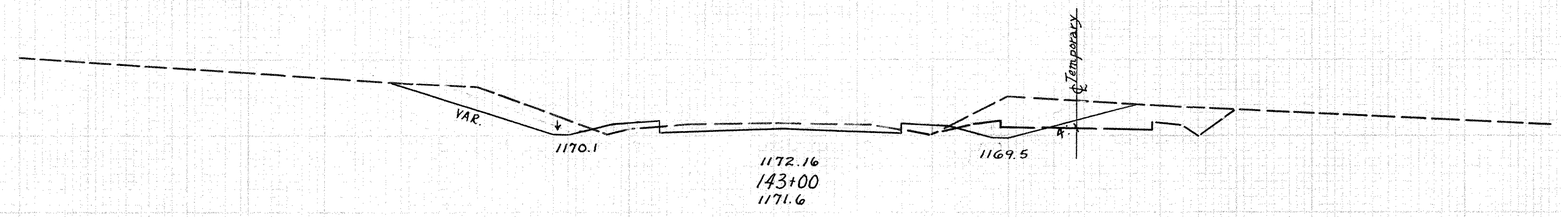
109
1311
127
1394
124
1406
129
1350
114
STA 136+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100
STA 136+00 320 1550
CROSS-SECTION SHEET STA. 137+00 TO STA. 140+00

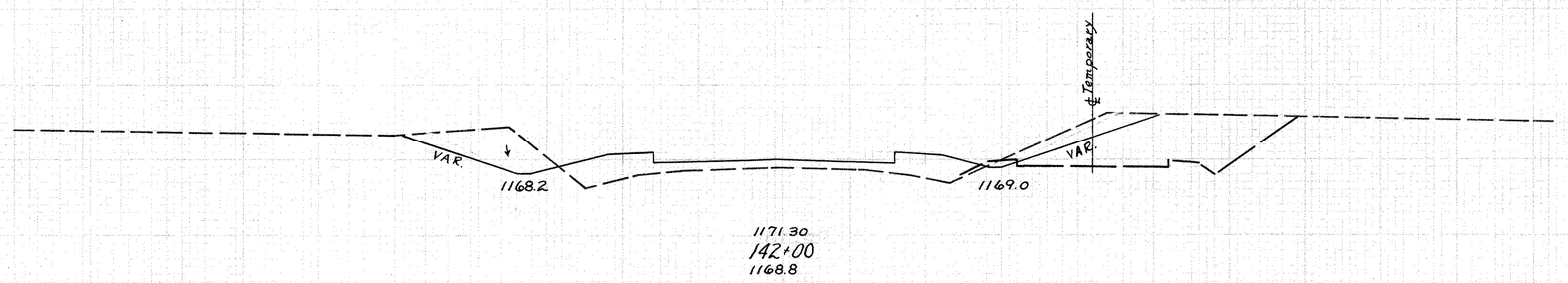
268 1040
1191 4769
375 1535
1394 6172
378 1798
1435 6783
397 1865
1328 6324

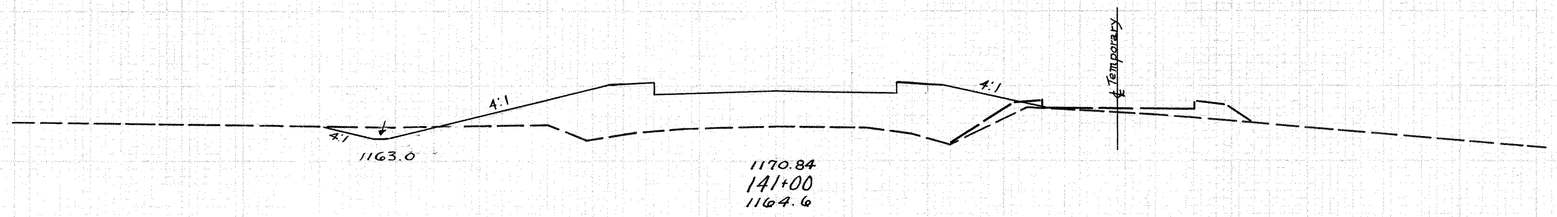
End Temporary
Run-around Road
Sta. 147+60.67











		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	1071	0	0		
64				72	72
		Ahead 15	Ahead 15		
		130	15		
		Back	Back		
	744			533	157
70					
	806			158	70
75				676	250
	894			893	630
86				275	275
	989			569	1215
92				32	381
	1117			556	2631
109				268	1040

STA 140+00 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 STA 140+00

CROSS-SECTION SHEET STA. 141+00 TO STA. 145+00

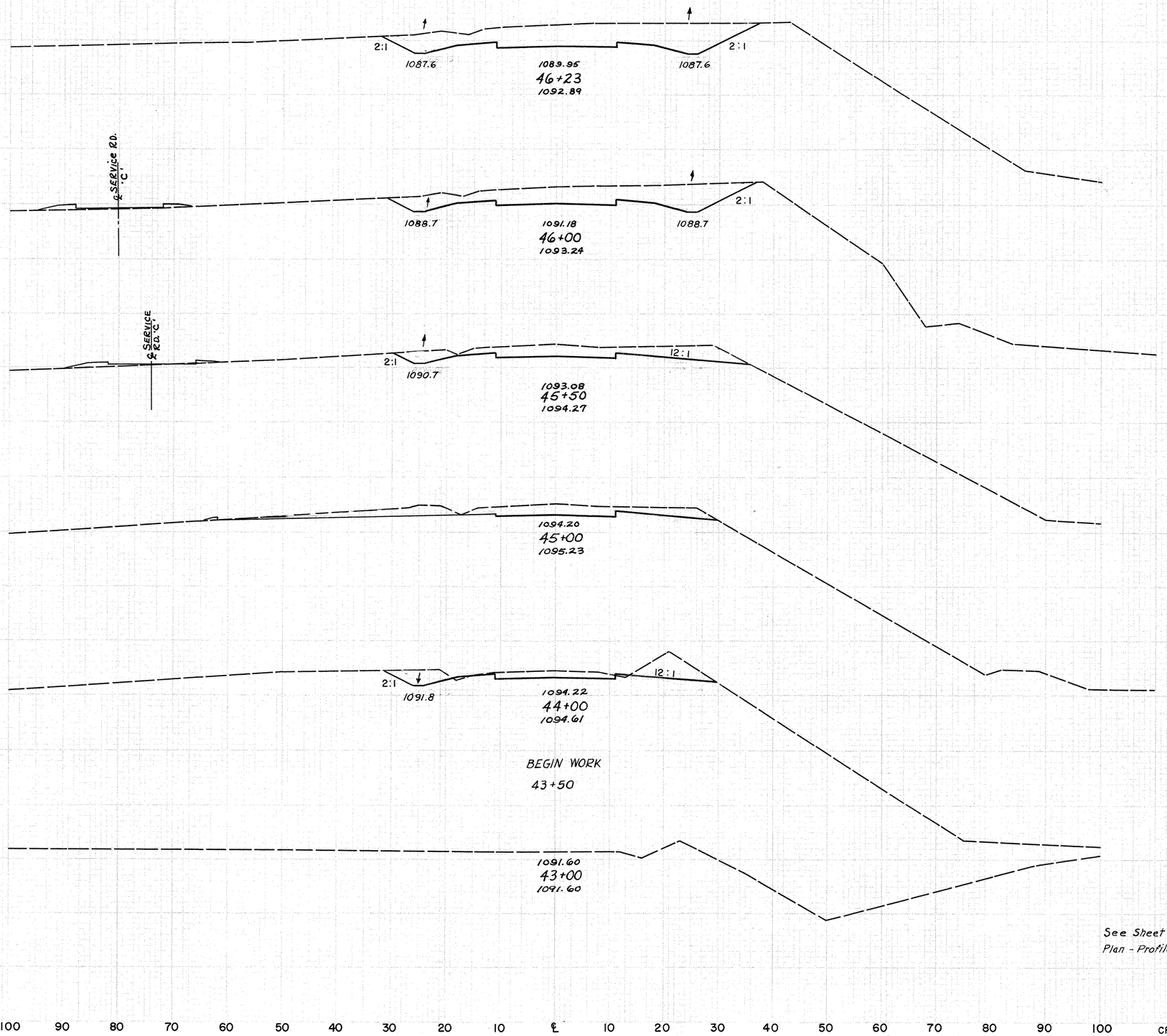
OHIO F-527(11)

163
275

KNO-13-15.93

See Sheet Nos. 17-18 For
Plan-Profile of South
End Connection.

CROSS-SECTION SHEET STA. 1+00 TO STA. 4+00
SOUTH END CONNECTION



68 183 75 392 64 283 38 422 38 161 20

234 0 181 1 191 2 286 4 118 2 213 3 112 1 383 4 95 1 88 1 0 0

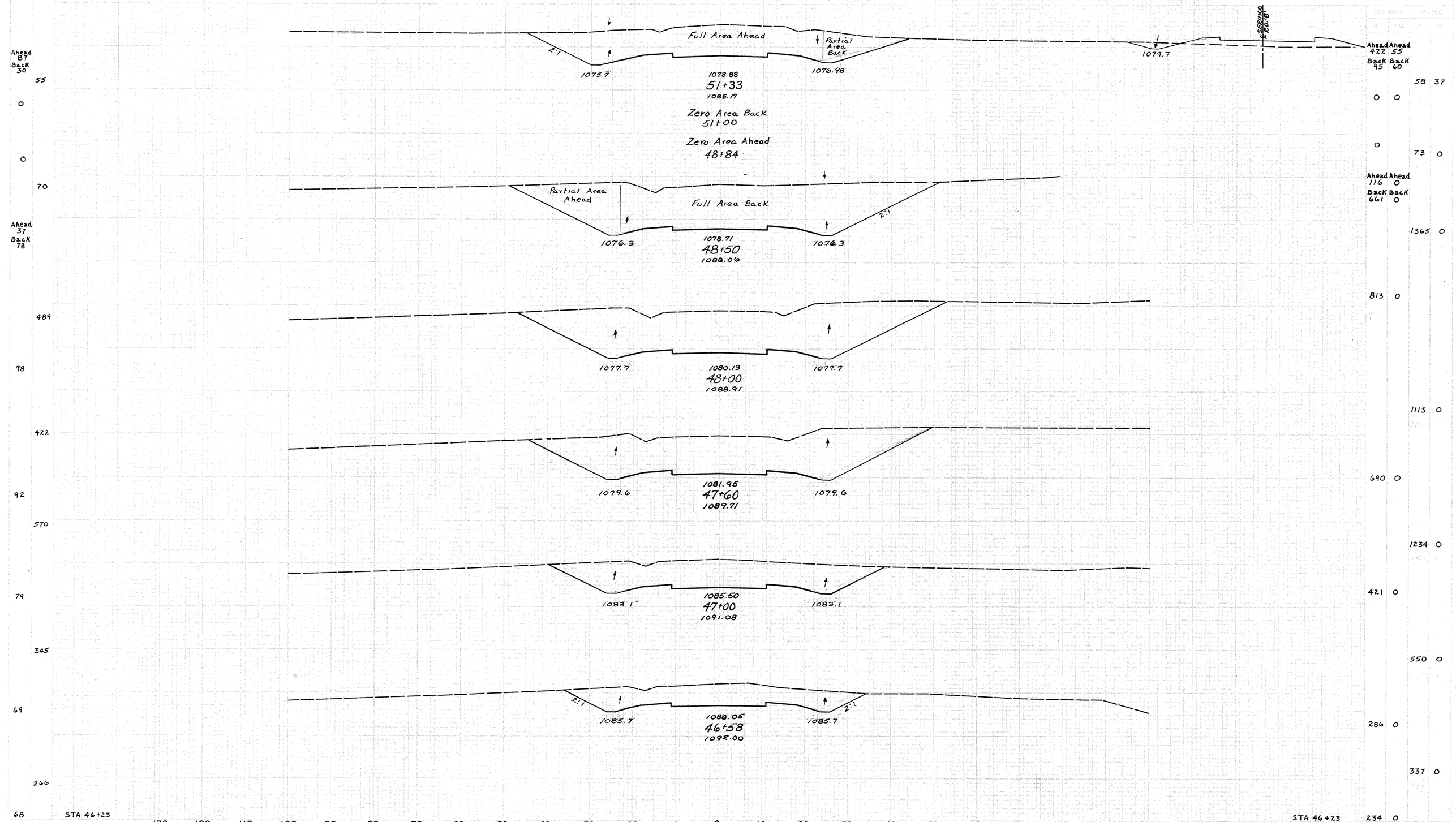
See Sheet No. 24 for Plan - Profile of C. R. 11

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

CROSS-SECTION SHEET STA. 43+00 TO STA. 46+23
COUNTY ROAD 11

2 OHIO F-527(11)

KNO-13-15.93



CROSS-SECTION SHEET STA. 46+58 TO STA. 51+33
COUNTY ROAD 11

END WORK
1084.10
55+00
1084.1

1084.25
54+25
1084.25

℄ SERVICE RD. 'B'

1084.24
54+00
1084.24

℄ SERVICE RD. 'B'

2:1
1081.6
1080.8
℄ SERVICE RD. 'B'

1084.07
53+48
1084.45

2:1
1081.1
1081.1
1080.4
℄ SERVICE RD. 'B'

1083.48
53+00
1084.57

1080.0
1080.0
1080.0
℄ SERVICE RD. 'B'

1082.43
52+50
1084.64

2:1
1078.6
2:1
1078.6
1079.9
℄ SERVICE RD. 'B'

1080.96
52+00
1084.84

STA 51+33

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

STA 51+33

CROSS-SECTION SHEET STA. 52+00 TO STA. 54+25
COUNTY ROAD 11

END WORK 11+32

624 76

673 86

Ahead Ahead
624 76
Back Back
624 492

2552 1556

754 348

2550 922

623 150

2637 285

801 4

3280 7

970 0

3856 0

1112 0

1236 0

1112 0

214
761
214
2411
220
2328
199
2167
191
2050
178
1883
161
537
161

4:1

Mainline
AREA

1094.44
11+00
1085.2

Ahead
Back

1072.8

Mainline
AREA

1092.23
10+00
1085.6

1072.6

Mainline
AREA

4:1

1089.78
9+00
1085.6

1072.4

Mainline
AREA

1086.70
8+00
1086.0

1072.2

Mainline
AREA

1083.71
7+00
1086.1

1072.0

Mainline
AREA

1081.29
6+00
1084.8

1071.8

84' Rt. Sta. 926+50
Std. 2-2-A C.B.
FL. Grate = 1077.70
FL. WINDOW = 1077.20

BEGIN WORK
5+70

50:1

20'

24" X 132' I-1 Class J-1

0.67% →

F.L.= 1074.66

F.L. 1073.78
Std. HW. E. Headwall

S.E. Ramp

See Sheet Nos. 26, 28, 30,
For Plan-Profile

80 60 40 20 ℄ 20 40 60 80

SOUTH EAST RAMP

KNO-13-15.93

97
345
97
583
108
1073
109
1139
96
1067
96
1033
90
928
77
163
77

S.W. RAMP

End Work 10+82

Begin Work 4+81

See Sheet Nos. 26-27-30
For Plan-Profile

64 726
76 860
64 726
135 1165
82 532
207 1750
30 413
67 1506
6 400
24 1520
7 421
28 1392
8 331
24 1096
5 261
4 184
5 261

End Work
6+20

66 147 66 822 82 928 85 944 85 1011 97 1089 99 528 99

4:1 4:1
1091.82
6+00
1087.9

4:1 2:1
1095.32
5+00
1086.8

2:1 2:1
1099.12
4+00
1086.8

1102.90
3+00
1090.0

1106.29
2+00
1090.7

2:1 2:1
1109.16
1+00
1093.3

0 186 0 138 0 186 0 1300 0 516 0 2359 0 758 0 2752 0 728 0 3315 0 1062 0 4004 0 1100 0 1956 0 1100

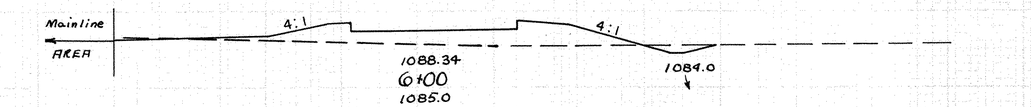
N.W. RAMP

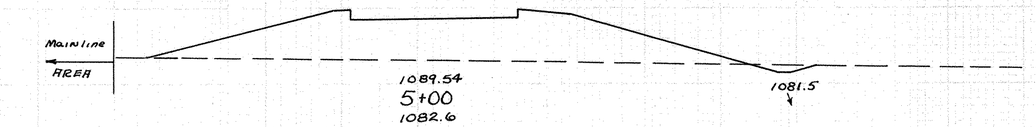
Begin Work 0+52
See Sheet Nos. 27-31-32
For Plan-Profile

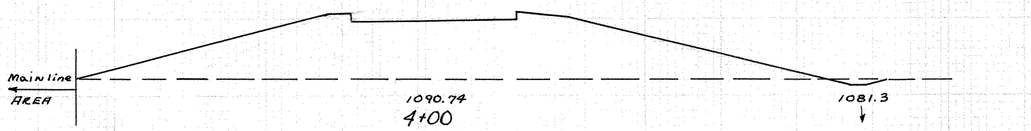
80 60 40 20 ℄ 20 40 60 80

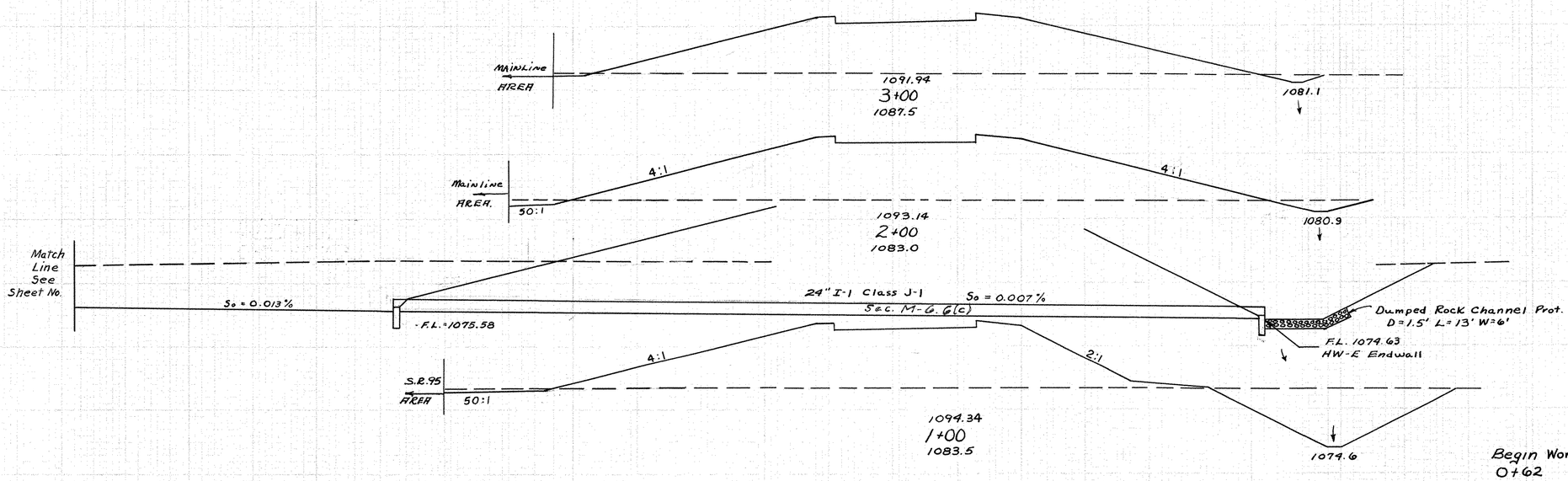
NORTH WEST RAMP

End Work
6+00







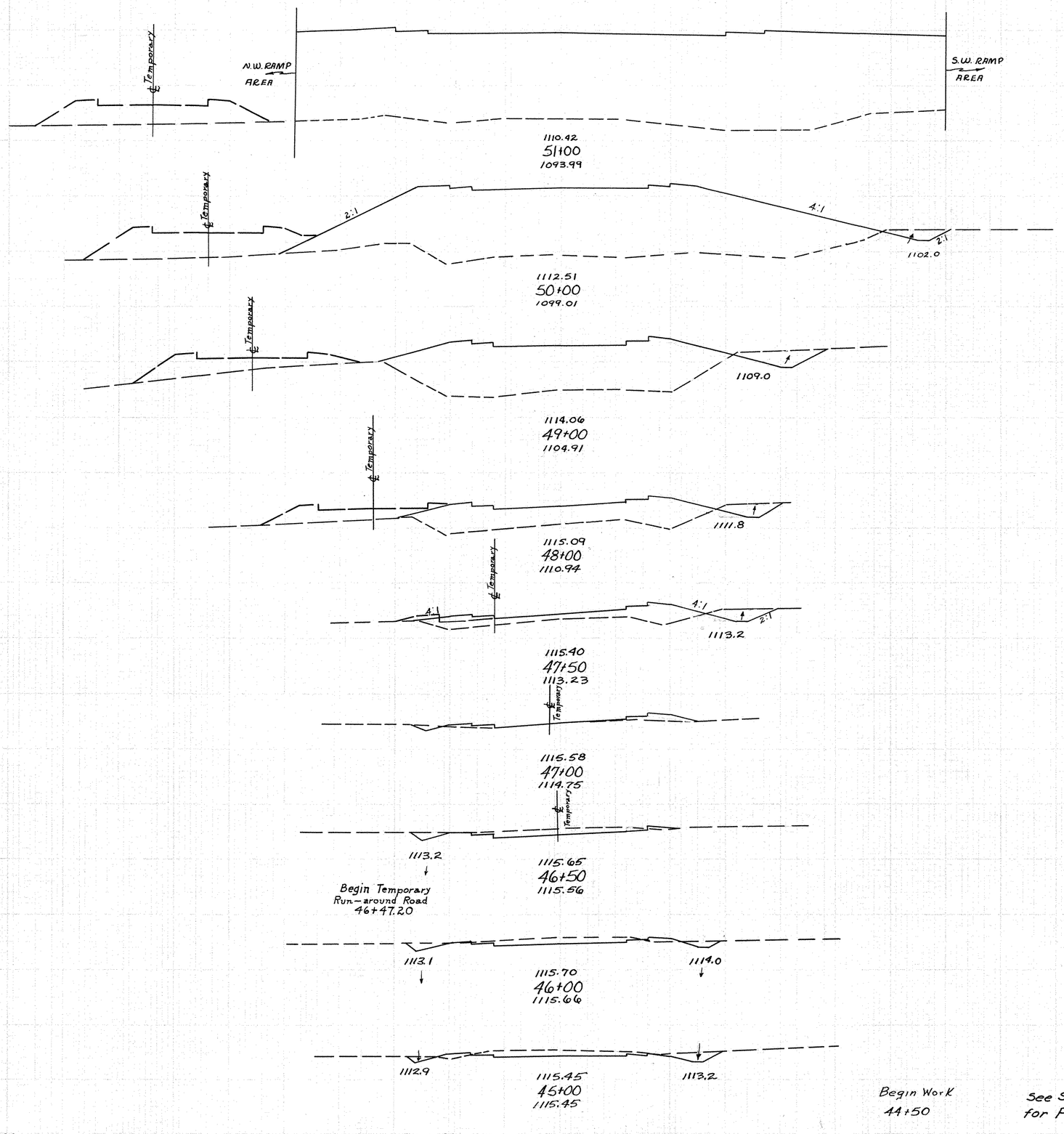


Begin Work
0+62

See Sheet Nos. 28-31-32
For Plan-Profile

N.E. RAMP

80 60 40 20 ℄ 20 40 60 80 NORTH EAST RAMP



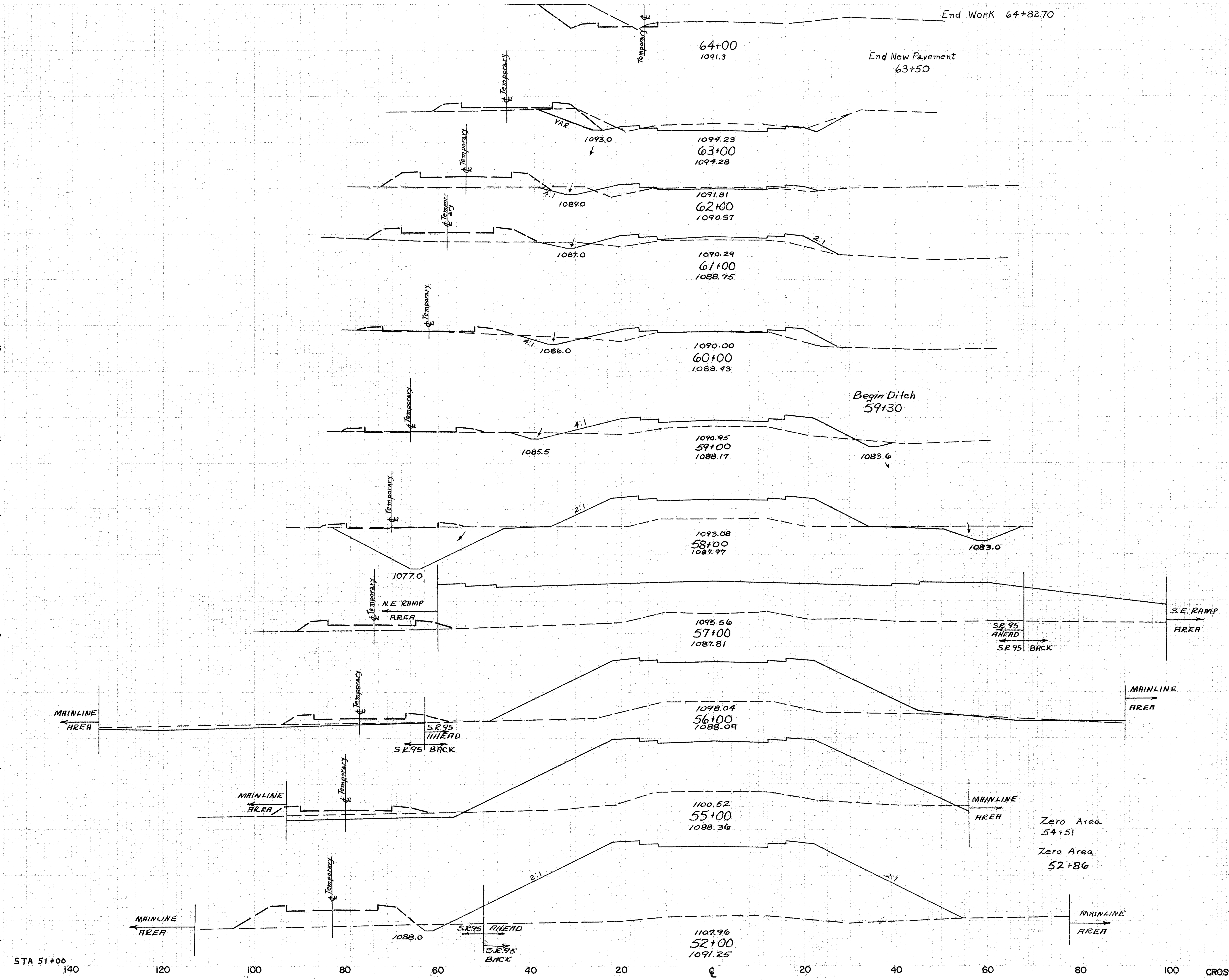
KNO-13-15.93

See Sheet Nos. 27-28
for Plan-Profile

CROSS-SECTION SHEET STA.45+00 TO STA.51+00
S.R. 95

F-527(11)

KNO-13-15.93

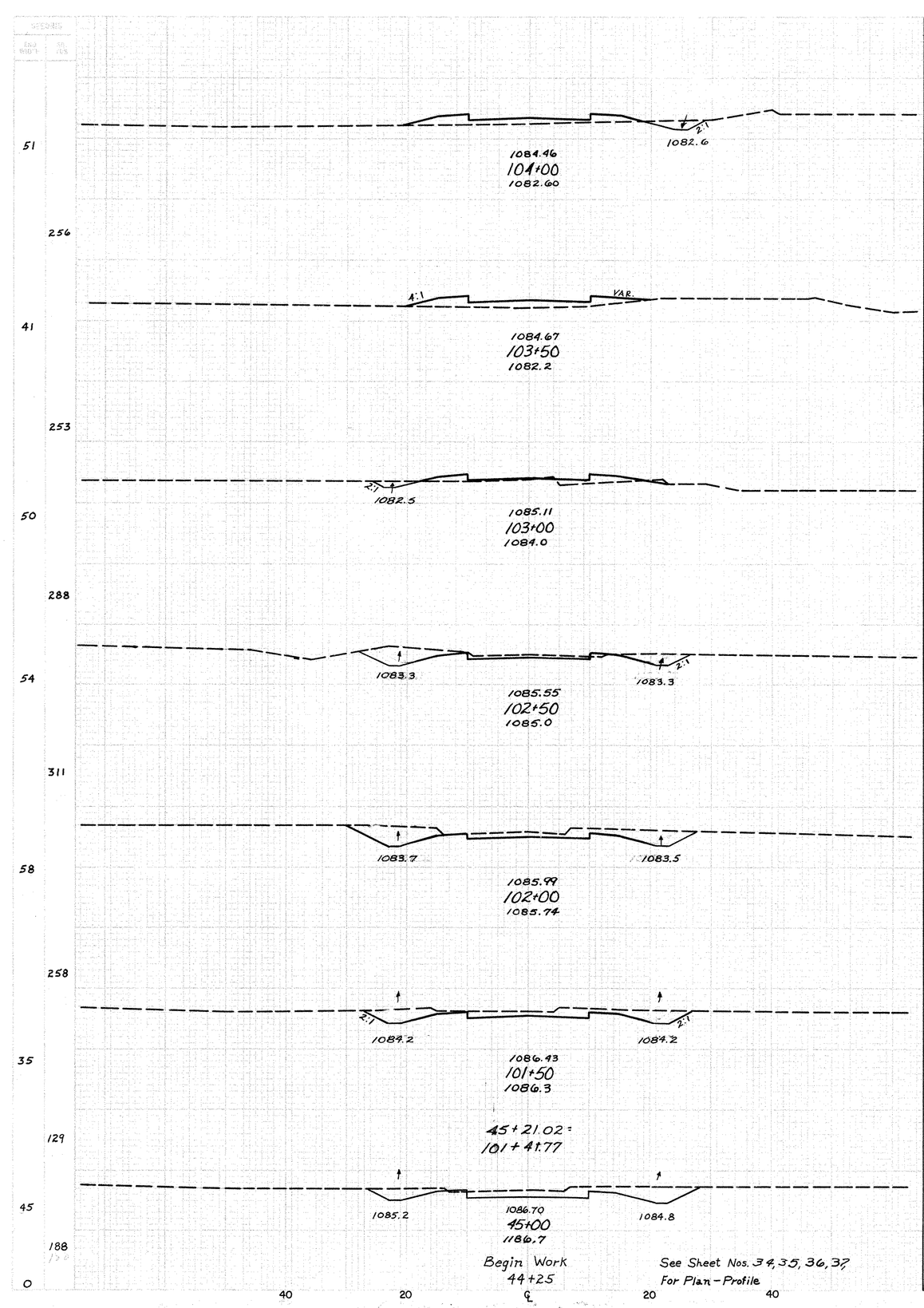

End Work 64+82.70
64+00
1091.3
End New Pavement
63+50
VAR.
1093.0
1094.23
63+00
1094.28
4:1
1089.0
1091.81
62+00
1090.57
2:1
1087.0
1090.29
61+00
1088.75
4:1
1086.0
1090.00
60+00
1088.43
Begin Ditch
59+30
4:1
1085.5
1090.95
59+00
1088.17
1083.6
2:1
1093.08
58+00
1087.97
1077.0
1083.0
N.E. RAMP
AREA
1095.56
57+00
1087.81
S.R.95 AHEAD
S.R.95 BACK
S.E. RAMP
AREA
MAINLINE
AREA
1098.04
56+00
1088.09
S.R.95 AHEAD
S.R.95 BACK
MAINLINE
AREA
MAINLINE
AREA
1100.52
55+00
1088.36
MAINLINE
AREA
Zero Area
54+51
Zero Area
52+86
2:1
2:1
MAINLINE
AREA
1088.0
S.R.95 AHEAD
S.R.95 BACK
1107.96
52+00
1091.25
MAINLINE
AREA
Temporary ℄
STA 51+00
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
STA 51+00

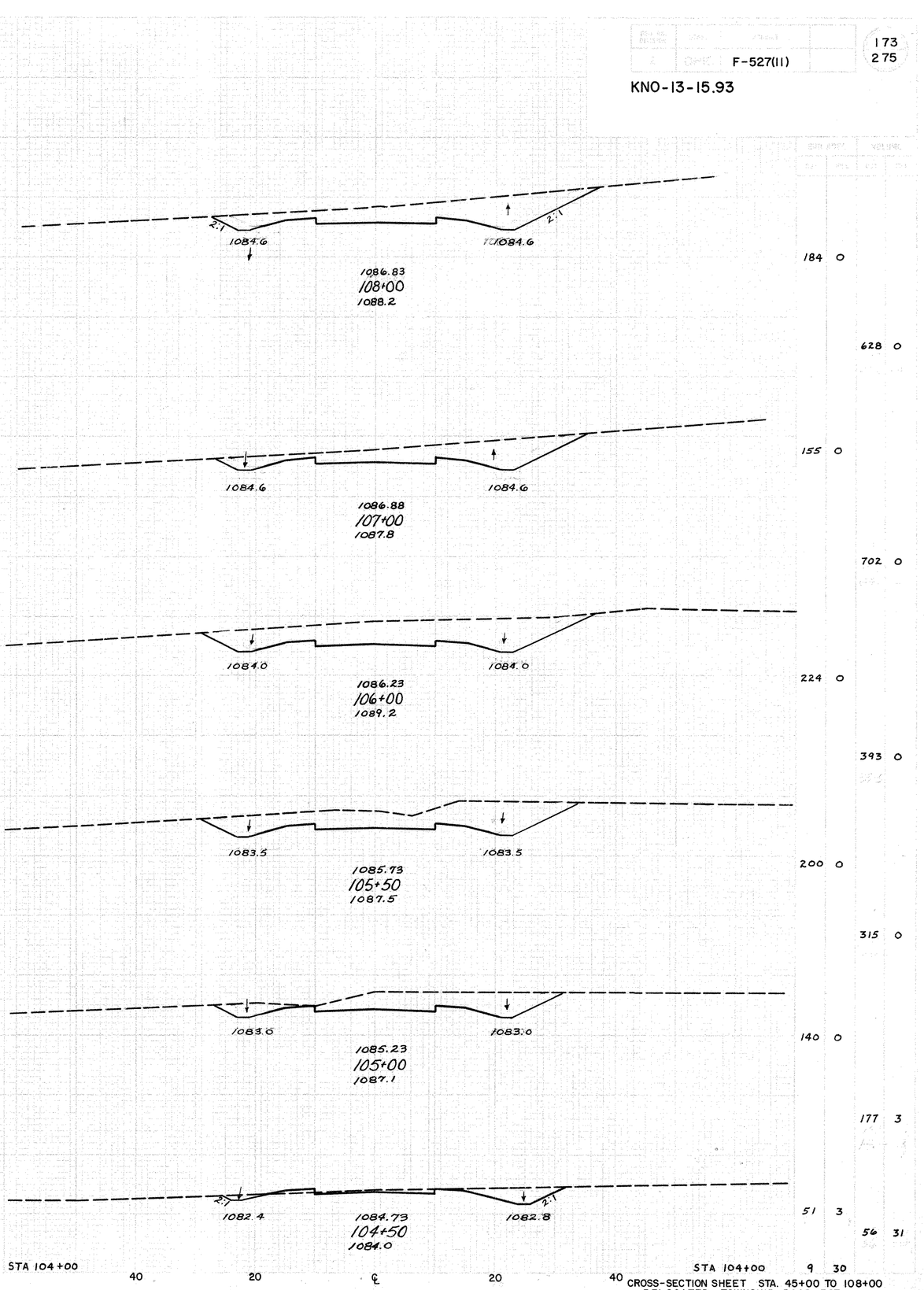
20
433
58
678
64
733
68
772
71
883
88
1172
123
922
Ahead 43 60 Back
1050
Ahead 129 200 Back
1822
128
348
0
0
821
Ahead 172 91 Back
1122
111

0 0 99 99
65 65 317 172
106 28
404 269
112 117
357 452
81 127
209 354
32 64
113 372
29 137
494 831
238 312
441 2422
Ahead Ahead
0 996
0 1169
Back Back
3546
Ahead Ahead
0 746
0 779
Back Back
144 3344
78 1027
71 932
0 0
0 0
6 2317
Ahead Ahead
4 1455
0 1840
Back Back
7 6102

CROSS SECTION SHEET STA. 52+00 TO STA. 63+00
S.R. 95

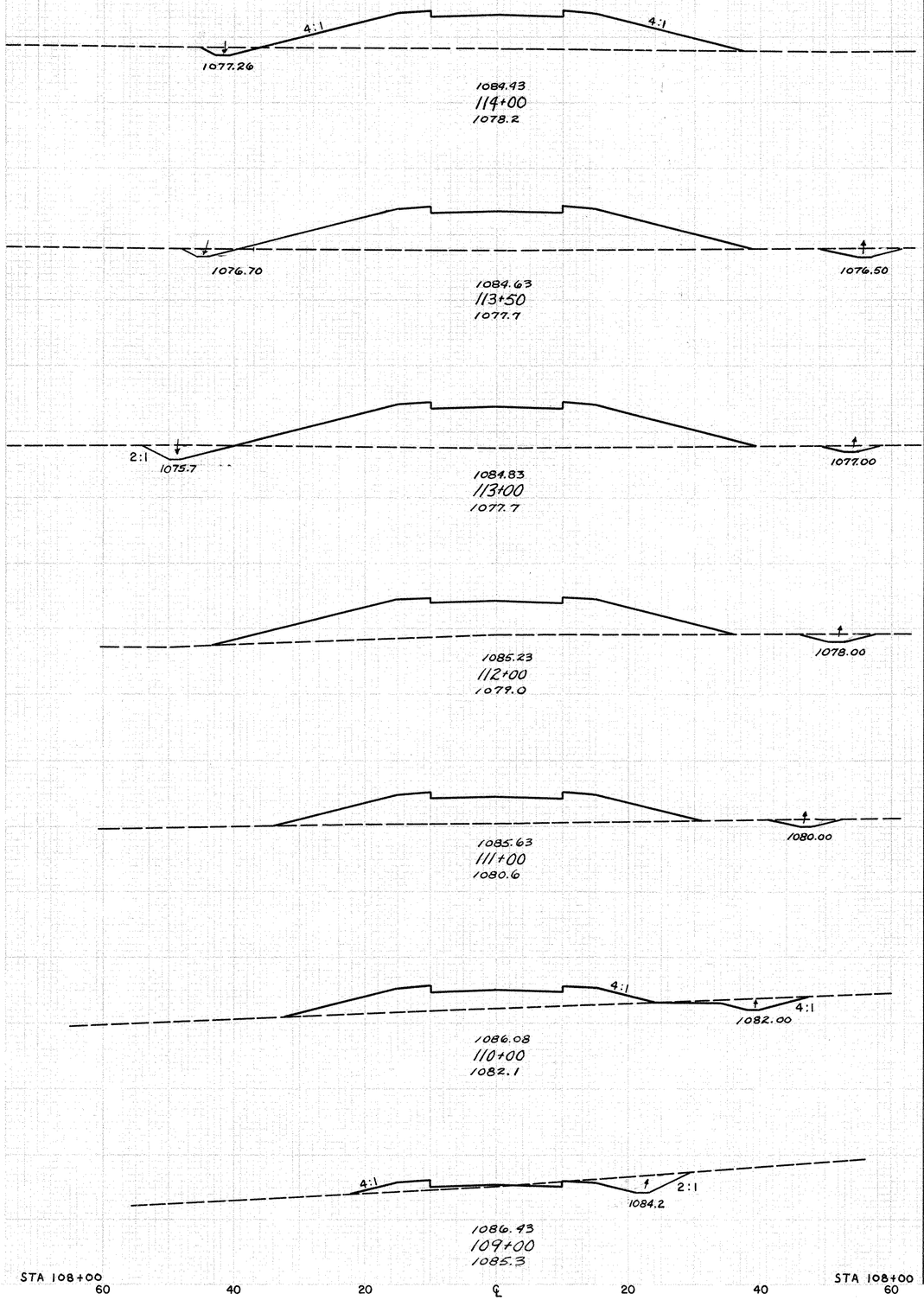
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	SEEDING END WIDTH	SEEDING SQ. YDS.
9	30				
		8	69		
				66	
0	44				
		6	57		711
7	18			62	
		56	18		711
54	1			66	
		129	0		358
85	0			63	
		134	0		336
64	0			58	
		73	0		319
72	0			57	
		128	0		300
20	0			51	

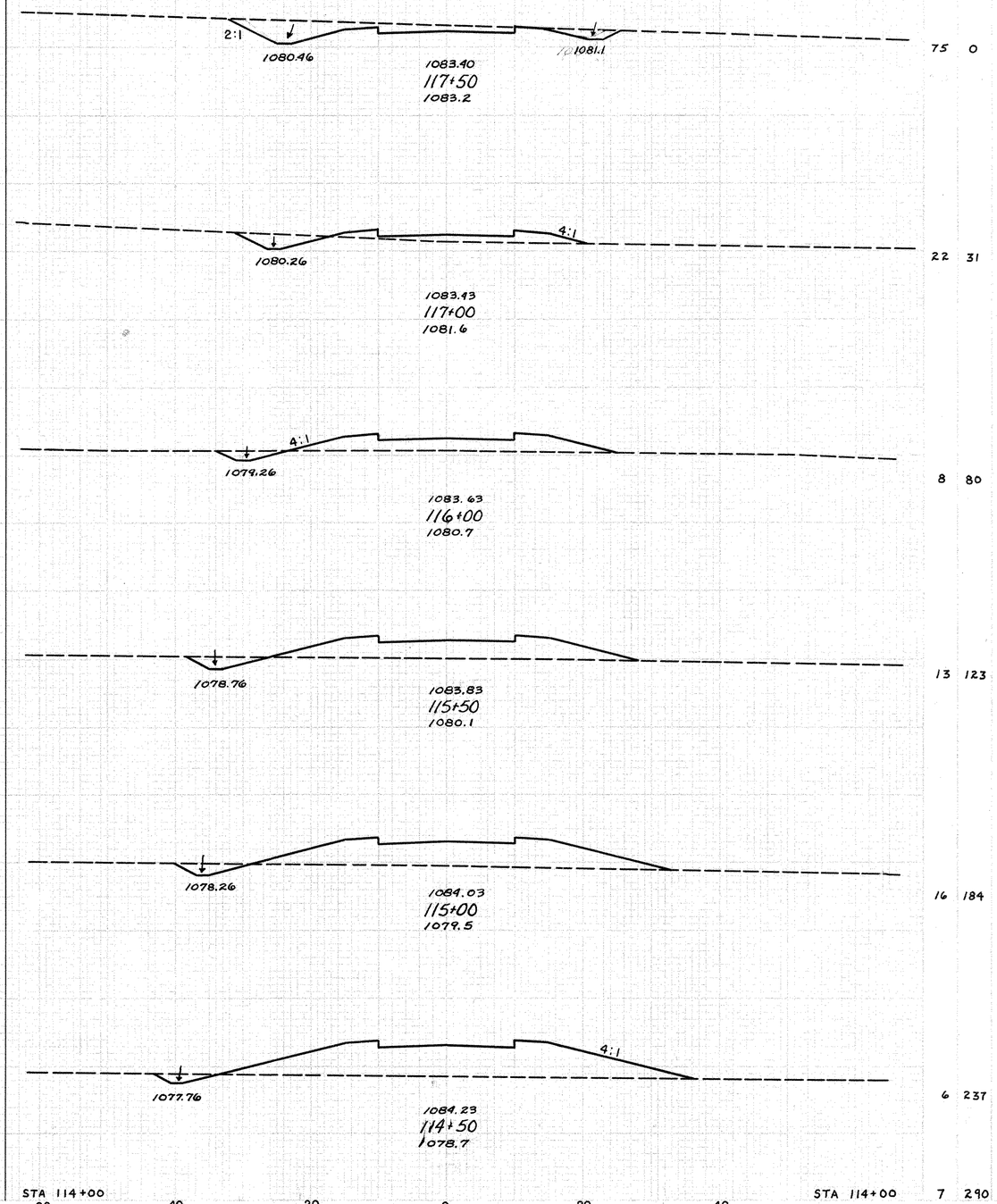




CROSS-SECTION SHEET STA. 45+00 TO 108+00
RELOCATED TOWNSHIP ROAD 367

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
7	290				
		24	581	57	
19	337				300
		44	641		
28	355			51	
					611
9	319	69	1248	59	
7	213				350
		30	985	67	
17	139				389
		44	652	73	
24	16				425
		76	287	80	
385	30				453
184	0			83	

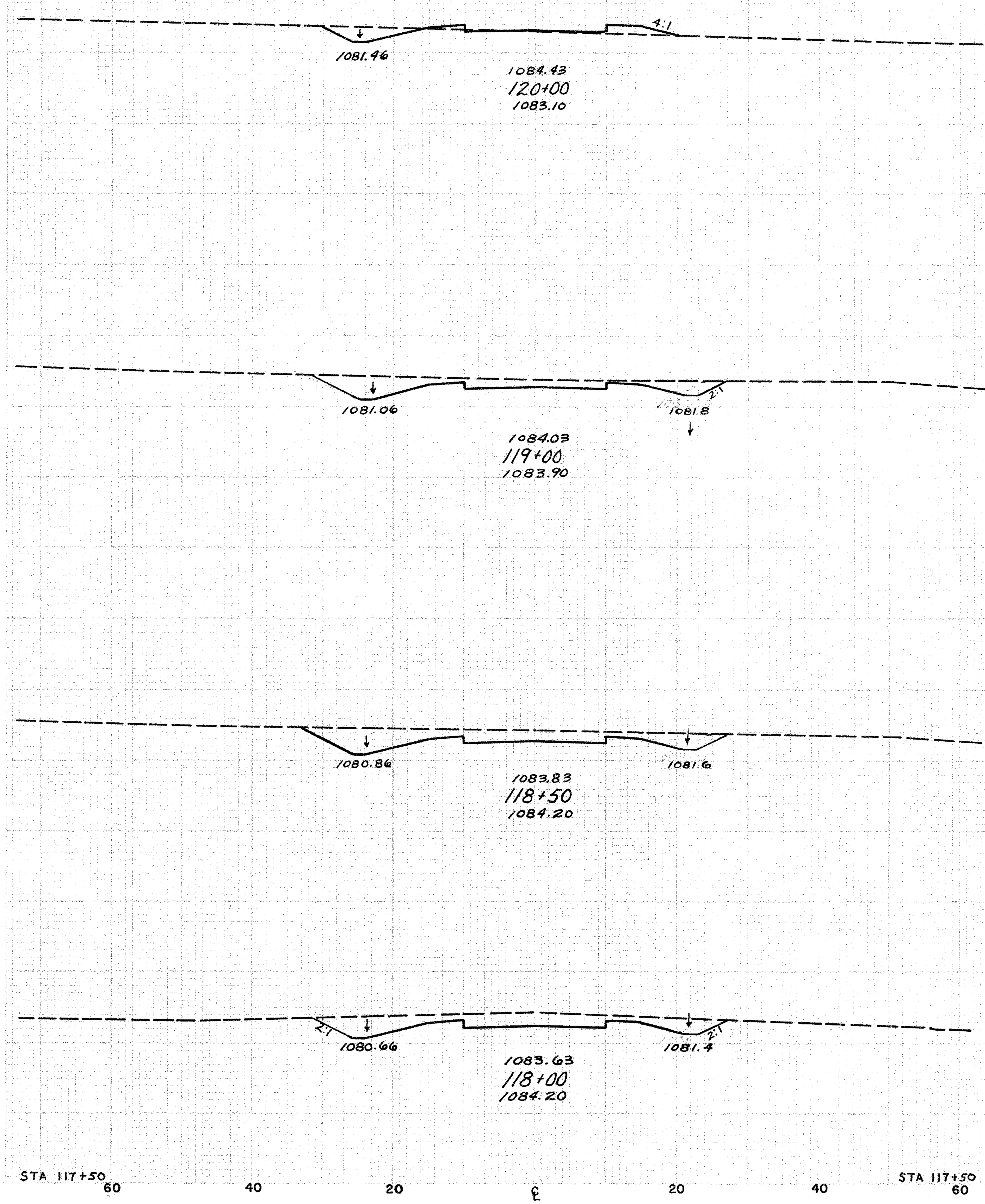




83	536	110	619	113	1189	101	1044	87	933
81	744	53	717	66					

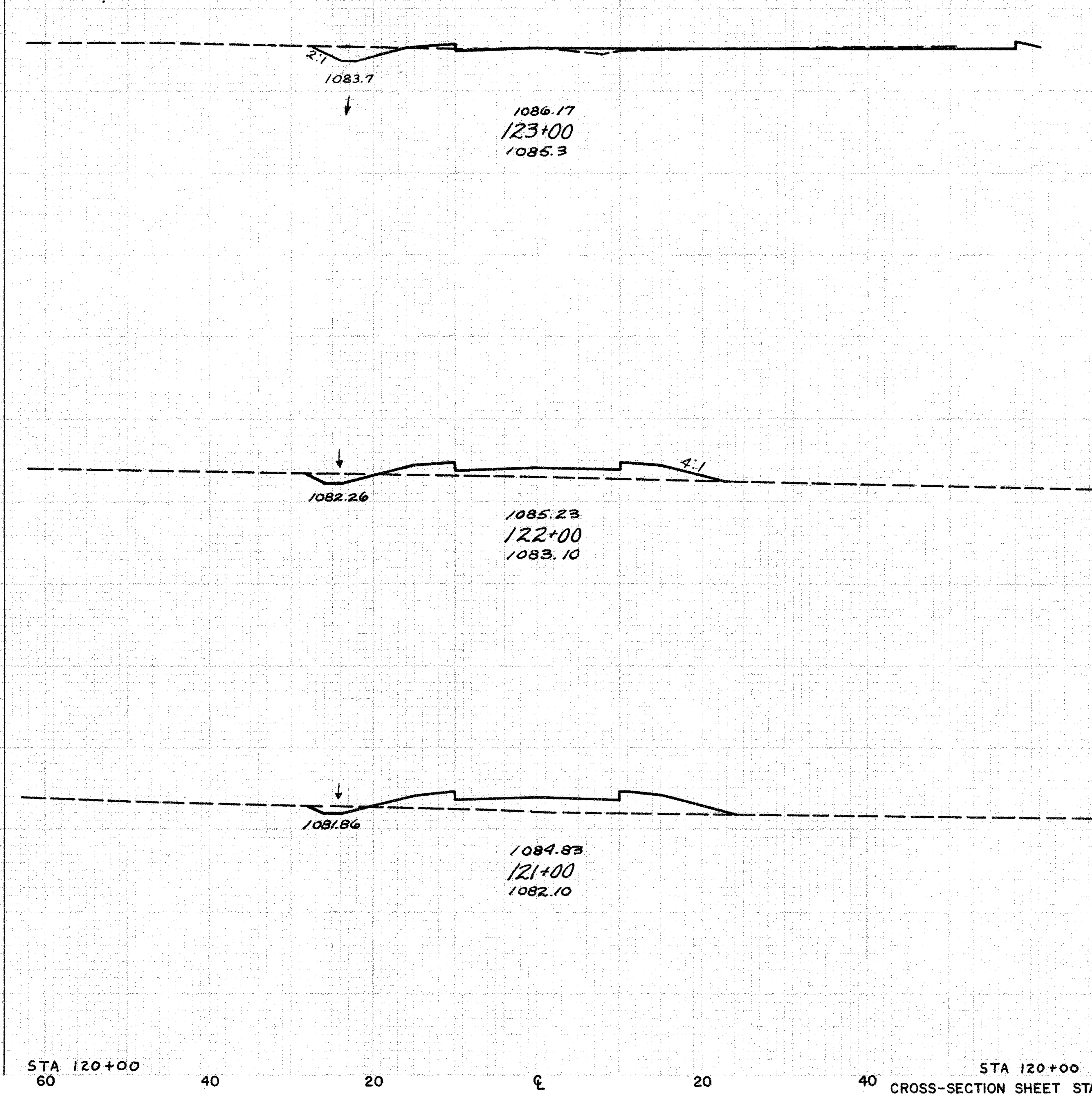
75	0	90	29	22	31	56	206	8	80
19	188	13	123	27	284	16	184	20	390
6	237	12	489	7	290				

CROSS-SECTION SHEET STA. 109+00 TO 117+50
RELOCATE TOWNSHIP ROAD 367



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	SEEDING END WIDTH	SEEDING SQ. YDS.
16	10				
		178	19		
				28	
82	0				
		173	0		439
				51	
105	0				
					572
		191	0		
				52	
101	0				
		326	0		567
75	0			50	

Left margin (SEEDING END WIDTH / SQ. YDS.): 50, 611, 60, 333, 60, 328, 58, 319, 57



Right margin: 17 2; 41 85; 5 44; 17 211; 4 70; 37 148; 16 10

CROSS-SECTION SHEET STA. 118+00 TO 123+00
RELOCATE TOWNSHIP ROAD 367

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
				20	
					467
Ahead 0	Ahead 0				
0 Back	517 Back				
				64	
		0	1181		
					961
0	357				
				109	
		0	1017		
				1194	
0	192			106	
		11	461	984	
6	57			Ahead 105	
		39	130		
15	11				
		17	12		
0	0				

101
754
85
867
71
722
59
572
44
213
20

4:1

1090.46
49+00
1082.34

4:1

1090.06
48+73
1082.52

4:1

1088.96
48+00
1083.05

VAR.

1087.46
47+00
1083.98

4:1

1082.60

1086.93
46+00
1085.07

1084.60

1086.50
45+00
1086.31

BEGIN WORK
44+40

1087.53
44+00
1087.53

See Sheet No.37 for Plan-Profile

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

END WORK

1081.00
55+00
1081.00

21 22

61 163

2:1

1081.44
54+00
1081.14

12 61

165 598

1083.35
53+00
1081.05

2:1

1071.6

2:1

77 257

404 1254

1086.79
52+00
1081.00

2:1

1072.0

2:1

141 420

219 653

VAR.

Mainline Area

1090.08
51+16
1081.09

Ahead Ahead
0 0
0 Back Back
(861)

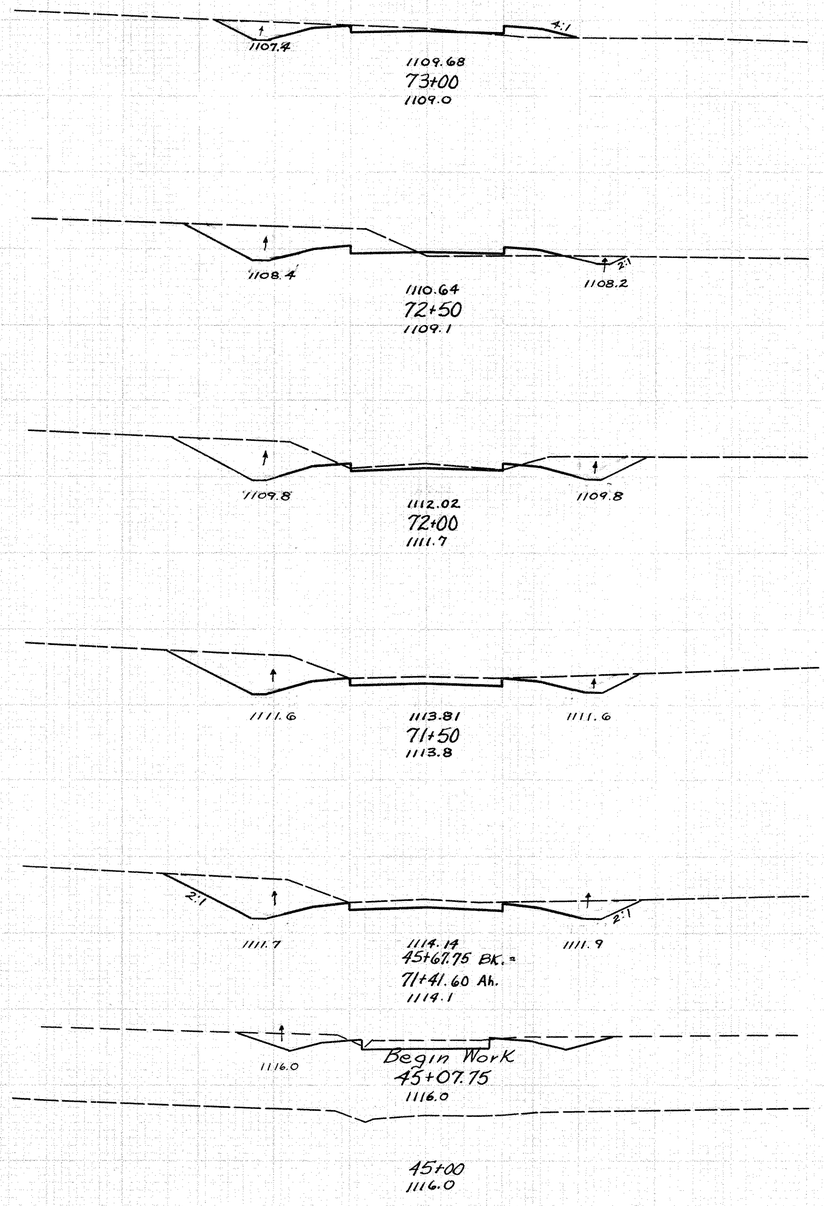
2:1

1090.25
51+00
1081.12

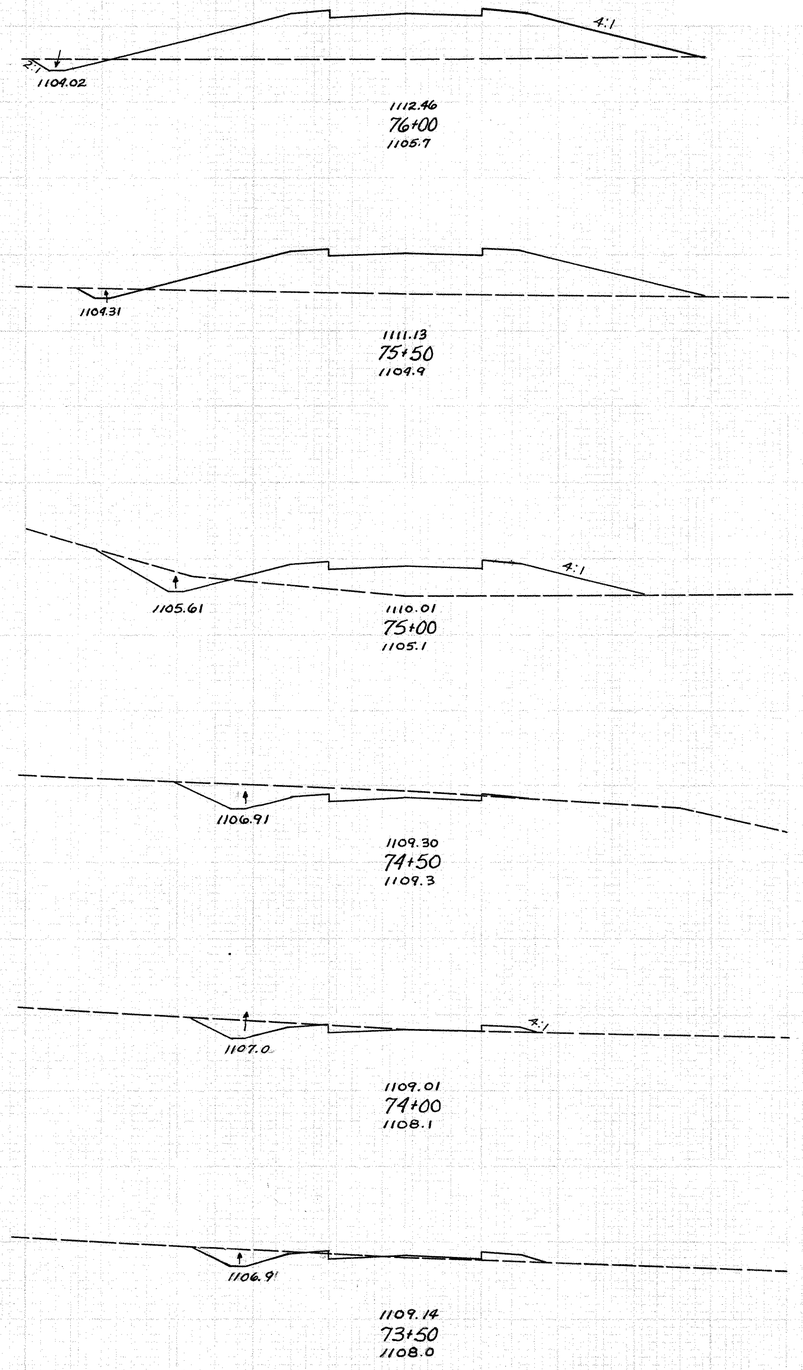
60 50 40 30 20 10 ℄ 10 20 30

CROSS-SECTION SHEET STA. 44+00 TO STA. 55+00
COUNTY ROAD 6

SECTIONS END WIDTH	SECTIONS SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	SEEDING END WIDTH	SEEDING SQ. YDS.
48		29	7			89	
	297			112	17		478
59		92	11			83	
	339			185	13		431
63		108	2			72	
	350			206	2		
63		114	0				331
	59			35	0	47	
63		125	0				261
	277			197	1		
20		52	1			47	
							261
						47	
							264
						48	



See Sheet Nos. 43-44-45-46 for Plan-Profile



SECTIONS END WIDTH	SECTIONS SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				9	330
				15	569
				7	285
				38	412
				34	160
				87	148
				60	0
				81	5
				27	5
				45	12
				22	8
				47	14

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

STA 73+00

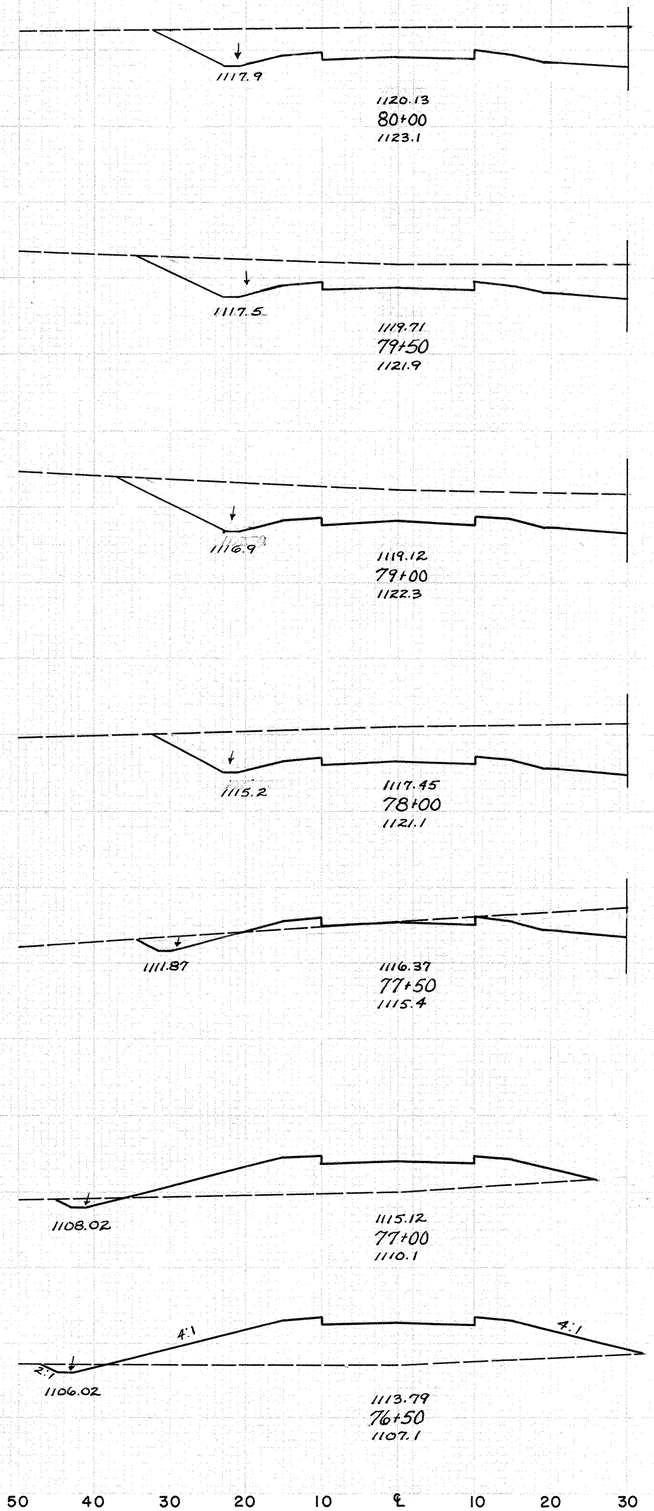
60 50 40 30 20 10 ℄ 10 20 30

STA 73+00 29 7

CROSS-SECTION SHEET STA. 44+00 TO STA. 76+00
RELOCATED TOWNSHIP ROAD 366A

SECTION		END AREA		VOLUME		SEEDING	
BASE WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
53		245	0				
				431	0		
300						39	
		220	0				472
55							
				469	0		
311							
						46	
		287	0				
57							515
				1067	0		
594						47	
		289	0				
50				324	7		
292							517
		61	8				
55						46	
				64	197		
347							261
		8	205				
70						48	
				14	454		
414							267
		7	285				
79						48	
				15	569		
467							561
		9	330			53	
89							

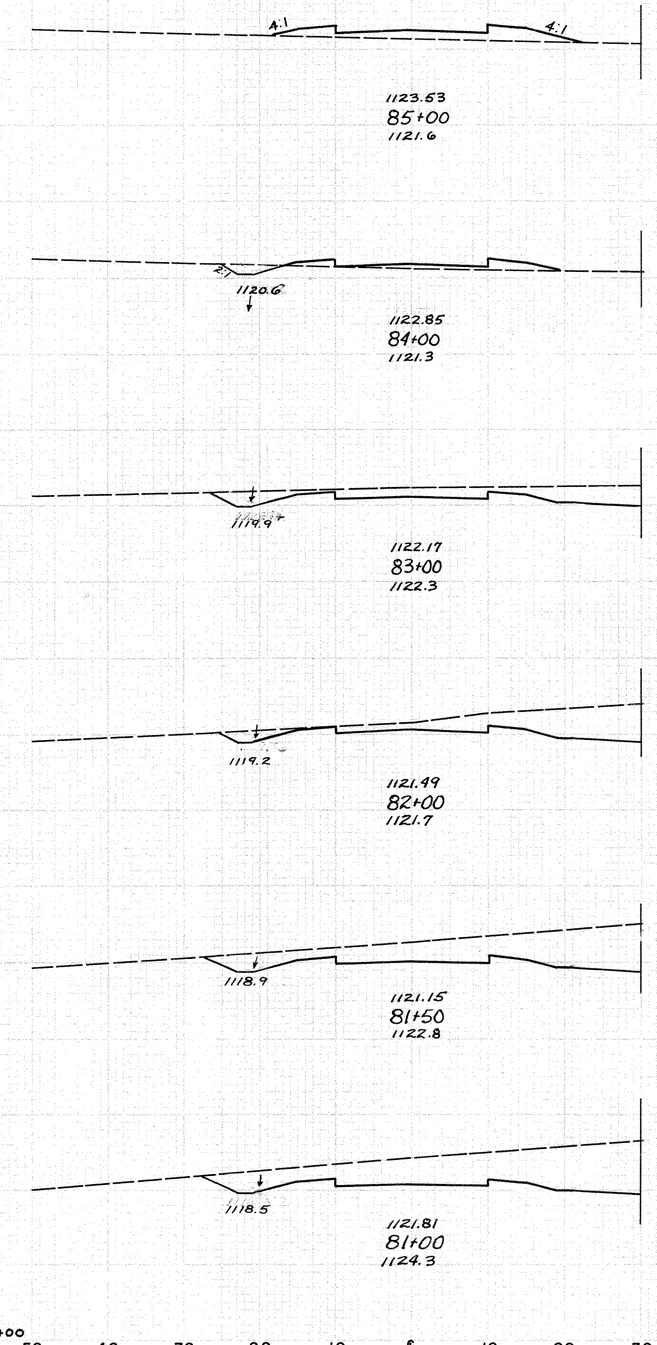
See Mainline Cross-Sections



STA 76+00

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

STA 76+00



STA 80+00

60 50 40 30 20 10 ℄ 10 20 30

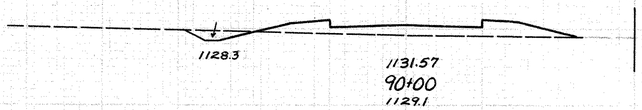
STA 80+00

See Mainline Cross-Sections

0	39
11	106
6	18
157	33
79	0
337	0
103	0
254	0
171	0
356	0
214	0
850	0
245	0

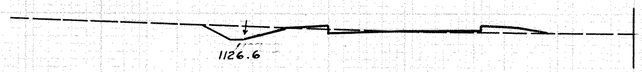
CROSS-SECTION SHEET STA. 76+50 TO STA. 85+00
RELOCATED TOWNSHIP ROAD 366 A

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
9	52				
		39	107		
12	6				
		108	6	50	
105	0				578
		199	0	54	
110	0				306
		213	144	56	
5	78				322
		19	457	60	
5	169				611
		5	275	50	
0	128				269
		0	155	47	
0	39			49	267



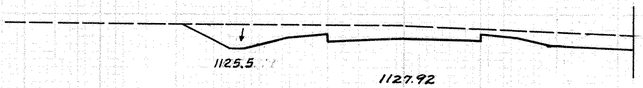
49 522

1131.57
90+00
1129.1



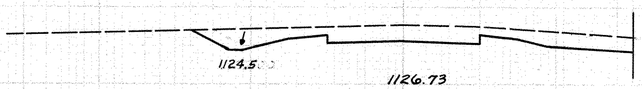
45 261

1128.86
89+00
1127.7



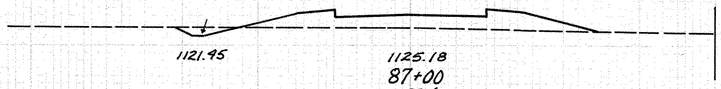
49 269

1127.92
88+50
1128.6



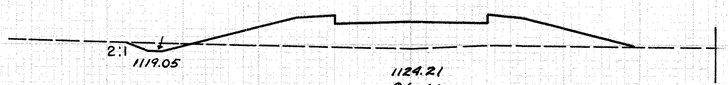
48 572

1126.73
88+00
1127.8



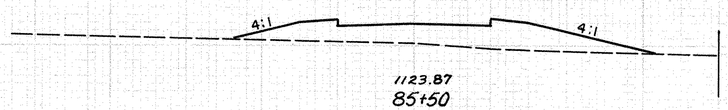
55 683

1125.18
87+00
1122.4



68 339

1124.21
86+00
1119.6



54 258

1123.87
85+50
1120.3

39

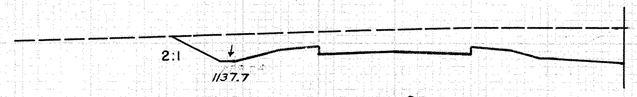
STA 85+00

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

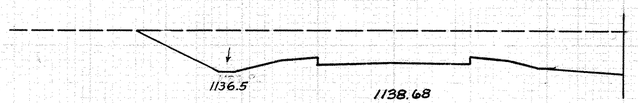
Mainline Cross-Sections

See

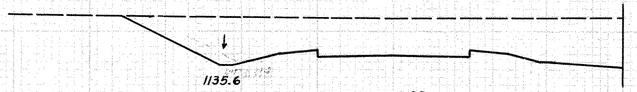
STA 85+00



1139.97
94+00
1141.8



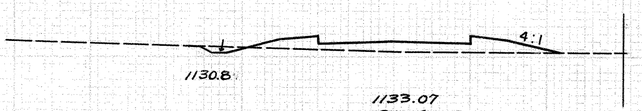
1138.68
93+00
1142.1



1137.87
92+50
1141.8

1136.90
92+00
1142.9

1134.99
91+00
1139.9



1133.07
90+50
1130.8

STA 90+00

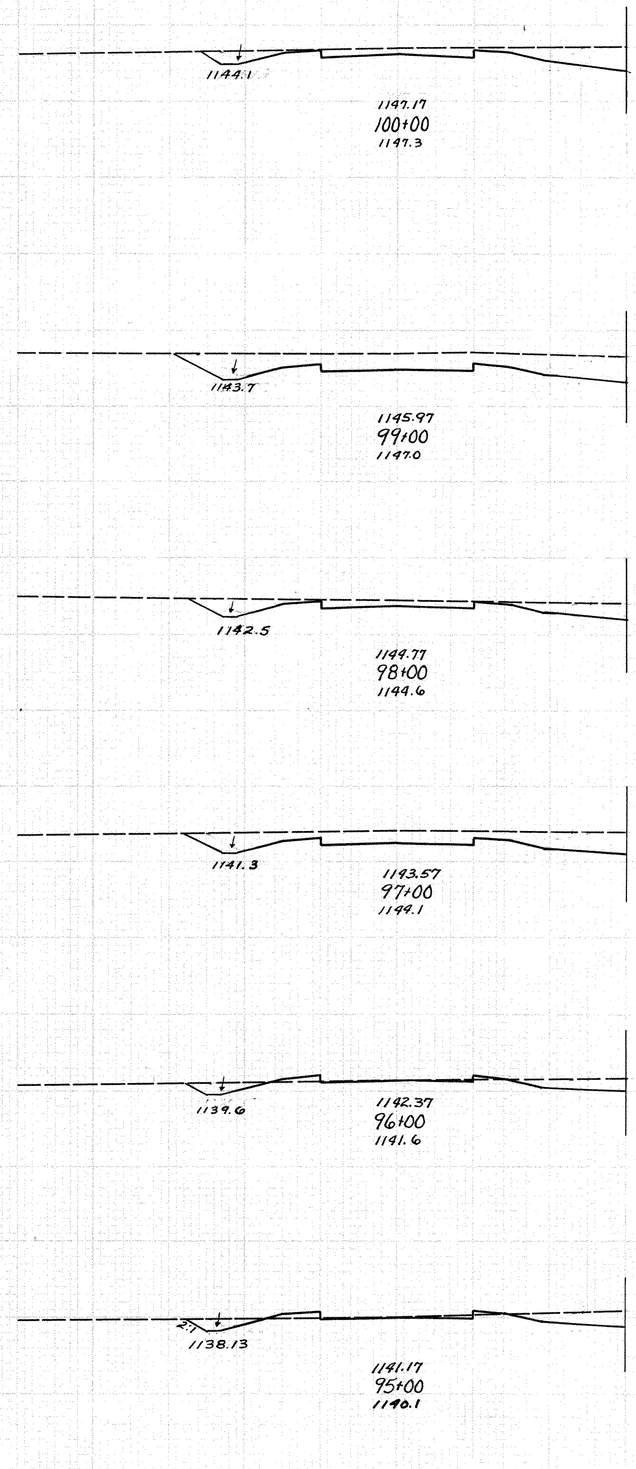
60 50 40 30 20 10 ℄ 10 20 30

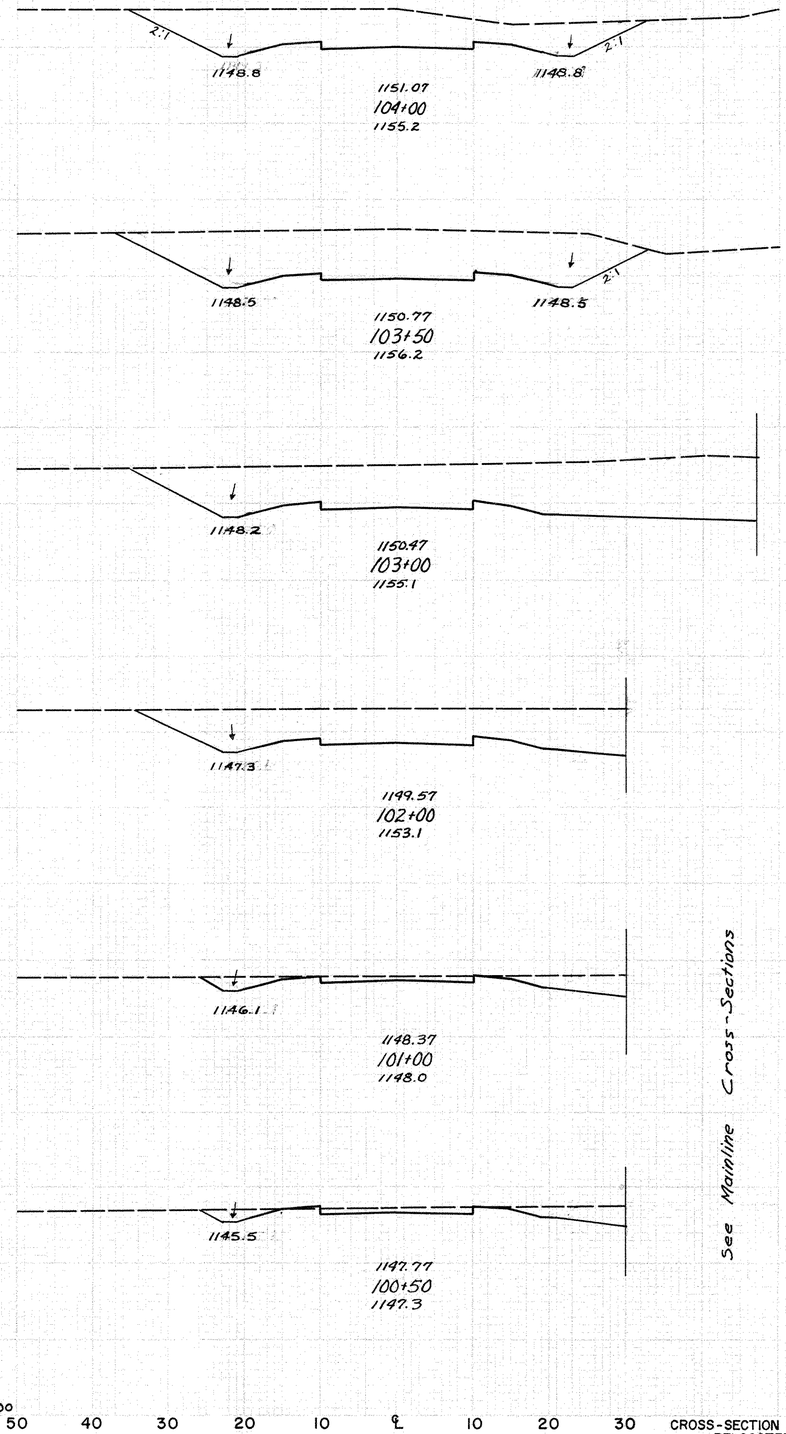
STA 90+00

See Mainline Cross-Sections

170	0
819	0
272	0
542	0
313	0
697	0
440	0
963	0
80	0
79	43
5	46
13	91
9	52

CROSS-SECTION SHEET STA. 85+50 TO STA. 94+00
RELOCATED TOWNSHIP ROAD 366 A





KNO-13-15.93

46	
	533
50	
	544
48	
	533
48	
	533
48	
	533
48	
	544
50	

See Mainline Cross-Sections

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
75	0			67	
		394	0		381
138	0			70	
		367	0		394
				72	
60	0				
		293	0		700
98	0			54	
		235	7		556
29	4			46	
		115	17		258
				47	
33	5	376	9		258
170	0				46

See Mainline Cross-Sections

268	0		
		603	0
383	0		
		812	0
494	0		
		1446	0
287	0		
		628	0
52	0		
		95	0
51	0		
		117	0
75	0		

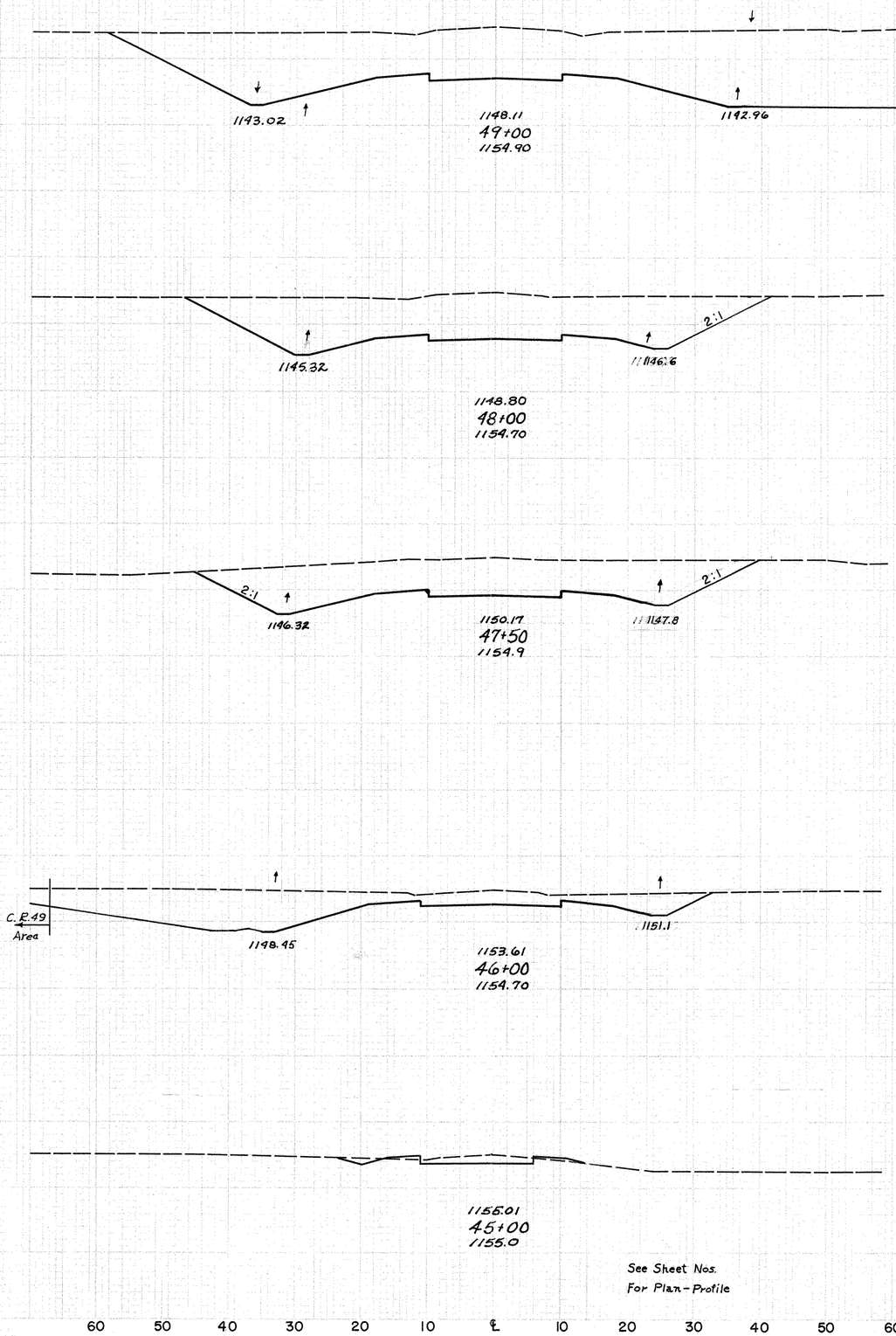
STA 100+00

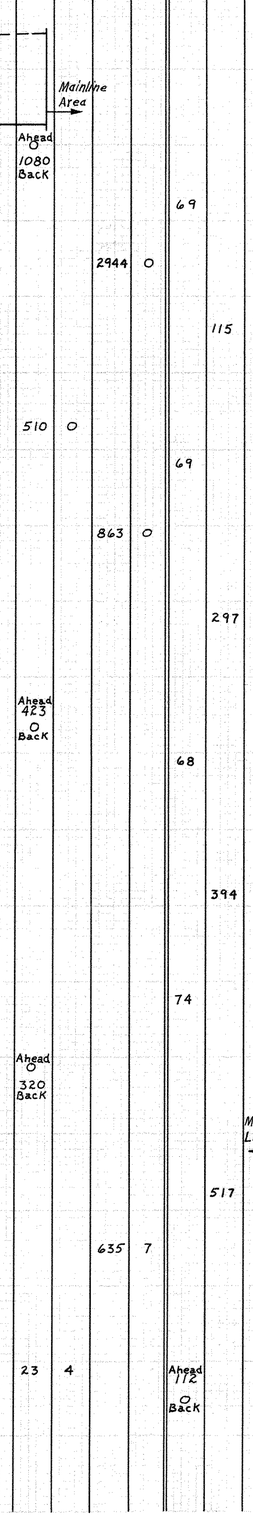
CROSS-SECTION SHEET STA.95+00 TO STA.104+00
RELOCATED TOWNSHIP ROAD 366A

KNO-13-15.93

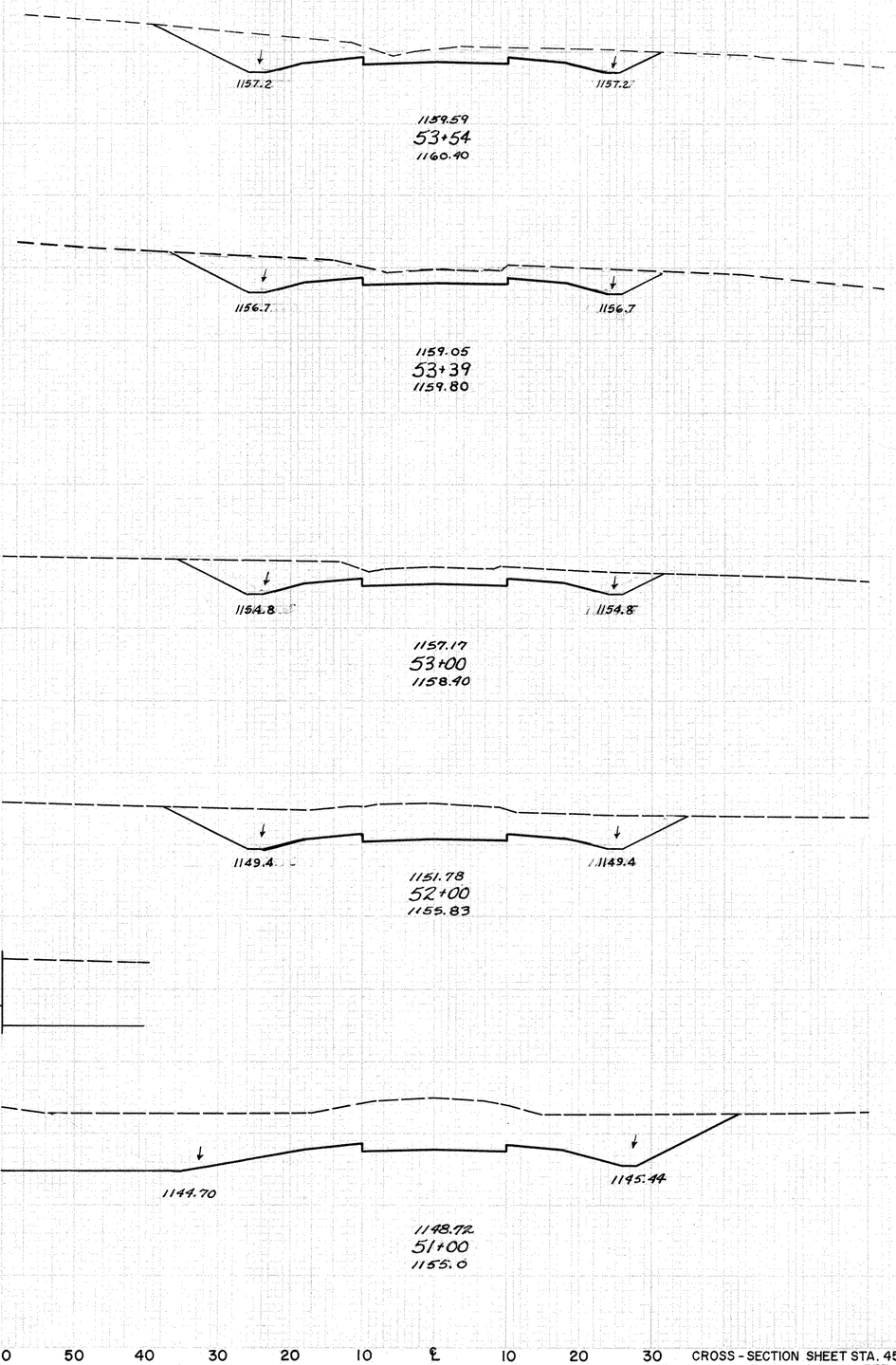

VAR.
VAR.
1152.14
105+74.04 Bk TR-366A
= 45+64.59 AH. C.R.49
1155.3
2:1
VAR.
1149.7
1151.97
105+50
1155.1
1149.4
2:1
1149.4
1151.67
105+00
1159.9
2:1
2:1
1149.1
1149.1
1151.37
104+50
1153.4
99
268
102
444
58
344
66
369
67
445 0
461 0
593 0
766 0
234 0
387 0
184 0
419 0
268 0
STA 104+00
STA 104+00
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.





		2944	0	69	
		863	0	69	115
				68	297
				74	394
				112	517



180	0
96	0
167	0
241	0
167	0
843	0
288	0
2044	0
Ahead 816 0 Back	

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

60 50 40 30 20 10 ℄ 10 20 30

CROSS-SECTION SHEET STA. 45+00 TO STA. 53+54
TOWNSHIP ROAD 377

END AREA		VOLUME		SEEDING	
CUT	FILL	CUT	FILL	END WIDTH	SQ. YDS.
50	0				
		287	0	20	
					104
105	0				
				71	
		635	0		434
238	0				
				51	
		384	0		611
256	0			59	
		458	0		572
170	0				
				44	
		298	0		583
180	0			61	

1156.39 — 1156.5 — 1158.84 — 57+00 — 1158.8

61 — 711

1158.8 — 1158.8 — 1161.07 — 56+00 — 1161.1

67

59 — 700

1160.0 — 1160.0 — 1162.50 — 55+00 — 1164.6

303

1159.8 — 1159.8 — 1162.29 — 54+58 — 1164.6

71 — 445

1158.9 — 1158.9 — 1161.20 — 54+00 — 1162.3

67 — 348

69

STA 53+54 — 40 — 20 — ℄ — 20 — 40 — STA 53+54

1159.20 — 60+93.93 — 1159.2

End Work — 60+81.40

10 0

6 19

1158.80 — 60+64 — 1158.2

6 52

1154.9 — 1157.80 — 60+00 — 1156.8

9 23

111 43

1155.0 — 1155.0 — 1157.27 — 59+00 — 1157.2

51 0

161 20

1155.4 — 1157.77 — 58+00 — 1157.7

36 11

159 20

50

STA 57+00 — 40 — 20 — ℄ — 20 — 40 — STA 57+00

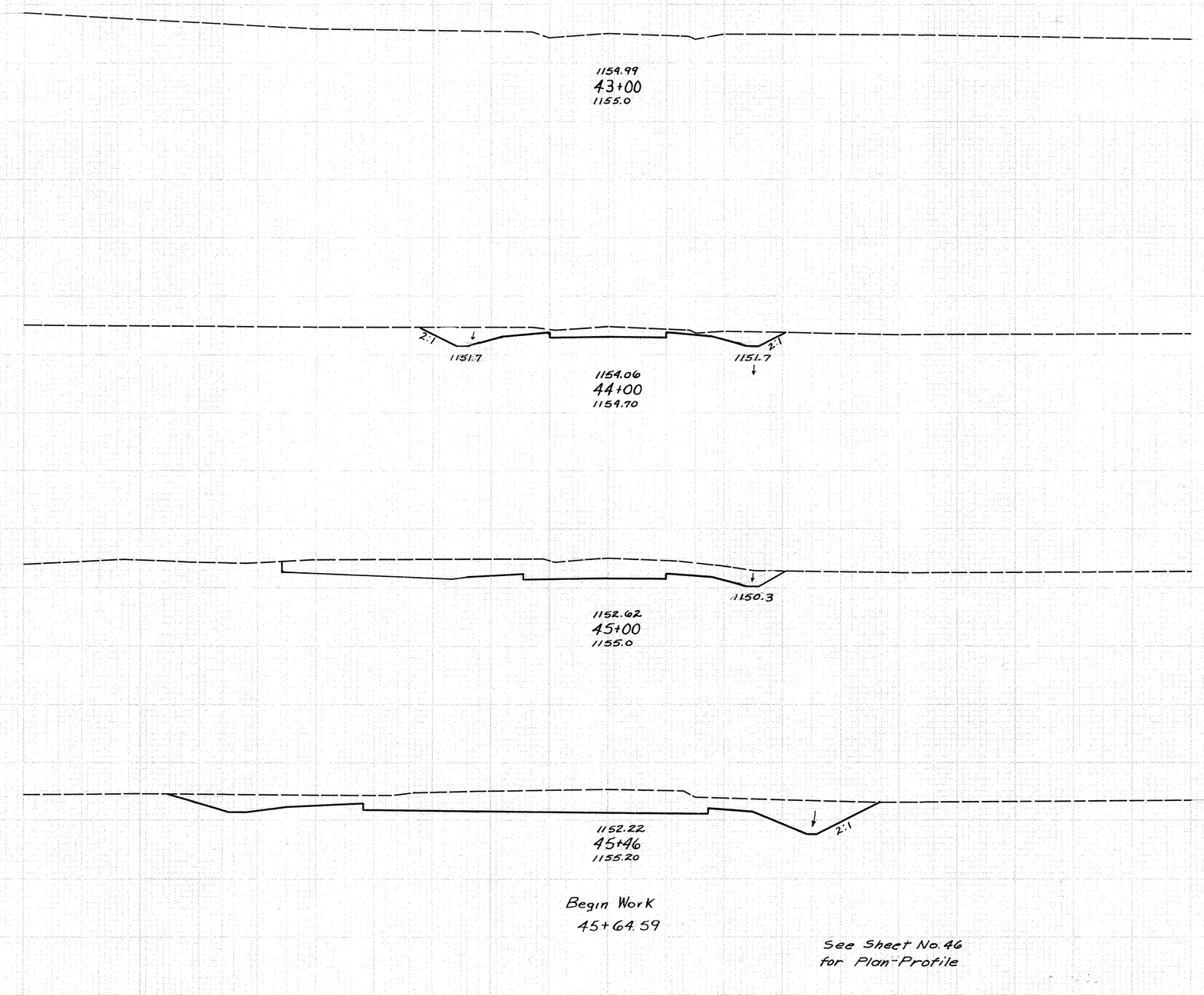
CROSS-SECTION SHEET STA. 54+00 TO 60+95.03
TOWNSHIP ROAD 377

SEC. NO. DIVISION	STATE	PROJECT	
7	OHIO	F-527(11)	

184
275

KNO - 13 - 15.93

SECTIONS	
EACH WIDTH	SQ. FEET
20	
467	
64	
817	
83	
422	
82	
169	
82	



SAND AREA		VEG. MOSS	
CUT	FILL	CUT	FILL
0	0		
180	0		
97	0		
631	0		
244	0		
518	0		
364	0		
284	0		
440	0		

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

CROSS-SECTION SHEET STA. 45+46 TO STA. 43+00
COUNTY ROAD 49

OHIO F-527(II)

185
275

KNO-13-15.93

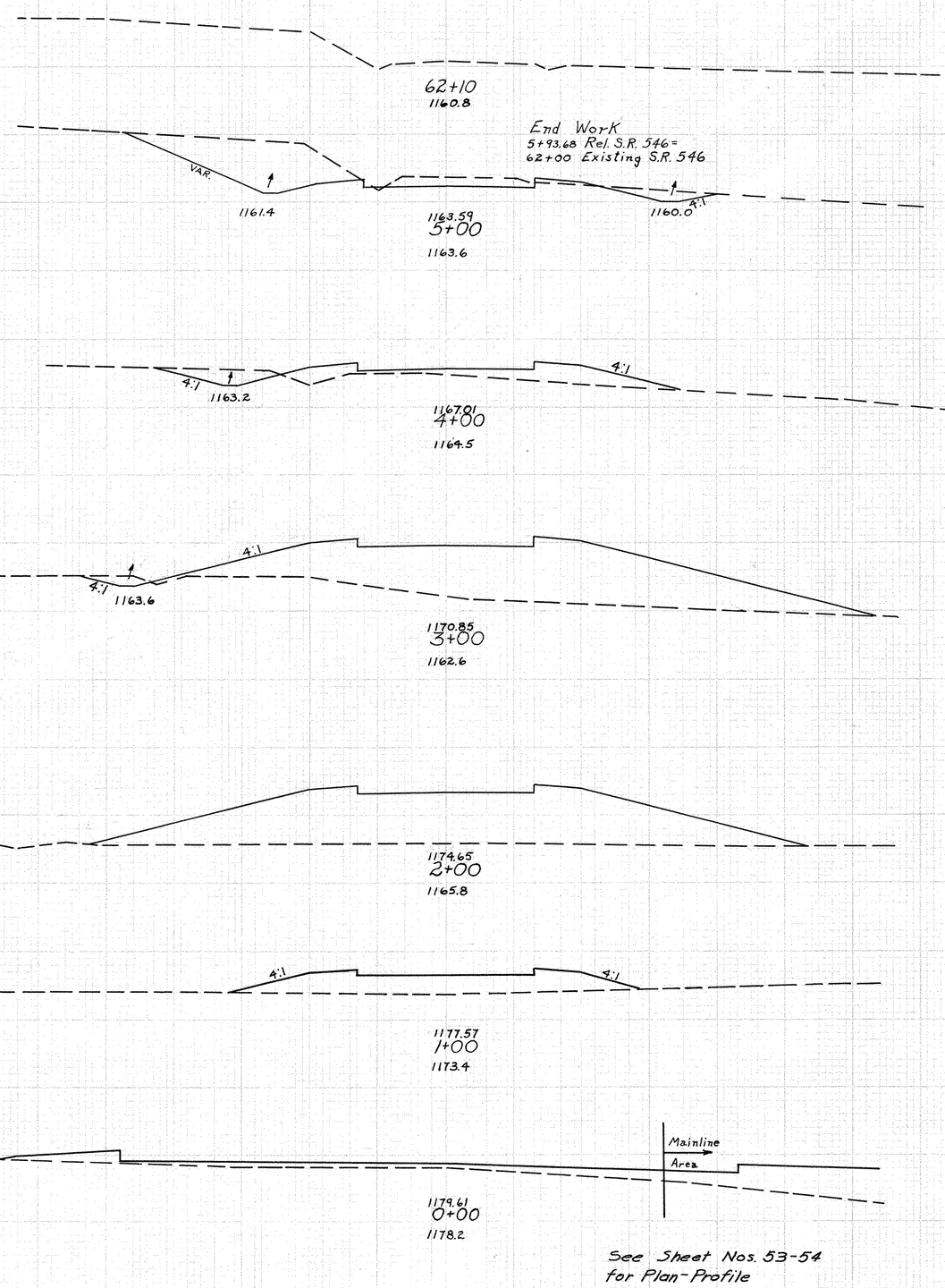
Begin Work 2+50

See Sheet Nos. 50-51
for Plan - Profile

0	67		
		0	183
0	32		
		0	130
0	38		
		0	133
0	34		
		0	135
0	39		
		57	117
31	24		
		163	44
57	0		
		53	0
0	0		

CROSS-SECTION SHEET STA. 3+00 TO STA. 9+00

SECTIONS			END AREAS		VOLUMES	
CUT	FILL		CUT	FILL	CUT	FILL
0			0	0		
	251				358	12
48						
	478		206	7		
38					435	172
	639		29	86		
77					72	1187
	806		10	555		
68					19	2120
	483		0	590		
21					1370	
	211		0	150		
17					15	444
			8	90		



See Sheet Nos. 53-54
for Plan-Profile

80 60 40 20 ℄ 20 40 60 80

CROSS-SECTION SHEET STA 0+00–6+00
STATE ROUTE 546

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

187
275

KNO-13-15.93

S.R. 13
P.I. Sta. 939+55.25
Δ = 46°31'06" Rt.
D = 0°50'
R = 6875.50'
L = 5582.25'
T = 2955.25'
E = 608.22'

S.R. 95
P.I. Sta. 47+19.46
Δ = 11°30'30" Lt.
D = 4°46'
R = 1202.01'
L = 241.43'
T = 121.12'
E = 6.09'

S.W. Ramp
P.I. Sta. 1+55.34
Δ = 9°18' Lt.
D = 3°00'
R = 1909.86
L = 310.00'
T = 155.34'

S.W. Ramp
P.I. Sta. 9+60.02
Δ = 15°56'34" Rt.
D = 8°00'
L = 199.29'
R = 716.20'
T = 100.29'

N.W. Ramp
P.I. Sta 3+68.50
Δ = 4°51'21" Rt.
D = 2°00'
L = 242.79'
R = 2864.79
T = 121.47'

N.W. Ramp
P.I. Sta. 9+92.44
Δ = 12°00' Lt.
D = 4°00'
R = 1432.39'
L = 300.00'
T = 150.55'

S.E. Ramp
P.I. Sta. 3+44.77
Δ = 27°04' Rt.
D = 4°00'
R = 1432.39'
L = 676.67'
T = 344.77'
E = 40.91'

S.E. Ramp
P.I. Sta. 10+44.68
Δ = 21°22'21" Lt.
D = 12°00'
R = 477.46'
T = 90.13'
L = 178.10'
E = 8.43'

N.E. Ramp
P.I. Sta. 7+53.78
Δ = 23°00' Rt.
D = 4°00'
R = 1432.39'
T = 2°00'
L = 575.00'
E = 29.34

End Work 44+50
P.C. Sta 45+38.34
P.T. Sta 48+33.77
Sta. 50+45.00 S.R. 95 = Sta. 0+00 N.W. Ramp
P.C. Sta 8+57.73
P.T. Sta. 10+59.02
Sta 50+70.00 S.R. 95 = Sta 11+49.09 S.W. Ramp
P.C. Sta 2+47.13
P.T. Sta 4+89.92
P.C. Sta. 8+41.89
P.T. Sta. 11+41.89 = Sta. 943+06.00 Lt.
P.C. Sta 0+00 S.W. Ramp = Sta. 921+38.00 Lt.
P.T. Sta. 3+10.00
P.C. Sta 0+00 S.E. Ramp = Sta. 920+80.00 Rt.
P.C. Sta 9+54.55
P.T. Sta 11+32.65
P.C. Sta 6+78.67
P.C. Sta 4+62.36
P.T. Sta. 10+32.36 = Sta. 943+03.00 Rt.
932+48.33 ℄ Survey = 53+75.96 S.R. 95
Sta. 57+01.52 S.R. 95 = Sta 0+00 N.E. Ramp
Sta. 56+83.96 S.R. 95 = Sta. 11+96.55 S.E. Ramp
End New Pavement Sta. 63+00
Match Line
℄ Survey

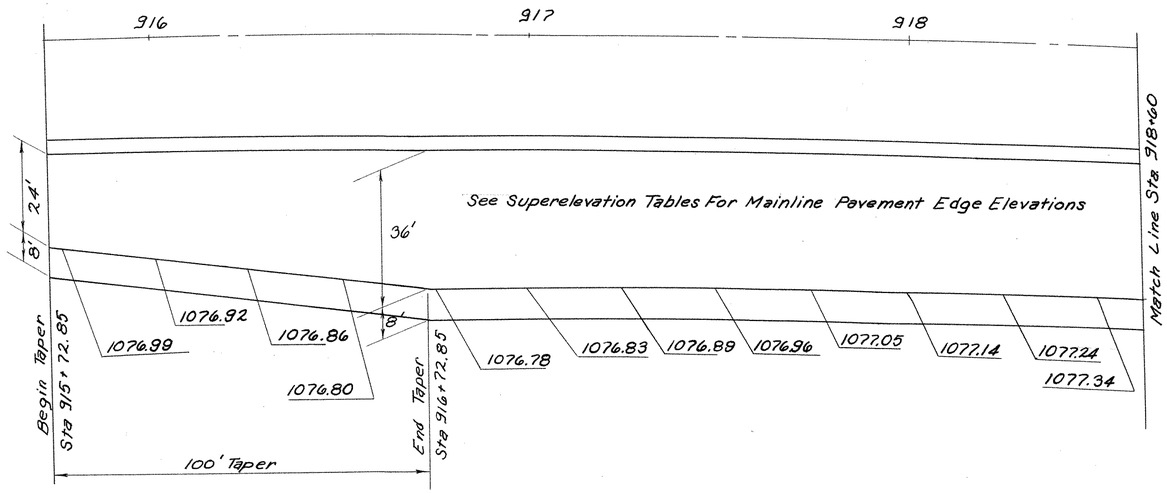
0 100 150 200 300

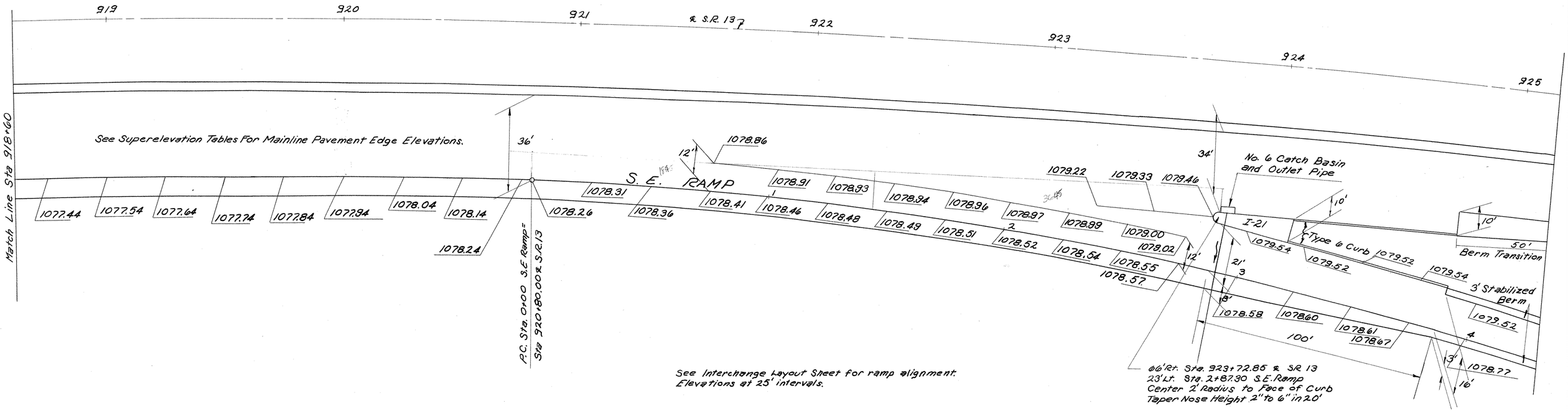
S.R. 95 Interchange - Layout Plan

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

188
275

KNO-13-1593



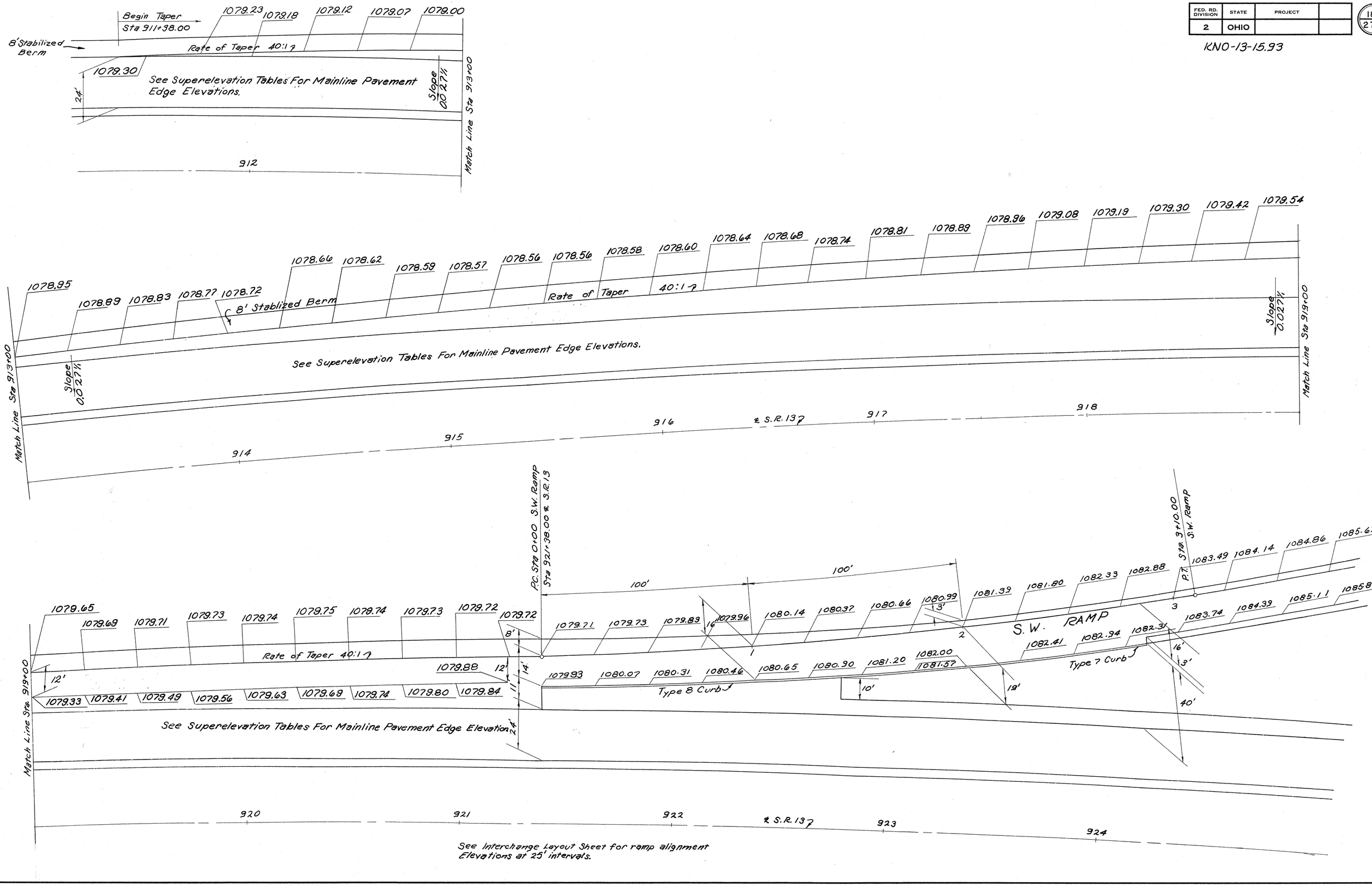


S.E. Ramp Exit Terminal

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

189
275

KNO-13-15.93



S.W. Ramp Entrance Terminal

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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275

KNO-13-15.93

939 940 941 942 & SR.137 943 944

1086.26 1086.36 1086.46 1086.56 1086.66 1086.76 1086.86 1086.96 1087.06 1087.16 1087.26 1087.46 1087.36

24'

Slope 0.027 ft/ft

See Superelevation Tables For Mainline Pavement Edge Elevations.

10'

1087.16

1086.89 1087.09 1087.21 1087.25

1086.67

Type 8 Curb

1086.66 1086.75

16'

14'

Rate of Taper 40:1

10

40'

Type 7 Curb

1086.77

1086.81 1086.96 1087.16

3'

1087.43

19'

9

8

1086.54 1086.74 1086.78 1086.90 1087.02 1087.13 1087.25 1087.37 1087.48 1087.60 1087.72

Match Line Sta 945+00

1085.87 1085.97 1086.14 1086.34

100'

16' N.E. RAMP

1085.82

3'

1085.84 1085.92 1086.07 1086.27 1086.54 1086.84 1087.14

100'

7

P.T. Sta 101+37.36 N.E. Ramp
Sta 943+03.00 ℄ S.R. 13

946 947 & SR.137 948 949 950

Approach Slab

Bridge No. KNO-13-1828

Match Line Sta. 945+00

Slope 0.027 ft/ft

See Superelevation Tables For Mainline Pavement Edge Elevation

1087.83 1087.95 1088.07 1088.19 1088.30 1088.41 1088.51 1088.59 1088.66 1088.73 1088.78 1088.82 1088.85 1088.88 1088.8 1088.88 1088.86 1088.84 1088.81 1088.76 1088.69 1088.64 1088.58

Slope 0.027 ft/ft

Match Line Sta. 951+00

1087.72

952 953

Approach Slab

Bridge No. KNO-13-1828

Match Line Sta. 951+00

1088.52 1088.46 1088.41

Slope 0.027 ft/ft

108.29 1088.23 1088.17 1088.11

24'

8'

Rate of Taper 40:1

1088.34

1088.06

End Taper Sta. 953+03.00

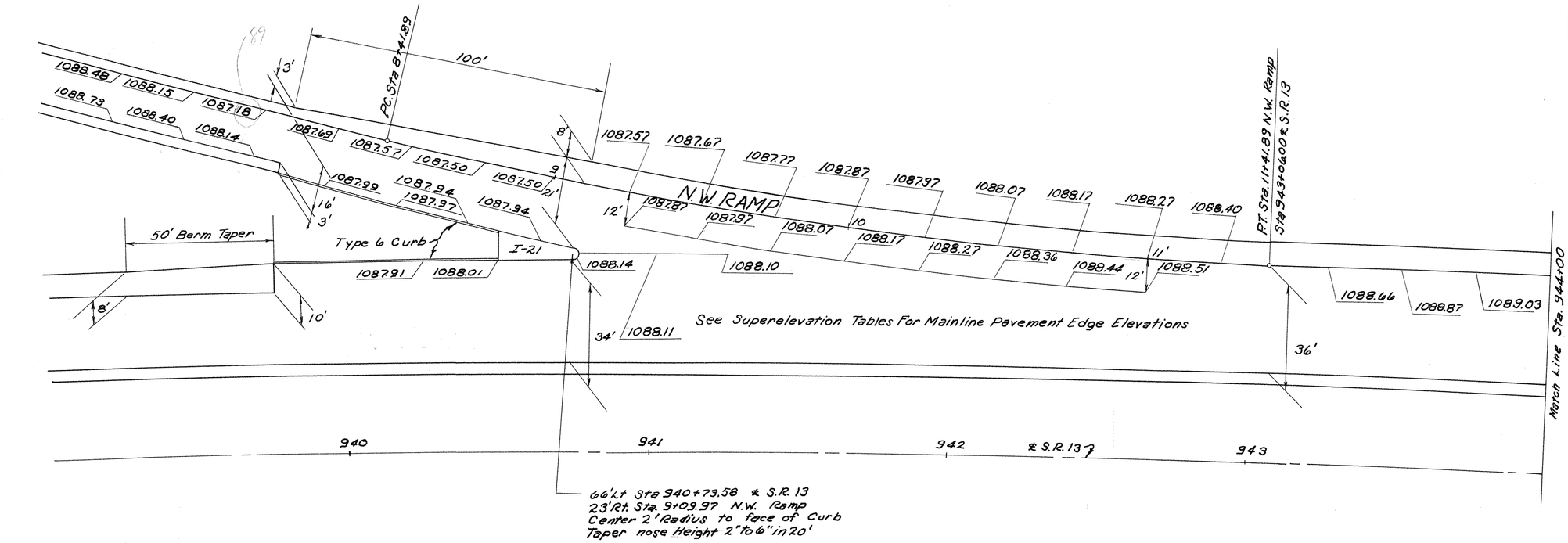
Elevations at 25' intervals
See Interchange Layout Sheet for ramp alignment.

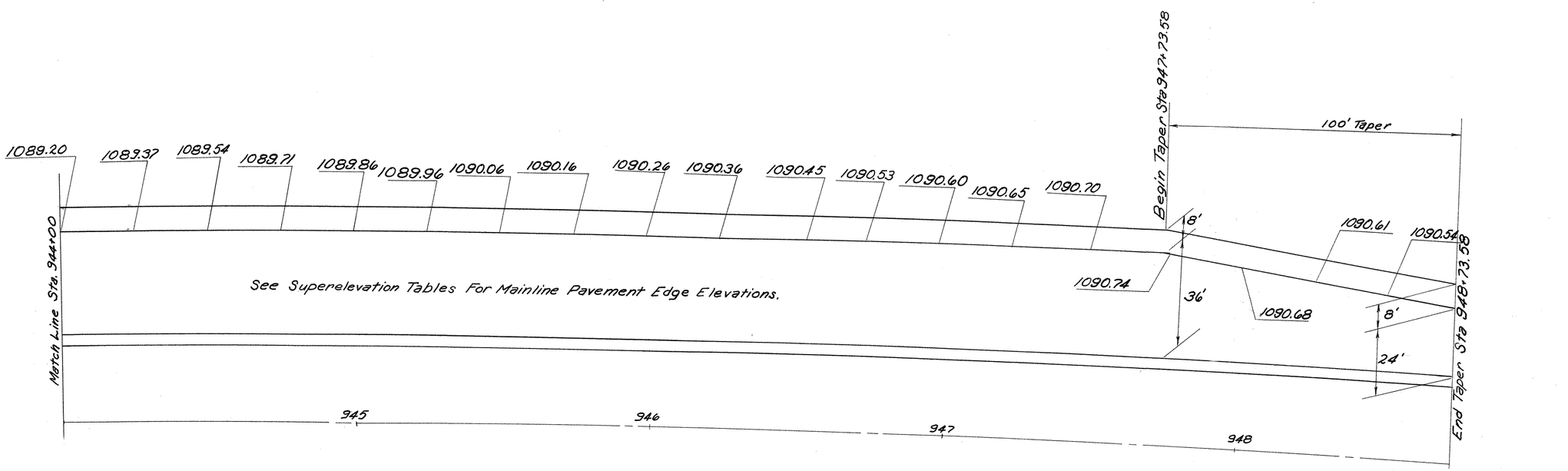
N. E. Ramp Entrance Terminal

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

191
275

KNO-13-15.93





Elevations at 25' intervals
See Interchange Layout Sheet for ramp alignment.

N.W. Ramp Exit Terminal

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

192
275

KNO-13-15.93

50+70.00 S.R. 95 =
11+49.09 S.W. Ramp

P.C. Sta 8+59.73

P.T. Sta. 10+59.02

50+45.00 S.R. 95
0+00 N.W. Ramp

P.C. Sta. 2+47.13

P.T. Sta 4+89.92

P.T. Sta 3+10.00

S.W. Ramp

N.W. Ramp

P.C. Sta 8+41.89

Match Line

924 925 926 927 928 929 930 931 & Survey 932 933 934 935 936 937 938 939 940

1080 1090 1100

P.T. Sta 6+76.67

S.E. Ramp

P.C. Sta 9+54.55

N.E. Ramp

P.C. Sta 4+62.36

Sta. 56+83.96 S.R. 95 =
Sta. 11+96.55 S.E. Ramp

Sta 57+01.52 S.R. 95
Sta 0+00 N.E. Ramp

P.T. Sta 11+32+65

LEGEND

Existing Contour
Proposed Contour
Cross-Section

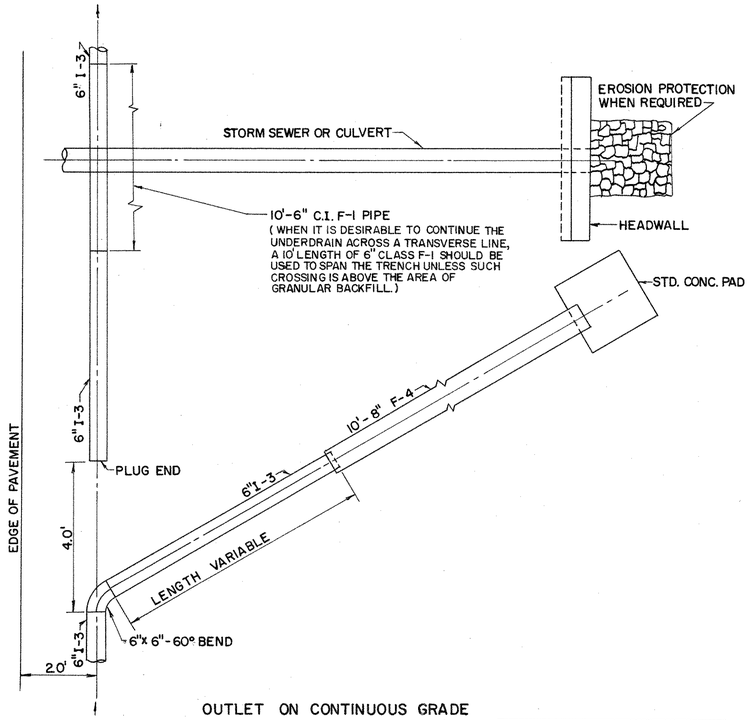
S.R. 95 Interchange - Grading Plan

TYPICAL DETAILS OF UNDERDRAIN OUTLETS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

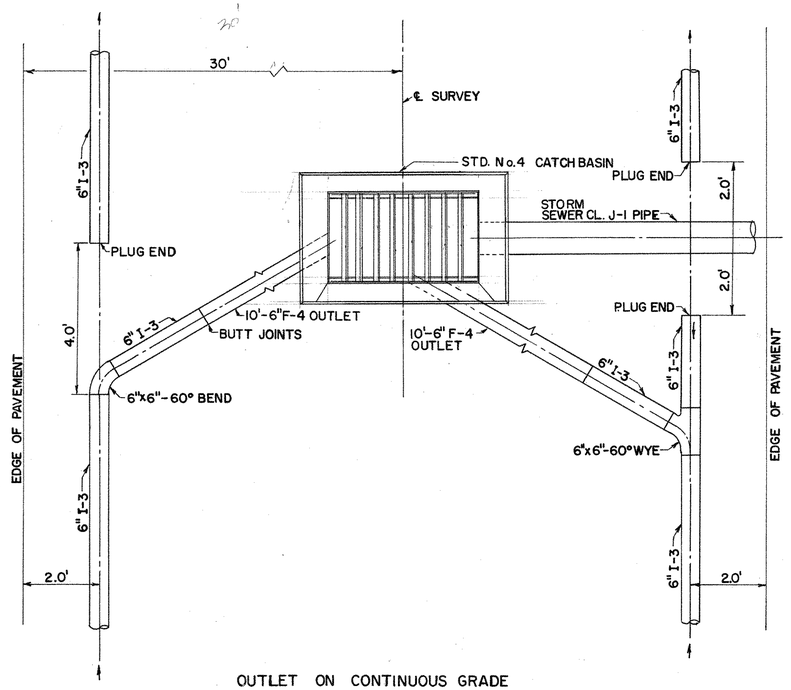
193
275

KNO-13-15.93

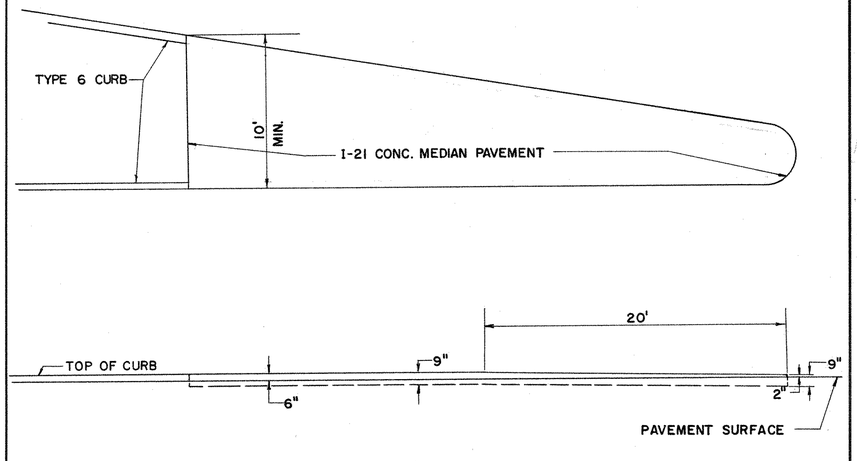


OUTLET ON CONTINUOUS GRADE
(Outside Edge) Scale in feet

0 1 2 3 4 6

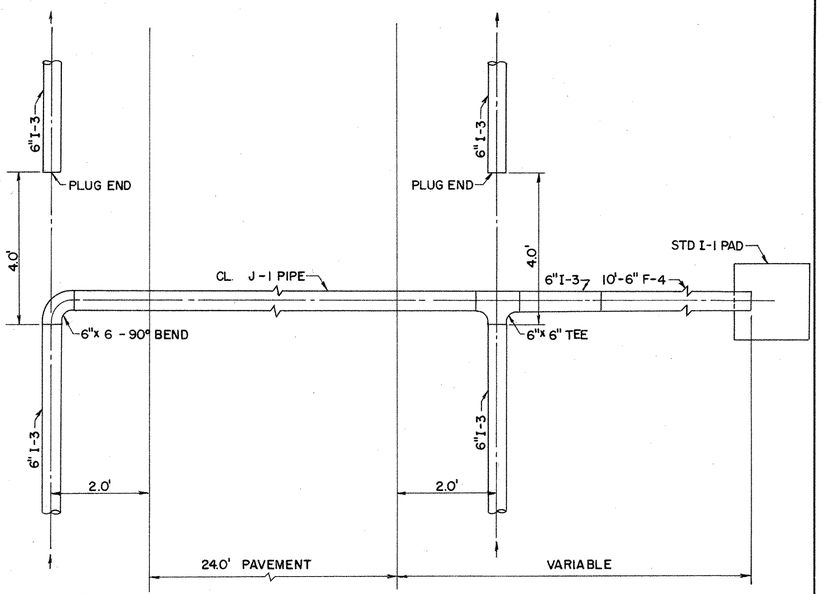


OUTLET ON CONTINUOUS GRADE
(Median Edge) No Scale



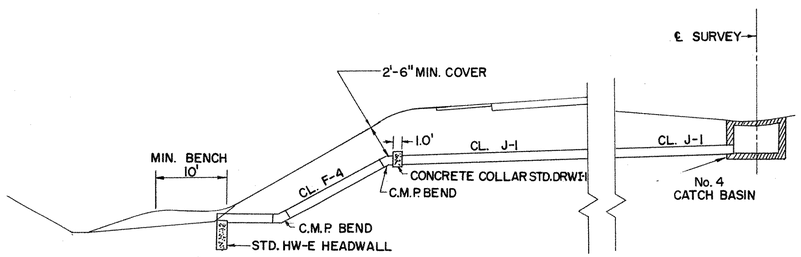
EXIT NOSE DETAIL
Scale in feet

0 1 2 3 4 5 10 15



PAVEMENT CROSSOVER
Scale in feet

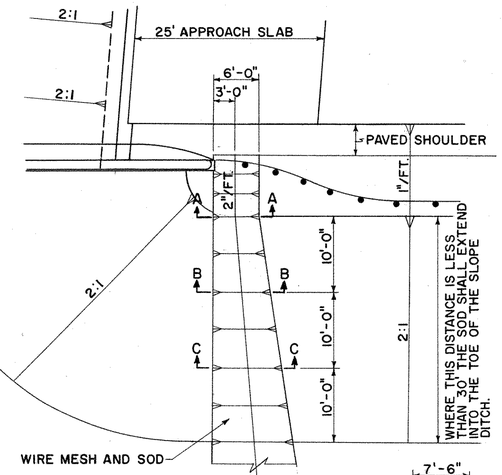
0 1 2 3 4 6



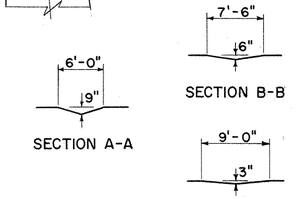
MEDIAN OUTLET DETAIL IN HIGH FILL
NO SCALE

NOTES ON SODDING FOR SPECIAL BERM AND SLOPE PROTECTION

1. PRIOR TO PLACEMENT OF SOD IN THE BERM & SLOPE, GALVANIZED POULTRY FENCE SHALL BE PLACED ON THE FINISHED GRADE IN STRANDS WHICH SHALL BE AT RIGHT ANGLES TO THE DIRECTION OF FLOW. EACH STRAND SHALL BE STAKED SECURELY ON TOP AND BOTTOM WITH STAKES SPACED AT FOUR (4) FOOT INTERVALS AND ATTACHED IN ROWS FOUR (4) FEET APART.
2. STAKES SHALL BE 1"x 1"x 8" WOOD STAKES AND SHALL BE PERPENDICULAR TO THE GROUND AND FLUSH WITH THE FINISHED GRADE.
3. THE FENCE SHALL BE STRAIGHT LINE POULTRY FENCE OR EQUIVALENT WITH STRAND WIDTH OF FOUR (4) FEET HAVING A TWO INCH MESH AND ALL WIRES TO BE No. 20 GAGE.
4. ADJACENT STRANDS OF FENCING SHALL BE FASTENED TOGETHER AT TWELVE (12) INCH INTERVALS BY MEANS OF HOG RINGS.
5. THE FENCE SHALL BE SECURED TO THE WOODEN STAKES BY METAL STAPLES.
6. SOD SHALL BE LAID IN ACCORDANCE WITH SECTION L-10.07.
7. EROSION CONTROL IS REQUIRED ONLY WHERE THE RATE OF SIDE SLOPE IS STEEPER THAN 6:1.
8. PAYMENT FOR ALL THE ABOVE IS INCLUDED IN THE UNIT PRICE BID FOR ITEM L-10 SODDING FOR SPECIAL BERM AND SLOPE PROTECTION.



S. R. 95
Sta. 55+07 Rt.
Sta. 55+10 Lt.



DETAIL OF SODDING
FOR SPECIAL BERM AND SLOPE PROTECTION
No Scale

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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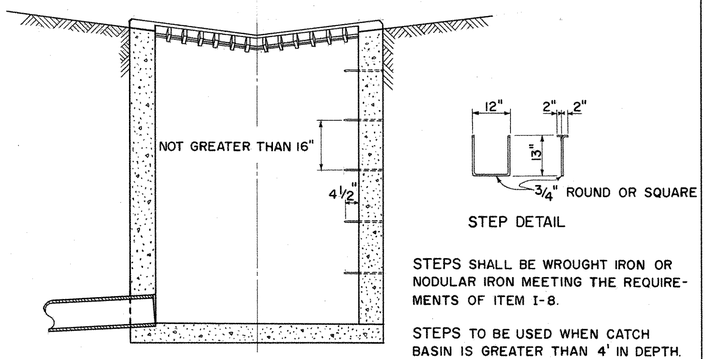


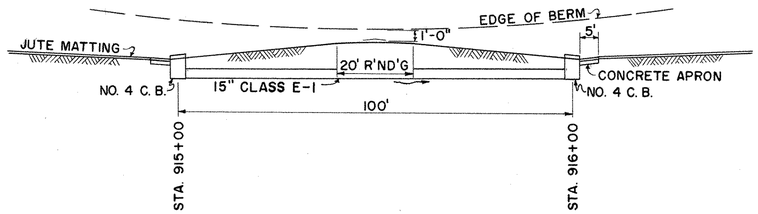
SECTION

STEP DETAIL

STEPS SHALL BE WROUGHT IRON OR NODULAR IRON MEETING THE REQUIREMENTS OF ITEM I-8.

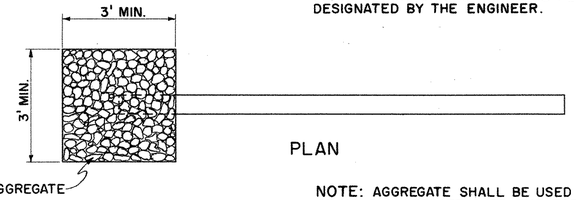
STEPS TO BE USED WHEN CATCH BASIN IS GREATER THAN 4' IN DEPTH.

MODIFIED NO. 4 CATCH BASIN



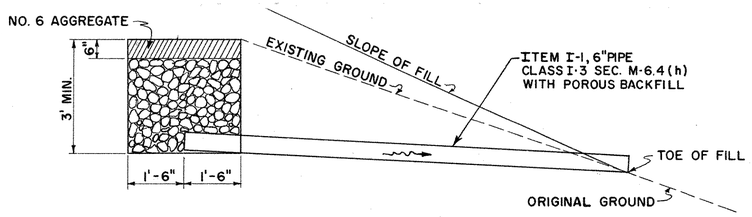
PROFILE OF MEDIAN BETWEEN STA. 915+00 & 916+00

NOTE: AGGREGATE, TARRED PAPER OR TARRED BURLAP AND NECESSARY EXCAVATION FOR SPRING DRAINS SHALL BE INCLUDED FOR PAYMENT IN THE PRICE BID PER LINEAR FOOT OF ITEM I-9 STONE UNDERDRAINS NO. 1, AS PER PLAN. SPRING DRAINS SHALL BE PLACED AT LOCATIONS DESIGNATED BY THE ENGINEER.



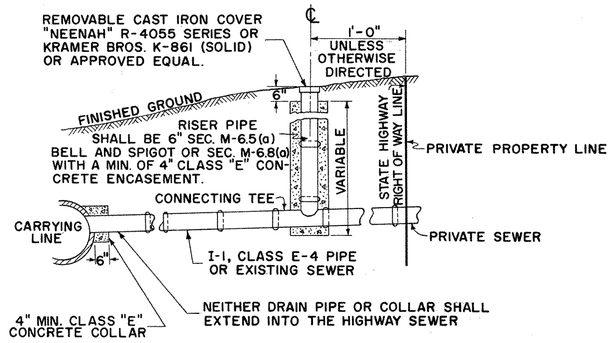
PLAN

NOTE: AGGREGATE SHALL BE USED WITH A 6" LAYER OF NO. 6 AGGREGATE OVER THE TOP AND SEALED WITH TARRED PAPER OR TARRED BURLAP.



LONGITUDINAL SECTION

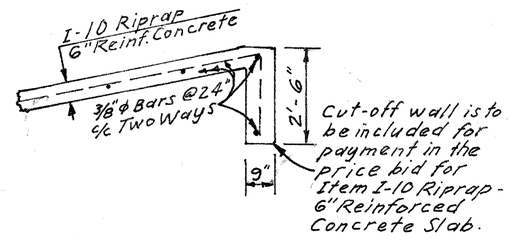
DETAIL OF SPRING DRAINS, AS PER PLAN



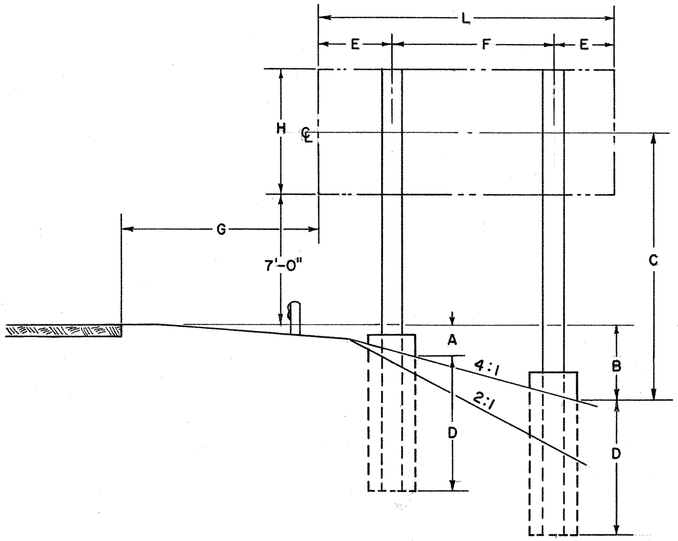
NOTE:
THE UNIT PRICE BID FOR ITEM I-8, INSPECTION WELLS, AS PER PLAN" SHALL INCLUDE FURNISHING AND PLACING RISER PIPE, CONCRETE ENCASEMENT, CAST IRON COVER AND CONNECTING TEE (SAME TYPE AS PIPE FURNISHED FOR THE I-1 CLASS E-4 PIPE.)

NOTE:
THE COST OF THE TAP INTO THE CARRYING LINE AND THE CONCRETE COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID PER LIN. FT. FOR THE I-1, CLASS E-4 PIPE.

INSPECTION WELL FOR PRIVATE DRAINAGE TAPS



DETAIL OF CUT-OFF WALL

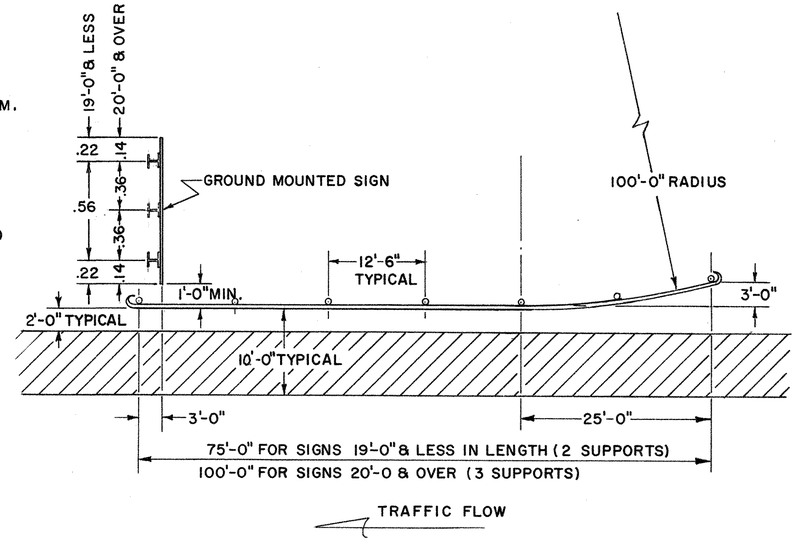


I-129 STRUCTURAL SUPPORTS STEEL BEAM (TYPE), AS PER PLAN

THE STRUCTURAL STEEL BEAM SUPPORTS SHALL BE GALVANIZED (AFTER PUNCHING) IN ACCORDANCE WITH ASTM A-123.
QUANTITIES FOR ITEM I-129 "STRUCTURAL SUPPORTS, STEEL BEAM (TYPE), AS PER PLAN" APPEARING IN THE QUANTITY TABLES ARE APPROXIMATE.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMING EXACT SUPPORT LENGTHS PRIOR TO FABRICATION AND GALVANIZING OF SUPPORTS.
PAYMENT SHALL BE AT THE COTRACT UNIT PRICE BID PER LIN. FT. WHICH PRICE AND PAYMENT SHALL INCLUDE ALL COSTS IN CONNECTION WITH THE EMBEDMENT OF THE SUPPORTS.
THE COST OF THE CONCRETE USED FOR EMBEDMENT WILL BE A SEPARATE PAY ITEM.

I-129 CONCRETE FOR SIGN SUPPORT FOUNDATIONS, BY TYPE, AS PER PLAN

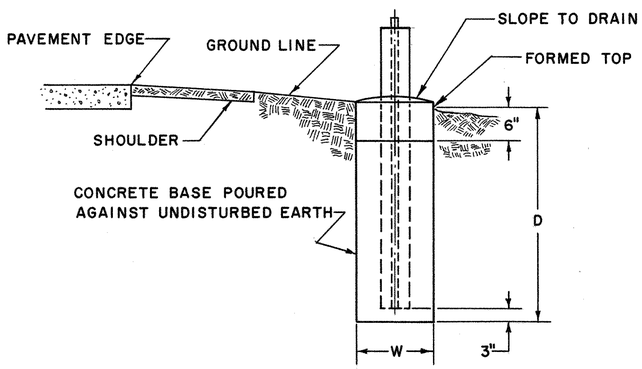
PAYMENT FOR THIS ITEM SHALL BE PER CUBIC YARD BASED ON APPROVED PLAN DIMENSIONS OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES AS SPECIFIED IN SUPPLEMENTAL SPECIFICATION I-129.
PAYMENT FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF CONCRETE FOR SIGN SUPPORT FOUNDATIONS IN LIEU OF BEING A SEPARATE PAY ITEM AS CALLED FOR IN SUPPLEMENTAL SPECIFICATION Nº I-129.
FOUNDATIONS SHALL BE CONSTRUCTED IN THE MANNER CALLED FOR UNDER SUPPLEMENTAL SPECIFICATION I-129. CONCRETE SHALL BE CLASS "C".



STATION-Nº	A	B	C	D	E	F	G	H	L	BEAM	LENGTH	BEAM SIZE
869+00 ④	0'-9"	3'-0	14'-9"	6'-9"	3'-3 5/8	8'-4 13/16	11'-0"	9'-6"	15'-0"	24'-0"	26'-3"	12B-22
915+70 ③	0'-9	3'-0"	14'-9"	6'-9"	3'-3-	8'-4—	11'-0"	9'-6"	15'-0"	24'-0"	26'-3"	12B-22
948+75 ①	2'-0	6'-0"	17'-9"	8'-0"	3'-3-	8'-4—	11'-0"	9'-6"	15'-0"	26'-6"	30'-6"	12 WF 27
995+50 ②	2'-0"	6'-0	17'-9"	8'-0"	3'-3-	8'-4—	11'-0"	9'-6"	15'-0"	26'-6"	30'-6	12 WF 27

REF. Nº	STATION		SIDE	I - 15	
SHEET	FROM	TO		GUARD RAIL STEEL BEAM TYPE (DEEP)-LIN. FT.	
21	868+28	869+03	RT.	75'-0"	
26	914+98	915+73	RT.	75'-0"	

BEAM SIZE	DIM. W	DIM. D	CU. YDS CONC. 2 POST
12B-22	2'-6"	6.75'	2.5
12 WF 27	2'-6"	8.0'	2.9



FOUNDATION DETAILS FOR EMBEDDED POSTS & BEAMS

ESTIMATED QUANTITIES

SIGN Nº1	SIGN Nº2	SIGN Nº3	SIGN Nº4	TOTAL	UNIT	ITEM Nº	DESCRIPTION
		50.0	50.0	100	LIN.FT.	I-129	STRUCTURAL SUPPORTS, STEEL BEAM TYPE 12B22
57.0	57.0			114	LIN.FT.	I-129	STRUCTURAL SUPPORTS, STEEL BEAM TYPE 12WF27
142.5	142.5	142.5	142.5	570	SQ.FT.	I-129	SIGN ERECTION AS PER PLAN
2.9	2.9	2.5	2.5	11	CU.YD.	I-129	CONCRETE FOR SIGN SUPPORT FOUNDATIONS AS PER PLAN
		75	75	150	LIN.FT.	I-15	GUARD RAIL, STEEL BEAM STANDARD TYPE (DEEP)

PROTECTIVE GUARD RAIL FOR GROUND MOUNTED SIGNS

WHERE REQUIRED, SHALL CONFORM TO ITEM I-15 FOR STEEL BEAM TYPE (DEEP). AT LOCATIONS WHERE GUARD RAIL IS IN PLACE, THE SIGN SUPPORT FOUNDATIONS SHALL BE ERECTED BEHIND EXISTING GUARD RAIL. A MINIMUM OF SIX GUARD RAIL POSTS ARE REQUIRED IN ADVANCE OF THE SIGN SUPPORT. WHERE PROPOSED GUARD RAIL FLARES ARE CONSTRUCTED OF RAIL ELEMENTS WHICH HAVE NOT BEEN FABRICATED EXACTLY TO FIT THE CURVATURE SHOWN ON THE PLANS, THE TWO END POSTS OF EACH FLARED SECTION SHALL BE ENCASED IN A MINIMUM 4" THICKNESS OF CLASS "E" CONCRETE FOR THE FULL DEPTH OF THE POST BELOW THE GROUND LINE. PAYMENT FOR ENCASEMENT, IF REQUIRED, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE GUARD RAIL.

I-129 SIGN ERECTION, BY TYPE, AS PER PLAN

THE CONTRACTOR SHALL ERECT SIGN PANELS FURNISHED BY OTHERS AS NOTED ON SHEET NUMBERS 21, 26, 32, & 39. THE PANELS SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.
A SCHEDULE FOR SIGN ERECTION SHALL BE SUBMITTED TO THE ENGINEER, BUREAU OF TRAFFIC, 450 EAST TOWN STREET, COLUMBUS, OHIO, 60 CALENDER DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, TIME, SIGN NUMBERS AND DELIVERY POINT.
THE PRICE BID PER SQUARE FOOT FOR, "ITEM I-129, SIGN ERECTION BY TYPE, AS PER PLAN" SHALL INCLUDE ALL NECESSARY EQUIPMENT, MANPOWER AND TOOLS TO ERECT THE SIGNS NOTED. ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED TO A DESIGNATED DELIVERY POINT, ON OR NEAR THE SUBJECT PROJECT BY OTHERS.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING & STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF ARRIVAL AT THE DELIVERY POINT.

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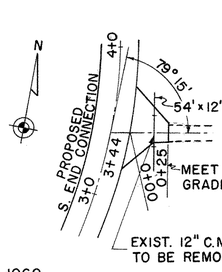
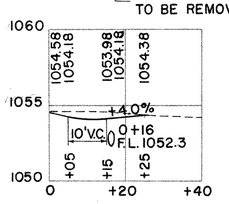
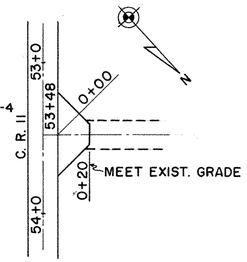
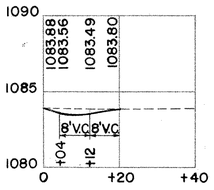
① STD. TYPE 2 SKEWED STA 3+44 SOUTH END CONNECTION



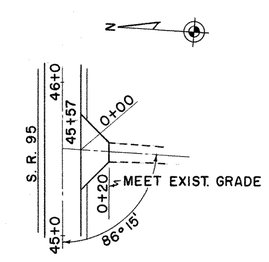


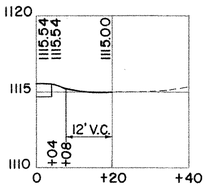
② STD. TYPE 2 STA 53+48 COUNTY ROAD 11



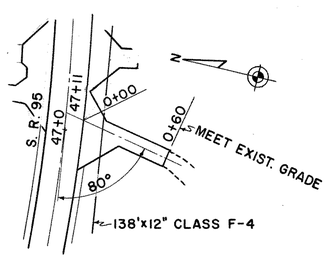


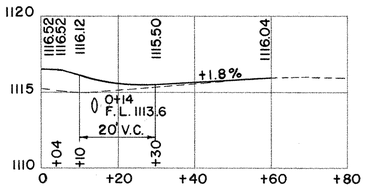
③ STD. TYPE 2 STA 45+57 S. R. 95



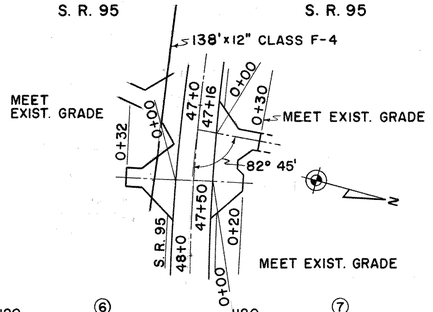


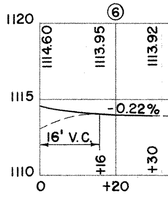
④ STD. TYPE 2 SKEWED STA. 47+11 S. R. 95



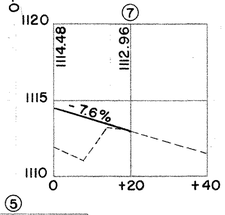


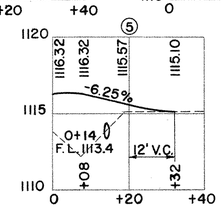
⑤ STD. TYPE 2 STA 47+50 S. R. 95





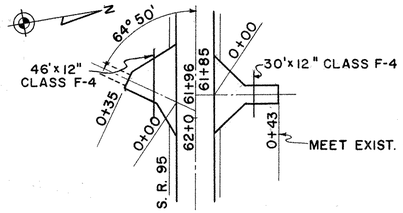
⑥ ⑦ MODIFIED TYPE 2 STA 47+16 & 47+50 S. R. 95

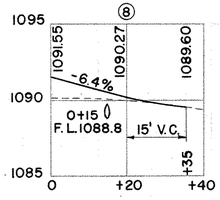


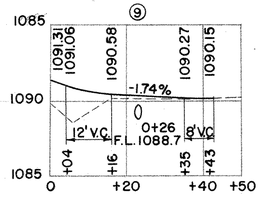


⑧ STD TYPE 2 SKEWED STA 61+96 S. R. 95

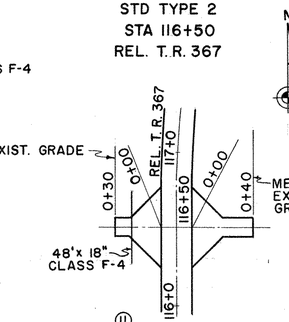
⑨ STD. TYPE 2 STA 61+85 S. R. 95

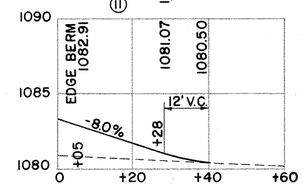




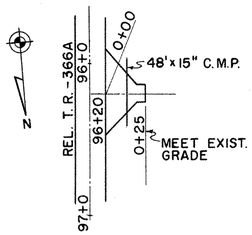


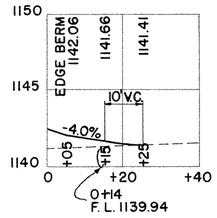
⑩ ⑪ STD TYPE 2 STA 116+50 REL. T.R. 367



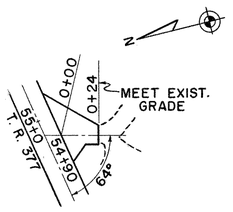


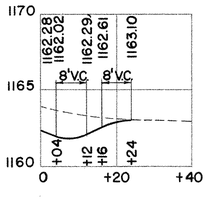
⑫ STD. TYPE 2 STA 96+20 REL. T. R.-366A



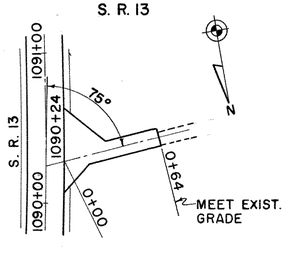


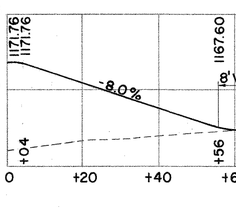
⑬ STD. TYPE 2 SKEWED STA 54+90 TWP. ROAD 377



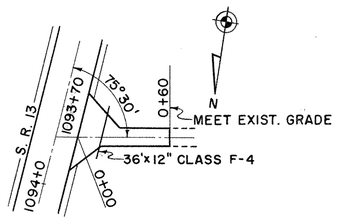


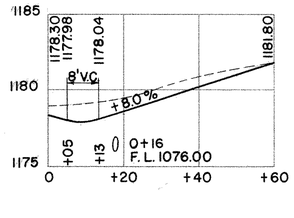
⑭ STD. TYPE 2 SKEWED STA 1090+24 S. R. 13



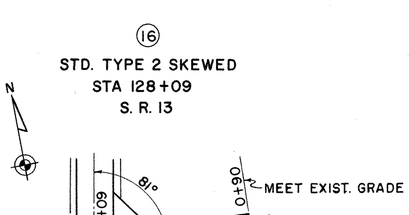


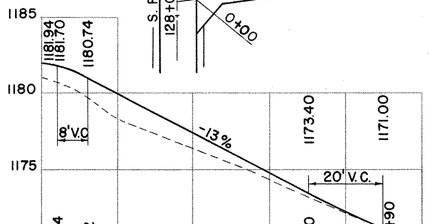
⑮ STD. TYPE 2 SKEWED STA 1093+70 S. R. 13



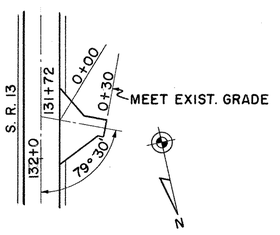


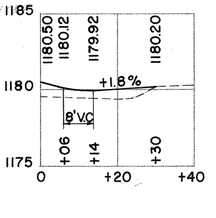
⑯ STD. TYPE 2 SKEWED STA 128+09 S. R. 13

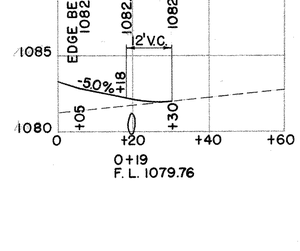




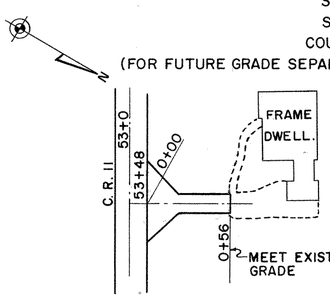
⑰ STD. TYPE 2 SKEWED STA 131+72 S. R. 13

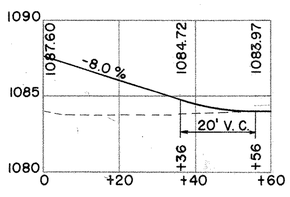




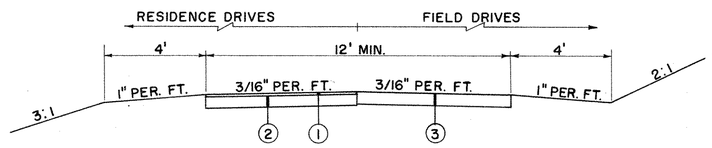


STD. TYPE 2 STA 53+48 COUNTY ROAD 11 (FOR FUTURE GRADE SEPARATION, NOT IN THIS CONTRACT)





TYPICAL DRIVEWAY SECTION



① T-35 2" ASPHALTIC CONCRETE TYPE "C"
② I-18 5" CRUSHED AGGREGATE
③ I-18 6" CRUSHED AGGREGATE, STABILIZED WITH CALCIUM CHLORIDE
SEE STANDARD DRAWING DR-1

SUMMARY OF DRIVEWAY QUANTITIES

NO.	E-1 C. Y. EXCAV.	E-1 C. Y. EMBANK.	I-18 AGGREGATE C. Y.	T-35 ASPHALT. CONCRETE C. Y.	L-9 SEEDING S. Y.
1	12	0	12	0	0
2	15	0	10	4	0
3	10	0	5	2	0
4	0	7	22	7	81
5	0	0	14	5	0
6	0	1	11	0	0
7	0	2	14	0	0
8	0	0	20	0	12
9	0	3	14	0	8
10	0	10	12	0	8
11	0	22	14	0	20
12	0	6	11	0	6
13	1	0	10	0	0
14	0	54	23	0	170
15	11	0	19	5	46
16	0	63	28	0	260
17	0	6	15	0	0
TOTALS	49	168	254	23	611

E-1 AND L-9 QUANTITIES CARRIED TO CALCULATION SHEET

DRIVEWAY DETAILS

SPIRAL CURVE DATA

P.I. STA. 53+73.44 ℄ SOUTH LANES P.I. STA. 52+31.90 ℄ NORTH LANES

Δ = 31° 24' 27" Lc = 228.15' X = 398.78'

D = 5° 00' Rc = 1145.92' Y = 23.22'

Ls = 400' Δs = 10° 00' L.T. = 267.09'

Ts = 523.61' Es = 50.38' S.T. = 133.72'

RATE OF SUPERELEVATION = 0.083 ft/ft

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

196
275

SOUTHBOUND

STATION	PROFILE GRADE	LEFT LANE			℄ CONSTRUCTION			RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION LEFT EDGE	WIDTH	SUPER ELEVATION	ELEVATION	WIDTH RT. LANE	SUPER-ELEVATION	ELEVATION	
ELEVATIONS BASED ON STATIONING ALONG SOUTH LANES										
47 + 08.29	1054.22	- 0.19	1054.03	12.0	0.00	1054.22	0.00	0.00	1054.22	
47 + 25	1054.26	- 0.19	1054.07	12.0	0.00	1054.26	0.15	0.00	1054.26	
47 + 50	1054.35	- 0.18	1054.17	12.0	+ 0.01	1054.36	0.38	0.00	1054.35	
47 + 70	1054.44	- 0.18	1054.26	12.0	+ 0.01	1054.45	0.56	0.00	1054.44	BEGIN TRANSITION
47 + 75	1054.46	- 0.17	1054.29	12.0	+ 0.01	1054.47	0.60	0.00	1054.46	
48 + 00	1054.60	- 0.10	1054.50	12.0	+ 0.01	1054.61	0.83	0.00	1054.60	
48 + 25	1054.76	- 0.04	1054.72	12.0	+ 0.02	1054.78	1.06	0.00	1054.76	
48 + 49.83	1054.95	+ 0.02	1054.97	12.0	+ 0.02	1054.97	1.28	0.00	1054.95	T. S. - LANE FLAT - CONT. TRANSITION
48 + 75	1055.16	+ 0.15	1055.31	12.0	+ 0.03	1055.19	1.95	0.00	1055.16	
48 + 90	1055.30	+ 0.23	1055.53	12.0	+ 0.04	1055.34	2.35	0.00	1055.30	LANE PLANE
49 + 00	1055.40	+ 0.26	1055.66	12.0	+ 0.05	1055.45	2.62	0.00	1055.40	
49 + 25	1055.65	+ 0.35	1056.00	12.0	+ 0.08	1055.73	3.29	0.00	1055.65	
49 + 50	1055.90	+ 0.44	1056.34	12.0	+ 0.11	1056.01	3.96	0.00	1055.90	
49 + 75	1056.15	+ 0.53	1056.68	12.0	+ 0.15	1056.30	4.63	0.00	1056.15	
50 + 00	1056.40	+ 0.63	1057.02	12.0	+ 0.19	1056.59	5.30	0.00	1056.40	
50 + 25	1056.65	+ 0.74	1057.39	12.0	+ 0.24	1056.89	5.97	0.00	1056.65	
50 + 50	1056.90	+ 0.86	1057.76	12.0	+ 0.31	1057.21	6.64	0.00	1056.90	
50 + 75	1057.15	+ 0.98	1058.13	12.0	+ 0.37	1057.52	7.31	0.00	1057.15	
51 + 00	1057.40	+ 1.10	1058.50	12.0	+ 0.44	1057.84	7.98	0.00	1057.40	
51 + 25	1057.65	+ 1.23	1058.88	12.0	+ 0.52	1058.17	8.65	0.00	1057.65	
51 + 50	1057.90	+ 1.36	1059.26	12.0	+ 0.60	1058.50	9.32	0.00	1057.90	
51 + 75	1058.15	+ 1.52	1059.67	12.0	+ 0.69	1058.84	9.99	0.00	1058.15	
52 + 00	1058.40	+ 1.68	1060.08	12.0	+ 0.79	1059.19	10.66	0.00	1058.40	
52 + 25	1058.65	+ 1.83	1060.48	12.0	+ 0.88	1059.53	11.33	0.00	1058.65	
52 + 49.83	1058.90	+ 2.00	1060.90	12.0	+ 1.00	1059.90	12.00	0.00	1058.90	S. C. - BEGIN FULL SUPERELEVATION
52 + 75	1059.15	+ 2.00	1061.15	12.0	+ 1.00	1060.15	12.00	0.00	1059.15	
53 + 00	1059.40	+ 2.00	1061.40	12.0	+ 1.00	1060.40	12.00	0.00	1059.40	
53 + 25	1059.65	+ 2.00	1061.65	12.0	+ 1.00	1060.65	12.00	0.00	1059.65	
53 + 50	1059.90	+ 2.00	1061.95	12.0	+ 1.00	1060.90	12.00	0.00	1059.90	
53 + 75	1060.15	+ 2.00	1062.15	12.0	+ 1.00	1061.15	12.00	0.00	1060.15	
54 + 00	1060.40	+ 2.00	1062.40	12.0	+ 1.00	1061.40	12.00	0.00	1060.40	
54 + 25	1060.65	+ 2.00	1062.65	12.0	+ 1.00	1061.65	12.00	0.00	1060.65	
54 + 50	1060.90	+ 2.00	1062.90	12.0	+ 1.00	1061.90	12.00	0.00	1060.90	
54 + 75	1061.15	+ 2.00	1063.15	12.0	+ 1.00	1062.15	12.00	0.00	1061.15	
54 + 77.98	1061.18	+ 2.00	1063.18	12.0	+ 1.00	1062.18	12.00	0.00	1061.18	C. S. END FULL SUPERELEVATION
55 + 00	1061.40	+ 1.90	1063.30	12.0	+ 0.95	1062.35	12.00	0.00	1061.40	
55 + 25	1061.63	+ 1.78	1063.41	12.0	+ 0.89	1062.52	12.00	0.00	1061.63	
55 + 50	1061.86	+ 1.68	1063.54	12.0	+ 0.84	1062.70	12.00	0.00	1061.86	
55 + 75	1062.06	+ 1.56	1063.62	12.0	+ 0.78	1062.84	12.00	0.00	1062.06	
56 + 00	1062.30	+ 1.44	1063.74	12.0	+ 0.72	1063.02	12.00	0.00	1062.30	
56 + 25	1062.47	+ 1.34	1063.81	12.0	+ 0.67	1063.14	12.00	0.00	1062.47	
56 + 50	1062.63	+ 1.22	1063.85	12.0	+ 0.61	1063.24	12.00	0.00	1062.63	
56 + 75	1062.77	+ 1.10	1063.87	12.0	+ 0.56	1063.33	12.00	0.00	1062.77	
57 + 00	1062.85	+ 1.02	1063.87	12.0	+ 0.50	1063.35	12.00	0.00	1062.85	
57 + 25	1062.97	+ 0.91	1063.88	12.00	+ 0.44	1063.41	12.00	0.00	1062.97	
57 + 50	1063.10	+ 0.80	1063.90	12.0	+ 0.40	1063.51	12.00	0.00	1063.10	
57 + 75	1063.22	+ 0.68	1063.90	12.0	+ 0.34	1063.56	12.00	0.00	1063.22	
58 + 00	1063.35	+ 0.56	1063.91	12.0	+ 0.28	1063.63	12.00	0.00	1063.35	
58 + 25	1063.47	+ 0.46	1063.93	12.0	+ 0.23	1063.70	12.00	0.00	1063.47	
58 + 40	1063.55	+ 0.38	1063.93	12.0	+ 0.19	1063.74	12.00	0.00	1063.55	END TRANSITION - RIGHT LANE
58 + 50	1063.60	+ 0.33	1063.93	12.0	+ 0.19	1063.79	12.00	0.00	1063.60	
58 + 75	1063.72	+ 0.21	1063.93	12.0	+ 0.19	1063.91	12.00	0.00	1063.72	
58 + 77.98	1063.74	+ 0.19	1063.93	12.0	+ 0.19	1063.93	12.00	0.00	1063.74	S. T. - CONTINUE TRANSITION
59 + 00	1063.85	+ 0.14	1063.99	12.0	+ 0.19	1064.04	12.00	0.00	1063.85	
59 + 25	1063.97	+ 0.07	1064.04	12.0	+ 0.19	1064.16	12.00	0.00	1063.97	
59 + 30.30	1064.00	+ 0.06	1064.06	12.0	+ 0.19	1064.19	12.00	0.00	1064.00	59 + 30.30 = 838 + 00.00
838 + 25	1064.12	0.00	1064.12	12.0	+ 0.19	1064.31	12.00	0.00	1064.12	END TRANSITION

NORTHBOUND

STATION	PROFILE GRADE	LEFT LANE			℄ CONSTRUCTION			RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION LEFT EDGE	WIDTH	SUPER-ELEVATION	ELEVATION	WIDTH RT. LANE	SUPER-ELEVATION	ELEVATION	
ELEVATIONS BASED ON STATIONING ALONG NORTH LANES										
47 + 08.29	1054.22	0.00	1054.22	12.00	- 0.19	1054.03	0.00	- 0.19	1054.03	T. S.
47 + 25	1054.26	0.00	1054.26	12.00	- 0.19	1054.07	0.56	- 0.19	1054.07	
47 + 50	1054.35	0.00	1054.35	12.00	- 0.19	1054.16	1.39	- 0.21	1054.14	LANE PLANE - BEGIN TRANSITION
47 + 75	1054.46	0.00	1054.46	12.00	- 0.25	1054.21	2.22	- 0.30	1054.16	
48 + 00	1054.60	0.00	1054.60	12.00	- 0.30	1054.30	3.06	- 0.38	1054.22	
48 + 25	1054.76	0.00	1054.76	12.00	- 0.36	1054.40	3.89	- 0.48	1054.28	
48 + 50	1054.95	0.00	1054.95	12.00	- 0.42	1054.53	4.72	- 0.58	1054.37	
48 + 75	1055.16	0.00	1055.16	12.00	- 0.47	1054.69	5.56	- 0.68	1054.48	
49 + 00	1055.40	0.00	1055.40	12.00	- 0.53	1054.87	6.39	- 0.81	1054.59	
49 + 25	1054.76	0.00	1054.76	12.00	- 0.59	1055.06	7.22	- 0.94	1054.71	
49 + 50	1054.95	0.00	1054.95	12.00	- 0.64	1055.26	8.06	- 1.06	1054.84	
49 + 75	1056.15	0.00	1056.15	12.00	- 0.70	1055.45	8.89	- 1.21	1054.94	
50 + 00	1056.40	0.00	1056.40	12.00	- 0.76	1055.64	9.72	- 1.37	1055.03	
50 + 25	1056.65	0.00	1056.65	12.00	- 0.81	1055.84	10.56	- 1.51	1055.14	
50 + 50	1056.90	0.00	1056.90	12.00	- 0.87	1056.03	11.39	- 1.68	1055.22	
50 + 68	1057.08	0.00	1057.08	12.00	- 0.91	1056.17	12.00	- 1.82	1055.26	
50 + 75	1057.15	0.00	1057.15	12.00	- 0.92	1056.23	12.00	- 1.85	1055.30	
51 + 00	1057.40	0.00	1057.40	12.00	- 0.98	1056.42	12.00	- 1.97	1055.43	
51 + 08.29	1057.49	0.00	1057.49	12.00	- 1.00	1056.49	12.00	- 2.00	1055.49	S. C. BEGIN FULL SUPERELEVATION
51 + 25	1057.65	0.00	1057.65	12.00	- 1.00	1056.65	12.00	- 2.00	1055.65	
51 + 50	1057.90	0.00	1057.90	12.00	- 1.00	1056.90	12.00	- 2.00	1055.90	
51 + 75	1058.15	0.00	1058.15	12.00	- 1.00	1057.15	12.00	- 2.00	1056.15	
52 + 00	1058.40	0.00	1058.40	12.00	- 1.00	1057.40	12.00	- 2.00	1056.40	
52 + 25	1058.65	0.00	1058.65	12.00	- 1.00	1057.65	12.00	- 2.00	1056.65	
52 + 50	1058.90	0.00	1058.90	12.00	- 1.00	1057.90	12.00	- 2.00	1056.90	
52 + 75	1059.15	0.00	1059.15	12.00	- 1.00	1058.15	12.00	- 2.00	1057.15	
53 + 00	1059.40	0.00	1059.40	12.00	- 1.00	1058.40	12.00	- 2.00	1057.40	
53 + 25	1059.65	0.00	1059.65	12.00	- 1.00	1058.65	12.00	- 2.00	1057.65	
53 + 36.44	1059.77	0.00	1059.77	12.00	- 1.00	1058.77	12.00	- 2.00	1057.77	C. S. END FULL SUPERELEVATION
53 + 50	1059.90	0.00	1059.90	12.00	- 0.97	1058.97	12.00	- 1.94	1057.96	
53 + 75	1060.15	0.00	1060.15	12.00	- 0.91	1059.24	12.00	- 1.83	1058.32	
54 + 00	1060.40	0.00	1060.40	12.00	- 0.85	1059.55	12.00	- 1.71	1058.69	
54 + 25	1060.65	0.00	1060.65	12.00	- 0.80	1059.85	12.00	- 1.60	1059.05	
54 + 50	1060.90	0.00	1060.90	12.00	- 0.74	1060.16	12.00	- 1.49	1059.41	
54 + 75	1061.15	0.00	1061.15	12.00	- 0.69	1060.46	12.00	- 1.37	1059.78	
55 + 00	1061.40	0.00	1061.40	12.00	- 0.63	1060.77	12.00	- 1.26	1060.14	
55 + 25	1061.65	0.00	1061.65	12.00	- 0.57	1061.08	12.00	- 1.15	1060.50	
55 + 50	1061.89	0.00	1061.89	12.00	- 0.52	1061.37	12.00	- 1.04	1060.85	
55 + 75	1062.11	0.00	1062.11	12.00	- 0.46	1061.65	12.00	- 0.92	1061.19	
56 + 00	1062.31	0.00	1062.31	12.00	- 0.40	1061.91	12.00	- 0.81	1061.50	
56 + 25	1062.50	0.00	1062.50	12.00	- 0.35	1062.15	12.00	- 0.70	1061.80	
56 + 50	1062.68	0.00	1062.68	12.00	- 0.29	1062.39	12.00	- 0.58	1062.10	
56 + 75	1062.83	0.00	1062.83	12.00	- 0.23	1062.60	12.00	- 0.47	1062.36	
57 + 00	1062.98	0.00	1062.98	12.00	- 0.17	1062.81	12.00	- 0.36	1062.62	
57 + 25	1063.10	0.00	1063.10	12.00	- 0.05	1063.05	12.00	- 0.24	1062.86	
57 + 36.44	1063.16	0.00	1063.10	12.00	- 0.00	1063.16	12.00	- 0.19	1062.97	S. T. - CONTINUE TRANSITION
57 + 50	1063.23	0.00	1063.23	12.00	+ 0.07	1063.26	12.00	- 0.12	1063.11	
57 + 75	1063.35	0.00	1063.35	12.00	+ 0.10	1063.45	12.00	- 0.09	1063.26	
58 + 00	1063.48	0.00	1063.48	12.00	+ 0.16	1063.64	12.00	- 0.03	1063.45	
58 + 12	1063.54	0.00	1063.54	12.00	+ 0.19	1063.73	12.00	0.00	1063.54	END TRANSITION

CURVE DATA

P.I. STA. 881+83.58 T=1269.61
Δ= 18°52'18" LT. L=2516.22
D= 0° 45' E=104.78
R= 7639.44' RATE OF SUPERELEVATION = 0.24 ft/ft

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

197/275

KNO-13-15.93

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
	BEGIN LT. & RT. LANE TRANS.				
867+75	1068.53	1068.53	1068.72	1068.72	1068.53
		P.C.+V.C.			
868+00	1068.60	1068.55	1068.73	1068.79	1068.66
868+25	1068.53	1068.43	1068.60	1068.72	1068.64
868+50	1068.47	1068.31	1068.48	1068.66	1068.64
	OUTER HALF RT. LANE FLAT				
868+58	1068.46	1068.29	1068.45	1068.65	1068.65
868+75	1068.43	1068.22	1068.38	1068.62	1068.67
869+00	1068.38	1068.12	1068.27	1068.57	1068.71
	P.C. — H.C.	BEGIN BOTH LANES PLANE			
869+13.97	1068.37	1068.08	1068.23	1068.56	1068.75
869+25	1068.36	1068.02	1068.19	1068.57	1068.77
869+50	1068.35	1067.89	1068.12	1068.60	1068.85
	BEGIN FULL	SUPERELEVATION BOTH LANES			
869+75	1068.34	1067.76	1068.05	1068.63	1068.92
870+00	1068.35	1067.77	1068.06	1068.64	1068.93
870+25	1068.36	1067.78	1068.07	1068.65	1068.94
870+50	1068.40	1067.82	1068.11	1068.69	1068.98
870+75	1068.43	1067.85	1068.14	1068.72	1069.01
871+00	1068.49	1067.91	1068.20	1068.78	1069.07
871+25	1068.54	1067.96	1068.25	1068.83	1069.12
871+50	1068.62	1068.04	1068.33	1068.91	1069.20
871+75	1068.70	1068.12	1068.41	1068.99	1069.28
		P.T. — V.C.			
872+00	1068.80	1068.22	1068.51	1069.09	1069.38
872+25	1068.90	1068.32	1068.61	1069.19	1069.48
872+50	1069.00	1068.42	1068.71	1069.29	1069.58
872+75	1069.10	1068.52	1068.81	1069.39	1069.68
873+00	1069.20	1068.62	1068.91	1069.49	1069.78
873+25	1069.30	1068.72	1069.01	1069.59	1069.88
873+50	1069.40	1068.82	1069.11	1069.69	1069.98
873+75	1069.50	1068.92	1069.21	1069.79	1070.08
874+00	1069.60	1069.02	1069.31	1069.89	1070.18
874+25	1069.70	1069.12	1069.41	1069.99	1070.28
874+50	1069.80	1069.22	1069.51	1070.09	1070.38
874+75	1069.90	1069.32	1069.61	1070.19	1070.48
875+00	1070.00	1069.42	1069.71	1070.29	1070.58
875+25	1070.10	1069.52	1069.81	1070.39	1070.68
875+50	1070.20	1069.62	1069.91	1070.49	1070.78
875+75	1070.30	1069.72	1070.01	1070.59	1070.88
876+00	1070.40	1069.82	1070.11	1070.69	1070.98
876+25	1070.50	1069.92	1070.21	1070.79	1071.08
876+50	1070.60	1070.02	1070.31	1070.89	1071.18
876+75	1070.70	1070.12	1070.41	1070.99	1071.28
877+00	1070.80	1070.22	1070.51	1071.09	1071.38
877+25	1070.90	1070.32	1070.61	1071.19	1071.48
877+50	1071.00	1070.42	1070.71	1071.29	1071.58
877+75	1071.10	1070.52	1070.81	1071.39	1071.68
878+00	1071.20	1070.62	1070.91	1071.49	1071.78
878+25	1071.30	1070.72	1071.01	1071.59	1071.88
878+50	1071.40	1070.82	1071.11	1071.69	1071.98
878+75	1071.50	1070.92	1071.21	1071.79	1072.08
879+00	1071.60	1071.02	1071.31	1071.89	1072.18
879+25	1071.70	1071.12	1071.41	1071.99	1072.28
879+50	1071.80	1071.22	1071.51	1072.09	1072.38
879+75	1071.90	1071.32	1071.61	1072.19	1072.48
880+00	1072.00	1071.42	1071.71	1072.29	1072.58
880+25	1072.10	1071.52	1071.81	1072.39	1072.68
880+50	1072.20	1071.62	1071.91	1072.49	1072.78
880+75	1072.30	1071.72	1072.01	1072.59	1072.88
881+00	1072.40	1071.82	1072.11	1072.69	1072.98
881+25	1072.50	1071.92	1072.21	1072.79	1073.08
881+50	1072.60	1072.02	1072.31	1072.89	1073.18
881+72.08	1072.69	1072.11	1072.40	1072.98	1073.27
881+75	1072.70	1072.12	1072.41	1072.99	1073.28
882+00	1072.80	1072.22	1072.51	1073.09	1073.38
882+25	1072.90	1072.32	1072.61	1073.19	1073.48
882+50	1073.00	1072.42	1072.71	1073.29	1073.58
882+75	1073.10	1072.52	1072.81	1073.39	1073.68

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
883+00	1073.20	1072.62	1072.91	1073.49	1073.78
883+25	1073.30	1072.72	1073.01	1073.59	1073.88
883+50	1073.40	1072.82	1073.11	1073.69	1073.98
883+75	1073.50	1072.92	1073.21	1073.79	1074.08
884+00	1073.60	1073.02	1073.31	1073.89	1074.18
884+25	1073.70	1073.12	1073.41	1073.99	1074.28
884+50	1073.80	1073.22	1073.51	1074.09	1074.38
884+75	1073.90	1073.32	1073.61	1074.19	1074.48
885+00	1074.00	1073.42	1073.71	1074.29	1074.58
885+25	1074.10	1073.52	1073.81	1074.39	1074.68
885+50	1074.20	1073.62	1073.91	1074.49	1074.78
885+75	1074.30	1073.72	1074.01	1074.59	1074.88
886+00	1074.40	1073.82	1074.11	1074.69	1074.98
886+25	1074.50	1073.92	1074.21	1074.79	1075.08
886+50	1074.60	1074.02	1074.31	1074.89	1075.18
886+75	1074.70	1074.12	1074.41	1074.99	1075.28
887+00	1074.80	1074.22	1074.51	1075.09	1075.38
887+25	1074.90	1074.32	1074.61	1075.19	1075.48
887+50	1075.00	1074.42	1074.71	1075.29	1075.58
887+75	1075.10	1074.52	1074.81	1075.39	1075.68
888+00	1075.20	1074.62	1074.91	1075.49	1075.78
888+25	1075.30	1074.72	1075.01	1075.59	1075.88
888+50	1075.40	1074.82	1075.11	1075.69	1075.98
888+75	1075.50	1074.92	1075.21	1075.79	1076.08
889+00	1075.60	1075.02	1075.31	1075.89	1076.18
889+25	1075.70	1075.12	1075.41	1075.99	1076.28
889+50	1075.80	1075.22	1075.51	1076.09	1076.38
889+75	1075.90	1075.32	1075.61	1076.19	1076.48
890+00	1076.00	1075.42	1075.71	1076.29	1076.58
890+25	1076.10	1075.52	1075.81	1076.39	1076.68
890+50	1076.20	1075.62	1075.91	1076.49	1076.78
890+75	1076.30	1075.72	1076.01	1076.59	1076.88
891+00	1076.40	1075.82	1076.11	1076.69	1076.98
891+25	1076.50	1075.92	1076.21	1076.79	1077.08
891+50	1076.60	1076.02	1076.31	1076.89	1077.18
891+75	1076.70	1076.12	1076.41	1076.99	1077.28
892+00	1076.80	1076.22	1076.51	1077.09	1077.38
892+25	1076.90	1076.32	1076.61	1077.19	1077.48
892+50	1077.00	1076.42	1076.71	1077.29	1077.58
892+75	1077.10	1076.52	1076.81	1077.39	1077.68
893+00	1077.20	1076.62	1076.91	1077.49	1077.78
893+25	1077.30	1076.72	1077.01	1077.59	1077.88
893+50	1077.40	1076.82	1077.11	1077.69	1077.98
	END FULL	SUPERELEVATION BOTH LANES			
893+70	1077.46	1076.88	1077.17	1077.75	1078.04
893+75	1077.50	1076.94	1077.22	1077.78	1078.06
894+00	1077.60	1077.16	1077.38	1077.84	1078.08
894+25	1077.70	1077.39	1077.54	1077.90	1078.09
	P.T. — H.C.	END BOTH LANES PLANE			
894+30.19	1077.72	1077.43	1077.58	1077.91	1078.10
894+50	1077.80	1077.55	1077.71	1077.99	1078.11
894+75	1077.90	1077.70	1077.86	1078.09	1078.12
	OUTER HALF RT. LANE FLAT				
894+85	1077.94	1077.76	1077.93	1078.13	1078.13
895+00	1078.00	1077.85	1078.02	1078.19	1078.16
895+25	1078.10	1078.00	1078.18	1078.29	1078.21
895+50	1078.20	1078.15	1078.34	1078.39	1078.22
	END LT. & RT. LANE TRANS.				
895+75	1078.30	1078.30	1078.49	1078.49	1078.30

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE

CURVE DATA

P.I. STA. 939+55.25 L=5582.21'
Δ=46° 31' 06" RT. T=2955.25'
D=0° 50' E=608.22'
R=6875.49' RATE OF SUPERELEVATION=0.027 ft

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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KNO-13-15.93

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
		BEGIN TRANS. BOTH LANES			
908+50	1079.55	1079.55	1079.74	1079.74	1079.55
908+75	1079.47	1079.51	1079.66	1079.60	1079.42
909+00	1079.40	1079.49	1079.59	1079.48	1079.29
909+25	1079.32	1079.46	1079.51	1079.34	1079.16
909+50	1079.25	1079.43	1079.44	1079.22	1079.04
		OUTER HALF LT. LANE FLAT			
909+54	1079.24	1079.43	1079.43	1079.20	1079.02
909+75	1079.17	1079.44	1079.36	1079.07	1078.90
		P.C. — H.C.	BOTH LANES PLANE		
910+00	1079.10	1079.48	1079.29	1078.94	1078.78
910+25	1079.02	1079.50	1079.26	1078.80	1078.58
910+50	1078.95	1079.53	1079.24	1078.67	1078.38
		BEGIN FULL SUPERELEVATION BOTH LANES			
910+65	1078.90	1079.54	1079.22	1078.58	1078.26
910+75	1078.87	1079.51	1079.19	1078.55	1078.23
911+00	1078.80	1079.44	1079.12	1078.48	1078.16
911+25	1078.72	1079.36	1079.04	1078.40	1078.08
911+50	1078.65	1079.29	1078.97	1078.33	1078.01
911+75	1078.57	1079.21	1078.89	1078.25	1077.93
912+00	1078.50	1079.14	1078.82	1078.18	1077.86
912+25	1078.42	1079.06	1078.74	1078.10	1077.78
912+50	1078.35	1078.99	1078.67	1078.03	1077.71
912+75	1078.27	1078.91	1078.59	1077.95	1077.63
913+00	1078.20	1078.84	1078.52	1077.88	1077.56
913+25	1078.12	1078.76	1078.44	1077.80	1077.48
913+50	1078.05	1078.69	1078.37	1077.73	1077.41
913+75	1077.97	1078.61	1078.29	1077.65	1077.33
		P.C.-V.C.			
914+00	1077.90	1078.54	1078.22	1077.58	1077.26
914+25	1077.83	1078.47	1078.15	1077.51	1077.19
914+50	1077.77	1078.41	1078.09	1077.45	1077.13
914+75	1077.72	1078.36	1078.04	1077.40	1077.08
915+00	1077.69	1078.33	1078.01	1077.37	1077.05
915+25	1077.66	1078.30	1077.98	1077.34	1077.02
915+50	1077.64	1078.28	1077.96	1077.32	1077.00
915+75	1077.64	1078.28	1077.96	1077.32	1077.00
916+00	1077.65	1078.29	1077.97	1077.33	1077.01
916+25	1077.67	1078.31	1077.99	1077.35	1077.03
916+50	1077.69	1078.33	1078.01	1077.37	1077.05
916+75	1077.74	1078.38	1078.06	1077.42	1077.10
917+00	1077.79	1078.43	1078.11	1077.47	1077.15
917+25	1077.85	1078.49	1078.17	1077.53	1077.21
917+50	1077.92	1078.56	1078.24	1077.60	1077.28
917+75	1078.01	1078.65	1078.33	1077.69	1077.37
		P.T.—V.C.			
918+00	1078.10	1078.74	1078.42	1077.78	1077.46
918+25	1078.20	1078.84	1078.52	1077.88	1077.56
918+50	1078.30	1078.94	1078.62	1077.98	1077.66
918+75	1078.40	1079.04	1078.72	1078.08	1077.76
919+00	1078.50	1079.14	1078.82	1078.18	1077.86
919+25	1078.60	1079.24	1078.92	1078.28	1077.96
919+50	1078.70	1079.34	1079.02	1078.38	1078.06
919+75	1078.80	1079.44	1079.12	1078.48	1078.16
920+00	1078.90	1079.54	1079.22	1078.58	1078.26
920+25	1079.00	1079.64	1079.32	1078.68	1078.36
920+50	1079.10	1079.74	1079.42	1078.78	1078.46
920+75	1079.20	1079.84	1079.52	1078.88	1078.56
921+00	1079.30	1079.94	1079.62	1078.98	1078.66
921+25	1079.40	1080.04	1079.72	1079.08	1078.76
921+50	1079.50	1080.14	1079.82	1079.18	1078.86
921+75	1079.60	1080.24	1079.92	1079.28	1078.96
922+00	1079.70	1080.34	1080.02	1079.38	1079.06
922+25	1079.80	1080.44	1080.12	1079.48	1079.16
922+50	1079.90	1080.54	1080.22	1079.58	1079.26
922+75	1080.00	1080.64	1080.32	1079.68	1079.36
923+00	1080.10	1080.74	1080.42	1079.78	1079.46
923+25	1080.20	1080.84	1080.52	1079.88	1079.56
923+50	1080.30	1080.94	1080.62	1079.98	1079.66
923+75	1080.40	1081.04	1080.72	1080.08	1079.76

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
924+00	1080.50	1081.14	1080.82	1080.18	1079.86
924+25	1080.60	1081.24	1080.92	1080.28	1079.96
924+50	1080.70	1081.34	1081.02	1080.38	1080.06
924+75	1080.80	1081.44	1081.12	1080.48	1080.16
925+00	1080.90	1081.54	1081.22	1080.58	1080.26
925+25	1081.00	1081.64	1081.32	1080.68	1080.36
925+50	1081.10	1081.74	1081.42	1080.78	1080.46
925+75	1081.20	1081.84	1081.52	1080.88	1080.56
926+00	1081.30	1081.94	1081.62	1080.98	1080.66
926+25	1081.40	1082.04	1081.72	1081.08	1080.76
926+50	1081.50	1082.14	1081.82	1081.18	1080.86
926+75	1081.60	1082.24	1081.92	1081.28	1080.96
927+00	1081.70	1082.34	1082.02	1081.38	1081.06
927+25	1081.80	1082.44	1082.12	1081.48	1081.16
927+50	1081.90	1082.54	1082.22	1081.58	1081.26
927+75	1082.00	1082.64	1082.32	1081.68	1081.36
928+00	1082.10	1082.74	1082.42	1081.78	1081.46
928+25	1082.20	1082.84	1082.52	1081.88	1081.56
928+50	1082.30	1082.94	1082.62	1081.98	1081.66
928+75	1082.40	1083.04	1082.72	1082.08	1081.76
929+00	1082.50	1083.14	1082.82	1082.18	1081.86
929+25	1082.60	1083.24	1082.92	1082.28	1081.96
929+50	1082.70	1083.34	1083.02	1082.38	1082.06
929+75	1082.80	1083.44	1083.12	1082.48	1082.16
930+00	1082.90	1083.54	1083.22	1082.58	1082.26
930+25	1083.00	1083.64	1083.32	1082.68	1082.36
930+50	1083.10	1083.74	1083.42	1082.78	1082.46
930+75	1083.20	1083.84	1083.52	1082.88	1082.56
931+00	1083.30	1083.94	1083.62	1082.98	1082.66
931+25	1083.40	1084.04	1083.72	1083.08	1082.76
931+50	1083.50	1084.14	1083.82	1083.18	1082.86
931+75	1083.60	1084.24	1083.92	1083.28	1082.96
932+00	1083.70	1084.34	1084.02	1083.38	1083.06
932+25	1083.80	1084.44	1084.12	1083.48	1083.16
932+50	1083.90	1084.54	1084.22	1083.58	1083.26
932+75	1084.00	1084.64	1084.32	1083.68	1083.36
933+00	1084.10	1084.74	1084.42	1083.78	1083.46
933+25	1084.20	1084.84	1084.52	1083.88	1083.56
933+50	1084.30	1084.94	1084.62	1083.98	1083.66
933+75	1084.40	1085.04	1084.72	1084.08	1083.76
934+00	1084.50	1085.14	1084.82	1084.18	1083.86
934+25	1084.60	1085.24	1084.92	1084.28	1083.96
934+50	1084.70	1085.34	1085.02	1084.38	1084.06
934+75	1084.80	1085.44	1085.12	1084.48	1084.16
935+00	1084.90	1085.54	1085.22	1084.58	1084.26
935+25	1085.00	1085.64	1085.32	1084.68	1084.36
935+50	1085.10	1085.74	1085.42	1084.78	1084.46
935+75	1085.20	1085.84	1085.52	1084.88	1084.56
936+00	1085.30	1085.94	1085.62	1084.98	1084.66
936+25	1085.40	1086.04	1085.72	1085.08	1084.76
936+50	1085.50	1086.14	1085.82	1085.18	1084.86
936+75	1085.60	1086.24	1085.92	1085.28	1084.96
937+00	1085.70	1086.34	1086.02	1085.38	1085.06
937+25	1085.80	1086.44	1086.12	1085.48	1085.16
937+50	1085.90	1086.54	1086.22	1085.58	1085.26
937+75	1086.00	1086.64	1086.32	1085.68	1085.36
938+00	1086.10	1086.74	1086.42	1085.78	1085.46
938+25	1086.20	1086.84	1086.52	1085.88	1085.56
938+50	1086.30	1086.94	1086.62	1085.98	1085.66
938+75	1086.40	1087.04	1086.72	1086.08	1085.76
939+00	1086.50	1087.14	1086.82	1086.18	1085.86
939+25	1086.60	1087.24	1086.92	1086.28	1085.96
939+50	1086.70	1087.34	1087.02	1086.38	1086.06
939+75	1086.80	1087.44	1087.12	1086.48	1086.16
940+00	1086.90	1087.54	1087.22	1086.58	1086.26
940+25	1087.00	1087.64	1087.32	1086.68	1086.36
940+50	1087.10	1087.74	1087.42	1086.78	1086.46
940+75	1087.20	1087.84	1087.52	1086.88	1086.56
941+00	1087.30	1087.94	1087.62	1086.98	1086.66
941+25	1087.40	1088.04	1087.72	1087.08	1086.76

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
941+50	1087.50	1088.14	1087.82	1087.18	1086.86
941+75	1087.60	1088.24	1087.92	1087.28	1086.96
942+00	1087.70	1088.34	1088.02	1087.38	1087.06
942+25	1087.80	1088.44	1088.12	1087.48	1087.16
942+50	1087.90	1088.54	1088.22	1087.58	1087.26
942+75	1088.00	1088.64	1088.32	1087.68	1087.36
943+00	1088.10	1088.74	1088.42	1087.78	1087.46
943+25	1088.20	1088.84	1088.52	1087.88	1087.56
943+50	1088.30	1088.94	1088.62	1087.98	1087.66
943+75	1088.40	1089.04	1088.72	1088.08	1087.76
944+00	1088.50	1089.14	1088.82	1088.18	1087.86
944+25	1088.60	1089.24	1088.92	1088.28	1087.96
944+50	1088.70	1089.34	1089.02	1088.38	1088.06
944+75	1088.80	1089.44	1089.12	1088.48	1088.16
945+00	1088.90	1089.54	1089.22	1088.58	1088.26
945+25	1089.00	1089.64	1089.32	1088.68	1088.36
945+50	1089.10	1089.74	1089.42	1088.78	1088.46
945+75	1089.20	1089.84	1089.52	1088.88	1088.56
946+00	1089.30	1089.94	1089.62	1088.98	1088.66
		P.C. — V.C.			
946+15	1089.36	1090.00	1089.68	1089.04	1088.72
946+25	1089.40	1090.04	1089.72	1089.08	1088.76
946+50	1089.49	1090.13	1089.81	1089.17	1088.85
946+75	1089.57	1090.21	1089.89	1089.25	1088.93
947+00	1089.64	1090.28	1089.96	1089.32	1089.00
947+25	1089.69	1090.33	1090.02	1089.37	1089.05
947+50	1089.74	1090.38	1090.06	1089.42	1089.10
947+75	1089.78	1090.42	1090.10	1089.46	1089.14
948+00	1089.80	1090.44	1090.12	1089.48	1089.16
948+25	1089.81	1090.45	1090.13	1089.49	1089.17
948+50	1089.82	1090.46	1090.14	1089.50	1089.18
948+75	1089.81	1090.45	1090.13	1089.49	1089.17
949+00	1089.79	1090.43	1090.11	1089.47	1089.15
949+25	1089.76	1090.40	1090.08	1089.44	1089.12
949+50	1089.72	1090.36	1090.04	1089.40	1089.08
949+75	1089.67	1090.31	1089.99	1089.35	1089.03
950+00	1089.60	1090.24	1089.92	1089.28	1088.96
		P.T. — V.C.			
950+15	1089.56	1090.20	1089.88	1089.24	1088.92
950+25	1089.52	1090.16	1089.84	1089.20	1088.88
950+50	1089.45	1090.09	1089.77	1089.13	1088.81
950+75	1089.37	1090.01	1089.69	1089.05	1088.73
951+00	1089.30	1089.94	1089.62	1088.98	1088.66
951+25	1089.22	1089.86	1089.54	1088.90	1088.58
951+50	1089.15	1089.79	1089.47	1088.83	1088.51
951+75	1089.07	1089.71	1089.39	1088.75	1088.43
952+00	1089.00	1089.64	1089.32	1088.68	1088.36
952+25	1088.92	1089.56	1089.24	1088.60	1088.28
952+50	1088.85	1089.49	1089.17	1088.53	1088.21
952+75	1088.77	1089.41	1089.09	1088.45	1088.13
953+00	1088.70	1089.34	1089.02	1088.38	1088.06
953+25	1088.62	1089.26	1088.94	1088.30	1087.98
953+50	1088.55	1089.19	1088.87	1088.23	1087.91
953+75	1088.47	1089.11	1088.79	1088.15	1087.83
954+00	1088.40	1089.04	1088.72	1088.08	1087.76
954+25	1088.32	1088.96	1088.64	1088.00	1087.68
954+50	1088.25	1088.89	1088.57	1087.93	1087.61
954+75	1088.17	1088.81	1088.49	1087.85	1087.53
955+00	1088.10	1088.74	1088.42	1087.78	1087.46
955+25	1088.02	1088.66	1088.34	1087.70	1087.38
955+50	1087.95	1088.59	1088.27	1087.63	1087.31
955+75	1087.87	1088.51	1088.19	1087.55	1087.23
956+00	1087.80	1088.44	1088.12	1087.48	1087.16
956+25	1087.72	1088.36	1088.04	1087.40	1087.08
956+50	1087.65	1088.29	1087.97	1087.33	1087.01
956+75	1087.57	1088.21	1087.89	1087.25	1086.93
957+00	1087.50	1088.14	1087.82	1087.18	1086.86
957+25	1087.42	1088.06	1087.74	1087.10	1086.78
957+50	1087.35	1087.99	1087.67	1087.03	1086.71
957+75	1087.27	1087.91	1087.59	1086.95	1086.63

STATION	PROFILE GRADE	LEFT OF ℄		RIGHT OF ℄	
		LT. EDGE	CENTER	CENTER	RT. EDGE
958+00	1087.20	1087.84	1087.52	1086.88	1086.56
958+25	1087.12	1087.76	1087.44	1086.80	1086.48
958+50	1087.05	1087.69	1087.37	1086.73	1086.41
958+75	1086.97	1087.61	1087.29	1086.65	1086.33
959+00	1086.90	1087.54	1087.22	1086.58	1086.26
959+25	1086.82	1087.46	1087.14	1086.50	1086.18
959+50	1086.75	1087.39	1087.07	1086.43	1086.11
959+75	1086.67	1087.31	1086.99	1086.35	1086.03
960+00	1086.60	1087.24	1086.92	1086.28	1085.96
960+25	1086.52	1087.16	1086.84	1086.20	1085.88
960+50	1086.45	1087.09	1086.77	1086.13	1085.81
960+75	1086.37	1087.01	1086.69	1086.05	1085.73
			P.C.—V.C.		
961+00	1086.30	1086.94	1086.62	1085.98	1085.66
961+25	1086.23	1086.87	1086.55	1085.91	1085.59
961+50	1086.17	1086.81	1086.49	1085.85	1085.53
961+75	1086.12	1086.76	1086.44	1085.80	1085.48
962+00	1086.08	1086.72	1086.40	1085.76	1085.44
962+25	1086.04	1086.68	1086.36	1085.72	1085.40
962+50	1086.02	1086.66	1086.34	1085.70	1085.38
962+75	1086.01	1086.65	1086.33	1085.69	1085.37
963+00	1086.00	1086.64	1086.32	1085.68	1085.36
963+25	1086.01	1086.65	1086.33	1085.69	1085.37
963+50	1086.02	1086.66	1086.34	1085.70	1085.38
963+75	1086.04	1086.68	1086.36	1085.72	1085.40
964+00	1086.08	1086.72	1086.40	1085.76	1085.44
964+25	1086.12	1086.76	1086.44	1085.80	1085.48
964+50	1086.17	1086.81	1086.49	1085.85	1085.53
964+75	1086.23	1086.87	1086.55	1085.91	1085.59
			P.T.—V.C.		
965+00	1086.30	1086.94	1086.62	1085.98	1085.66
		END FULL SUPERELEVATION BOTH LANES			
965+15	1086.32	1086.96	1086.64	1086.00	1085.68
965+25	1086.38	1086.98	1086.68	1086.08	1085.79
965+50	1086.45	1086.95	1086.70	1086.21	1085.98
965+75	1086.53	1086.93	1086.73	1086.35	1086.18
		P.T.—H.C. BOTH LANES PLANE			
965+82.21	1086.55	1086.93	1086.79	1086.39	1086.23
966+00	1086.60	1086.91	1086.87	1086.48	1086.32
966+25	1086.68	1086.89	1086.88	1086.62	1086.46
		OUTER HALF LT. LANE FLAT			
966+30	1086.69	1086.88	1086.94	1086.65	1086.48
966+50	1086.75	1086.90	1087.02	1086.75	1086.58
966+75	1086.83	1086.93	1087.09	1086.90	1086.72
967+00	1086.90	1086.95	1087.10	1087.03	1086.84
		END TRANS. BOTH LANES			
967+25	1086.98	1086.98	1087.17	1087.17	1086.98

SUPERELEVATION TABLES

SPIRAL CURVE DATA
PI. STA. 1073+53.84 ℄ SOUTH LANES
Δ = 31°12'56" Lc = 120.26'
D = 6°00' Rc = 954.93'
Ts = 468.43' X = 398.25'
Ls = 400' Y = 27.84'
Es = 48.77' L.T. = 267.28'
Δs = 7°12'56" S.T. = 133.89'

RATE OF SUPERELEVATION = 0.083%

SOUTHBOUND

STATION	PROFILE GRADE	LEFT LANE			℄ CONSTRUCTION			RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION LEFT EDGE	WIDTH	SUPER ELEVATION	ELEVATION	WIDTH RT. LANE	SUPER-ELEVATION	ELEVATION	
ELEVATIONS BASED ON STATIONING ALONG SOUTH LANES										
1068 + 05	1151.19	0.00	1151.19	12.00	+ 0.19	1151.38	12.00	0.00	1151.19	BEGIN TRANSITION
1068 + 25	1151.35	+ 0.05	1150.40	12.00	+ 0.19	1151.34	12.00	0.00	1151.35	
1068 + 50	1151.55	+ 0.08	1151.63	12.00	+ 0.19	1151.74	12.00	0.00	1151.55	
1068 + 75	1151.75	+ 0.17	1151.92	12.00	+ 0.19	1151.94	12.00	0.00	1151.75	
1068 + 85.41	1151.83	+ 0.19	1152.02	12.00	+ 0.19	1152.02	12.00	0.00	1151.83	T. S. - LEFT LANE FLAT
1069 + 00	1151.95	+ 0.34	1152.29	12.00	+ 0.19	1152.14	12.00	0.00	1151.95	
1069 + 25	1152.15	+ 0.38	1152.53	12.00	+ 0.19	1152.34	12.00	0.00	1152.15	LANES PLANE
1069 + 50	1152.35	+ 0.46	1152.83	12.00	+ 0.24	1152.59	12.00	0.00	1152.35	
1069 + 75	1152.55	+ 0.60	1153.15	12.00	+ 0.30	1152.85	12.00	0.00	1152.55	
1070 + 00	1152.75	+ 0.72	1153.47	12.00	+ 0.36	1153.11	12.00	0.00	1152.75	
1070 + 25	1152.95	+ 0.84	1153.79	12.00	+ 0.42	1153.37	12.00	0.00	1152.95	
1070 + 50	1153.15	+ 0.94	1154.09	12.00	+ 0.47	1153.62	12.00	0.00	1153.15	
1070 + 75	1153.35	+ 1.06	1154.41	12.00	+ 0.53	1153.88	12.00	0.00	1153.35	
1071 + 00	1153.55	+ 1.18	1154.73	12.00	+ 0.59	1154.14	12.00	0.00	1153.55	
1071 + 25	1153.75	+ 1.28	1155.03	12.00	+ 0.64	1154.39	12.00	0.00	1153.75	
1071 + 50	1153.95	+ 1.40	1155.35	12.00	+ 0.70	1154.65	12.00	0.00	1153.95	
1071 + 75	1154.15	+ 1.52	1155.67	12.00	+ 0.76	1154.91	12.00	0.00	1154.15	
1072 + 00	1154.35	+ 1.60	1155.95	12.00	+ 0.80	1155.15	12.00	0.00	1154.35	
1072 + 25	1154.55	+ 1.72	1156.27	12.00	+ 0.86	1155.41	12.00	0.00	1154.55	
1072 + 50	1154.75	+ 1.82	1156.57	12.00	+ 0.91	1155.66	12.00	0.00	1154.75	
1072 + 75	1154.95	+ 1.94	1156.89	12.00	+ 0.97	1155.92	12.00	0.00	1154.95	
1072 + 85.41	1155.03	+ 2.00	1157.03	12.00	+ 1.00	1156.03	12.00	0.00	1155.03	S. C. - BEGIN FULL SUPERELEVATION
1073 + 00	1155.15	+ 2.00	1157.15	12.00	+ 1.00	1156.15	12.00	0.00	1155.15	
1073 + 25	1155.35	+ 2.00	1157.35	12.00	+ 1.00	1156.35	12.00	0.00	1155.35	
1073 + 50	1155.55	+ 2.00	1157.55	12.00	+ 1.00	1156.55	12.00	0.00	1155.55	
1073 + 75	1155.75	+ 2.00	1157.75	12.00	+ 1.00	1156.75	12.00	0.00	1155.75	
1074 + 00	1155.95	+ 2.00	1157.95	12.00	+ 1.00	1156.95	12.00	0.00	1155.95	
1074 + 05.67	1156.00	+ 2.00	1158.00	12.00	+ 1.00	1157.00	12.00	0.00	1156.00	C. S. - END FULL SUPERELEVATION
1074 + 25	1156.15	+ 1.90	1158.05	12.00	+ 0.95	1157.10	12.00	0.00	1156.15	
1074 + 50	1156.35	+ 1.80	1158.15	12.00	+ 0.90	1157.25	12.00	0.00	1156.35	
1074 + 75	1156.55	+ 1.68	1158.23	12.00	+ 0.84	1157.39	12.00	0.00	1156.55	
1075 + 00	1156.75	+ 1.56	1158.31	12.00	+ 0.78	1157.53	12.00	0.00	1156.75	
1075 + 25	1156.95	+ 1.46	1158.41	12.00	+ 0.73	1157.68	12.00	0.00	1156.95	
1075 + 50	1157.15	+ 1.34	1158.49	12.00	+ 0.67	1157.82	12.00	0.00	1157.15	
1075 + 75	1157.35	+ 1.22	1158.57	12.00	+ 0.61	1157.96	12.00	0.00	1157.35	
1076 + 00	1157.55	+ 1.12	1158.67	12.00	+ 0.56	1158.11	12.00	0.00	1157.55	
1076 + 25	1157.75	+ 1.00	1158.75	12.00	+ 0.50	1158.25	12.00	0.00	1157.75	
1076 + 50	1157.95	+ 0.88	1158.83	12.00	+ 0.42	1158.37	12.00	0.00	1157.95	
1076 + 75	1158.15	+ 0.80	1158.95	12.00	+ 0.40	1158.55	12.00	0.00	1158.15	
1077 + 00	1158.35	+ 0.68	1159.03	12.00	+ 0.34	1158.69	12.00	0.00	1158.35	
1077 + 25	1158.55	+ 0.56	1159.11	12.00	+ 0.28	1158.83	12.00	0.00	1158.55	
1077 + 50	1158.75	+ 0.46	1159.21	12.00	+ 0.23	1158.98	12.00	0.00	1158.75	
1077 + 65	1158.87	+ 0.38	1158.25	12.00	+ 0.19	1159.06	12.00	0.00	1158.87	
1077 + 75	1158.95	+ 0.33	1159.28	12.00	+ 0.19	1159.14	12.00	0.00	1158.95	LANES PLANE
1078 + 00	1159.15	+ 0.22	1159.37	12.00	+ 0.19	1159.34	12.00	0.00	1159.15	
1078 + 05.67	1159.19	+ 0.19	1159.38	12.00	+ 0.19	1159.38	12.00	0.00	1159.19	S. T. - LEFT LANE FLAT
1078 + 25	1159.33	+ 0.14	1159.47	12.00	+ 0.19	1159.52	12.00	0.00	1159.33	
1078 + 50	1159.50	+ 0.08	1159.58	12.00	+ 0.19	1159.69	12.00	0.00	1159.50	
1078 + 75	1159.66	+ 0.02	1159.68	12.00	+ 0.19	1159.85	12.00	0.00	1159.66	
1078 + 85	1159.72	0.00	1159.72	12.00	+ 0.19	1159.91	12.00	0.00	1159.72	END TRANSITION

SPIRAL CURVE DATA
PI. STA. 1074.69.31 ℄ NORTH LANES
Δ = 31°12'56" Es = 59.70' X = 399.22'
D = 4°00' Rc = 1432.40' Y = 18.59'
Ls = 400' Δs = 8°00' L.T. = 266.94'
Ts = 601.32' L.c = 380.39' S.T. = 133.58'

RATE OF SUPERELEVATION = 0.083%

NORTHBOUND

STATION	PROFILE GRADE	LEFT LANE			℄ CONSTRUCTION			RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION LEFT EDGE	WIDTH	SUPER-ELEVATION	ELEVATION	WIDTH RT. LANE	SUPER-ELEVATION	ELEVATION	
ELEVATIONS BASED ON STATIONING ALONG NORTH LANES										
1067 + 90	1151.07	0.00	1151.07	12.00	+ 0.19	1151.26	12.00	0.00	1151.07	BEGIN TRANSITION
1068 + 00	1151.15	0.00	1151.15	12.00	+ 0.17	1151.32	12.00	- 0.02	1151.13	
1068 + 05	1151.19	0.00	1151.19	12.00	+ 0.15	1151.34	12.00	- 0.04	1151.15	
1068 + 25	1151.35	0.00	1151.35	12.00	+ 0.10	1151.45	12.00	- 0.11	1151.26	
1068 + 50	1151.55	0.00	1151.55	12.00	+ 0.04	1151.59	12.00	- 0.15	1151.40	
1068 + 67.99	1151.69	0.00	1151.69	12.00	0.00	1151.69	12.00	- 0.19	1151.50	T. S. - LEFT LANE FLAT
1068 + 75	1151.75	0.00	1151.75	11.93	- 0.02	1151.73	12.00	- 0.21	1151.54	
1069 + 00	1151.95	0.00	1151.95	11.68	- 0.08	1151.87	12.00	- 0.27	1151.68	
1069 + 25	1152.15	0.00	1152.15	11.42	- 0.14	1152.01	12.00	- 0.33	1151.82	
1069 + 50	1152.35	0.00	1152.35	11.17	- 0.19	1152.16	12.00	- 0.39	1151.96	
1069 + 75	1152.55	0.00	1152.55	10.92	- 0.24	1152.31	12.00	- 0.50	1152.05	
1070 + 00	1152.75	0.00	1152.75	10.66	- 0.30	1152.45	12.00	- 0.63	1152.12	
1070 + 25	1152.95	0.00	1152.95	10.41	- 0.34	1152.61	12.00	- 0.74	1152.21	
1070 + 50	1153.15	0.00	1153.15	10.15	- 0.39	1152.76	12.00	- 0.84	1152.31	
1070 + 75	1153.35	0.00	1153.35	9.90	- 0.43	1152.92	12.00	- 0.94	1152.41	
1071 + 00	1153.55	0.00	1153.55	9.65	- 0.46	1153.09	12.00	- 1.04	1152.51	
1071 + 25	1153.75	0.00	1153.75	9.39	- 0.50	1153.25	12.00	- 1.13	1152.62	
1071 + 50	1153.95	0.00	1153.95	9.14	- 0.54	1153.41	12.00	- 1.25	1152.70	
1071 + 75	1154.15	0.00	1154.15	8.88	- 0.57	1153.58	12.00	- 1.34	1152.81	
1072 + 00	1154.35	0.00	1154.35	8.63	- 0.60	1153.75	12.00	- 1.42	1152.93	
1072 + 25	1154.55	0.00	1154.55	8.37	- 0.62	1153.93	12.00	- 1.51	1153.04	
1072 + 50	1154.75	0.00	1154.75	8.12	- 0.64	1154.11	12.00	- 1.59	1153.16	
1072 + 67.99	1154.89	0.00	1154.89	7.93	- 0.66	1154.23	12.00	- 1.66	1153.23	S. C. - BEGIN FULL SUPERELEVATION
1072 + 75	1154.95	0.00	1154.95	7.87	- 0.65	1154.30	12.00	- 1.65	1153.30	
1073 + 00	1155.15	0.00	1155.15	7.61	- 0.63	1154.52	12.00	- 1.63	1153.52	
1073 + 25	1155.35	0.00	1155.35	7.36	- 0.61	1154.74	12.00	- 1.61	1153.74	
1073 + 50	1155.55	0.00	1155.55	7.10	- 0.59	1154.96	12.00	- 1.59	1153.96	
1073 + 75	1155.75	0.00	1155.75	6.85	- 0.57	1155.18	12.00	- 1.57	1154.18	
1074 + 00	1155.95	0.00	1155.95	6.59	- 0.55	1155.40	12.00	- 1.55	1153.40	
1074 + 25	1156.15	0.00	1156.15	6.34	- 0.53	1155.62	12.00	- 1.53	1154.62	
1074 + 50	1156.35	0.00	1156.35	6.09	- 0.51	1155.84	12.00	- 1.51	1154.84	
1074 + 75	1156.55	0.00	1156.55	5.83	- 0.48	1156.07	12.00	- 1.48	1155.07	
1075 + 00	1156.75	0.00	1156.75	5.58	- 0.46	1156.29	12.00	- 1.46	1155.29	
1075 + 25	1156.95	0.00	1156.95	5.32	- 0.44	1156.51	12.00	- 1.44	1155.51	
1075 + 50	1157.15	0.00	1157.15	5.07	- 0.42	1156.73	12.00	- 1.42	1155.73	
1075 + 75	1157.35	0.00	1157.35	4.81	- 0.40	1156.95	12.00	- 1.40	1155.95	
1076 + 00	1157.55	0.00	1157.55	4.56	- 0.38	1157.17	12.00	- 1.38	1156.17	
1076 + 25	1157.75	0.00	1157.75	4.31	- 0.36	1157.39	12.00	- 1.36	1156.39	
1076 + 48.38	1157.94	0.00	1157.94	4.07	- 0.34	1157.60	12.00	- 1.34	1156.60	C. S. - END FULL SUPERELEVATION
1076 + 50	1157.95	0.00	1157.95	4.05	- 0.34	1157.61	12.00	- 1.33	1156.62	
1076 + 75	1158.15	0.00	1158.15	3.80	- 0.30	1157.85	12.00	- 1.25	1156.90	
1077 + 00	1158.35	0.00	1158.35	3.54	- 0.26	1158.09	12.00	- 1.15	1157.20	
1077 + 25	1158.55	0.00	1158.55	3.29	- 0.23	1158.32	12.00	- 1.07	1157.48	
1077 + 50	1158.75	0.00	1158.75	3.03	- 0.20	1158.55	12.00	- 0.99	1157.76	
1077 + 75	1158.95	0.00	1158.95	2.78	- 0.18	1158.77	12.00	- 0.93	1158.02	
1078 + 00	1159.15	0.00	1159.15	2.53	- 0.15	1159.00	12.00	- 0.84	1158.31	
1078 + 25	1159.35	0.00	1159.35	2.27	- 0.12	1159.23	12.00	- 0.76	1158.59	
1078 + 50	1159.54	0.00	1159.54	2.02	- 0.10	1169.44	12.00	- 0.69	1158.85	
1078 + 75	1159.71	0.00	1159.71	1.76	- 0.08	1159.63	12.00	- 0.62	1159.09	
1079 + 00	1159.85	0.00	1159.85	1.51	- 0.06	1159.75	12.00	- 0.55	1159.30	
1079 + 25	1160.02	0.00	1160.02	1.25	- 0.05	1159.97	12.00	- 0.49	1159.53	
1079 + 50	1160.16	0.00	1160.16	1.00	- 0.03	1160.13	12.00	- 0.42	1159.74	
1079 + 75	1160.29	0.00	1160.29	0.75	- 0.02	1160.27	12.00	- 0.36	1159.93	
1080 + 00	1160.40	0.00	1160.40	0.49	- 0.01	1160.39	12.00	- 0.30	1160.10	
1080 + 25	1160.50	0.00	1160.50	0.24	0.00	1160.50	12.00	- 0.24	1160.26	
1080 + 48.38	1160.59	0.00	1160.59	0.00	0.00	1160.59	12.00	- 0.19	1160.40	S. T. - END TRANSITION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

199
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KNO-13-15.93

SPIRAL CURVE DATA
P.I. STA. 1087+37.41 ℄ SURVEY
Δ=28° 30' 03" Es=37.8' X=398.25'
D=6° 00' Δs=12°00' Y=27.84'
Ls=400' Rc=954.93' L.T.=267.28'
Ts=444.01' Lc=75.01' S.T.=133.89'
RATE OF SUPERELEVATION = 0.083 ft/ft

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

200
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STATION	PROFILE GRADE	SOUTH LANE			℄ SOUTH LANE			NORTH LANE			REMARKS
		SUPER-ELEVATION	ELEVATION LEFT EDGE	WIDTH LT. LANE	SUPER ELEVATION	ELEVATION	WIDTH RT. LANE	SUPER-ELEVATION	ELEVATION RIGHT EDGE	WIDTH	
1081 + 40	1160.91	0.00	1160.91	12.00	+ 0.19	1161.10	12.00	- 0.19	1160.72	12.00	BEGIN TRANSITION - SOUTH LANES
1081 + 50	1160.95	- 0.02	1160.93	12.00	+ 0.17	1161.12	12.00	- 0.19	1160.76	12.00	
1081 + 75	1161.05	- 0.09	1160.96	12.00	+ 0.10	1161.15	12.00	- 0.19	1160.86	12.00	
1082 + 00	1161.15	- 0.15	1161.00	12.00	+ 0.04	1161.19	12.00	- 0.19	1160.96	12.00	
1082 + 08	1161.18	- 0.17	1161.01	12.00	+ 0.02	1161.20	12.00	- 0.19	1160.99	12.00	BEGIN TRANSITION - NORTH LANE
1082 + 25	1161.25	- 0.21	1161.04	12.00	- 0.02	1161.23	12.00	- 0.15	1161.10	12.00	
1082 + 50	1161.35	- 0.27	1161.08	12.00	- 0.08	1161.27	12.00	- 0.10	1161.25	12.00	
1082 + 75	1161.45	- 0.33	1161.12	12.00	- 0.14	1161.31	12.00	- 0.04	1161.41	12.00	
1082 + 93.40	1161.52	- 0.38	1161.14	12.00	- 0.19	1161.33	12.00	0.00	1161.52	12.00	T. S. - NORTH LANE FLAT - CONT. TRAN.
1083 + 00	1161.55	- 0.40	1161.15	12.00	- 0.20	1161.35	12.00	+ 0.02	1161.57	12.00	
1083 + 25	1161.65	- 0.50	1161.15	12.00	- 0.25	1161.40	11.99	+ 0.08	1161.73	12.00	
1083 + 50	1161.75	- 0.60	1161.15	12.00	- 0.30	1161.45	11.92	+ 0.14	1161.89	12.00	
1083 + 75	1161.87	- 0.71	1161.16	12.00	- 0.35	1161.52	11.76	+ 0.20	1162.07	12.00	
1084 + 00	1162.01	- 0.80	1161.21	12.00	- 0.39	1161.62	11.47	+ 0.27	1162.28	12.00	
1084 + 25	1162.19	- 0.87	1161.32	12.00	- 0.42	1161.77	11.01	+ 0.33	1162.52	12.00	
1084 + 50	1162.40	- 0.94	1161.46	12.00	- 0.43	1161.97	10.32	+ 0.39	1162.79	12.00	
1084 + 75	1162.64	- 0.98	1161.66	12.00	- 0.43	1162.21	9.39	+ 0.45	1163.09	12.00	
1085 + 00	1162.90	- 1.06	1161.84	12.00	- 0.45	1162.45	8.84	+ 0.52	1163.42	12.00	
1085 + 25	1163.21	- 1.14	1162.07	12.00	- 0.45	1162.76	8.21	+ 0.58	1163.79	12.00	
1085 + 50	1163.54	- 1.16	1162.38	12.00	- 0.45	1163.09	7.59	+ 0.64	1164.18	12.00	
1085 + 75	1163.90	- 1.20	1162.70	12.00	- 0.44	1163.46	6.97	+ 0.70	1164.60	12.00	
1086 + 00	1164.29	- 1.23	1163.06	12.00	- 0.42	1163.87	6.34	+ 0.77	1165.06	12.00	
1086 + 25	1164.72	- 1.28	1163.44	12.00	- 0.41	1164.31	5.72	+ 0.83	1165.55	12.00	
1086 + 50	1165.17	- 1.30	1163.87	12.00	- 0.39	1164.78	5.09	+ 0.89	1166.06	12.00	
1086 + 75	1165.64	- 1.32	1164.32	12.00	- 0.36	1165.28	4.47	+ 0.95	1166.55	12.00	
1086 + 93.40	1165.99	- 1.33	1164.66	12.00	- 0.33	1165.66	4.00	+ 1.00	1166.99	12.00	S. C. - BEGIN FULL SUPERELEVATION
1087 + 00	1166.11	- 1.32	1164.79	12.00	- 0.33	1165.78	3.96	+ 1.00	1167.11	12.00	
1087 + 25	1166.58	- 1.31	1165.27	12.00	- 0.31	1166.27	3.79	+ 1.00	1167.58	12.00	
1087 + 50	1167.05	- 1.29	1165.75	12.00	- 0.30	1166.75	3.62	+ 1.00	1168.05	12.00	
1087 + 68.41	1167.40	- 1.25	1166.11	12.00	- 0.29	1167.11	3.50	+ 1.00	1168.40	12.00	C. S. - END FULL SUPERELEVATION
1087 + 75	1167.52	- 1.12	1166.27	12.00	- 0.27	1167.25	3.27	+ 0.98	1168.50	12.00	
1088 + 00	1167.99	- 1.00	1166.87	12.00	- 0.19	1167.80	2.40	+ 0.92	1168.87	12.00	
1088 + 25	1168.46	- 0.87	1167.46	12.00	- 0.11	1168.35	1.52	+ 0.86	1169.32	12.00	
1088 + 50	1168.93	- 0.78	1168.06	12.00	- 0.04	1168.89	0.64	+ 0.80	1169.73	12.00	
1088 + 75	1169.40	- 0.73	1168.62	12.00	0.00	1169.40	0.00	+ 0.73	1170.13	12.00	
1089 + 00	1169.87	- 0.68	1169.14	12.00				+ 0.67	1170.54	12.00	
1089 + 25	1170.34	- 0.64	1169.66	12.00				+ 0.61	1170.95	12.00	
1089 + 50	1170.81	- 0.59	1170.17	12.00				+ 0.55	1171.36	12.00	
1089 + 75	1171.28	- 0.53	1170.69	12.00				+ 0.48	1171.76	12.00	
1090 + 00	1171.75	- 0.48	1171.22	12.00				+ 0.42	1172.17	12.00	
1090 + 25	1172.22	- 0.43	1171.74	12.00				+ 0.36	1172.58	12.00	
1090 + 50	1172.69	- 0.38	1172.26	12.00				+ 0.30	1172.99	12.00	
1090 + 75	1173.16	- 0.32	1172.78	12.00				+ 0.23	1173.39	12.00	
1091 + 00	1173.63	- 0.28	1173.31	12.00				+ 0.17	1173.80	12.00	
1091 + 25	1174.10	- 0.23	1173.82	12.00				+ 0.11	1174.21	12.00	
1091 + 50	1174.57	- 0.19	1174.34	12.00				+ 0.05	1174.62	12.00	
1091 + 68.41	1174.92	- 0.19	1174.73	12.00				0.00	1174.92	12.00	S. T. - NORTH LANE FLAT-CONT. TRAN.
1091 + 75	1175.04	- 0.19	1174.83	12.00				- 0.02	1175.02	12.00	
1092 + 00	1175.51	- 0.19	1175.32	12.00				- 0.08	1175.43	12.00	
1092 + 25	1175.98	- 0.19	1175.79	12.00				- 0.14	1175.84	12.00	
1092 + 45	1176.36	- 0.19	1176.17	12.00				- 0.19	1176.17	12.00	END TRANSITION

STATION	PROFILE GRADE	LEFT LANE EDGE			℄ CONSTRUCTION			RIGHT LANE EDGE			REMARKS
		SUPER-ELEVATION	ELEVATION	WIDTH	SUPER-ELEVATION	ELEVATION	WIDTH	SUPER-ELEVATION	ELEVATION	WIDTH	

CURVE DATA
P.I. STA. 47+19.46
Δ = 11° 30' 30" D = 4° 46'
R = 1202.01' L = 241.43'
T = 121.12' E = 6.09'
RATE OF SUPERELEVATION = 0.078 %

SUPERELEVATION TABLES

S.R. 95

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO - 13 - 15.93

STATION	PROFILE GRADE	LEFT LANE EDGE		℄ CONSTRUCTION		RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION	SUPER-ELEVATION	ELEVATION	SUPER-ELEVATION	ELEVATION	
44 + 50	1115.43	- 0.33	1115.10	0.00	1115.43	- 0.23	1115.20	BEGIN TRANSITION Rt. LANE
44 + 75	1115.44	- 0.33	1115.11	0.00	1115.44	- 0.11	1115.33	
45 + 00	1115.45	- 0.33	1115.12	0.00	1115.45	+ 0.01	1115.46	BEGIN TRANSITION Lt. LANE
45 + 25	1115.50	- 0.37	1115.13	0.00	1115.50	+ 0.12	1115.62	
45 + 50	1115.54	- 0.40	1115.14	0.00	1115.54	+ 0.24	1115.78	
45 + 75	1115.62	- 0.46	1115.16	0.00	1115.62	+ 0.36	1115.98	
45 + 98.34	1115.70	- 0.47	1115.23	0.00	1115.70	+ 0.47	1116.17	P. C.
46 + 00	1115.70	- 0.48	1115.22	0.00	1115.70	+ 0.48	1116.18	
46 + 25	1115.67	- 0.60	1115.07	0.00	1115.67	+ 0.60	1116.27	
46 + 50	1115.65	- 0.72	1114.93	0.00	1115.65	+ 0.72	1116.37	
46 + 75	1115.62	- 0.85	1114.77	0.00	1115.62	+ 0.85	1116.47	
46 + 94	1115.59	- 0.94	1114.65	0.00	1115.59	+ 0.94	1116.53	FULL SUPERELEVATION
47 + 00	1115.58	- 0.94	1114.64	0.00	1115.58	+ 0.94	1116.52	
47 + 25	1115.51	- 0.94	1114.57	0.00	1115.51	+ 0.94	1116.45	
47 + 45	1115.43	- 0.94	1114.49	0.00	1115.43	+ 0.94	1116.37	END FULL SUPERELEVATION
47 + 50	1115.40	- 0.92	1114.48	0.00	1115.40	+ 0.92	1116.32	
47 + 75	1115.26	- 0.79	1114.47	0.00	1115.26	+ 0.79	1116.05	
48 + 00	1115.09	- 0.65	1114.44	0.00	1115.09	+ 0.65	1115.74	
48 + 25	1114.89	- 0.54	1114.35	0.00	1114.89	+ 0.54	1115.43	
48 + 39.77	1114.74	- 0.47	1114.27	0.00	1114.74	+ 0.47	1115.21	P. T.
48 + 50	1114.64	- 0.44	1114.20	0.00	1114.64	+ 0.39	1115.03	
48 + 75	1114.38	- 0.38	1114.00	0.00	1114.38	+ 0.32	1114.70	
49 + 00	1114.06	- 0.32	1113.74	0.00	1114.06	+ 0.22	1114.28	
49 + 25	1113.74	- 0.25	1113.49	0.00	1113.74	+ 0.12	1113.86	
49 + 50	1113.35	- 0.19	1113.16	0.00	1113.35	+ 0.02	1113.37	END TRANSITION Lt. LANE
49 + 75	1112.96	- 0.19	1112.77	0.00	1112.96	- 0.09	1112.87	
50 + 00	1112.51	- 0.19	1112.26	0.00	1112.51	- 0.25	1112.26	END TRANSITION Rt. LANE

STATION	PROFILE GRADE	LEFT LANE EDGE		℄ CONSTRUCTION		RIGHT LANE EDGE		REMARKS
		SUPER-ELEVATION	ELEVATION	SUPER-ELEVATION	ELEVATION	SUPER-ELEVATION	ELEVATION	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-1593

SUPERELEVATION TABLES

S.E. RAMP

LEFT EDGE ELEVATION	LEFT EDGE DIST.	STATION	PROFILE GRADE AT RT. EDGE ELEVATION	REMARKS
SEE ENTRANCE DETAIL SHEET No.				
1079.54	20.5	3 + 00	1078.58	F. S. 0.047%
1079.52	19.5	3 + 25	1078.60	
1079.51	19.4	3 + 41	1078.60	P. C. V. C.
1079.52	19.3	3 + 50	1078.61	
1079.54	19.0	3 + 75	1078.67	
1079.52	16.0	4 + 00	1078.77	
1079.68	16.0	4 + 25	1078.93	
1079.87	16.0	4 + 50	1079.12	
1080.12	16.0	4 + 75	1079.37	
1080.40	16.0	5 + 00	1079.65	
1080.75	16.0	5 + 25	1080.00	
1081.13	16.0	5 + 50	1080.38	
1081.56	16.0	5 + 75	1081.81	END F. S.
1081.93	16.0	6 + 00	1081.29	
1082.36	16.0	6 + 25	1081.82	
1082.79	16.0	6 + 50	1082.39	
1083.27	16.0	6 + 75	1083.01	
1083.35	16.0	6 + 76.67	1083.10	P. T. BEGIN NORMAL CROWN
1084.03	16.0	7 + 00	1083.78	
1084.65	16.0	7 + 25	1084.40	
1085.13	16.0	7 + 41	1084.88	P. T. V. C.
1085.41	16.0	7 + 50	1085.16	
1086.18	16.0	7 + 75	1085.93	
1086.95	16.0	8 + 00	1086.70	
1087.72	16.0	8 + 25	1087.47	
1088.49	16.0	8 + 50	1088.24	
1089.26	16.0	8 + 75	1089.01	
1090.03	16.0	9 + 00	1089.78	P. C. V. C. END NORMAL CROWN
1090.53	16.0	9 + 25	1090.51	
1090.97	16.0	9 + 50	1091.18	
1091.02	16.0	9 + 54.55	1091.27	P. C. BEGIN F. S. 0.0158%
1091.49	16.0	9 + 75	1091.74	
1091.98	16.0	10 + 00	1092.23	
1092.66	16.0	10 + 25	1092.91	
1093.24	16.0	10 + 50	1093.49	
1093.75	16.0	10 + 75	1094.00	
1094.19	16.0	11 + 00	1094.44	P. T. V. C.
SEE INTERSECTION DETAIL SHEET No. 188				

S.W. RAMP

PROFILE GRADE AT LEFT EDGE ELEVATION	STATION	RT. EDGE ELEVATION	REMARKS
SEE EXIT DETAIL SHEET No. 189			

N.W. RAMP

PROFILE GRADE AT LEFT EDGE ELEVATION	STATION	RT. EDGE ELEVATION	REMARKS
SEE ENTRANCE DETAIL SHEET No. 191			

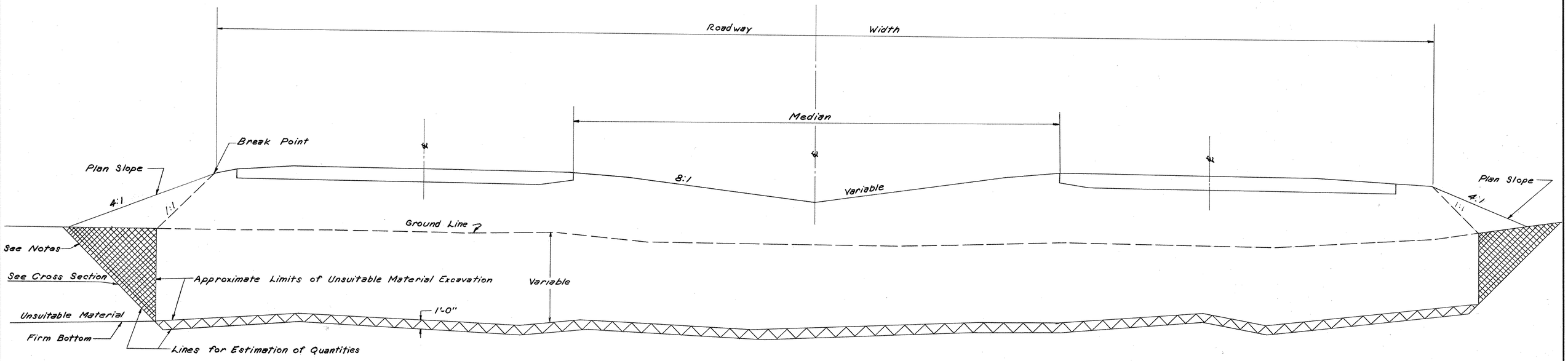
N.E. RAMP

LEFT EDGE ELEVATION	LEFT EDGE DIST.	STATION	PROFILE GRADE AT RT. EDGE ELEVATION	REMARKS
SEE INTERSECTION DETAIL SHEET No.				
1094.29	16.0	1 + 25	1094.04	
1093.99	16.0	1 + 50	1093.74	
1093.69	16.0	1 + 75	1093.44	
1093.39	16.0	2 + 00	1093.14	
1093.09	16.0	2 + 25	1092.84	
1092.79	16.0	2 + 50	1092.54	
1092.49	16.0	2 + 75	1092.24	
1092.19	16.0	3 + 00	1091.94	
1091.89	16.0	3 + 25	1091.64	
1091.59	16.0	3 + 50	1091.34	
1091.29	16.0	3 + 75	1091.04	
1090.99	16.0	4 + 00	1090.74	END NORMAL CROWN
1090.74	16.0	4 + 25	1090.44	
1090.49	16.0	4 + 50	1090.14	
1090.36	16.0	4 + 62.36	1089.99	P. C.
1090.26	16.0	4 + 25	1089.84	
1090.07	16.0	5 + 00	1089.54	
1089.88	16.0	5 + 25	1089.24	
1089.69	16.0	5 + 50	1088.94	BEGIN F. S. 0.047%
1089.35	16.0	5 + 75	1088.64	
1089.09	16.0	6 + 00	1088.34	
1088.79	16.0	6 + 25	1088.04	
1088.49	16.0	6 + 50	1087.74	
1088.19	16.0	6 + 75	1087.44	
1087.89	16.0	7 + 00	1087.14	
1087.59	16.0	7 + 25	1086.84	
1087.43	19.0	7 + 50	1086.54	P. C. V. C.
SEE ENTRANCE DETAIL SHEET No. 190				

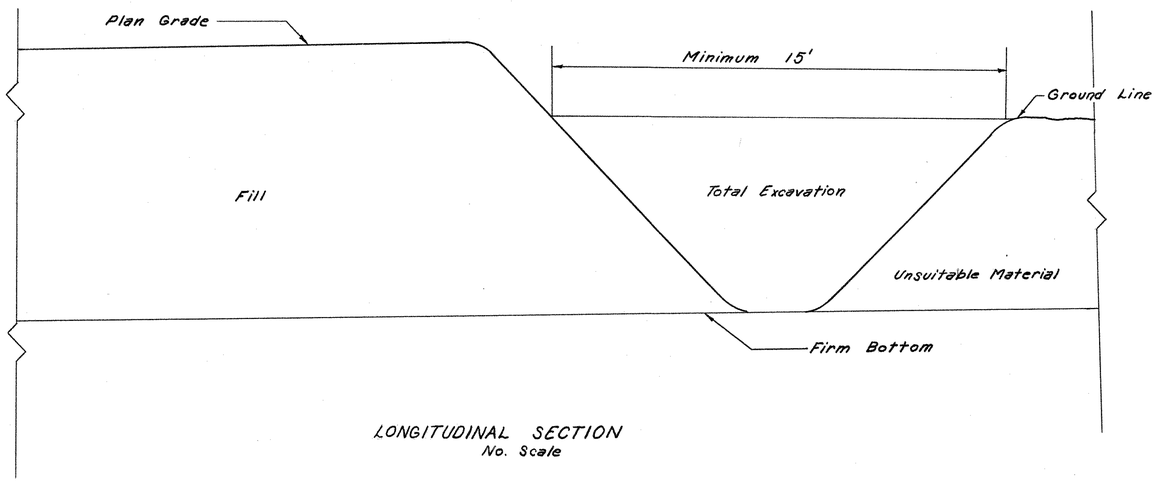
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

203
275

KNO-13-15.93



TYPICAL SECTION SHOWING TREATMENT OF SLOPES
WHEN UNSUITABLE MATERIAL IS UNDER THE COMPLETE ROADWAY
Scale 1"=5'-0"



LONGITUDINAL SECTION
No. Scale

NOTES

TRENCHING AND BACKFILLING – Shall be carried progressively across the swamp and so coordinated as to leave an open trench not to exceed in length at any time the working reach of the equipment used for swamp excavation.

FILL – Shall be constructed by the method of end dumping, using granular material up to the existing ground elevation. Embankment required above this elevation, if any, shall be constructed in accordance with Sec. E-1.08 of the Construction and Material Specifications.

EXCAVATION – Of unsuitable material ahead of the fill and end dumping of granular material across the bog area shall be advanced in a straight line for the full embankment width to avoid entrapment of unsuitable material beneath any portion of the fill.

GRANULAR MATERIAL – Required for swamp treatment shall be specified as "E-4 Borrow using Granular Material, * as per plan." The granular material shall meet the requirements of Sec. E-1.02 of the Construction and Material Specifications modified to require at least 75 per cent by weight of the grains or particles to be retained on the No. 2.00 sieve.

* including cost of excavating unsuitable material,

EXCAVATED UNSUITABLE MATERIAL – Which is to be used adjacent to fills for slope flattening or which is piled adjacent to the fill to be desposed of later in accordance with Sec. E-1.06, shall be shaped to its final position or removed from the area at least two weeks prior to paving operations on the fill.

EQUIPMENT – Used for excavation of unsuitable materials shall be located ahead of the excavation unless otherwise authorized by the Director.

CROSS-HATCHED – Sections are included in quantities to allow for possible sloughing and undercutting.

PAYMENT – Payment for removal and disposal of the excavated unsuitable material and for all other opeations involved in placing of granular material up to the existing ground line shall be included in the unit price bid for the granular borrow. The quantity of granular borrow will be the amount needed to backfill the space occupied by the unsuitable material and will be the quantity required to backfill to the original ground line as shown by the cross sections.

Typical Section Showing Swamp Treatment

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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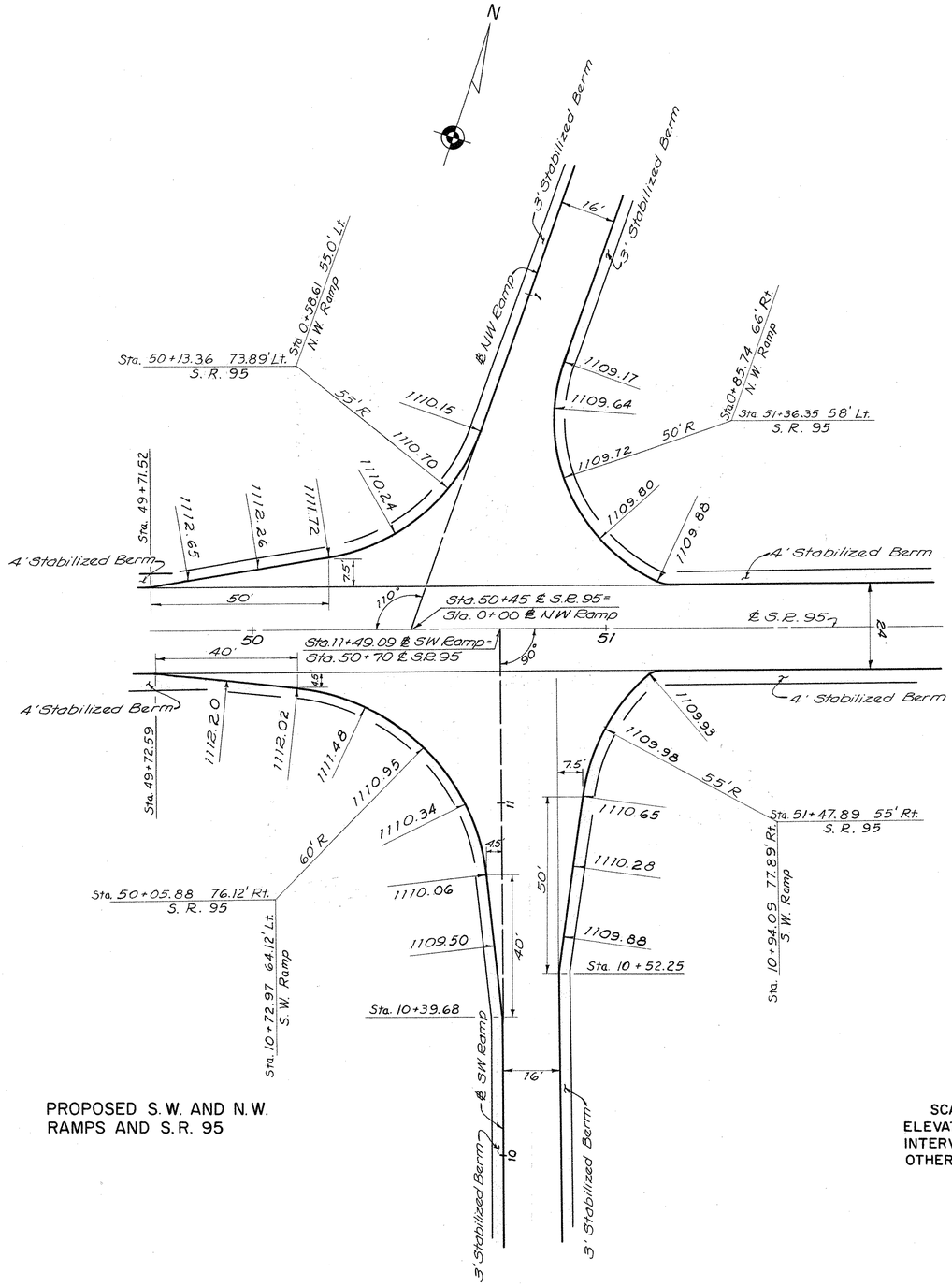
KNO-13-15.93

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

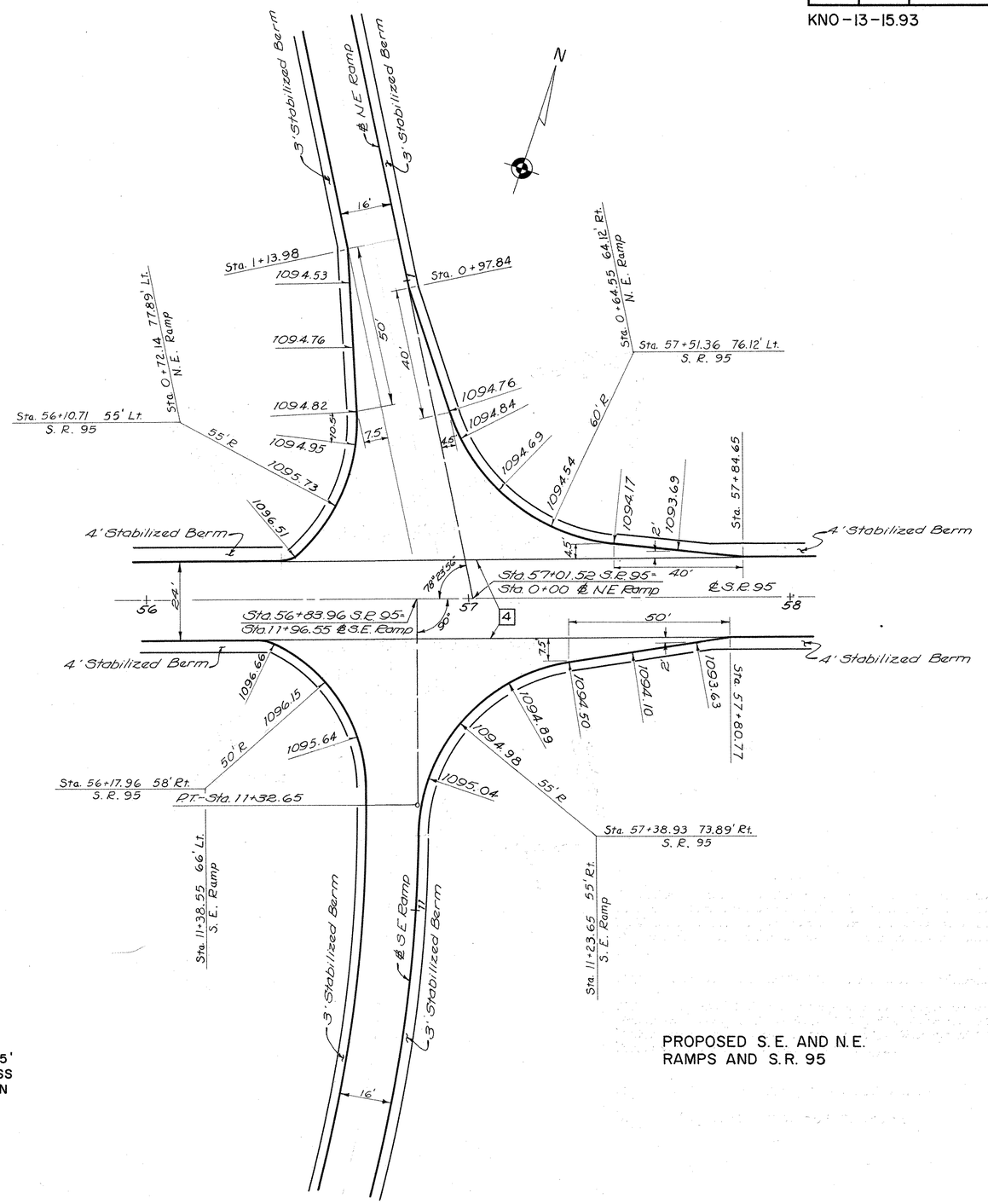
205
275

KNO-13-15.93



PROPOSED S. W. AND N. W.
RAMPS AND S. R. 95

SCALE 1"= 20'
ELEVATIONS AT 25'
INTERVALS UNLESS
OTHERWISE SHOWN



PROPOSED S. E. AND N. E.
RAMPS AND S. R. 95

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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INTERSECTION DETAILS

PROPOSED S.R. 13
AND C.R.6

SCALE: 1"=20'
ELEVATIONS SHOWN AT
25' INTERVALS

PROPOSED S.R. 13
AND T.R. 377

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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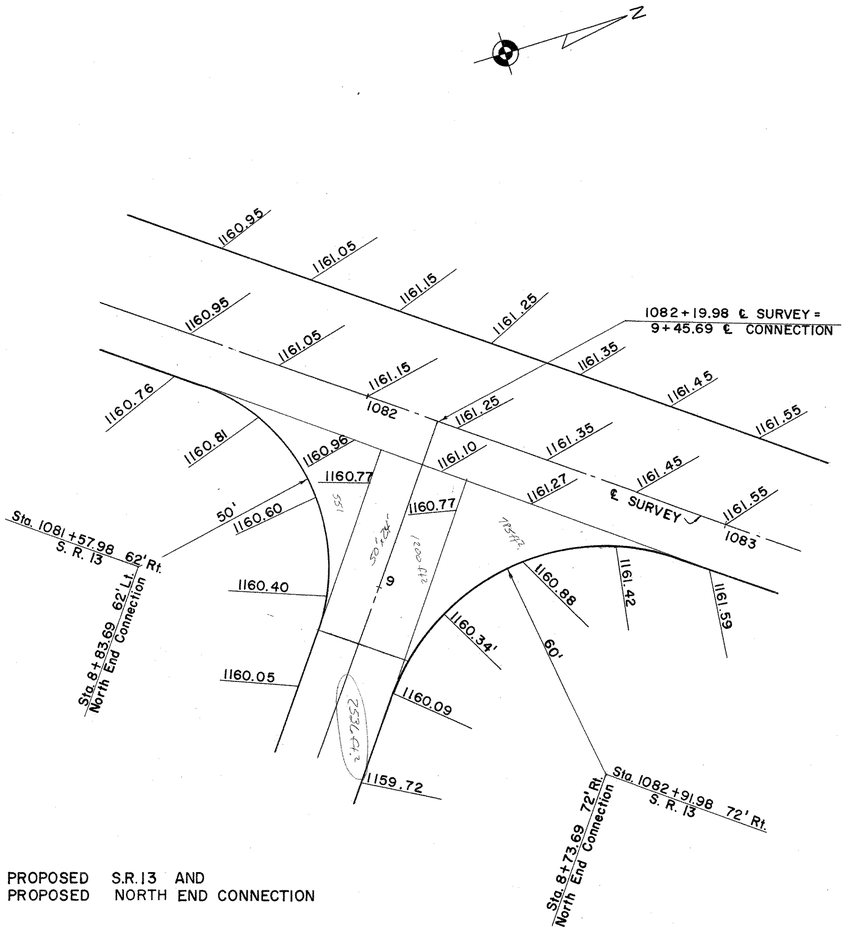
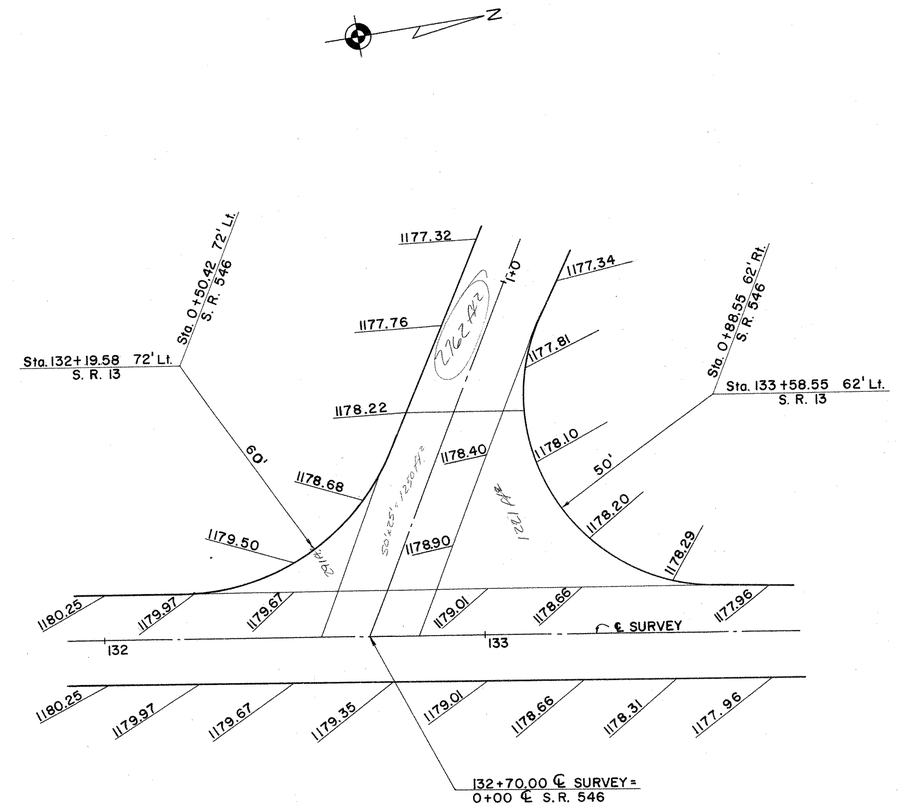
275

KNO-13-15.93



PROPOSED S.R.13 AND
PROPOSED NORTH END CONNECTION

ELEVATIONS SHOWN AT
25' INTERVALS



PROPOSED S. R. 13 AND
PROPOSED S. R. 546

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

208
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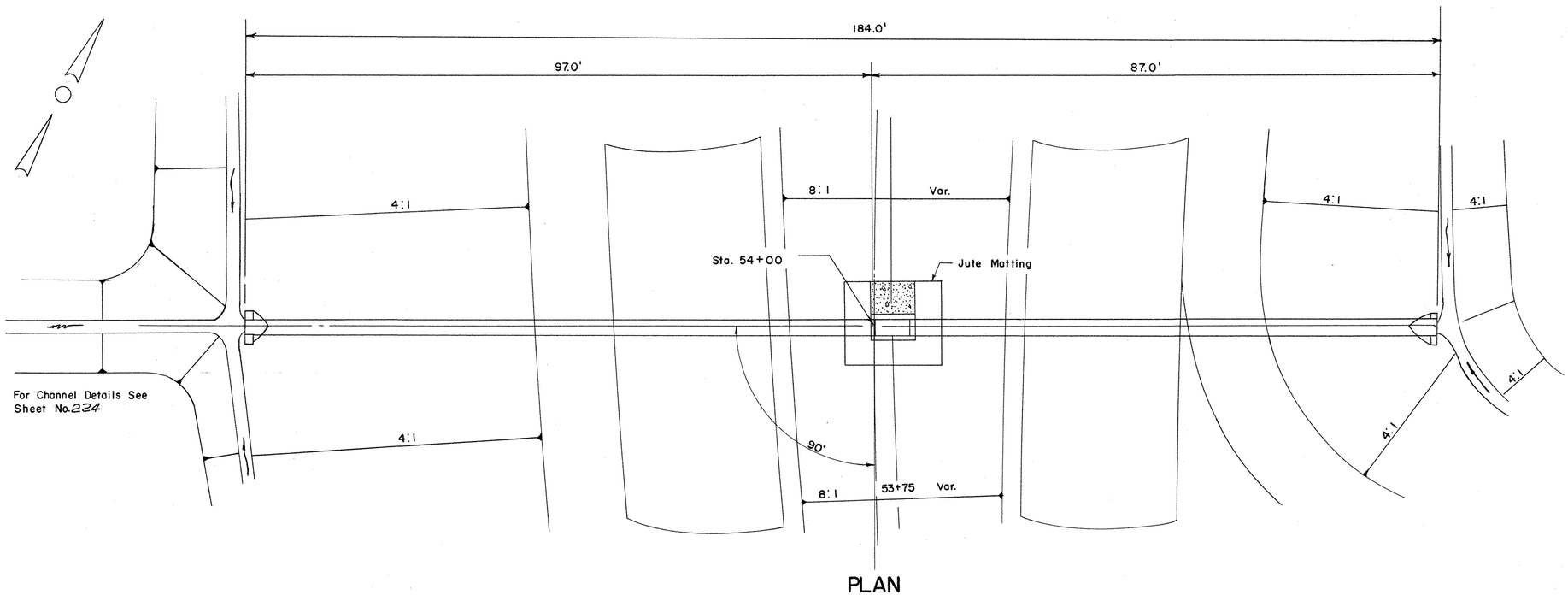
KNO -13 -15.93

STRUCTURE NO. KNO.-13-1605



PLAN

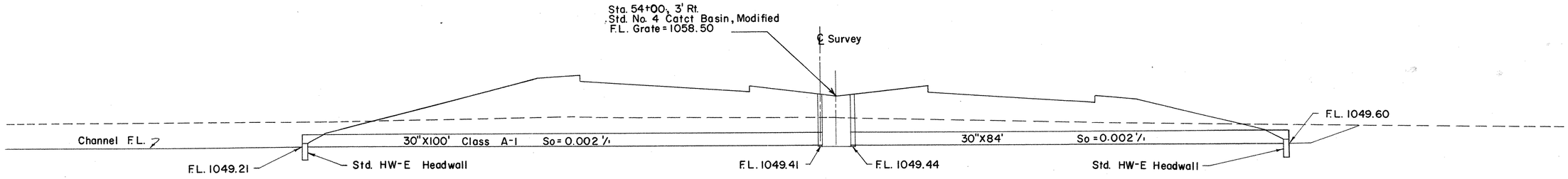
PROPOSED CULVERT

STA. 54+00

Drainage Area = 5 Acres Q 25 = 17 cfs
Size = 30"X 100' and 30"X84' So = 0.002 ′/₁
Type: Class A-1, Sec. M-6.6 (b) or M-6.8 (b)
Skew: None
Roadway: 48
Standard Drwgs: I-1, HW-E, I-8 Std. No. 4 Catch Basin With Steps as per plan
Work Req'd: Construct two (2) pipe culverts, each connected into the Catch Basin With Steps as per plan to be constructed 3' Rt. of ℄ as shown. Place HW-E Headwalls Lt. & Rt. shown.

ESTIMATED QUANTITIES

I-1	30" Pipe, Sec. M-6.6 (b) or M-6.8 (b) Class A-1	184 Lin. Ft.
I-2	Masonry	1.02 Cu. Yds.
I-8	Std. No. 4 Catch Basin, Modified as per Plan	1 Each



SECTION

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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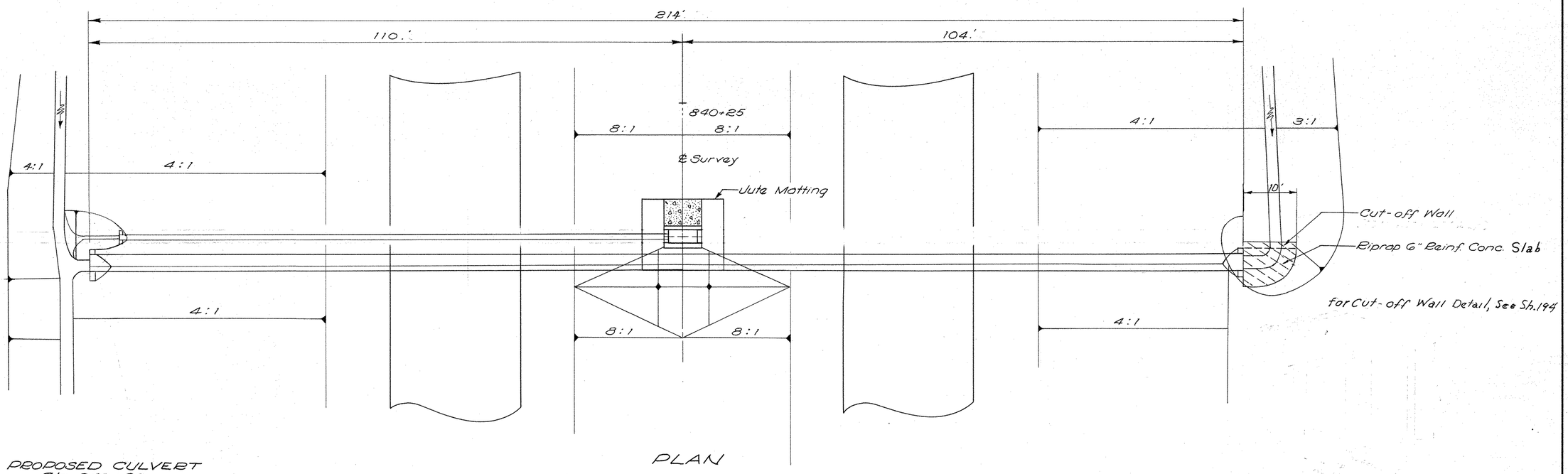
KNO-13-15.93

STRUCTURE NO. KNO-13-1619



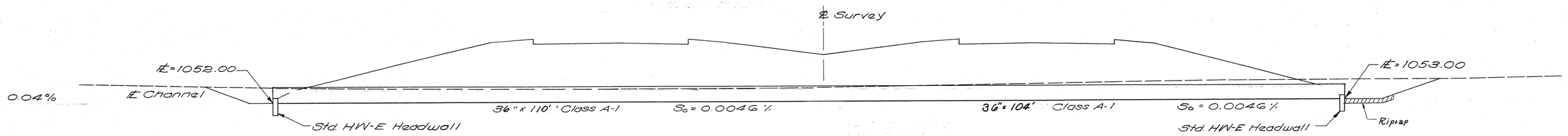
PLAN

PROPOSED CULVERT
Sta. 840+00

Drainage Area = 16 Acres Q25 = 36 cfs.
Size : 36" x 214'
Type : Class A-1, Sec. M-6.6 (b) or M-6.8 (b)
Skew : None
Roadway : 48'
Standard Drawings : I-1 ; HW-E ; I-8 Std. No. 4 Catch Basin
Work Req'd. : Construct a pipe culvert with HW-E Headwalls Lt. and Rt. as shown. Place Riprap Rt. as shown.

ESTIMATED QUANTITIES

I-1	36" Pipe, Sec. M-6.6(b) or M-6.8(b) Class A-1	214 Lin. Ft.
I-2	Masonry	1.18 Cu. Yds.
I-10	Riprap, 6" Reinforced Concrete Slab	8 Sq. Yds.



SECTION

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

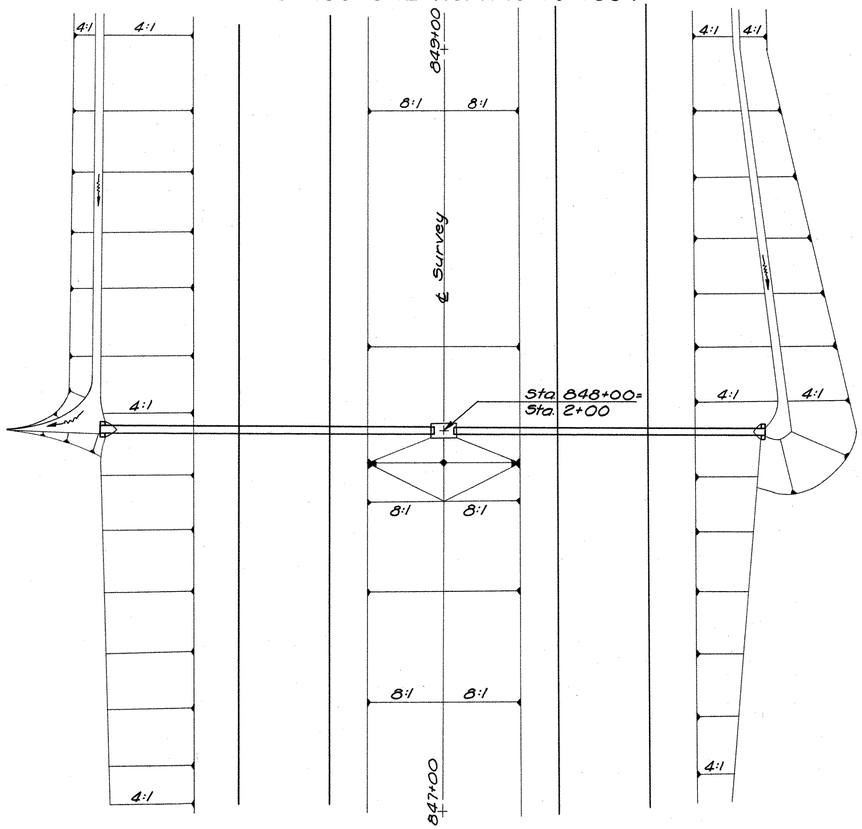
KNO-13-15.93

STRUCTURE NO. KNO-13-1634

PROPOSED CULVERT

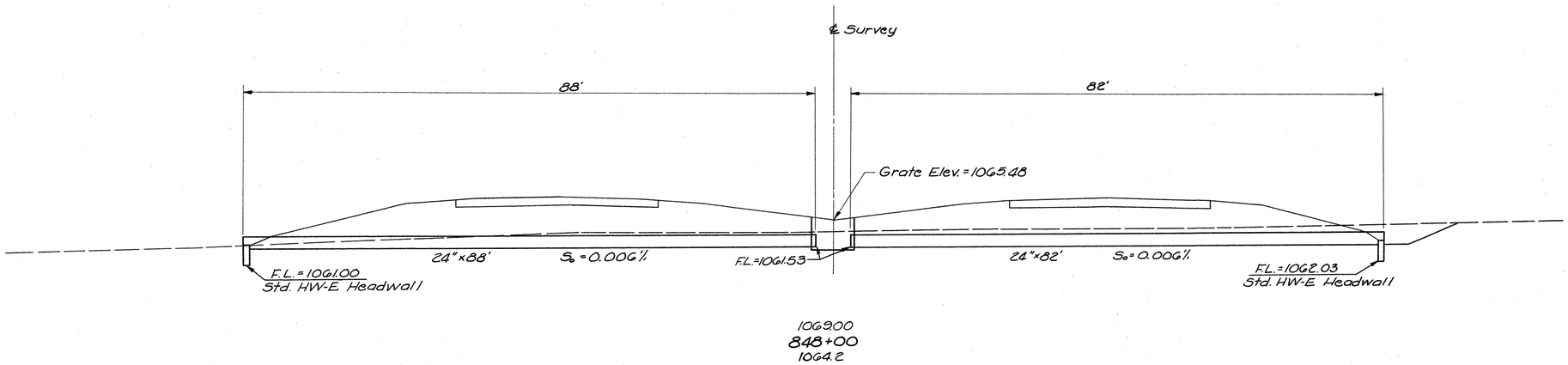
STA. 848+00

Drainage Area: 7.5 Acres Q_{25} = 19 c.f.s
Size: 24"x82' and 24"x88' S_o = 0.006 ft/ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)
Skew: None
Roadway: 48'
Standard Drawing: I-1, HW-E, I-8 Std. No.4 Catch Basin
Work Required: Construct two pipe culverts, each connected into the catch basin to be constructed at center line as shown. Place HW-E Headwalls left and right as shown.



SCALE

0 5 10 15 20 30 40 60



ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	24" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)	170 L.F.
I-2	Masonry	0.82 C.Y.
I-8	Standard No.4 Catch Basin	1 Each

CULVERT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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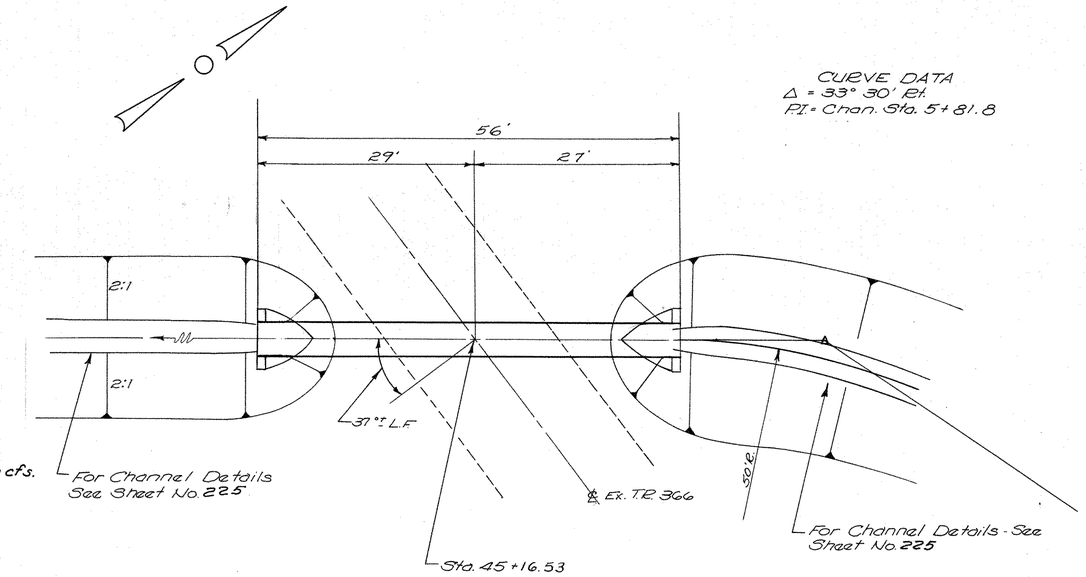
KNO-13-15.93

STRUCTURE NO. KNO-13-



CURVE DATA
Δ = 33° 30' Rt.
P.I. = Chan. Sta. 5+81.8

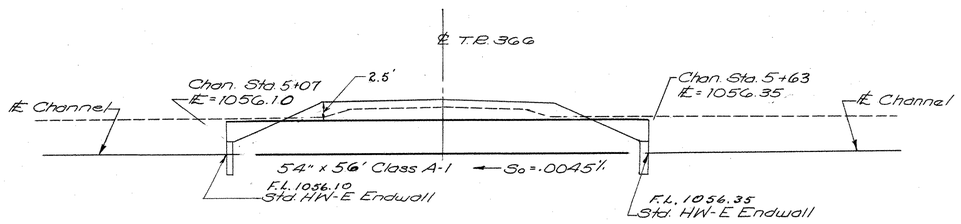
PROPOSED CULVERT
STA 45+07 T.R. 366

DRAINAGE AREA: 120 Acres Q25=106 cfs.
SIZE: 54" x 56' So = 0.0045 ft./ft.
TYPE: Class A-1 Reinforced Conc. Pipe
Sec. M-6.6(a)
SKEW: 37° L.F.
ROADWAY: 24'
STANDARD DRAWINGS: I-1, HW-E
WORK REQUIRED: Construct a Pipe Culvert with HW-E Headwalls Lt. & Rt. as shown.

PLAN

ESTIMATED QUANTITIES

I-1	54" Pipe Sec. M-6.6(a) Class A-1	56 Lin Ft.
I-2	Masonry,	1.92 Cu. Yds.



SECTION

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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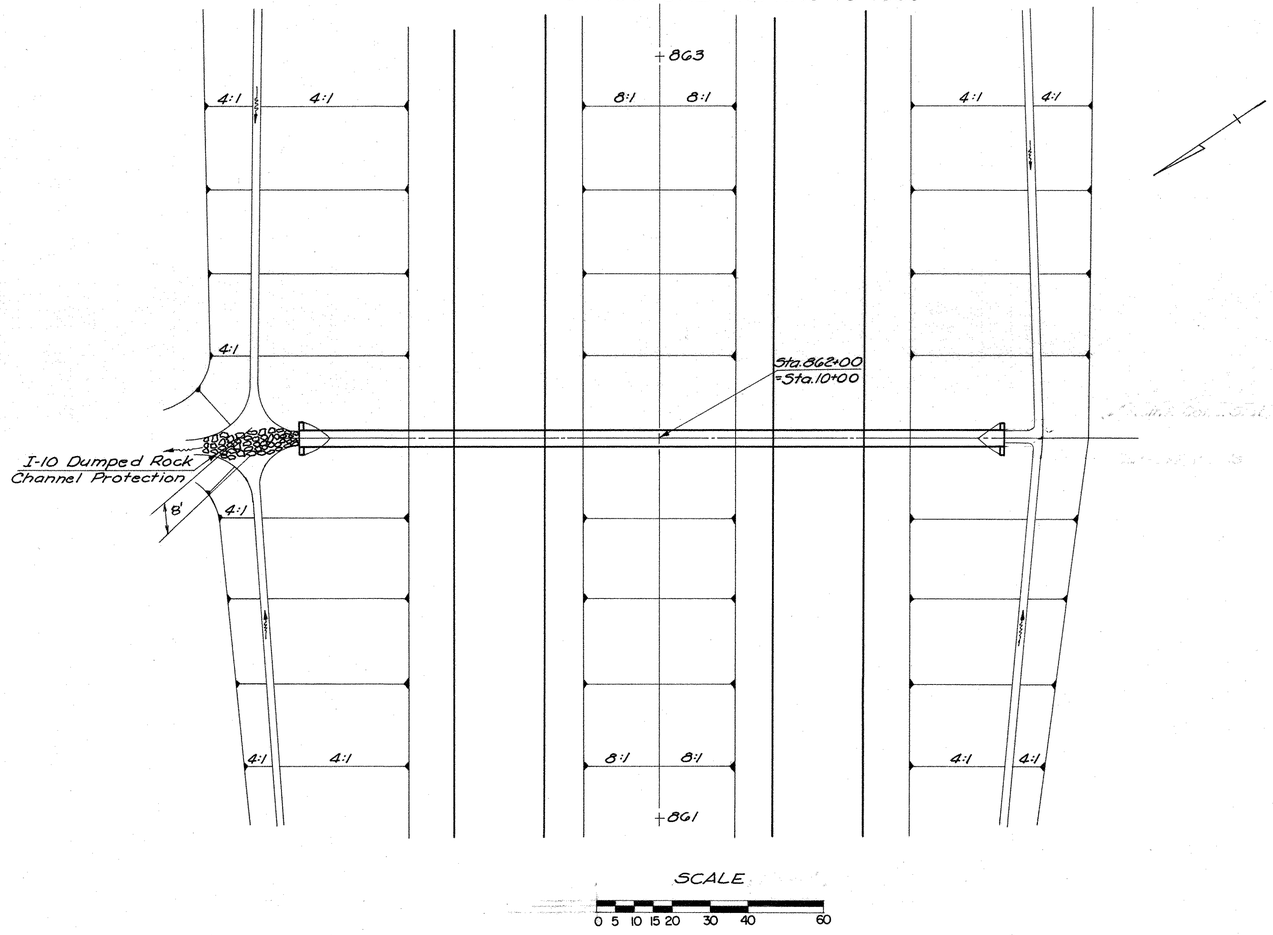
KNO-13-15.93

STRUCTURE NO. KNO-13-1660



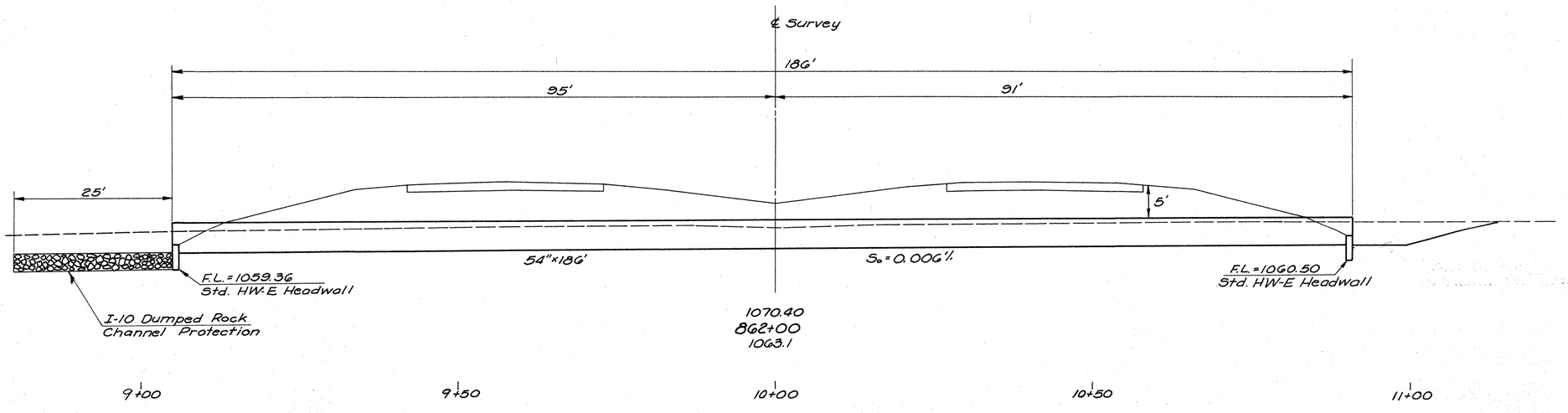
PROPOSED CULVERT

STA. 862+00

Drainage Area: 90 Acres Q_{25} = 95 cfs
Size: 54"×186' S_o = 0.006 ft/ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a)
Skew: None
Roadway: 48'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown. Place 30" thick I-10 Dumped Rock Channel Protection at outlet.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	Class A-1 54" Reinf. Conc. Pipe, Sec. M-6.6(a)	186 L.F.
I-2	Masonry	1.92 C.Y.
I-10	Dumped Rock Channel Prot.	19 C.Y.



CULVERT DETAILS

STRUCTURE NO. KNO-13-1726

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

213
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KNO-13-15.93

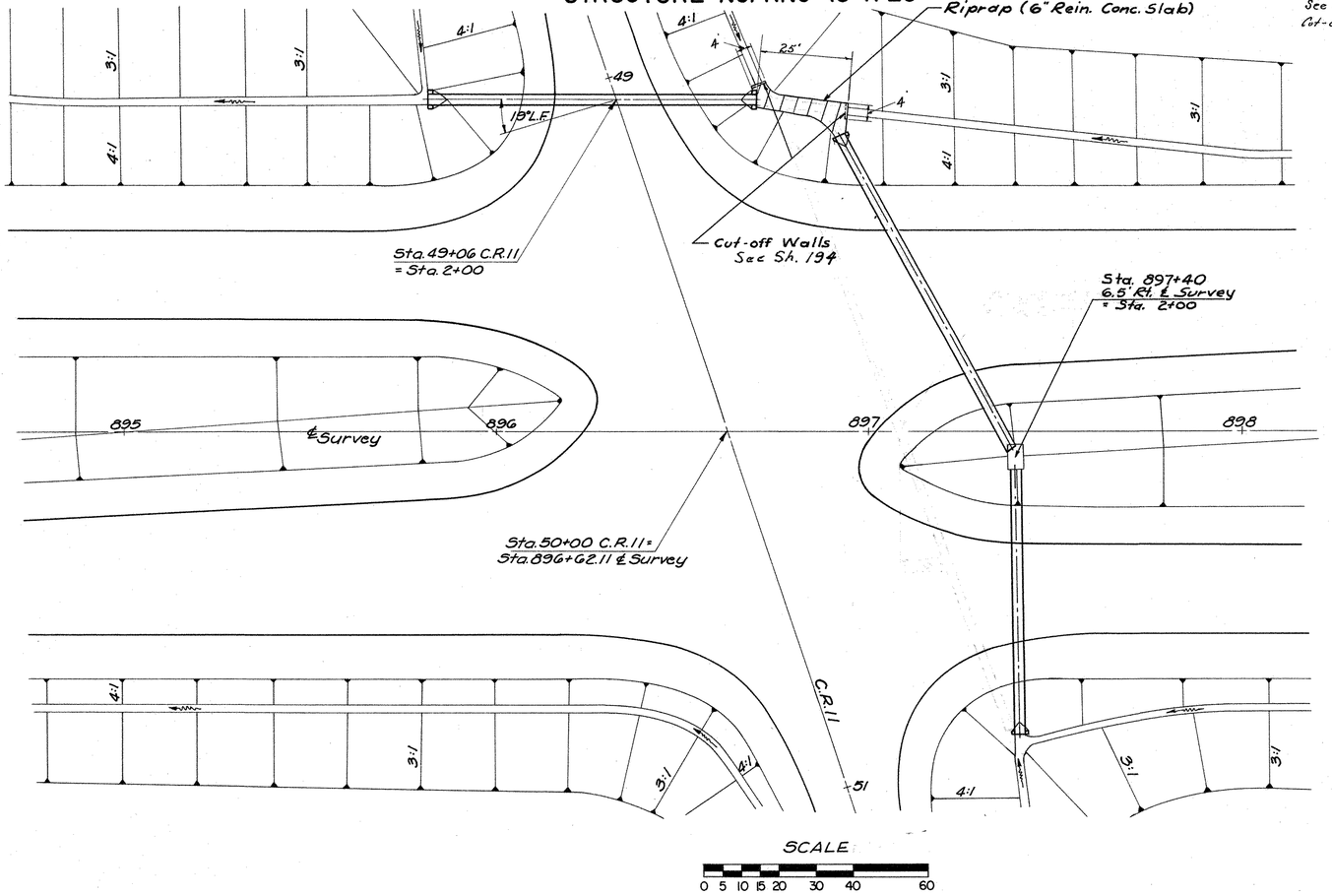
PROPOSED CULVERT
STA. 49+06 C.R. 11

Drainage Area: 13 Acres Q_{25} = 26 cfs
Size: 30" x 88' S_o = 0.004 ft./ft.
Type: Class A-1

Skew: 19° L.F.
Roadway: 20'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	Class A-1 30" Pipe	88 L.F.
I-2	Masonry	1.02 C.Y.

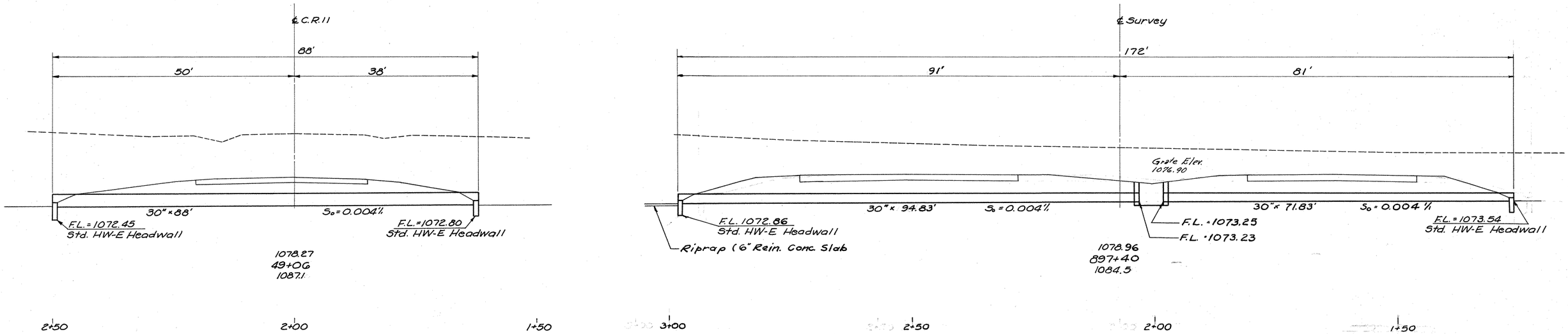


PROPOSED CULVERT
STA. 897+40

Drainage Area: 6 Acres Q_{25} = 12 cfs
Size: 30" x 172' S_o = 0.004 ft./ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)
Skew: 20° R.F.
Roadway: 48'
Standard Drawing: I-1, HW-E, Std. No. 4 C.B.
Work Required: Construct two pipe culverts into catch basin located 6.5 ft. right of centerline. Place HW-E Headwalls lt. and rt. as shown. Place I-10 riprap (6" rein. conc. slab) at outlet as shown.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	Class A-1 30" Reinf. Conc. Pipe Sec. M-6.6(a) or Vitrified Pipe Sec. M-6.8(b)	172 L.F.
I-2	Masonry	1.02 C.Y.
I-8	Std. No. 4 Catch Basin	1 Each
I-10	Riprap (6" rein. conc. slab)	14 S.Y.



CULVERT DETAILS

STRUCTURE NO. KNO-13-1765

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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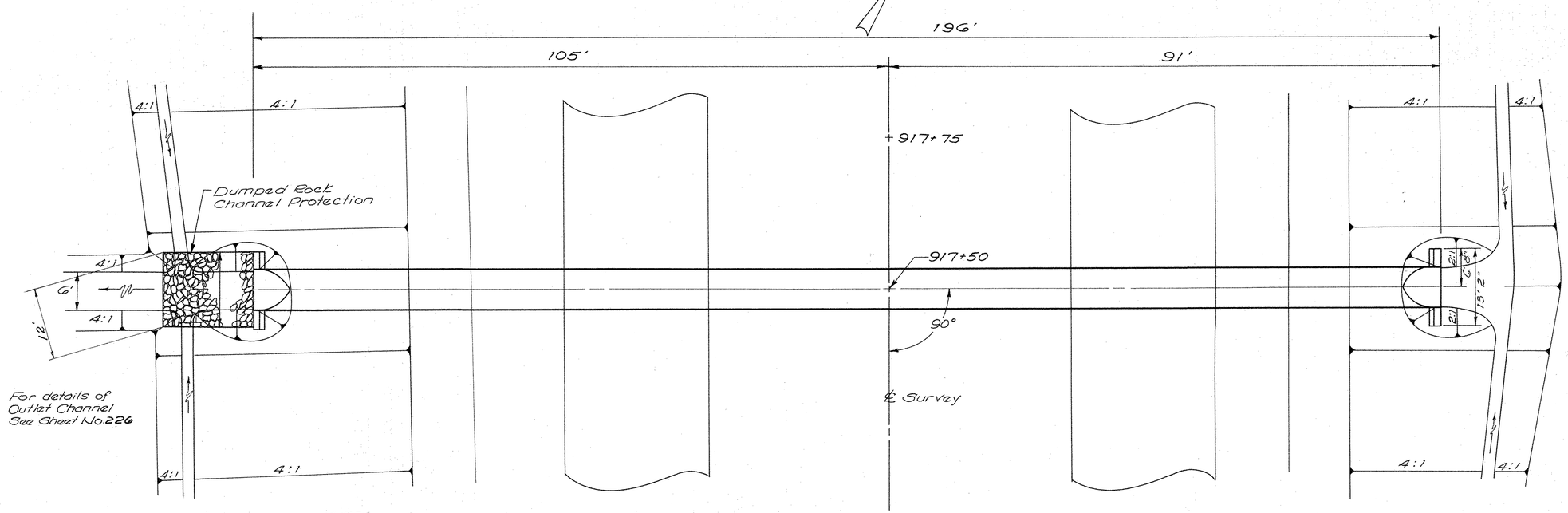
KNO-13-15.93



PLAN

PROPOSED CULVERT

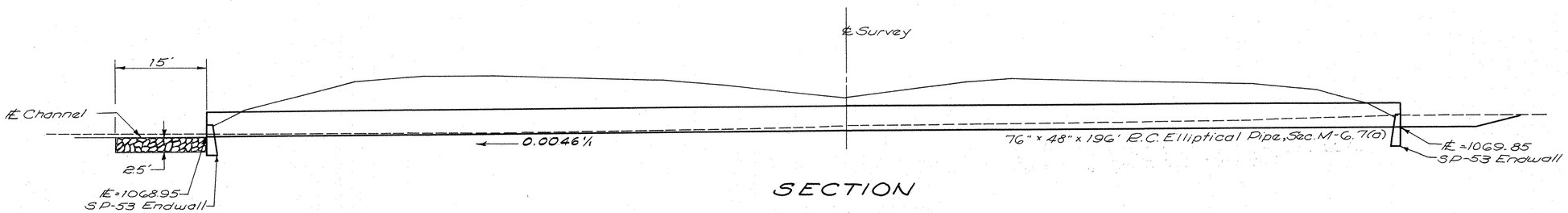
STA. 917+50

Drainage Area : 144 Acres
Size: 76" x 48" x 198'
Type: Class G-1 Elliptical Reinforced Concrete Pipe Sec. M-6.7(a)
Skew: None
Roadway: 75.30'
Standard Drawings : I-1, SP.53
Work Required: Construct an elliptical pipe culvert with SP.53 headwalls, lt. and rt. as shown. Place 30" thick I-10 Dumped Rock Channel Protection at outlet as shown.

Q_{25} = 172 cfs
S_0 = 0.0046 ft./ft.

ESTIMATED QUANTITIES

I-1	76" x 48" Elliptical Reinforced Concrete Pipe Sec. M-6.7(a) Class G-1	196	Lin. Ft.
I-2	Masonry, Class "C"	5.4	Cu. Yds
I-10	Dumped Rock Channel Protection	17	Cu. Yds.



SECTION

CULVERT DETAIL

STRUCTURE NO. KNO-95-0432

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

215
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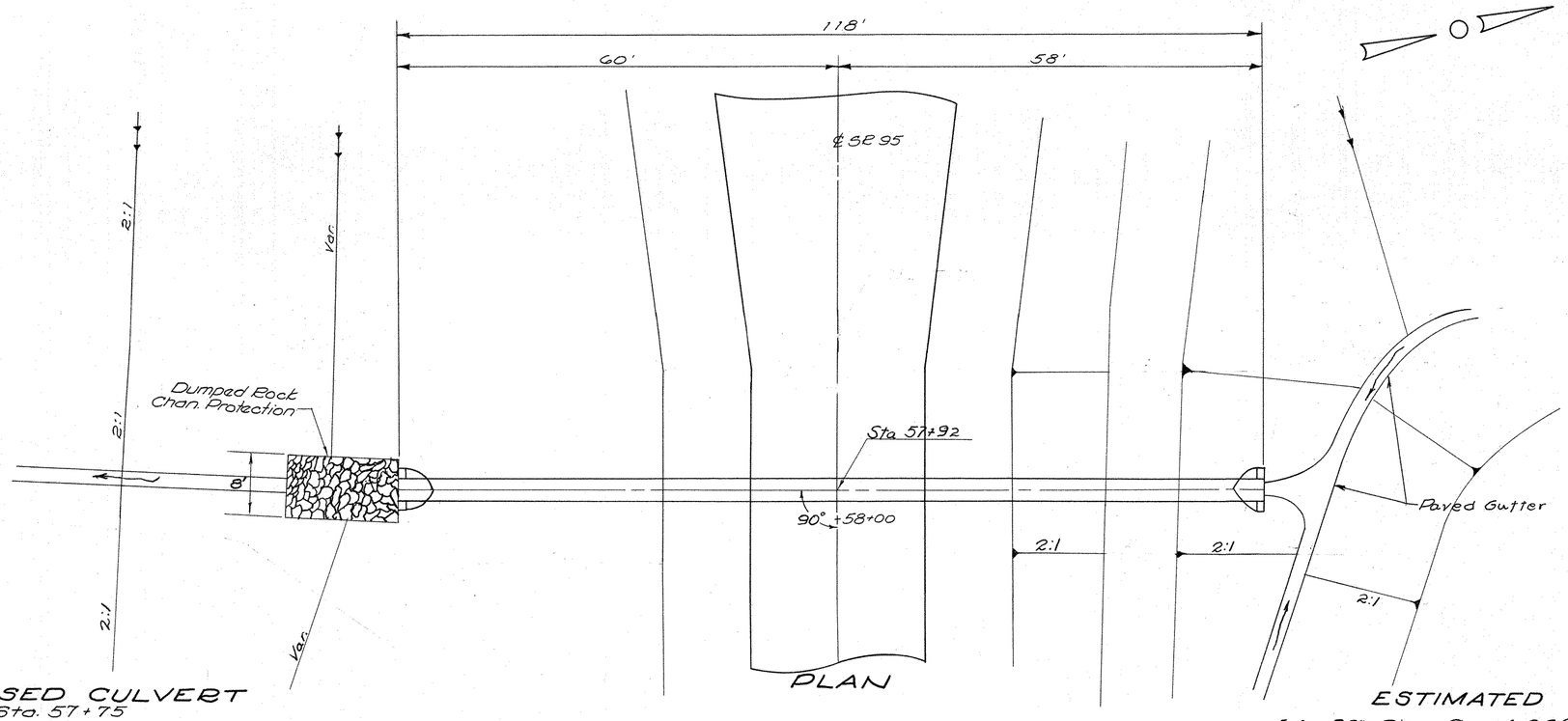
KNO-13-15.93



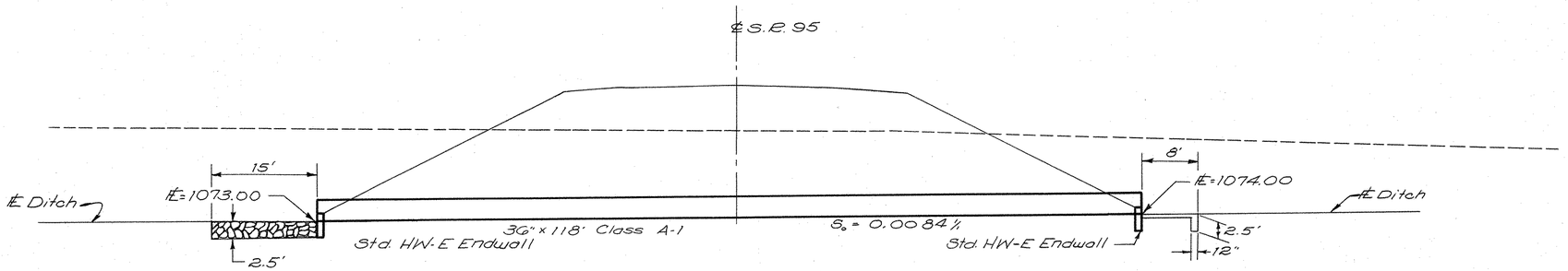
PLAN

PROPOSED CULVERT
Sta. 57+75

Drainage Area = 31 Acres Q25 = 70 cfs
Size: 36" x 118'
Type: Class A-1, Sec. M-6.6(c)
Skew: None
Roadway: 24'
Standard Drwgs.: I-1; HW-E
Work Regd.: Construct Pipe Culvert as shown. Place HW-E Endwalls Lt. & Rt. as shown. Place Riprap on Right and Dumped Rock on Left as detailed.

ESTIMATED QUANTITIES

I-1	36" Pipe, Sec. M-6.6(c) Class A-1	118 Lin. Ft.
I-2	Masonry	1.2 Cu. Yds.
I-10	Dumped Rock Channel Protection	11 Cu. Yds.



SECTION
Scale: 1" = 10'

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

216
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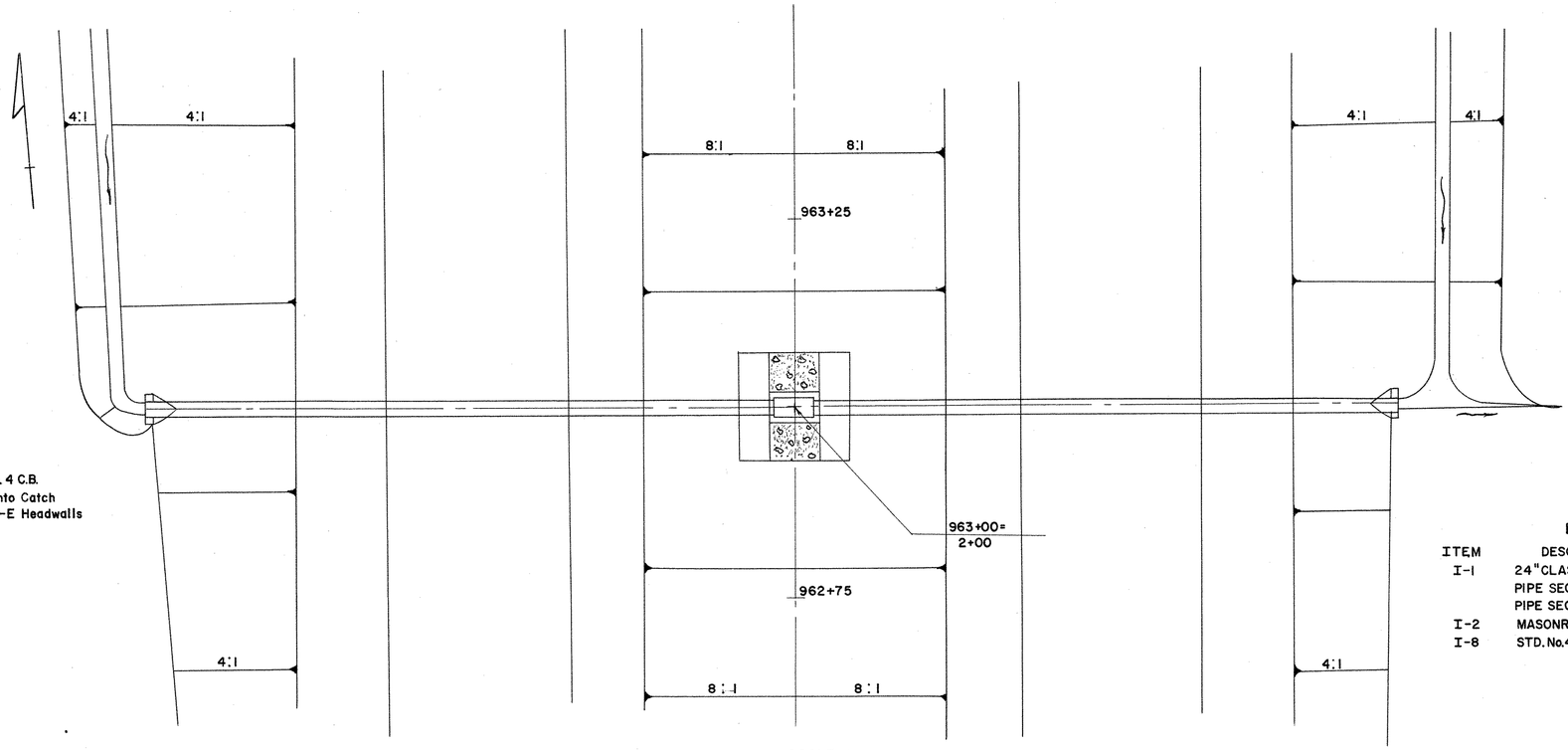
KNO-13-15.93

STRUCTURE NO. KNO-13-1854

PROPOSED CULVERT
STA 963+00

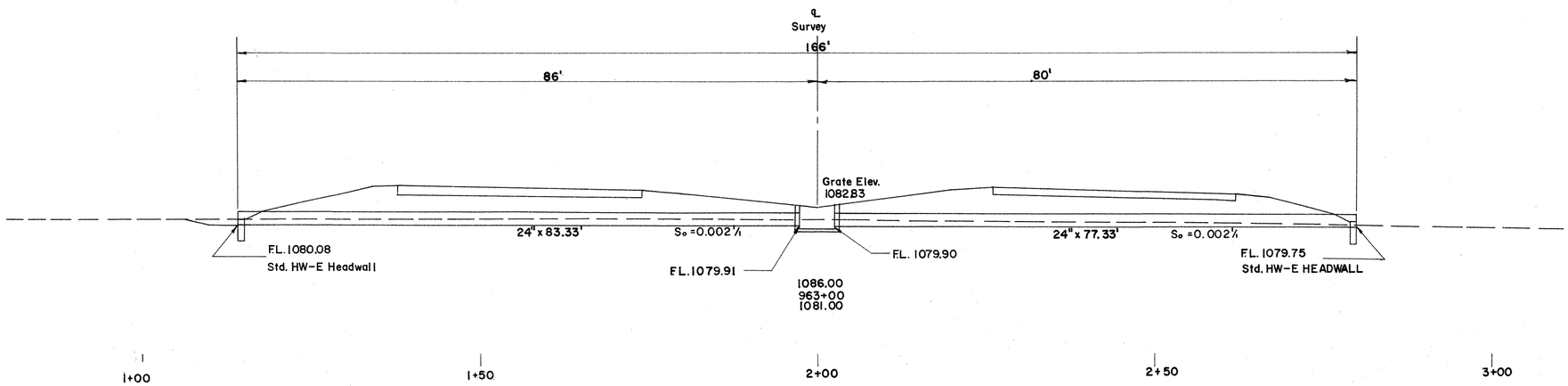
DRAINAGE AREA: 4 ACRES Q_{25}= 9cfs
SIZE: 24" x 66' S_o=0.002 ft./ft.
TYPE: Class A-I. Rein. Conc. Pipe Sec. M-6.6(a)
or Vitrified Pipe Sec. M-6.8(b)
SKEW: None
ROADWAY: 48 ft.
STANDARD DRAWING: I-1 HW-E, I-8 Std. No. 4 C.B.
WORK REQUIRED: Construct two pipe culverts into Catch Basin at centerline. Place HW-E Headwalls lt. & rt. as shown.



SCALE
0 10 15 20 30

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANT.
I-1	24" CLASS A-I REIN. CONC. PIPE SEC. M-6.6(a) or VITRIFIED PIPE SEC. M-6.8(b)	166 L.F.
I-2	MASONRY	0.82 C.Y.
I-8	STD. No. 4 CATCH BASIN	1 EACH



CULVERT DETAIL

STRUCTURE NO. KNO-13-1873

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

217
275

KNO-13-15.93

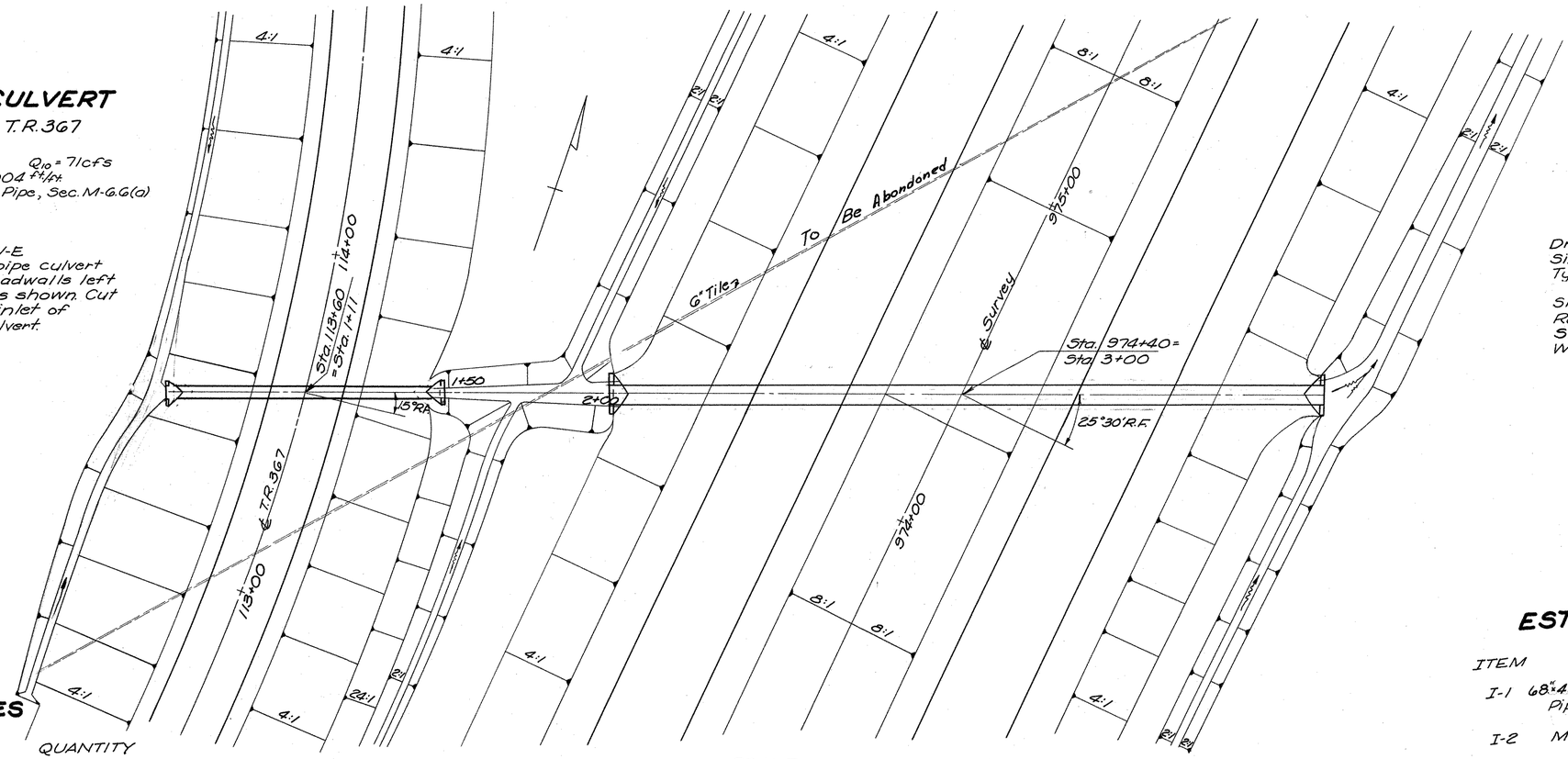
PROPOSED CULVERT
STA. 113+60 T.R.367

Drainage Area: 95 Acres Q_{10} = 71 cfs
Size: 42"×74" S_o = 0.004 ft/ft
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a)

Skew: 15° R.F.
Roadway: 20'
Standard Drawing; I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown. Cut channel to inlet of mainline culvert.

PROPOSED CULVERT
STA. 974+40

Drainage Area: 102 Acres Q_{25} = 90 cfs
Size: 68"×43"×206" S_o = 0.002 ft/ft
Type: Class G-1 Reinf. Elliptical Conc. Pipe Sec. M-6.2(b)
Skew: 25°30' R.F.
Roadway: 48'
Standard Drawing: I-1, HW-E Modified
Work Required: Construct an elliptical pipe culvert with HW-E Modified Headwalls left and right as shown.



ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	42" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a)	80 L.F.
I-2	Masonry	1.52 C.Y.
E-3	Channel Excavation	30 C.Y.

SCALE
0 5 10 15 20 30 40 60

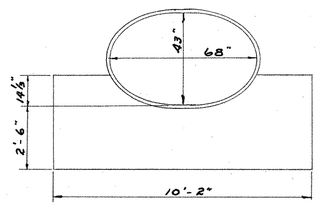
	END AREA	VOL.
Begin Channel Excavation 1076.39 1+51 1077.8	11	30
1076.03 1+98 1077.8 End Channel Excavation	23	

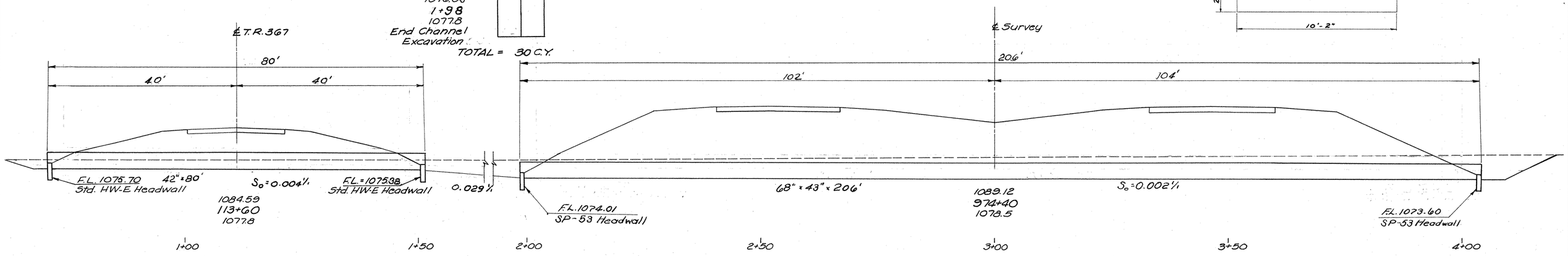
TOTAL = 30 C.Y.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	68"×43" Class G-1 Reinf. Elliptical Conc. Pipe, Sec. M-6.2(b)	206 L.F.
I-2	Masonry	2.48 C.Y.

Modified HW-E Headwall





CULVERT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

218
275

KNO-13-15.93

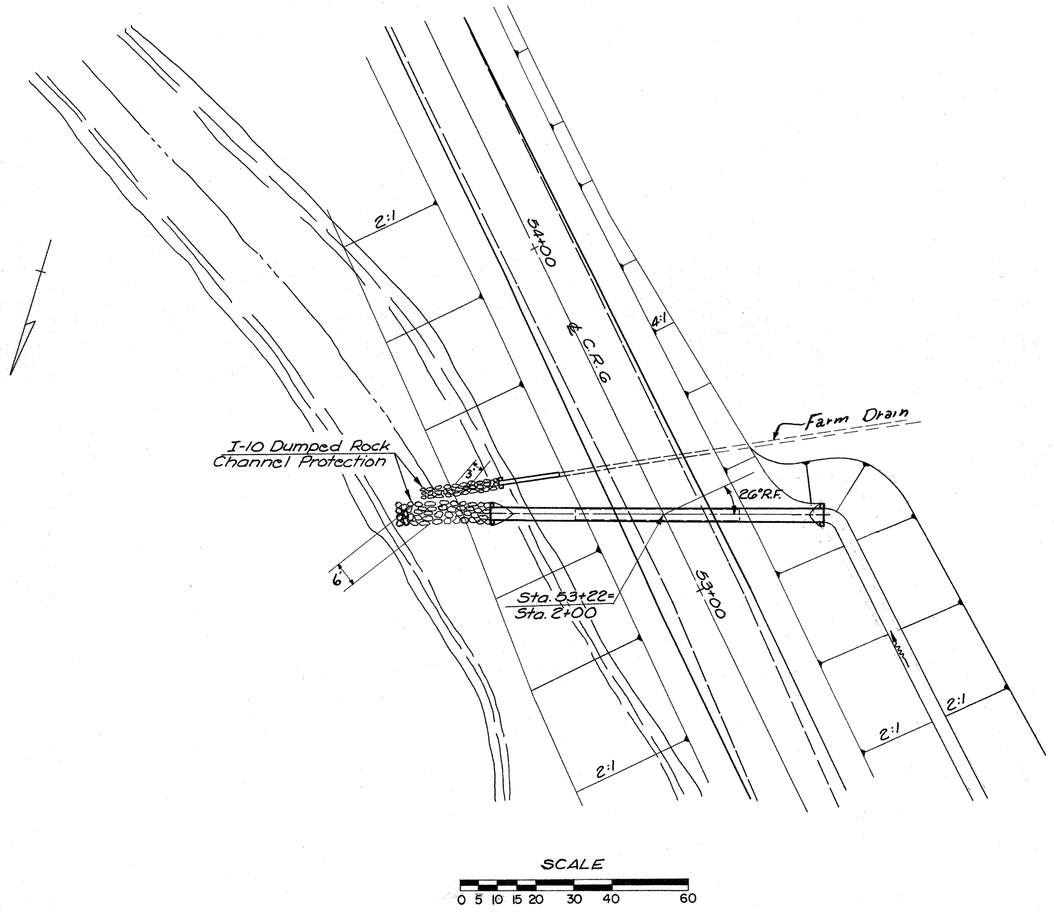
PROPOSED CULVERT
STA. 53+22 C.R.G

Drainage Area: 115 Acres Q_{10} = 84 c.f.s
Size: 42"x88' S_o = 0.02 ft/ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-G.G(a)

Skew: 26° R.F.
Roadway: 23'
Work Required: Remove existing pipe culvert.
Construct new pipe culvert with
HW-E Headwalls left and right
as shown. Place 30" Dumped Rock
Channel Protection at outlet as shown.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	42" Class A-1 Rein. Conc. Pipe, Sec. M-G.G (a)	88 L.F.
I-2	Masonry	1.52 C.Y.
I-10	Dumped Rock Channel Protection	14 C.Y.
E-12	Remove Existing 36" Culvert	43 L.F.

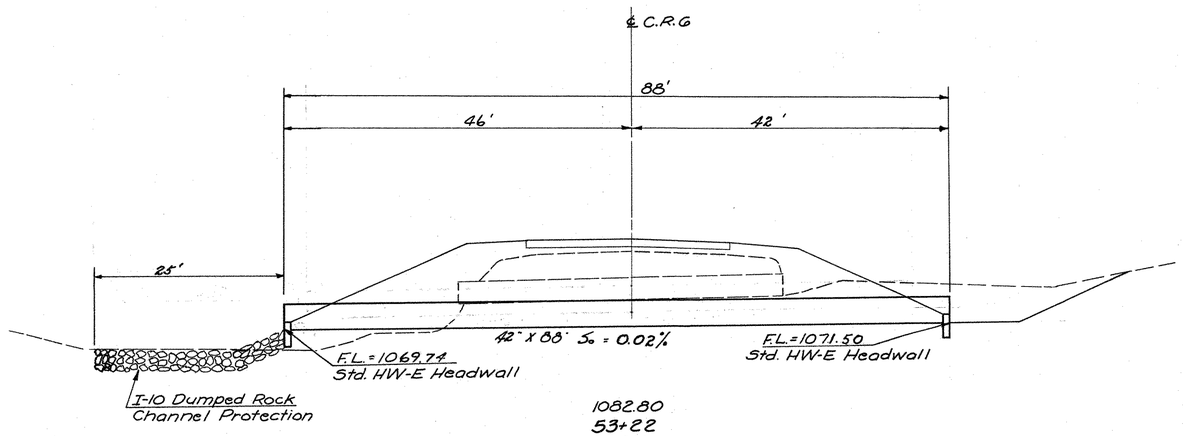


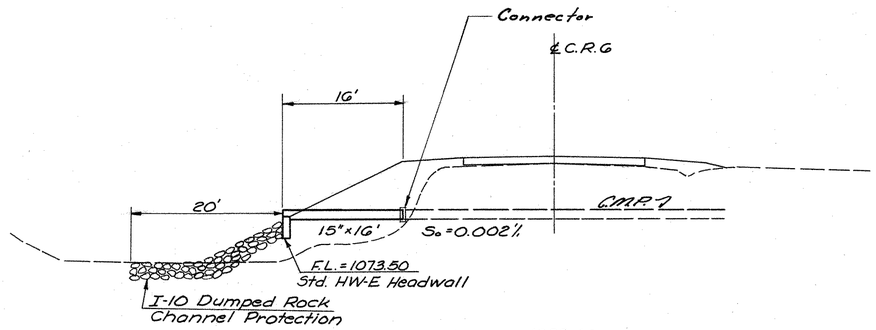
PROPOSED CULVERT
STA. 53+37 C.R.G

Size: 15"x16' S_o = 0.002 ft/ft.
Type: Class A-1 Corr. Metal Pipe, Sec. M-G.4(d)
Standard Drawing: I-1, HW-E
Work Required: Construct an extension using a connector to the
existing pipe culvert with
HW-E Headwall at outlet as shown.
Place 30" thick I-10 Dumped Rock Channel
Protection at outlet as shown.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	15" Class A-1 Corr. Metal Pipe, Sec. M-G.4 (d)	16 L.F.
I-2	Masonry	0.26 C.Y.
I-10	Dumped Rock Channel Protection	6 C.Y.





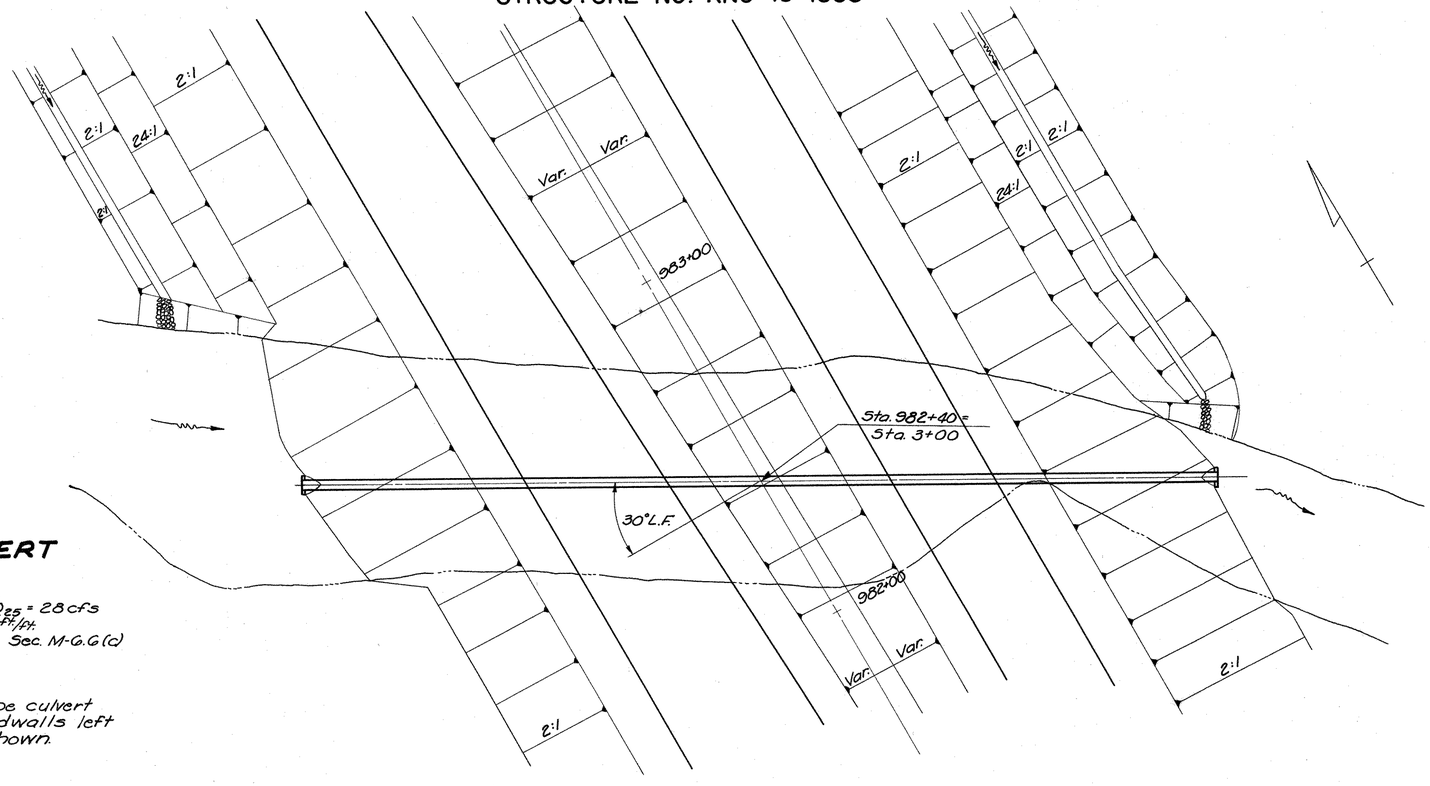
CULVERT DETAILS

STRUCTURE NO. KNO-13-1888

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

219
275

KNO-13-15.93



PROPOSED CULVERT

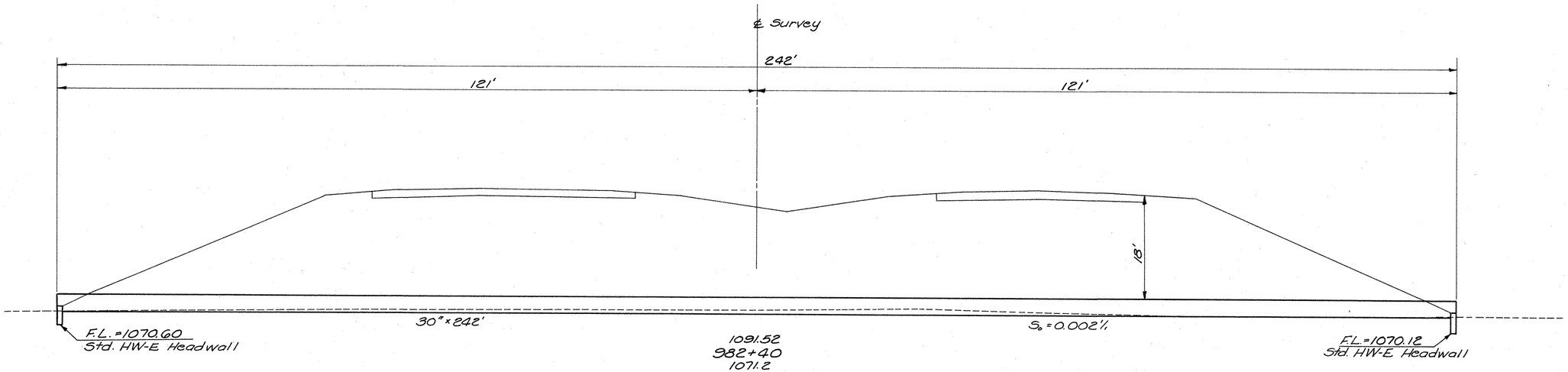
STA. 982+40

Drainage Area: 22 Acres Q_{25} = 28 cfs
Size: 30" x 242' S_o = 0.002 Ft./Ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-G.G(c)
Skew: 30° L.F.
Roadway: 48'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	30" Class A-1 Reinf. Conc. Pipe, Sec. M-G.G(c)	242 L.F.
I-2	Masonry	1.02 C.Y.

SCALE
0 5 10 15 20 30 40 60



CULVERT DETAIL

See Sheet No. for 194
CUT-off wall Detail

STRUCTURE NO. KNO-13-1968

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

220
275

KNO-13-15.93

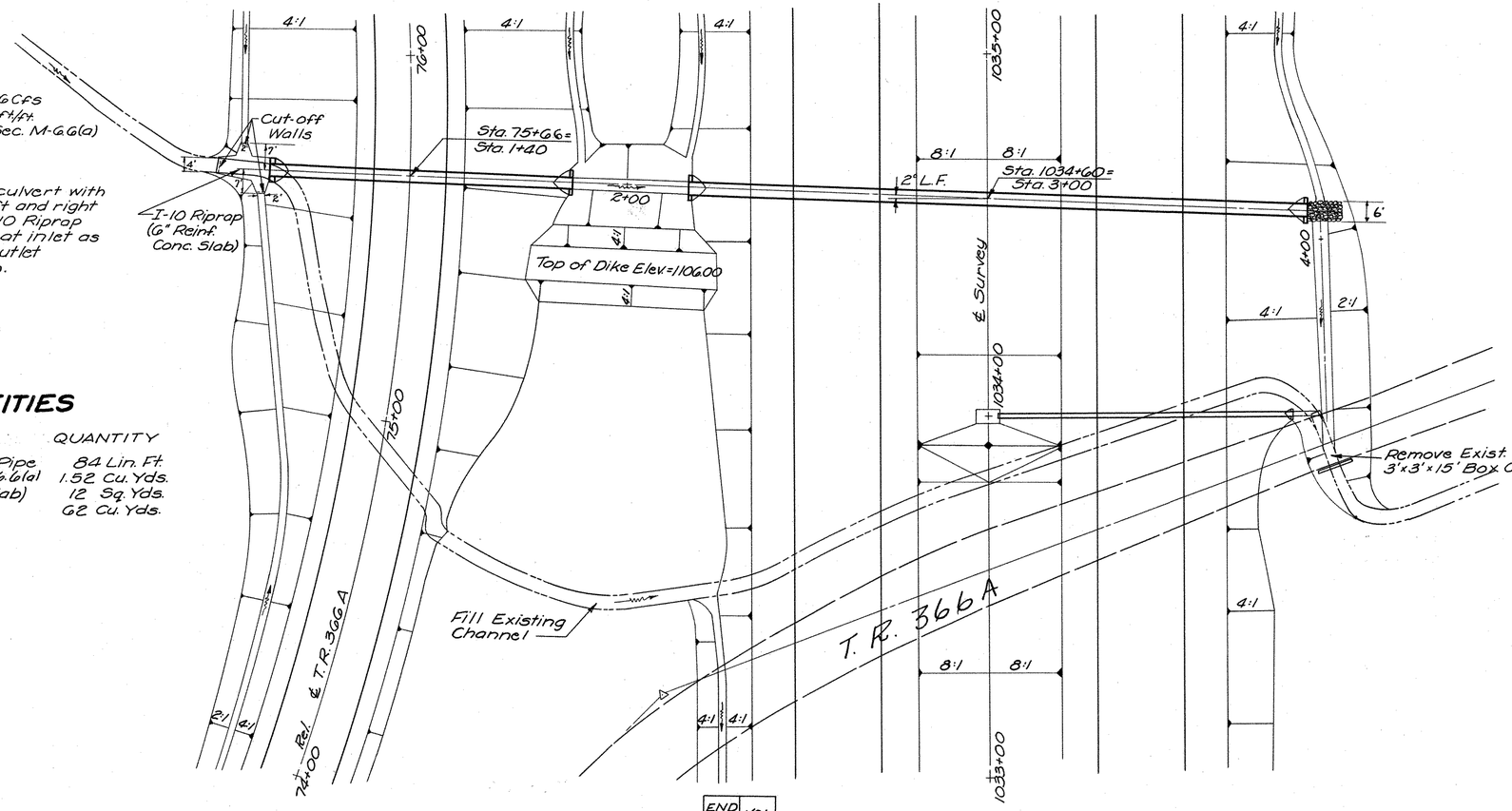
PROPOSED CULVERT

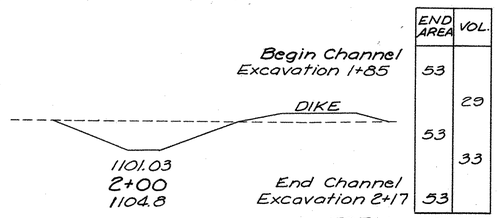
STA. 75+69 T.R. 366A

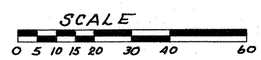
Drainage Area : 120 Acres Q_{10} = 56 CFS
Size : 42"×84' S_o = 0.015 ft/ft.
Type : Class A-1 Reinf. Conc. Pipe Sec. M-6.6(a)
Skew : None
Roadway : 20'
Standard Drawing : I-1, HW-E
Work Required : Construct a pipe culvert with HW-E headwall left and right as shown. Place I-10 Riprap (6" Rein. Conc. Slab) at inlet as shown. Relocate outlet channel as shown.

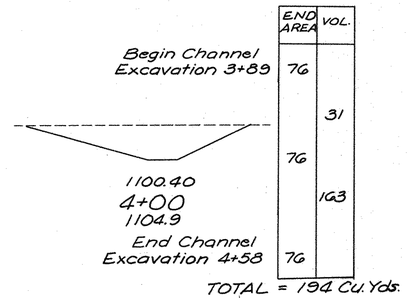
ESTIMATED QUANTITIES

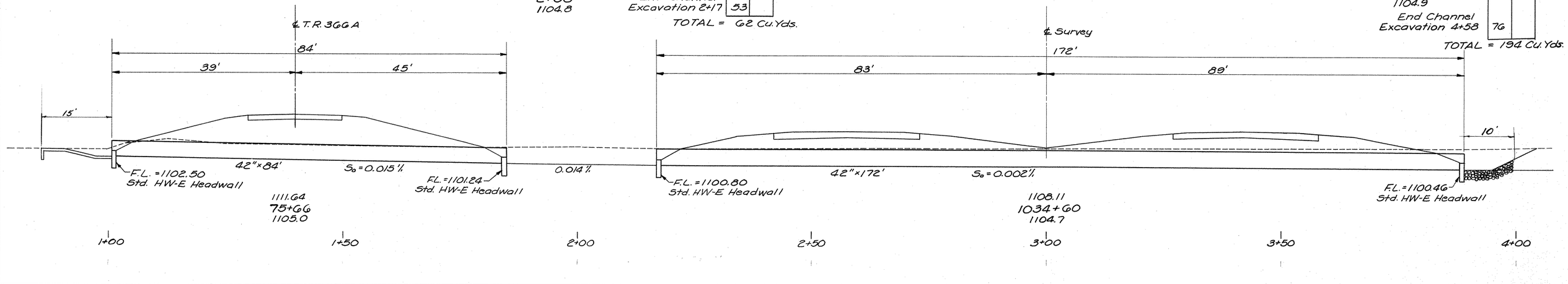
ITEM	DESCRIPTION	QUANTITY
I-1	42" Class A-1, Reinf. Conc. Pipe Sec. M-6.6(a)	84 Lin. Ft.
I-2	Masonry	1.52 Cu. Yds.
I-10	Riprap (6" Reinf Conc. Slab)	12 Sq. Yds.
E-3	Channel Excavation	62 Cu. Yds.











PROPOSED CULVERT

STA. 1034+60

Drainage Area : 122 Acres Q_{25} = 73 CFS
Size : 42"×172' S_o = 0.002 ft/ft.
Type : Class A-1, Reinf. Conc. Pipe, Sec. M-6.6(a)
Skew : 2° L.F.
Roadway : 48'
Standard Drawing : I-1, HW-E
Work Required : Construct a pipe culvert with HW-E headwalls left and right as shown. Remove existing box culvert. Relocate channel as shown. Place 30" thick I-10 Dumped Rock Channel Protection at outlet.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	42" Class A-1 Reinf. Conc. Pipe Sec. M-6.6 (a)	172 Lin. Ft.
I-2	Masonry	1.52 Cu. Yds.
E-3	Channel Excavation	194 Cu. Yds.
S-24	Remove Exist. Structure	Lump
I-10	Dumped Rock Channel Protection	6 Cu. Yds.

CULVERT DETAILS

STRUCTURE NO. KNO-13-2006

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

221
275

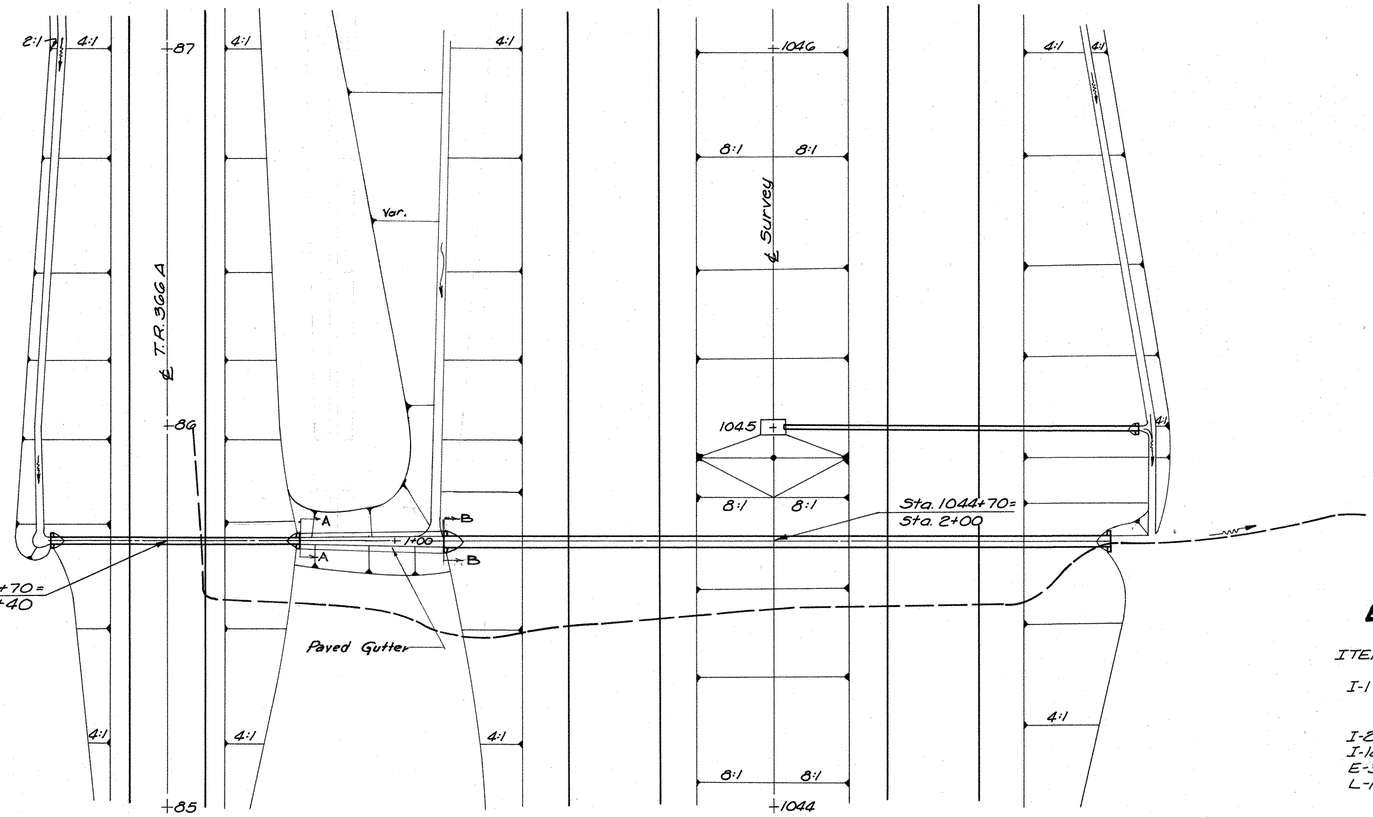
PROPOSED CULVERT
STA. 85+70 T.R. 366 A

Drainage Area: 11 Acres Q_{10} = 22 cfs
Size: 24" x 66' S_o = 0.015 ft/ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)
Skew: None
Roadway: 20'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.

PROPOSED CULVERT
STA. 1044+70

Drainage Area: 27 Acres Q_{25} = 51 cfs
Size: 42" x 176' S_o = 0.003 ft/ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a)

Skew: None
Roadway: 48'
Standard Drawing: I-1, HW-E, I-14G
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown. Relocate inlet channel with paved gutter as shown.

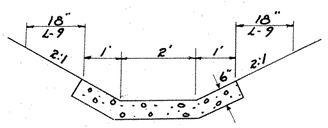


ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	24" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)	66 L.F.
I-2	Masonry	0.82 C.Y.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	42" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a)	176 L.F.
I-2	Masonry	1.52 C.Y.
I-14	Paved Gutter	38 L.F.
E-3	Channel Excavation	19 C.Y.
L-10	Sodding	12 S.Y.

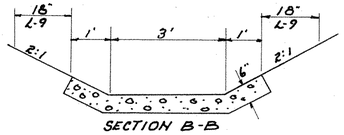


SECTION A-A

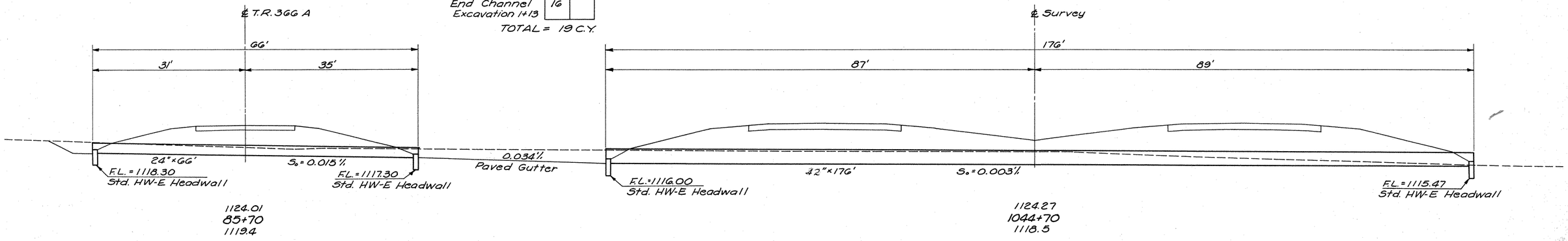
SCALE
0 5 10 15 20 30 40 60

	END AREA	VOL.
Begin Channel Excavation 0+75	8	
		11
	16	
1116.45		
1+00		
1118.9		
		8
End Channel Excavation 1+13	16	

TOTAL = 19 C.Y.



SECTION B-B



CULVERT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

222/275

KNO-13-15.93

PROPOSED CULVERT
STA. 45+20 C.R. 49

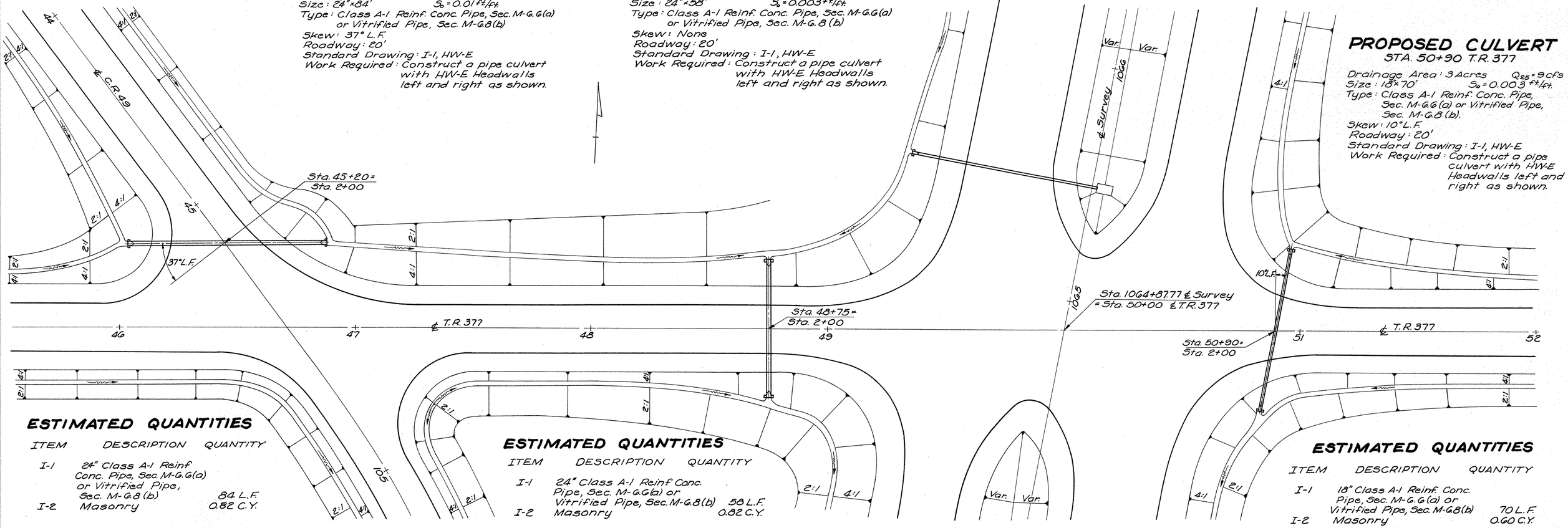
Drainage Area: 4 Acres Q_{10} = 12 cfs
Size: 24"×84' S_o = 0.01 ft./ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)
Skew: 37° L.F.
Roadway: 20'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.

PROPOSED CULVERT
STA. 48+75 T.R. 377

Drainage Area: 9 Acres Q_{25} = 19 cfs
Size: 24"×58' S_o = 0.003 ft./ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)
Skew: None
Roadway: 20'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.

PROPOSED CULVERT
STA. 50+90 T.R. 377

Drainage Area: 3 Acres Q_{25} = 9 cfs
Size: 18"×70' S_o = 0.003 ft./ft.
Type: Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b).
Skew: 10° L.F.
Roadway: 20'
Standard Drawing: I-1, HW-E
Work Required: Construct a pipe culvert with HW-E Headwalls left and right as shown.



ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	24" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)	84 L.F.
I-2	Masonry	0.82 C.Y.

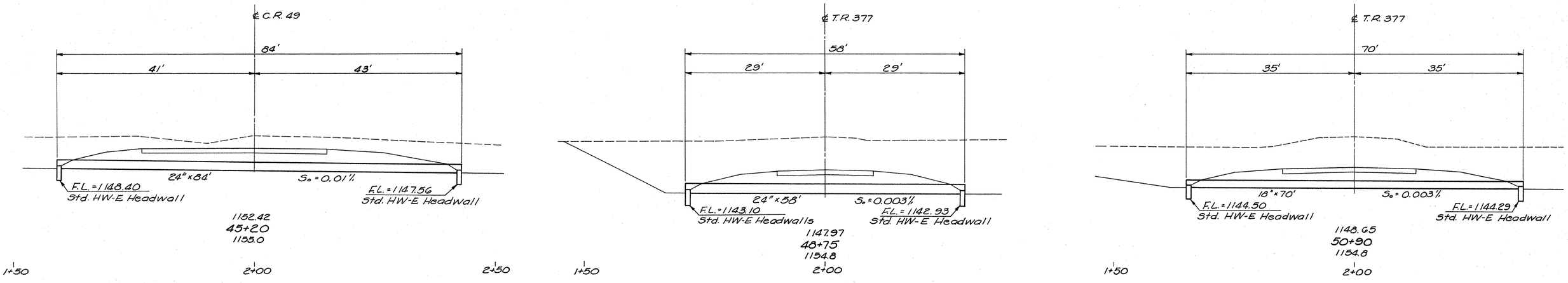
ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	24" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)	58 L.F.
I-2	Masonry	0.82 C.Y.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY
I-1	18" Class A-1 Reinf. Conc. Pipe, Sec. M-6.6(a) or Vitrified Pipe, Sec. M-6.8(b)	70 L.F.
I-2	Masonry	0.60 C.Y.

SCALE: 1"=20'



SCALE: 1"=10'

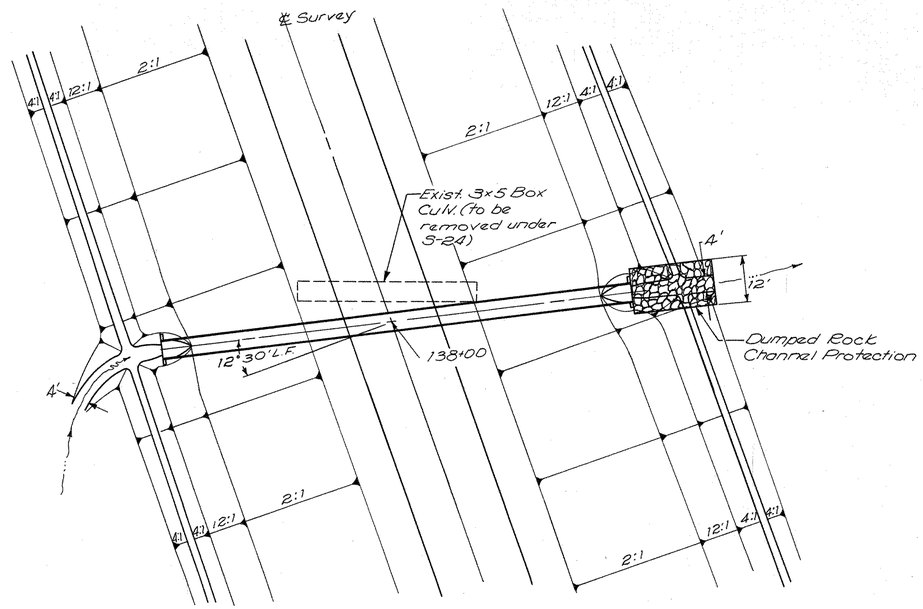
CULVERT DETAILS

STRUCTURE NO. KNO-13-2126

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

223
275

KNO-13-15.93



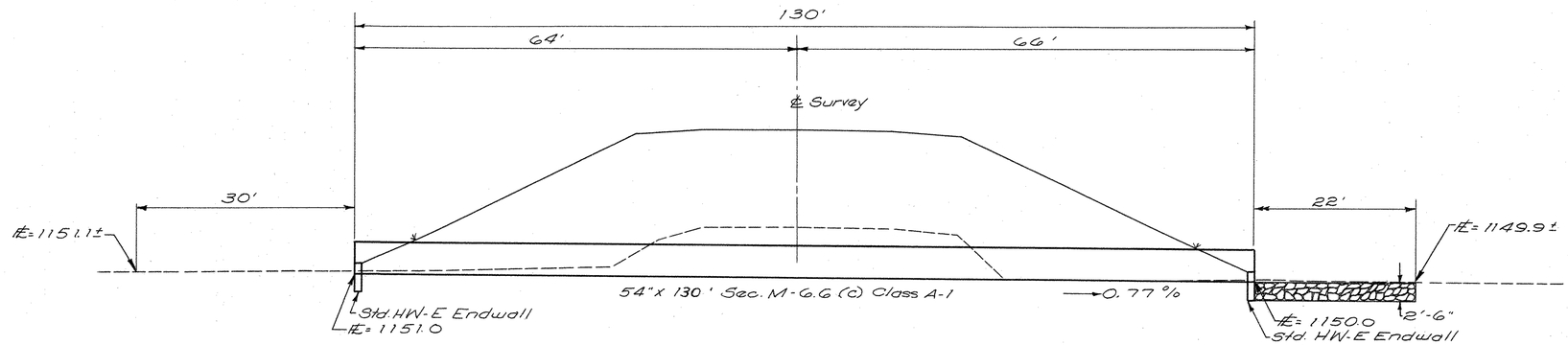
PLAN

PROPOSED CULVERT

STA 138+00
DRAINAGE AREA: 200 Acres — Q25 = 160 c.f.s.
SIZE: 54" x 130' — So = 0.0077 ft./ft.
TYPE: Class A-1 Reinforced Conc. Pipe Sec. M-6.6 (c)
SKEW: 12°30' L.F.
ROADWAY: 24'
STANDARD DRAWINGS: I-1, HW-E
WORK REQUIRED: Construct a pipe culvert with HW-E Headwalls lt. & rt. as shown.

ESTIMATED QUANTITIES

I-1	54" Pipe Sec. M-6.6 (c) Class A-1	130	Lin. Ft.
I-2	Masonry Class "C"	1.9	Cu. Yds.
I-10	Dumped Rock Channel Protection	24	Cu. Yds.
S-24	Removal of Existing Structure		Lump



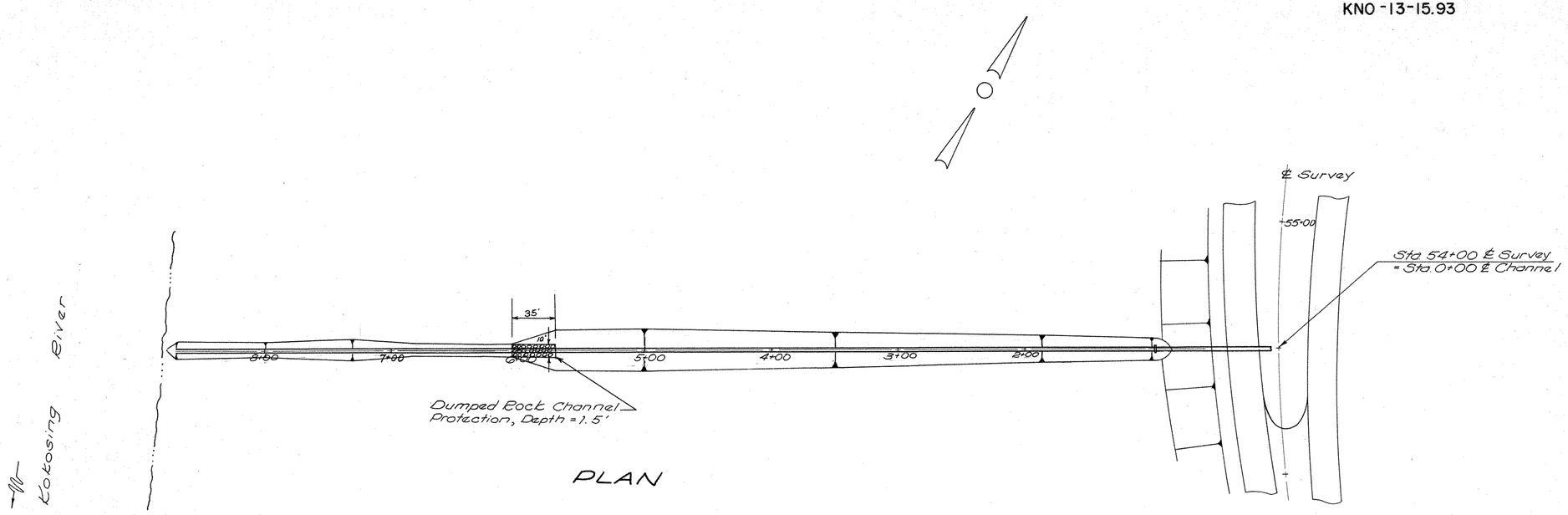
SECTION
Scale: 1" = 10'

CULVERT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

224
275

KNO-13-15.93



PLAN

ESTIMATED QUANTITIES

E-3 Channel Excavation 1753 C.Y.

I-10 Dumped Rock Channel Protection 20 C.Y.

CHANNEL CROSS SECTIONS

E-3 E.A.	E-3 C.Y.
7	61
130	1337
62	211
52	1753

1044.25
6+00
1046.1

1048.25
5+76
1056.3

1049.0
2+00
1054.1

1049.20
1+00
1053.8

Total

E-3 E.A.	E-3 C.Y.
0	2
23	45
12	
34	
	31
3	
	2
1	
	4

1043.71

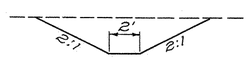
1047.1

1043.85
+00
1046.3

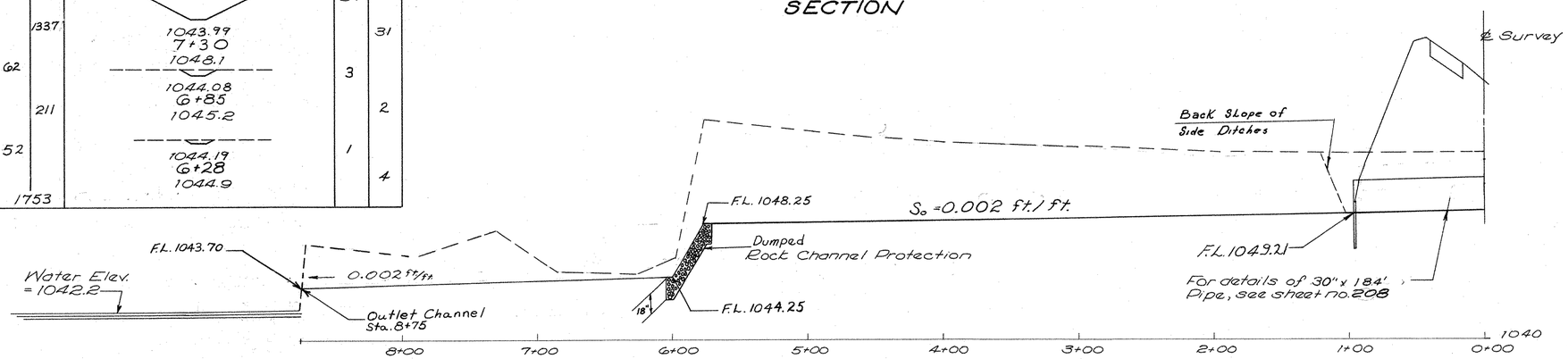
1043.99
7+30
1048.1

1044.08
6+85
1045.2

1044.19
6+28
1044.9



TYPICAL CHANNEL SECTION



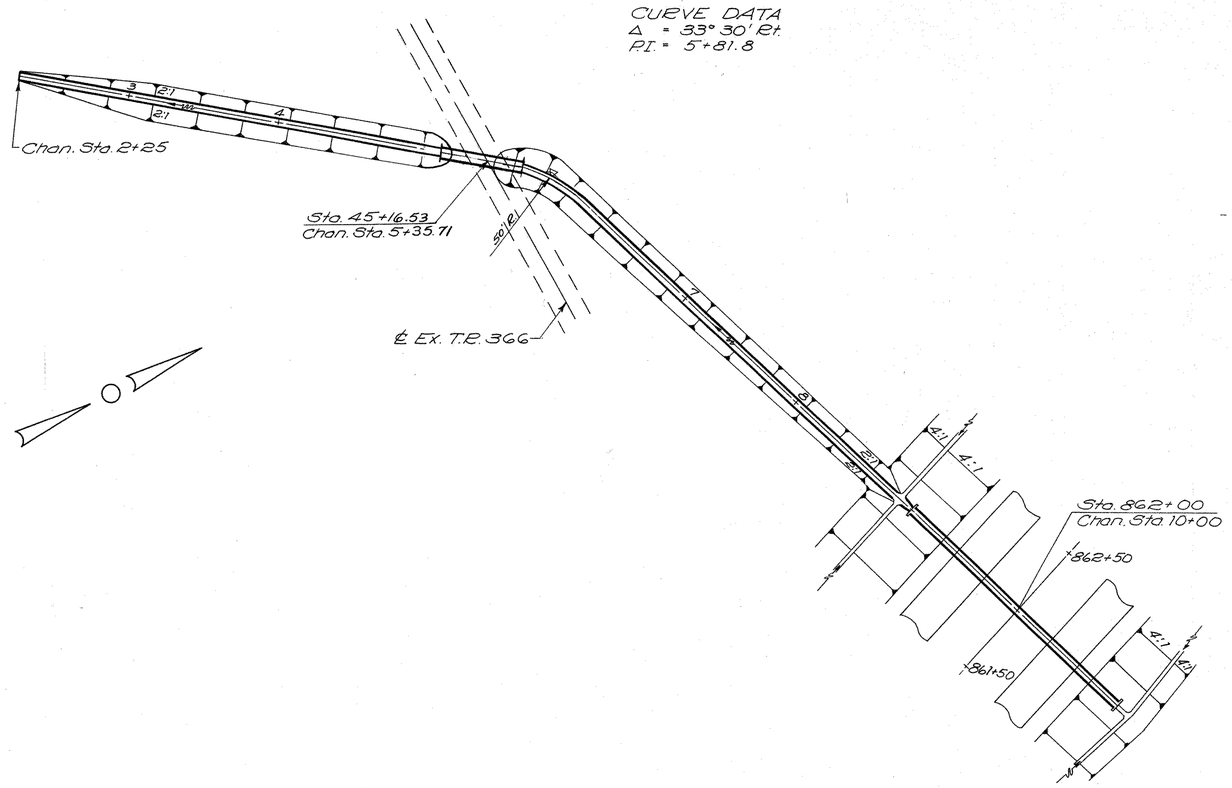
PROFILE

CHANNEL DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

225
275

KNO-13-15.93



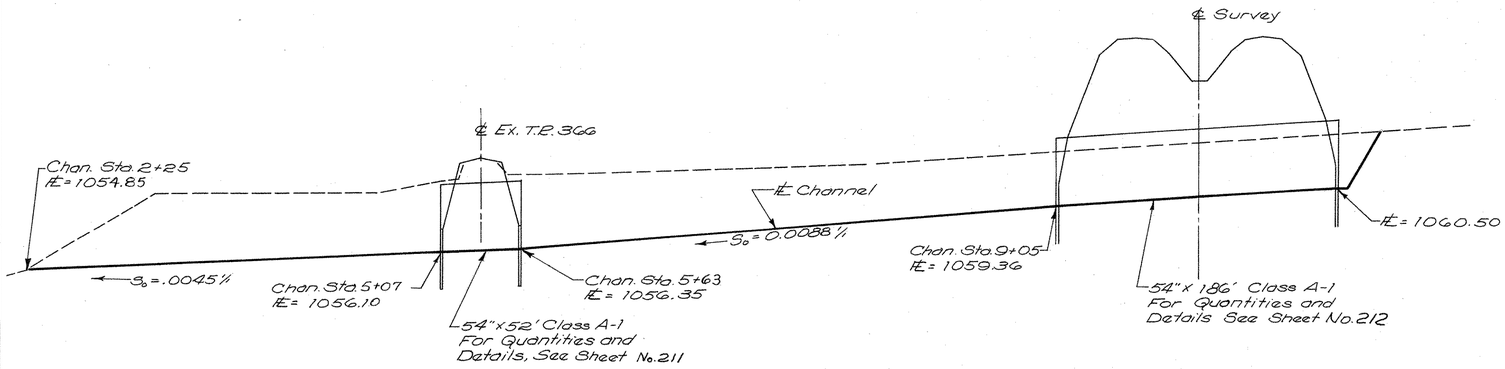
Channel Cross Sections

	E.A.	C.Y.
1056.10 5+07 1061.0 — Back	61	
		256
1055.61 4+00 1060.2	68	
		230
4' bottom, 2:1 sides 1055.23 3+10 1060.0	70	
		110
2+25	0	

SCALE: 1" = 10'

Channel Cross Sections

	E.A.	C.Y.
1059.36 9+05 1062.9 — Back	31	
		137
1058.44 8+00 1062.0	39	
		182
1057.56 7+00 1062.0	59	
		340
1056.35 5+63 1061.4 — Ahead	75	
Total E-3	1255	

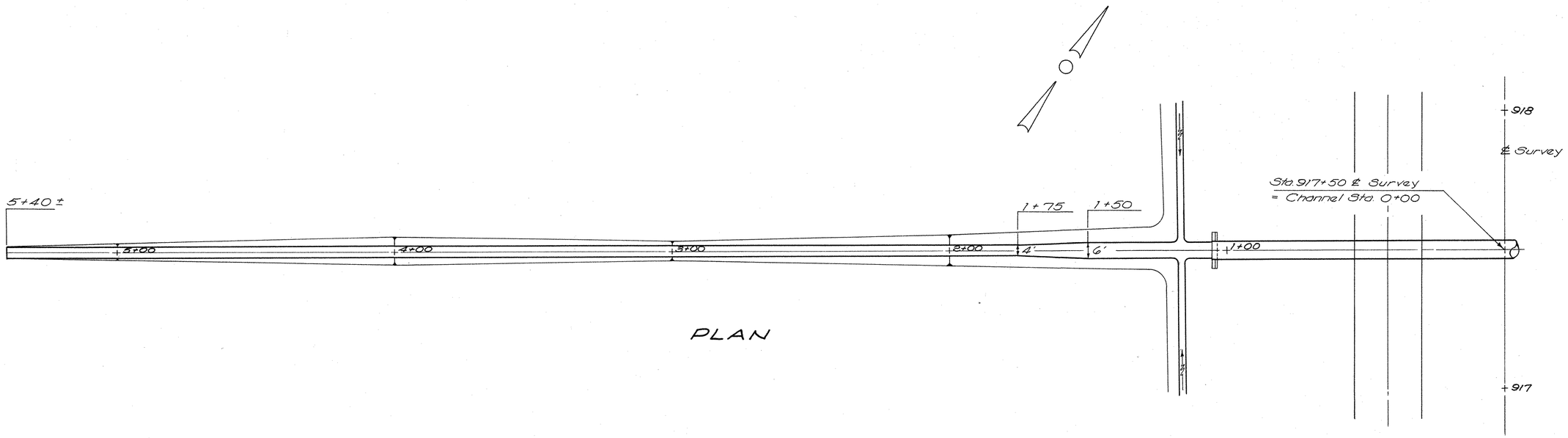


CHANNEL DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

226
275

KNO-13-15.93

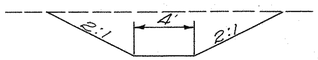


PLAN

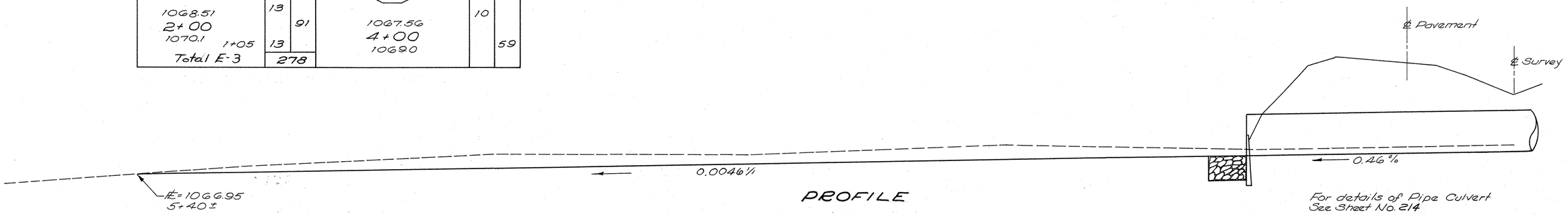
CHANNEL CROSS SECTION - Scale: 1"=10'

	E-3 E.A.	E-3 C.Y.
1068.05 3+00 1069.0	6	
		70
1068.51 2+00 1070.1	13	91
1+05	13	
Total E-3	278	

	E-3 E.A.	E-3 C.Y.
5+40 1067.10 5+00 1067.7	0	6
	4	
		52
1067.56 4+00 1069.0	10	
		59



TYPICAL CHANNEL SECTION



PROFILE

For details of Pipe Culvert See Sheet No. 214

CHANNEL DETAIL

SUB - SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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KNO-13-15.93

ITEM	SHEET NUMBER 208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	TOTAL ITEM	QUANT.	UNIT	DESCRIPTION
E-12											43									E-12	43	Lin. Ft	Pipe Removed - Over 15"
L-10														12						L-10	12	S. Y.	Sodding
E-3										30			256	19			1753	1255	278	E-3	3594	C. Y.	Channel Excavation
I-1											16									I-1	16	Lin. Ft	15" Pipe Class A-1 Sec. M-6.4(d)
I-1															70					I-1	70	Lin. Ft	18" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1			170						166					66	142					I-1	544	Lin. Ft	24" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1						172														I-1	172	Lin. Ft	30" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1						88														I-1	88	Lin. Ft	30" Pipe Class A-1
I-1	184																			I-1	184	Lin. Ft	30" Pipe Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1												242								I-1	242	Lin. Ft	30" Pipe Class A-1 Sec. M-6.6(c)
I-1		214																		I-1	214	Lin. Ft	36" Pipe Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1								118												I-1	118	Lin. Ft	36" Pipe Class A-1 Sec. M-6.6(c)
I-1										80	88		256	176						I-1	600	Lin. Ft	42" Pipe Class A-1 Sec. M-6.6(a)
I-1				56	186															I-1	242	Lin. Ft	54" Pipe Class A-1 Sec. M-6.6(a)
I-1																130				I-1	130	Lin. Ft	54" Pipe Class A-1 Sec. M-6.6(c)
I-1										206										I-1	206	Lin. Ft	68" x 43" Pipe Sec. M-6.7(b) Class G-1
I-1							196													I-1	196	Lin. Ft	76" x 48" Pipe Sec. M-6.7(a) Class G-1
I-2	1.02	1.18	0.82	1.92	1.92	2.04	5.40	1.20	0.82	4.00	1.78	1.02	3.04	2.34	2.24	1.90				I-2	32.7	C. Y.	Masonry
I-8			1			1			1											I-8	3	Each	Catch Basin, Standard No. 4
I-8	1																			I-8	1	Each	Catch Basin, Standard No. 4 Modified, as per plan
I-10		8				14							12							I-10	34	S. Y.	Riprap; 6" Reinforced Concrete Slab, as per plan
I-10					19		17	11			20		6			24	20			I-10	117	C. Y.	Dumped Rock Channel Protection
I-14														38						I-14	38	Lin. Ft	Paved Gutter, Standard Type I
S-24													Lump			Lump				S-24	Lump	Lump	Removal of Existing Structures

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

228
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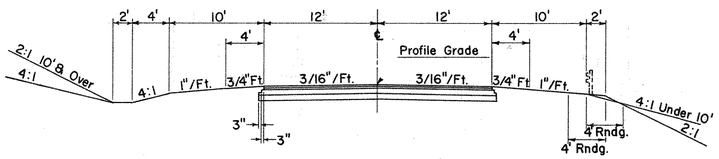
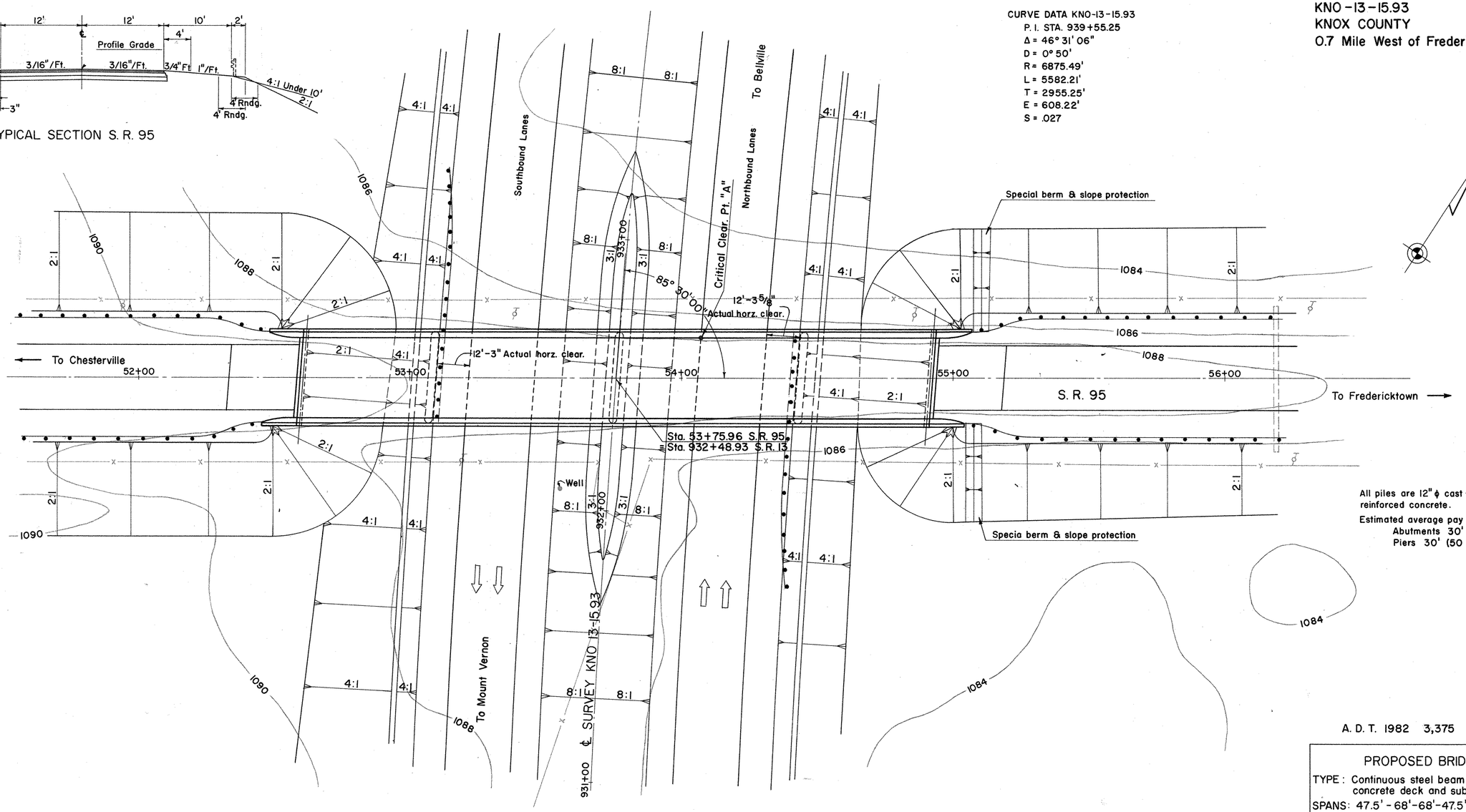
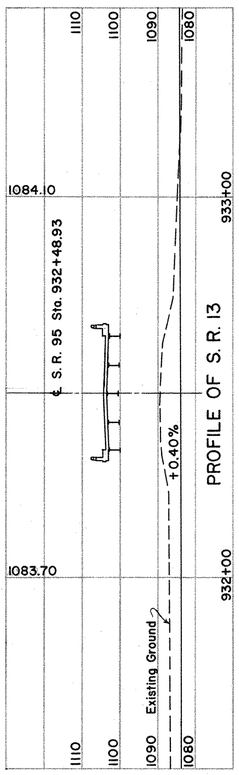
KNO-13-15.93
KNOX COUNTY
0.7 Mile West of Fredericktown



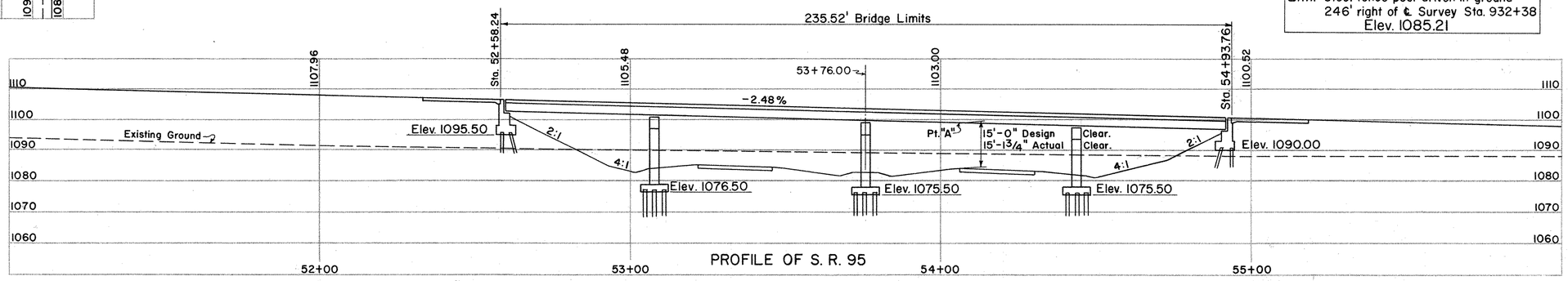
TYPICAL SECTION S. R. 95

CURVE DATA KNO-13-15.93
P. I. STA. 939+55.25
Δ = 46° 31' 06"
D = 0° 50'
R = 6875.49'
L = 5582.21'
T = 2955.25'
E = 608.22'
S = .027





B.M. Steel fence post driven in ground
246' right of ℄ Survey Sta. 932+38
Elev. 1085.21



PROPOSED BRIDGE DATA

TYPE: Continuous steel beam with reinforced concrete deck and substructure
SPANS: 47.5' - 68'-68'-47.5' c/c bearings
ROADWAY: 30' f f of 2'-0" saftey curbs
LOADING: CF 400
WEARING SURFACE: 1" Monolithic concrete
SKEW: 4° 30' L. F.
ALIGNMENT: Tangent
APPROACH SLABS: 25' AS-1-54

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S. E. CANTON, OHIO

SITE PLAN
BRIDGE NO. KNO-13-17.94
UNDER S. R. 95
KNOX CO.
STA. 52+58.24
STA. 54+93.76

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYING	DRAWN	DESIGNING	DRAWN	CHECKED	REVISED
	G.K.		G.K.	a.w.k.	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

229
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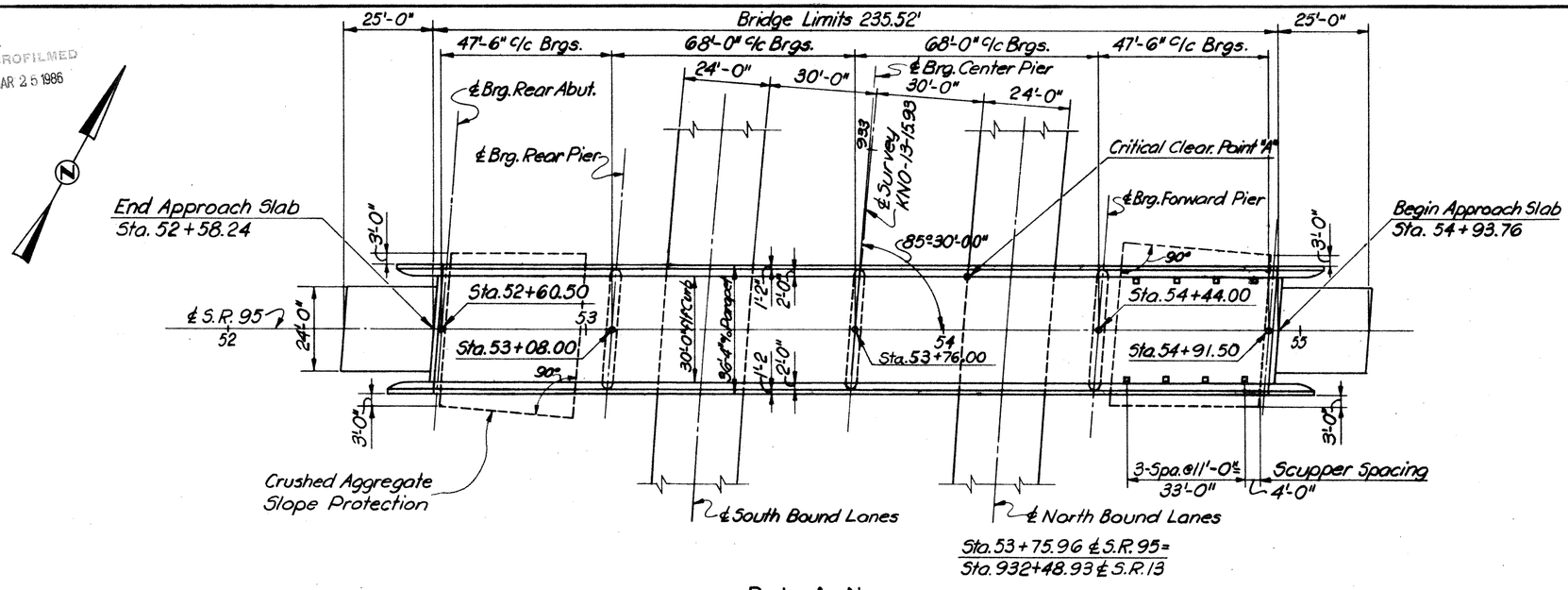
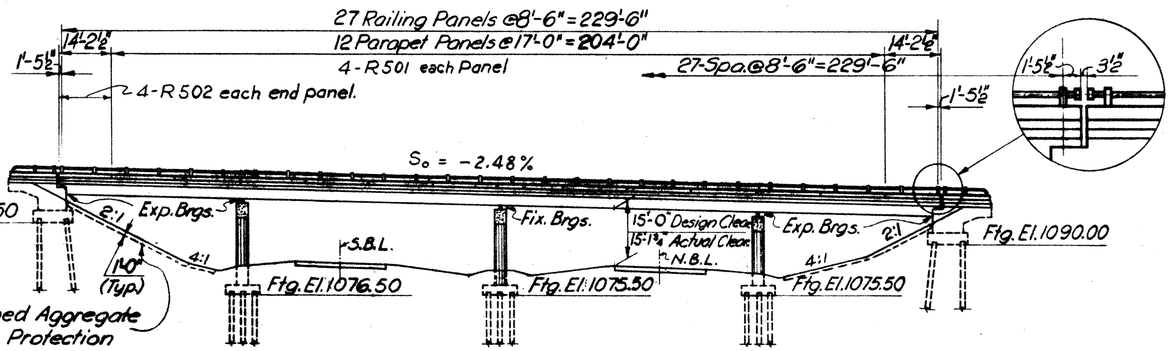
KNO-13-15.93
KNOX COUNTY



PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUT.	PIERS	GEN.		
E-2	422	C.Y.	Unclassified Excavation		180	242			
S-1	268	C.Y.	Class "C" Concrete, Superstructure	268					
S-1	83	C.Y.	Class "C" Concrete, Piers above Footings			83			
S-1	72	C.Y.	Class "E" Concrete, Abutments above Footings		72				
S-1	129	C.Y.	Class "E" Concrete, Footings		62	67			
S-4	119,617	Lbs.	Reinforcing Steel	69,198	11,323	39,096			
S-7	205,800	Lbs.	Structural Steel	205,800					
S-8	205,800	Lbs.	Field Painting of Structural Steel	205,800					
S-14	507.10	Lin. Ft.	Railing (Type A Aluminum Rail & Supports, Concrete Parapet)	459.00	48.10				
S 16	LUMP	SUM	First Test Pile				LUMP		
S-17	LUMP	SUM	First Pile Test Load				LUMP		
S-17	1	Ea.	Subsequent Pile Test Load				1		
S-18	2460	Lin. Ft.	12" ϕ Cast in place Reinf. Conc. Piles		840	1620			
S-29	60	Lin. Ft.	6" Perforated Helical C.M.P. M-6.4(h) Including Specials		60				
S-29	24	C.Y.	Porous Backfill		24				
S-29	8	Ea.	Scuppers Including Supports	8					
S-29	48	Lin. Ft.	6" Helical C.M.P. M-6.4(h) Non-Perforated		48				
I-10	430	S.Y.	Crushed Aggregate Slope Protection				430		
S-101	268	Ea.	Water Reducing, Set Retarding Admixture	268					

GENERAL NOTES.

DESIGN SPECIFICATIONS: This Structure conforms to the requirements of "Design Specifications for Hwy. Structures" of the State of Ohio, Dept. of Highways, dated 9-1-57 together with current revisions thereof, except that beam sections are designed for the 20,000 lb. unit stress ASTM A-36 Steel.

REFERENCE shall be made to Std. Dwgs. SD-1-63 dated 11-12-63 CSB-4-63, dated 12-30-63, FSB-1-62, revised 1-15-63, SD-2-64 dated 11-25-64 and to Supplemental Specifications S-101 dated 7-12-62 & S-307 dated 10-1-64.
PROCEDURE: The embankment shall be placed & compacted up to the finished spilled-thru slope & to the level of the subgrade for the distance of 200 feet back of the abutments, after which excavation shall be made for the abutments & the piles driven.

EXCAVATION QUANTITY includes the removal of fill mat'l. req'd. for the construction of the abutments.

PILING: All piles shall be 12" ϕ cast in place Reinf. Conc. Piles & shall be driven to a brg. capacity of 30 Tons for abut's. & 50 Tons for piers.

FIRST PILE TEST LOAD The first pile test load shall be applied if and where directed by the Engineer.

CRUSHED AGGREGATE SLOPE PROTECTION: The slope under structure shall be protected by Crushed Aggregate Mat'l. as provided in Sec. I-10.04 of the Construction & Mat'l. Spec's., & shall extend down the slope, normal to the face of the abut. to the toe of slope.

BOLTED BEAM SPLICE: For details see Sheet No. 245.

GENERAL NOTES CONT'D.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

DESIGN LOADING: CF 400 (57)

CONCRETE CLASS "C": Basic unit stress 1,333 p.s.i.
CONCRETE CLASS "E": Basic unit stress 1,133 p.s.i.

STRUCTURAL STEEL: ASTM A36 - basic unit stress 20,000 p.s.i. (ASTM A7 & A373 steel not permitted

REINFORCING STEEL: ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. except, Spiral Reinforcement may be plain, Structural Grade with basic unit stress of 18,000 p.s.i.

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON OHIO

GENERAL PLAN, ELEVATION & ESTIMATED QUANTITIES
BRIDGE NO. KNO-13-17.94
UNDER S. R. 95
KNOX COUNTY SEC. KNO-13-15.93
STA. 52+58.24
STA. 54+93.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.J.	F.T.	F.T.	J.D.S.	a.w.k.	2-12-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

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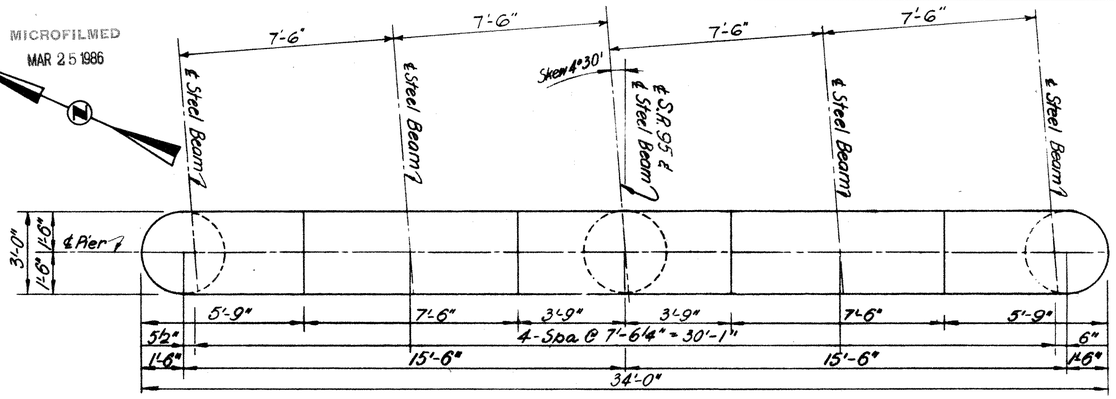
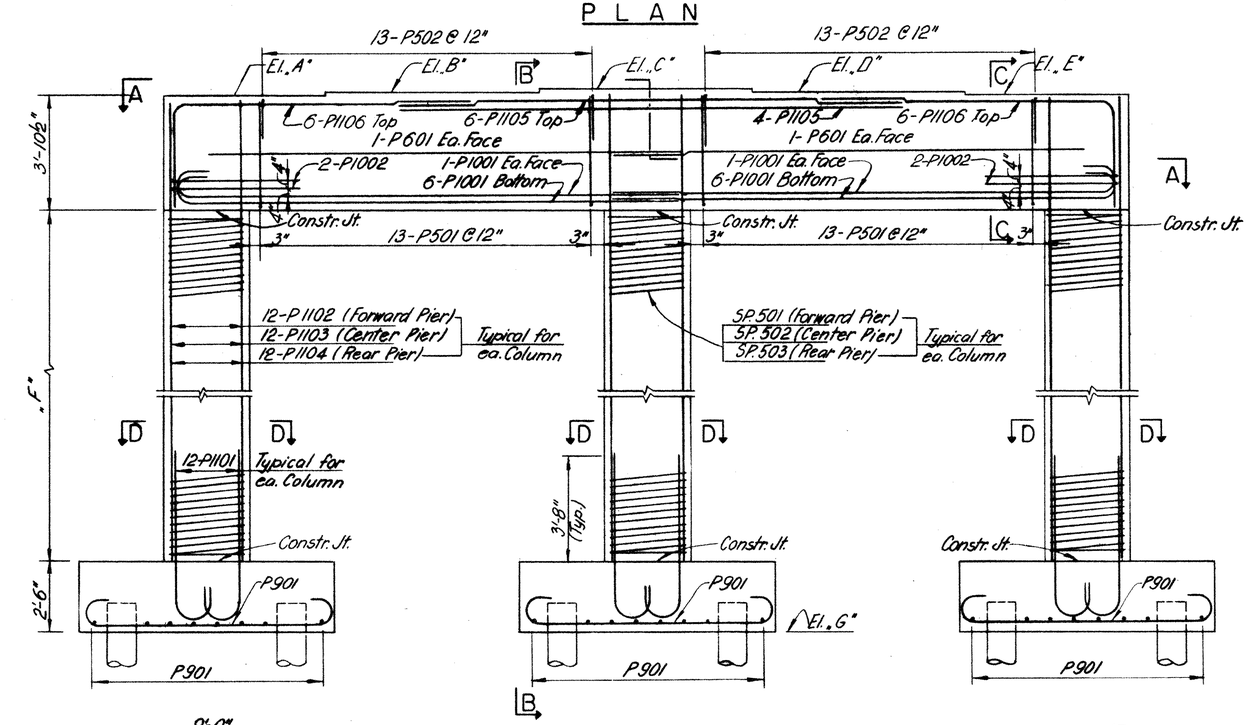
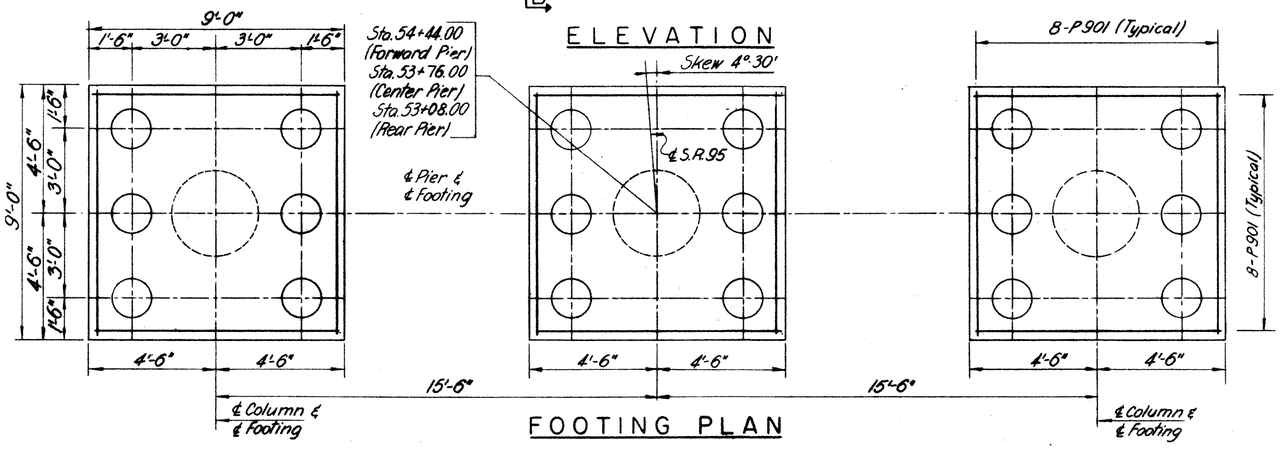
KNO-13-15.93
KNOX COUNTY



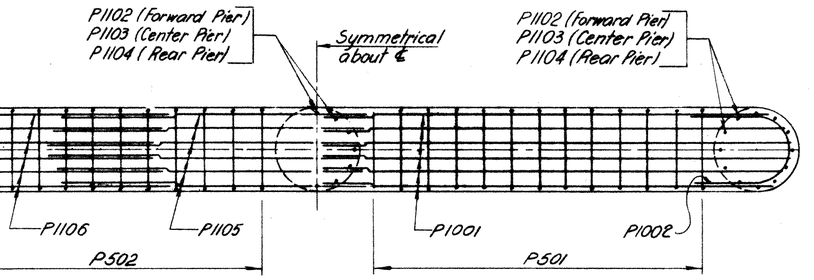
PLAN



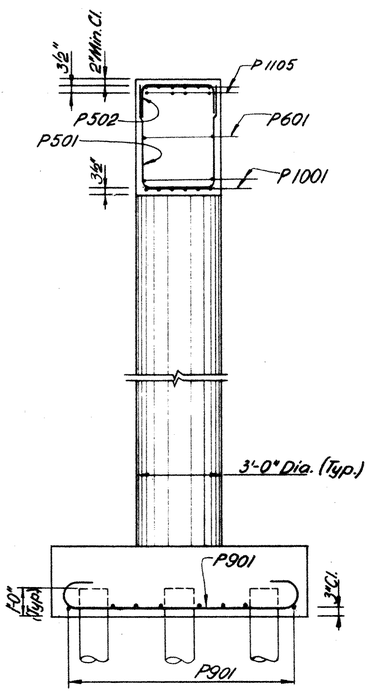
ELEVATION



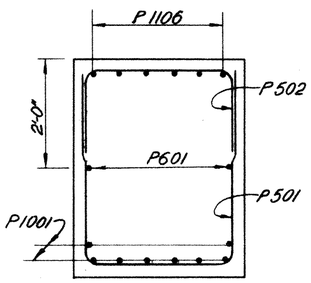
FOOTING PLAN



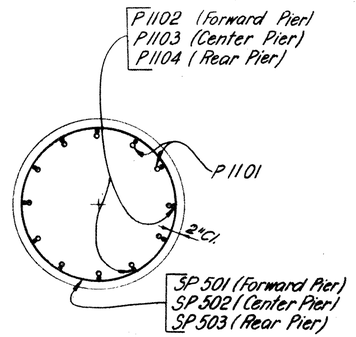
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES.

Concrete for Piers Caps & Columns shall be Class „C". Concrete for Pier Footing shall be Class „E."
Reinforcing steel clearance shall be 2" except as noted.
In placing Reinforcing in the Cap of the Pier care shall be taken to clear Anchor Bolts.

Elevations & Dimensions

Pier	A	B	C	D	E	F	G
Forward	1097.75	1097.87	1098.01	1097.90	1097.81	15'-10⅝"	1075.50
Center	1099.15	1099.28	1099.41	1099.30	1099.21	17'-3¼"	1075.50
Rear	1101.12	1101.24	1101.38	1101.27	1101.18	18'-3"	1076.50

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE SE CANTON OHIO

PIER DETAILS

BRIDGE NO. KNO-13-17.94
UNDER S. R. 95

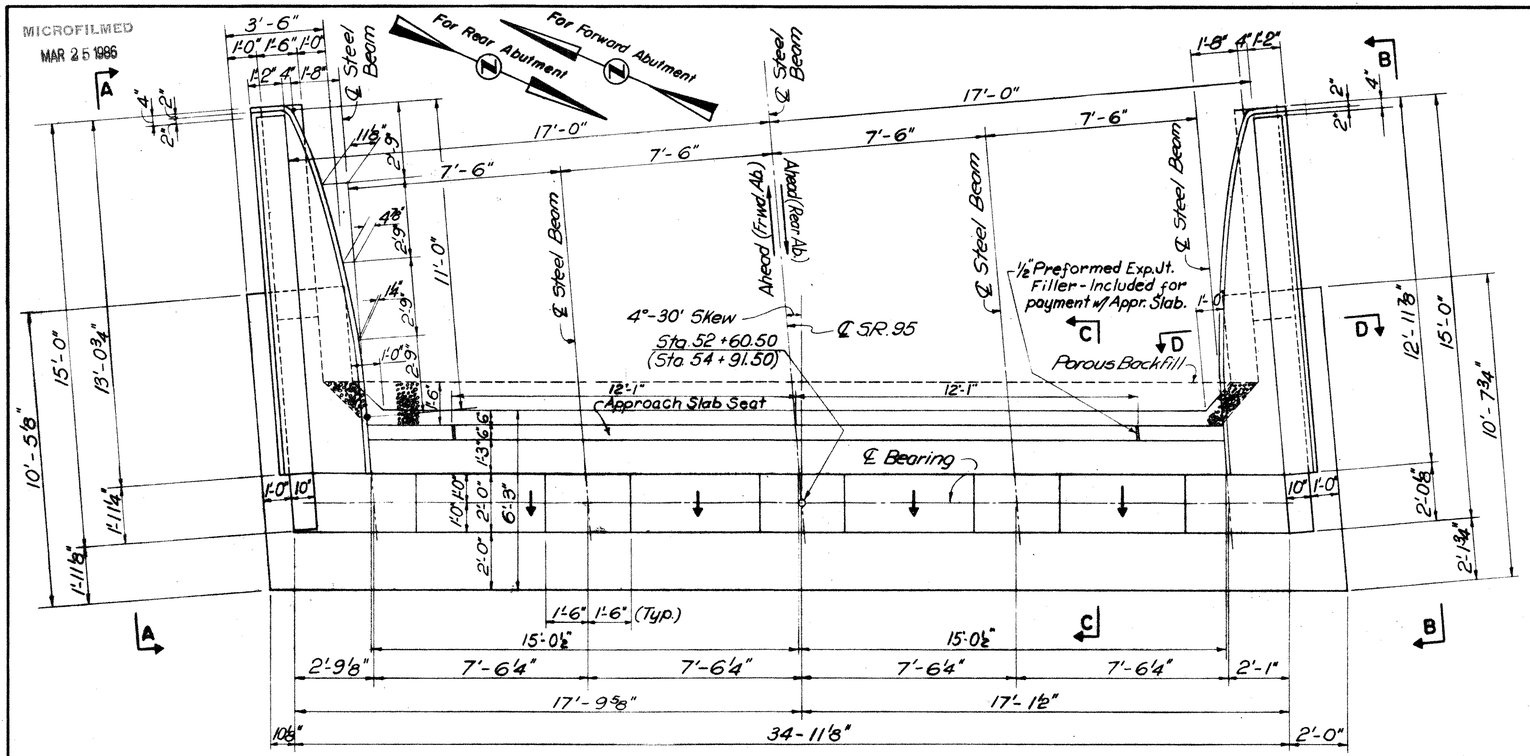
KNOX COUNTY STA. 52+58.24
SEC. KNO-13-15.93 STA. 54+93.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.J.	Y.R.	Y.R.	J.D.S.	a.w.k.	2-12-65	

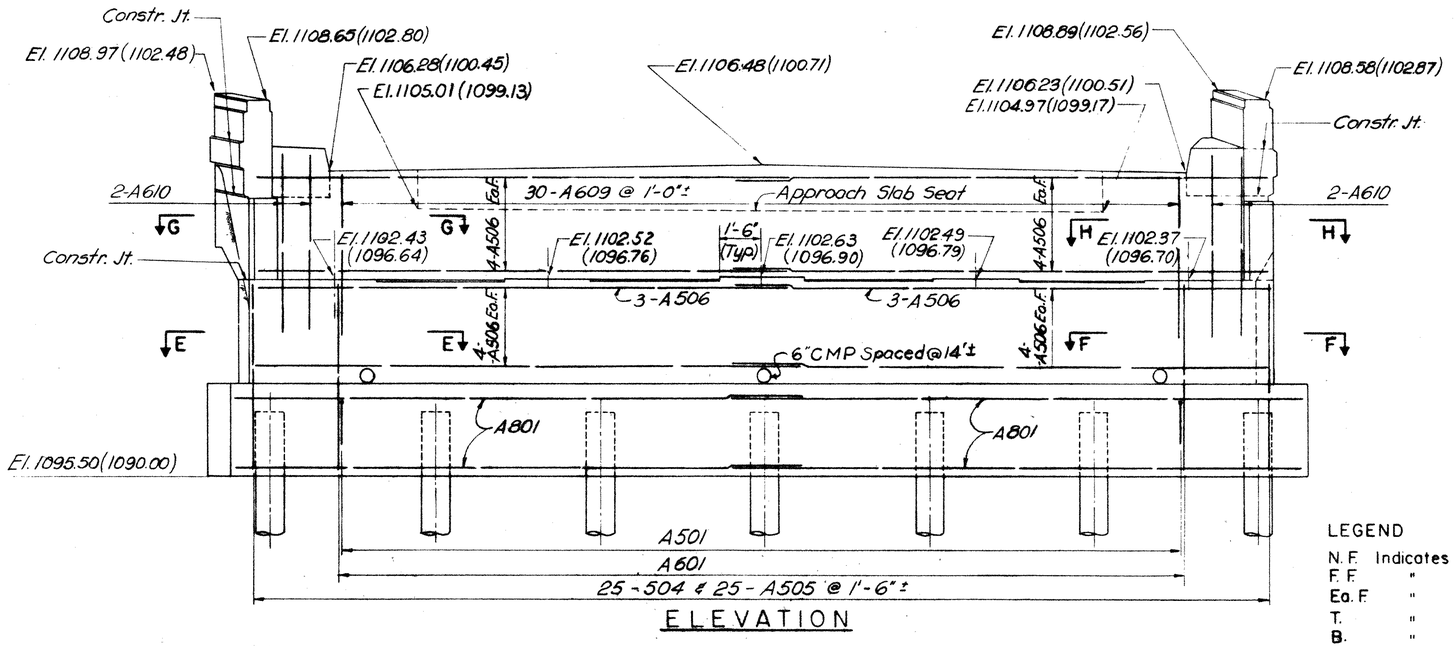
FED. RD DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

231
275

KNO-13-15.93
KNOX COUNTY



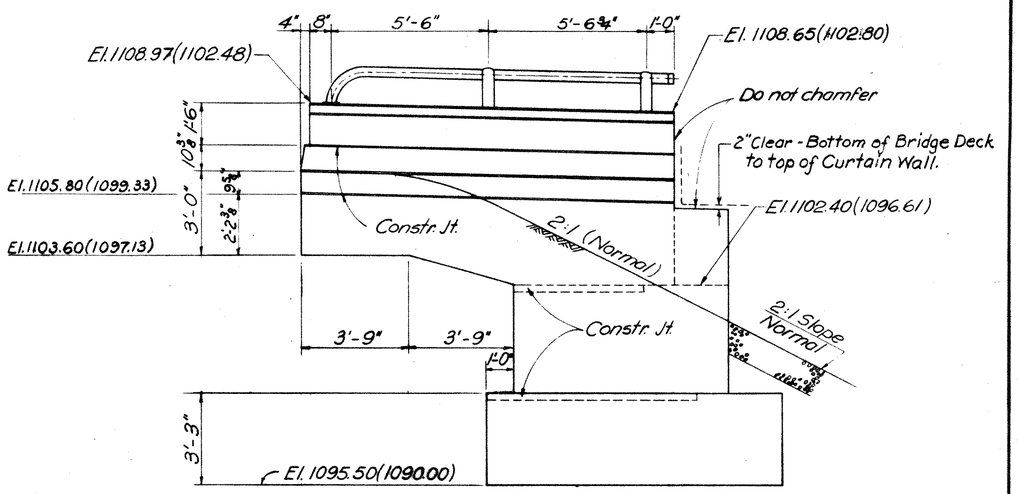
PLAN



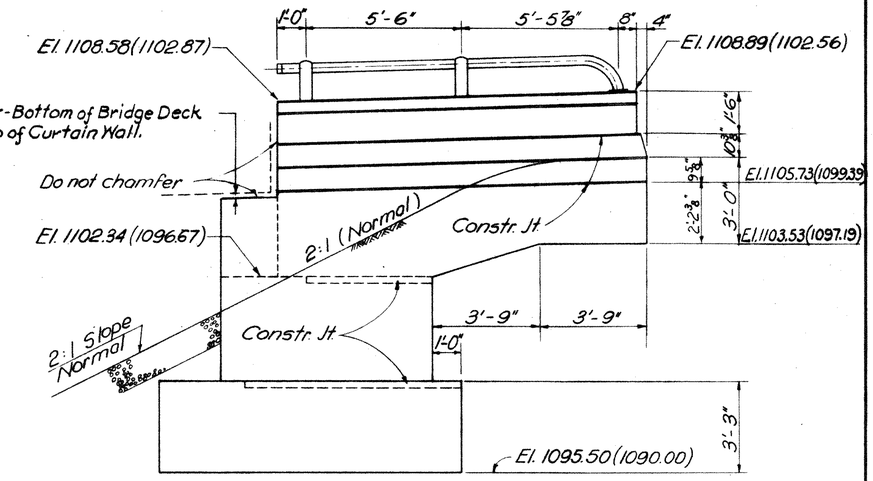
ELEVATION

LEGEND

N. F.	Indicates	Near Face
F. F.	"	Far Face
Ea. F.	"	Each Face
T.	"	Top
B.	"	Bottom



ELEVATION A-A



ELEVATION B-B

NOTES:

Conc. shall be Class "E" except for the Parapet which shall be Class "C".
Parapet Conc. shall be incl. with Item S-14 (Railings) for payment.
Reinf. Steel clear shall be 2" except where noted.
Porous Backfill, 1'-6" thick, shall extend up to the underside of the approach slab or to the finished ground surface. Excavation therefore, in the excess of that req'd. for constr. of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.
Figures in parentheses apply to the Forward Abutment.

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE SE CANTON OHIO

FORWARD & REAR ABUTMENTS & WINGWALL DETAILS

BRIDGE NO. KNO-13-1794
UNDER S. R. 95
KNOX CO. STA. 52+58.24
SEC. KNO.-13-15.93 STA. 54+93.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.J.	Y.M.	Y.M.	J.D.S.	a.w.k.	2-12-65	

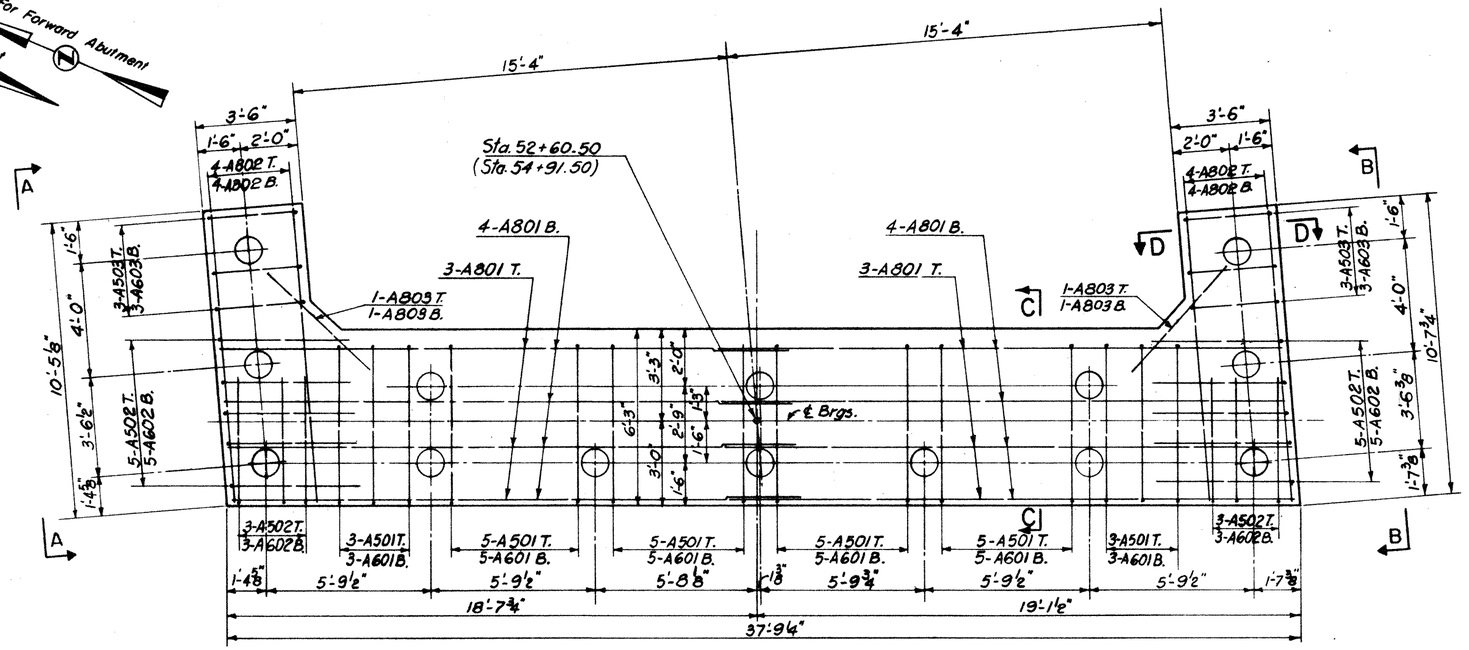
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

232
275

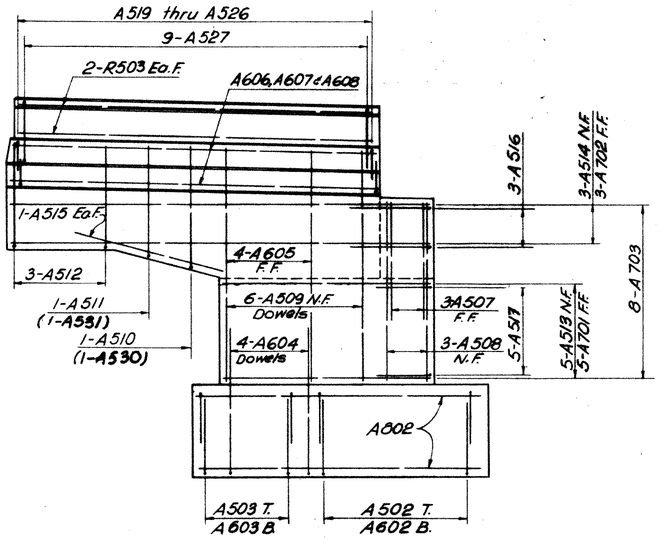
KNO-13-15.93
KNOX COUNTY

For Rear Abutment

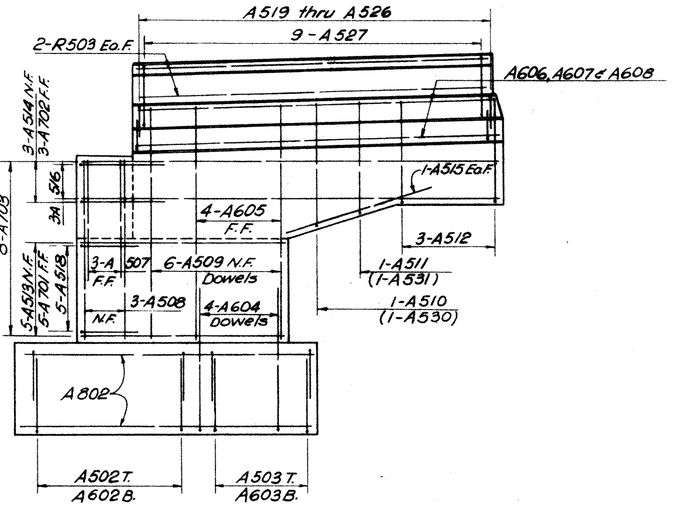
For Forward Abutment



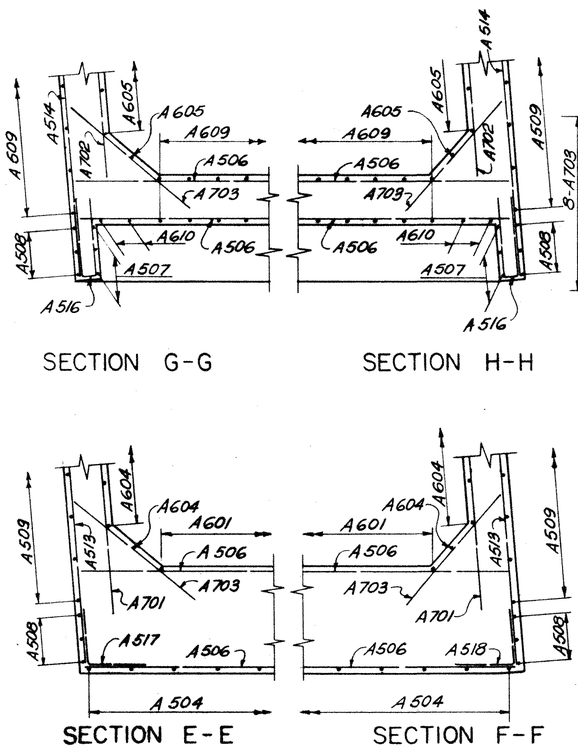
FOOTING PLAN



ELEVATION A-A



ELEVATION B-B

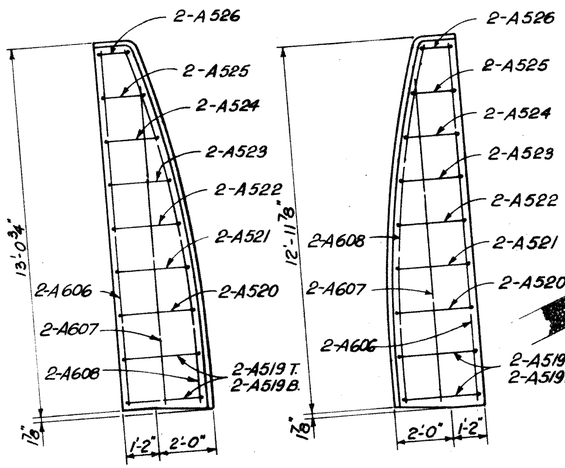


SECTION G-G

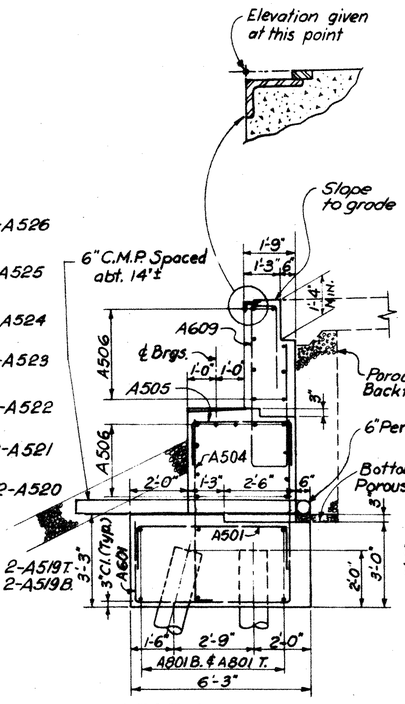
SECTION H-H

SECTION E-E

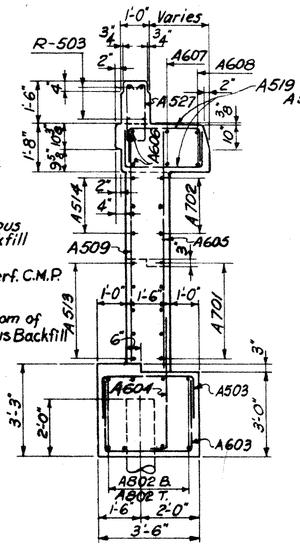
SECTION F-F



SAFETY CURB REINFORCING



SECTION C-C



SECTION D-D

LEGEND

N.F.	Indicates	Near Face
F.F.	•	Far Face
Eo.F.	•	Each Face
T.	•	Top
B.	•	Bottom

NOTE:
Figures in parentheses apply to the Forward Abutment.

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON 2 OHIO

FORWARD & REAR ABUTMENTS & WINGWALL DETAILS

BRIDGE NO. KNO-13-1794
UNDER S. R. 95
KNOX CO. STA. 52+58.24
SEC. KNO-13-15.93 STA. 54+93.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.J.	I.S.	I.S.	J.O.S.	A.W.K.	2-12-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

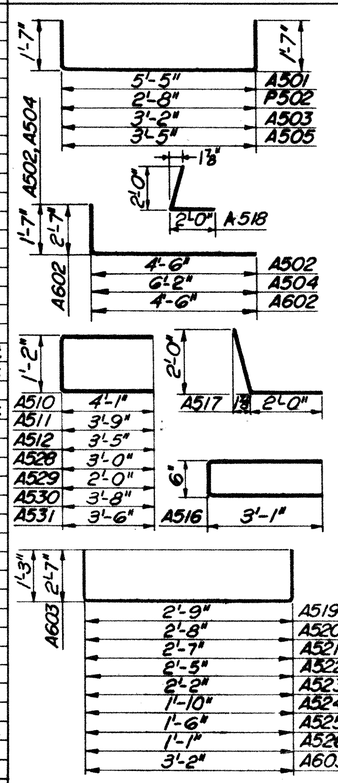
233/275

KNO-13-15.93
KNOX COUNTY

REINFORCING STEEL LIST

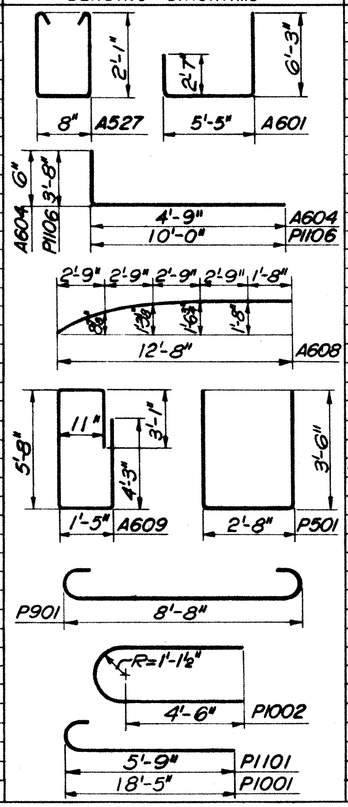
MARK	NO.	LENGTH	WEIGHT	SHP.
SLAB				
S701	308	35'-5"	22,454	St.
S601	808	35'-8"	18,500	St.
S602	441	34'-7"	22,907	St.
S603	72	27'-0"	2,920	St.
S501	616	2'-4"	1,499	Bt.
S502	908	5'-6"	1,124	Bt.
S503	308	5'-7"	1,794	Bt.
SLAB TOTAL			69,198	
ABUTMENTS				
A501	52	8'-5"	456	Bt.
A502	32	6'-0"	200	Bt.
A503	12	6'-2"	77	Bt.
A504	50	7'-8"	400	Bt.
A505	50	6'-5"	335	Bt.
A506	76	18'-6"	1466	St.
A507	12	4'-3"	53	St.
A508	12	6'-2"	77	St.
A509	24	8'-2"	204	St.
A510	2	9'-2"	19	Bt.
A511	2	8'-6"	18	Bt.
A512	12	7'-10"	98	Bt.
A513	20	7'-3"	151	St.
A514	12	14'-6"	181	St.
A515	8	5'-6"	46	St.
A516	12	6'-6"	81	Bt.
A517	10	3'-11"	41	Bt.
A518	10	3'-11"	41	Bt.
A519	16	5'-1"	85	Bt.
A520	8	5'-0"	42	Bt.
A521	8	4'-11"	41	Bt.
A522	8	4'-9"	40	Bt.
A523	8	4'-6"	38	Bt.
A524	8	4'-2"	35	Bt.

BENDING DIAGRAMS



MARK	NO.	LENGTH	WEIGHT	SHP.
A525	8	3'40"	32	Bt.
A526	8	3'-5"	29	Bt.
A527	36	5'-6"	207	Bt.
A530	2	8'-4"	17	Bt.
A531	2	8'-0"	17	Bt.
A601	52	14'-1"	1100	Bt.
A602	32	7'-0"	336	Bt.
A603	12	8'-2"	147	Bt.
A604	16	5'-2"	124	Bt.
A605	16	8'-2"	196	St.
A606	8	12'-8"	152	St.
A607	8	11'-3"	135	St.
A608	8	12'-9"	153	Bt.
A609	60	11'-11"	1074	Bt.
A610	8	6'-6"	78	St.
A701	20	5'-3"	215	St.
A702	12	11'-0"	270	St.
A703	32	5'-6"	360	St.
A801	28	20'-0"	1495	St.
A802	32	10'-0"	854	St.
A803	8	5'-0"	107	St.
ABUTMENT TOTAL			11,323	
PIERS				
P1101	108	7'-4"	4208	Bt.
P1102	36	19'-5"	3714	St.
P1103	36	20'-11"	4001	St.
P1104	36	21'-8"	4144	St.
P1105	30	20'-8"	3294	St.

BENDING DIAGRAMS



MARK	NO.	LENGTH	WEIGHT	SHP.
P1106	96	13'-8"	2614	Bt.
P1001	48	19'40"	4096	Bt.
P1002	12	12'-6"	645	Bt.
P901	144	11'-2"	5467	Bt.
P601	12	16'-6"	297	St.
P501	78	9'-6"	773	Bt.
P502	78	5'-8"	461	Bt.
PIERS TOTAL			39,096	
RAILINGS				
R501	96	16'-7"	*	St.
R502	16	13'-7"	*	St.
R503	16	12'-4"	*	St.

*Included with railing for payment

MARK	NO.	CORE DIA. % SPIRAL	PITCH	LENGTH	TURNS	WEIGHT
SP501	3	32"	3¼"	15'-10½"	62	1668
SP502	3	32"	3¼"	17'-4½"	67	1803
SP503	3	32"	3¼"	18'-3"	71	1911

REPLACEMENT BARS

MARK	NO.	LENGTH	WEIGHT	SHP.
RE1102	1	7'-7"	—	St.
RE1001	1	7'-3"	—	Bt.
RE901	1	6'10"	—	Bt.
RE801	1	6'-6"	—	St.
RE701	1	6'-3"	—	St.
RE601	2	5'-11"	—	Bt.
RE501	1	5'-7"	—	Bt.

NOTES.

BAR SIZE is indicated in the bar mark. The first digit where three digits are used & first two digits where four are used indicate the bar size number. For example, A701 is a No. 7 size bar & A1001 is a No. 10 size.

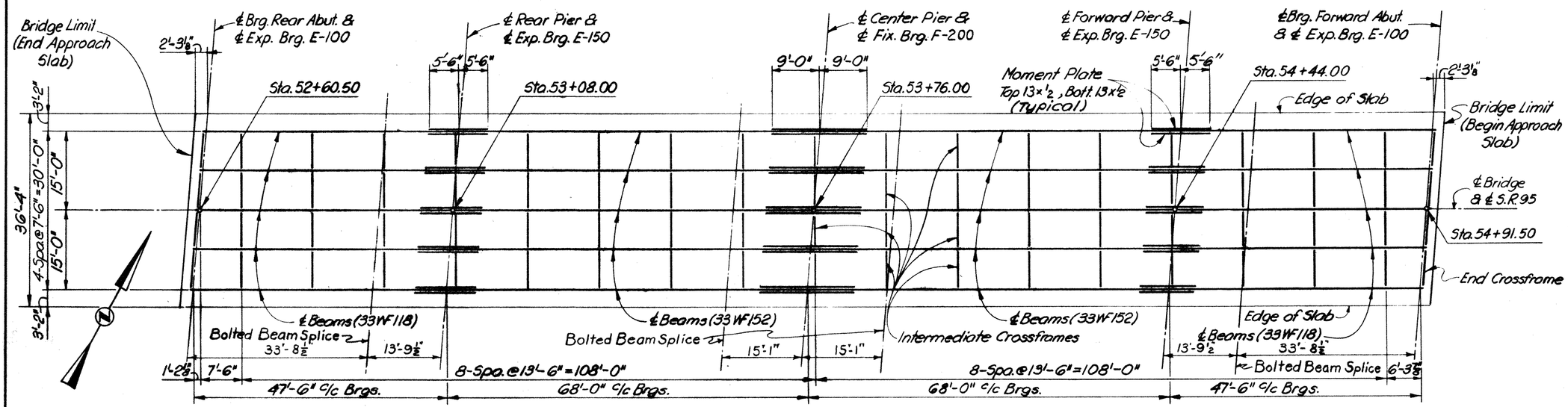
BOLTED BEAM SPLICES: See Std. Dwg. SD-2-64 and Sheet No. 245.

MOMENT PLATE WELDS: All Moment Plates are to be shop welded per Section B-B, Std. Dwg. SD-1-63.

SPIRAL REINFORCING BARS: The "length" shown in 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 coils), expressed as the nearest whole number. Spiral Reinf. Bars shall not have deformations but shall in other respects conform to Item 5-4. 1½ closed coils shall be provided at the ends of each spiral unit.
Four steel channel, tee or angle spacers, weighing approx. 0.68 lb. per lin. ft. of spacer, shall be provided for ea. spiral unit. They shall be equally spa. along the periphery of the coil. The No. of lbs. of these spacers based on 0.68 lb. per lin. ft. will be paid for as reinf. steel & is incl'd. in the tabulated quantity of spiral bars.

SUPERSTRUCTURE NOTES.

For Cross Sect. of Bridge Deck & for Deck Slab details see Std. Dwg. CSB-4-63, Sht's. 1 & 4 of 4. Dimension "T" shall be 8¼" in accordance with the Load Frequency Factor CF=400. Data shown on Std. Dwg. CSB-4-63 for Std. Spans of 67.5' (Interior) and 47.25' (End Spans) corresponding to CF=400 shall be used as modified on plans for bridge KNO-13-17.94.
For Superstr. Steel det'ls. see Std. Dwg. SD-1-63, Sht's. 1, 2, 3 & 4 of 4. Type I Scuppers shall be used.
For det'ls. of Fix. & Sliding Brgs. see Std. Dwg. FSB-1-62, Rev. 1-15-63.
For Approach Slab det'ls. see Std. Dwg. AS-1-54, Rev. 7-5-62.
For Det'ls. of Aluminum Railing see Std. Dwg. AR-1-57, Rev. 4-2-62.



STEEL FRAMING PLAN

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON 2 OHIO

REINFORCING STEEL LIST & SUPERSTRUCTURE DETAILS

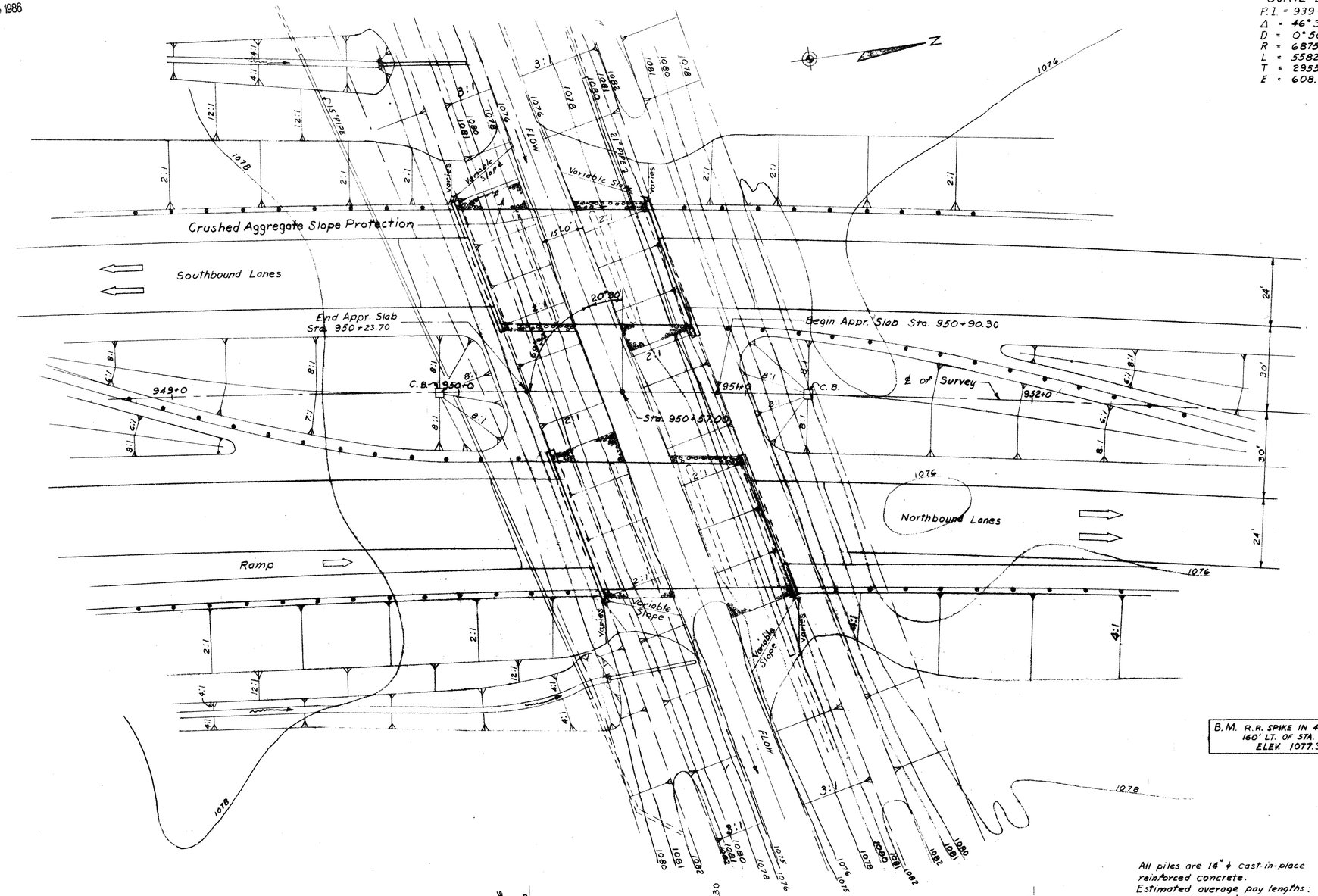
BRIDGE NO. KNO-13-1794
UNDER S. R. 95
KNOX COUNTY
SEC. KNO-13-15.93
STA. 52 + 58.24
STA. 54 + 93.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.J.	F.T.	F.T.	J.D.S.	a.w.k.	2-12-65	

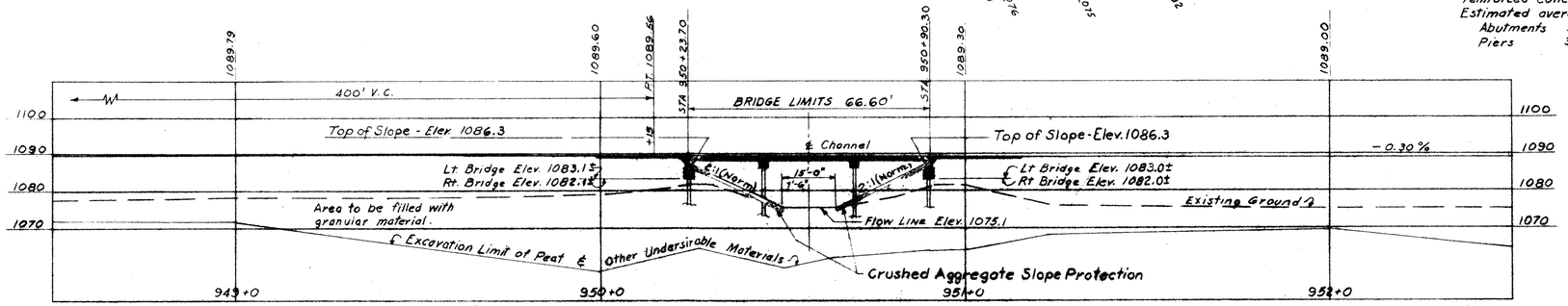
FED. RD DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

CURVE DATA
P.I. = 939+55.25
Δ = 46°31'06" Rt.
D = 0°50'
R = 6875.49'
L = 5582.21'
T = 2955.25'
E = 608.22'



All piles are 14" ϕ cast-in-place reinforced concrete.
Estimated average pay lengths:
Abutments 30'
Piers 30'



DRAINAGE AREA = 1.41 Sq. Mi.

PROPOSED STRUCTURE

TYPE : Continuous Reinforced Concrete Slab with Capped Pile Substructure
SPANS : 20'-0", 25'-0", 20'-0"
ROADWAY : Left Bridge; 40' f/f guard rails
Right Bridge; Varies f/f guard rails
LOAD FREQUENCY : CF = 2000 (57)
WEARING SURFACE : 1" Monolithic Concrete
SKEW : 20°30" RF
APPROACH SLABS : AS 1-54 (25' Long)
ALIGNMENT : 0°50' Curve Right
SUPERELEVATION : 0.026 7/8

JOS. A. STURRETT AND ASSOCIATES
210 PIEDMONT AVE. S.E. CANTON 2 OHIO

SITE PLAN

BRIDGE NO. KNO-13-1828 L and R OVER THE DRAINAGE CHANNEL

KNOX COUNTY

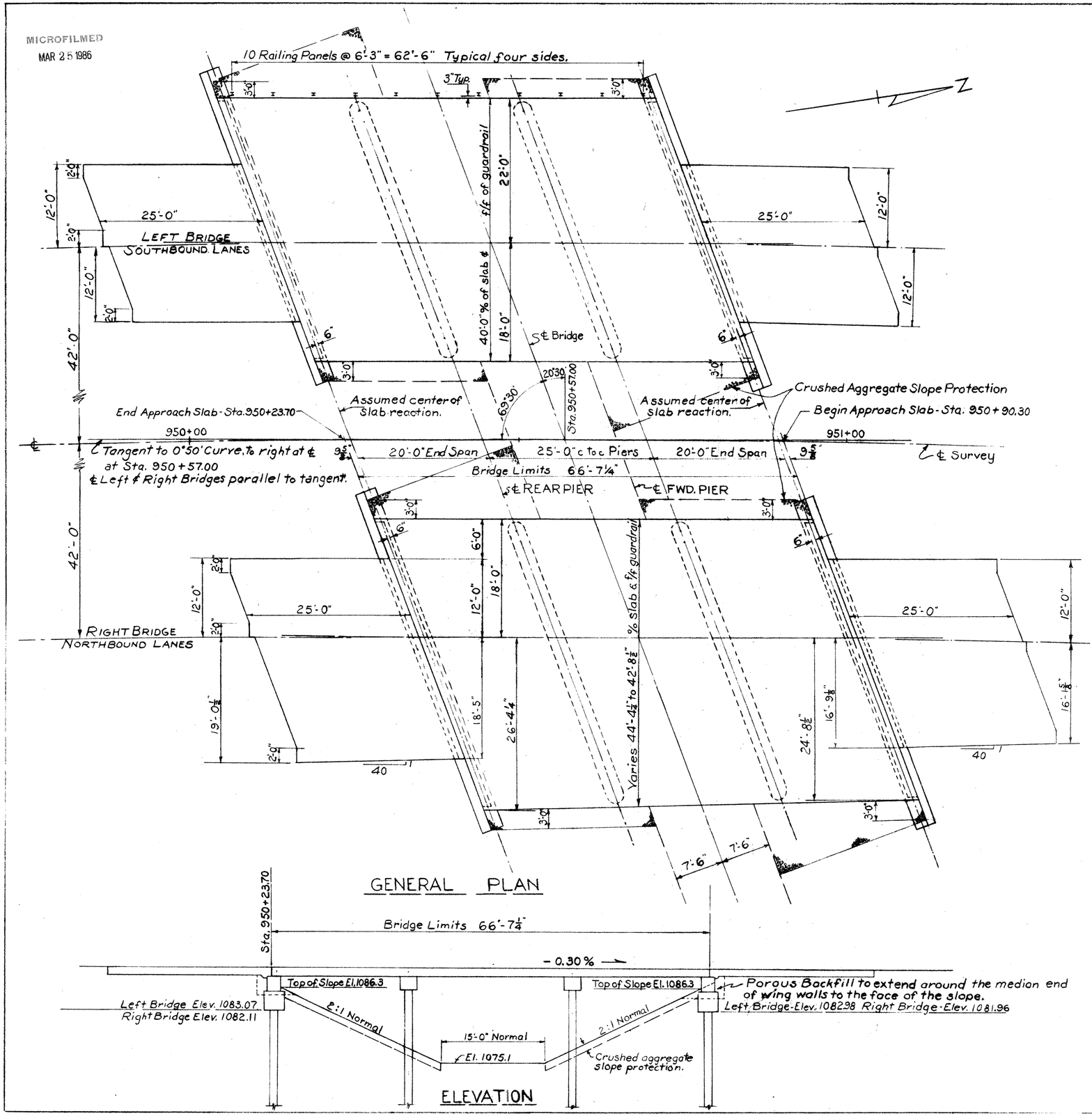
STA 950+23.70
STA 950+90.30

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVISED
	G.K.		G.K.		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93

235
275



ESTIMATED QUANTITIES TWO BRIDGES

Item	Total	Unit	Description	Super.	Piers	Abuts.	Gen'l.
E-2	167	Cu.Yds.	Unclassified excavation			167	
S-1	269	Cu.Yds.	Class 'C' concrete, superstructure & pier caps	237	32		
S-1	111	Cu.Yds.	Class 'E' concrete, abutments			111	
S-4	81718	lbs.	Reinforcing steel	61193	9208	11317	
S-14	266.42	Lin.Ft.	Railing (Type I-15.11 with galvanized steel posts & bolts)	266.42			
S-16	Lump	Sum	First test pile				Lump
S-18	1800	Lin.Ft.	14" cast-in-place reinforced concrete piles.		900	900	
S-29	40	Cu.Yds.	Porous backfill			40	
I-10	630	Sq.Yds.	Crushed aggregate slope protection				630
S-101	269	Each	Water reducing, set retarding admixture	237	32		

NOTES

REFERENCE shall be made to Standard Drawings AS-1-54 revised 7-5-62, CS-1-54, sheets No. 1 & No. 2 revised 4-1-63 and to 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 9-1-57, together with current revisions thereof.

EXCAVATION QUANTITY includes the removal of fill material between the level of the sub-grade and the bottom of the abutment crossbeam.

PROCEDURE: After excavation or replacement of the unsuitable bog material as shown on sheet No. 203 "Typical Section Showing Swamp Treatment" the embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the sub-grade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments, and the piles driven.

PILES: All piles shall be 14" dia. cast in place reinf. conc. piles and shall be driven to a minimum bearing capacity of 23 tons per pile for the abutments and 28 tons per pile for the piers.

PILE CAPACITY shall be determined according to the formula in Sec. S-18.05 of the "Construction and Material Specifications".

PAYMENT FOR PILES, per lin. ft., includes payment for encasement (concrete, reinforcement, forms, painting, galvanizing and excavation) and the pile painting. The elevation of cut-off, as per Sec. S-18.13, shall be considered as 4" above the bottom of the pier concrete cap and 2' - 0" above the bottom of the abutment footer.

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes; the POROUS BACKFILL shall be extended around the median end of the wing walls to the face of the 2:1 slope; not completely across the median. Excavation, therefore, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

MACHINE FINISH: The concrete bridge deck may be finished by the use of a finishing machine at the option of the contractor.

DESIGN LOADING: C F = 2000 (57)

CONCRETE CLASS "C" Basic unit stress 1,333 psi

CONCRETE CLASS "E" Basic unit stress 1,133 psi

REINFORCING STEEL: ASTM A15, A16, A160, Deformed Intermediate or Hard Grade. Basic unit stress 20,000 psi.

REINFORCING STEEL: The "M" bars, and "N" bars, P 1001, P 1002, P 1003, P 902, P 903, P 501, P 504, P 505, P 901, R802, R 1001, R 1002, R 1003, R 801, R 803, R 501, R 503, R 514 and R 516 bars are shown in pairs of equal lengths, lapped thirty diameters at the middle, or they may be furnished in one length or they may be furnished in pairs of different length in order to place the lap beyond a longitudinal construction joint at or near the centerline of roadway, at the option of the contractor. Determination of the pay quantity will be according to the number and length of bars as shown hereon.

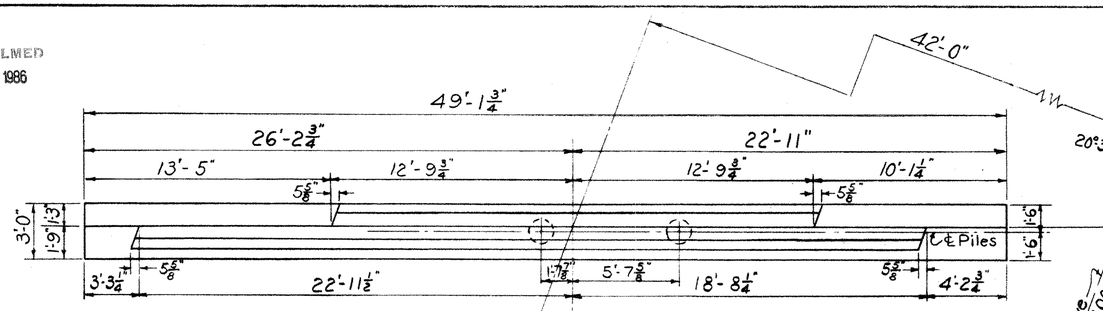
JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E.
CANTON 2, OHIO

GENERAL PLAN - ELEVATION - ESTIMATED QUANTITIES & NOTES
BRIDGE NO. KNO-13-1828 L&R OVER THE DRAINAGE CHANNEL
STA. 950+23.70
KNOX COUNTY STA. 950+90.30

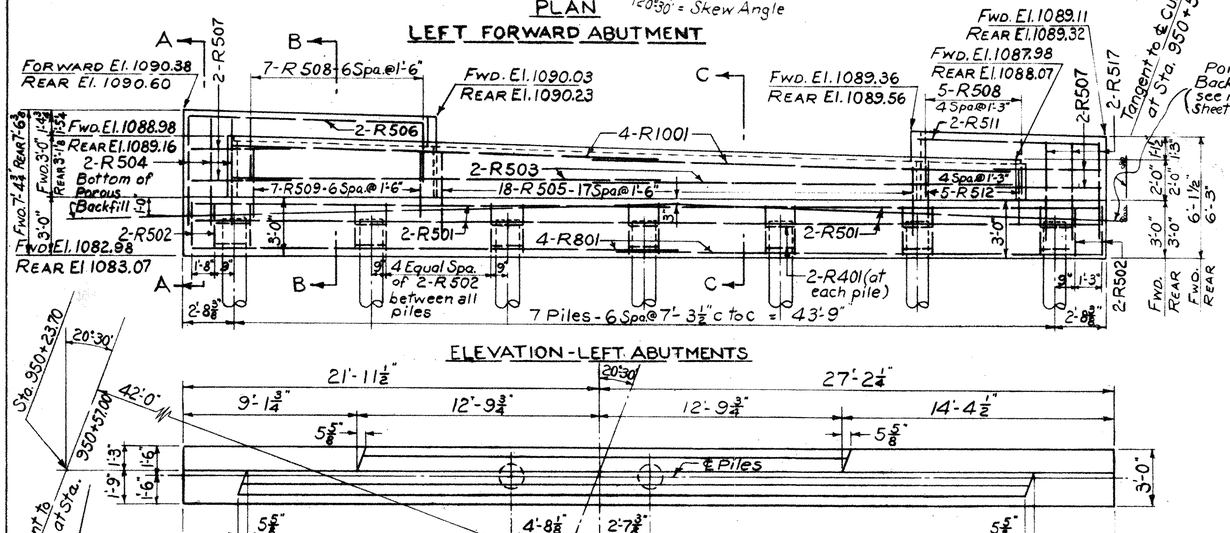
DESIGNED	DRAWN	TRACE	CHECK	REVIEW DATE	REVISED
V.A.F.	V.A.F.		RAS	3-12-65 DFS	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

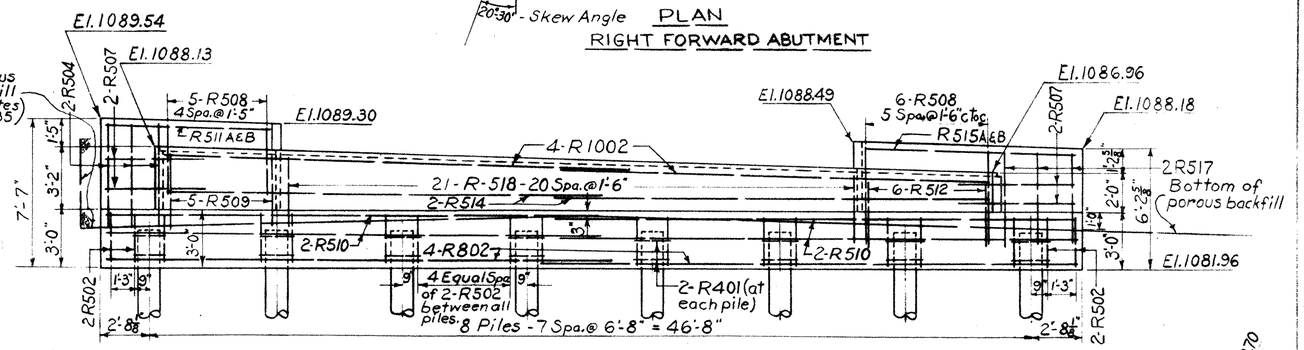
KNO-13-15.93

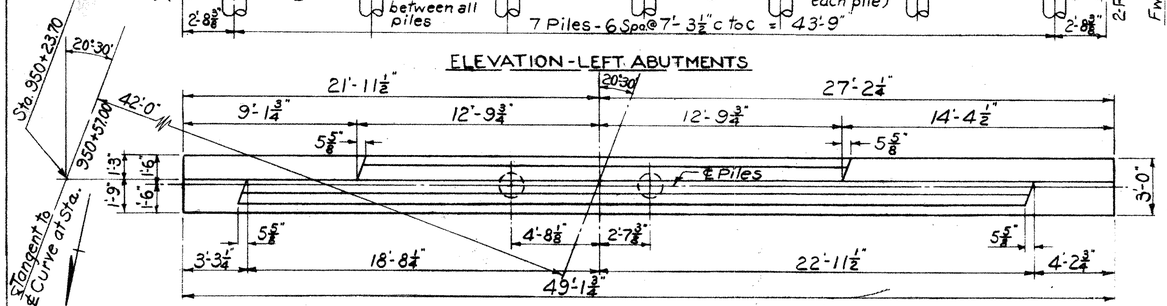


PLAN
LEFT FORWARD ABUTMENT

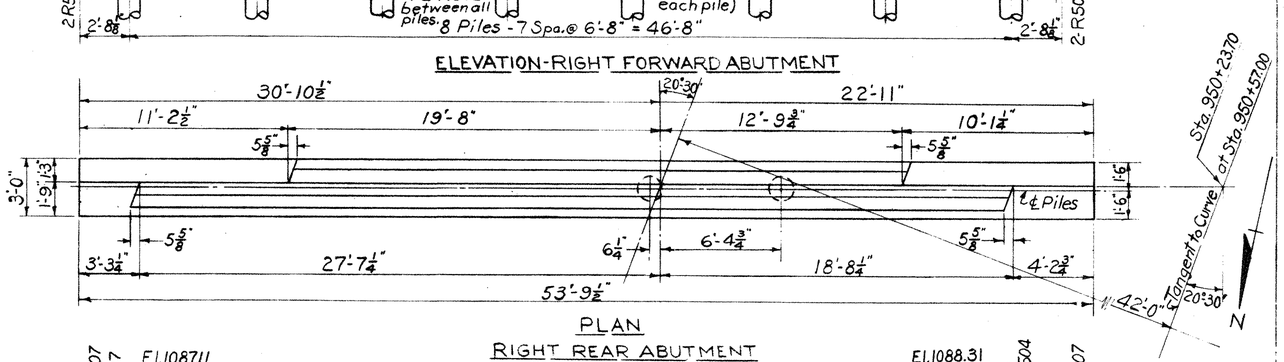


PLAN
RIGHT FORWARD ABUTMENT

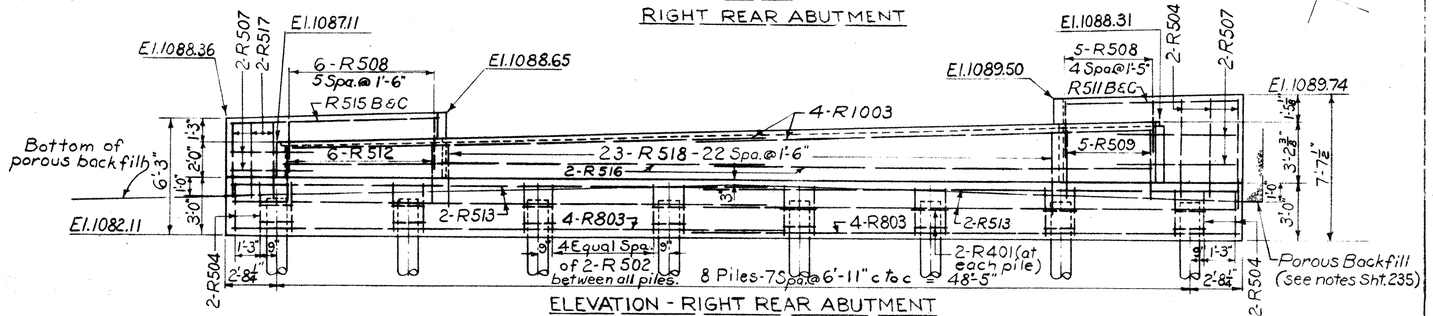




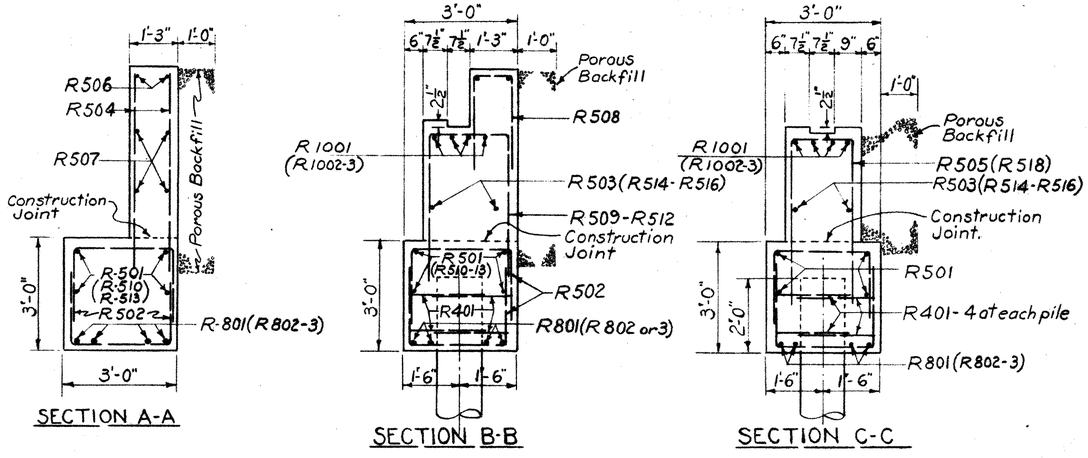
PLAN
LEFT REAR ABUTMENT



PLAN
RIGHT REAR ABUTMENT



ELEVATION - RIGHT REAR ABUTMENT



Reinforcing bars shown in ( ) are for RIGHT ABUTMENT.

ABUTMENT CONCRETE shall be Class "E" and payment will be made on this basis, but Class "C" concrete may be used for any or all parts of the abutment.

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E.
CANTON, 2, OHIO

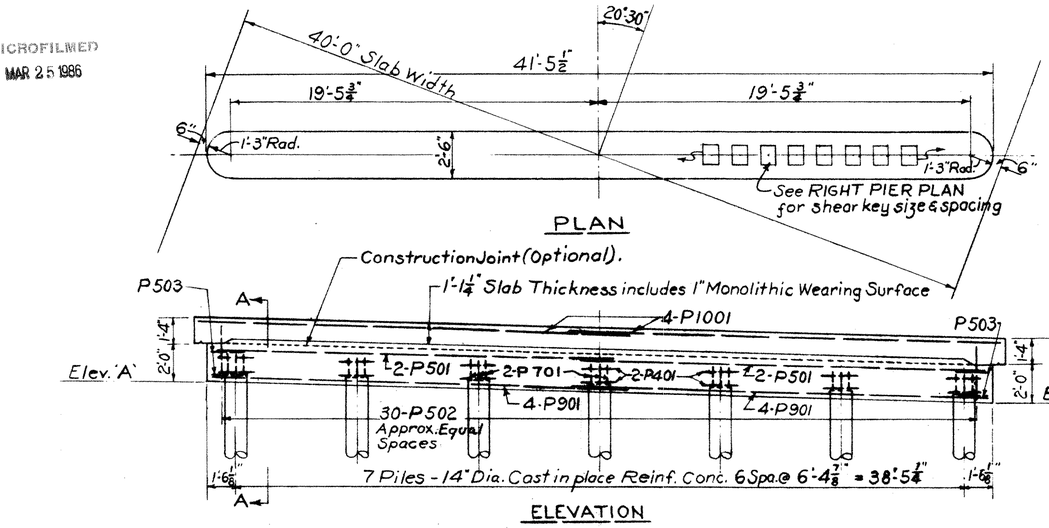
ABUTMENT DETAILS

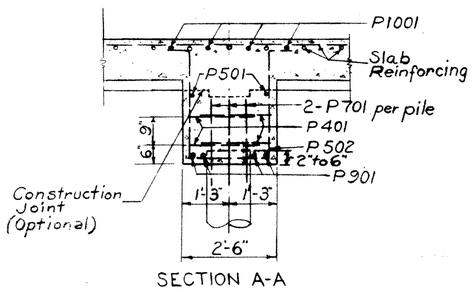
BRIDGE NO. KNO-13-1828 L & R
OVER DRAINAGE CHANNEL
STA. 950+23.70
KNOX COUNTY STA. 950+90.30

DESIGNED	DRAWN	CHECK	REVIEW DATE	REVISED
VAF	VAF	RAS	3-12-65 DFS	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

KNO-13-15.93



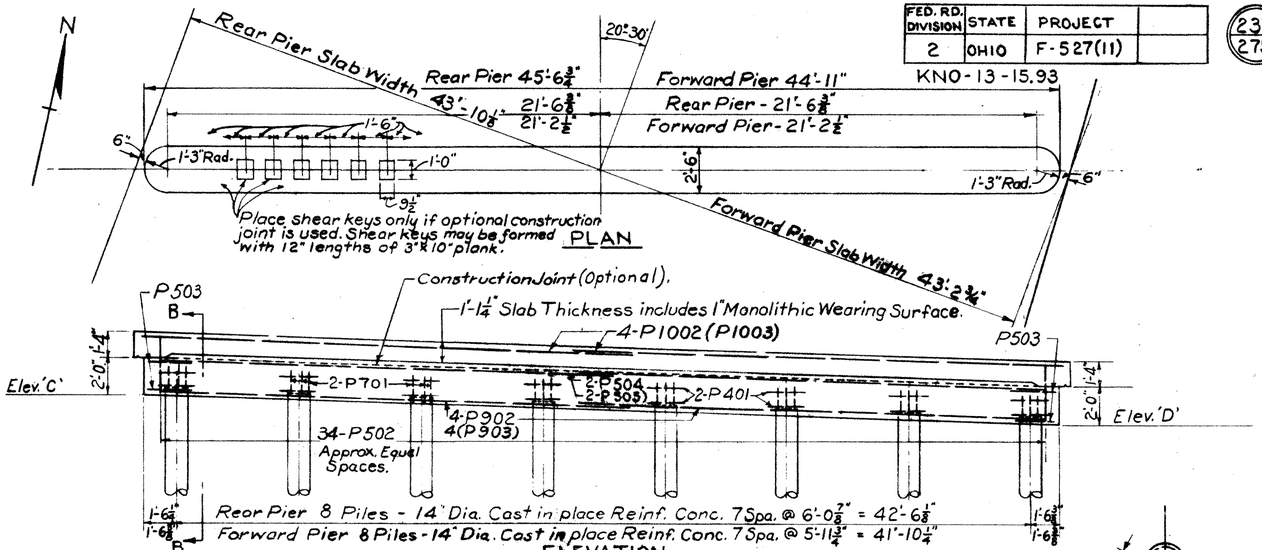


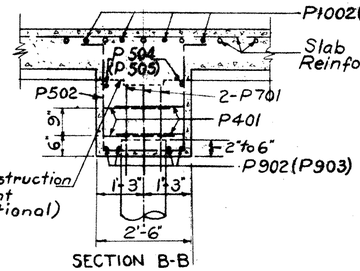
Left Bridge	Elev. A	Elev. B
Forward Pier	1087.02	1085.93
Rear Pier	1087.10	1086.02

PIERS
LEFT BRIDGE

Construction joint to be provided in case of machine finishing of concrete deck; otherwise joint is optional.

PIER CONCRETE shall be Class 'C'

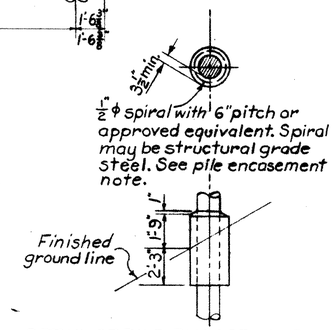




Right Bridge	Elev. 'C'	Elev. 'D'
Forward Pier	1086.19	1085.00
Rear Pier	1086.25	1085.05

Reinforcing bars shown in ( ) are for the Forward Pier.

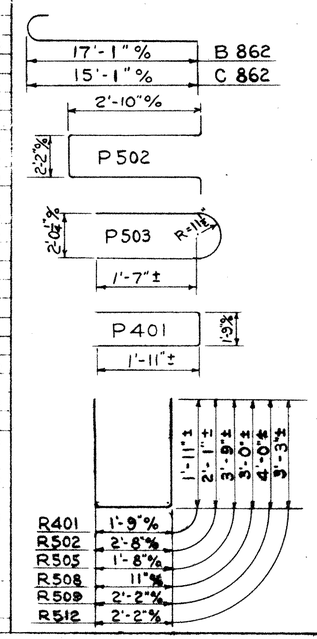
PIERS
RIGHT BRIDGE



LEFT BRIDGE
REINFORCING STEEL

MARK	No.	LENGTH	WEIGHT	SHP.
SUPERSTRUCTURE				
A 862	114	23'-10"	7254	S
B 862	36	18-2	1747	B
C 862	38	16-2	1640	B
D 862	18	17-4	833	S
E 862	19	13-10	702	S
F 962	70	22-10	5434	S
G 962	34	11-7	1339	S
H 962	34	10-8	1233	S
J 601	36	11-7	626	S
K 601	18	7-6	203	S
M 701	114	22-2	5166	S
N 601	94	22-1	3117	S
PIERS				
P 1001	16	22-9	1566	S
P 901	16	21-0	1142	S
P 701	84	4-0	687	S
P 501	8	20-4	170	S
P 502	60	9-0	568	B
P 503	8	6-4	53	B
P 401	56	5-5	203	B

BENDING DIAGRAMS

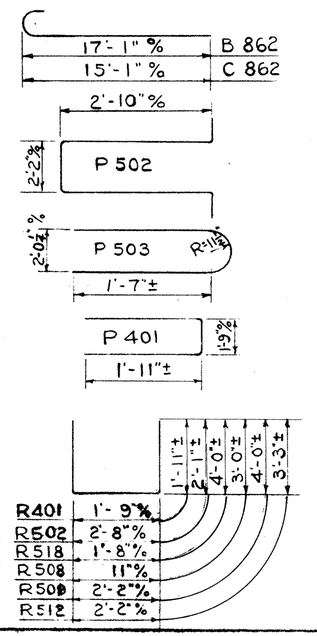


MARK	NO	LENGTH	WEIGHT	SHP.
ABUTMENTS				
R 1001	16	22'-4"	1537	S
R 801	16	25-9	1100	S
R 501	16	25-3	421	S
R 502	136	6-7	933	B
R 503	8	21-7	180	S
R 504	12	6-0	75	S
R 505	36	8-11	335	B
R 506A	1	13-1	14	S
R 506B	2	13-7	28	S
R 506C	1	14-0	15	S
R 507	16	5-6	92	S
R 508	24	6-8	167	B
R 509	14	9-11	145	B
R 511A	1	9-10	10	S
R 511B	2	9-4	20	S
R 511C	1	8-11	9	S
R 512	10	8-5	88	B
R 517	12	4-6	56	S
R 401	56	5-5	203	B
REPLACEMENT BARS				
RE 1001	1	7-2	-	S
RE 901	1	6-10	-	S
RE 801	2	6-6	-	S
RE 701	1	6-2	-	S
RE 601	1	5-11	-	S
RE 501	1	5-7	-	S
RE 401	1	5-5	-	B

RIGHT BRIDGE
REINFORCING STEEL

MARK	No.	LENGTH	WEIGHT	SHP.
SUPERSTRUCTURE				
A 862	122	23-10	7763	S
B 862	40	18-2	1941	B
C 862	41	16-2	1770	B
D 862	20	17-4	925	S
E 862	20	13-10	739	S
F 963	76	23-1	5964	S
G 963	36	11-10	1448	S
H 963	38	10-11	1411	S
J 601	38	11-7	661	S
K 601	19	7-3	207	S
M 702A	22	24-6	1102	S
M 702B	22	24-3	1090	S
M 702C	26	24-1	1280	S
M 702D	22	23-11	1076	S
M 702E	22	23-9	1068	S
N 602A	16	24-5	587	S
N 602B	26	24-3	947	S
N 602C	10	24-0	360	S
N 602D	26	23-10	931	S
N 602E	16	23-8	569	S
PIERS				
P 1002	8	24-7	846	S
P 1003	8	24-3	835	S
P 902	8	23-0	626	S
P 903	8	22-8	617	S
P 701	96	4-0	785	S
P 502	68	9-0	638	B
P 503	8	6-4	53	B
P 504	4	22-6	94	S
P 505	4	22-2	93	S
P 401	64	5-5	232	B

BENDING DIAGRAMS



MARK	No	LENGTH	WEIGHT	SHP.
ABUTMENTS				
R 1002	8	23-8	815	S
R 1003	8	24-7	846	S
R 802	8	27-1	578	S
R 803	8	28-0	598	S
R 502	156	6-7	1071	B
R 504	12	6-0	75	S
R 507	16	5-6	92	S
R 508	22	6-8	153	B
R 509	10	9-11	103	B
R 510	8	26-8	223	S
R 511A	1	9-10	10	S
R 511B	2	9-4	20	S
R 511C	1	8-10	9	S
R 512	12	8-5	105	B
R 513	8	27-5	229	S
R 514	4	23-0	96	S
R 515A	1	11-10	12	S
R 515B	2	11-4	24	S
R 515C	1	10-11	11	S
R 516	4	23-9	99	S
R 517	12	4-6	56	S
R 518	44	9-5	432	B
R 401	64	5-5	232	B

BAR SIZE is indicated in the bar mark. **The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, M 701 is a No. 7 size and P 1001 is a No. 10 size.**

FALSEWORK SUPPORT: The pier cap shall not be used to support falsework for the deck slab.

HORIZONTAL CONSTRUCTION JOINT between the top of pier cap and bottom of slab will be permitted if keys, as shown, are provided at the top of the cap. If such a joint is not provided the concrete in the slab and cap shall be placed in a continuous operation.

PIER PILE CASINGS: The casings of the cast-in-place concrete piles shall be of the type that is left in place and is designed to resist both direct compression and bending. The portion above the circular concrete encasement shall be of uniform diameter (not tapered) and shall have a thickness of metal not less than No. 7 gauge.

PIER PILE ENCASEMENT may be omitted provided that the tapered portion, if any of all pier piles does not extend above the proposed surface of the ground. If the tapered portion of any pile extends above this limit the encasement will be required for all of the pier piles. If the encasement is omitted the pile casing shall have a thickness of metal not less than No. 7 gauge, and the painting of the piles shall extend to at least one foot below the proposed surface of the ground.

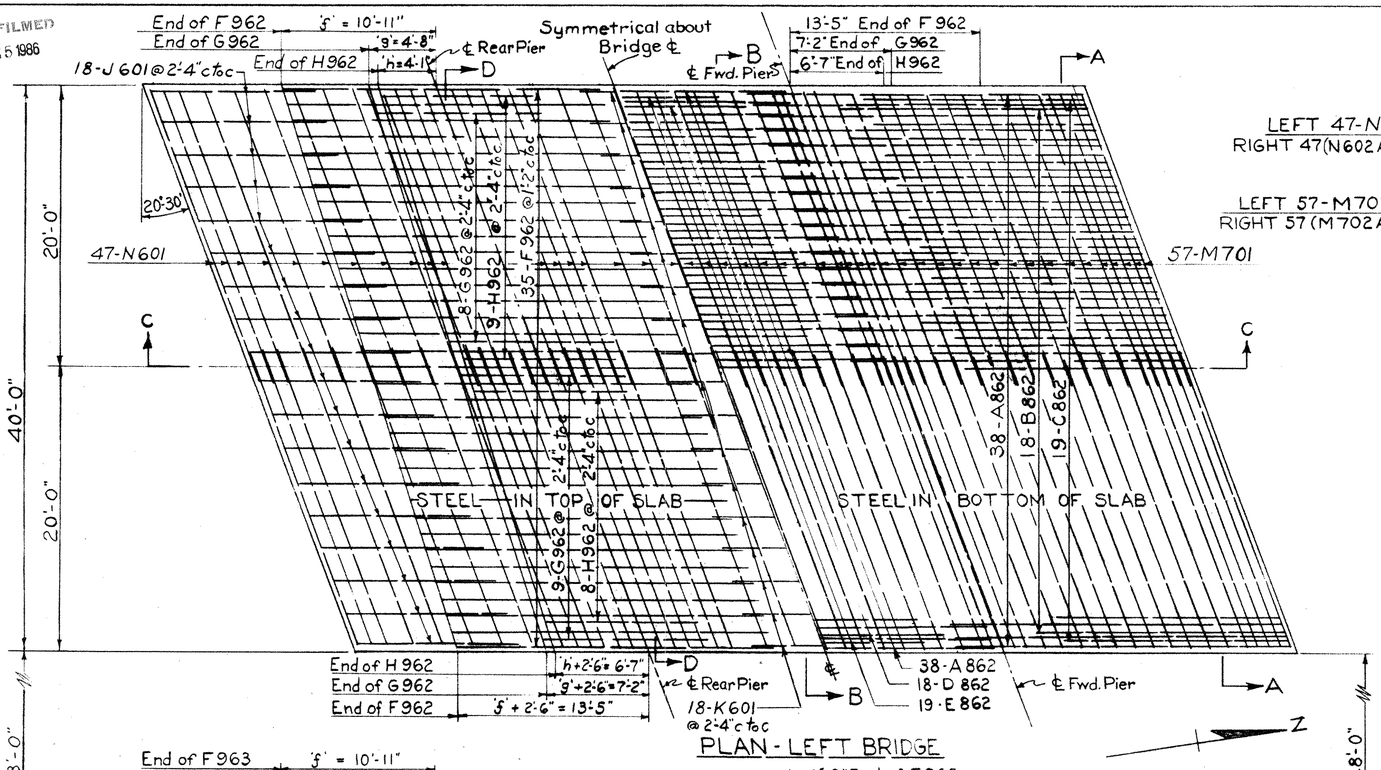
PIER PILE ENCASEMENT if required shall consist of Class "C" or "E" Concrete and may be placed in water as per Sec. S-1.18, care being taken to remove all dirt between the piles and the forms. Metal forms if used, may be left in place if the exposed portion is painted or galvanized. Corrugated metal may be used. Metal forms with irregular deformations, such as oil drums, will not be permitted. If metal forms meeting the requirements of Sec. M-6.4(a) are left in place no spiral reinforcement in the concrete will be required.

PILE PAINTING: The exposed portion of the piles, above the encasement, shall be painted in accordance with Item S-8, applying two coats as per Secs. M-9.9, M-9.20 or M-9.21 and two coats as per Sec. M-9.12. Metal forms, left in place on the encasement, unless galvanized, shall be similarly painted.

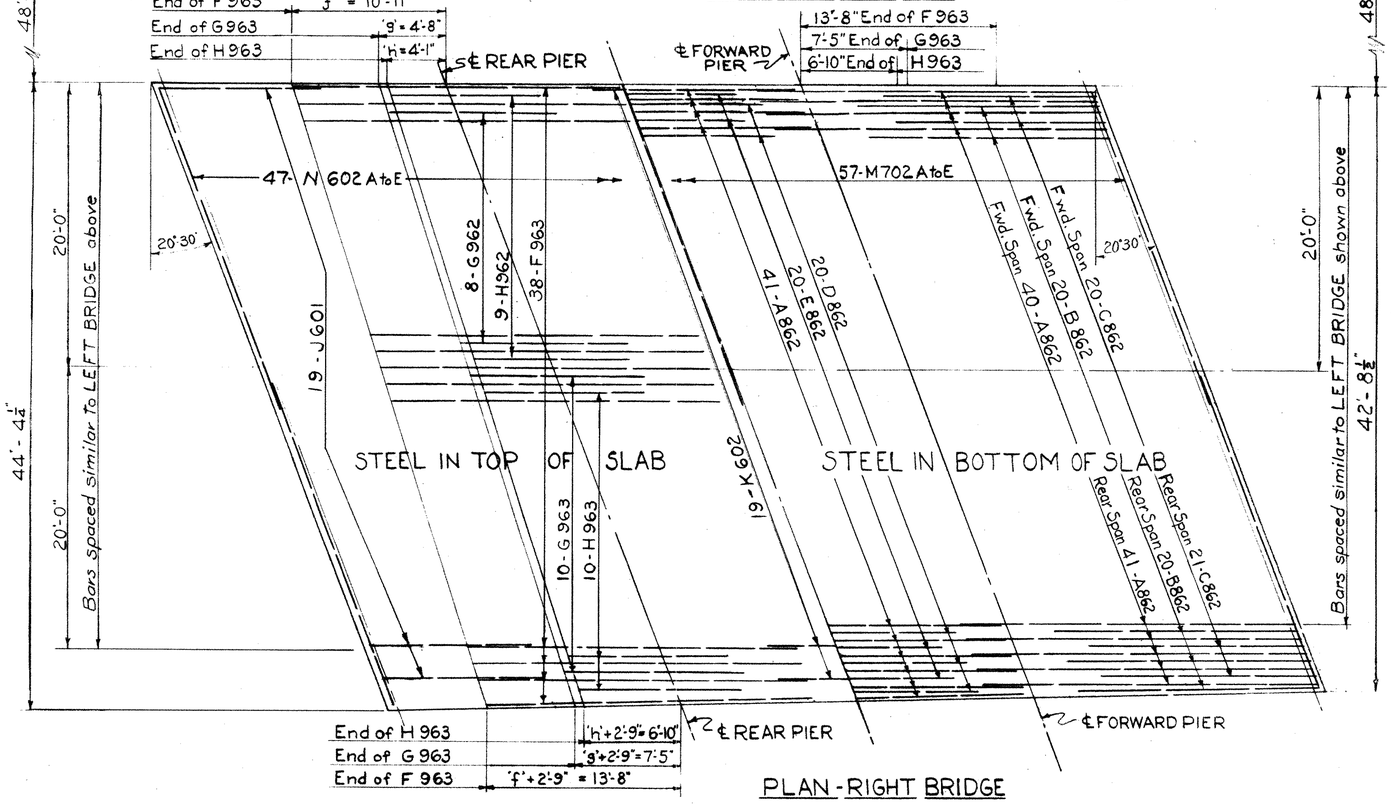
JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E.
CANTON 2, OHIO

PIER DETAILS AND
REINFORCING STEEL LIST
BRIDGE NO. KNO-13-1828 L&R OVER DRAINAGE CHANNEL
STA. 950+23.70
KNOX COUNTY STA. 950+90.30

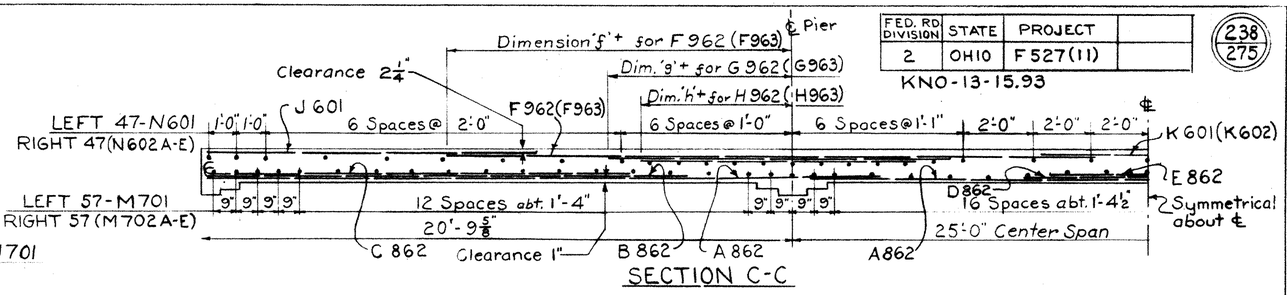
DESIGNED	DRAWN	TRACE	CHECK	REVIEW DATE	REVISED
VAF	VAF		RAS	3-12-65 DFS	



PLAN - LEFT BRIDGE



PLAN - RIGHT BRIDGE



SECTION C-C

FED. RD DIVISION	STATE	PROJECT	
2	OH10	F 527(11)	

KNO-13-15.93

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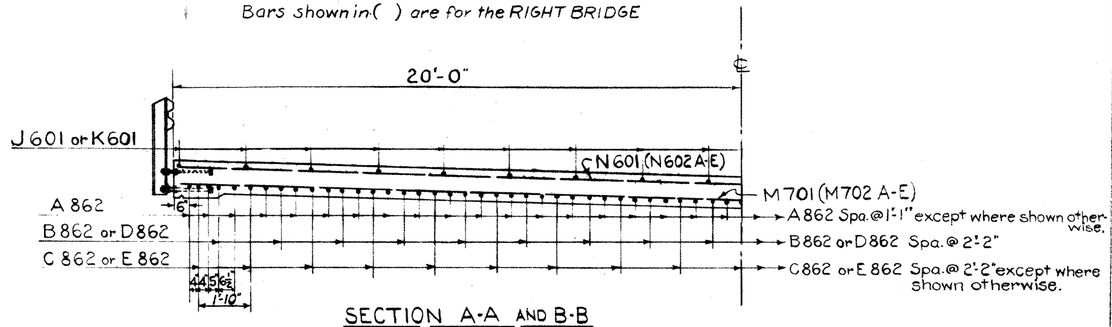
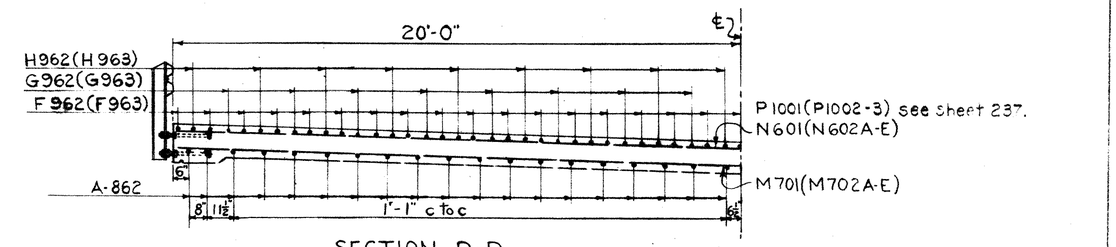
Bars shown in ( ) are for the RIGHT BRIDGE



SECTION A-A AND B-B



SECTION D-D

Concrete shall be Class 'C'

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E.
CANTON 2, OHIO

SUPERSTRUCTURE DETAILS

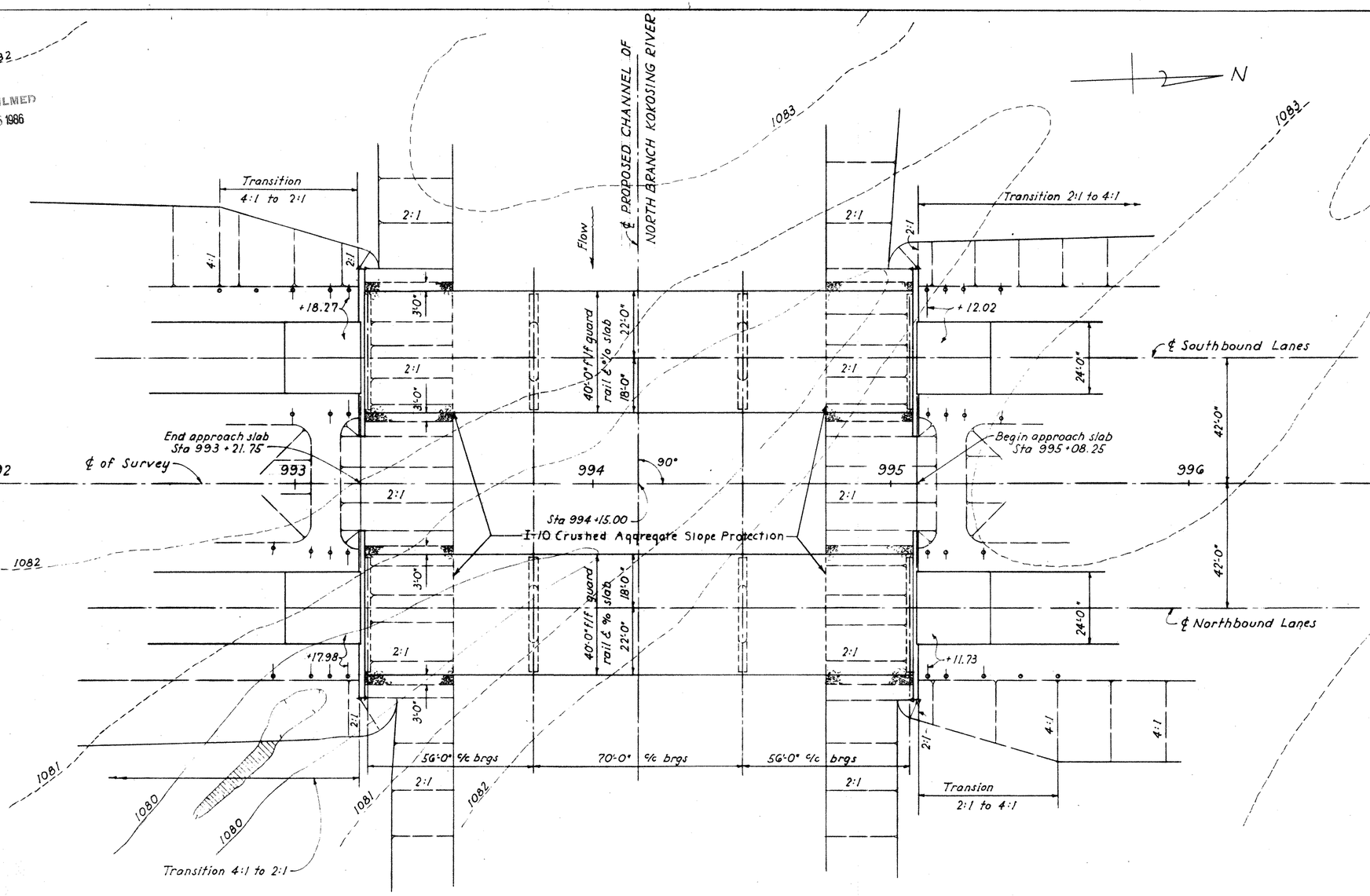
BRIDGE NO. KNO-13-1828 L AND R
STA. 950+23.70
KNOX COUNTY STA. 950+90.30

DESIGNED	DRAWN	TRACED	CHECK	REVIEW DATE	REVISED
VAF	VAF		RAS	3-12-65 DFS	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

239
275

KNOX COUNTY
KNO-13-15.93



1982 ADT = 5120

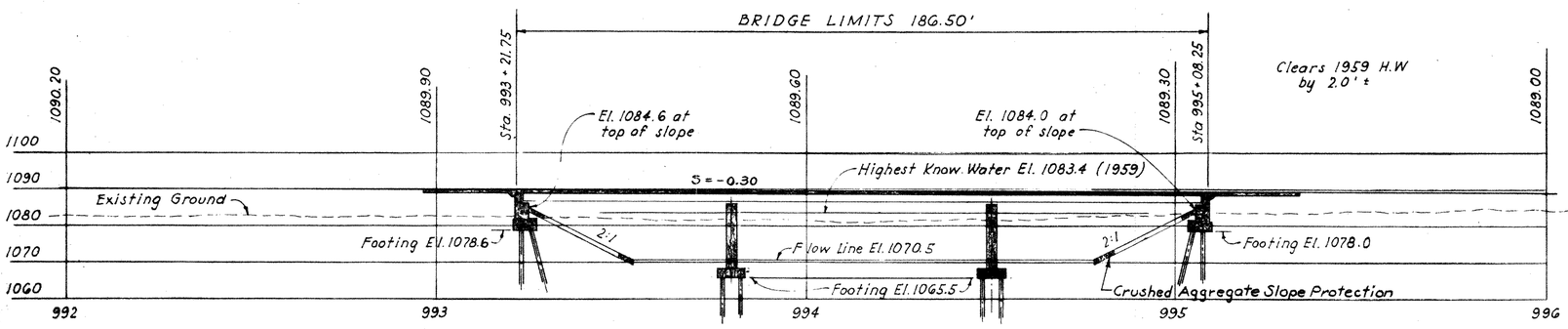
EXISTING BRIDGE DATA

BRIDGE NO. KNO-13-1879 S.R.13 over the North Branch of Kokosing River
TYPE: Concrete Beam on Concrete Substructure
SPANS: 3 @ 50' clear
ROADWAY: 23'
SKEW: 0°
WEARING SURFACE: 4" concrete
LOADING: H-15
(Existing bridge to remain in place)

DRAINAGE AREA = 46.6 sq. mi.

PROPOSED STRUCTURES

TYPE: Continuous steel beam with reinforced concrete deck and substructure
SPANS: 5G'-70'-5G' ℄ bearings
ROADWAY: 40'-0" f/f guard rails
LOAD FREQUENCY: CF=2000 (57)
SKEW: 0°
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25' long)
ALIGNMENT: Tangent



All piles are 12" cast-in-place reinforced concrete.
Estimated average pay lengths:
Abutments 25' (30 tons)
Piers 40' (50 tons)

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210 PIEDMONT AVE. S.E. CANTON OHIO

SITE PLAN
BRIDGE NO. KNO-13-18.95 L&R OVER NORTH BRANCH OF KOKOSING RIVER

KNOX COUNTY
STA 993+21.75
STA 995+08.25

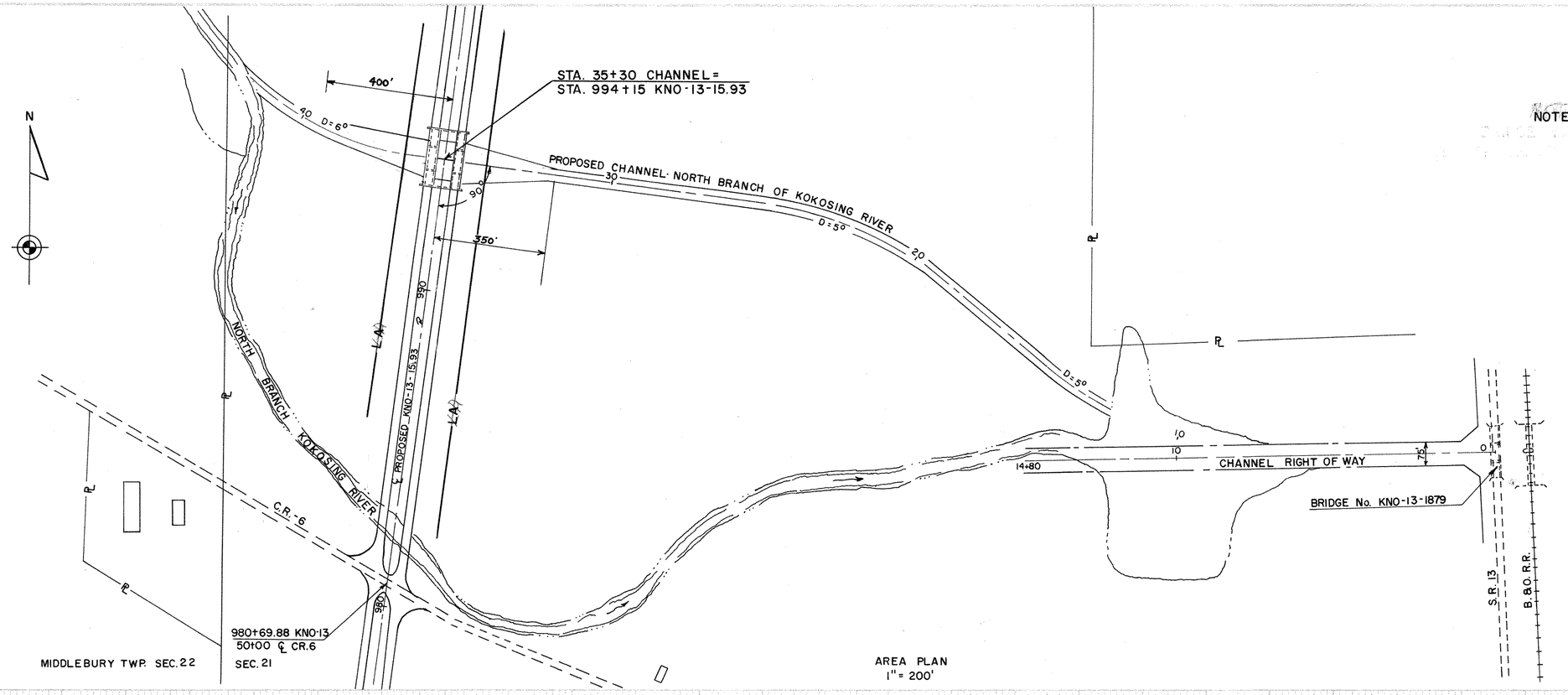
TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEW
	VAF		VAF	D.S.	

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

240
275

KNO-13-15.93

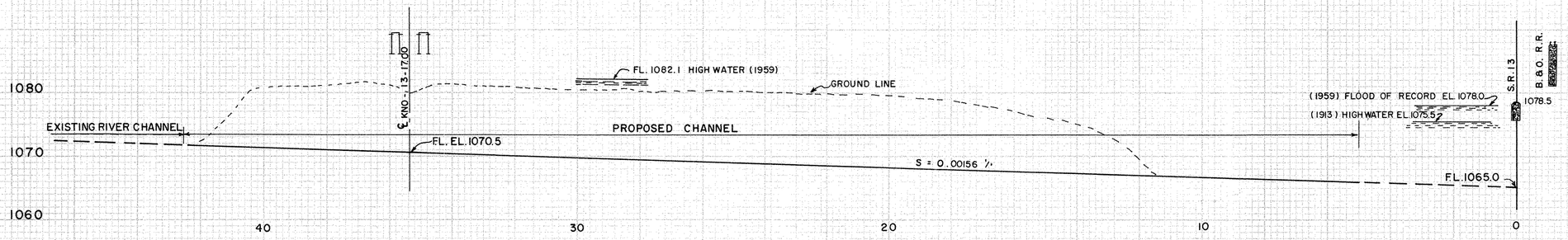
NOTE: Roadway contractor to excavate for channel inside of limited access only.



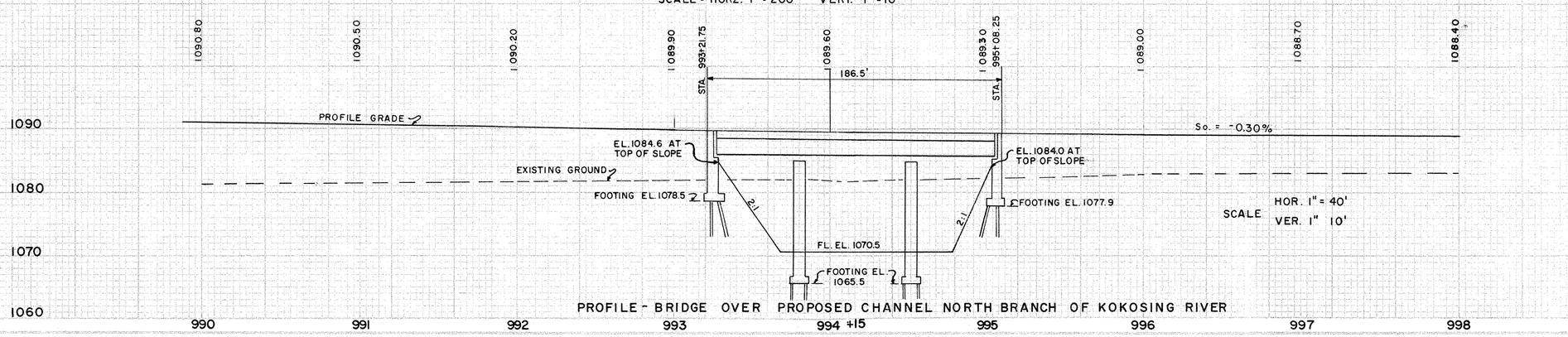
AREA PLAN
1" = 200'

	BEGIN WORK 33+95	END AREA	VOL.
		0	
			612
	1070.34 34+20 1081.2	1322	
			2452
	1070.41 34+70 1081.0	1326	
			6004
	1070.60 35+90 1080.1	1376	
			2143
	1070.67 36+35 1081.4	1196	
	END WORK 36+55	0	443

TOTAL E-3 11,654 C.Y.



PROFILE - PROPOSED CHANNEL - NORTH BRANCH OF KOKOSING RIVER
SCALE - HORZ. 1" = 200' VERT. 1" = 10'



PROFILE - BRIDGE OVER PROPOSED CHANNEL NORTH BRANCH OF KOKOSING RIVER

SCALE HOR. 1" = 40'
VER. 1" 10'

SUPPLEMENTAL SITE PLAN

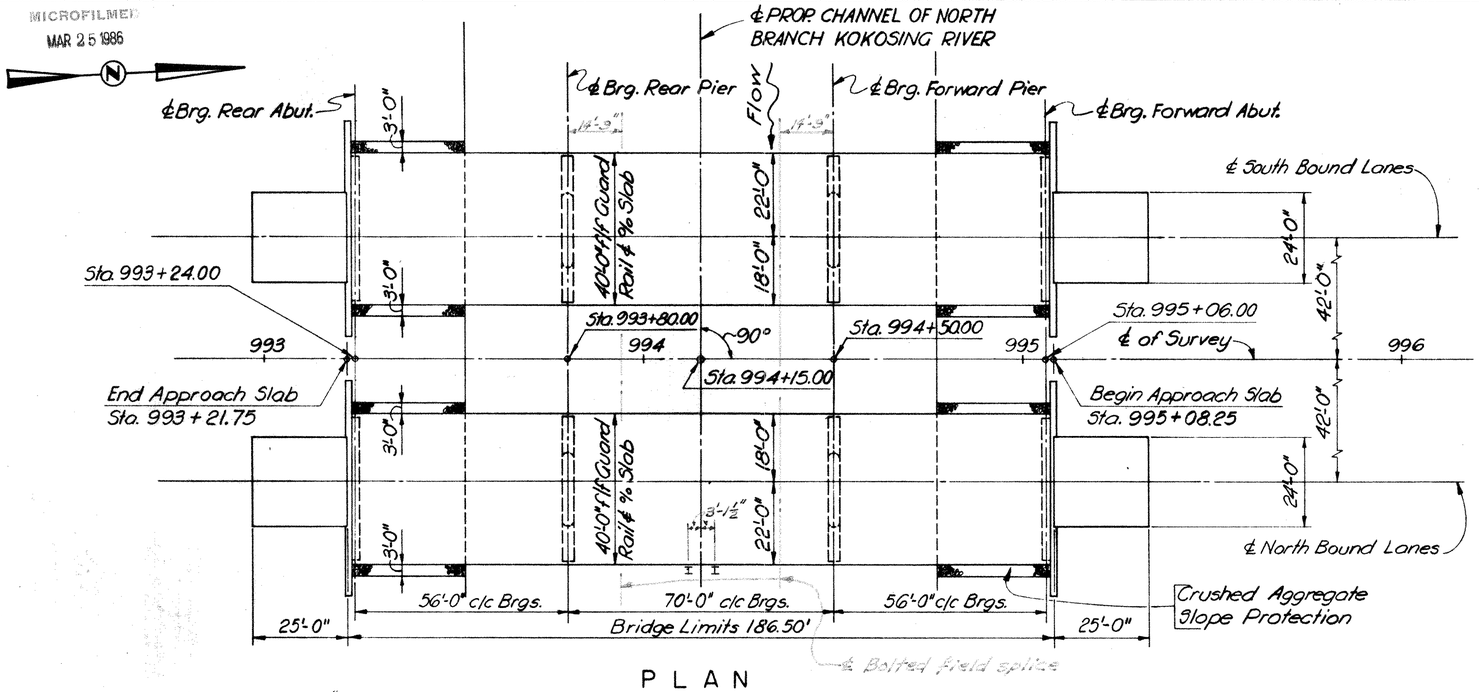
BRIDGE No. KNO-13-18.95 OVER THE NORTH BRANCH OF KOKOSING RIVER

KNOX COUNTY-13-15.93 STA. 994+15

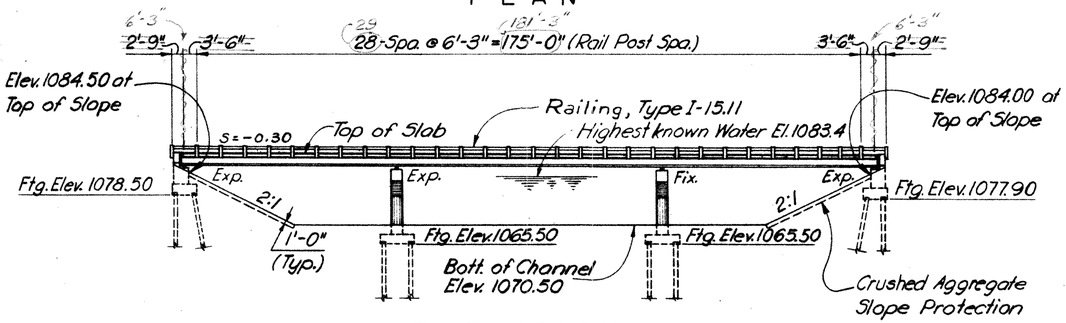
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

241
275

KNOX COUNTY
KNO-13-15.93



PLAN



ELEVATION

ESTIMATED QUANTITIES - TWO BRIDGES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN.		
E-2	675	C.Y.	Unclassified Excavation		475	200			
S-1	442	C.Y.	Class "C" Concrete, Superstructure	442					
S-1	186	C.Y.	Class "C" Concrete, Piers above Footings			186			
S-1	165	C.Y.	Class "E" Concrete, Abutments above Footings		165				
S-1	195	C.Y.	Class "E" Concrete, Footings		120	75			
S-4	158490	Lbs.	Reinforcing Steel	119080	17900	21510			
S-7	405400	Lbs.	Structural Steel	405400					
S-8	405400	Lbs.	Field Painting of Structural Steel	405400					
S-14	746	Lin.Ft.	Railing, Type I-15.11 with galv. steel posts & bolts	746					
S-16	Lump	Sum	First Test Pile				Lump		
S-17	Lump	Sum	First Pile Test Load				Lump		
S-17	1	Ea.	Subsequent Pile Test Load				1		
S-18	3640	L.F.	12" ϕ Cast in place Reinf. Conc. Piles		1400	2240			
S-29	62	C.Y.	Porous Backfill		62				
S-29	156	L.F.	6" perforated helical C.M.P. M-6.4(h) incl. specials		156				
S-29	99	L.F.	6" helical C.M.P. M-6.4(h) non-perforated		99				
I-10	635	S.Y.	Crushed Aggregate Slope Protection		635				
S-101	442	Ea.	Water Reducing, Set Retarding Admixture	442					

GENERAL NOTES.

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, except that beam sections are designed for the 20,000 lb. unit stress ASTM A-36 Steel.

REFERENCE shall be made to **Standard Drawings** SD-1-63 sheet 2 of 4 dated 11-12-63, ,SD-2-64, dated 11-25-64, CSB-1-63 sheets 1 and 4 of 5 dated 12-16-63 FSB-1-62 revised 2-2-59 and to **Supplemetal Specifications** S-101 dated 7-12-62 and S-307 dated 10-1-64.

PROCEDURE: The embankment shall be placed and compacted up to the finished spilled-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments and the Piles driven. (Cont'd below)

EXCAVATION QUANTITY includes the removal of fill material required for the construction of the abutments.

PILING: All piles shall be 12" ϕ cast in place Reinf. Conc. Piles and shall be driven to a bearing capacity of 30 Tons for abut's. and 50 Tons for piers.

PROCEDURE CONTD: The piers shall be constructed before the new river channel is opened for flow.

CRUSHED AGGREGATE SLOPE PROTECTION: The slope under structure shall be protected by crushed aggregate material as provided in Sec. I-10.04 of the Construction and Material Specifications, and shall extend down the slope, normal to the face of the abutment to the toe of slope.

FIRST PILE TEST LOAD The first pile test load shall be applied if and where directed by the Engineer.

BOLTED BEAM SPLICE: For details see Sheet No. 245.

BEARINGS: Abutments E-100
Rear Pier E-200
Forward Pier F-200

GENERAL NOTES CONT'D.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.
DESIGN LOADING: CF=2000 (57)
CONCRETE CLASS "C": Basic unit stress 1,333 p.s.i.
CONCRETE CLASS "E": Basic unit stress 1,135 p.s.i.
STRUCTURAL STEEL: ASTM A36-basic unit stress 20,000 p.s.i. (ASTM A7 & A373 steel not permitted)
REINFORCING STEEL: ASTM A15, A16, A160, Deformed Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

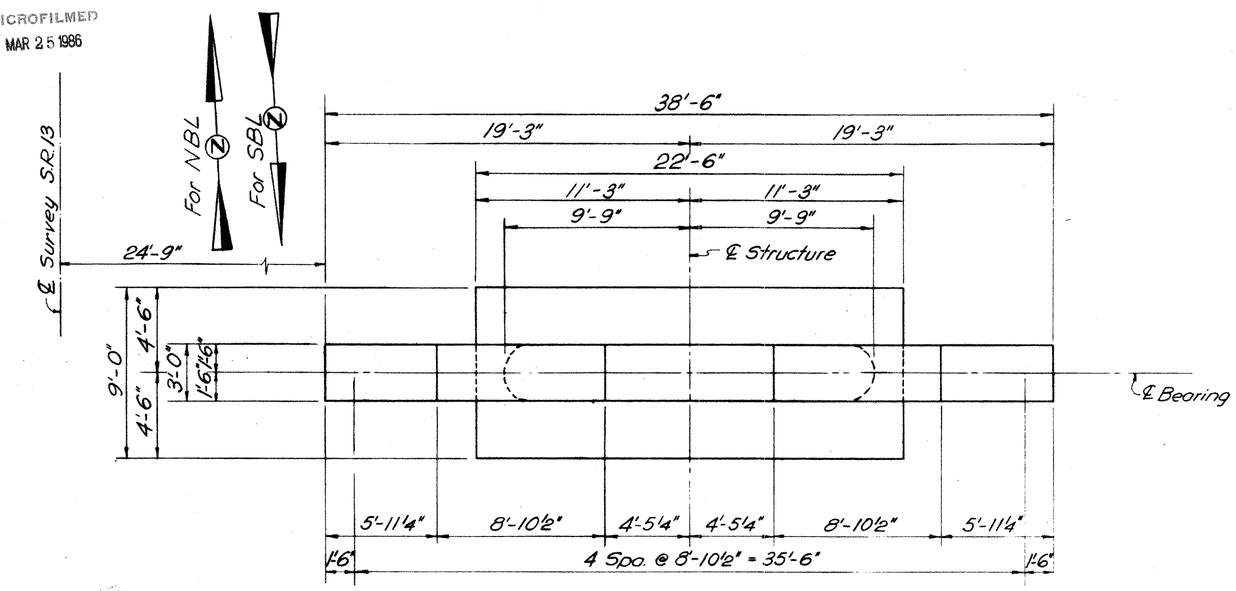
JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON OHIO

GENERAL PLAN, ELEVATION & ESTIMATED QUANTITIES
BRIDGE NO. KNO-13-18.95 L&R OVER THE NORTH BRANCH OF KOKOSING RIVER
KNOX COUNTY SEC. KNO-13-15.93
STA. 993 + 21.75
STA. 995 + 08.25

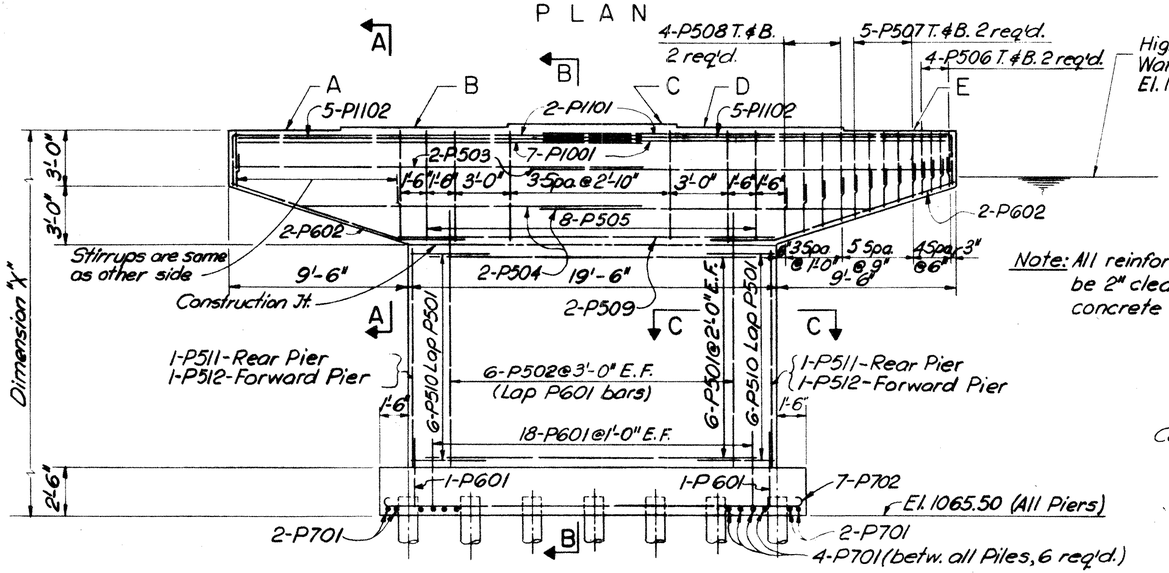
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.S.	F.T.	F.T.	E.S.	a.w.k.	2-12-65	9-20-65 7-20-66

FED. RD. DIVISION	STATE	PROJECT		242
2	OHIO	F-527(11)		275

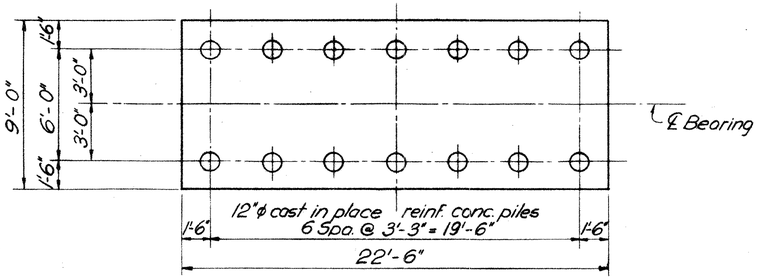
KNOX COUNTY
KNO-13-15.93



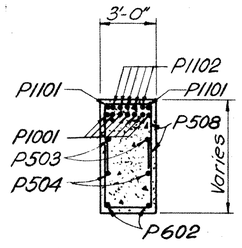
PLAN



ELEVATION



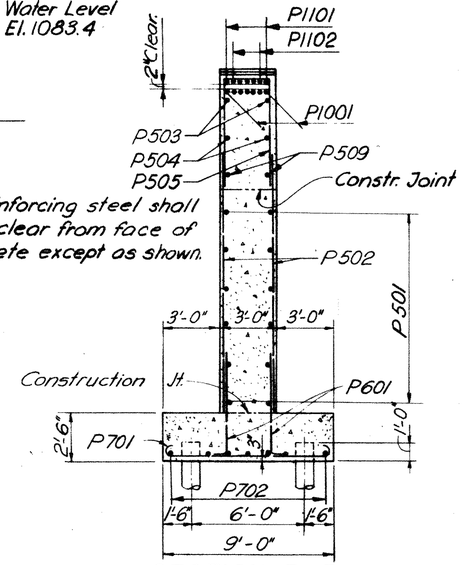
FOOTING PLAN



SECTION A-A

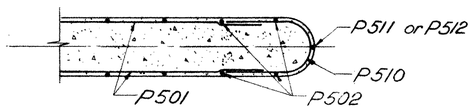
ELEVATION	A	B	C	D	E	Dim. "X"
Rear NBL	1085.40	1085.54	1085.62	1085.48	1085.34	19'-10⅞"
Forward NBL	1084.90	1085.04	1085.12	1084.98	1084.84	19'-4⅞"
Forward SBL	1084.90	1085.04	1085.12	1084.98	1084.84	19'-4⅞"
Rear SBL	1085.40	1085.54	1085.62	1085.48	1085.34	19'-10⅞"

Note: P1101, P1102 and P1001 bars shall be spaced to clear Anchor Bolts on Piers.



SECTION B-B

Note: All reinforcing steel shall be 2" clear from face of concrete except as shown.



SECTION C-C

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE SE. CANTON OHIO

PIER DETAILS

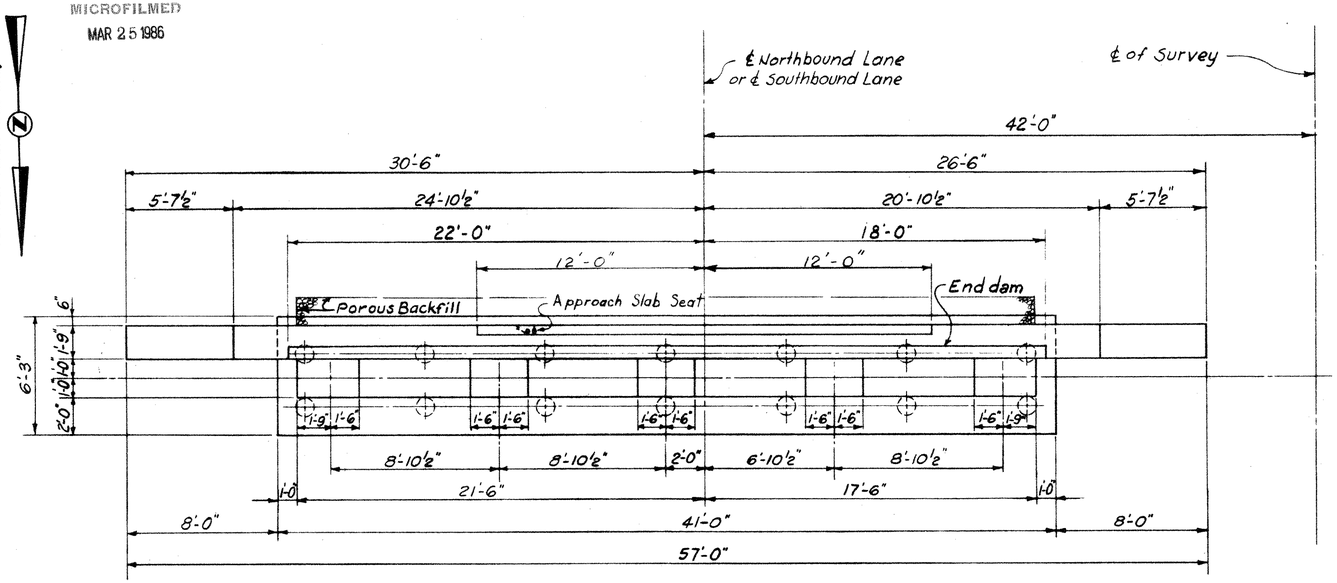
BRIDGE NO. KNO-13-18 95 L&R OVER THE NORTH BRANCH OF KOKOSING RIVER
KNOX COUNTY SEC. KNO-13-15.93
STA. 993 + 21.75
STA. 995 + 08.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.S.	Y.M.	Y.M.	E.S.	a.w.k.	2-12-65	

FED. RD. DIVISION	STATE	PROJECT		243 275
2	OHIO	F-527(11)		

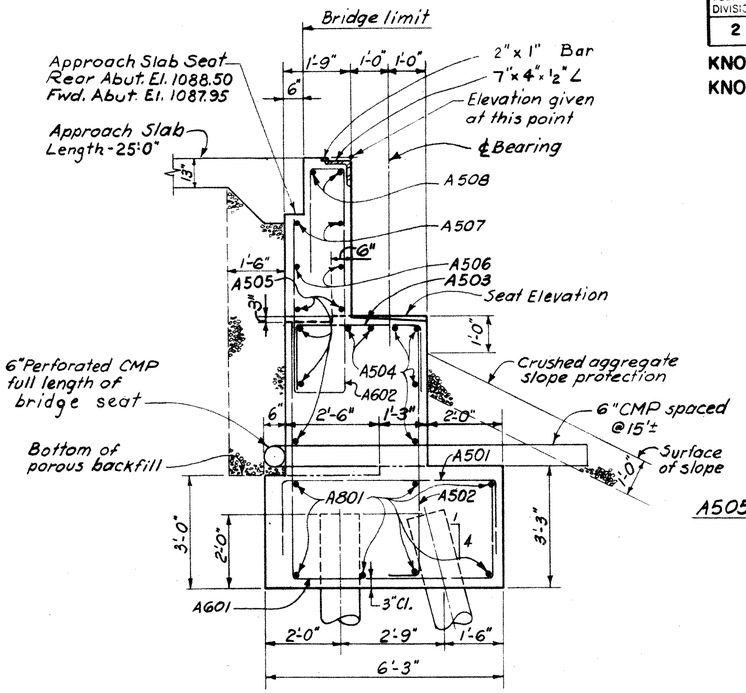
KNOX COUNTY
KNO-13-15.93

For Rear Abut. N.B. only

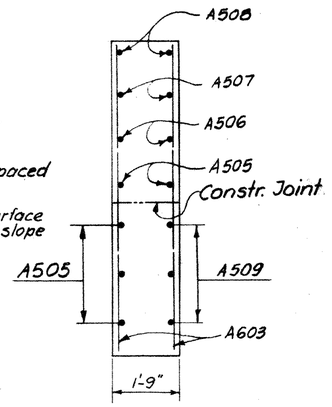


PLAN

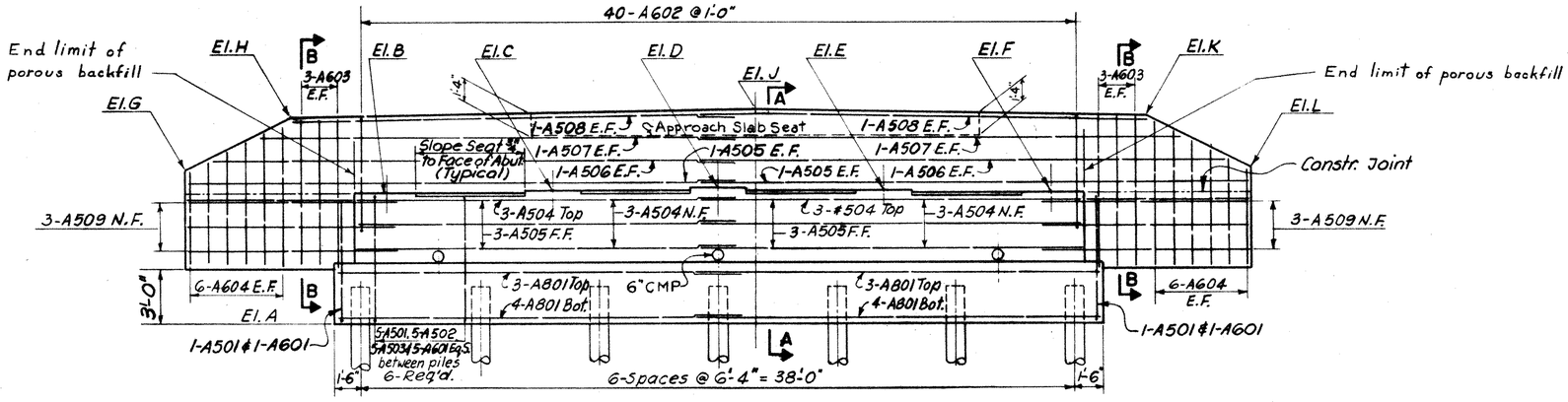
REAR ABUTMENT FOR NORTHBOUND LANE SHOWN
OTHERS SIMILAR



SECTION A-A



SECTION B-B



ELEVATION

ELEVATIONS											
Abutment	A	B	C	D	E	F	G	H	J	K	L
Rear - NBL	1078.60	1085.55	1085.69	1085.83	1085.75	1085.61	1086.82	1089.63	1090.02	1089.69	1086.88
Forward - NBL	1078.00	1085.00	1085.14	1085.28	1085.20	1085.06	1086.27	1089.08	1089.47	1089.14	1086.33
Forward - SBL	1078.00	1085.00	1085.14	1085.28	1085.20	1085.06	1086.27	1089.08	1089.47	1089.14	1086.33
Rear - SBL	1078.60	1085.55	1085.69	1085.83	1085.75	1085.61	1086.82	1089.63	1090.02	1089.69	1086.88

NOTES.

Reinforcing Steel shall be 2" clear from face of concrete unless otherwise shown. Reinforcing Steel in the abutment bridge seat shall be placed so as to avoid interference with the bearing anchor bolts. Porous Backfill 1-6" thick shall extend up to the roadway subgrade and outward to the width of the bridge seat.

Concrete shall be Class "E".

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON OHIO

ABUTMENT DETAILS

BRIDGE NO. KNO-13-18.95 L&R OVER THE NORTH BRANCH OF KOKOSING RIVER
KNOX COUNTY
SEC. KNO-13-15.93
STA. 993+21.75
STA. 995+08.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.S.	I.S.	I.S.	E.S.	A.W.K.	2-12-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

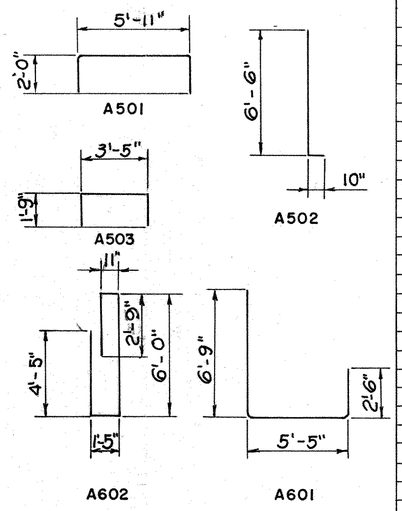
244
275

KNO-13-15.93
KNOX COUNTY

REINFORCING STEEL LIST

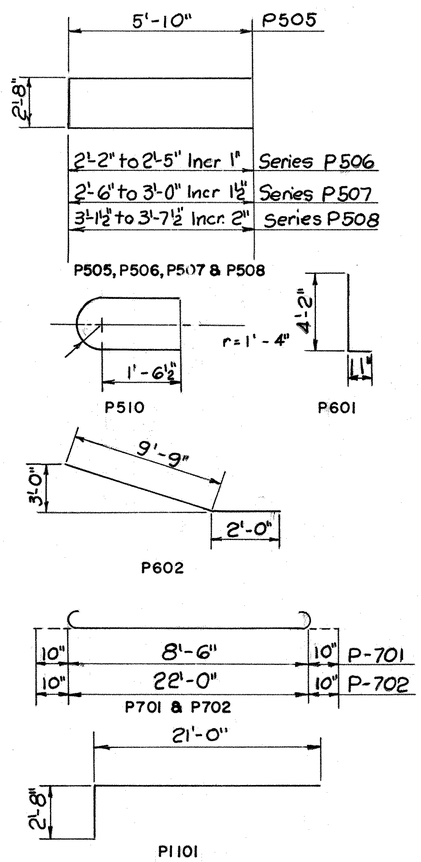
MARK	Nº	LENGTH	WEIGHT	SHP.
SLAB				
S601	550	39'-8"	32768	ST.
S602	650	38'-3"	37344	ST.
S603	104	28'-0"	4374	ST.
S701	550	39'-8"	44594	ST.
SLAB TOTAL			119080	
ABUTMENTS				
A501	128	9'-9"	1302	BT.
A502	120	7'-3"	907	BT.
A503	120	6'-9"	845	BT.
A504	48	20'-3"	1014	ST.
A505	10	29'-3"	1222	ST.
A506	16	28'-3"	471	ST.
A507	16	26'-0"	434	ST.
A508	16	23'-6"	394	ST.
A509	24	11'-0"	275	ST.
A601	128	14'-6"	2788	BT.
A602	160	15'-2"	3645	BT.
A603	48	7'-3"	523	ST.
A604	96	16 Sets of 6 7'-0" to 14'-6"	828	ST.
A801	56	21'-9"	3252	ST.
TOTAL ABUTMENTS			17900	
REPLACEMENT BAR SCHEDULE				
RE.501	1	5'-7"		ST.
RE.601	5	5'-11"		ST.
RE.701	3	6'-3"		ST.
RE.801	1	6'-6"		ST.
RE.1001	1	7'-2"		ST.
RE.1101	1	7'-6"		ST.

BENDING DIAGRAMS



MARK	Nº	LENGTH	WEIGHT	SHP.
PIERS				
P501	48	16'-6"	826	ST.
P502	48	13'-0"	651	ST.
P503	16	20'-0"	334	ST.
P504	16	16'-0"	267	ST.
P505	32	14'-4"	480	BT.
Series of P506	16 Sets of 4 of 64	Varies 6'-10"-7'-8" INCR. 1"	473	BT.
Series of P507	16 Sets of 5 of 80	Varies 7'-6"-8'-6" INCR. 1½"	668	BT.
P508	16 Sets of 4 of 64	Varies 8'-9"-9'-6" INCR. 2"	617	BT.
P509	8	19'-3"	160	ST.
P510	48	7'-3"	362	BT.
P511	4	11'-0"	46	ST.
P512	4	10'-6"	44	ST.
P601	152	5'-0"	1142	BT.
P602	16	11'-9"	282	BT.
P701	112	10'-2"	2328	BT.
P702	28	23'-8"	1362	BT.
P1001	56	20'-9"	5000	ST.
P1101	16	23'-7"	2004	BT.
P1102	40	21'-0"	4464	ST.
TOTAL PIERS			21510	

BENDING DIAGRAMS



NOTES

BAR SIZE is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used indicate the bar size number. For example, A701 is a No. 7 size bar and A1001 is a No. 10 size.

JOS. A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E. CANTON OHIO

REINFORCING STEEL LIST

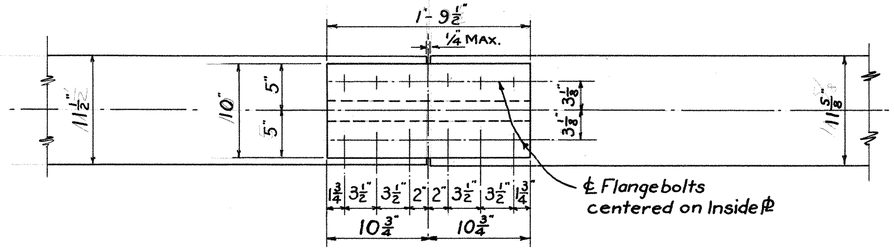
BRIDGE NO. KNO-13-18.95 L&R OVER THE NORTH BRANCH OF KOKOSING RIVER
KNOX COUNTY SEC. KNO-13-15.93
STA. 993+21.75
STA. 995+08.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
E.S.	Y.M.	Y.M.	E.S.	a.w.k. 2-12-65	

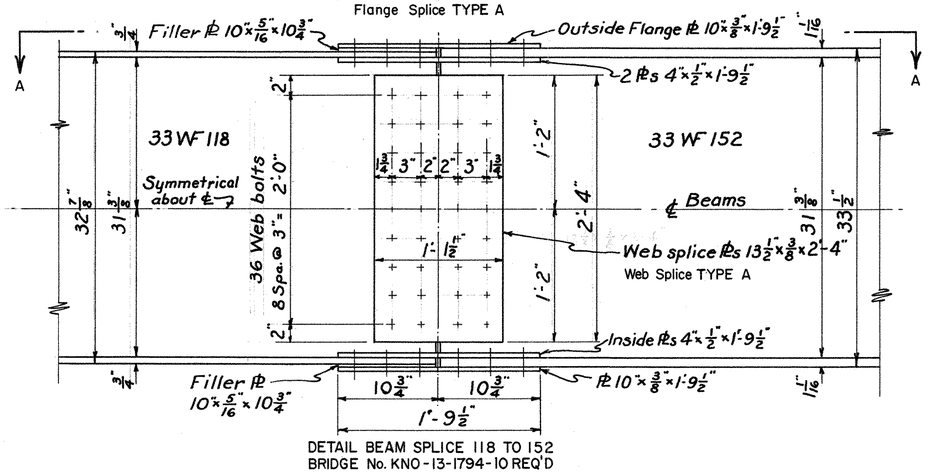
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-527(11)	

245
275

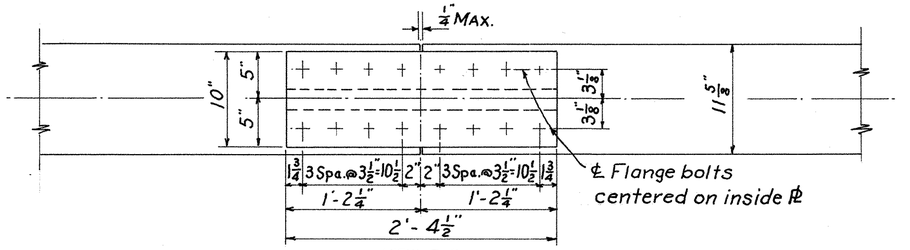
KNO-13-15.93
KNOX COUNTY



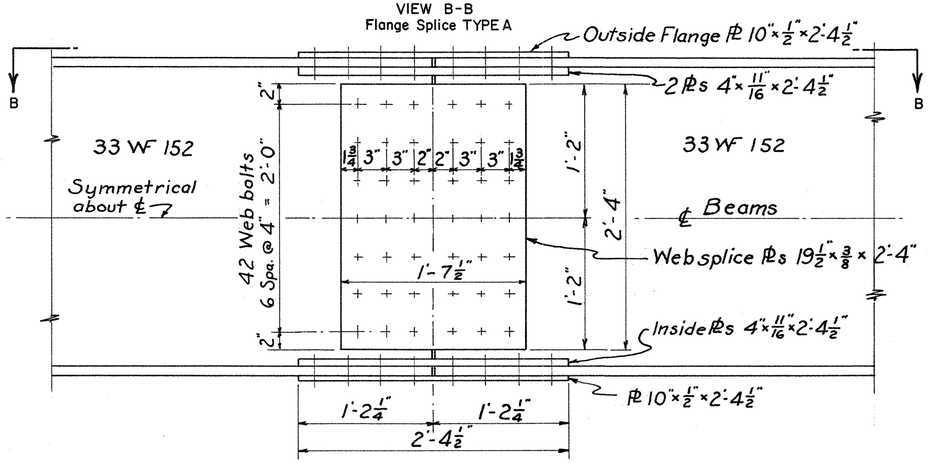
VIEW A-A
Flange Splice TYPE A



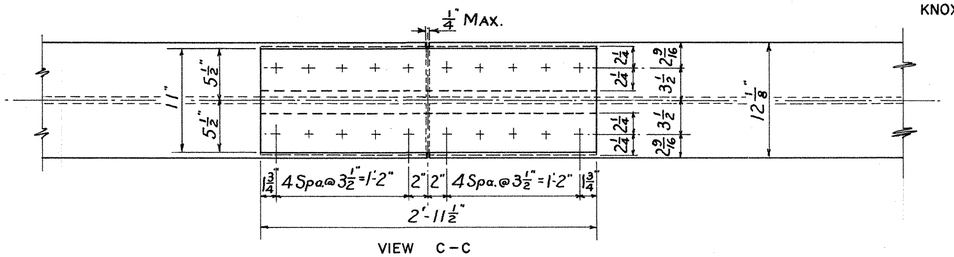
DETAIL BEAM SPLICE 118 TO 152
BRIDGE No. KNO-13-1794-10 REQ'D



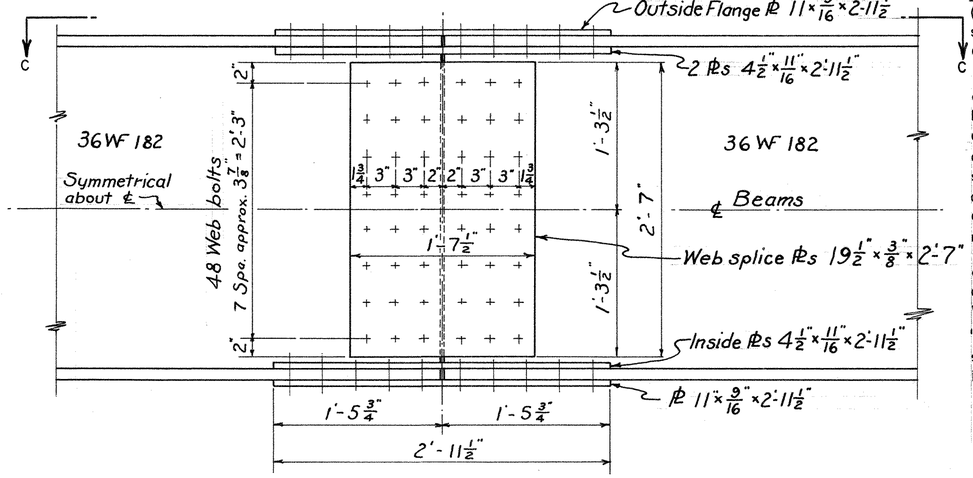
VIEW B-B
Flange Splice TYPE A



DETAIL BEAM SPLICE-152
Web Splice Type B
BRIDGE No. KNO-13-1794-10 REQ'D



VIEW C-C
Flange Splice TYPE A



DETAIL BEAM SPLICE-182
Web Splice TYPE B
BRIDGE No. KNO-13-1895 L-10 REQ'D.
BRIDGE No. KNO-13-1895 R-10 REQ'D.

NOTES:

For location of Beam Splice for Bridge No. KNO-13-1794 See Dwg. No. ~~229~~ 233

For location of Beam Splices for Bridge No. KNO-13-1895 L & R See Dwg. No. 241

For Standard Bolted Beam Splice Details See Dwg. No SD-2-64

HIGH-STRENGTH STEEL BOLTS, NUTS AND WASHERS Under item S-7-10, paragraph two (2), shall be completely revised and the last sentence of paragraph four (4), revised to read as follows:

In the final assembly of the parts to be bolted, drift pins shall be placed in a sufficient number of holes (not less than 25% percent for field erection) to provide and maintain accurate alignment of holes and parts, and sufficient bolts shall be installed and brought to a snug tight condition to bring the parts into complete contact. Bolts shall then be installed in any remaining open holes and tightened to a snug tight fit, after which all bolts shall be tightened completely by calibrated wrenches or by the turn-of-nut method. Drift pins shall then be replaced with bolts, tightened in the same manner.

"Bolt lengths determined by the use of Table No. I shall be adjusted to the next 1/4" inch length increment."

DEFLECTION AND CAMBER TABLE

BRIDGE No. KNO-13-1794

LOCATION	OUTSIDE BEAMS				INSIDE BEAMS			
	END SPAN		INTERIOR SPAN		END SPAN		INTERIOR SPAN	
	℄	SPLICE	℄	SPLICE	℄	SPLICE	℄	SPLICE
Deflection due to weight of steel	0	0	1/16	1/16	0	0	1/16	1/16
Deflection due to remaining dead load	1/8	1/8	7/16	5/16	1/8	1/8	7/16	5/16
Convexity required for vertical curve	0	0	0	0	0	0	0	0
Sum of deflection and convexity	1/8	1/8	1/2	3/8	1/8	1/8	1/2	3/8
Required Camber	0	0	0	0	0	0	0	0

BRIDGE No. KNO-13-1895 L & R

LOCATION	OUTSIDE BEAMS			INSIDE BEAMS		
	END SPAN	INTERIOR SPAN		END SPAN	INTERIOR SPAN	
	℄	SPLICE	℄	℄	SPLICE	℄
Deflection due to weight of steel	0	1/16	1/16	0	1/16	1/16
Deflection due to remaining dead load	1/4	1/4	5/16	1/4	1/4	5/16
Convexity required for vertical curve	0	0	0	0	0	0
Sum of deflection and convexity	1/4	5/16	3/8	1/4	5/16	3/8
Required Camber	0	0	0	0	0	0

JOS A. STURRETT & ASSOCIATES
CONSULTING ENGINEERS
210 PIEDMONT AVE. S.E CANTON 2, OHIO

BOLTED BEAM SPLICE DETAILS
BRIDGE No. KNO-13-1794
BRIDGE No. KNO-13-1895 L&R
KNOX COUNTY SEC. KNO-13-15.93

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	V.A.F.	R.L.W.	V.A.F.	A.W.K. 2-12-65	5-21-65

GENERAL INFORMATION

INTRODUCTION

The project consists of the relocation of SR 13, the Fredericktown by-pass, approximately 5.5 miles in length, beginning on SR 13, 1.7 miles south of Fredericktown, extending northward, and terminating at the junction of SR 546 and SR 13. Included in the report are profiles of SR 13 Connectors (North and South), Co. Rd. 11, the SR 95 Interchange, Co. Rd. 6, Twp. Rd. 377, and SR 546.

Maximum proposed cuts and fill embankments are shown in the Project Index, on this sheet.

GEOLOGY OF THE PROJECT

The alignment traverses portions of the flood plains, valleys, and bordering uplands of the Kokosing and North Branch Kokosing Rivers, on the glaciated Allegheny Plateau. Moderately deep to deep glacial drift and valley fill overlies bedrock of Mississippian age.

EXPLORATION

Exploratory borings were made by means of truck-mounted soil auger and hand auger, between July 18 and August 1, 1963.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below grade consist of sandy silts (A-4a) and silt clays (A-6a), having moisture contents generally in the lower portions of, or below the plastic range, and occasional gravels, sandy gravels and silts. Frost susceptible silts were encountered within three feet below proposed grade at the following stations:

SR 13 - 932+00, 933+50, 1023+25, 1027+00, 1037+00, 1074+00, 1076+00

Co. Rd. 11 - 53+30

SR 95 Interchange

SR 95 - 46+00

Ramp SE - 7+00

Co. Rd. 6 - 55+00

Twp. Rd. 377 - 45+00

Wet materials were encountered at mainline station 932+00, and at station 7+00, Ramp SE.

In the embankment foundation areas, soils are comprised of gravels (A-1-a), sandy gravels (A-1-b, A-2-4), silts (A-4a, A-4b), and silt clays (A-6a), having moisture contents generally in the lower portion of, or below the plastic range. Low-strength compressible peats with wet, organic soils were encountered in the low areas between stations 945+00 and 955+00, left to right of centerline. Wet and/or organic materials were also encountered at the following stations:

973+00, 977+00, 988+50, 991+25, 1024+00, 1026+25, 1033+25, 1035+00, 1043+00, 1090+00, 1134+00

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS — 489 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel and/or stone fragments	A-1-a(0)	A-1-a	67	17	8	- 8 -		NP	NP	11	75
Gravel and/or stone fragments with sand	A-1-b(0)	A-1-b	48	20	16	10	6	NP	NP	15	37
Fine sand	A-3(0)	A-3	3	27	60	-10 -		NP	NP	24	1
Coarse and fine sand	------	A-3a	9	30	40	10	11	NP	NP	19	10
Gravel and/or stone fragments with sand and silt	A-2-4(0)	A-2-4	46	9	15	18	12	26	3	16	35
Gravel and/or stone fragments with sand, silt, and clay	A-2-6(0)	A-2-6	65	10	6	9	10	31	12	16	7
Sandy silt	A-4(3)	A-4a	26	7	18	30	19	24	4	19	133
Silt	A-4(8)	A-4b	5	2	9	58	26	29	3	21	52
Silt and clay	A-6(3)	A-6a	17	4	10	37	32	31	12	20	70
Silty clay	A-6(9)	A-6b	19	4	9	37	31	39	17	21	7
Elastic clay	A-7-5(20)	A-7-5	2	1	4	36	57	89	37	60	15
Clay	A-7-6(17)	A-7-6	10	1	3	43	43	53	26	37	4
Random fill consisting of - silt, glass, and cinders			VISUAL CLASSIFICATION								
Fibrous peat			VISUAL CLASSIFICATION								1
Fine-textured peat			VISUAL CLASSIFICATION								7
Loamy peat			VISUAL CLASSIFICATION								7
Marly-Sedimentary peat			VISUAL CLASSIFICATION								16
Sedimentary peat			VISUAL CLASSIFICATION								12
Various other materials			VISUAL CLASSIFICATION								

Sod and/or Topsoil=X'= Approximate depth.

Berm material.

Auger boring - plan view.

Auger boring plotted to vertical scale only.

Water content nearly equal to or greater than liquic limit.

Indicates a non-plastic material with high water content.

Free water.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

SOIL PROFILE

KNOX COUNTY

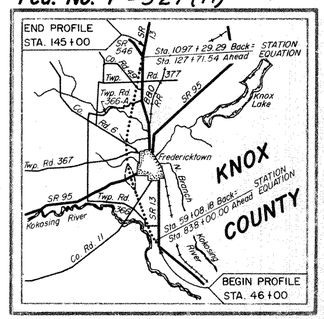
KNO - 13 - 15.93

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

1/30

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. F-527(11)



LOCATION MAP

Recon - P.L.H. - 6/28/63

Drilling - Auger - J.A.G., B.D.L. - 7/18/63 - 7/25/63, 7/31/63, 8/1/63

Drafting - R.C.B., E.F.A., D.R.C - 9/11/63

PROJECT INDEX

STATION FROM - TO	PLAIN VIEW SHEET	PROFILE SHEET	FILL EMBANKMENT (Max.)	CUTS (Max.)
SR 13				
46+00 - 840+00	4	4	10'	—
840+00 - 872+00	5	5	10'	4'
872+00 - 904+00	6	6	2'	23'
904+00 - 936+00	7	7	8'	14'
936+00 - 968+00	8	8	13'	7'
968+00 - 1000+00	9	9	20'	7'
1000+00 - 1032+00	10	10	6'	—
1032+00 - 1064+00	11	11	7'	15'
1064+00 - 1096+00	12	12	13'	7'
1096+00 - 145+00	13	13	16'	2'
SR 13 CONNECTOR (South)				
1+00 - 9+00	4	14	10'	—
CO. RD. 11				
45+00 - 54+00	6	14	9'	—
SR 95 INTERCHANGE				
SR 95				
46+00 - 64+00	15	16	16'	—
RAMP SW				
0+00 - 10+00	15	16	15'	—
RAMP NW				
0+00 - 11+00	15	16	16'	—
RAMP SE				
0+00 - 10+35	15	16	12'	6'
RAMP NE				
0+00 - 9+00	15	16	13'	3'
CO. RD. 6				
44+00 - 55+00	9	17	9'	—
TWP. RD. 377				
45+00 - 60+00	12	17	—	7'
SR 13 CONNECTOR (North)				
108+00 - 115+00	12	17	6'	—
RELOCATED SR 546				
0+00 - 9+00	10	17	8'	—

SOIL PROFILE
KNOX COUNTY
KNO-13-15.93

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

SUMMARY OF SOIL TEST DATA

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

SR 13

STATION	OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
46+00	20'Lt	0.3-2.0	Brown Silt W/Glass and Cinders							-	Visual*
		2.0-8.0	71	12	6	5	6	NP	NP	11	A-1-a *
50+50	CL	0.4-3.0	0	26	16	26	32	32	11	12	A-6a
		3.0-5.0	65	1	1	15	18	32	11	16	A-2-6
		5.0-10.0	67	17	6	- 10 -		NP	NP	9	A-1-a
54+00	CL	0.4-3.5	22	4	13	30	31	28	11	14	A-6a
		3.5-6.0	61	11	7	6	15	33	10	19	A-2-4
		6.0-11.0	58	22	7	3	10	NP	NP	6	A-1-a
58+82	CL	0.4-2.0	0	1	5	51	43	32	11	13	A-6a
		2.0-9.0	58	27	9	- 6 -		NP	NP	17	A-1-a
841+00	CL	0.4-2.0	0	1	3	56	40	31	8	14	A-4b
		2.0-4.0	70	3	5	11	11	32	10	16	A-2-4
		4.0-7.0	71	18	6	- 5 -		NP	NP	7	A-1-a
845+00	CL	0.4-4.0	15	1	7	45	32	29	11	16	A-6a *
		4.0-8.0	47	8	10	17	18	26	7	17	A-2-4
		8.0-10.0	69	13	4	3	11	37	14	15	A-2-6
849+00	CL	0.4-3.0	19	2	7	41	31	26	14	11	A-6a
		3.0-10.0	26	10	15	22	27	26	8	19	A-4a
853+00	CL	0.3-2.0	34	6	9	22	29	30	11	9	A-6a
		2.0-11.0	38	11	13	20	18	22	5	13	A-4a *
		11.0-12.5	39	12	13	22	14	NP	NP	17	A-4a
857+00	CL	0.4-3.0	35	3	10	27	25	28	11	13	A-6a
		3.0-10.0	37	9	12	23	19	20	3	14	A-4a
860+25	CL	0.3-2.0	12	1	3	53	31	29	6	15	A-4b
		2.0-10.0	39	6	12	21	22	24	7	14	A-4a
865+00	CL	0.4-5.0	33	9	15	25	18	23	4	17	A-4a
		5.0-10.0	38	8	17	23	14	NP	NP	15	A-4a
		10.0-12.0	60	20	12	- 8 -		NP	NP	8	A-1-a
869+00	CL	0.3-4.0	0	2	11	46	41	31	13	17	A-6a
		4.0-10.0	32	8	12	27	21	26	9	15	A-4a
875+50	CL	0.3-5.0	29	8	15	28	20	24	8	18	A-4a *
		5.0-10.0	30	9	14	28	19	22	7	16	A-4a *
		10.0-15.0	60	21	6	8	5	NP	NP	8	A-1-a
885+30	CL	0.3-4.0	20	5	12	36	27	24	11	11	A-6a *
		4.0-10.0	55	12	7	16	10	NP	NP	8	A-2-4*
887+00	CL	0.3-5.0	28	9	16	25	22	27	10	18	A-4a
		5.0-10.0	42	8	14	25	11	NP	NP	14	A-4a *
		10.0-14.0	52	21	8	11	8	NP	NP	8	A-1-b*
892+00	CL	0.3-5.0	29	8	14	25	24	29	11	19	A-6a
		5.0-10.0	37	11	13	23	16	19	3	14	A-4a
		10.0-15.0	35	11	12	26	16	22	7	10	A-4a
		15.0-21.0	44	10	12	21	13	NP	NP	9	A-2-4 *
896+50	CL	0.3-3.0	10	2	6	48	34	32	11	18	A-6a
		3.0-7.0	23	6	13	27	31	29	11	19	A-6a *
		7.0-12.0	68	23	5	- 4 -		NP	NP	5	A-1-a*
901+60	CL	0.3-3.0	0	6	15	34	45	32	12	10	A-6a *
		3.0-10.0	68	13	6	7	6	22	5	7	A-1-a *
906+55	CL	0.3-4.0	24	9	11	32	24	30	11	13	A-6a *
		4.0-7.0	42	13	8	18	19	34	12	24	A-6a
		7.0-10.0	61	14	6	13	6	NP	NP	10	A-1-b
912+00	CL	0.4-5.0	42	10	11	19	18	36	13	22	A-6a
		5.0-10.0	44	13	10	19	14	25	7	12	A-2-4
		10.0-15.0	45	18	22	9	6	NP	NP	7	A-1-b *
917+50	100'Lt	0.3-4.0	0	6	14	40	40	32	12	17	A-6a
917+50	CL	0.3-4.0	0	5	13	56	26	33	14	19	A-6a
		4.0-6.0	34	10	10	20	26	35	15	16	A-6a
917+50	100'Rt	0.3-6.0	29	4	10	25	32	37	15	22	A-6a
920+00	CL	0.3-5.0	24	18	28	15	15	25	7	19	A-2-4
		5.0-8.0	23	6	13	35	23	21	4	17	A-4a
		8.0-12.0	21	4	12	37	26	22	4	15	A-4a
		12.0-15.0	40	13	20	19	8	NP	NP	11	A-2-4
924+00	CL	0.4-5.0	28	8	17	26	21	21	4	15	A-4a *
		5.0-10.0	64	19	6	- 11 -		NP	NP	15	A-1-a *
		10.0-15.0	65	20	6	- 9 -		NP	NP	13	A-1-a
929+00	CL	0.4-4.0	17	4	13	35	31	26	11	20	A-6a *
932+00	CL	0.4-7.0	0	2	4	77	17	NP	NP	34	A-4b *
		7.0-14.0	42	7	14	22	15	23	4	18	A-4a
		14.0-22.0	72	18	3	- 7 -		NP	NP	12	A-1-a
		22.0-26.0	60	24	9	- 7 -		NP	NP	9	A-1-a
		26.0-30.0	15	6	14	38	27	21	3	16	A-4a
933+25	CL	0.4-4.0	18	3	18	28	33	28	11	22	A-6a *
		4.0-8.0	41	8	16	22	13	23	5	16	A-2-4
		8.0-10.0	79	11	3	- 7 -		NP	NP	16	A-1-a
937+00	CL	0.3-6.0	37	5	15	26	17	23	2	13	A-4a *
		6.0-10.0	62	14	7	7	10	35	12	23	A-2-6
		10.0-16.0	35	45	10	- 10 -		NP	NP	18	A-1-b
938+50	CL	0.3-6.0	14	5	13	41	27	23	5	16	A-4a *
		6.0-10.0	50	33	8	- 9 -		NP	NP	16	A-1-a
944+00	CL	0.5-1.5	64	9	5	9	13	30	9	12	A-2-4 *
946+00	150'Lt	0.5-2.0	0	3	15	56	26	NP	NP	10	A-4b
		2.0-8.0	16	13	33	22	16	NP	NP	16	A-4a
		8.0-10.0	11	21	44	14	10	NP	NP	16	A-3a
946+00	CL	0.4-3.0	0	67	30	1	2	NP	NP	11	A-3a
		3.0-10.0	64	6	10	12	8	30	11	15	A-2-6
		10.0-14.0	33	34	7	19	7	NP	NP	9	A-2-4
946+50	150'Lt	0.5-4.0	0	4	10	51	35	NP	NP	13	A-4b
		4.0-8.0	19	8	27	25	21	NP	NP	19	A-4a
		8.0-10.0	38	10	26	15	11	NP	NP	18	A-2-4
		10.0-14.0	53	21	8	13	5	NP	NP	14	A-1-b
946+50	100'Lt	2.0-5.0	0	3	31	33	33	NP	NP	18	A-4a
		5.0-9.0	24	8	27	23	18	NP	NP	19	A-4a
		9.0-11.5	75	4	6	9	6	NP	NP	17	A-1-a
		11.5-14.0	81	8	4	3	4	NP	NP	13	A-1-a
946+50	CL	0.5-2.0	20	6	25	31	18	NP	NP	9	A-4a
		2.0-6.0	23	12	31	26	8	NP	NP	13	A-2-4
947+00	150'Lt	1.5-3.0	0	2	16	50	32	25	6	14	A-4b
		3.0-7.0	0	6	22	50	22	NP	NP	20	A-4b
		7.0-12.0	22	7	27	29	15	NP	NP	22	A-4a
		12.0-17.0	64	19	6	8	3	NP	NP	11	A-1-a
947+00	100'Lt	3.0-10.0	21	3	49	21	11	NP	NP	21	A-2-4
		10.0-10.5	18	11	33	25	13	NP	NP	20	A-4a
		10.5-14.0	21	4	36	24	15	NP	NP	21	A-4a
		14.0-17.0	57	28	18	- 7 -		NP	NP	13	A-1-a
947+00	CL	1.5-3.0	0	38	37	8	17	NP	NP	21	A-3a
		3.0-6.0	0	4	27	24	45	34	13	20	A-6a
		6.0-10.0	26	1	12	44	17	NP	NP	21	A-4a
		10.0-20.0	66	2	10	18	4	NP	NP	13	A-1-b
947+00	50'Rt	0.5-4.0	19	11	34	17	19	NP	NP	9	A-4a
		4.0-10.0	27	12	20	21	20	32	5	21	A-4a
948+00	150'Lt	1.0-3.0	29	0	0	22	49	62	25	14	A-7-5
		3.0-5.0	25	5	15	29	26	27	9	19	A-4a
		5.0-10.0	28	6	17	31	18	NP	NP	21	A-4a
		10.0-18.0	60	14	7	5	4	NP	NP	12	A-1-a
948+00	100'Lt	2.0-6.0	0	6	19	40	35	NP	NP	45	A-4a
		6.0-7.0	25	9	27	26	13	NP	NP	22	A-4a
		7.0-9.0	0	4	15	43	38	33	15	18	A-6a
		9.0-15.0	17	3	14	50	16	NP	NP	21	A-4b
		15.0-20.0	61	17	16	- 6 -		NP	NP	15	A-1-a
948+00	CL	2.0-6.0	Brown Silty Sedimentary Peat							99	Visual
		6.0-11.0	0	1	4	43	52	30	11	-	A-6a
		11.0-12.0	28	7	32	20	13	NP	NP	44	A-2-4
		12.0-17.0	0	23	21	42	14	NP	NP	25	A-4a
		17.0-20.0	64	1	2	30	3	NP	NP	24	A-2-4
948+00	100'Rt	0.5-4.0	35	4	23	20	18	NP	NP	11	A-4a
		4.0-7.0	0	14	30	36	20	NP	NP	21	A-4a
		7.0-10.0	63	5	9	15	8	NP	NP	23	A-1-b
		10.0-13.0	64	18	6	7	5	NP	NP	14	A-1-a
948+00	150'Rt	0.5-5.0	16	6	35	26	17	NP	NP	14	A-4a
		5.0-10.0	60	10	9	12	9	NP	NP	19	A-1-b
949+00	150'Lt	2.0-3.0	0	1	1	15	83	67	22	66	A-7-5
		3.0-4.0	7	17	30	18	28	NP	NP	18	A-4a
		4.0-8.0	24	4	13	45	14	NP	NP	21	A-4a
		8.0-10.0	4	10	35	35	16	NP	NP	21	A-4a
		10.0-15.0	30	2	11	51	6	NP	NP	19	A-4b
949+00	100'Lt	0.5-3.0	0	0	1	44	55	42	11	24	A-7-5
		3.0-4.0	0	1	2	70	27	87	43	60	A-7-5
		4.0-5.0	20	6	18	37	19	NP	NP	18	A-4a
		5.0-11.0	32	4	23	27	14	NP	NP	21	A-4a
		11.0-12.0	63	3	16	13	5	NP	NP	15	A-1-b
949+00	CL	1.5-4.0	Dark-Brown Loamy Peat							92	Visual
		4.0-6.0	Dark-Grayish-Brown Silty Sedimentary Peat							96	Visual
		6.0-11.0	0	36	37	13	14	25	6	32	A-3a
		11.0-16.0	31	0	2	56	11	NP	NP	14	A-4b
		16.0-22.0	29	20	30	14	7	NP	NP	19	A-3a
949+00	100'Rt	2.0-4.0	15	9	23	26	27	NP	NP	41	A-4a
		4.0-7.0	4	2	20	50	24	NP	NP	27	A-4b
		7.0-15.0	7	3	13	60	17	NP	NP	21	A-4b
		15.0-18.0	61	18	10	8	3	NP	NP	12	A-1-a
949+00	150'Rt	0.5-4.0	8	6	24	37	25	22	4	14	A-4a
		4.0-7.0	0	6	34	38	22	NP	NP	21	A-4a
		7.0-10.0	16	5	9	52	18	NP	NP	20	A-4b
		10.0-15.0	50	20	19	6	5	NP	NP	11	A-1-a
950+00	150'Lt	0.2-5.0	0	1	16	50	33	NP	NP	16	A-4b
		5.0-7.0	0	1	1	38	60	89	42	55	A-7-5
		7.0-9.0	0	2	6	34	58	112	42	63	A-7-5
		9.0-10.0	0	1	5	66	28	26	6	19	A-4b
		10.0-13.0	18	14	31	21	16	NP	NP	18	A-4a
		13.0-20.0	46	7	25	15	7	NP	NP	15	A-1-b
950+00	100'Lt	0.2-5.0	0	9	12	50	29	30	6	15	A-4b
		5.0-6.0	0	1	1	44	54	115	52	60	A-7-5
		6.0-8.0	0	1	1	18	80	115	86	107	A-7-5
		8.0-10.0	Dark-Brownish-Gray Silty Sedimentary Peat W/ Clay Seams							71	Visual
		10.0-15.0	0	1	1	62	36	30	5	30	A-4b
		15.0-20.0	36	1	2	56	5	NP	NP	15	A-4b
950+10	CL	0.2-3.5	16	2	19	41	22	28	6	22	A-4a
		3.5-5.0	0	1	3	28	68	114	56	77	A-7-5
		5.0-8.0	Dark-Brown Sedimentary Peat							96	Visual
		8.0-20.0	Gray Silty Marly Sedimentary Peat							60	Visual
		20.0-26.0	19	46	22	- 13 -		NP	NP	16	A-1-b
950+25	100'Rt	0.2-3.0	0	0	19	56	25	29	6	15	A-4b
		3.0-5.0	0	0	1	27	72	59	16	59	A-7-5
		5.0-15.0	Dark-Brown Silty Sedimentary Peat							110	Visual
		15.0-20.0	23	6	17	34	20	27	7	29	A-4a
		20.0-23.0	26	8	24	30	12	NP	NP	17	A-4a
950+40	150'Rt	0.2-5.0	0	3	16	50	31	30	7	14	A-4b
		5.0-7.0	0	1	5	33	61	50	24	42	A-7-6
		7.0-11.0	0	7	17	43	33	20	3	18	A-4a
		11.0-14.0	52	5	12	18	13	21	3	21	A-2-4
		14.0-20.0	4	2	20	62	12	NP	NP	20	A-4b
		20.0-22.0	0	3	60	30	7	NP	NP	20	A-4a
950+92	CL	0.2-6.0	4	8	24	25	39	29	11	12	A-6a
		6.0-8.0	0	2	5	32	61	133	74	65	A-7-5
		8.0-14.0	0	8	28	21	43	139	30	155	A-7-5
		14.0-27.0	Gray Silty Marly Sedimentary Peat							65	Visual
		27.0-30.0	0	19	46	14	21	NP	NP	19	A-3a
		30.0-32.0	16	9	31	26	18	NP	NP	17	A-4a
951+35	100'Lt	0.3-3.0	Dark-Brown Silty Sedimentary Peat							128	Visual
		3.0-6.0	0	5	7	47	41	32	11	39	A-6a
		6.0-11.0	0	1	14	50	35	NP	NP	25	A-4b
		11.0-15.0	56	27	9	4	4	NP	NP	12	A-1-a
951+35	CL	0.4-5.0	Dark-Brown Fine-Textured Peat							186	Visual
		5.0-7.0	0	1	2	39	58	53	18	74	A-7-5
		7.0-12.0	0	0	2	67	31	30	4	30	A-4b
		12.0-20.0	62	18	11	5	4	NP	NP	17	A-1-a
951+40	50'Lt	0.3-7.0	Dark-Gray Silty Sedimentary Peat							150	Visual
		7.0-12.0	Gray Silty Marly Sedimentary Peat							60	Visual
		12.0-17.0	Gray Silty Marly Sedimentary Peat							88	Visual
		17.0-24.0	Gray Silty Marly Sedimentary Peat							83	Visual
		24.0-30.0	23	4	10	43	20	NP	NP	18	A-4a
952+00	100'Lt	0.3-3.0	Brown Loamy Peat							163	Visual
		3.0-5.0	29	9	26	23	13	NP	NP	27	A-4a
		5.0-10.0	69	16	9	- 6 -		NP	NP	12	A-1-a
		10.0-13.0	0	1	5	67	27	NP	NP	25	A-4b
		13.0-16.0	25	9	10	43	13	NP	NP	19	A-4a
952+00	CL	0.3-6.0	Dark-Gray Silty Sedimentary Peat							149	Visual
		6.0-10.0	16	5	20	35	24	NP	NP	26	A-4a
		10.0-14.0	0	2	9	66	23	NP	NP	28	A-4b
		14.0-16.0	0	6	9	64	21	NP	NP	20	A-4b
		16.0-20.0	33	36	25	- 6 -		NP	NP	15	A-1-b
952+00	50'Rt	0.3-3.0	Brown Loamy Peat							114	Visual
		3.0-8.0	15	2	31	36	16	NP	NP	20	A-4a
		8.0-15.0	42	26	14	12	6	NP	NP	16	A-1-b
		15.0-18.0	9	29	49	- 13 -		NP	NP	16	A-3a
953+00	CL	0.3-8.0	Dark-Brown Sedimentary Peat							167	Visual
		8.0-11.0	Gray Silty Marly Sedimentary Peat							87	Visual
		11.0-14.0	25	6	22	33	14	NP	NP	27	A-4a
		14.0-20.0	50	28	14	- 8 -		NP	NP	15	A-1-a
954+00	100'Lt	0.3-3.0	Dark-Brown Fine-Textured Peat							233	Visual
		3.0-10.0	46	13	20	12	9	NP	NP	24	A-1-b
		10.0-13.0	15	3	6	57	19	NP	NP	23	A-4b
		13.0-18.0	43	4	2	23	8	NP	NP	20	A-2-4
		18.0-21.0	34	8	15	30	13	NP	NP	12	A-4a
954+00	CL	0.4-4.0	Dark-Brown Fine-Textured Peat							359	Visual
		4.0-8.0	Gray Marly Silt							84	Visual
		8.0-15.0	0	1	5	60	34	39	15	50	A-6a
		15.0-20.0	22	35	28	9	6	NP	NP	17	A-3a
		20.0-25.0	70	20	4	4	2	NP	NP	12	A-1-a
954+00	50'Rt	0.3-3.0	Dark-Brown Fine-Textured Peat							170	Visual
		3.0-6.0	32	9	22	21	16	NP	NP	26	A-4a
		6.0-15.0	60	20	11	5	4	NP	NP	11	A-1-a
954+00	100'Rt	0.3-2.0	35	19	29	8	9	NP	NP	10	A-1-b
		2.0-5.0	36	7	14	25	18	NP	NP	19	A-4a
		5.0-12.0	63	18	10	5	4	NP	NP	14	A-1-a
955+00	100'Lt	0.3-5.0	Dark-Brown Sedimentary Peat							249	Visual
		5.0-10.0	0	0	2	49	49	52	15	55	A-7-5
		10.0-13.0	0	1	9	55	35	31	7	43	A-4b
		13.0-22.0	69	18	7	4	2	NP	NP	14	A-1-a
955+00	CL	0.3-6.0	Dark-Brown Sedimentary Peat							151	Visual
		6.0-9.0	Gray Silty Marly Sedimentary Peat							60	Visual
		9.0-12.0	11	7	11	56	15	NP	NP	19	A-4b
		12.0-20.0	57	20	16	- 7 -		NP	NP	13	A-1-a
955+00	100'Rt	0.3-6.0	Brownish-Gray Sedimentary Peat							206	Visual
		6.0-11.0	Gray Marly Sedimentary Peat					75	-	70	Visual
		11.0-16.0	Gray Marly Sedimentary Peat							68	Visual
		16.0-20.0	30	6	8	41	15	NP	NP	24	A-4a
		20.0-25.0	61	17	14	3	5	NP	NP	17	A-1-a
955+00	150'Rt	0.4-2.0	26	15	34	16	9	NP	NP	27	A-2-4
		2.0-5.0	34	10	21	22	13	NP	NP	16	A-2-4
		5.0-10.0	67	15	7	6	5	NP	NP	14	A-1-a
		10.0-12.0	22	36	34	- 8 -		NP	NP	16	A-1-b
956+00	50'Lt	0.3-3.0	Dark-Brown Loamy Peat							194	Visual
		3.0-5.0	33	6	15	27	19	37	7	34	A-4a
		5.0-13.0	0	1	5	63	31	31	8	31	A-4b
		13.0-20.0	47	31	9	7	6	NP	NP	15	A-1-b
956+00	CL	0.3-6.0	Dark-Brown Loamy Peat							342	Visual
		6.0-10.0	Gray Silty Marly Sedimentary Peat							64	Visual
		10.0-14.0	Gray Silty Marly Sedimentary Peat							60	Visual
		14.0-20.0	37	36	19	- 8 -		NP	NP	17	A-1-b
956+00	100'Rt	0.3-6.0	Dark-Brown Fine-Textured Peat							545	Visual
		6.0-9.0	Brown Silty Marly Sedimentary Peat							174	Visual
		9.0-15.0	Brown Silty Marly Sedimentary Peat							87	Visual
		15.0-20.0	14	1	7	58	20	28	7		A-4b
		20.0-25.0	31	41	22	- 6 -		NP	NP	18	A-1-b
956+00	150'Rt	0.3-5.0	Dark-Brown Fine-Textured Peat							152	Visual
		5.0-11.0	Dark-Brown Marly Sedimentary Peat							234	Visual
		11.0-19.0	Gray Silty Sedimentary Peat							71	Visual
		19.0-21.0	Gray Silty Sand, Trace of Organic							-	Visual
		21.0-25.0	Gray Sandy Clayey Silt W/Gravel, Trace of Marl							-	Visual
956+00	180'Rt	0.0-5.0	Dark-Brown Fibrous Peat							616	Visual
		5.0-13.0	Gray Marly Sedimentary Peat							170	Visual
		13.0-20.0	0	0	2	62	36	68	39	55	A-7-6
		20.0-26.5	0	0	7	71	22	38	12	30	A-6a
		26.5-30.0	9	2	11	62	16	NP	NP	22	A-4b
957+00	50'Lt	0.3-4.0	49	10	17	16	8	NP	NP	11	A-1-b
		4.0-10.0	54	18	17	7	4	NP	NP	16	A-1-a
		10.0-15.0	51	26	10	8	5	NP	NP	14	A-1-a
957+00	CL	0.3-3.0	Dark-Brown Loamy Peat							123	Visual
		3.0-5.0	37	8	18	23	14	NP	NP	26	A-4a
		5.0-11.0	73	17	5	- 5 -		NP	NP	16	A-1-a
		11.0-15.0	3	27	60	- 10 -		NP	NP	24	A-3
957+00	100'Rt	0.3-6.0	Dark-Brown Fine-Textured Peat							540	Visual
		6.0-9.0	Gray Marly Clayey Silt, Trace of Organic							61	Visual
		9.0-12.0	0	0	3	53	44	39	14	51	A-6a
		12.0-20.0	43	9	23	19	6	NP	NP	17	A-1-b
958+00	CL	0.3-6.0	25	15	31	15	14	NP	NP	17	A-2-4
		6.0-10.0	41	18	17	14	10	NP	NP	17	A-1-b
		10.0-15.0	38	19	21	14	8	NP	NP	19	A-1-b
958+00	100'Rt	0.3-2.0	Dark-Brown Loamy Peat							146	Visual
		2.0-5.0	26	0	2	59	13	NP	NP	16	A-4b
		5.0-11.0	26	39	26	4	5	NP	NP	16	A-1-b
		11.0-15.0	61	18	13	5	3	NP	NP	15	A-1-a
963+00	CL	0.4-7.0	16	5	17	33	29	27	6	21	A-4a
		7.0-10.0	25	8	14	31	22	18	5	11	A-4a
968+00	CL	0.4-3.0	7	3	14	35	41	28	11	16	A-6a
		3.0-10.0	38	1	12	37	12	22	3	16	A-4a *
		10.0-15.0	67	23	5	- 5 -		NP	NP	7	A-1-a*
973+00	CL	0.3-3.0	0	1	1	53	45	41	19	22	A-7-6
		3.0-5.0	33	4	21	30	12	NP	NP	22	A-4a
		5.0-15.0	60	12	10	9	9	NP	NP	11	A-1-b
977+00	CL	0.3-4.0	19	6	15	30	30	30	11	14	A-6a
		4.0-8.0	55	24	14	- 7 -		NP	NP	15	A-1-a
		8.0-16.0	0	1	1	54	44	54	24	63	A-7-5
		16.0-20.0	67	23	5	- 5 -		NP	NP	13	A-1-a
980+00	CL	2.5-5.0	54	10	9	15	12	NP	NP	21	A-2-4
		5.0-7.0	69	13	8	4	6	NP	NP	10	A-1-a
		7.0-15.0	74	15	5	- 6 -		NP	NP	13	A-1-a
984+00	CL	0.3-2.0	16	14	44	14	12	NP	NP	8	A-3a
		2.0-7.0	61	19	13	- 7 -		NP	NP	7	A-1-a
		7.0-12.0	76	14	4	- 6 -		NP	NP	13	A-1-a
		12.0-16.0	41	5	10	26	18	21	5	13	A-4a
		16.0-20.0	66	21	7	- 6 -		NP	NP	13	A-1-a

SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

3/30

SUMMARY OF SOIL TEST DATA(Cont'd)

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

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
988+50	CL	0.5-4.0	0	2	38	34	26	NP	NP	20	A-4a
		4.0-5.0	0	18	51	12	19	NP	NP	28	A-3a
		5.0-7.0	72	16	6	- 4 -		NP	NP	7	A-1-a
		7.0-17.0	77	14	4	- 5 -		NP	NP	9	A-1-a
991+25	CL	0.5-5.0	28	7	15	29	21	24	6	14	A-4a
		5.0-7.0	77	5	4	10	4	NP	NP	9	A-1-a
		7.0-8.0	Wood Fragments							-	Visual
		8.0-11.0	56	5	15	16	8	NP	NP	41	A-1-b
		11.0-21.0	71	16	7	2	4	NP	NP	-	A-1-a
995+00	CL	0.5-3.0	20	2	16	40	22	26	3	18	A-4a
		3.0-8.0	74	4	5	12	5	NP	NP	13	A-1-b
		8.0-15.0	86	6	3	- 5 -		NP	NP	15	A-1-a
1000+00	CL	0.5-4.0	70	8	8	9	5	NP	NP	9	A-1-a
		4.0-12.0	77	15	4	- 4 -		NP	NP	12	A-1-a
1004+00	50'Rt	0.5-2.0	0	2	5	51	42	40	16	22	A-6a *
		2.0-4.0	83	4	5	4	4	28	5	8	A-1-a
1008+00	CL	0.5-1.5	31	3	13	30	23	36	14	24	A-6a *
		1.5-3.0	65	10	7	11	7	NP	NP	12	A-1-b
		3.0-7.0	73	17	5	- 5 -		NP	NP	11	A-1-a
		7.0-10.0	56	6	7	19	12	23	8	13	A-2-4
1012+00	CL	0.5-3.0	37	9	11	20	23	31	11	13	A-6a *
		3.0-4.0	73	15	5	- 7 -		NP	NP	8	A-1-a
1016+00	CL	0.5-2.0	35	5	8	27	25	39	16	25	A-6a *
		2.0-5.0	73	18	5	- 4 -		NP	NP	4	A-1-a
		5.0-7.0	38	7	2	- 3 -		NP	NP	12	A-1-a
1021+25	CL	0.5-2.0	0	0	2	50	48	37	14	28	A-6a
		2.0-4.0	0	0	2	68	30	33	8	22	A-6a
		4.0-10.0	65	20	8	- 7 -		NP	NP	13	A-1-a
1024+00	50'Lt	0.5-4.0	0	3	20	46	31	35	17	20	A-6a
		4.0-7.0	36	4	12	30	18	NP	NP	20	A-4a
		7.0-10.0	0	1	1	83	15	NP	NP	17	A-4b
		10.0-12.0	Gray Sandy Silt W/Gravel and Stone Fragments							-	Visual
		12.0-16.0	0	0	9	76	15	NP	NP	25	A-4b
		16.0-18.0	41	9	17	23	10	NP	NP	9	A-2-4
1028+25	CL	0.5-1.5	0	2	7	62	29	29	7	12	A-4b *
		1.5-3.0	0	2	5	59	34	26	5	9	A-4b *
		3.0-4.0	24	10	15	31	20	24	4	22	A-4a
		4.0-10.0	28	4	26	22	20	20	3	14	A-4a
1030+50	350'Lt	0.2-2.0	22	2	20	34	22	28	10	17	A-4a
		2.0-4.0	29	2	12	28	29	27	11	16	A-6a
		4.0-8.0	0	0	3	53	44	26	9	29	A-4b
		8.0-10.0	34	7	13	27	19	19	3	15	A-4a
1033+25	CL	0.5-2.0	40	1	3	53	33	52	23	29	A-7-6 *
		2.0-5.0	30	2	6	36	26	40	19	18	A-6b
		5.0-10.0	43	6	11	23	17	24	7	29	A-4a
1035+00	150'Lt	0.5-2.0	0	4	8	67	21	22	3	20	A-4b
		2.0-7.0	39	4	11	28	18	26	8	26	A-4a
		7.0-9.0	44	5	25	18	8	NP	NP	14	A-2-4
		9.0 10.0	0	0	3	48	49	39	17	21	A-6b
1037+00	CL	0.5-4.0	0	1	3	54	42	34	11	19	A-6a
		4.0-12.0	32	5	9	31	23	24	7	13	A-4a *
		12.0-14.5	33	6	11	29	21	23	7	12	A-4a
		14.5-16.0	82	6	3	6	3	24	6	11	A-1-a
1039+00	150'Lt	0.5-2.0	19	4	11	37	29	30	11	12	A-6a
		2.0-10.0	30	6	10	28	26	28	12	16	A-6a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.P.I.		% W.C.	SHTL CLASS.
1041+00	CL	0.5-2.0	23	1	6	38	32	36	15	20	A-6a
		2.0-11.0	32	5	11	31	21	21	6	11	A-4a
		11.0-15.0	69	17	9	10	5	NP	NP	7	A-1-a *
		15.0-18.0	38	7	10	28	17	22	6	15	A-4a *
		18.0-20.0	48	7	22	17	6	NP	NP	9	A-1-b
		20.0-22.0	15	4	10	44	27	22	4	14	A-4a
1043+00	150'Lt	0.5-2.0	26	6	13	28	27	37	18	17	A-6b
		2.0-10.0	36	5	8	26	25	28	11	12	A-6a
1044+00	CL	0.5-2.0	0	2	3	59	36	32	10	19	A-4b
		2.0-10.0	30	5	9	32	24	26	7	15	A-4a
1047+00	150'Lt	0.5-2.0	31	1	2	37	29	39	11	23	A-6a *
		2.0-4.0	30	4	9	35	22	30	11	26	A-6a
		4.0-10.0	24	7	13	30	26	23	5	14	A-4a
1049+00	CL	0.5-3.0	0	1	3	48	48	37	15	23	A-6a
		3.0-4.0	19	2	4	45	29	25	6	22	A-4a
		4.0-10.0	20	5	12	34	29	25	6	14	A-4a
1051+00	150'Lt	0.5-2.0	21	4	11	33	31	29	11	18	A-6a
		2.0-10.0	31	6	12	30	21	24	8	14	A-4a
1053+00	CL	0.5-2.0	35	2	7	35	21	28	8	16	A-4a
		2.0-7.0	28	6	11	27	28	28	11	13	A-6a *
		7.0-14.0	21	7	13	34	25	25	8	13	A-4a
1055+00	150'Lt	0.5-3.0	0	3	9	53	35	29	6	21	A-4b
		3.0-7.0	25	6	12	33	24	28	8	14	A-4a
		7.0-10.0	21	4	13	36	26	22	6	11	A-4a
1057+00	CL	0.5-4.0	0	4	9	48	39	35	13	13	A-6a *
		4.0-10.0	32	5	9	27	27	29	8	19	A-4a *
		10.0-12.0	42	5	10	26	17	22	7	-	A-4a
1059+00	150'Lt	0.5-4.0	26	4	13	34	24	27	9	14	A-4a
		4.0-10.0	29	3	6	30	32	32	14	17	A-6a
1061+50	CL	0.5-4.0	16	4	9	40	31	27	11	15	A-6a *
		4.0-11.0	28	5	10	32	25	28	12	17	A-6a *
		11.0-14.0	47	34	11	- 8 -		NP	NP	8	A-1-b
1063+00	220'Lt	0.3-3.0	28	4	8	34	26	29	11	17	A-6a
		3.0-10.0	30	4	10	30	26	29	11	17	A-6a
1066+00	CL	0.4-3.0	0	3	9	50	38	30	8	22	A-4b
		3.0-10.0	51	5	12	16	16	25	6	19	A-2-4 *
		10.0-13.0	42	6	13	24	15	20	3	14	A-4a
		13.0-20.0	34	8	12	26	20	23	5	14	A-4a
		20.0-23.0	36	8	15	28	13	NP	NP	17	A-4a
		23.0-25.0	10	0	3	60	31	NP	NP	28	A-4b
		25.0-26.0	10	2	4	58	26	NP	NP	22	A-4b
		26.0-30.0	21	38	28	6	7	NP	NP	16	A-1-b
1070+00	CL	0.5-4.0	0	18	23	39	20	37	15	20	A-6a *
1074+00	CL	0.5-4.0	0	0	2	60	38	32	7	18	A-4b *
		4.0-5.0	83	0	0	9	8	28	9	9	A-2-4 *
		5.0-11.0	64	26	6	- 4 -		NP	NP	5	A-1-a
1078+00	CL	0.5-3.0	36	4	6	32	22	28	5	13	A-4a *
		3.0-6.0	61	13	7	10	9	22	13	13	A-2-6
		6.0-10.0	75	17	4	- 4 -		NP	NP	8	A-1-a
1082+00	CL	0.5-4.0	59	10	7	12	12	28	8	19	A-2-4
		4.0-10.0	82	12	3	- 3 -		NP	NP	8	A-1-a
1084+75	CL	0.5-3.0	45	6	9	24	16	26	8	19	A-4a
		3.0-9.0	79	7	5	4	5	28	14	9	A-2-6

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1090+00	30'Rt	0.3-4.0	40	7	10	26	17	26	5	11	A-4a
		4.0-9.0	28	4	12	37	19	26	6	26	A-4a
		9.0-15.0	61	14	9	0	16	NP	NP	13	A-1-b
1094+00	CL	0.3-4.0	29	10	19	22	20	21	4	13	A-4a *
		4.0-10.0	39	6	16	19	20	25	10	14	A-4a
1129+00	15'Lt	0.3-2.0	37	5	14	24	20	24	7	13	A-4a *
		2.0-4.0	64	15	6	8	7	24	4	7	A-1-a *
		4.0-5.0	52	4	8	19	17	24	3	15	A-4a *
		5.0-10.0	21	3	11	30	35	30	12	17	A-6a
1133+00	15'Lt	0.3-4.0	24	3	11	32	30	27	11	13	A-6a *
		4.0-11.0	25	7	21	23	24	22	5	14	A-4a
		11.0-13.0	29	7	18	27	19	24	10	13	A-4a
1138+00	15'Lt	0.3-3.0	0	7	21	42	30	25	7	13	A-4a
		3.0-6.0	0	1	7	63	29	NP	NP	23	A-4b
		6.0-8.0	0	6	20	45	29	29	5	26	A-4a
		8.0-12.0	0	3	12	52	33	28	9	19	A-4b
		12.0-15.0	0	0	2	69	29	NP	NP	21	A-4b
		15.0-20.0	0	0	1	31	68	35	12	25	A-6a
1141+00	15'Lt	0.3-2.0	56	4	6	20	14	24	3	15	A-2-4
		2.0-3.0	30	7	12	16	35	22	5	17	A-2-4
		3.0-10.0	0	8	26	34	32	22	7	13	A-4a
1145+00	18'Lt	0.2-5.0	34	4	9	26	27	24	5	12	A-4a
		5.0-10.0	63	9	9	12	7	21	3	11	A-1-b
		SR 13 CONNECTOR (South)									
4+38	CL	0.4-2.5	0	1	3	51	45	32	11	13	A-6a *
		2.5-10.0	73	11	6	4	6	23	4	13	A-1-a
		COUNTY ROAD 11									
45+00	15'Rt	0.3-3.0	29	8	14	24	25	31	13	12	A-6a
		3.0-8.0	67	17	7	- 9 -		NP	NP	5	A-1-a
53+90	15'Rt	0.3-4.0	13	7	8	45	27	23	5	15	A-4a *
		4.0-9.0	41	12	12	18	17	21	3	12	A-2-4
		SR 95 INTERCHANGE									
		SR 95									
46+00	12'Lt	0.3-5.0	0	2	29	47	22	NP	NP	24	A-4a*
		5.0-10.0	32	6	17	26	17	24	8	16	A-4a
50+75	12'Lt	0.3-5.0	14	4	12	36	34	26	11	16	A-6a
		5.0-10.0	51	14	9	14	12	27	9	16	A-4a
		10.0-15.0	58	18	8	9	7	NP	NP	8	A-1-b
56+75	12'Lt	0.3-6.0	0	0	1	49	50	40	15	25	A-6a
		6.0-12.0	18	9	25	26	22	NP	NP	19	A-4a
		12.0-15.0	57	14	12	11	6	NP	NP	15	A-1-b
60+00	12'Lt	0.3-4.0	0	4	10	51	35	27	6	20	A-4b
		4.0-12.0	33	10	15	26	16	24	6	17	A-4a
		12.0-15.0	65	19	6	- 10 -		NP	NP	13	A-1-a
64+00	12'Lt	0.3-6.0	41	33	8	- 13 -		NP	NP	7	A-1-b *
		6.0-12.0	60	22	9	- 9 -		NP	NP	7	A-1-a
		RAMP SW									
3+35	25'Lt	0.3-7.0	27	9	14	26	24	26	8	16	A-4a
		7.0-15.0	57	24	7	- 12 -		NP	NP	7	A-1-a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
		RAMP NW									
8+00	60'Lt	0.3-4.0	58	3	8	18	13	26	7	14	A-2-4
		4.0-10.0	58	16	10	11	5	NP	NP	9	A-1-b
		RAMP SE									
7+00	15'Rt	0.3-6.0	0	1	17	60	22	33	6	23	A-4b *
		6.0-9.0	52	2	8	32	6	16	1	15	A-4a
		9.0-15.0	70	18	4	- 8 -		NP	NP	12	A-1-a
		RAMP NE									
3+40	60'Lt	0.4-6.0	21	3	10	39	27	29	11	20	A-6a
		6.0-11.0	43	11	8	20	18	40	16	24	A-6b
		11.0-15.0	65	15	6	9	5	25	6	9	A-1-a
		CO. RD. 6									
45+00	10'Rt	0.3-3.0	42	5	11	21	21	NP	NP	14	A-4a *
		3.0-9.0	31	6	9	30	24	28	10	15	A-4a
		9.0-10.0	18	8	14	35	25	17	2	22	A-4a
55+00	10'Rt	0.3-2.0	18	8	14	35	25	29	6	22	A-4a *
		2.0-5.0	39	7	14	19	21	28	10	25	A-4a *
		5.0-7.0	52	12	13	11	12	27	9	23	A-4a
		7.0-10.0	73	19	3	- 5 -		NP	NP	17	A-1-a
		TWP. RD. 377									
45+00	8'Rt	0.2-4.0	21	5	13	40	21	NP	NP	16	A-4a *
		4.0-6.0	28	2	11	31	28	30	11	26	A-6a
		6.0-10.0	0	7	13	40	40	27	11	20	A-6a
55+00	8'Lt	0.2-7.0	50	5	12	19	14	24	6	14	A-2-4 *
		7.0-8.0	21	17	30	24	8	NP	NP	10	A-2-4
		8.0-12.0	64	20	12	- 4 -		NP	NP	6	A-1-a
60+00	8'Rt	0.3-5.0	0	1	4	57	38	34	13	24	A-6a *
		5.0-10.0	64	10	3	13	10	30	7	21	A-2-4
		SR 13 CONNECTOR (North)									
111+00	8'Lt	0.3-3.0	0	0	2	61	37	30	5	24	A-4b
		3.0-4.0	38	7	4	30	25	37	14	22	A-6a
		4.0-7.0	52	4	6	42	26	30	11	22	A-6a
		7.0-10.0	52	14	10	11	13	30	11	12	A-2-6
		RELOCATED SR 546									
2+70	110'Lt	0.2-5.0	46	8	10	21	15	27	10	17	A-4a
		5.0-10.0	40	4	17	18	21	28	13	12	A-6a
5+20	87'Lt	0.2-2.0	28	4	14	30	24	28	13	19	A-6a
		2.0-5.0	16	1	6	44	33	33	13	31	A-6a
		5.0-10.0	22	5	19	28	26	23	5	13	A-4a

SOIL PROFILE
KNOX COUNTY
KNO - 13 - 15.93

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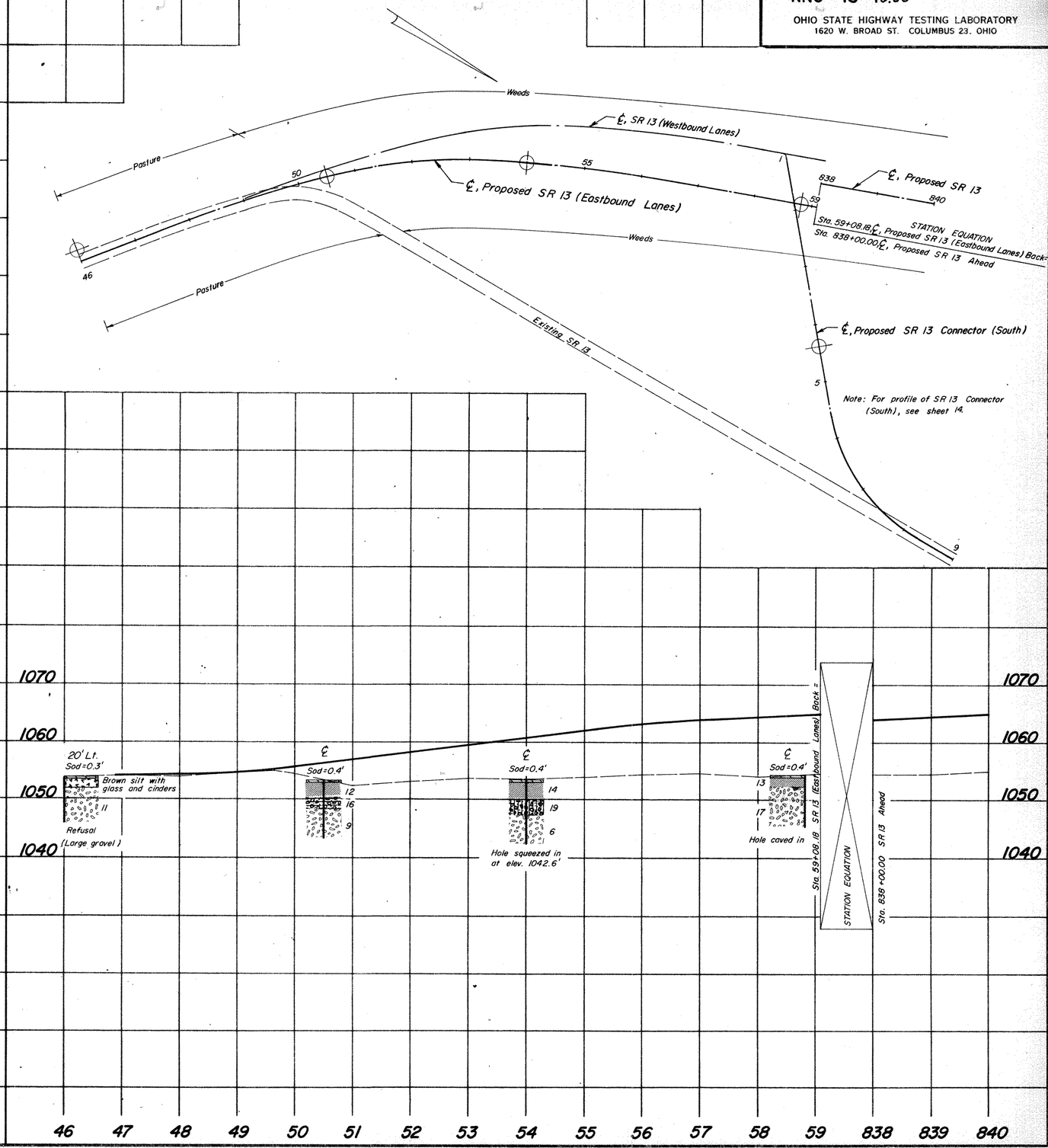
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO



SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

5/30

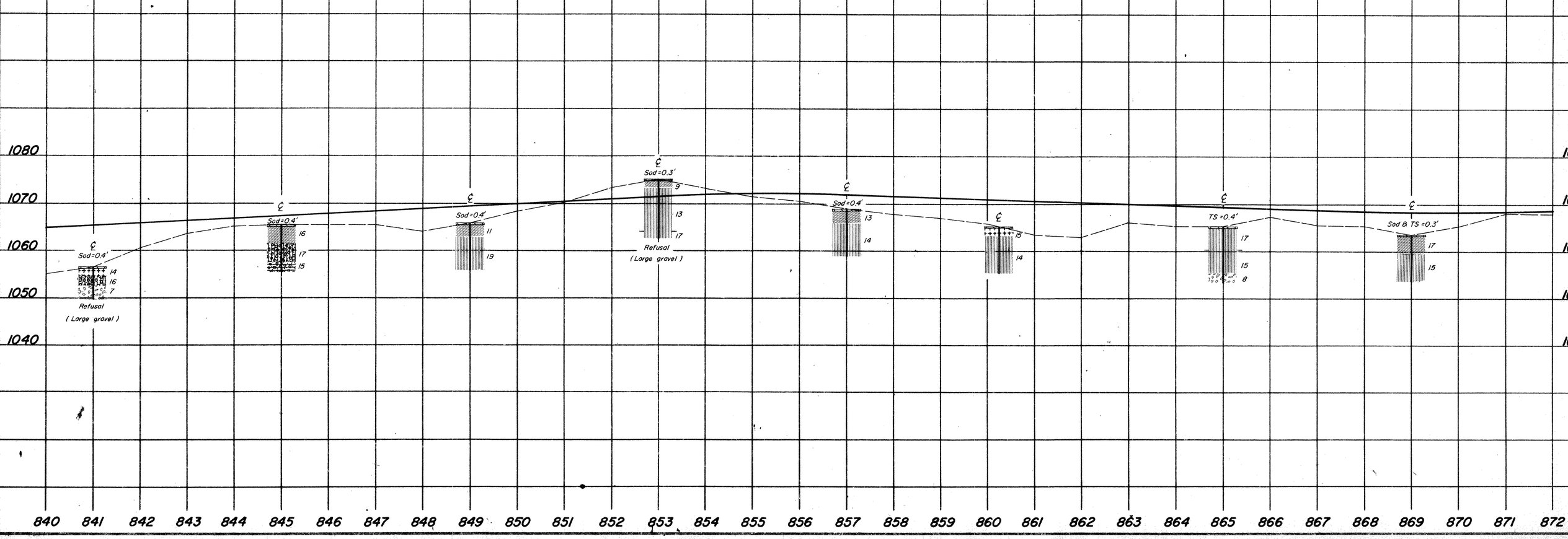
Weeds | Cultivated | Pasture | Cultivated

840 845 850 855 860 865 870 872

℄, Proposed SR 13

Weeds | Cultivated | Pasture | Cultivated

Twp. Rd. 366



SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

6/30

872 875 880 885 890 895 900 904

Cultivated

Abandoned Gravel Pit

Brush

Cultivated

Cultivated

℄, Proposed SR 13

℄, Proposed Co. Rd. 11

Existing Co. Rd. 11

45

50

54

Sta. 896+62.11, ℄, Proposed SR 13 =
Sta. 50+00.00, ℄, Proposed Co. Rd. 11

Note: For profile of Co. Rd. 11, see sheet 14.

℄ Sod & TS =0.3'
18
16
8

℄ Sod & TS =0.3'
11
8
Refusal (Boulders)

℄ Sod & TS=0.3'
18
14
8
Refusal (Boulders)

℄ TS =0.3'
19
14
10
9
Refusal (Boulders)

℄, Proposed Co. Rd. 11

℄
18
19
5
Refusal (Boulders)

℄ Sod & TS =0.3'
10
7
Refusal (Boulders)

1100 1090 1080 1070 1060 1050

872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904

SOIL PROFILE

KNOX COUNTY
KNO - 13 - 15.93

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

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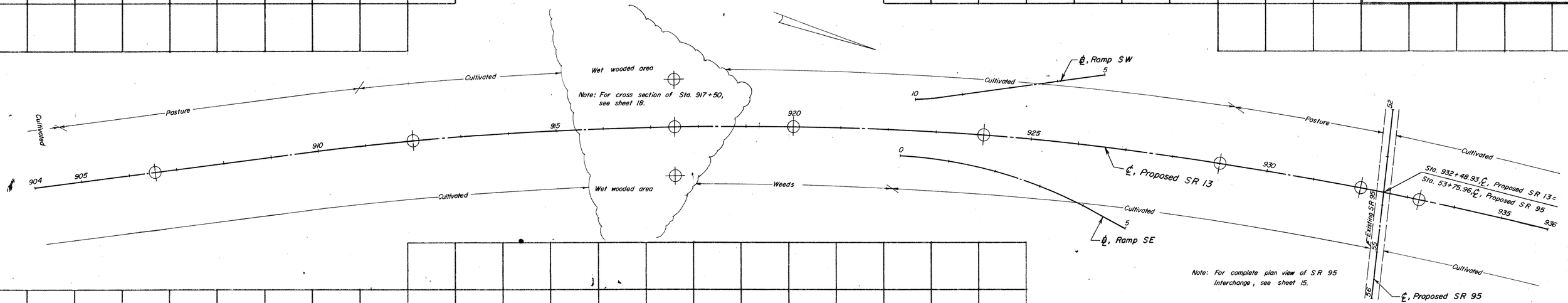

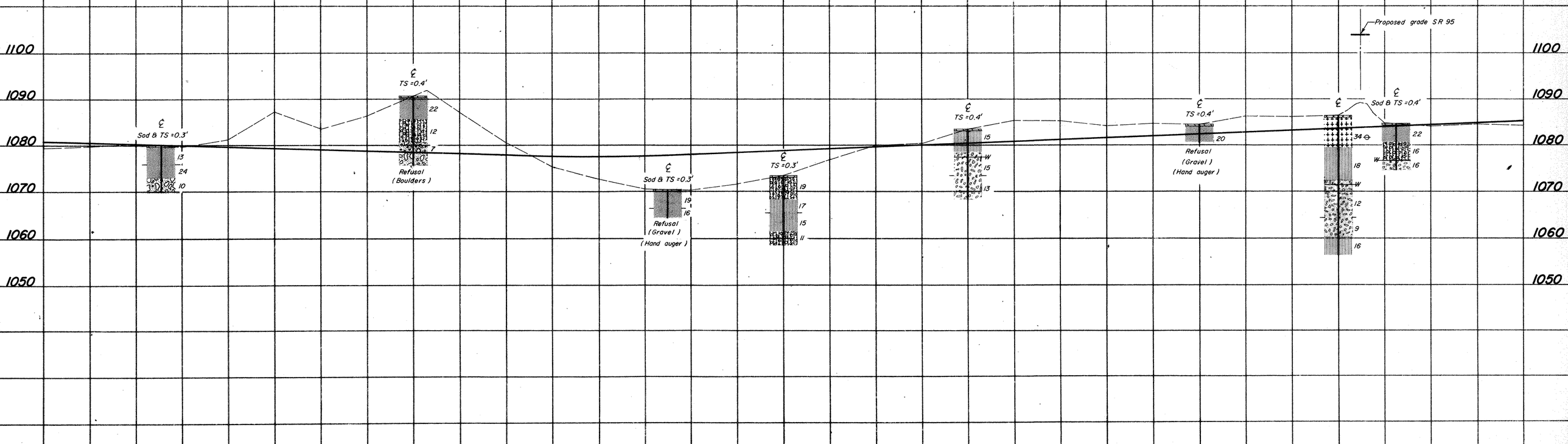

SOIL PROFILE

KNOX COUNTY
KNO - 13 - 15.93

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

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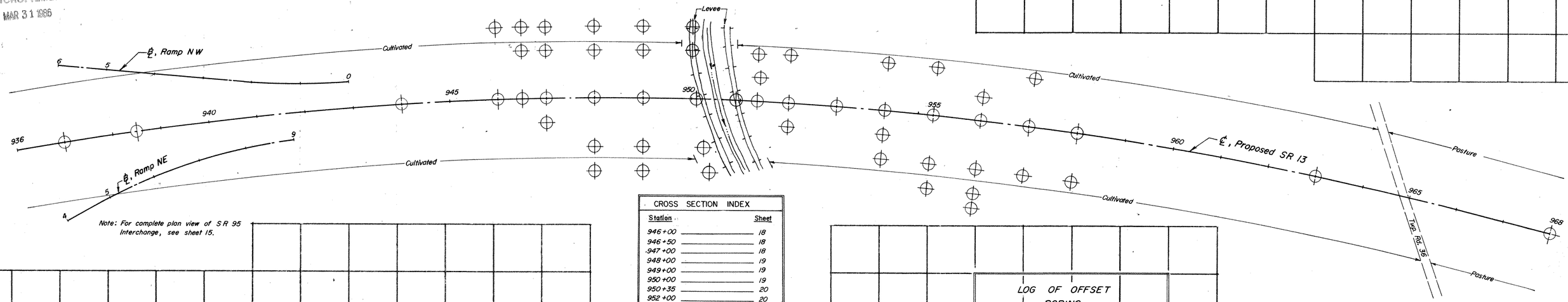

Note: For complete plan view of SR 95 Interchange, see sheet 15.

CROSS SECTION INDEX

Station	Sheet
946+00	18
946+50	18
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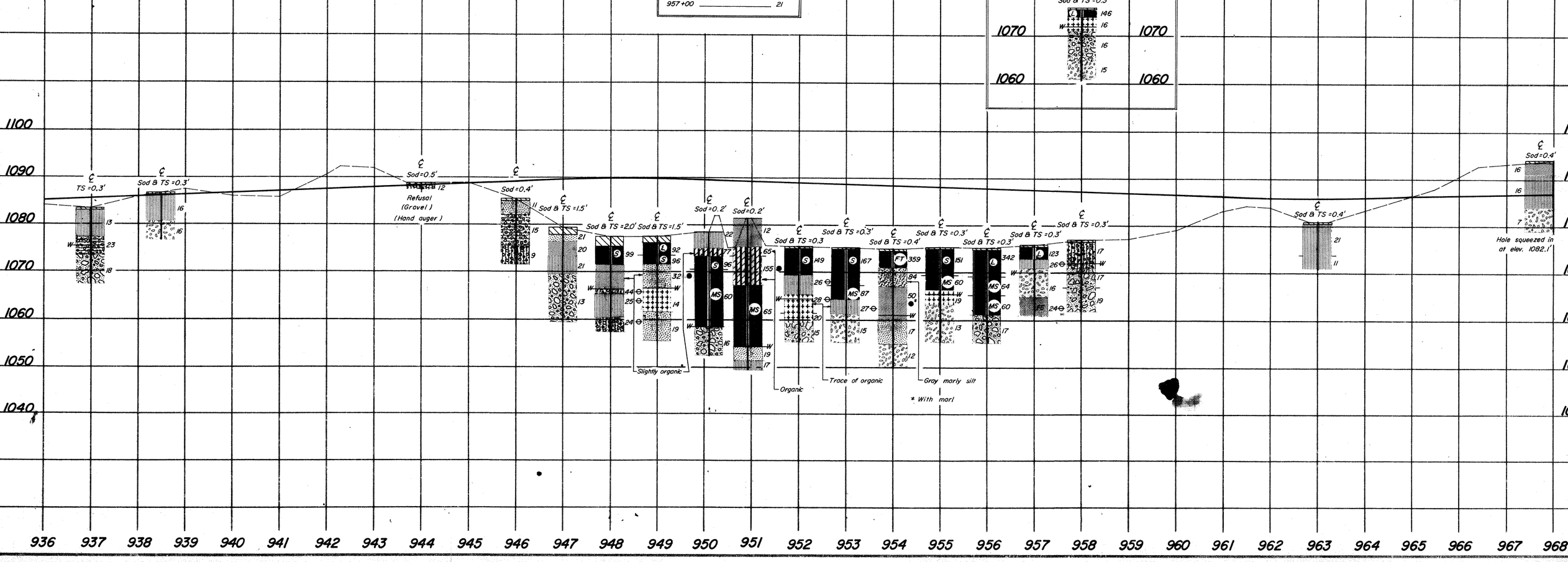
950+00	19
950+35	20
952+00	20
954+00	20
955+00	21
956+00	21
957+00	21

LOG OF OFFSET BORING

1080 — 100 Rt. — 1080
Sod & TS =0.3'
146
W 16
16
1070 — 15 — 1070
1060 — 1060

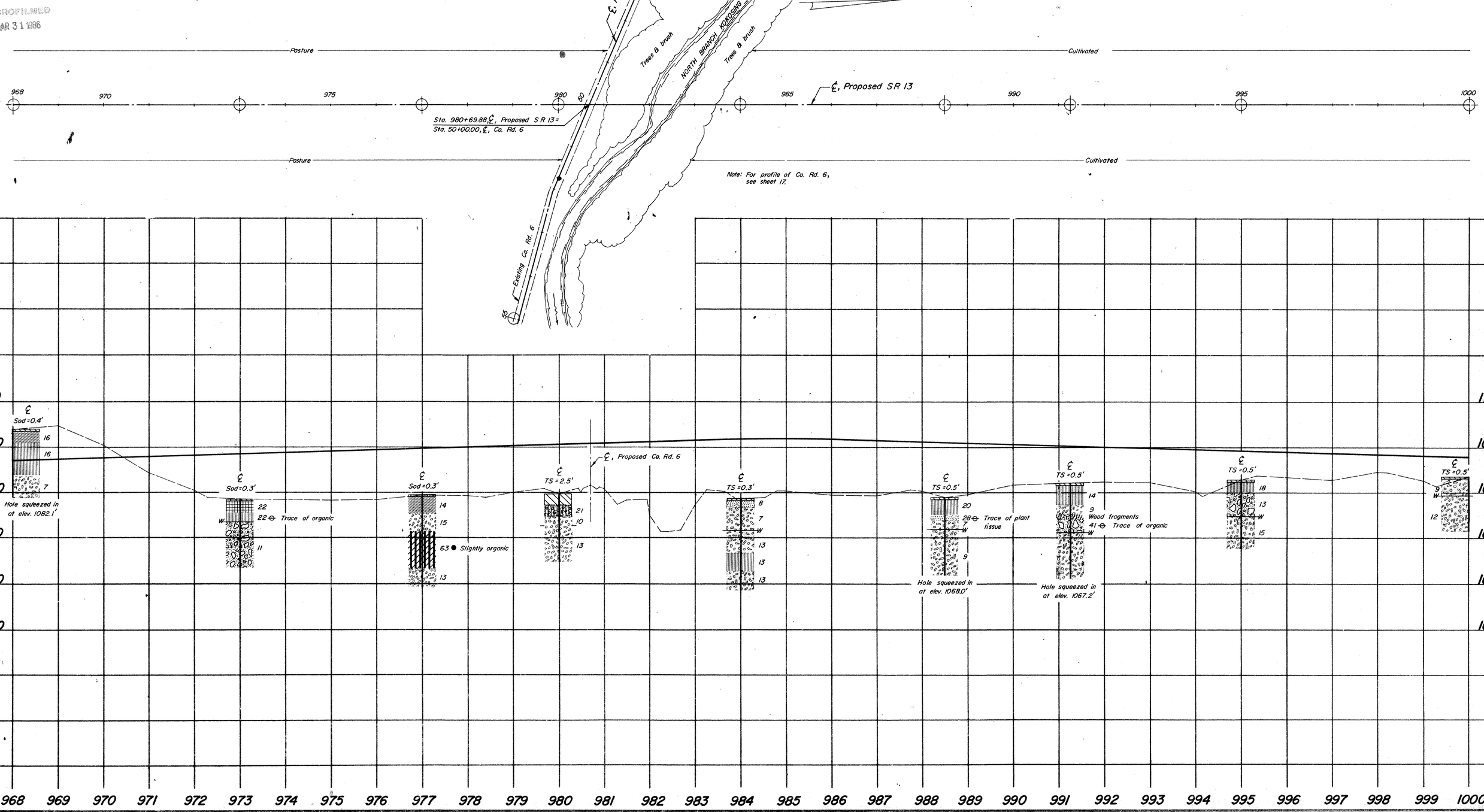


SOIL PROFILE

KNOX COUNTY
KNO - 13 - 15.93

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

9/30



SOIL PROFILE

KNOX COUNTY
KNO - 13 - 15.93

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

10/30

℄, Relocated Twp. Rd. 366 A

Existing Twp. Rd. 366 A?

Cultivated | Pasture | Cultivated

1000 1005 1010 1015 ℄, Proposed SR 13 1020 1025 1030 1032

Cultivated | Pasture | Cultivated

1110
1100
1090
1080
1070

℄ TS=0.5'
9 W 12

50' Rt. Sod=0.5'
22 8
Refusal (Boulders)

℄ Sod=0.5'
24 12 W 11 13

℄ Sod=0.5'
13 8
Refusal

℄ Sod=0.5'
25 4 W 12
Refusal

℄ Sod=0.5'
28 22 W 13

50' Lt. Sod=0.5'
20 20 W 17
Gray silty sand with gravel and stone fragments
25 9

℄ Sod=0.5'
12 9 22 14

350' Lt.
17 16 23 15

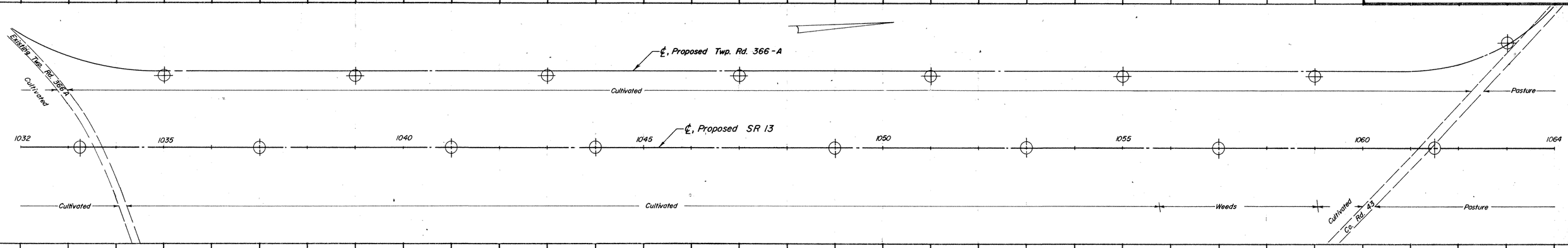
1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032

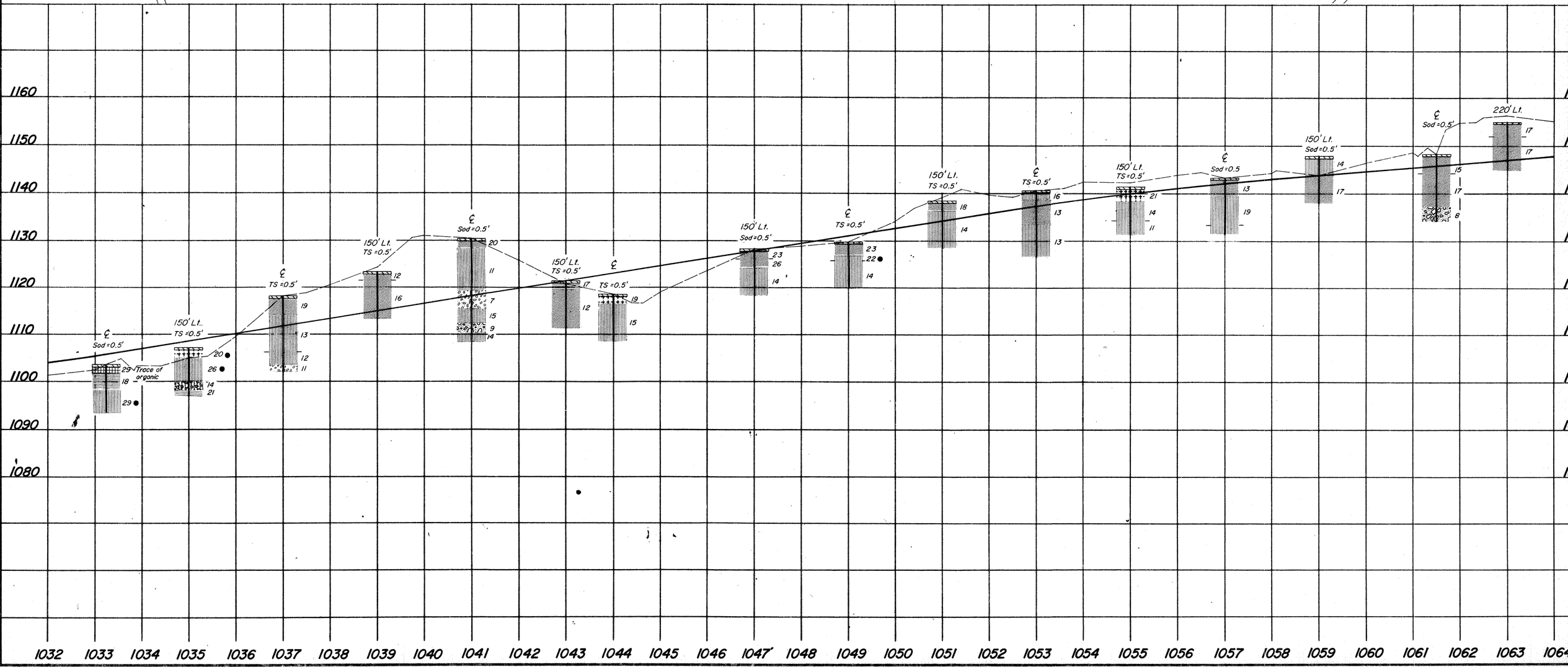
SOIL PROFILE

KNOX COUNTY
KNO - 13 - 15.93

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

11 / 30





SOIL PROFILE

KNOX COUNTY

KNO - 13 - 15.93

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

12/30

Cultivated
Pasture
Weeds
Lawn
Sta. 1064 + 87.77, ℄, Proposed SR 13 =
Sta. 50+00.00, ℄, Proposed Twp. Rd. 377
℄, Proposed SR 13
℄, Proposed Twp. Rd. 377
Existing Twp. Rd. 377
Existing SR 13
℄ SR 13 Connector (North)
Note: For profile of Proposed Twp. Rd. 377, see sheet 17.
Note: For profile of SR 13 Connector (North), see sheet 17.
1064
1065
1070
1075
1080
1085
1090
1095
1096
50
55
60
108
110
115
1190
1180
1170
1160
1150
1140
1130
1120
℄, Proposed Twp. Rd. 377
Sod=0.4'
TS=0.5'
Refusal (Large gravel) (Hand auger)
Sod=0.5'
30' Rt.
5' Lt.
1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096

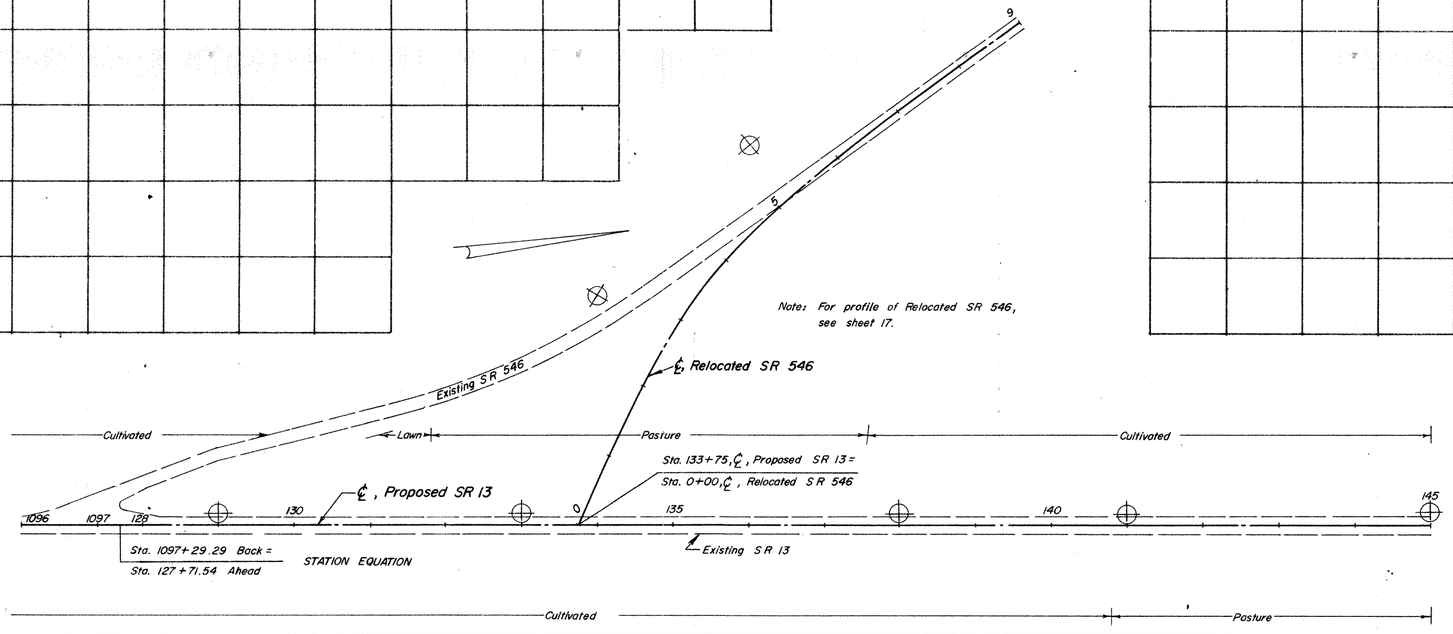
SOIL PROFILE

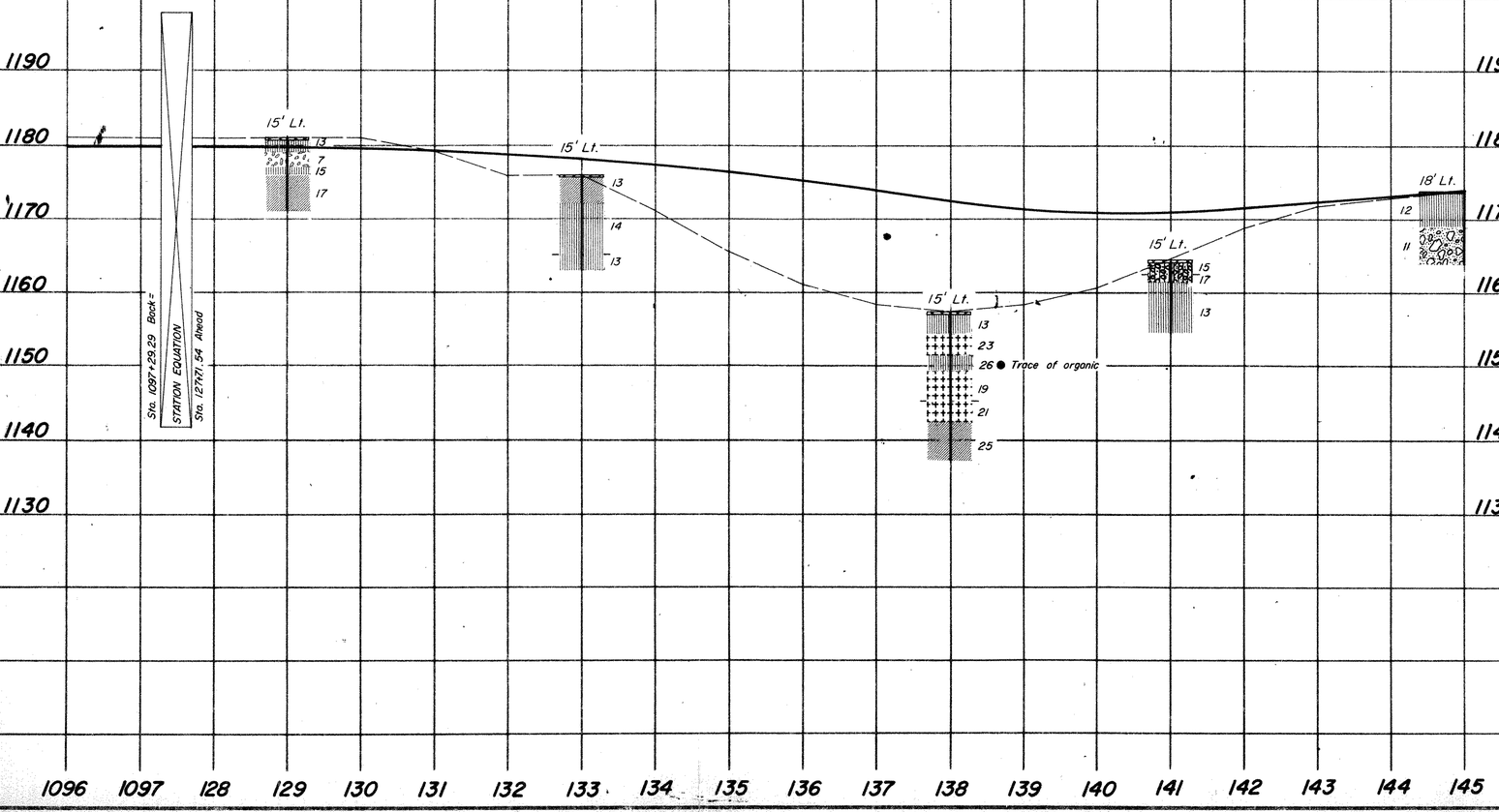
KNOX COUNTY

KNO-13-15.93

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

13/30





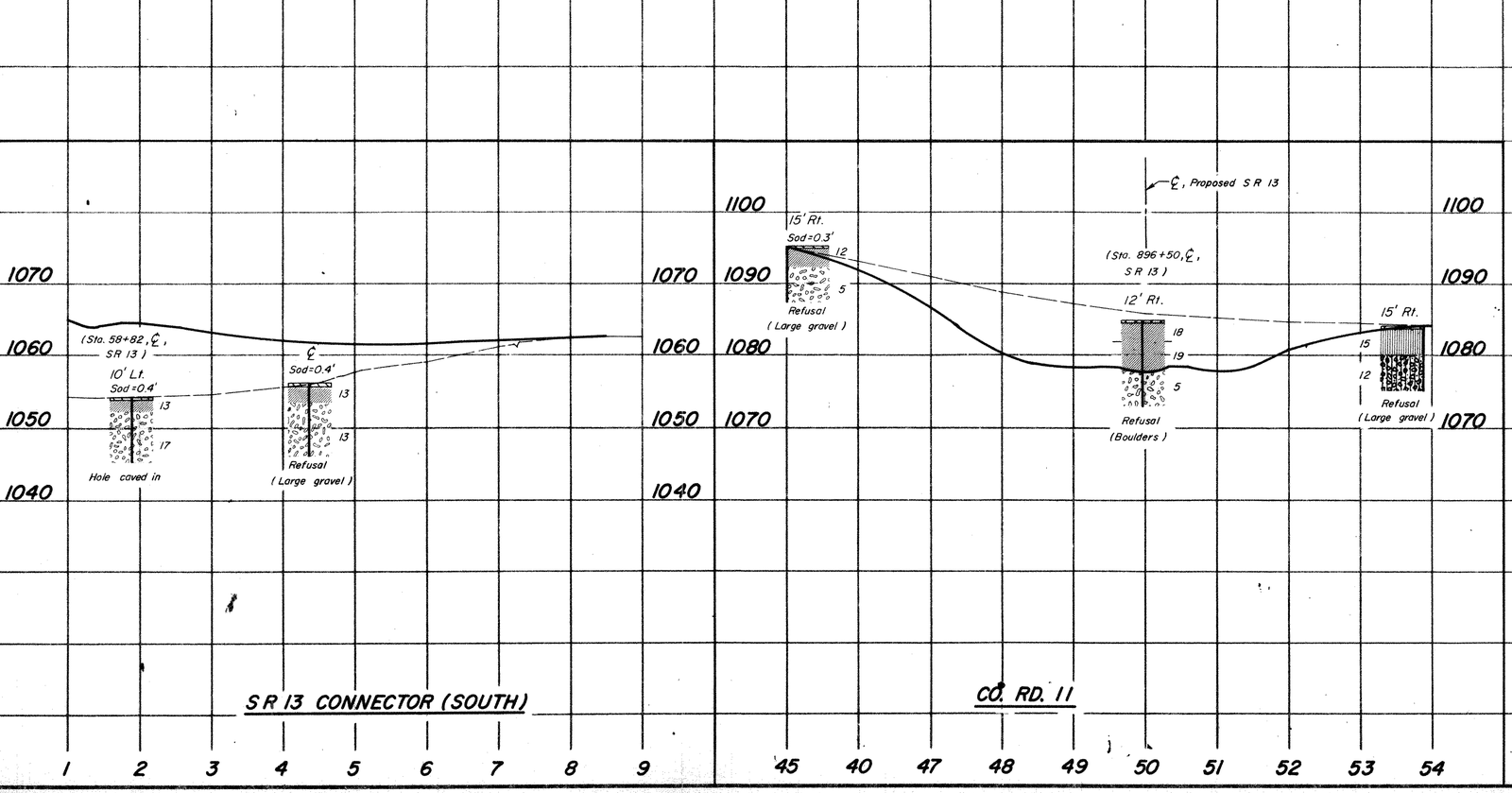
SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

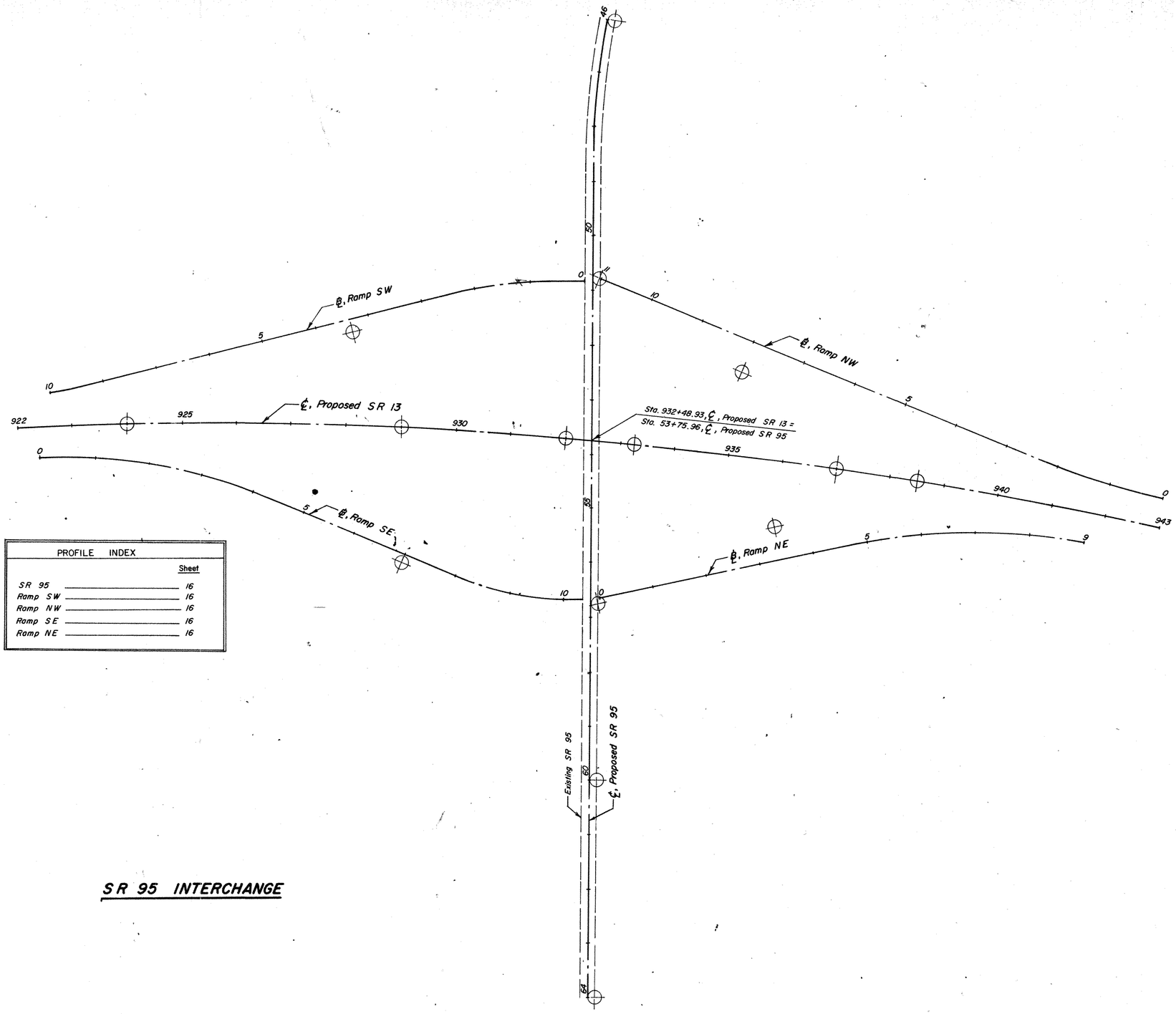
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

14/30



SOIL PROFILE
KNOX COUNTY
KNO-13-15.93
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

15
30



PROFILE INDEX	Sheet
SR 95	16
Ramp SW	16
Ramp NW	16
Ramp SE	16
Ramp NE	16

SR 95 INTERCHANGE

SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

16/30

SR 95 INTERCHANGE

RAMP SW

(Sta. 924+00, ℄, SR 13)
88' Lt.
TS =0.4'
24 / 15 / W / 15 / 13

25' Lt.
Sod & TS =0.3'
16 / 7

RAMP NW

(Sta. 50+75, 12' Lt., SR 95)
3' Rt.
16 / 16 / 8
Hole squeezed in at elevation 1086.2'

60' Lt.
Sod & TS =0.3
14 / 9

(Sta. 938+50, ℄, SR 13)
122' Lt.
Sod & TS =0.3'
16 / 16

RAMP NE

(Sta. 56+75, 12' Lt., SR 95)
10' Rt.
25 / 19 / W / 15

60' Lt.
TS =0.4'
20 / 24 / 9

(Sta. 938+50, ℄, SR 13)
100' Lt.
Sod & TS =0.3'
16 / 16

SR 95

12' Lt.
24 / 16

12' Lt.
16 / 16 / 8
Hole squeezed in at elevation 1086.2'

(Sta. 932+00, ℄, SR 13)
47' Rt.
Proposed grade SR 13
34 / 18 / W / 12 / 9 / 16

12' Lt.
25 / 19 / W / 15

12' Lt.
20 / 17 / W / 13

12' Lt.
7 / 7

RAMP SE

(Sta. 924+00, ℄, SR 13)
67' Lt.
TS =0.4
15 / W / 15 / 13

15' Rt.
TS =0.3'
23 / 15 / W / 12

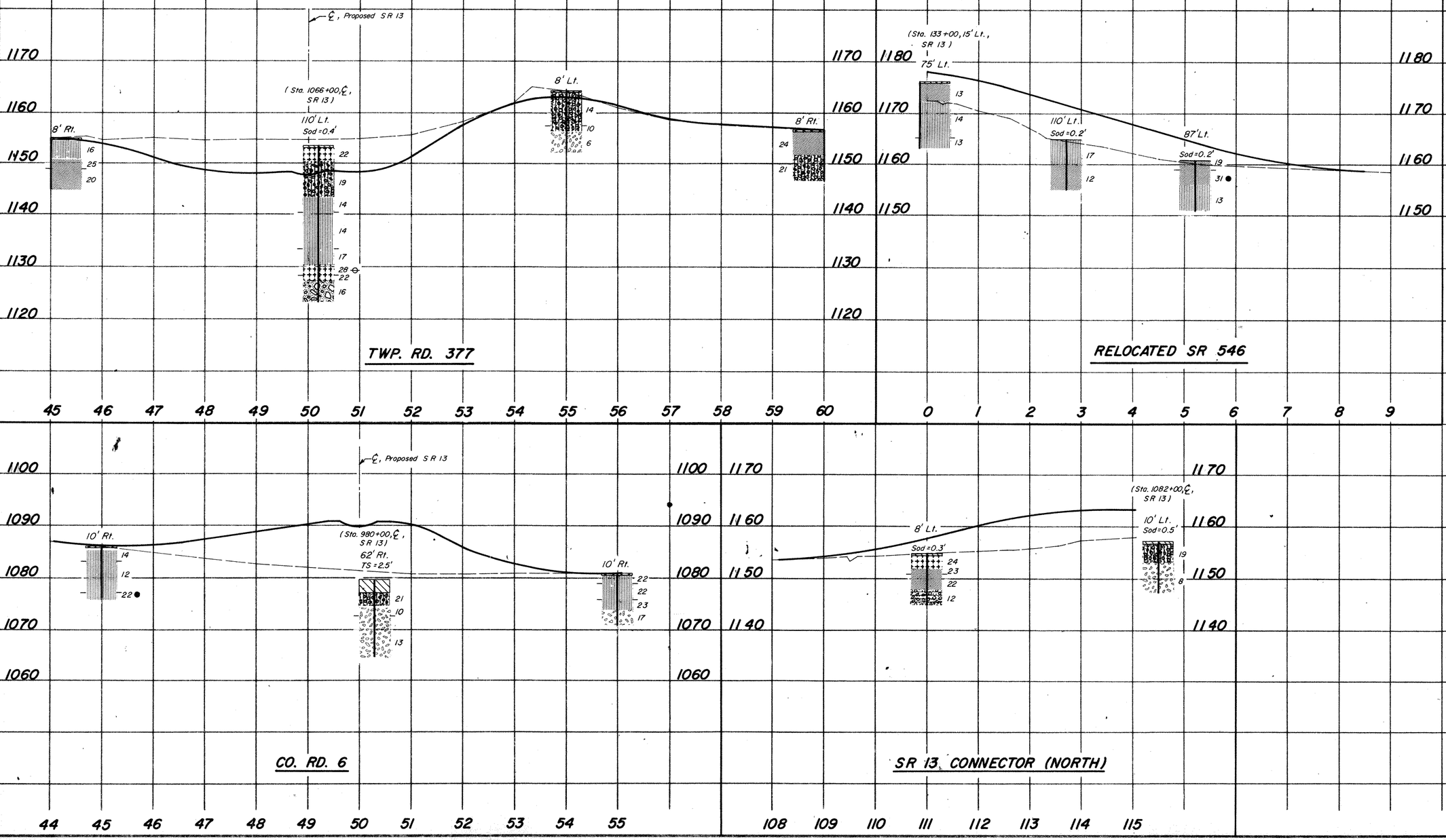
SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

17/30



SOIL PROFILE

KNOX COUNTY

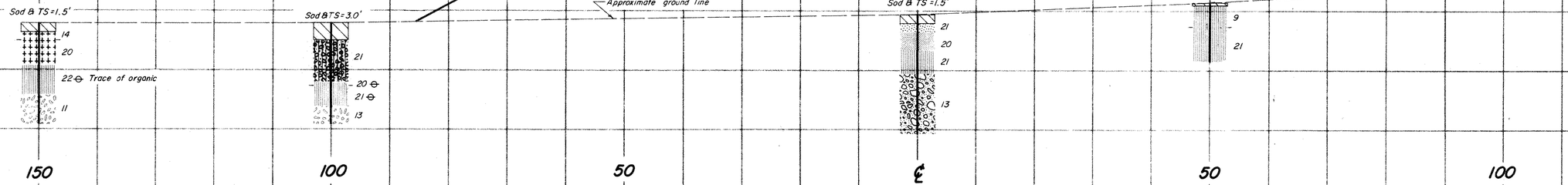
KNO-13-15.93

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

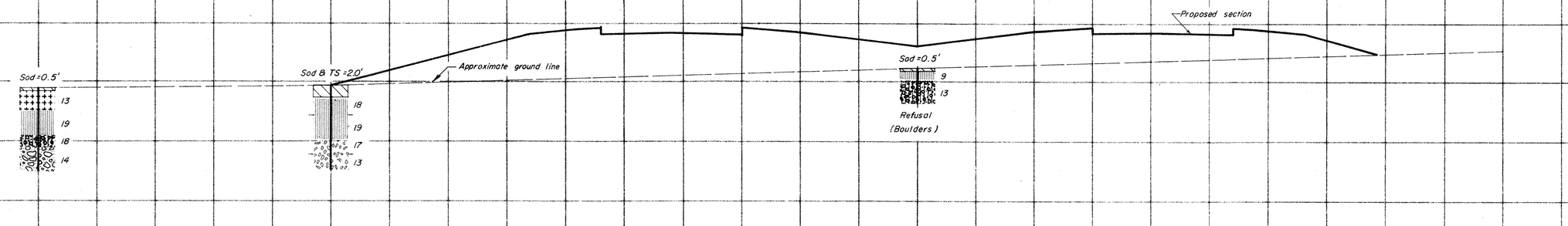
18
30

Revised 10/23/63

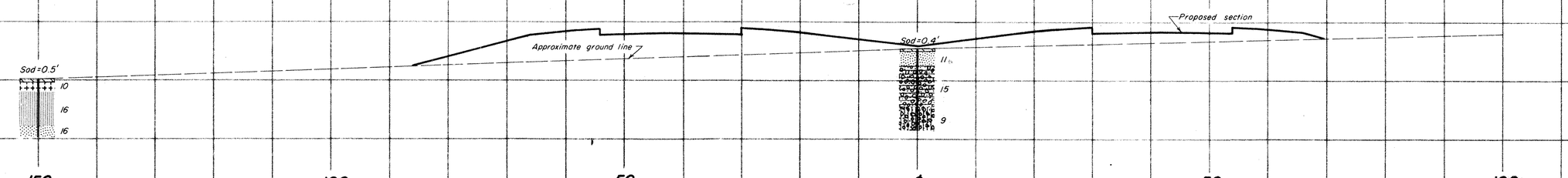
Sta. 947+00



Sta. 946+50



Sta. 946+00



Sta. 917+50

SOIL PROFILE

KNOX COUNTY

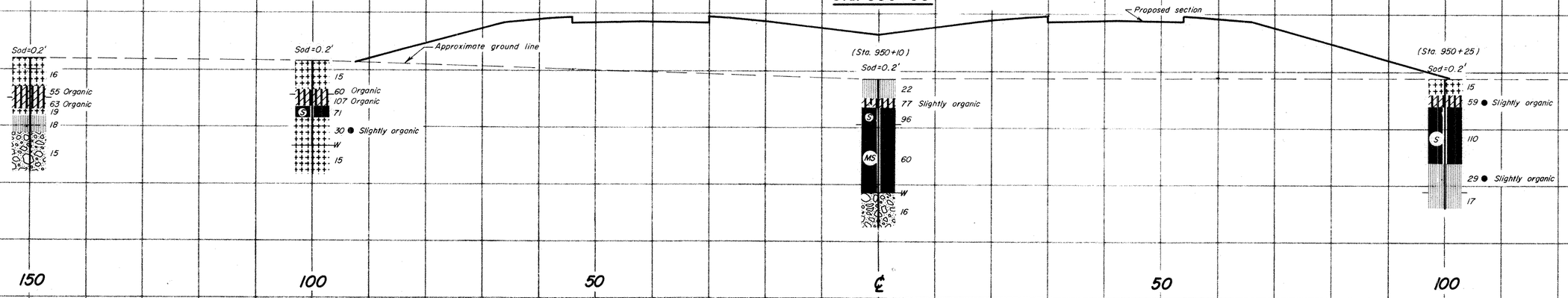
KNO-13-15.93

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

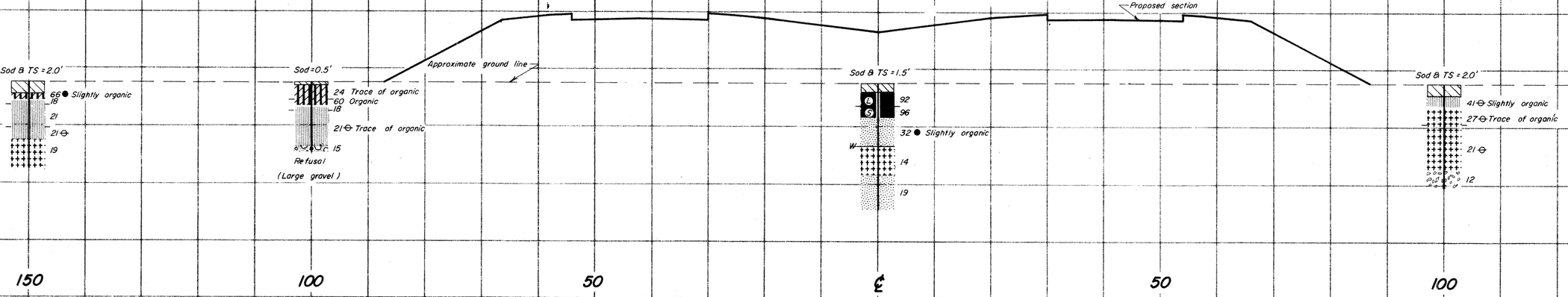
19
30

Revised 10/23/63

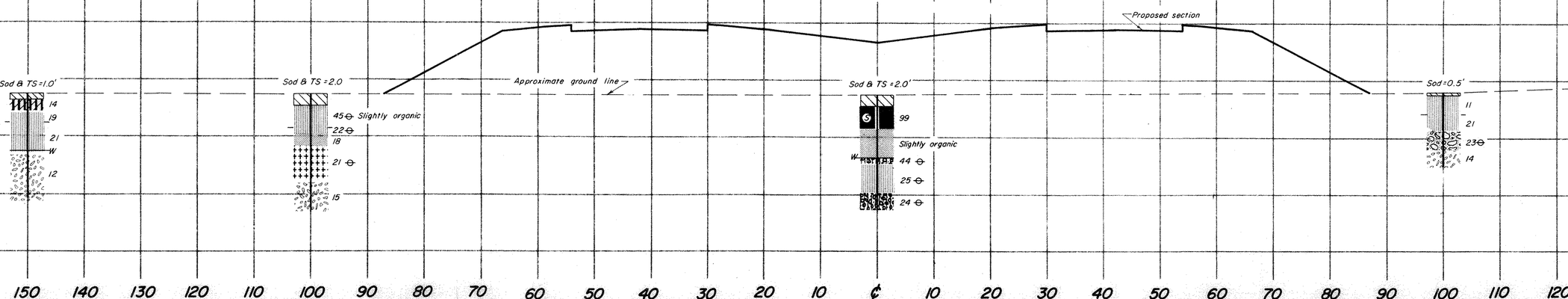
Sta. 950+00



Sta. 949+00



Sta. 948+00



SOIL PROFILE

KNOX COUNTY

KNO-13-15.93

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

20
30

Revised 10/23/63

Sta. 954+00

Proposed section

Approximate ground line

Sod & TS =0.3'
FT 233
W 24 Trace of organic
23
20
12

Sod & TS =0.4'
FT 359
84 Gray marly silt
50 With marl
W
17
12

Sod & TS=0.3'
FT 170
W 26
11

Sod & TS =0.3'
10
19
W
14

100 50 ℄ 50 100

Sta. 952+00

Proposed section

Approximate ground line

Sod & TS =0.3'
L 163
W 27
12
25
19

Sod & TS =0.3'
S 149
26
W 28 Trace of organic
20
15

Sod & TS =0.3'
L 114
W 20
16
16

100 50 ℄ 50 100

Sta. 951+35

Proposed section

Approximate ground line

Sod & TS =0.3'
S 128
W 39 Slightly organic
25
12

(Sta. 951+40)
Sod & TS =0.3'
S 150
MS 60
MS 88
MS 83
18 Trace of organic

Sod & TS =0.4'
FT 186
74 Trace of organic
W 30 Trace of organic
17

1090 1080 1070 1060 1050 1040

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100

SOIL PROFILE

KNOX COUNTY

KNO - 13 - 15.93

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

21
30

Revised 10/23/63

Sta. 957+00

Proposed section

Approximate ground line

Sod & TS=0.3'
11
16
14

Sod & TS=0.3'
L 123
26⊖
W
16
24⊖

Sod & TS=0.3'
FT 540
61 Gray marly clayey silt, trace of organic
W 51●
17

50 ℄ 50 100

Sta. 956+00

Proposed section

Approximate ground line

Sod & TS=0.3'
L 194
34⊖ Trace of organic
31● Trace of organic
15

Sod & TS=0.3'
L 342
MS 64
MS 60
17

Sod & TS=0.3'
FT 545
MS 174
MS 87
Slightly organic
18

Sod & TS=0.3'
FT 152
MS 234
S 71
Gray silty sand, trace of organic
Gray sandy clayey silt, with gravel, trace of marl

F 616
MS 170
55 organic
30
22

50 ℄ 50 100 150 180

Sta. 955+00

Proposed section

Approximate ground line

Sod & TS=0.3'
S 249
55●
W
43● Trace of organic
14

Sod & TS=0.3'
S 151
MS 60
W 19
13

Sod & TS=0.3'
S 206
MS 70
W
MS 68
24
17

Sod & TS=0.4'
27⊖
16
14
16

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

1090 1080 1070 1060 1050 1040

KNOX COUNTY
KNO-13-15.93

GEOLOGY OF THE SITE

The structure site is located upon the glaciated Allegheny Plateau. Moderately deep glacial drift overlies bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of two drive sample borings and five drive rod penetration tests, made between July 31 and August 27, 1963.

INVESTIGATIONAL FINDINGS

The borings disclosed moist, loose to very dense silty and sandy gravels and occasional intervals of sandy and gravelly silts, sands and clay. The borings were terminated at 61-foot depth, elevations 1029 and 1025 feet, after penetrating more than 30 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings generally met low to medium-high resistance to penetration with increase in depth and were terminated at 60 to 80-foot depths, elevations 1028 to 1010 feet, upon encounter with medium-high resistance and refusal to penetration in very dense gravel or other materials similar to those revealed by the borings at higher elevations.

No free water was observed in the rod sounding holes. No test penetrated to bedrock.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View
- Electrical Resistivity Probe - Plan View.
- *A* — Indicates Auger Boring.
- *B* — Indicates Press and/or Drive Sample and/or Core Boring.
- Electrical Resistivity Probe plotted to vertical scale only.
- *TR* — Top of Rock
- Water saturated zone.
- *TD* — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken.
- *X-Y* — Figures to the right of boring log in profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches, Y = Second 6 inches
- Casing
- Resistance "R" <= 10,000 lbs.
- Resistance "R" => 10,000 lbs.
- 1/16 — Indicates final measurement of penetration in inches.
- Indicates Free Water elevation.
- Indicates Static Water elevation.
- Footing — Capped pile
- Footing on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Limestone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description based on laboratory test results and the Casagrande A-C classification system and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

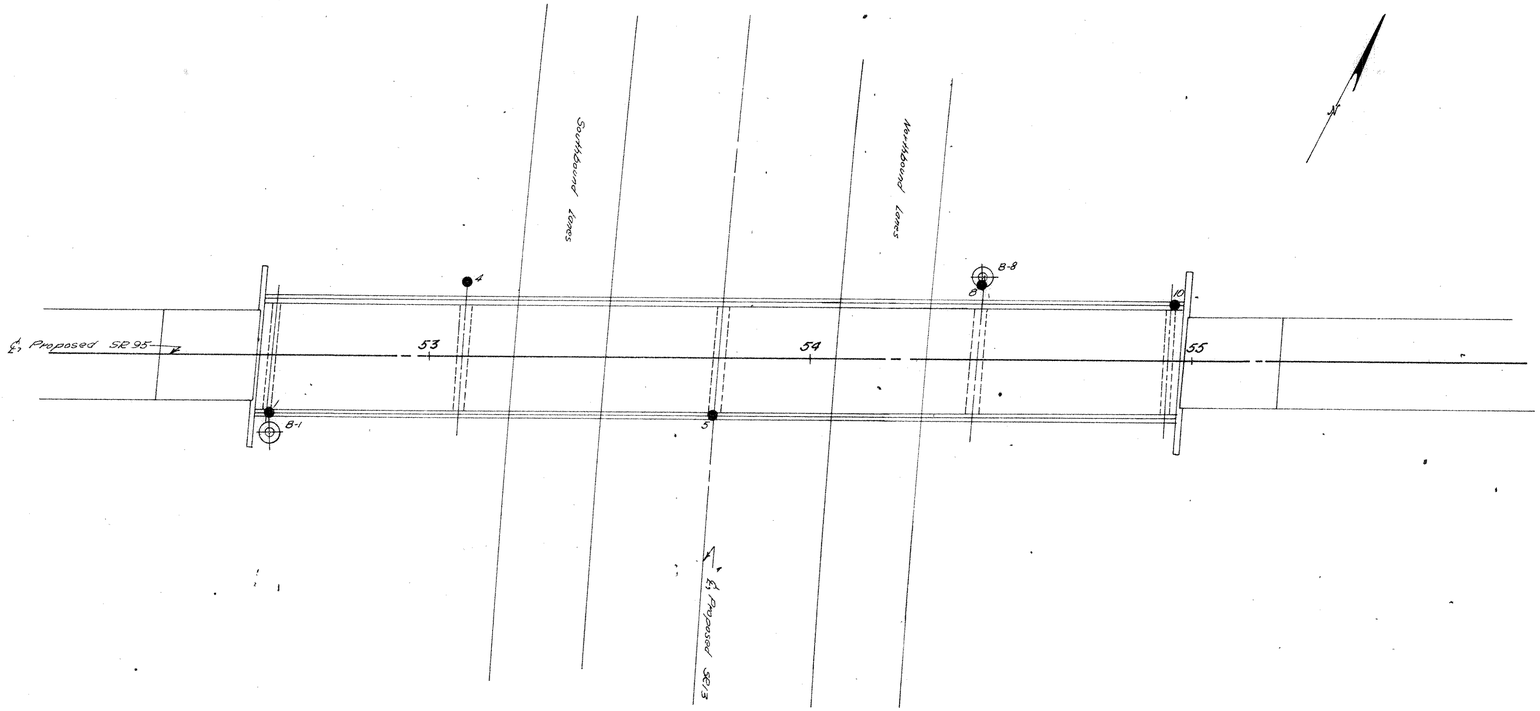
Particle Size Definitions

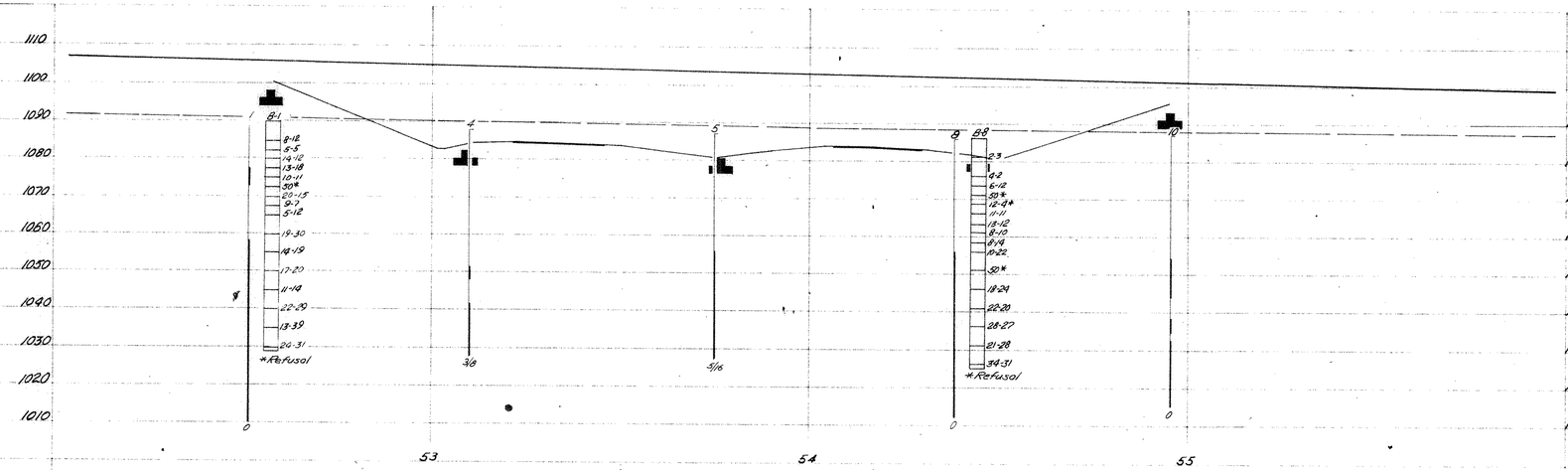
Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No 10 sieve)	0.42mm (No 40 sieve)	0.074mm (No 200 sieve)	0.005mm	

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-17.94
SR 95 OVER SR 13
SEC

CHECKED BY	REVIEWED BY	DATE
FLR	RDR	2-9-63





SCALE: 1" = 20'

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

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. KNO-13-17.94
SR 95 OVER SR 13

SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	F.L.P.	R.O.E.	9-9-63

KNO-13-15.93

LOG OF BORING

Date Started 8-2-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 8-6-63 | Casing: Length 61' | Dia. 3 1/2"
Boring No. B-1 | Station & Offset 52+58, 20' Rt (REAR ABUTMENT) | Surface Elev. 1089.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1089.9	0														
	2														
	4														
1084.9	6	8/12			Gray Silty Sandy Gravel	1	69	9	10	13	11	NP	NP	10	
1082.4	8	5/5			Gray Sandy Gravelly Silt	2		7	7	8	11	A	L	16	
1079.9	10	14/12			Gray Silty Gravel	3	82	4	9	7	4	NP	NP	10	
1077.4	12	13/18			Brownish-Gray Gravelly Sand	4		V	I	S	U	A	L	17	
1074.9	14	10/11			Brown Gravelly Sand	5		V	I	S	U	A	L	9	
1072.4	16	50*(0.2')			No Sample Recovered										
1069.9	18	20/15			Brown Silty Sandy Gravel	6	72	13	10	17	6	NP	NP	9	
1067.4	20	9/7			Brownish-Gray Silty Sandy Gravel	7	65	6	10	24	16	PL+16		16	
1064.9	22	5/12			Gray Gravelly Silt	8	44	4	7	25	19	21	6	14	
	24														
1059.9	26	19/30			Gray Silty Sandy Gravel	9	77	11	4	7	5	NP	NP	9	
	28														
1054.9	30	14/19			Brown Gravel	10	78	8	9	6	4	NP	NP	14	
	32														
	34														
1049.9	36														
	38														
	40														
	42	17/20			Brown Silty Sandy Gravel	11	69	13	7	12	5	NP	NP	10	
	44														
1044.9	46	11/14			Brown Silty Sandy Gravel	12	64	14	15	15	7	NP	NP	15	
	48														
1039.9	50	22/29			Brown Silty Sandy Gravel	13	71	10	10	10	9	NP	NP	11	
	52														
	54														
1034.9	56	11/39			Brown Silt and Clay	14	0	1	1	25	73	96	31	26	
	58														
1029.9	60														
1028.9		24/31			Brown Silty Sandy Gravel	15	74	11	14	11	6	NP	NP	14	

*REFUSAL — BOTTOM OF BORING

LOG OF BORING

Date Started 7-31-63 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 8-1-63 | Casing: Length 61' | Dia. 3 1/2"
Boring No. B-8 | Station & Offset 54+45, 22' Lt (FORWARD PIER) | Surface Elev. 1086.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1086.2	0														
	2														
	4														
1081.2	6	2/3			Brown Silt and Clay	1	0	1	7	49	43	35	12	30	
	8														
1076.2	10	4/2			Brown Silty Sandy Gravel	2	46	7	9	17	20	29	9	23	
1073.7	12	6/12			Brown Silty Sandy Gravel	3		V	I	S	U	A	L	16	
1071.2	14														
	16	50*(0.3')			Brown Gravel	4		V	I	S	U	A	L	8	
1068.7	18	12/4* (0.1')			Brown Sandy Gravel	5		V	I	S	U	A	L	9	
1066.2	20	11/11			Brown Silty Sandy Gravel	6	62	18	5	5	7	NP	NP	10	
1063.7	22	13/12			Brownish-Gray Sandy Gravel	7		V	I	S	U	A	L	8	
1061.2	24	8/10			Gray Silty Sandy Gravel	8	56	9	10	17	8	41	NP	19	
1058.7	26	8/14			Gray Sandy Gravel	9	65	20	7	2	6	-	NP	NP	8
1056.2	28	10/22			Gray Silty Gravelly Sand	10	70	17	10	2	1	19	NP	NP	16
	30														
	32														
1051.2	34														
	36	50*(0.2')			No Sample Recovered										
	38														
1046.2	40														
	42	18/24			Brownish-Gray Sandy Gravel	11		V	I	S	U	A	L	10	
	44														
1041.2	46	22/20			Brown Silty Sandy Gravel	12	47	16	13	17	7	NP	NP	14	
	48														
1036.2	50	28/27			Brown Silty Sandy Gravel	13	56	5	12	21	6	NP	NP	15	
	52														
	54														
1031.2	56	21/28			Gray Silty Sandy Gravel	14	65	9	11	5	10	17	1	12	
	58														
1026.2	60														
1025.2		24/31			Brown Silty Gravelly Sand	15	52	9	15	10	9	NP	NP	12	

*REFUSAL — BOTTOM OF BORING

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-17.94
SR 95 OVER SR 13
SEC.

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.C.	F.L.R.	R.D.R.	9-9-63

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

1095 1091 1087 1083 1079 1075 1071 1067 1063 1059 1055 1051 1047 1043 1039 1035 1031 1027 1023 1019 1015 1011 1007

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 52+58, 15' RT
REAR ABUTMENT
Surface Elev. 1090.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition POINT BENT

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 4
Station & Offset 53+10, 20' LT
REAR PIER
Surface Elev. 1088.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 5
Station & Offset 53+75, 15' RT
CENTER PIER
Surface Elev. 1087.2 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 8
Station & Offset 54+25, 20' LT
FORWARD PIER
Surface Elev. 1086.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 10
Station & Offset 54+96, 15' LT
FORWARD ABUTMENT
Surface Elev. 1087.1 Water Elev. ____
KNO-13-15.93
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

25/30

4/4

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO -13-17.94
SR 95 OVER SR 13
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
EC	KLR	ROR	5-8-63

KNOX COUNTY
KNO-13-15.93

GEOLOGY OF THE SITE

The structure site is located on the broad flat flood plain of North Branch Kokosing River, in a valley once occupied by the Deep Stage Newark River. Deep glacial outwash overlies shale and sandstone bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of two drive sample borings and twelve drive rod penetration tests, made between August 7 and 14 and August 28 and September 5, 1963.

INVESTIGATIONAL FINDINGS

Borings disclosed damp, medium-dense to very dense silty sandy gravel and gravelly sands from ground surface to at least 66 feet in depth, elevations 1016 and 1015 feet, and were terminated after penetrating 20 feet of material requiring in excess of 30 blows per foot in the standard penetration test.

The rod soundings met generally medium-high, somewhat erratic resistance to penetration with increase in depth. The rod soundings, with exception of those at test locations 16, 19, and 24, met refusal to penetration at 51 to 70-foot depths, elevations 1030 to 1012 feet. Rod soundings numbers 16, 19, and 24 were terminated at 70 to 78-foot depths, elevations 1013 to 1005 feet, in material offering medium-high to high resistance to penetration. The rod soundings are considered to have terminated in the silty, sandy gravel, as revealed by the borings.

Free water was encountered in the forward portion of the site, between elevations 1076 and 1073 feet.

No test penetrated to bedrock.

LEGEND

- Auger Boring - Plan View.
- Press and/or Drive Sample and/or Core Boring - Plan View.
- Drive Rod Penetration Resistance - Soundings - Plan View.
- (R) Electrical Resistivity Probe - Plan View.
- A — Indicates Auger Boring.
- B — Indicates Press and/or Drive Sample and/or Core Boring.
- (R) Electrical Resistivity Probe plotted to vertical scale only.
- TR — Top of Rock
- Water saturated zone.
- TD — Total Depth.
- Horizontal bar on log indicates the depth the sample was taken.
- X-Y — Figures to the right of boring log in profile view indicate the number of blows for "Standard Penetration" test. X = First 6 inches; Y = Second 6 inches
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- 1/16 — Indicates final measurement of penetration in inches.
- W — Indicates Free Water elevation.
- Indicates Static Water elevation.
- Footing — Capped pile
- Footing on pile

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface conditions may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and 5-foot depth intervals, driven by means of a 140-pound drop-hammer, with a free-fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The Boring Log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depths of press samples, field sample number, sample description - based on laboratory test results and the Casagrande A-C classification system - and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

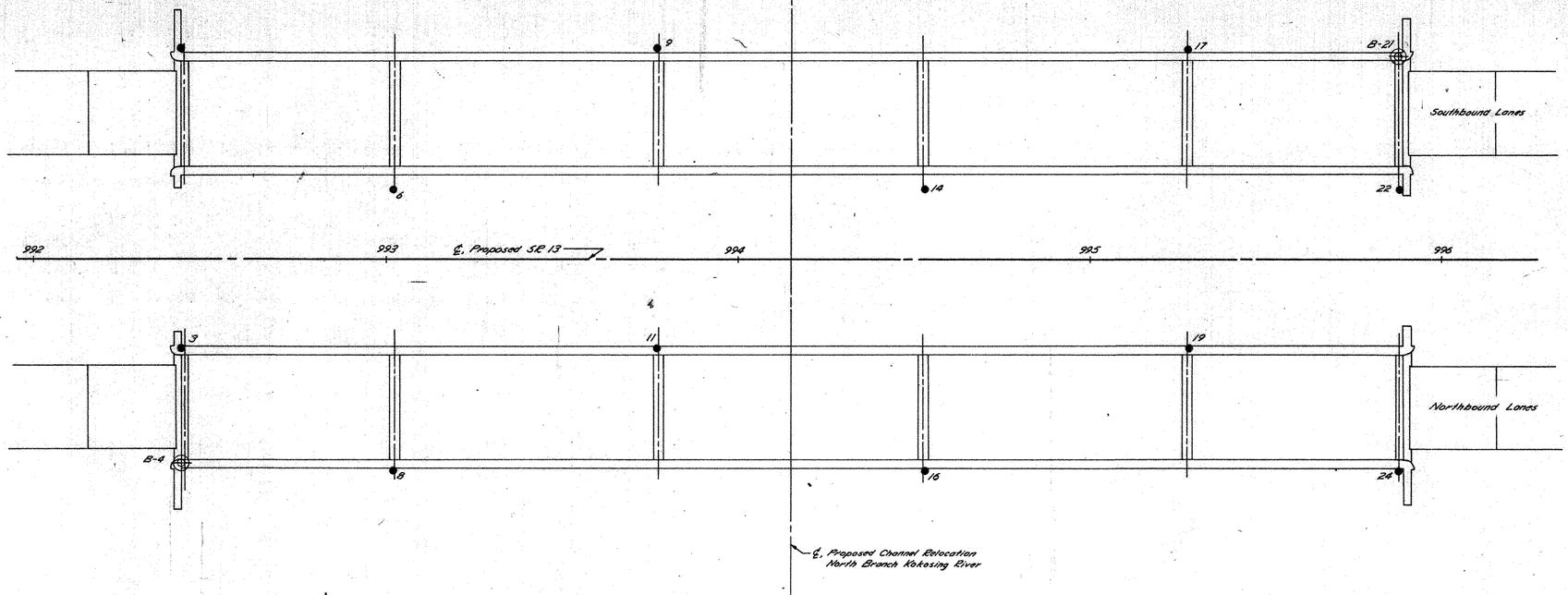
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

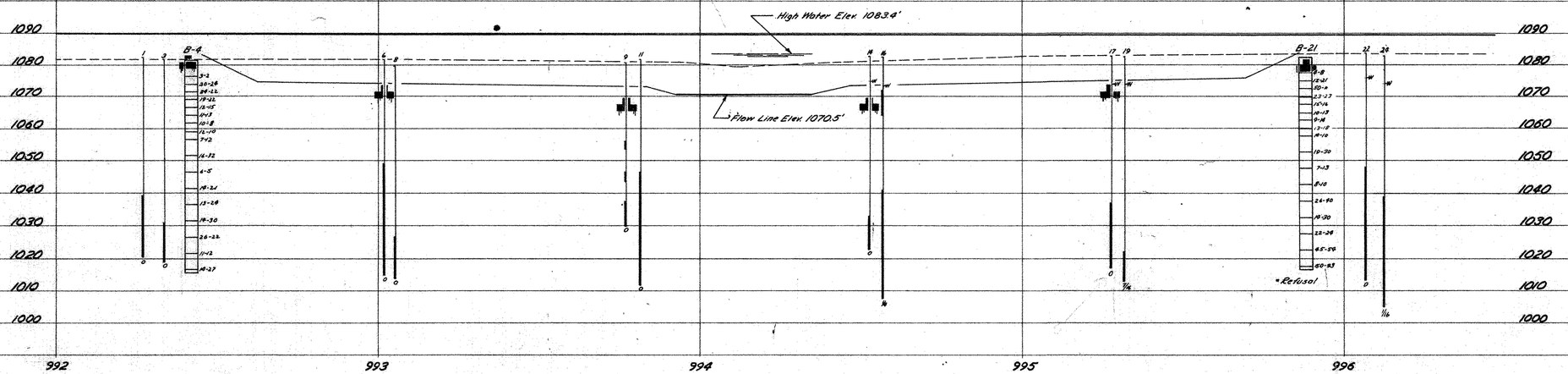
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-1895 L & R
OVER N. BRANCH KOKOSING RIVER
SEC.

CHECKED BY	REVIEWED BY	DATE
EOE	GHH	10-2-63

KNO-13-15.93





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-1895 L&R
OVER N. BRANCH KOKOSING RIVER
SEC.

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.P.W.	P.D.R.	G.P.H.	10-2-63

KNO-13-15.93

LOG OF BORING

Date Started 8-7-63 Sampler Type SS Dia. 1 3/8"
Date Completed 8-8-63 Casing: Length 65' Dia. 3 1/2"
Boring No. B-4 Station & Offset 992+42, 58' Rt (REAR ABUTMENT)
Water Elev. ____ Surface Elev. 1081.4'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1081.4	0														
	2														
	4														
1076.4	6	3/2			Brown Silty Gravel	1	65	7	7	15	6	NP	NP	22	
1073.9	8	20/24			Brown Silty Sandy Gravel	2	58	18	8	13	3	NP	NP	13	
1071.4	10	34/22			Brown Silty Sandy Gravel	3	63	15	8	10	4	NP	NP	11	
1068.9	12	19/22			Brown Silty Sandy Gravel	4	60	17	9	10	4	NP	NP	15	
1066.4	14	12/15			Brown Silty Sandy Gravel	5	60	20	7	9	4	NP	NP	13	
1063.9	16	11/13			Brown Silty Sandy Gravel	6	64	15	5	12	4	NP	NP	14	
1061.4	18	10/8			Brown Sandy Gravel	7	80	12	4	2	2	NP	NP	11	
1058.9	20	12/10			Brown Sandy Gravel	8	77	13	5	2	3	NP	NP	10	
1056.4	22	7/12			Gray Sandy Gravel	9	65	21	9	-5	-	NP	NP	13	
1053.9	24	16/32			Gray Silty Gravel	10	76	9	5	8	2	NP	NP	10	
1051.4	26	6/5			Reddish-Brown Silty Sandy Gravel	11	59	12	11	11	7	NP	NP	20	
1048.9	28	14/21			Brown Gravelly Sandy Silt	12	22	4	21	39	14	24	7	16	
1046.4	30	13/24			Gray Sandy Gravelly Silt	13		V	I	S	U	A	L	13	
1043.9	32	14/30			Brown Gravelly Sand	14	42	14	34	7	3	NP	NP	16	
1041.4	34	26/22			Brown Silty Sandy Gravel	15	49	19	20	-1	2-	NP	NP	9	
1038.9	36	11/12			Brown Silty Sandy Gravel	16	66	12	10	9	3	NP	NP	10	
1036.4	38	14/27			Brown Silty Sandy Gravel	17	47	26	12	11	4	NP	NP	11	
	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 8-9-63 Sampler Type SS Dia. 1 3/8"
Date Completed 8-14-63 Casing: Length 66' Dia. 3 1/2"
Boring No. B-21 Station & Offset 995+88, 58' Lt (FORWARD ABUTMENT)
Water Elev. ____ Surface Elev. 1082.4'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1082.4	0														
	2														
	4														
1077.4	6	4/8			Brown Sandy Gravel	1		V	I	S	U	A	L	11	
1074.9	8	12/21			Brown Silty Gravel	2	77	5	5	9	4	NP	NP	12	
1072.4	10	50/*			Brown Silty Sandy Gravel	3		V	I	S	U	A	L	13	
1069.9	12	23/23			Brown Gravel	4	77	8	5	7	3	NP	NP	12	
1067.4	14	15/16			Brown Silty Sandy Gravel	5	56	17	11	10	6	NP	NP	13	
1064.9	16	10/13			Gray Silty Sandy Gravel	6	66	16	8	5	5	NP	NP	14	
1062.4	18	9/14			Gray Sandy Gravel	7	75	12	6	4	3	NP	NP	12	
1059.9	20	13/18			Brown Silty Gravel	8	70	5	5	16	4	NP	NP	12	
1057.4	22	10/10			Brown Sandy Gravel	9		V	I	S	U	A	L	13	
1054.9	24	29/30			Brown Sandy Gravel	10	70	13	8	6	3	NP	NP	13	
1052.4	26	7/13			Reddish-Brown Silty Sandy Gravel	11	63	16	10	5	6	NP	NP	16	
1049.9	28	8/10			Brown Sandy Gravel	12	63	18	11	2	6	NP	NP	17	
1047.4	30	26/40			Brown Silty Sandy Gravel	13	40	11	25	12	12	NP	NP	15	
1044.9	32	14/30			Brown Silty Sandy Gravel	14	45	9	19	21	6	NP	NP	14	
1042.4	34	22/24			Brown Silty Sandy Gravel	15	63	12	12	11	2	NP	NP	12	
1039.9	36	45/54			Gray Silty Gravelly Sand	16	30	11	25	24	10	NP	NP	9	
1037.4	38	50/93			Gray Silty Sandy Gravel	17	44	9	17	22	8	NP	NP	15	
1035.4	40				BOTTOM OF BORING										

*REFUSAL

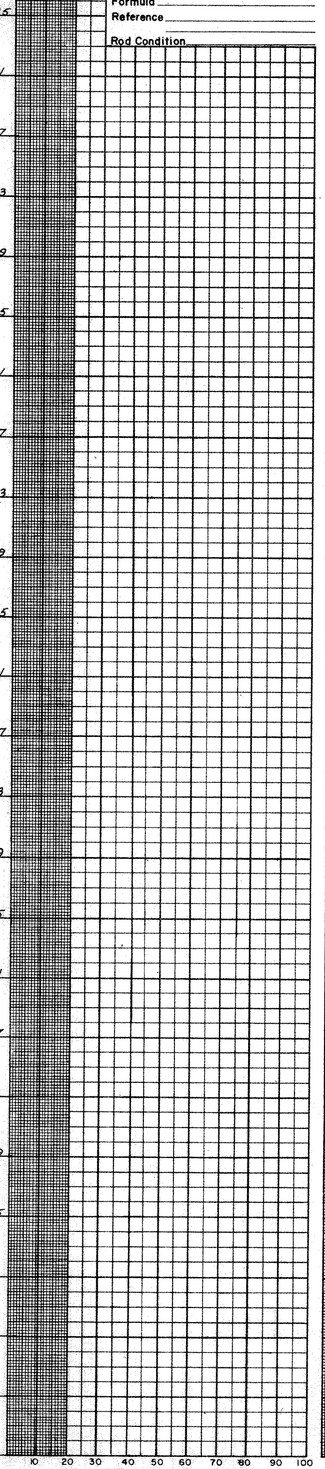
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-1895 L & R
OVER N. BRANCH KOKOSING RIVER
SEC.

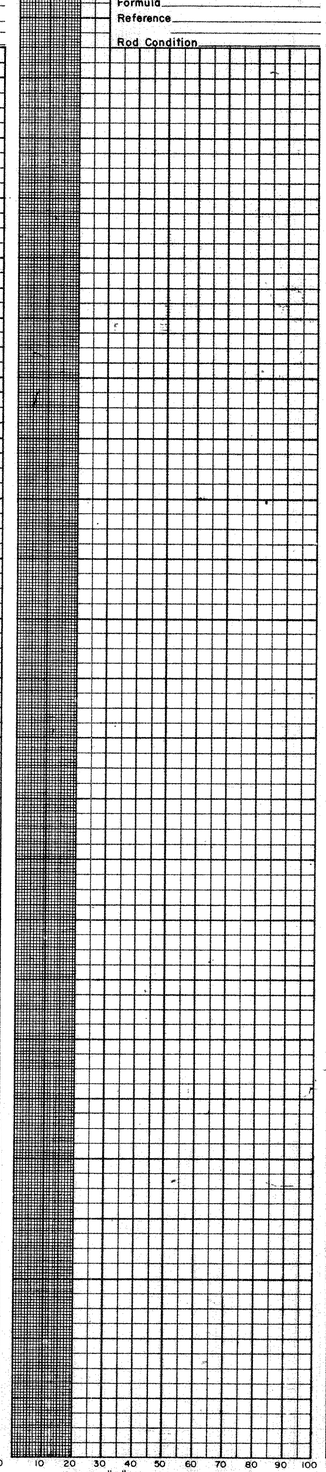
BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
JAC	EOR	EPH	10-2-63

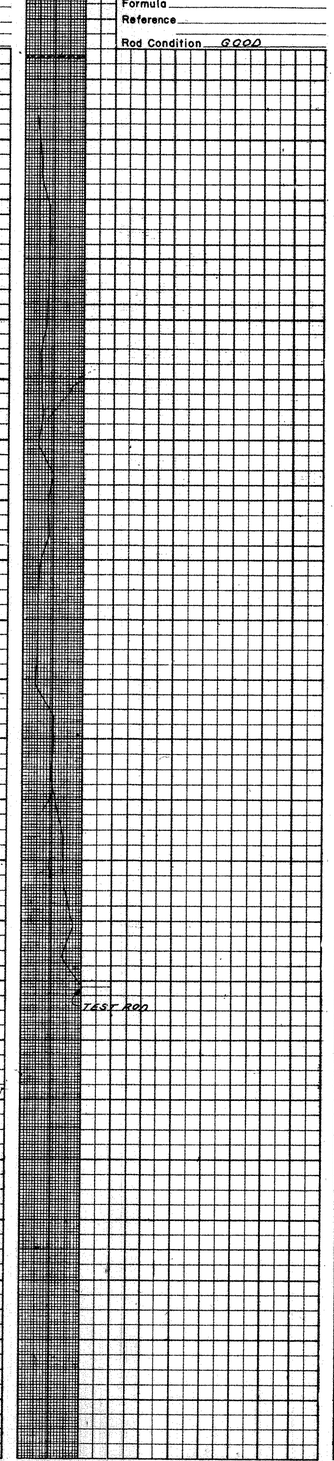
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



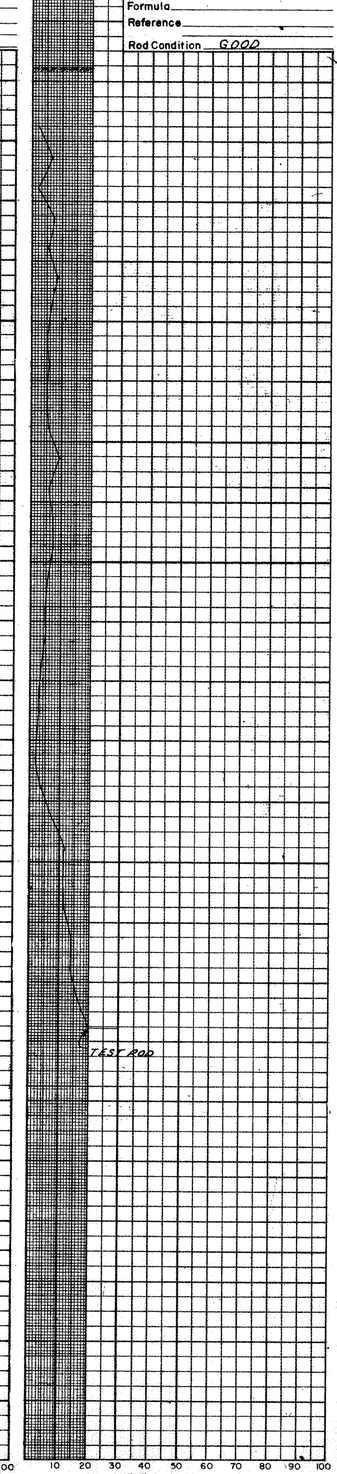
Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____



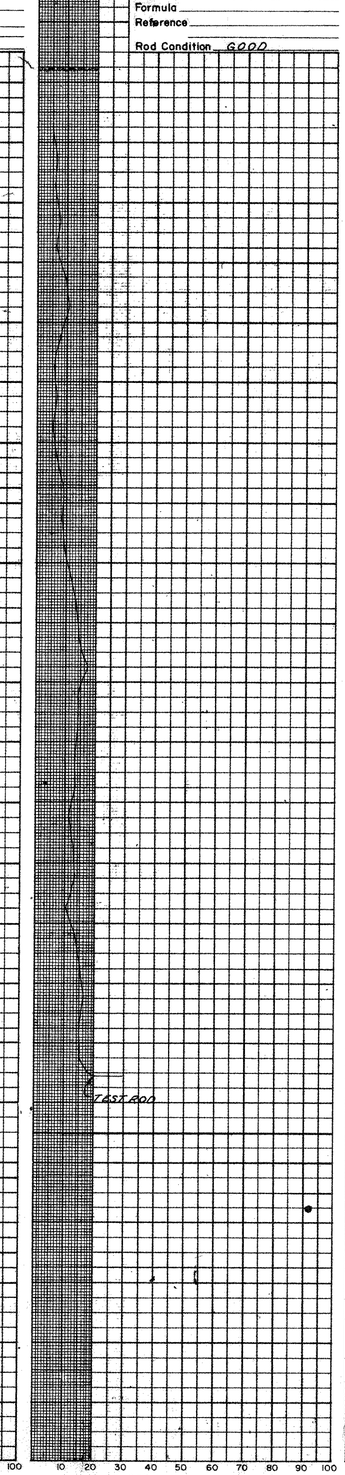
Test Location No. 1
Station & Offset 992+82.60' LT REAR ABUTMENT
Surface Elev. 1082.6 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



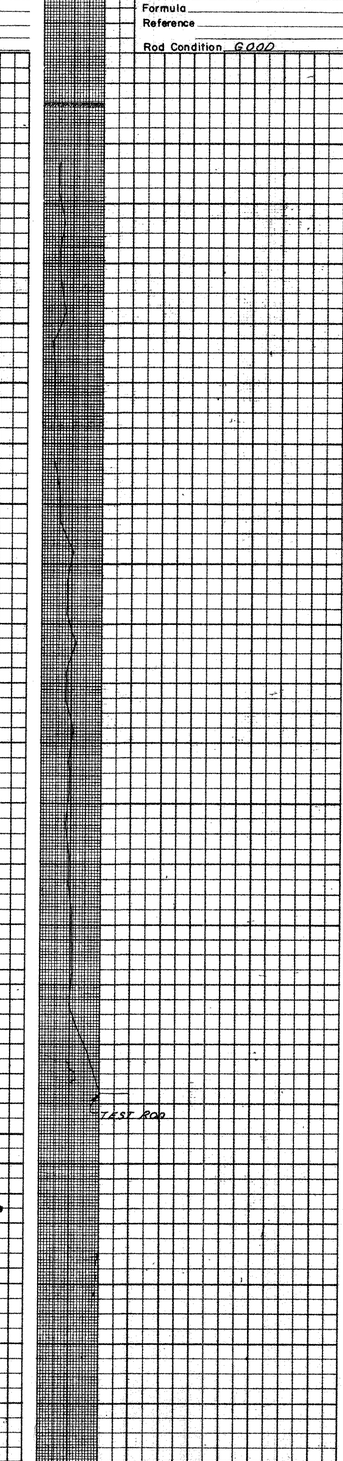
Test Location No. 3
Station & Offset 992+42.25' RT REAR ABUTMENT
Surface Elev. 1081.9 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



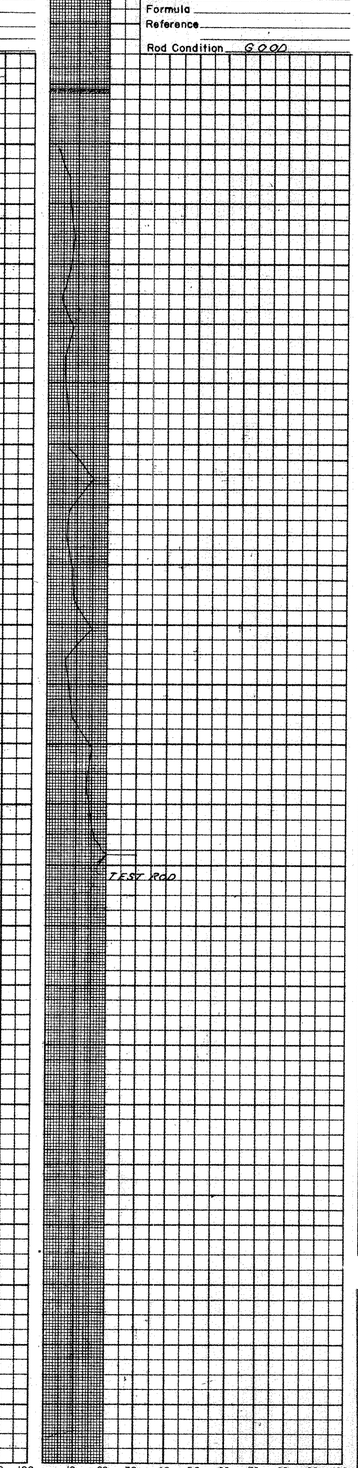
Test Location No. 6
Station & Offset 993+02.20' LT FIRST PIER
Surface Elev. 1082.0 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 8
Station & Offset 993+02.60' RT FIRST PIER
Surface Elev. 1079.7 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



Test Location No. 9
Station & Offset 993+77.60' LT SECOND PIER
Surface Elev. 1080.7 Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD

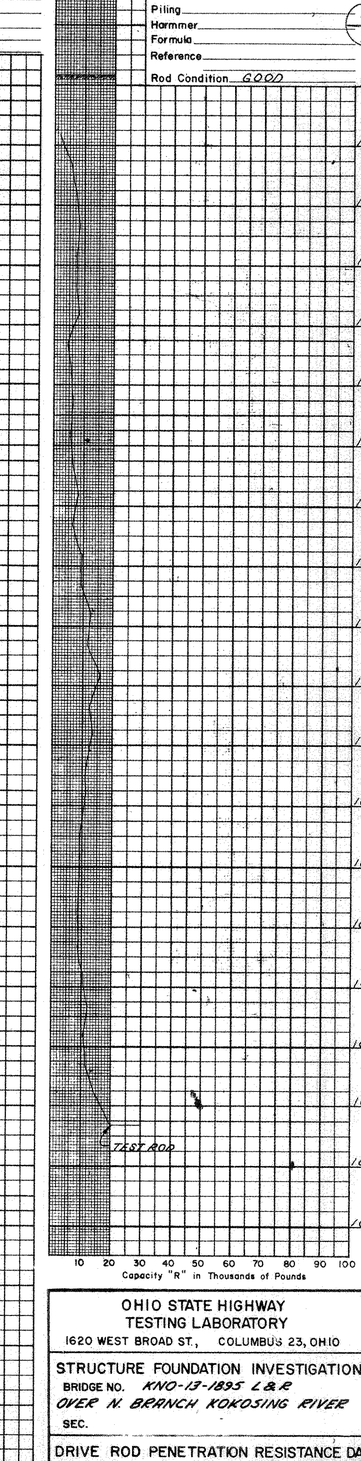


Test Location No. 11
Station & Offset 993+77.25' RT SECOND PIER
Surface Elev. 1081.7 Water Elev. ____

KNO-13-15.93

(4/5)

Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition GOOD



OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-1895 L & R
OVER N. BRANCH KOKOSING RIVER
SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
E.C.	E.O.P.	G.P.H.	10-2-63

Test Location No
Station & Offset
Surface Elev Water Elev
Piling
Hammer
Formula
Reference
Rod Condition

1085 1081 1077 1073 1069 1065 1061 1057 1053 1049 1045 1041 1037 1033 1029 1025 1021 1017 1013 1009 1005

Capacity "R" in Thousands of Pounds

Test Location No
Station & Offset
Surface Elev Water Elev
Piling
Hammer
Formula
Reference
Rod Condition

Capacity "R" in Thousands of Pounds

Test Location No 14
Station & Offset 994+53.20 LT
THIRD PIER
Surface Elev 1082.7 Water Elev 774.7
Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No 16
Station & Offset 994+53.60 RT
THIRD PIER
Surface Elev 1082.6 Water Elev 1073.6
Piling
Hammer
Formula
Reference
Rod Condition POINT ROD BENT

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No 17
Station & Offset 995+28.60 LT
FOURTH PIER
Surface Elev 1082.9 Water Elev 1073.9
Piling
Hammer
Formula
Reference
Rod Condition ROD BENT 16'

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No 19
Station & Offset 995+28.25 RT
FOURTH PIER
Surface Elev 1082.8 Water Elev 1073.8
Piling
Hammer
Formula
Reference
Rod Condition

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No 22
Station & Offset 995+88.20 LT
FORWARD ABUTMENT
Surface Elev 1083.7 Water Elev 1075.7
Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Capacity "R" in Thousands of Pounds

Test Location No 24
Station & Offset 995+88.60 RT
FORWARD ABUTMENT
Surface Elev 1083.0 Water Elev 1074.0
Piling
Hammer
Formula
Reference
Rod Condition

KNO-13-15.93

30/30

5/5

TEST ROD

Capacity "R" in Thousands of Pounds

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

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. KNO-13-1895 L & R
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SEC.

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE