CONVENTIONAL SIGNS

Limited Access & Right-of-Way — LA-R/W
Township Lot Line
Center Line
Fence Line
Guard Rail
Proposed Right-of-Way — R/W
Power Poles
Telephone Poles
Trees
Trees To Be Removed
Temporary Easement
Construction Limits
Existing Property Lines — PL
Former Property or Lot Line
Existing Right-of-Way

INDEX OF SHEETS

Sheet No. 132 revised 10-29-65

LINE DATA

BEGIN PROJECT STA. 47+97.75
END PROJECT STA. 162+50.00

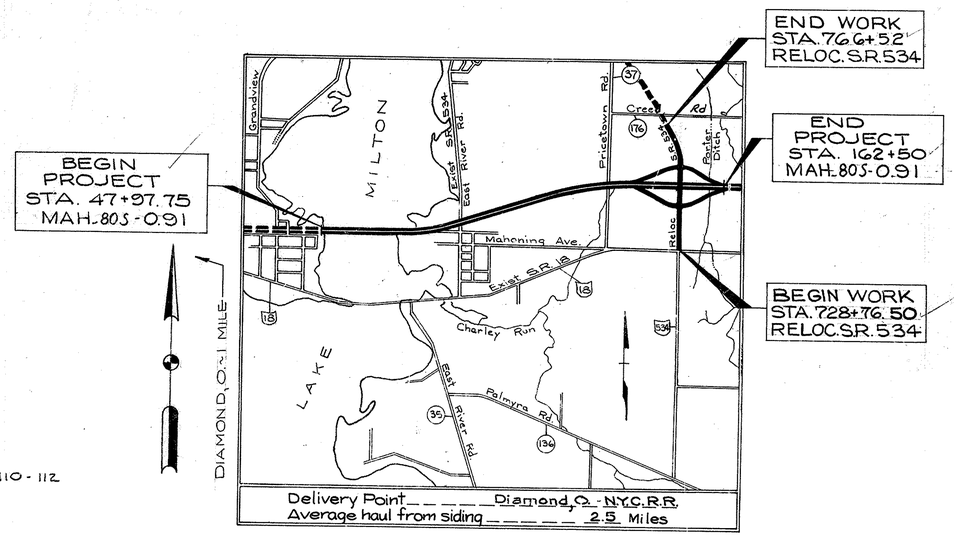
NET LENGTH OF PROJECT 11,452.25 L.F. OR 2.168 MILES

ADD FOR APPROACH WORK (SEE SHT 7) 4,792.99 L.F. OR .907 MILES

TOTAL LENGTH OF WORK 16,245.24 L.F. OR 3.076 MILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

MAH-80S-0.91
MAHONING COUNTY
MILTON TOWNSHIP



LOCATION MAP
SCALE OF MILES

Portion to be constructed
Portion constructed under previous contract
Relocation by the State of Ohio
Portion of Interchange to be constructed

SCALE

PLAN	1" = 50'
PROFILE HORIZONTAL	1" = 50'
PROFILE VERTICAL	1" = 5'

FED. RD.	STATE		
2	OHIO	I-80S-7(11)218	

I-80S-7(11) 218

1 / 180

MAHONING COUNTY
MAH-80S-0.91

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.

NOTE:
PROJECT DESIGNATION MAH.-18-0.91 APPEARING THROUGHOUT THIS PLAN SHALL BE CONSIDERED TO READ MAH- 80S-0.91.

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 Clifford M. Greenhall
Date 5-18-64 Division Deputy Director

Approved C. H. Altvater
Date 3-15-65 Engineer of Bridges

Approved R. N. Rikkers
Date 3-18-65 Engineer of Location and Design

Approved R. E. Shultz
Date 3-18-65 Deputy Director of Design and Construction

Approved T. H. Brand
Date 2-25-65 Deputy Director of Right of Way

Approved E. W. Wilson
Date 2-23-65 Deputy Director of Planning and Programming

Approved _____
Date _____ First Assistant Director

Approved R. E. Mashett
Date 3/23/65 Director of Highways

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

File No. MAHONING COUNTY MAH-80S-0.91
Date of Letting _____ 19__
Contract No. _____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

B.T.-70-71	11-15-60	I-8 M.H. No 1	2-1-63	L-3	4-1-50	FSB-1-62	1-15-63
B.T. 71 R	3-2-53	I-8 C.B. No 5	2-1-63	L-3A	4-1-50	SD-1-63 (Sht's 2,3,4)	11-12-63
DR-1	1-3-55	I-8 C.B. No 6	2-1-63	L.J.-1	7-1-55	AR-1-57	4-2-62
F-2	2-1-63	I-8 C.B. No 8	2-1-63	T.J.	9-12-60	AS-1-54	7-5-62
F-3	2-1-63	I-12	2-1-63	FACI-1	2-25-64	RB-1-55	R-2-2-59
G-7.07	4-1-64	I-15 No 1	11-15-60	FACI-2	2-25-64	SD-2-64	11-25-64
HW No 1	8-1-63	I-15 No 2-A	8-17-60	T-8 CB 2B & 2A	2-1-63		
HW No 2	8-1-63	RI-1	9-1-64	I-15 No. 5-B	2-1-63		
HW No 3	8-1-63	T-35	1-2-56	I-15 No. 5-A	2-1-63		
HW E	2-1-63	I-15 No 6	2-1-63				
L-1	11-15-60	L-1	4-1-50				
F-1	2-1-63	I-8 MH No 1-A	2-1-63				

SUPPLEMENTAL SPECIFICATIONS

CE 101.04		5-22-56
S 307	Rev.	10-1-64
I-12.5	Rev.	6-26-61
I-12.7	Rev.	1-15-62
S-101		7-12-62
I-212	Rev.	6-23-61
L-120	Rev.	1-2-62
M-107.18	Rev.	4-3-61
T-395		10-28-63

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

_____ Division Engineer

_____ Date

Rev. 3-30-65

FED. RD.	STATE	PROJECT	
2	OH10		

2/180

MAH.-18-0.91

END PROJECT	BEGIN PROJECT
POR.18-19.36	MAH 18-0.91
MAH 0-0.00	
I-IG 80 SG(G)216	STA 47+97.75

S.L.M. = 0.91

END PROJECT STA.47+97.75 POR.18-19.36 & MAH.18-0.00

BEGIN WORK
STA. 46+20.00
MAH.18-0.91

MILTON

LAKE

BRIDGE Nº MAH-18-0117

END STRUCTURE
STA. 69+17.25

P.C. STA. 69+42.80

CURVE DATA
Δ = 19°04'41"
Dc = 1°00"
T = 962.80'
R = 5729.58'
L = 1907.81'
P.I. = 79+05.60

END WORK
HARBOR AVE.
STA. 56+25.00

HARBOR AVE.

BEGIN WORK
STA. 9+75.00

BEGIN WORK
STA. 45+27.00

END WORK
STA. 15+25.00

RELOC. OAKWOOD DR

EXIST. OAKWOOD. DR.

TEMPORARY
RUN-AROUND

N 89°02'53"E

STA. 55+00
12'LT. FEDERAL
AID CONSTRUCTION
IDENTIFICATION SIGN

LAKE DRIVE

S.R. 534

GREAT LOT 19

BEGIN WORK
STA. 49+50.00

RELOC. OVERLOOK

OVERLOOK WAY

END WORK
STA. 54+07.96

END WORK
STA. 52+96.74

SURVEY

S.R. 18

N 69°58'12"E

P.C. STA. 101+82.59

MATCH LINE

STA. 87+04.39 ℄ SURVEY
STA. 50+00 S.R. 534
BRIDGE Nº MAH-18-0165

71°39'44"
LOC. TAN.

EAST RIVER RD.

FIRST ST.

SECOND ST.

MAHONING AVE. S.R. 534 EXIST.

N 0°19'48"W
622.51'

STA. 44+00
12'RT. FEDERAL
AID CONSTRUCTION
IDENTIFICATION SIGN

END WORK
STA. 766+52

℄ CREED ROAD

P.C. STA.
756+24.48

STA. 751+54.66 REL. S.R. 534
STA. 0+00 RAMP "A"
STA. 18+62.80 RAMP "B"

STA. 115+00 ℄ CROSSOVER
SEE SHEET Nº III

END WORK
STA. 52+35

GREAT LOT 19
GREAT LOT 18

STA. 129+53.41 ℄ SURVEY
STA. 45+33.95 PRICETOWN RD.

N 89°58'42"E

RAMP "A"

RAMP "B"

RAMP "C"

RAMP "D"

S.R. 534

℄ SURVEY S.R. 18

90°28'00"

STA. 149+97.15 S.R. 18
STA. 746+69.66 REL. S.R. 534
BRIDGE Nº MAH-18-0284

RELOC. N-00°29'18"W

STA. 741+84.66 REL. S.R. 534
STA. 18+63.33 RAMP "C"
STA. 0+00 RAMP "D"

GREAT LOT 18
GREAT LOT 17

END WORK
STA. 163+20
MAH. 18-0.91

END PROJECT
STA. 162+50
MAH. 18-0.91

S.L.M. = 3.08

N 0°19'55"W

MATCH LINE

84°21'37"
LOC. TAN.

BEGIN WORK
STA. 46+70.95

PRICETOWN RD.
S 0°32'10"E

P.T. STA. 141+84.25

BEGIN WORK
STA. 728+74.50

℄ EXISTING S.R. 18

CURVE DATA
Δ = 20°00'30"
Dc = 0°30'
T = 2021.41'
R = 11459.16'
L = 4001.67'
P.I. STA. 122+03.99

200 0 200 400 600

LOCATION PLAN

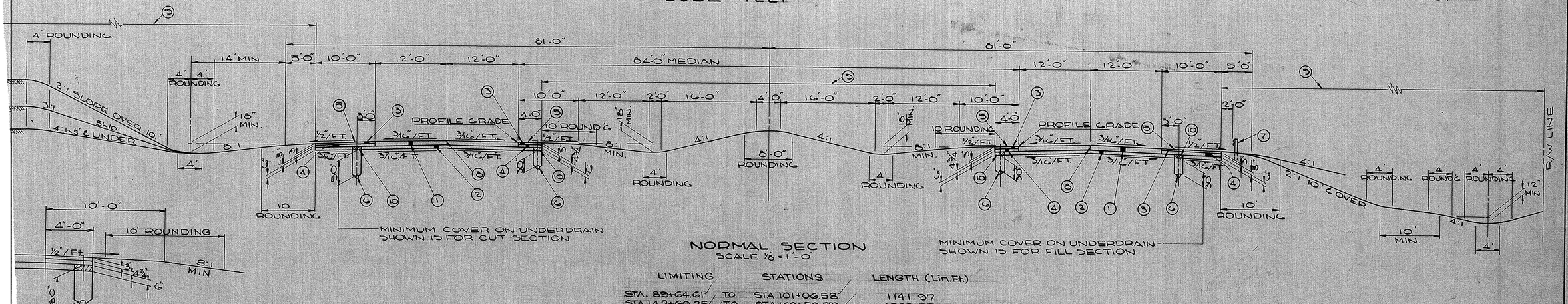
TYPICAL SECTIONS

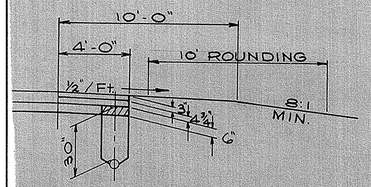
TYPE T-71
CODE 7221

FED. RD.	STATE	PROJECT	
2	OHIO		

3
180

MAH 18 - 0.91

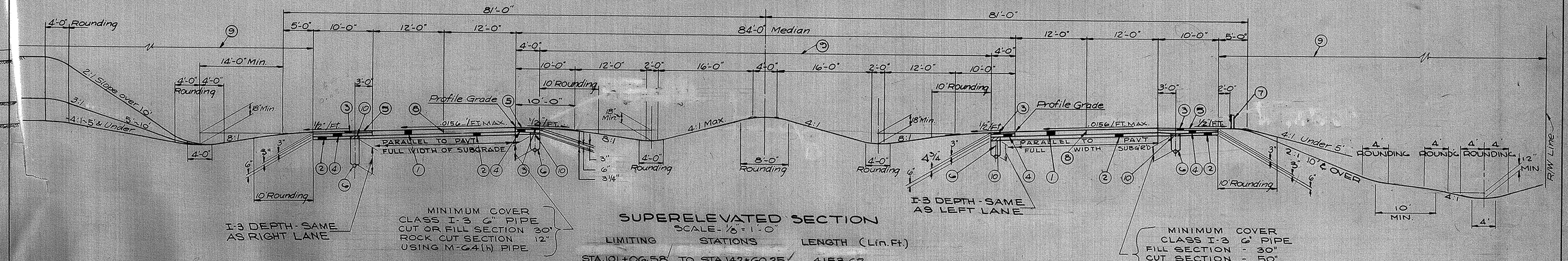




MEDIAN SHOULDER DETAIL

NORMAL SECTION
SCALE 1/8" = 1'-0"

LIMITING		STATIONS	LENGTH (Lin.Ft.)	
STA. 89+64.61	TO	STA. 101+06.58	1141.97	
STA. 142+60.25	TO	STA. 162+50.00	1989.75	- WESTBOUND LANE
STA. 142+60.25	TO	STA. 162+35.96	1975.71	- EAST BOUND LANE
BRIDGE & APPROACH SLABS - (50' MEDIAN)				
STA. 47+97.75	TO	STA. 69+42.25	2144.50	



MINIMUM COVER
CLASS I-3 6" PIPE
CUT OR FILL SECTION 30"
ROCK CUT SECTION 12"
USING M-64(h) PIPE

SUPERELEVATED SECTION
SCALE - 1/8" = 1'-0"

LIMITING		STATIONS	LENGTH (Lin.Ft.)
STA. 101+06.58	TO	STA. 142+60.25	4153.67

MINIMUM COVER
CLASS I-3 6" PIPE
FILL SECTION - 30"
CUT SECTION - 50"
ROCK CUT SECTION - 12" USING M-64(h) PIPE

(1) T-71 5" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(2) I-22 SUBBASE (6" DEPTH) GRADING "A" OR "B" AS PER PLAN. SEE NOTE
* (3) B-21 3" WATERPROOFED AGGREGATE BASE COURSE (TYPE "A" T-35 OR T-335 MAT MAY BE USED IN CONSTRUCTION OF THIS COURSE - SEE NOTE IN PROPOSAL)
(4) B-19 AGGREGATE BASE COURSE
(5) T-31 BITUMINOUS SURFACE TREATMENT USING 0.008 CU. YDS No 6 AGGREGATE PER SQ YD AND 0.25 GAL. BITUMINOUS MATERIAL PER SQYD (SEE NOTE IN PROPOSAL)
(6) I-1 6" PIPE CLASS I-3 (M-64(h) PIPE SHALL BE USED IN ROCK CUT) SEE GENERAL NOTES.
(7) I-15 GUARD RAIL, STEEL BEAM STANDARD TYPE (DEEP)
(8) STANDARD LONGITUDINAL JOINT
(9) L-3 SEEDING AND PROTECTING.
(10) REMOVE SUBBASE FOR WIDTH OF ITEM I-1 TRENCH AND REPLACE WITH NEW "Type. 3 BACKFILL IMMEDIATELY PRIOR TO PLACING THE ITEM B-19 AGGREGATE BASE COURSE. COST SHALL BE INCLUDED IN PRICE BID PER LIN. FT. FOR ITEM I-1.

* THICKNESS SHOWN IS THE DESIGNED THICKNESS AS DESCRIBED IN SECTION B-21.01 OF THE SPECIFICATIONS

NOTES:

SLOPES TYPICAL UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

ADJACENT TO RAMPS AND SPEED CHANGE LANES THE THICKNESS OF THE B-21 WATERPROOF AGGREGATE BASE COURSE SHALL BE INCREASED TO 6" WITH A COMPENSATING REDUCTION IN THE THICKNESS OF THE B-19 AGGREGATE BASE COURSE.

IN ADDITION TO THE SUBBASE MATERIAL MEETING THE REQUIREMENTS OF GRADING "A" OR "B" OF I-22, IT IS FURTHER STIPULATED THAT THE ALLOWABLE PERCENT PASSING THE No. 200 SIEVE, BE NOT GREATER THAN 10 FOR EITHER GRADING AFTER ALL OPERATIONS OF PLACING AND COMPACTING HAVE BEEN COMPLETED.

IN ROCK CUT ALL LINES OF UNDERDRAIN PIPE SHALL HAVE A DEPTH OF COVER OF 12" INCHES BETWEEN CROWN OF PIPE AND SUBGRADE. SEC. M-64(h) PIPE SHALL BE USED IN ROCK CUT.

TYPICAL SECTIONS

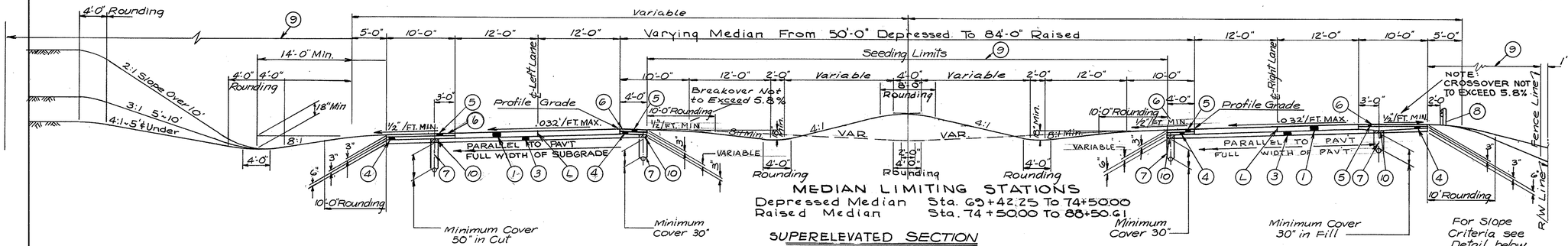
TYPICAL SECTIONS

TYPE T-71
CODE 7221

FED. RD.	STATE	PROJECT	
2	OHIO		

4 / 180

Mah. 18-0.91



MEDIAN LIMITING STATIONS

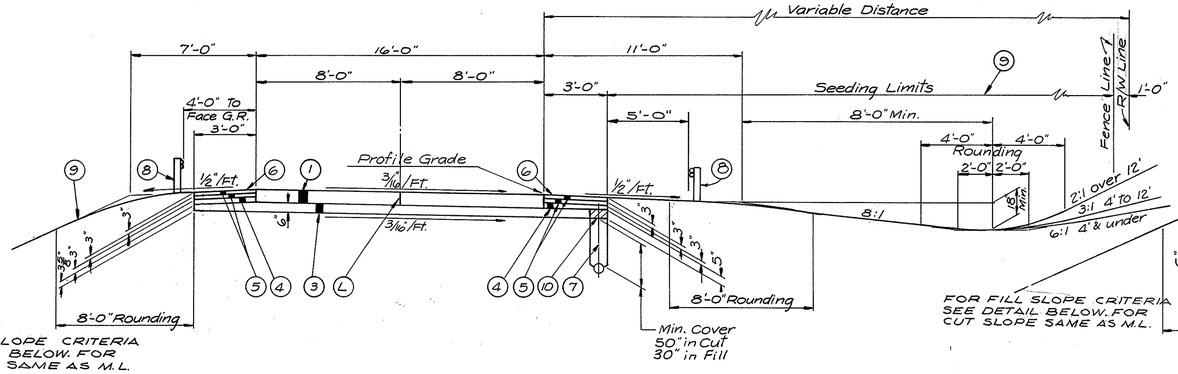
Depressed Median Sta. 69+42.25 To 74+50.00
Raised Median Sta. 74+50.00 To 88+50.61

SUPERELEVATED SECTION

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

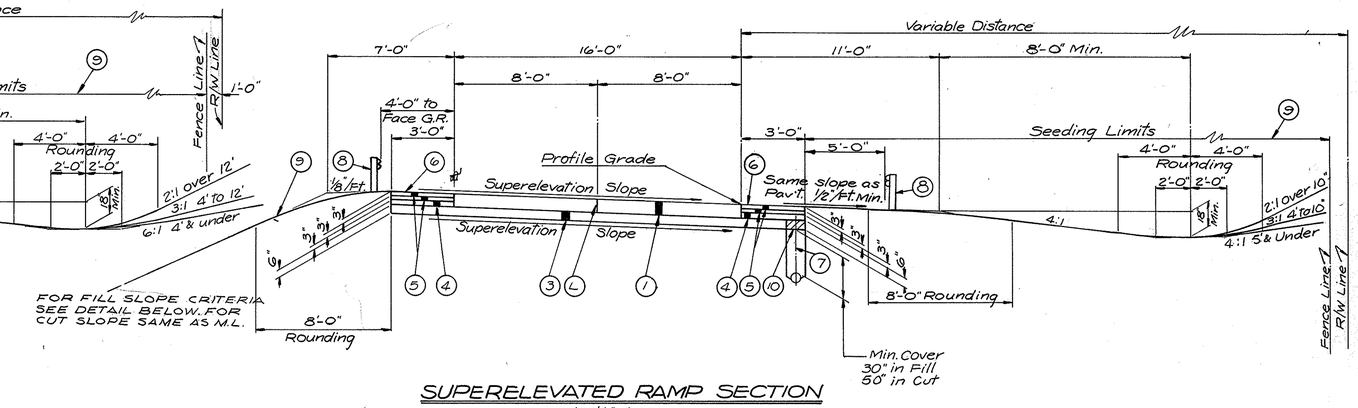
LIMITING STATIONS			LENGTH (Lin. Ft.)
STA. 69+42.25	to	STA. 89+64.61	2022.36

Adjacent to ramps and speed change lanes the thickness of the B-21 Waterproof Aggregate Base Course shall be increased to 6" with a compensating reduction in the thickness of the B-19 Aggregate Base Course.



NORMAL RAMP SECTION

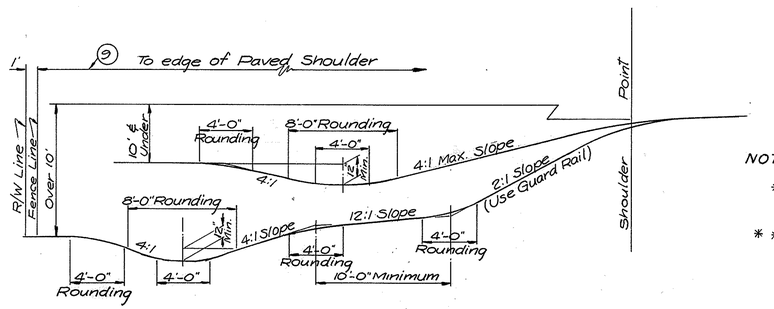
Scale: 1/4"=1'-0"



SUPERELEVATED RAMP SECTION

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

(1) T-71 9" Reinforced Portland Cement Concrete Pavement
(3) I-22 Subbase 6" Normal, Grading A or B Modified as per note **
(4) B-19 Aggregate Base Course
*(5) B-21 3" Waterproofed Aggregate Base Course (Type "A" T-35 or T-33S.5 mat. may be used in construction of this course – See Note in Proposal
(6) T-31 Bituminous Surface Treatment using 0.008 Cu. Yd. No 6 Aggregate per Sq. Yd. and 0.25 Gal. Bituminous Material per Sq. Yd. (See Note in Proposal)
(7) I-1 6" Pipe, Class I-3
(8) I-15 Guard Rail, Steel Beam, Standard Type (Deep)
(9) L-9 Seeding and Protecting
(10) Remove Subbase for width of Item I-1 trench and replace with either **Type** 3 backfill or with porous base material immediately prior to placing the Item B-19 Aggregate Base Course. Cost shall be included in price bid per lin. ft. for Item I-1
(L) L-Standard Longitudinal Joint



SLOPES AND DITCHES IN FILL SECTIONS

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

NOTES:

* Thickness shown is "designed" thickness as described in Sections B-21.01 of the Specification.

** In addition to the Subbase material meeting the requirements of gradings "A" or "B" of I-22, it is further stipulated that the allowable percent passing the No 200 sieve, be not greater than 10 for either grading after all operations of placement and compaction have been completed.

MAIN-LINE

TYPICAL SECTIONS

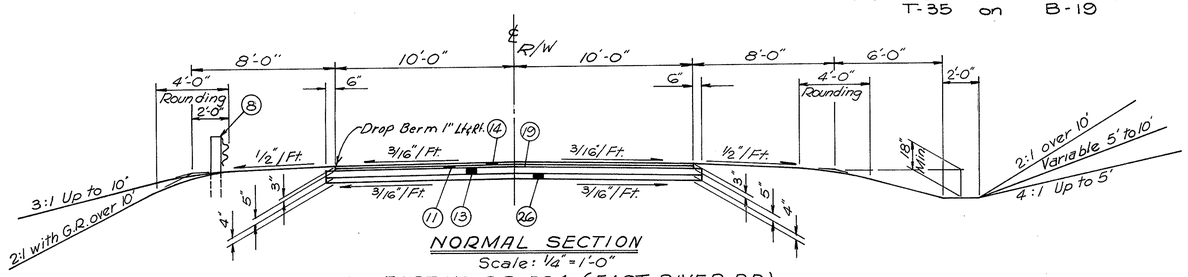
TYPICAL SECTIONS

T-35 on B-19

FED.RD.	STATE	PROJECT	
2	0410		

5/180

Mah. 18-0.91

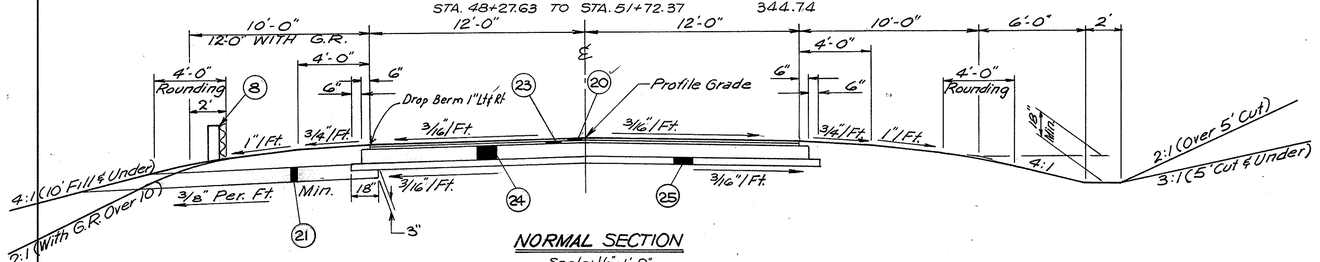


NORMAL SECTION

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

EXISTING S.R. 534 (EAST RIVER RD.)

LIMITING STATIONS			LENGTH (Lin. Ft.)
STA. 47+75	TO	STA. 48+27.63	52.63
STA. 51+72.37	TO	STA. 52+00.00	27.63
BRIDGE & APPROACH SLABS			
STA. 48+27.63	TO	STA. 51+72.37	344.74

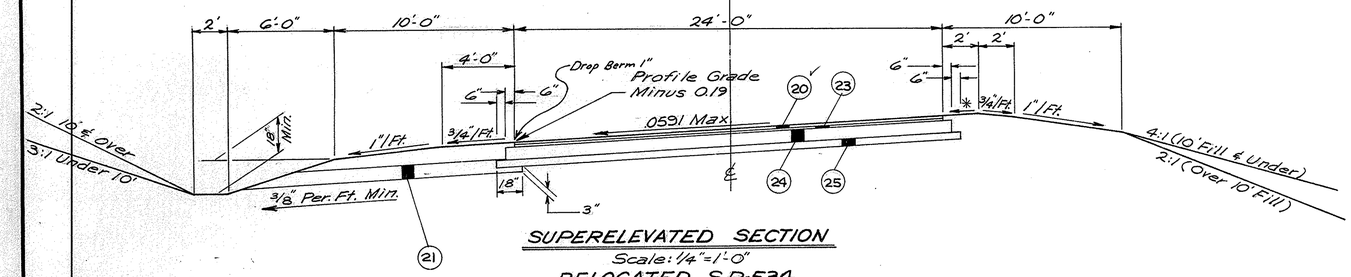


NORMAL SECTION

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

RELOCATED S.R. 534

LIMITING		STATIONS	LENGTH (Lin. Ft.)
STA. 729+26.20	TO	STA. 745+03.41	1,577.21
STA. 748+35.91	TO	STA. 751+25.00	289.09
BRIDGE & APPROACH SLABS			
STA. 745+03.41	TO	STA. 748+35.91	332.50

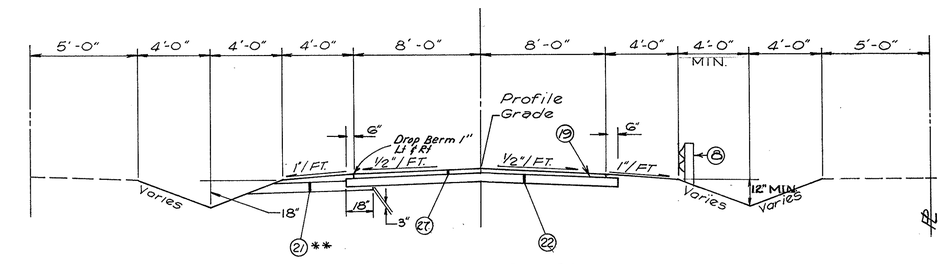


SUPERELEVATED SECTION

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

RELOCATED S.R. 534

LIMITING		STATIONS	LENGTH (Lin. Ft.)
STA. 751+25	TO	STA. 762+00	1,075



NORMAL SECTION

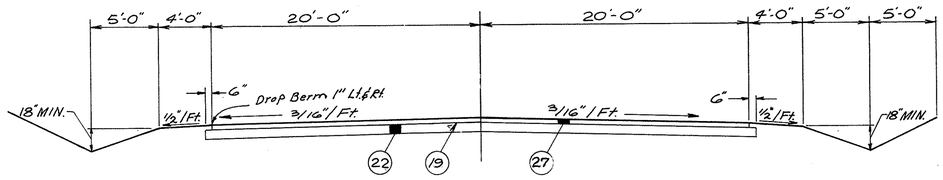
Scale: 1/2" = 1'-0"

Relocated Oakwood Dr.

Limiting Stations			Length (Lin. Ft.)
Sta. 10+00.00	to	Sta. 15+00.00	500.00

Relocated Overlook Way

Limiting Stations			Length (Lin. Ft.)
Sta. 49+75.00	to	54+07.96	432.96



TYPICAL SECTION CUL-DE-SAC.

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

P.I. Sta. 55+57.20 HARBOR AVE.

(27) T-35 1½" Asphaltic Concrete Surface Course Type "A" (70-85)
(26) I-22 4" Subbase
(24) B-21 6" Waterproofed Aggregate Base Course (Two 3" Courses)
(25) I-22 8" Subbase
(8) I-15 Guard Rail, Steel Beam, Standard Type (Deep)
(11) B-35 1⅜" Asphaltic Concrete Leveling Course (70-85)
(20) T-35 1" Asphaltic Concrete Surface Course Type "C" (70-85)
(13) B-19 5" Aggregate Base Course
(14) T-35 1¼" Asphaltic Concrete Surface Course-Type "C" (70-85)
(19) T-30 Bituminous Prime Coat- Sec. M-5.7, RT-2 or RT-3 Applied at the rate of 0.4 gals/Sq.Yd.
(21) I-9 Stone Underdrains No. 2 (See Note)
(22) B-19 8" Aggregate Base Course
(23) B-35 1¼ Asphaltic Concrete Leveling Course (70-85)

NOTES

* Same slope as pavement

No. 2 Stone Underdrain shall be placed at 50 ft. intervals and staggered in normal sections. The Stone Underdrains shall be placed on the Low side only at 25' intervals in Superelevated Sections.

Thickness shown is "designed thickness" as described in Sections T-35.01 & B-35.01 of the Specifications.

** I-9 No. 2 Stone Underdrains shown on the Typical Section for Relocated Oakwood Dr. & Overlook Way are to be constructed at the location designated by the Engineer. The actual number of lineal Feet underdrain completed & accepted will be paid for at the unit bid price of I-9 No. 2 Stone Underdrains.

TYPICAL CROSSROAD SECTION

GENERAL NOTES

FED.RD	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

6
180

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 THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL WIRING AND OUTLETS SUITABLE FOR CONNECTING ELECTRIC LIGHTS AND OFFICE EQUIPMENT IN THE FIELD OFFICE AND PROVIDE 110 VOLT ALTERNATING CURRENT TO THE OFFICE DURING THE ENTIRE PERIOD OF CONSTRUCTION OF THIS PROJECT.

DESIGN SPEED

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

RIGHT-OF-WAY FENCE

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

UTILITIES

THE CONTRACTOR SHALL NOTIFY, IN WRITING, AT LEAST TWO WORKING DAY *BEFORE BREAKING GROUND*, ALL PUBLIC OR PRIVATE UTILITIES HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THIS PLAN. 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. ALL UTILITIES ARE LISTED.

OHIO EDISON CO.	47 N. MAIN ST.	AKRON, OHIO
OHIO BELL TELEPHONE CO.	50 W. BOWERY ST.	AKRON, OHIO

UNDERGROUND UTILITIES

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

R/W MONUMENTS, FEDERAL PROJECTS MARKERS, AND SECTION MARKERS

EXISTING R/W MONUMENTS, BENCH MARKS, FEDERAL PROJECT MARKERS AND SECTION MARKERS THAT WILL BE REMOVED BY CONSTRUCTION, SHALL BE PROTECTED BY THE CONTRACTOR AS PER SECTION G-7.09 UNTIL THEY CAN BE WITNESSED, REFERENCED AND RESET BY THE CONTRACTOR.

ELEVATION DATUM

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

CONSTRUCTION LAYOUT STAKES

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

ROUNDING OF CORNERS ON CROSS SECTIONS

THE ROUNDED CORNERS, AS SHOWN ON STANDARD DWG. R1 - 1, APPLY TO ALL CROSS SECTIONS UNLESS OTHERWISE SHOWN ON THE TYPICAL SECTIONS.

ESTIMATED QUANTITIES

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

REPLACEMENT

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

SEEDING AND PROTECTING

QUANTITIES PROVIDED FOR SEEDING THE MAIN FACILITY ARE CALCULATED FOR ALL SOIL AREAS BETWEEN RIGHT OF WAY FENCE LINES. ON CROSSROADS OR OTHER UNFENCED AREAS, SEEDING HAS BEEN CALCULATED FOR ALL SOIL AREAS LOCATED BETWEEN THE WORK LIMITS INCLUDING RUNAROUNDS. SEED SHALL BE SOWN AT A RATE OF 3 POUNDS PER 1,000 SQUARE FEET. SEEDING FORMULA FOR ALL SEEDED AREAS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

65%	KENTUCKY 31 FESCUE	5%	REDTOP
25%	KENTUCKY BLUEGRASS	5%	ALSIKE CLOVER

L-9 COMMERCIAL FERTILIZER AND LIME MATERIAL

ALL AREAS TO BE SEEDED UNDER ITEM L-9 OR SODDED UNDER ITEM L-10 SHALL HAVE COMMERCIAL FERTILIZER (12 - 12 - 12) APPLIED AT THE RATE OF TWENTY (20) POUNDS PER 1,000 SQUARE FEET. LIME SHALL BE APPLIED AT THE RATE OF ONE HUNDRED (100) POUNDS PER 1,000 SQUARE FEET.

EROSION CONTROL AT BRIDGES

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

SPECIAL DITCHES

FOR SPECIAL DITCH GRADES, SEE CROSS SECTIONS.

ITEMS L-10, SODDING, I-10 DUMPED ROCK CHANNEL PROTECTION, I-10 RIPRAP AND L-120 JUTE MATTING.

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

ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS.

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

REINFORCED END ON CORRUGATED METAL PIPE

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

PLUGGING PIPE

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

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 ROD SIX (6) INCHES LONG SHALL BE EMBEDDED IN THE WET CONCRETE AS DIRECTED BY THE ENGINEER TO MARK THE CENTERLINE AND STATION.

EXISTING PAVEMENT

OUTSIDE THE LIMITS OF CONSTRUCTION THE EXISTING FLEXIBLE PAVEMENT SHALL BE THOROUGHLY SCARIFIED, MIXED WITH SUFFICIENT SOIL AND SHAPED TO FIT THE SURROUNDING TERRAIN IN SUCH A MANNER AS TO INSURE THE GROWTH OF SEED PLANTED THEREON. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION.

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

"AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE ON THE MAINLINE AND RAMP PAVEMENTS AS DIRECTED BY THE ENGINEER. PROOF ROLLING WILL NOT BE REQUIRED WHERE ROCK OR SHALE OCCURS IN SUBGRADE AND IN AREAS WHERE SUBBASE WILL BE 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 ROLLING. TIRE PRESSURE AND TOTAL LOAD SHALL BE VARIED AS DIRECTED BY THE ENGINEER WITHIN THE LIMITS PROVIDED IN CE-101.04.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED FOR COMPACTION.
ITEM SS "COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER" - 54 HRS.

DUST CONTROL

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

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 1 - 4 CALCIUM CHLORIDE FOR DUST CONTROL - 6 TONS
ITEM 1 - 4 WATER FOR DUST CONTROL 150 M GALS

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTIONS LIMITS

AFTER THE EXISTING PAVEMENT AS INDICATED ON THE PLANS HAS BEEN REMOVED, THE OLD ROADWAY SHALL BE PLOWED, HARROWED, AND DRAGGED TO A SMOOTH GRADE, THE OLD DITCHES FILLED, AND THE ENTIRE AREA SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR *ROADWAY EXCAVATION*, ITEM *E - 1*. SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM L -9.

GUARD RAIL ADJACENT TO BRIDGE

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

GUARD RAIL FLARES

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

SECTION 1 - 22.02 SUBBASE

IN ADDITION TO THE SUBBASE MATERIAL MEETING THE REQUIREMENTS OF GRADING "A" OR "B" SECTION 1 - 22.02, IT IS FURTHER STIPULATED THAT THE ALLOWABLE PER CENT PASSING THE NO. 200 SIEVE SHALL BE NOT GREATER THAN 10 FOR EITHER GRADING AFTER ALL OPERATIONS OF PLACEMENT AND COMPACTION HAVE BEEN COMPLETED.

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.

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. 12' RT. STA. 44 + 00 EAST RIVER ROAD S. R. 534 (FACING SOUTH)
2. 12' LT. STA. 55 + 00 EAST RIVER ROAD S. R. 534 (FACING NORTH)

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1 CODE N-55 (1)-120(2) ADDITIONAL THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FAIC-2 REQUIRMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL

REMOVAL OF TREES AND STUMPS

ALL TREES & STUMPS LYING WITHIN THE THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM E-9, REMOVAL OF TREES & STUMPS,

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

SIZES	NO. TREES	NO. STUMPS
12" - 18"	2038	3
18" - 24"	101	5
24" - 30"	20	
30" - 36"	14	
36" - 42"	2	
42" - 48"		
OVER 48"		

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

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

7
180

MAH. 18-0.91

ITEM SPECIAL, DRILLED WELL ABANDONED

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

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

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 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 CONTRACTOR SHALL NOT ORDER THE PIPE LISTED BELOW UNTIL APPROVED BY THE PROJECT ENGINEER.

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

ITEM I - 1	6" PIPE,	CLASS H-2	200 LIN. FT.
ITEM I - 1	8" PIPE,	CLASS H-2	100 LIN. FT.
ITEM I - 1	8" PIPE,	CLASS F-4	50 LIN. FT.
ITEM I - 1	6" PIPE,	CLASS J -1	M-6.8 (b), M-6.6 (b) 400 LIN. FT.
ITEM I - 1	8" PIPE,	CLASS J -1	200 LIN. FT.

DRAINAGE OF BASE MATERIAL

WHERE THE BASE MATERIAL IS DRAINED BY I-9 STONE UNDERDRAINS OR BY EXTENSIONS OF THE SUBBASE THROUGH THE SHOULDERS TO THE FILL SLOPE OR THE DITCH LINE, THE CONTRACTOR SHALL FINISH, SEED, AND MULCH THE SLOPES SO AS NOT TO IMPEDE DRAINAGE OF THE BASE MATERIAL.

CODE LETTERS

ROADWAY AND DRAINAGE ITEMS ARE PREFIXED WITH THE FOLLOWING CODE LETTERS.

A.	PROPOSED MANHOLES OR CATCH BASINS.
D.	DRIVEWAY APPROACHES
E.	EROSION CONTROL & I-2 MASONRY
L - 120	JUTE MATTING
L - 10	SOD
L - 10	SOD SPECIAL BERM PROTECTION
I - 10	DUMPED ROCK
I - 10	DUMPED ROCK CHANNEL PROTECTION
I - 14	PAVED GUTTER
P.	PROPOSED I - 1 PIPE SEWERS
S.	PROPOSED PIPE CULVERTS
U.	UNDERDRAINS AND OUTLET PIPE
X.	REMOVAL OF EXISTING PIPE

CLEANING PRIVY VAULTS

PRIVY VAULTS SHALL BE CLEANED AND FILLED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. MATERIAL REMOVED FROM THESE VAULTS SHALL BE CLASSIFIED AS UNSUITABLE AND DISPOSED OF OUTSIDE THE LIMITS OF RIGHT-OF-WAY OR EASEMENT LINES. THE CLEANING OF PRIVY VAULTS SHALL BE PAID FOR UNDER ITEM SPECIAL, CLEANING OF PRIVY VAULTS.

THE BACKFILLING OF PRIVY VAULTS SHALL BE PAID FOR UNDER ITEM E-1 ROADWAY EXCAVATION METHOD B. THE PRICE BID FOR THIS ITEM SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL THE REQUIREMENTS OF THE ITEM AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

AN ESTIMATED AMOUNT OF EMBANKMENT FOR BACKFILLING PRIVY VAULTS HAS BEEN CARRIED TO CROSS SECTIONS.

I-8 CATCH BASIN - No 8 (MODIFIED, AS PER PLAN)

STEPS SHALL BE PLACED IN ALL I-8 No.8 CATCH BASINS MORE THAN 6 FT. IN DEPTH AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWINGS I-8 CATCH BASINS 2-3 & 2-4. THE COST OF THESE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "I-8 No. 8 CATCH BASIN, AS PER PLAN"

ITEM SPECIAL - CLEANING AND DISPOSAL OF SEPTIC TANKS

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

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

WHEN THE SEPTIC TANKS ARE LOCATED ABOVE THE FINISHED PAVEMENT OR GROUND LINES, THEY SHALL BE ENTIRELY REMOVED AND DISPOSED OF IN ACCORDANCE WITH SEC. S-24.03.

WHEN THE TANKS ARE LOCATED BELOW THE FINISHED PAVEMENT OR GROUND LINES, THE TOPS OF THE TANKS SHALL BE REMOVED, AND THE WALLS SHALL BE REMOVED TO A DEPTH OF 3 FEET BELOW THE FINISHED SUBGRADE OR GROUND LINES. THE REMOVED MATERIAL SHALL BE DISPOSED OF AS EXPLAINED ABOVE. THE TANKS SHALL BE BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL IN ACCORDANCE WITH SEC. E-1.08.

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

PRIVATE SEWER TAPS

WITHIN THE INTERSTATE LIMITED ACCESS RIGHT OF WAY

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT ANY EXISTING OR NEW PRIVATE DRAINAGE TO THE NEW HIGHWAY DRAINAGE SYSTEM WHEN SUCH PRIVATE DRAINS CARRY EFFLUENT FROM LEACHING BED OUTLETS, CELLAR DRAINS, OR SINK DRAINS, OR POLLUTED WATER OF ANY KIND. CONNECTIONS MAY BE MADE TO THE EXISTING OR NEW HIGHWAY DRAINAGE SYSTEM WHEN THE WATER CARRIED TO THE PROJECT DRAINAGE SYSTEM DOES NOT COME IN THE CATEGORY OUTLINED ABOVE.

ACCEPTABLE WATER INCLUDES FLOW FROM ROOF DRAINS, FIELD DRAINS, AND ENCLOSED NATURAL DRAINAGE SOURCES WHICH WOULD REACH THE ROAD THROUGH NATURAL CHANNELS IF SUCH WATER WAS NOT CONDUCTED ARTIFICALLY.

SIDE ROADS NOT WITHIN LIMITED ACCESS RIGHT OF WAY

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 & INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION.

STONE UNDERDRAIN NO. 2

STONE UNDERDRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM I-1 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

SEQUENCE OF CONSTRUCTION OPERATIONS (PAVING)

UNDERDRAINS SHALL BE INSTALLED AND BACKFILLED TO SUBGRADE ELEVATION, IMMEDIATELY PRIOR TO CONSTRUCTION OF THE SUBBASE, EXCEPT THAT, WHERE SUBSURFACE CONDITIONS ARE SUCH THAT IMPROVEMENT OF AN UNSTABLE SUBGRADE CAN BE ACCOMPLISHED THROUGH THE DRYING ACTION OF DEEP UNDERDRAINS, THE PROJECT ENGINEER MAY AUTHORIZE OR REQUIRE THE CONTRACTOR TO DELAY THE CONSTRUCTION OF THE SUBBASE AS NECESSARY.

THE SUBBASE SHALL THEN BE CONSTRUCTED UNDER THE CONCRETE PAVEMENT AREA AND EXTENDED OUT TO COVER THE POROUS BACKFILL FOR THE UNDERDRAIN.

PAVEMENT SHALL THEN BE CONSTRUCTED.

AFTER THE SUBBASE IN THE SHOULDER AREA IS IN PLACE AND COMPACTED AS SPECIFIED, AND IMMEDIATELY PRIOR TO PLACING THE AGGREGATE BASE COURSE, THE MATERIAL LOCATED ABOVE AND WITHIN THE UNDERDRAIN TRENCH SHALL BE REMOVED TO THE DEPTH NECESSARY TO EXPOSE CLEAN TYPE 3 BACKFILL. THE TRENCH SO EXCAVATED SHALL BE BACKFILLED WITH NEW TYPE 3 BACKFILL MATERIAL.

IF, AFTER TESTING THE SUBBASE MATERIAL FOR COMPOSITION IN THE SHOULDER AREA, IT IS FOUND THAT REMOVAL OF CONTAMINATED MATERIAL FROM THE SURFACE IS NECESSARY, SUCH MATERIAL SHALL BE REPLACED WITH MATERIAL MEETING THE REQUIREMENTS OF "ITEM B-19 AGGREGATE BASE COURSE" AT THE EXPENSE OF THE CONTRACTOR.

AGGREGATE BASE COURSE SHALL THEN BE CONSTRUCTED AND CONSTRUCTION OF THE WATERPROOFED AGGREGATE COURSE SHALL FOLLOW IMMEDIATELY.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE PERTINENT ITEMS AFFECTED.

GUARD RAIL AT STRUCTURES

THE GUARD RAIL ADJACENT TO A STRUCTURE SHALL TERMINATE AT THE STRUCTURE WITH A STANDARD TERMINAL SECTION AS SHOWN ON STANDARD CONSTRUCTION DRAWING I-15, No. 2-A PAYMENT FOR NECESSARY LABOR AND MATERIAL INVOLVED IN THE INSTALLATION OF THE TERMINAL SECTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR I-15 GUARD RAIL.

LINE DATA CALCULATION FOR APPROACHES

MAIN LINE

BEGIN WORK	STA. 46 + 20.00	
BEGIN PROJECT	STA. 47 + 97.75	177.75 Lin.Ft.
END PROJECT	STA. 162 + 50.00	
END WORK	STA. 163 + 20.00	70.00 Lin.Ft.
TOTAL LENGTH M.L. APPROACH		247.75 Lin.Ft.

EAST RIVER ROAD (EXISTING S.R. 534)

BEGIN WORK	STA. 45+27.00	
END WORK	STA. 52+96.74	769.74 Lin.Ft.

RELOCATED S. R. 534

BEGIN WORK	STA. 728 + 76.50	
END WORK	STA. 766 + 52.00	3,775.50 Lin.Ft.
TOTAL LENGTH OF APPROACHES		4,792.99 Lin.Ft.

APPROACH SLAB LONGITUDINAL JOINTS

Longitudinal impressed or sawed joints shall be provided between lane elements, on all approach slabs, in accordance with standard construction drawing L.J. No. 1. Payment for these joints shall be included in the unit price bid for item I-7, reinforced concrete approach slabs, as per plan.

ROCK SUBGRADE

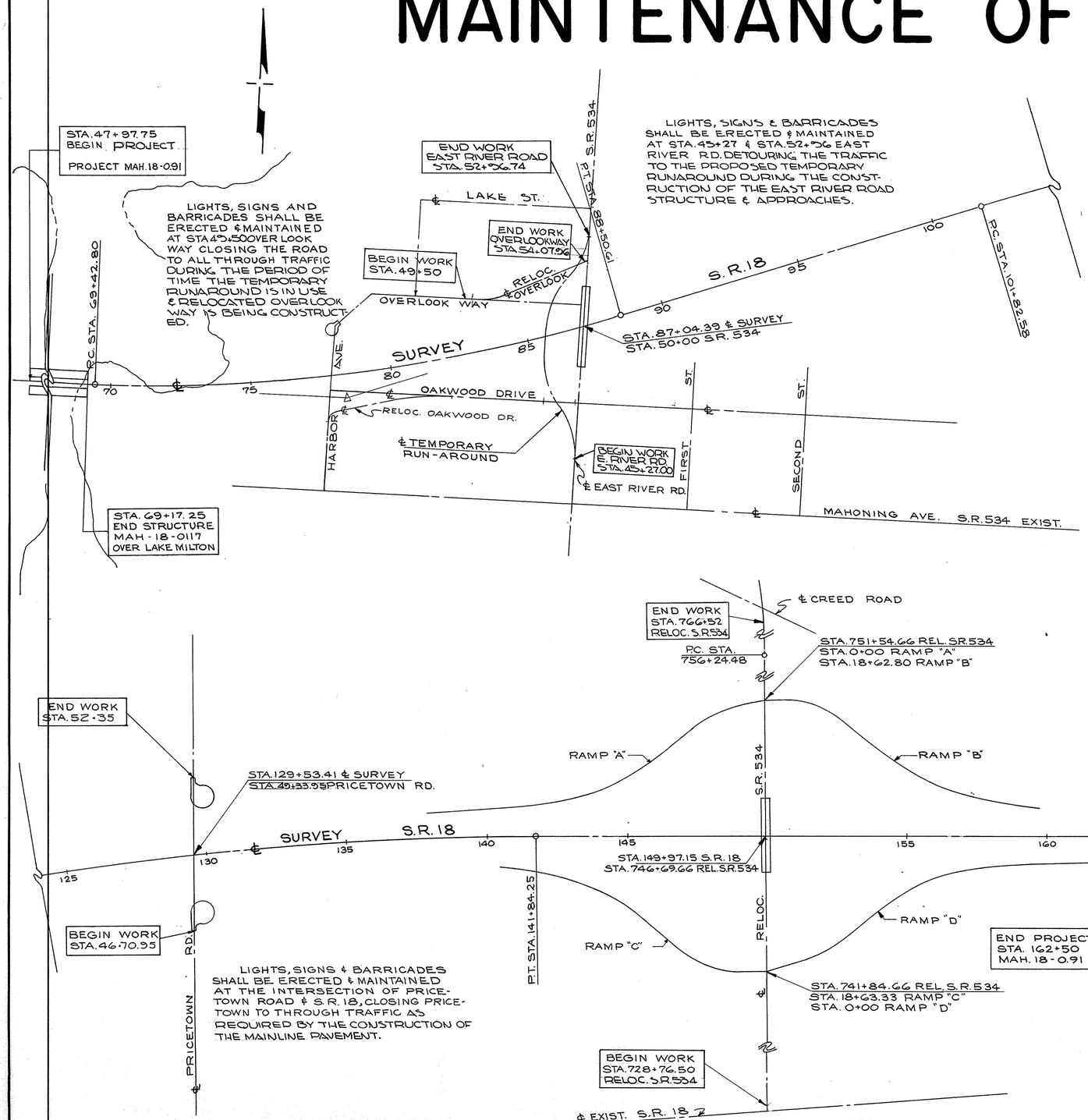
The Contractor shall be paid for the thickness of I-22 material shown on the typical sections in rock excavation areas. Any pockets in the rock below the plan subgrade elevation shall drain either longitudinally or laterally and all irregularities in the rock below this elevation shall be filled with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

MAINTENANCE OF TRAFFIC

FED.RD.	STATE	PROJECT	
2	OHIO		

8
180

MAH.18-0.91



MAINTAINING TRAFFIC

EAST RIVER ROAD (S.R.534)

TWO WAY TRAFFIC SHALL BE MAINTAINED ON EAST RIVER ROAD (S.R.534) DURING THE CONSTRUCTION OF THE STRUCTURE AND APPROACHES. A TEMPORARY RUNAROUND UTILIZING A CLASS "B" PAVEMENT HAS BEEN PROVIDED FOR THIS PURPOSE. THE TEMPORARY RUNAROUND SHALL BE BUILT TO THE LINE, GRADE & SURFACE WIDTH SHOWN ON THE PLANS (SHEET Nº 83). THE CONSTRUCTION AND REMOVAL OF THE PROPOSED RUNAROUND SHALL BE COVERED BY AND PAID FOR UNDER ITEM S-15 TEMPORARY RUNAROUND AS PER PLAN.

OVERLOOK WAY

SHALL BE CLOSED TO ALL THROUGH TRAFFIC FROM STA.45+50 TO EAST RIVER ROAD (S.R.534). THE LOCAL TRAFFIC ON OVERLOOK WAY SHALL BE DETOURED ALONG HARBOR AVE. TO EAST RIVER ROAD (S.R.534). BOTH OF THE ABOVE CONDITIONS SHALL REMAIN IN EFFECT DURING THE PERIOD OF TIME THE PROPOSED TEMPORARY RUNAROUND (EAST RIVER ROAD) IS IN OPERATION & THE CONSTRUCTION OF RELOCATED OVERLOOK WAY.

MAINTAINING LOCAL TRAFFIC

THE FOLLOWING QUANTITIES ARE INCLUDED IN THIS PROJECT FOR MAINTAINING LOCAL TRAFFIC ON OAKWOOD DRIVE & HARBOR AVE. & OVERLOOK WAY

ITEM S-15	FURNISHING AND PLACING AGGREGATE FOR TRAFFIC BOUND SURFACE COURSE	200 CU.YDS.
ITEM I-4	CALCIUM CHLORIDE FOR DUST CONTROL	5 TONS

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

HARBOR AVE. & OAKWOOD DRIVE

SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES VIA RELOCATED OAKWOOD DRIVE AND A TEMPORARY CONNECTION TO THE PROPOSED RUNAROUND ON EAST RIVER ROAD (S.R.534). PAYMENT FOR ALL LABOR & MATERIALS NECESSARY FOR THE CONSTRUCTING, MAINTAINING, & REMOVAL OF THE TEMPORARY CONNECTION OF OAKWOOD DRIVE & THE PROPOSED RUNAROUND SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM I-3 MAINTAINING LOCAL TRAFFIC. UPON COMPLETION OF THE PROPOSED EAST RIVER ROAD STRUCTURE, THE RUNAROUND SHALL BE COMPLETELY REMOVED & THE PAVEMENT OF OAKWOOD DRIVE SHALL BE RESTORED TO THE ORIGINAL LINE & GRADE & TYPICAL SECTION. THE TYPICAL SECTION IS SHOWN ON SHEET 83

THE FOLLOWING QUANTITIES ARE INCLUDED IN THIS PROJECT FOR THE RECONSTRUCTION OF THAT PORTION OF OAKWOOD DRIVE THAT WILL BE TEMPORARILY REMOVED BY THE RUNAROUND.

B-15	AGGREGATE BASE COURSE	40 C.Y.
T-35	ASPHALTIC CONCRETE TYPE "A" (70-85)	6 C.Y.

THE ABOVE QUANTITIES ARE ESTIMATED QUANTITIES. THE CONTRACTOR SHALL RESTORE THE PAVEMENT ON OAKWOOD DR. AS DIRECTED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC

COMPUTATIONS

FED.RD.	STATE	PROJECT	
2	OHIO		

9 / 180

MAH.18-0.91

6" I-22 SUBBASE GRADING "A" OR "B"

TRANSITION AND SUPERELEVATED SECTIONS TWO 24' LANES

CONSTANT

$(34 \times .50) + (4)\left(\frac{.50+.25}{2}\right) + (28)(.50) + (3)\left(\frac{.50+.25}{2}\right) + (7)\left(\frac{.50+.25}{2}\right) \times 1.0 \div 27 =$

CONSTANT CU.YDS/LIN.FT. = 1.3426

MAIN LINE

STA 69 + 17.25 TO STA 70 + 17.25

UNDER PAV'T $100 \times 2 \times 24 \times 0.5 \div 27 =$ 88.89 C.Y.

LT. SHOULDERS $100\left(\frac{10+4}{2} \times 0.5\right) + \left(\frac{4+3}{2} \times \frac{.50+.25}{2}\right) \div 27 =$ 17.81 C.Y.

RT. SHOULDERS $100\left(\frac{4+3}{2}\right)(.50) + \left(\frac{10+4}{2}\right)(.375) \div 27 =$ 16.22 C.Y.

STA 70 + 17.25 TO STA 89 + 64.61 = 1,947.36 x 1.3426 = 2,614.58 C.Y.

NORMAL SECTION CONSTANT

$2\left(38.00 \times 0.5\right) \div 27 = 1.4074$ C.Y./L.F.

STA 47 + 97.75 TO STA 48 + 22.75

UNDER APPROACH SLAB - $25 \times 24 \times 0.50 \div 27 =$ 11.11 C.Y.

OUTSIDE SH'LDR LT.& RT. $2 \times 25 \times \frac{4+10}{2} \times 0.50 \div 27 =$ 6.48 C.Y.

INSIDE SH'LDR LT.& RT. $2 \times 25 \times \frac{4+3}{2} \times 0.50 \div 27 =$ 3.24 C.Y.

STA 89 + 64.61 TO STA 101 + 06.58 — 1,141.97 x 1.4074 = 1,607.21 C.Y.

STA 101 + 06.58 TO STA 125 + 91.00 — 2,484.42 x 1.3426 = 3,335.58 C.Y.

RT. LANE STA 125 + 91.00 to STA 132 + 42.89

$651.89\ (34 \times 0.50) + 4 \times \frac{.50+.025}{2} \div 27$ 446.67 C.Y.

STA 132 + 42.89 TO STA 133 + 42.89

$\frac{100}{27}\left(\frac{24+36}{2} \times 0.5 + \frac{10+8}{2} \times 0.5 + 4 \times \frac{.50+.25}{2}\right)$ 77.77 C.Y.

STA 133+ 42.89 TO STA 134+ 81.00

$\frac{138.11}{27}\left(44 \times 0.5 + 4 \times \frac{.50+.025}{2}\right)$ 120.21 C.Y.

STA 134+ 81.00 TO STA 136+ 00.00

$\frac{119.00}{27}\left(\frac{44+46}{2} \times 0.5 + 4 \times \frac{.50+.025}{2}\right)$ 127.81 C.Y.

STA 136+ 00.00 TO STA 138+ 19.00

$\frac{219.00}{27}\left(\frac{46+58}{2} \times 0.5 + 4 \times \frac{.50+.25}{2}\right)$ 335.83 C.Y.

STA 138+ 19.00 TO STA 140+ 42.89

$\frac{169.89}{27}\left(\frac{58+71}{2} \times 0.50 + 4 \times \frac{.50+.25}{2}\right)$ 204.86 C.Y.

STA 140+ 42.89 TO STA 141+ 42.89

$\frac{100}{27}\left(\frac{58+33}{2} \times 0.5 + 4 \times \frac{.50+.25}{2}\right)$ 72.22 C.Y.

STA 141+ 42.89 TO STA 142+ 60.25

$\frac{117.36}{27}\left(54 \times 0.5 + 4 \times 0.375\right)$ 68.52 C.Y.

(LT. LANE) STA 125 + 91.00 TO STA 137 + 91.00

$\left[\frac{56}{27}\left(\frac{28+30}{2} \times 0.5 + \frac{10+8}{2} \times 0.37\right)\right.$ 63.56 C.Y.

$\frac{1104}{27}\left(\frac{30+53}{2} \times 0.5 + 8 \times 0.37\right)$ 571.11 C.Y.

STA 13 + 91.00 TO STA 141+ 43.00

$\frac{352}{27}\left(28 \times 0.5 + \frac{11+20}{2} \times 0.37\right)$ 258.33 C.Y.

STA 141+ 43.00 TO 142+ 60.25

$\frac{117.25}{27}\left(28 \times 0.5 + 10 \times 0.375\right)$ 77.08 C.Y.

LT.& RT. LANES STA 42 + 60.25 TO STA 157 + 55.00

1,494.75 x 1.4074 = 2,103.71 C.Y.

LT. LANE

STA 57 + 55.00 TO STA 158 + 71.12

$116.2 \times 38 \times 0.5 \div 27 =$ 81.71 C.Y.

STA 58 + 71.12 TO STA 159 + 71.12

$100\left(28 \times 0.5 + \frac{10+14}{2} \times 0.5\right) \div 27$ 74.07 C.Y.

STA 59 + 71.12 TO STA 162 + 50.00

$\frac{278.88}{27}\left(\frac{52.5+71.0}{2} \times 0.50\right)$ 344.78 C.Y.

RT. LANE

STA 157 + 55.00 TO STA 162 + 35.96

$480.96 \times \frac{48+38}{2} \times 0.50 \div 27 =$ 382.84 C.Y.

RAMP "A" STA.13+07.14 TO STA. 0+12.34

STA.13+07.14 TO STA.10+07.14

$\frac{300}{27}\left(\frac{23+24}{2} \times 0.5\right)$ 127.80 C.Y.

STA.10+07.14 TO STA.8+57.14

$\frac{100}{27}(17 \times 0.5) + \frac{50}{27}(16 \times 0.5) + (25 \times 0.5 \times 50)$ — $(150 \times 0.5) =$ 65.00 C.Y.

STA.8+57.14 TO STA.1+19.95

$\frac{137.19}{27}\left(22 \times 0.50\right)$ 300.34 C.Y.

STA.1+19.95 TO STA.0+12.34 (PAV'T. ON RELOC. S.R.534)

UNDER PAVED SHOULDER

LT. SHOULDER $106.20 \times 3.0 \times 0.5 \div 27$ 59.24 C.Y.

RT. SHOULDER $160.73 \times 3.0 \times 0.5 \div 27$ 89.29 C.Y.

UNDER PAVEMENT

AREA - (SEE T-71 COMPUTATIONS) $422.65 \times 0.5 \div 3$ 70.44 C.Y.

TOTAL I-22 SUBBASE RAMP "A" 716.11 C.Y.

6" I-22 SUBBASE GRADING "A" OR "B" CONT.

RAMP "B" UNDER PAV'T STA 7+78.00 TO 18+50.80

SEE T-71 COMPUTATIONS

$2,090.54$ S.Y. $\times 0.50 \div 3 =$ 348.42 C.Y.

SHOULDERS LT. & RT. STA.7 + 78.00 (NOSE) TO STA 17 + 88.91

$2(1010.91' \times 3.0 \times 0.5) \div 27$ 112.32 C.Y.

SHOULDERS LT. & RT. STA 17+88.91 TO S.R 534

LT. SHOULDER = 128.20 L.F. x 3.0 x 0.5 ÷ 27 = 7.12 C.Y.

RT SHOULDER = 74.29 L.F. x 3.0 x 0.5 ÷ 27 = 4.13 C.Y.

TOTAL I-22 SUBBASE RAMP "B" 471.99 C.Y.

RAMP "C" UNDER PAV'T TO THE NOSE (SEE T-71 CALCULATIONS)

STA. 7+99.28 TO STA. 18+51.35

$2,032.10$ S.Y. $\times 0.5 \div 3 =$ 338.68 C.Y.

UNDER SHOULDERS

LT.& STA. 7+99.28 TO STA.742+31.06 S.R.534

$1,064.45 \times 3.0 \times 0.50 \div 27$ 59.14 C.Y.

RT.& STA. 7+99.28 TO STA. 8+99.28

$100.00 \times \frac{4.5+3}{2} \times 0.50 \div 27$ 6.94 C.Y.

STA.8+99.28 TO STA.740+97.82 S.R.534

$958.36 \times 3.0 \times 0.50 \div 27$ 53.80 C.Y.

TOTAL I-22 SUBBASE RAMP "C" 508.66 C.Y.

RAMP "D" UNDER PAV'T TO THE NOSE (SEE T-71 CALCULATIONS)

STA.0+12.54 TO STA.13+ 37.71 (NOSE)

$2,559.63$ S.Y. $\times 0.50 \div 3 =$ 426.62 C.Y.

UNDER SHOULDERS

RT.& STA.741+07.38 TO STA.8+87.71

$937.47 \times 3.0 \times 0.50 \div 27$ 52.08 C.Y.

STA.8+87.71 TO STA. 10+37.71

$150.00 \times \frac{5+5}{2} \times 0.50 \div 27$ 7.53 C.Y.

STA.10+37.71 TO STA.13+37.31

$300.00 \times 8.0 \times 0.5 \div 27$ 44.44 C.Y.

LT.& STA. 742+58.31 - S.R.534 TO 8+87.71

$892.67 \times 3.0 \times 0.5 \div 27$ 49.22 C.Y.

STA.8+87.71 TO STA. 5+37.71

$50.00 \times \frac{2.0+3.0}{2} \times 0.50 \div 27$ 2.31 C.Y.

TOTAL I-22 SUBBASE RAMP "D" 572.20 C.Y.

CROSS OVER STA. 115+00

AREA = 4,520 S.F. x 0.5 ÷ 27 83.70 C.Y.

TOTAL I-22 SUBBASE GRADING "A" OR "B" 15,864.81 C.Y.

I-22 SUBBASE

RELOCATED S. R. 534 8" I-22

STA. 728+26.50 TO 725+26.80 (RETURNS)

$\left[(49)^2 - \frac{(49)^2(3.14)}{4}\right](.67)\left(\frac{1}{27}\right)(2) =$ 25.62 C.Y.

$(50.30)(26)(.67)\left(\frac{1}{27}\right) =$ 32.43 C.Y.

STA. 725+80 TO 745+28.41 & 748+10.91 TO 762+00.00

$(2350.70)(26)(.67)\left(\frac{1}{27}\right) - (568)(.67)(1)\left(\frac{1}{27}\right) =$ 1514.31 C.Y.

EAST RIVER ROAD 4" I-22

STA. 47+75.00 TO 48+52.63

$(77.63)(21)(.33)\left(\frac{1}{27}\right) =$ 19.89 C.Y.

STA. 51+47.37 TO 52+00.00

$(52.63)(.33)(21)\left(\frac{1}{27}\right) - (41)(.50)(.33)$ 13.26 C.Y.

CROSSOVER STA 115 + 00

$4520 \times .50 \div 27$ 83.67 C.Y.

TOTAL I-22 TO SUMMARY SHEET 2,085.18 C.Y.

B - 35 ASPHALTIC CONCRETE LEVELING COURSE

RELOC. S. R. 534 1 - 1/4" B - 35 24'-0" PAVEMENT

SEE T-35 COMPUTATIONS

$224.66 \times \frac{104}{.0833} =$ 280.49 C.Y.

EAST RIVER ROAD (EXIST. S.R. 534) 1-3/4" B-35

SEE T-35 CONPUTATIONS (LESS FEATHERING)

$6.15 \times \frac{.1457}{.104} =$ 8.67 C.Y.

TOTAL B-35 TO SUMMARY SHEET 288.16 C.Y.

B-21 WATERPROOF AGGREGATE BASE COURSE

MAIN LINE 10'-0" OUTSIDE SHOULDER - 4'-0" INSIDE SHOULDER

STA.47 + 97.75 TO STA.48 + 22.75

$2 \times 25\left[\frac{(3+10)}{2} + \frac{(3+4)}{2} \times .25\right] \div 27 =$ 4.63 C.Y.

STA.69 + 17.25 TO STA.70 + 17.25 RT. & LT. LANES

$2 \times 100 \times \frac{3+10}{2} \times 0.25 \div 27 =$ 12.04 C.Y.

$2 \times 100 \times \frac{3+4}{2} \times 0.25 \div 27 =$ 6.48 C.Y.

CONSTANT 2 - 10'-0" OUTSIDE SHOULDERS, 2-4'-0" INSIDE SHLDERS.

$2\ (10+4) \times 0.25 \times 1.0 \div 27 = 0.2592$ CY/C.F.

STA.70 + 17.25 TO STA.125 + 91.00 RT. &. LT. LANES

$5,573.75$ L.F. $\times 0.2592$ C.Y./L.F. 1,444.72 C.Y.

STA.125 + 91.00 TO 126 + 87.00 Lt. SIDE

$96 \times \left(\frac{10+8}{2}\right) \times .50 \div 27 =$ 8.00 C.Y.

$96 \times (4)\ (.25) \div 27 =$ 3.56 C.Y.

STA.126 + 87.00 TO 137 + 91.00 (NOSE) LT. SIDE)

$1104 \times 8 \times .50 \div 27 =$ 163.56 C.Y.

$1104 \times 4 \times .25 \div 27 =$ 40.89 C.Y.

STA.125 + 91.00 TO 132 + 42.89 (RT. SIDE)

$651.89\ \left[(10)\ (.25) + (4)\ (.25)\right] \div 27 =$ 84.50 C.Y.

STA.132 + 42.89 TO 133 + 42.89 (RT. SIDE)

$100\left[\left(\frac{0+8}{2} \times 0.5\right) + (4 \times .25)\right] \div 27 =$ 20.37 C.Y.

STA.133 + 42.89 TO 134 + 81.00 RT. SIDE

$138.11\ \left[(8)\ (.50) + (4)\ (.25)\right] \div 27 =$ 25.58 C.Y.

STA.134 + 81.00 TO 140 + 42.89 (NOSE STA) RT. SIDE

$561.89 \times \left[\left(\frac{8+3.5}{2}\right)(.50) + (4)\ (.25)\right] \div 27 =$ 80.54 C.Y.

STA.140 + 42.89 TO STA.141 + 42.89 RT. LANE

$100 \times 4 \times 0.25 \div 27$ 3.70 C.Y.

STA.137 + 91.00 TO STA.141 + 44.00 LT. LANE

$353.00\ \left[(4 \times 0.25) + \left(\frac{10+20}{2} \times 0.25\right)\right] \div 27$ 62.10 C.Y.

STA.141 + 44.00 TO STA.157 + 55.00 LT. & RT. LANES

$1611.00 \times 0.2592 =$ 417.57 C.Y.

STA.157 + 55.00 TO STA.162 + 35.96 (NOSE STA.) RT. LANE

$480.96 \times \frac{10+20}{2} \times 0.25 \div 27 =$ 66.80 C.Y.

$480.96 \times 4 \times 0.25 \div 27 =$ 17.81 C.Y.

STA.157 + 55.00 TO STA.158 + 71.12 LT. LANE

$116.12 \times 14 \times 0.25 \div 27 =$ 15.05 C.Y.

STA.159 + 71.12 (NOSE STA.) TO STA.162 + 50 LT LANE

$278.88 \times \frac{3.5+6.16}{2} \times 0.50 \div 27 =$ 24.94 C.Y.

$278.88 \times 4.0 \times 0.25 \div 27 =$ 10.33 C.Y.

RAMP "A"

S. R. 534 TO STA.1 + 19.95 LT. & RT. SHOULDER

275.82 L.F. $\times 3.0 \times 0.50 \div 27 =$ 15.32 C.Y.

STA.1 + 19.95 TO STA.8 + 57.17 LT. & RT. SHOULDER

$2 \times 737.22 \times 3.0 \times 0.50 \div 27 =$ 81.91 C.Y.

STA.8 + 57.17 TO STA.9 + 07.17 LT. SHOULDER

$50 \times \frac{2+3}{2} \times 0.50 \div 27 =$ 2.31 C.Y.

STA.8 + 57.17 TO STA.10 + 07.17 RT. SHOULDER

$150 \times \frac{3+8}{2} \times 0.50 \div 27 =$ 15.28 C.Y.

B - 21 WATERPROOF AGGREGATE BASE COURSE CONTINUED

STA.10 + 07.17 TO STA.13 + 07.17 (NOSE STA.) RT. SHOULDER

$300 \times 8 \times 0.50 \div 27 =$ 44.44 C.Y.

RAMP "B"

STA.7 + 78.00 (NOSE STA.) TO STA.17 + 88.91 LT. & RT. SHOULDER

$2 \times 1,010.91 \times 3.0 \times 0.50 \div 27 =$ 112.32 C.Y.

STA.17 + 88.91 TO S.R. 534 LT. & RT. SHOULDER

$202.49 \times 3.0 \times 0.50 \div 27 =$ 11.25 C.Y.

RAMP "C"

STA.7 + 99.28 (NOSE STA.) TO STA.17 + 71.23 LT. & RT. SHOULDER

LT. SHOULDER $100 \times \frac{3+10}{2} \times 0.5 \div 27$ 10.19

RT. SHOULDER $871.95 \times 3.0 \times 0.5 \div 27$ 48.45

STA.17 + 71.23 TO S.R. 534 LT. & RT. SHOULDER

$238.91 \times 3.0 \times 0.50 \div 27 =$ 13.27 C.Y.

RAMP "D"

STA.0 + 12.54 (S.R. 534) TO STA.1 + 22.85 LT. & RT. SHOULDER

$280.07 \times 3.0 \times 0.50 \div 27 =$ 15.56 C.Y.

STA.1 + 22.85 TO STA.8 + 87.71 LT. & RT. SHOULDER

$2 \times 764.86 \times 0.50 \times 3.0 \div 27 =$ 84.98 C.Y.

STA.8 + 87.71 TO STA.9 + 37.71 LT. SHOULDER

$50 \times \frac{3+2}{2} \times 0.50 \div 27 =$ 2.31 C.Y.

STA.8 + 87.71 TO STA.10 + 37.71 RT. SHOULDER

$150 \times \frac{3+8}{2} \times 0.50 \div 27 =$ 15.28 C.Y.

STA.10 + 37.71 TO STA.13 + 37.71 (NOSE STA.)

$300 \times 8 \times 0.50 \div 27 =$ 44.44 C.Y.

TOTAL B-21 MAINLINE 3,084.45 C.Y.

RELOCATED S. R. 534 6" B-21

STA. 728+76.50 TO 725+26.80 RETURNS

$\left((49.50)^2 - (3.14)(49.50)^2\right)(.50)(2)\left(\frac{1}{27}\right) =$ 19.51 C.Y.

$(50.30)(25)(.50)\left(\frac{1}{27}\right) =$ 23.26 C.Y.

STA. 725+26.80 TO 745+03.41 & 748+35.53 TO 762+00.00

$(2540.70)(25)(.50)\left(\frac{1}{27}\right) =$ 1,360.07 C.Y.

DEDUCT FOR RAMP INTERSECTIONS "A", "B", "C", & "D"

$0.50 \times 567.87 \times 0.50 \div 27 =$ (-)5.26 C.Y.

CROSSOVER STA.115 + 00

$4520 \times .25 \div 27 =$ 41.85 C.Y.

TOTAL B-21 TO SUMMARY SHEET 4,523.81 C.Y.

T-30 BITUMINOUS PRIME COAT

EAST RIVER ROAD 20'-0" ROADWAY APPLIED @ RATE 0.40 GAL/S.Y.

FOR LIMITS SEE T-35 COMPUTATIONS

$105.26 \times 21 \div 9 \times 0.40$ 98.24 GALS.

RELOCATED OAKWOOD DRIVE

$550.00 \times 17 \div 9 \times 0.40$ 415.48 GALS.

RELOCATED OVERLOOK WAY

SEE B-19 COMP. $(208.66)\left(\frac{.40}{.67}\right)(3) =$ 573.54 GALS.

HARBOR AVE.

SEE B-19 COMP. $(1942.00)\left(\frac{.40}{.67}\right)\left(\frac{1}{5}\right) =$ 86.22 GALS.

PRICETOWN ROAD

SEE B-19 COMP. $(208.52)\left(\frac{.40}{.67}\right)(3) =$ 534.35 GALS

TOTAL T-30 TO SUMMARY SHEET 1,507.83 GALS.

COMPUTATIONS

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

(10) (180)

E-1 COMPACTED SUBGRADE

MAIN LINE

STA 47 + 97.75 TO STA 48 + 22.75 (RT. & LT. LANES)
25 x 76 ÷ 9 = 211.11 S.Y.

STA 69 + 17.25 TO STA 126 + 91.00 (RT. & LT. LANES)
(5773.75)(76) ÷ 9 = 48,756.11 S.Y.

STA 126 + 91.00 TO STA 137 + 91.00
(LT. LANE) (1100) (38+61 / 2) ÷ 9 = 6,050.00 S.Y.

STA 137 + 91.00 TO STA 141 + 41
(LT. LANE)
(350) (38 + 48 / 2) ÷ 9 = 1,672.22 S.Y.

STA 141 + 41 TO STA 158 + 71.12
(LT. LANE)
(1730.12) (38) ÷ 9 = 7,304.95 S.Y.

STA 158 + 71.12 TO STA 159 + 71.12
(LT. LANE)
(100) (38 + 42 / 2) ÷ 9 = 444.44 S.Y.

STA 159 + 71.12 TO STA 162 + 50.00
(LT. LANE)
(278.88) (71 + 52.48 / 2) ÷ 9 = 1,913.12 S.Y.

STA 126 + 91.00 TO STA 132 + 42.89
(RT. LANE)
(551.89) (38) ÷ 9 = 2,330.20 S.Y.

STA 132 + 42.89 TO STA 133 + 42.89
(RT. LANE)
(100) (38+48 / 2) ÷ 9 = 477.78 S.Y.

STA 133 + 42.89 TO STA 140 + 42.89
(RT. LANE)
(700) (48+71 / 2) ÷ 9 = 4,627.78 S.Y.

STA 140 + 42.89 TO STA 141 + 42.89
(RT. LANE)
(100) (42 + 38 / 2) ÷ 9 = 444.44 S.Y.

STA 141 + 42.89 TO STA 157 + 55
(RT. LANE)
(1612.11) (38) ÷ 9 = 6,806.69 S.Y.

STA 157 + 55 TO STA 162 + 35.96
(RT. LANE)
(480.96) (48 + 38 / 2) ÷ 9 = 2,297.92 S.Y.

DEDUCT FOR ROCK CUT
(1000) (76) ÷ 9 = (-) 8,444.44 S.Y.

RAMP "A" EDGE PAV'T S.R 534 TO STA 13+07.17 (NOSE)

UNDER PAV'T - SEE T-71 COMPUTATIONS 2,510.99 S.Y.

SHOULDERS (RT. & LT.)
S. R. 534 TO 1 + 19.95
275.82 L.F. x 3 ÷ 9 = 91.94 S.Y.

STA 1 + 19.95 TO STA 8 + 57.17 (LT. & RT.)
(2) (737.22)(3) ÷ 9 = 491.48 S.Y.

STA 8 + 57.17 TO STA 9 + 07.17 (LT. SHOULDER)
(50) (2+3 / 2) ÷ 9 = 13.89 S.Y.

STA 8 + 57.17 TO STA 10 + 07.17 (RT. SHOULDER)
(150) (3 + 8 / 2) ÷ 9 = 91.67 S.Y.

STA 10 + 07.17 TO STA 13 + 07.17 (NOSE) (RT. SHOULDER)
(300) (8) ÷ 9 = 266.67 S.Y.

TOTAL E-1 RAMP "A" 3,466.64 S.Y.

RAMP "B" STA. 7+78.00 (NOSE) TO EDGE PAV'T S.R 534

SEE T-71 COMPUTATIONS
PAVEMENT = 2,090.55 S.Y. = 2,090.55 S.Y.
SHOULDER LT & RT. STA 7 + 78 (NOSE) TO 17 + 88.91
2(1,010.91) (3) ÷ 9 = 673.94 S.Y.

STA 17 + 88. 1 TO S. R. 534 LT. & RT. SHOULDERS
202.98 x 3.0, ÷ 9 = 67.50 S.Y.

TOTAL E-1 RAMP "B" 2,831.99 S.Y.

RAMP "C" STA 7+99.28 (NOSE) TO EDGE PAV'T S.R 534

SEE T-71 COMPUTATIONS
PAVEMENT = 2,032.70 S.Y. = 2,032.70 S.Y.
SHOULDER STA 7 + 99.28 (NOSE) TO STA 17 + 71.23
LT. SHOULDER 100 x 3+8 ÷ 9 = 61.11 S.Y.
871.95 x 3 ÷ 9 = 290.65 S.Y.
RT. SHOULDER 971.95 x 3 ÷ 9 = 323.98 S.Y.
STA 17 + 71.23 TO S. R. 534
238.91 3 ÷ 9 = 79.64 S.Y.

TOTAL E-1 RAMP "C" 2,788.08 S.Y.

E-1 COMPACTED SUBGRADE CONTINUED

RAMP "D" EDGE PAV'T S.R 534 TO STA 13+37.71 (NOSE)

SEE T-71 COMPUTATIONS
PAVEMENT = 2,558.91 S. Y. = 2,558.91 S.Y.
SHOULDERS (LT. & RT.) STA 0 + 12.53 TO 1 + 22.85
(280.07) (3) ÷ 9 = 93.36 S.Y.

STA 1 + 22.85 TO STA 8 + 87.71
(LT. & RT.) SHOULDER
2 (764.86) (3) ÷ 9 = 509.91 S.Y.

STA 8 + 87.71 TO STA 10 + 37.71 150 x 3+8 / 2 ÷ 9
(RT. SHOULDER) 91.67 S.Y.

STA 8+87.71 TO STA 9+87.71 50 x 3+2 / 2 ÷ 9
LT. SHOULDER 13.86 S.Y.

STA 10 + 37.71 TO STA 13 + 37.71 (NOSE STA)
(RT. SHOULDER)
(300) (8) ÷ 9 = 266.67 S.Y.

TOTAL E-1 RAMP "D" 3,534.38 S.Y.

EAST RIVER ROAD

(77.63 + 52.63) (20) ÷ 9 = 289.47 S.Y.

RELOCATED S. R. 534
STA. 729+26.80 TO STA. 762+00.00
(1866.30 + 1075) (24) ÷ 9 = 7,843.47 S.Y.

INTERSECTION STA. 728+76.50 TO 729+26.80
UNDER NORMAL PAV'T 50.30 x 24 ÷ 9 134.13 S.Y.

NW. RETURN @ EXISTING S.R. 18
AREA = (SEE T-35 COMPUTATIONS)
3.35 C.Y. x 3 ÷ 0.08 = 50.72 S.Y.

APPROACH SLABS
(50 x 24 ÷ 9) = 133.33 S.Y.

PRICETOWN ROAD CUL-DE-SACS N&S MAINLINE

SEE T-35 COMPUTATIONS
54.32 C.Y. x 3 ÷ 0.125 = 1,303.68 S.Y.

OVERLOOK WAY (RELOC.) STA. 49+75.00 TO STA. 54+07.936

UNDER NORMAL PAV'T STA. 49+75.00 TO STA. 54+07.936
432.936 x 16 ÷ 9 = 769.71 S.Y.
AREA OF RETURNS (SEE T-35 COMPUTATIONS)
4.77 C.Y. x 3 ÷ 0.125 = 114.48 S.Y.

HARBOR AVE. CUL-DE-SAC
AREA BY CLOSURE
1837 S.F. ÷ 9 = 204.11 S.Y.

OAKWOOD DRIVE STA. 10+00 TO STA. 15+00
500 x 16 ÷ 9 = 88.89 S.Y.

CROSSOVER STA 115 + 00
4520 ÷ 9 = 502.22 S.Y.

TOTAL E-1 COMPACTED SUBGRADE 38,956.62 S.Y.

L-9 COMMERCIAL FERTILIZER (S.Y. x 9' x 20 ÷ 1000 ÷ 2000)

CONSTANT = 9 x 20 ÷ 1000 ÷ 2000 = .00009

MAIN LINE	168,951 x .00009	=	15.21 TONS
RAMP "A"	8,456 x .00009	=	0.76
RAMP "B"	13,595 x .00009	=	1.22
RAMP "C"	8,414 x .00009	=	0.76
RAMP "D"	8,422 x .00009	=	0.76
HARBOR AVE. & OVERLOOK WAY	2,246 x .00009	=	0.20
OAKWOOD DRIVE	1,881 x .00009	=	0.17
EAST RIVER ROAD	424 x .00009	=	0.04
PROCETOWN ROAD	2,294 x .00009	=	0.21
RELOC. S.R. 534	43,525 x .00009	=	3.92

TOTAL TO SUMMARY SHEET 23.25 TONS

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

RELOC. S.R. 534 T-35 24'-0" PAVEMENT

STA. 728+76.50 TO 729+26.80
[(50)² - (3.14)(50)²/4] (.0833)/27 (2) = 3.33 C.Y.

(50.30)(24)(.0833)/27 = 3.72 C.Y.

STA. 729+26.80 TO 745+03.41 & 748+35.91 TO 762+50.00
(2540.70)(24)(.0833)/27 = 217.61 C.Y.

EAST RIVER ROAD (EXIST. S.R.534) 1¼" T-35 20' PAVEMENT
STA. 47+75.00 TO 48+27.63
(52.63)(20)(.104)/27 = 4.06 C.Y.

STA. 51+72.37 TO 52+00.00
(27.63)(20)(.104)/27 = 2.13 C.Y.

FEATHERING AREA
STA. 47+50.00 TO 47+75.00
(25)(20+17.5)/2 (.104)(1/27) = 1.80 C.Y.

TOTAL T-35 TYPE "C" TO SUMMARY SHT. 232.65 C.Y.

T-35 ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" (70-85)
PRICETOWN ROAD - 1½" T-35 2-20' CUL-DE-SAC & APPROACHES

STA 46 + 70.95 to STA 47 + 76.95 & STA. 51+03.95 TO STA. 52+00.95
(2){[(40)²(3.14)(3)/4 + (40)(66) - (26)(40.84)/2](.125)(1/27)} = 54.32 C.Y.

FEATHER AREA
STA. 52+00.95 TO 52+35.00
(25.05)(14)(.125)(1/27) = 1.62 C.Y.

RELOCATED OAKWOOD DR. 1½" T-35 TYPE "A" 16' PAV'T.
STA. 9+75.00 TO 15+25.00
(500)(16)(.125)(1/27) = 37.04 C.Y.

(2)(25)[(16+14)/2](.125/2)(1/27) = 1.74 C.Y.

RELOCATED OVERLOOK WAY 1½" T-35 TYPE "A" 16' PAV'T.
STA. 49+50.00 TO 49+75.00
(25)[(16+14)/2](.125)(1/27) = .87 C.Y.

STA. 49+75.00 TO 54+07.936
(432.936)(.125)(16)(1/27) = 32.07 C.Y.
AREA OF RETURNS
[(18.99)(30) - (30)(33.78)/2 + (49.99)(41) - (41)(82.66)/2](.125)(1/27) = 4.77 C.Y.

HARBOR AVE. 1½" T-35 TYPE "A" CUL-DE-SAC
(1837)(.125)(1/27) = 8.51 C.Y.
FEATHER AREA
(250)(.125)(1/27) = 1.16 C.Y.

TOTAL T-35 ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" TO SUMMARY SHEET 142.10 C.Y.

L-9 AGRICULTURAL LIMING MATERIAL (S.Y. x 9' x 100 ÷ 10,000 ÷ 2000)

CONSTANT = 9 x 100 ÷ 1000 x 2000 = .00045

MAIN LINE	168,951 x .00045	=	76.03
RAMP "A"	8,456 x .00045	=	3.81
RAMP "B"	13,595 x .00045	=	6.12
RAMP "C"	8,414 x .00045	=	3.79
RAMP "D"	8,422 x .00045	=	3.79
OVERLOOK WAY & HARBOR	2,246 x .00045	=	1.01
OAKWOOD DRIVE	1,881 x .00045	=	0.58
EAST RIVER ROAD	424 x .00045	=	0.19
PRICETOWN ROAD	2,294 x .00045	=	1.03
RELOC. S.R. 534	43,525 x .00045	=	19.59

TOTAL TO SUMMARY SHEET 115.94 TONS

L - 6 ROADSIDE CLEANUP

RAMP "A"	66 UNITS
RAMP "B"	72 UNITS
RAMP "C"	94 UNITS
RAMP "D"	70 UNITS

TOTAL L-6 TO SUMMARY SHEET 302 UNITS

1.64

I - 125 EDGE LINES (4")

LENGTH OF PROJECT EAST BOUND LANE
11,438.21 x 2 = 22,876.42 - 100' (AT NOSE OF RAMP) = 22,776.42
22,776.42 + 5,280 = 4.31 Miles 4.31 Miles

LENGTH OF PROJECT WEST BOUND LANE
11,452.25 x 2 = 22,904.50 - 100' (AT NOSE OF RAMP) = 22,804.50
22,804.50 + 5,280 = 4.32 Miles 4.32 Miles

RAMP "A"	1,297 x 2 ÷ 5,280 =	0.49 Miles
RAMP "B"	1,058 x 2 ÷ 5,280 =	0.40 Miles
RAMP "C"	1,060 x 2 ÷ 5,280 =	0.40 Miles
RAMP "D"	1,327 x 2 ÷ 5,280 =	0.50 Miles

TOTAL TO SUMMARY SHEET 10.42 Miles

I - 125 CHANNELIZING LINES (8")

RAMP "A"	470 x 2 =	940
RAMP "B"	(277 x 2) + 100 =	654
RAMP "C"	(320 x 2) + 100 =	740
		2,334

2,334 ÷ 5,280 = 0.44

TOTAL TO SUMMARY SHEET 0.44 Miles

I - 125 CURB MARKING

RELO. S.R. 534 INTERCHANGE RAMPS LUMP

I - 125 DIAGONAL STRIPES

RELO. S.R. 534 INTERCHANGE RAMPS LUMP

I - 127 DELINEATORS POST MOUNTED

LOCATION	TYPE A 1 POST		TYPE C 2 POST	TYPE C 3 POST
MAIN-LINE	61			
RAMP "A"			38	1
RAMP "B"			27	
RAMP "C"			31	
RAMP "D"			25	
TOTAL	61		121	1

E - 11 WATER

TOTAL EMBANKMENT + 20%	503,095 C.Y.
TOTAL B - 19	4,768 C.Y.
TOTAL I - 22	17,954 C.Y.
TOTAL VOLUME	525,817 C.Y.
525,817 x 5 ÷ 1000	2,629 M/GAL
TOTAL E-11 WATER TO SUMMARY SHEET	2,629 M/GAL

EARTHWORK

EXCAVATION	262,355 C.Y.
EMBANKMENT	419,246 C.Y.
EMBANKMENT + 20%	503,095 C.Y.
E-4 BORROW TO SUMMARY SHEET	240,740 C.Y.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

10A / 180

MAH-18-0.91

I-127 DELINEATORS

LOCATION	STATION	TO STATION	SIDE	INTERVAL	C-2 POST	C-2 BRACKET	A-1 POST	A-1 BRACKET	C-3 POST
MAIN LINE E.B.	49+00	67+00	Rt.	200				10	
MAIN LINE E.B.	69+00	131+00	Rt.	200			32		
MAIN LINE E.B.	141+50	157+50	Rt.	200			9		
MAIN LINE E.B.	48+00		Lt.				1		
MAIN LINE W.B.	50+00	68+00	Lt.	200				10	
MAIN LINE W.B.	70+00	124+00	Lt.	200			28		
MAIN LINE W.B.	142+00	158+00	Lt.	200			9		
RAMP A	0+25	0+85	Rt.	60	2				
RAMP A	1+45	1+75	Rt.	30	2				
RAMP A	2+05	2+65	Rt.	60	2				
RAMP A	3+25	3+95	Rt.	70	2				
RAMP A	3+95	4+65	Lt.	70	2				
RAMP A	5+45	7+95	Lt.	50	6				
RAMP A	8+45	9+25	Lt.	80	2				
RAMP A	9+25		Rt.		1				
RAMP A	10+05	24+05	Rt.	100	15				
RAMP A	25+05								1
RAMP B	162+50	159+50	Rt.	100	4				
RAMP B	8+80		Rt.		1				
RAMP B	8+80	10+40	Lt.	80	3				
RAMP B	10+90	12+40	Lt.	50	4				
RAMP B	13+20		Lt.		1				
RAMP B	13+20	14+20	Rt.	100	2				
RAMP B	15+00	15+80	Rt.	80	2				
RAMP B	16+40	17+90	Rt.	30	6				
RAMP C	0+00	9+00	Rt.	100	11				
RAMP C	9+00	10+60	Lt.	80	3				
RAMP C	11+10	12+60	Lt.	50	4				
RAMP C	13+40	14+80	Lt.	70	3				
RAMP C	14+80	18+00	Rt.	40	9				
RAMP D	0+50	1+70	Rt.	60	3				
RAMP D	2+00	3+20	Rt	60	3				
RAMP D	4+20	5+20	Rt.	100	2				
RAMP D	5+20	6+00	Lt.	80	2				
RAMP D	6+50	8+50	Lt.	50	5				
RAMP D	8+50	10+10	Rt.	80	3				
RAMP D	11+10	13+10	Rt.	100	3				
TOTALS					108		79	20*	1

*Carried to bridge summary Sht. 132

I-125 PAVEMENT MARKING

REF. NO.	SIDE	STATION FROM	STATION TO	4" EDGE LINE	4" LANE LINE	6" LANE LINE	8" CHANNEL LINE	DIAGONAL STRIPES	CURB ISLAND MARKING	BARRIER LINE
				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
E.B. 18	Median	47+97.75	162+50	11452						
E.B. 18	Rt.	47+97.75	140+43	9232						
E.B. 18	Rt.	141+43	162+50	2107						
E.B. 18	Center	47+97.75	162+50			4295				
W.B. 18	Median	47+97.75	162+50	11452						
W.B. 18	Rt.	47+97.75	137+91	8993						
W.B 18	Rt.	137+91	158+70	2079						
W.B. 18	Center	49+97.75	162+50			4295				
RAMP A	Rt.	1+00	13+07	1207						
RAMP A	Lt.	0+60	8+07	747					Lump	
RAMP A	Lt.	7+03	13+07				230			
RAMP A	Lt.	135+03	137+91							
RAMP A	Lt.	132+15	135+03		288					
RAMP B	Rt.	5+00	18+00	1300						
RAMP B	Lt.	7+78	18+00	1022						
RAMP B	Lt.	7+78	8+78						Lump	
RAMP B	Lt.	5+00	8+78					Lump		
RAMP B	Lt.	5+00	8+78				378			
RAMP B	Lt.	5+00	7+78				278			
RAMP C	Rt.	8+00	18+00	1000						
RAMP C	Lt.	8+00	18+00	1000						
RAMP C	Lt.	138+50	141+30					Lump		
RAMP C	Lt.	134+71	137+00		229					
RAMP C	Lt.	137+00	141+43				443			
RAMP C	Lt.	137+00	140+43				343			
RAMP C	Lt.	8+00	9+00						Lump	
RAMP D	Rt.	0+90	13+38	1248						
RAMP D	Lt.	0+90	9+38	848						
RAMP D	Rt.	7+80	13+38						Lump	
TOTALS				53687	517	8590	1349	Lump	Lump	
				10.17 Mi.	.04 Mi.	1.63 Mi.	.26 Mi.			

$517 \times \frac{15}{40} = 194$

DELINEATORS & PAVEMENT MARKING QUANTITIES

COMPUTATIONS

FED RD.	STATE	PROJECT	
2	OHIO		

MAH -18-0.91

11/180

B-19 AGGREGATE BASE COURSE

MAIN LINE TWO - 10' OUTSIDE SHOULDERS & TWO 4' INSIDE SHOULDERS

STA. 47 + 97.75 TO STA. 48 + 22.75 RT. & LT.

$2 \times 25 \times \frac{3+10}{2} \times (\frac{.25+.50}{2}) \div 27$ — 4.51 C.Y.

$2 \times 25 \times \frac{3+4}{2} \times \frac{.25+.50}{2} \div 27$ — 2.43 C.Y.

STA. 69 + 17.25 TO STA. 70 + 17.25 RT. & LT. LANES

$2 \times 100 \times \frac{3+10}{2} \times \frac{.25+.50}{2} \div 27$ — 18.06 C.Y.

$2 \times 100 \times \frac{3+4}{2} \times \frac{.25+.50}{2} \div 27$ — 8.43 C.Y.

CONSTANT

$\left[(2 \times 10 \times \frac{.50+.25}{2}) + (2 \times 4 \times \frac{.50+.48}{2})\right] \div 27 = 0.423$ C.Y./L.F.

STA. 70 + 17.25 TO STA. 125 + 91.00 LT. & RT. LANES

5,573.75 x 0.4230 — 2,357.70 C.Y.

STA. 125 + 91.00 TO STA. 126 + 87.00 LT. LANE

$96\left[3\times(\frac{.25+.50}{2})+(\frac{7+5}{2})(\frac{0+.50}{2})+4(\frac{.40+.50}{2})\right] \div 27 =$ — 15.73 C.Y.

STA. 125 + 91.00 TO STA. 132 + 42.89 RT. LANE

$651.89 \left[(10 \times .375) + (4 \times 0.49)\right] \div 27 =$ — 137.86 C.Y.

STA. 132 + 42.89 TO STA. 133 + 42.89 RT. LANE

$100\left[(\frac{10+8}{2} \times .125) + (4 \times 0.49)\right] \div 27 =$ — 10.85 C.Y.

STA. 133 + 42.89 TO STA. 134 + 81.00 RT. LANE

$138.11 \left[(8 \times .125) + (4 \times 0.49)\right] \div 27 =$ — 14.99 C.Y.

STA. 134 + 81 TO STA. 140 + 42.89 (NOSE STA.) RT. LANE

$561.89 \left[(\frac{8+3.5}{2} \times 0.125) + (4 \times .49)\right] \div 27 =$ — 52.44 C.Y.

STA 140 + 42.89 TO STA 141 + 44.00 RT. LANE

$101.11 \left[(4 \times .49)\right] \div 27$ — 7.34 C.Y.

STA 126 + 87.00 TO STA 137 + 91.00 LT. SIDE NOSE

$1104\left[3\times(\frac{.25+.50}{2})+(5)(\frac{0+.50}{2})+(4)(\frac{.40+.50}{2})\right] \div 27 =$ — 17.07 C.Y.

STA 137 + 91.00 TO STA 141 + 44.00 LT. LANE

$353.00 \left[(4 \times .49) + (\frac{10+20}{2}) \times (0.375)\right] \div 27$ — 99.23 C.Y.

STA 141 + 44.00 TO STA 157 + 55.00 RT. & LT. LANES

1,611.00 x 0.4230 — 681.45 C.Y.

STA 157 + 55.00 TO STA 162 + 35.96 (Nose STA) RT. LANE

$480.96 \left[(\frac{10+20}{2} \times 0.375) + (4 \times 0.49)\right] \div 27$ — 133.78 C.Y.

STA 157 + 55.00 TO STA 158 + 71.12 LT. LANE

$116.12 \left[(8 \times 0.375) + (4 \times .48)\right] \div 27$ — 21.16 C.Y.

STA 159 + 71.12 (Nose STA.) TO STA 162 + 50 LT LANE

$278.88 \left[(\frac{3.5+6.16}{2} \times 0.125) + (4.0 \times 0.45)\right] \div 27$ — 24.83 C.Y.

RAMP "A"

S.R. 534 TO STA 13 + 07.17 (NOSE STA.) (SEE B-21 COMPUTATIONS)

159.26 C.Y. ÷ 2 = — 79.63 C.Y.

RAMP "B"

STA 7 + 78.00 TO S. R. 534 (SEE B-21 COMPUTATIONS)

123.56 C.Y. ÷ 2 = — 61.78 C.Y.

RAMP "C"

STA 8 + 03.00 TO S. R. 534

125.88 C.Y. ÷ 2 = — 62.94 C.Y.

B-19 AGGREGATE BASE COURSE CON'T.

RAMP "D"

S.R. 534 TO STA 13 + 37.71 SEE B-21 COMPUTATIONS

(125.88 C.Y. ÷ 2 = — 62.94 C.Y.

RELOCATED OAKWOOD DRIVE

500 x .67 x 17 ÷ 27 — 210.92 C.Y.

OVERLOOK WAY (RELOCATED)

STA. 49+75.00 TO 54+07.96

(432.96)(.67)(17) ÷ 27 - (88.92)(.50)(67) ÷ 27 = — 181.67 C.Y.

AREA OF RETURNS (SEE T-35 COMP.)

$(477)\left(\frac{67}{125}\right) + (116.44)(50)(.67) \div 27 =$ — 27.01 C.Y.

HARBOR AVE. CUL-DE-SAC

1942.00 x .67 ÷ 27 — 48.19 C.Y.

EAST RIVER ROAD 5" B-19 (SEE T-22 FOR LIMITS)

(130.26)(21)(.42) ÷ 27 - (41)(.50)(.42) ÷ 27 = — 42.55 C.Y.

PRICETOWN ROAD 8" B-19

$2\left[\frac{(40.5)^2(3.14)(3)}{4} + (40.5)(66) - \frac{(25.5)(40.84)}{2}\right](.67)(\frac{1}{27}) =$ — 298.52 C.Y.

CROSSOVER STA 115 + 00

4520 x .50 ÷ 27 — 83.70 C.Y.

83.70 C.Y.

4,767.71 C.Y.

TOTAL B-19 TO SUMMARY SHEET

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

MAIN LINE PAVEMENT

RIGHT LANE

STA. 60+42.25 TO STA 162+35.96

9293.71 x 24 ÷ 9 = — 24,783.22 S.Y.

LEFT LANE

STA. 60+42.25 TO STA. 162+50.00

9,307.75 x 24 ÷ 9 = — 24,820.66 S.Y.

TOTAL 9" T-71 MAINLINE = 49,603.88 S.Y.

RAMP "A"

STA 0 + 12.43 to STA 1 + 19.95 AREA INTERSECTION S.R. 534 =		422.65 S.Y.
STA 1 + 19.95 to STA 9 + 07.14 - 787.19 x 16 ÷ 9		1,399.45 S.Y.
STA 9 + 07.14 to STA 10.07.14 - 100.00 x 17 ÷ 9		188.89 S.Y.
STA 10.07.14 to STA 13 + 07.14 - (Nose) 300.00x15 ÷ 9		500.00 S.Y.
STA 13 + 07.14 to STA 25 + 07.14-1200.00x25 ÷ 2 ÷ 9		1,666.67 S.Y.
TOTAL 9" T-71 RAMP "A"		4,177.66 S.Y.

RAMP "B"

STA 18 + 50.80 to STA 17 + 83.55 AREA INTERSECTION S.R. 534 =		291.78 S.Y.
STA 17 + 83.55 to STA 8 + 78.00	905.55 x 16 ÷ 9	1,609.87 S.Y.
STA 8 + 78.00 to STA 7 + 78.00 (Nose)	100 x 17 ÷ 9	188.89 S.Y.
STA 7 + 78.00 to STA 5 + 00.13 (END PROJECT)		
$277.87 \times \frac{35.00 + 18.32}{2} \div 9$		823.11 S.Y.
TOTAL 9" T-71 RAMP "B"		2,913.65 S.Y.

RAMP "C"

STA 18 + 51.33 to STA 17 + 71.23 AREA OF INTERSECTION WITH S.R. 534 =		293.68 S.Y.
STA 17 + 71.23 to STA 8 + 99.28	871.95 x 16 ÷ 9	1,550.13 S.Y.
STA 8 + 99.28 to STA 7 + 99.28	100 x 17 ÷ 9	188.89 S.Y.
STA 7 + 99.28 to STA 0 + 00.00 (SPEED CHANGE LANE)		
STA. 7+99.28 TO STA. 2+43.00 AREA		1,229.80 S.Y.
STA. 2+43.00 TO STA. 0+00.00		
$(100 \times 12 \frac{+0}{2} + 143.00 \times 12) \div 9$		257.33 S.Y.
TOTAL 9" T-71 RAMP "C"		3,519.83 S.Y.

RAMP "D"

STA 0 + 12.54 to STA 1 + 22.85 AREA INTERSECTION S.R. 534 =		416.05 S.Y.
STA 1 + 22.85 to STA 8 + 87.71	764.86 x 16 ÷ 9	1,359.75 S.Y.
STA 8 + 87.71 to STA 9 + 37.71	50 x 17 ÷ 9	94.44 S.Y.
STA 9 + 37.71 to STA 10 + 37.71	100 x 17 ÷ 9	188.67 S.Y.
STA. 10+37.71 to STA. 13 + 37.71	300.00 x 15 ÷ 9	500.00 S.Y.
TOTAL 9" T-71 RAMP "D"		2,558.91 S.Y.
RECOVERY LANE - RAMPS "B" & "C" @ M.L. 2(12 x 100) ÷ 9 =		266.67 S.Y.
TOTAL 9" T-71 TO SUMMARY =		63,040.605 S.Y.

T - 31 BITUMINOUS SURFACE TREATMENT

MAIN LINE - 10' OUTSIDE SHOULDER & 4' INSIDE SHOULDER

STA 47 + 97.75 TO STA 48+22.75 LT & RT LANES	$(2)(25)(\frac{3+10}{2} + \frac{3+4}{2}) \div 9 =$	55.55 S.Y.
STA 69+17.25 TO STA 70+17.25 LT & RT LANES	$(2)(100)(\frac{3+10}{2} + \frac{3+4}{2}) \div 9 =$	222.22 S.Y.
STA 70+17.25 TO STA 125+91.00 LT & RT LANES	$\left[(2)(10) + (2)(4)\right](5,573.75) \div 9 =$	17,340.56 S.Y.
STA. 125+91.00 TO STA. 126+87.00 LEFT LANE	$(96)\left[(\frac{8+10}{2}) + (4)\right] \div 9 =$	138.67 S.Y.
STA. 125+91.00 TO STA 132+42.89 RIGHT LANE	$(651.89)(10+4) \div 9 =$	1,014.05 S.Y.
STA. 132+42.89 TO STA 133+42.89 RIGHT LANE	$(100)\left[(\frac{10+8}{2}) + 4\right] \div 9 =$	144.44 S.Y.
STA. 133+42.89 TO STA 134+81.00 RIGHT LANE	$(138.11)(8+4) \div 9 =$	184.00 S.Y.
STA. 134+81.00 TO STA. 140+42.89 RIGHT LANE	$(561.89)\left[(\frac{8+3.5}{2}) + 4\right] \div 9 =$	608.71 S.Y.
STA. 140+42.89 TO STA 141+44.00 RIGHT LANE	$(101.11)(4) \div 9 =$	44.94 S.Y.
STA. 126+87.00 TO STA. 137+91.00 LEFT LANE	$(1104)(8+4) \div 9 =$	1,472.00 S.Y.
STA. 137+91.00 TO STA 141+44.00 LEFT LANE	$(353)(4+15) \div 9 =$	745.22 S.Y.
STA 141+44.00 TO STA. 157+55 LT. & RT. LANES	$(1611.00)\left[(2)(10) + (2)(4)\right] \div 9 =$	5,012.00 S.Y.
STA. 155+00 TO STA. 162+35.96 RT. LANE	$(480.96)(15+4) \div 9 =$	1,015.36 S.Y.

T-31 BITUMINOUS SURFACE TREATMENT CONTINUED

STA. 157+55.00 TO STA. 158+71.12 LT. LANE - $116.12 (8+4) \div 9$ = 154.83 S.Y.

STA 158+71.12 TO 162+50.00

LEFT LANE $278.88 \times \left[4 + \frac{3.50+6.16}{2}\right] \div 9 =$ — 273.61 S.Y.

TOTAL MAIN LINE 28,426.16 S.Y.

RAMP "A" EDGE PAV'T -534 TO STA 13+07.17 (NOSE)

SEE B-21 COMPUTATIONS

$\frac{159.26 \text{ C.Y.} \times 3}{0.50} =$ 955.56 S.Y.

RAMP "B" STA. 7+78.00 (NOSE) TO EDGE PAV'T S.R. 534

SEE B-21 COMPUTATIONS

$\frac{123.57 \text{ C.Y} \times 3.0}{0.50} =$ 741.42 S.Y.

RAMP "C" STA. 7+99.28 (NOSE) TO EDGE PAV'T. S.R. 534

SEE B-21 COMPUTATIONS

$\frac{125.88 \text{ C.Y} \times 3.0}{0.50} =$ 755.28 S.Y.

RAMP "D" STA. 13+37.71 (NOSE) TO EDGE PAV'T. S.R. 534

SEE B-21 COMPUTATIONS

$\frac{162.57 \text{ C.Y} \times 3.0}{0.50} =$ 975.40 S.Y.

CROSSOVER STA. 115 + 00

AREA = 4520 S.F. ÷ 9 = 502.22 S.Y.

T - 31 BITUMINOUS SURFACE TREATMENT

No. 6 AGGREGATE USING .008 C.Y./S.Y.

MAIN LINE	28,426.16 S.Y. x .008	=	277.41 C.Y.
RAMP "A"	955.56 S.Y. x .008	=	7.64 C.Y.
RAMP "B"	741.42 S.Y. x .008	=	5.93 C.Y.
RAMP "C"	755.28 S.Y. x .008	=	6.04 C.Y.
RAMP "D"	975.40 S.Y. x .008	=	7.80 C.Y.
CROSSOVER	502.22 S.Y. x .008	=	4.01 C.Y.

TOTAL T-31 SURFACE TREATMENT No. 6 AGGREGATE TO SUMMARY SHEET = 308.83 C.Y.

BITUMINOUS MATERIAL USING 0.25 GAL./ S.Y.

MAIN LINE	28,426.16 S.Y. x 0.25	7,106.54 GALS.
RAMP "A"	955.56 S.Y. x 0.25	238.89 GALS.
RAMP "B"	741.42 S.Y. x 0.25	185.35 GALS.
RAMP "C"	755.28 S.Y. x 0.25	188.82 GALS.
RAMP "D"	975.40 S.Y. x 0.25	243.85 GALS.
CROSSOVER	502.22 S.Y. x 0.25	125.56 GALS.

TOTAL T-31 BITUMINOUS MATERIAL TO SUMMARY SHEET = 8,089.01 GALS.

QUANTITY SUMMARY
ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

12 / 180

TYPE CODE 7221

ITEM	6	8	10 / 10A	18	20	21	22	23	24	25	26	27	28	29	30	31	32	33	74	78	81	85	86	87	88	89	90	114	116	120	122	123	124	166
E-1					289	51,951	90,185	17,763	46,601	18,463	1,004	7,723	15,609	1,713	1,144	2,684	1,371	459	1,942	278	243	195	91	913	275	420	1084							
E-1			98,956																														
E-4			240,740																														
E-9	Lump																																
E-11			2629																														
I-4	6	5																															
I-4	150																																
I-8																																	9
I-12																																	
I-12																																	
I-15				2375	2535	6090	537.5			7000	2000	4875	175.0		662.5	1662	525.0	112.5							1160	1085.5							
I-15				875	875																												
I-25																																	16,490
I-26																																	5740
I-125			10.17																														
I-125			1.63																														
I-125			0.04																														
I-125			Lump																														
I-125			Lump																														
I-125			0.26																														
I-127			79																														
I-127			108																														
I-127			1																														
L-6			302																														
L-9					10,108	17,217	9,762	6,451	17,331	17,562	9,384	9,839	16,260	15,037	8,456	13,595	8,414	8,422	2,680	1,881	424	2,294	837	10,059	8,386	10,871	13,372							
L-9			23.25																														
L-9			115.94																														
L-10					160	1133	1089	228	167					75			27										8(5ft.)(117)	6	5	10	5	5	2	
L-10																					19			163									
L-120					750	750	250			250	500	375	250																				
SS-CE-101.04	54																																
Special					8	2																											
Special					6	1																											
Special					5	3																											
S-15	Lump																																
S-15	200																																

ITEM	BID QUANTITY	UNIT	DESCRIPTION
E-1	262,400	Cu. Yds.	Roadway Excavation, Method "B" as per plan
E-1	98,956	Sq. Yds.	Compacted Subgrade
E-4	240,740	Cu. Yds.	Borrow
E-9	Lump	Lump	Removal of Trees and Stumps
E-11	2,629	M.Gals.	Water
I-4	11	Tons	Calcium Chloride For Dust Control
I-4	150	M.Gals.	Water for Dust Control
I-8	9	Each	Center Line Reference Monuments as per plan
I-15	12,488.0	Lin.Ft.	Guard Rail, Steel Beam Standard Type (Deep)
I-15	175.0	Lin.Ft.	Guard Rail, Steel Beam Barrier Type (Deep)
I-25	16,490	Lin.Ft.	Type 47 Woven-Wire Fence
I-26	5,740	Lin.Ft.	Chain Link Fence
I-125	10.17	Miles	4" Edge Lines
I-125	1.63	Miles	6" Lane Lines
I-125	0.04	Miles	4" Lane Lines
I-125	Lump	Lump	Diagonal Stripes
I-125	Lump	Lump	Curb and Island Marking
I-125	0.26	Miles	8" Channelizing Line
I-127	79	Each	Delineators Type A-1 Post Mounted
I-127	108	Each	Delineators Type C-2 Post Mounted
I-127	1	Each	Delineators Type C-3 Post Mounted
L-6	302	Units	Roadside Clean-up
L-9	258,642	Sq. Yds.	Seeding and Protecting as per plan
L-9	23.25	Tons	Commercial Fertilizer (12-12-12)
L-9	115.94	Tons	Agricultural Liming Material
L-10	2,920	Sq. Yds.	Sodding
L-10	182	Sq. Yds.	Sodding for Special Berm and Slope Protection, as Per Plan
L-120	3,125	Sq. Yds.	Jute Matting
SS-CE-101.04	54	Hours	Compaction Using Heavy Pneumatic Tired Roller, As per plan
Special	10	Each	Cleaning Of Privy Vaults
Special	7	Each	Cleaning And Disposal Of Existing Septic Tanks
Special	8	Each	Drilled Wells Abandoned
S-15	Lump	Lump	Temporary Run-Around Road Using Class B Pavement
S-15	200	Cu. Yd.	Furnishing & Placing Aggregate For Traffic Bound Surface Course

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

13
180

TYPE CODE 7221

ITEM	7	18	20	21	22	23	24	25	26	27	28	29	30	31	32	33	74	78	81	86	87	88	89	90	114	116	117	120	122	123	124	125	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
E-3																								453	635	32	26	179				2	E-3	1327	Cu.Yds.	Channel Excavation
E-12				122													126	77	158	40													E-12	523	Lin.Ft.	Pipe Removed 15" & Under
I-1																															108		I-1	108	Lin.Ft.	15" Pipe Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1																										204			59				I-1	263	Lin.Ft.	18" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1																														74			I-1	74	Lin.Ft.	21" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1																																114	I-1	114	Lin.Ft.	21" Pipe Class A-1 Sec. M-6.6(c)
I-1																																142	I-1	142	Lin.Ft.	27" Pipe Class A-1 Sec. M-6.6(a) or Sec. M-6.8(b)
I-1																									252								I-1	252	Lin.Ft.	36" Pipe Class A-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1																											213						I-1	213	Lin.Ft.	42" Pipe Class A-1 Sec. M-6.6(b)
I-1				195	38	38			38	38	76	38																					I-1	461	Lin.Ft.	12" Pipe Class E-1
I-1				32		75																											I-1	107	Lin.Ft.	15" Pipe Class E-1
I-1											200																						I-1	200	Lin.Ft.	18" Pipe Class E-1
I-1											800																						I-1	800	Lin.Ft.	21" Pipe Class E-1
I-1				200																													I-1	200	Lin.Ft.	24" Pipe Class E-1
I-1				500																													I-1	500	Lin.Ft.	27" Pipe Class E-1
I-1				40	60	50			80	30	20	105	10	30		30																	I-1	455	Lin.Ft.	6" Pipe Class F-4
I-1	50				20	10	10	20		10		40	50	20	30	30																	I-1	290	Lin.Ft.	8" Pipe Class F-4 Sec. M-6.4(c)
I-1		29															55	57															I-1	141	Lin.Ft.	12" Pipe Class F-4 Sec. M-6.4(c)
I-1			23		33				30			33						88															I-1	207	Lin.Ft.	15" Pipe Class F-4 Sec. M-6.4(c)
I-1																												292					I-1	292	Lin.Ft.	83"x53" Class G-1 Sec. M-6.7(b)
I-1						945	3917	1600																									I-1	6466	Lin.Ft.	6" Pipe Class I-3 Sec. M-6.4(h)
I-1			2320	3974	4117	3161	96	2424	3956	3930	4000	2548	1398	1121	1142	1379																	I-1	35,966	Lin.Ft.	6" Pipe Class I-3
I-1	200																																I-1	200	Lin.Ft.	6" Pipe Class H-2
I-1	100																																I-1	100	Lin.Ft.	8" Pipe Class H-2
I-1	400			80							117																						I-1	597	Lin.Ft.	6" Pipe Class J-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1				80																													I-1	80	Lin.Ft.	12" Pipe Class J-1
I-1			66	80	69				66	113		87																					I-1	481	Lin.Ft.	15" Pipe Class J-1
I-1	200																																I-1	200	Lin.Ft.	8" Pipe Class J-1
I-1												110																					I-1	110	Lin.Ft.	21" Pipe Class J-1 See M-6.6(b) or Sec M-6.8(b)
I-1				83																													I-1	83	Lin.Ft.	27" Pipe Class J-1 Sec. M-6.6(b) or Sec. M-6.8(b)
I-1												106																					I-1	106	Lin.Ft.	30" Pipe Class J-1 Sec. M-6.6(c)
I-2		0.2	0.3	0.9	0.3				0.3	0.3		1.1													13.4	4.4	13.4	28.3	4.4	5.6	1.7	2.4	I-2	77.0	Cu.Yds.	Masonry
I-5			2		2				2			2																					I-5	8	Each	15" Pipe Special Class F-4 Sec. M-6.4(c)
I-5				4	6	3	1	2	2	3	4	2	4	2	3	3																	I-5	39	Each	6" Pipe Special Class I-3
I-5																										1							I-5	1	Each	18" Pipe Special Class A-1, Sec. M-6.6(a), or Sec. M-6.8(b)
I-8				2								1																			1		I-8	4	Each	Standard No. 5 Catch Basin
I-8												2																					I-8	2	Each	Standard No. 6 Catch Basin
I-8		1	1	5	2	2			2	2	4	1																					I-8	20	Each	Standard No. 8 Catch Basin
I-8				1																													I-8	1	Each	Standard No. 1 Manhole
I-8				1							1	1																					I-8	3	Each	Standard No. 8 Catch Basins - Modified As Per Plan
I-9																				51	319	154	455	120									I-9	1,099	Lin.Ft.	Stone Underdrain No. 2
I-10		480	1461																														I-10	1,941	Cu. Yds	Dumped Rock Fill Type "A"
I-10		13		5					1	2		4					9	4							13								I-10	51	Cu. Yds	Dumped Rock Channel Protection
I-10																									54								I-10	54	Sq. Yds.	Rip Rap Using 6" Reinforced Conc. Slab - As Per Plan

QUANTITY SUMMARY
PAVEMENT

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

14/180

TYPE CODE 7221

ITEM	9	10	11	8		18	20	30	31	32	33	74		78		81			88
B-19			4,768	40								14		27					
B-21	4,524																		
B-35	289																		
I-7						133	133									112			132
I-12									200	200									
I-12								550			550								
I-21									28	28									
I-22	15,865																		
I-22	2,089																		
T-30	1,508																		
T-31			8,089																
T-31			309																
T-35		233																	
T-35		142		6								2		8					
T-71			6304																
I-3				Lump															

ITEM	BID QUANTITY	UNIT	DESCRIPTION
B-19	4,849	Cu.Yds	Aggregate Base Course
B-21	4,524	Cu.Yds.	Waterproofed Aggregate Base Course
B-35	289	Cu.Yds.	Asphaltic Concrete Leveling Course (70-85)
I-7	510	So Yds	Reinforced Concrete Approach Slab (T=13") As per plan
I-12	400	Lin Ft	Standard Nº 6 Concrete Curb
I-12	1100	Lin. Ft.	Standard Nº 8 Concrete Curb
I-21	56	Sq. Yds	4" Portland Cement Concrete Traffic Island Pavement
I-22	15,865	Cu. Yds.	Subbase Grading "A" or "B" as Per Plan
I-22	2,089	Cu. Yds.	Subbase
T-30	1,508	Gal.	Bituminous Prime Coat M-5.7, Rt-2, or Rt-3
T-31	8089	Gal.	Bituminous Surface Treatment-Bituminous Material as Per Plan
T-31	309	Cu.Yds.	Bituminous Surface Treatment #6-Aggregate
T-35	233	Cu.Yds.	Asphaltic Concrete Surface Course Type "C" (70-85)
T-35	158	Cu.Yds	Asphaltic Concrete Surface Course Type "A" (70-85)
T-71	63,041	Sq. Yds	9" Reinforced Portland Cement Concrete Pavement
I-3	Lump	Lump	Maintaining Traffic
	LUMP	LUMP	Construction Layout Stakes
			BUILDING REMOVALS
E-10	Lump	Lump	Removal of one 1-story concrete block cottage, Parcel No. 200 AWL
E-10	Lump	Lump	Removal of one frame garage and privy, Parcel No 201 WL
E-10	Lump	Lump	Removal of one 1½ story frame residence, two 1 story frame residences and privy, Parcel No. 202 WL
E-10	Lump	Lump	Removal of one 1 story frame cottage, Parcel no. 203 WL
E-10	Lump	Lump	Removal of one 1½ story frame residence & privy, Parcel No. 205 WL
E-10	Lump	Lump	Removal of one 2 story frame residence, garage, lean-to shed, Parcel No. 209 WL
E-10	Lump	Lump	Removal of one 1 story frame residence, corrugated metal garage, privy. Parcel No. 212 WL
E-10	Lump	Lump	Removal of one 1½ story frame residence, frame garage, Parcel No. 213 WL
E-10	Lump	Lump	Removal of one 1½ story frame residence, frame garage, Parcel No. 214 WL
E-10	Lump	Lump	Removal of one 1½ story frame residence, shed, Parcel No. 217 WL
E-10	Lump	Lump	Removal of one 1 story frame residence, privy. Parcel No. 220 WL
E-10	Lump	Lump	Removal of one 2 story frame residence, Parcel No. 221 WL
E-10	Lump	Lump	Removal of one 2 story frame residence, privy. Parcel No. 227 WL
E-10	Lump	Lump	Removal of one 1 story frame residence, privy. Parcel No. 233 WL
E-10	Lump	Lump	Removal of one 2½ story frame residence, Parcel No. 235 WL

STRUCTURES OVER 20 FT. SPAN
FOR ESTIMATED QUANTITIES
MAH-18-0117 SEE SHEET No. 132
MAH-18-0165 SEE SHEET No. 143
MAH-18-0284 SEE SHEET No. 151

GENERAL SUMMARY PAVEMENT

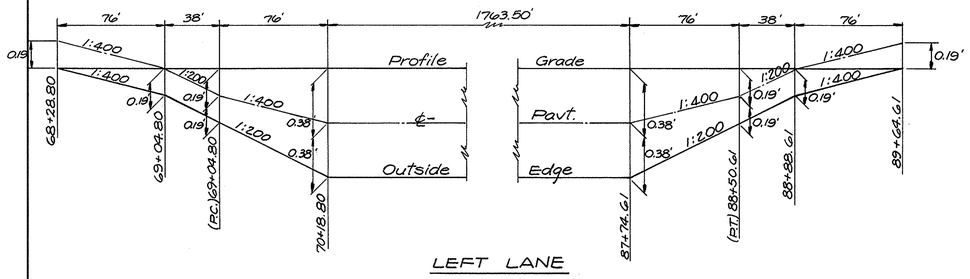
FED. RD.	STATE	PROJECT	
2	OHIO		

15
180

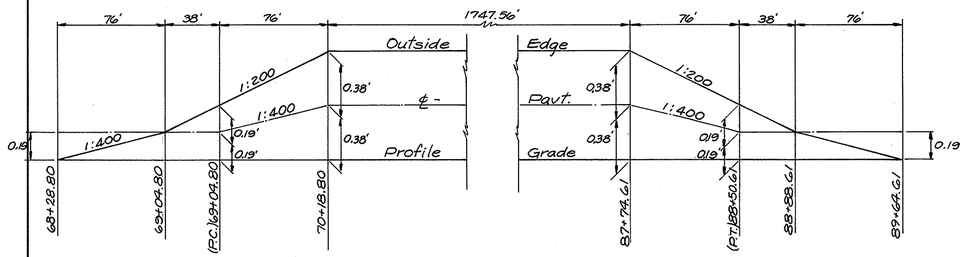
Mah. 18 - 0.91

CURVE AT P.I STA. 79+05.60
Dc = 1°
(S.E. = 0.032'/Ft.)

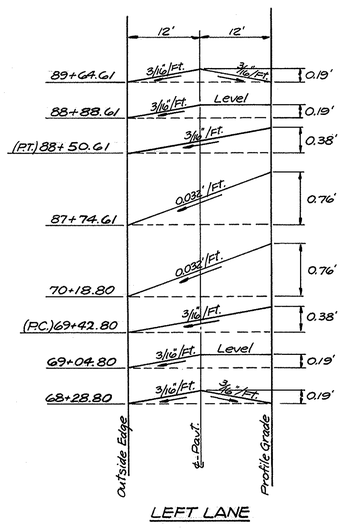
SUPERELEVATION TABLES



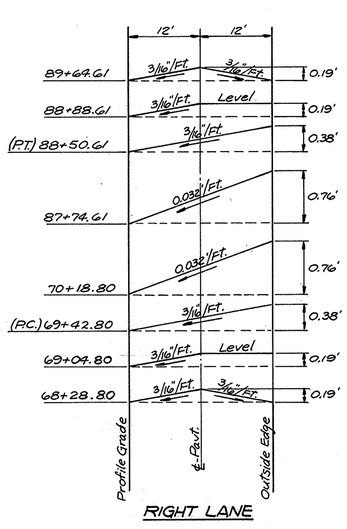
LEFT LANE



RIGHT LANE



LEFT LANE



RIGHT LANE

STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
68+28.80	967.89	968.08	967.89	968.08	967.89
+50	967.76	967.96	967.82	968.01	967.88
+75	967.62	967.81	967.74	967.93	967.86
69+00	967.47	967.66	967.65	967.84	967.83
+04.80	967.44	967.63	967.63	967.82	967.82
+25	967.26	967.47	967.57	967.76	———
+42.80	967.12	967.31	967.50	967.69	967.88
+50	967.07	967.27	967.48	967.68	967.89
+75	966.86	967.13	967.40	967.67	967.94
70+00	966.64	966.97	967.31	967.65	967.98
+18.80	966.48	966.87	967.25	967.63	968.01
+25	960.47	966.85	967.23	967.49	967.74
+50	966.38	966.76	967.14	967.46	967.78
+74.77	———	———	967.06	967.44	967.82
+75	966.30	966.68	967.06	967.44	967.82
71+00	966.21	966.59	966.97	967.35	967.73
+25	966.13	966.51	966.89	967.27	967.65
+50	966.04	966.42	966.80	967.18	967.56
+75	965.96	966.34	966.72	967.10	967.48
72+00	965.87	966.25	966.63	967.01	967.39
+25	965.79	966.17	966.65	966.93	967.31
+50	965.70	966.08	966.46	966.84	967.22
+75	965.62	966.00	966.38	966.76	967.14
73+00	965.53	965.91	966.29	966.67	967.05
+25	965.45	965.83	966.21	966.59	966.97
+50	965.36	965.74	966.12	966.50	966.88
+75	965.28	965.66	966.04	966.42	966.80
74+00	965.19	965.57	965.95	966.33	966.71
+25	965.11	965.49	965.87	966.25	966.63
+50	965.02	965.40	965.78	966.16	966.54
+75	964.94	965.32	965.70	966.08	966.46
75+00	964.85	965.23	965.61	965.99	966.37
+25	964.77	965.15	965.53	965.91	966.29
+50	964.68	965.06	965.44	965.82	966.20
+75	964.60	964.98	965.36	965.74	966.12
76+00	964.51	964.89	965.27	965.65	966.03
+25	964.43	964.81	965.19	965.57	965.95
+50	964.34	964.72	965.10	965.48	965.86
+75	964.26	964.64	965.02	965.40	965.78
77+00	964.17	964.55	964.93	965.31	965.69
+25	964.09	964.47	964.85	965.23	965.61
+50	964.00	964.38	964.76	965.14	965.52
+75	963.92	964.30	964.68	965.06	965.44
78+00	963.83	964.21	964.59	964.97	965.35
+25	963.75	964.13	964.51	964.89	965.27
+50	963.66	964.04	964.42	964.80	965.18
+75	963.58	963.96	964.34	964.72	965.10
79+00	963.49	963.87	964.25	964.63	965.01
+25	963.41	963.79	964.17	964.55	964.93
+50	963.32	963.70	964.08	964.46	964.84
+75	963.24	963.62	964.00	964.38	964.76
80+00	963.15	963.53	963.91	964.29	964.67
+25	963.07	963.45	963.83	964.21	964.59
+50	962.98	963.36	963.74	964.12	964.50

STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
80+75	962.90	963.28	963.66	964.04	964.42
81+00	962.81	963.19	963.57	963.95	964.33
+25	962.73	963.11	963.49	963.87	964.25
+50	962.64	963.02	963.40	963.78	964.16
+75	962.56	963.94	963.32	963.70	964.08
82+00	962.47	962.85	963.23	963.61	963.99
+25	962.39	962.77	963.15	963.53	963.91
+50	962.30	962.68	963.06	963.44	963.82
83+75	962.22	962.60	962.98	963.36	963.74
+00	962.13	962.51	962.89	963.27	963.65
+25	962.05	962.43	962.81	963.19	963.57
+50	961.96	962.34	962.72	963.10	963.48
+75	961.88	962.26	962.64	963.02	963.40
84+00	961.81	962.19	962.57	962.95	963.33
+25	961.82	962.20	962.58	962.96	963.34
+50	961.82	962.20	962.58	962.96	963.34
+75	961.90	962.28	962.66	963.04	963.42
85+00	962.01	962.39	962.77	963.15	963.53
+25	962.17	962.55	962.93	963.31	963.69
+50	962.37	962.75	963.13	963.51	963.89
+75	962.62	963.00	963.38	963.76	964.14
86+00	962.91	963.29	963.67	964.05	964.43
+25	963.25	963.63	964.01	964.39	964.77
+50	963.63	964.01	964.39	964.77	965.15
+75	964.00	964.44	964.82	965.20	965.58
87+00	964.53	964.91	965.29	965.67	966.05
+25	965.05	965.43	965.81	966.19	966.57
+29.33	965.14	965.52	965.90	———	———
+50	965.70	966.03	966.36	966.74	967.12
+74.61	966.20	966.58	966.96	967.34	967.72
+75	966.21	966.59	966.97	967.35	967.73
88+00	967.09	967.35	967.61	967.87	968.13
+25	967.81	968.06	968.31	968.56	968.81
+50	968.64	968.03	969.02	969.21	969.40
+50.61	968.66	968.85	969.04	969.23	969.42
+75	969.56	969.75	969.82	970.01	970.08
+88.61	970.02	970.21	970.21	970.40	970.40
89+00	970.29	970.48	970.45	970.64	970.61
+25	971.09	971.26	971.17	971.36	971.27
+50	971.84	972.03	971.88	972.07	971.92
+64.61	972.30	972.49	972.30	972.49	972.30

SUPERELEVATION TABLES

FED.RD.	STATE	PROJECT		16 / 180
2	OHIO			

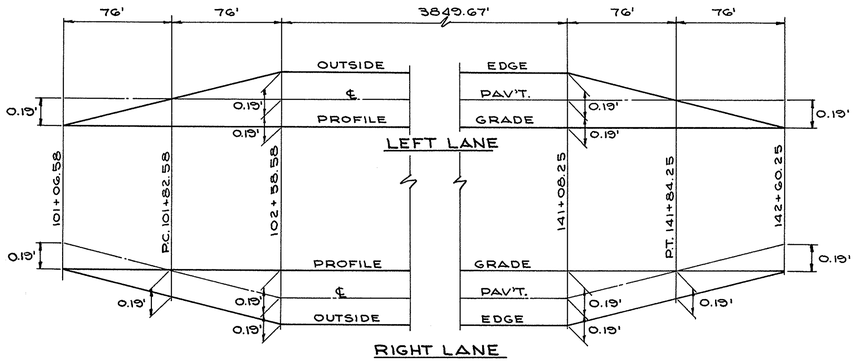
Mah. 18-0.91

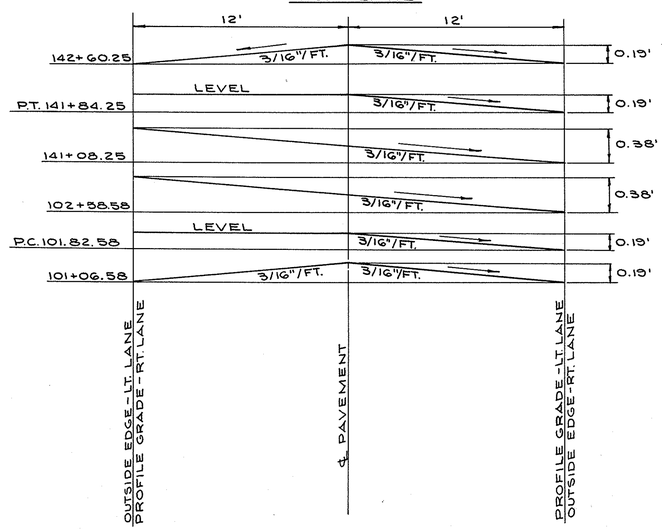
STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
101+06.58	1004.96	1005.15	1004.96	1005.15	1004.96
+25	1005.54	1005.68	1005.49	1005.63	1005.44
+50	1006.31	1006.35	1006.20	1006.28	1006.09
+75	1007.09	1007.11	1006.92	1006.94	1006.75
PC+82.58	1007.33	1007.33	1007.14	1007.14	1006.95
102+00	1007.86	1007.82	1007.63	1007.59	1007.40
+25	1008.65	1008.54	1008.35	1008.24	1008.05
+50	1009.42	1009.25	1009.06	1008.89	1008.70
+58.58	1009.69	1009.50	1009.31	1009.12	1008.93
+75	1010.15	1009.96	1009.77	1009.58	1009.39
103+00	1010.84	1010.65	1010.46	1010.27	1010.08
+25	1011.53	1011.34	1011.15	1010.96	1010.77
+50	1012.19	1012.00	1011.81	1011.63	1011.43
+75	1012.84	1012.65	1012.46	1012.27	1012.08
104+00	1013.47	1013.28	1013.09	1012.90	1012.71
+25	1014.10	1013.91	1013.72	1013.53	1013.34
+50	1014.70	1014.51	1014.32	1014.13	1013.94
+75	1015.30	1015.11	1014.92	1014.73	1014.54
105+00	1015.88	1015.69	1015.50	1015.31	1015.12
+25	1016.45	1016.07	1016.07	1015.88	1015.69
+50	1016.99	1016.80	1016.61	1016.42	1016.23
+75	1017.53	1017.34	1017.15	1016.96	1016.77
106+00	1018.05	1017.86	1017.67	1017.48	1017.29
+25	1018.56	1018.27	1018.18	1017.99	1017.80
+50	1019.05	1018.67	1018.67	1018.48	1018.29
+75	1019.54	1019.35	1019.16	1018.97	1018.78
107+00	1020.00	1019.81	1019.62	1019.43	1019.24
+25	1020.45	1020.26	1020.07	1019.88	1019.69
+50	1020.88	1020.69	1020.50	1020.31	1020.12
+75	1021.31	1021.12	1020.93	1020.74	1020.55
108+00	1021.71	1021.52	1021.33	1021.14	1020.95
+25	1022.11	1021.92	1021.73	1021.54	1021.35
+50	1022.49	1022.30	1022.11	1021.92	1021.73
+75	1022.86	1022.67	1022.48	1022.29	1022.10
109+00	1023.20	1023.01	1022.82	1022.63	1022.44
+25	1023.55	1023.36	1023.17	1022.98	1022.79
+50	1023.86	1023.67	1023.48	1023.29	1023.10
+75	1024.18	1023.99	1023.80	1023.61	1023.42
110+00	1024.47	1024.28	1024.09	1023.90	1023.71
+25	1024.75	1024.56	1024.37	1024.18	1023.99
+50	1025.01	1024.82	1024.63	1024.44	1024.25
+75	1025.26	1025.07	1024.88	1024.69	1024.50
111+00	1025.49	1025.30	1025.11	1024.92	1024.73
+25	1025.72	1025.53	1025.34	1025.15	1024.96
+50	1025.93	1025.74	1025.55	1025.36	1025.17
+75	1026.12	1025.93	1025.74	1025.55	1025.36
112+00	1026.30	1026.11	1025.92	1025.73	1025.54
+25	1026.46	1026.27	1026.08	1025.89	1025.70
+50	1026.61	1026.42	1026.23	1026.04	1025.85
+75	1026.75	1026.56	1026.37	1026.18	1025.99
113+00	1026.88	1026.69	1026.50	1026.31	1026.12
+25	1026.99	1026.80	1026.61	1026.42	1026.23
+50	1027.07	1026.88	1026.69	1026.50	1026.31
+75	1027.15	1026.96	1026.77	1026.58	1026.39
114+00	1027.22	1027.03	1026.84	1026.65	1026.46
+25	1027.27	1027.08	1026.89	1026.70	1026.51
+50	1027.31	1027.12	1026.93	1026.74	1026.55
+75	1027.33	1027.14	1026.95	1026.76	1026.57
115+00	1027.34	1027.15	1026.96	1026.77	1026.58
+25	1027.33	1027.14	1026.95	1026.76	1026.57
+50	1027.31	1027.12	1026.93	1026.74	1026.55
+75	1027.28	1027.09	1026.90	1026.71	1026.52
116+00	1027.23	1027.04	1026.85	1026.66	1026.47
+25	1027.16	1026.97	1026.78	1026.59	1026.40
+50	1027.09	1026.90	1026.71	1026.52	1026.33
+75	1027.01	1026.81	1026.62	1026.43	1026.24
117+00	1026.90	1026.70	1026.51	1026.32	1026.13
+25	1026.78	1026.58	1026.39	1026.20	1026.01
+50	1026.64	1026.44	1026.25	1026.06	1025.87
+75	1026.50	1026.30	1026.11	1025.92	1025.73
118+00	1026.36	1026.16	1025.97	1025.78	1025.59
+25	1026.22	1026.04	1025.83	1025.64	1025.45
+50	1026.08	1025.90	1025.69	1025.50	1025.31
+75	1025.93	1025.75	1025.54	1025.35	1025.16
119+00	1025.78	1025.59	1025.40	1025.21	1025.02

STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
119+25	1025.64	1025.45	1025.26	1025.07	1024.88
+50	1025.50	1025.31	1025.12	1024.93	1024.74
+75	1025.36	1025.17	1024.93	1024.17	1024.60
120+00	1025.22	1025.03	1024.84	1024.65	1024.46
+25	1025.07	1024.88	1024.69	1024.50	1024.31
+50	1024.93	1024.74	1024.55	1024.36	1024.17
+75	1024.79	1024.60	1024.41	1024.22	1024.03
121+00	1024.65	1024.46	1024.27	1024.08	1023.89
+25	1024.51	1024.32	1024.13	1023.94	1023.75
+50	1024.36	1024.17	1023.98	1023.79	1023.60
+75	1024.22	1024.03	1023.84	1023.65	1023.46
122+00	1024.08	1023.89	1023.70	1023.51	1023.32
+25	1023.94	1023.75	1023.56	1023.37	1023.18
+50	1023.80	1023.61	1023.42	1023.23	1023.04
+75	1023.66	1023.47	1023.28	1023.09	1022.90
123+00	1023.51	1023.32	1023.13	1022.94	1022.75
+25	1023.37	1023.18	1022.99	1022.80	1022.61
+50	1023.23	1023.04	1022.85	1022.66	1022.47
+75	1023.09	1022.90	1022.71	1022.52	1022.53
124+00	1022.95	1022.76	1022.57	1022.38	1022.19
+25	1022.80	1022.61	1022.42	1022.23	1022.04
+50	1022.66	1022.47	1022.28	1022.09	1021.90
+75	1022.52	1022.33	1022.14	1022.95	1022.76
125+00	1022.38	1022.19	1022.00	1021.81	1021.62
+25	1022.24	1022.05	1021.86	1021.67	1021.48
+50	1022.09	1021.90	1021.71	1021.52	1021.33
+75	1021.95	1021.76	1021.57	1021.38	1021.19
126+00	1021.81	1021.62	1021.43	1021.24	1021.05
+25	1021.67	1021.48	1021.29	1021.10	1020.91
+50	1021.53	1021.34	1021.15	1020.96	1020.77
+75	1021.39	1021.20	1021.01	1020.82	1020.63
127+00	1021.24	1021.05	1020.86	1020.67	1020.48
+25	1021.10	1020.91	1020.72	1020.53	1020.34
+50	1020.96	1020.77	1020.58	1020.39	1020.20
+75	1020.82	1020.63	1020.44	1020.25	1020.06
128+00	1020.68	1020.49	1020.30	1020.11	1019.92
+25	1020.53	1020.34	1020.15	1019.96	1019.77
+50	1020.39	1020.20	1020.01	1019.82	1019.63
+75	1020.25	1020.06	1019.87	1019.68	1019.49
129+00	1020.11	1019.92	1019.73	1019.54	1019.35
+25	1019.97	1019.78	1019.59	1019.40	1019.21
+50	1019.82	1019.63	1019.44	1019.25	1019.06
+75	1019.68	1019.49	1019.30	1019.11	1018.92
130+00	1019.54	1019.35	1019.16	1018.97	1018.78
+25	1019.40	1019.21	1019.02	1018.83	1018.64
+50	1019.26	1019.07	1018.88	1018.69	1018.50
+75	1019.12	1018.93	1018.74	1018.55	1018.36
131+00	1018.97	1018.78	1018.59	1018.40	1018.21
+25	1018.83	1018.64	1018.45	1018.26	1018.07
+50	1018.69	1018.50	1018.31	1018.12	1017.93
+75	1018.55	1018.36	1018.17	1017.98	1017.79
132+00	1018.41	1018.22	1018.03	1017.84	1017.65
+25	1018.26	1018.07	1017.88	1017.69	1017.50
+50	1018.12	1017.93	1017.74	1017.55	1017.36
+75	1017.98	1017.79	1017.60	1017.41	1017.22
133+00	1017.84	1017.65	1017.46	1017.27	1017.08
+25	1017.70	1017.51	1017.32	1017.13	1016.94
+50	1017.56	1017.37	1017.18	1016.99	1016.80
+75	1017.41	1017.22	1017.03	1016.84	1016.65
134+00	1017.27	1017.08	1016.89	1016.70	1016.51
+25	1017.13	1016.94	1016.75	1016.56	1016.37
+50	1016.99	1016.80	1016.61	1016.42	1016.23
+75	1016.85	1016.66	1016.47	1016.28	1016.09
135+00	1016.70	1016.51	1016.32	1016.13	1015.94
+25	1016.56	1016.37	1016.18	1015.99	1015.80
+50	1016.42	1016.23	1016.04	1015.85	1015.66
+75	1016.28	1016.09	1015.90	1015.71	1015.52
136+00	1016.14	1015.95	1015.76	1015.57	1015.38
+25	1015.99	1015.80	1015.61	1015.42	1015.23
+50	1015.85	1015.66	1015.47	1015.28	1015.09
+75	1015.71	1015.52	1015.33	1015.14	1014.95
137+00	1015.57	1015.38	1015.19	1015.00	1014.81
+25	1015.43	1015.24	1015.05	1014.86	1014.67
+50	1015.29	1015.10	1014.91	1014.72	1014.53
+75	1015.14	1014.95	1014.76	1014.57	1014.38

STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
138+00	1015.00	1014.81	1014.62	1014.43	1014.24
+25	1014.86	1014.67	1014.48	1014.29	1014.10
+50	1014.72	1014.53	1014.34	1014.15	1013.96
+75	1014.58	1014.39	1014.20	1014.01	1013.82
139+00	1014.43	1014.24	1014.05	1013.86	1013.67
+25	1014.29	1014.10	1013.91	1013.72	1013.53
+50	1014.15	1013.96	1013.77	1013.58	1013.39
+75	1014.01	1013.82	1013.63	1013.44	1013.25
140+00	1013.87	1013.68	1013.49	1013.30	1013.11
+25	1013.72	1013.53	1013.34	1013.15	1012.96
+50	1013.58	1013.39	1013.20	1013.01	1012.82
+75	1013.34	1013.25	1013.06	1012.87	1012.68
141+00	1013.21	1013.12	1012.93	1012.74	1012.55
+08.25	1013.17	1013.08	1012.89	1012.70	1012.51
+25	1013.15	1013.00	1012.81	1012.66	1012.47
+50	1012.97	1012.88	1012.69	1012.60	1012.41
+75	1012.78	1012.76	1012.57	1012.55	1012.36
P.T. +84.25	1012.72	1012.72	1012.53	1012.53	1012.34
142+00	1012.61	1012.65	1012.46	1012.50	1012.31
+25	1012.45	1012.55	1012.36	1012.46	1012.27
+50	1012.30	1012.46	1012.27	1012.43	1012.24
+60.25	1012.23	1012.42	1012.23	1012.42	1012.23

CURVE AT P.I. STA. 122+03.99
RIGHT TURN
Dc = 0° 30'



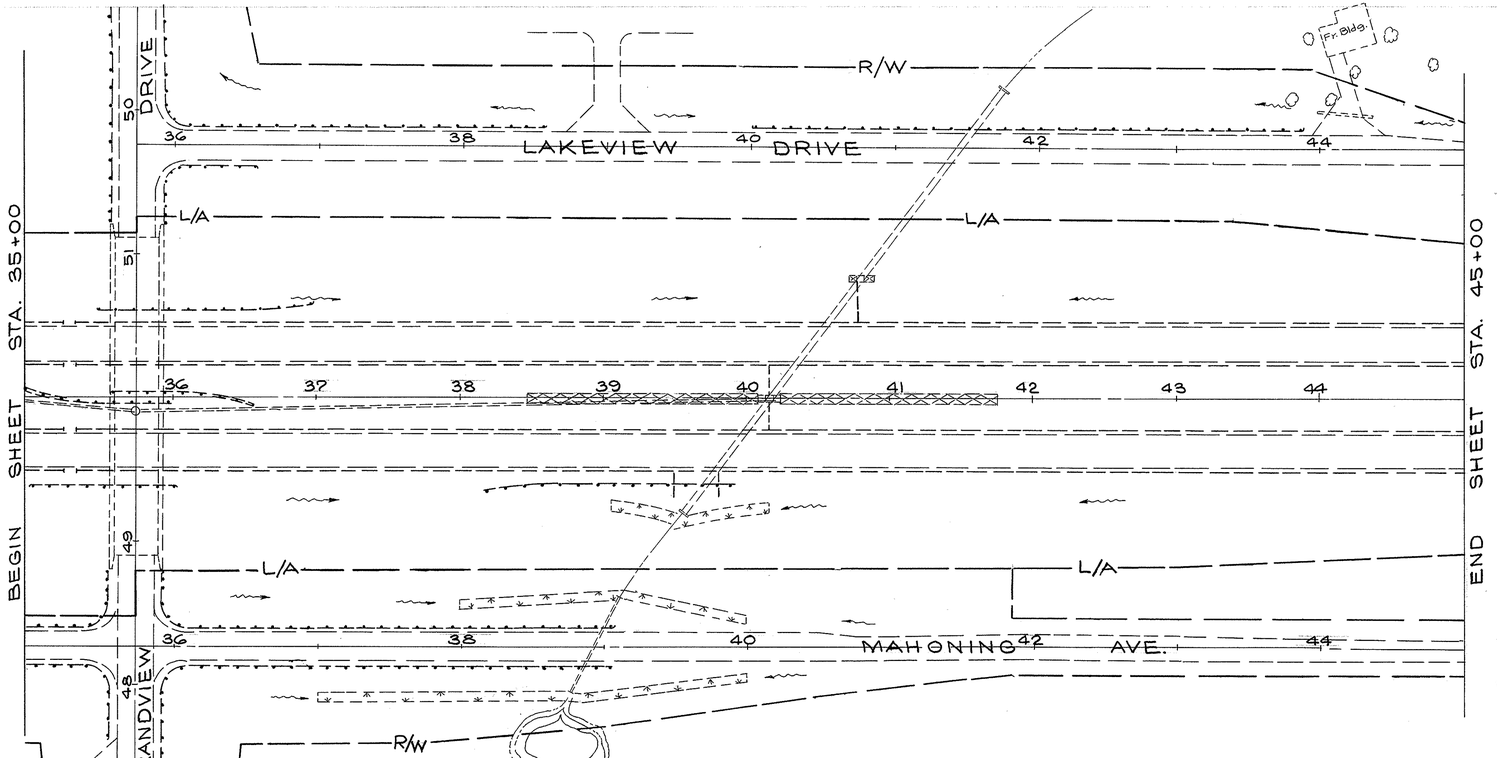


SUPPERELEVATION TABLES

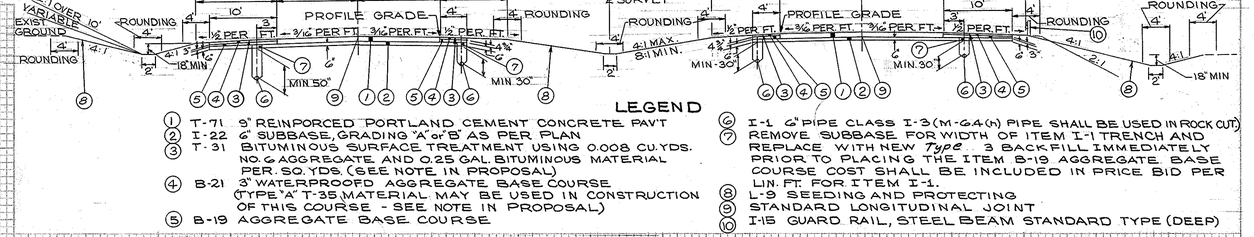
FED. RD.	STATE	PROJECT	
2	OHIO		

17
180

MAH 18 - 0.91



PROJECT
POR-18-19.34 MAH-18-0.00
TYPICAL SECTION
TYPE T-71
NORMAL



LEGEND

1. T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAV'T
2. I-22 6" SUBBASE, GRADING "A" or "B" AS PER PLAN
3. T-31 BITUMINOUS SURFACE TREATMENT USING 0.008 CU. YDS. NO. 6 AGGREGATE AND 0.25 GAL. BITUMINOUS MATERIAL PER SQ. YDS. (SEE NOTE IN PROPOSAL)
4. B-21 3" WATERPROOFD AGGREGATE BASE COURSE (TYPE "A" T-35 MATERIAL MAY BE USED IN CONSTRUCTION OF THIS COURSE - SEE NOTE IN PROPOSAL)
5. B-19 AGGREGATE BASE COURSE
6. I-1 6" PIPE CLASS I-3 (M-64.1) PIPE SHALL BE USED IN ROCK CUT)
7. REMOVE SUBBASE FOR WIDTH OF ITEM I-1 TRENCH AND REPLACE WITH NEW *Type* 3 BACKFILL IMMEDIATELY PRIOR TO PLACING THE ITEM B-19 AGGREGATE BASE COURSE COST SHALL BE INCLUDED IN PRICE BID PER LIN FT. FOR ITEM I-1.
8. L-9 SEEDING AND PROTECTING
9. STANDARD LONGITUDINAL JOINT
10. I-15 GUARD RAIL, STEEL BEAM STANDARD TYPE (DEEP)

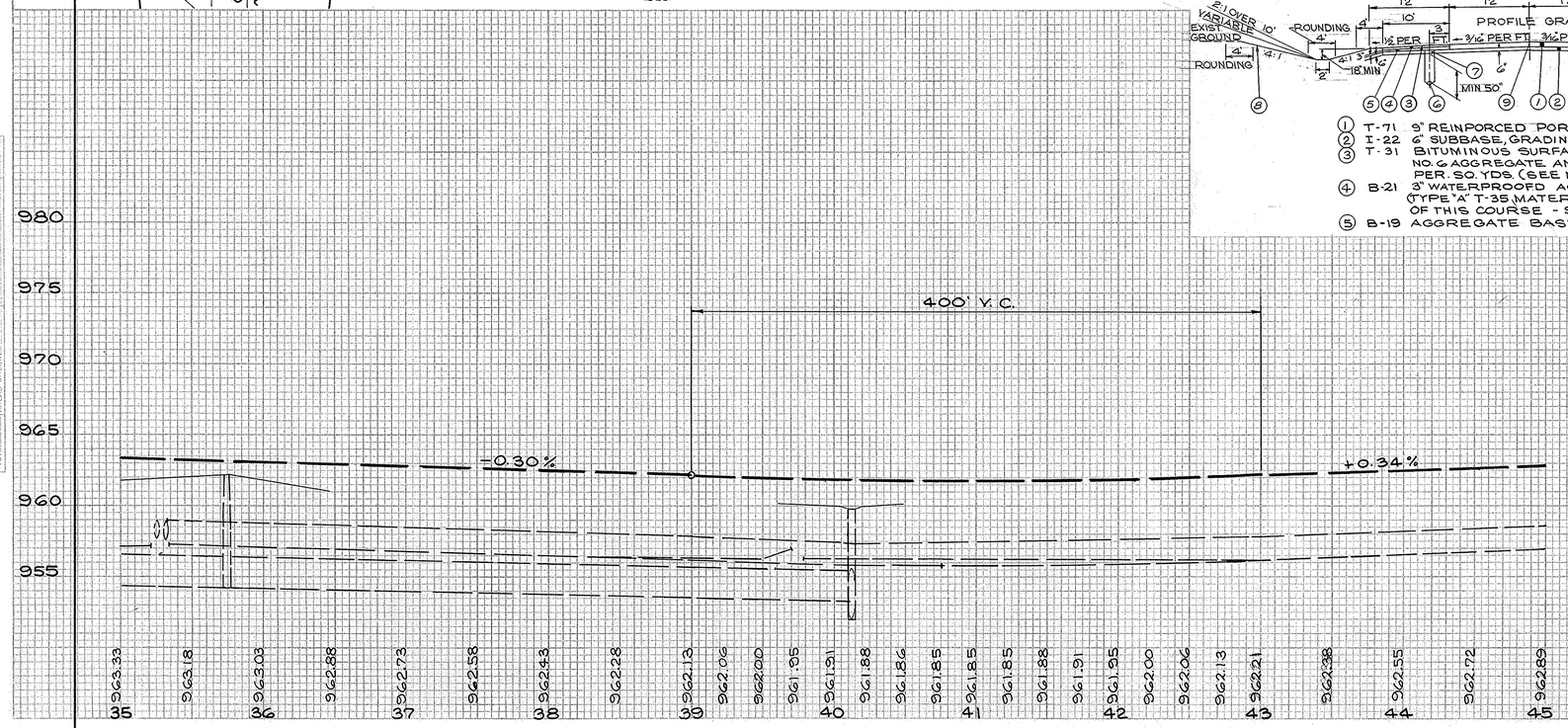


PLATE 4—CROSS SECTION O. D. P. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

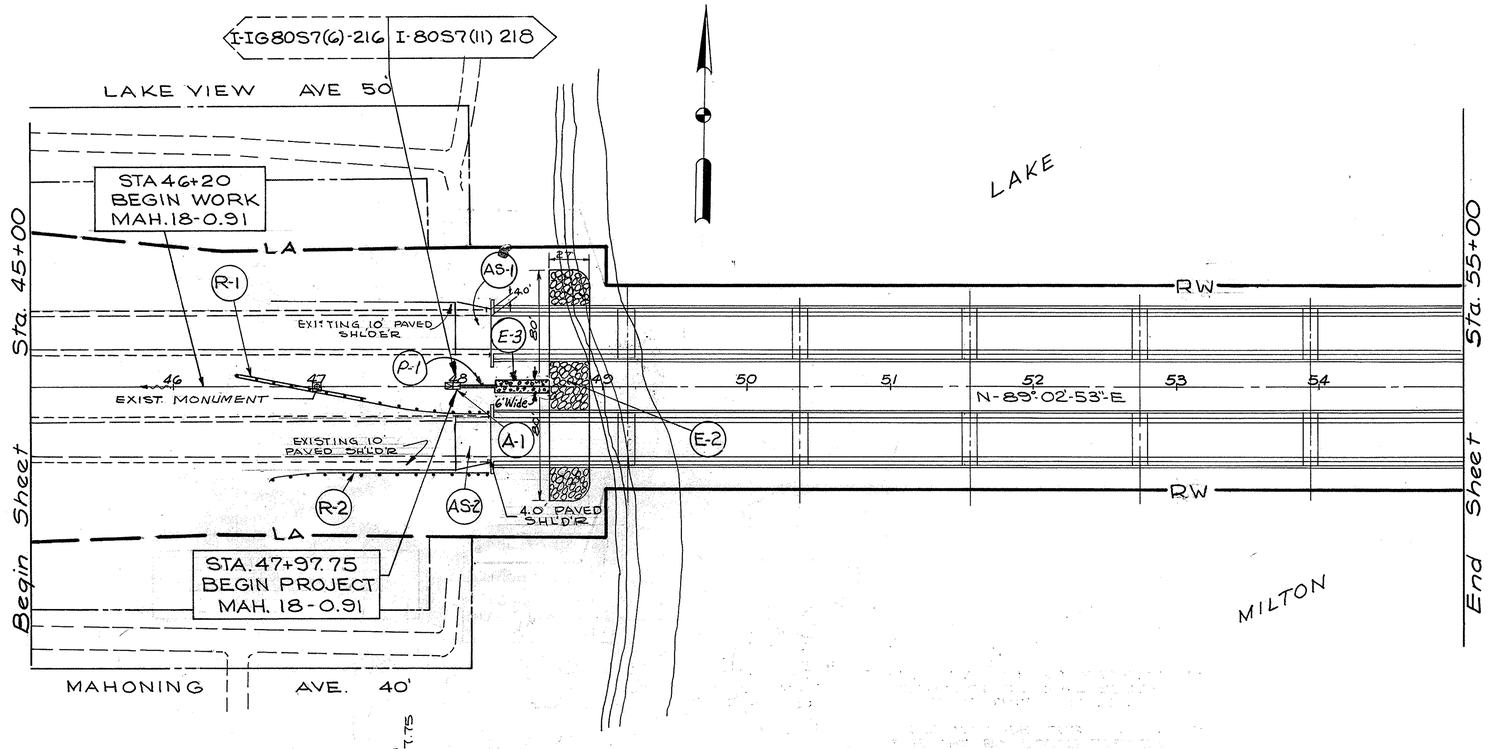
STA. 35+00 to STA. 45+00

FED.RD.	STATE	PROJECT	
2	OHIO		

18/180

Mah. 18-0.91

I-IG80S7(6)-216 I-80S7(11) 218



EROSION CONTROL				I-2 MASONRY
CODE	LOCATION	I-10 DUMP ROCK FILL TYPE A T-36	I-10 Dump Rock Chan. Protect.	HEADWALL HW-E
		CU. YDS.	CU. YDS.	CU. YDS.
E-1	48+26 ℄			0.2.
E-2	48+60-48+87	480		
E-3	48+26-48+64		13	
SHEET TOTAL		480	13	0.2

I-7 APPROACH SLABS			
CODE	LOCATION		CLASS "C" CONCRETE T=13" S.Y.
AS-1	47+97.75	48+22.75 LT	66.7
AS-2	47+97.75	48+22.75 RT	66.7
SHEET TOTAL			133.4

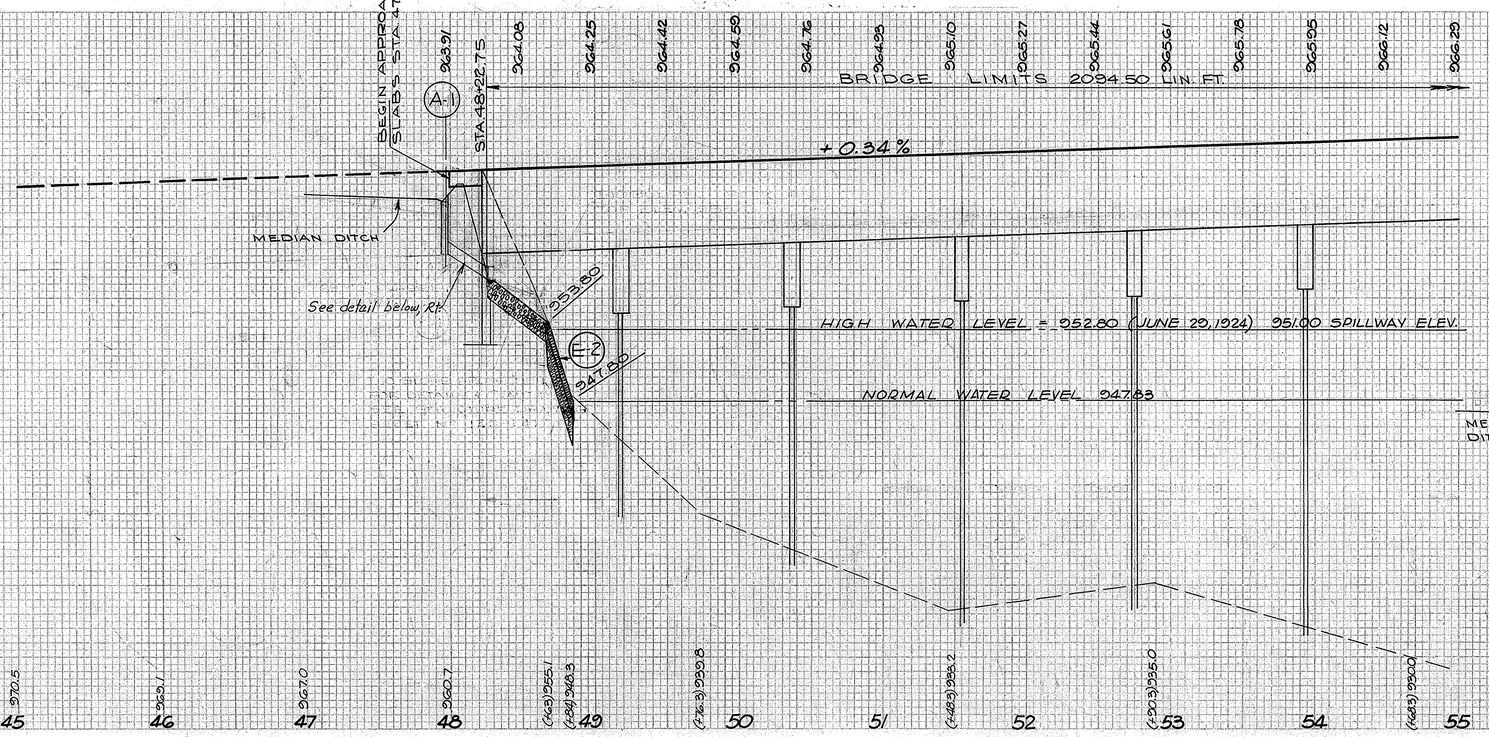
I-15 STEEL BEAM DEEP GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA.	STAND. DESIGN	BARRIER DESIGN
R-1	46+45	48+20	LT & RT.	87.5	87.5
R-2	46+70	48+20	RT.	150.0	
SHEET TOTAL				237.5	87.5

FOR DETAILS & QUANTITIES SEE SHEET Nº 129-141

PROPOSED BRIDGE NO. MAH.-18-0117

TYPE: CONTINUOUS STEEL GIRDERS WITH HINGES AND REINFORCED CONCRETE DECK.
SUBSTRUCTURE: REINFORCED CONC. PIER CAP ON 14" BP 117 PILES & ABUTMENTS.
SPANS: 93'-0" ~ 16 SPANS @ 119'-0" ~ 93'-0" = 2090'-0"
SKEW: 0°-00'-00"
ROADWAY: EACH BRIDGE: 30'-0" F/F OF 2'-0" SAFETY CURB
LOAD FREQUENCY: C.F.-2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE AND DUMPED ROCK.

I-8 CATCH BASIN		
CODE	LOCATION	Nº 8 C.B EACH
A-1	48+05 ℄	1
SHEET TOTAL		1



I-1 PIPE (LIN. FT.)					
CODE	FROM	TO	LOCA.	CLASS F-4 12" M-64(C)	
P-1	48+05	48+36	℄	29	
SHEET TOTAL				29	

A-1
STA. 47+97 ℄
I-8 Nº 8 C.B.
GRATE ELEV. 961.75
℄ 12" CLASS F-4 958.00

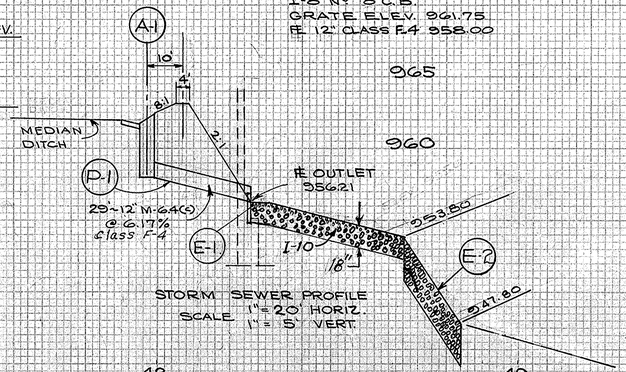


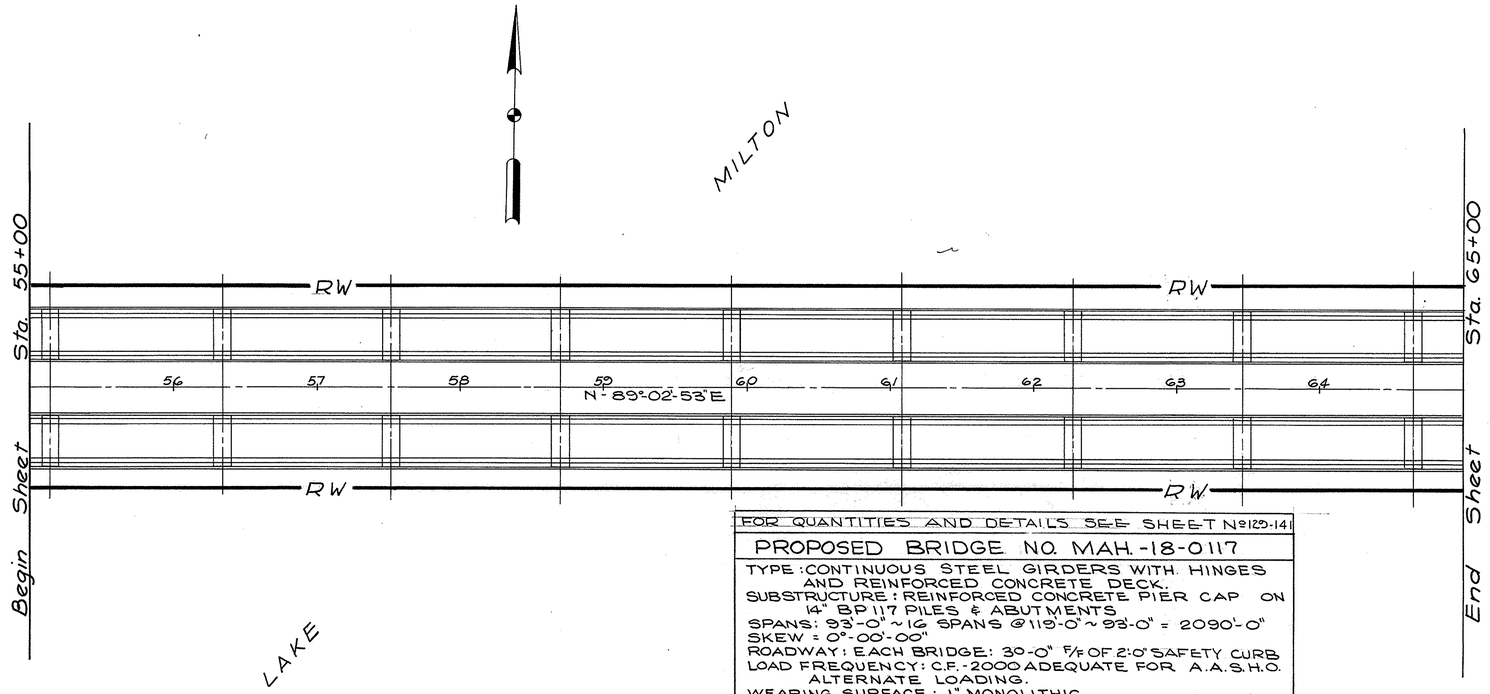
PLATE 4-CROSS SECTION O.P.P.A.R.E. STANDARD
RUFFELL & ESSER CO., NEW YORK

Sta. 45+00 to Sta. 55+00

FED.RD.	STATE	PROJECT	
2	OHIO		

19
180

Mah. 18-0.91



FOR QUANTITIES AND DETAILS SEE SHEET Nº129-141

PROPOSED BRIDGE NO. MAH.-18-0117

TYPE: CONTINUOUS STEEL GIRDERS WITH HINGES AND REINFORCED CONCRETE DECK.
SUBSTRUCTURE: REINFORCED CONCRETE PIER CAP ON 14" BP 117 PILES & ABUTMENTS
SPANS: 93'-0" ~ 16 SPANS @ 119'-0" ~ 93'-0" = 2090'-0"
SKEW = 0°-00'-00"
ROADWAY: EACH BRIDGE: 30'-0" F/F OF 2'-0" SAFETY CURB
LOAD FREQUENCY: C.F.-2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE AND DUMPED ROCK

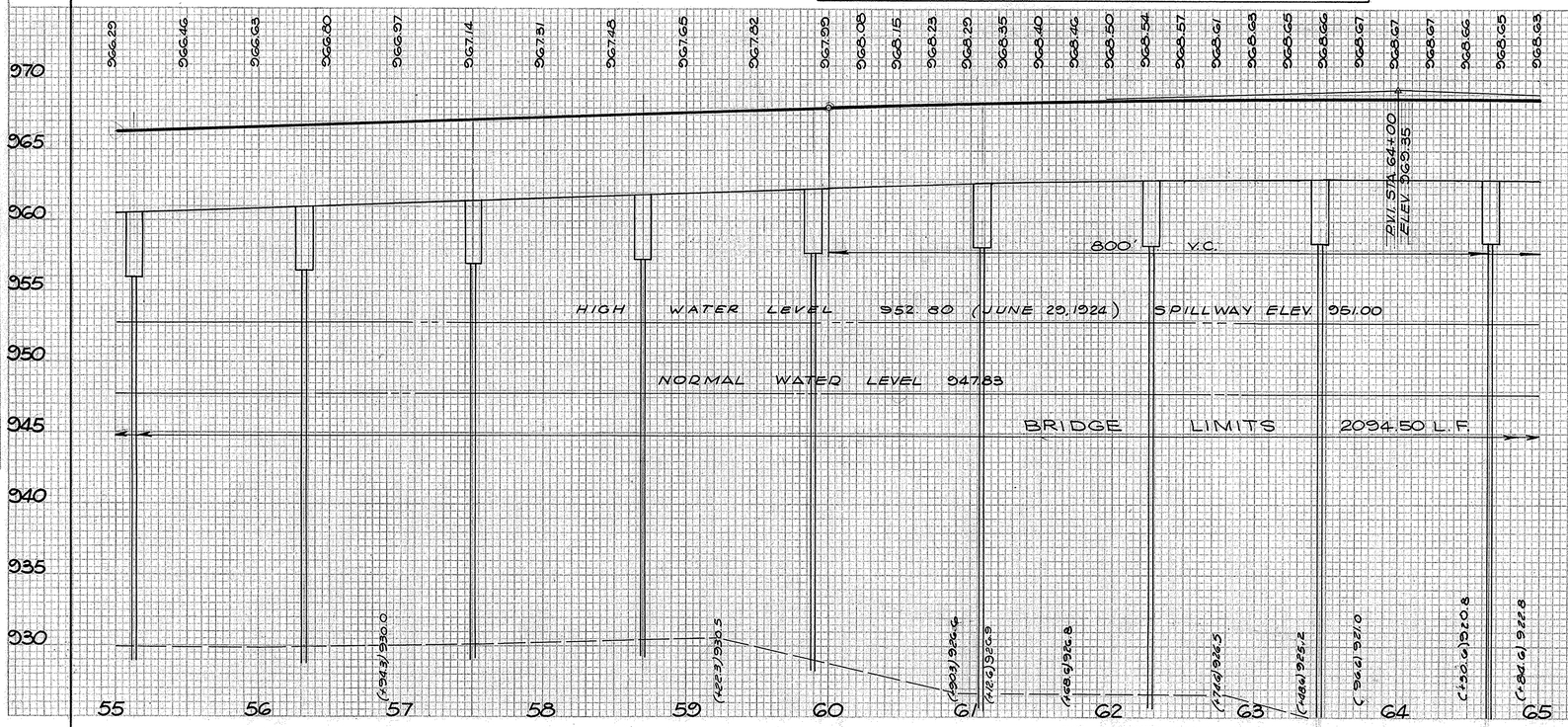
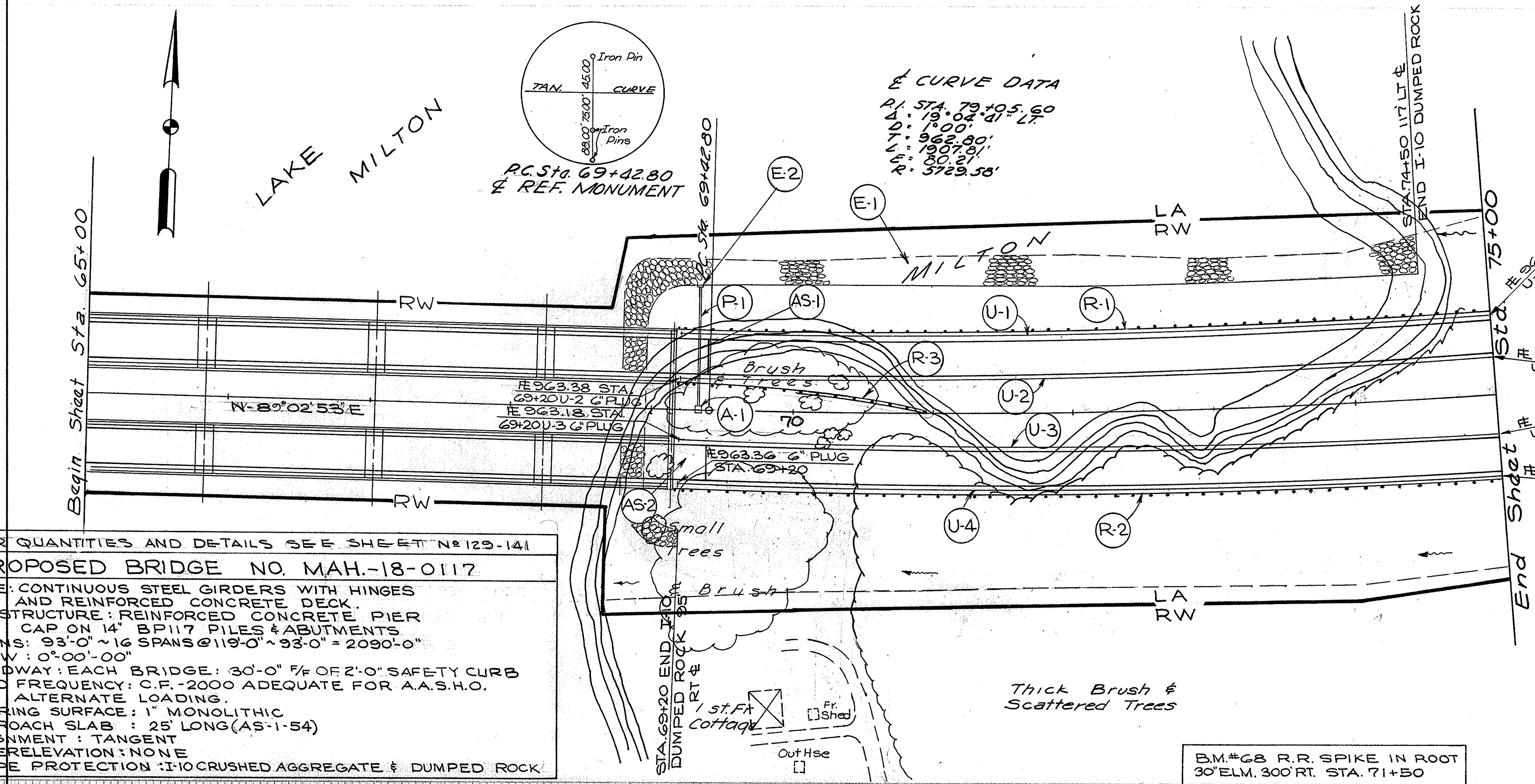


PLATE 1—CROSS SECTION O.P.R.R.R.E. STANDARD
KRAFFERT & ESSER CO., NEW YORK

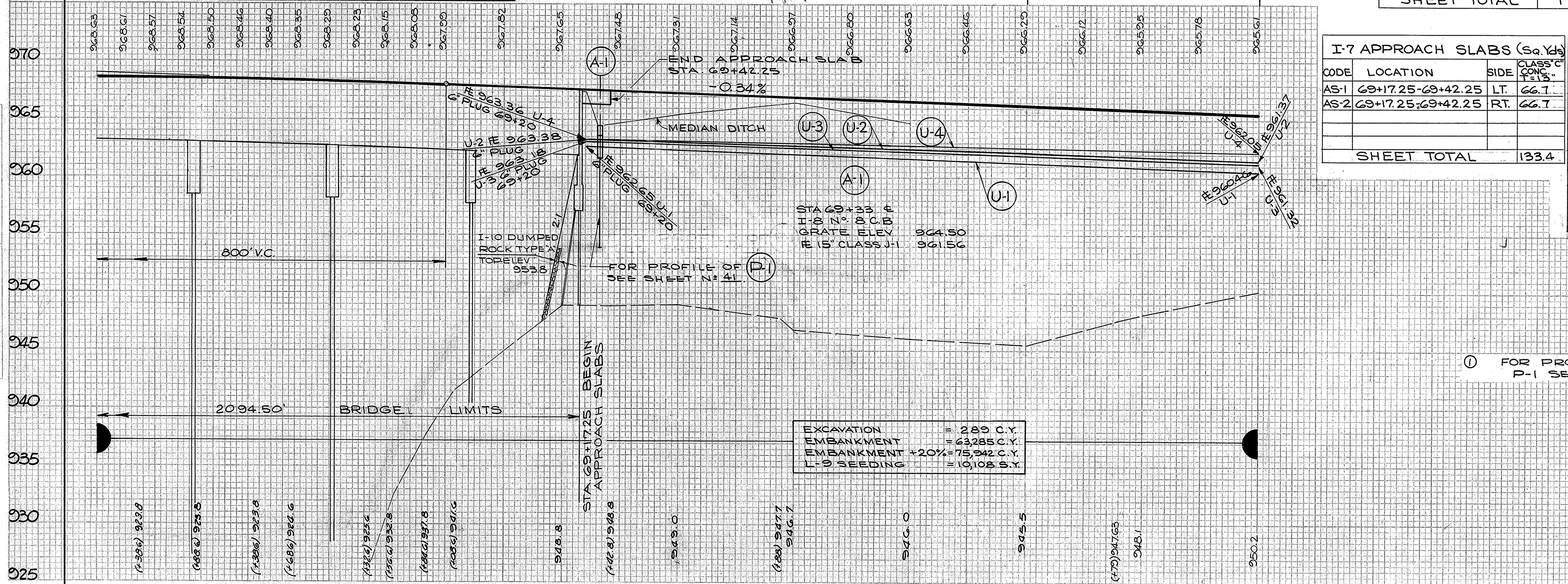
Sta. 55+00 to Sta. 65+00



FOR QUANTITIES AND DETAILS SEE SHEET Nº 129-141

PROPOSED BRIDGE NO. MAH.-18-0117

TYPE: CONTINUOUS STEEL GIRDERS WITH HINGES AND REINFORCED CONCRETE DECK.
SUBSTRUCTURE: REINFORCED CONCRETE PIER CAP ON 14" BP117 PILES & ABUTMENTS
SPANS: 93'-0" ~ 16 SPANS @ 119'-0" ~ 93'-0" = 2090'-0"
SKEW: 0°-00'-00"
ROADWAY: EACH BRIDGE: 30'-0" F/F OF 2'-0" SAFETY CURB
LOAD FREQUENCY: C.F.-2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE & DUMPED ROCK



EXCAVATION	= 289 C.Y.
EMBANKMENT	= 63,285 C.Y.
EMBANKMENT +20%	= 75,942 C.Y.
L-9 SEEDING	= 10,108 S.Y.

① FOR PROFILE OF MEDIAN OUTLET AT STA. 69+33 P-1 SEE SHEET Nº 41.

EROSION CONTROL

CODE	LOCATION	I-10 DUMPED ROCK TYPE "A" THK = 36" CU-YDS	I-2 MASONRY HEADWALL HW-E PIPE CU. YDS
E-1	69+20 RT. ℄ 74+50 LT. ℄	1,461	
E-2	69+33 LT. DITCH		0.3
	SHEET TOTAL	1,461	0.3

I-1 PIPE SEWER (LIN. FT.)

CODE	LOCATION FROM TO	SIDE ℄	CLASS I-3 6" SHALLOW	CLASS I-3 6"	CLASS J-1 15" LIN FT.	CLASS F-4 15" M-6.4(c) LIN. FT.	I-5 PIPE SPEC. EA BENDS	I-5 PIPE SPEC. EA BENDS CL. F-4 15"x25° M-64(c)
U-1	69+20 - 75+00	LT.	580					
U-2	69+20 - 75+00	LT.	580					
U-3	69+20 - 75+00	RT.	580					
U-4	69+20 - 75+00	RT.	580					
P-1	69+33	LT.			66	23	·	2
SHEET TOTAL			2320		66	23		2

I-8 MANHOLE & CATCH BASIN (EACH)

CODE	LOCATION	Nº 8 C.B. EACH	
A-1	66+33 ℄	1	
	SHEET TOTAL	1	

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	STAND. DESIGN LIN. FT.	BARRIER DESIGN LIN. FT.
R-1	69+17.25	75+00	LT	583	
R-2	69+17.25	75+00	RT	583	
R-3	69+17.25	71+18	RT ℄	87.5	87.5
	SHEET TOTAL			1253.5	87.5

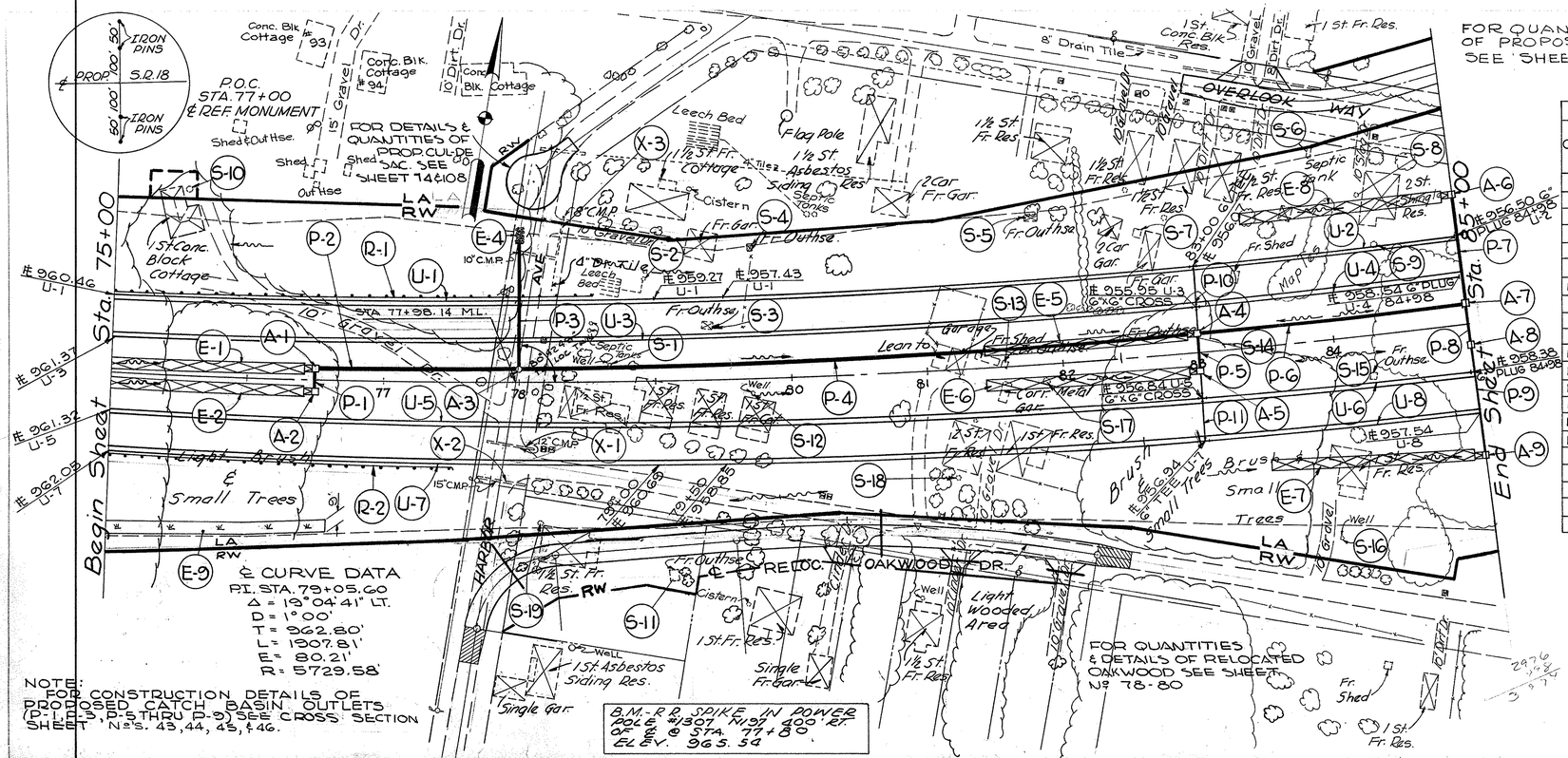
I-7 APPROACH SLABS (Sq. Yds)

CODE	LOCATION	SIDE	CLASS "C" CONC. T = 13"
AS-1	69+17.25-69+42.25	LT.	66.7
AS-2	69+17.25-69+42.25	RT.	66.7
	SHEET TOTAL		133.4

MEDIAN TRANSITION

STATION	OFFSET ℄ TO EDGE PAV'T.	STATION	OFFSET ℄ TO EDGE PAV'T.
69+42.80	25.00	72+25	27.52
69+50	25.06	72+50	27.74
69+75	25.29	72+75	27.96
70+00	25.51	73+00	28.19
70+25	25.73	73+25	28.41
70+50	25.96	73+50	28.63
70+75	26.18	73+75	28.86
71+00	26.40	74+00	29.08
71+25	26.63	74+25	29.30
71+50	26.85	74+50	29.52
71+75	27.07	74+75	29.75
72+00	27.29	75+00	29.97

Sta 65+00 to Sta 75+00



FED. RD.	STATE	PROJECT	
2	OHIO		

21
180

Mah. 18-0.91

FOR QUANTITIES & DETAILS
OF PROPOSED OVERLOOK DR.
SEE SHEET Nº 74

℄ CURVE DATA
P.I. STA. 79+05.60
Δ = 19°04'41" LT.
D = 1°00'
T = 962.80'
L = 1907.81'
E = 80.21'
R = 5729.58'

NOTE:
FOR CONSTRUCTION DETAILS OF PROPOSED CATCH BASIN OUTLETS (P-1, P-3, P-5 THRU P-9) SEE CROSS SECTION SHEET Nº'S. 43, 44, 45, & 46.

B.M. - R.R. SPIKE IN POWER POLE #1307 N197 400' RT. OF ℄ @ STA. 77+80
ELEV. 965.54

FOR QUANTITIES & DETAILS OF RELOCATED OAKWOOD DR. SEE SHEET Nº 78-80

2976
998
3974

EXCAVATION = 51,951 C.Y.
EMBANKMENT = 20,269 C.Y.
EMBANKMENT + 20% = 24,323 C.Y.
L-9 SEEDING = 17,217 S.Y.

(A-3) STA. 78+00
ST'D. I-8 Nº 1 M.H.
8.75 LT. ℄
M.H. COVER = 962.67
℄ 12" CLASS E-1 = 957.75
℄ 27" CLASS E-1 = 952.67

(A-5) STA. 83+00
I-8 Nº 8 CATCH BASIN
13.88' RT. ℄
GRATE ELEV = 960.72
℄ 6" CLASS F-4 = 956.79
℄ 12" CLASS E-1 = 956.29

(A-6) 96' LT. ℄ I-8 Nº 5 C.B.
GRATE ELEV. 959.13
℄ 15" CLASS J-1 956.44

STA. 85+00 (A-7) I-8 Nº 8 C.B.
15.89' LT. ℄
GRATE ELEV. 960.76
℄ 15" CLASS E-1 955.96
℄ 24" CLASS E-1 955.21

(A-1) STA. 76+50 (A-2)
I-8 Nº 8 C.B.
8.31' LT. ℄
GRATE ELEV. = 962.93
℄ 12" CLASS E-1 = 960.10

8.31' RT.
GRATE ELEV. = 962.93
℄ 12" CLASS E-1 = 960.26

(A-4) STA. 83+00
I-8 Nº 8 C.B.
13.88' LT. ℄
GRATE ELEV. - 960.88
℄ 6" CLASS F-4 = 955.92
℄ 12" CLASS E-1 = 955.42
℄ 24" CLASS E-1 = 954.42
℄ 27" CLASS E-1 = 954.17

(A-8) STA. 85+00
15.89' RT. ℄ I-8 Nº 8 C.B.
GRATE ELEV. 960.60
℄ 15" CLASS J-1 956.22
℄ 12" CLASS J-1 956.47

(A-9) 96' RT. ℄ I-8 Nº 5 C.B.
GRATE ELEV. 960.89
℄ 12" CLASS J-1 957.19

E-12 PIPE REMOVAL

CODE	LOCATION	SIDE ℄	15" & UNDER LIN. FT.
X-1	STA. 77+97 - 42' RT.	RT.	35
X-2	STA. 77+93 - 69' RT.	RT.	34
X-3	STA. 78+30 - 95' LT.	LT.	53
SHEET TOTAL			122

I-1 PIPE SEWER (LIN. FT.)

CODE	LOCATION FROM	TO	SIDE ℄	CLASS I-3 6" PIPE SHALLOW	CLASS I-3 6" PIPE DEEP	CLASS F-4 6"		CLASS E-1 12"	CLASS E-1 24"	CLASS E-1 27"	CLASS E-1 15"	CLASS J-1 15"	CLASS J-1 27" M-6.6(b) M-6.8(b)	CLASS J-1 6" M-6.6(b) M-6.8(b)	CLASS J-1 12"	I-5 PIPE SPEC. EACH CLASS I-3	TEE 6"x6"	CROSS 6"x6"
U-1	75+00	83+00	LT.	390	400	10											1	
U-2	83+00	84+98	LT.		198													
U-3	75+00	83+00	LT.	790		10												1
U-4	83+00	84+98	LT.	198														
U-5	75+00	83+00	RT.	800														1
U-6	83+00	84+98	RT.	198														
U-7	75+00	83+00	RT.	400	400												1	
U-8	83+00	85+00	RT.	200														
P-1	76+50		L&R.					16										
P-2	76+50	78+00	LT.					150										
P-3	78+00	LT. DITCH	LT.										83					
P-4	78+00	83+00	LT.							500								
P-5	83+00		L&R					29										
P-6	83+00	85+00	LT.						200									
P-7	85+00 - A-7 TO A-6		LT.									80						
P-8	85+00 - A-7 TO A-8		L&R.								32							
P-9	85+00 - A-8 TO A-9		RT.												80			
P-10	83+00		LT.			10								40				
P-11	83+00		RT.			10								40				
SHEET TOTAL				2976	998	40		195	200	500	32	80	83	80	80			4

EROSION CONTROL

Code	Location	L-10 Sodding Sq. Yds.		I-10 Dumped Rock Channel Protection Cu. Yds.	L-120 Jute Matting Sq. Yds.	I-2 Masonry Cu. Yds. Headwall HW-E 27" Pipe
E-1	74+93 to 76+43				125	
E-2	74+93 to 76+43				125	
E-3	78+00 - 93' Lt.			3		
E-4	78+00 - 93' Lt.			2		0.9
E-5	81+43 to 82+93				125	
E-6	81+43 to 82+93				125	
E-7	83+45 to 84+95				125	
E-8	83+45 to 84+95 Lt.				125	
E-9	75+0 to 76+60 Rt. ℄	160				
SHEET TOTAL		160		5	750	0.9

I-8 MANHOLES & CATCH BASINS (EACH)

CODE	LOCATION	NO. 5 C. B.	NO. 8 C. B. STAND.	NO. 8 C. B. MOD.	NO. 1 M. H.
A-1	8.33' LT. STA. 76+50		1		
A-2	8.33' RT. STA. 76+50		1		
A-3	8.75' LT. STA. 78+00				1
A-4	13.88' LT. STA. 83+00			1	
A-5	13.88' RT. STA. 83+00		1		
A-6	96' LT. STA. 85+00	1			
A-7	15.89' LT. STA. 85+00		1		
A-8	15.89' RT. STA. 85+00		1		
A-9	96' RT. STA. 85+00	1			
SHEET TOTALS		2	5	1	1

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	STAND. DESIGN LIN. FT.	
R-1	75+00	78+54.5	LT.	354.5	
R-2	75+00	77+54.5	RT.	254.5	
SHEET TOTALS				609	

MEDIAN TRANSITION

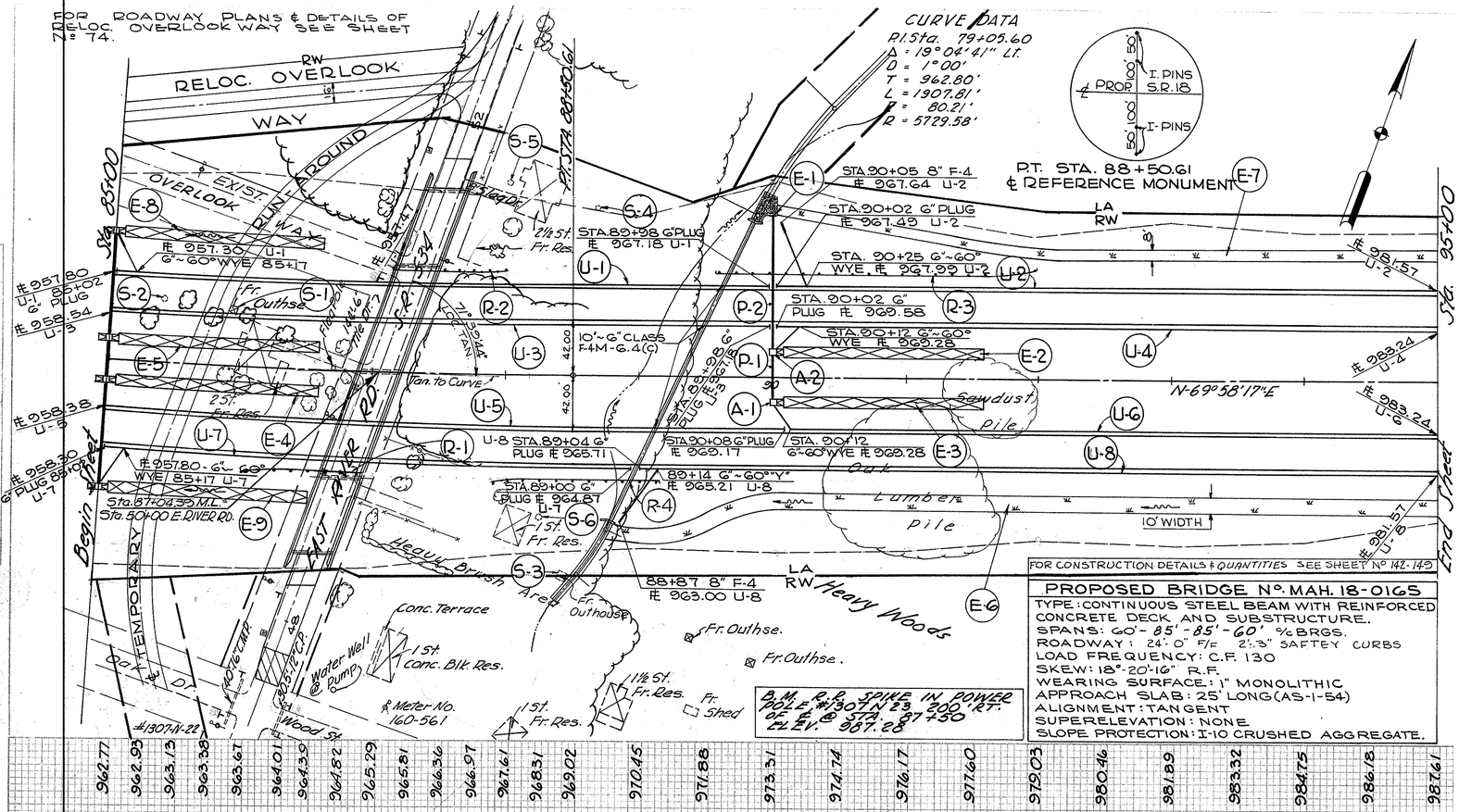
STATION	OFFSET ℄ TO EDGE PAV'T.	STATION	OFFSET ℄ TO EDGE PAV'T.
75+00	29.97	81+25	35.54
75+25	30.19	81+50	35.76
75+50	30.41	81+75	35.99
75+75	30.63	82+00	36.21
76+00	30.86	82+25	36.43
76+25	31.08	82+50	36.66
76+50	31.30	82+75	36.88
76+75	31.53	83+00	37.10
77+00	31.75	83+25	37.32
77+25	31.97	83+50	37.55
77+50	32.20	83+75	37.77
77+75	32.42	84+00	37.99
78+00	32.64	84+25	38.22
78+25	32.86	84+50	38.44
78+50	33.09	84+75	38.66
78+75	33.31	85+00	38.89
79+00	33.53		
79+25	33.76		
79+50	33.98		
79+75	34.20		
80+00	34.43		
80+25	34.65		
80+50	34.87		
80+75	35.09		
81+00	35.32		

SPECIAL - EACH

CODE	LOCATION	CLEANING OF PRIVY VAULTS	CLEAN & DISPOSAL SEPTIC TANKS	DRILLED WELLS ABAND.
S-1	78+67 - 11' LT. ℄			1
S-2	78+95 - 79' LT. ℄		1	
S-3	79+39 - 40' LT. ℄	1		
S-4	79+72 - 97' LT. ℄	1		
S-5	81+85 - 107' LT. ℄	1		
S-6	83+97 - 139' LT. ℄		1	
S-7	82+62 - 92' LT. ℄	1		
S-8	84+29 - 104' LT. ℄	1		
S-9	84+37 - 65' LT. ℄		1	
S-10	75+53 - 136' LT. ℄		1	
S-11	79+10 - 140' RT. ℄		1	
S-12	79+72 - 10 RT. ℄			1
S-13	81+56 - 3' LT. ℄	1		
S-14	83+00 - 15' LT. ℄	1		
S-15	84+27 - 30' RT. ℄	1		
S-16	83+96 - 145' RT. ℄			1
S-17	81+86 - 13' RT. ℄		1	
S-18	81+20 - 77' RT. ℄			1
S-19	78+18 - 104' RT. ℄			1
SHEET TOTAL		8	6	5

Sta. 75+00 to Sta. 85+00

FOR ROADWAY PLANS & DETAILS OF RELOC. OVERLOOK WAY SEE SHEET No. 74.



PROPOSED BRIDGE No. MAH. 18-0165

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 60'-85'-85'-60' ℄ BRGS.
ROADWAY: 24'-0" F/F 2'-3" SAFTEY CURBS
LOAD FREQUENCY: C.F. 130
SKEW: 18°-20'-16" R.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE.
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE.

EXCAVATION	=	90,185 C.Y.
EMBANKMENT	=	1,725 C.Y.
EMBANKMENT +20%	=	2,070 C.Y.
L-9 SEEDING	=	19,672 S.Y.

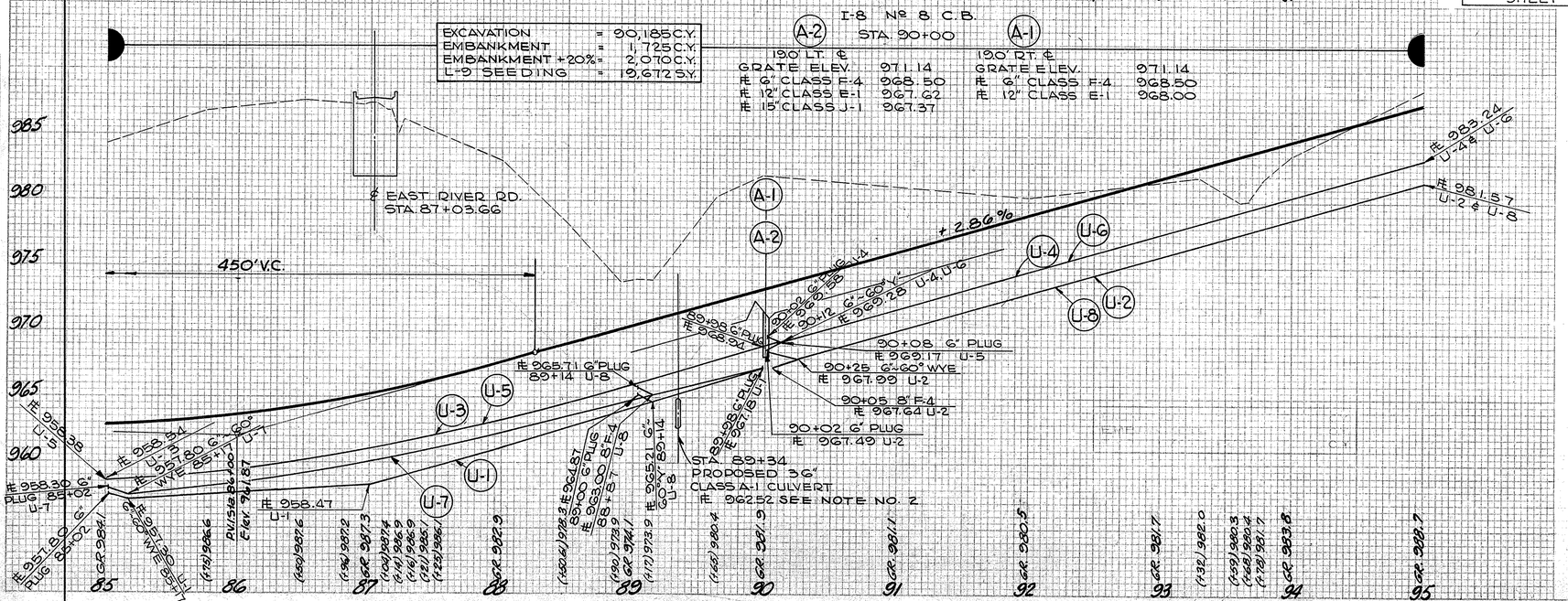


PLATE & CROSS SECTION B. P. R. & R. E. STANDARD
EUGENE DIETZGEN CO. CHICAGO NEW YORK

I-8 MANHOLE & CATCH BASIN (EACH)

CODE	LOCATION	№ 8 CATCH BASIN		
A-1	90+00 - 19' RT. ℄	1		
A-2	90+00 - 19' LT. ℄	1		
SHEET TOTAL		2		

FED.RD.	STATE	PROJECT		22 / 180
2	OHIO			

Mah. 18-0.91

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	STAND. DESIGN LIN. FT.	
R-1	86+05	86+92.5	RT.	87.5	
R-2	87+14	88+00.5	LT.	87.5	
R-3	89+60	91+97.5	LT.	237.5	
R-4	87+87.5	89+12.5	RT.	125.0	
SHEET TOTAL				537.5	

I-1 PIPE SEWER (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" PIPE SKLN	CLASS I-3 6" PIPE DEEP	CLASS F-4 6"	CLASS F-4 8" M-6.4(C)	CLASS E-1 12"	CLASS J-1 15"	CLASS F-4 M-6.4(C) 15"
U-1	85+02	89+98			521	10				
U-2	90+02	95+00			540		10			
U-3	85+00	89+98		488		10				
U-4	90+02	95+00		512		10				
U-5	85+00	90+08		498		10				
U-6	90+12	95+00		498		10				
U-7	85+02	89+00			423	10				
U-8	89+04	95+00			637		10			
P-1	A-1	A-2						38		
P-2	A-2	LT. DITCH							69	33
SHEET TOTALS				1998	2121	60	20	38	69	33

I-5 PIPE SPEC. EA			
CLASS I-3 6"-60° WYE		CLASS F-4 BEND 15"-10° M-6.4(C)	
1			
1			
1			
1			
1			
1			
1			
1			
		2	
6		2	

EROSION CONTROL

CODE	LOCATION	L-120 JUTE MATTING SQ. YDS.	L-10 SOD SQ. YDS.		
E-1	90+00 LT. ℄				
E-2	90+05-91+55 LT. ℄	125			
E-3	90+05-91+55 RT. ℄	125			
E-4	85+05-86+55 LT. ℄	125			
E-5	85+05-86+55 RT. ℄	125			
E-6	88+82-95+00 RT. ℄		689		
E-7	90+02-95+00 LT. ℄		444		
E-8	85+05-86+55 LT. ℄	125			
E-9	85+05-86+55 RT. ℄	125			
SHEET TOTAL		750	1133		

I-2 MASONRY CU. YDS.	
HEADWALL HW-E 15" PIPE	
0.26	
0.3	

NOTES

1. FOR CONSTRUCTION DETAILS & QUANTITIES OF EAST RIVER ROAD & TEMPORARY RUN-AROUND SEE SHEET No. 81&82
2. FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 36" CLASS A-1 CULVERT LT. & RT. OF ℄ STA. 89+34 SEE SHEET No. 114.
3. FOR PROFILE & DETAILS OF PROPOSED CATCH BASIN OUTLET P-1 & P-2 SEE CROSS SECTIONS SHEET No. 47.
4. FOR QUANTITIES & DETAILS OF CATCH BASINS & STORM SEWER PROPOSED TO BE CONSTRUCTED LT. & RT. OF ℄ STA. 85+00 SEE SHEET No. 46.

SPECIAL EACH

CODE	LOCATION	CLEANING OF PRIVEY VAULTS	CLEAN & DISPOSAL EX. SEPTIC TANKS	DRILLED WELLS ABAND.
S-1	85+05 - 43' LT.	1		
S-2	85+40 - 45' LT.			1
S-3	88+44 - 117' RT.	1		
S-4	88+68 - 128' LT.		1	
S-5	88+00 - 145' LT.			1
S-6	88+25 - 106' RT.			1
SHEET TOTAL		2	1	3

MEDIAN TRANSITION

STATION	OFFSET ℄ TO EDGE PAV'T.
85+00	38.89
85+25	39.11
85+50	39.33
85+75	39.55
86+00	39.78
86+25	40.00
86+50	40.22
86+75	40.45
87+00	40.67
87+25	40.89
87+50	41.12
87+75	41.34
88+00	41.56
88+25	41.78
88+50	42.00
88+50.61	42.00

STA. 85+00 TO STA. 95+00

DATE | BY
FINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, AREAS CHECKED, NO.
ORIGINAL SURVEY — SUBMITTED, EDITED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO.

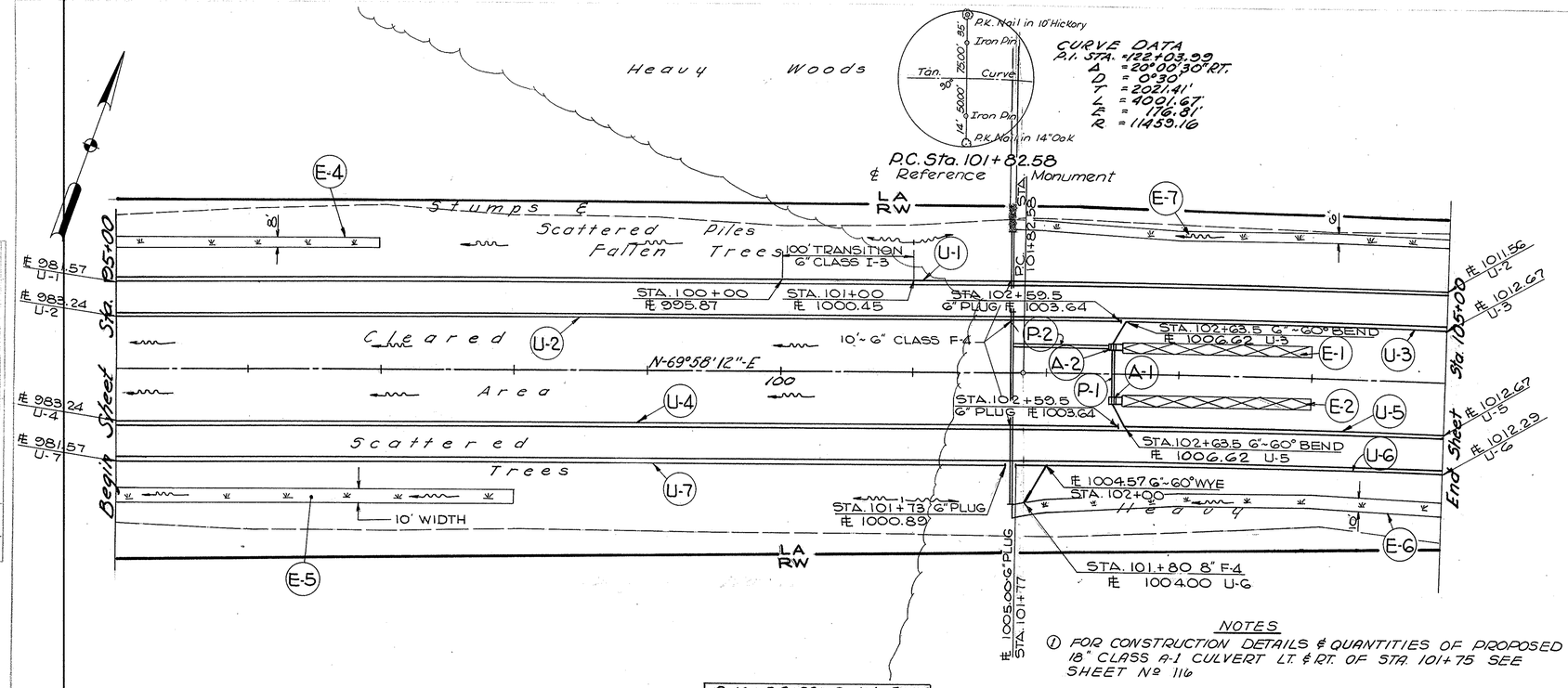
Printed in U.S.A. On IMPERIAL Printing Cloth

Printed in U.S.A. On IMPERIAL Printing Cloth

FED.RD.	STATE	PROJECT	
2	OHIO		

23
180

Mah. 18 - 0.91



NOTES

① FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 18" CLASS A-1 CULVERT LT. & RT. OF STA. 101+75 SEE SHEET Nº 116

② FOR PROFILE & DETAILS OF PROPOSED CATCH BASIN OUTLET P-1 SEE CROSS SECTIONS SHEET Nº 50

B.M. R.R. SPIKE IN ROOT TWIN 6" OAK 200' RT. OF ℄ @ STA. 102+00 ELEV. 1009.38

EXCAVATION	=	17,763 C.Y.
EMBANKMENT	=	7,966 C.Y.
EMBANKMENT +20%	=	9,559 C.Y.
L-9 SEEDING	=	16,451 S.Y.

STA. 102+50
I-8 Nº 8 C.B. Lt. & Rt.
A-1 190' Lt. ℄
A-2 190' Rt. ℄
1500' V.C.

GRATE ELEV.	1006.89	GRATE ELEV.	1006.89
℄ 6" CLASS F-4	1003.18	℄ 6" CLASS F-4	1003.56
℄ 12" CLASS E-1	1002.68	℄ 12" CLASS E-1	1003.06
℄ 15" CLASS J-1	1002.43		

℄ 1004.57 6"-60° Y STA. 102+00-U-6
℄ 1005.00 6" PLUG STA. 101+77-U-6
℄ 1004.00-U-6 8" F-4 STA. 101+80
STA. 102+63.5 6"-60° BEND ℄ 1006.62
℄ 1012.67 U-5 & U-2
℄ 1012.29 U-6
℄ 1011.56 U-2 & U-5
12.86%
℄ 1000.45 U-1
STA. 102+59.5 6" PLUG ℄ 1003.64 U-4
℄ 1000.89 6" PLUG STA. 101+73
75'-15" CLASS E-1 @ 5.44%
STA. 101+75 PROPOSED CL. A-II 18" CULVERT ℄ 998.10
℄ 997.67 U-1 & U-7
℄ 983.24 U-2 & U-4
℄ 981.57 U-1 & U-7

PLATE 4 CROSS SECTION B. F. R. & R. E. STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

Printed in U. S. A.
On IMPERIAL Ironing Cloth

I-1 PIPE SEWER (LIN. FT.)

Code	Location From	Location To	Side ℄	Class I-3 6" Pipe Shallow	Class I-3 6" Pipe Deep	Class F-4 6"	Class F-4 8" M-6A(h)	Class E-1 Pipe 12"	Class E-1 Pipe 15"	Class I-3 6" Pipe M-6A(h)	I-5 Pipe Spec. Each Class I-3 6"-90°-60° Wye	I-5 Pipe Spec. Each Class I-3 6"-90°-60° Bend
U-1	95+00	-105+00	Lt.	490	500	10						
U-2	95+00	-102+59.5	Lt.	749	-	10						
U-3	A-2	-105+00	Lt.		-	10				248		1
U-4	95+00	-102+59.5	Rt.	749	-	10						
U-5	A-1	-105+00	Rt.		-	10				248		1
U-6	101+77	-105+00	Rt.	-		-	10			353	1	
U-7	95+00	-101+73	Rt.	-	673							
P-1	A-1	- A-2	Lt. & Rt.					38				
P-2	A-1	-101+75	℄						75			
SHEET TOTALS				1988	1173	50	10	38	75	949		3

I-8 MANHOLE & CATCH BASIN (EACH)

Code	Location	Nº 8 Catch Basin		
A-1	102+50 19' Rt. ℄	1		
A-2	102+50 19' Lt. ℄	1		
SHEET TOTALS		2		

EROSION CONTROL

Code	Location	L-120 Jute Matting Sq. Yds.	L-10 Sodding Sq. Yds.		
E-1	102+55-104+05 Lt. ℄	125			
E-2	102+55-104+05 Rt. ℄	125			
E-4	95+00-97+00 Lt. ℄		178		
E-5	95+00-98+00 Rt. ℄		333		
E-6	101+75-105+00 Rt. ℄		361		
E-7	101+75-105+00 Lt. ℄		217		
SHEET TOTALS		250	1089		

Sta. 95+00 to Sta. 105+00

Printed in U.S.A.
On IMPERIAL Ironing Cloth

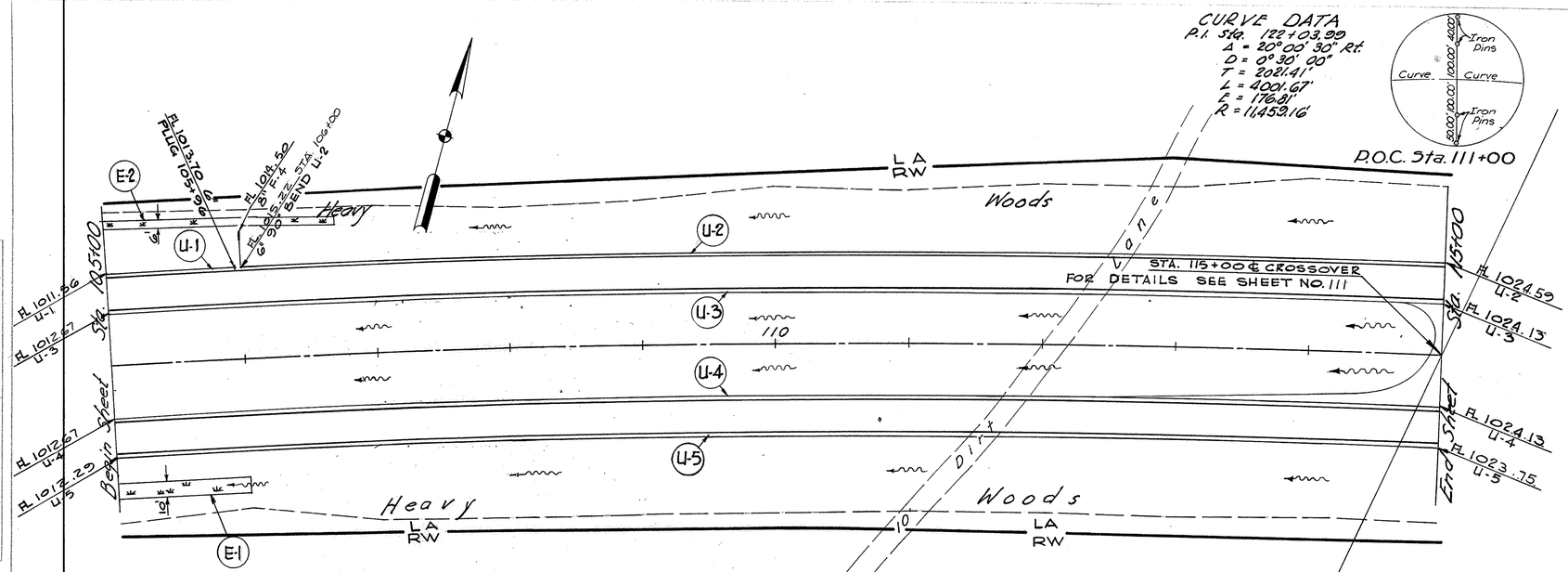
FINAL SURVEY — DATE — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — NOTE BOOK — NO.

ORIGINAL SURVEY — DATE — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — NOTE BOOK — NO.

FED.RD.	STATE	PROJECT	
2	OHIO		

24
180

Mah. 18-0.91



I-1 PIPE SEWER (LIN. FT.)								I-5 PIPE
Code	Location From	Location To	Side ℄	Class I-3 6" Pipe Shallow	Class F-4 Pipe	8" M-6.4(A)	Class I-3 6" Pipe M-6.4(H)	SPEC. EA. CLASS I-3 45° Bend
U-1	105+00	105+96	Lt.	96				
U-2	106+00	115+00	Lt.			10	917	1
U-3	105+00	115+00	Lt.				1000	
U-4	105+00	115+00	Rt.				1000	
U-5	105+00	115+00	Rt.				1000	
SHEET TOTALS				96		10	3917	1

EROSION CONTROL		
CODE	LOCATION	L-10 SODDING SQ. YDS.
E-1	105+00-106+00 RT. DT.	111
E-2	105+00-106+75 LT. DT.	117
SHEET TOTALS		228

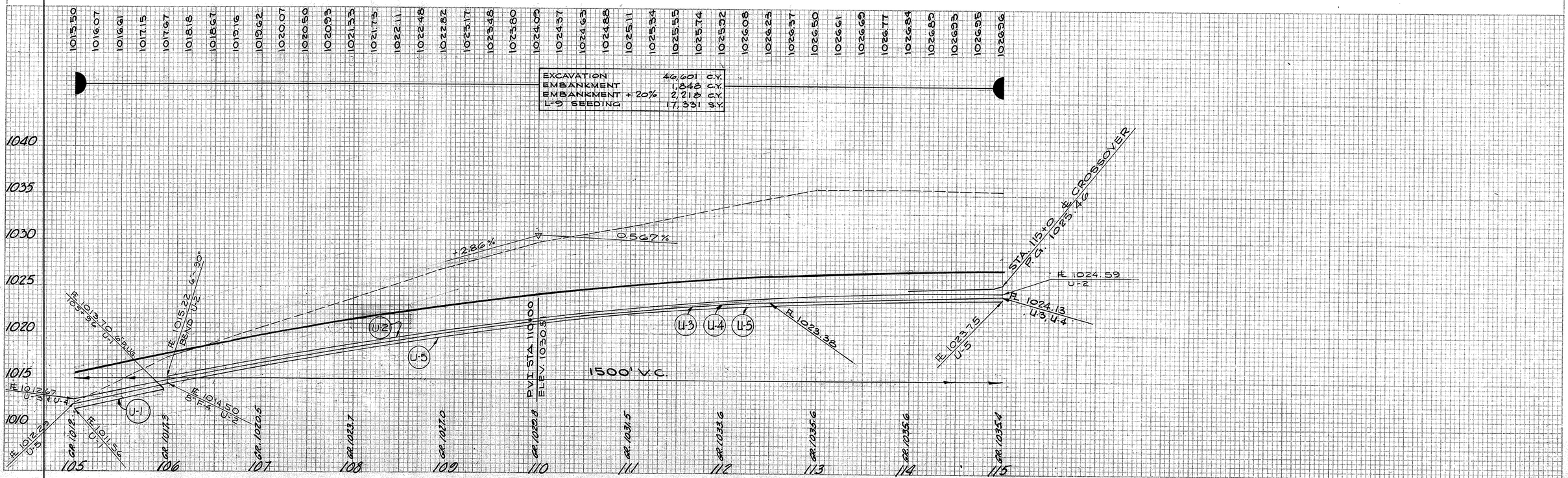


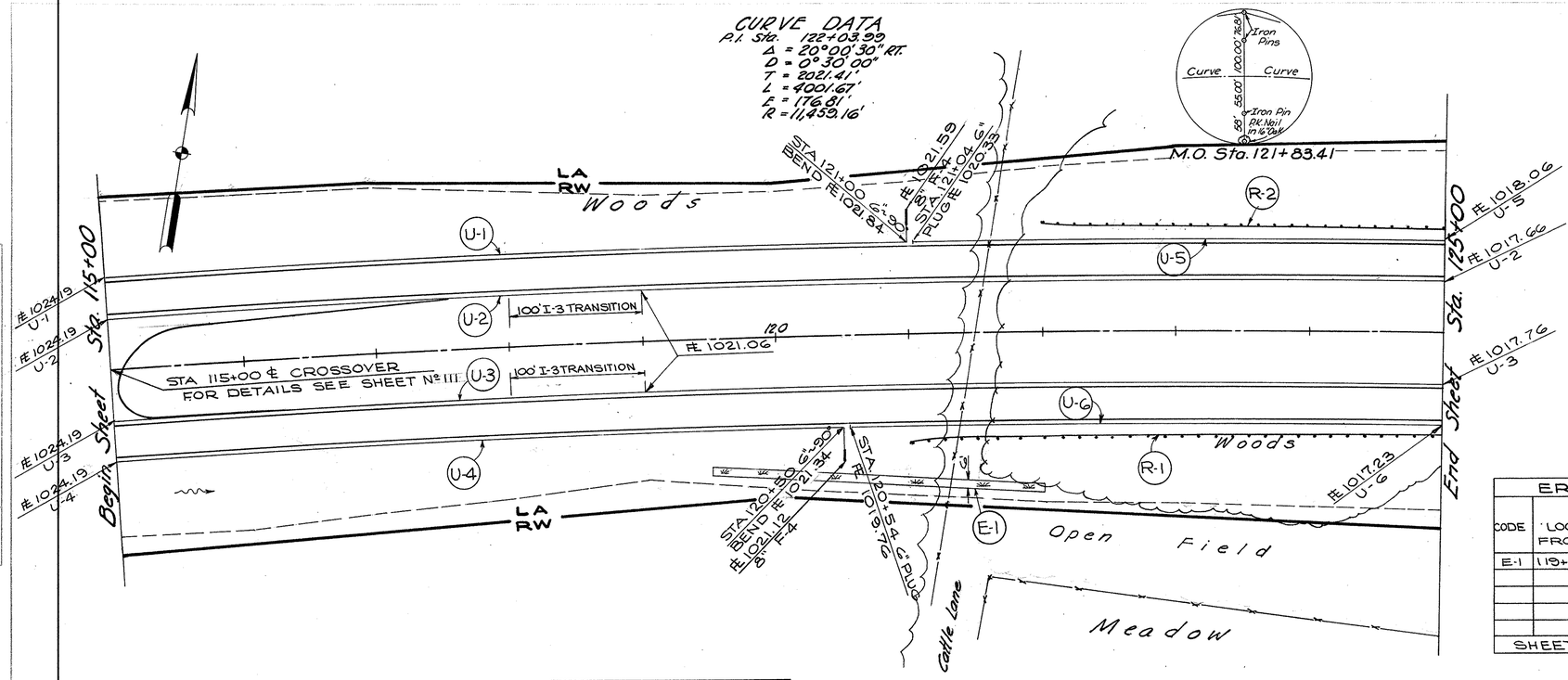
PLATE 4 CROSS SECTION B. P. R. & R. E. STANDARD
ENGINE BRITTON CO. CHICAGO - NEW YORK

Sta. 105+00 to Sta. 115+00

FED.RD.	STATE	PROJECT	
2	OHIO		

25/180

Mah. 18-0.91



I-1 PIPE SEWER (LIN. FT.)							I-5 PIPE SPEC. EA
CODE	LOCATION FROM TO	SIDE ℄	CLASS I-3 6" PIPE SHLL	CLASS I-3 6" PIPE DEEP	CLASS F-4 8" M-64(c)	CLASS I-3 6" PIPE M-64(h)	CLASS I-3 6"~90° BENDS
U-1	115+00-121+00	LT.		216	10	400	1
U-2	115+00-125+00	LT.	600			400	
U-3	115+00-125+00	RT.	600			400	
U-4	115+00-120+50	RT.		166	10	400	1
U-5	121+04-125+00	LT.	396				
U-6	120+54-125+00	RT.	446				
SHEET TOTALS			2042	382	20	1600	2

EROSION CONTROL			
CODE	LOCATION FROM TO	SIDE ℄	L-10 SOD SQ. YD.
E-1	119+50-122+00	RT.	167
SHEET TOTAL			167

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)				
CODE	LOCATION FROM TO	SIDE ℄	STAND. DESIGN	
R-1	121+00-125+00	RT.	400	
R-2	122+00-125+00	LT.	300	
SHEET TOTAL			700	

B.M. RR SPIKE IN ROOT 20" OAK 200' LT. OF ℄ & STA. 122+20 ELEV. 1017.11

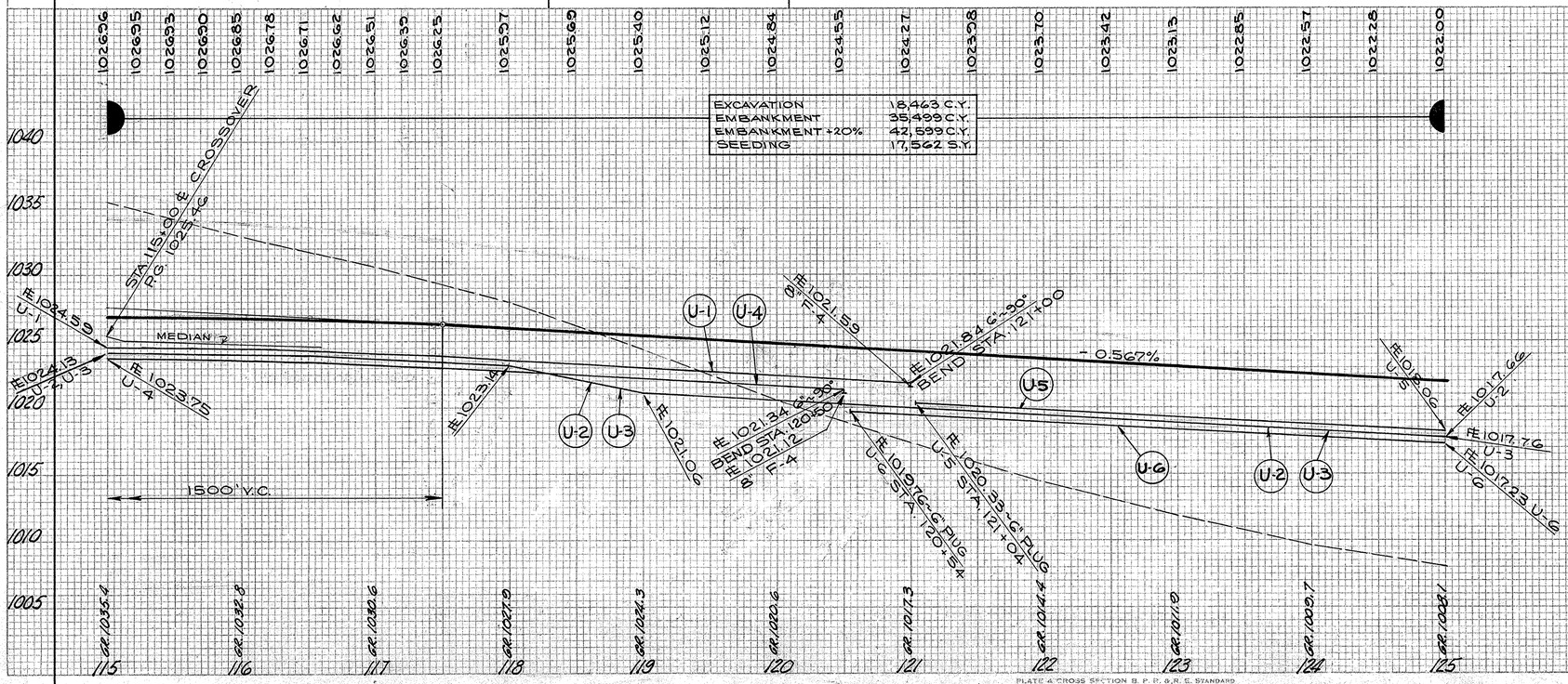


PLATE 4 CROSS SECTION B. P. R. & R. E. STANDARD CHICAGO DISTRICT CO. CHICAGO-NEW YORK

Sta. 115+00 to Sta. 125+00

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., DATE

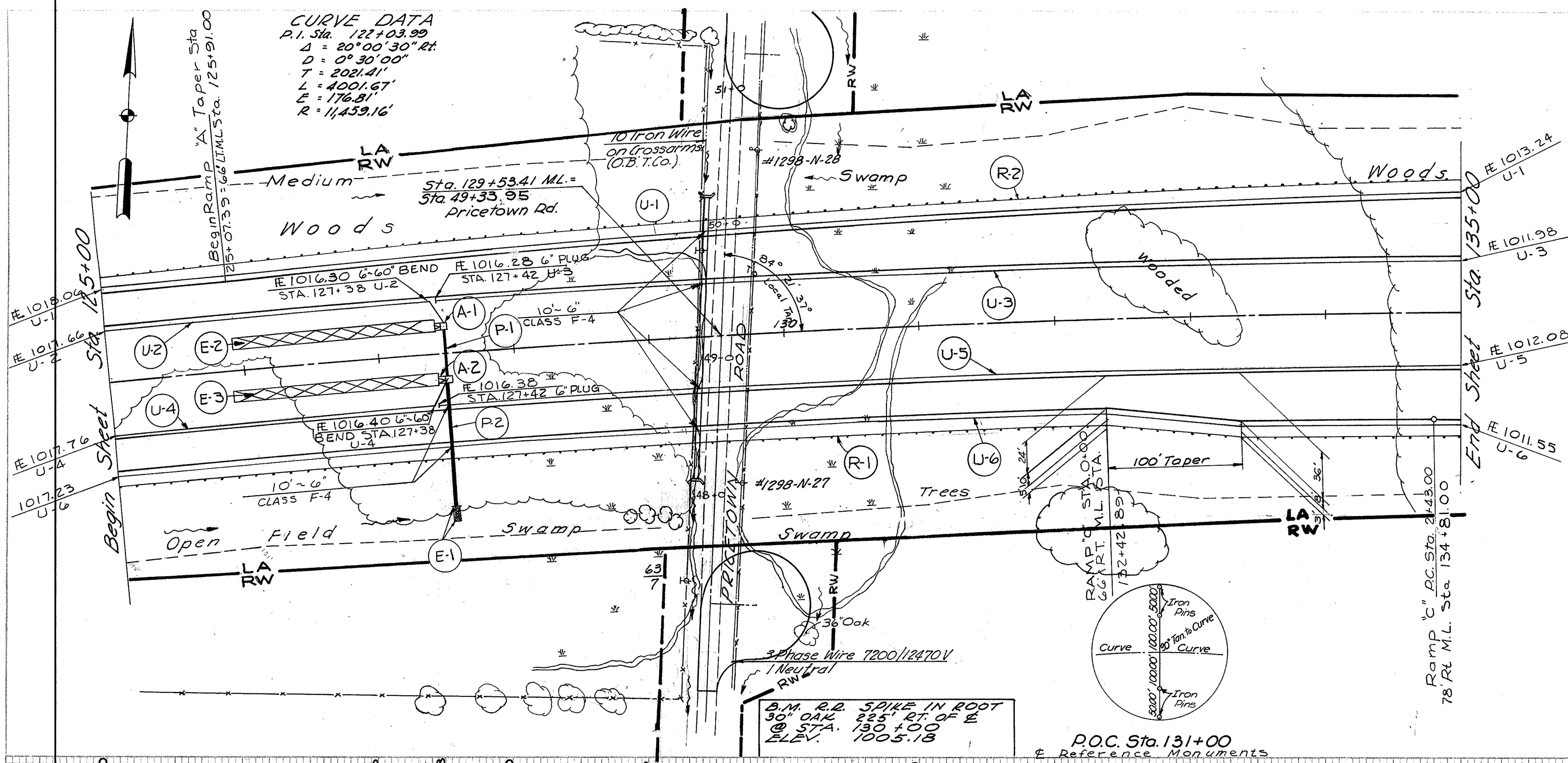
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., DATE, BY

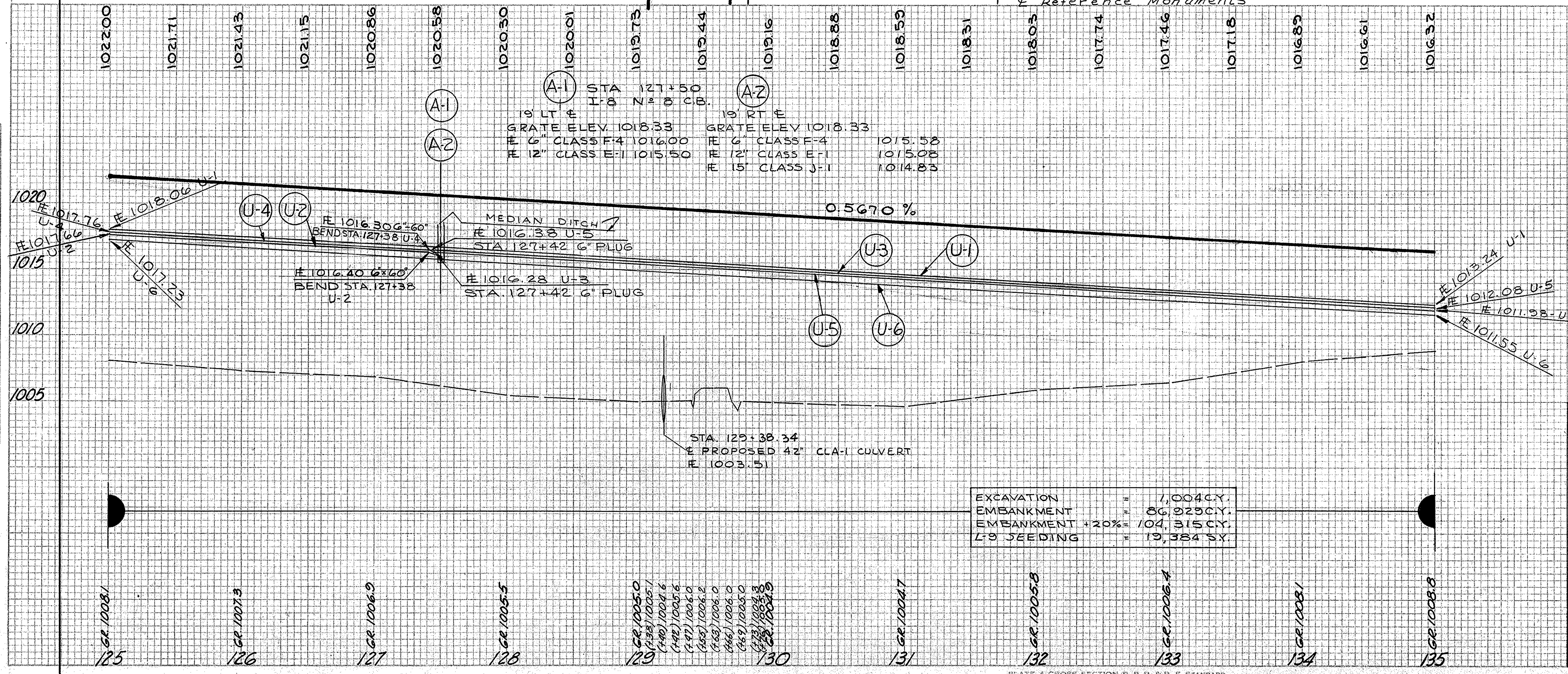
Printed in U.S.A. On IMPERIAL Tracing Cloth

FED.RD.	STATE	PROJECT	
2	OHIO		

26
180

Mah. 18-0.91





EXCAVATION	=	1,004 C.Y.
EMBANKMENT	=	86,929 C.Y.
EMBANKMENT +20%	=	104,315 C.Y.
L-9 SEEDING	=	19,384 S.Y.

I-1 PIPE SEWER (LIN. FT.)									I-5 PIPE SPEC EA BENDS	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" SHALLOW	CLASS F-4 6"	CLASS E-1 12"	CLASS J-1 15"	CLASS F-4 15" M-64(c)	CL I-3 6"-60°	CL F4 15"-25°
U-1	125+00	135+00	LT.	990	10					
U-2	125+00	A-1	LT.	248	10				1	
U-3	127+42	135+00	LT	752	10					
U-4	125+00	A-2	RT.	248	10				1	
U-5	127+42	135+00	RT.	738	20					
U-6	125+00	135+00	RT.	980	20					
P-1	A-1	A-2	L&R			38				
P-2	A-2	RT. Ditch	RT.				66	30		2
SHEET TOTALS				3956	80	38	66	30	2	2

EROSION CONTROL					I-2 MASONRY CU. YDS.	
CODE	LOCATION	L-120 JUTE SQ YDS		I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.	HEADWALL HW-E PIPE	
E-1	123+50 RT. DITCH			1	0.3	
E-2	125+95-127+45 Lt ℄	125				
E-3	127+45-127+45 Rt ℄	125				
SHEET TOTALS		250		1	0.3	

I-8 MANHOLE & CATCH BASIN (EACH)				
CODE	LOCATION	Nº 8 CATCH BASIN		
A-1	127+50 19' LT. ℄	1		
A-2	127+50 19' RT. ℄	1		
SHEET TOTALS		2		

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)				
CODE	FROM	TO	LOCA	STAND DESIGN
R-1	125+00	135+00	RT.	1000
R-2	125+00	135+00	LT.	1000
SHEET TOTALS				2000

NOTES

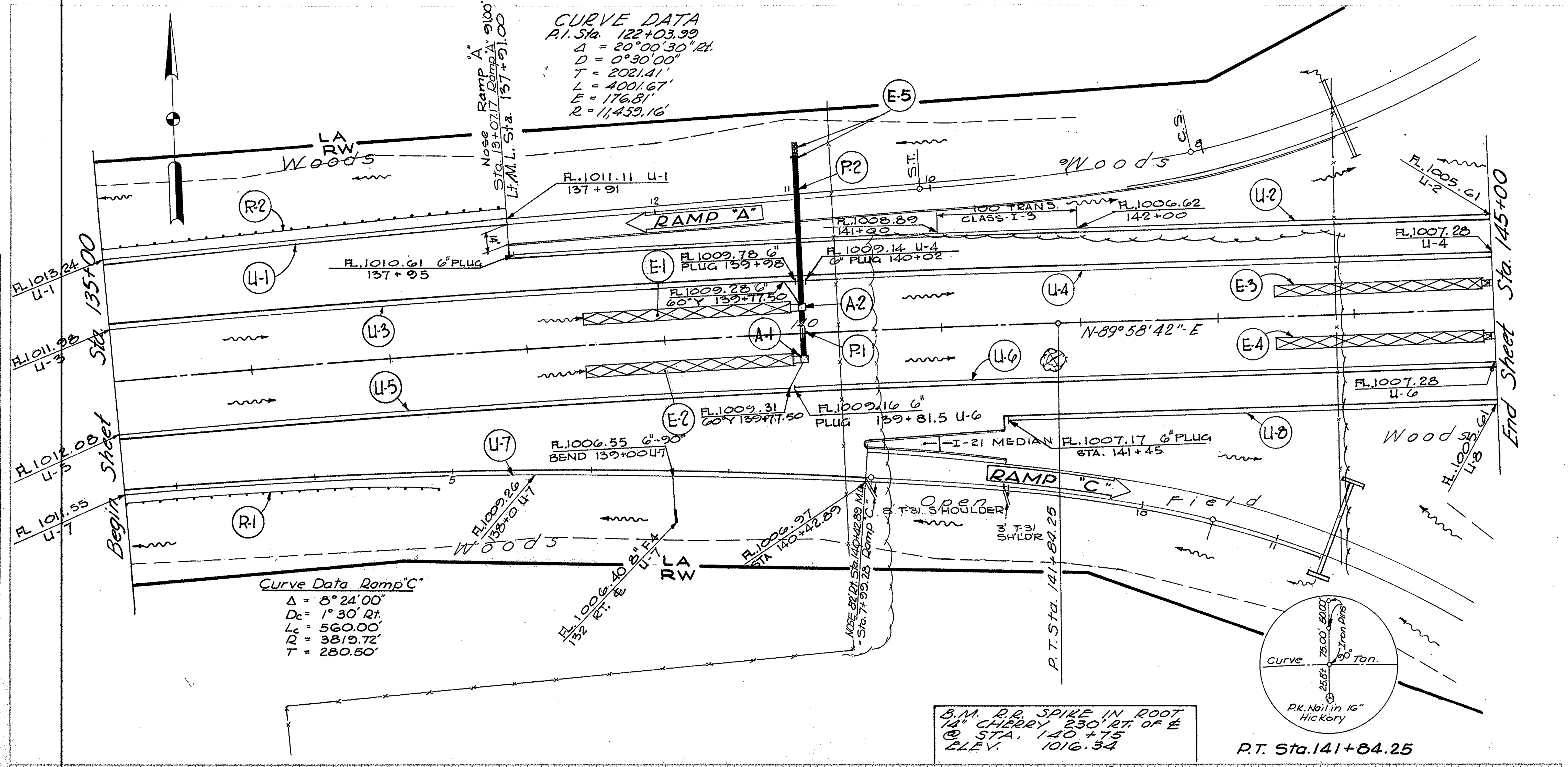
1. FOR CONSTRUCTION DETAILS & QUANTITES OF PROPOSED 42" CLASS A-1 CULVERT LT & RT. OF STA. 129+38.34 SEE SHEET Nº 117
2. FOR DETAILS OF CATCH BASINS AND STORM SEWER OUTLET PROPOSED TO BE CONSTRUCTED LT. & RT. OF STA. 127+50 SEE SHEET Nº 58
3. FOR DETAILS OF PROPOSED CUL-DE-SACS ON PRICETOWN ROAD SEE SHEET Nº 108

Sta. 125+00 to Sta. 135+00

FED. RD.	STATE	PROJECT	
2	OHIO		

27/180

Mah. 18-0.91



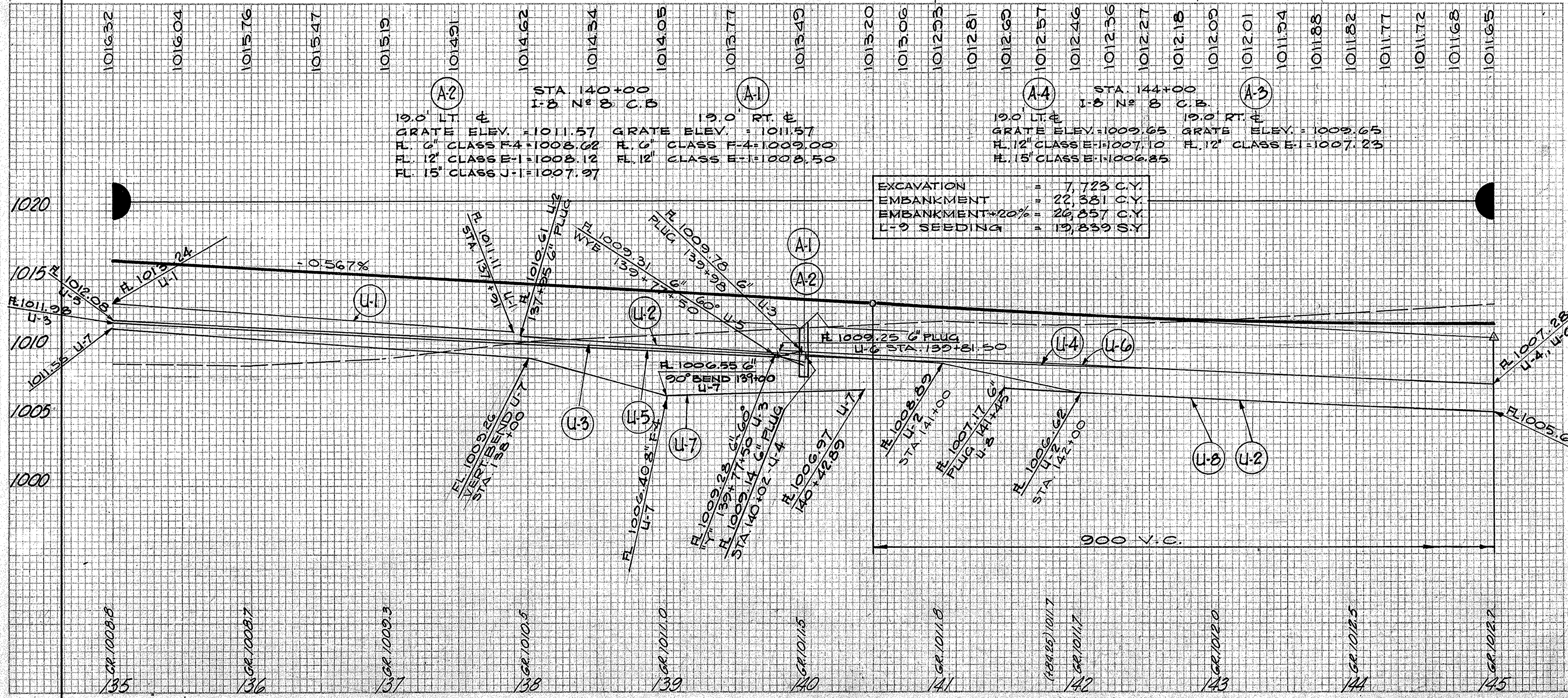
FOR CONSTRUCTION DETAILS OF RAMP "A" & RAMP "C" INTERSECTION WITH THE MAIN-LINE SEE SHEET Nº 105.

I-1 PIPE SEWER (LIN. FT.)											I-5 PIPE SPEC. EA.	
CODE	LOCATION FROM	TO	SIDE ℄	CLASS I-3 6" PIPE SH'LLW	CLASS I-3 6" PIPE DEEP	CLASS F-4 6"	CLASS F-4 8" M-6.4(c)	CLASS-E-1 12" LIN. FT.		CLASS J-1 15" LIN. FT.	CL. I-3 6"×60° WYE	CL-I3 6"×6" TEE
U-1	135+00	137+91	LT	291								
U-2	137+95	145+00	LT	395	300	10						
U-3	135+00	A-2	LT	512		10					1	
U-4	140+02	145+00	LT		498							
U-5	135+00	A-1	RT	492		10					1	
U-6	139+81.5	145+00	RT	519								
U-7	135+00	140+42.9	RT	400	168		10					1
U-8	141+45	145+00	RT		355							
P-1	A-1	A-2						38				
P-2	A-2 to LT DITCH									113		
SHEET TOTAL				2609	1321	30	10	38		113	3	

I-8 MANHOLE & CATCH BASIN (EACH)				
CODE	LOCATION	Nº 8 CATCH BASIN		
A-1	140+00 19' RT ℄	1		
A-2	140+00 19' LT ℄	1		
SHEET TOTAL		2		

EROSION CONTROL				I-2
CODE	LOCATION	L-120 JUTE SQ. YDS.	I-10 DUMP ROCK CH'NN'L PROT. CU. YDS.	MASONY CLC HW-E C.Y.
E-1	138+45-139+95 LT℄	125		
E-2	138+45-139+95 RT℄	125		
E-3	143+43-144+93 LT℄	125		
E-4	143+43-144+93 RT℄	125		
E-5	140+00 LT DITCH		2	0.3
SHEET TOTAL		500	2	0.3

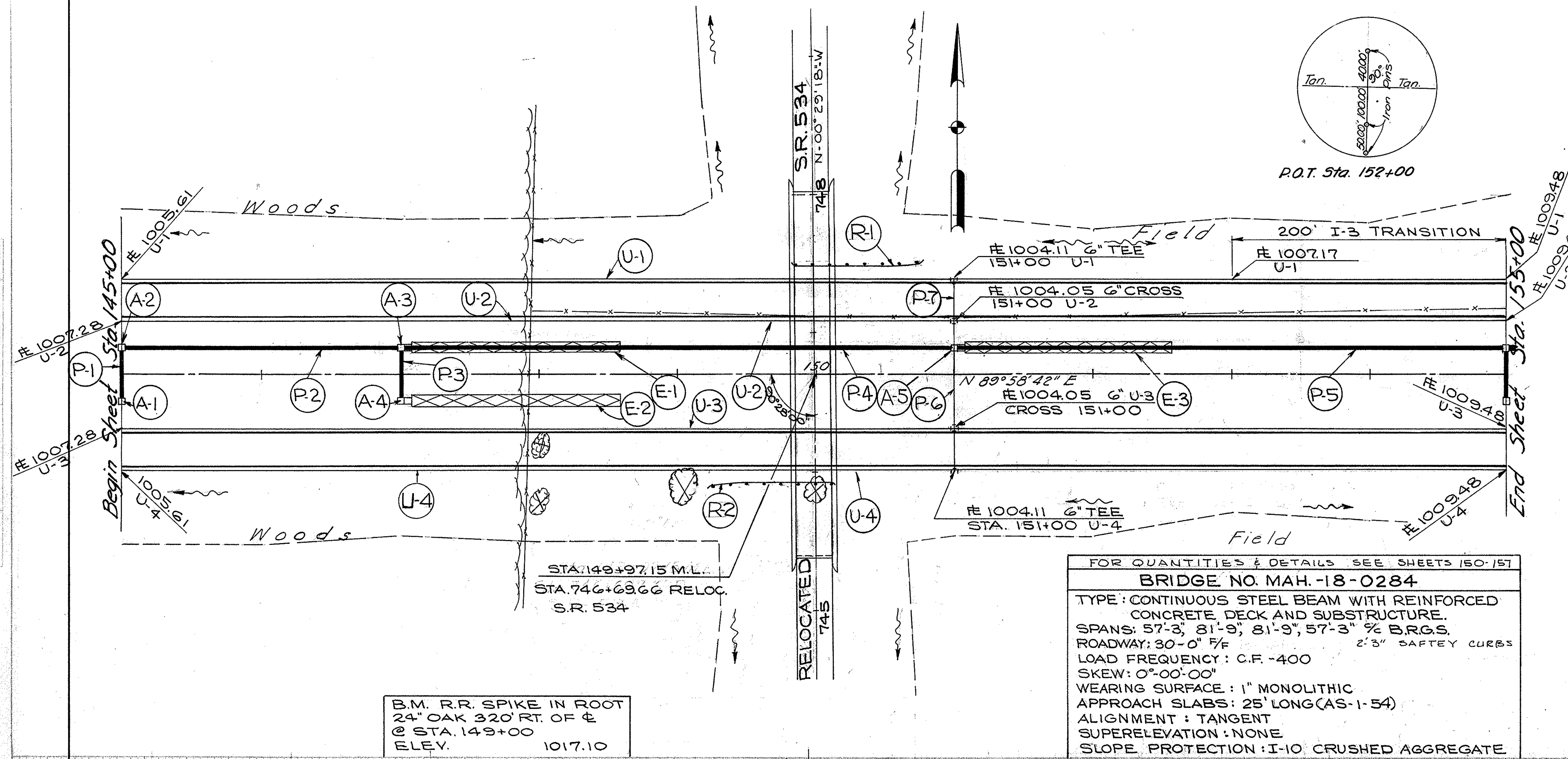
I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	STAND. DESIGN
R-1	135+00	137+00	RT	200
R-2	135+00	137+87.5	LT	287.5
SHEET TOTAL				487.5



NOTES

1. FOR PROFILE & CONSTRUCTIONS DETAILS OF THE PROPOSED CATCH BASIN OUTLETS LT. & RT. OF STA. 140+00 & 144+00 SEE THE RESPECTIVE SHEETS:
   STA. 140+00 SHEET Nº 62.
   STA. 145+00 SHEET Nº 64.
2. FOR CONSTRUCTIONS DETAILS & QUANTITIES OF CLASS I-3 PIPES (U-1 & U-7) BEYOND THE NOSE OF RAMP "A" & RAMP "C" SEE THE RESPECTIVE SHEETS:
   RAMP "A" - SHEET Nº 30
   RAMP "C" - SHEET Nº 32

Sta. 135+00 to Sta. 145+00



FOR QUANTITIES & DETAILS SEE SHEETS 150-157
BRIDGE NO. MAH.-18-0284
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE, DECK AND SUBSTRUCTURE.
SPANS: 57'-3", 81'-9", 81'-9", 57'-3" ℅ B.R.G.S.
ROADWAY: 30'-0" F/F 2'3" SAFTEY CURBS
LOAD FREQUENCY: C.F.-400
SKEW: 0°-00'-00"
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE

B.M. R.R. SPIKE IN ROOT
24" OAK 320' RT. OF ℄
@ STA. 149+00
ELEV. 1017.10

I-1 PIPE SEWER (LIN. FT.)

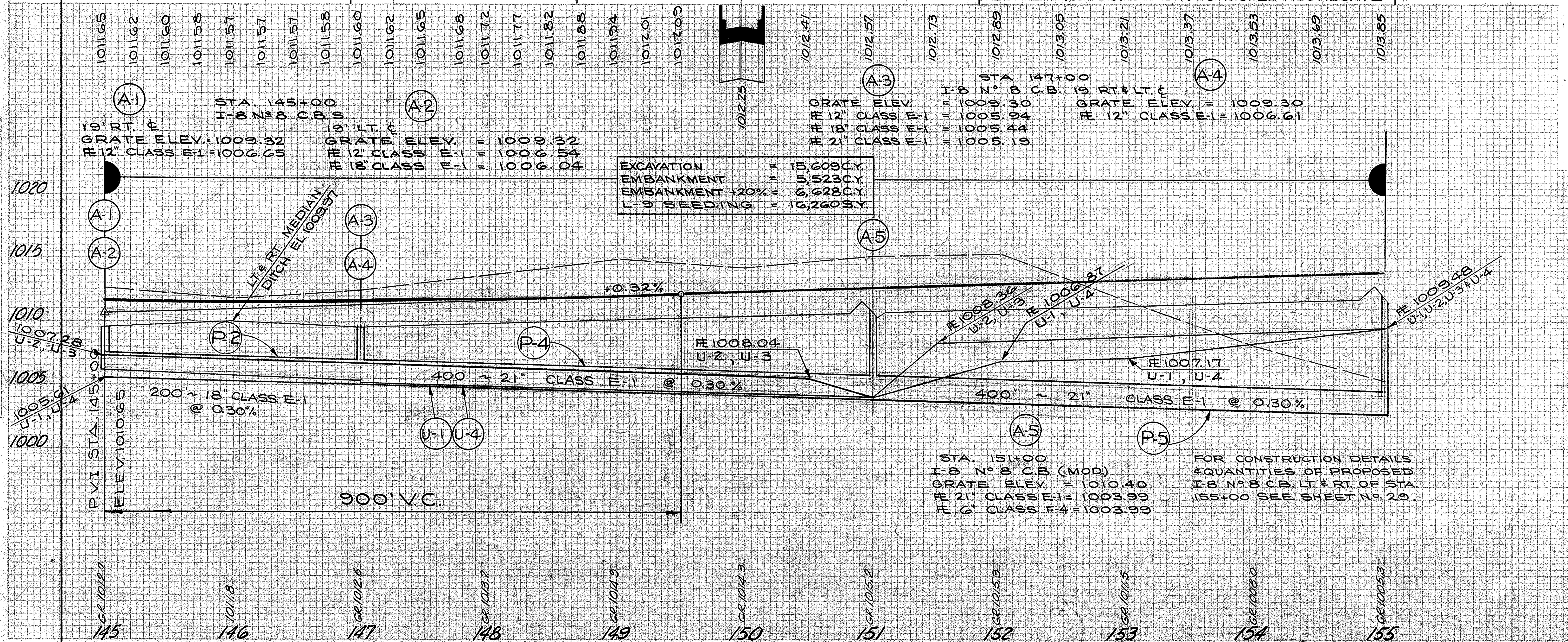
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" PIPE SHLLW	CLASS I-3 6" PIPE DEEP	CLASS F-4 6" PIPE	CLASS E-1 12"	CLASS E-1 18"	CLASS E-1 21"		CLASS J-1 6" M-6.6(b) M-6.8(b)		I-5 PIPE SPEC. CLASS I-3EA TEE 6"	I-5 PIPE SPEC. CLASS I-3EA CROSS 6"x6"
U-1	145+00	155+00	LT.	200	800								1	
U-2	145+00	155+00	LT.	1000										1
U-3	145+00	155+00	RT.	1000										1
U-4	145+00	155+00	RT.	200	800								1	
P-1	A-1	A-2	L&R				38							
P-2	A-2	A-3	LT.					200						
P-3	A-3	A-4	L&R				38							
P-4	A-3	A-5	LT.						400					
P-5	A-5	155+00	LT.						400					
P-6	151+00		RT.			10					78			
P-7	151+00		LT.			10					39			
SHEET TOTAL				2400	1600	20	76	200	800		117		4	

I-8 MANHOLE & CATCH BASIN (EACH)

CODE	LOCATION		Nº 8 C.B.	MOD. Nº 8 C.B.
A-1	145+00-19' RT. ℄		1	
A-2	145+00-19' LT. ℄		1	
A-3	147+00-19' LT. ℄		1	
A-4	147+00-19' RT. ℄		1	
A-5	151+00-19' LT. ℄			1
SHEET TOTAL			4	1

EROSION CONTROL

CODE	LOCATION	L-120 JUTE MATTING SQ. YDS.	
E-1	147+05-148+55 LT.	125	
E-2	147+05-148+55 RT.	125	
E-3	151+05-152+55 LT.	125	
SHEET TOTAL		375	



NOTE

FOR PROFILE & CONSTRUCTION DETAILS OF THE PROPOSED CATCH BASIN OUTLETS LT. & RT. OF STA. 145+00 & 147+00 & 155+00 & LT. OF 151+00 SEE THE RESPECTIVE SHEETS.
STA. 145+00 - SHEET Nº 64. STA. 155+00 - SHEET Nº 67.
STA. 147+00 - SHEET Nº 65. STA. 151+00 - SHEET Nº 66.
FOR DETAILS & QUANTITIES OF RELOCATED S.R. 534 SEE SHEET Nºs 86-90

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

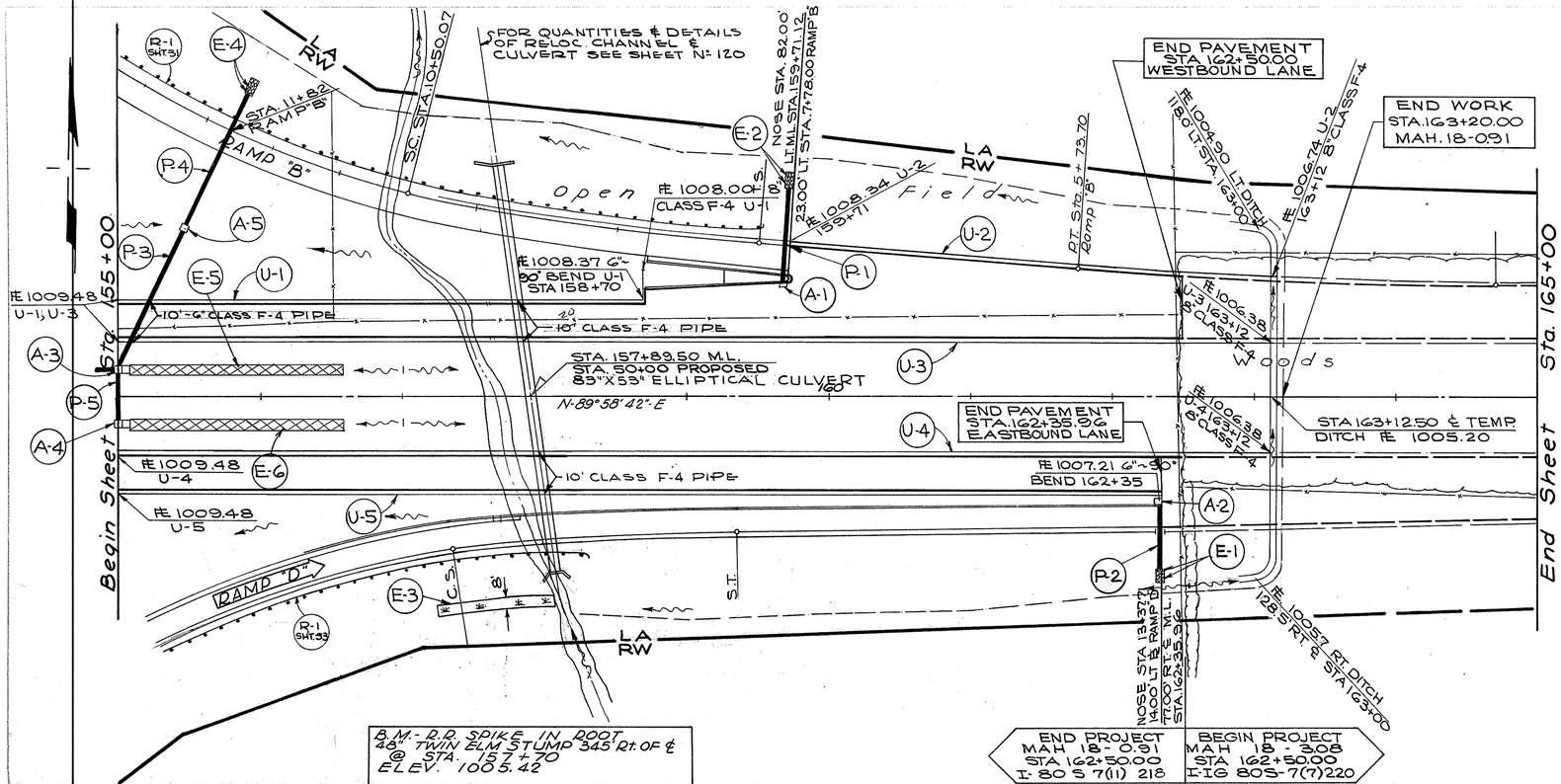
CODE	FROM	TO	LOCA.	ST'D DESIGN LIN. FT.
R-1	149+86	150+86	LT.	87.5
R-2	149+10	150+10	RT.	87.5
SHEET TOTAL				175.0

Sta. 145+00 to Sta. 155+00

FED.RD.	STATE	PROJECT	
2	OHIO		

29/180

Mah. 18-0.91



I-1 PIPE SEWER (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE &	CLASS I-3 6" PIPE SH.L.W.	CLASS F-4 PIPE 6"	CLASS F-4 PIPE 8" M-64(6)	CLASS F-4 PIPE 12"	CLASS F-4 15" PIPE M-64(c)	CLASS J-1 15"	CLASS J-1 21" M-66(b) M-68(b)	CLASS J-1 30"	I-5 PIPE SPEC. EACH CL. I-3 6"~90° BEND	CL. F-4 15"~15° BEND
U-1	155+00	158+70	LT.	350	30	10						1	
U-2	159+71	163+12	LT.	334		10							
U-3	155+00	163+12	LT.	772	30	10							
U-4	155+00	163+12	RT.	782	20	10							
U-5	155+00	162+35	RT.	710	25							1	
P-1	A-1 - LT. SIDE DITCH		LT.					33	35				2
P-2	A-2 - RT. SIDE DITCH		RT.						52				
P-3	A-3	To A-5	LT.							110			
P-4	A-5	To E-4	LT.								106		
P-5	A-4	To A-3	&				38						
SHEET TOTAL				2248	105	40	38	33	87	110	106	2	2

I-8 MAHHOLE & CATCH BASIN (EACH)

CODE	LOCATION	Nº 6 CATCH BASIN	Nº 8 CATCH BASIN STD. MOD	Nº 5 CATCH BASIN
A-1	159+69.62 79' LT. &	1		
A-2	162+34.46 76' RT. &	1		
A-3	155+00 19' LT. &		1	
A-4	155+00 19' RT. &		1	
A-5	155+47 119' LT. &			1
SHEET TOTAL		2	1	1

EROSION CONTROL

CODE	LOCATION	I-10 DUMPED ROCK CU. YDS.	I-10 SOD SQ. YDS.	I-2 MASONRY H W-E 15" PIPE CU. YDS.	L-120 JUTE MATTING SQ. YDS.
E-1	162+34 RT. DITCH	1		0.3	
E-2	159+71 LT. DITCH	1		0.3	
E-3	157+25 - 158+09		75		
E-4	LT. RAMP B ~ 11+82	2		0.5	
E-5	155+05 - 156+55				125
E-6	155+05 - 156+55				125
SHEET TOTALS		4	75	1.1	250

NOTES

1. FOR PROFILE & DETAILS OF PROPOSED CATCH BASIN OUTLETS LT. OF STA. 159+75 & RT. OF STA. 161+25 SEE THEIR RESPECTIVE SHEETS:
   STA. 159+75 - SHEET Nº 68 STA. 162+34.5 SHEET Nº 69
2. FOR CONSTRUCTION DETAILS & QUANTITIES OF CLASS I-3 PIPES (U-2) BEYOND THE NOSE OF RAMPS "B" & "D" SEE THEIR RESPECTIVE SHEET:
   RAMP "B" - SHEET Nº 31 RAMP "D" - SHEET Nº 33

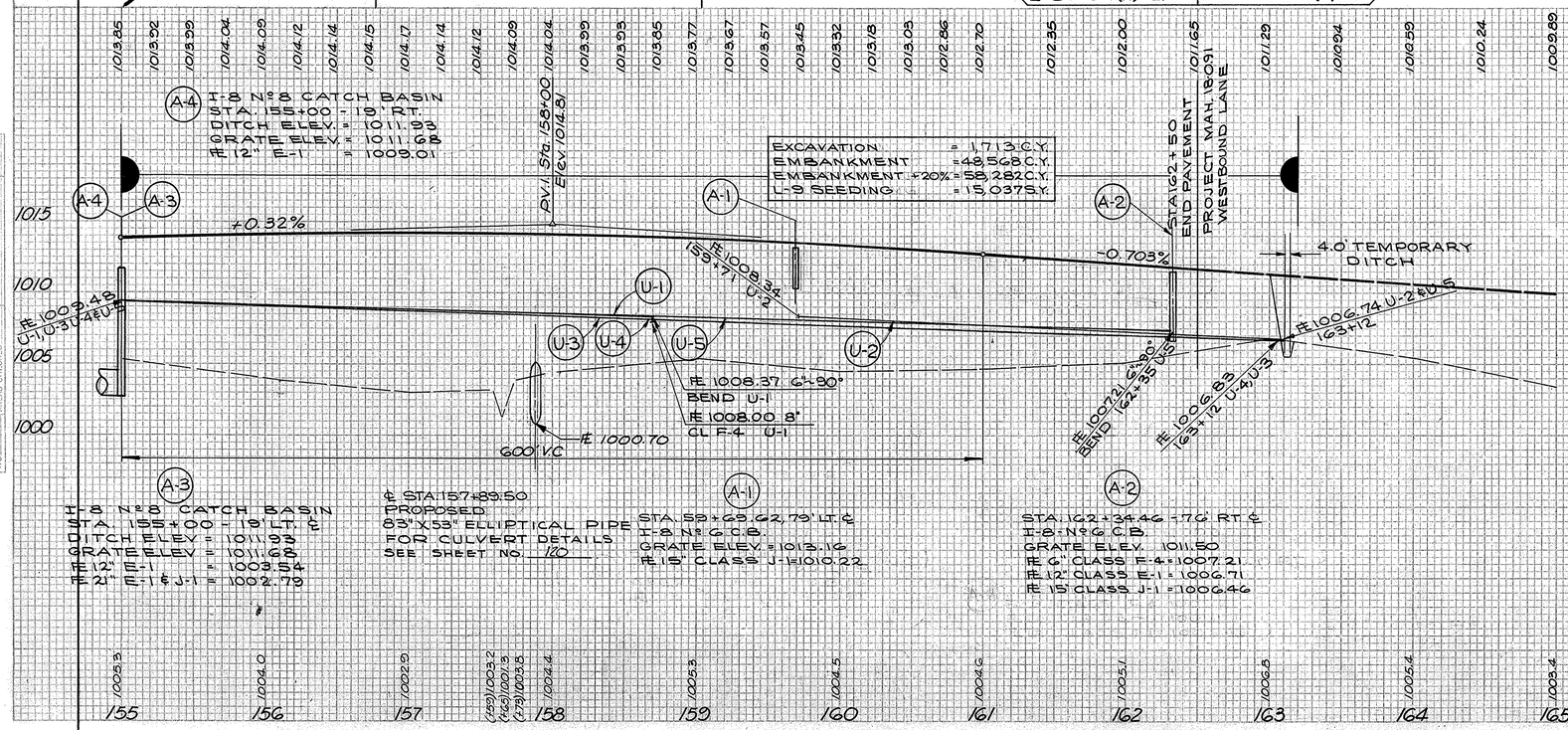


PLATE 4—CROSS SECTION O. P. R. & R. E. STANDARD KEUFFEL & ESSER CO., NEW YORK

Sta. 155+00 to Sta. 165+00

FED. RD.	STATE	PROJECT
2	OHIO	

30 / 180

MAH. 18-0.91

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	STAND DESIGN	STAND DESIGN R-36.5
R-1	3+32.5 RAMP "A"	750+86.6 RELOC 534	LT	262.5	62.5
R-2	3+30.5 RAMP "A"	751+59.0 RELOC 534	RT	275.0	62.5
SHEET TOTAL				537.5	125.0

I-1 PIPE SEWER (LIN. FT.) / I-5 PIPE SPEC. EA.

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" PIPE SHALLOW	CLASS F-4 6" PIPE	CLASS F-4 8" M&O OUTLET	CLASS I-3 6" × 6" TEE	CLASS I-3 6"~60° WYE	CLASS I-3 6"~60° BEND
U-1	13+07	9+50	RT	362	10	10	1		
U-2	9+50	7+05	RT	245					
U-3	7+01	3+34	RT	376		10		1	
U-4	3+34	1+49	LT	191		10			1
U-5	3+34	752+34 SR 534	RT	224		20			1
SHEET TOTAL				1398	10	50	4		

I-12 CONCRETE CURB (LIN. FT.)

CODE	FROM	TO	LOCA.	Nº 8
C-1	7+57	13+07	LT	550
SHEET TOTAL				550

NOTES

1. FOR INTERSECTION DETAILS OF RAMP 'A' & RELOCATED S.R. 534 SEE SHEET Nº 107
2. FOR CONSTRUCTION DETAILS & QUANTITIES BEYOND THE NOSE OF RAMP "A" SEE SHEET Nº 27 & 105
3. FOR CONSTRUCTION DETAILS & QUANTITIES OF THE PROPOSED 18" CLASS A-1 CULVERT LT & RT OF STA. 7+03 SEE SHEET Nº 122
4. FOR CONSTRUCTION DETAILS & QUANTITIES OF THE PROPOSED 15" CLASS J-1 PIPE LT. & RT. OF STA. 10+96 SEE SHEET Nº 62 & 27.

EXCAVATION	=	1144 CY.
EMBANKMENT	=	11685 CY.
EMBANKMENT + 20%	=	14022 CY.
L-9 SEEDING	=	8456 SY.

RAMP 'A' STA. 0+00 – STA. 13+07.17

I-12 CONCRETE CURB (LIN. FT.)

CODE	FROM	TO	LOCA.	Nº 6
C-1	7+78	8+77	LT	200
SHEET TOTAL				200

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

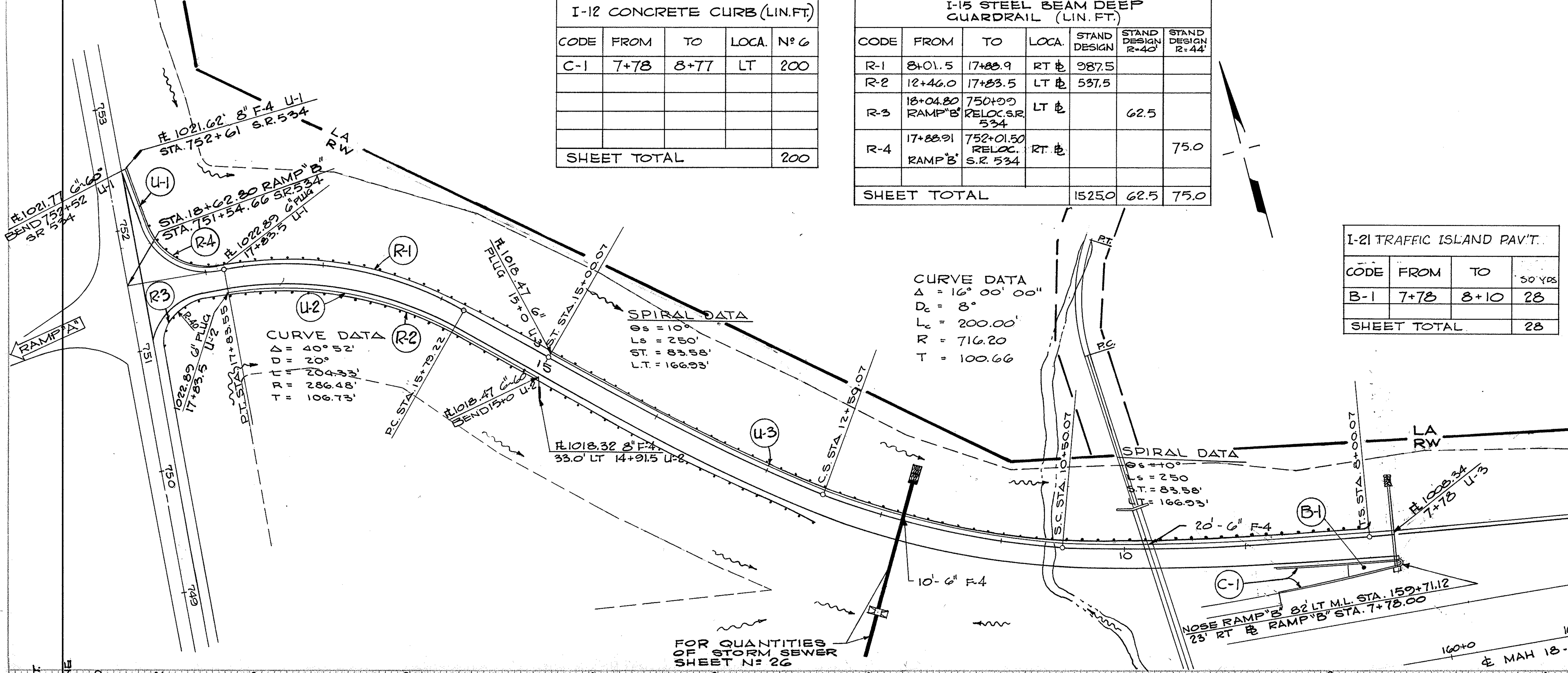
CODE	FROM	TO	LOCA.	STAND DESIGN	STAND DESIGN R=40'	STAND DESIGN R=44'
R-1	8+01.5	17+88.9	RT ℄	987.5		
R-2	12+46.0	17+83.5	LT ℄	537.5		
R-3	18+04.80 RAMP "B"	750+99 RELOC. S.R. 534	LT ℄		62.5	
R-4	17+88.91 RAMP "B"	752+01.50 RELOC. S.R. 534	RT ℄			75.0
SHEET TOTAL				1525.0	62.5	75.0

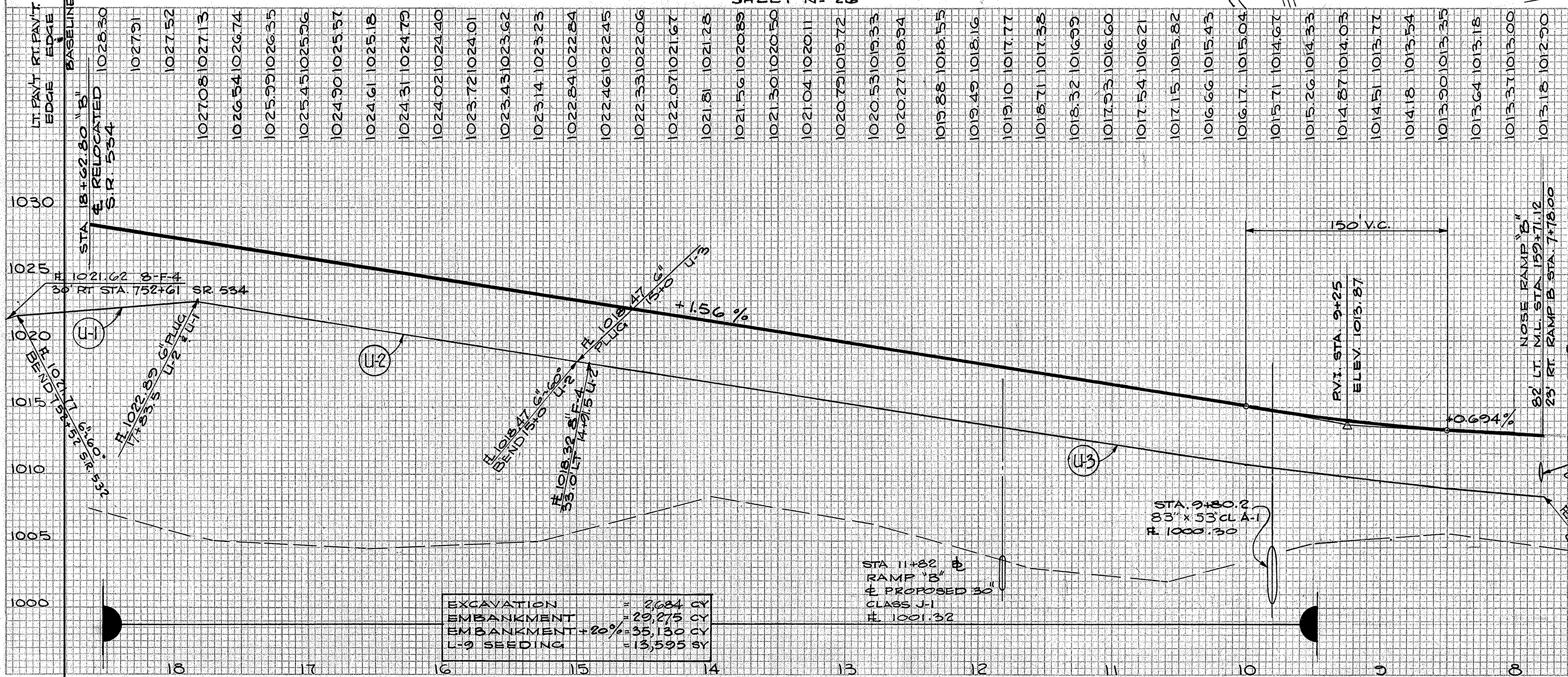
I-1 PIPE SEWER (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" PIPE SHALLOW	CLASS F-4 6"	CLASS F-4 8" M-64(c)			I-5 PIPE SPEC. EA. CLASS I-3 6"-60° BEND EACH
U-1	752+61 SR 534	17+83.5 RAMP "B"	RT	142		10			1
U-2	17+83.5	14+91.5	LT	287		10			1
U-3	15+00	7+78	RT	692	30				
SHEET TOTAL				1121	30	20			2

I-21 TRAFFIC ISLAND PAV'T.

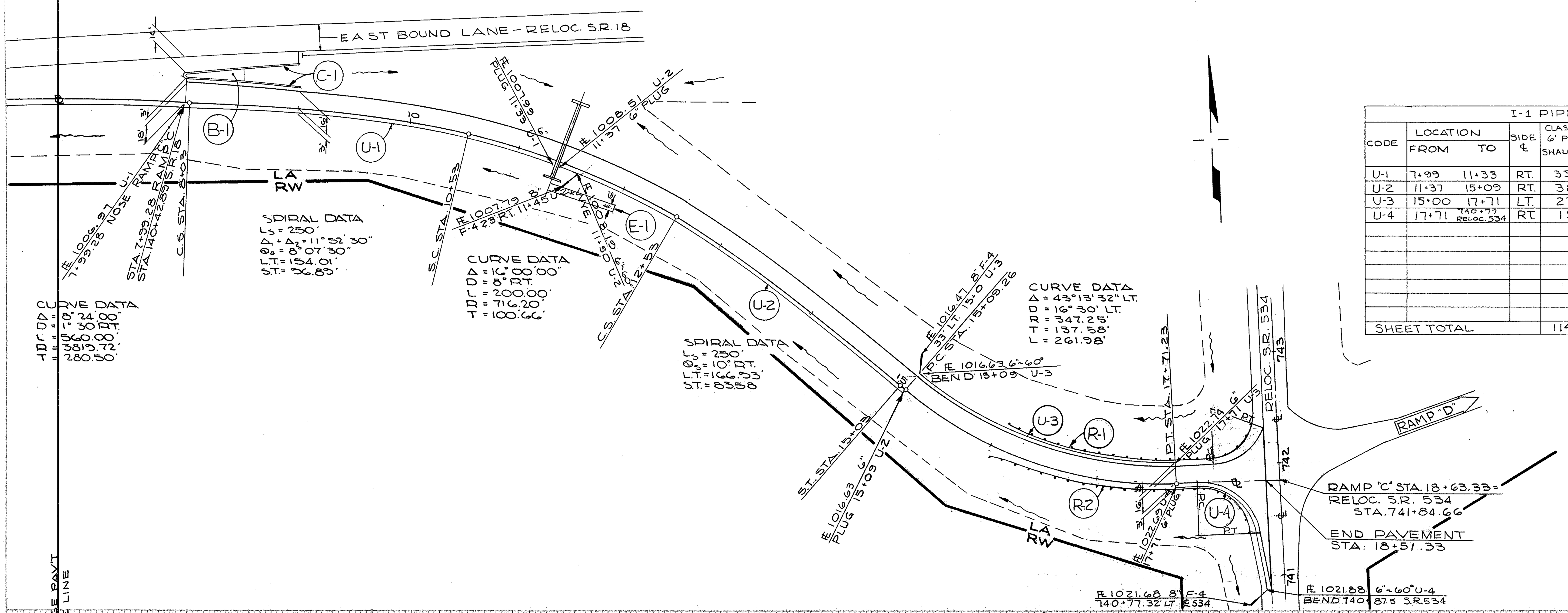
CODE	FROM	TO	SQ. YDS
B-1	7+78	8+10	28
SHEET TOTAL			28

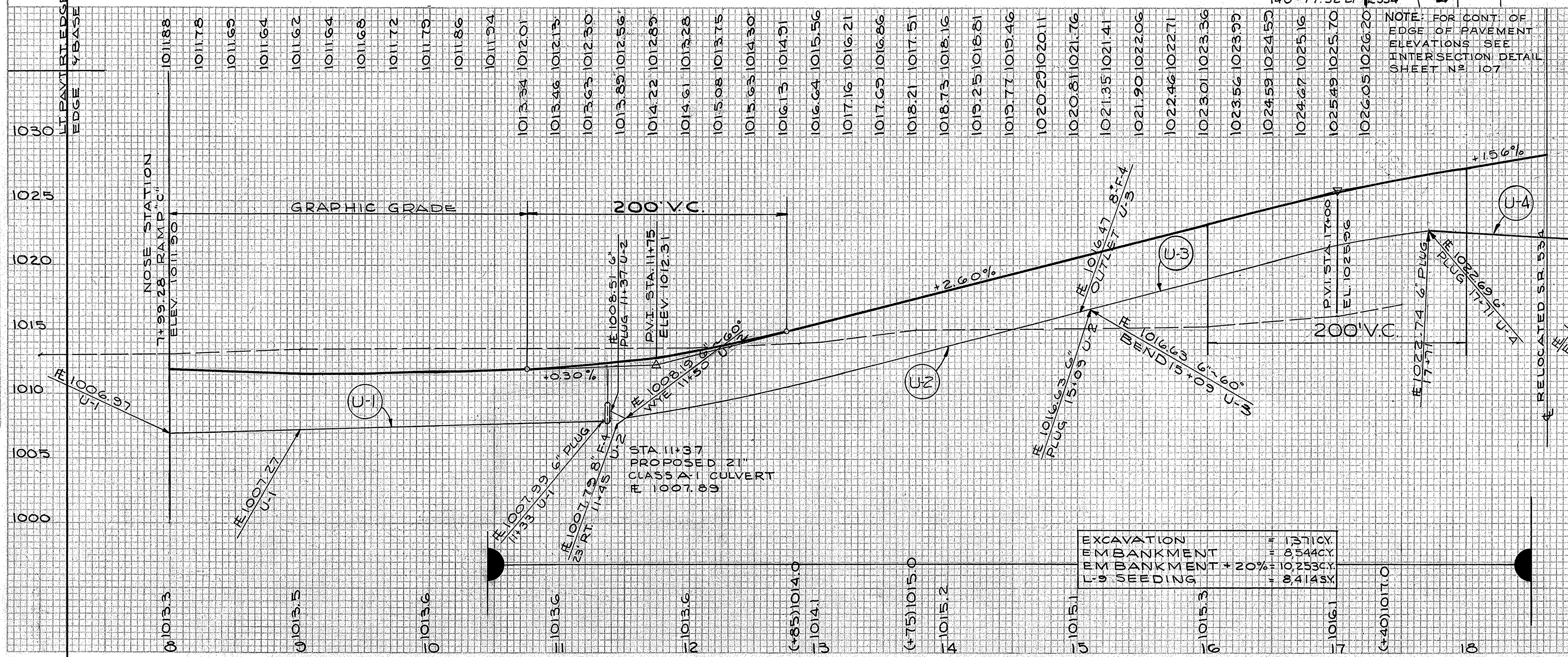




NOTES

1. FOR CONSTRUCTION DETAILS & QUANTITIES OF CLASS I-3 PIPE (U-3) BEYOND THE NOSE OF RAMP "C" SEE SHEET Nº 29
3. FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 83" x 53" CL. G-1 CULVERT LT. & RT. OF STA. 9+80. SEE SHEET Nº 120
4. FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 15" CLASS J-1 PIPE LT. & RT. OF STA. 7+79.5 SEE SHEET Nº 29 & 67
5. FOR PAVEMENT DETAILS OF RAMP "B" & THE MAINLINE SEE SHEET Nº 106
6. FOR INTERSECTION DETAILS OF RAMP "B" & RELOC. S.R. 534 SEE SHEET Nº 107





EXCAVATION	= 1371 C.Y.
EMBANKMENT	= 8544 C.Y.
EMBANKMENT + 20%	= 10,253 C.Y.
L-9 SEEDING	= 8414 S.Y.

I-1 PIPE SEWER (LIN. FT.) / I-5 PIPE SPEC. EA.

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6' PIPE SHALLOW	CLASS F-4 8" PIPE M-64(G)				CLASS I-3 6"-60° WYE	CLASS I-3 6"-60° BEND
U-1	7+99	11+33	RT.	334						
U-2	11+37	15+09	RT.	382	10				1	
U-3	15+00	17+71	LT.	270	10					1
U-4	17+71	740+77 RELOC. 534	RT.	156	10					1
SHEET TOTAL				1142	30				3	

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)

CODE	FROM	TO	LOCA	STAND DESIGN	STAND DESIGN R=43'
R-1	16+05 RAMP "C"	742+35 RELOC. 534	LT.	200.0	62.5
R-2	16+02.9 RAMP "C"	741+41 RELOC. 534	RT.	187.5	75.0
SHEET TOTAL				387.5	137.5

I-12 CONCRETE CURB (LIN. FT.)

CODE	FROM	TO	LOCA.	Nº 6
C-1	7+99	8+98	LT.	200
SHEET TOTAL				200

I-21 TRAFFIC ISLAND PAV'T

CODE	FROM	TO	SQ YDS
B-1	7+99	8+41	28
SHEET TOTAL			28

EROSION CONTROL

CODE	LOCATION	L-10 SODDING SQ YDS
E-1	11+35 TO 11+75 RT	27
SHEET TOTAL		27

NOTES

① FOR CONSTRUCTION DETAILS & QUANTITIES OF CLASS I-3 PIPE (U-1) BEYOND THE NOSE OF RAMP "C" SEE SHEET Nº 27

② FOR PAVEMENT DETAILS OF RAMP "C" & THE MAINLINE SEE SHEET Nº 105

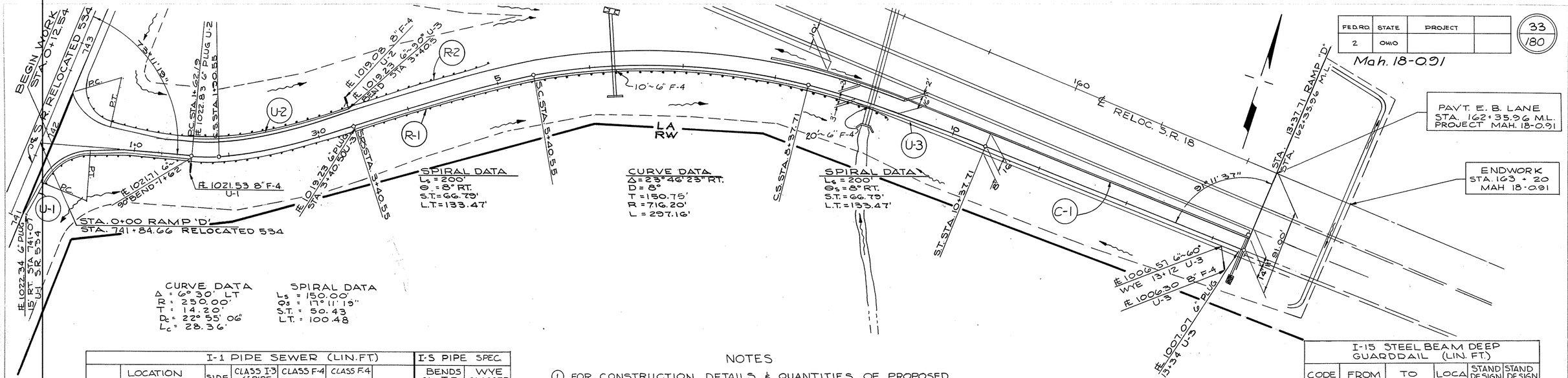
③ FOR INTERSECTION DETAILS OF RAMP "C" & RELOC. S.R. 534 SEE SHEET Nº 107

④ FOR CONSTRUCTION DETAILS & QUANTITES OF PROPOSED CLASS A-1 CULVERT STA. 11+37 SEE SHEET Nº 123

FED.RD.	STATE	PROJECT	
2	OHIO		

33
180

Mah. 18-0.91



CURVE DATA
Δ = 6° 30' LT
R = 250.00'
T = 14.20'
Dc = 22° 55' 06"
Lc = 28.36'

SPIRAL DATA
Ls = 150.00'
Θs = 17° 11' 19"
S.T. = 50.43
L.T. = 100.48

I-1 PIPE SEWER (LIN.FT)							I-5 PIPE SPEC.	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CLASS I-3 6" PIPE SHALLOW	CLASS F-4 6" PIPE	CLASS F-4 8" PIPE M-64(C)	BENDS CL. I-3 6"-90° EA.	WYE CLASS I-3 6"-60° EA.
U-1	741+07 (534)	1+62 ("D")	RT.	219		10	1	
U-2	1+62	3+40.5	LT.	181		10	1	
U-3	3+40	13+34	RT.	979	30	10		1
SHEET TOTAL				1379	30	30		3

NOTES

1. FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 15" CLASS A-1 CULVERT LT. & RT. OF RAMP "D" STA. 6+25 SEE SHEET Nº 124
2. FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 83"x53" CLASS G-1 CULVERT LT. & RT. OF RAMP "D" STA. 9+06, SEE SHEET Nº 120
3. FOR PAVEMENT DETAILS OF RAMP "D" & THE MAINLINE SEE SHEET Nº 106
4. FOR INTERSECTION DETAILS OF RAMP "D" & RELOCATED S.R. 534 SEE SHEET Nº 107

I-12 CONCRETE CURB (LIN. FT.)						
CODE	FROM	TO	LOCA.	Nº 8		
C-1	7+88	13+37.71		550		
SHEET TOTAL				550		

I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)					
CODE	FROM	TO	LOCA	STAND DESIGN	STAND DESIGN R=45
R-1	741+44 RELOC. 534	9+28 RAMP "D"	RT.	875.0	62.5
R-2	742+82 RELOC. 534	4+85.95 RAMP "D"	LT.	412.5	62.5
SHEET TOTAL				1287.5	125.0

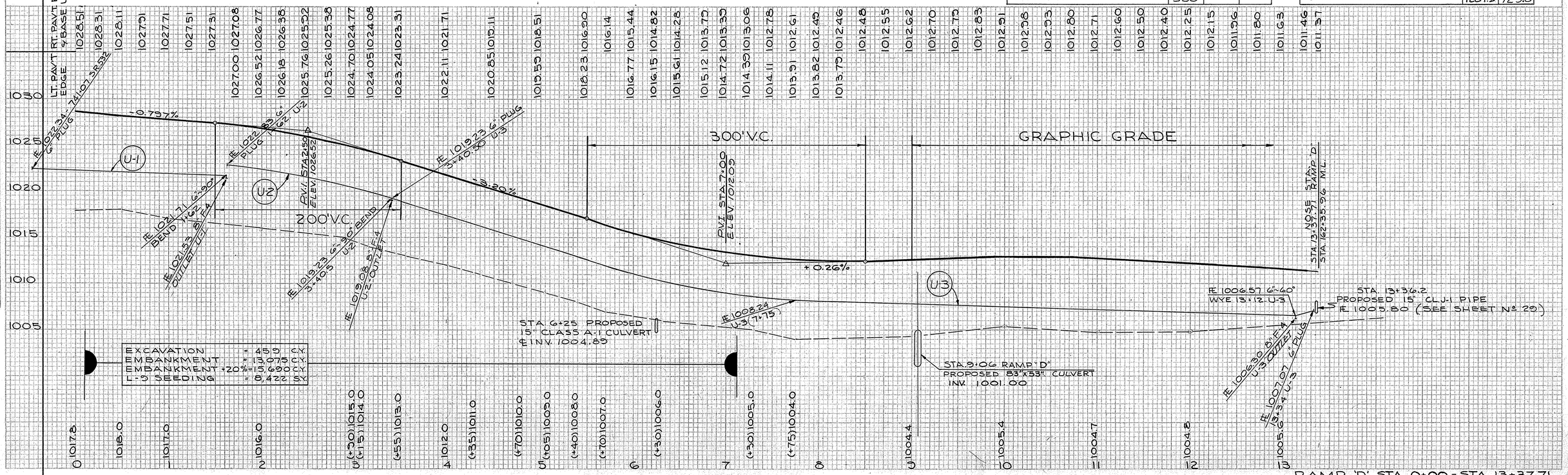


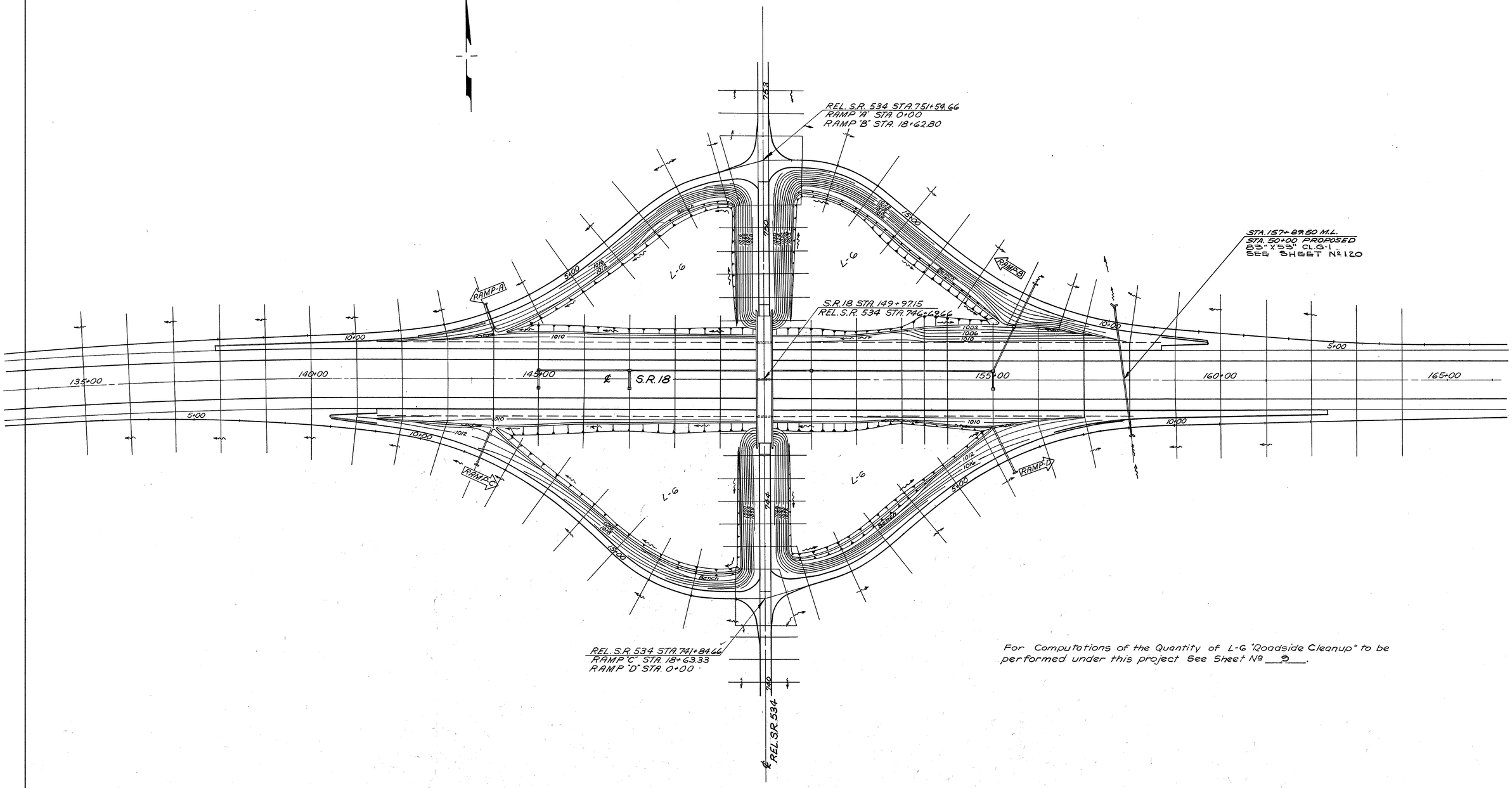
PLATE 1—CROSS SECTION, O.P.R.&R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

RAMP 'D' STA. 0+00 - STA. 13+37.71

F.E.D. RD. DIVISION	STATE	PROJECT	
2	OHIO		

34
180

MAH.-18-0.91



For Computations of the Quantity of L-G "Roadside Cleanup" to be performed under this project See Sheet Nº 2.

GRADING & CROSS SECTION PLAN
S.R.-18 & S.R.-534 INTERCHANGE

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

STA. 46+00 TO STA. 48+22.75

FED. RD.	STATE	PROJECT	
2	OHIO		

36
180

Mah. 18-0.91

SEEDING
END WIDTH 30 YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

960
950
940
930

51+48.3
933.2

960
950
940
930

49+76.3
939.8

960
950
940

48+84
948.3

960
950

48+63
955.1

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

PLATE 3-CROSS SECTION O.P.C.& N.Y. STANDARD
KEUFFEL & ESSER CO., NEW YORK

STA 48+63 To STA 51+48

SEEDING	
END WIDTH	SQ. YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

37/180

Mah. 18-0.91

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

960
950
940
930

960
950
940
930

960
950
940
930

960
950
940
930

59+22.3
930.5

966.65

56+94.3
930.0

966.19

54+68.3
930.0

965.58

52+90.3
935.0

967.73

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

PLATE 3 CROSS SECTION C.P.R.R.& I.T. STANLAND
KEUFFEL & ESSER CO., NEW YORK

STA 52+90 To STA 59+22

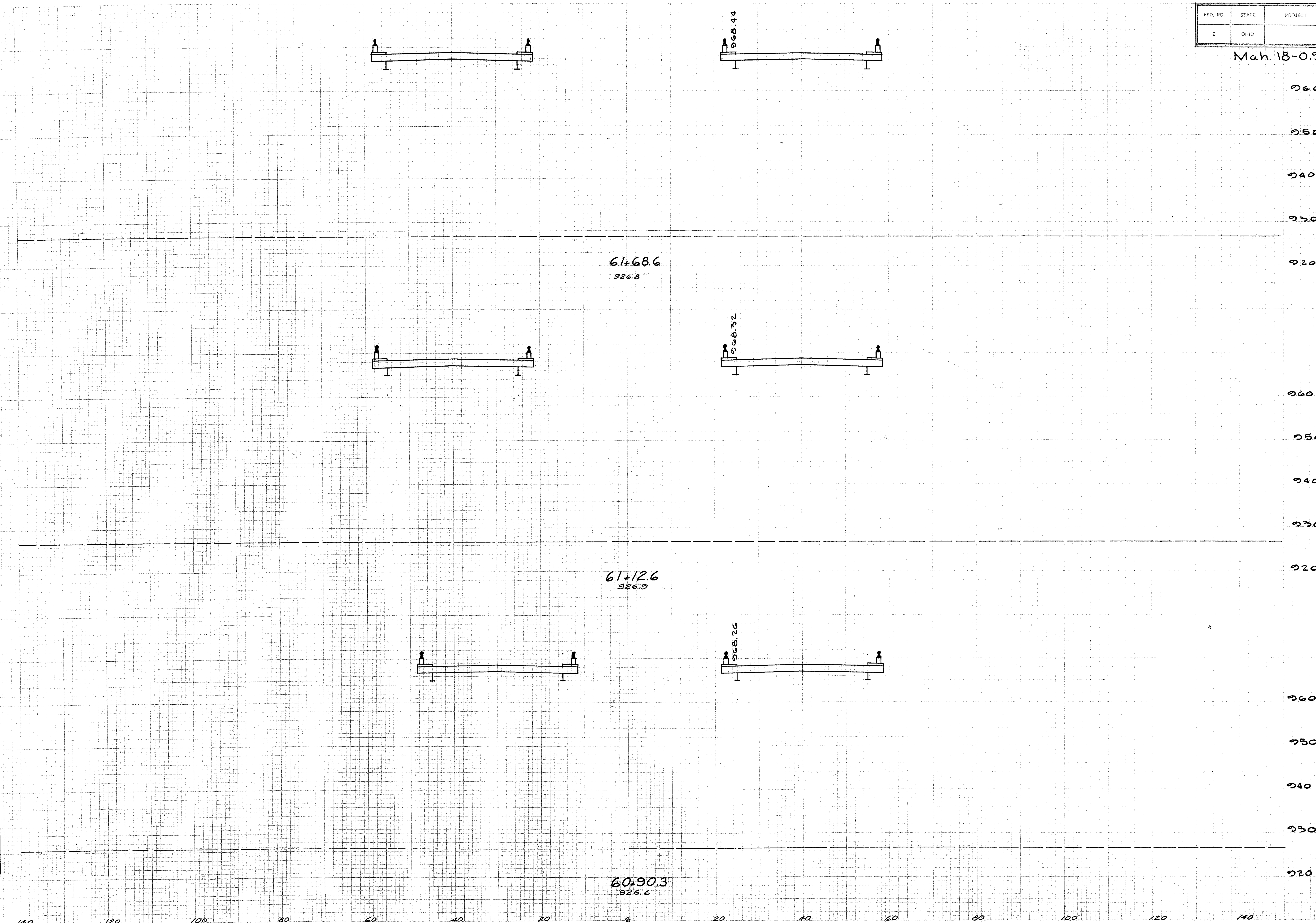
ORIGINAL SURVEY
NOTE BOOK

FED. RD.	STATE	PROJECT	
2	OHIO		

Mah. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

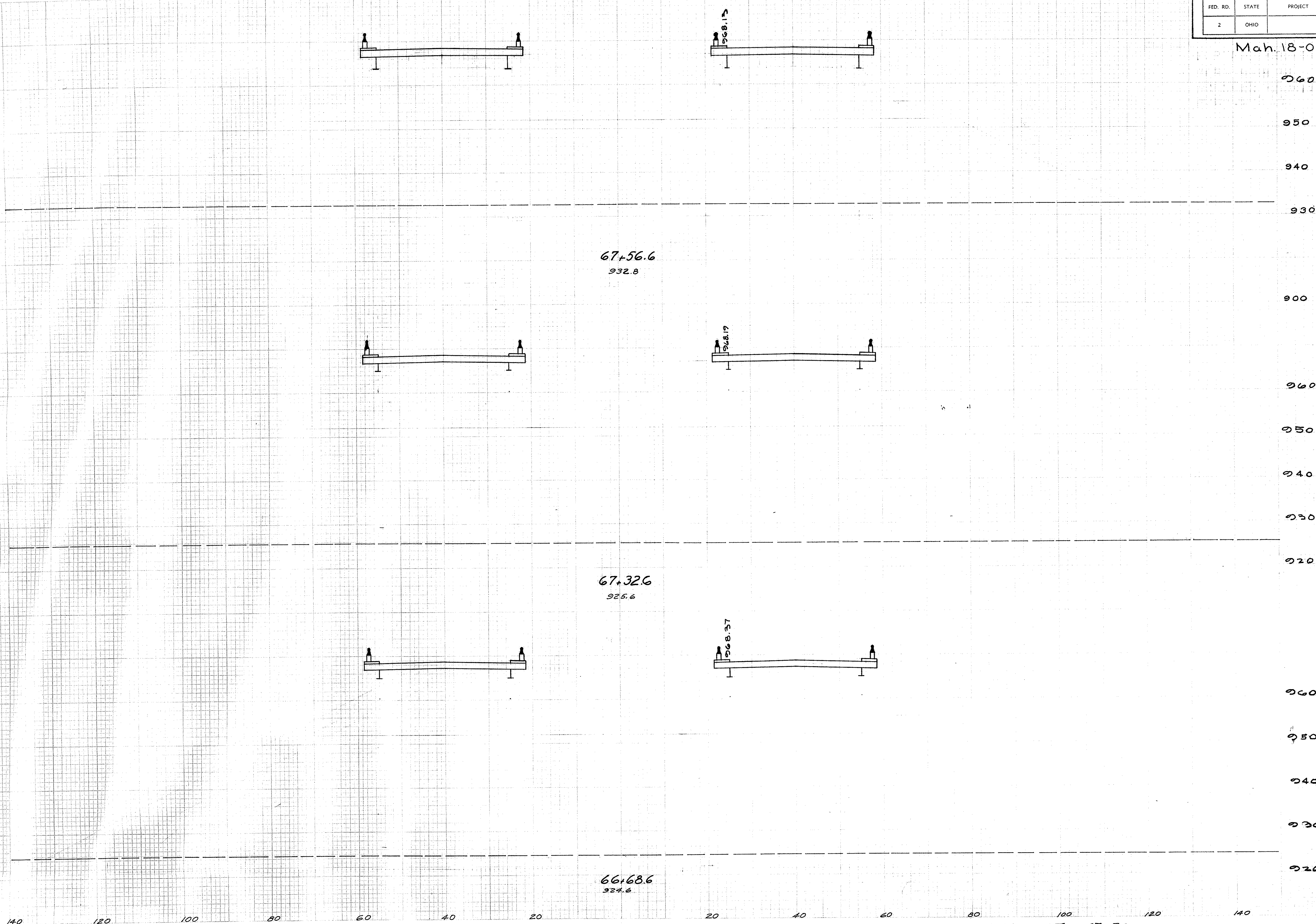


STA 60+90 To STA 61+68

FED. RD.	STATE	PROJECT	
2	OHIO		

Mah. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

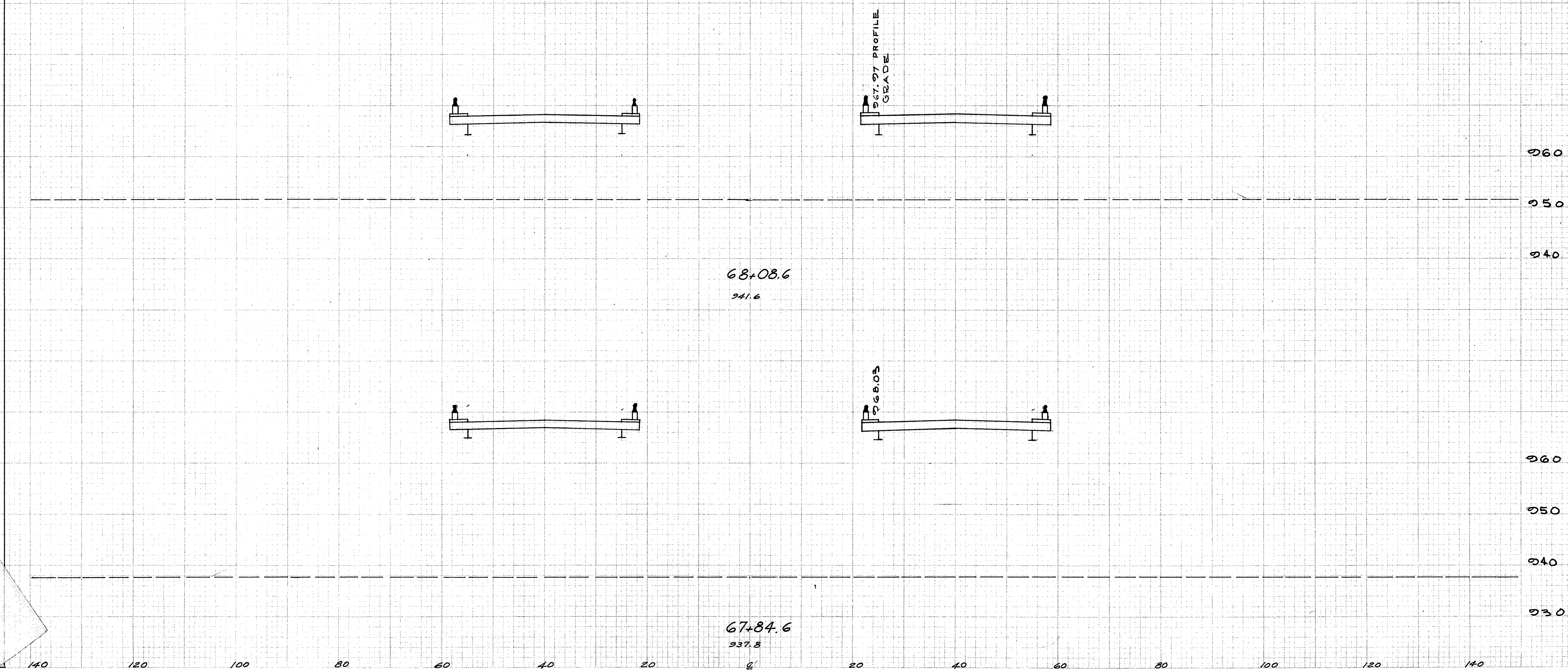
STA 66+68 To STA 67+56

FED. RD.	STATE	PROJECT	
2	OHIO		

Mah. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL



STA 67+84 To STA 68+08

FED. RD.	STATE	PROJECT	
2	OHIO		

41/180

MAH. 18-0.51

SEEDING END WIDTH	SEEDING SQ. YDS.
126	1444
134	1844
199	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	0	3161	
			35 11,251
			61 6350
	10	2915	
	23	3208	
			8 1188
0	0		

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

966.97 966.97 965.8 966.50

NORMAL WATER ELEV. 947.83

I-10 DUMPED ROCK ELEV 953.8 T=36"

950 947.25

E.W.

71+00
946.5

967.31 967.31 965.40

NORMAL WATER ELEV. 947.83

950 950

E.W.

70+00
949.2

967.54

A-1

15"-25° M6.4(c) BEND ℄ 960.24

P-1

OUTLET EL. 953.88

15"x15° Cl. F-4

NORMAL WATER ELEV. 947.83

8'x15" Cl. F-4

15"x25° M6.4(c) BEND ℄ 953.88

66' x 15" Class J-1 @ 2.00%

P-1

NOTE:
QUANTITIES FOR MEDIAN OUTLET SEE SHEET Nº 20.

STA. 69+33 ℄
I-8 Nº 8 C.B
GRATE ELEV. 964.50
℄ 15" CLASS J-1, 961.56

69+33
947.73

964.25

STA 69+20
END I-10 DUMPED ROCK
RIGHT SIDE

960

NORMAL WATER ELEV. 947.83

950

ELEV. 953.80
36" DUMPED ROCK

E.W.

940

ELEV. 953.8 I-10 DUMPED ROCK T=36"

950 946.75

69+00
947.0

68 + 80
ZERO SECTION

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

PLATE 3. CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 69+00 To STA. 71+00

FED RD	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
183	
	1866
153	
	1577
131	
	1433
126	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
18	2938		
		51	11,305
10	3167		
		35	11,755
9	3181		
		33	11,559
9	3161		

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 72+00 To STA. 74+00

FED. RD.	STATE	PROJECT	
2	OHIO		

43
180

MAH. 18-0.91

SEEDING END SQ. WIDTH YDS.		END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
159		47	1354		
				114	6477
153		15	2144		
				61	8407
168		18	2396		
				66	9817
183		18	2938		

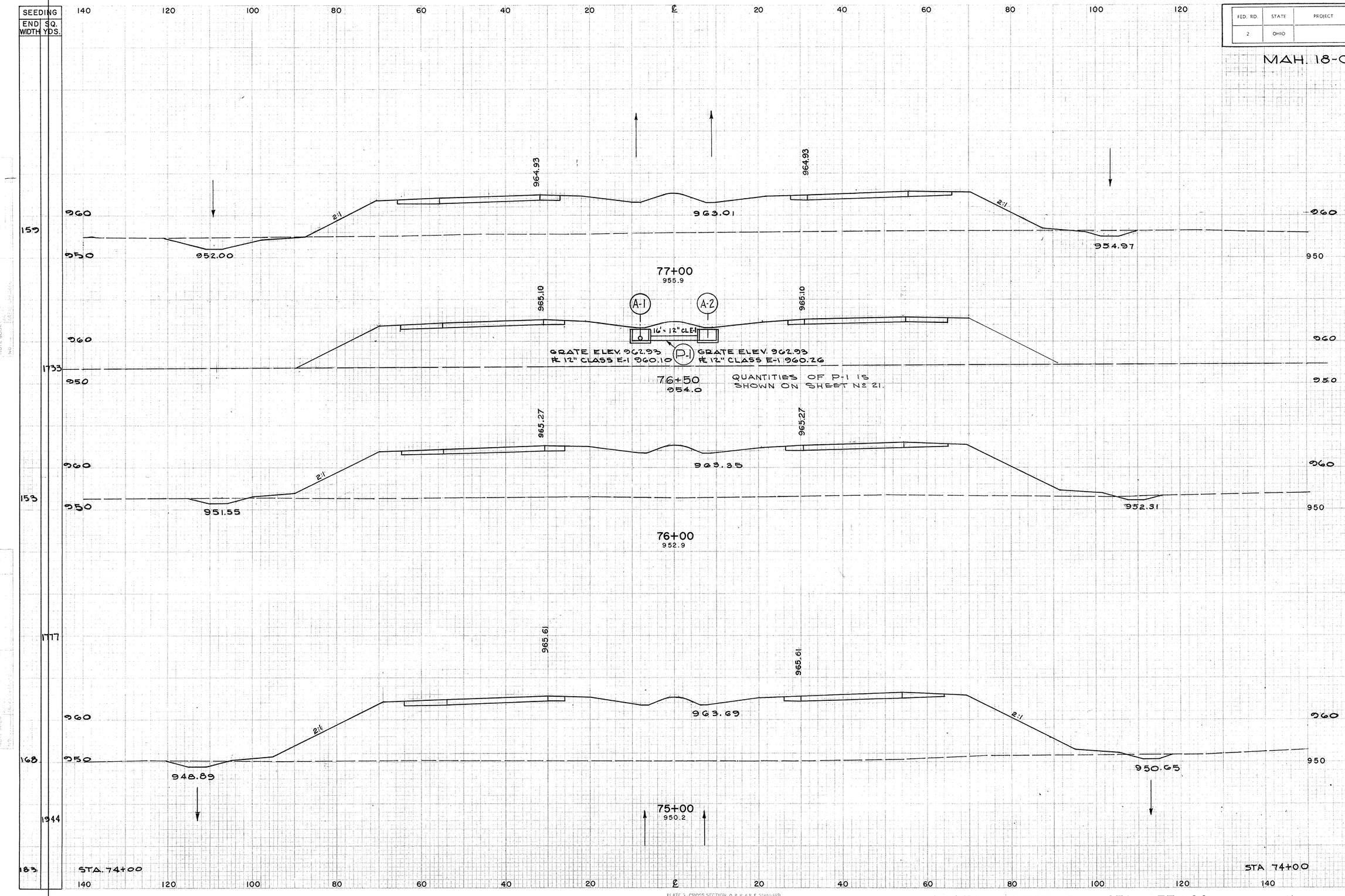


PLATE 5 - CROSS SECTION O. P. R. & R. E. STANDARD
REUTTEL & ESSER CO., NEW YORK.

STA. 75+00 To STA. 77+00

FED. RD.	STATE	PROJECT		44 / 180
2	OHIO			

MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
124	1388
127	1455
135	1633
150	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
577	0		
			1337
145	253		
		125	1674
33	651		
		148	3711
47	1364		

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

970
960

963.91 963.91

961.02 961.99 961.99 962.78

MATCH LINE

STA. 12+64
RELOC OAKWOOD DR.

80+00
963.5

964.25 964.25

959.00 962.33 962.48

MATCH LINE "A"

STA 11+60.5
RELOC. OAKWOOD

79+00
962.5

964.59 964.59

A-3

11'-0"

2:1

83'-27" CLASS J-1 PIPE @ 0.30%
Sec. M-6.6 (b), M-6.8 (b)

℄ 27" 952.42

952.30

E-4

P3

NOTE:
FOR QUANTITIES OF
D-3 SHEET Nº 21.

962.67

3:1

956.00

"A" MATCH LINE

STA 10+56
RELOC OAKWOOD

"A"

78+00
959.6

STA 78+00 8.75' LT ℄
I-8 Nº 1 M.H.
ELEV COVER 962.67
℄ 12" CLASS E-1 951.75
℄ 27" CLASS E-1 952.67

I-10 DUMPED ROCK
LENGTH 10'-0"
WIDTH 4'-6"
DEPTH 1'-6"

STA. 77+00

STA. 77+00

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

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 78+00 To STA. 80+00

FED. RD.	STATE	PROJECT	
2	OHIO		

45
180

MAH. 18-0.91

SEEDING		
	END WIDTH	SQ. YDS.
140		
120		
100		
80		
60		
40		
20		
℄		
20		
40		
60		
80		
100		
120		
165		1766
153		1433
142		1677
124		

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
3172	0		
			9086 0
1735	0		
		5566	0
1271	0		
		3421	0
577	0		

970
960
2:1
960.00
6" CLASS J-1 ℄ 956.07
40'-6" CLASS J-1 @ 0.30%
10'-6" CLASS F-4
962.89
A-4
P.5
A-5
P.10
P.11
29'-12" CLASS E-1 @ 0.30%
83+00
976.1
10'-6" 40'-6" CLASS J-1 @ 0.30%
CL F-4 @0.30%
6" CLASS J-1 ℄ 956.94
961.76

I-8 Nº 8 C.B.
GRATE ELEV 960.88
℄ 6" CLASS F-4 955.92
℄ 12" CLASS E-1 955.42
℄ 24" CLASS E-1 954.42
℄ 27" CLASS E-1 954.17

I-8 Nº 8 C.B.
GRATE ELEV. 960.72
℄ 6" CLASS F-4 956.79
℄ 12" CLASS E-1 956.29

NOTE:
FOR QUANTITIES OF P-5 SEE SHEET Nº 21.

963.23
960.34
961.47
961.31
962.10
82+00
972.6
MATCH LINE
STA 14+70
℄ RELOC. OAKWOOD DR.

963.57
960.68
961.81
961.65
962.44
81+00
969.1
TRANS. MEDIAN
MATCH LINE
STA 13+66
℄ RELOC. OAKWOOD DR.

STA. 80+00

PLATE 3 - CROSS SECTION G. P. R. & R. E. STANDARD
REUFFEL & ESSER CO., NEW YORK.

STA. 81+00 To STA. 83+00

FED. RD.	STATE	PROJECT	
2	OHIO		

46/180

MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
182	2266
217	2500
234	2355
226	2344
197	2011
165	

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

980 / 970 / 960

2:1

967.21 967.61 967.21 968.37

965.08 965.70 88+00 982.8 965.69 966.48

964.53 964.9 965.29 965.29 965.67 966.05

962.41 963.53 87+00 987.7 963.37 964.16

963.29 963.67 963.67 964.05 964.43

960.79 962.07 86+00 986.6 961.75 962.54

962.01 962.39 962.77 962.77 963.15 963.53

959.68 962.19 962.57 962.57 962.95 963.33

84+00 9803 961.37 961.44

A-6 A-7 A-8 A-9

80' 15" CLASS J-1 @ 0.60% ℄ 6" CLI-3 958.54

32.0'-15" CLE-1 @ 0.80%

℄ 6" CL. I-3 958.38

80'-12" CLASS J-1 @ 0.80%

DITCH ELEV = 959.38
GRATE ELEV= 959.13
℄ 6" CL F-4 957.19
℄ 15" CL J-1 956.44

P-7

DITCH ELEV=961.01
GRATE ELEV.= 960.76
℄ 15" CLASS E-1 955.96
℄ 24" CLASS E-1 955.21

P-8

DITCH ELEV. 960.85
GRATE ELEV. 960.60
℄ 12" CLASS J-1 956.47
℄ 15" CLASS E-1 956.22

P-9

DITCH ELEV= 961.14
GRATE ELEV.= 960.89
℄ 6" CL F-4 957.69
℄ 12" CL J-1 957.19

NOTE:
SEE SHEET Nº 21 FOR QUANTITIES OF P-7, P-8, & P-9

STA 83+00

STA.83+00

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
3650	0		
		16556	0
5291	0		
		21459	0
6298	0		
		21878	0
5517	0		
		18217	0
4321	0		
		13876	0
3172	0		

PLATE 3 - CROSS SECTION O. P.R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 84+00 To STA. 88+00

FED. RD.	STATE	PROJECT	
2	OHIO		

47/180

MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
148	
165	1733
155	1777
182	1866
192	1855

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
648	145		
		3488	453
1236	100		
		5834	185
1915	0		
		6264	0
1468	0		
		2477	0
3650	0		

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

980 970 960

978.40 979.03 979.22 979.03 978.61 — 976.15 — 977.11 — 977.11 — 976.90 — 978.61 979.03 979.22 979.08 — 4:1 4:1 2:1

92+00
980.5

973.54 976.17 976.36 976.17 975.75 — 974.25 — 974.25 — 975.75 976.17 976.36 976.17 975.54 — 966.88 — 974.04 — 4:1 2:1

91+00
981.1

973.31 973.30 973.31 — 971.39 — 971.39 — 972.85 973.31 973.50 973.36 — 971.23 — 14'-0" — 2:1

970.40 970.59 970.45 — 968.27 — 968.53 — 968.53 — 970.03 970.45 970.66 970.86 970.70 — 968.73 — 2:1

89+00
974.1

I-10 DUMP ROCK L=14'-0" W=2'-8" D=1'-6"

E-1

12"±15" CLASS F-4

2"±15" CLASS F-4 M-6.4 (C)

15"±10" BEND CLASS F-4 ℄ 962.50

69'±15" CLASS J-1 PIPE @ 1.00%

15"±10" CLASS F-4 BEND ℄ 966.68

P-2 A-2

38'±12" CLASS E-1

P-1

A-1

I-8 Nº 8 C.B. 90+00
19' LT. ℄ 981.9
GRATE ELEV.- 971.14
℄ 6"-I-3 968.50
℄ 12" E-1 967.62
℄ 15" U-1 967.37

I-8 Nº 8 C.B.
19' RT. ℄
GRATE ELEV. 971.14
℄ 6" I-3 968.50
℄ 12" E-1 968.00

NOTE:
SEE SHEET 22 FOR QUANTITIES OF MEDIAN OUTLET.

CULVERT

STA. 88+00

STA. 88+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 89+00 To STA. 92+00

FED. RD.	STATE	PROJECT	
2	OHIO		

48
180

MAH. 18-0.91

SEEDING END WIDTH	SQ. YDS.
157	
	1722
154	
	1700
154	
	1722
156	
	1688
148	

STA. 92+00

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

988.84 990.47 990.66 990.47 990.05 990.05 990.47 990.66 990.47 989.85

3:1 4:1

988.34 988.55 988.55 988.34

96+00
992.8

987.61 987.80 987.61 987.19 987.19 987.61 987.80 987.61 986.98

4:1 3:1

985.48 985.69 985.69 985.48

95+00
988.7

984.12 984.75 984.94 984.75 984.33 984.33 984.75 984.94 984.75

4:1 3:1

982.62 982.83 982.83 982.62

94+00
983.8

981.26 981.89 982.08 981.89 981.47 981.47 981.89 982.08 981.89 981.26

3:1

979.76 979.97 979.97 979.76

93+00
981.7

980 980 980 980

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
737	0		
		2251	35
479	19		
		1666	201
422	90		
		1572	392
427	122		
		1991	494
648	145		

STA. 92+00

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

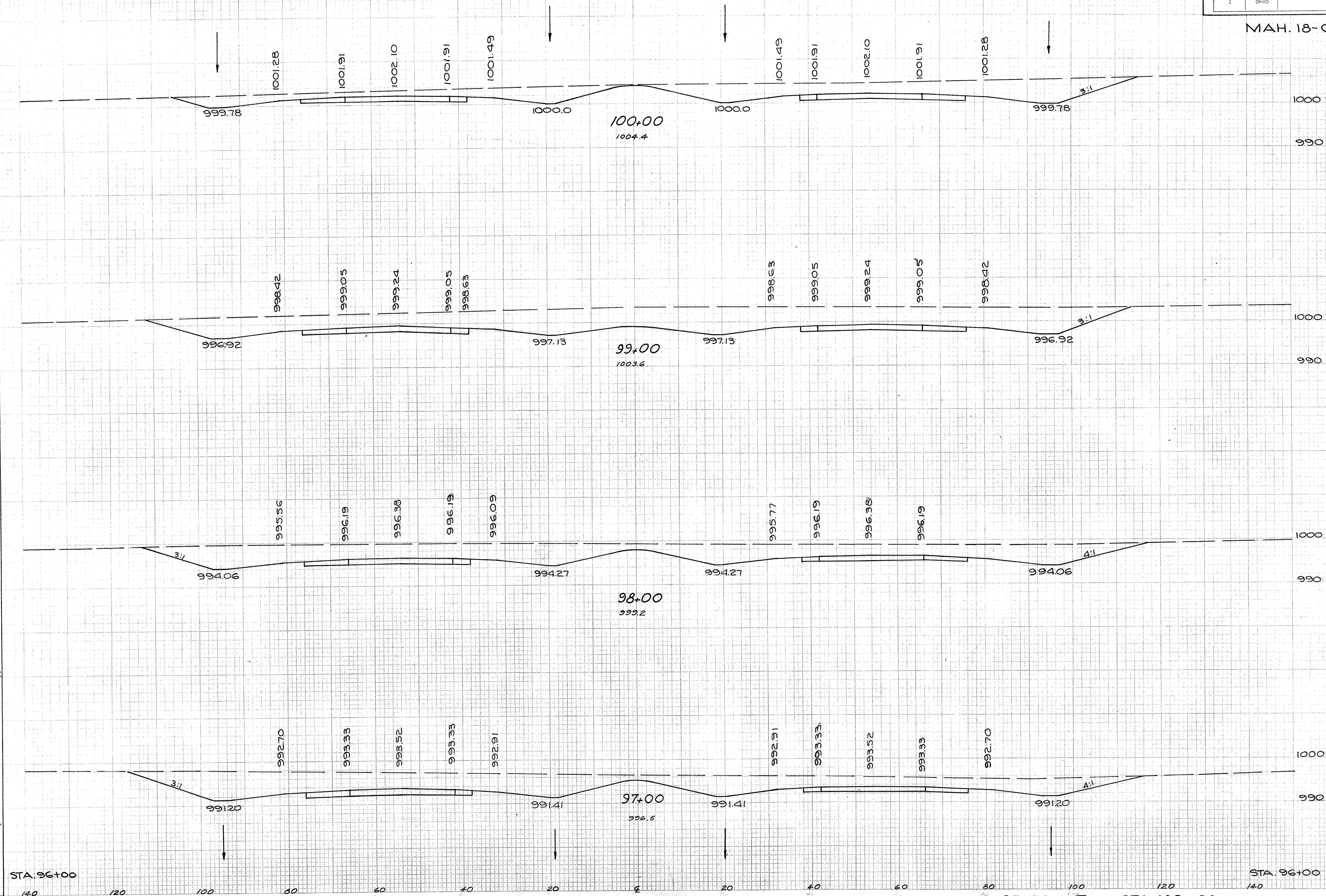
PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

STA. 93+00 To STA. 96+00

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91

SEEDING END WIDTH	SQ. YDS.
147	
	1655
152	
	1688
153	
	1722
158	
	1744
157	



1001.28
1001.91
1002.10
1001.91
1001.49
1001.49
1001.91
1002.10
1001.91
1001.28
999.78
1000.0
100+00
1004.4
1000.0
999.78
3:1
998.42
999.05
999.24
999.05
998.63
998.63
999.05
999.24
999.05
998.42
996.92
997.13
99+00
1003.6
997.13
996.92
3:1
995.56
996.19
996.38
996.19
996.09
995.77
996.19
996.38
996.19
3:1
994.06
994.27
994.27
994.06
4:1
98+00
999.2
992.70
993.33
993.52
993.33
992.91
992.91
993.33
993.52
993.33
992.70
3:1
991.20
991.41
97+00
996.5
991.41
991.20
4:1
1000
990
STA. 96+00
STA. 96+00
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
651	0		
		3158	0
1055	0		
		3551	0
863	0		
		3284	0
911	0		
		3052	0
737	0		

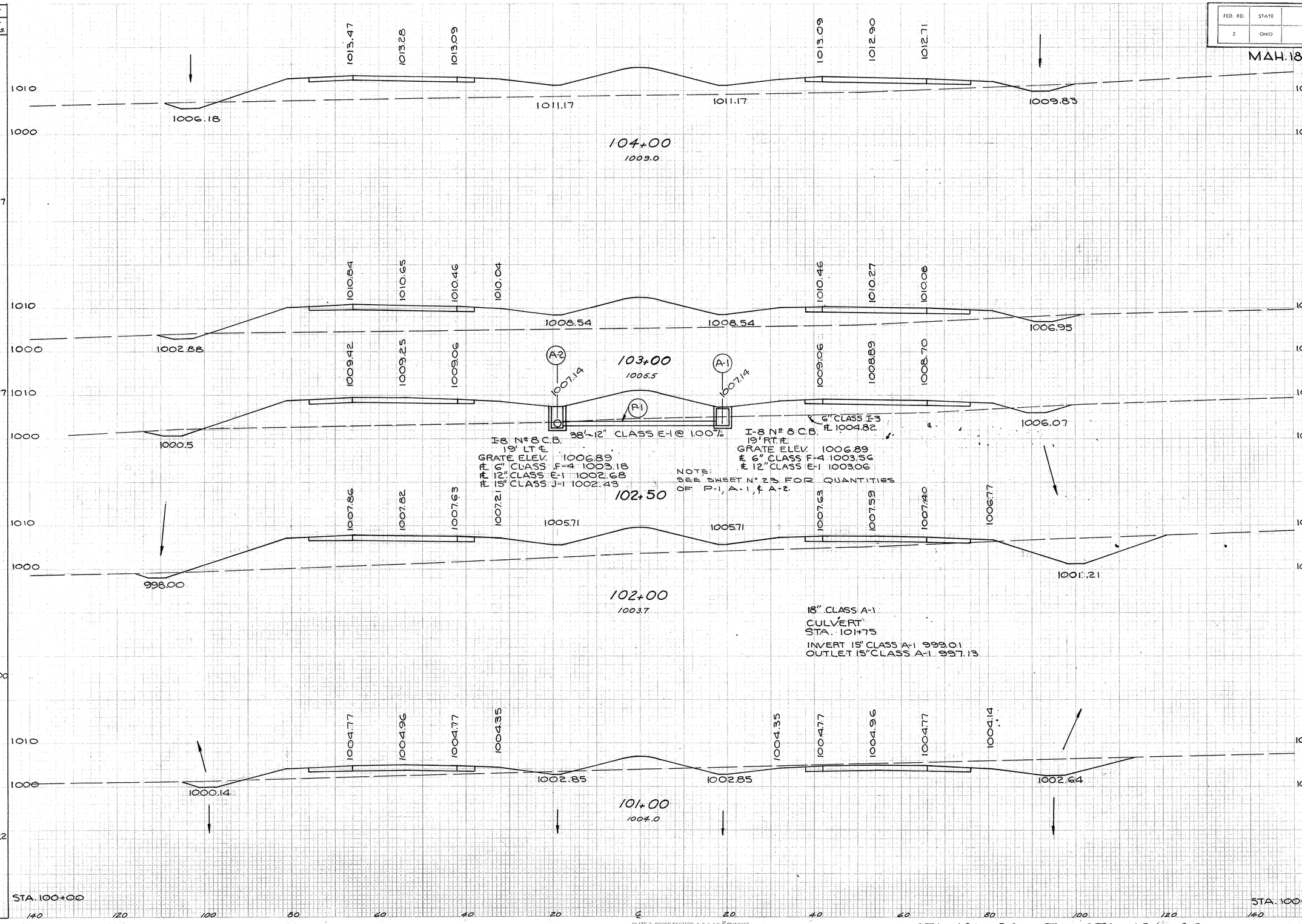
STA 97+00 To STA 100+00

FED. RD.	STATE	PROJECT		
2	OHIO			

50
180

MAH.18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
132	1477
134	1477
142	1700
164	1722
147	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
38	609		
		133	2328
34	649		
		48	1333
18	792		
		44	1011
30	301		
		346	963
157	219		
		1496	405
651	0		

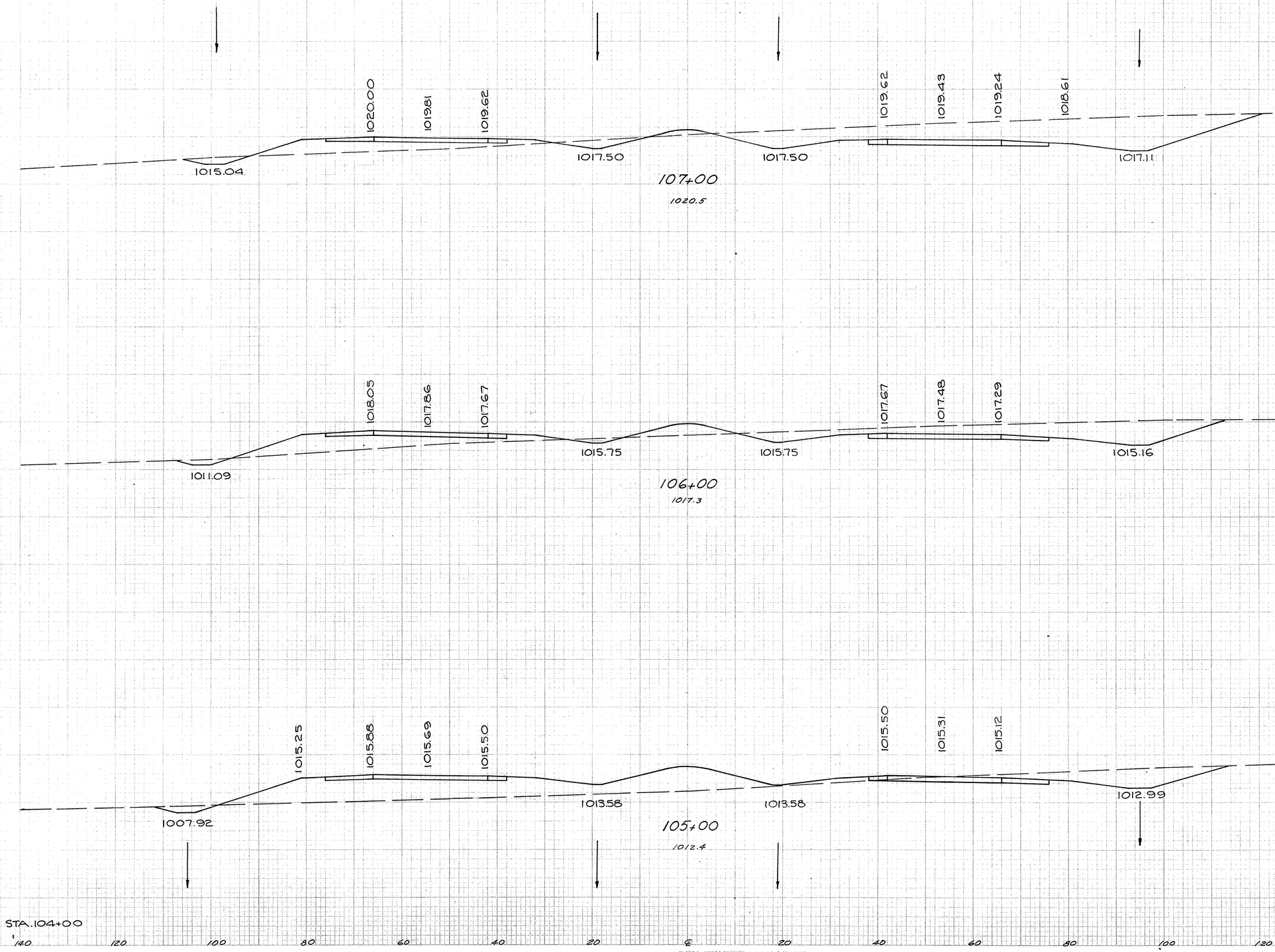
PLATE 3-CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 101+00 To STA 104+00

FED RD	STATE	PROJECT		51/180
2	OHIO			

MAH. 18-0.91

SEEDING END WIDTH	SQ. YDS.
145	
	1600
144	
	1611
147	
	1544
132	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
475	117		
		1407	542
285	176		
		857	1090
178	413		
		400	1891
38	609		

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 105+00 To STA 107+00

FED. RD	STATE	PROJECT	
2	OHIO		

52
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
149	
155	
151	
145	

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
1700				
1373	0			
1700				
1068	0			
1644				
186	0			
			4519	0
			1254	0
			1224	216
			475	117

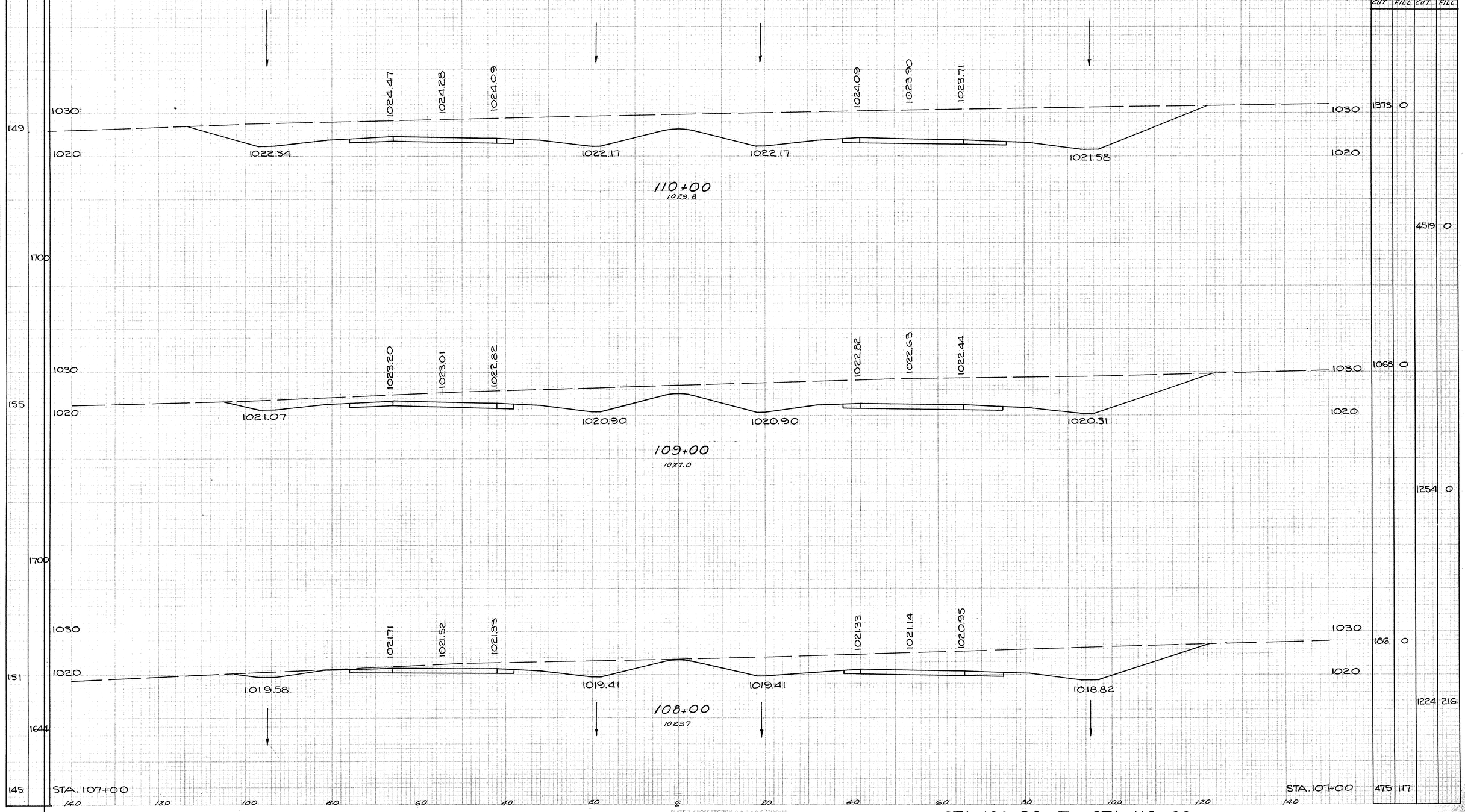


PLATE 3 CROSS SECTION C. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 108+00 To STA 110+00

FED. RD.	STATE	PROJECT	
2	OHIO		

53
180

MAH. 18-0.91

SEEDING	
END AREA	SQ. YDS.
176	
	1844
156	
	1700
151	
	1666
149	

END AREA		CU. YDS.	
CUT.	FILL	CUT.	FILL
2202	0		
		7625	0
1862	0		
		6532	0
1666	0		
		5627	0
1373	0		

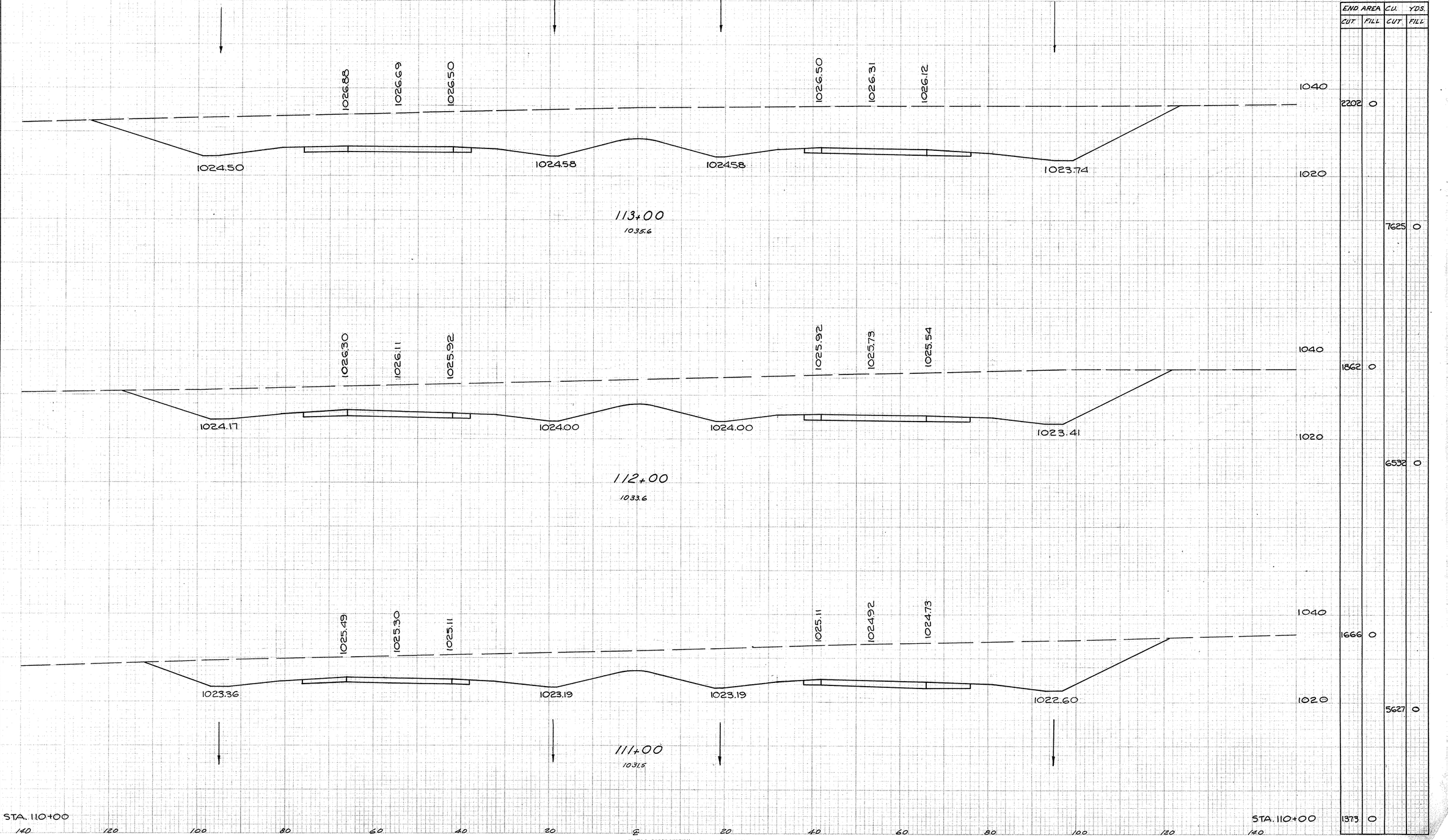


PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 111+00 To STA 113+00

FED. RD.	STATE	PROJECT	
2	OHIO		

54
180

MAH. 18-0.91

SEEDING			END AREA		CU. YDS.	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
168		1030	1548	0		
		1020				
	1888				8275	0
172		1030	2921	0		
		1020				
	1922				9336	0
174		1030	2153	0		
		1020				
	1944				8160	0
176		STA. 113+00	2202	0		

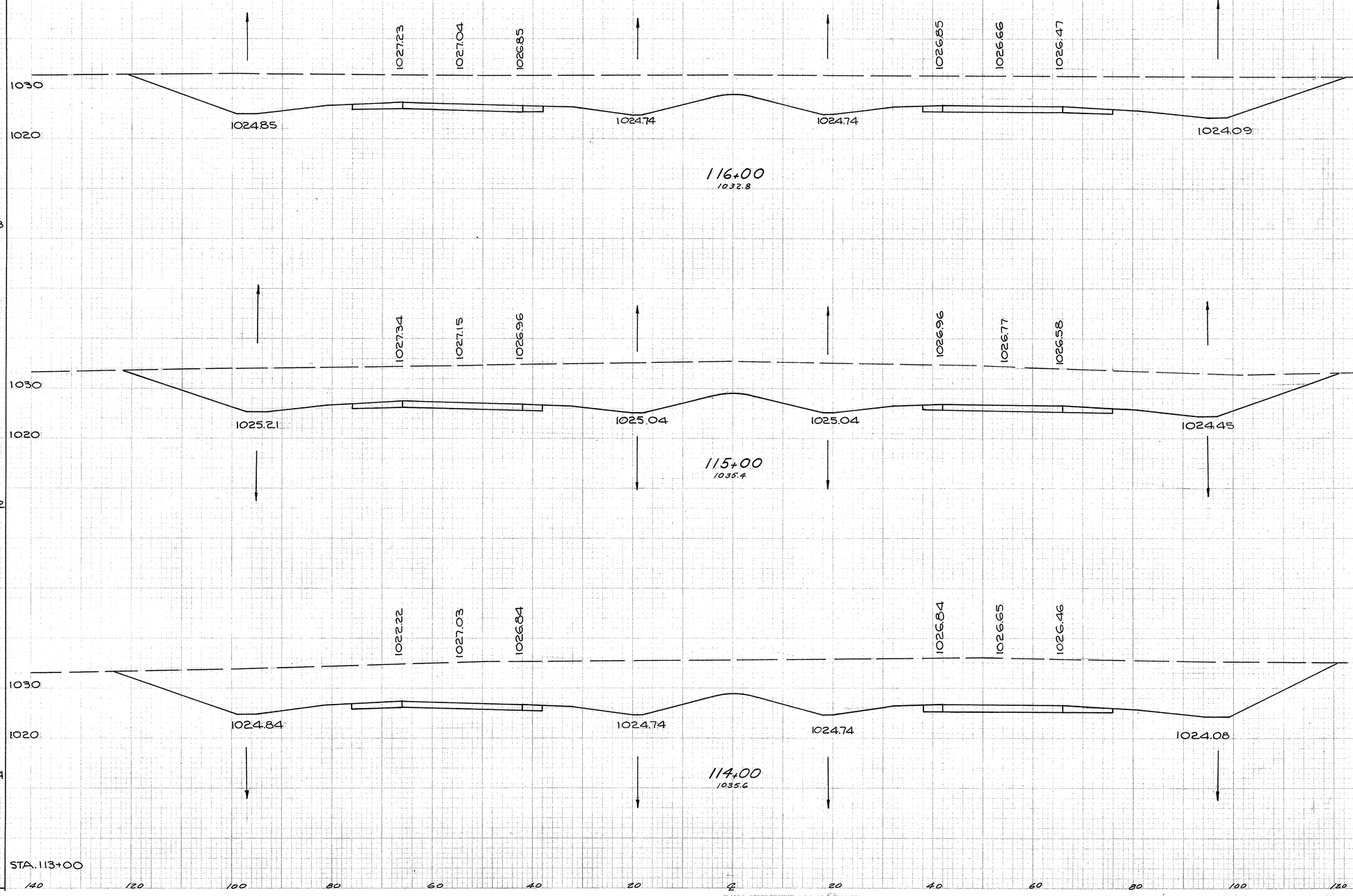


PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 114+00 To STA 116+00

FED. RD.	STATE	PROJECT	
2	OHIO		

55
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
135	
	1500
136	
	1644
160	
	1822
168	

119+00
1024.3

118+00
1027.9

117+00
1030.6

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
132	133		
		1461	246
657	0		
		3219	0
1082	0		
		4869	0
1548	0		

PLATE 3-CROSS SECTION G. P. R. & P. F. STANDARD
KEUFFEL & ESSER CO., NEW YORK

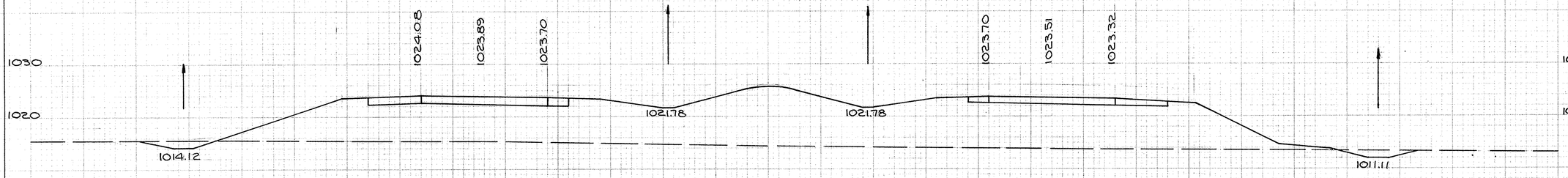
STA 117+00 To STA 119+00

FED RD.	STATE	PROJECT		56 180
2	OHIO			

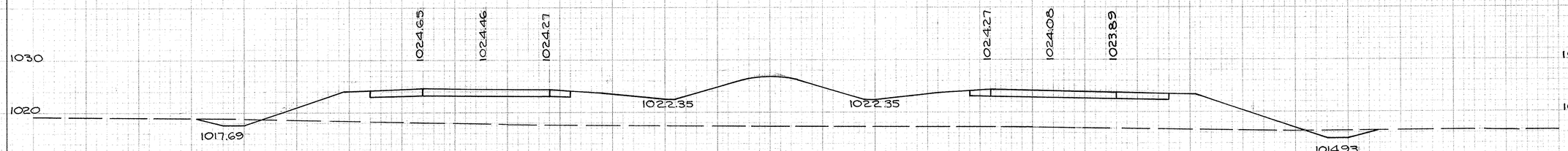
MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
171	1788
151	1544
128	1344
135	

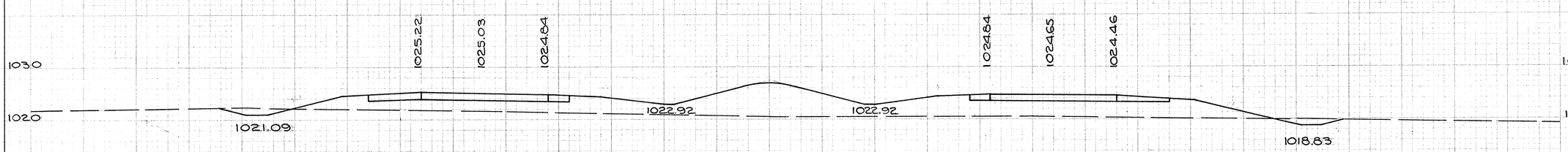
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	22	1565	
		77	4960
20	1114		
		70	3071
18	545		
		277	1255
132	133		



122+00
1014.4



121+00
1017.3



120+00
1020.6

STA. 119+00 — 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 — STA. 119+00

PLATE 3 CROSS SECTION O. P. R. & H. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

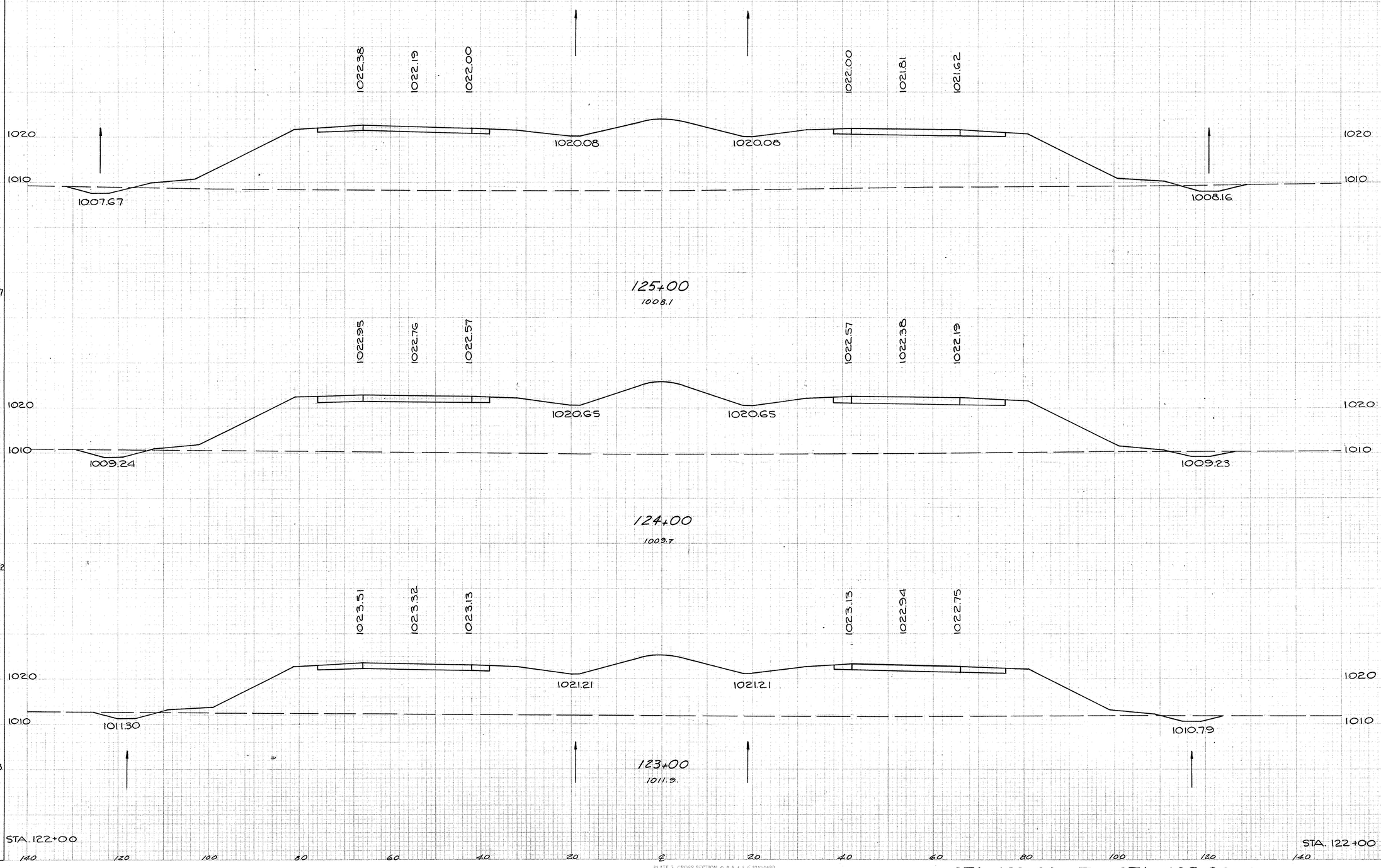
STA 120+00 To STA 122+00

FED RD	STATE	PROJECT	
2	OHIO		

57/180

MAH.18-0.91

SEEDING	
END WIDTH	SQ. YDS.
189	2077
186	2022
178	1983
171	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
21	2459		
		68	10,529
16	2227		
		66	8332
20	2273		
		81	7106
22	1565		

PLATE 3 CROSS SECTION U. P. R. R. C. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

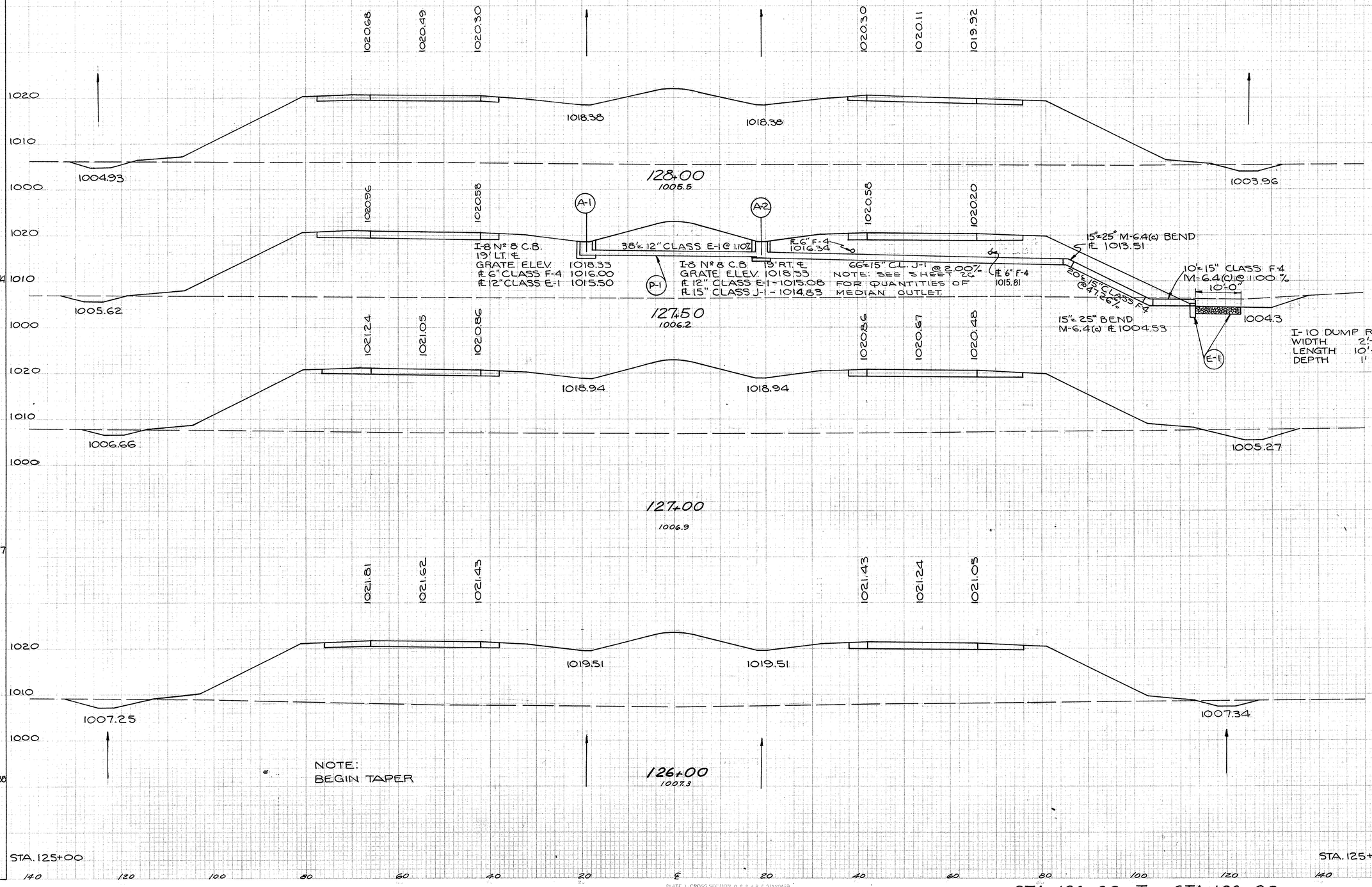
STA 123+00 To STA 125+00

FED. RD.	STATE	PROJECT	
2	OHIO		

58
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
181	
2044	
187	
2077	
188	
2088	
189	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
23	2666		
		83	9872
22	2665		
		107	9412
36	2418		
		105	9031
21	2459		

PLATE 1 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

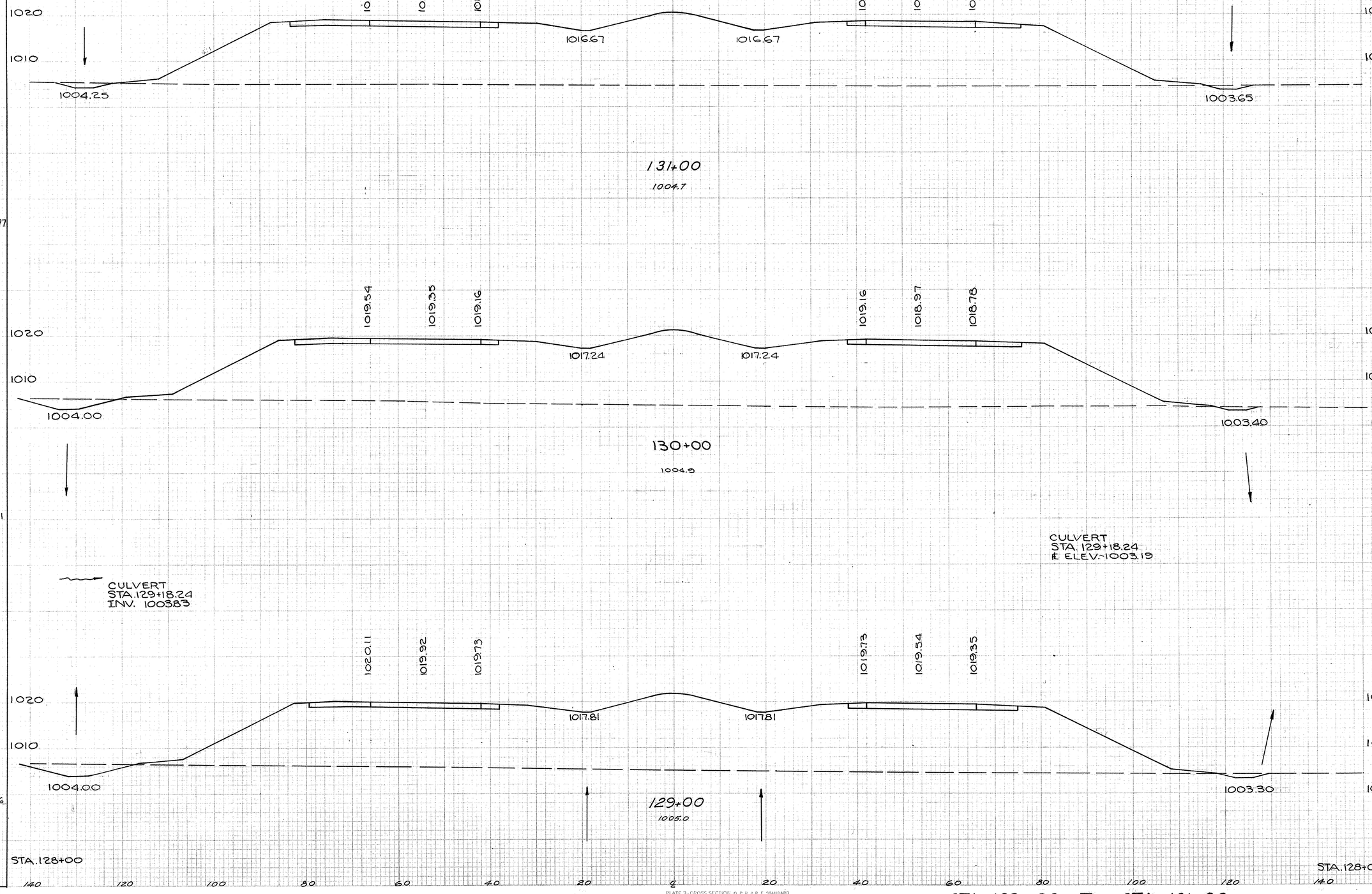
STA 126+00 To STA 128+00

FED. RD.	STATE	PROJECT	
2	OHIO		

59
180

Mah-18-0.91

SEEDING	
END WIDTH	SQ. YDS.
183	
	2077
191	
	2111
189	
	1366
181	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	18		2528
		66	9336
	18		2546
		68	9608
	19		2643
		77	9831
	23		2666

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

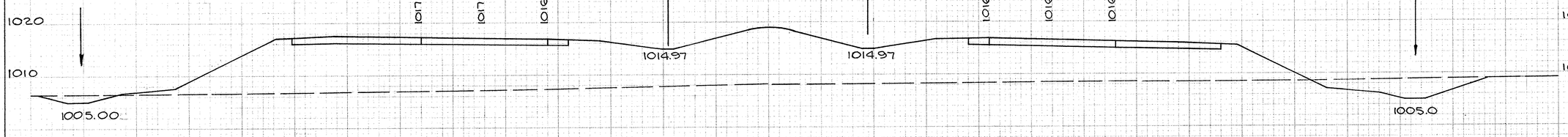
STA 129+00 To STA 131+00

FED. RD.	STATE	PROJECT	
2	OHIO		

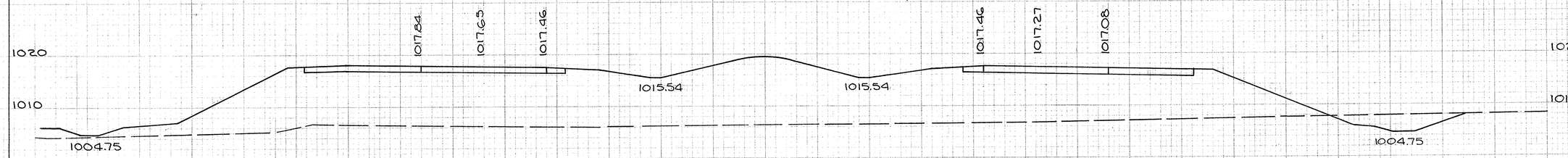
60/180

MAH. 18-0.91

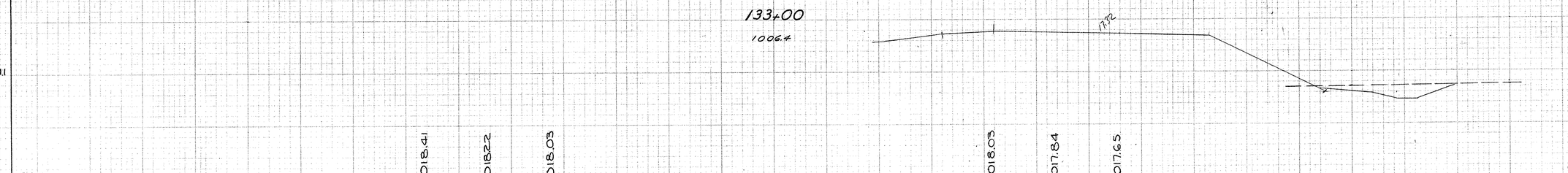
SEEDING		
END WIDTH	STA.	SQ. YDS.
151		
	1833	
180		
	2011	
182		
	2022	
183		



134+00
1008.1



133+00
1006.4



132+00
1005.8

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	31	1735	
		90	7071
	18	2079	
		133	7925
	54	2201	
		133	8757
	18	2528	

STA. 131+00 — 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 — STA. 131+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 132+00 To STA 134+00

ORIGINAL SURVEY NOTE BOOK NO. — FINAL SURVEY NOTE BOOK NO. — DRAWN — TRACED — CHECKED

FED. RD.	STATE	PROJECT		
2	OHIO			

G1
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
151	1688
154	1766
165	1755

END. AREA		CU. YDS.	
CUT.	FILL	CUT.	FILL
40	1172		
		127	4628
29	1328		
		138	5234
46	1519		
		142	6025
31	1735		

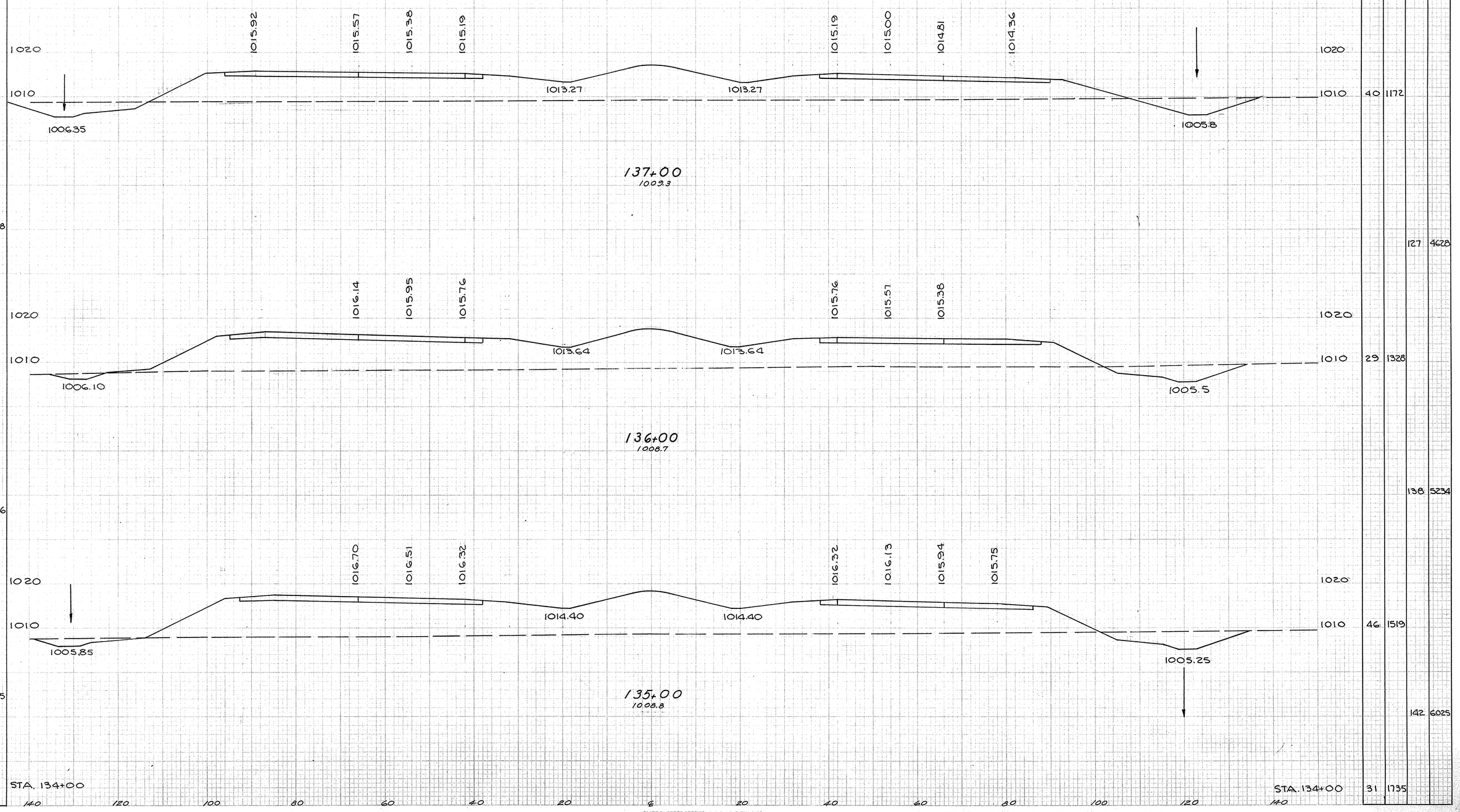


PLATE 3 CROSS SECTION C. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 135+00 To STA 137+00

FED. RD.	STATE	PROJECT	
2	OHIO		

62
180

Mah. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	198	477	
		703	1910
		459	2602
		66	851
		196	4856
40	1172		

9'-0"

1007.10
I-10 DUMP ROCK
DEPTH = 18"
WIDTH = 2'-8"
LENGTH = 9'-0"

E-5

RE 6" F-4
1009.40 113'-2 15" CLASS J-1 @ 0.77%
℄ 1009.50
6" CLASS F-4

10+96
RAMP "A"

NOTE:
SEE SEE SHEET No 27
FOR QUANTITIES OF
MEDIAN OUTLET.

A-2

I-8 No 8 C.B.
19.0' LT. ℄
GRATE ELEV. = 1011.57
℄ 6" CLASS F-4 = 1009.00
℄ 12" CLASS E-1 = 1008.12
℄ 15" CLASS J-1 = 1007.97

38'-2 12" CLASS E-1 @ 1.00%

A-1

I-8 No 8 C.B.
19.0' RT. ℄
GRATE ELEV. = 1011.57
℄ 6" CLASS F-4 = 1009.00
℄ 12" CLASS E-1 = 1008.50

1006.7

140+00
1011.5

11+97
RAMP "A"

1006.85

1006.4

139+00
1011.0

12+98
RAMP "A"

1006.60

1006.1

138+00
1010.5

STA. 137+00

STA. 137+00

STA 138+00 To STA 140+00

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED RD	STATE	PROJECT	
2	OHIO		

63
180

MAH. 18-0.91

SEEDING

END WIDTH	SQ. YDS.

END AREA CU. YDS.			
CUT	FILL	CUT	FILL
319	171		
		1283	670
		1209	787
279	734		
		883	1316
198	477		

191
1007.85
1000
2155
1012.17
1014.10
RAMP "A"
7+98
1010.00
1012.05
1012.28
1012.09
1010.17
143+00
1012.0
1010.17
1012.09
1012.28
1012.09
1009.36
1013.24
1011.92
1020
RAMP "C"
10+45
1007.6
1000

197
1010
1007.60
1000
2055
1012.28
1013.32
RAMP "A"
8+96
1011.50
1012.61
1012.65
1012.46
1010.54
142+00
1011.7
1010.54
1012.46
1012.50
1012.31
1010.50
1012.61
1011.68
RAMP "C"
STA. 9+53
1007.30
1010
1000
374 191
1007.3

173
1020
1010
1007.35
2122
1012.37
1012.97
RAMP "A"
9+95
1013.21
1013.12
1012.93
1011.01
141+00
1011.8
1011.01
1012.93
1012.74
1012.51
1012.30
1011.68
RAMP "C"
8+56
1007.0
1020
1010
279 734

210
STA. 140+00
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140
STA. 140+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
REIFFEL & ESSER CO., NEW YORK.

STA 141+00 To STA 143+00

FED. RD.	STATE	PROJECT	
2	OHIO		

64
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
138	
1566	
146	
1566	
137	
1822	
191	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	382	20	
		1468	55
	411	10	
		1448	40
	371	12	
		1277	338
	319	171	

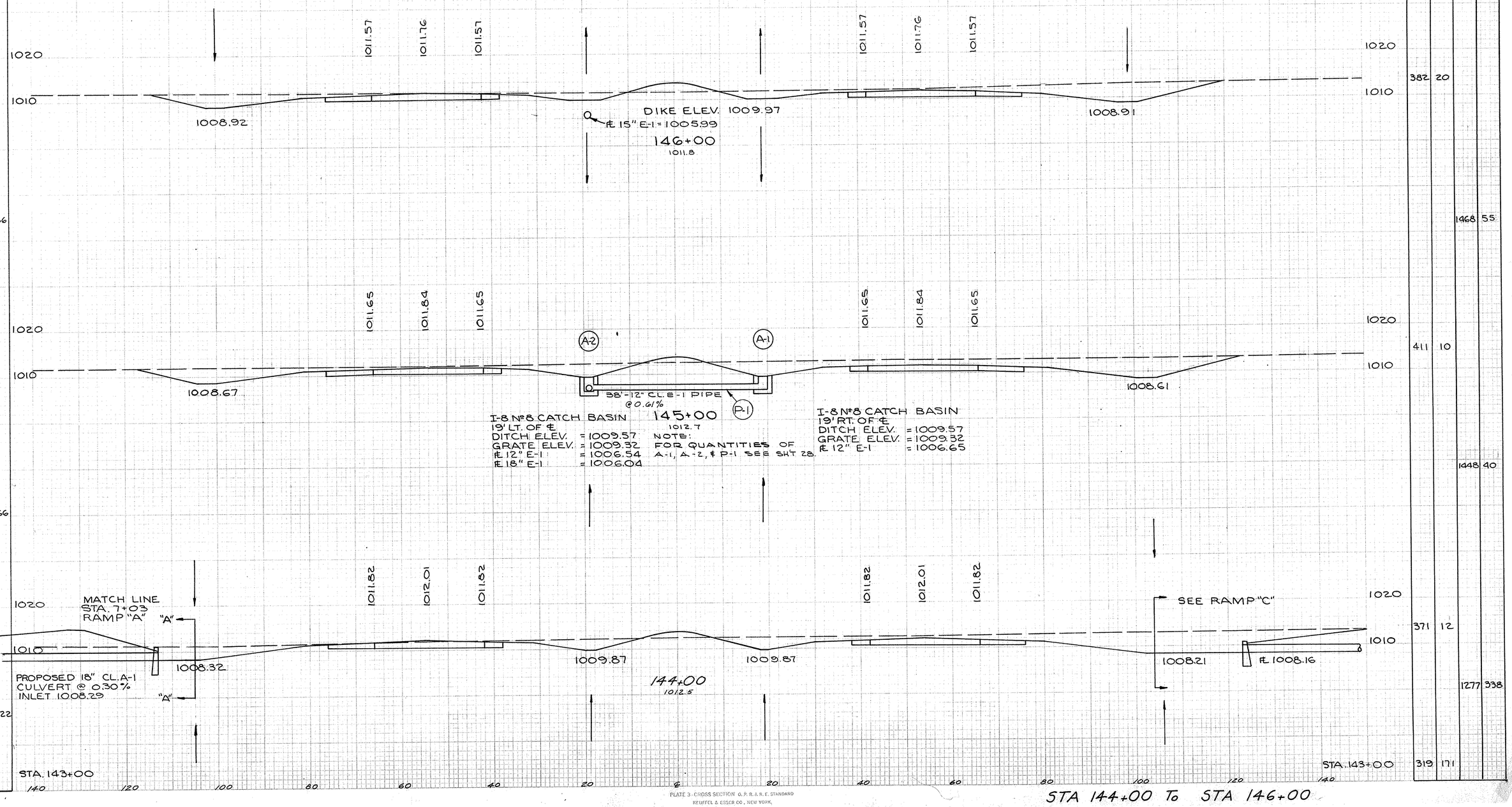


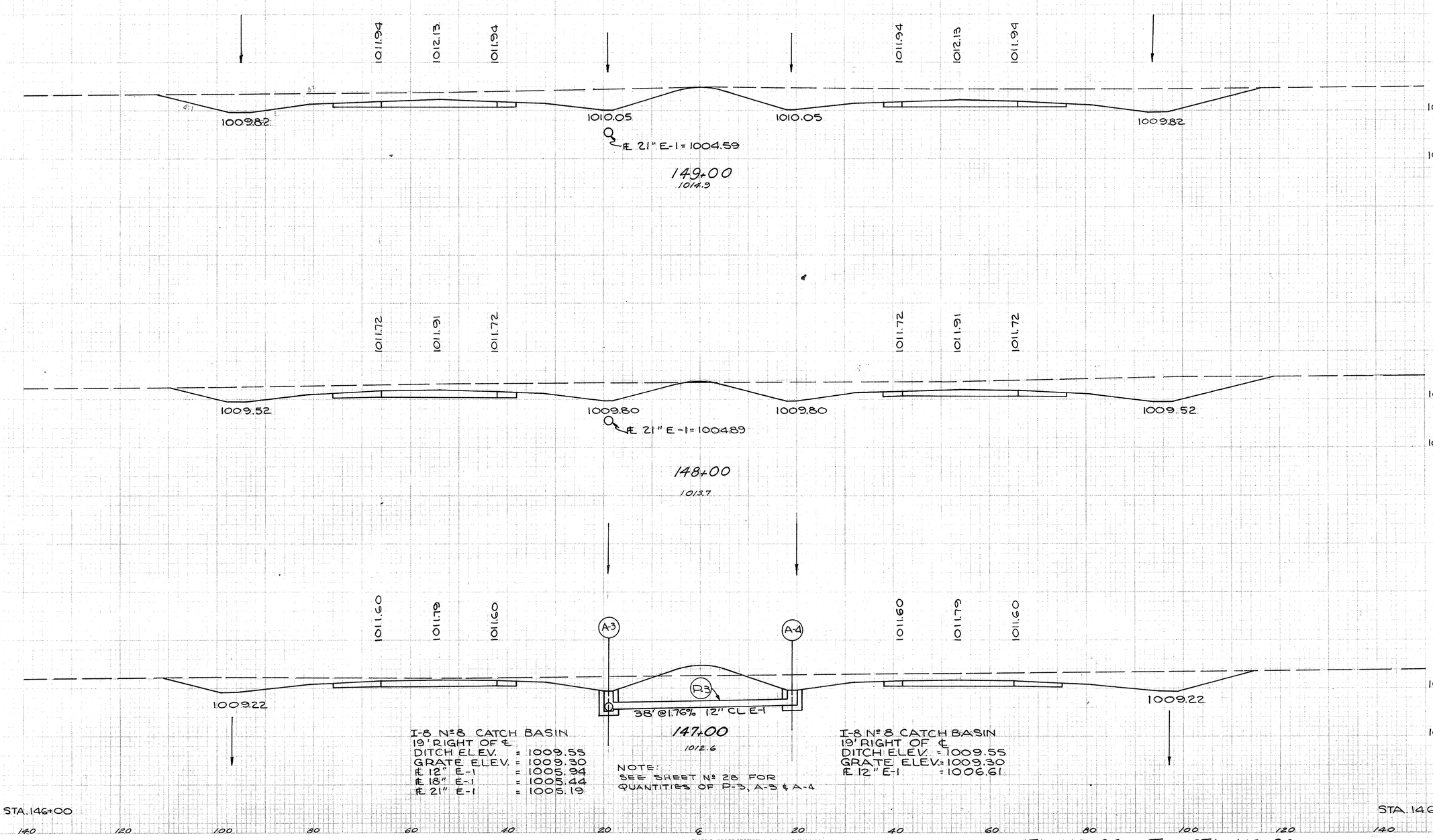
PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
REUFFEL & ESSER CO., NEW YORK.

STA 144+00 To STA 146+00

FED. RD.	STATE	PROJECT		65 / 180
2	OHIO			

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
157	
	1664
144	
	1600
144	
	1566
138	



I-8 Nº 8 CATCH BASIN
19' RIGHT OF ℄
DITCH ELEV. = 1009.55
GRATE ELEV. = 1009.30
℄ 12" E-1 = 1005.94
℄ 18" E-1 = 1005.44
℄ 21" E-1 = 1005.19

NOTE:
SEE SHEET Nº 28 FOR QUANTITIES OF P-3, A-3 & A-4

I-8 Nº 8 CATCH BASIN
19' RIGHT OF ℄
DITCH ELEV. = 1009.55
GRATE ELEV. = 1009.30
℄ 12" E-1 = 1006.61

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
656	0		
		2334	11
605	6		
		1949	57
450	25		
		1540	83
382	20		

PLATE 3 CROSS SECTION O.P.R. & N.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

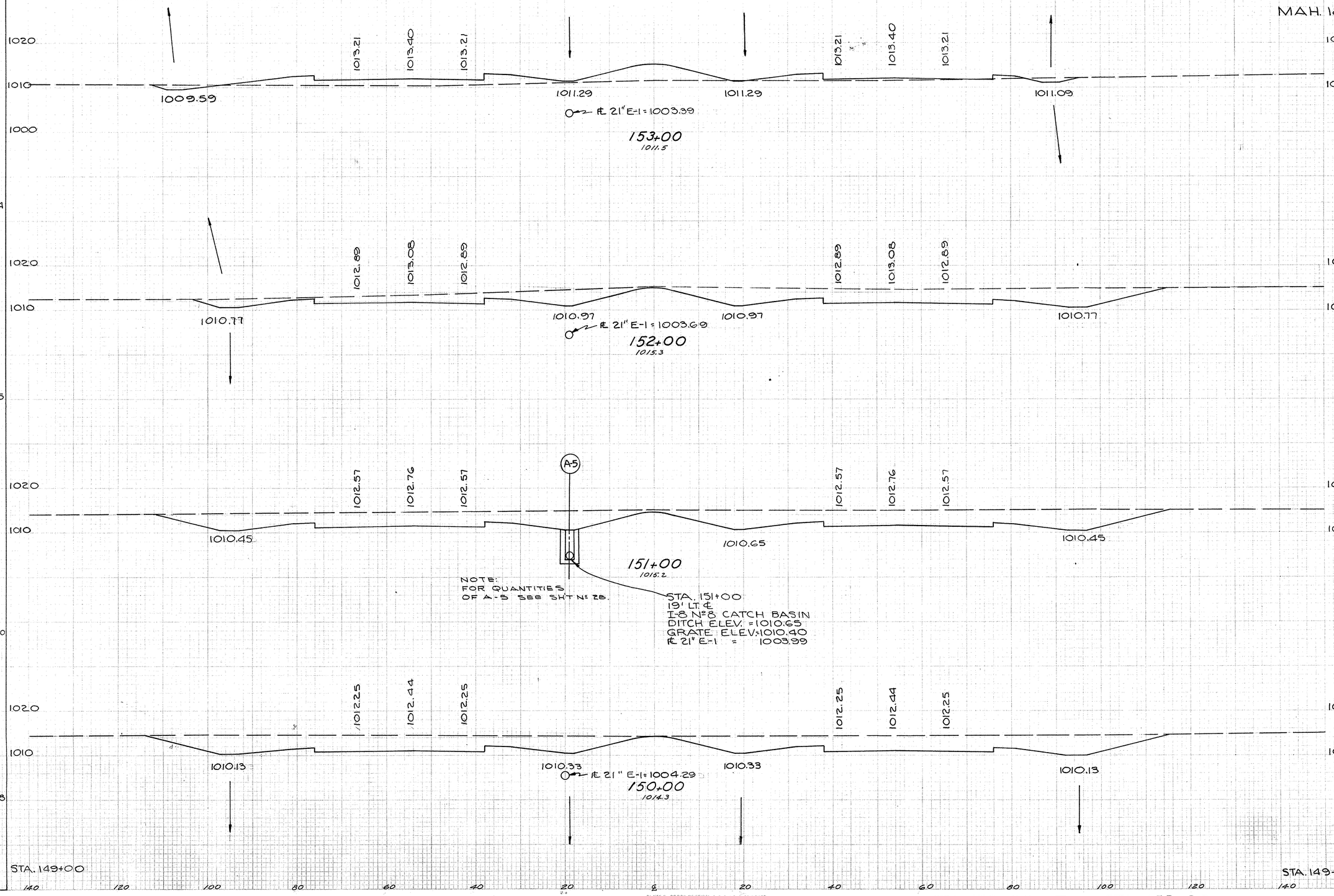
STA 147+00 To STA 149+00

FED. RD.	STATE	PROJECT	
2	OHIO		

66
180

MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
132	1544
147	1655
151	1400
148	1688
157	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
35	78		
		1007	0
509	0		
		2175	0
668	0		
		2476	0
670	0		
		2254	0
656	0		

PLATE 3 CROSS SECTION O.P.R.A.R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 150+00 To STA 153+00

FED. RD	STATE	PROJECT	
2	OHIO		

67
180

MAH. 18-0.91

SEEDING END WITH	SEEDING SQ. YDS
178	1877
162	1811
165	1766
154	1811
179	866
132	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
10	2430		
		79	8744
33	2292		
		133	6830
		39	1397
		213	4051
		76	791
		193	1266
35	78		

157+00
1002.9

1010 / 1000

"A" 1012.00 — 1012.25 — 1012.25 — 1012.10 — STA. 8+11 RAMP "D" — 1002.89

MATCH TO STA. RAMP "B" 10+43

1014.17 — 1014.36 — 1014.17 — 1014.17 — 1014.36 — 1014.17 — 1013.81 — 1012.47

MATCH LINE RAMP "B STA. 11+38

1009.0 — 1012.17 — 1012.17 — 1011.47 — RAMP "D" STA. 7+12

1014.09 — 1014.28 — 1014.09 — 1014.09 — 1014.28 — 1014.09 — 1014.52 — 1013.19

156+00
1004.0

STA. 155+47 119' LT. ℄
I-8 Nº 5 C.B.
GRATE ELEV. = 1004.75
℄ 21" CLASS J-1 = 1002.35
℄ 30" CLASS J-1 = 1001.60

MATCH RAMP "B" STA. 12+30

1005.0

SEE SHEET Nº 29

38' ± 12" @ 14.39 % E-1

I-8 Nº 8 CATCH BASIN (MOD.)
STA. 155+00 19' LT. ℄
DITCH ELEV. = 1011.93
GRATE ELEV = 1011.68
℄ 12" E-1 = 1003.54
℄ 21" E-1 = 1002.79

155+00
1005.3

NOTE:
FOR QUANTITIES OF THE MEDIAN AND STORM SEWER OUTLETS SEE SHEET Nº 29.

I-8 Nº 8 CATCH BASIN
STA. 155+00 19' RT. ℄
DITCH ELEV. = 1011.93
GRATE ELEV. = 1011.68
℄ 12" E-1 = 1009.01

ML. STA. 6+25 RAMP "D"

DITCH = 1008.16
GRATE = 1007.91
PIPE 18 = 1004.95

1013.85 — 1014.04 — 1013.85 — 1013.85 — 1014.04 — 1012.85

1011.61 — 1011.61 — 1008.41 — 1006.6

℄ 21" E-1 = 1003.09

154+00
1008.0

1013.53 — 1013.72 — 1013.53 — 1013.53 — 1013.72 — 1013.53

A — A — 1010 — 1000 — 1003.61 — 150 — 170 — 190

STA. 153+00 — 140 — 120 — 100 — 80 — 60 — 40 — 20 — ℄ — 20 — 40 — 60 — 80 — 100 — 120 — 140 — STA. 153+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA 154+00 To STA 157+00

FED. RD.	STATE	PROJECT		68
2	OHIO			180

MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
174	1955
179	2088
197	2222
186	2022
178	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
35	1501		
		203	5749
75	1604		
		444	6612
165	1967		
		546	7575
113	2130		
		227	5597
10	2430		

1012.70 1012.89 1012.70 — 1010.78 — 1010.78 — 1012.70 1012.89 1012.70 1012.24

1010

12+03 RAMP "D"

1003.9

161+00

1004.6

1013.32 1013.51 1013.32 — 1011.40 — 1011.40 — 1013.32 1013.51 1013.32 1012.70

1010

11+03 RAMP "D"

1003.6

160+00

1004.5

A-1

I-5 15"x15" BEND CL. F-4 ℄ 1009.30

I-10 DUMP ROCK
LENGTH 2'-8"
WIDTH 10'-0"
DEPTH 1'-6"

35'-15" CLASS J-1 @ 1.00%

℄ 1006.34

6" CL. F-4

21"x18" CLASS F-4 @ 38.19% M-6.4(a)

P-1

10'-0"

E-2

I-5 15"x 5° CLASS F-4 BEND ℄ 1002.62

12"x15" CLASS F-4 @ 1.00% M-6.4(a)

1002.5

NOTE: FOR QUANTITIES OF A-1, P-1 SEE SH'T. 29.

I-8 N. G.C.B. 79' LT. ℄ GRATE ELEV. 1013.16 ℄ 15" CLASS J-1 1010.22

159+69.62

1005.0

1013.35 1013.77 1013.96 1013.77 — 1011.85 — 1011.85 — 1013.77 1013.96 1013.77 1012.52

"A" "A"

8+50 RAMP "B"

1010

10+03 RAMP "D"

1003.0

159+00

1005.3

"A" "A"

1002.3

170 160 150 140 130

158+07 125' RT. ℄ CLASS A-1 CULVERT

1014.30 1014.04 1014.23 1014.04 — 1012.6 — 1012.12 — 1014.04 1014.23 1014.04 1013.02 1012.93

STA. 9+47 RAMP "B"

1010

9+03 RAMP "D"

1001.40

158+00

1004.4

1002.0

170 160 150 140 130

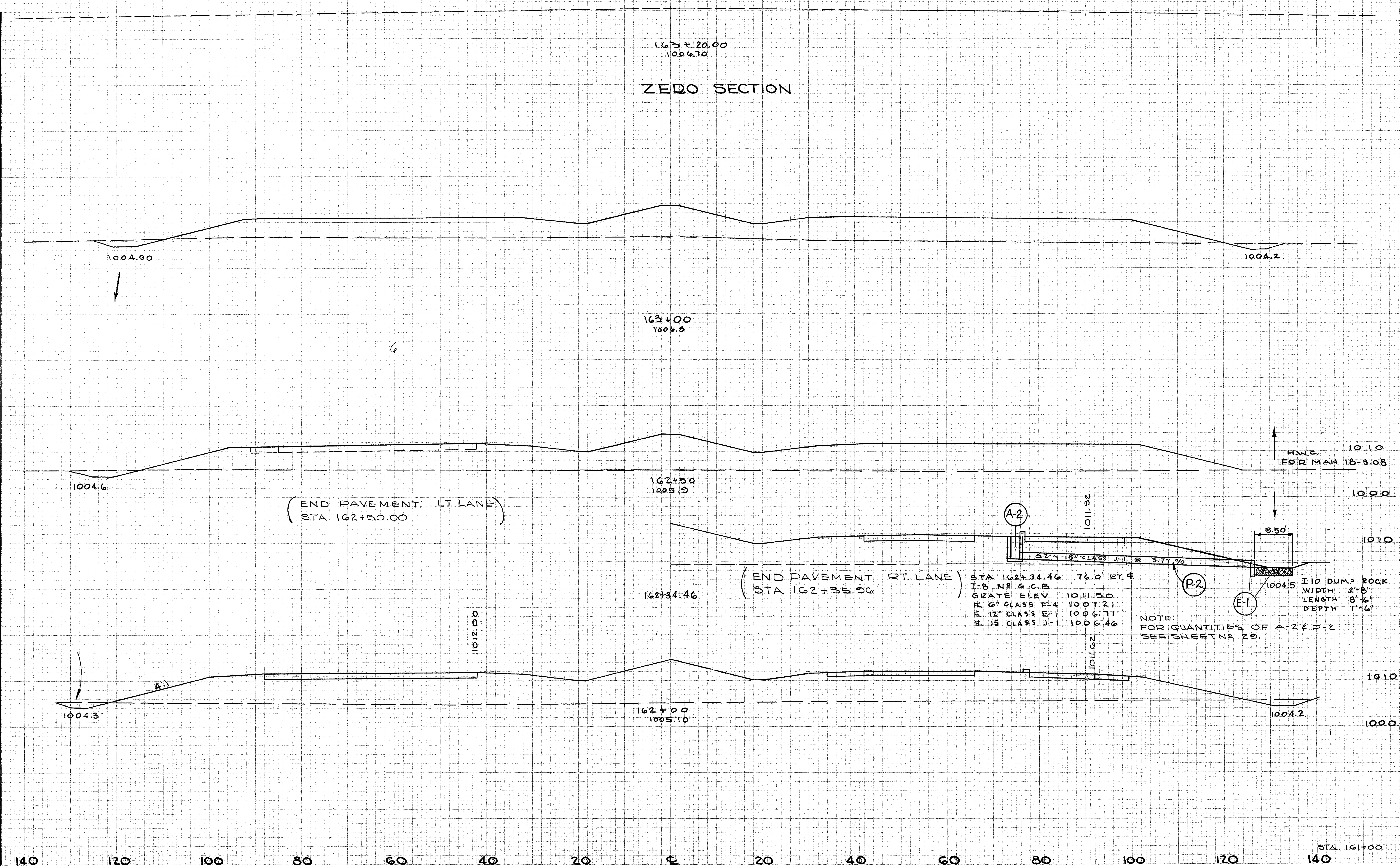
STA. 157+00

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

STA. 157+00

STA 158+00 To STA 161+00

PLATE 3. CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.



163+20.00
1006.70
ZERO SECTION
1004.90
1004.2
163+00
1006.8
6
H.W.C.
FOR MAH 18-3.08
1010
1004.6
162+50
1005.9
1000
(END PAVEMENT LT. LANE
STA. 162+50.00)
A-2
1011.32
8.50'
1010
52'~ 15" CLASS J-1 @ 3.77%
(END PAVEMENT RT. LANE
STA 162+35.96)
162+34.46
STA 162+34.46 76.0' RT ℄
I-8 № 6 C.B
GRATE ELEV 1011.50
℄ 6" CLASS F-4 1007.21
℄ 12" CLASS E-1 1006.71
℄ 15 CLASS J-1 1006.46
P-2
E-1
1004.5
I-10 DUMP ROCK
WIDTH 2'-8"
LENGTH 8'-6"
DEPTH 1'-6"
NOTE:
FOR QUANTITIES OF A-2 & P-2
SEE SHEET № 29.
1012.00
1011.62
4:1
1010
1004.3
162+00
1005.10
1004.2
1000
STA. 161+00
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

SEEDING

END WIDTH	SQ. YDS.
191	
	1052
184	
	2144
202	
	1018

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	0		
		2	70
16	889		
		32	1844
18	1102		
		17	2242
	1318		
		64	5219
35	1501		

STA. 162+00 - STA. 163+12.00

FED. RD.
STATE
PROJECT
2
OHIO
70
180
Mah. 18-0.91
END AREA CUT FILL
CU. YDS. CUT FILL
SEEDING END WIDTH SQ. YDS
MATCH LINE STA. 750+50 S.R. 534
MATCH LINE STA. 751+00 SR534
MATCH LINE STA. 572+00 S.R.534
107' LT. MAIN-LINE ℄ STA. 144+02.50
MATCH LINE
0+12.43
1008.00
0+75
1009.5
1+00
2+00
1011.3
3+00
4+00
5+00
6+00
7+00
VARIES
RIGHT
LEFT
STA. 7+03
INLET 18" CL A-1 CULVERT
ELEV. 1008.29
STA. 7+03
OUTLET 18" CL A-1 CULVERT
ELEV. 1008.12
NOTE:
FOR DETAILS & QUANTITIES
OF CULVERT @ STA. 7+03.00
SEE SHEET No 122.
1020
1010
Ramp 'A'

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — AREAS — AREAS CHECKED

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

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

SEEDING END	SEEDING S.Y.	END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
		0	0		
168		10	1615		
1844				33	5643
164		8	1433		
1906				364	4373
179		189	929		
1936				827	3071
173		258	730		
1900				827	2680
169		189	718		
1828				424	3012
160		40	909		
1661				88	3421
139		8	939		
650				48	1443
95		36	620		
		0	0		

1028.32

MATCH LINE STA 75+00 EL. 1029.39 S.R. 53.4

MATCH LINE STA 75+00 EL 1027.40

18+50.80

17+75 — 1010 — 2:1 — 1007.0 — 1003.7

17+00 — 1010 — 1025.45 — 1025.96 — 1006.7 — 1003.4

16+00 — 1010 — 1024.02 — 1024.40 — 1006.0 — 1003.1

15+00 — 1010 — 1022.84 — 1022.84 — 4:1 — 12:1 — 1005.7 — 1002.8

14+00 — 1010 — 1021.81 — 1021.28 — 4:1 — 4:1 — 12:1 — 1005.4 — 1002.5

13+00 — 1010 — 1020.79 — 1019.72 — 1005.1 — 1002.2

12+00 — 1010 — 1019.49 — 1018.16 — 4:1 — 2:1 — 1004.8 — 1001.8

MATCH LINE STA 155+25 M.L.

"A"

℄ W.B. LANE ℄ MAIN LINE "A"

76' LT ℄ STA 11+82 RAMP B
119' LT ℄ STA 155+47 M.L.
I-B Nº 5 C.B.
GRATE ELEV = 1004.75
℄ 21" J-1 = 1002.35
℄ 30" J-1 = 1001.60

NOTE:
FOR DETAILS & QUANTITIES OF PROPOSED STORM SEWER SEE SHEET 29.

STA 11+82 30' RT ℄
OUTLET 30" J-1
EL 1001.23

MATCH LINE STA 156+39 M.L.

11+00 — 1010 — 1017.93 — 1016.60 — 4:1 — 1010.2 — 1001.5

℄ W.B. LANE ℄ MAIN LINE

10+50 — 1010 — 1017.15 — 1015.82 — 1011.8 — 1001.7

STA 9+47

PLATE 3. CROSS SECTION

RAMP "B"

MAH 18-0.91

FED. RD. 2 | STATE OHIO | PROJECT

71
180

FED.RD.	STATE	PROJECT	
2	OHIO		

Mah. 18-0.91

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
18+51.33	0	1643		
			7	2363
18+00	18	910		
			64	2095
17+00	13	474		
			55	1616
16+00	17	399		
			64	1259
15+00	18	289		
			116	768
14+00	45	126		
			138	301
13+00	30	37		
			298	98
12+00	131	16		
			629	44
11+00	209	8		

Seeding	
S.Y.	525, 1317, 1294, 1161, 1028, 950, 1017, 1122
END	69, 120, 117, 116, 93, 92, 79, 104, 98

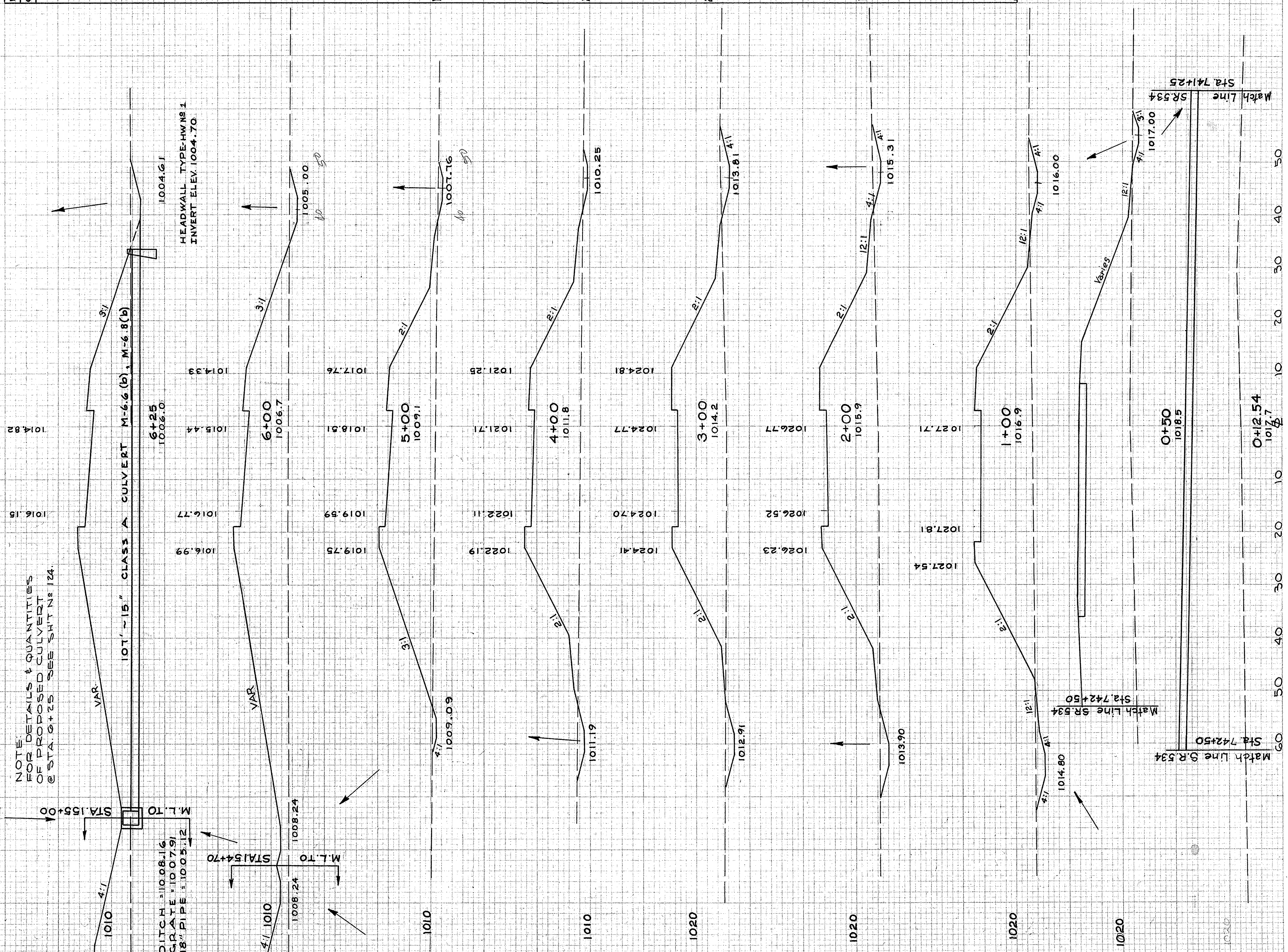
PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

Ramp 'C'

FED.RD.	STATE	PROJECT
2	OHIO	

Mah. 18-0.91

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
6+25	16	689		
			11	238
6+00	10	702		
			50	2280
5+00	17	530		
			74	1587
4+00	23	327		
			94	1609
3+00	28	542		
			85	2169
2+00	18	576		
			70	2130
1+00	20	575		

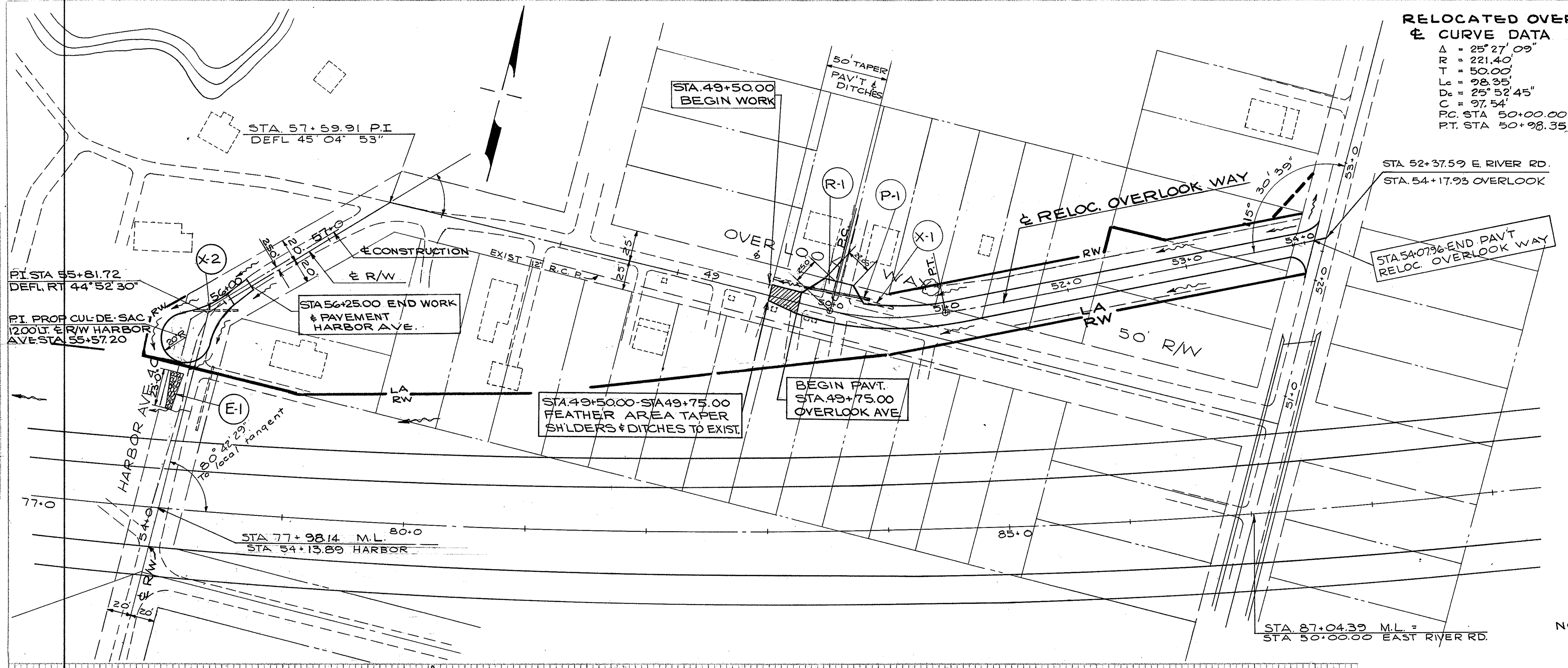


Seeding	End	S.Y.
	116	
		332
	123	
		1317
	114	
		1311
	122	
		1394
	129	
		1411
	125	
		1139
	80	

Ramp 'D'

RELOCATED OVERLOOK ℄ CURVE DATA

Δ = 25°27′09″
R = 221.40′
T = 50.00′
Lc = 98.35′
Dc = 25°52′45″
C = 97.54′
P.C. STA 50+00.00 ℄ RELOC. OVERLOOK
P.T. STA 50+98.35 ℄ RELOC. OVERLOOK



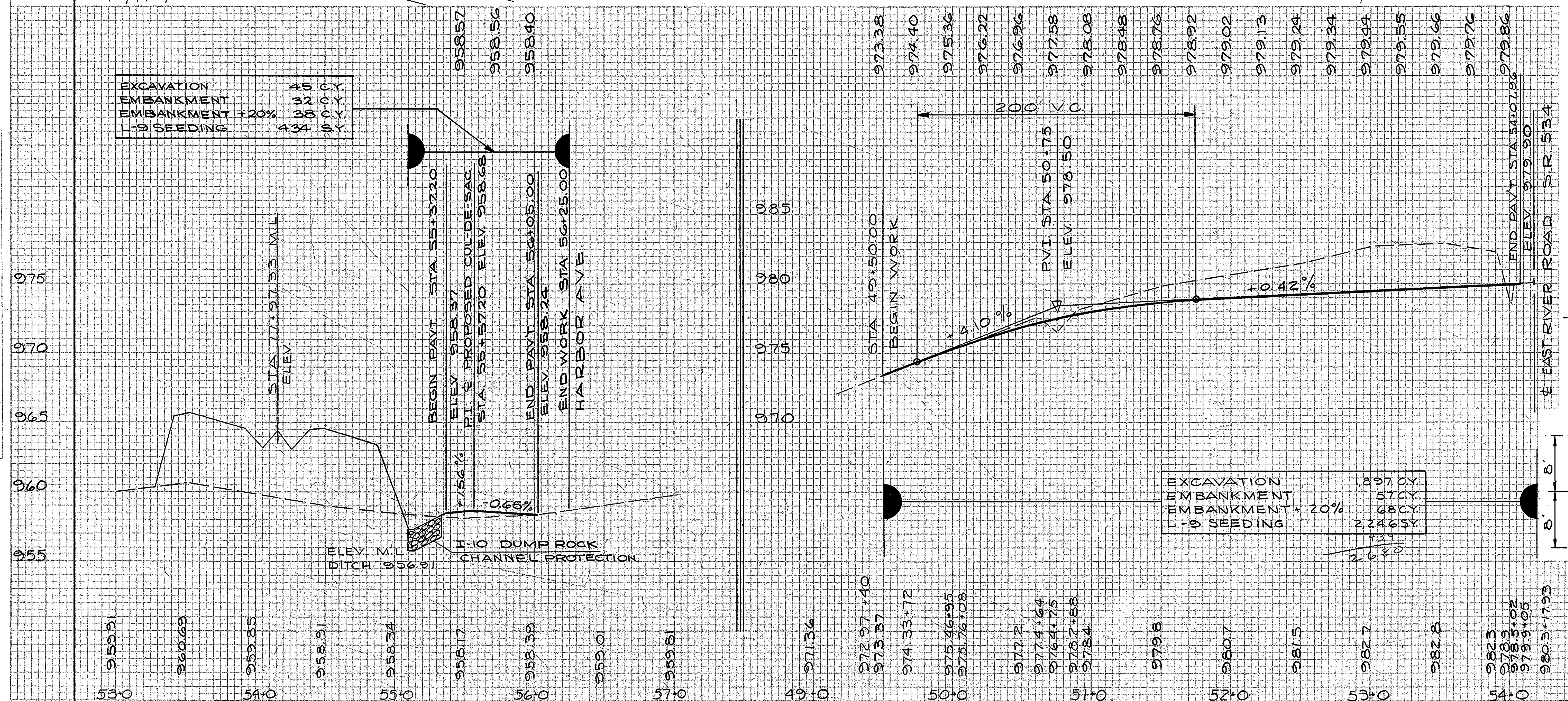
STA. 57+59.91 P.I.
DEFL. 45°04′53″
STA. 49+50.00 BEGIN WORK
50′ TAPER PAV'T & DITCHES
STA 52+37.59 E. RIVER RD.
STA. 54+17.93 OVERLOOK
℄ RELOC. OVERLOOK WAY
STA. 54+07.96 END PAV'T RELOC. OVERLOOK WAY
P.I. STA 55+81.72
DEFL. RT 44°52′30″
P.I. PROP. CUL-DE-SAC 12.00 LT. ℄ R/W HARBOR AVE STA 55+57.20
STA 56+25.00 END WORK & PAVEMENT HARBOR AVE.
℄ CONSTRUCTION
℄ R/W
EXIST. 12″ R.C.P.
OVERLOOK WAY
50′ R/W
STA. 49+50.00-STA 49+75.00 FEATHER AREA TAPER SH'LDERS & DITCHES TO EXIST.
BEGIN PAVT. STA. 49+75.00 OVERLOOK AVE.
HARBOR AVE.
STA 77+98.14 M.L.
STA 54+13.89 HARBOR
STA. 87+04.39 M.L. = STA 50+00.00 EAST RIVER RD.

EROSION CONTROL		
CODE	LOCATION	I-10 DUMPED ROCK CHANNEL PROTECTION CU. YDS.
E-1	55+06 - 55+29 HARBOR DR.	9
SHEET TOTAL		9

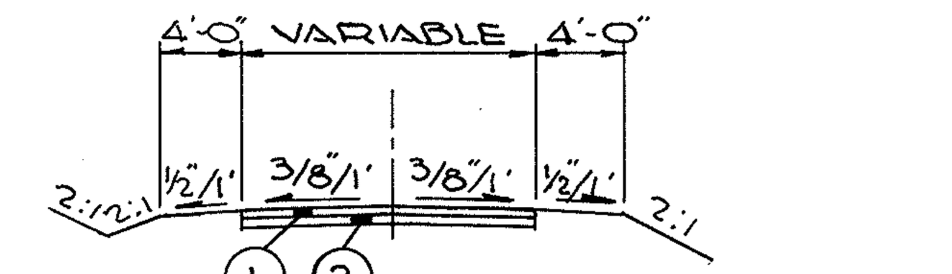
DRIVEWAY			T-35	B-19
CODE	LOCATION	SIDE ℄	2″ ASP. CONC. SURF. COURSE TYPE A	5″ AGGREGATE BASE COURSE
R-1	50+02 OVERLOOK	Lt.	2 C.Y.	14 C.Y.
SHEET TOTAL			2	14

E-12 PIPE REMOVAL			I-1 PIPE (LIN. FT)		
CODE	LOCATION	15″ ¢ UNDER LIN. FT.	CODE	LOCATION	12″ PIPE CLASS F-4
X-1	49+50 to 50+46 Lt. OVERLOOK	94	P-1	49+75 to 50+30 Lt. OVERLOOK	55
X-2	55+82 - 56+05 HARBOR	32			
SHEET TOTAL		126	SHEET TOTAL		55

NOTES:
1. FOR INTERSECTION DETAILS OF OVERLOOK WAY AND EAST RIVER ROAD SEE SHEET № 108
2. FOR CONSTRUCTION DETAILS OF PROPOSED CUL-DE-SAC 12.00′ LT. STA 55+57.20 HARBOR DR. SEE SHEET № 108

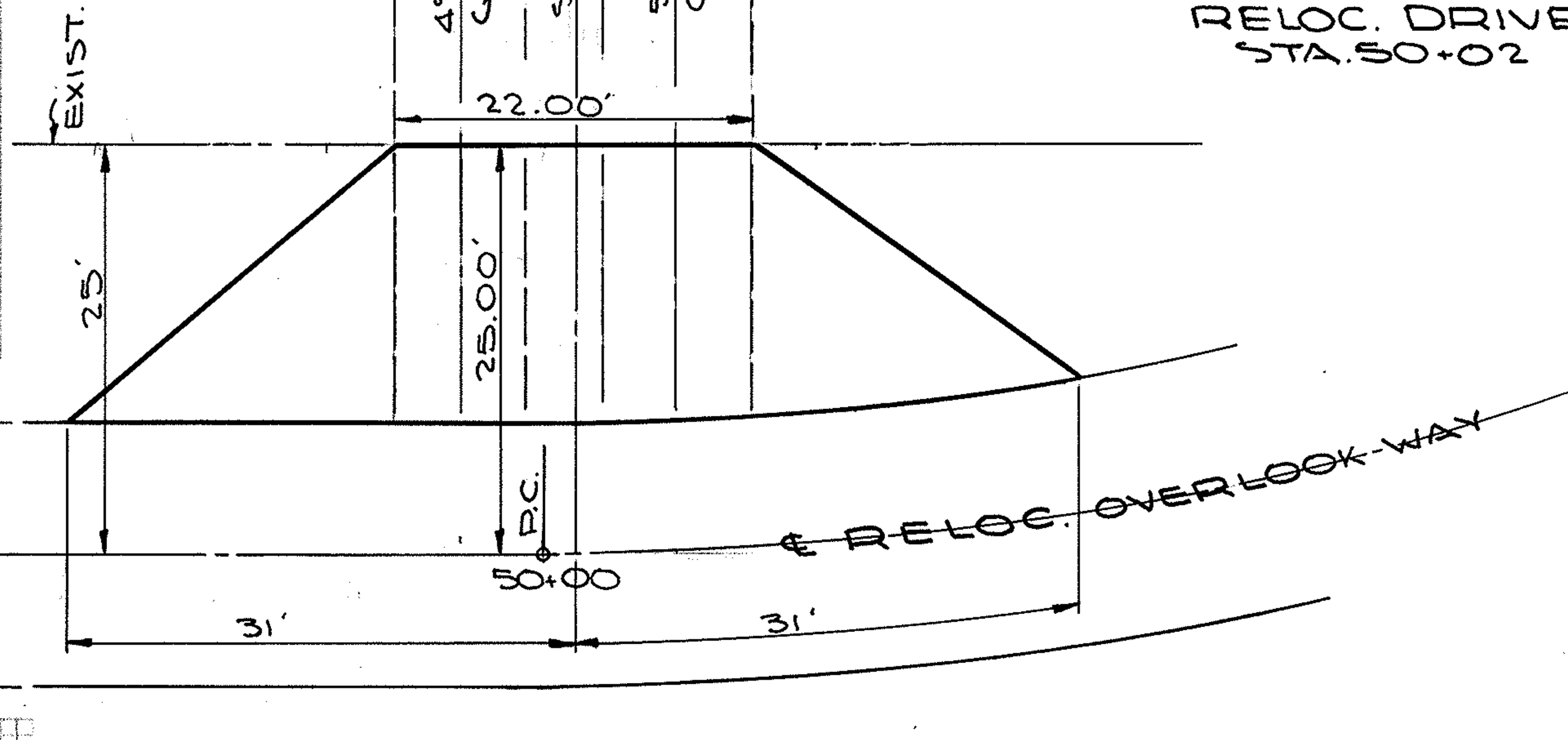


EXCAVATION 45 C.Y.
EMBANKMENT 32 C.Y.
EMBANKMENT +20% 38 C.Y.
L-9 SEEDING 434 S.Y.
STA 77+97.33 M.L. ELEV.
BEGIN PAVT. STA 55+37.20 ELEV. 958.37
P.I. ℄ PROPOSED CUL-DE-SAC STA 55+57.20 ELEV. 958.68
END PAVT. STA 56+05.00 ELEV. 958.24
END WORK STA 56+25.00 HARBOR AVE.
+1.56%
-0.65%
ELEV. M.L. DITCH 956.91
I-10 DUMP ROCK CHANNEL PROTECTION
STA 49+50.00 BEGIN WORK
200′ V.C.
P.V.I. STA 50+75 ELEV. 978.50
+4.10%
+0.42%
END PAVT. STA 54+07.96 ELEV. 979.90
℄ EAST RIVER ROAD S.R. 534
EXCAVATION 1,897 C.Y.
EMBANKMENT 57 C.Y.
EMBANKMENT + 20% 68 C.Y.
L-9 SEEDING 2,246 S.Y.
53+0
54+0
55+0
56+0
57+0
49+0
50+0
51+0
52+0
53+0
54+0



1. T-35 2″ ASPHALTIC CONCRETE SURFACE COURSE TYPE A (70.85)
2. B-19 5″ AGGREGATE BASE COURSE

TYPICAL SECTION
RELOC. DRIVEWAY
STA. 50+02

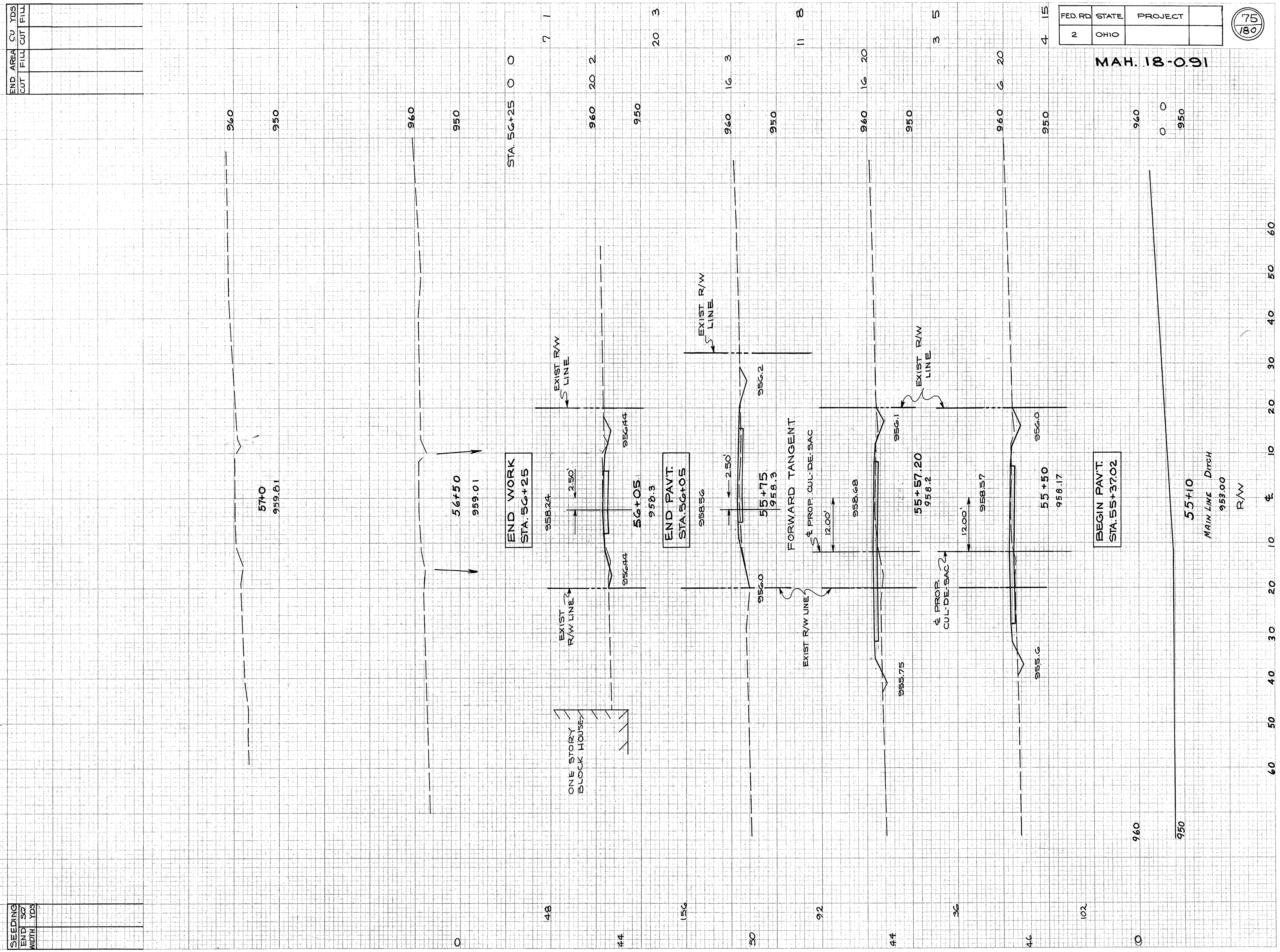


STA. 50+02
DRIVEWAY
LEFT ℄

RELOCATED OVERLOOK WAY

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91


END AREA CUT FILL
CU YDS CUT FILL
STA. 56+25
57+0
959.81
56+50
959.01
END WORK
STA. 56+25
958.24
2.50'
56+05
958.3
956.44
956.44
EXIST R/W LINE
EXIST R/W LINE
ONE STORY BLOCK HOUSE
END PAV'T.
STA. 56+05
958.56
2.50'
55+75
958.3
956.2
956.0
EXIST R/W LINE
EXIST R/W LINE
FORWARD TANGENT
℄ PROP. CUL-DE-SAC
12.00'
958.68
55+57.20
958.2
956.1
955.75
EXIST R/W LINE
12.00'
℄ PROP. CUL-DE-SAC
958.57
55+50
958.17
956.0
955.6
BEGIN PAV'T.
STA. 55+37.02
55+10
MAIN LINE DITCH
953.00
R/W
960
950
60 50 40 30 20 10 ℄ 10 20 30 40 50 60
SEEDING END WIDTH SQ YDS
48
44
156
50
92
44
36
46
102
0

X-SECTIONS HARBOR AVE. CUL-DE-SAC

MAH 18-0.91

CU. YDS. FILL	3		3		0	
CU. YDS. CUT	86		67		30	
END AREA FILL	0	3		0		0
END AREA CUT	54	39		32		0

SEEDING END SQ.	269	256		122	
SEEDING WIDTH YDS	49	48	44		0

K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.

RELOC. OVERLOOKWAY X-SECTIONS STA. 49+00 to STA. 51+00

FED. RD.	STATE	PROJECT
2	OHIO	

77/180

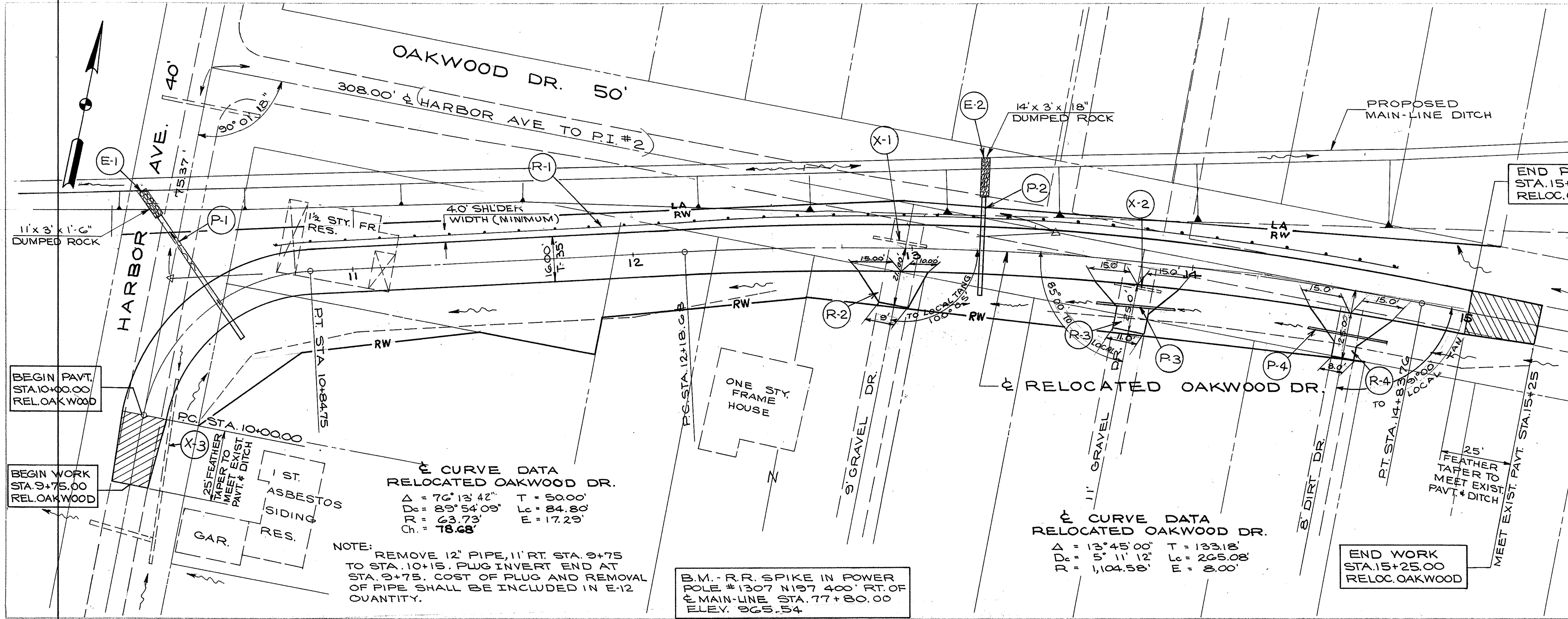
MAH. 18-0.91

K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.

RELOC. OVERLOOKWAY X-SECTIONS STA.51+50 to STA. 54+18.70

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91



OAKWOOD DR. 50'
HARBOR AVE. 40'
308.00' ℄ HARBOR AVE TO P.I. #2
90° 01' 18"
75.37'
E-1
11' x 3' x 1'-6" DUMPED ROCK
P-1
R-1
1½ STY. FR. RES.
4.0' SHLDER WIDTH (MINIMUM)
E-2
14' x 3' x 18" DUMPED ROCK
X-1
P-2
X-2
PROPOSED MAIN-LINE DITCH
END PAVT. STA. 15+00.00 RELOC. OAKWOOD
16.00' T-35
12
P.T. STA. 10+84.75
P.C. STA. 12+18.63
R-2
R-3
P-3
P-4
R-4
P.T. STA. 14+83.76
℄ RELOCATED OAKWOOD DR.
ONE STY. FRAME HOUSE
9' GRAVEL DR.
11' GRAVEL DR.
8' DIRT DR.
BEGIN PAVT. STA. 10+00.00 REL. OAKWOOD
BEGIN WORK STA. 9+75.00 REL. OAKWOOD
P.C. STA. 10+00.00
X-3
25' FEATHER TAPER TO MEET EXIST. PAVT. & DITCH
1 ST. ASBESTOS SIDING RES.
GAR.
25' FEATHER TAPER TO MEET EXIST. PAVT. & DITCH
MEET EXIST. PAVT. STA. 15+25
END WORK STA. 15+25.00 RELOC. OAKWOOD

℄ CURVE DATA RELOCATED OAKWOOD DR.
Δ = 76° 13' 42"   T = 50.00'
Dc = 89° 54' 09"   Lc = 84.80'
R = 63.73'   E = 17.29'
Ch. = 78.68'

℄ CURVE DATA RELOCATED OAKWOOD DR.
Δ = 13° 45' 00"   T = 133.18'
Dc = 5° 11' 12"   Lc = 265.08'
R = 1,104.58'   E = 8.00'

NOTE: REMOVE 12" PIPE, 11' RT. STA. 9+75 TO STA. 10+15. PLUG INVERT END AT STA. 9+75. COST OF PLUG AND REMOVAL OF PIPE SHALL BE INCLUDED IN E-12 QUANTITY.

B.M. - R.R. SPIKE IN POWER POLE #1307 N197 400' RT. OF ℄ MAIN-LINE STA. 77+80.00 ELEV. 965.54

E-12 PIPE REMOVAL

CODE	LOCATION	SIDE ℄	15" & UNDER LIN. FT.
X-1	13+00 2' LT.	LT.	20
X-2	13+82 9' RT.	RT.	17
X-3	9+75 - 10+15	RT.	40
SHEET TOTAL			77

I-1 PIPE (LIN. FT.)

CODE	LOCATION FROM TO	SIDE ℄	CLASS F-4 M-6.4(c) 15"	12"
P-1	10+50 —	LT & RT.	53	
P-2	13+25 —	LT. & RT.	35	
P-3	13+68 - 13+96	RT.		28
P-4	14+45 - 14+74	RT.		29
SHEET TOTAL			88	57

EROSON CONTROL

CODE	LOCATION FROM TO	SIDE ℄	I-10 DUMPED ROCK CU. YDS.
E-1	10+50 38' LT	LT	2
E-2	13+25 20' LT	LT	2
SHEET TOTAL			4

I-15 STEEL BEAM (DEEP) GUARD RAIL (LIN. FT.) / STANDARD TYPE 2 DRIVEWY

CODE	LOCATION FROM TO	SIDE ℄	STAND. DESIGN LIN. FT.	2" T-35 ASPHALT. CONC. TYPE "A" CU. YDS.	5" B-19 AGGREG BASE COURSE CU. YDS.
R-1	10+75 - 14+75	RT.	400		
R-2	12+98 ℄	RT.		2	7
R-3	13+82 ℄	RT.		3	10
R-4	14+59 ℄	RT.		3	10
SHEET TOTAL			400	8	27

959.28
959.43
959.80
960.63
961.69
962.74
963.79
964.84
965.90
966.93
967.91
968.86
969.75
970.63
971.51
972.38
973.26
974.13
975.00
975.78
976.34
976.81
FEATHER AREA
STA. 9+75.00 BEGIN WORK
BEGIN PAVEMENT STA. 10+00.00 ELEV. 959.28
50' V.C.
P.V.I. STA. 10+50.00 ELEV. 959.58
-0.60%
+4.21%
100' V.C.
P.V.I. STA. 12+50.00 ELEV. 968.00
+3.50%
PROPOSED 15" CLASS F-4 ℄ ELEV. 967.81
PROPOSED 15" CLASS F-4
P.V.I. STA. 14+75 ELEV. 975.88
50' V.C.
+1.867%
END PAVT. STA. 15+00.00 ELEV. 976.34
STA. 15+25 MEET EXISTING PAVEMENT - ELEV. 976.53
4'
VARIABLE - SEE DRIVE - DETAIL
4'
TYPICAL SECTION - DRIVEWAYS
1 2" T-35 ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" (70-85)
2 5" B-19 AGGREGATE BASE COURSE
975
970
965
960
955
960.2
959.1
959.4
960.0
961.0
962.0
963.0
964.0
965.0
966.0
967.0
968.0
969.0
970.0
971.0
972.0
973.0
974.0
974.4
975.0
976.1
977.0
977.8
9
10
11
12
13
14
15

EXCAVATION	278 C.Y.
EMBANKMENT	82 C.Y.
EMBANKMENT +20%	98 C.Y.
L-9 SEEDING	1881 S.Y.

RELOCATED OAKWOOD DR.

ORIGINAL SURVEY — SURVEYED / NOTE BOOK / NO. — TRACED / TEMPLATE / AREAS / AREAS CHECKED — DATE

FINAL SURVEY — SURVEYED / NOTE BOOK / NO. — PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — DATE

SEEDING END	S.Y.	END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
29					
144				20	1
142				22	1
28		17	0		
156				35	0
28					
164				43	0
31		28	0		
220				68	0
48		45	0		
239				51	9
38		10	9		
53				5	4
0		0	0		
		0	0	0	0
		0	0		

118.5' TO ℄ M.L. STA 80+35
LA/RW & MATCH LINE
969.75
970
13+0
969.8
965 14 0
969.00
0+21
969.00
969.38
969.86
0+21 MEET EX. DRIVE ELEV. 969.0
-6.33%
970
0+15
969.40
12+98
969.76
DRIVEWAY ON RT
0+0 0+10 0+20
969.56
0+10
STA 12+98 DRIVE RIGHT ℄
125' TO ℄ M.L. STA 79+86.5
LA/RW & MATCH LINE
PROPOSED R/W
967.91
970
967.5
12+50
968.0
965 7 1
119.5' TO ℄ M.L. STA 79+37
LA/RW & MATCH LINE
PROPOSED R/W
965.90
970
12+00
966.0
965 17 0
105.5' TO ℄ M.L. STA 78+87.5
LA/RW & MATCH LINE
PROPOSED R/W
965
11+50
963.8
962.0
960 18 0
93.5' TO ℄ M.L. STA 78+40
LA/RW & MATCH LINE
961.69
PROPOSED R/W
11+00
962.0
959.9
960 28 0
955
37'-6"
15'-6"
PROPOSED R/W
959.58
EXIST R/W
LA/RW & MATCH LINE
143' TO ℄ M.L. STA 77+67.5
4:1
53'~15" CLASS F-4 M-6.4(C) @ 1.49%
INLET ELEV. 957.79
960
OUTLET ELEV. 957.00
955.57
D-1
10+50
959.8
955 45 0
I-10
DUMPED ROCK
LENGTH = 11'-0"
WIDTH = 8'-0"
THICKNESS = 1'-6"
965
959.28
960 10 9
10+00
960.0
EXIST R/W
STA. 9+75 BEGIN WORK & FEATHERING
STA. 10+00 BEGIN PAVEMENT OAKWOOD DR.
EXIST R/W
STA. 9+75
970
STA 9+75
9+50
967.0
965
965
960 0
9+20
960.17
40 30 20 10 ℄ 10 20 30 40

X-SEC. RELOC. OAKWOOD DR.

MAH-18-0.91

FED. RD	STATE	PROJECT
2	OHIO	

79 / 180

PLATE 3 CROSS SECTION C.P.R.B.E. STANDARD
KEMPF & HOPE CO. NEW YORK

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMP. AR'S, AREAS, AREAS CHECKED, NOTE BOOK, NO.

FINAL SURVEY — SURVEYED, PLOTTED, TEMP. AR'S, AREAS, AREAS CHECKED, NOTE BOOK, NO.

SEEDING	
END	S.Y.
0	
60	
43	
214	
34	
178	
30	
153	
25	
76	
30	
82	

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
0	0	0	0
0	0		
8	6	4	3
1	10	9	15
		3	23
2	15		
		4	20
2	6		
		4	4
7	3		
		10	2

980
975
970
965
960

15+50
977.8

STA 15+25
END ℄ WORK
FEATHERING

15+25
976.6

STA 15+00
END PAV'T
OAKWOOD DR.
976.34

EXIST R/W

974.54 — 15+0 — 976.1 — 974.54

0+25 MEET EXIST. ELEV. 974.3

P-4
0+25
SEC. MG.4(C)
INLET ELEV. 972.5
12" X 29' @ 0.3%
0+16
OUTLET ELEV. 972.42
-4.17%

14+59
8' DIRT DRIVE RT.
975.00

℄ STA. 0+08 DRIVE
10 5 0 5 10

LA/RW & MATCH LINE

14+50
974.4

EXIST R/W

180.0' TO ℄ M.L.
STA 81+87.5

LA/RW & MATCH LINE

973.26

EXIST R/W

14+00
972.5

970.18

128.0' TO ℄ M.L.
STA 81+36

0+25 MEET EXIST. ELEV. 971.6

971

0+25
SEC. MG.4(C)
-4.17%
0 10 20

P-3
INLET ELEV. 970.0
12" X 28' @ 0.3%
0+16
OUTLET ELEV. 969.92

13+82
11' GRAVEL DRIVE RT.

EXIST R/W

℄ STA. 0+08 DRIVE
15 10 5 0 5 10 15

971.51

LA/RW & MATCH LINE

13+50
971.0

969.72

121.0' TO ℄ M.L.
STA 80+84.5

19'-0" — 16'-0"
970.63

LENGTH = 14'-0"
WIDTH = 3'-0"
THICKNESS = 1'-6"
I-10 DUMPED ROCK

35'-15' CLASS F-4 @ 4.05%
SEC. MG.4(C)

P-2
INLET ELEV 968.46

OUTLET ELEV 967.04

13+25
970.0

30 20 10 ℄ 10 20 30 40

PLATE 3 CROSS SECTION C.I. R.A.R.C. STANDARD
KEUFFEL & ESSER CO., NEW YORK

X-SEC. RELOC. OAKWOOD DR.

FED. RD.	STATE	PROJECT
2	OHIO	

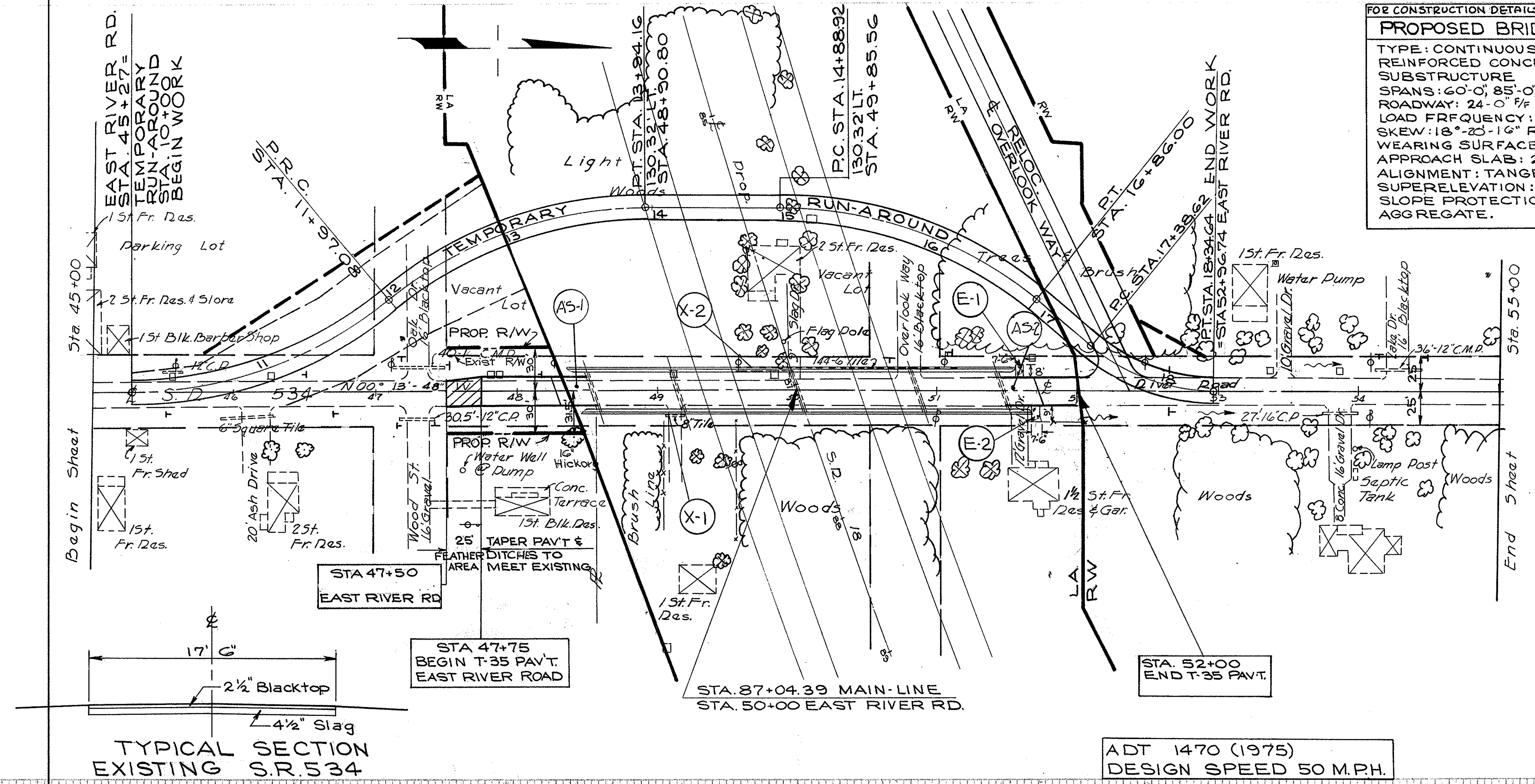
MAH-18-0.91

80/180

FOR CONSTRUCTION DETAILS & QUANTITIES SEE SHT. 162-169

PROPOSED BRIDGE NO. MAH.-18-0165

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 60'-0", 85'-0", 85'-0", 60'-0" ℄ BRGS.
ROADWAY: 24'-0" F/F 2'-8" SAFETY CURBS
LOAD FREQUENCY: C.F. 130
SKEW: 18°-23'-16" R.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE.



TYPICAL SECTION
EXISTING S.R. 534

ADT 1470 (1975)
DESIGN SPEED 50 M.P.H.

NOTE

① FOR TEMPORARY RUN-AROUND SEE SHEET Nº 83

EROSION CONTROL

CODE	LOCATION	L-10 SOD SPEC. BERM PROCT. SQ. YDS.	
E-1	51+57 LT. ℄	9	
E-2	51+67 RT. ℄	10	
SHEET TOTAL		19	

E-12 PIPE REMOVAL

CODE	LOCATION FROM TO	SIDE ℄	E-12 PIPE REMOVAL 15" & UNDER LIN. FT.
X-1	49+06-49+20	RT.	14
X-2	49+46-50+90	LT.	144
SHEET TOTAL			158

I-7 APPROACH SLABS

CODE	LOCATION	CLASS "C" CONC. SQ. YDS.
AS-1	48+27.6-48+52.6	56
AS-1	51+47.4-51+62.4	56
SHEET TOTAL		112

FOR CONSTRUCTION DETAILS & QUANTITIES OF RELOCATED OVERLOOK WAY SEE SHEET Nº 74-77

EXCAVATION	243 C.Y.
EMBANKMENT	39 C.Y.
EMBANKMENT + 20%	47 C.Y.
SEEDING	424 SQ.Y.

S.R. 534 - EAST RIVER RD. STA. 45+00 TO STA. 55+00

FED. RD.	STATE	PROJECT	
2	OHIO		

82/180

MAH. 18-0.91

EAST RIVER ROAD 47+00 To 53+00

PLATE 3 CROSS SECTION O. P. H. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

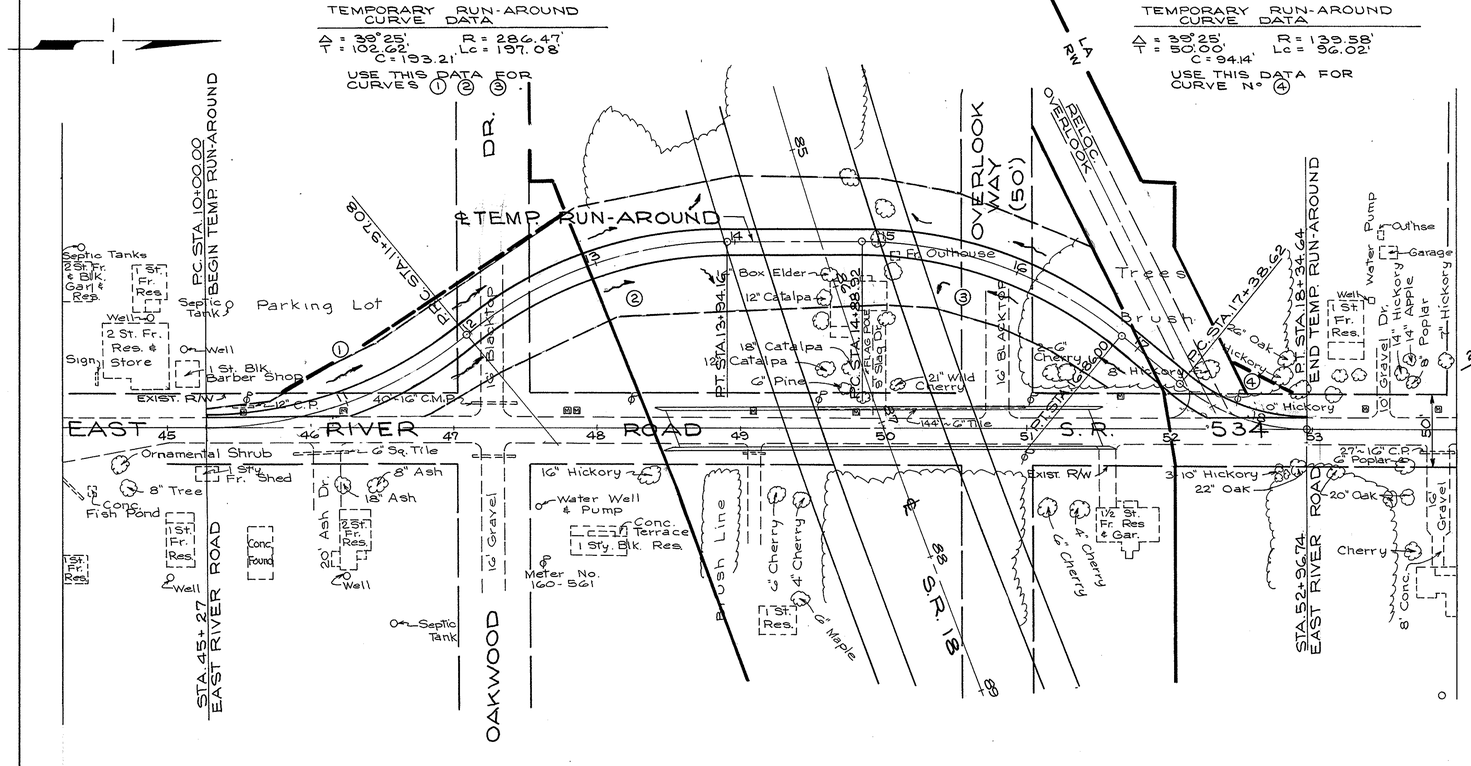
FED. RD.	STATE	PROJECT	
2	OHIO		

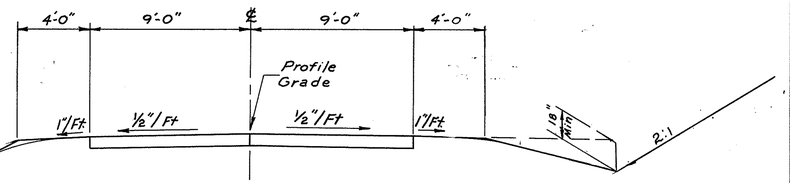
83
180

MAH. 18-0.91

TEMPORARY RUN-AROUND CURVE DATA
Δ = 39° 25' R = 286.47'
T = 102.62' Lc = 193.08'
C = 193.21'
USE THIS DATA FOR CURVES ① ② ③

TEMPORARY RUN-AROUND CURVE DATA
Δ = 39° 25' R = 139.58'
T = 50.00' Lc = 96.02'
C = 94.14'
USE THIS DATA FOR CURVE N° ④





NORMAL SECTION
Scale: ¼" = 1'-0"
CLASS "B" - TEMPORARY RUN-AROUND
EAST RIVER ROAD

LIMITING STATIONS		LENGTH (Lin. Ft.)
STA. 10+00.00 TO	STA. 18+34.64	834.64

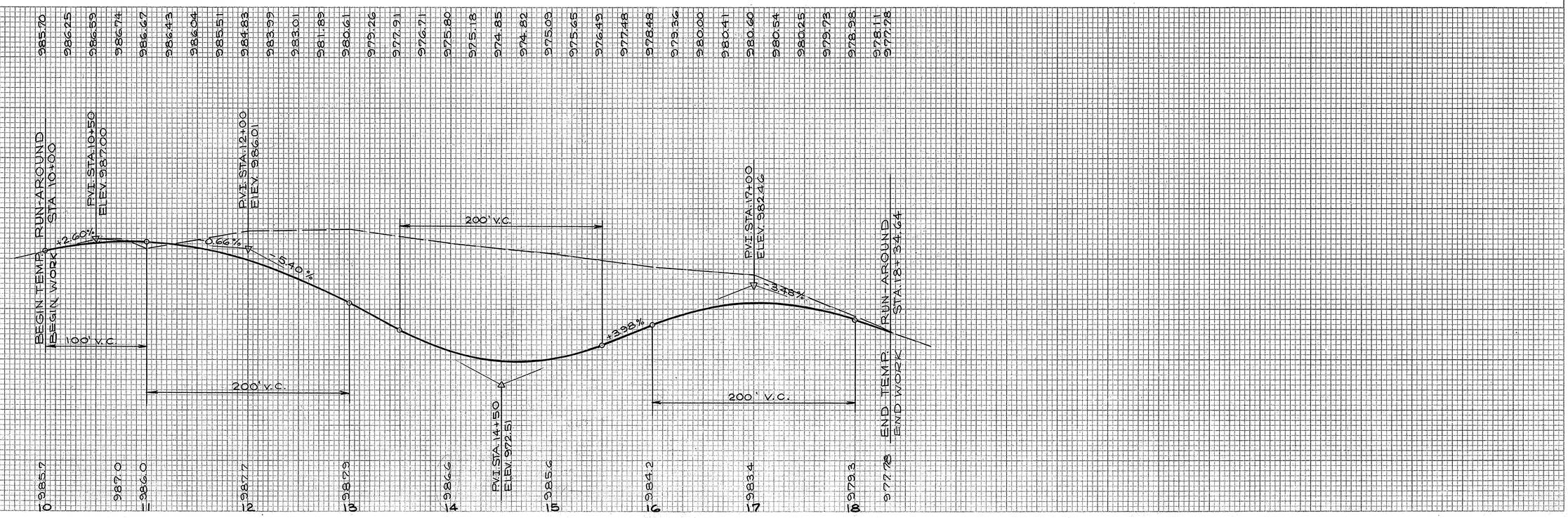


PLATE 4—CROSS SECTION © P R & R E. STANDARD
KOUFFEL & ESSEN CO., NEW YORK

TEMP. RUN-AROUND EAST RIVER ROAD

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

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

FED. RD.	STATE	PROJECT	
2	OHIO		

84
180

MAH. 18-0.91

X-SECTIONS TEMP. RUN-AROUND EAST RIVER RD.

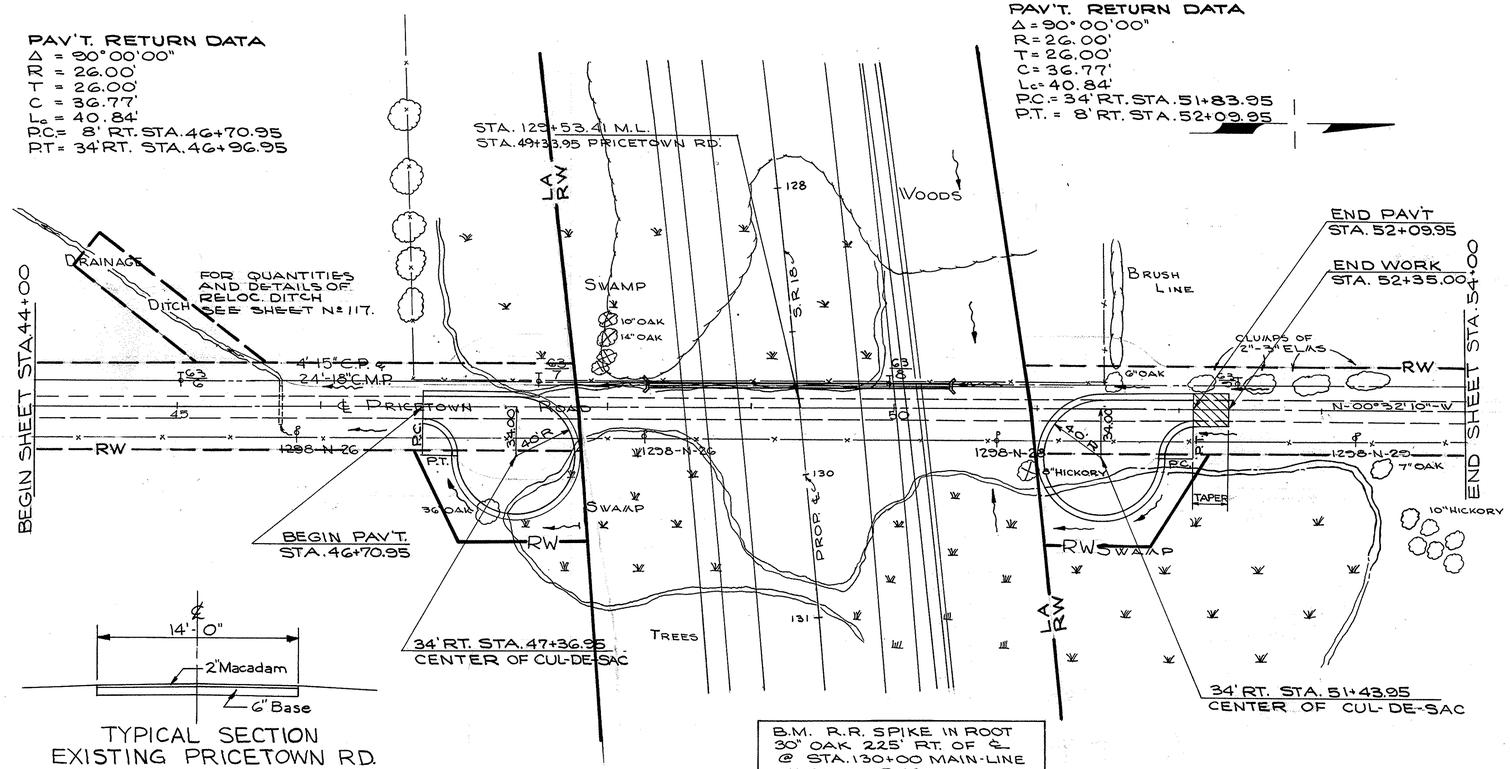
FED.RD.	STATE	PROJECT	
2	OHIO		

85/180

MAH. 18-0.91

PAV'T. RETURN DATA
Δ = 90°00'00"
R = 26.00'
T = 26.00'
C = 36.77'
L_c = 40.84'
P.C. = 8' RT. STA. 46+70.95
P.T. = 34' RT. STA. 46+96.95

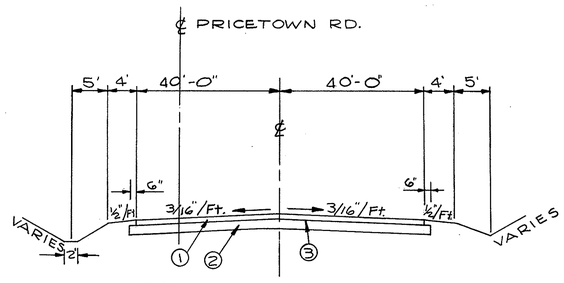
PAV'T. RETURN DATA
Δ = 90°00'00"
R = 26.00'
T = 26.00'
C = 36.77'
L_c = 40.84'
P.C. = 34' RT. STA. 51+83.95
P.T. = 8' RT. STA. 52+09.95



TYPICAL SECTION
EXISTING PRICETOWN RD.

B.M. R.R. SPIKE IN ROOT 30" OAK 225' RT. OF ℄ @ STA. 130+00 MAIN-LINE ELEV. 1005.18

NOTES:
① FOR CROSS-SECTIONS OF PROPOSED PRICETOWN ROAD CUL-DE-SAC SEE SHEET Nº 118
② FOR THE 42" CLASS A-1 CULVERT AT STA. 129+38.34 MAIN-LINE. SEE SHEET Nº 117
③ FOR CUL-DE-SAC DETAILS SEE SHEET Nº 108



TYPICAL SECTION
PRICETOWN R.D. CUL-DE-SAC.

① T-35 1½" ASPHALTIC CONCRETE TYPE "A" (70-85)
② B-19 8" AGGREGATE BASE COURSE.
③ T-30 BITUMINOUS PRIME COAT~APPLIED @ 0.40 GAL/SQ.Y.

EXCAVATION	195 C.Y.
EMBANKMENT	90 C.Y.
EMBANKMENT +20%	96 C.Y.
SEEDING	2294 S.Y.

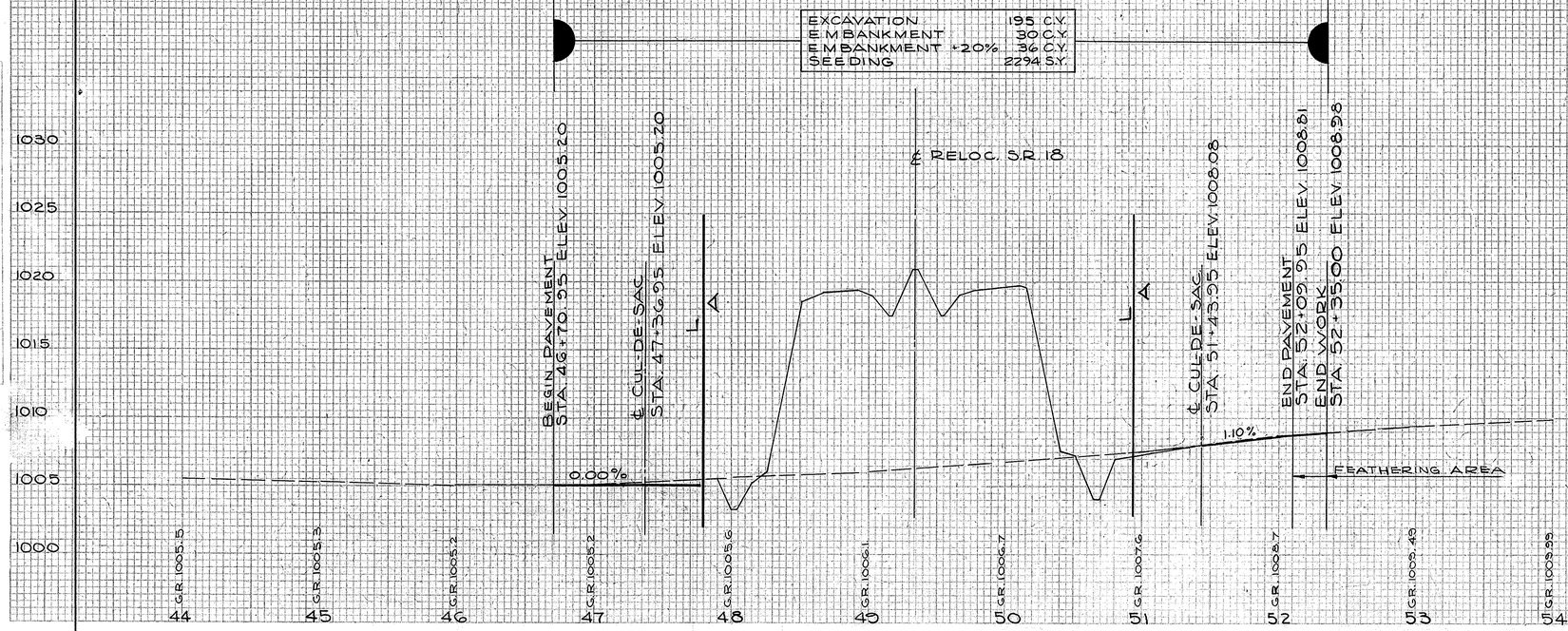
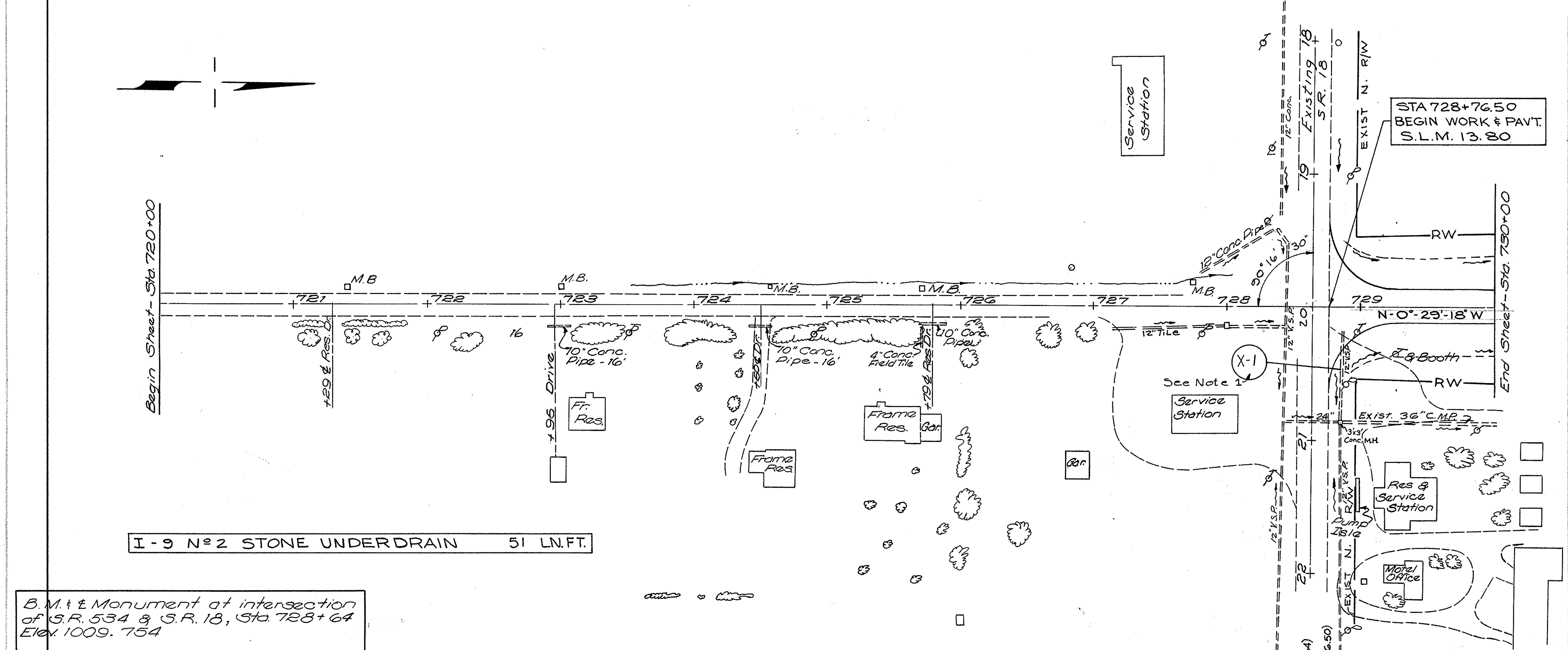


PLATE 1—CROSS SECTION. U.P.R.R.E. STANDARD
ADOPTED E. LOUIS CO., NEW YORK

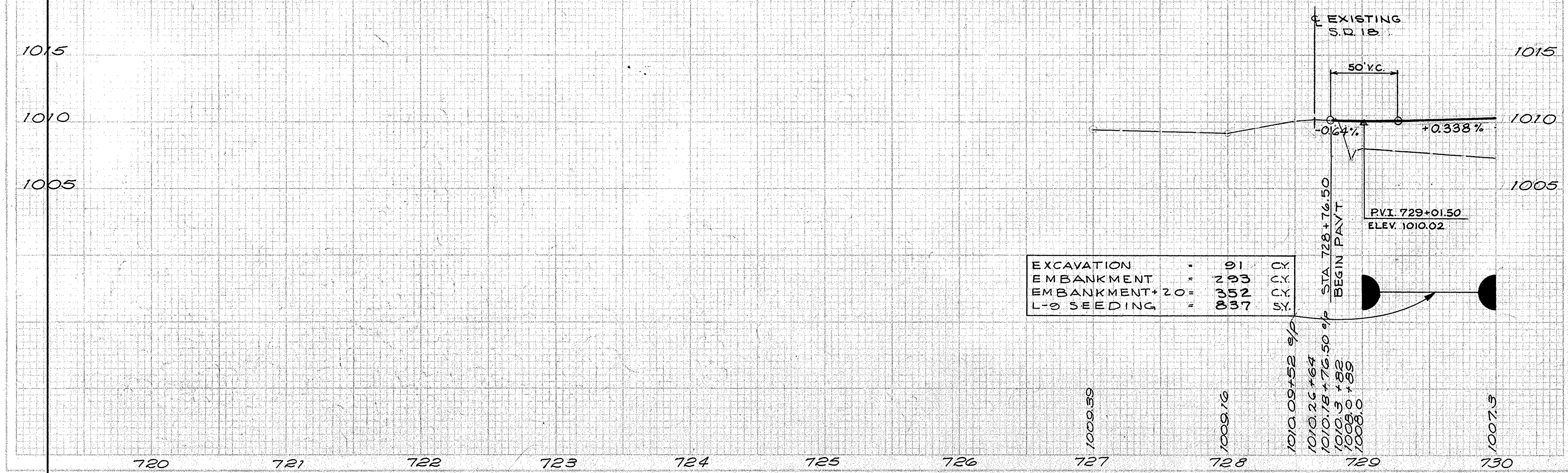
PRICETOWN RD. STA. 44+00 – 54+00



NOTES

① THE EXISTING 12" V.S.P. RT. OF STA. 728+87 IS TO BE REMOVED TO THE WORK LIMITS OF THE PROJECT & SEALED WITH AN APPROVED PLUG AS DIRECTED BY THE ENGINEER, PAYMENT FOR ALL MATERIALS & LABOR NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE BID ITEM E-12 "PIPE REMOVAL 15" & UNDER". (X-1)

② FOR DETAILS OF THE INTERSECTION OF EXISTING S.R. 18 & PROPOSED S.R. 534 SEE SHEET No. 108

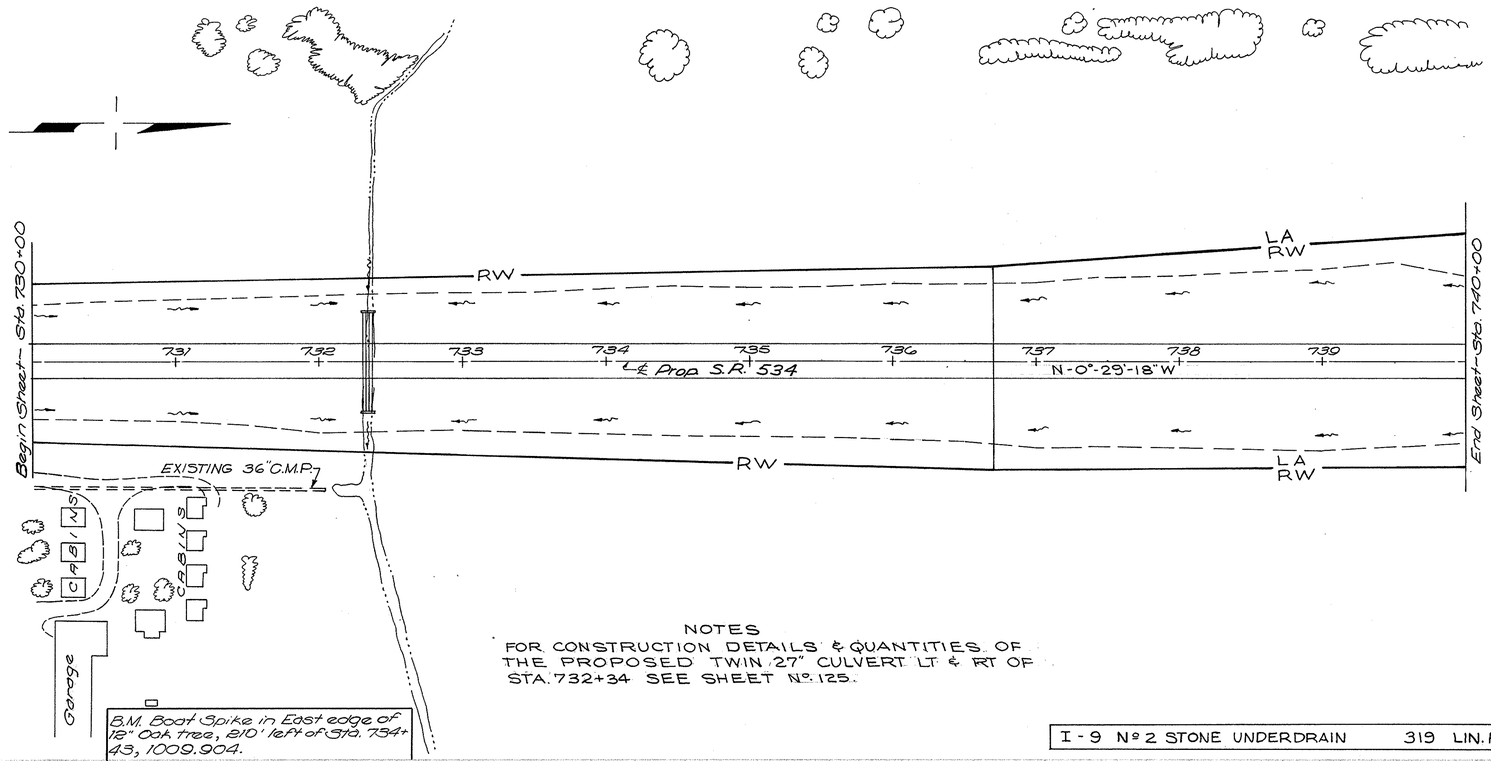


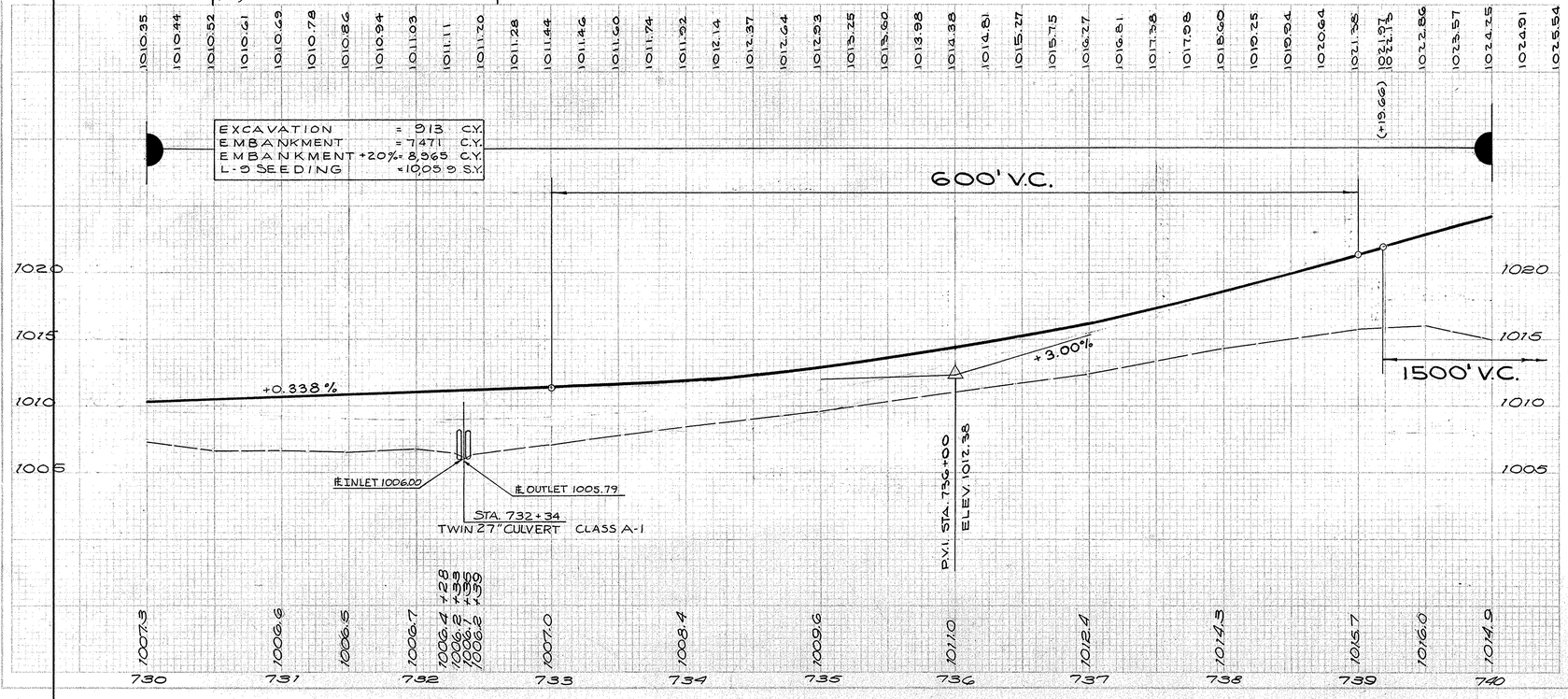
ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	E-12 PIPE REMOV. 15" & UNDER LIN. FT.	SEE SHEET NO.
X-1	728+87	RT	40	
TOTALS			40	

RELOCATED S.R. 534

Sta. 720+00 to Sta. 730+00





MAHONING COUNTY
MAH 18-0.91

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

NOTES
FOR CONSTRUCTION DETAILS & QUANTITIES OF THE PROPOSED TWIN 27" CULVERT LT. & RT. OF STA. 732+34 SEE SHEET No. 125.

B.M. Boat Spike in East edge of 12" Oak tree, 210' left of Sta. 734+43, 1009.904.

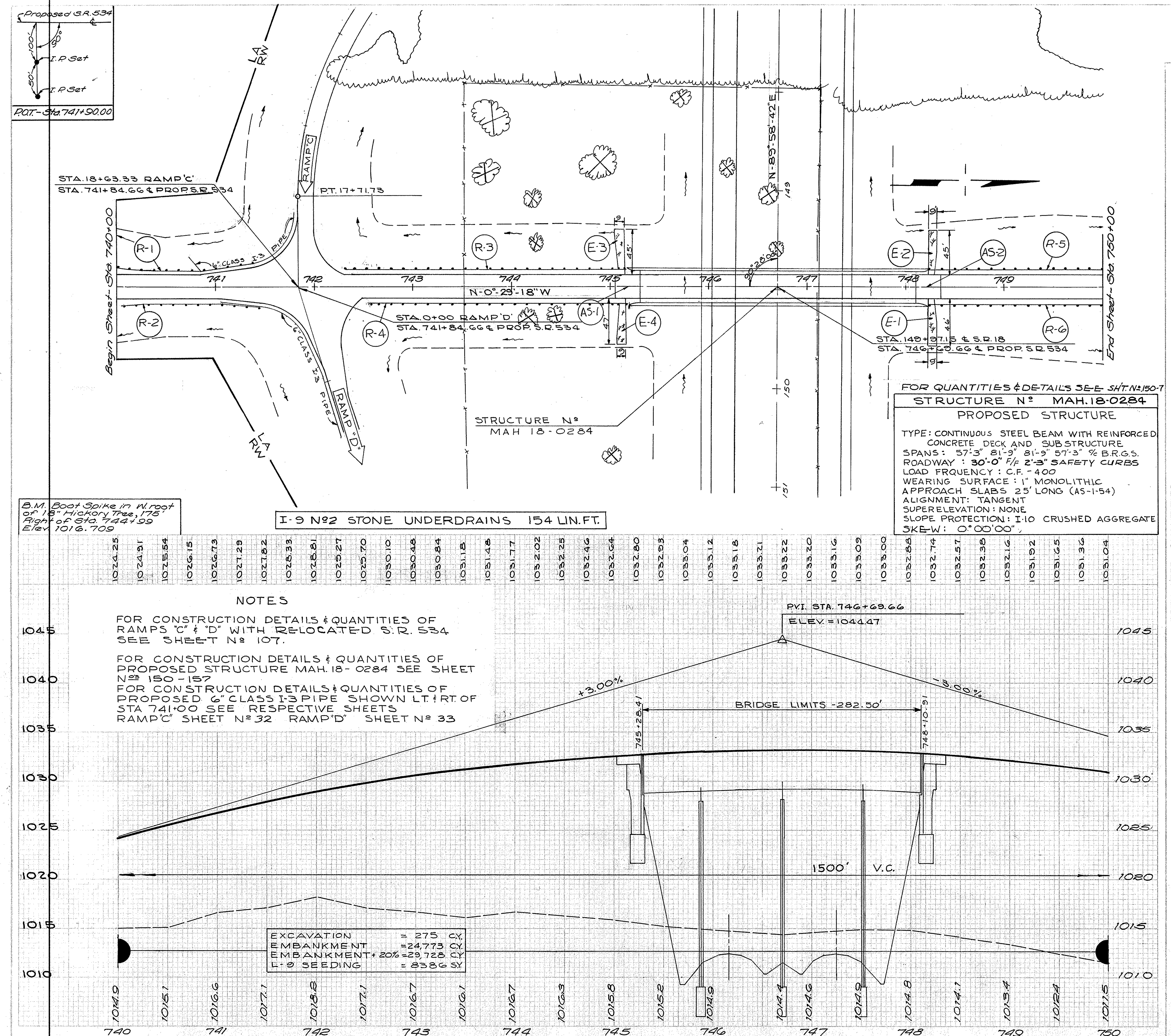
I-9 No. 2 STONE UNDERDRAIN	319	LIN. FT.

EXCAVATION	= 913	C.Y.
EMBANKMENT	= 7471	C.Y.
EMBANKMENT +20%	= 8,965	C.Y.
L-9 SEEDING	= 10059	S.Y.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	SEE SHEET NO.	TOTALS

RELOCATED S.R. 534
Sta. 730+00 to Sta. 740+00

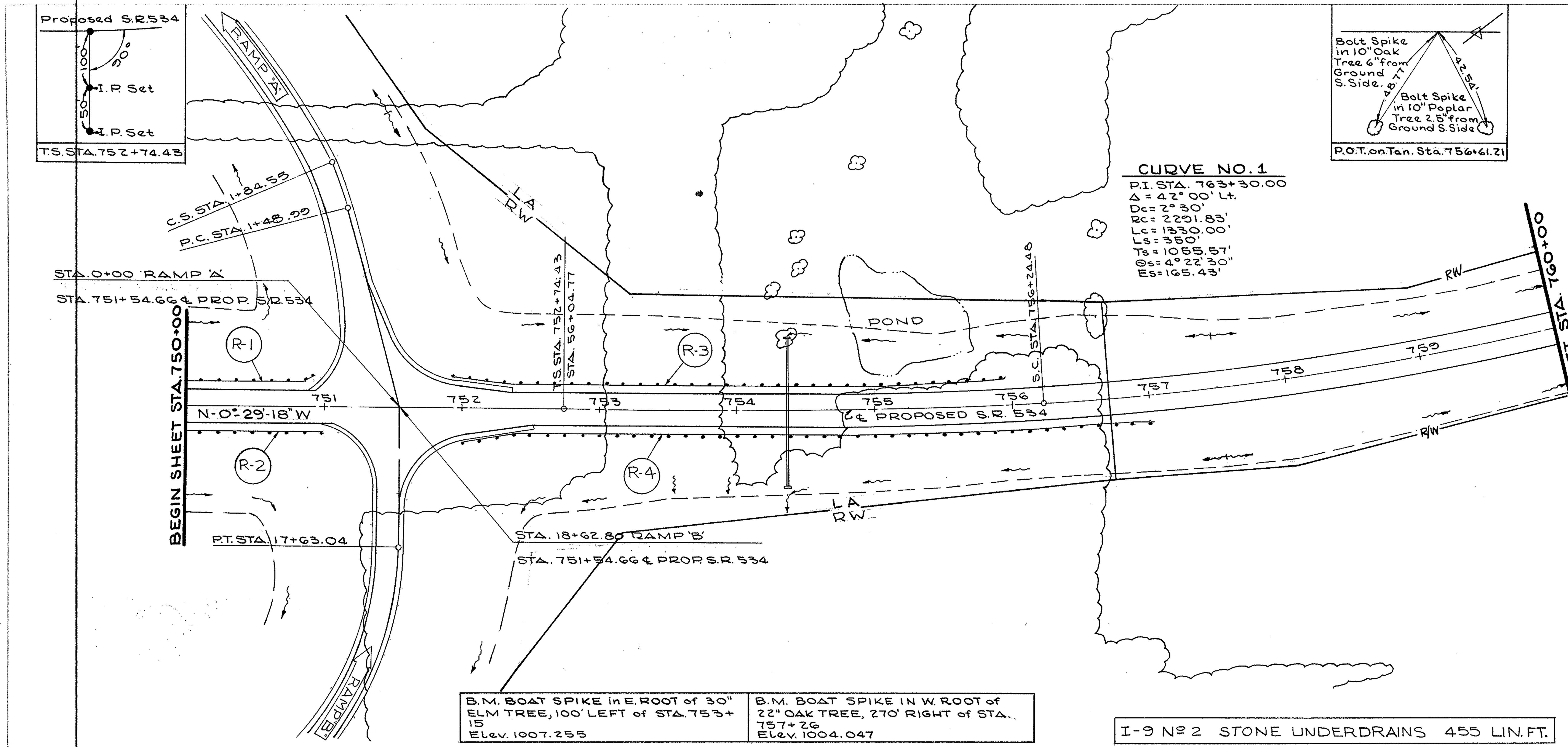

Proposed S.R. 534
I.P. Set
I.P. Set
P.O.T.-Sta. 741+90.00
LA RW
RAMP 'C'
STA. 18+63.33 RAMP 'C'
STA. 741+84.66 ℄ PROP. S.R. 534
P.T. 17+71.73
Begin Sheet-Sta. 740+00
End Sheet-Sta. 750+00
6" CLASS I-3 PIPE
N-0°-29'-18"W
N-89°-58'-42"E
STA. 0+00 RAMP 'D'
STA. 741+84.66 ℄ PROP. S.R. 534
STA. 149+97.15 ℄ S.R. 18
STA. 746+69.66 ℄ PROP. S.R. 534
RAMP 'D'
STRUCTURE No
MAH 18-0284
FOR QUANTITIES & DETAILS SEE SHT. No 150-7
STRUCTURE No MAH. 18-0284
PROPOSED STRUCTURE
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 57'-3" 81'-9" 81'-9" 57'-3" C/C B.R.G.S.
ROADWAY: 30'-0" F/F 2'-3" SAFETY CURBS
LOAD FREQUENCY: C.F. - 400
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE
SKEW: 0°00'00"
B.M. Boat Spike in W. root of 18" Hickory Tree, 175' Right of Sta. 744+99 Elev. 1016.709
I-9 No2 STONE UNDERDRAINS 154 LIN. FT.
NOTES
FOR CONSTRUCTION DETAILS & QUANTITIES OF RAMPS "C" & "D" WITH RELOCATED S.R. 534 SEE SHEET No 107.
FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED STRUCTURE MAH. 18-0284 SEE SHEET Nos 150-157
FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 6" CLASS I-3 PIPE SHOWN LT. & RT. OF STA 741+00 SEE RESPECTIVE SHEETS RAMP "C" SHEET No 32 RAMP "D" SHEET No 33
P.V.I. STA. 746+69.66
ELEV. = 1044.47
+3.00%
-3.00%
BRIDGE LIMITS - 282.50'
745+28.41
748+10.91
1500' V.C.
EXCAVATION = 275 C.Y.
EMBANKMENT = 24,773 C.Y.
EMBANKMENT + 20% = 29,728 C.Y.
L-9 SEEDING = 8386 S.Y.

ESTIMATED QUANTITIES

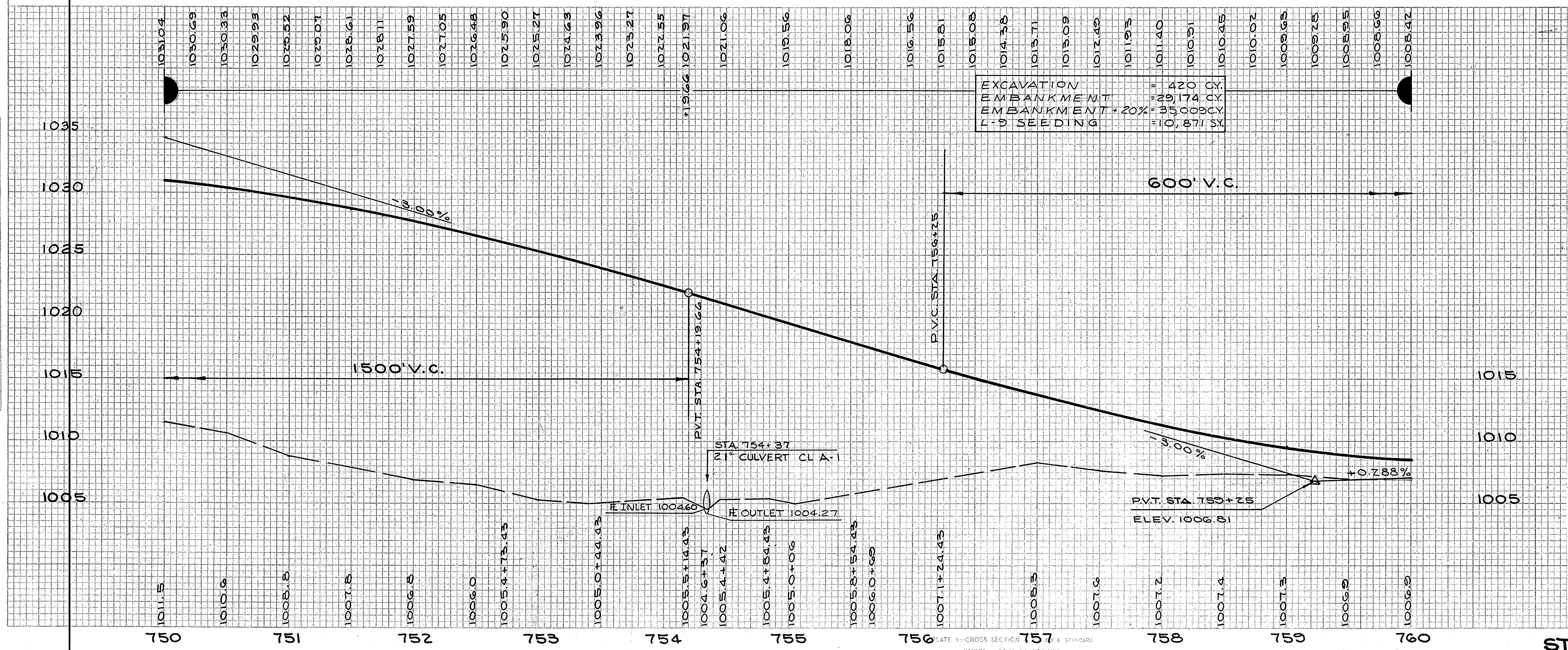
REF. NO.	STATION TO STATION	SIDE	I-7 REIN CONC. APP. SLAB T=13" CU. YDS.	L-10 SOD SPEC. SLOPE & BERM PRO. SQ. YDS	I-15 STEEL BEAM GUARDRAIL (STAND.) DESIGN LIN. FT.
	ROADWAY				
AS-1	745+03.41 - 745+28.41	L&R	66		
AS-2	748+10.91 - 748+35.91	L&R	66		
E-1	748+26	RT		40	
E-2	748+26	LT		40	
E-3	745+15	LT		41	
E-4	745+15	RT		42	
R-1	740+03.50 - 741+41.00	LT			137.5
R-2	740+06.50 - 741+44.00	RT.			137.5
R-3	742+35 - 745+15.00	LT.			280.0
R-4	742+82 - 745+15.00	RT.			233.0
R-5	748+24 - 750+00.00	LT.			176.0
R-6	748+24 - 750+00.00	RT.			176.0
TOTALS			132	163	1140.0

RELOCATED S.R. 534

Sta. 740+00 to Sta. 750+00



I-15 STEEL BEAM DEEP GUARDRAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	STANDARD DESIGN
R-1	750+00	750+86.5	Lt.	86.5
R-2	750+00	750+99	Rt.	99
R-3	751+93	755+93	Lt.	400
R-4	752+01.50	757+01.50	Rt.	500
SHEET TOTAL				1085.5



NOTE

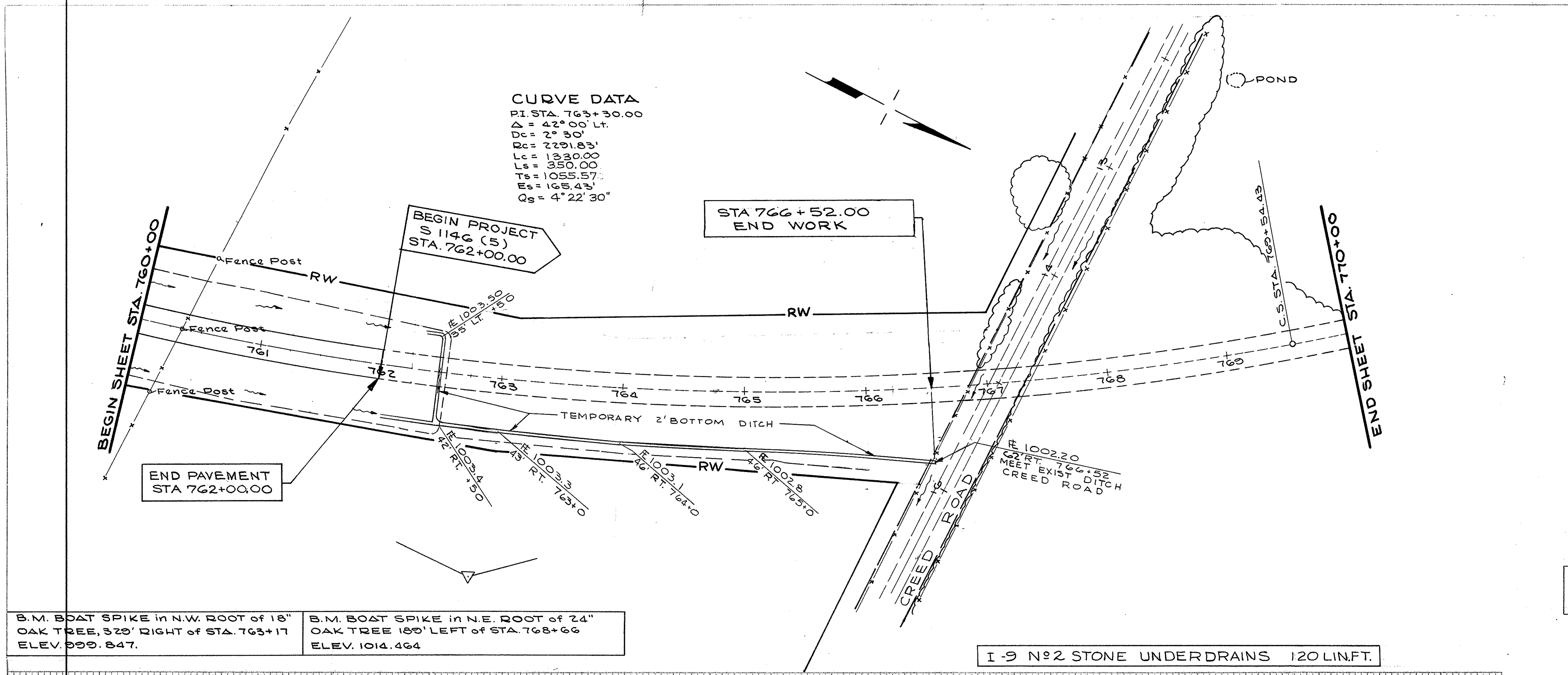
① FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED 21" CLASS A-1 CULVERT LT & RT OF STA. 754+37 SEE SHEET Nº 125

② FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED RAMPS A & B SEE SHEET Nºs 30, 31, & 107.

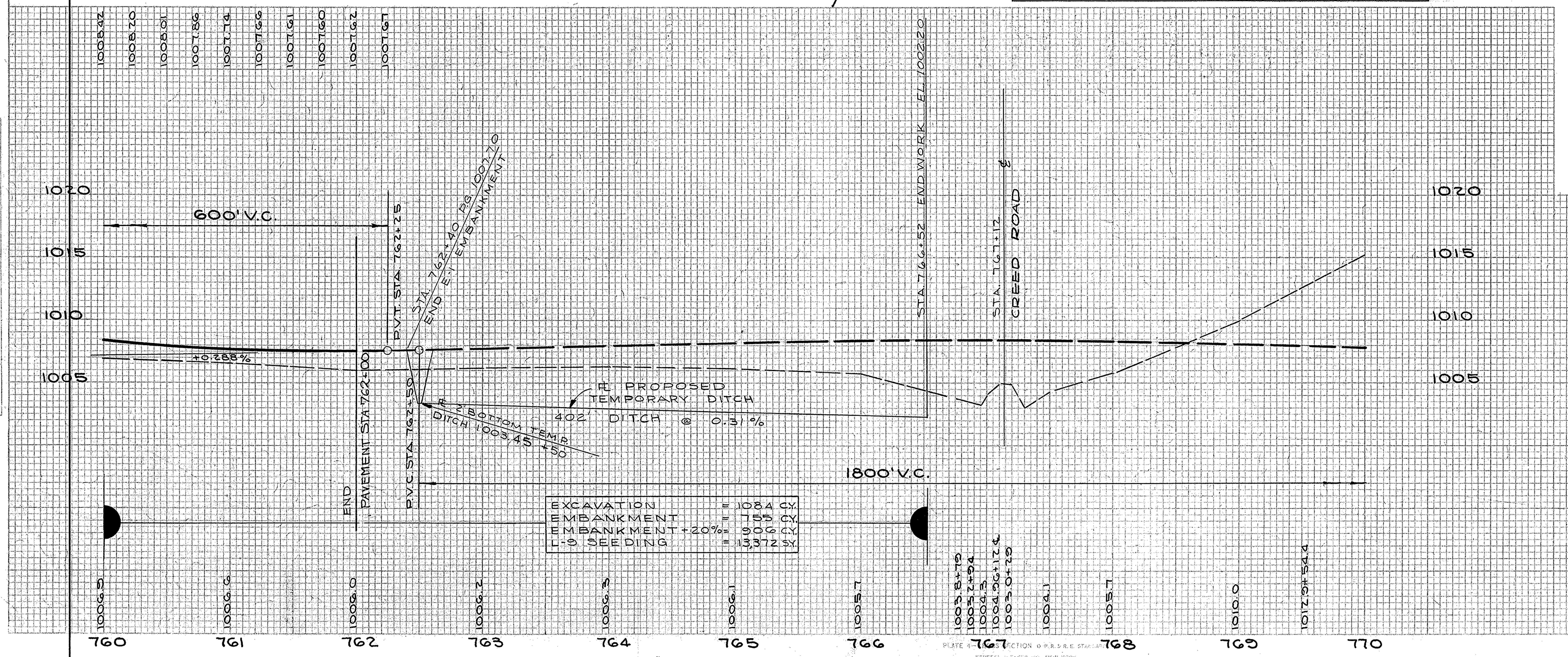
SUPERELEVATION									
STA.	P.G.	LT. EDGE	℄	RT. EDGE	STA.	P.G.	LT. EDGE	℄	RT. EDGE
751+25	1029.07	1028.88	1029.07	1028.88	755+75	1017.31	1017.12	1017.75	1018.37
+50	1028.61	1028.42	1028.61	1028.42	756+00	1016.56	1016.37	1017.04	1017.70
+75	1028.11	1027.92	1028.11	1027.92	+25	1015.81	1015.62	1016.33	1017.04
752+00	1027.59	1027.40	1027.59	1027.40	+50	1015.08	1014.89	1015.60	1016.31
+25	1027.05	1026.86	1027.05	1026.92	+75	1014.38	1014.19	1014.90	1015.61
+50	1026.48	1026.29	1026.48	1026.42	757+00	1013.71	1013.52	1014.23	1014.94
+75	1025.89	1025.70	1025.70	1025.89	+25	1013.08	1012.89	1013.60	1014.31
753+00	1025.27	1025.08	1025.27	1025.36	+50	1012.49	1012.30	1013.01	1013.72
+25	1024.63	1024.44	1024.65	1024.81	+75	1011.93	1011.74	1012.45	1013.16
+50	1023.96	1023.77	1024.02	1024.23	758+00	1011.40	1011.21	1011.92	1012.63
+75	1023.27	1023.08	1023.37	1023.62	+25	1010.91	1010.72	1011.43	1012.14
754+00	1022.55	1022.36	1022.70	1022.99	+50	1010.45	1010.26	1010.97	1011.68
+25	1021.81	1021.61	1022.00	1022.34	+75	1010.02	1009.83	1010.54	1011.25
+50	1021.06	1020.87	1021.29	1021.68	759+00	1009.63	1009.44	1010.15	1010.86
+75	1020.30	1020.12	1020.58	1021.01	+25	1009.28	1009.09	1009.80	1010.51
755+00	1019.56	1019.56	1019.87	1020.35	+50	1008.95	1008.76	1009.47	1010.18
+25	1018.81	1018.81	1019.16	1019.69	+75	1008.66	1008.47	1009.18	1009.89
+50	1018.06	1018.06	1018.46	1019.03	760+00	1008.42	1008.23	1008.94	1009.65

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91



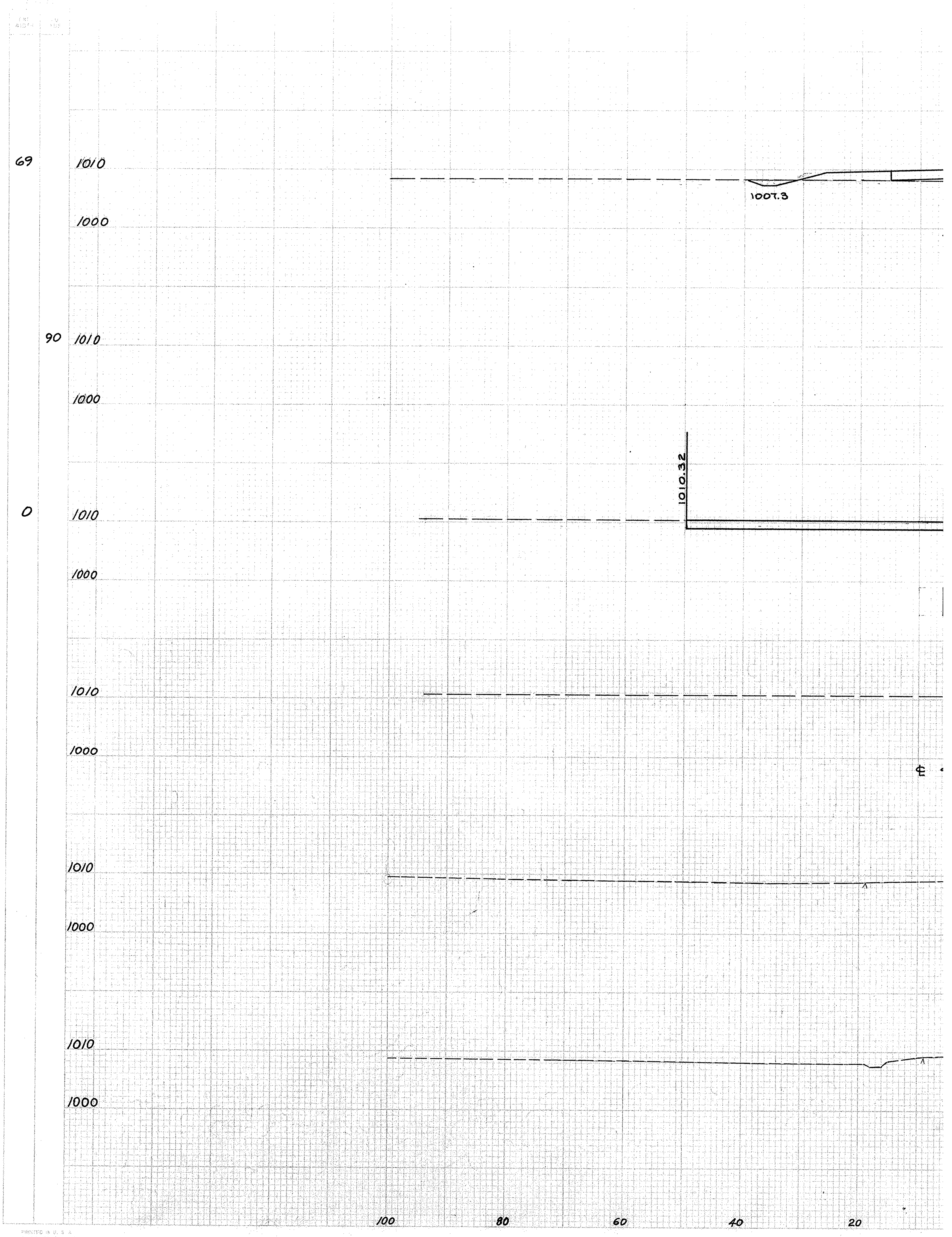
TOTAL E-3 CHANNEL EXCAVATION
STA. 762+50 TO STA. 766+50
453 C.Y.



SUPERELEVATION									
STA.	P.G	LT. EDGE	℄	RT. EDGE	STA.	P.G	LT. EDGE	℄	RT. EDGE
760+00	1008.42	1008.23	1008.94	1009.65	761+25	1007.66	1007.47	1008.18	1008.89
+25	1008.20	1008.01	1008.72	1009.43	+50	1007.61	1007.42	1008.13	1008.84
+50	1008.01	1007.82	1008.53	1009.24	+75	1007.60	1007.41	1008.12	1008.83
+75	1007.86	1007.67	1008.38	1009.09	762+00	1007.62	1007.43	1008.14	1008.85
761+00	1007.74	1007.55	1008.26	1008.97	+25	1007.67	1007.48	1008.19	1008.90

RELOCATED S.R. 534

STA. 760+00 - STA. 770+00


69
1010
1007.3
1000
90
1010
1000
1010.32
0
1010
1000
1010
1000
1010
1000
1010
1000
100
80
60
40
20

OHIO

MAHONING COUNTY
MAH. 18 - 0.91

LEFT END WIDTH	LEFT SQ. YDS						RIGHT SQ. YDS	RIGHT END WIDTH	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		1010						1010				
85			4:1	3:1	1006.10	1011.03 732+00 1006.7	3:1	4:1	7	200		
	450	1000						1000			9	356
		1010						1010				
77			4:1		1006.25	1010.86 731+50 1006.8		4:1	2	183		
	417	1000						1000			4	315
		1010						1010				
73			4:1		1006.40	1010.69 731+00 1006.6		4:1	2	157		
	397	1000						1000			7	254
		1010						1010				
70			4:1		1006.75	1010.52 730+50 1007.0		4:1	5	117		
	383	1000						1000			9	204
		1010						1010				
68			4:1		1006.90	1010.35 730+00 1007.3		4:1	4	102		
	372	1000						1000			9	168
		1010						1010				
66			4:1	3:1	1007.05	1010.18 729+50 1007.6	3:1	4:1	5	79		
	375	1000						1000			11	109

100 80 60 40 20 ℄ 20 40 60 80 100

RELOCATED S.R. 534
STA. 729+50 – STA. 732+00

PRINTED IN U. S. A.
ON SUB-TRIDE CLOTH

2 OHIO

MAHONING COUNTY
MAH: 18 - 0.91

NOTE:
FOR DETAILS AND
QUANTITIES OF PROPOSED
CULVERT @ STA. 732+34
SEE SHEET Nº 125.

SEEDING END WIDTH	SEEDING SQ. YDS.
93	
	522
95	
	517
91	
	492
86	
	483
88	
	304
77	
	153

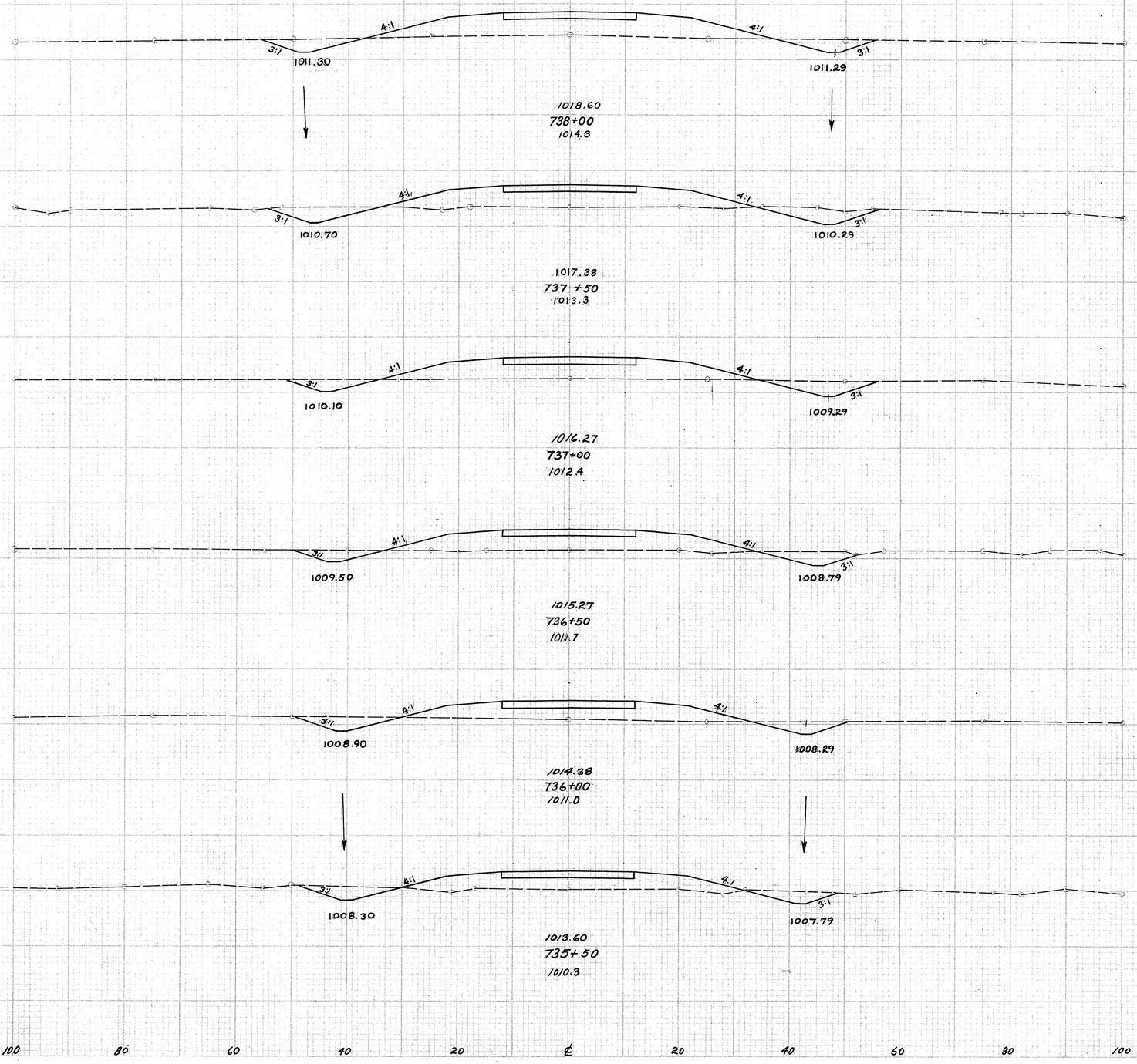
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	133		
		57	257
31	144		
		50	265
23	142		
		30	306
9	187		
		17	359
9	201		
		11	557
0	255		
		4	287

RELOCATED S.R. 534
STA. 732+34 – STA. 735+00

SECTIONS

END WIDTH	SQ YDS
110	
	1010
	1000
	608
109	
	1010
	1000
	594
105	
	1010
	1000
	567
99	
	1010
	1000
	550
99	
	1010
	1000
	542
96	
	1010
	1000
	525

100 80 60 40 20 ℄ 20 40 60 80 100



	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
1010	45	200		
1000			94	348
1010	56	175		
1000			94	320
1010	45	171		
1000			78	311
1010	39	164		
1000			76	272
1010	43	130		
1000			76	237
1010	39	126		
1000			65	241

SEC. NO.	STATE	PROJECT
2	OHIO	

94
180

MAHONING COUNTY
MAH- 18 - 0.91

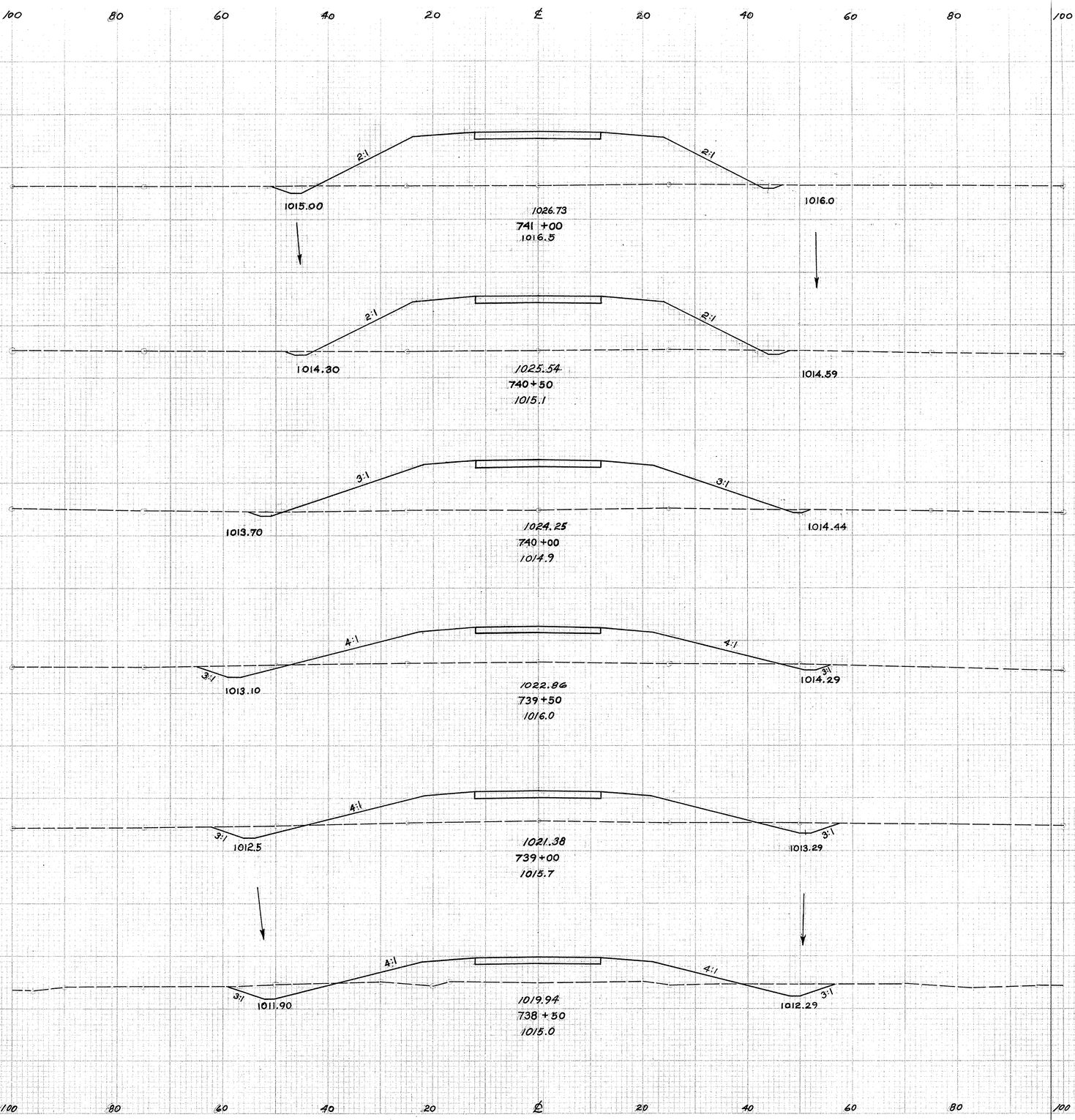
RELOCATED S.R. 534
STA. 735+50 – STA. 738+00

FED. AID DIVISION	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO			95	180

MAHONING COUNTY
MAH. 18-0.91

STEERING

END WIDTH	SQ. YDS
98	531
93	553
106	628
120	661
118	644
114	622



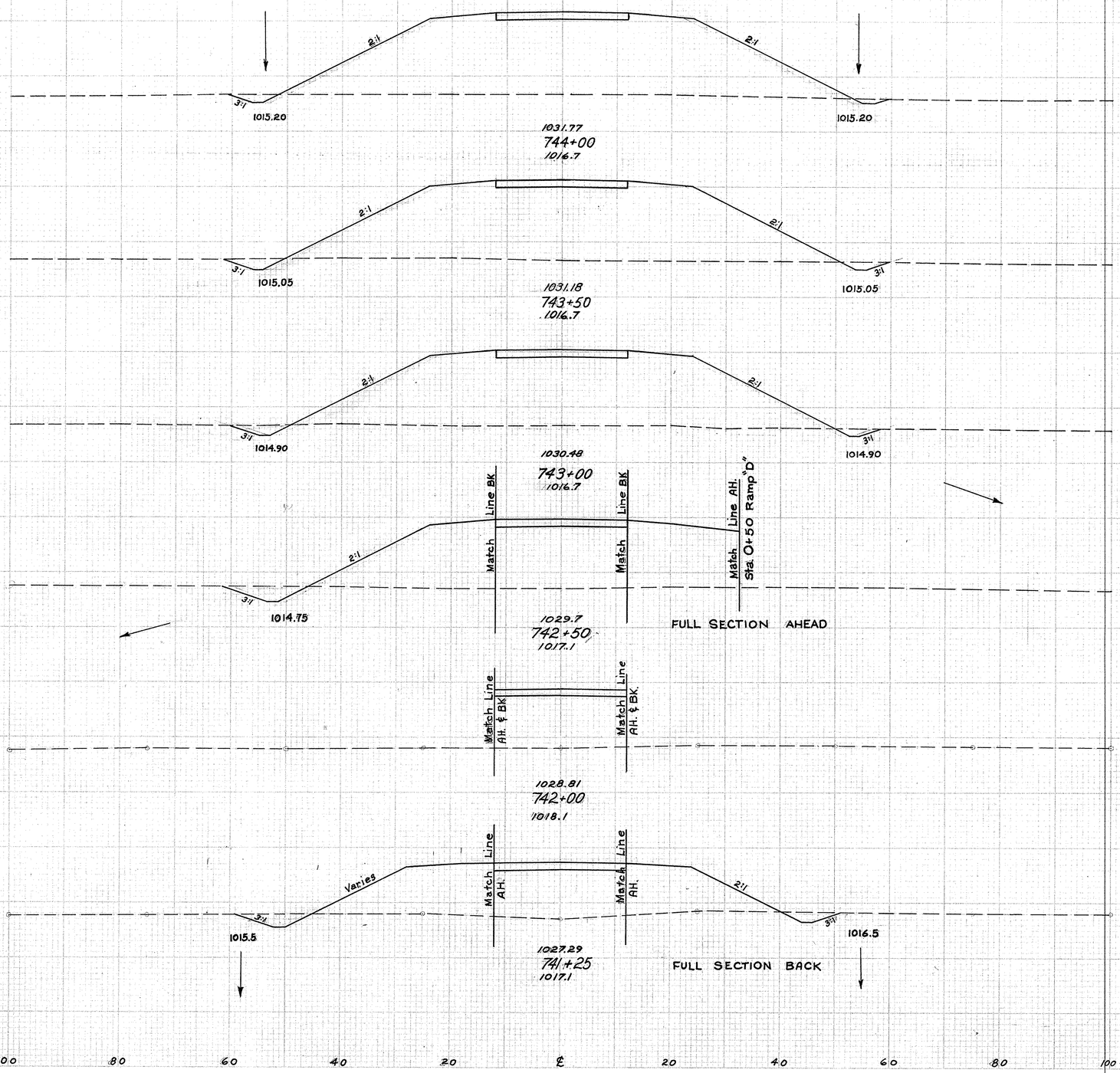
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	594		
		12	1104
5	598		
		9	1106
5	595		
		23	941
20	420		
		50	691
34	326		
		74	533
46	250		
		85	417

RELOCATED S.R. 534
STA. 738+50 – STA. 741+00

SEEDING

END WIDTH	SQ. YDS.
120	
	669
121	
	667
119	
	553
80	
0	
	0
0	
	0
0	
111	
	289
98	

100 80 60 40 20 ℄ 20 40 60 80 100



	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	10	1011		
			26	1822
	18	957		
			29	1683
	13	860		
			30	1498
AH	19	758		
BK	0	277		
			0	469
	0	229		
			0	615
AH	0	214		
BK	26	606		
			16	556

DIVISION 2 OHIO

96
180

MAHONING COUNTY
MAH. 18 - 0.91

RELOCATED S.R. 534
STA. 741+50 - STA. 744+00

FED. RD.	STATE	PROJECT	
2	OHIO		

97
180

MAHONING COUNTY
MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ YDS.
0	
	97
76	
	542
119	
	667
121	
	669

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

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

STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 745+73	0	0		
			0	170
	0	399		
			3	1469
	3	1186		
			10	2143
	8	1127		
			17	1980

PLATE 3 - CROSS SECTION O. P. R. & R. C. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

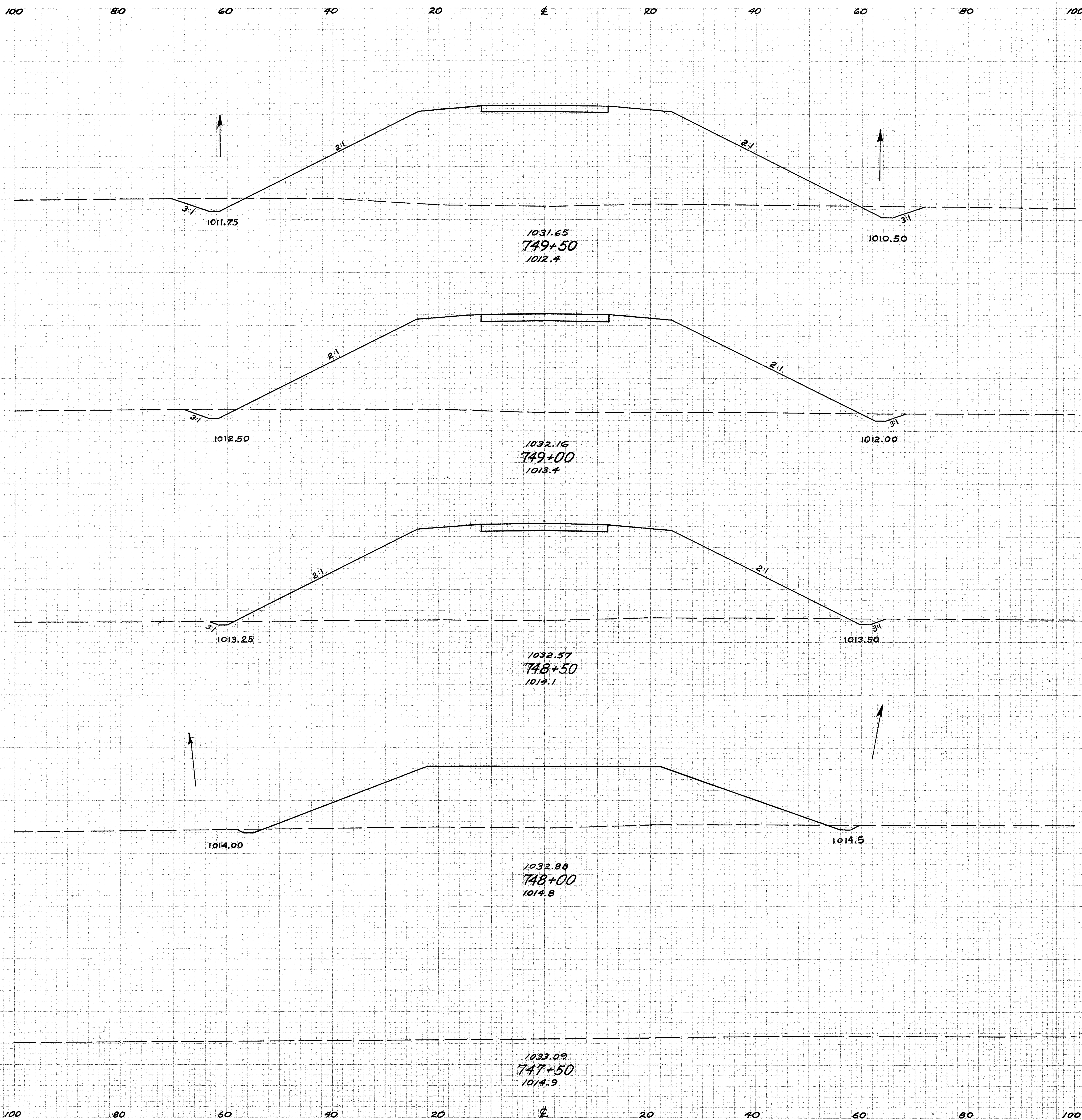
RELOC. S.R. 534
STA. 744+50 - STA. 747+00

FED. RD.	STATE
2	OHIO

MAHONING COUNTY
MAH. 18-0.91

Seeding

END WIDTH	SQ. YDS.
144	
	786
139	
	744
129	
	631
98	
	174
0	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	1417		
		39	2606
12	1397		
		16	2546
5	1353		
		7	2058
3	867		
		2	277
STA. 747+68 0	0		

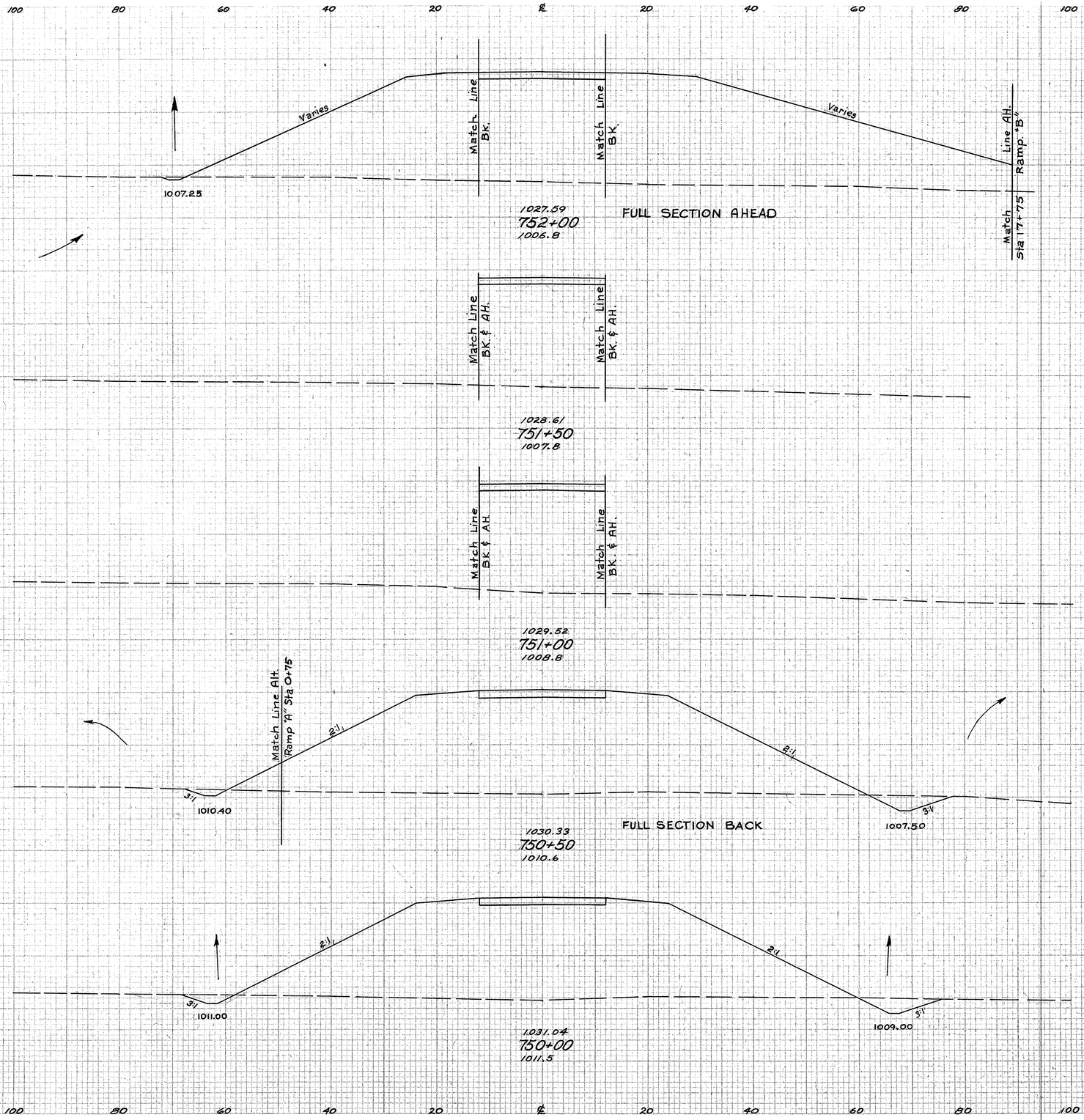
RELOC. S.R. 534
STA. 747+50 – STA. 749+50

FED. RD.	STATE	PROJECT	
2	OHIO		

99
180

MAHONING COUNTY
MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.			END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
154		AH	1010				
0		BK					
	0						
0			1010				
	0						
0			1010				
	336						
121		AH	1010				
149		BK					
	828						
149			1010				
	814						



						0	883
						0	474
						0	870
						0	465
						19	1691
AH	19	1360					
BK	24	1377					
						54	2633
						33	1467
						59	2671

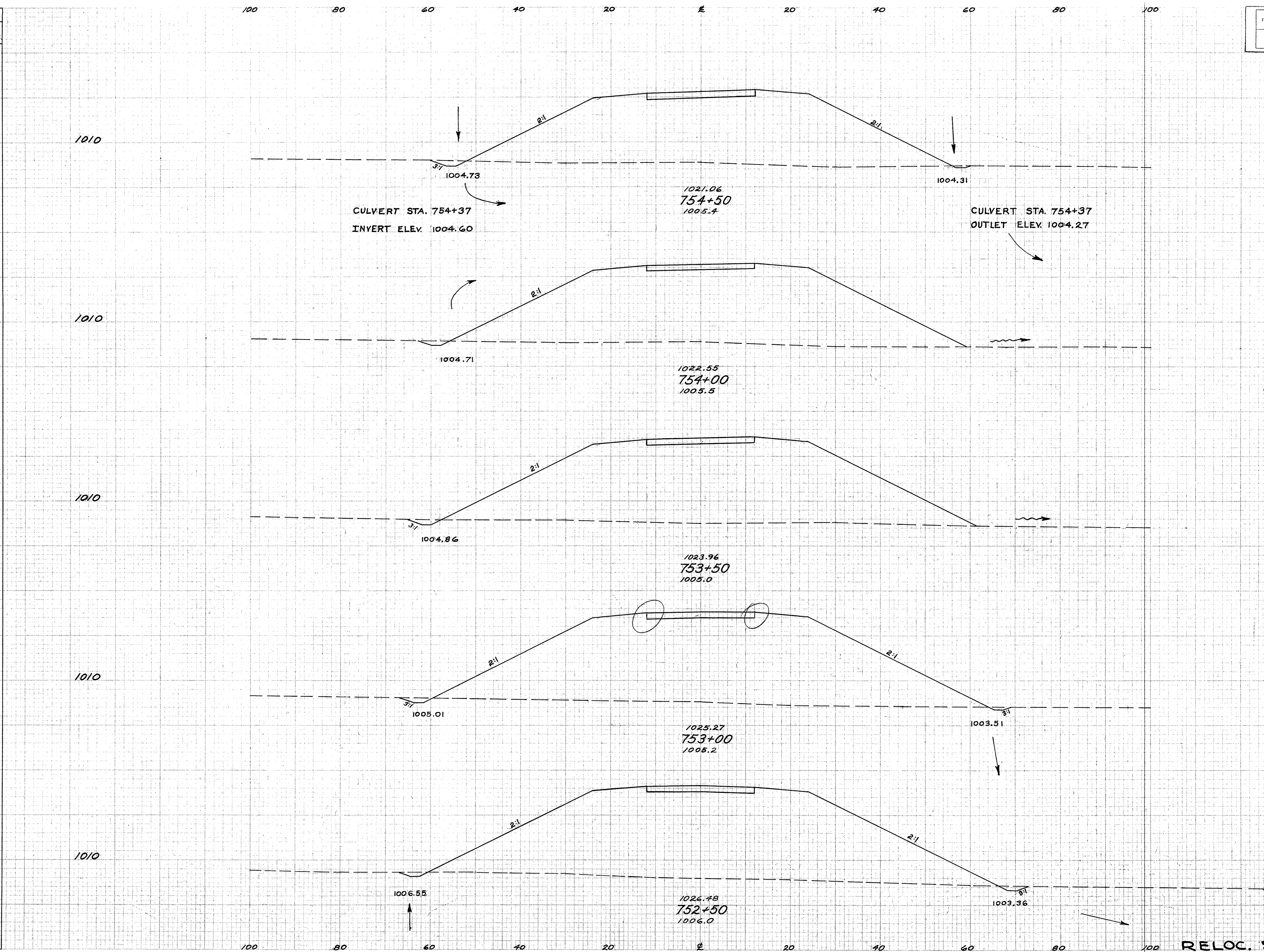
RELOC. S.R. 534
STA. 750+00 – STA. 752+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

FED. RD.	STATE	PROJECT	
2	OHIO		100/180

MAHONING COUNTY
MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
120	
	675
123	
	694
127	
	739
139	
	778
141	
	819



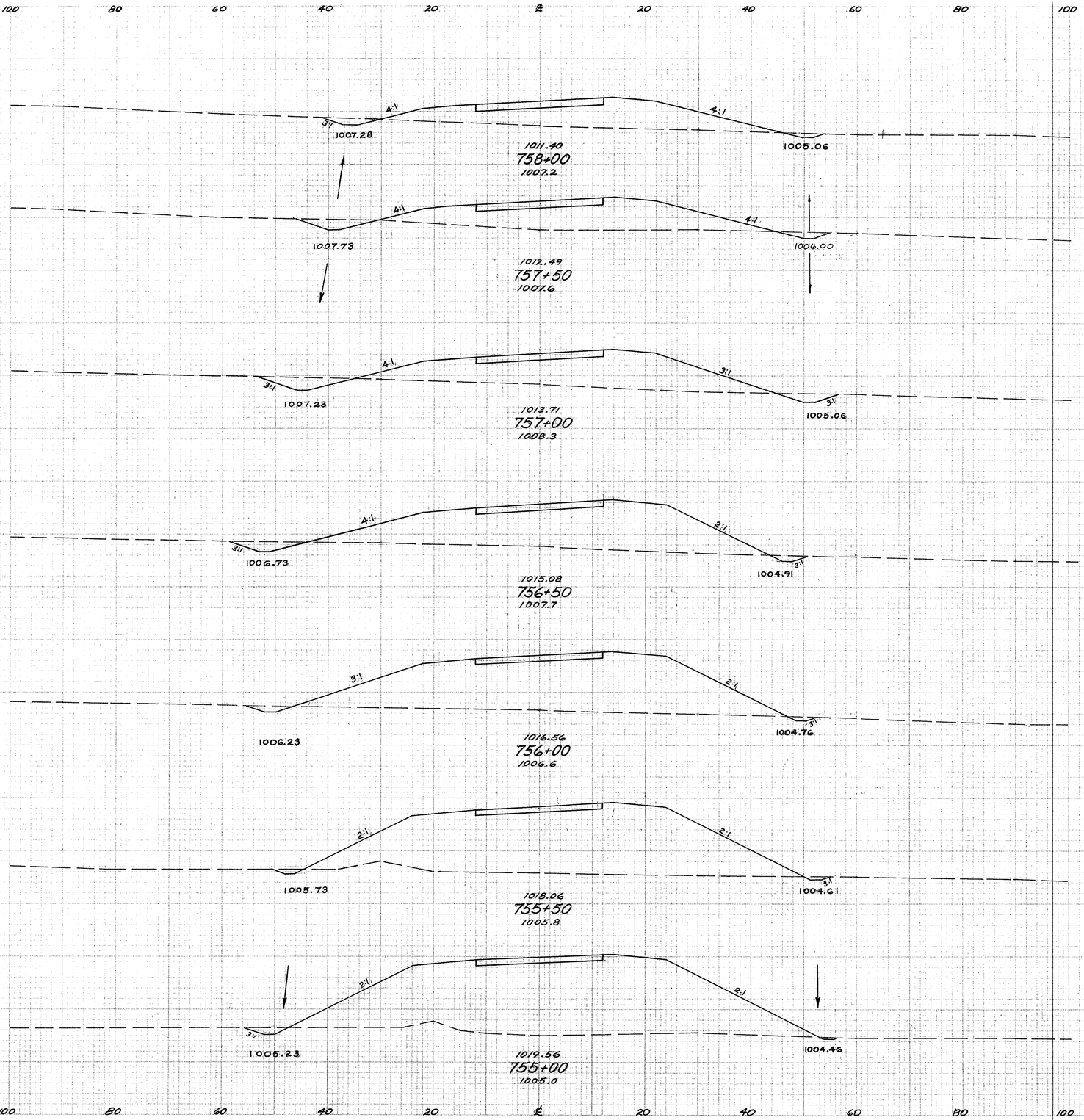
END AREA		VOLUME	
CUT	FILL	CUT	FILL
6	1141		
		9	2263
4	1302		
		7	2548
4	1450		
		10	2833
7	1610		
		11	3011
5	1642		
		7	3556

RELOC. S.R. 534
STA. 752+50 - STA. 754+50

FED. RD.	STATE	PROJECT		101 / 180
2	OHIO			

MAH. 18-0.91

SEEDING END WIDTH	SEEDING SQ. YDS.
92	544
104	594
110	606
108	597
107	564
96	578
112	644
120	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	244		
		33	472
26	266		
		52	556
29	334		
		43	756
17	481		
		23	1059
8	662		
		12	1363
5	809		
		11	1641
7	962		
		12	1948

RELOC. S.R. 534
STA. 755+00 - STA. 758+00

PLATE 3 - CROSS SECTION O.P.R.&R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

102
180

MAHONING COUNTY
MAH. 18 - 0.91

SEEDING	
END WIDTH	SQ. YDS.
75	
	422
77	
	425
76	
	431
79	
	444
81	
	453
82	
	475
89	
	503
92	

FINAL SURVEY

ORIGINAL SURVEY

END AREA		VOLUME	
CUT	FILL	CUT	FILL
14	78		
		28	148
15	82		
		30	156
16	85		
		28	189
13	119		
		31	211
21	108		
		30	231
11	142		
		28	277
19	157		
		28	372

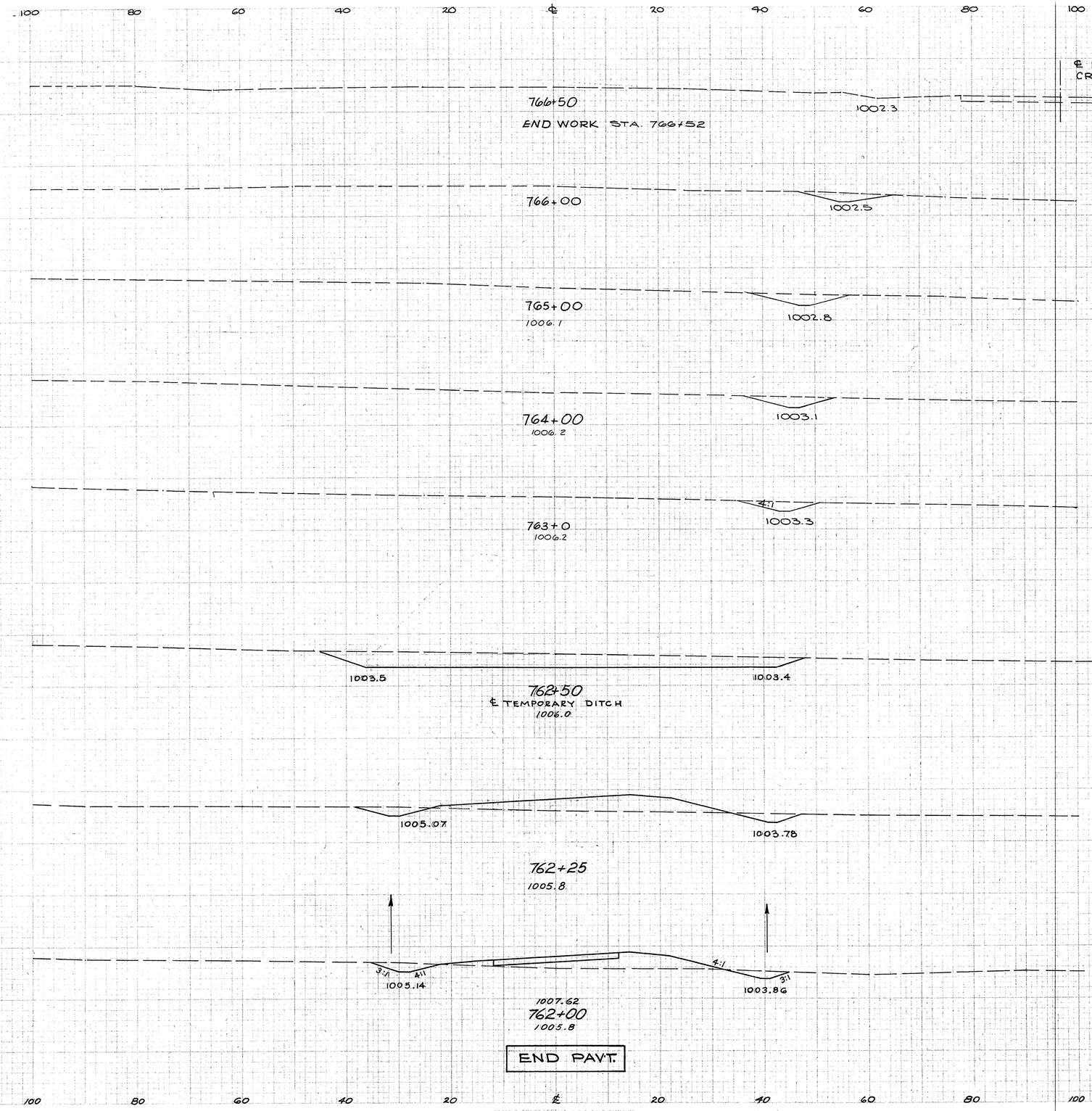
RELOC. S.R. 534
STA. 758+50 - STA. 761+50

FED. RD.	STATE	PROJECT	
2	OHIO		

103
180

MAHONING COUNTY
MAH. 18-0.91

SEEDING	
END WIDTH	SQ. YDS.
115	275
83	222
76	419



TOTAL E-3
STA. 762+50 - STA. 766+50
453 C.Y.

* DENOTES E-3 QUANTITIES

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
766+50	0	0		
	*13	0		
			*10	0
	*25	0		
			*89	0
	*23	0		
			*76	0
	*18	0		
			*218	0
AHEAD E-3	*217	0		
BACK E-1	0			
			11	39
	23	83		
			20	76
	21	81		
			33	147

RELOC. S.R. 534
STA. 762+00 - STA. 762+50

F.ED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAH.-18-0.91

104
180

FOR INTERSECTION DETAILS OF RAMPS AND REL. S.R. 534 SEE SHEET Nº 107

CURVE & SPIRAL DATA RAMP-A

①	②	③	④	⑤
Ls = 200'	Δ = 21°48'26"	Ls = 200	Ls = 150'	Δ = 8°08'55"
Θs = 8°	Dc = 8°	Θs = 8°	Θs = 17°1'19"	Dc = 22°55'06"
L.T. = 133.47'	Lc = 272.59'	L.T. = 133.47'	L.T. = 100.48'	Lc = 35.56'
S.T. = 66.79'	R = 716.20'	S.T. = 66.79'	S.T. = 50.43'	R = 250'
	T = 137.97'			T = 17.81'

CURVE & SPIRAL DATA RAMP-B

⑥	⑦	⑧	⑨	⑩
Δ = 40°52'	Ls = 250'	Δ = 16°	Ls = 250'	Δ = 4°24'00"
Dc = 20°	Θs = 10°	Dc = 8°	Θs = 10°	Dc = 1°30'0
Lc = 204.33'	L.T. = 166.93'	Lc = 200'	L.T. = 166.93'	Lc = 293.33'
R = 286.48'	S.T. = 83.58'	R = 716.20'	S.T. = 83.58'	R = 3819.72'
T = 106.73'		T = 100.66'		T = 146.74'

REL. S.R. 534 STA 751+54.66
RAMP "A" STA. 0+00
RAMP "B" STA. 18+62.80

1200' TAPER
NOSE STA. 13+07.14 (14' LT.)
77' LT. STA. 137+91.00
S.T. STA. 10+07.14
C.S. STA. 8+07.14
RAMP-A
S.C. STA. 5+34.55
S.R.S. STA. 3+34.55
C.S. STA. 1+84.55
P.C. STA. 1+48.99
P.T. STA. 1+83.55
P.C. STA. 15+79.22
S.T. STA. 15+00.07
C.S. STA. 12+50.07
RAMP-B
S.C. STA. 10+50.07
T.S. STA. 8+00.07
NOSE STA. 7+28.00 RAMP-B (23' LT.)
82' LT. STA. 159+71.12 M.L.
P.T. STA. 5+73.70
END PROJECT STA. 162+50
P.C. STA. 2+80.37
5:00
10:00
135+00
140+00
145+00
℄ S.R. 18
N 89°58'42"E
155+00
160+00
165+00
90°28'00"
END PAV'T. STA. 162+35.96

REL. S.R. 534 STA 741+84.66
RAMP "C" STA. 18+63.33
RAMP "D" STA. 0+00

FOR INTERSECTION DETAILS OF RAMPS AND REL. S.R. 534 SEE SHEET Nº 107

RAMP "C"
NOSE STA. 7+99.28 (23' LT.)
82' RT. STA. 140+92.89 M.L.
P.C. STA. 2+49.00
78' RT. M.L.
STA. 1+34.81.00
C.S. STA. 8+03.00
P.T. STA. 141+84.25
S.C. STA. 10+53
C.S. STA. 12+53
S.T. STA. 15+03
P.C. STA. 15+09.26
P.T. STA. 17+71.23
REL. S.R. 534
C.S. STA. 1+90.55
P.C. STA. 1+62.19
S.R.S. STA. 3+40.55
S.C. STA. 5+40.55
C.S. STA. 8+37.71
S.T. STA. 10+37.71
RAMP-C
RAMP-D
5:00
10:00
RAMP "D"
NOSE STA. 13+37.71 (14' LT.)
77' RT. STA. 162+35.96 M.L.
1200' TAPER

FOR RAMP EXIT & ENTRANCE DETAILS SEE SHEET Nº 105

FOR RAMP EXIT & ENTRANCE DETAILS SEE SHEET Nº 106

MAINLINE CURVE DATE

P.I. STA. 122+03.99
Δ = 20°00'00" RT.
D = 0°30'00"
T = 2021.41
Cc = 4001.67
E = 176.81
R = 11,459.16

CURVE & SPIRAL DATA RAMP-C

⑪	⑫	⑬	⑭	⑮
Δ = 8°24'00"	Ls = 250'	Δ = 16°	Ls = 250'	Δ = 43°13'32"
Dc = 1°30"	Θs = 8°07'30"	Dc = 8°	Θs = 10°	Dc = 16°30'
Lc = 560'	L.T. = 154.01'	Lc = 200'	L.T. = 166.93'	Lc = 261.98'
R = 3819.72'	S.T. = 96.89'	R = 716.20'	S.T. = 83.58'	R = 347.25'
T = 280.50'		T = 100.66'		T = 137.58'

CURVE & SPIRAL DATA RAMP-D

⑯	⑰	⑱	⑲	⑳
Δ = 6°30'	Ls = 150'	Ls = 200'	Δ = 23°46'23"	Ls = 200'
Dc = 22°55'06"	Θs = 17°1'19"	Θs = 8°	Dc = 8°	Θs = 8°
Lc = 28.36	L.T. = 100.48'	L.T. = 133.47'	Lc = 297.16'	L.T. = 133.47'
R = 250'	S.T. = 50.43'	S.T. = 66.79'	R = 716.20'	S.T. = 66.79'
T = 14.20'			T = 150.75'	

GEOMETRICS PLAN S.R. 18 & S.R. 534 INTERCHANGE

LEGEND

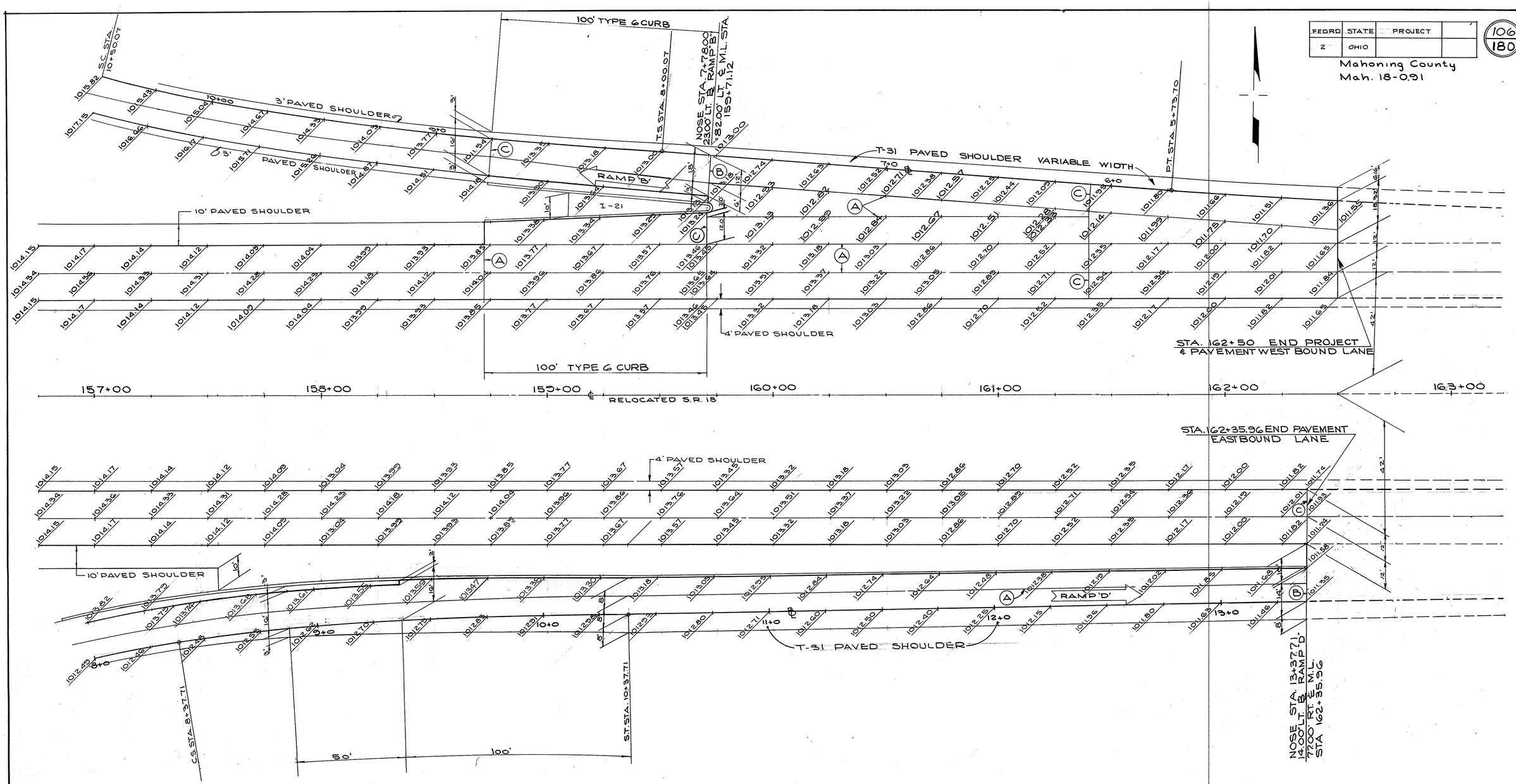
(A) STANDARD LONGITUDINAL JOINT
(B) STANDARD EXPANSION JOINT
(C) STANDARD CONTRACTION JOINT

PAVEMENT DETAILS
RAMP A & C

FED.RD.	STATE	PROJECT	
2	OHIO		

106
180

Mahoning County
Mah. 18-0.91



LEGEND

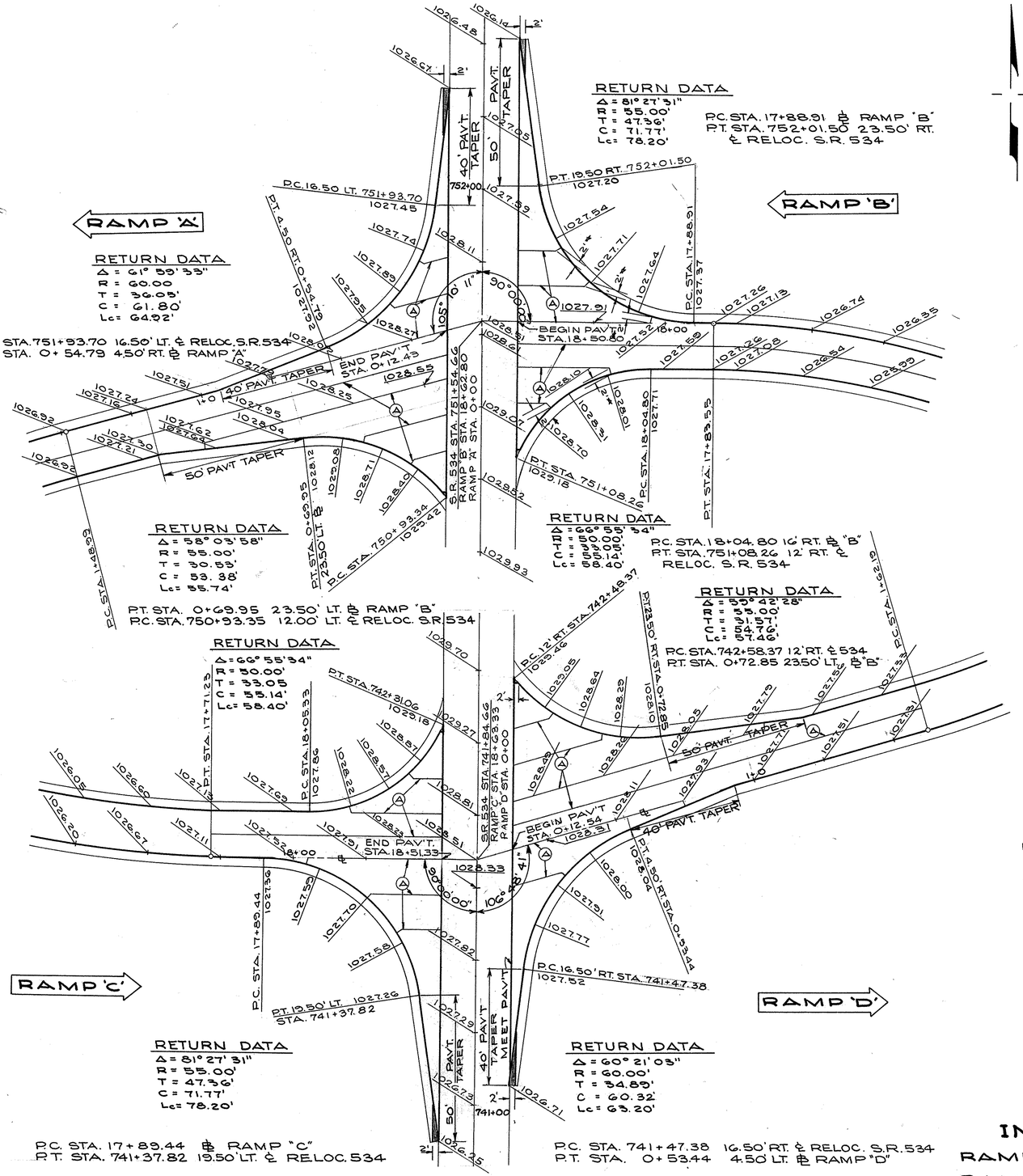
(A) STANDARD LONGITUDINAL JOINT
(B) STANDARD EXPANSION JOINT
(C) STANDARD CONTRACTION JOINT

PAVEMENT DETAILS RAMP B & D

FED.RD.	STATE	PROJECT	
2	0410		

107/180

Mah. 18-0.91



LEGEND

(A) STANDARD LONGITUDINAL JOINT
(B) STANDARD EXPANSION JOINT
(C) STANDARD CONTRACTION JOINT

NOTE:

SHADED AREA SHALL BE CONSTRUCTED TO AN ELEVATION ½" LOWER THAN THE ADJACENT PAVEMENT AND SURFACED WITH T-31 AND AGGREGATE SHALL BE INCLUDED IN PRICE BID FOR T-71

INTERSECTION DETAILS

RAMP 'A' & RAMP 'B' @ RELOC. S.R. 534

RAMP 'C' & RAMP 'D' @ RELOC. S.R. 534

FED. RD.	STATE	PROJECT	
2	OHIO		

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180

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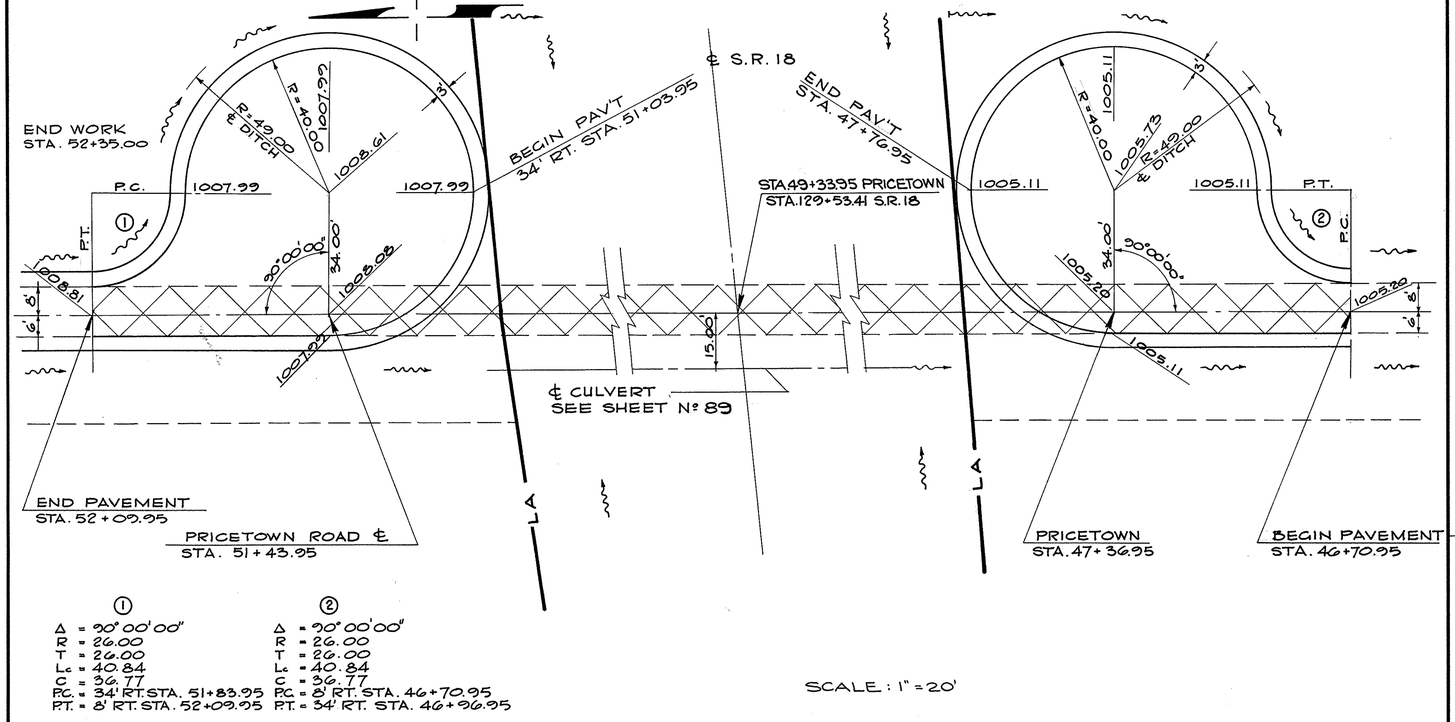
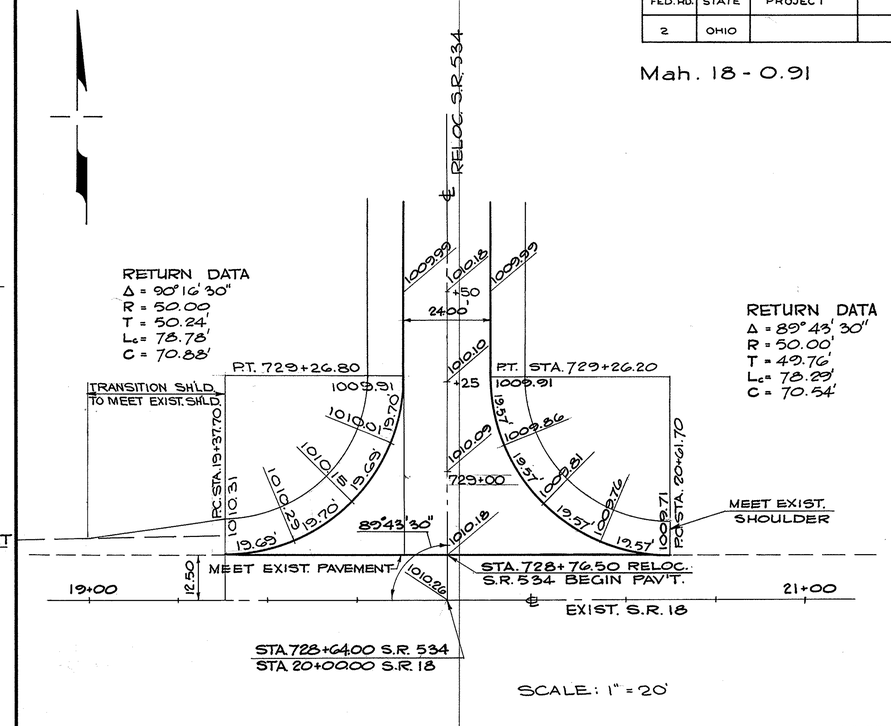


①
Δ = 90° 00' 00"
R = 26.00
T = 26.00
Lc = 40.84
C = 36.77
P.C. = 34' RT. STA. 51+83.95
P.T. = 8' RT. STA. 52+09.95

②
Δ = 90° 00' 00"
R = 26.00
T = 26.00
Lc = 40.84
C = 36.77
P.C. = 8' RT. STA. 46+70.95
P.T. = 34' RT. STA. 46+96.95

SCALE: 1" = 20'



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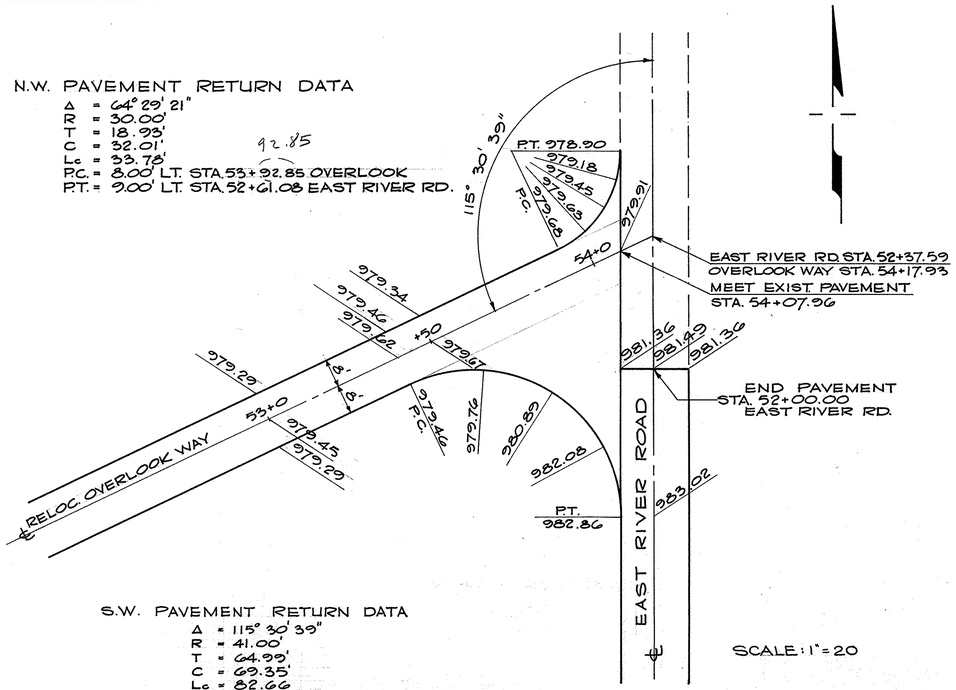
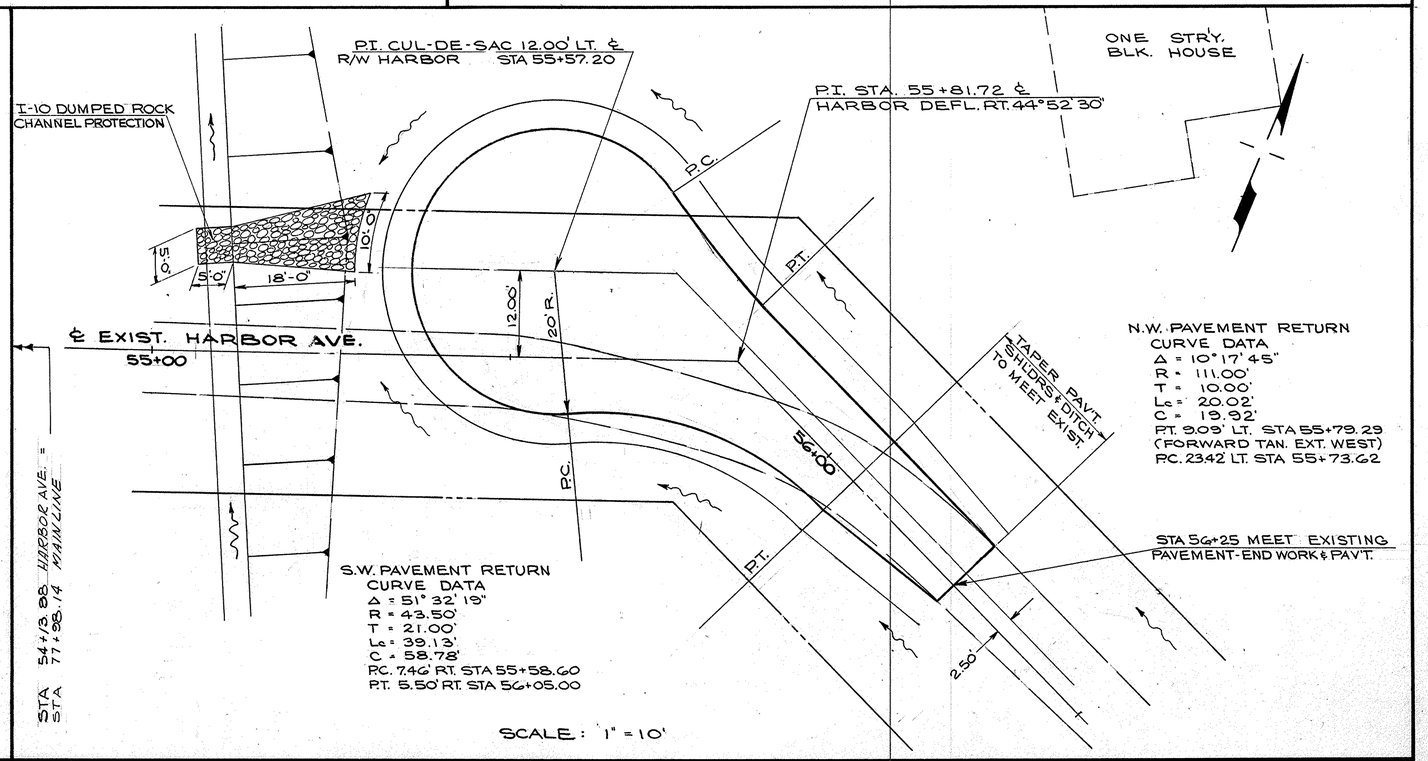


S.W. PAVEMENT RETURN DATA
Δ = 115° 30' 39"
R = 41.00'
T = 64.99'
C = 69.35'
Lc = 82.66
P.T. = 9' LT. STA. 51+59.44 EAST RIVER RD.
P.C. = 8' RT. STA. 55+39.15 OVERLOOK

SCALE: 1" = 20



S.W. PAVEMENT RETURN CURVE DATA
Δ = 51° 32' 19"
R = 43.50'
T = 21.00'
Lc = 39.13'
C = 58.78'
P.C. 7.46' RT. STA 55+58.60
P.T. 5.50' RT. STA 56+05.00

N.W. PAVEMENT RETURN CURVE DATA
Δ = 10° 17' 45"
R = 111.00'
T = 10.00'
Lc = 20.02'
C = 19.32'
P.T. 9.09' LT. STA 55+79.29 (FORWARD TAN. EXT. WEST)
P.C. 23.42 LT. STA 55+73.62

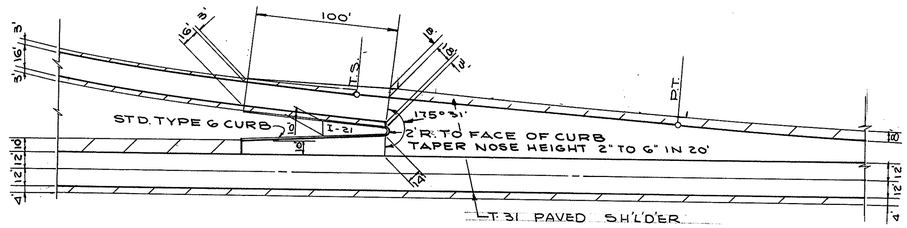
SCALE: 1" = 10'

INTERSECTION DETAILS

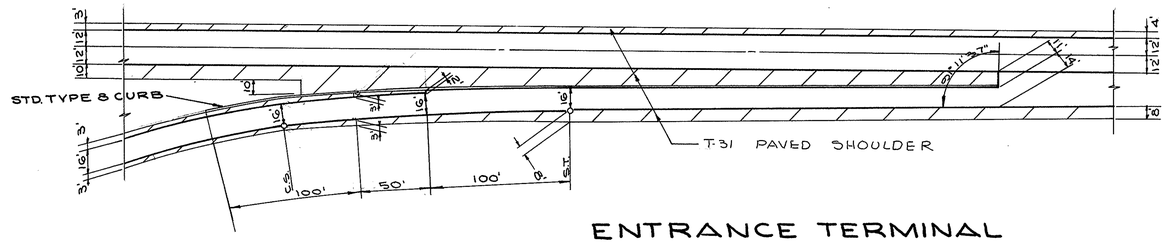
FED.RD.	STATE	PROJECT	
2	OHIO		

109
180

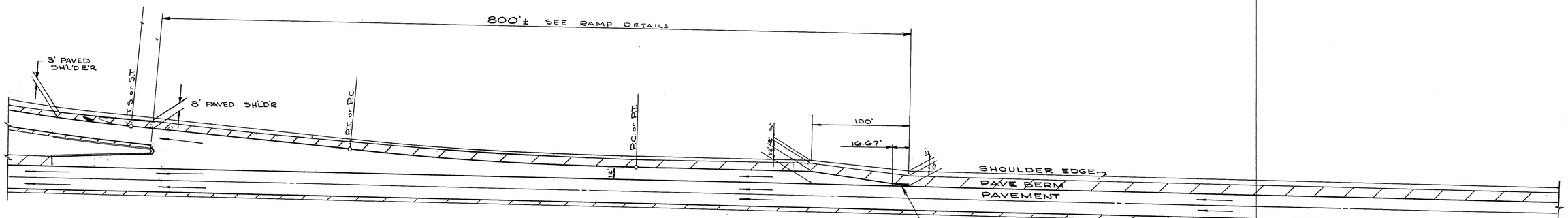
Mahoning County
Mah. 18-0.91



EXIT TERMINAL

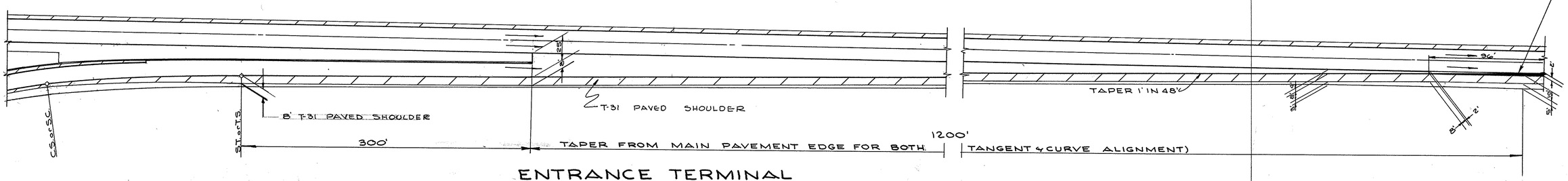


ENTRANCE TERMINAL



EXIT TERMINAL

SHADED AREAS SHALL BE CONSTRUCTED TO AN ELEVATION 1/2" LOWER THAN THE ADJACENT PAVEMENT AND SURFACED WITH T-31 & No 6 AGGREGRATE COST OF THE T-31 AND AGGREGATE SHALL BE INCLUDED IN THE PRICE BID FOR T-71.



ENTRANCE TERMINAL

SPEED CHANGE LANES
& RAMP NOSE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

102A 180

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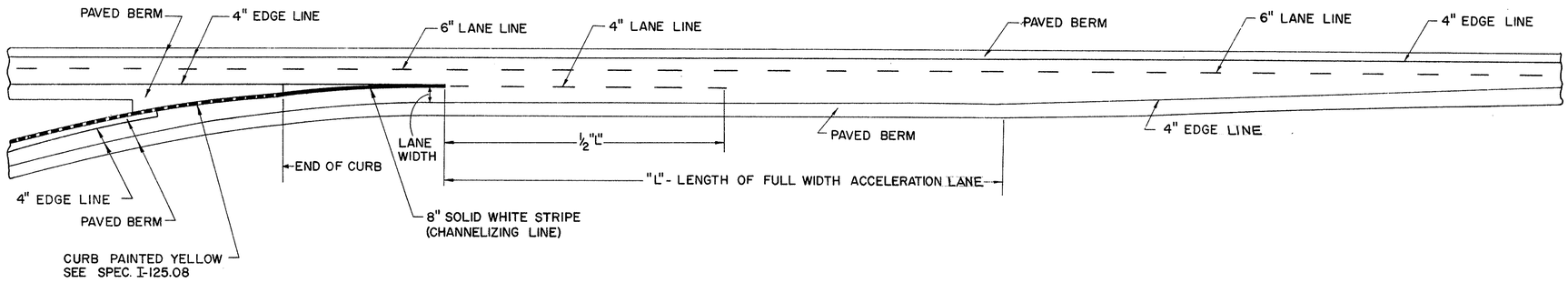
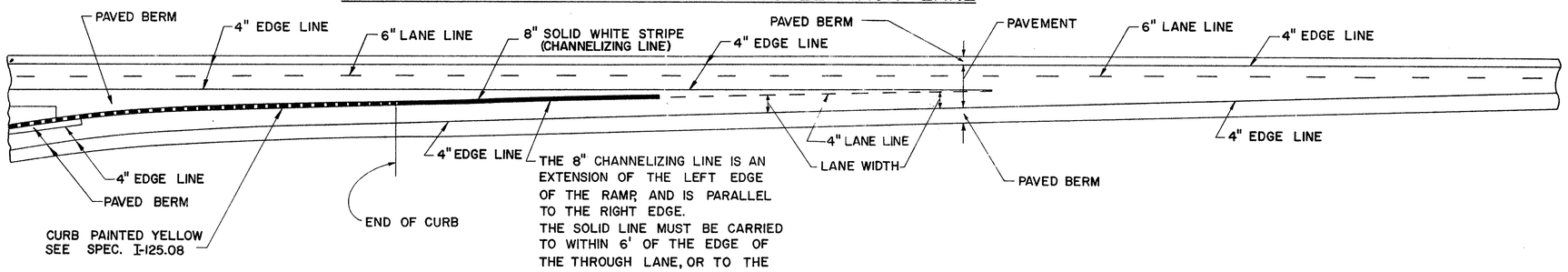
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE

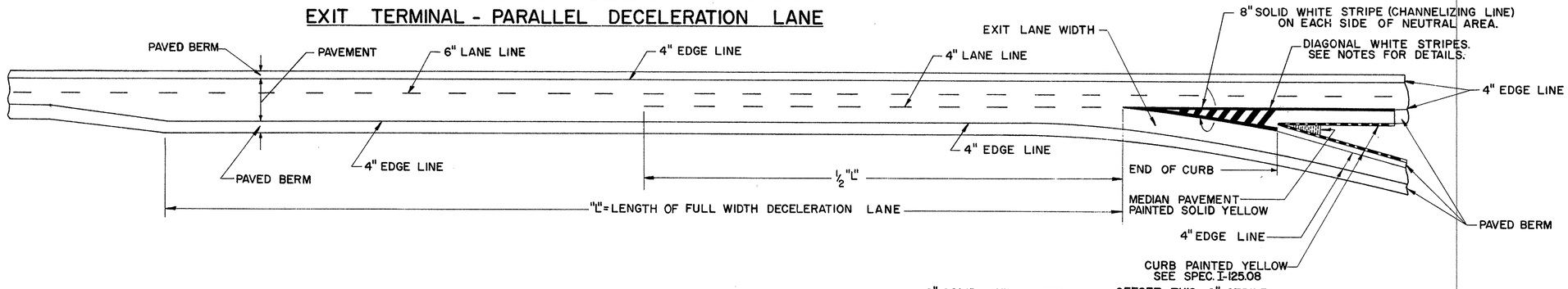


ENTRANCE TERMINAL - TAPERED ACCELERATION LANE

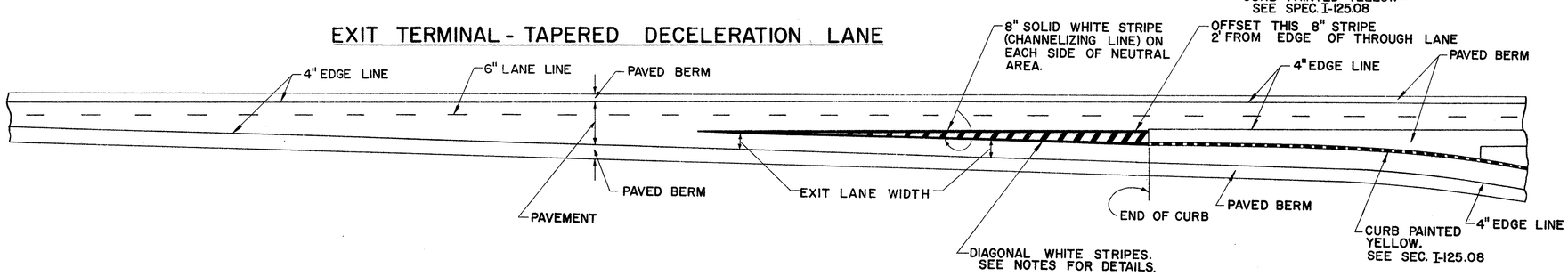


THE 8" CHANNELIZING LINE IS AN EXTENSION OF THE LEFT EDGE OF THE RAMP AND IS PARALLEL TO THE RIGHT EDGE. THE SOLID LINE MUST BE CARRIED TO WITHIN 6' OF THE EDGE OF THE THROUGH LANE, OR TO THE END OF THE RAMP CURVE IF CLOSER. THE 4" DASHED LINE SHOULD CONTINUE TO THE EDGE OF THE THROUGH LANE.

EXIT TERMINAL - PARALLEL DECELERATION LANE



EXIT TERMINAL - TAPERED DECELERATION LANE



NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.06.

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07.

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07 b.

DIAGONAL STRIPES IN EXIT RAMP MARKINGS SHALL BE 2' WIDE WHITE BEADED STRIPES SET AT A 45° ANGLE TO THE CENTER LINE OF THE THROUGH PAVEMENT AND SLANTED IN THE DIRECTION OF THE FLOW OF TRAFFIC ON SAID PAVEMENT. SPACE BETWEEN THE 2' DIAGONAL STRIPES SHALL BE 6' AS MEASURED PARALLEL TO THE CENTER LINE OF THE THROUGH PAVEMENT. PAINT ON THE DIAGONAL STRIPES SHALL BE APPLIED AT THE RATE OF ONE GALLON TO EACH 100 SQUARE FEET AND GLASS BEADS SHALL BE APPLIED AT THE RATE OF SIX POUNDS PER GALLON OF PAINT. DIAGONAL WHITE STRIPES SHALL BE PLACED BETWEEN THE TWO 8" WHITE CHANNELIZING LINES AT EXIT RAMPS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07 c.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING	PM-1	DATE 7-17-61 4-6-62

APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

110
180

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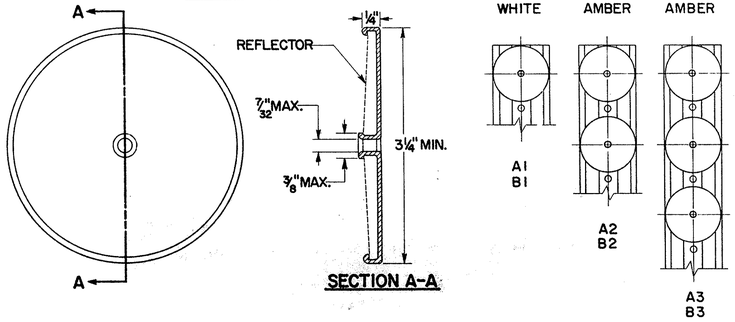
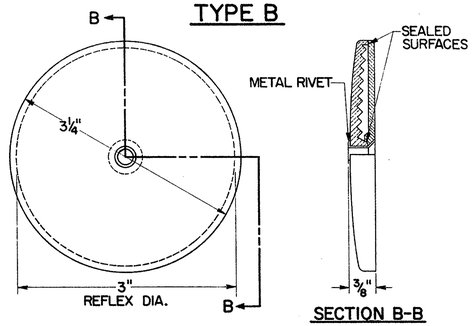
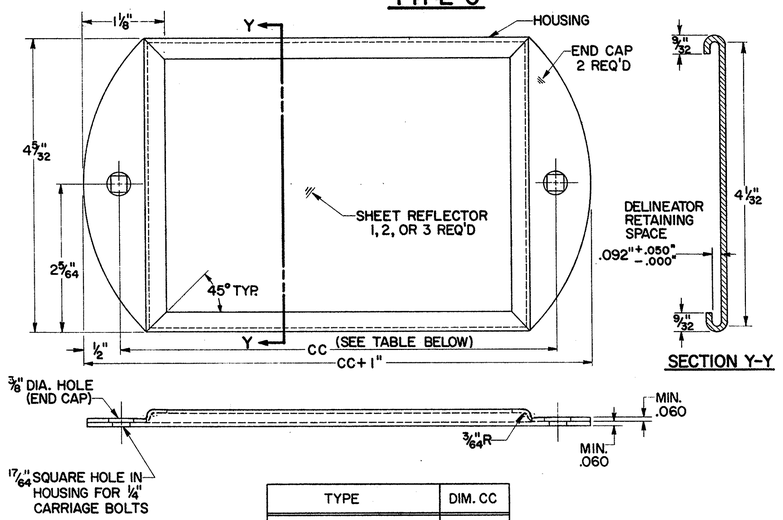
TYPE A



TYPE B

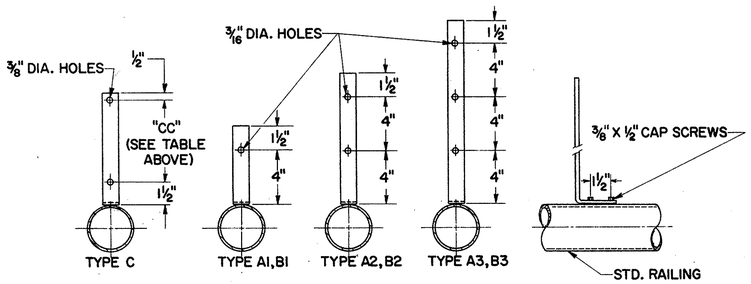


TYPE C

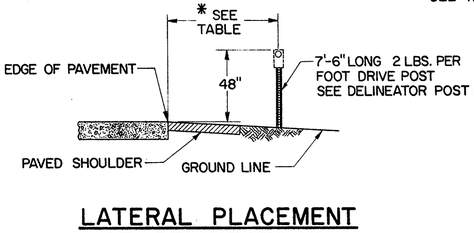


TYPE	DIM. CC
C1- SINGLE WHITE	6"
C2- DOUBLE AMBER	11"
C3- TRIPLE AMBER	16"

ALL BRACKETS 1/4" X 1 1/4" STAINLESS STEEL



BRIDGE RAIL BRACKET

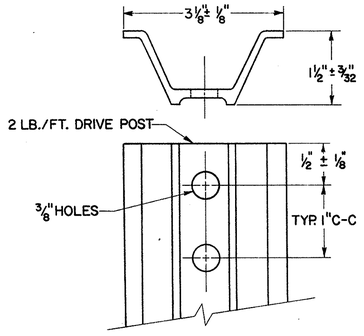


LATERAL PLACEMENT OF DELINEATORS

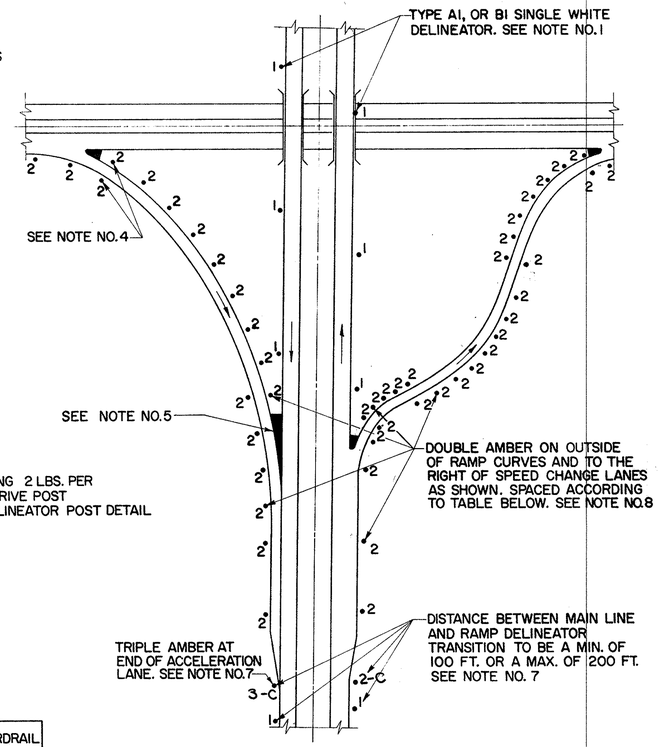
* TABLE

TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE WHITE	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE
TRIPLE AMBER	12'-6"	6" OUTSIDE

** THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.



DELINEATOR POST



TYPICAL DELINEATOR PLACEMENT

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	———	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES, BEGINNING AT STA. +00, +25, +50, OR + 75.
2. DELINEATORS SHALL BE FURNISHED AND ERECTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION NO. I-127, (1-15-62).
3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR "ITEM I-127 DELINEATORS".
4. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
5. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM
6. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
7. RAMP DELINEATOR AT END OF ACCELERATION & BEGINNING OF DECELERATION LANES TO BE A MAXIMUM OF 5' FROM POINT OF TANGENCY AT MAIN LINE.
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15, +20 AND SO ON.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS	I-127	DATE 9-25-62

APPROVED Robert A. Lomax
ENGINEER OF TRAFFIC

DELINEATOR DETAILS I-127

FED. RD.	STATE	PROJECT	
2	OHIO		

111
180

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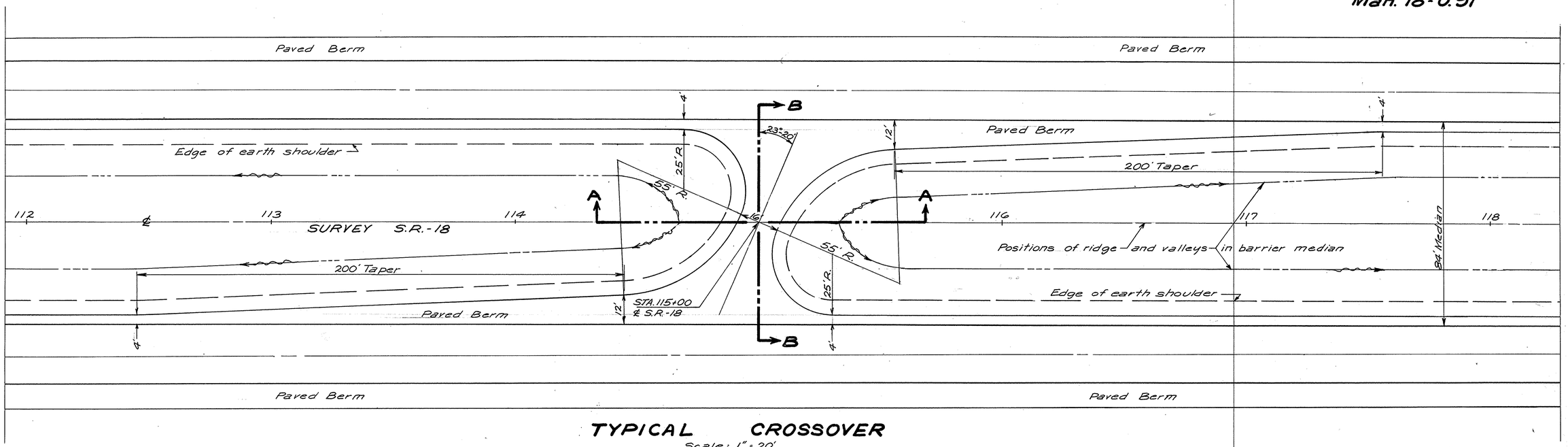
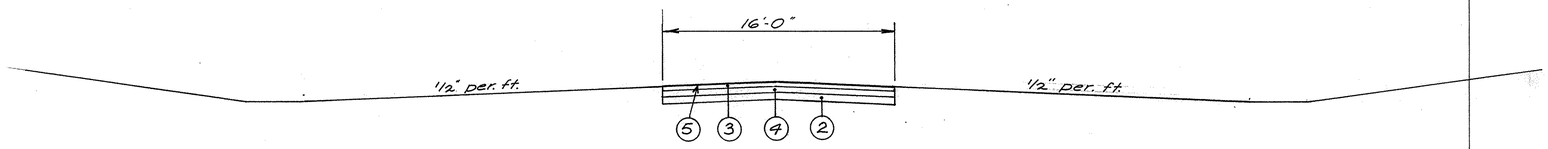


TYPICAL CROSSOVER

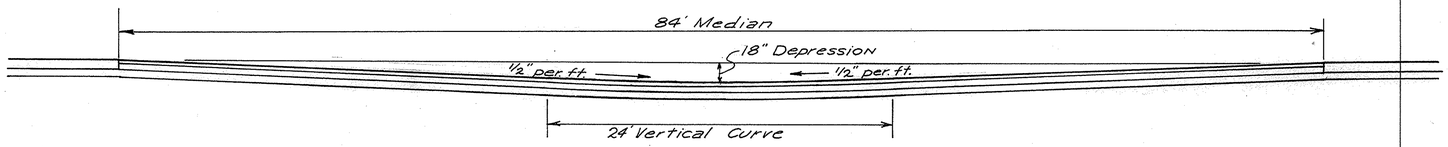
Scale: 1" = 20'



SECTION A-A

Scale: 1" = 5'

(2) I-22 6" Subbase as per plan
(3) B-21 3" Waterproof Aggregate
(4) B-19 6" Aggregate Base Course
(5) T-31 Bituminous Surface Treatment Using: 0.008 Cu. Yds. No 6 Aggregate Per Sq. Yd. & 0.25 Gal. Bituminous Material Per Sq. Yd.



SECTION B-B

Scale: 1" - 5'

STA. 115+00 S.R. - 18
CROSSOVER DETAIL

FED. RD.	STATE	PROJECT	
2	OHIO		

112
180

MAH. 18-0.91

SPECIAL BERM AND SLOPE PROTECTION

PRIOR TO PLACEMENT OF SOD IN THE BERM & SLOPE, GALVANIZED POULTRY FENCE SHALL BE PLACED ON THE FINISHED GRADE IN STRANDS WHICH SHALL BE AT RIGHT ANGLES TO THE DIRECTION OF FLOW. EACH STRAND SHALL BE STAKED SECURELY, ON TOP & BOTTOM, WITH STAKES AT FOUR FOOT INTERVALS & ALTERNATED IN ROWS FOUR FEET APART.

STAKES SHALL BE 1" x 1" x 8" WOOD STAKES AND SHALL BE PREPENDICULAR TO THE GROUND & FLUSH WITH THE FINISHED GRADE

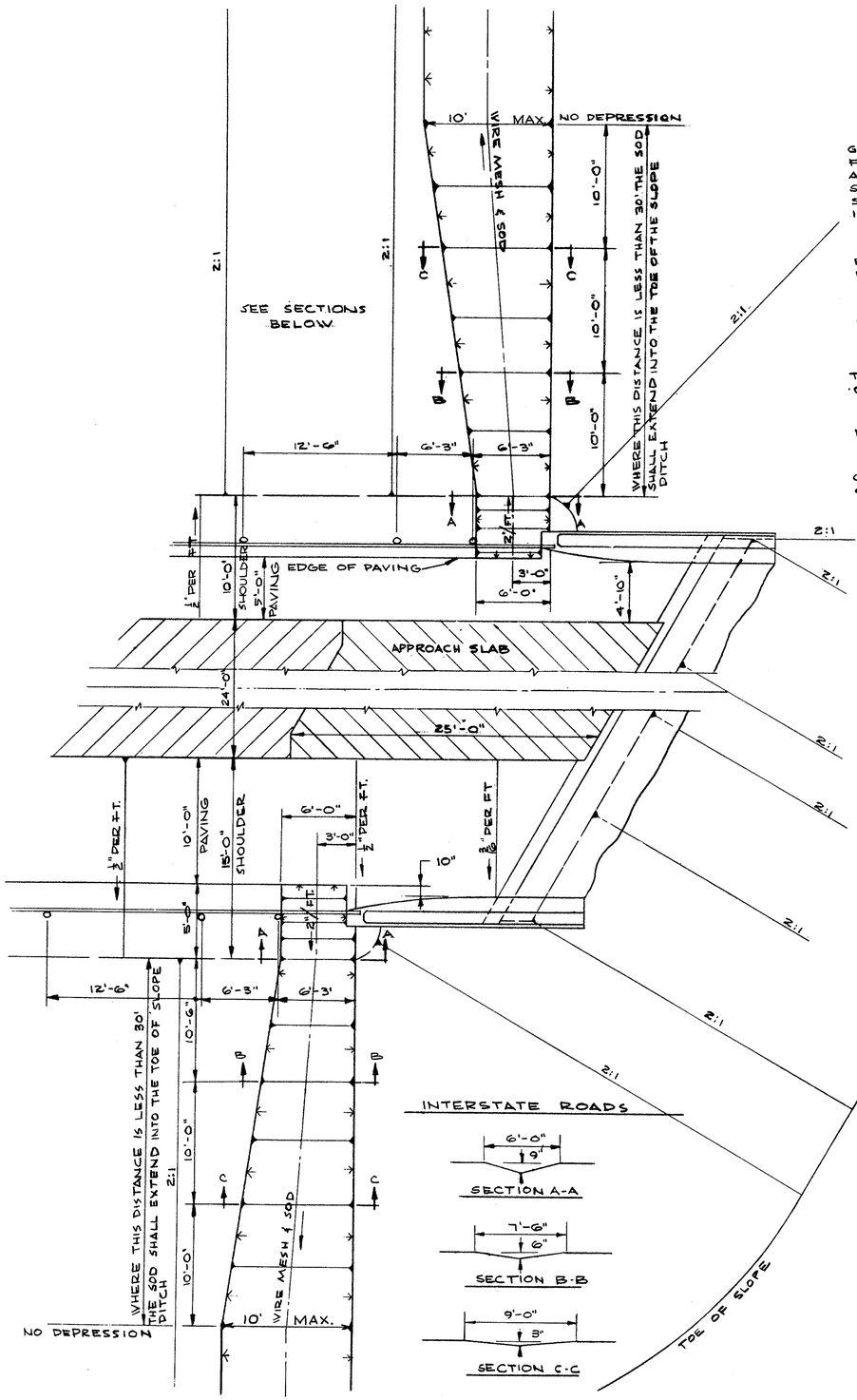
THE FENCE SHALL BE STRAIGHT LINE POULTRY FENCE OR EQUIVALENT WITH STRAND WIDTH OF FOUR FEET, HAVING A TWO INCH MESH AND ALL WIRES No.20 GAUGE.

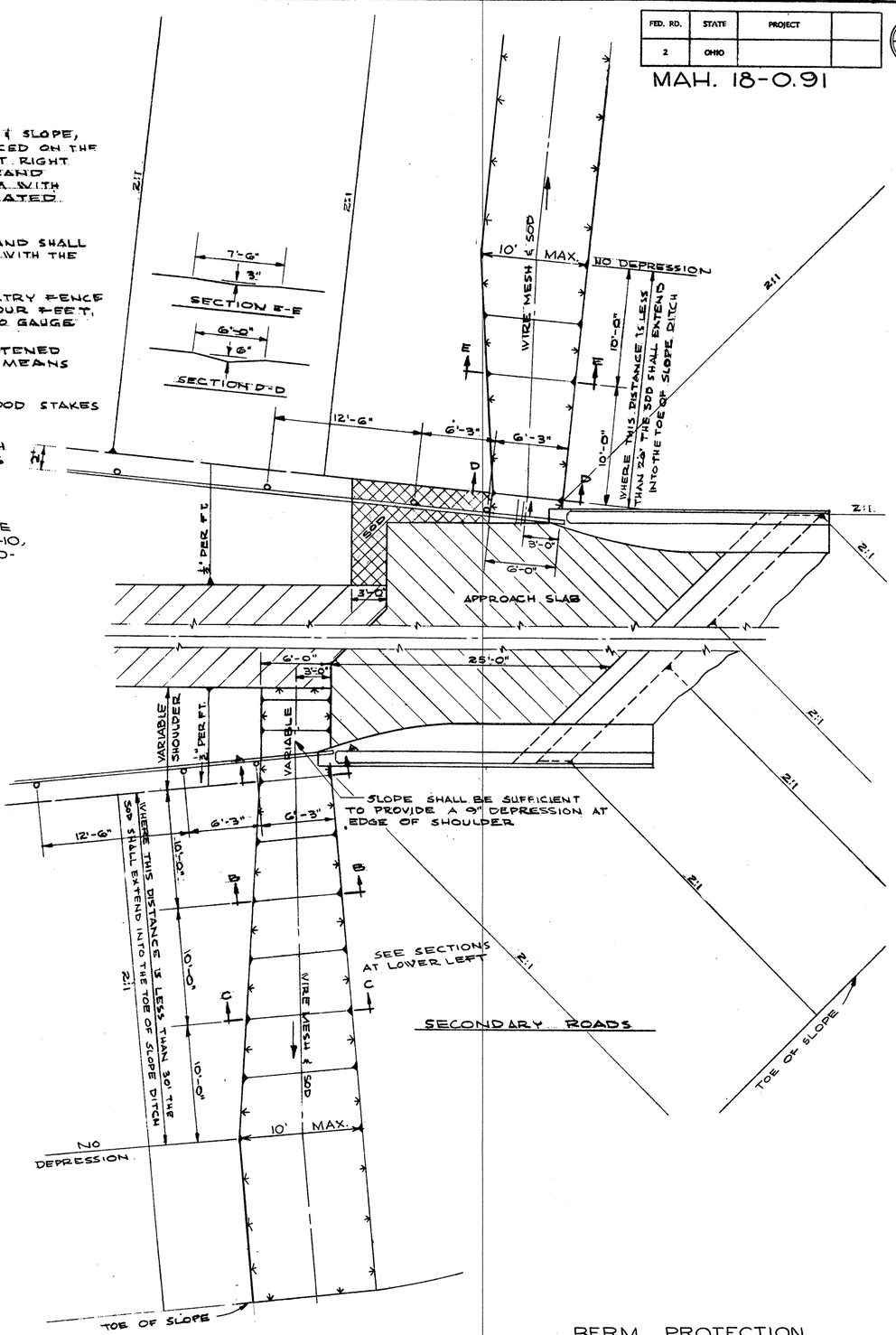
EACH STRAND OF FENCING SHALL BE FASTENED TOGETHER AT TWELVE INCH INTERVALS BY MEANS OF HOG RINGS

THE FENCE SHALL BE SECURED TO THE WOOD STAKES BY METAL STAPLES

SOD SHALL BE LAID IN ACCORDANCE WITH CONSTRUCTION & MATERIALS SPECIFICATIONS SECTION L-10.07

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM L-10, SODDING FOR SPECIAL BERM AND SLOPE PROTECTION, AS PER PLAN.





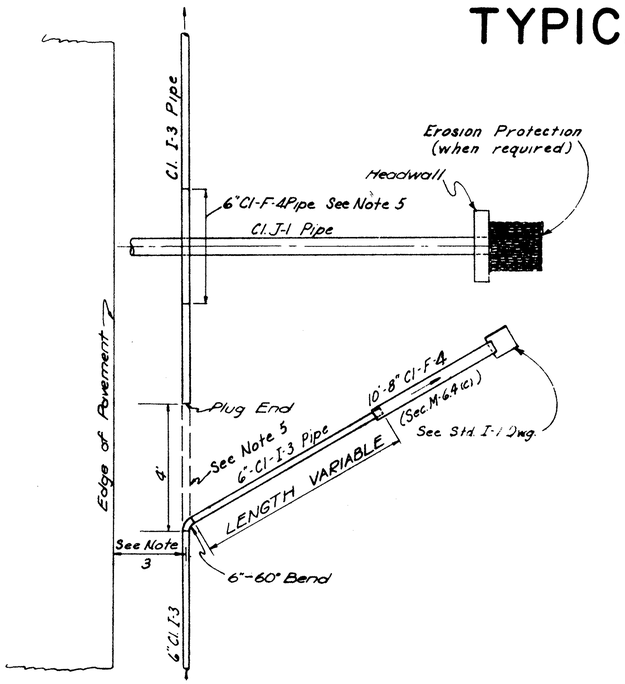
BERM PROTECTION

TYPICAL DETAILS OF UNDERDRAIN OUTLETS

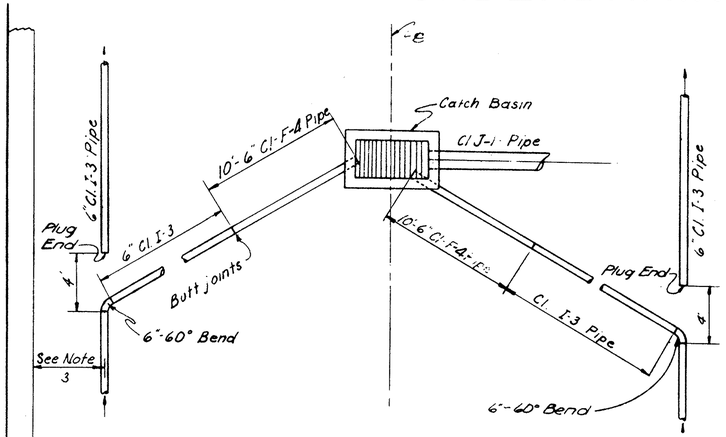
FED RD DIVISION	STATE	PROJECT	
2	OHIO		

113/180

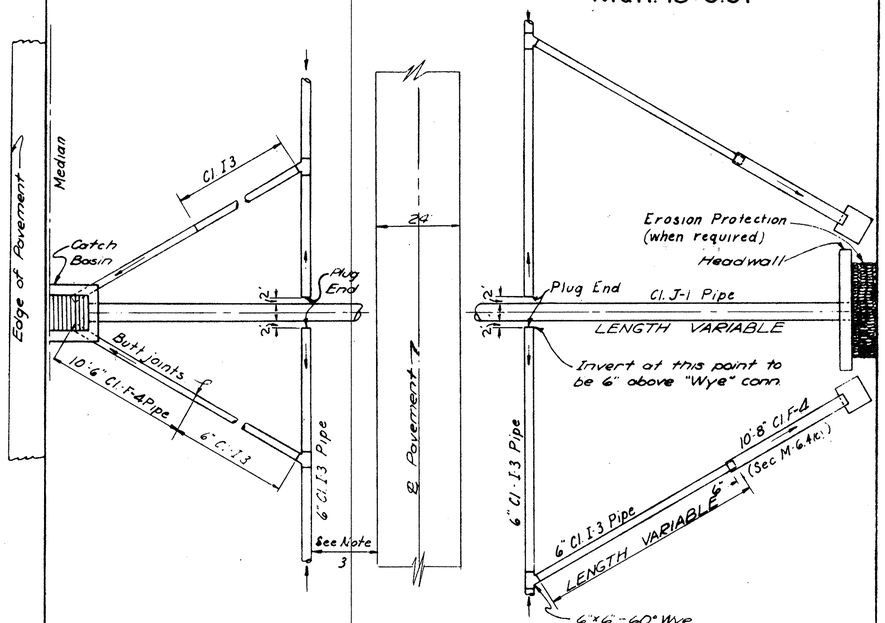
Mah. 18-0.91



UNDERDRAIN OUTLET DETAIL "A"



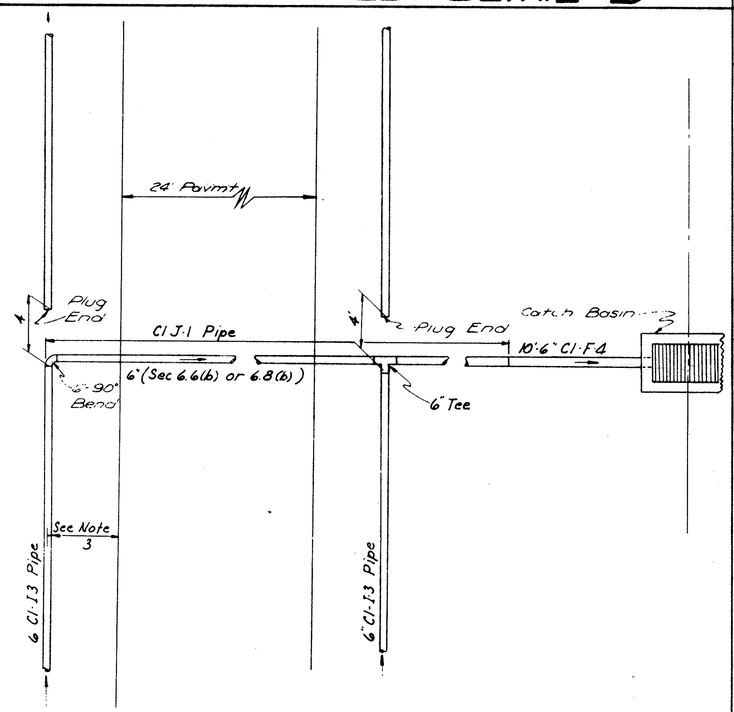
UNDERDRAIN OUTLET DETAIL "B"



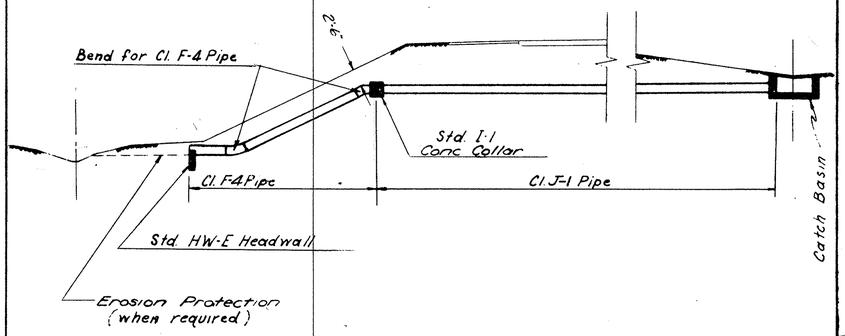
UNDERDRAIN OUTLET DETAIL "C"

NOTES

1. Details shall be modified as median width and shape will require.
2. Where 8" Cl. F-4 pipe (Sec. M-6.4 (c)) is shown it shall be furnished with one rolled end.
3. The distance of underdrain lines from the edge of pavement shall be taken from the approved typical section.
4. The advantages of matching the crown of pipes in the catch basin should be considered.
5. When it is desirable to continue the underdrain across a transverse line such as in detail "A" a 10' length of 6" class F-4 pipe should be used to span the trench unless such crossing is above the area of granular backfill.



UNDERDRAIN OUTLET DETAIL "D"

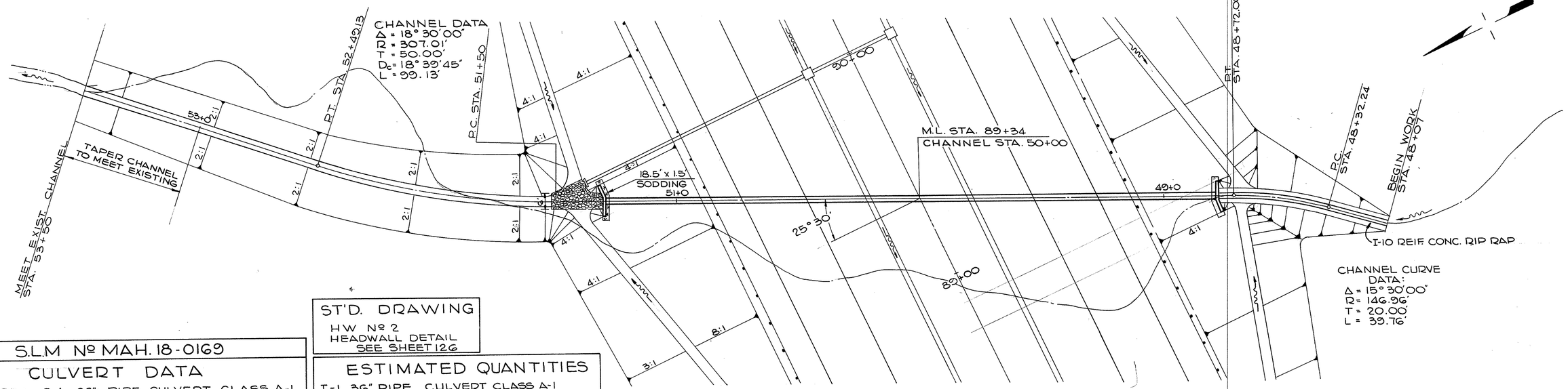


MEDIAN OUTLET DETAIL IN HIGH FILL

FED.RD.	STATE	PROJECT	
2	OHIO		

114/180

MAH. 18-0.91



S.L.M Nº MAH. 18-0169

CULVERT DATA

TYPE: I-1 36" PIPE CULVERT CLASS A-1 SEC. M 6.6(b), M-6.8(b)

SKEW: 25° 30' LT. FORWARD

WORK REQUIRED: BUILD NEW 36" PIPE CULVERT AND RELOCATE CHANNEL

SIZE: 36" x 252'

ST'D. DRAWING

HW Nº 2
HEADWALL DETAIL
SEE SHEET 126

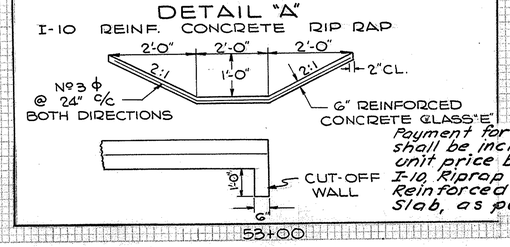
ESTIMATED QUANTITIES

I-1 36" PIPE CULVERT CLASS A-1 SEC. M-6.8(b), M-6.6(b)	= 252 LIN. FT.
I-2 MASONRY	= 13.4 CU. YDS.
I-10 DUMPED ROCK CHANNEL PROT.	= 13 CU. YDS.
L-10 SOD	= 6 SQ. YDS.
I-10 REINFORCED CONC. RIP RAP	= 54 SQ. YDS.
E-3 CHANNEL EXCAVATION	= 635 CU. YDS.

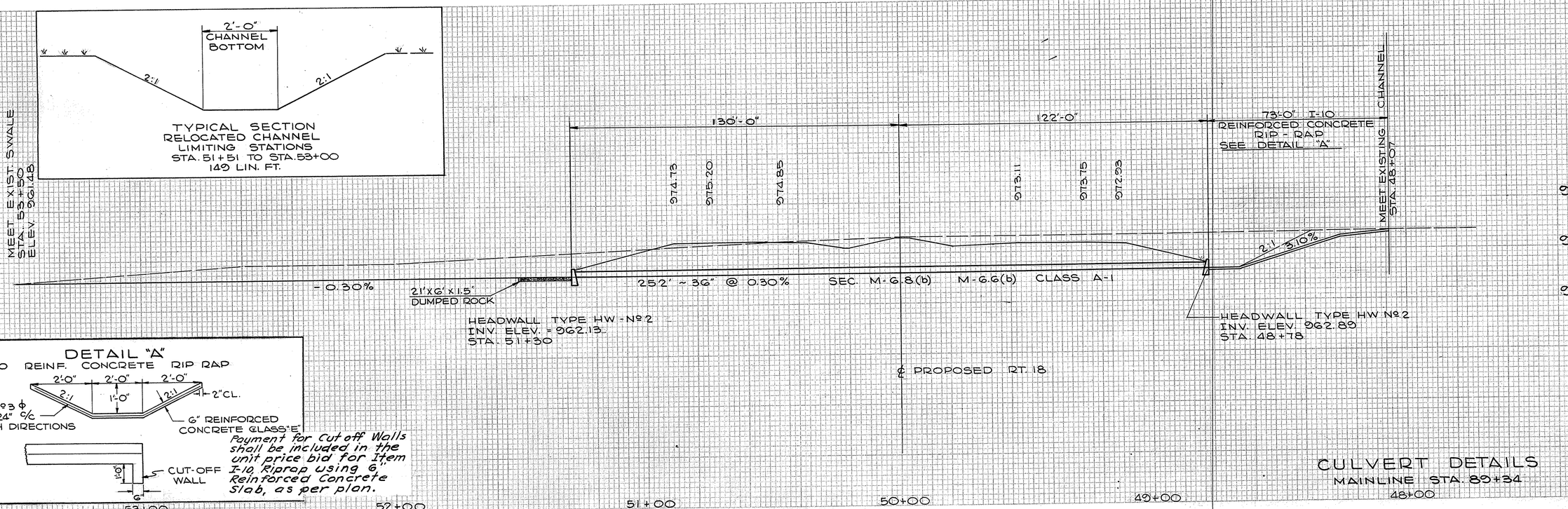
AREA	36 AC.
Q50	42 C.F.S.

SCALE: HOR - 1" = 20'
VERT.- 1" = 20'

TYPICAL SECTION
RELOCATED CHANNEL
LIMITING STATIONS
STA. 51+51 TO STA. 53+00
149 LIN. FT.



Payment for Cut-off Walls shall be included in the unit price bid for Item I-10, Riprap using 6" Reinforced Concrete Slab, as per plan.



CULVERT DETAILS
MAINLINE STA. 89+34

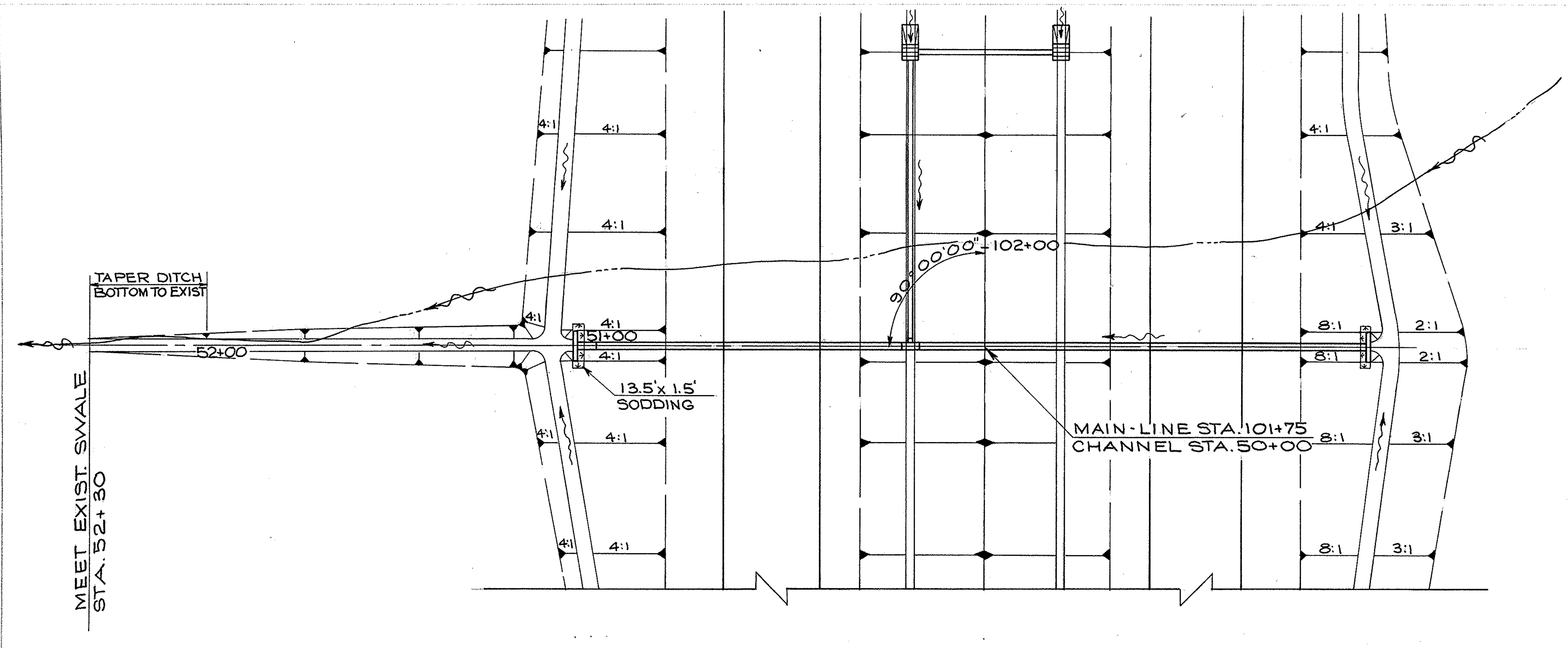
PLATE 4-CROSS SECTION O.P.R. & R.E. STANDARD
KAUFFEL & KESSER CO., NEW YORK

MAH. 18-0.91

CHANNEL RELOCATION
MAINLINE STA. 89+34

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 18-0.91



SCALE: HOR. 1" = 20'
VERT. 1" = 20'

Q50 =	13 C.F.S.
A° =	10 AC.

S.L.M. Nº. MAH. 18-0193

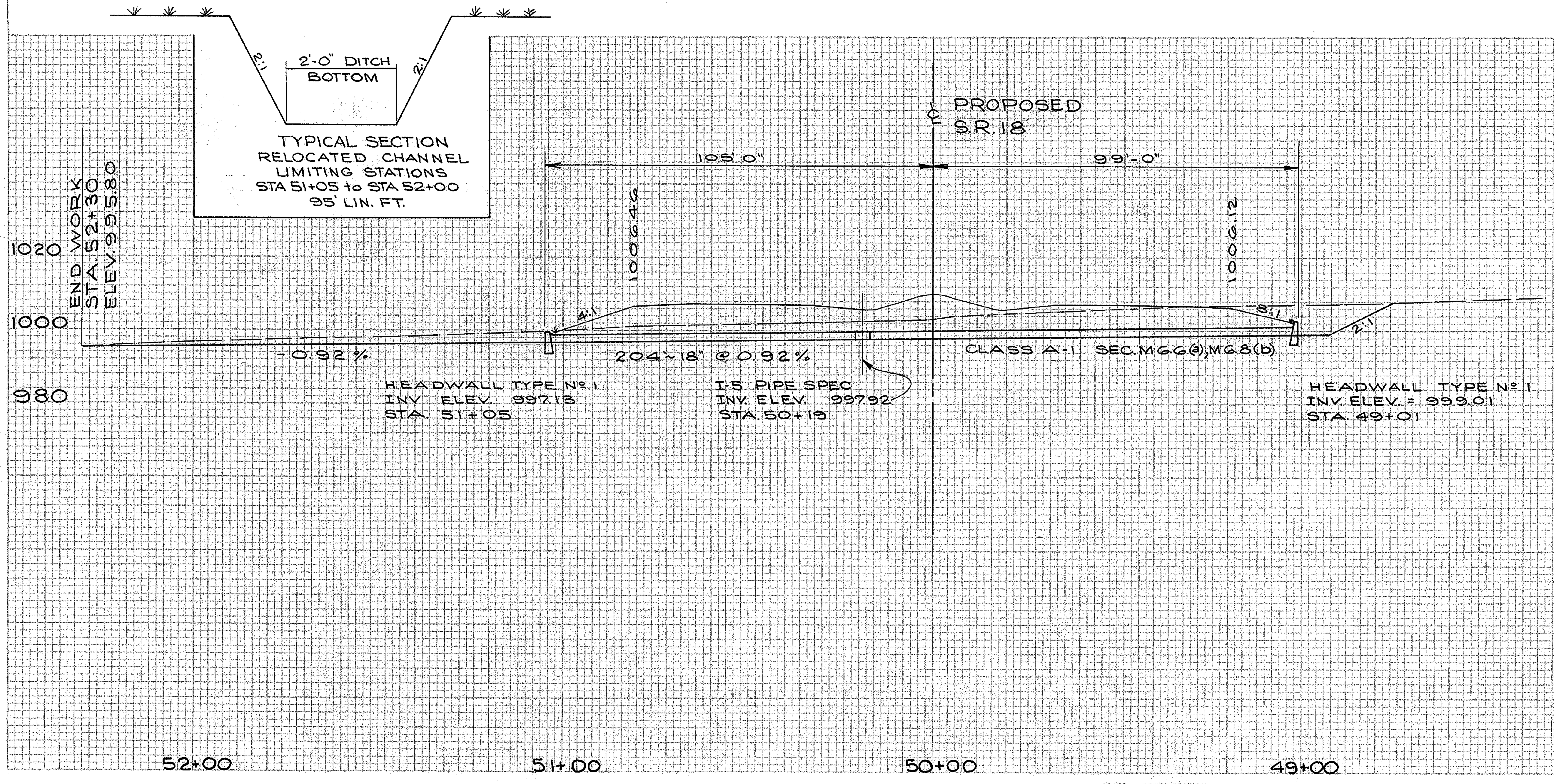
CULVERT DATA

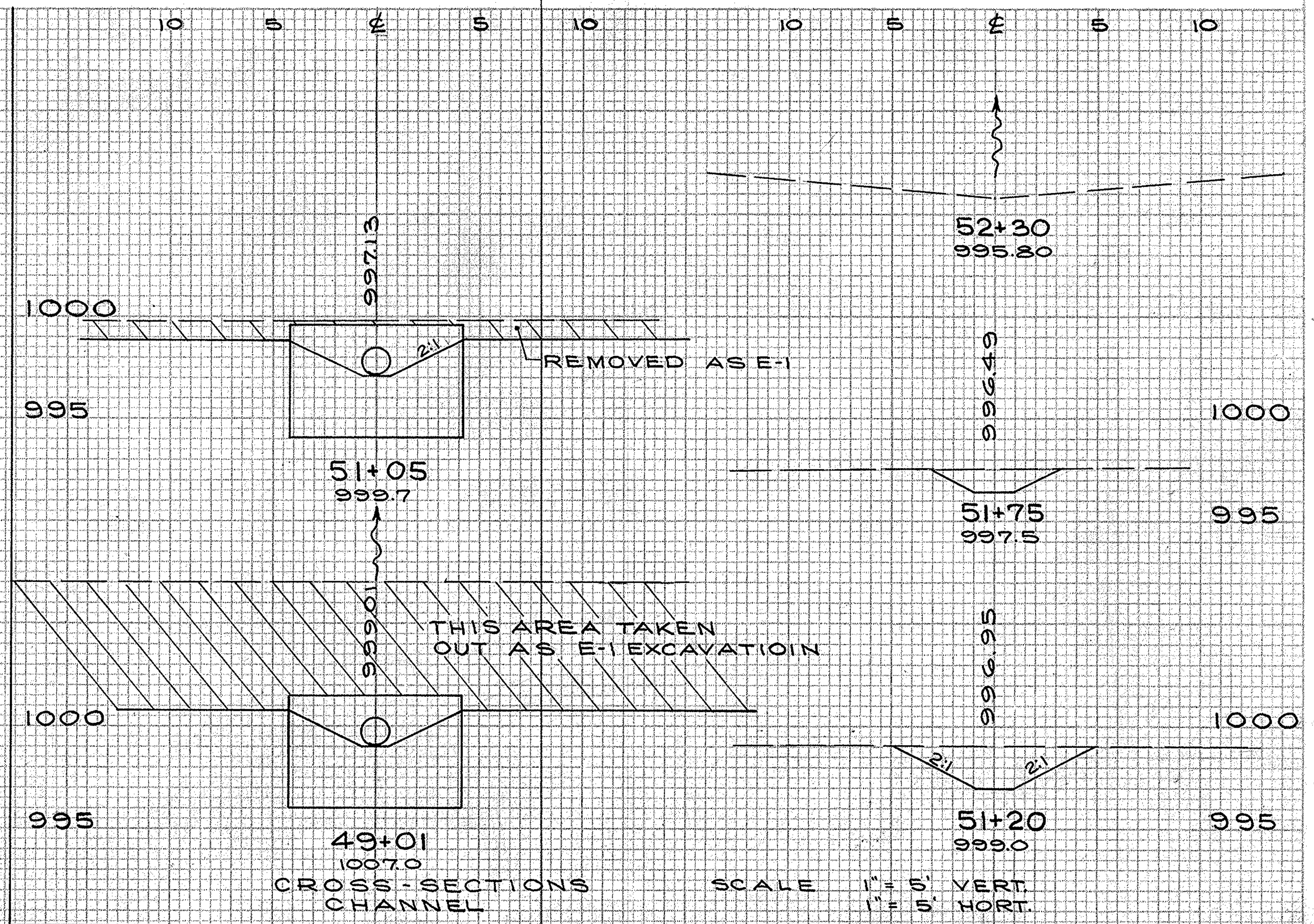
TYPE : I-1 18" PIPE CULVERT ~ CLASS A-1
SIZE : 18" X 204'
SKEW: NONE
WORK REQUIRED: BUILD NEW 18" PIPE CULVERT AND RELOCATE CHANNEL

ESTIMATED QUANTITIES

I-1	18" PIPE CULVERT M-6.6(a) or M-6.8(b) CLASS A-1	= 204 LIN. FT.
I-2	MASONRY ~ FOR HEADWALL	= 4.4 CU. YDS
I-5	PIPE SPECIAL ~ 15" x 18" TEE M-6.6(a) M-6.8(b)	= 1 EACH
L-10	SODDING	= 5 SQ. YDS
E-3	CHANNEL EXCAVATION	= 32 CU. YDS

ST'D DRAWINGS
HW Nº 1





CULVERT DETAILS
MAIN-LINE STA. 101+75

NOTE:
FOR DETAILS OF CUL-DE-SAC.
SEE DETAIL SHEET Nº 108

P.I. 15.00' LT. & STA. 45+60.47
LT. DITCH CURVE DATA
Δ = 37°54'00" LT.
R = 115.13
T = 39.53
C = 74.90
L_c = 76.16
P.C. 39.28' LT. STA. 45+29.28
P.T. 15.00' LT. STA. 46+00.00

STD. DRAWING
HW Nº-3

SCALE: HOR. 1" = 30' VERT. 1" = 30'

AREA	83 Ac.
Q_{50}	68 C.F.S.

CULVERT DATA
TYPE: I-1 CLASS A-1 SEC. M-6.6 (b) PIPE CULVERT
SIZE: 42" x 213'
SKEW: 5° 38' 23" LT. FWD.
WORK REQUIRED: BUILD NEW PIPE CULVERT & REL. CHANNEL AS PER PLAN.

ESTIMATED QUANTITIES	
I-1 42" PIPE CULVERT CLASS A-1 SEC. M-6.6(b)	213 LIN. FT.
I-2 MASONRY	13.4 CU. YDS.
E-3 CHANNEL EXCAVATION	26 CU. YDS.
I-10 Sodding	8 Sq. Yds

CULVERT DETAIL
S.R. 18. STA. 129+38.34

ORIGINAL SURVEY
NOTE BOOK NO.

FINAL SURVEY
NOTE BOOK NO.

40 30 20 10 ℄ 10 20 30 40

SEE SHEET Nº

ALL EXCAVATION REMOVED AS E-1

50+38.95
1007.0

INLET FL=1003.83

15'

℄ PRICETOWN ROAD

ALL EXCAVATION REMOVED AS E-1

48+25.95
1005.7

OUTLET FL=1003.19

ALL EXCAVATION REMOVED AS E-1

1003.14

48+08
1005.6

1003.11

48+00
1005.6

A A'

2:1

1003.05

47+80.95
1005.5
END PAVEMENT

34'

℄ CUL-DE-SAC

B B'

1002.92

47+36.95
1005.2

1004.0

C C'

1002.81

47+00
1005.2

1003.7

5

1002.75

46+70.95
1005.2
BEGIN PAVEMENT

5:C

1002.66

46+50
1005.2

5:C

1002.42

46+50
1005.2

27'

C-2

VAR.

1002.29

45+50
1005.2

57'

PRICETOWN RD.
℄ 45+00

C-3

1002.16

℄ PRICETOWN RD.

102'

SECTION NORMAL TO CHANNEL

MEET EX. CHANNEL
1002.0

1005
1000

CULVERT X-SECTIONS
STA. 129+38.34

2	FED. RD.	STATE	
	OHIO		
		FED. PROJ.	

118
180

FED. RD.	STATE	PROJECT		
2	OHIO			


53+00
1009.5
1007.3
1007.2
52+35
1009.0
1007.3
1007.4
52+09.95
END PAVEMENT
1008.8
1008.81
1006.50
1007.00
1007.99
1008.61
1005.50
¢ CUL-DE-SAC
51+43.95
1008.11
1006.00
1008.11
1005.25
51+11
1007.7
1005.00
¢ SIDE DITCH
PRICETOWN RD
2:1
1004.16
51+00
1007.6
1004.75
1004.14
¢ SIDE DITCH
PRICETOWN RD.
50+80
1007.4
1003.95
VAR
VAR
PRICETOWN
¢ SIDE DITCH
FL 1004.12
0.25%
PROFILE ALONG M.L. SIDE DITCH
EXCAVATION WILL BE REMOVED
AS E-1 ON MAINLINE
50+66
1008.3
1003.90
0.25%
1010
1005
1000

CULVERT X-SECTIONS
STA 129+38.34

FED. RD.	STATE	PROJECT		
2	OHIO			

120
180

MAH. 18-0.91

CURVE DATA
RELOC. CHANNEL
Δ = 35° 30'
R = 156.20'
T = 50.00'
D = 36°
L = 96.78'
C = 95.24'

TAPED DITCH
4.0' BOTTOM TO EXIST.

END WORK
STA. 54+33.78
ELEV. 999.4

P.T.
STA. 53+91.78

P.C.
STA. 52+95

2:1

4.0' BOTTOM DITCH

LA RW

3:1

RAMP "B"

9+50

28' x 1.5'
L-10 SOD

8°

10+00

RAMP "B" ℄ STA. 9+80.20
CHANNEL STA.

1+50

8:1 4:1 4:1 8:1

1+58+00

M.L. STA. 157+89.50
CHANNEL STA. 50+00

32' x 1.5'
L-10 SOD

2:1 12:1 4:1 4:1

RAMP "D"

BEGIN WORK
STA. 48+44
ELEV. 1002.00

S.L.M. Nº MAH. 18-2.99

CULVERT DATA

TYPE: I-1 PIPE CULVERT CLASS G-1M 6.7(b)
SIZE: (83"x53") x 292'
SKEW: 8° RT. FORWARD
WORK REQUIRED: BUILD NEW PIPE CULVERT AS PER PLAN.

ESTIMATED QUANTITIES

I-1 83" x 53" PIPE CULVERT CLASS G-1 SEC. M-6.7(b)	= 292 LIN FT.
I-2 MASONRY ~ FOR HEADWALLS	28.3 CU.YDS.
L-10 SODDING	= 10 SQ.YDS.
E-3 CHANNEL EXCAVATION	= 179 CU.YDS.

AREA = 104 AC.
Q50 = 158 C.F.S.

FOR HEADWALL DETAILS SEE SHEET Nº 127

SCALE: HOR. 1" = 20'
VERT. 1" = 20'

FINAL SURVEY: SURVEYED, PLOTTED, FIELD BOOK, NO. — DATE, BY, AREAS, AREAS CHECKED

ORIGINAL SURVEY: SURVEYED, PLOTTED, FIELD BOOK, NO. — DATE, AREAS, AREAS CHECKED

TYPICAL SECTION
RELOCATED CHANNEL
LIMITING STATIONS
STA. 48+44 TO STA. 49+76
STA. 51+66 TO STA. 53+91.78

2:1 4'-0" CHANNEL BOTTOM 2:1

1020
1000

END WORK
STA. 54+33.78
ELEV. 999.45

-0.30%

HEADWALL
HW Nº3 TYPE "B"
OUTLET ELEV. = 1000.19
STA. 51+66

292' ~ 83" x 53" @ 0.30%

CLASS G-1 M-6.7(b)

166'-0" 126'-0"

STA. 2+80.20
RAMP "B" ℄

HEADWALL
HW Nº3 TYPE "A"
INV. ELEV. 1001.07
STA. 48+76

BEGIN WORK
STA. 48+44
ELEV. 1002.00

℄ PROPOSED
S.R. 18 (RELOC.)

54+00 53+00 52+00 51+00 50+00 49+00

CULVERT DETAILS
M.L. STA. 157+89.50

PLATE 4—CROSS SECTION O.P.R.H.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

121/180

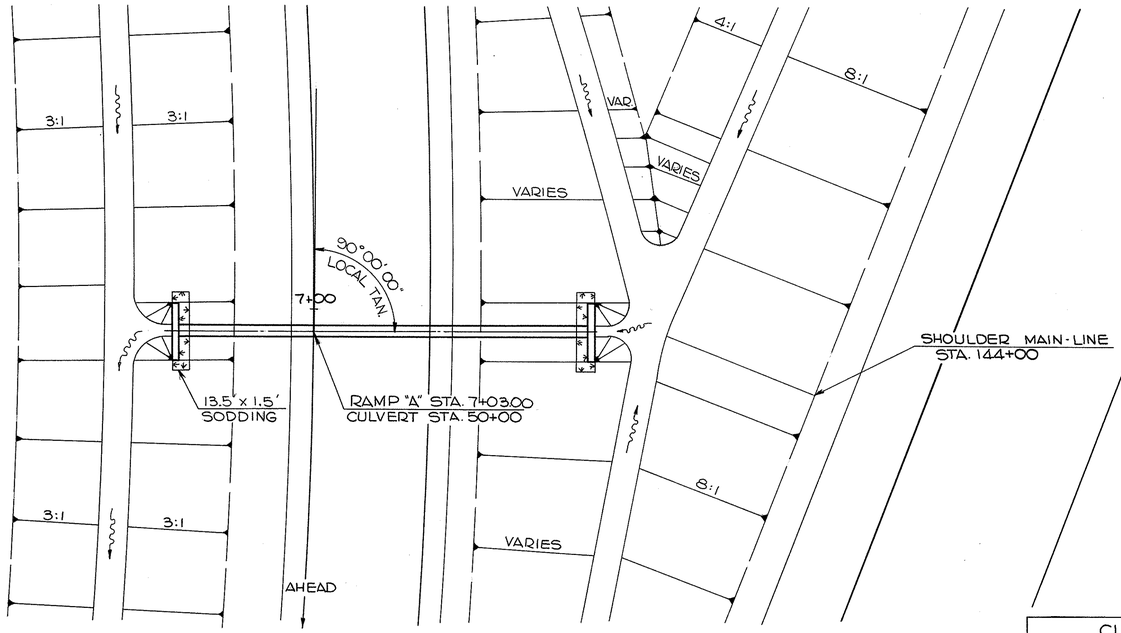
MAH. 18-0.91

CULVERT X-SECTIONS
M.L. STA. 157+89.50

FED. RD.	STATE	PROJECT	
2	OH10		

122
180

MAH.18-0.91



SCALE: HOR-1"=10'
VERT-1"=10'

AREA = 4 AC.
Q50 = 9.5 C.F.S.

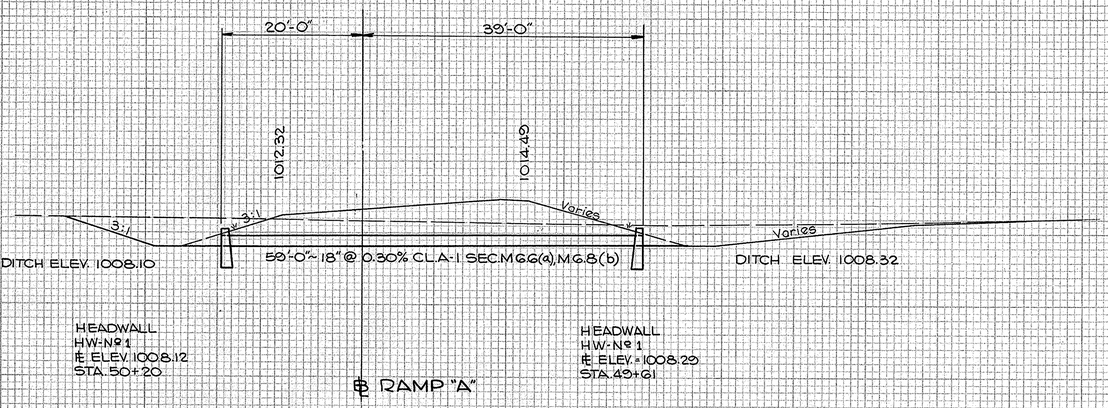
CULVERT DATA

TYPE: I-1 PIPE CULVERT
CLASS A-1
SIZE: 18" x 59'
SKEW: NONE
WORK REQUIRED: BUILD NEW PIPE CULVERT AS PER PLAN

ST'D DRAWINGS
H W Nº 1

ESTIMATED QUANTITIES

I-1	PIPE CULVERT - 18" CLASS A-1 SEC. M.6.6(a), M.6.8(b)	= 59 LIN.FT.
I-2	MASONRY	= 4.4 CU.YDS.
L-10	SODDING	= 5 SQ.YDS.



CULVERT DETAIL
RAMP "A" STA. 7+03.00

PLATE 54-CROSS SECTION © F. & R. & K. STANDARD
KEUFFEL & ESSER CO. NEW YORK

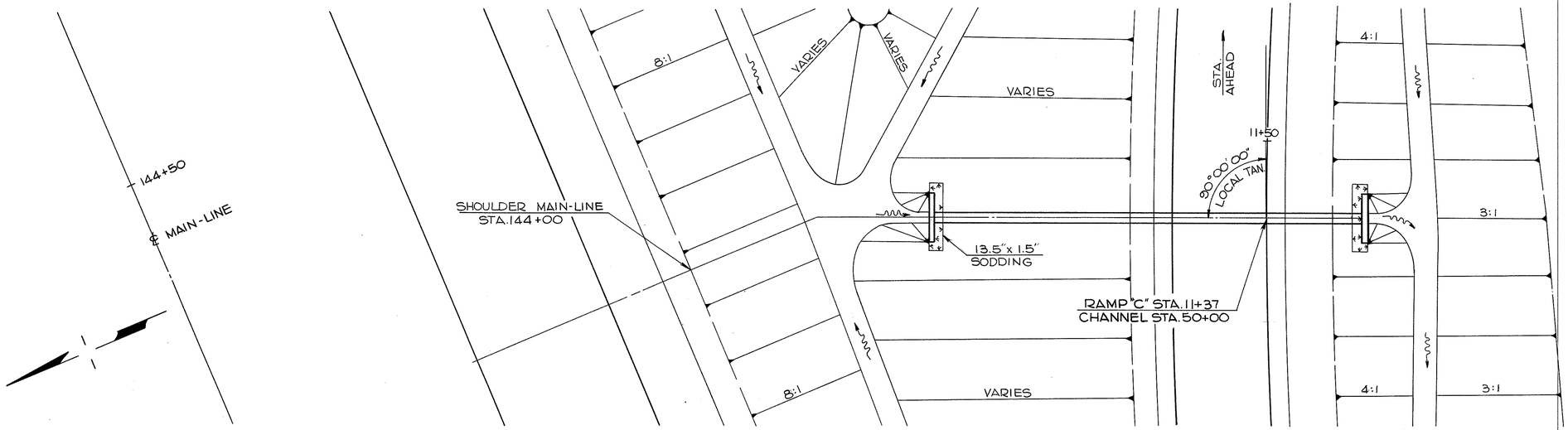
FINAL SURVEY — DATE, BY, SURVEYED, PLOTTED, TEMPLATE, LEVELS, AREAS CHECKED, NOTE BOOK, PAGE, NO.

ORIGINAL SURVEY — DATE, BY, SURVEYED, PLOTTED, TEMPLATE, LEVELS, AREAS CHECKED, NOTE BOOK, PAGE, NO.

FED. RD.	STATE	PROJECT	
2	OHIO		

123/180

MAH. 18-0.91



SCALE - HOR. - 1" = 10'
VERT. - 1" = 10

AREA = 6 AC.
Q50 = 12.2 C.F.S.

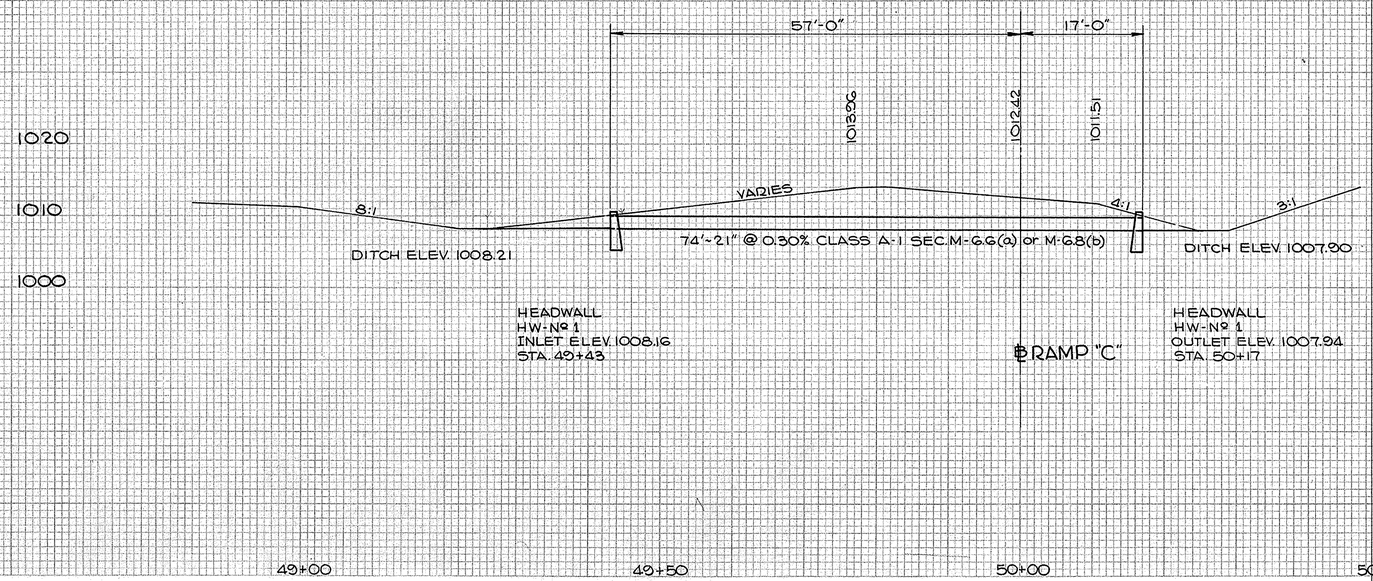
ST'D DRAWING
HW Nº 1

CULVERT DATA

TYPE: I-1 CLASS A-1 21" PIPE CULVERT SEC. M-6.6(a) or M-6.8(b)
SIZE : 21" x 74'
SKEW: NONE
WORK REQUIRED: BUILD NEW 21" x 74' PIPE CULVERT AS PER PLAN

ESTIMATED QUANTITIES

I-1	21" PIPE CULVERT CLASS A-1 SEC. M 6.6(a) or M-6.8(b)	= 74 LIN. FT.
I-2	MASONRY	= 5.6 CU. YDS.
L-10	SODDING	= 5 SQ. YDS.



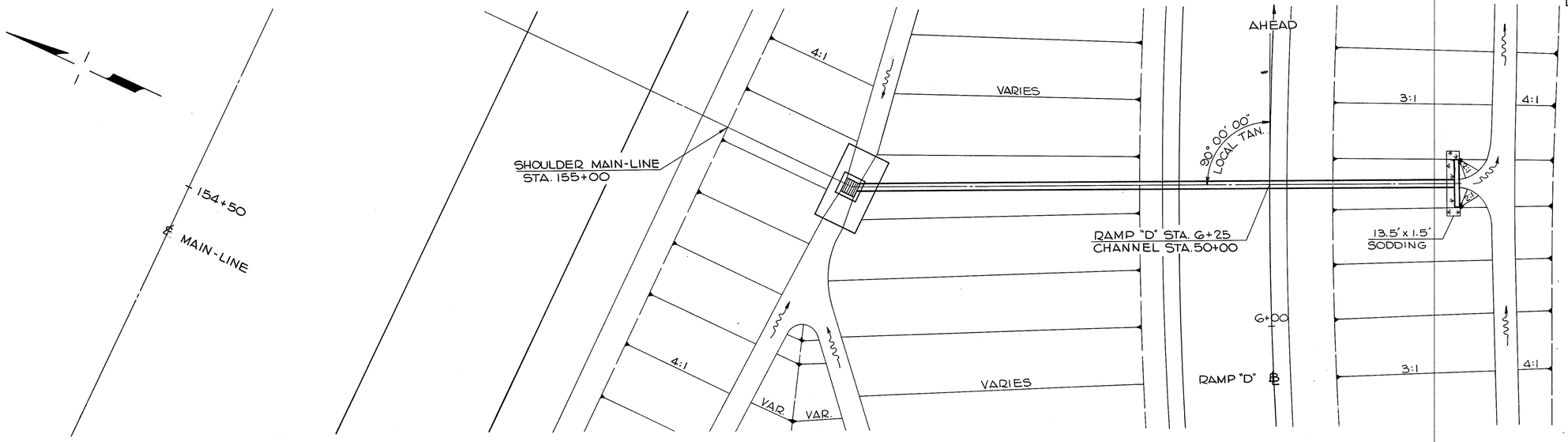
CULVERT DETAIL
RAMP "C" STA. 11+37

PLATE 4 - CROSS SECTION O.P.R.R.R.K. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

124
180

MAH. 18-0.91



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

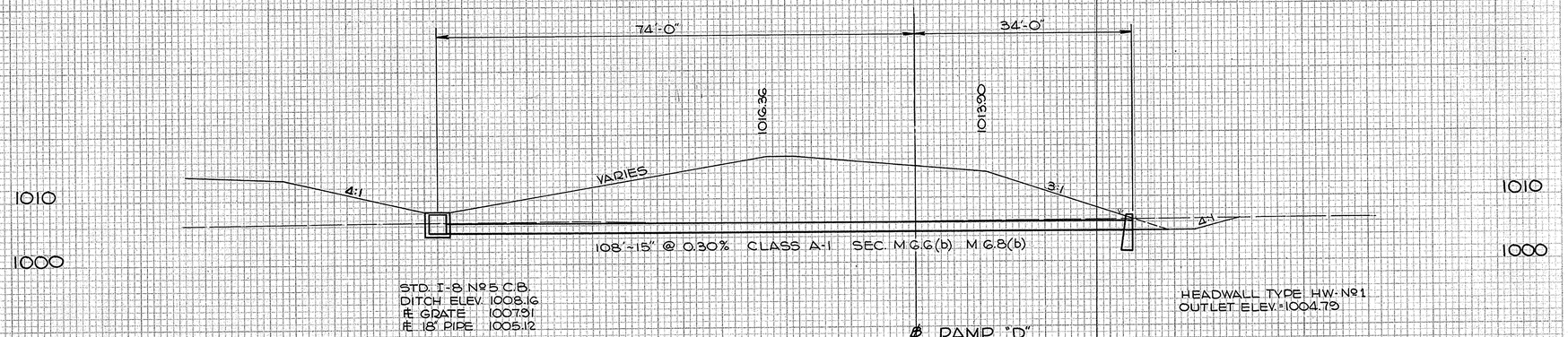
AREA = 4 AC.
Q50 = 7.0 C.F.S.

ST'D DRAWING
HW Nº 1
I-8 Nº 5 C.B.

CULVERT DATA
TYPE: I-1 15" CLASS A-1 SEC. M.6.6(b) AND M-6.8(b)
SIZE: 15" X 108'
SKEW: NONE
WORK REQUIRED: BUILD NEW Nº 5 C.B. & CULVERT AS PER PLAN.

ESTIMATED QUANTITIES

I-1	PIPE CULVERT 15" CLASS A-1 SEC. M 6.6(b), M-6.8(b)	= 108 LIN.FT.
I-2	MASONRY	= 1.7 CU.YDS.
I-8	Nº 5 CATCH BASIN	= 1 EACH
L-10	SODDING	= 2 SQ.YDS.



CULVERT DETAIL
RAMP "D" STA. 6+25

PLATE 4—CROSS SECTION ORDINARY STANDARD
KEUFFEL & ESSER CO., NEW YORK

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

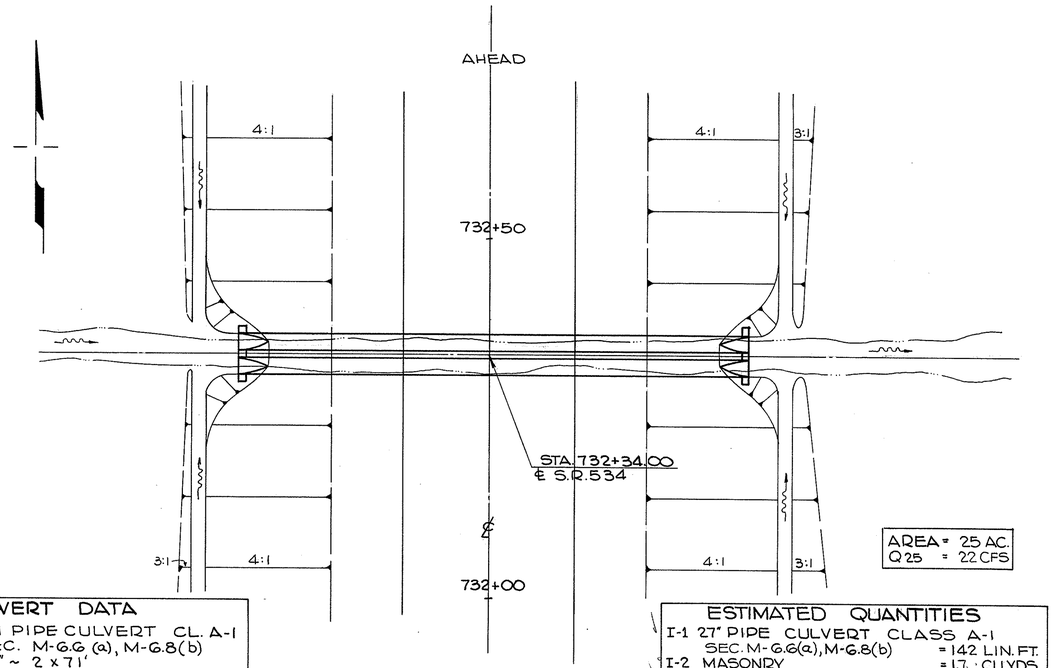
ORIGINAL SURVEY — DATE — SURVEYED — PLOTTED — TEMPLATE — NOTE BOOK — NO. — AREAS — AREAS CHECKED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

125/180

MAH. 18-0.91

ST'D DRAWING
HW-E



AREA = 25 AC.
Q25 = 22 CFS

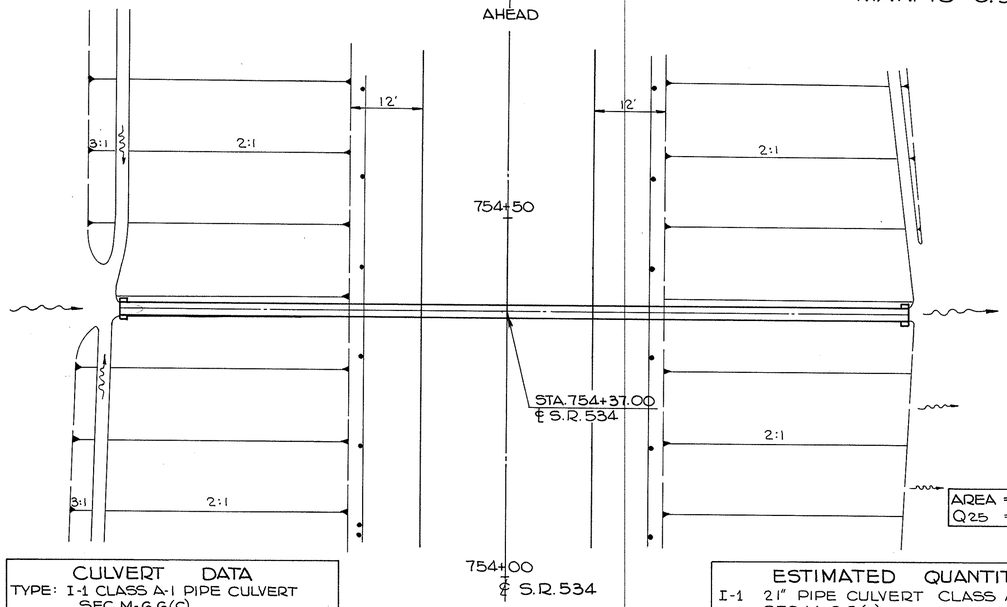
CULVERT DATA

TYPE: I-1 PIPE CULVERT CL. A-1
SEC. M-6.6 (a), M-6.8(b)
SIZE: 27" ~ 2 x 71'
SKEW: NONE
WORK REQUIRED: BUILD NEW 27" PIPE CULVERT AS PER PLAN.

ESTIMATED QUANTITIES

I-1	27" PIPE CULVERT CLASS A-1 SEC. M-6.6(a), M-6.8(b)	= 142 LIN. FT.
I-2	MASONRY	= 1.7 CU. YDS.
E-3	CHANNEL EXCAVATION	= 1 CU. YDS.

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



AREA = 8 AC.
Q25 = 18 CFS

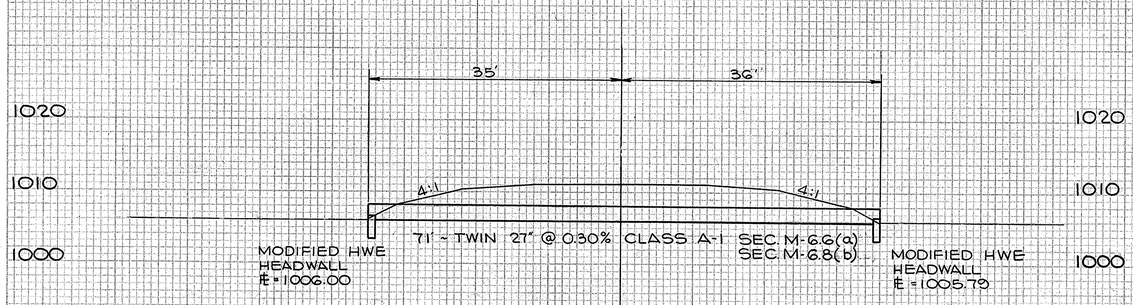
CULVERT DATA

TYPE: I-1 CLASS A-1 PIPE CULVERT
SEC. M-6.6(c)
SIZE: 21" ~ 114'
SKEW: NONE
WORK REQUIRED: BUILD NEW 21"~114' PIPE CULVERT AS PER PLAN

ESTIMATED QUANTITIES

I-1	21" PIPE CULVERT CLASS A-1 SEC. M-6.6(c)	= 114 LIN. FT.
I-2	MASONRY	= 0.7 CU. YDS.
E-3	CHANNEL EXCAVATION	= 1 CU. YD

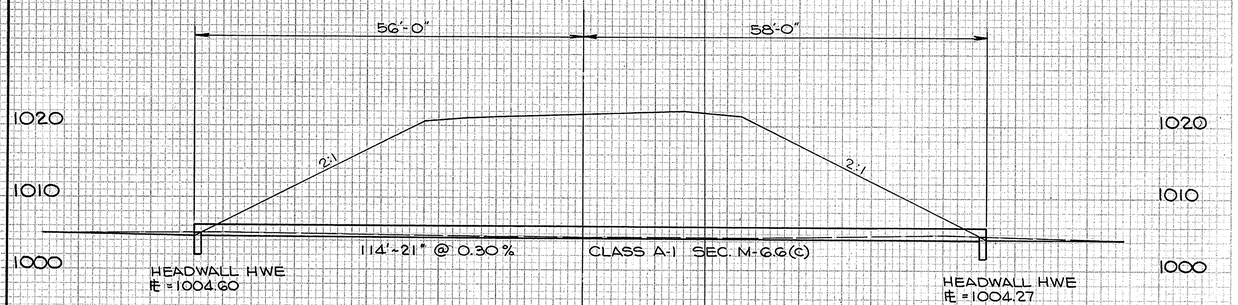
SCALE: HOR. 1" = 10'
VERT. 1" = 10'



NOTE:
FOR HEADWALL DETAIL SEE SHEET Nº 126

CULVERT DETAIL

S.R. 534 STA. 732+34.00



CULVERT DETAIL

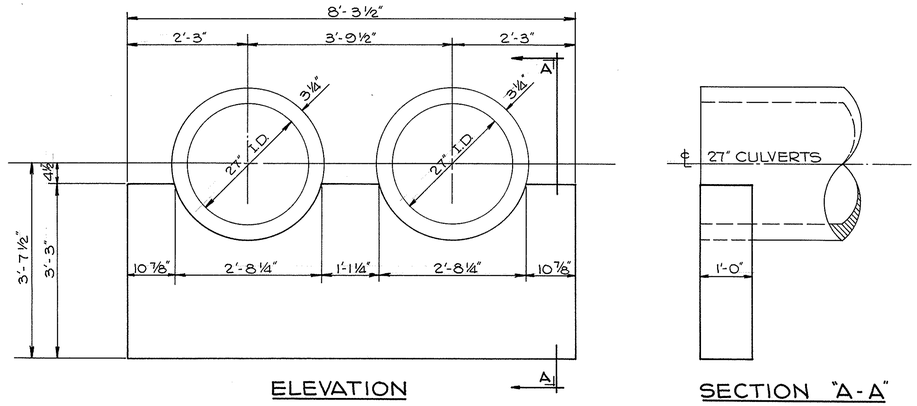
S.R. 534 STA. 754+37.00

PLATE 1—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. RD	STATE	PROJECT	
2	OHIO		

126
180

MAH. 18-0.91



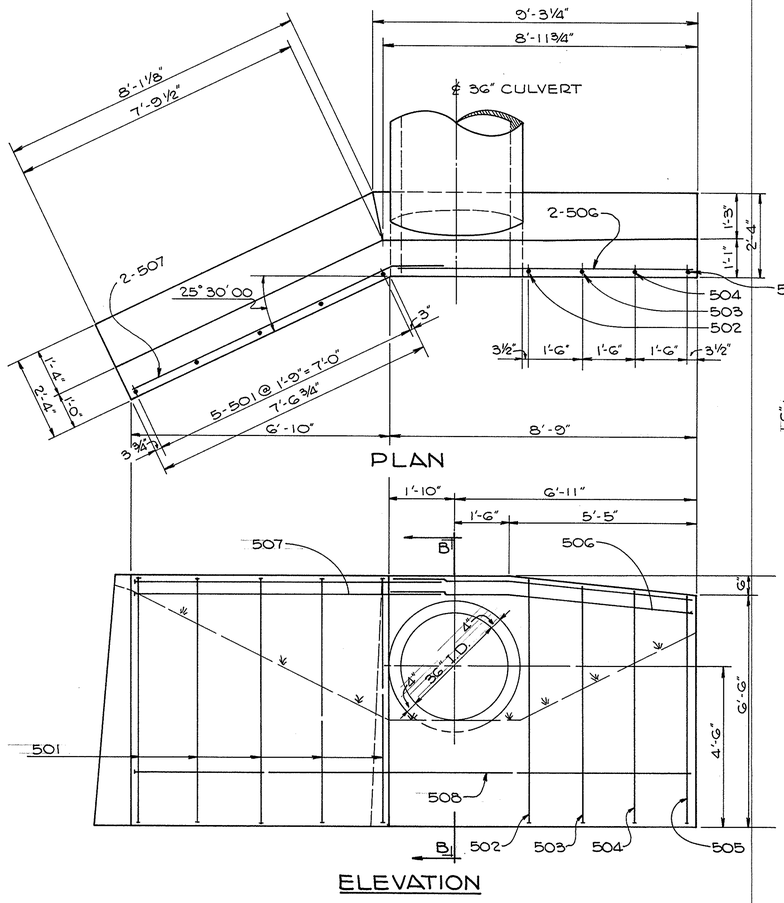
ELEVATION

SECTION "A-A"

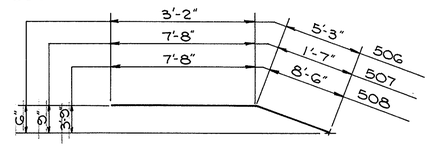
HEADWALL

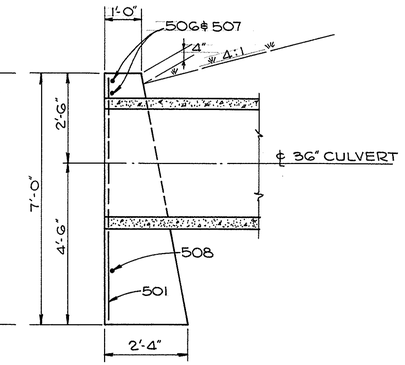
SR#534 STA. 732+34.00 2-27" DIA. CULVERTS
2 REQUIRED CLASS "C" CONCRETE

REINFORCING SCHEDULE FOR 1 WALL				
MARK	Nº REQ'D	LENGTH	WEIGHT	SHAPE
501	5	6'-8"	35	ST.
502	1	6'-7"	7	ST.
503	1	6'-6"	7	ST.
504	1	6'-4"	7	ST.
505	1	6'-2"	6	ST.
506	2	8'-5"	18	BT.
507	2	9'-3"	19	BT.
508	1	16'-2"	17	
TOTAL = 106 LBS.				



ELEVATION





SECTION "B-B"

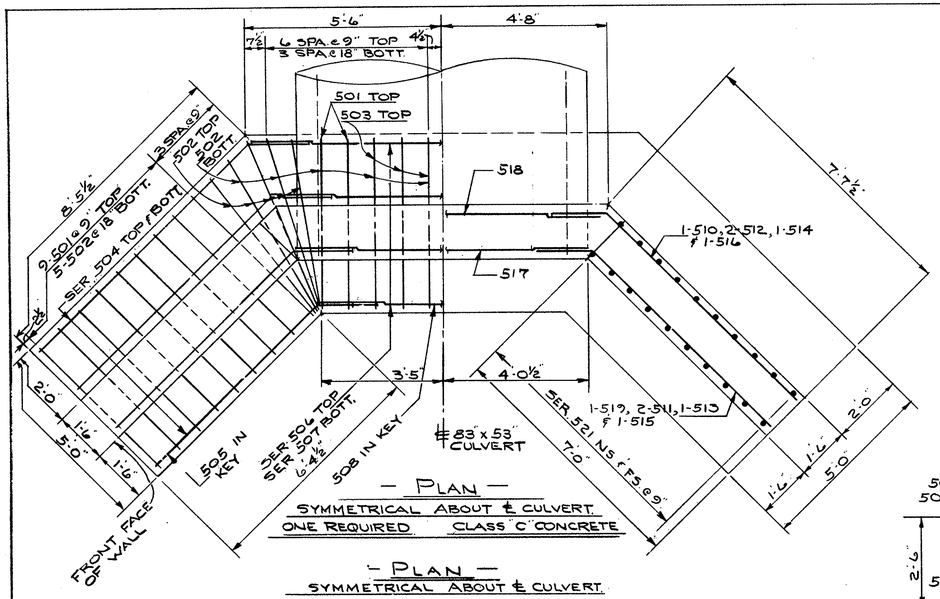
HEADWALL

SR-18 STA. 89+34.00 36" DIA. CULVERT
2 REQUIRED CLASS "C" CONCRETE

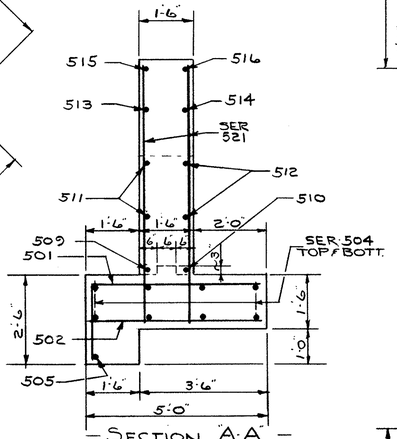
HEADWALL DETAILS

S.R. 534 STA. 732+34.00
S.R. 18 STA. 89+34.00

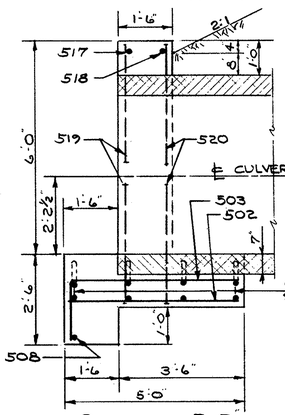
MAH-18-0.91



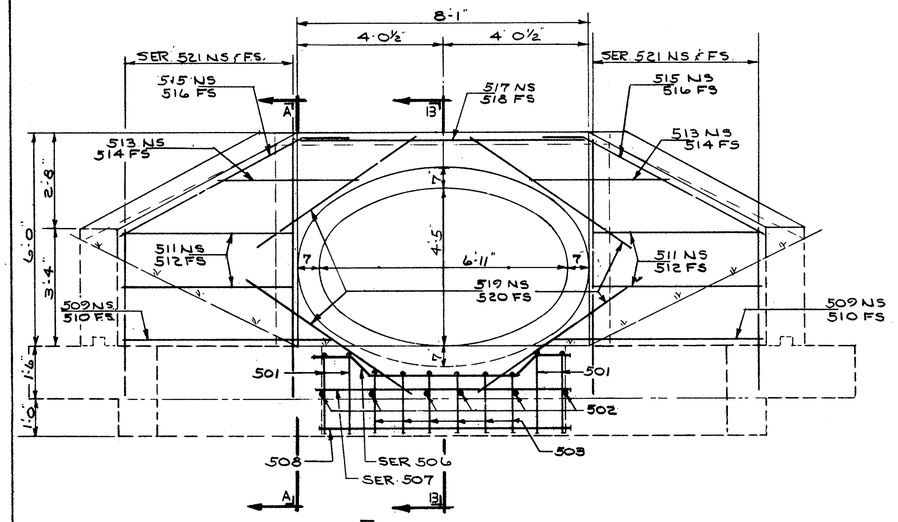
— PLAN —
SYMMETRICAL ABOUT ℄ CULVERT.
ONE REQUIRED CLASS 'C' CONCRETE



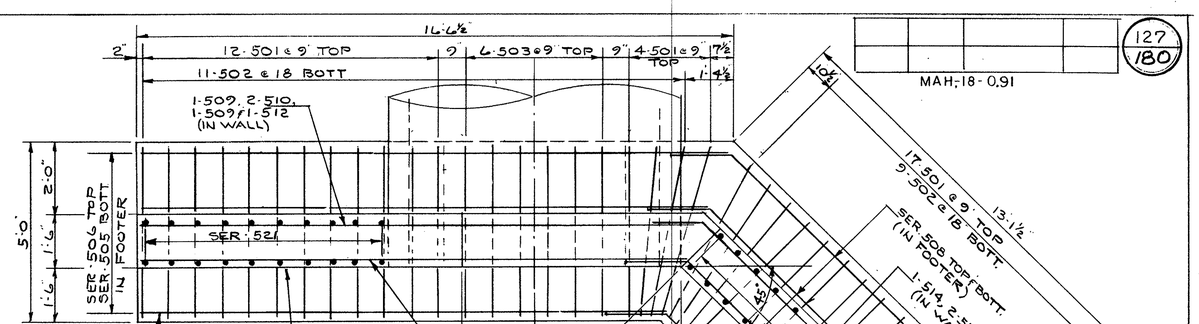
— SECTION A-A —



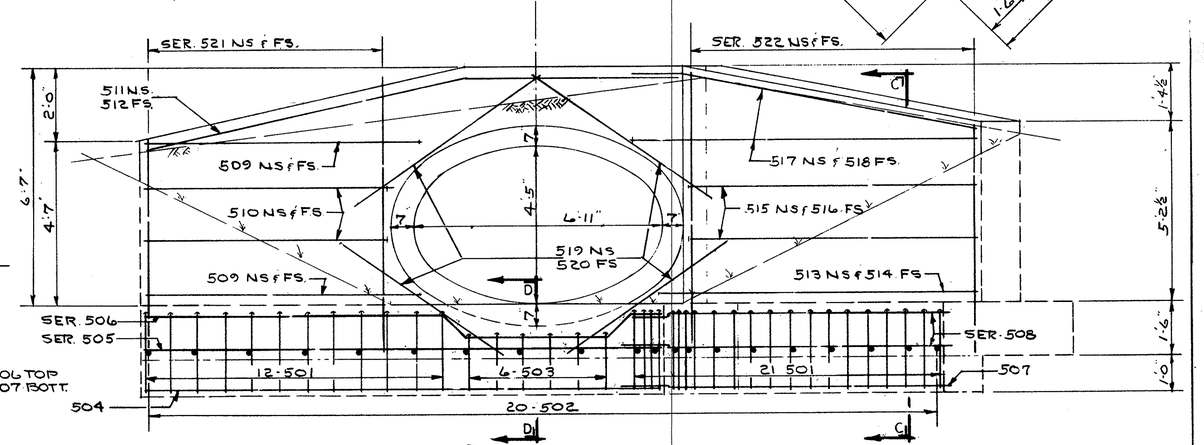
— SECTION B-B —



— ELEVATION —
— INLET —



— PLAN —
ONE REQUIRED — CLASS 'C' CONCRETE —



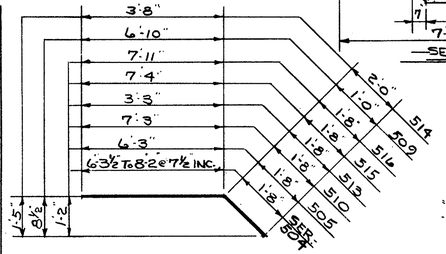
— ELEVATION —

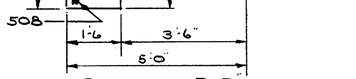
— REINFORCING SCHEDULE FOR 1 WALL —

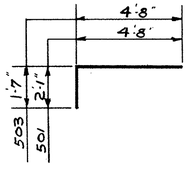
MARK	Nº REQD.	LENGTH	WEIGHT	SHP.	MARK	Nº REQD.	LENGTH	WEIGHT	SHP.
501	33	6'-8"	229	BT.	516	2	12'-0"	25	ST.
502	20	4'-8"	97	ST.	517	1	13'-1"	14	BT.
503	6	6'-2"	38	BT.	518	1	13'-11"	15	BT.
504	1	14'-3"	15	ST.	519	4	6'-0"	25	ST.
SERIES OF 505	1 SET OF 4 BARS	14'-4" TO 16'-3" @ 7½" INC.	64	ST.	520	4	5'-6"	23	ST.
SERIES OF 506	1 SET OF 4 BARS	14'-4" TO 16'-3½" @ 7½" INC.	64	BT.	SERIES OF 521	2 SETS OF 10' 20 BARS	5'-8" TO 7'-2" @ 2" INC.	134	ST.
507	1	12'-5"	13	BT.	SERIES OF 522	2 SETS OF 16' 32 BARS	6'-2" TO 7'-6" @ 1½" INC.	229	ST.
SERIES OF 508	2 SETS OF 4' 8 BARS	12'-7" TO 14'-5½" @ 7½" INC.	113	BT.					
509	4	7'-6"	31	ST.					
510	4	6'-8"	28	ST.					
511	1	15'-7"	16	BT.					
512	1	14'-11"	16	BT.					
513	1	12'-5"	13	BT.					
514	1	13'-7"	14	BT.					
515	2	11'-4"	24	ST.	TOTAL = 1,240 LBS.				

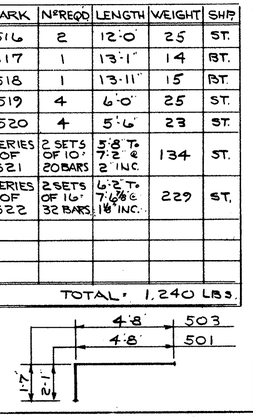
— REINFORCING SCHEDULE FOR 1 WALL —

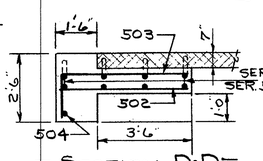
MARK	Nº REQD.	LENGTH	WEIGHT	SHAPE	MARK	Nº REQD.	LENGTH	WEIGHT	SHAPE
501	22	6'-8"	153	BT.	511	4	6'-10"	29	ST.
502	30	4'-8"	146	ST.	512	4	7'-3"	30	ST.
503	6	6'-2"	39	BT.	513	2	4'-10"	10	BT.
SER. OF 504	4 SETS OF 4 16 BARS	7'-10" TO 9'-8½" @ 7½" INC.	146	BT	514	2	5'-7"	12	BT
					515	2	8'-11"	19	BT.
505	2	7'-10"	16	BT.	516	2	9'-6"	20	BT.
SER. OF 506	1 SET OF 4 BARS	7'-0" TO 10'-11" @ 1'-3" INC.	37	BT.	517	1	8'-2"	9	ST.
					518	1	9'-0"	9	ST.
SER. OF 507	1 SET OF 4 BARS	7'-0" TO 10'-9" @ 1'-3" INC.	37	ST.	519	4	5'-6"	23	ST.
					520	4	4'-6"	19	ST.
508	1	7'-0"	7	ST.	SER. OF 521	4 SETS OF 10' 40 BARS	4'-5" TO 7'-0½" @ 3½" INC.	239	ST
509	2	7'-9"	16	BT.					
510	2	8'-10"	18	BT.	TOTAL = 1034 LBS.				



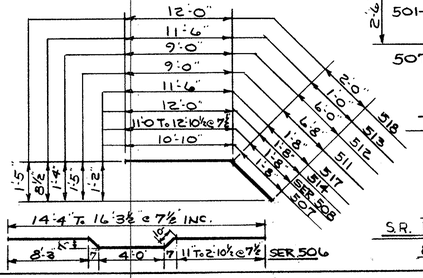


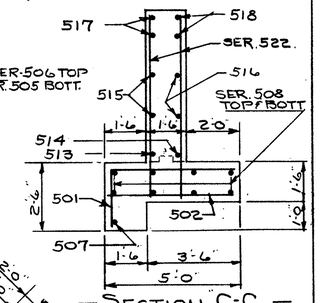






— SECTION D-D —





— SECTION C-C —

HEADWALL DETAILS

S.R. 18 STA. 157+89.50

83" x 53" CULVERT

FED RD	STATE	PROJECT		
2	OHIO			

128
180

MAH-18-0.91

STRUCTURAL GENERAL NOTES

1. **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.

2. **CONCRETE DECK PLACING**

IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE PARALLEL TO TRANSVERSE REINFORCING STEEL AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

3 **EXCAVATION QUANTITY**

EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS.

4. **EMBANKMENT PROCEDURE**

THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE EARTH BENCH AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS (AND PILES DRIVEN).

5. **REFERENCE**

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57, REVISED 4/2/62
SD-1-63 DATED 11-12-63, (Shts. 2, 3, & 4)
FSB-1-62 , REVISED 1-15-63 & RB-1-55, REVISED 2-2-59.
AS-1-54, REVISED 7/5/62.
S-101 - SUPPLEMENTAL SPEC. DATED 7/12/62
S-307 - SUPPLEMENTAL SPEC. Revised 10-1-64
SD-2-64 dated 11-25-64

7. **WELDING**

WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP. CLASS B WELDS ARE SHOWN THUS (B⟶)

11. **MACHINE FINISH**

THE CONCRETE DECK SHALL BE FINISHED BY THE USE OF A FINISHING MACHINE.

12. **BRIDGE SEAT REINFORCING**

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

13. **SLAB THICKNESS** OVER BEAMS OR GIRDERS.

THIS IS THE **NOMINAL** DIMENSION INCLUDING 1" MONOLITHIC WEARING SURFACE. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.

14. **INTERMEDIATE CROSSFRAME ANGLES**

INTERMEDIATE CROSS FRAME ANGLES, 3 x 3 x 5/16 WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.

15. **PARAPET WALL**

1/4" GRAY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF SECTION M-10.02, TYPE I (INCLUDE WITH ITEM S-14 FOR PAYMENT).

16. **END DAM**

BACKWALL ANGLE OF END DAM SHALL HAVE AN UNWELDED, BUTT JOINT AT EACH CONTRACTION JOINT.

17. **ABUTMENT BACKWALL**

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER THE STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS POURED.

18. **PILES**

PILES SHALL BE DRIVEN TO FIRM CONTACT WITH ROCK. IF THE LENGTH OF PENETRATIONS IS APPROXIMATELY EQUAL TO THE DEPTH TO ROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT. THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN SECTION. S-18.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING.

"A" TONS PER PILE USING A 7,000 FT. LB. HAMMER
"B" TONS PER PILE USING A 11,000 FT. LB. HAMMER
"C" TONS PER PILE USING A 15,000 FT. LB. HAMMER

IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION.
THE DESIGN LOAD IS "D" TONS PER PILE

BRIDGE NO.	MAH-18-0165		MAH-18-0284	
	ABUTS.	PIERS	ABUTS.	PIERS
"A"	30	45	Do not use	Do not use
"B"	30	40	43	55
"C"	30	35	35	48
"D"	30	30	35	40

20. **DECK SLAB HAUNCH**

THE HAUNCH IN THE DECK SLAB ADJACENT TO THE TOP OF STEEL BEAMS, WHICH IS SHOWN AS 9" WIDE, MAY VARY FROM THIS DIMENSION BETWEEN THE LIMITS OF 6" AND 12", EXCEPT THAT THE MAXIMUM SLOPE SHALL NOT EXCEED 3 INCHES PER FOOT. PAYMENT FOR DECK SLAB CONCRETE SHALL BE BASED ON THE 9" WIDTH.

23. **POROUS BACKFILL**

POROUS BACKFILL 1'-6" THICK, FULL LENGTH OF ABUTMENTS AND WINGS SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB, OR TO THE FINISHED GROUND SURFACE UNLESS OTHERWISE SHOWN.

24 EMBANKMENT PROCEDURE

THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATIONS SHALL BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

STRUCTURAL GENERAL NOTES

PROJECT MAH-18-0.91

MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				RDH	9/30/63	3-30-65

FED. RD.	STATE	PROJECT	
2	OHIO		

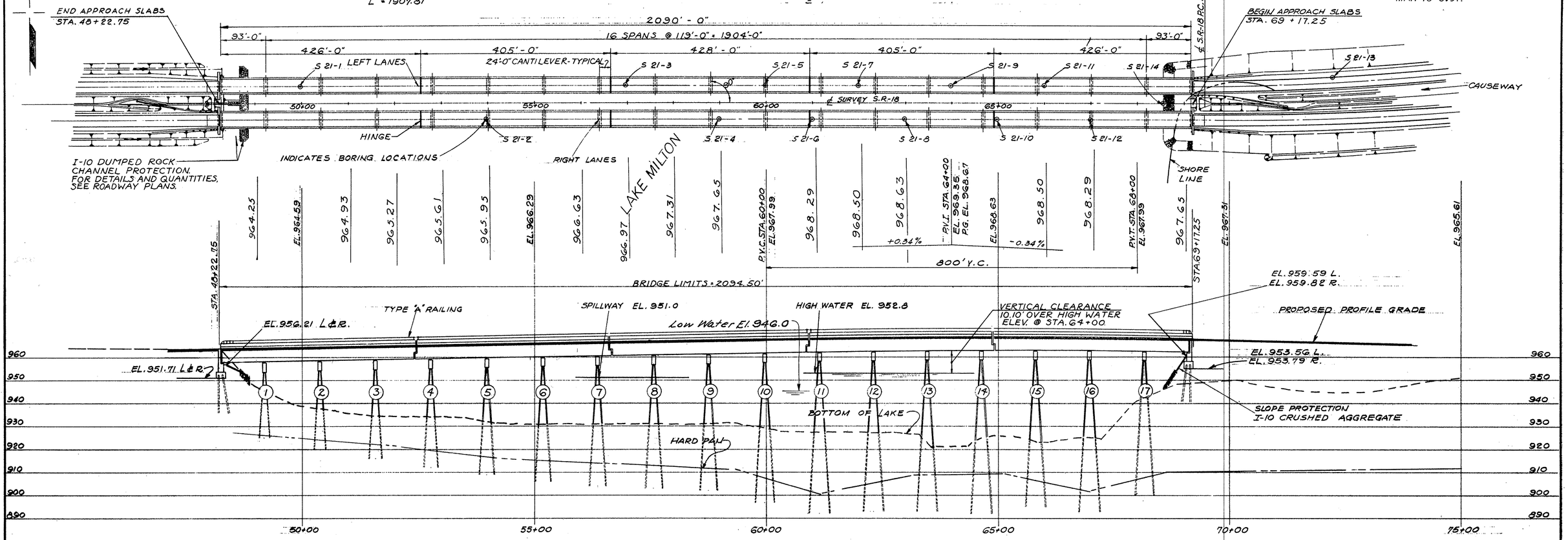
129
180

MAH-18-0.91.

℄ SURVEY S.R.-18 CURVE DATA

Δ = 19°04'-41"
Dc = 1°-00'
T = 962.80'
R = 5729.58
L = 1907.81'

P.I. STA. 79+05.60
P.C. STA. 69+42.80
P.T. STA. 88+50.61



FOR ESTIMATED PILE LENGTH
SEE DETAIL SHEETS 133 & 134

EXISTING STRUCTURE

LOCATED 2200' SOUTH OF PROPOSED STRUCTURE.
TYPE: STEEL TRUSS WITH CONCRETE SUBSTRUCTURES.
SPANS: 160'-6" ~ 3 SPANS @ 160'-0" ~ 160'-6"
ROADWAY WIDTH: 24'-0"
SKEW: 0° 00' 00"
VERTICAL CLEARANCES OVER HIGH WATER ELEV:
9.67' AT CENTER SPAN.
8.11' AT END SPANS.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH HINGES AND REINFORCED CONCRETE DECK.
SUBSTRUCTURE: REINFORCED CONCRETE PIER CAP ON 14" BP117 PILES & ABUTMENTS.
SPANS: 93'-0" ~ 16 SPANS @ 119'-0" ~ 93'-0" = 2090'-0"
SKEW: 0° - 00' - 00"
2 ROADWAYS: 30'-0" F/F OF 2'-0" SAFETY CURBS
LOAD FREQUENCY: CF-2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC.
APPROACH SLABS: 25' LONG (AS-1-54).
ALIGNMENT: TANGENT.
SUPERELEVATION: NONE. (TRANSITION START @ Sta. 68+28.80)
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE AND DUMPED ROCK.

TRAFFIC: 19,050 (1975 A.D.T.)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SITE PLAN

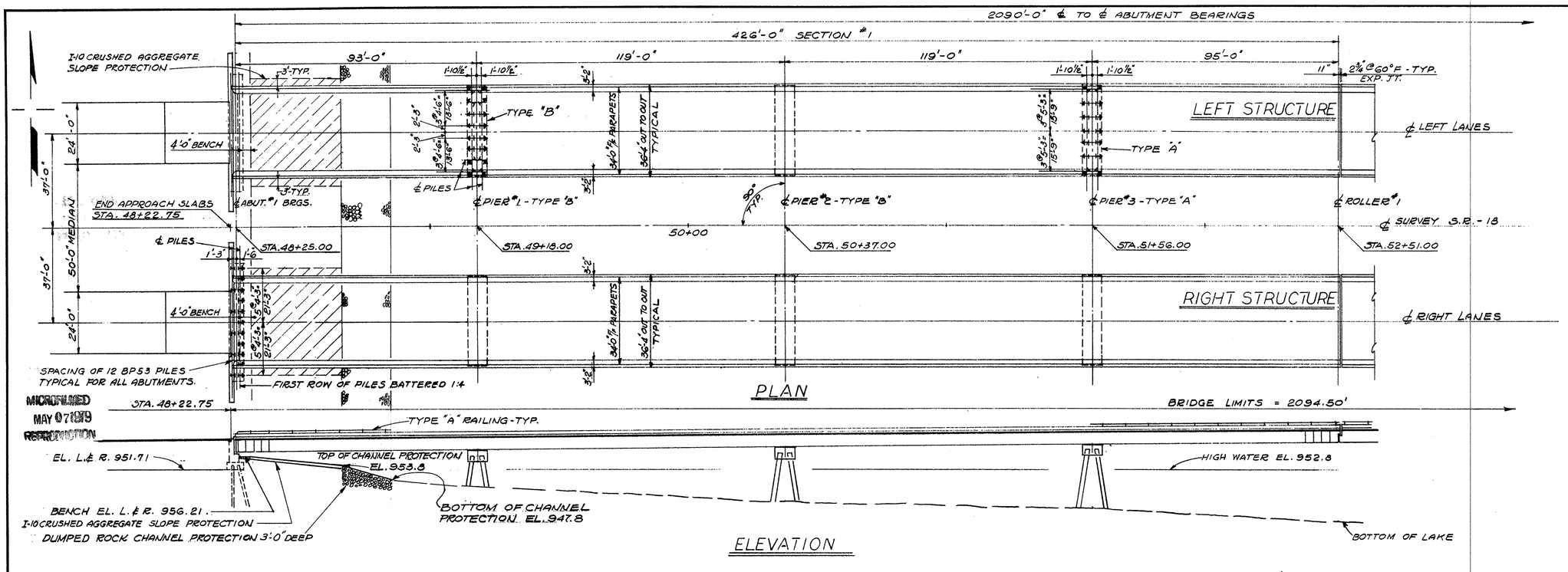
BRIDGE NO. MAH-18-0117 L & R.
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	KEVESSY	ONG	RBH	RBH	2-25-76	

FED. RD.	STATE	PROJECT	
2	OHIO		

130
180

MAH-18-0.91



NOTES:

DESIGN LOADING - CF 2000 (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 - EXCEPT PILING - ASTM A36 BASIC UNIT STRESS 20,000 p.s.i. (ASTM A7 AND A373 STEEL NOT PERMITTED)

REINFORCING STEEL - ASTM A15, A16, A160, DEFORMED, INTERMEDIATE OR HARD GRADE. BASIC UNIT STRESS 20,000 p.s.i.

SEE SHEET NO 128 FOR GENERAL NOTES NO. 1, 2, 3, 4 FOR THE REAR ABUTMENT, 5, 7, 11, 12, 13, 15, 16, 17, 20, 21, 23 & 24 FOR THE FORWARD ABUTMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

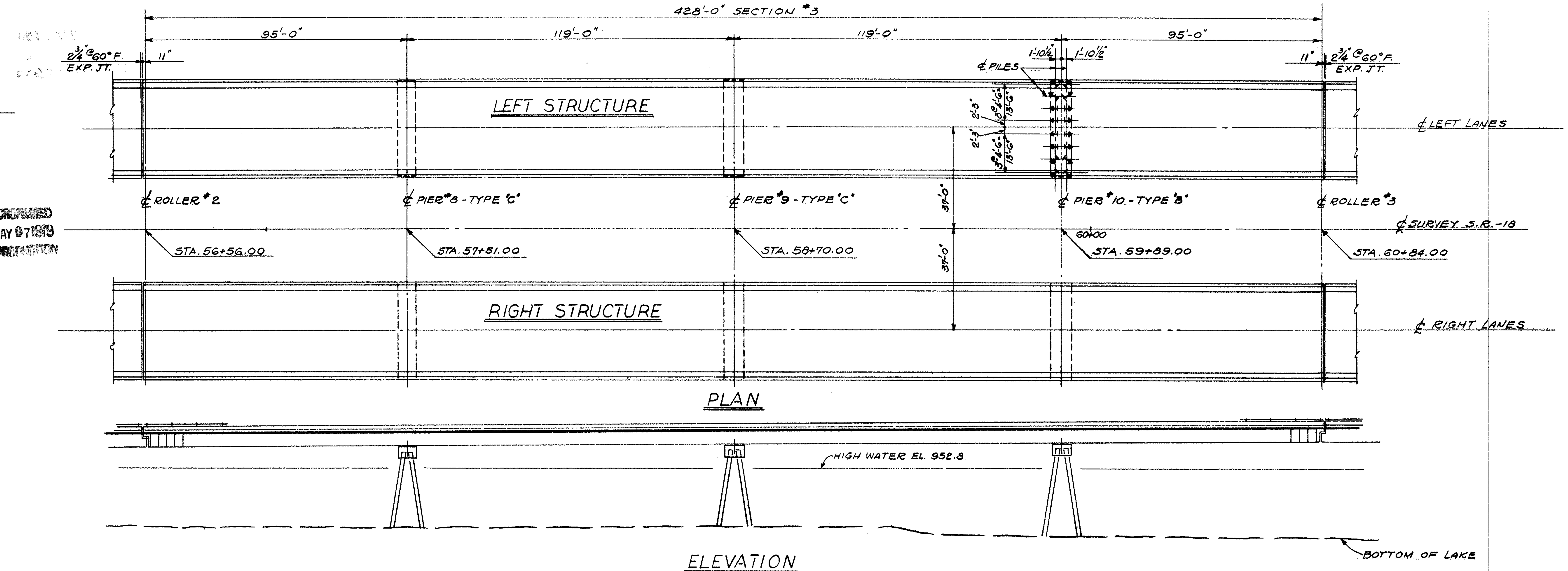
GENERAL PLAN & ELEVATION SHT. #1

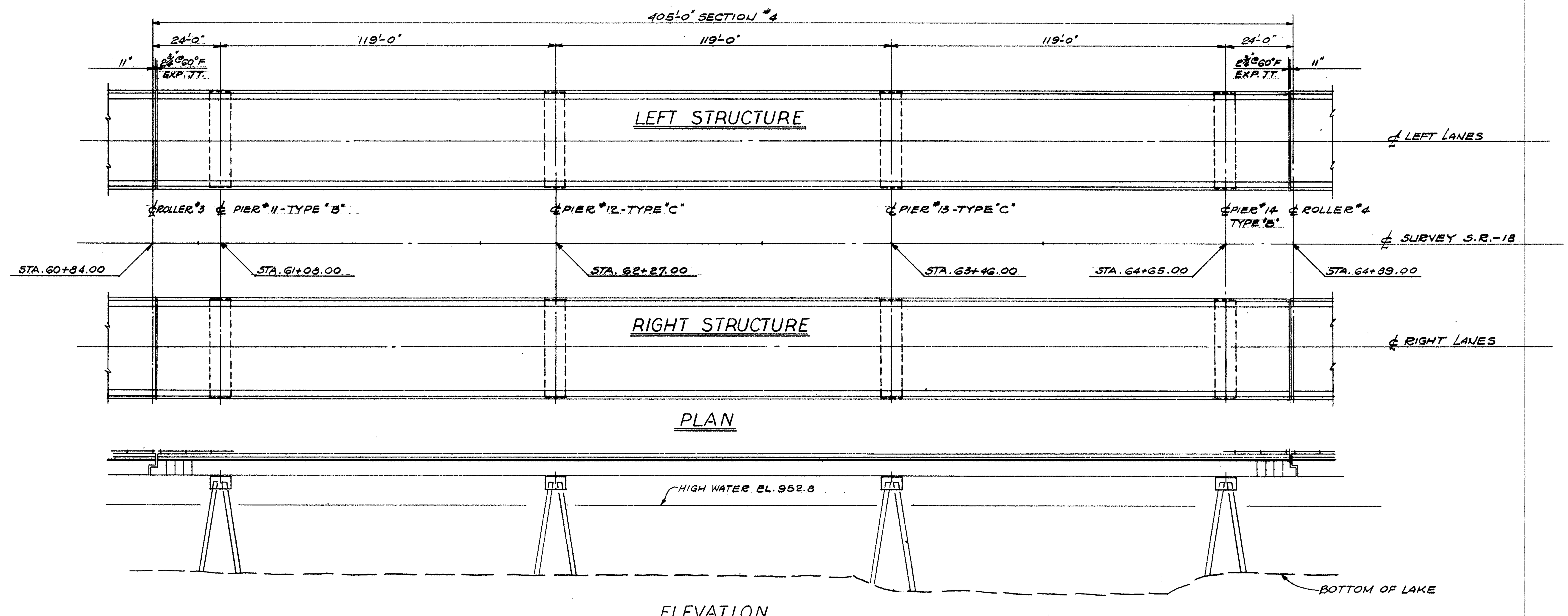
BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RDH	RDH	3/26/64	

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

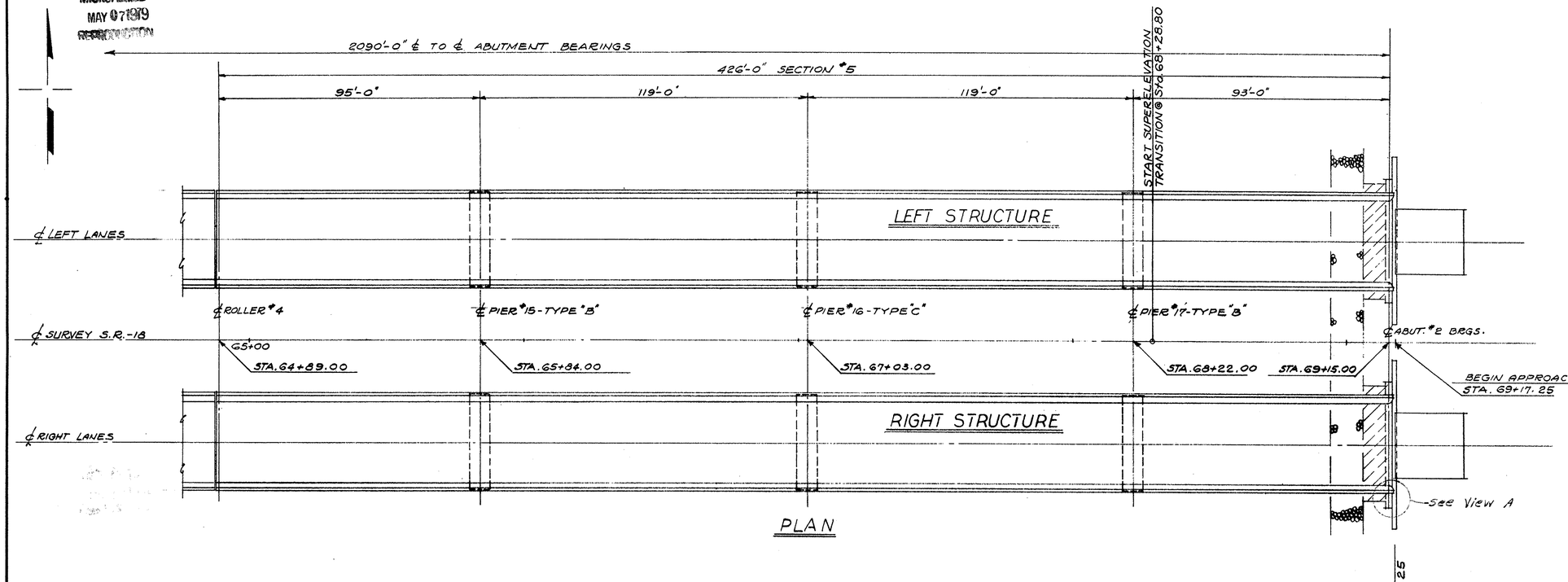
GENERAL PLAN & ELEVATION SHT. #2
BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		RDH	RDH	4/25/69	

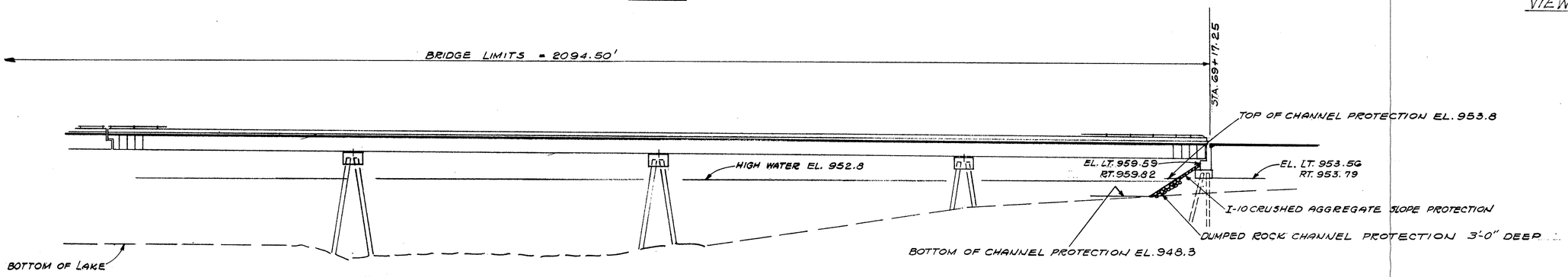
FED. RD.	STATE	PROJECT	
2	OHIO		

132
180

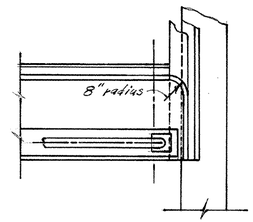
MAH-18-0.91



PLAN

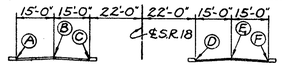


ELEVATION



VIEW A

FINISHED PAVEMENT ELEVATIONS



Station	A	B	C	D	E	F
68+28.80	967.85	968.08	967.85	967.85	968.08	967.85
68+50	967.73	967.96	967.79	967.78	968.01	967.84
68+75	967.58	967.81	967.72	967.70	967.93	967.84
69+00	967.43	967.66	967.65	967.61	967.84	967.83

* ITEM, "SPECIAL, Access for Bridge Construction" shall include the furnishing, and subsequent removal from the site, of any temporary facilities (such as earthwork, pavement, bridges and other structures, floating equipment, staging area, etc.) necessary to satisfactorily construct the Bridge. The contract lump sum price bid for this item shall include the cost of all materials, labor, tools, equipment and incidentals required by the foregoing.

ESTIMATED QUANTITIES (2 BRIDGES)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
Special	Lump	sum	Access for Bridge Construction *				Lump
E-2	435	CU.YDS.	UNCLASSIFIED EXCAVATION.		435		
S-1	5,076	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE.	5076			
S-1	178	CU.YDS.	CLASS "E" CONCRETE ABUTS. ABOVE FOOTINGS.		178		
S-1	1,472	CU.YDS.	CLASS "C" CONCRETE PIER CAPS.			1,472	
S-1	137	CU.YDS.	CLASS "E" CONCRETE ABUT. FOOTINGS.		137		
S-3	41	LIN.FT.	WATERPROOFING PREMOLDED SEALING STRIP.		41		
S-4	1,523,133	LBS.	REINFORCING STEEL	1,387,276	21,251	114,606	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN.
S-7	6043,770	LBS.	STRUCTURAL STEEL	6043,770			
S-8	6,043,770	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	6043,770			
S-14	8363.67	LIN.FT.	TYPE "A" RAILING (ALUMINUM RAIL & SUPPORTS, CONCRETE PARAPET)	8363.67			
S-16	LUMP	SUM	FIRST TEST PILE (14 BP 117)				LUMP
S-19	LUMP	SUM	FIRST PILE TEST LOAD (14 BP 117)				LUMP
S-17	3	EACH	SUBSEQUENT PILE TEST LOAD				3

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN.
S-18	2,550	LIN.FT.	STEEL PILES 12 BP 53		2,550		
S-18	31,718	LIN.FT.	STEEL PILES 14 BP 117, as per plan			31,718	
S-29	70	CU.YDS.	POROUS BACKFILL		70		
S-29	156	EACH	SCUPPERS INCLUDING SUPPORTS.	156			
S-29	140	LIN.FT.	6" PERFORATED HELICAL C.M.P. M-6.4(h) INCLUDING SPECIALS.		140		
S-29	90	LIN.FT.	6" HELICAL C.M.P. M-6.4(h) NON-PERFORATED		90		
I-127	20	each	bracket-mounted delineators (Type A-1)	20			
I-10	393	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		393		
S-101	5,076	EACH	WATER REDUCING SET RETARDING ADMIXTURE.	5,076			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

GENERAL PLAN & ELEVATION SHT. #3

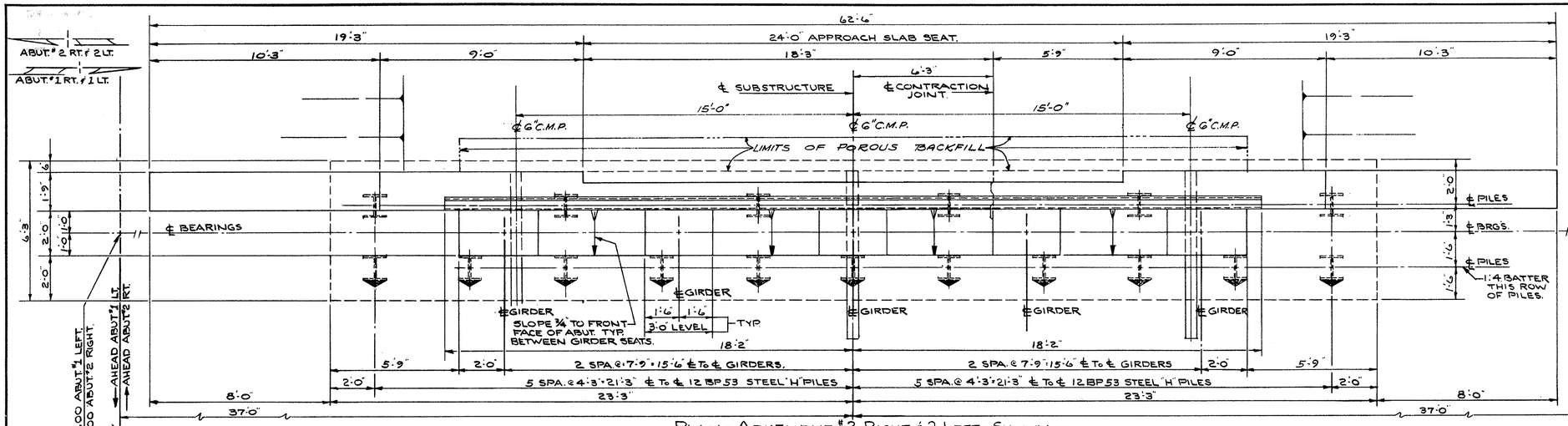
BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA 48+22.75 TO STA 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RDH	RDH	9/25/64	10-29-65

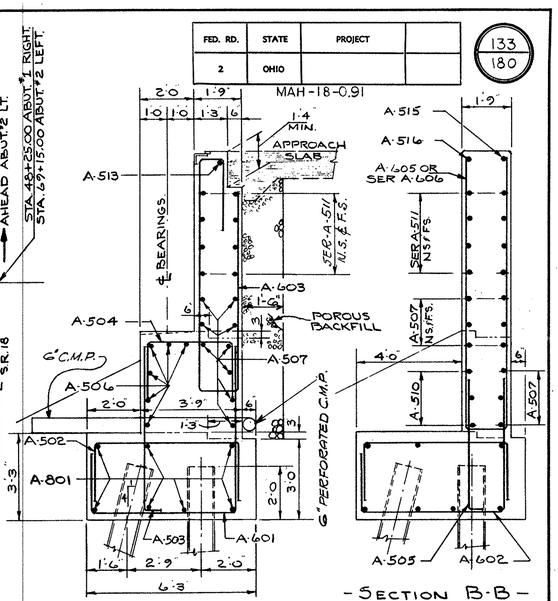
FED. RD.	STATE	PROJECT	
2	OHIO		

133
180

MAH-18-0.91

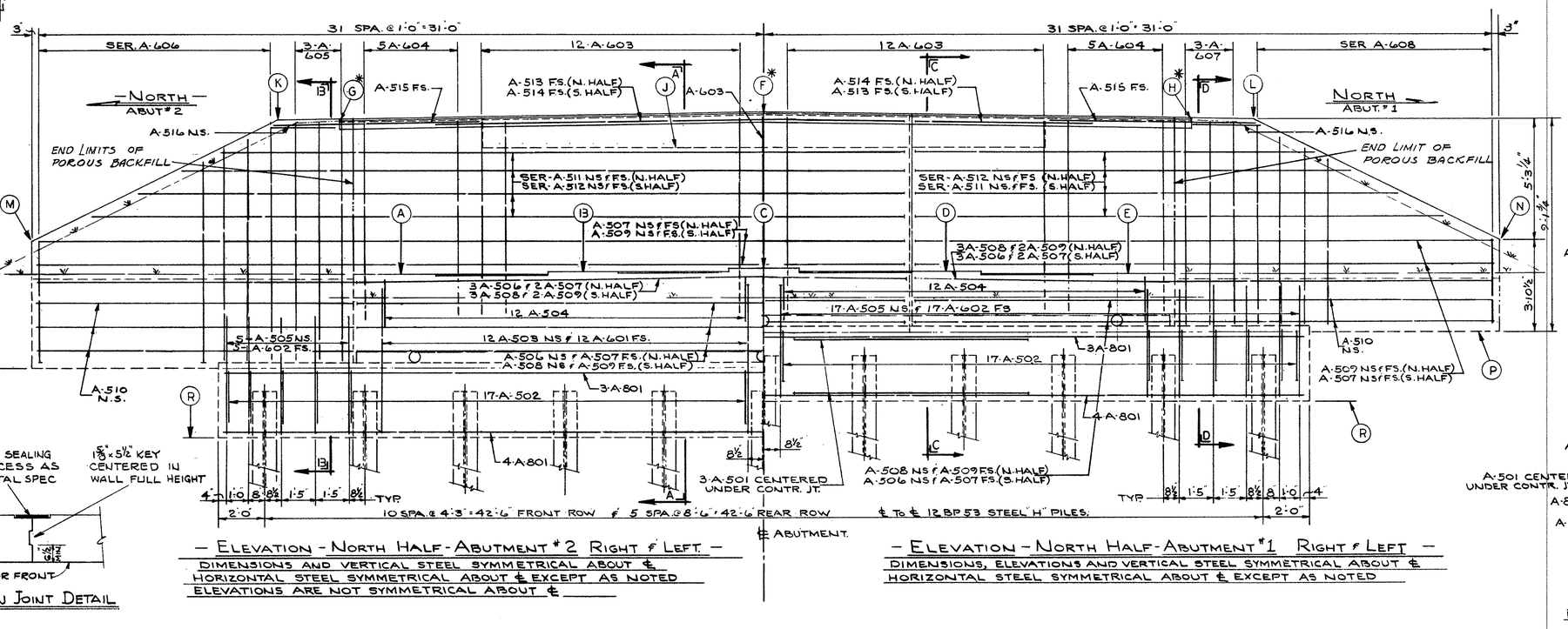


— PLAN — ABUTMENT #2 RIGHT & 2 LEFT SHOWN —
— ABUTMENT #1 RIGHT & 1 LEFT SIMILAR —



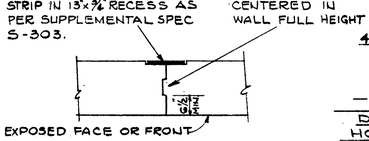
— SECTION "A-A" —

— SECTION B-B —
SEE SECTION A-A FOR BAR Nos & DIMENSIONS NOT SHOWN.

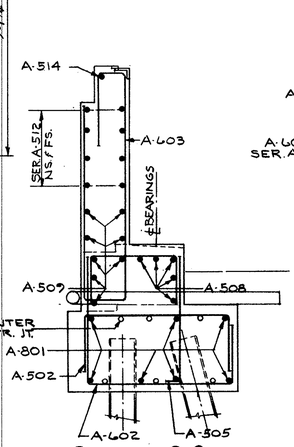


— ELEVATION — NORTH HALF — ABUTMENT #2 RIGHT & LEFT —
DIMENSIONS AND VERTICAL STEEL SYMMETRICAL ABOUT ℄
HORIZONTAL STEEL SYMMETRICAL ABOUT ℄ EXCEPT AS NOTED
ELEVATIONS ARE NOT SYMMETRICAL ABOUT ℄

— ELEVATION — NORTH HALF — ABUTMENT #1 RIGHT & LEFT —
DIMENSIONS, ELEVATIONS AND VERTICAL STEEL SYMMETRICAL ABOUT ℄
HORIZONTAL STEEL SYMMETRICAL ABOUT ℄ EXCEPT AS NOTED



CONTRACTION JOINT DETAIL



— SECTION C-C —
SEE SECTION A-A FOR DIMENSIONS NOT SHOWN

— SECTION D-D —
SEE SECTION A-A FOR BAR Nos & DIMENSIONS NOT SHOWN

— ELEVATIONS —

ABUTMENT	A	B	C	D	E	F*	G*	H*	J	K	L	M	N	P	R		
1-L & 1-R	957.21	957.33	957.45	957.33	957.21	964.10	963.82	963.82	962.66	963.85	963.85	958.59	958.59	954.71	951.71		
2-L	960.59	960.72	960.84	960.86	960.88	967.48	967.20	967.53	966.05	967.23	967.62	961.97	962.22	956.56	953.56		
2-R	960.82	960.94	961.06	961.08	961.10	967.70	967.42	967.75	966.27	967.45	967.84	962.18	962.47	956.78	953.78		

*=ELEVATIONS GIVEN TO HEEL OF 6"x4" ANGLE

NOTES:
PILES SHALL BE 12 BP 53 STEEL PILES, HAVING A MINIMUM BEARING CAPACITY OF 40 TONS PER PILE
ESTIMATED AVERAGE PAY LENGTHS: 30' AT ABUT.#1, L&R.
45' AT ABUT.#2, L&R.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

ABUTMENT #1&2 R&L DETAILS

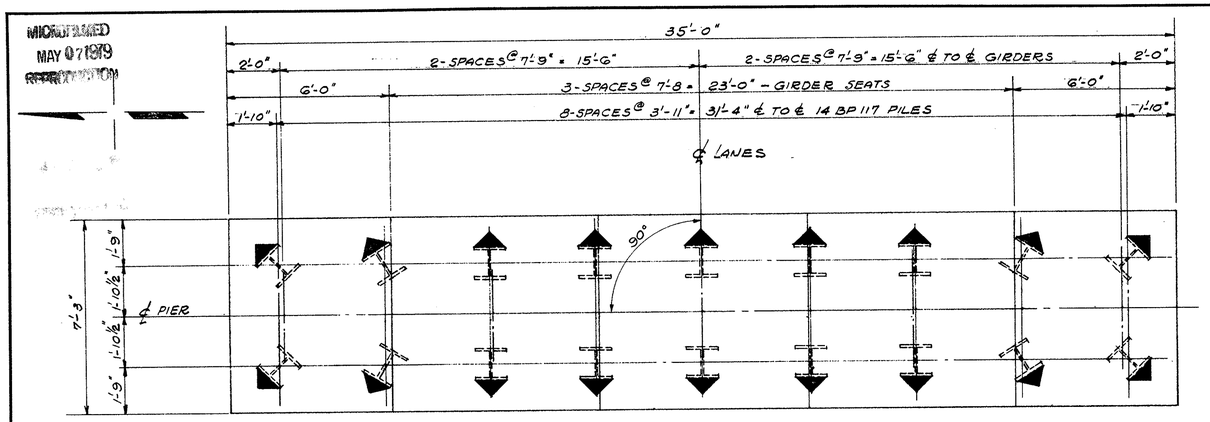
BRIDGE No. MAH-18-0117 L.& R.
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.T.O.	JP		RDH	RDH	3/25/69	

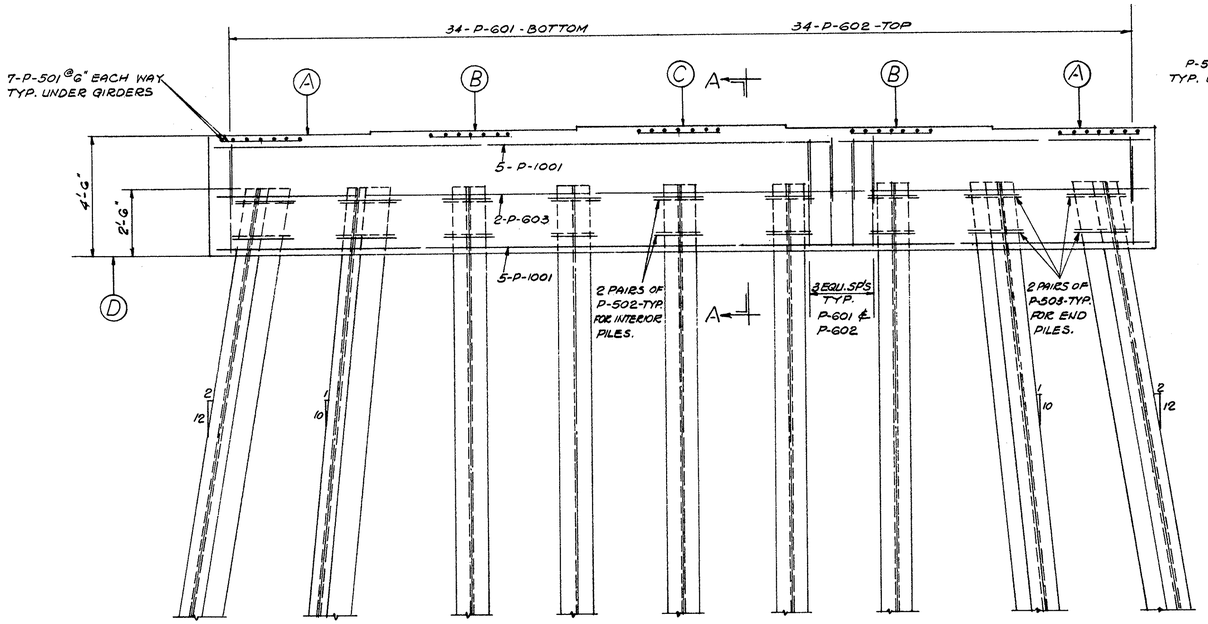
FED. RD.	STATE	PROJECT	
2	OHIO		

134
180

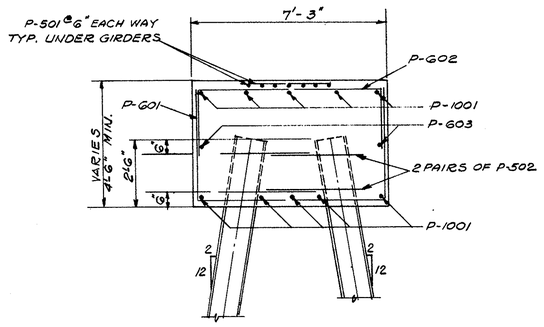
MAH-18-0.91



PLAN OF TYPE "C" PIER



ELEVATION OF TYPE 'C' PIER - TYPICAL FOR PIERS "5,"6,"8,"9,"12,"13 & "16



SECTION A-A

ELEVATION TABLE

PIER NO	℄ STATION	ELEVATIONS				PILE TIP ELEVATION	ESTIMATED PILE LENGTH.
	LEFT ℄ RIGHT	A	B	C	D		
1	49+18.00	956.92	957.04	957.17	952.42	925.00	30'
2	50+37.00	957.33	957.45	957.57	952.83	920.00	35'
3	51+56.00	957.73	957.85	957.97	953.23	916.00	40'
4	52+75.00	958.15	958.27	958.39	953.65	912.00	44'
5	53+94.00	958.54	958.66	958.78	954.04	909.00	48'
6	55+13.00	958.95	959.07	959.19	954.45	906.00	51'
7	56+32.00	959.36	959.48	959.60	954.86	904.00	53'
8	57+51.00	959.76	959.88	960.00	955.26	903.00	55'
9	58+70.00	960.16	960.28	960.41	955.66	895.00	63'
10	59+89.00	960.56	960.69	960.81	956.06	897.00	62'
11	61+08.00	960.93	961.05	961.17	956.43	892.00	67'
12	62+27.00	961.16	961.28	961.40	956.66	895.00	66'
13	63+46.00	961.27	961.39	961.51	956.77	893.00	66'
14	64+65.00	961.27	961.40	961.52	956.77	892.00	67'
15	65+84.00	961.14	961.30	961.38	956.64	895.00	64'
16	67+03.00	960.89	961.01	961.13	956.39	893.00	66'
17	68+22.00	960.53	960.65	960.77	956.03	900.00	59'

NOTES:

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 65 TONS PER PILE FOR THE PIERS.
PILES SHALL BE DRIVEN TO THE PROPOSED PILE TIP ELEVATIONS OR TO REACH THE MINIMUM BEARING CAPACITY, WHICHEVER IS LOWER.
IT IS ANTICIPATED THAT THE DRIVING OF PILES FOR THE WESTERN MOST PIERS WILL BE DIFFICULT, THEREFORE SUBJECT TO THE APPROVAL OF THE DIRECTOR, SOME PREBORING MAY BE PERMITTED AT THE CONTRACTORS EXPENSE.

PILING, 14BP117, shall be ASTM A36 copper bearing as per Sec. M-7.4(B). Painting, per S-18.07, shall extend down to Elev. 946.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

PIER DETAILS

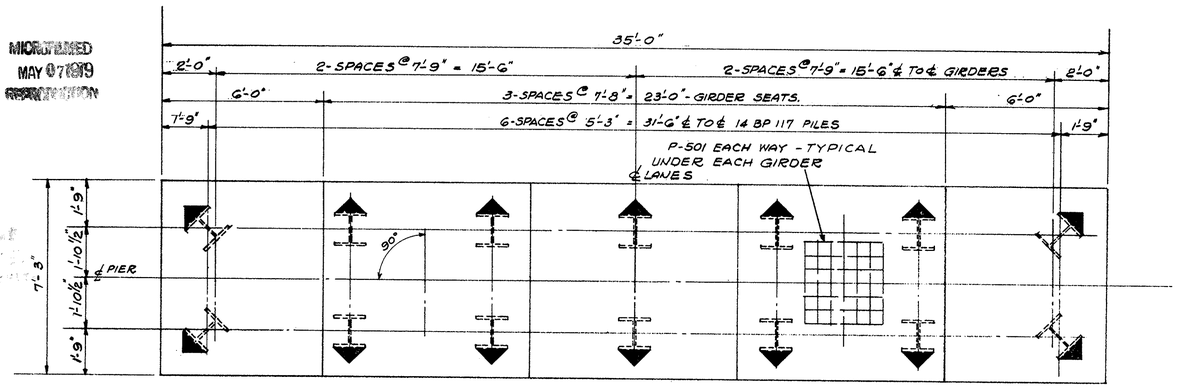
BRIDGE NO MAH-18-0117. L.& R.
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RDH	RDH	3/25/69	

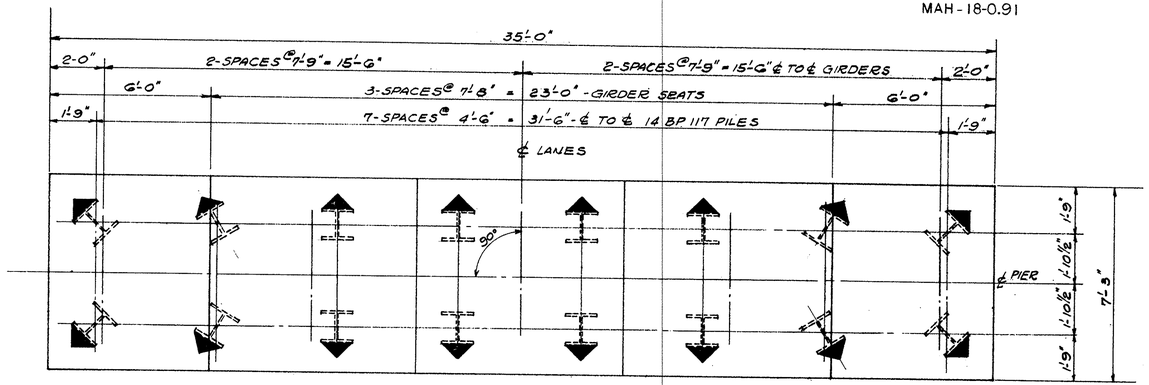
FED. RD.	STATE	PROJECT	
2	OHIO		

135
180

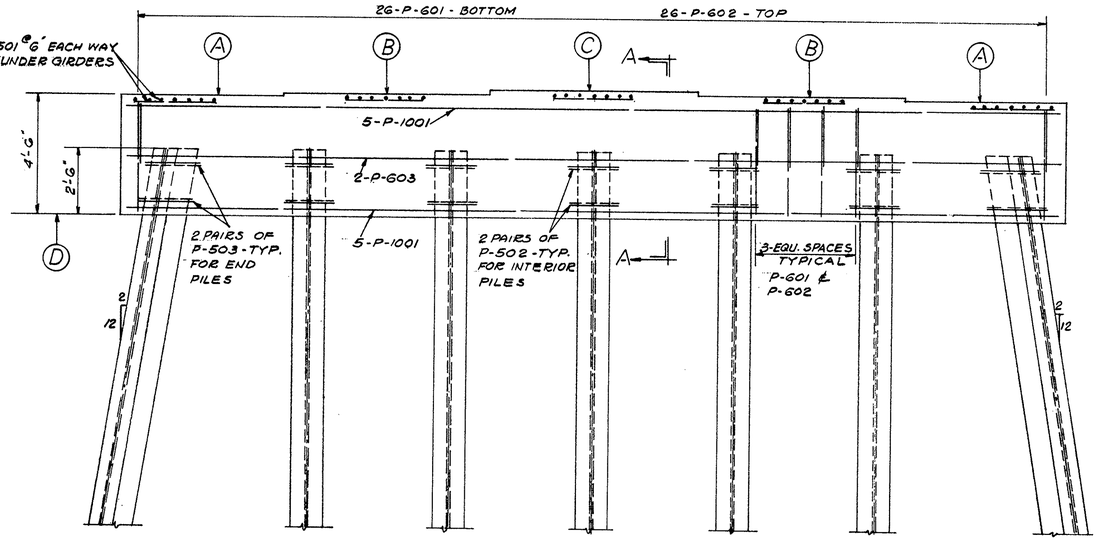
MAH-18-0.91



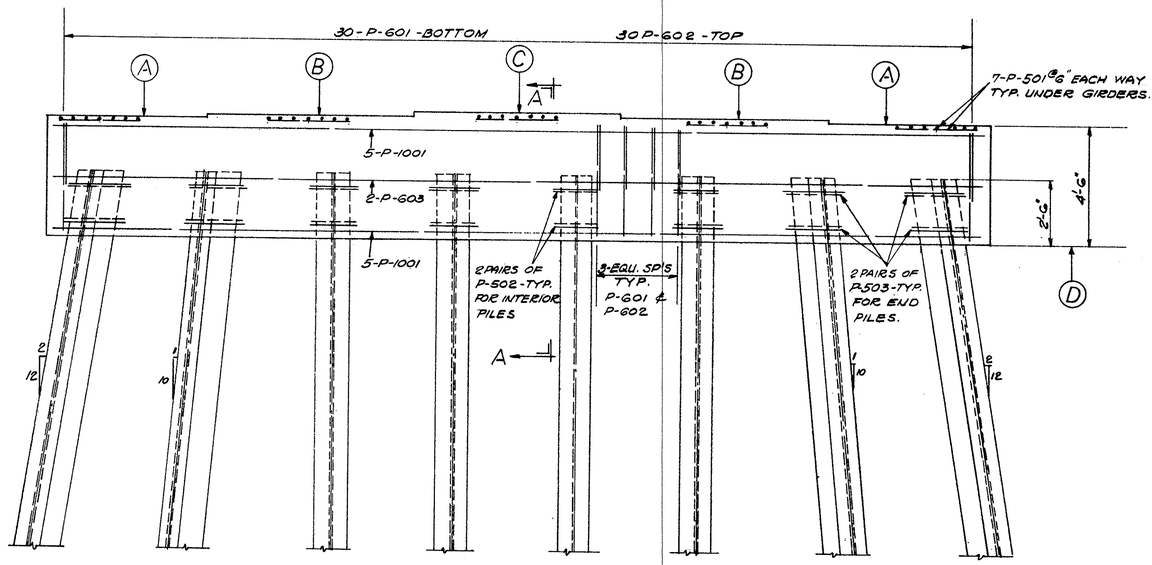
PLAN OF TYPE "A" PIER



PLAN OF TYPE "B" PIER



ELEVATION OF TYPE A PIER - TYPICAL FOR PIERS #3 & #4 L & R



ELEVATION OF TYPE 'B' PIER - TYPICAL FOR PIERS #1, #2, #7, #10, #11, #14, #15 & #17 L & R.

NOTE: FOR ADDITIONAL PIER DATA, SEE SHEET NO. 134

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

PIER DETAILS

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OVER LAKE MILTON
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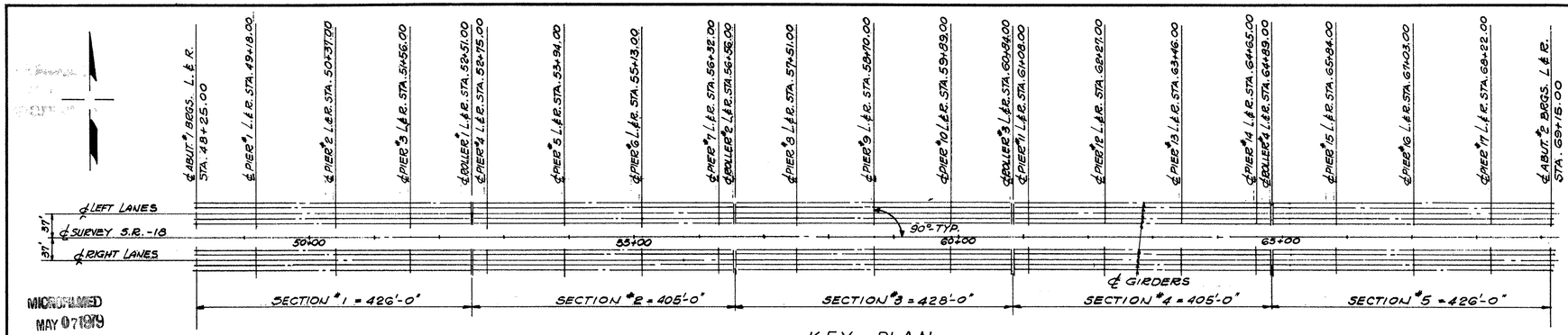
ONG	JK		RDH	RDH	4/25/69	

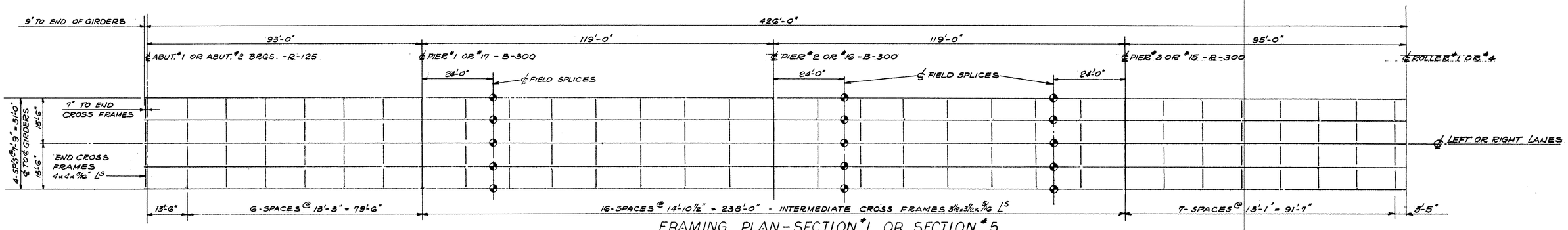
FED. RD.	STATE	PROJECT	
2	OHIO		

136
180

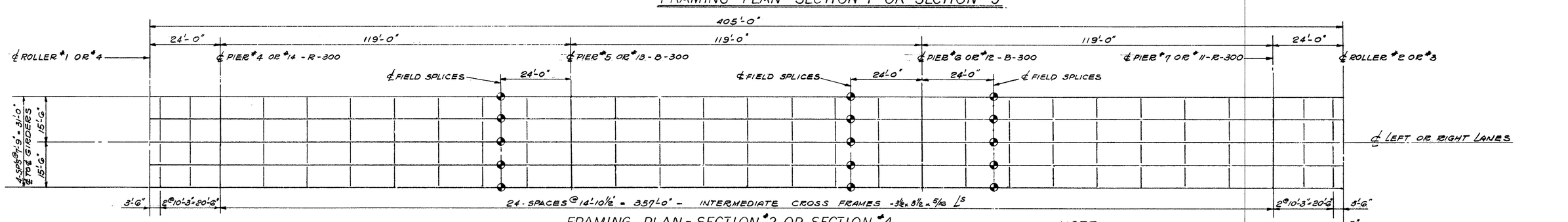
MAH-18-0.91



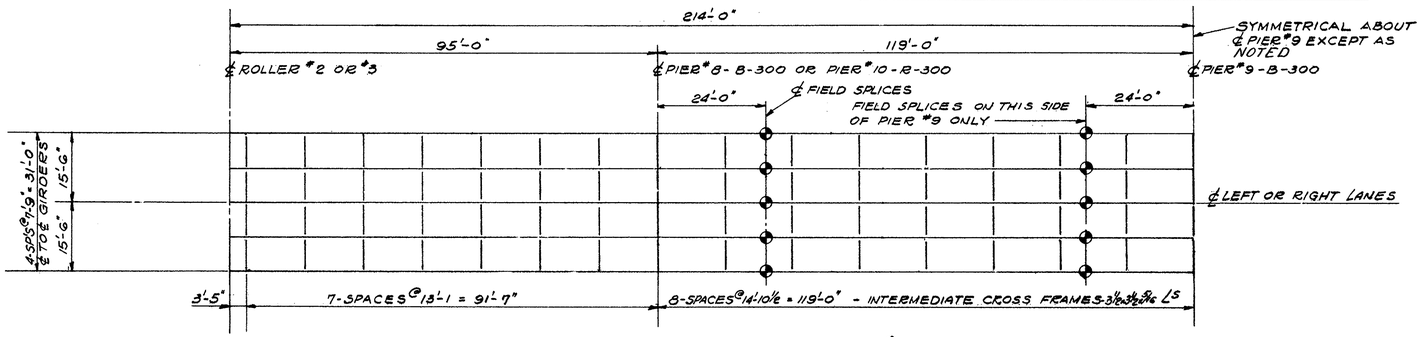
KEY PLAN



FRAMING PLAN - SECTION #1 OR SECTION #5



FRAMING PLAN - SECTION #2 OR SECTION #4



FRAMING PLAN - HALF-SECTION #3

UNDER ITEM S-7.10, HIGH-STRENGTH STEEL BOLTS, NUTS AND WASHERS, 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, BUT 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."

NOTE: ALL BOLTED CONNECTIONS SHALL BE MADE WITH 7/8" ϕ HIGH-STRENGTH STEEL BOLTS UNLESS NOTED.

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FRAMING PLAN

BRIDGE NO MAH-18-0117 L. & R.
OVER LAKE MILTON
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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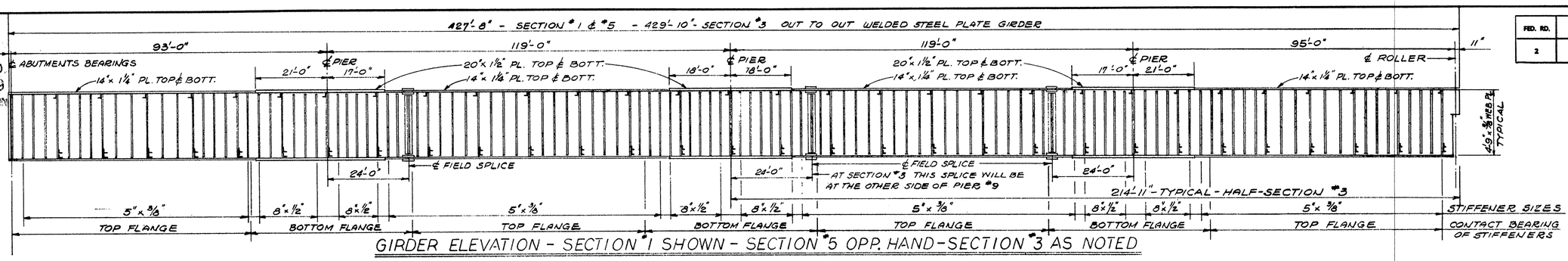
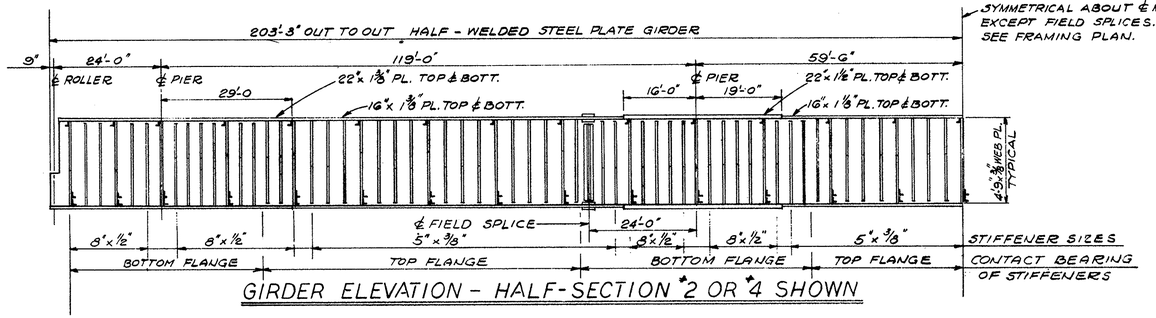
427'-8" - SECTION #1 & #5 - 429'-10" - SECTION #3 OUT TO OUT WELDED STEEL PLATE GIRDER

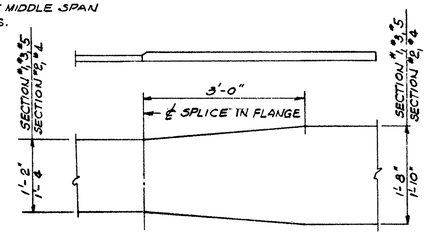


GIRDER ELEVATION - SECTION #1 SHOWN - SECTION #5 OPP. HAND - SECTION #3 AS NOTED

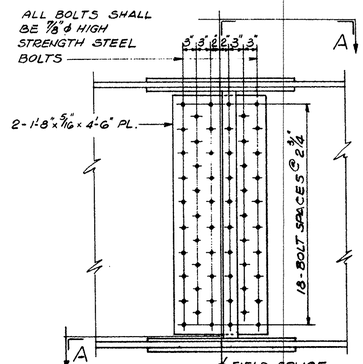
NOTE: BEARING STIFFENERS ARE:
6"x ½" PL. AT ABUTMENTS
9"x ⅞" PL. AT PIERS
AT FIELD SPLICES, USE 5"x 3½"x ⅜" ANGLE INSTEAD OF 5"x ⅜" PL.



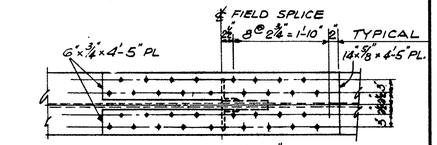
GIRDER ELEVATION - HALF-SECTION #2 OR #4 SHOWN



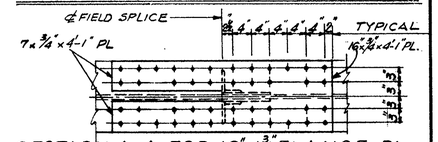
FLANGE PL. TAPER DETAIL



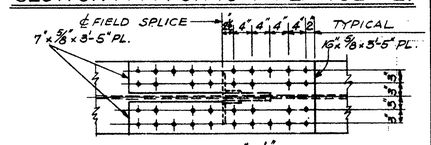
ELEVATION
TYPICAL WEB-SPLICE FOR ALL SECTIONS



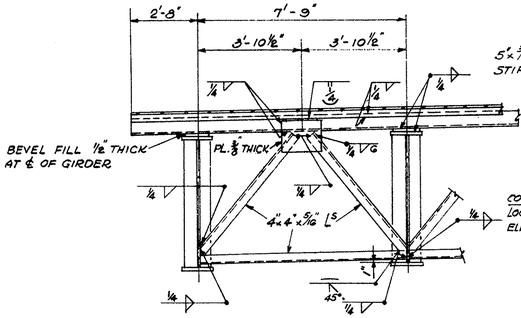
SECTION A-A FOR 14"x 1¼" FLANGE PL.



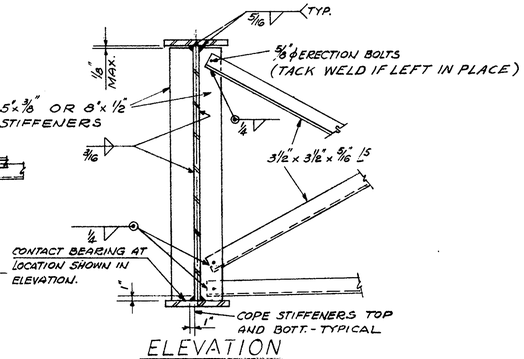
SECTION A-A FOR 16"x 1⅜" FLANGE PL.



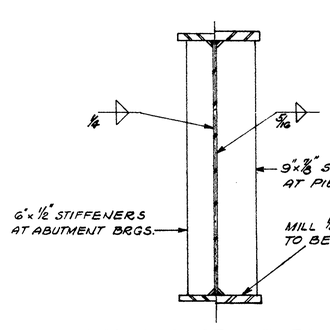
SECTION A-A FOR 16"x 1⅜" FLANGE PL.



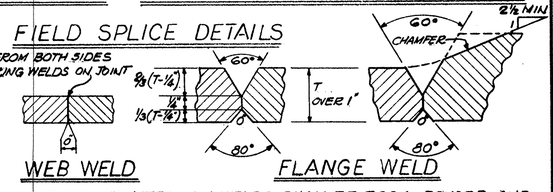
END CROSS FRAME DETAIL



ELEVATION
STIFFENER DETAILS



BEARING STIFFENER DETAIL

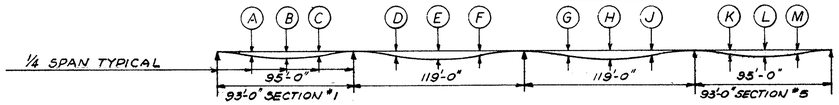


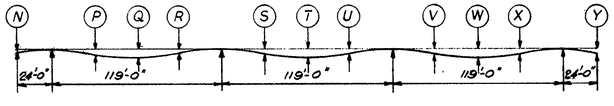
WEB WELD
FLANGE WELD

ALL OF THE ABOVE FULL PENETRATION WELDS SHALL BE BACK-GOUGED AND WELDED AFTER WELDING FAR SIDE.
BUTT WELDS ON BEAM AND GIRDER FLANGE PLATES SHALL BE GROUND FLUSH, THE FINISH GRINDING BEING PARALLEL TO THE DIRECTION OF STRESS.

JOINT PREPARATION FOR SUBMERGED ARC WELDMENTS

DEFLECTION AND CAMBER - TYPICAL FOR ALL GIRDERS





NOTE: ALL INTERMEDIATE STIFFENERS SHALL BE IN PAIRS AND SHALL NOT BE WELDED TO THE FLANGES

IN SHOP PAINTING CARE SHALL BE TAKEN TO MAKE CERTAIN THAT PAINT IS FORCED THROUGH FROM ONE SIDE TO THE OTHER OF THE ⅛" OPENING BETWEEN THE GIRDER FLANGE AND INTERMEDIATE STIFFENERS.

LOCATION	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	A	B	C	D	E	F	G	H	J	K	L	M
	SECTION #1												SECTION #2											SECTION #3												SECTION #4											SECTION #5											
DEFLECTION DUE TO WEIGHT OF STEEL.	.13"	.15"	.05"	.09"	.18"	.09"	.09"	.18"	.09"	.06"	.17"	.15"	.04"	.12"	.21"	.11"	.09"	.15"	.07"	.11"	.21"	.12"	.04"	.15"	.17"	.06"	.09"	.18"	.09"	.09"	.18"	.09"	.06"	.17"	.15"	.04"	.12"	.21"	.11"	.09"	.15"	.07"	.11"	.21"	.12"	.04"	.15"	.17"	.06"	.09"	.18"	.09"	.09"	.18"	.09"	.05"	.15"	.18"
DEFLECTION DUE TO REMAINING DEAD LOAD	.41"	.45"	.16"	.27"	.57"	.27"	.27"	.57"	.27"	.20"	.53"	.46"	.14"	.37"	.64"	.33"	.20"	.47"	.20"	.33"	.64"	.37"	.14"	.46"	.53"	.20"	.27"	.57"	.27"	.27"	.57"	.27"	.20"	.53"	.46"	.14"	.37"	.64"	.35"	.20"	.47"	.20"	.35"	.64"	.37"	.14"	.46"	.53"	.20"	.27"	.57"	.27"	.27"	.57"	.27"	.16"	.45"	.41"
CONVEXITY REQUIRED FOR VERTICAL CURVE.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	.08"	.10"	.08"	.12"	.14"	.18"	.14"	.14"	.18"	.14"	.14"	.18"	.14"	.12"	.09"	.12"	.09"	.14"	.18"	.14"	.11"	.15"	.11"	–	–	–
SUM OF DEFLECTION AND CONVEXITY.	.54"	.60"	.21"	.36"	.75"	.36"	.36"	.75"	.36"	.26"	.70"	.61"	.18"	.49"	.85"	.44"	.27"	.62"	.27"	.44"	.85"	.49"	.18"	.61"	.70"	.26"	.36"	.75"	.36"	.36"	.75"	.36"	.26"	.70"	.61"	.18"	.49"	.85"	.46"	.27"	.62"	.27"	.46"	.85"	.49"	.18"	.61"	.70"	.26"	.36"	.75"	.36"	.36"	.75"	.36"	.21"	.60"	.54"
REQUIRED CAMBER	0"			3/4"			3/4"			0"			0"			7/8"			0"			7/8"		0"	0"			3/4"			3/4"			3/4"		0"	1"			7/8"			1"			0"	7/8"			1"			7/8"			0"		

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ONG	JK		EBH	RDH	3/25/68	

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2	OHIO		

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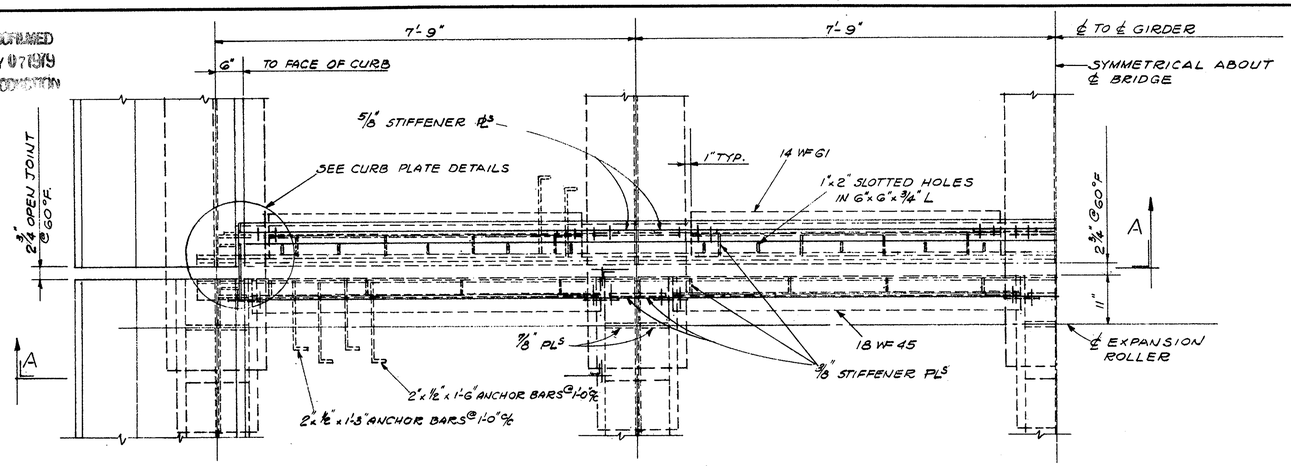
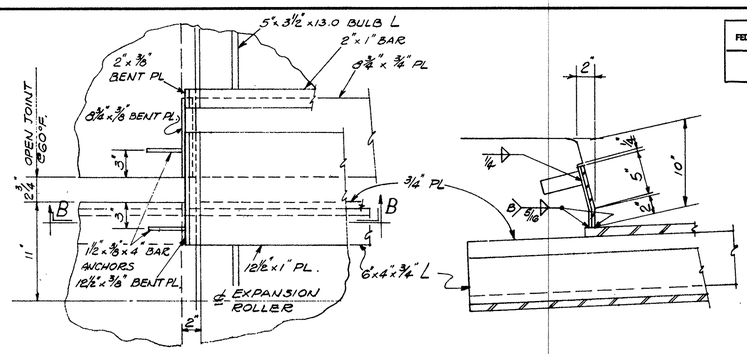
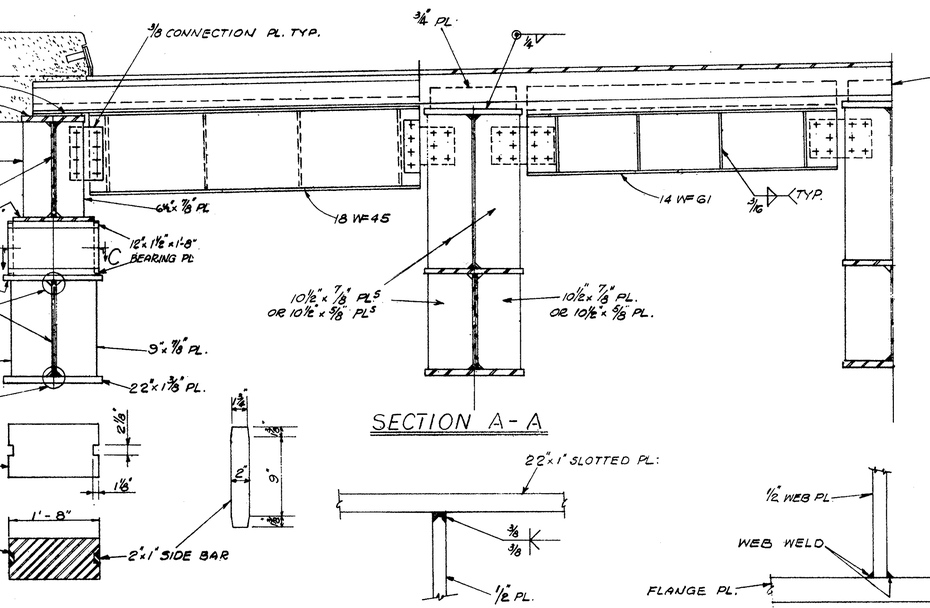


PLAN OF EXPANSION ROLLER



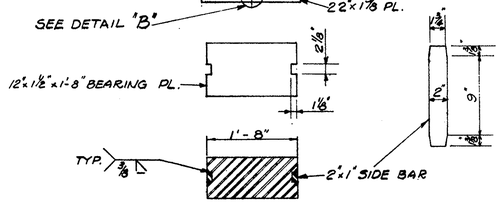
PLAN

SECTION B-B

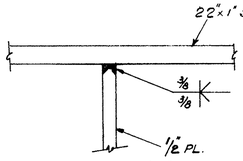


PROVIDE WELDED BUTT JOINT IN END DAM PLATES, SIMILAR TO DETAILS SHOWN IN STANDARD DWG. SD-1-63 SHT°2.

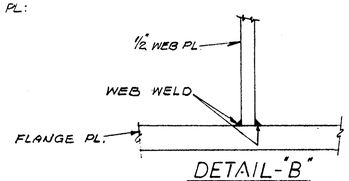
SECTION A-A



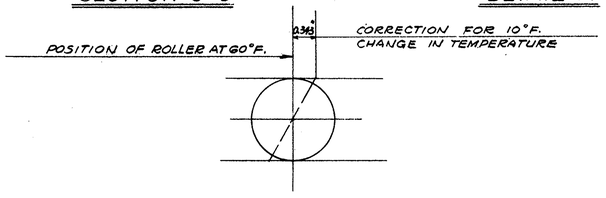
SECTION C-C



DETAIL-"A"



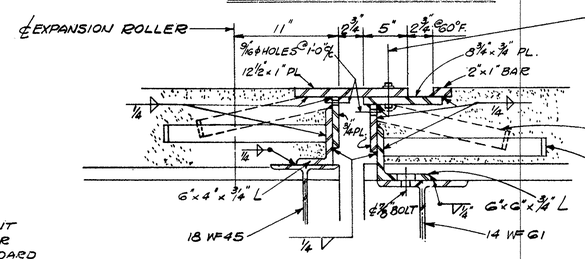
DETAIL-"B"



CORRECTION DUE TO TEMPERATURE FOR EXPANSION ROLLER AND JOINT PLACEMENT.

NOTE: AT THE OPTION OF CONTRACTOR, PROVISIONS FOR FIELD ADJUSTMENT MAY BE PROVIDED BETWEEN THE BEARING PL. AND SLOTTED PL, DETAILS OF WHICH SHALL BE SUBMITTED WITH SHOP DRAWINGS FOR APPROVAL.

CURB PLATE DETAILS



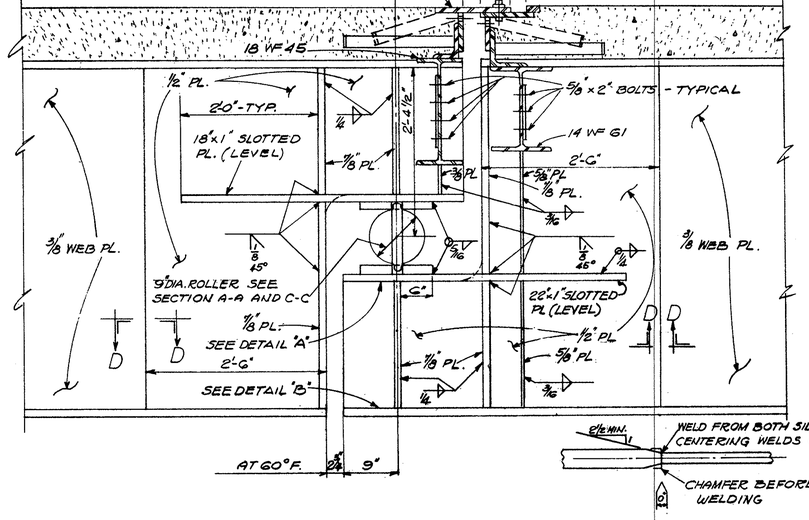
EXPANSION DAM DETAIL

5/8"x2" BOLTS @ 2'-0" c/c WITH NUTS TACK-WELDED TO UNDER SIDE OF 8¾"x¾" PL. 1 1/16" ℄ HOLES IN UPPER PL. CENTER ⅝" BOLTS IN 1 1/16" ℄ HOLES. APPLY FLAKE GRAPHITE BETWEEN WASHERS AND PL. TURN BOLT TIGHT AND RELEASE ONE-HALF TURN. REMOVE BOLTS AS SOON AS CONCRETE HAS REASONABLY SET. FILL HOLES WITH BITUMINOUS MATERIAL.

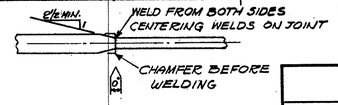
2"x½"x1'-3" ANCHOR BARS @ 1'-0" c/c STAGGERED WITH 2"x½"x1'-6" ANCHOR BARS

2"x½"x1'-6" ANCHOR BARS @ 1'-0" c/c STAGGERED WITH 2"x½"x1'-3" ANCHOR BARS.

NOTE: THE EXPANSION JOINT SLIDING CONTACT SURFACES SHALL NOT BE PAINTED, BUT SHALL BE LUBRICATED WITH FLAKE GRAPHITE PRIOR TO PLACING OF CONCRETE.



NOTE: EXPANSION DAM DETAILS AT THE ABUTMENTS SHALL CONFORM TO STD. DWG. SD-1-63 SHEET 2



SECTION D-D

EXPANSION JOINT DETAILS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

EXPANSION JOINT DETAILS

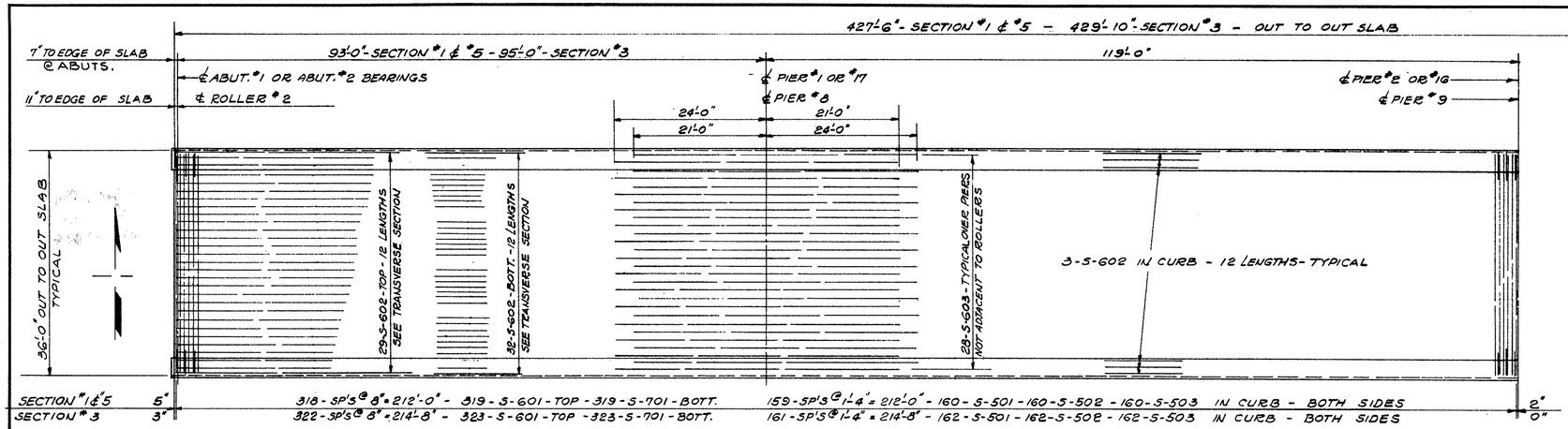
BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

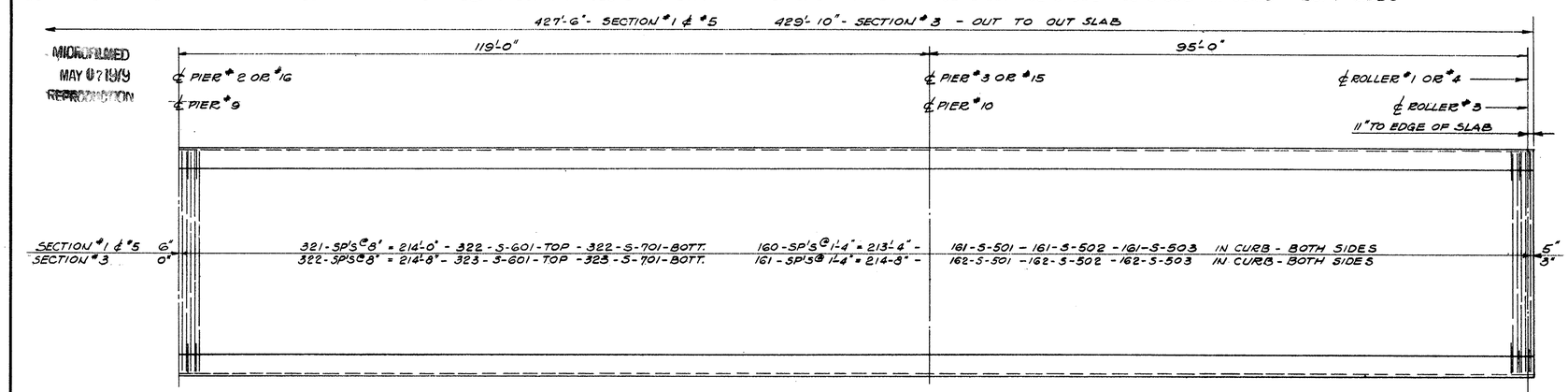
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RBH	RBH	3/25/68	

FED. RD.	STATE	PROJECT	
2	OHIO		

139
180

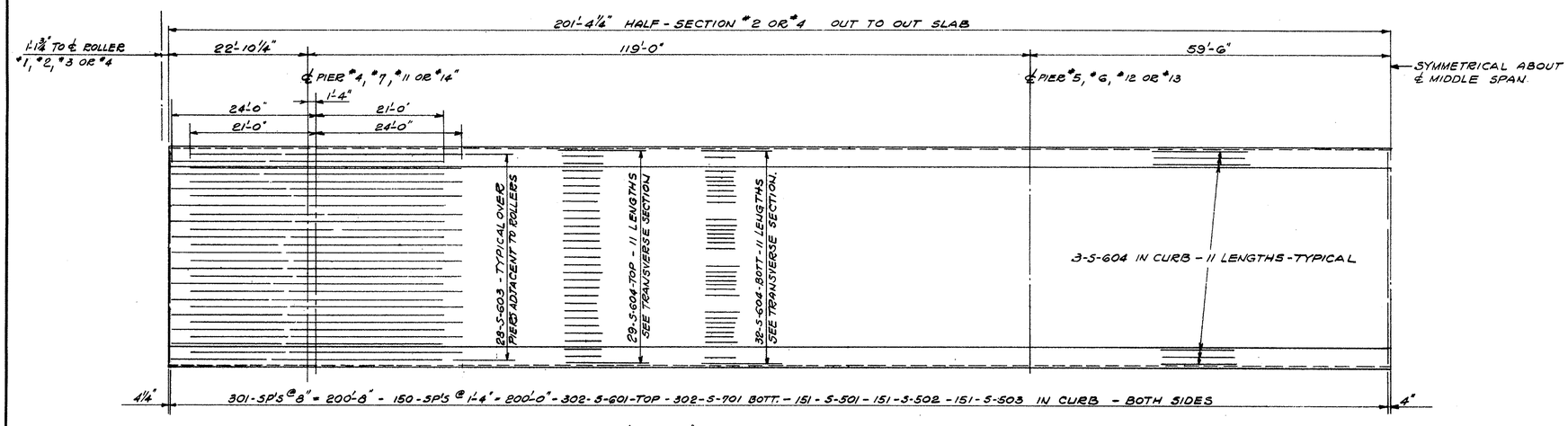
MAH-18-0.91



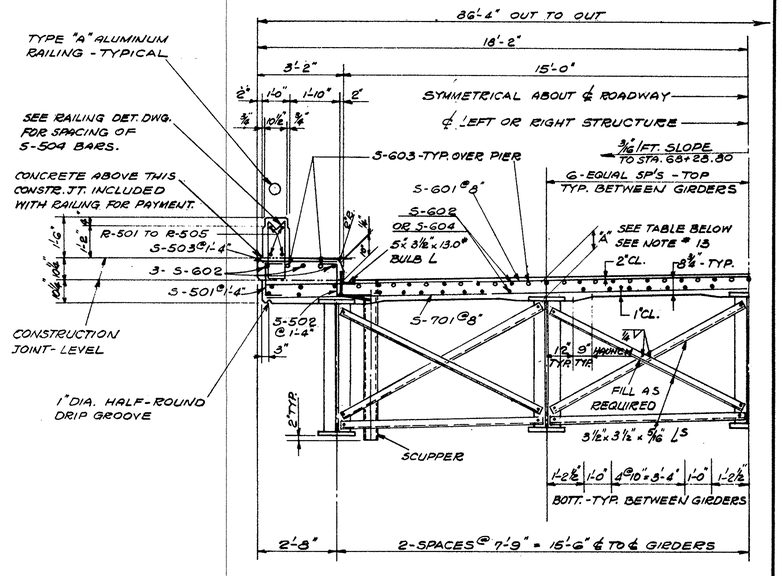


MICROFILMED
MAY 07 1979
REPRODUCTION

SLAB REINFORCING PLAN - SECTION #1, #3 & #5 — LEFT STRUCTURE SHOWN - RIGHT STRUCTURE SIMILAR



SLAB REINFORCING PLAN - HALF SECTION #2 OR #4 — LEFT STRUCTURE SHOWN - RIGHT STRUCTURE SIMILAR



HALF - TRANSVERSE SECTION

SLAB THICKNESS OVER ℄ GIRDERS

DIMENSION "A"	THICKNESS OF FLANGE PL.
8 3/8"	1 1/2"
9"	1 5/8"
8 7/8"	1 3/8"
9 1/8"	1 1/8

NOTE: THE PLACING OF DECK CONCRETE IN SECTIONS 2 & 4 SHALL BE COMPLETED BEFORE THE 95' SPAN OF ADJECENT SECTIONS ARE PLACED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SLAB DETAILS

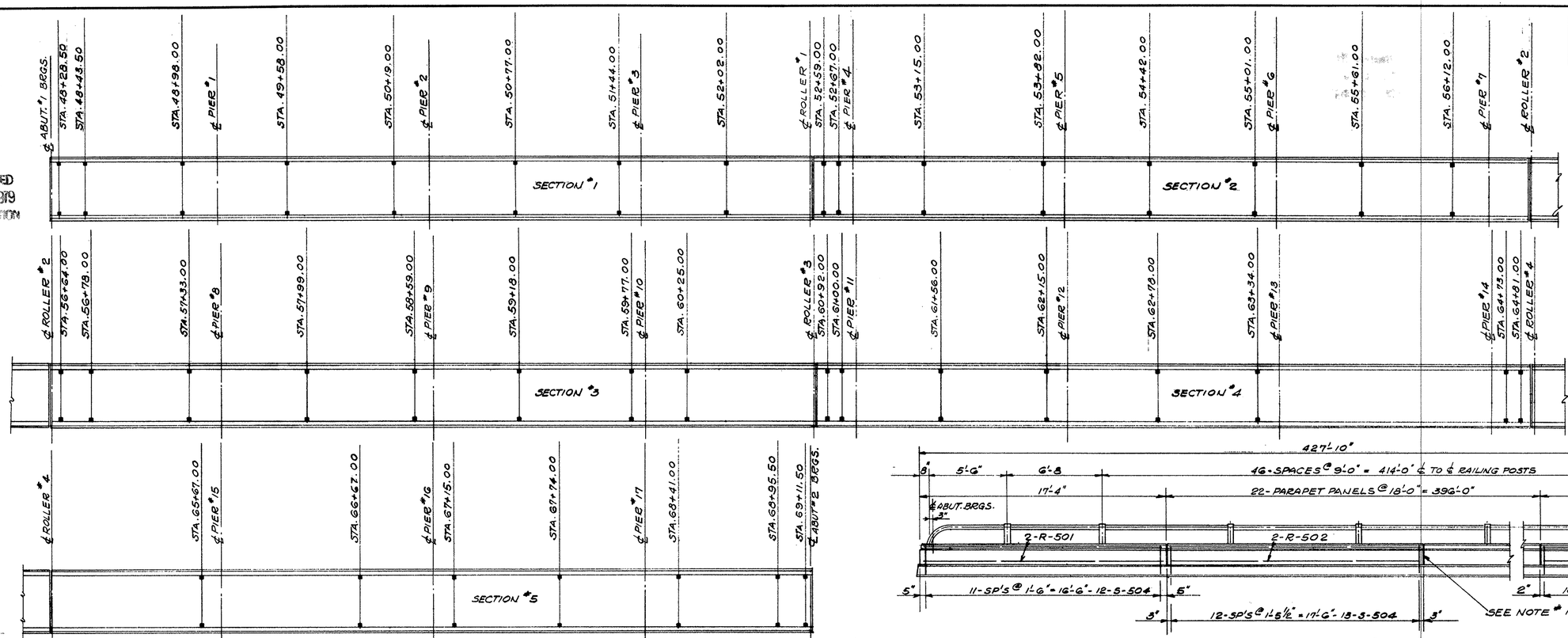
BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RDH	RDH	2/15/79	

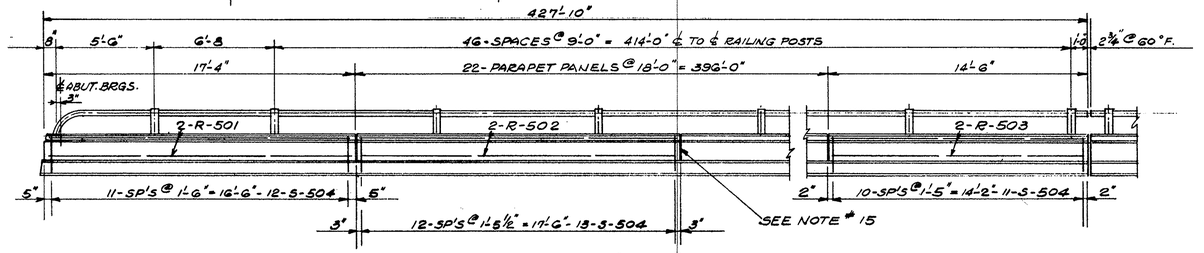
FED. RD.	STATE	PROJECT	
2	OHIO		

140
180

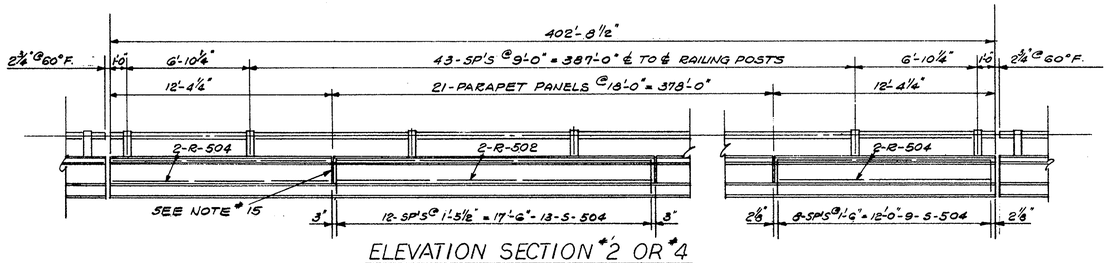
MAH-18-0.91



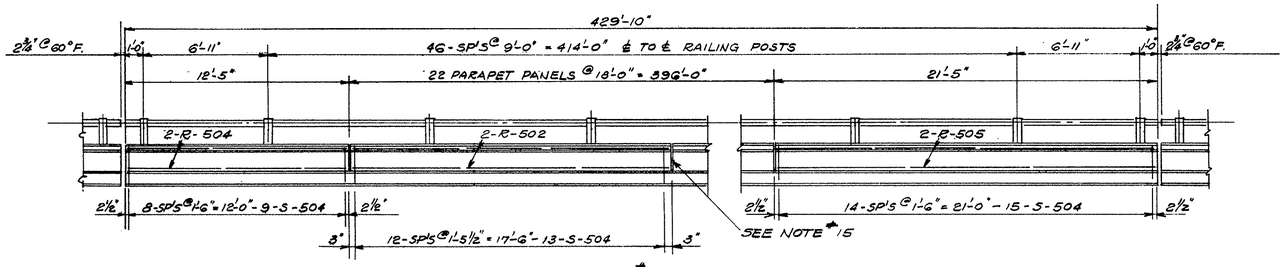
SCUPPER LOCATIONS - LEFT STRUCTURE SHOWN - RIGHT STRUCTURE SIMILAR



ELEVATION SECTION #1 OR #5



ELEVATION SECTION #2 OR #4



ELEVATION SECTION #3

NOTES : FOR SCUPPER DETAILS, SEE STANDARD BRIDGE DRAWING SD-1-63, SHEET NO 3 OF 4. SCUPPERS, INCLUDING TWO SUPPORTING L5 2½" x 2½" x ¼", ATTACHED 6" ϕ STANDARD PIPE AND 1½" x ½" BARS ARE INCLUDED WITH ITEM S-29 "SCUPPERS" FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

RAILING AND DRAINAGE DETAILS

BRIDGE NO MAH-18-0117 L & R
OVER LAKE MILTON
MAHONING COUNTY
STA. 48+22.75 TO STA. 69+17.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	JK		RDH	RDH	3/25/69	

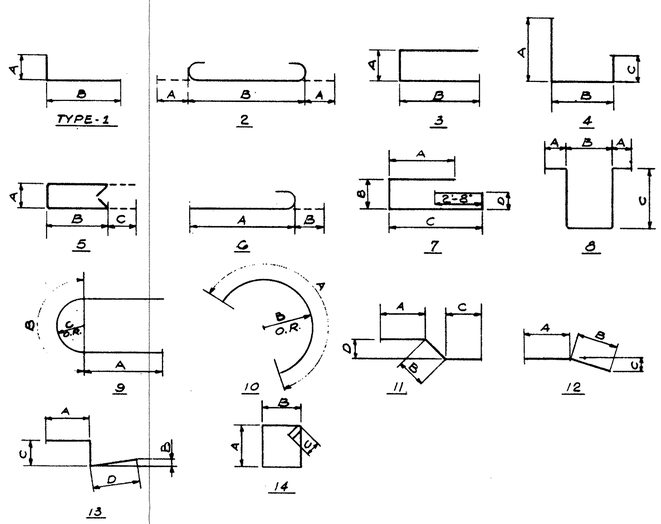
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
ABUTMENT #1 RIGHT & #1 LEFT									
A-501	12	10'-0"	ST.						125
A-502	68	9'-8"	3	5'-5"	2'-3"				686
A-503	—	—	—						—
A-504	48	7'-8"	3	3'-5"	2'-3"				384
A-505	68	5'-3"	1	6"	4'-10"				372
A-506	10	23'-5"	ST.						244
A-507	16	37'-2"	ST.						620
A-508	10	10'-11"	ST.						114
A-509	16	24'-8"	ST.						412
A-510	8	15'-7"	ST.						130
SERIES A-511	4 SETS OF 4" 16 BARS	29'-2" TO 35'-2"	ST.					2'-0"	537
SERIES A-512	4 SETS OF 4" 16 BARS	16'-8" TO 22'-8"	ST.					2'-0"	328
A-513	2	19'-9"	ST.						41
A-514	2	7'-3"	ST.						15
A-515	4	8'-6"	ST.						35
A-516	4	2'-7"	ST.						11
A-601	—	—	—						—
A-602	68	12'-3"	4	4'-10"	5'-5"	2'-3"			1251
A-603	50	19'-2"	7	6'-8"	1'-5"	8'-0"	11"		1439
A-604	20	17'-2"	3	1'-5"	8'-0"				516
A-605	—	—	—						—
SER. A-606	—	—	—					—	—
A-607	12	18'-2"	3	1'-5"	8'-6"				327
SERIES A-608	4 SETS OF 11" 44 BARS	8'-2" TO 18'-2"	3	1'-5"	3'-6" TO 8'-6"			1'-0"	870
A-801	28	24'-4"	ST.						1819
TOTAL ABUTMENT #1 RIGHT & #1 LEFT = 10,276 LBS.									
ABUTMENT #2 RIGHT & #2 LEFT									
A-501	12	10'-0"	ST.						125
A-502	68	9'-8"	3	5'-5"	2'-3"				686
A-503	48	6'-8"	1	6"	6'-3"				334
A-504	48	7'-8"	3	3'-5"	2'-3"				384
A-505	20	5'-3"	1	6"	4'-10"				110
A-506	12	23'-5"	ST.						293
A-507	18	37'-2"	ST.						698
A-508	12	10'-11"	ST.						137
A-509	18	24'-8"	ST.						463
A-510	12	15'-7"	ST.						195
SERIES A-511	4 SETS OF 4" 16 BARS	29'-2" TO 35'-2"	ST.					2'-0"	537
SERIES A-512	4 SETS OF 4" 16 BARS	16'-8" TO 22'-8"	ST.					2'-0"	328
A-513	2	19'-9"	ST.						41
A-514	2	7'-3"	ST.						15
A-515	4	8'-6"	ST.						35
A-516	4	2'-7"	ST.						11
A-601	48	13'-8"	4	6'-3"	5'-5"	2'-3"			985
A-602	20	12'-3"	4	4'-10"	5'-5"	2'-3"			368
A-603	50	19'-2"	7	6'-8"	1'-5"	8'-0"	11"		1439
A-604	20	17'-2"	3	1'-5"	8'-0"				516
A-605	12	21'-6"	3	1'-5"	10'-2"				388
SERIES A-606	4 SETS OF 11" 44 BARS	11'-2" TO 21'-2"	3	1'-5"	5'-0" TO 10'-0"			1'-0"	1068
A-801	28	24'-4"	ST.						1819
TOTAL ABUTMENT #2 RIGHT & #2 LEFT = 10,975 LBS.									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
SUPERSTRUCTURE, RIGHT & LEFT.									
S-501	6280	2'-1"	3	1'-4"	6"				13,646
S-502	6280	3'-2"	13	6"	0	1'-4"	1'-7"		20,742
S-503	6280	2'-8"	ST.						17,467
S-504	6040	5'-7"	5	8"	2'-2"	5"			35,173
S-601	6272	35'-8"	ST.						336,000
S-602	4824	37'-8"	ST.						272,920
S-603	952	45'-0"	ST.						64,346
S-604	2948	38'-4"	ST.						169,730
S-701	6272	35'-8"	ST.						457,246
SUPERSTRUCTURE, RIGHT & LEFT TOTAL 1,387,276 LBS.									
PIERS #1 THRU #17 RIGHT & LEFT.									
P-501	2380	3'-0"	ST.						7447
P-502	616	9'-8"	3	1'-6"	4'-0"				5943
P-503	512	9'-11"	3	2'-2"	4'-0"				5296
P-601	1060	15'-0"	3	6'-11"	4'-2"				23,882
P-602	1060	11'-2"	3	6'-11"	2'-3"				17779
P-603	68	34'-8"	ST.						3541
P-1001	340	34'-8"	ST.						50,718
PIERS #1 THRU #17 RIGHT & LEFT TOTAL = 114,606 LBS.									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
RAILING ⊛									
R-501	32	17'-0"	ST.						
R-502	1728	17'-8"	ST.						
R-503	32	14'-2"	ST.						
R-504	80	12'-0"	ST.						
R-505	16	21'-1"	ST.						
REPLACEMENT BARS									
RE-501	6	5'-7"	ST.						
RE-601	45	5'-11"	ST.						
RE-701	23	6'-2"	ST.						
RE-801	1	6'-6"	ST.						
RE-1001	3	7'-2"	ST.						

GRAND TOTAL 1,523,133 LBS

MICROFILMED MAY 07 1979



BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊛ RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91

141
180

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE Nº MAH-18-0117 L.& R.

OVER LAKE MILTON

MAHONING COUNTY

STA. 48+22.75 TO STA. 69+17.25

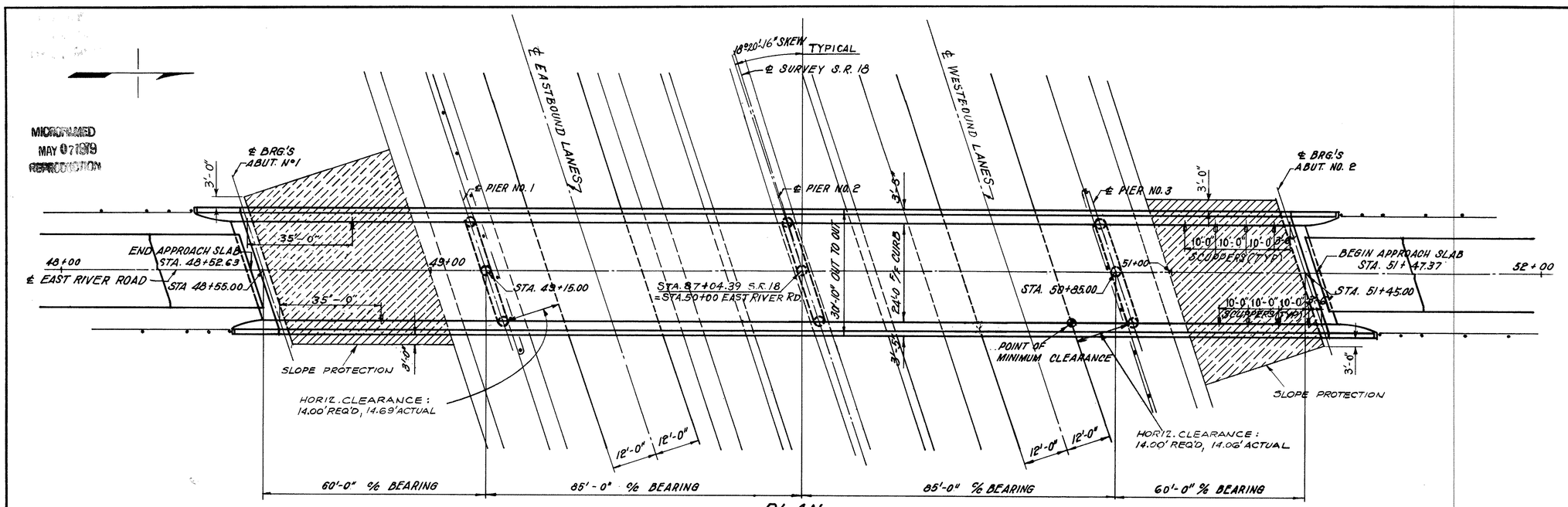
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG	LP		RBH	RBH	3/26/69	


FED. RD. | STATE | PROJECT
2 | OHIO
142
180
MAH-18-0.91
CURVE DATA
℄ SURVEY S.R.-18
Δ = 19°-04'-41"
D = 1°-00'
T = 962.80'
R = 5729.58'
L = 1907.81'
P.I. STA. 79+05.60
P.C. STA. 69+42.80
P.T. STA. 88+50.61
P.V.I. STA. 86+00
EL. 961.87
450 V.C.
+2.86 %
-0.34%
TEMPORARY RUN-A-ROUND See Sh. 83
RELOCATED OVERLOOK WAY
MICROFILMED MAY 07 1979 REPRODUCTION
18°-20'-16" SKEW TO LOC. TANGENT
39.77' @ STA. 86+00
SLOPE PROTECTION
℄ EAST RIVER ROAD
END APPROACH SLAB STA. 48+52.63
14'-0" MIN. CLEAR 14.69' ACTUAL
40.70' @ STA. 87+04.39
STA. 87+04.39 S.R.-18 = STA. 50+00 EAST RIVER RD.
PT. OF MIN. VERT. CLEARANCE
14'-0" MIN. CLEAR 14.06' ACTUAL
BEGIN APPROACH SLAB AT 51+47.37
ROADWAY 24'-0"
℄ WATER WELL & PUMP
41.55' @ STA. 88+00
P.T. STA. 88+50.61
60'-0"
85'-0"
85'-0"
60'-0"
PLAN
50' R/W
17.5'
2½" BLACK TOP
4½" SLAG
TYPICAL SECTION EXISTING EAST RIVER RD.
VERTICAL CLEARANCE DESIGN: 16.50' ACTUAL: 16.56'
EXISTING GROUND
PROPOSED PROFILE GRADE
AVERAGE ESTIMATED PAY LENGTH FOR PILING:
ABUTMENTS: 25'
PIERS: 12'
ALL PILES SHALL BE STEEL PILES 10 BP 42.
INDICATES BORING LOCATIONS
PROPOSED STRUCTURE
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 60'-0", 85'-0", 85'-0", 60'-0" ℄ TO ℄ BEARINGS
ROADWAY 24'-0" F/F 2'-3" SAFETY CURBS
LOAD FREQUENCY: C.F. 150
SKEW: 18°-20'-16" R.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE.
TRAFFIC: 1470 A.D.T. (1975)
BRIDGE LIMITS 294.74'
P.V.I. STA. 50+00 EL. 989.04 P.G. EL. 987.46
-0.17 %
-3.776%
350' V.C.
EXISTING ℄ PROFILE
TYPE "A" RAILING
EL. 977.93
EL. 983.96
2:1 NORMAL
10BP42 (TYP.)
EL. 960.17
VERTICAL CLEARANCE DESIGN: 16.50' ACTUAL: 16.56'
EL. 959.78
EL. 959.49
EL. 978.12
VARIES
EL. 972.06
PROPOSED PROFILE GRADE
STA. 51+47.37
STA. 48+52.63
48+00
49+00
50+00
51+00
52+00
PROFILE ON ℄ EAST RIVER ROAD
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO
SITE PLAN
BRIDGE NO. MAH-18-0165
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66
DESIGNED C.E.S.
DRAWN B.N.
CHECKED ONG.
REVIEWED RDH 5/30/63

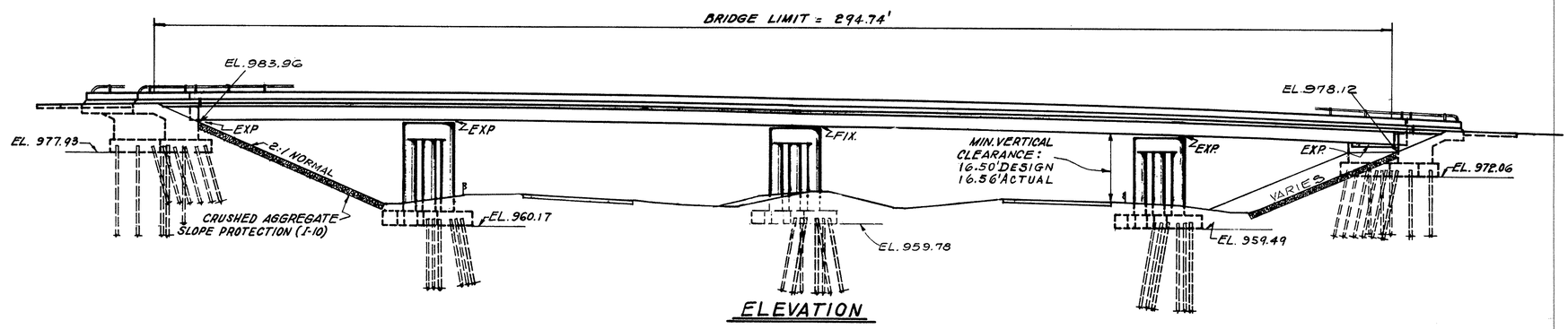
FED. RD.	STATE	PROJECT	
2	OHIO		

143
180

MAH-18-0.91



PLAN



ELEVATION

NOTES: DESIGN LOADING: CF-130
CONCRETE CLASS "C" BASIC UNIT STRESS 1,333 p.s.i.
CONCRETE CLASS "E" BASIC UNIT STRESS 1,133 p.s.i.

STRUCTURAL STEEL - EXCEPT PILING - ASTM A36 - BASIC UNIT STRESS 20,000 p.s.i. (ASTM A7 AND A373 STEEL NOT PERMITTED)

REINFORCING STEEL - ASTM, A15, A16, A160 DEFORMED, INTERMEDIATE OR HARD GRADE. BASIC UNIT STRESS 20,000 p.s.i.

SEE SHEET NO. 128 FOR GENERAL NOTES
1, 2, 5, 7, 10 - 15, ~~17~~, 18 & 20

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
E-2	437	CU.YDS.	UNCLASSIFIED EXCAVATION		200	237	
S-1	291	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	291			
S-1	78	CU.YDS.	CLASS "E" CONC. ABUT'S ABOVE FOOTINGS.		75		
S-1	72	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS.			72	
S-1	140	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS.		59	81	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
S-4	104,613	LBS.	REINFORCING STEEL	73,033	9,486	22,094	
S-7	232,700	LBS.	STRUCTURAL STEEL	232,700			
S-8	232,700	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	232,700			
S-14	636.45	LIN.FT.	RAILING (TYPE "A" ALUMINUM RAIL, SUPPORTS & CONCRETE PARAPET)	583.04	53.41		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIERS	GEN.
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	1420	LIN.FT.	STEEL 10BP42 PILES		610	810	
S-29	25	CU.YD.	POROUS BACKFILL		25		
S-29	10	EACH	SCUPPERS INCLUDING SUPPORTS.	10			
S-29	50	LIN.FT.	6" PERFORATED HELICAL C.M.P. m. G.4 (h)		50		
			INCLUDING SPECIALS	L			
S-29	45	LIN.FT.	6" HELICAL C.M.P. M-G.4 (h) NON-PERFORATED		45		
I-10	471	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		471		
S-101	291	EACH	WATER REDUCING, SET RETARDING ADMIXTURE	291			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

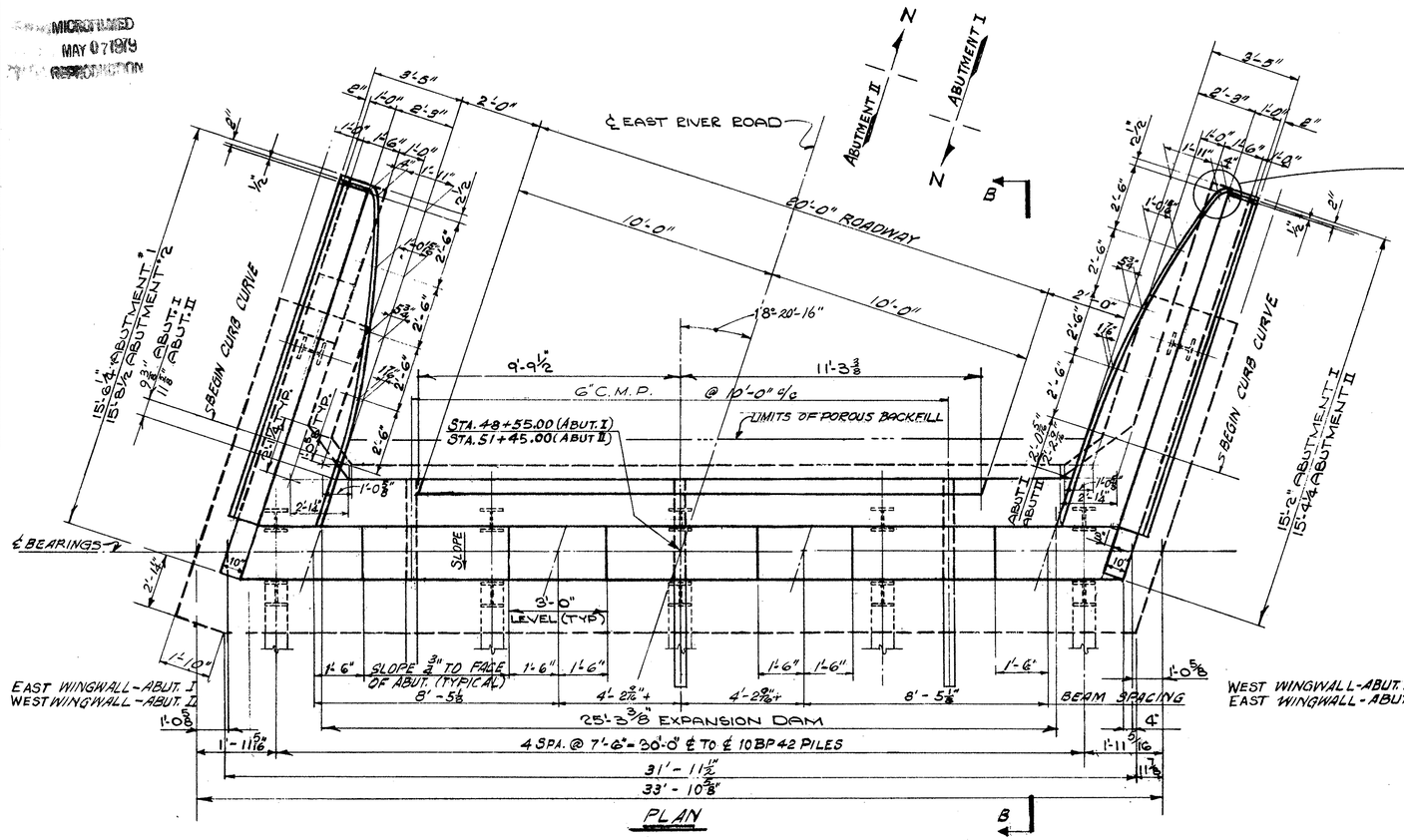
GENERAL PLAN & ELEVATION
BRIDGE NO. MAH-18-0165
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

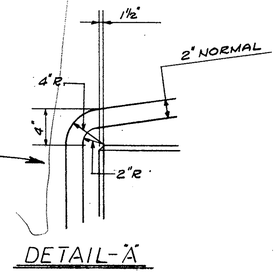
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	T.C.		ONG.	RDH	4/30/63	

FED. RD.	STATE	PROJECT	
2	OHIO		

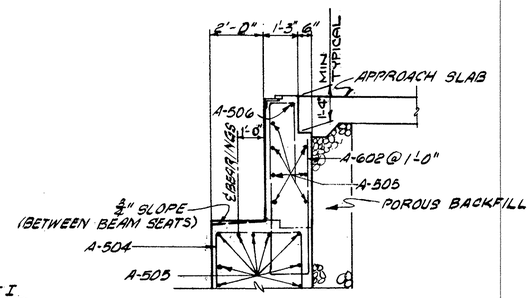
144
180

MAH-18-0.91

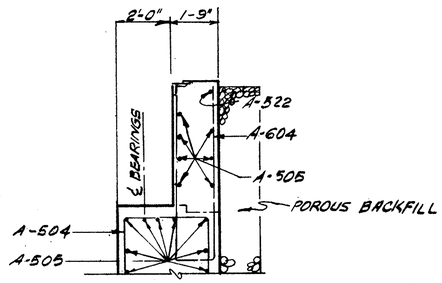




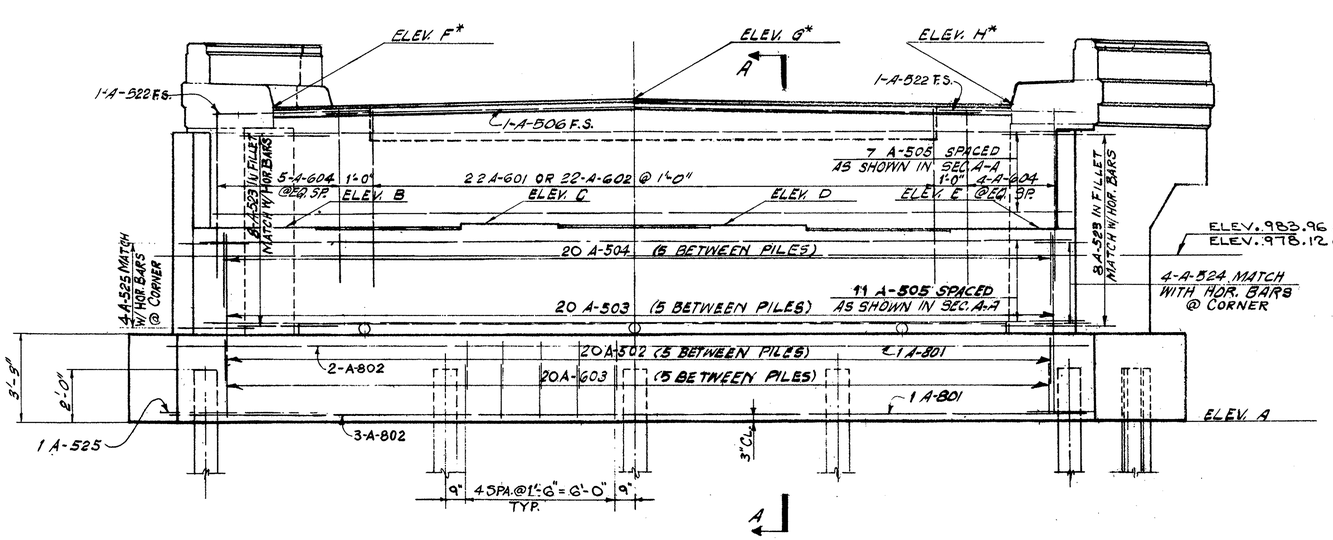
DETAIL-A



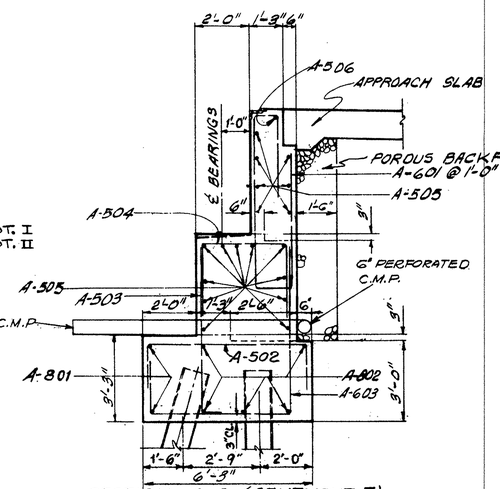
PARTIAL SECTION A-A (ABUTMENT II)



SECTION B-B (ABUTMENT II)

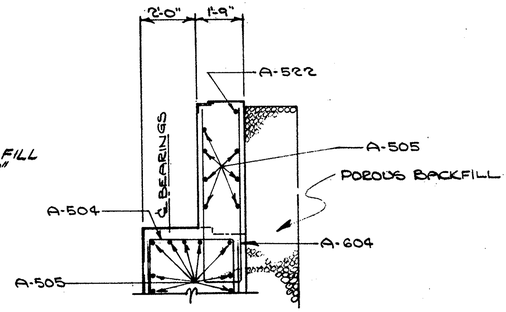


ELEVATION



SECTION A-A (ABUTMENT I)

(ABUTMENT II SIMILAR EXCEPT AS NOTED IN PARTIAL SECT. A-A)



SECTION B-B' (ABUTMENT I)

TABLE OF ELEVATIONS (* F, G, & H ELEV. @ HEEL OF ℄)

ABUTMENT	A	B	C	D	E	F*	G*	H*
I	977.93	985.00	985.11	985.10	984.96	988.98	989.18	989.00
II	972.06	979.39	979.43	979.36	979.12	983.38	983.42	983.08

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

ABUTMENTS SHEET NO. 1

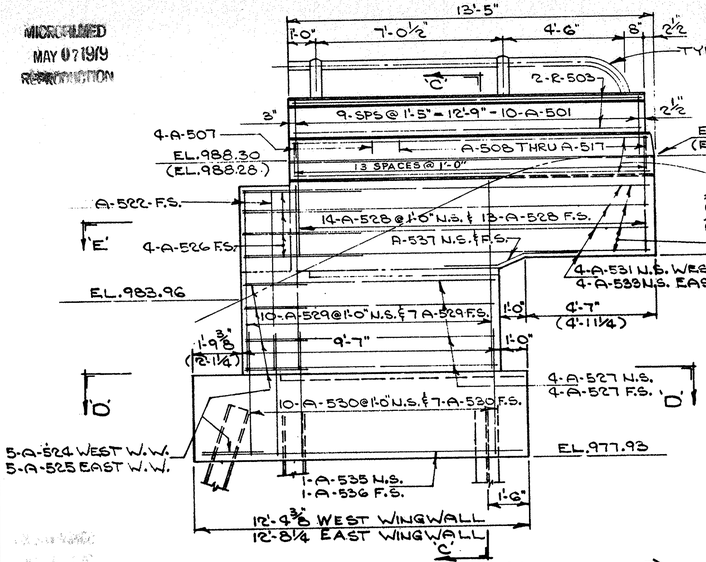
BRIDGE NO. MAH-18-01 65
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	T.C.		O.N.G.	RDH	6/26/63	

FED. RD.	STATE	PROJECT	
2	OHIO		

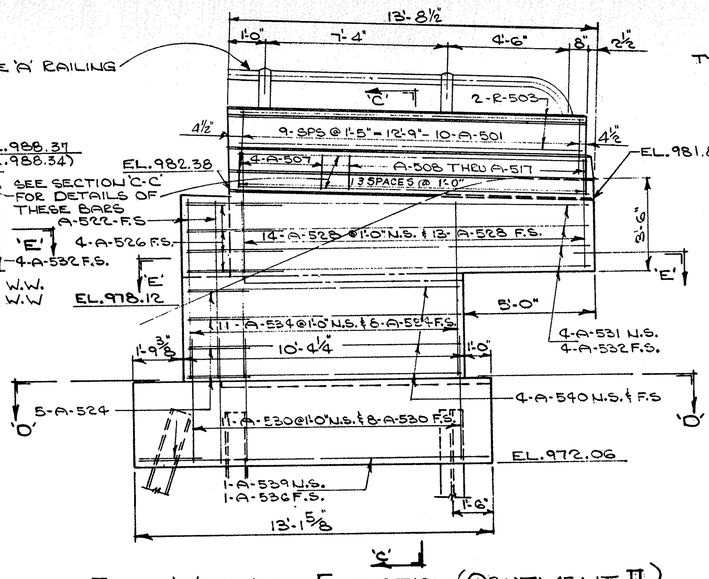
145
180

MAH-18-0.91

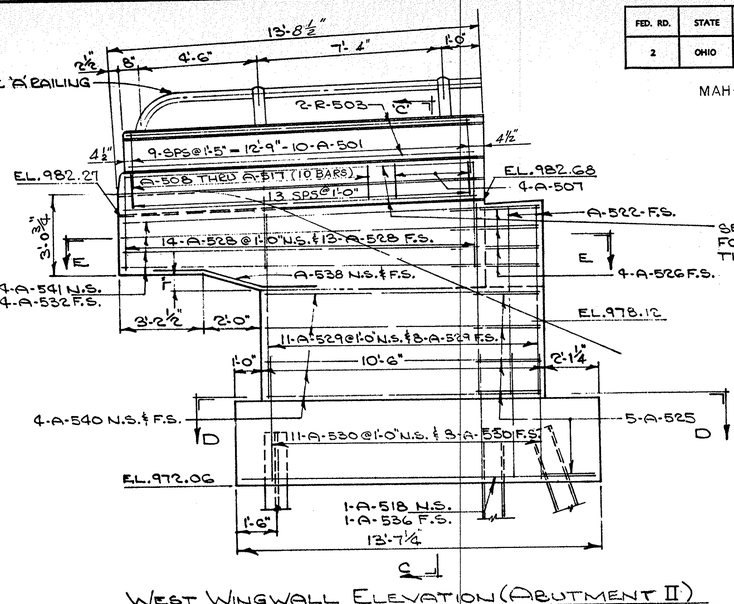


WINGWALL ELEVATION (ABUTMENT I)
WEST WINGWALL SHOWN
EAST WINGWALL SIMILAR

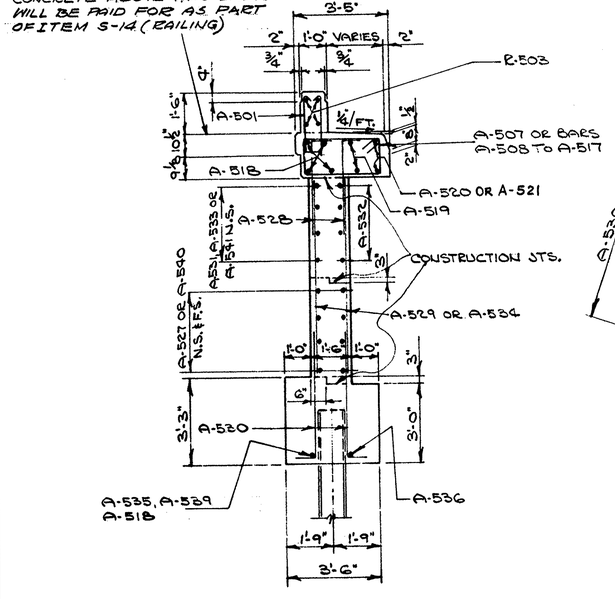
NOTE: DIMENSIONS AND ELEVATIONS FOR EAST WINGWALL ARE SHOWN IN PARENTHESIS



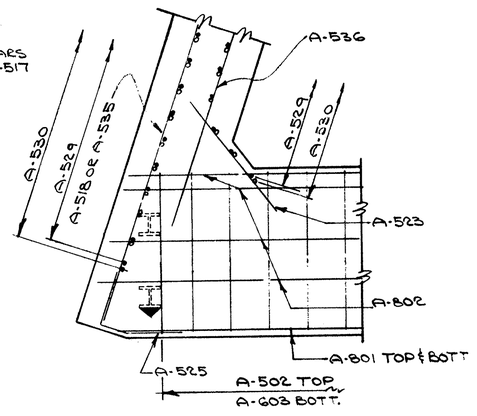
EAST WINGWALL ELEVATION (ABUTMENT II)



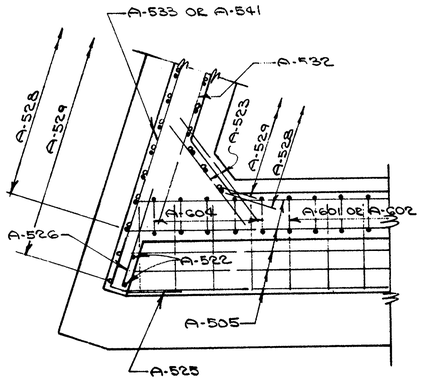
WEST WINGWALL ELEVATION (ABUTMENT II)



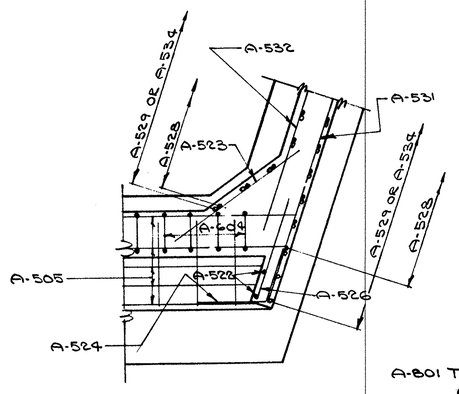
SECTION 'C-C'



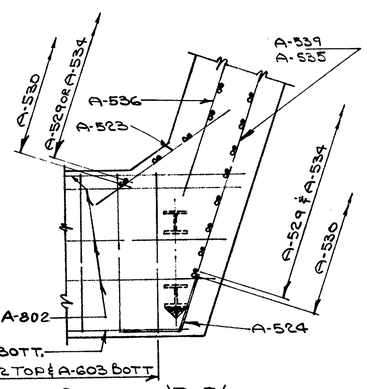
SECTION D-D
WEST WINGWALL ABUT. II SHOWN
EAST WINGWALL ABUT. I SIMILAR



SECTION 'E-E'
WEST WINGWALL ABUT. II SHOWN
EAST WINGWALL ABUT. I SIMILAR



SECTION E-E
EAST WINGWALL ABUT. II SHOWN
WEST WINGWALL ABUT. I SIMILAR



SECTION 'D-D'
EAST WINGWALL ABUT. II SHOWN
WEST WINGWALL ABUT. I SIMILAR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

ABUTMENTS SHEET NO. 2

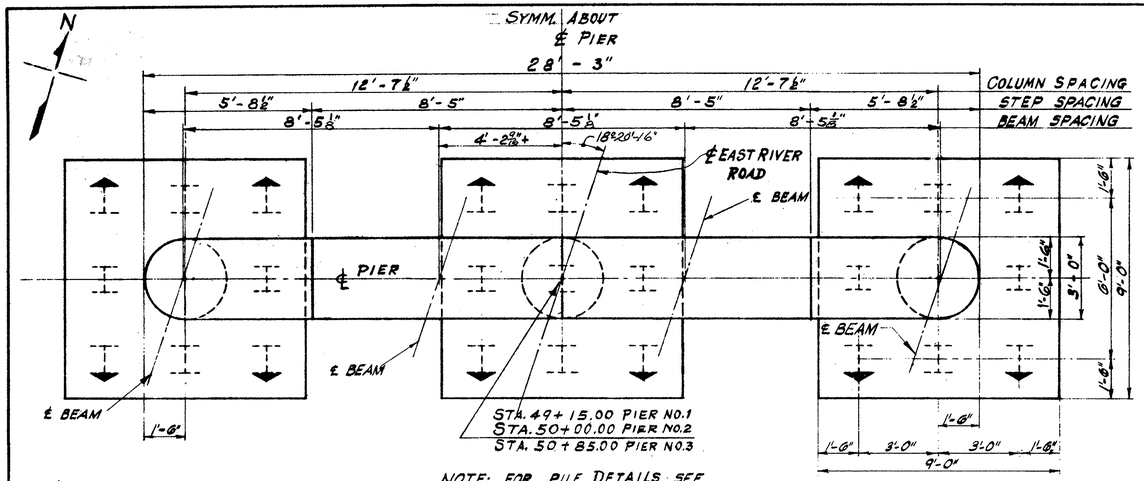
BRIDGE NO. MAH-18-0165.
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	JWW		ONG	RDH	8/30/83	

FED. RD	STATE	PROJECT	
2	OHIO		

14C
180

MAH-18-0.91

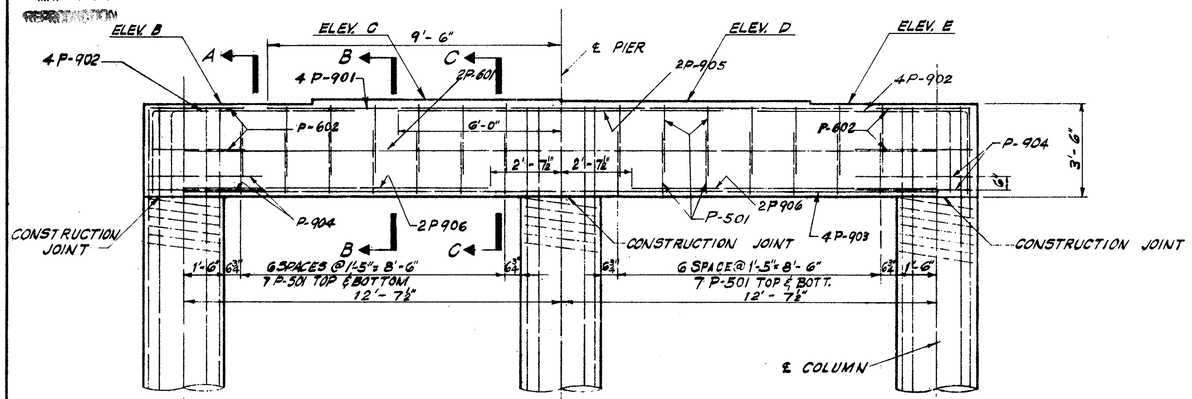


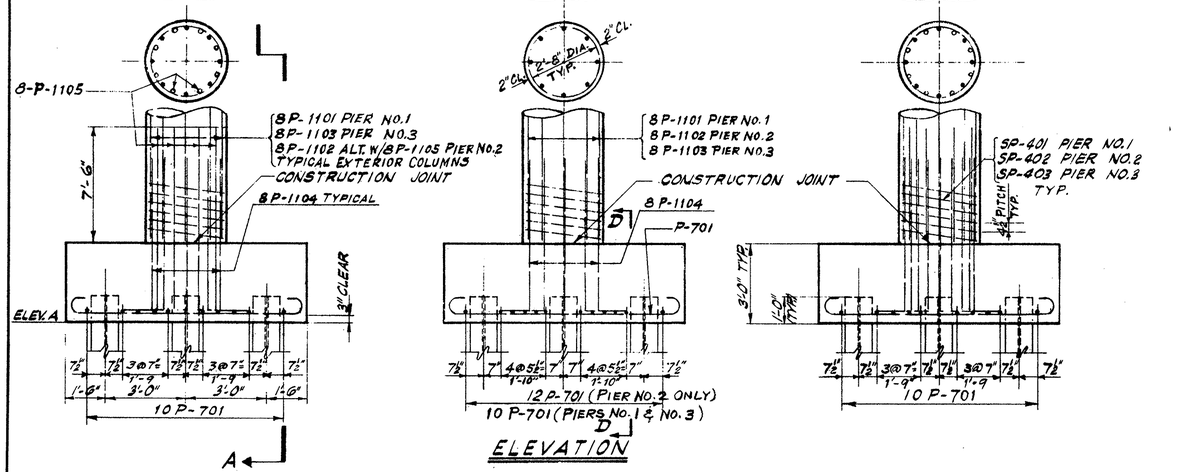
INDICATES 1:4 BATTER. BATTER SHOWN FOR PIER NO. 2 ONLY.

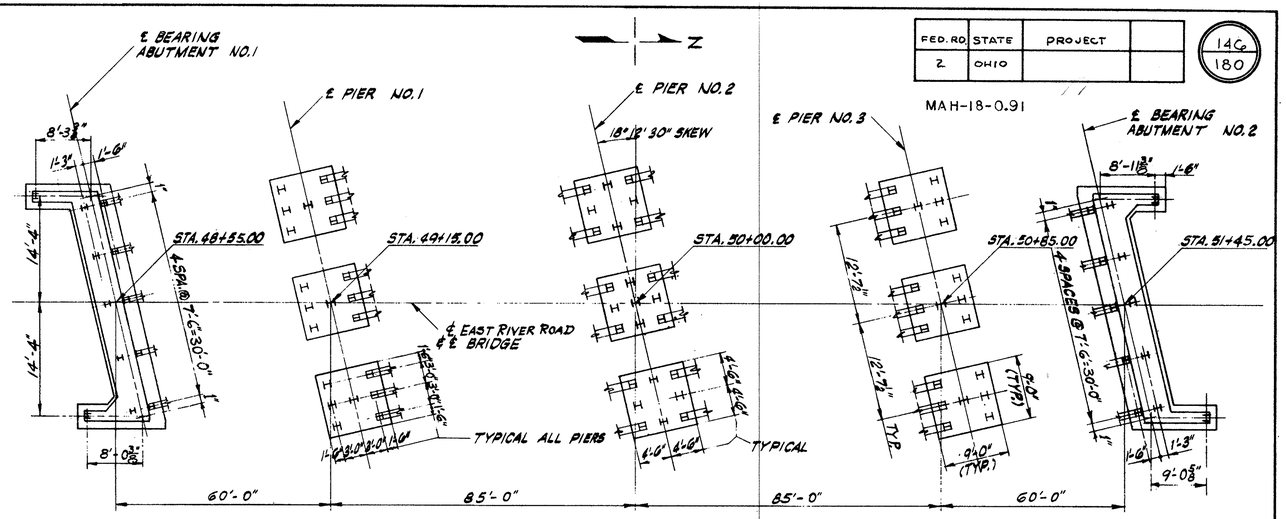
NOTE: FOR PILE DETAILS SEE PILING PLAN.

PLAN-PIER NO. 2

PIERS NO. 1 & 3 SIMILAR EXCEPT AS SHOWN OR NOTED







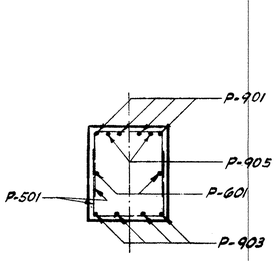
NOTE: BATTER PILES 1:4

PILING PLAN

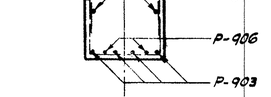
ALL PILES TO BE 10 BP 42 STEEL PILES

PILE CUT-OFF ELEVATIONS	
ABUTMENT NO. 1	979.93
PIER NO. 1	961.17
PIER NO. 2	960.78
PIER NO. 3	960.49
ABUTMENT NO. 2	974.06

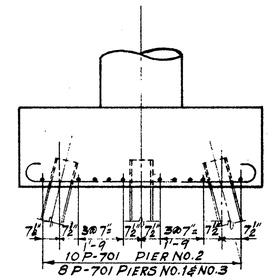
SECTION A-A



SECTION C-C



SECTION B-B



SECTION D-D

ELEVATIONS	A	B	C	D	E
PIER NO.1	960.17	984.50	984.60	984.57	984.42
PIER NO.2	959.78	982.94	983.01	982.96	982.78
PIER NO.3	959.49	981.22	981.27	981.19	980.99

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

PIERS

BRIDGE NO. MAH-18-01 65
UNDER EAST RIVER ROAD
MAHONING COUNTY

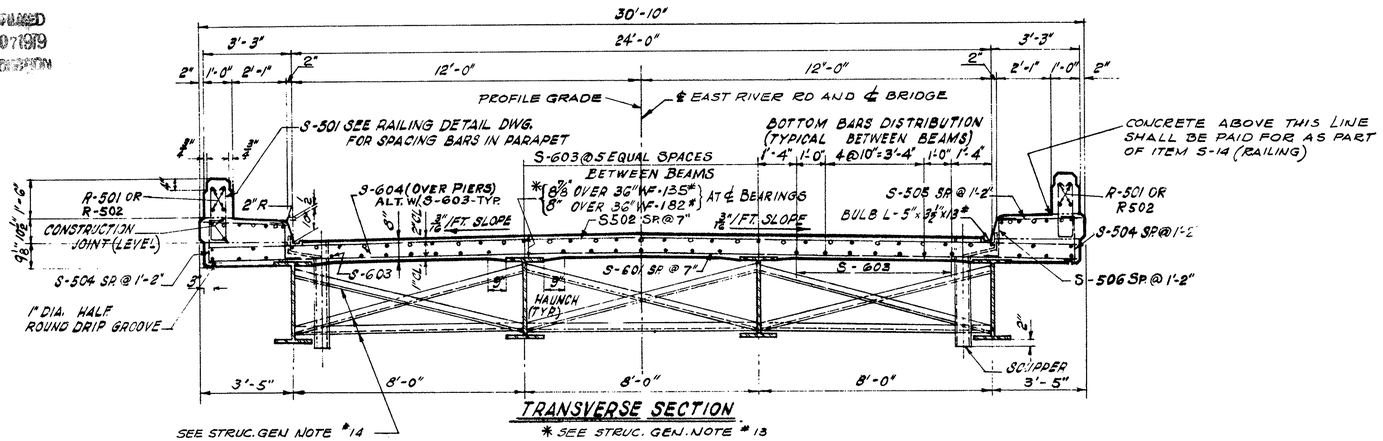
STA. 87+03.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	T.C.		O.N.G.	D.W.H.	8/3/63	

FED.RD.	STATE	PROJECT	
2	OHIO		

147
180

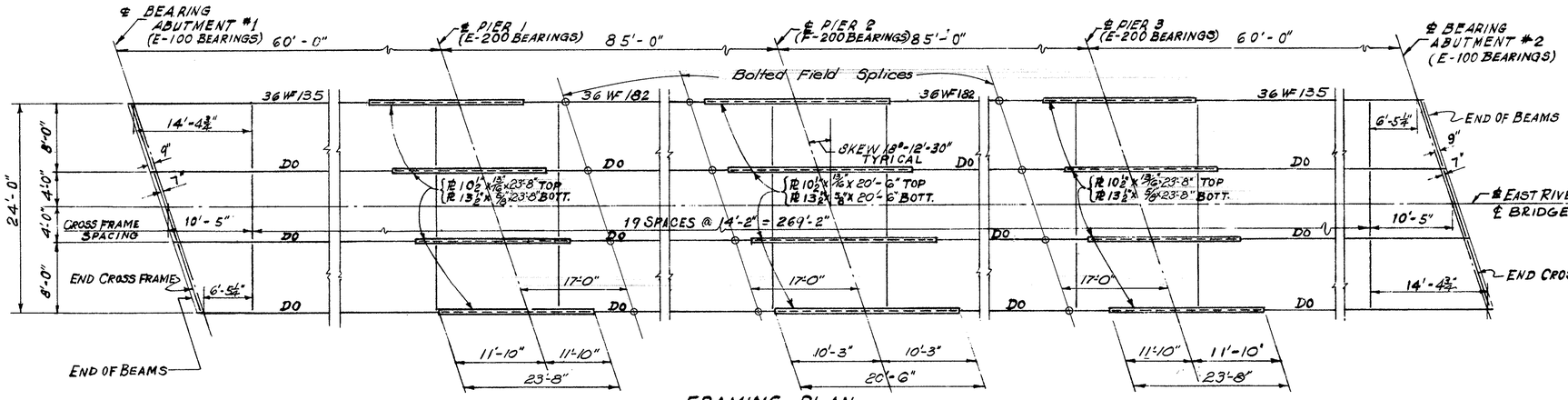
MAH-18-0.91



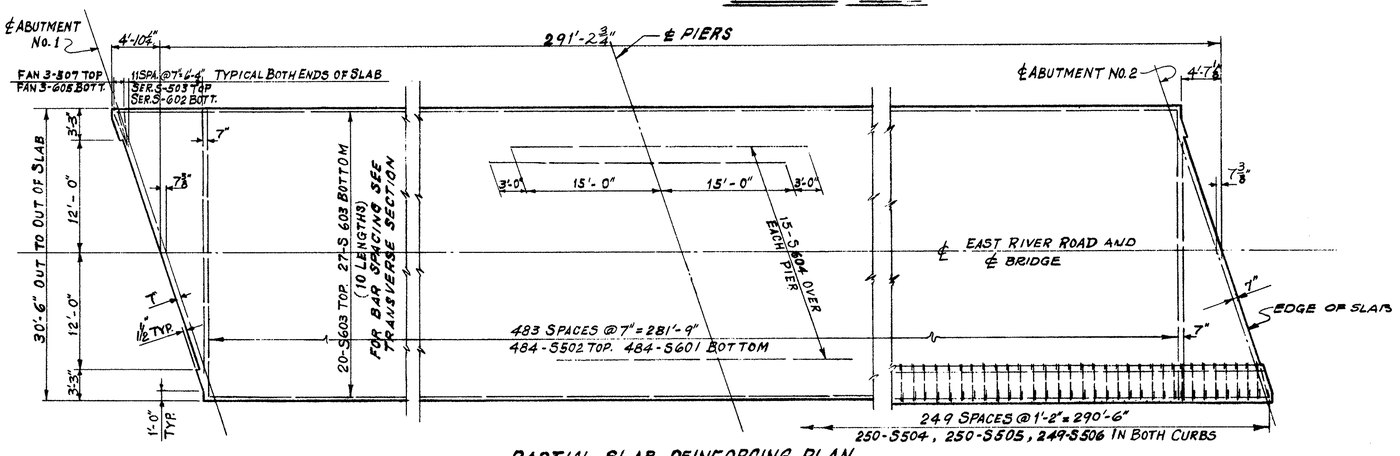
TRANSVERSE SECTION

* SEE STRUC. GEN. NOTE # 13

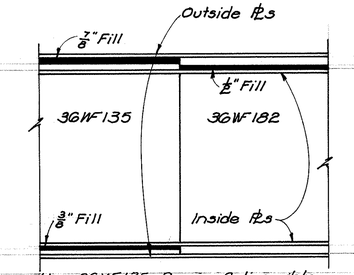
FOR BEAM SPLICE WELDING SEE STRUC. GEN NOTE # 9



FRAMING PLAN



PARTIAL SLAB REINFORCING PLAN



Use 36WF135 Beam Splice data as shown on Std. Dwg. SD-2-64.

For other splice see Std. Dwg. SD-2-64 36WF182 Beam Splice Details.

36WF135 and 36WF182 SPLICE

DEFLECTION AND CAMBER

LOCATION	INTERIOR BEAM		EXTERIOR BEAM	
SPAN	60'	85'	60'	85'
DEFLECTION DUE TO WEIGHT OF STEEL	0.03"	0.17"	0.03"	0.17"
DEFLECTION DUE TO REMAINING DEAD LOAD	0.30"	0.65"	0.32"	0.71"
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.56"	1.12	0.56"	1.12"
SUM OF DEFLECTION AND CONVEXITY	0.89	1.94"	0.91	2.00"
REQUIRED CAMBER	7/8"	2"	7/8"	2"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SUPERSTRUCTURE
BRIDGE NO. MAH-18-01 65
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	T.C.		O.N.G.	2DH	8/30/63	

FED RD	STATE	PROJECT	
2	OHIO		

148
180

MAH-18-0.91

℄ BEARING, ABUTMENT NO.1

FACE OF ABUTMENT

℄ BEARING, ABUTMENT NO.2

FACE OF ABUTMENT

35' - 0"

TYPICAL FOR EAST AND WEST CURBS

10' - 0"

10' - 0"

10' - 0"

3' - 6"

SCUPPER

SCUPPER

SCUPPERS

FACE OF CURB

5"x 3½"x 13.0 LB. BULB ANGLE

1'-0" 1'-0" 8'-7⅝" 13'-9½"

33 SPACES @ 8'-3" = 272'-3" ⅝ RAILING POSTS
16 SPACES @ 16'-6" = 264'-0" PARAPET PANELS
291'-6½"

8'-7⅝" 13'-9⅛" 1'-0" 1'-0"

TYPICAL FOR EAST AND WEST RAILINGS

PART DECK PLAN

TYPE "A" RAILING

¼" GRAY SPONGE RUBBER SEE NOTE #15

3½" 4½" 8 SPACES @ 1'-6" = 12'-0" (9S-501) 5½" 5½" 11 SPACES @ 1'-5" = 15'-7" (12S-501) 5½"

5½" 5½" 11 SPACES @ 1'-5" = 15'-7" (12S-501) 5½" 5½" 8 SPACES @ 1'-6" = 12'-0" (9S-501) 4½" 3½"

R-503

R-503

2R-501

2R-501

3-501

2R-502

2R-502

2R-502

2R-502

2R-501

2R-501

R-503

R-503

4"

1'-8" 1'-2"

SCUPPER

SCUPPER

SCUPPER

SCUPPER

2 TYP.

ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

RAILING & DRAINAGE DETAILS

BRIDGE NO. MAH-18-01 65
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.E.S.	T.C		O.N.G.	R.D.H	5/30/63	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INC.	WEIGHT LBS.
ABUTMENTS									
A-501	40	5'-7"	5	8"	2'-2"	5"			233
A-502	40	9'-8"	3	5'-11"	2'-0"				403
A-503	40	7'-5"	1	1'-0"	6'-6"				309
A-504	40	8'-2"	3	3'-5"	2'-6"				341
A-505	36	31'-0"	ST						1164
A-506	2	24'-0"	ST						50
A-507	16	8'-6"	14	2'-10"	1'-3"	6"			142
A-508	4	8'-4"	14	2'-9"	1'-3"	6"			35
A-509	4	8'-2"	14	2'-8"	1'-3"	6"			34
A-510	4	8'-0"	14	2'-7"	1'-3"	6"			33
A-511	4	7'-8"	14	2'-5"	1'-3"	6"			32
A-512	4	7'-4"	14	2'-3"	1'-3"	6"			31
A-513	4	6'-10"	14	2'-0"	1'-3"	6"			28
A-514	4	6'-4"	14	1'-9"	1'-3"	6"			26
A-515	4	5'-10"	14	1'-6"	1'-3"	6"			24
A-516	4	5'-2"	14	1'-2"	1'-3"	6"			22
A-517	4	4'-6"	14	10"	1'-3"	6"			19
A-518	17	13'-0"	ST						231
A-519	8	10'-8"	ST						89
A-520	4	13'-6"	15	3'-6"					56
A-521	4	12'-3"	15	2'-3"					51
A-522	12	5'-0"	ST						63
A-523	36	4'-9"	ST						178
A-524	10	4'-0"	16	2'-0"	2'-0"	8"			42
A-525	10	4'-7"	17	2'-0"	8"	2'-0"	8"		48
A-526	16	3'-9"	ST						63
A-527	16	9'-0"	ST						150
A-528	108	4'-6"	1	6"	4'-1"				507
A-529	52	6'-9"	ST						373
A-530	72	5'-1"	1	6"	4'-8"				382
A-531	8	14'-10"	ST						124
A-532	16	11'-6	ST						192
A-533	4	15'-2"	ST						63
A-534	19	6'-5"	ST						127
A-535	2	12'-0"	ST						25
A-536	4	9'-6"	ST						40
A-537	4	5'-2"	11	2'-0"	1'-2"	2'-0"	6"		22
A-538	2	6'-2"	11	2'-0"	2'-2"	2'-0"	7"		13
A-539	1	12'-10"	ST.						13
A-540	16	10'-0"	ST.						167
A-541	4	15'-4"	ST.						64
A-601	22	16'-0"	7	5'-2"	1'-5"	6'-6"	11"		529
A-602	22	15'-10"	18	5'-2"	1'-5	6'-6"	9"		523
A-603	40	13'-6"	4	6'-6"	5'-3"	12'-0"			811
A-604	18	14'-0"	3	1'-3"	6'-6"				580
A-801	4	32'-0"	ST.						342
A-802	10	32'-5	ST.						892
ABUTMENTS I & II TOTAL =									9,486
SLAB									
S-501	420	5'-3"	5	8"	2'-0"	5"			2,300
S-502	484	30'-2"	ST						15,228
SERIES S-503	2 SETS OF 12 BARS	6'-0" TO 25'-3"	ST					1'-9"	391
S-504	500	2'-0"	3	1'-3"	6"				1,043
S-505	500	2'-10"	ST						1,478
S-506	498	2'-6"	13	6"	0	1'-3"	1'-0"		1,299
S-507	6	4'-6"	ST						28
S-601	484	30'-2"	ST						21,930
SERIES S-602	2 SETS OF 12 BARS	6'-0" TO 25'-3"	ST					1'-9"	563
S-603	550	31'-0"	ST						25,609
S-604	63	33'-0"	ST						3,123
S-605	6	4'-6"	ST						41
SLAB TOTAL =									73,033

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	WEIGHT LBS.
PIERS								
P-501	84	7'-5"	3	2'-8"	2'-6"			650
P-601	6	25'-3"	ST					
P-602	12	8'-8"	9	2'-3"	4'-2"	1'-4"		228
								156
P-701	166	10'-4"	2	10"	8'-8"			3506
P-901	12	19'-0"	ST					
P-902	24	10'-0"	1	3'-2"	7'-1"			775
P-903	12	25'-3"	ST					816
P-904	12	10'-2"	9	3'-0"	4'-2"	1'-4"		1,030
P-905	6	12'-0"	ST					415
P-906	12	10'-0"	ST					245
								408
P-1101	24	20'-9"	ST					
P-1102	24	19'-6"	ST					2,646
P-1103	24	18'-0"	ST					2486
P-1104	72	7'-3"	1	1'-2"	6'-4"			2,295
P-1105	16	11'-2"	1	1'-2"	10'-3"			2,773
								949
PIERS NO.1, NO.2 & NO.3 TOTAL =								19,378

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	WEIGHT LBS.
RAILING®								
R-501	16	13'-5"	ST					
R-502	128	16'-2"	ST					
R-503	16	12'-10"	ST					

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	WEIGHT LBS.
REPLACEMENT BARS								
RE-101	1	5'-3"	10	5'-3"	1'-4			
RE-501	2	5'-6"	ST					
RE-601	3	6'-0"	ST					
RE-701	1	6'-3"	ST					
RE-801	1	6'-6"	ST					
RE-901	1	6'-10"	ST					
RE-1101	1	7'-9"	ST					

SPIRAL REINFORCING SCHEDULE

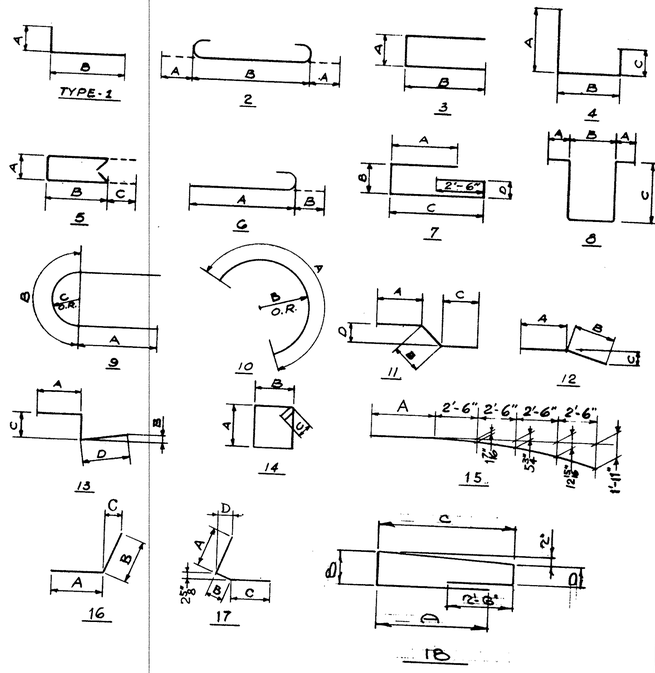
MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	3	2'-8"	17'-9"	4½"	50	826
SP-402	3	2'-8"	16'-6"	4½"	47	777
SP-403	3	2'-8"	15'-0	4½"	43	711
SPACERS	36					402
TOTAL SPIRALS						2,716
GRAND TOTAL						104,613 LBS.

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

FED. RD.	STATE	PROJECT	
2	OHIO		

149 / 180

MAH-18-0.91



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM S-4.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.06 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.06 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

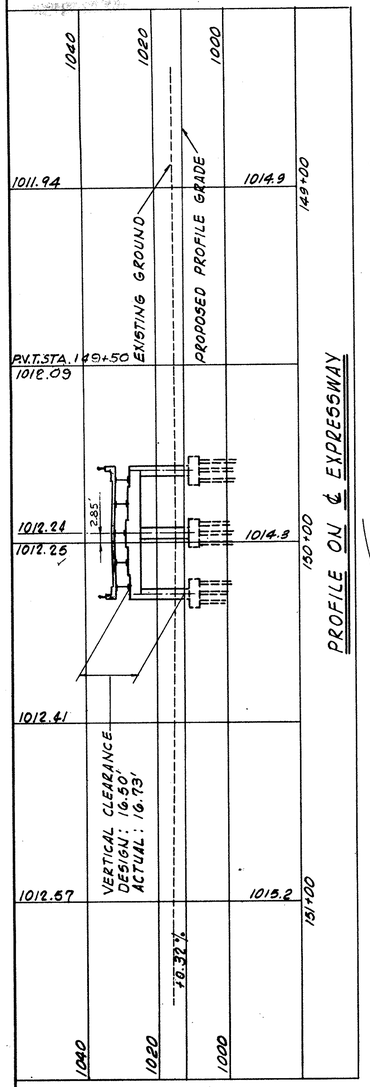
REINFORCING STEEL

BRIDGE NO. MAH-18-0165
UNDER EAST RIVER ROAD
MAHONING COUNTY
STA. 87+03.66

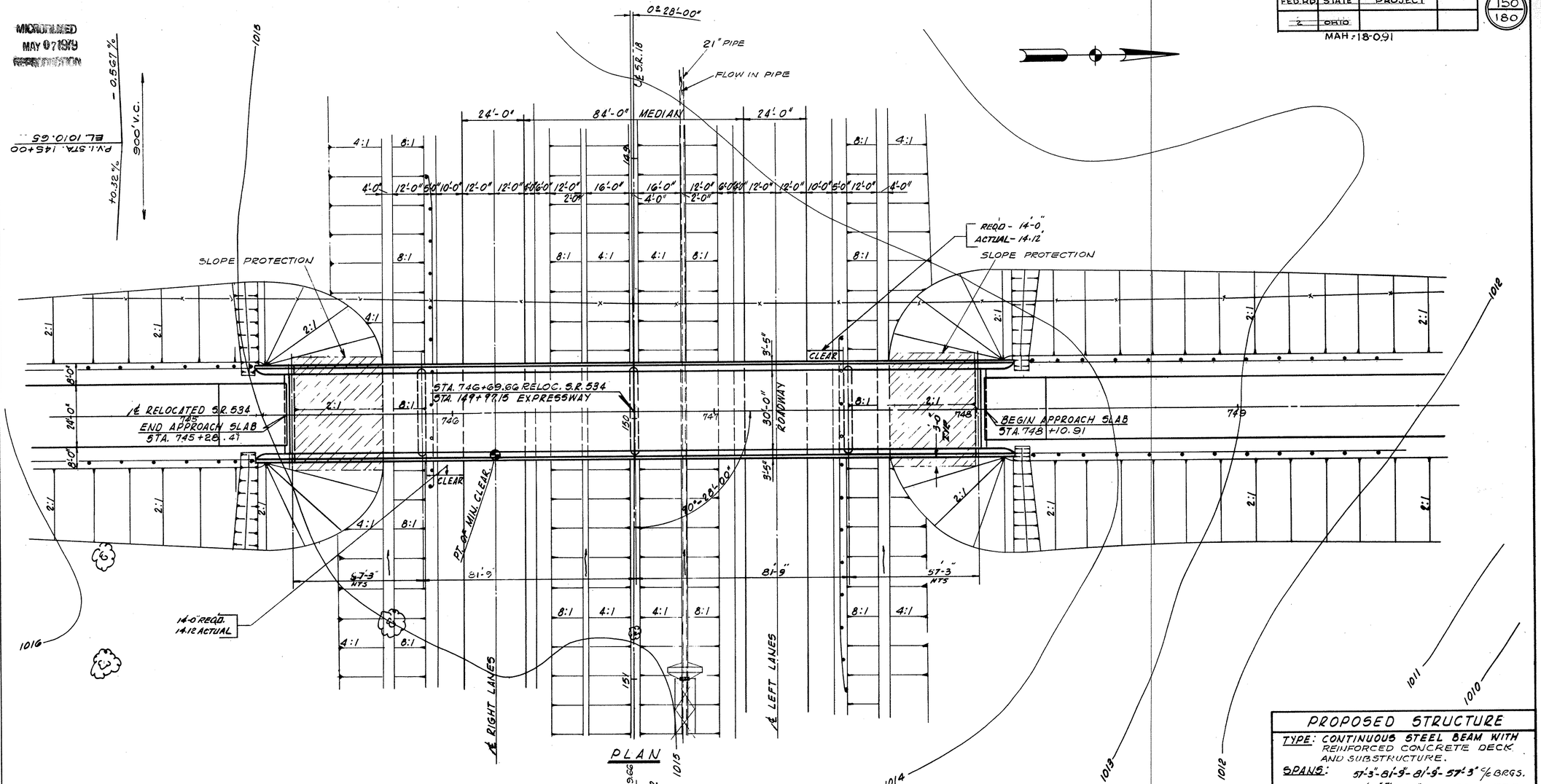
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91

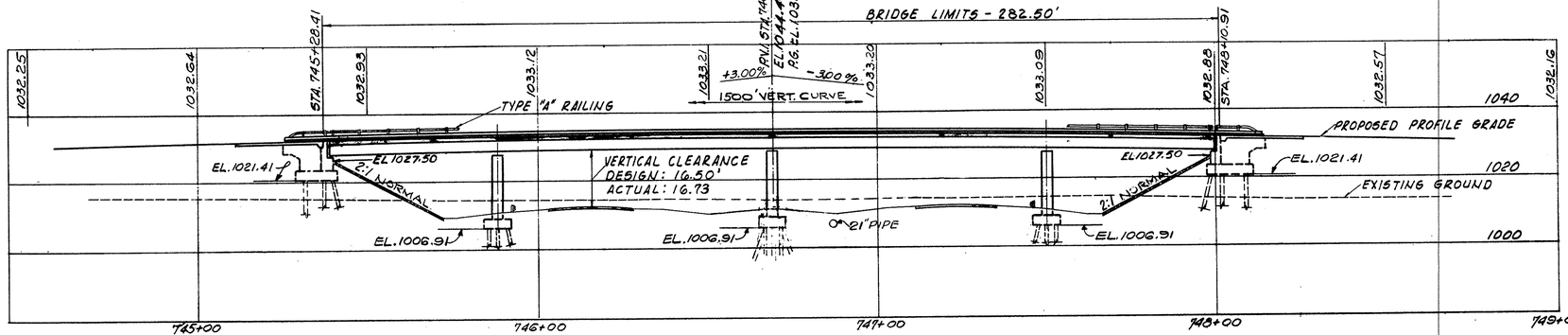
150
180



PROFILE ON ℄ EXPRESSWAY



PLAN



PROFILE ON ℄ RELOCATED S.R. 534

FOUNDATION SOUNDINGS

FOUNDATION DESIGN AND FOUNDATION QUANTITIES ARE BASED ON A STUDY OF ROD SOUNDINGS AND SOIL SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN THE DIVISION OFFICE BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF.

AVERAGE ESTIMATED PAY LENGTH FOR PILING:
ABUTMENTS: 45' (10 BP 42)
PIERS: 54' (12 BP 53)

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 57'-3"-81'-9"-81'-9"-57'-3" ℄ BRGS.
ROADWAY: 30'-0" ℄ 2'-3" SAFETY CURBS
LOAD FREQUENCY: C.F. - 400
SKEW: 0°-00'-00
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS 25' LONG (A5-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE.
TRAFFIC: 2645 (1975)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineer
AKRON OHIO

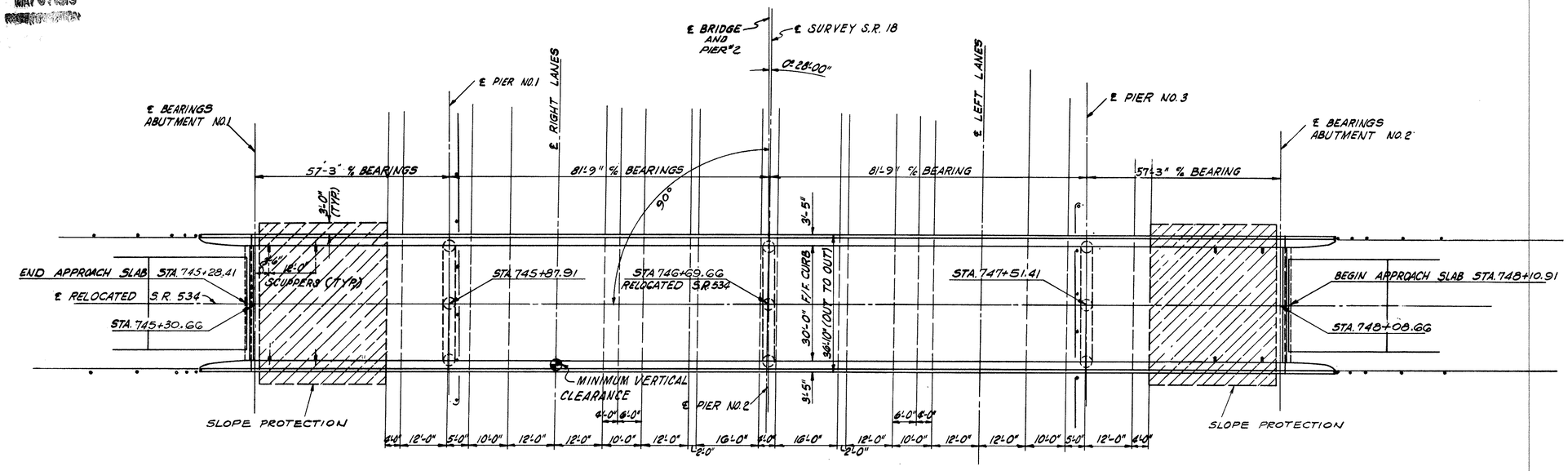
SITE PLAN
BRIDGE NO. MAH-18-0284
UNDER RELOC. S.R.-534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKD	REVIEWED	DATE	REVISED
ONG	J.W.W.		C.E.S.	RBH	8/8/13	

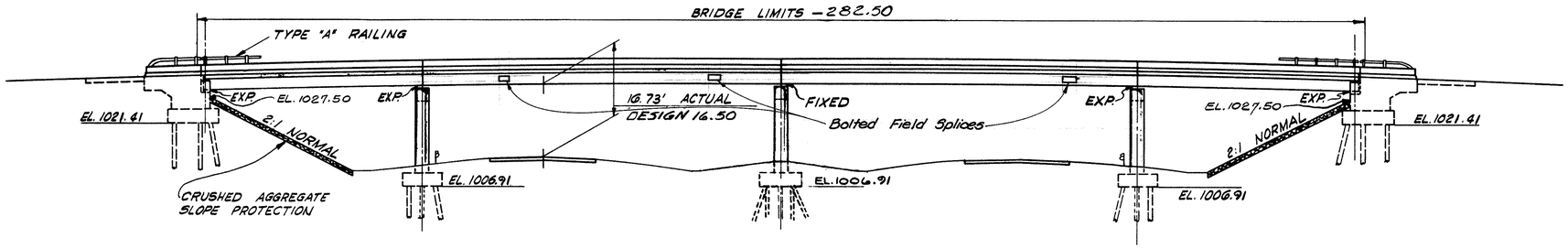
FED. RD.	STATE	PROJECT	
2	OHIO		

151
180

MAH,-18-0.91



PLAN



ELEVATION

NOTES: DESIGN LOADING : CE-400
CONCRETE CLASS "C" BASIC UNIT STRESS 1,333 P.S.I.
CONCRETE CLASS "E" BASIC UNIT STRESS 1,135 P.S.I.

STRUCTURAL STEEL - EXCEPT PILING - ASTM A36
BASIC UNIT STRESS 20,000 P.S.I. (ASTM A7 AND A373 STEEL NOT PERMITTED)

REINFORCING STEEL - ASTM., A15, A16, A160
DEFORMED, INTERMEDIATE OR HARD GRADE.
BASIC UNIT STRESS 20,000 P.S.I.

SEE SHEET NO. 128 FOR GENERAL NOTES
1, 2, 3, 5, 7, 10-15, 17, 18, 20, 24

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
E-2	435	CU.YDS.	UNCLASSIFIED EXCAVATION		214	221	
S-1	334	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	334			
S-1	87	CU.YDS.	CLASS "E" CONC. ABUT'S ABOVE FOOTINGS.		87		
S-1	79	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS.			79	
S-1	145	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS.		64	81	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
S-4	118,579	LBS.	REINFORCING STEEL	84,541	9916	24077	
S-7	303,900	LBS.	STRUCTURAL STEEL	303,900			
S-8	303,900	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	303,900			
S-14	609.84	LIN.FT.	RAILING (TYPE "A" ALUMINUM RAIL, SUPPORTS. CONCRETE PARAPET)	558.84	51.00		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIERS	GEN.
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	1260	LIN.FT.	STEEL 10 BP. 42 PILES		1260		
S-18	1600	LIN.FT.	STEEL 12 BP 53 PILES			1600	
S-29	27	CU.YDS.	POROUS BACKFILL		27		
S-29	8	EACH	SCUPPERS INCLUDING SUPPORTS.	8			
S-29	60	LIN.FT.	6" PERFORATED HELICAL C.M.P.M. M.6.4(h) INCLUDING SPECIALS.		60		
S-29	45	LIN.FT.	6" HELICAL C.M.P. M.6.4(h) NON-PERFORATED		45		
I-10	383	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		383		
S-401	834	EACH	WATER REDUCING, SET RETARDING ADMIXTURE	334			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

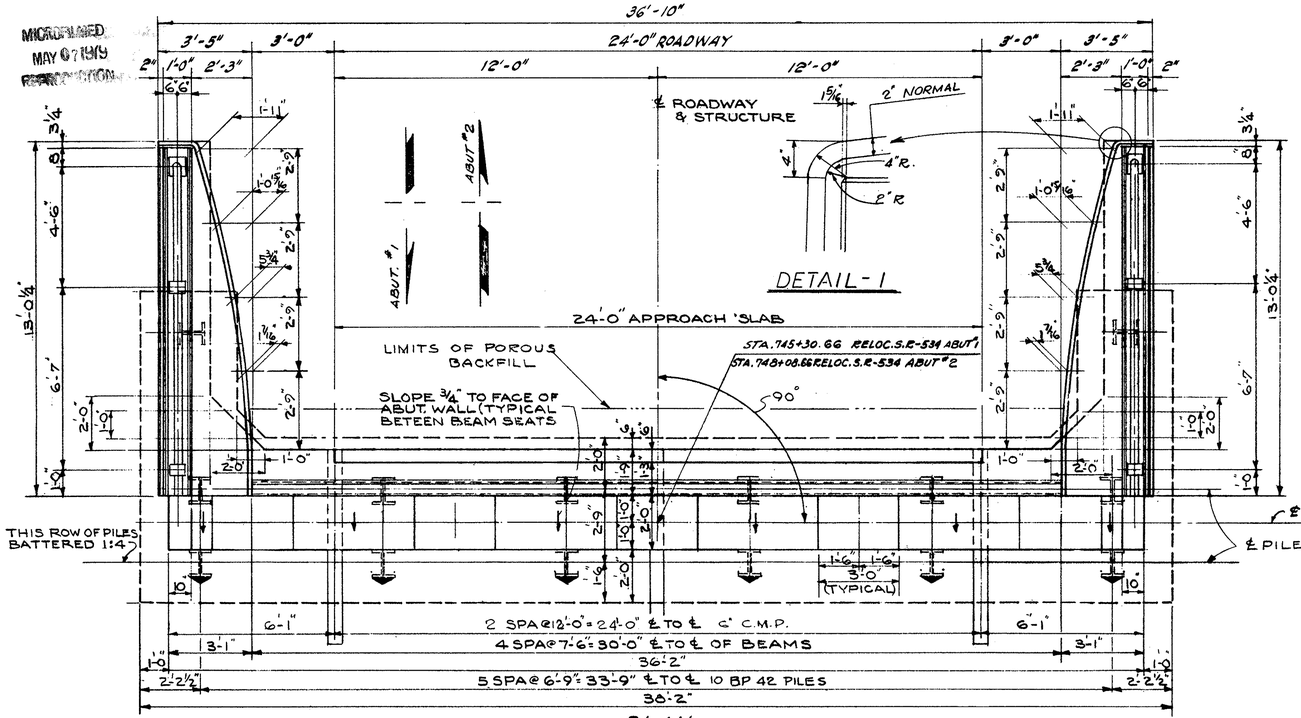
GENERAL PLAN & ELEVATION
BRIDGE NO. MAH-18-02 84
UNDER RELOC. S.R. - 534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	B.M.		C.E.S.	RDH	5/24/13	

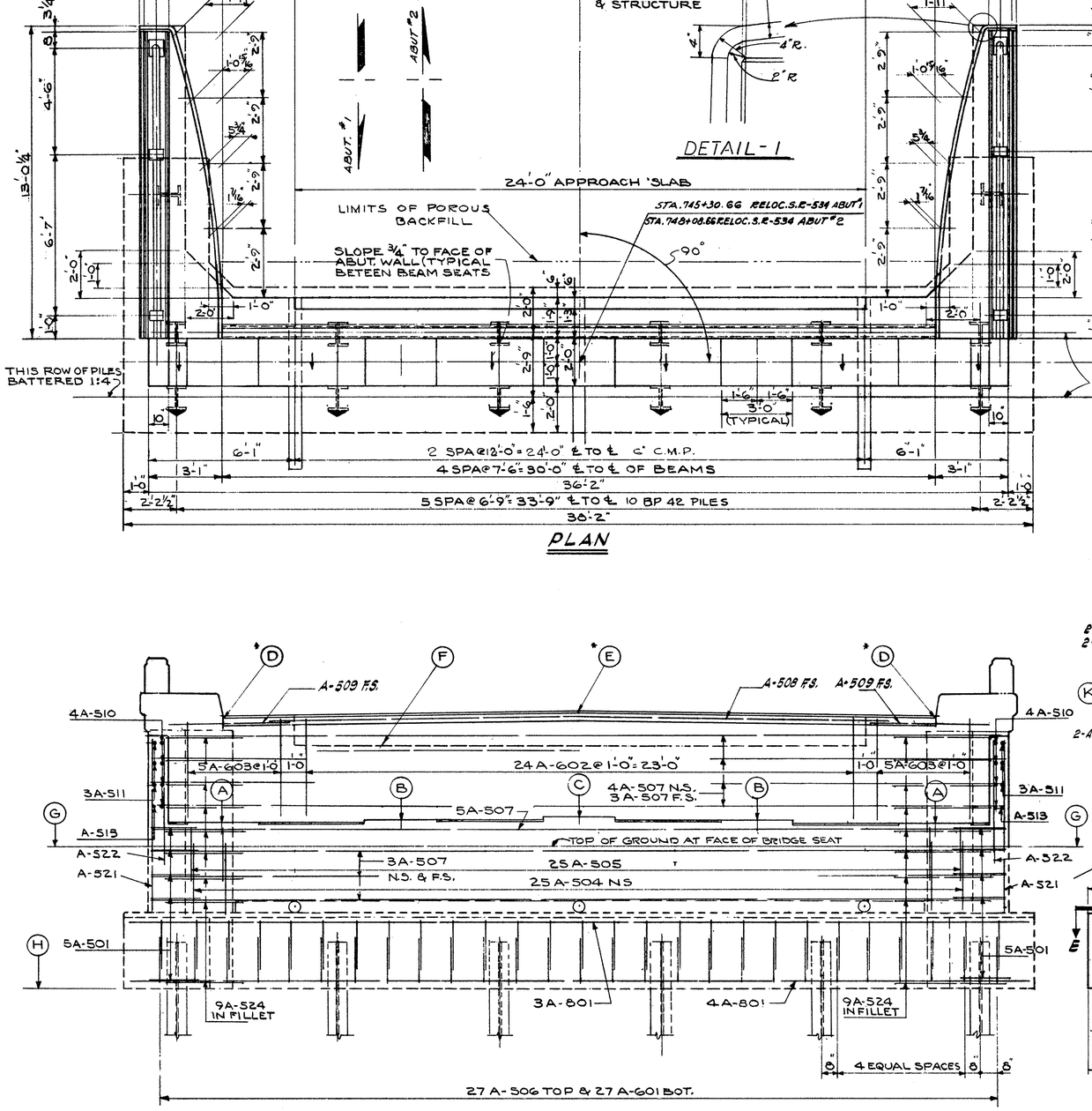
MAH.-18-0.91

FED. RD.	STATE	PROJECT	
2	OHIO		

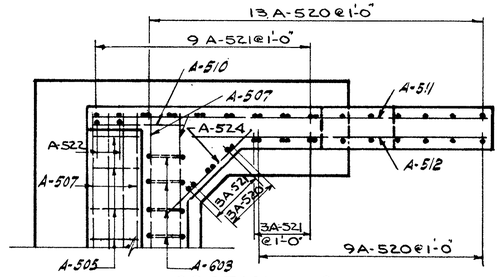
152
180



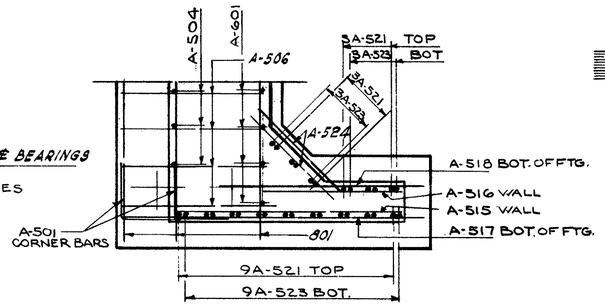
PLAN



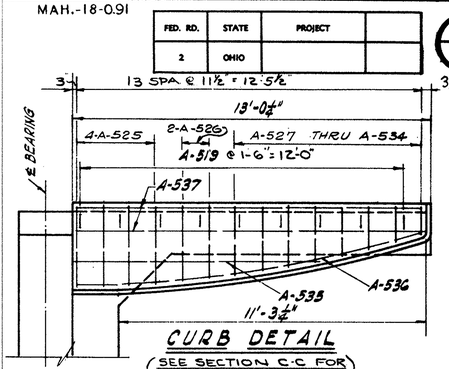
ELEVATION



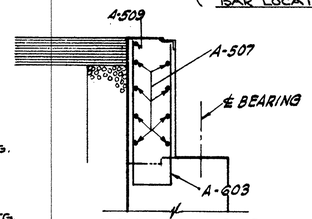
SECTION D-D
(OPPOSITE HAND)



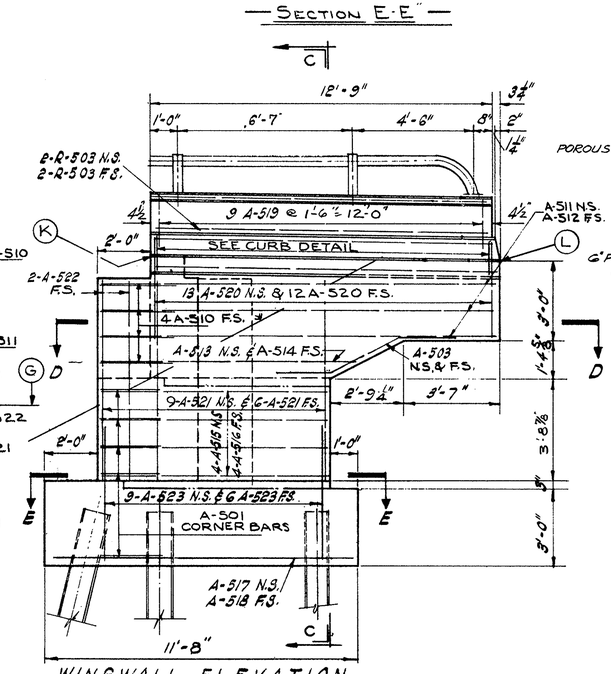
SECTION E-E



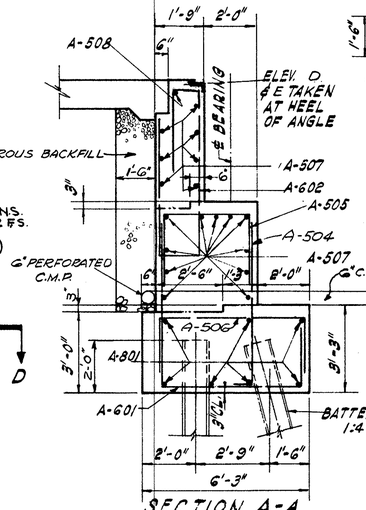
CURB DETAIL
(SEE SECTION C-C FOR BAR LOCATIONS)



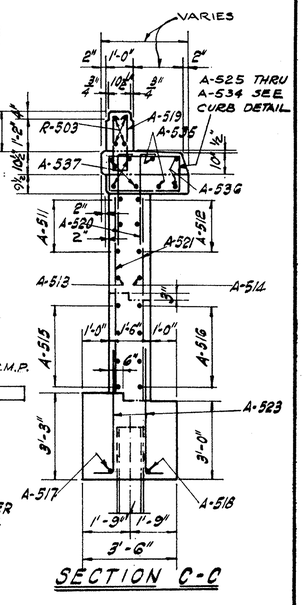
SECTION B-B



WINGWALL ELEVATION



SECTION A-A



SECTION C-C

* ELEVATIONS SHOWN TAKEN AT HEEL OF ANGLE

ELEVATIONS

LOCATION	A	B	C	*D	*E	F	G	H	K	L
ABUTMENT NO.1	1028.50	1028.62	1028.73	1032.52	1032.76	1031.24	1027.50	1021.41	1032.59	1032.53
ABUTMENT NO.2	1028.50	1028.62	1028.73	1032.52	1032.76	1031.24	1027.50	1021.41	1032.59	1032.53

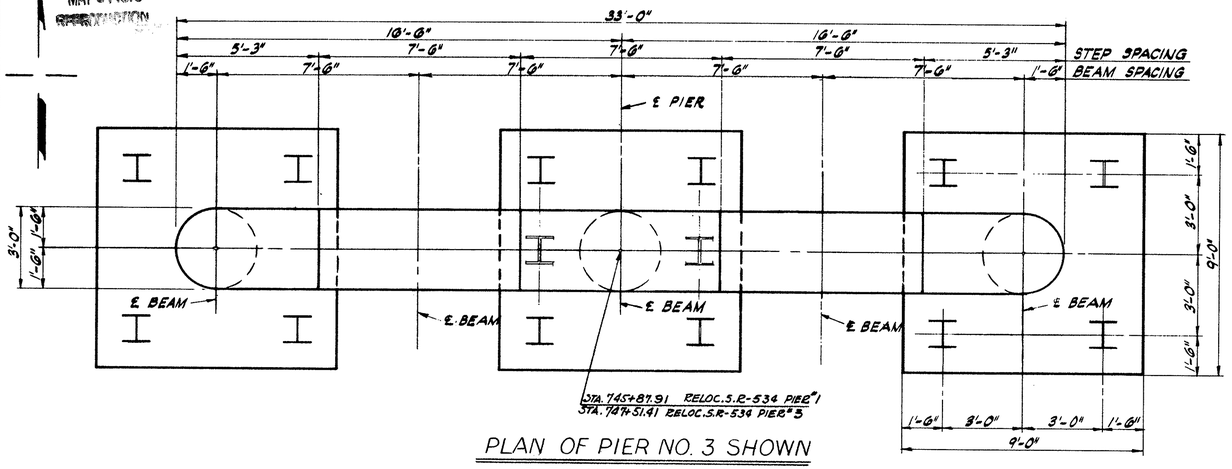
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

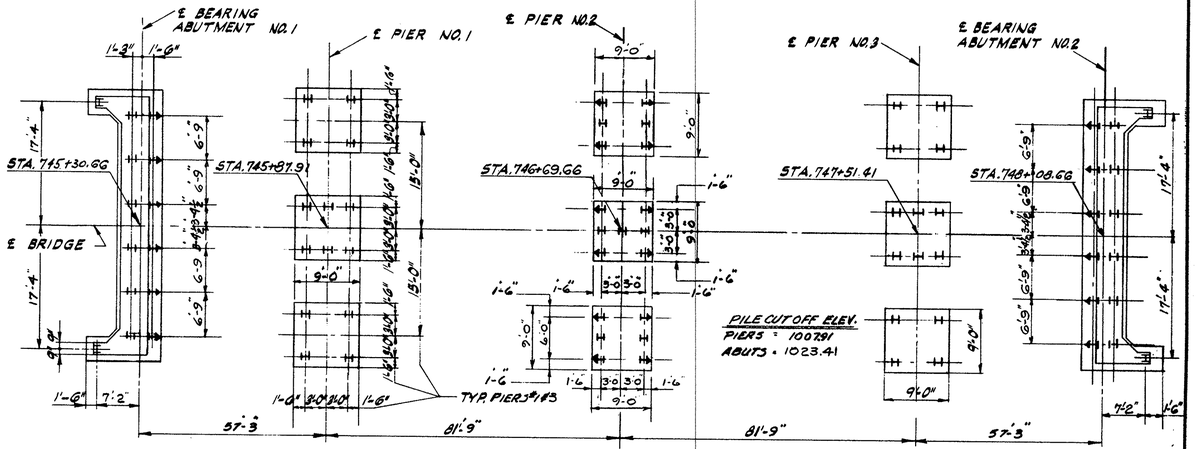
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

ABUTMENTS

BRIDGE NO. MAH-18-0284
UNDER RELOC. S.R.-534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	J.L.H.		C.E.S.	[illegible]	8/29/63	





MICROFILMED
MAY 07 1979
[illegible]

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.- 18- 0.91

153
180

PLAN OF PIER NO. 3 SHOWN
PIER NO. 1 SIMILAR

NOTE: BATTER PILES 1:4 INDICATED BY ▼
10 BP42 STEEL PILES UNDER ABUTMENTS
12 BP53 STEEL PILES UNDER PIERS

PILING PLAN

ELEVATION

SECTION A-A

SECTION B-B

	ELEVATIONS			
	A	B	C	D
PIER #1	1028.69	1028.81	1028.93	1006.91
PIER #3	10.28.69	1028.81	1028.93	1006.91

SECTION C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

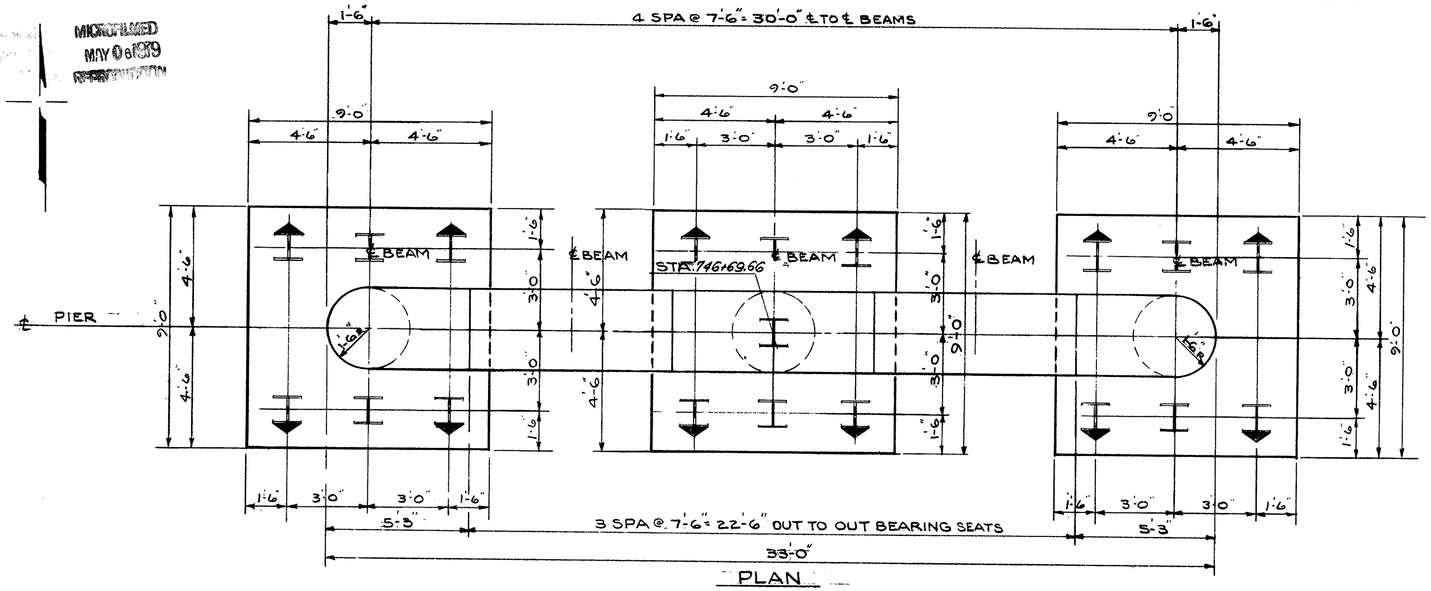
PIERS 1 & 3
BRIDGE NO. MAH-18-02 84
UNDER RELOC. S.R. 534
MAHONING COUNTY
STA. 149+ 97. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	B.M.		CES	RDH	8/30/63	

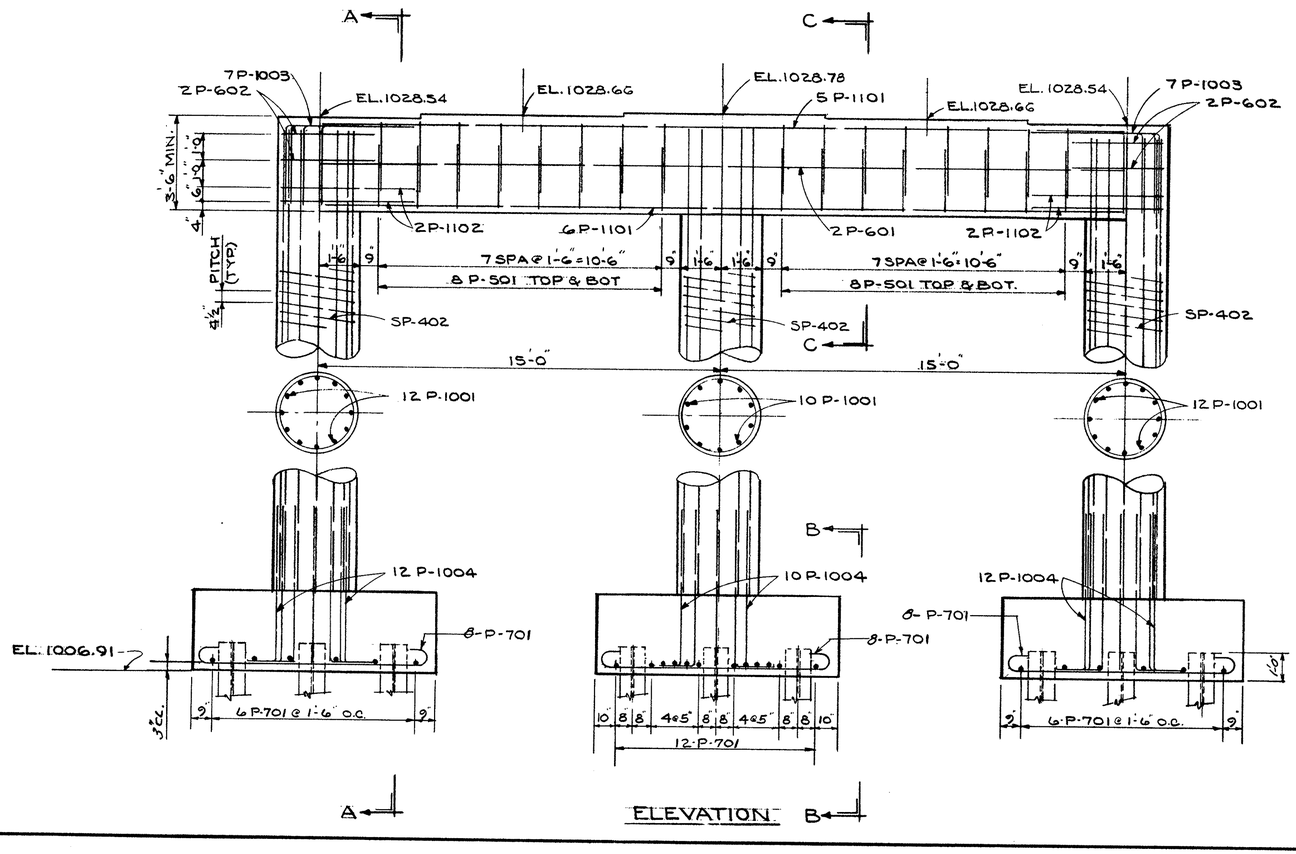
FED. RD.	STATE	PROJECT	
2	OHIO		

154
180

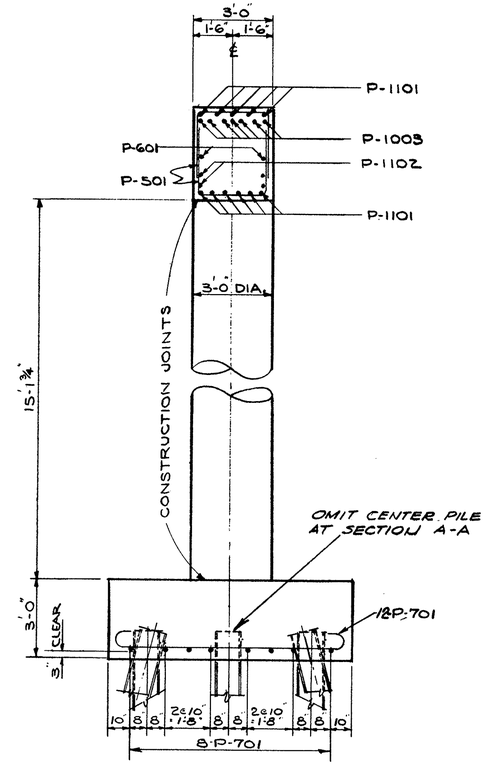
MA H.-18-0.91



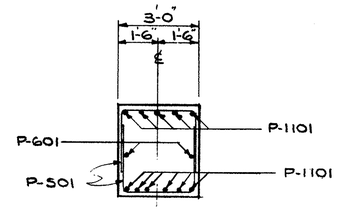
PLAN



ELEVATION



SECTION A-A
℄ SECTION B-B



SECTION C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

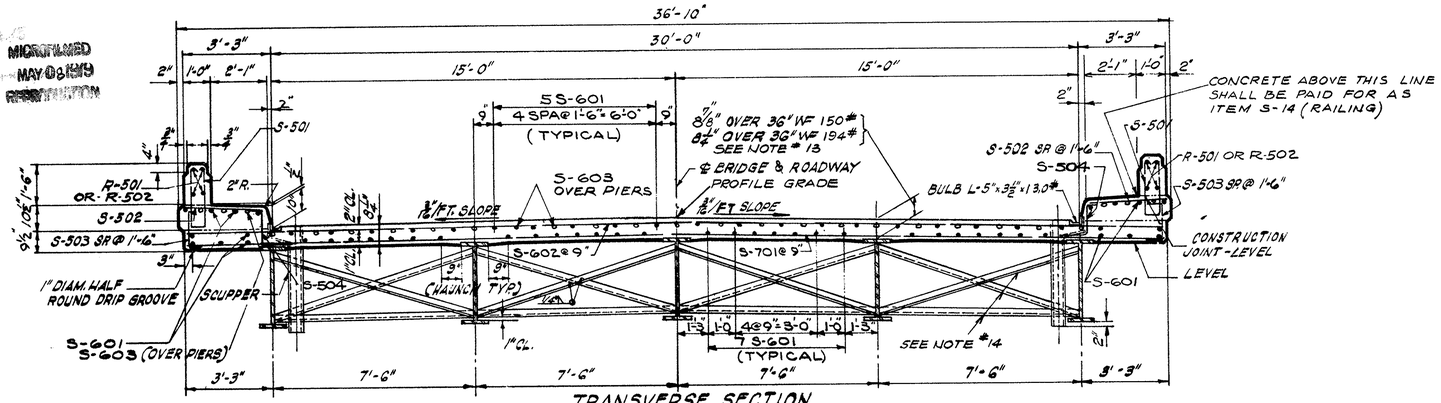
PIER # 2
BRIDGE MAH. 18-02.84
UNDER RELOC. S.R.-534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	JLH		CES	RDH	11/24/63	

FED. RD.	STATE	PROJECT	
2	OHIO		

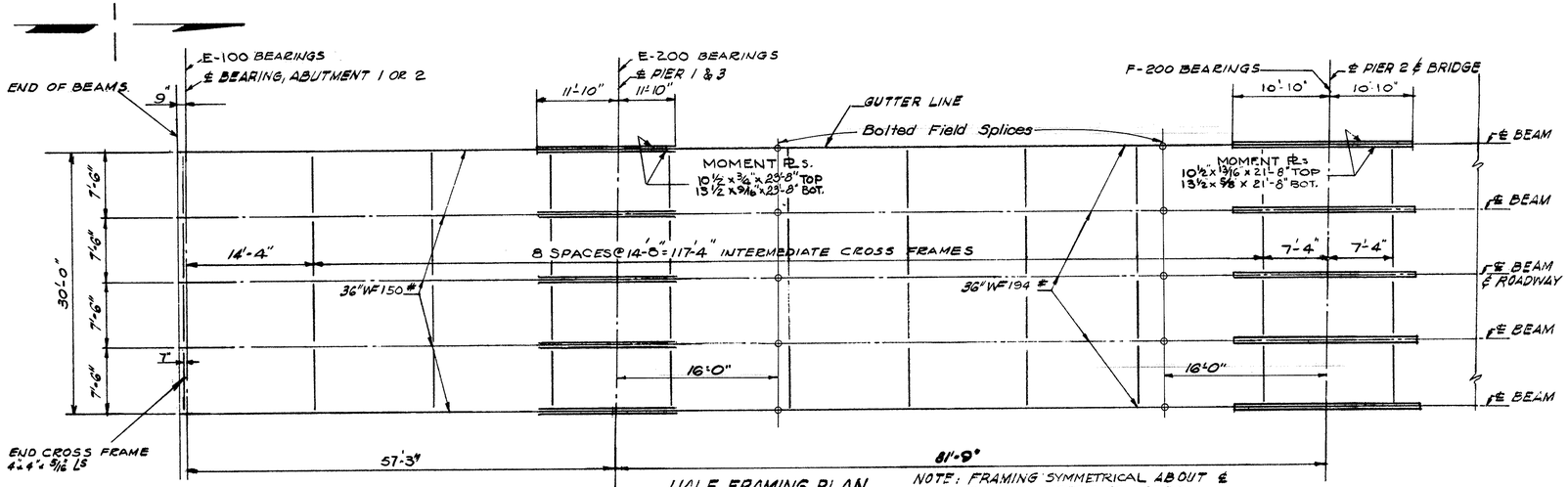
155
180

MAH - 18 - 0.91



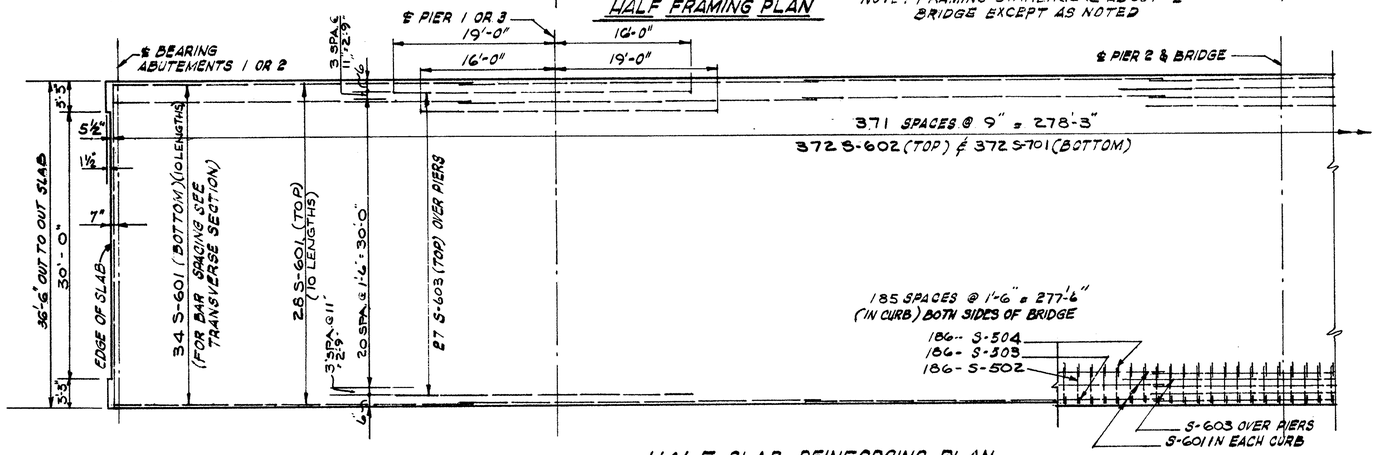
TRANSVERSE SECTION

FOR BEAM SPLICE WELDING SEE NOTE # 9

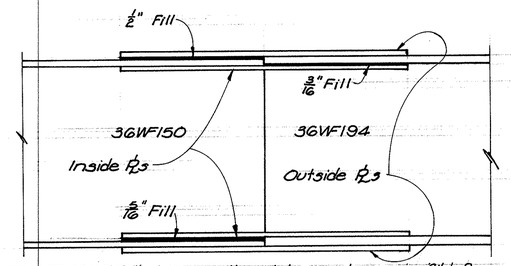


HALF FRAMING PLAN

NOTE: FRAMING SYMMETRICAL ABOUT ℄ BRIDGE EXCEPT AS NOTED



HALF SLAB REINFORCING PLAN



Use 36WF150 beam splice data as shown on Std. Dwg. SD-2-64. For other splice see Std. Dwg. SD-2-64 36WF194 beam splice details.

36WF150 TO 36WF194 SPLICE

DEFLECTION AND CAMBER				
LOCATION	OUTSIDE BEAMS		INSIDE BEAMS	
	SPANS 1 & 4	SPANS 2 & 3	SPANS 1 & 4	SPANS 2 & 3
DEFLECTION DUE TO WEIGHT OF STEEL	.043	.148	.043	.141
DEFLECTION DUE TO REMAINING DEAD LOAD	.173	.485	.219	.622
CONVEXITY REQUIRED FOR VERTICAL CURVE	.197	.401	.197	.401
SUM OF DEFLECTION AND CONVEXITY	.413	1.034	.459	1.164
REQUIRED CAMBER	0	1 1/8"	0	1 1/4"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

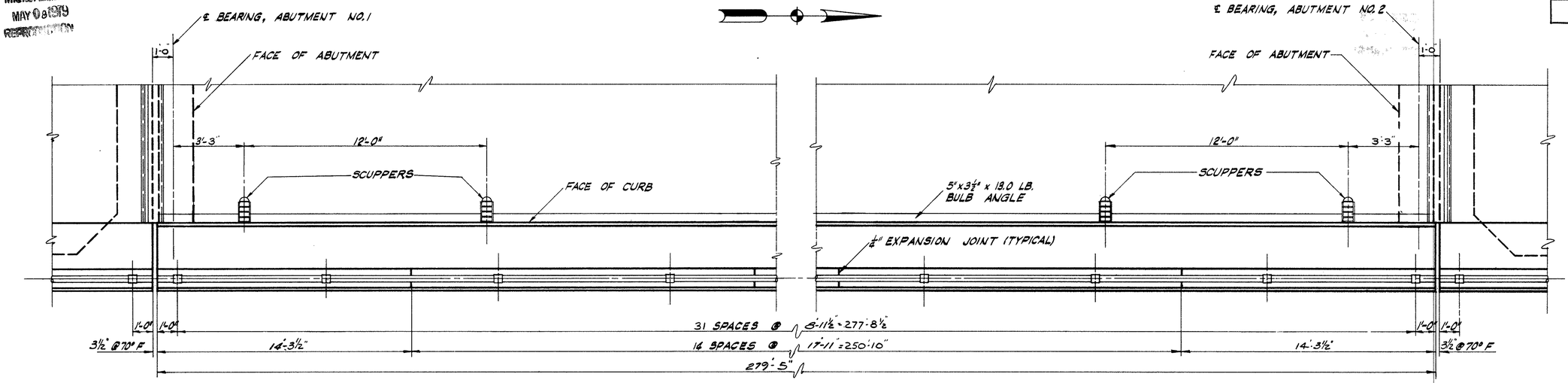
SUPERSTRUCTURE
BRIDGE NO. MAH-18-02 84
UNDER RELOC. S. R. 534
MAHONING COUNTY
STA. 149+ 97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	J.L.H		C.E.S.	RDH	6/24/63	

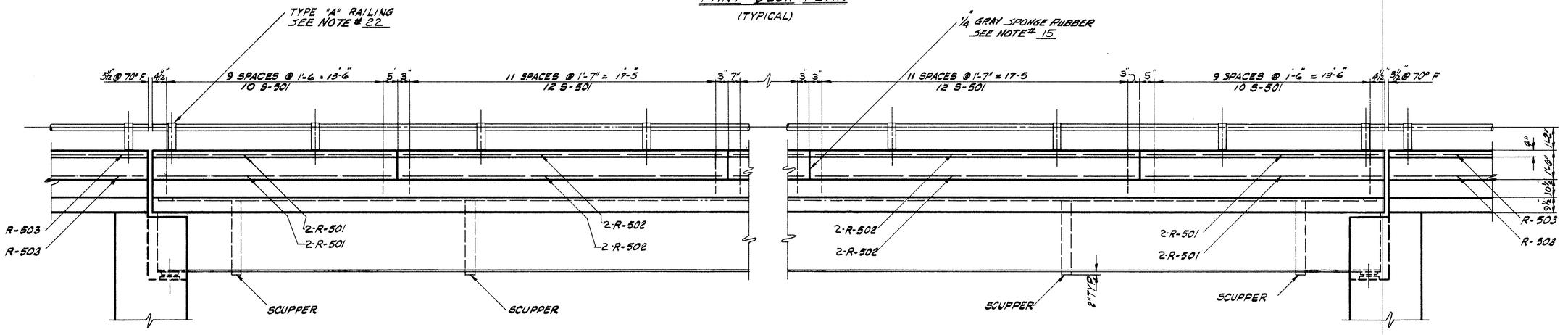
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.-18-0.91

156
180



PART DECK PLAN
(TYPICAL)



ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

RAILING & DRAINAGE DETAILS

BRIDGE NO. MAH-18-02 84
UNDER RELOC. S.R.-534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	BM		C.E.S.	RDH	8/30/63	

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH, -18-0.91

157
180

MICROFILMED
MAY 08 1979
RECORDATION

ABUTMENTS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D		WEIGHT LBS.
* QUANTITIES SHOWN ARE FOR 2 ABUTMENTS **									
A-501	20	3'-11"	1	2'-0"	2'-0"				82
A-502	0	PEN							
A-503	8	7'-2"	11	2'-0"	3'-2"	2'-0"	1'-5"		60
A-504	50	6'-11"	1	1'-0"	6'-0"				361
A-505	50	7'-8"	3	3'-5"	2'-3"				400
A-506	54	9'-2"	3	5'-5"	2'-0"				516
A-507	36	35'-10"	ST.						1345
A-508	2	26'-0"	ST.						54
A-509	4	5'-0"	ST.						21
A-510	16	3'-6"	ST.						58
A-511	12	14'-8"	ST.						184
A-512	12	11'-6"	ST.						144
A-513	4	9'-4"	ST.						39
A-514	4	5'-6"	ST.						23
A-515	16	8'-4"	ST.						139
A-516	16	5'-0"	ST.						83
A-517	4	11'-4"	ST.						47
A-518	4	7'-6"	ST.						31
A-519	36	5'-5"	5	8"	2'-1"	5"			203
A-520	100	3'-11"	1	6"	3'-6				409
A-521	60	7'-0"	ST.						438
A-522	8	5'-7"	ST.						47
A-523	60	5'-5"	1	6"	5'-0"				339
A-524	36	4'-6"	ST.						169
A-525	16	8'-6"	14	2'-9"	1'-4"	6"			142
A-526	8	8'-2	14	2'-7"	1'-4"	6"			67
A-527	4	7'-10"	14	2'-5"	1'-4"	6"			33
A-528	4	7'-6"	14	2'-3"	1'-4"	6"			31
A-529	4	9'-2"	14	2'-1"	1'-4"	6"			30
A-530	4	6'-10"	14	1'-11"	1'-4"	6"			28
A-531	4	6'-6"	14	1'-9"	1'-4"	6"			27
A-532	4	6'-0"	14	1'-6"	1'-4"	6"			25
A-533	4	5'-4"	14	1'-2"	1'-4"	6"			22
A-534	4	4'-8	14	10"	1'-4"	6"			19
A-535	8	9'-0"	ST.						75
A-536	8	13'-0"	15	1'-7"					109
A-537	16	12'-8"	ST.						211
A-601	54	13'-2"	4	5'-10"	5'-5"	2'-2"			1,068
A-602	48	14'-11"	7	4'-9"	1'-4"	6'-0"	11°	3'-0"	1,076
A-603	20	19'-1"	3	1'-5"	6'-0"				393
A-801	14	37'-10"	ST.						1,414
** ABUTMENTS ARE IDENTICAL									
TOTAL ABUTMENTS									9,916#

PIERS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D		WEIGHT LBS.
PIERS #1, #2 & #3									
P-501	96	7'-5"	3	2'-8"	2'-6"				743
P-601	6	30'-0"	ST						270
P-602	12	7'-7"	9	2'-0"	3'-7"	1'-2⅛"			137
P-701	138	10'-4"	8	10"	8'-8"				2915
P-1001	94	18'-5"	ST.						7448
P-1002	0	PEN							
P-1003	42	7'-9"	1	3'-2"	4'-10"				1396
P-1004	94	6'-8"	1	1'-0"	5'-11"				2696
P-1101	33	30'-0"	ST						5260
P-1102	12	10'-6"	9	3'-6"	3'-6"	1'-2⅛"			670
TOTAL PIERS									21,535
TOTAL SPIRALS									2542
TOTAL PIERS & SPIRALS									24077

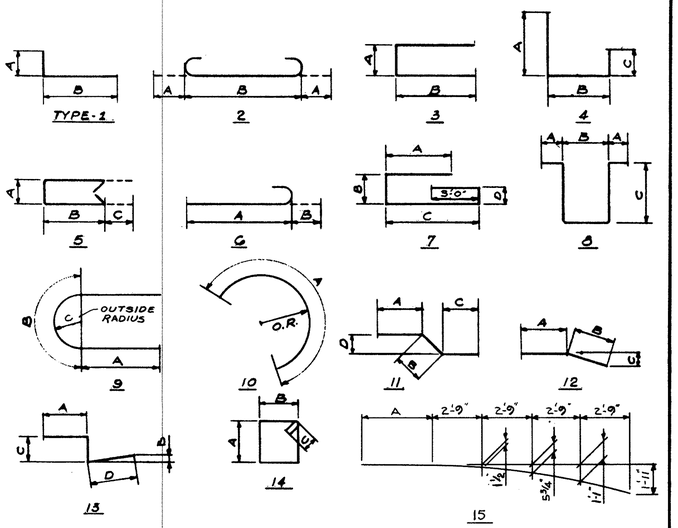
SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D		WEIGHT LBS.
SLAB 1									
S-501	376	5'-5"	5	8"	2'-1"	5"			2124
S-502	372	3'-2"	ST.						1229
S-503	372	2'-0"	3	1'-3"	6"				776
S-504	372	2'-6"	13	6"	0"	1'-3"	1'-0"		970
S-601	620	29'-8"	ST						27,476
S-602	372	36'-2"	ST						20,208
S-603	81	35'-0"	ST						4,258
S-701	372	36'-2"	ST						27,500
TOTAL SUPERSTRUCTURE									84,541
RAILING ⊗									
R-501	16	14'-0"	ST.						
R-502	112	17'-7"	ST.						
R-503	16	12'-5"	ST.						
REPLACEMENT BARS									
RE-401	1	5'-3"	10						
RE-501	1	5'-6"	ST						
RE-601	3	6'-0"	ST						
RE-701	3	6'-3"	ST						
RE-801	1	6'-6"	ST						
RE-1001	1	7'-3"	ST						
RE-1101	1	7'-9"	ST						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	6	2'-8"	15'-3½"	4⅝"	44	1458
SP-402	3	2'-8"	15'-1⅞"	4⅝"	43	711
SPACERS	36					373
TOTAL SPIRALS						2542 #

GRAND TOTAL 118,579 LBS



NOTE:
BAR DIMENSIONS ARE OUT TO OUT.

⊗ RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM S-4.
ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING STEEL

BRIDGE NO. MAH-18-0284
UNDER RELOC. S.R. - 534
MAHONING COUNTY
STA. 149+97.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ONG.	J.L.H.		C.E.S.	RDH	8/3/63	

CENTERLINE SURVEY PLAT

MAH.-18-0.91

MAHONING COUNTY

MILTON TOWNSHIP

FED. RD.	STATE	PROJECT	
2	OHIO	I 805-7(11)-21S	

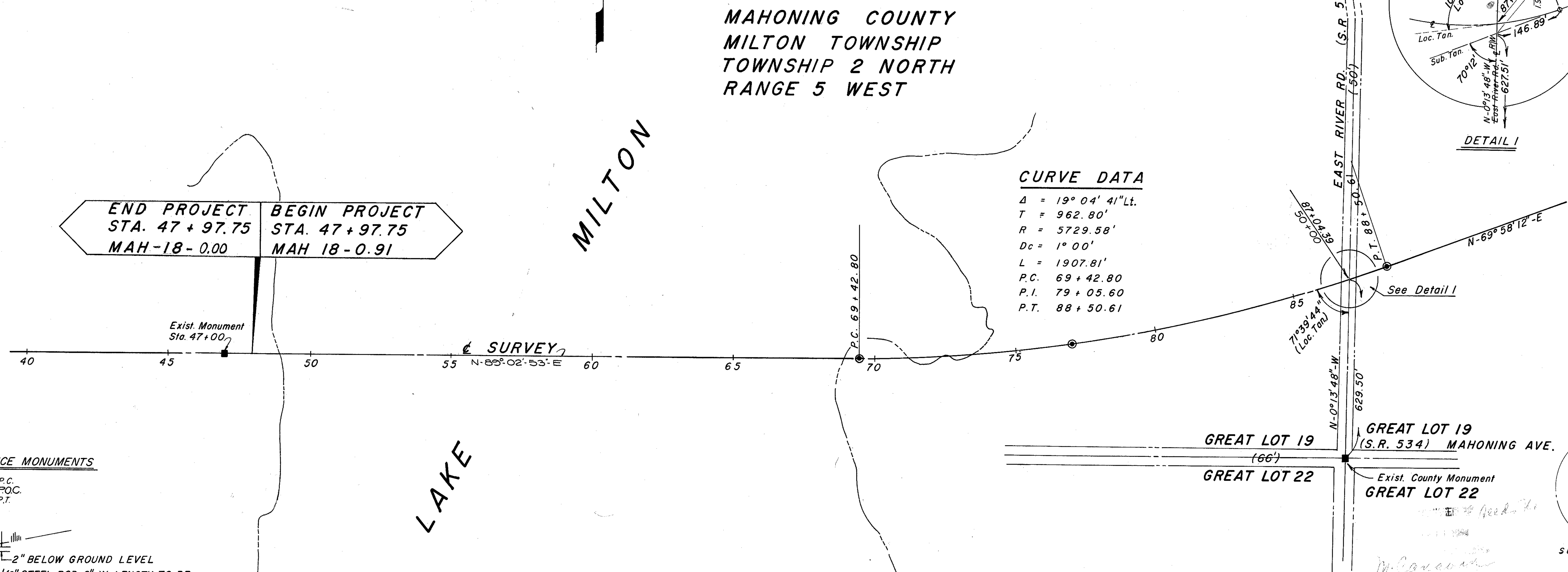
158/180

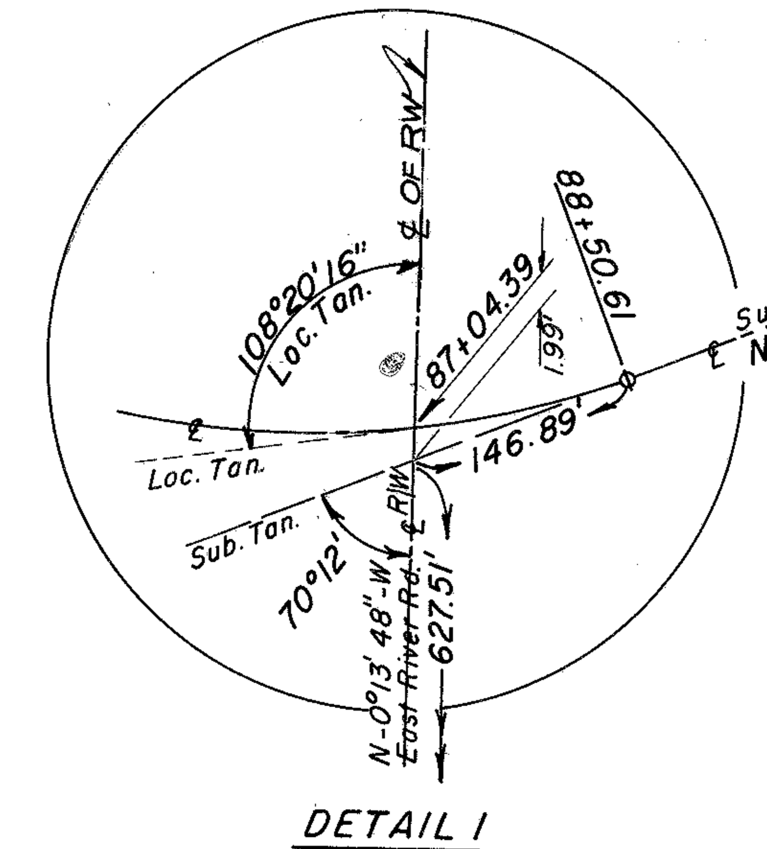
MAH.-18-0.91
RIGHT of WAY SHEET 1/23

NOTE:
PROJECT DESIGNATION MAH. 18-0.91 APPEARING THROUGHOUT THIS PLAN SHALL BE CONSIDERED TO READ MAH. I.R. 80S 0.91

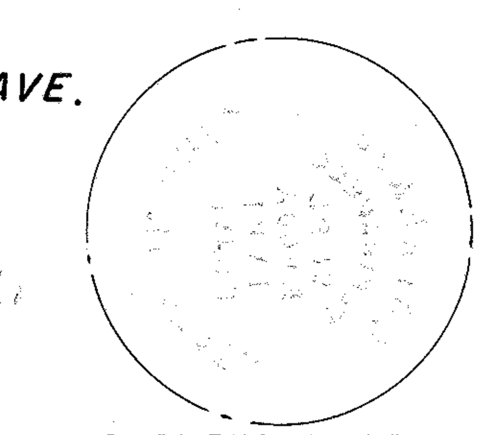
LIMITED ACCESS

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 47 + 97.75 TO STATION 162 + 50 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME 41, PAGE 935, OF THE DIRECTORS JOURNAL PURSUANT TO LAW. Dated 12-18-56





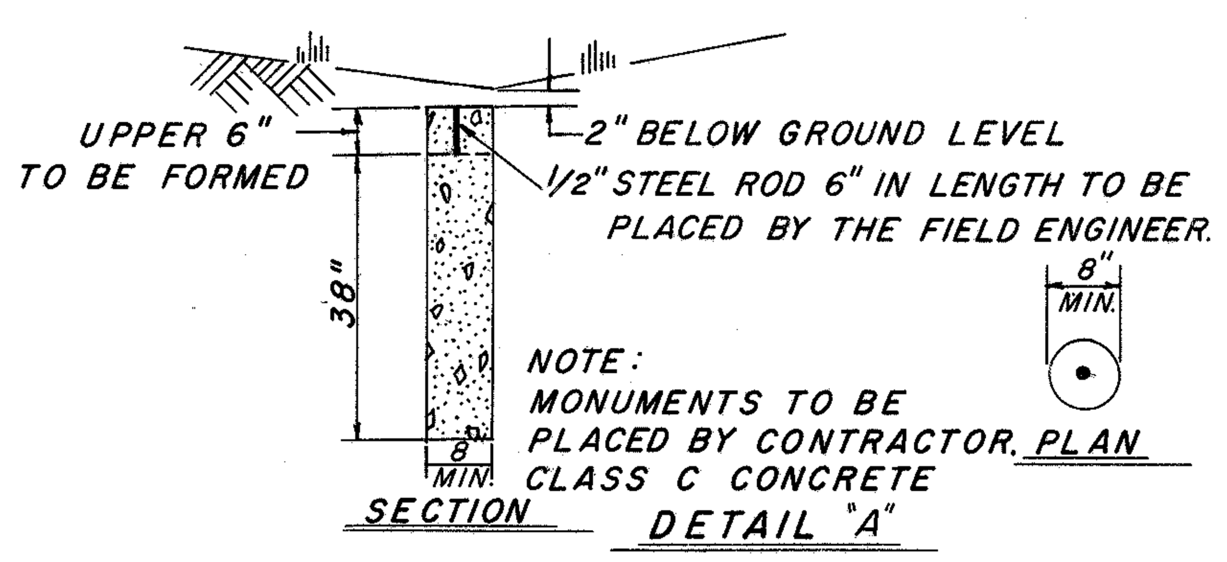
DETAIL I



SURVEYORS SEAL

CENTERLINE REFERENCE MONUMENTS

69 + 42.80 P.C.
77 + 00.00 P.O.C.
88 + 50.61 P.T.



DETAIL OF CENTERLINE REFERENCE MONUMENTS

NOTES:
- MONUMENTS TO BE PLACED ON CENTER LINE SURVEY.
- MONUMENTS TO BE PLACED DURING OR AFTER CONSTRUCTION.
- IRON PIN REFERENCE POINTS TO BE PLACED BEFORE CONSTRUCTION.
- ALL IRON PIN REFERENCE POINTS ARE SET AT THE DISCRETION OF THE FIELD ENGINEER AND OUTSIDE OF THE CONSTRUCTION LIMITS.

COMPARED
BY E.D. H.D.

◉ MONUMENTS to be SET
■ EXISTING MONUMENTS

RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964

Centerline Survey Plat 1 of 3

M. Carnevale

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS. BY Bryan E McCoy

2 Pages DATE July 7, 1964

RECEIVED FOR RECORD Sept. 11th 1964 at 8:35 A.M.
RECORDED: VOL. 54, PAGES 30 and 31 OF THE MAHONING COUNTY RECORDS. September 12, 1964
Horace G. Tetlow
RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
Clifton M. Newhall
DATE 9-8-64 DIVISION DEPUTY DIRECTOR

GRAPHIC SCALE
0 100 200 400 600

$ 12.00

CENTERLINE SURVEY PLAT

MAH.-18-0.91

MAHONING COUNTY

MILTON TOWNSHIP

MAH.-18-0.91
RIGHT of WAY SHEET 2/23

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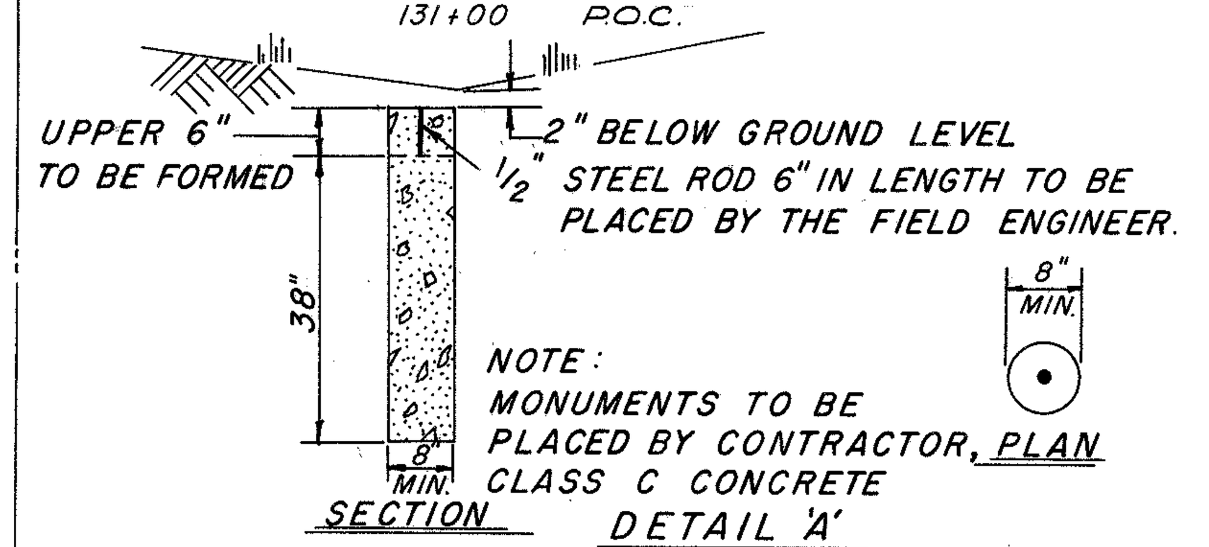
Dated 12-18-56

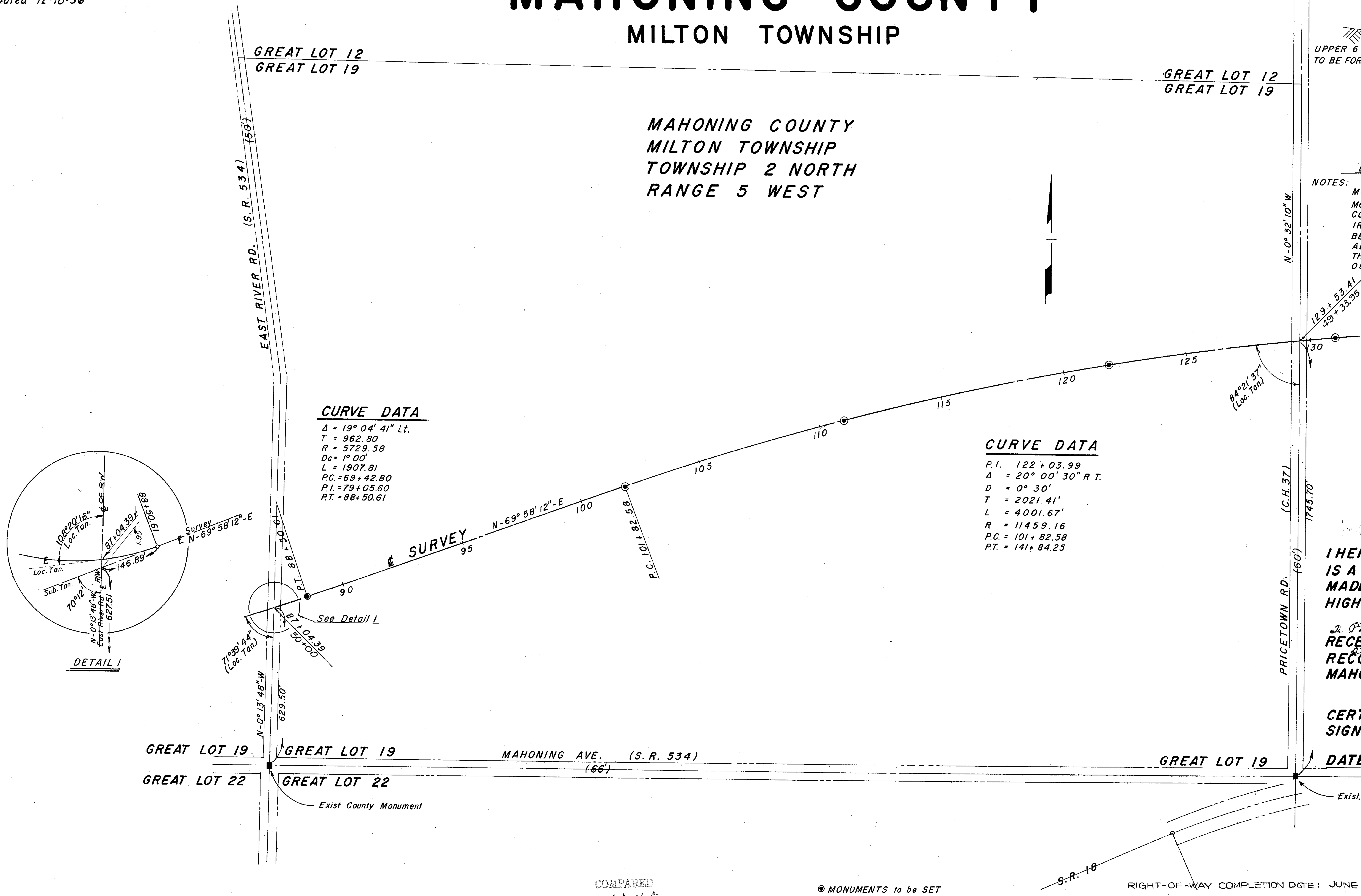
CENTERLINE REFERENCE MONUMENTS

88 + 50.61 P.T.
101 + 82.58 P.C.
111 + 00 P.O.C.
121 + 83.41 (Middle ordinate of curve)
131 + 00 P.O.C.



DETAIL OF CENTERLINE REFERENCE MONUMENTS

NOTES:
MONUMENTS TO BE PLACED ON CENTER LINE SURVEY.
MONUMENTS TO BE PLACED DURING OR AFTER CONSTRUCTION.
IRON PIN REFERENCE POINTS TO BE PLACED BEFORE CONSTRUCTION.
ALL IRON PIN REFERENCE POINTS ARE SET AT THE DISCRETION OF THE FIELD ENGINEER AND OUTSIDE OF THE CONSTRUCTION LIMITS.



SURVEYORS SEAL

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DATE July 7, 1964

2 Pages
RECEIVED FOR RECORD Sept. 11th 1964 at 8:36 A.M.
RECORDED: VOL. 54, PAGES 32 & 33 OF THE MAHONING COUNTY RECORDS. September 12, 1964
Horace G. [illegible]
RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
Clifton M. Newhall
DATE 9-8-64 DIVISION DEPUTY DIRECTOR

COMPARED BY E.D. H.D.

◉ MONUMENTS to be SET
■ EXISTING MONUMENTS

RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964

GRAPHIC SCALE
0 100 200 400 600

CENTERLINE SURVEY PLAT

MAH. - 18 - 0.91

MAHONING COUNTY

MILTON TOWNSHIP

LIMITED ACCESS

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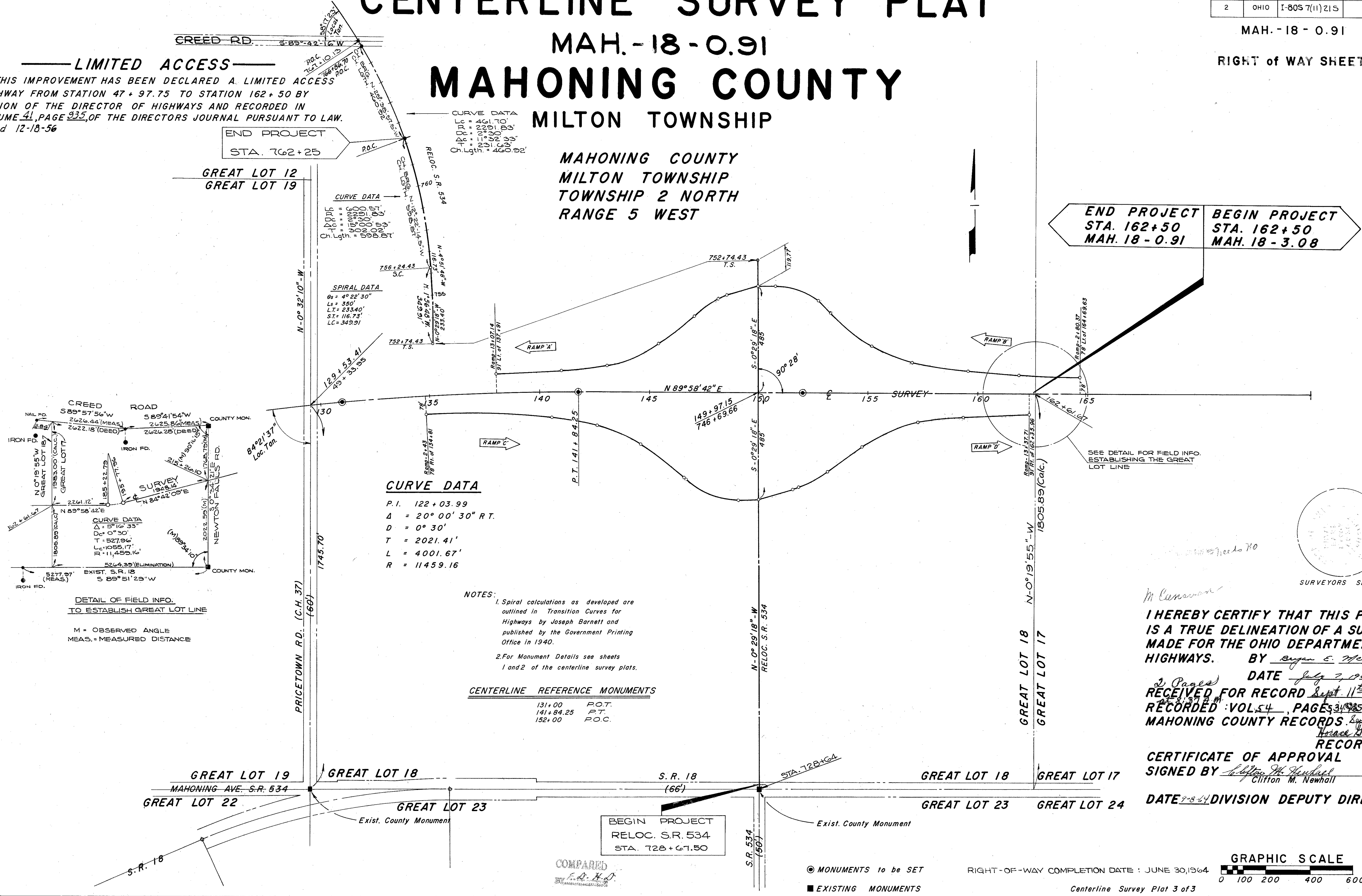
MAHONING COUNTY
MILTON TOWNSHIP
TOWNSHIP 2 NORTH
RANGE 5 WEST



CREED RD.
S 89°-42'-16"W
END PROJECT
STA. 762+25
CURVE DATA
Lc = 461.70'
R = 2291.83'
Dc = 2°30'
Δc = 11°32'33"
T = 231.63'
Ch. Lgth. = 460.92'
GREAT LOT 12
GREAT LOT 19
CURVE DATA
Lc = 600.57'
R = 2291.83'
Dc = 2°30'
Δc = 15°00'53"
T = 302.02'
Ch. Lgth. = 598.87'
RELOC. S.R. 534
756+24.43 S.C.
SPIRAL DATA
θs = 4°22'30"
Ls = 350'
L.T. = 233.40'
S.T. = 116.73'
LC = 349.91
752+74.43 T.S.
N-0°32'10"-W
129+53.41
49+33.95
RAMP 'A'
RAMP 'B'
RAMP 'C'
RAMP 'D'
N 89°58'42"E
SURVEY
90°28'
S-0°29'18"-E
149+97.15
746+69.66
P.T. 141+84.25
84°21'37" Loc. Tan.
END PROJECT STA. 162+50 MAH. 18-0.91
BEGIN PROJECT STA. 162+50 MAH. 18-3.08
162+61.67
SEE DETAIL FOR FIELD INFO. ESTABLISHING THE GREAT LOT LINE
CREED ROAD
S 89°57'56"W
2626.44'(MEAS)
2622.18'(DEED)
S 89°41'54"W
2625.86'(MEAS)
2626.28'(DEED)
COUNTY MON.
IRON FD.
N 0°19'55"W
GREAT LOT 18
GREAT LOT 17
SURVEY
N 84°42'09"E
NEWTON FALLS RD.
2261.12'
N 89°58'42"E
CURVE DATA
Δ = 5°16'33"
Dc = 0°30'
T = 527.96'
Lc = 1055.17'
R = 11,459.16'
5264.35'(ELIMINATION)
EXIST. S.R. 18
S 89°51'29"W
5277.97'(MEAS)
DETAIL OF FIELD INFO. TO ESTABLISH GREAT LOT LINE
M = OBSERVED ANGLE
MEAS. = MEASURED DISTANCE
PRICETOWN RD. (C.H. 37) (60')
1745.70'
N-0°29'18"-W
RELOC. S.R. 534
GREAT LOT 18
GREAT LOT 17
N-0°19'55"-W
1805.89'(Calc.)
GREAT LOT 19
GREAT LOT 18
MAHONING AVE. S.R. 534
GREAT LOT 22
GREAT LOT 23
S.R. 18 (66')
STA. 728+64
GREAT LOT 18
GREAT LOT 17
GREAT LOT 23
GREAT LOT 24
Exist. County Monument
BEGIN PROJECT RELOC. S.R. 534 STA. 728+67.50
S.R. 534 (50')
S.R. 18

CURVE DATA

P.I. 122 + 03.99
Δ = 20° 00' 30" R.T.
D = 0° 30'
T = 2021.41'
L = 4001.67'
R = 11459.16

NOTES:
1. Spiral calculations as developed are outlined in Transition Curves for Highways by Joseph Barnett and published by the Government Printing Office in 1940.
2. For Monument Details see sheets 1 and 2 of the centerline survey plats.

CENTERLINE REFERENCE MONUMENTS

131+00	P.O.T.
141+84.25	P.T.
152+00	P.O.C.

SURVEYORS SEAL

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2 Pages
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Clifton M. Newhall
DATE 9-8-64 DIVISION DEPUTY DIRECTOR

◉ MONUMENTS to be SET
■ EXISTING MONUMENTS

RIGHT-OF-WAY COMPLETION DATE : JUNE 30, 1964

GRAPHIC SCALE
0 100 200 400 600

I-80S

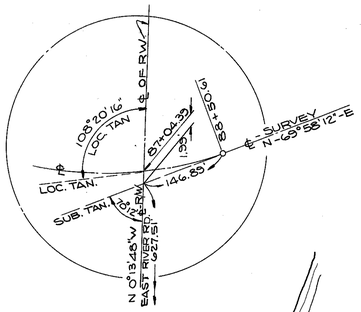
PROPERTY MAP

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19 (PART)
TOWNSHIP 2 NORTH RANGE 5 WEST

FED. RD.	STATE	PROJECT	
2	OHIO		

161
180

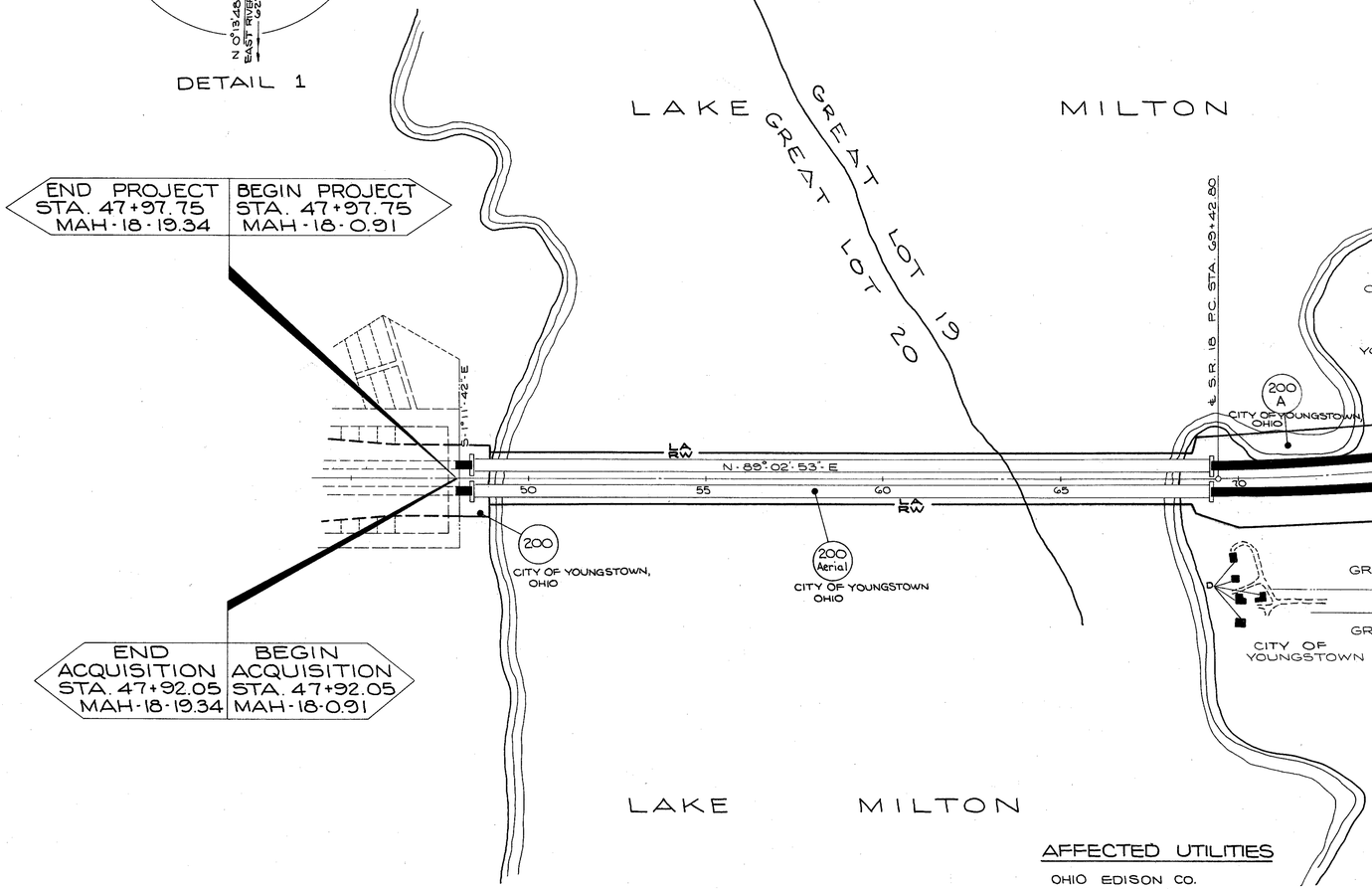
MAH.-18-0.91
RIGHT of WAY SHEET 4/23

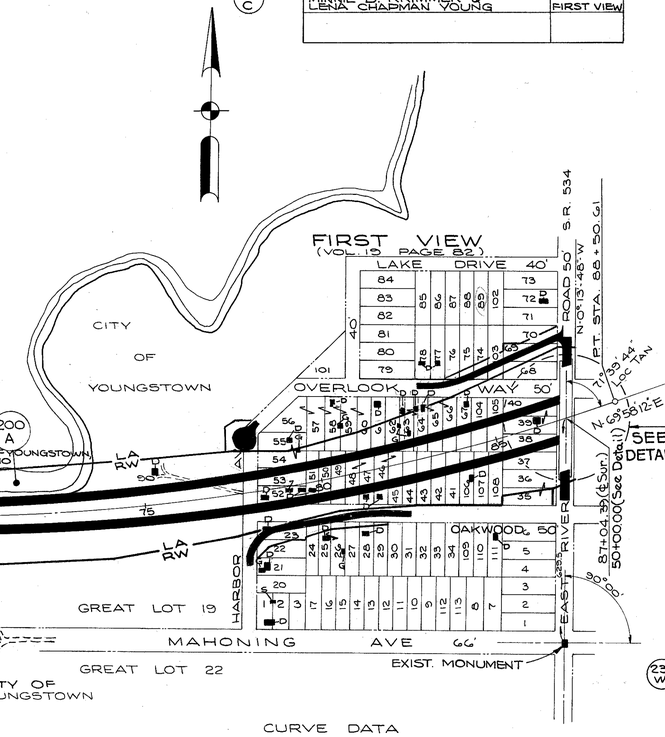


DETAIL 1

END PROJECT	BEGIN PROJECT
STA. 47+97.75	STA. 47+97.75
MAH-18-19.34	MAH-18-0.91

END ACQUISITION	BEGIN ACQUISITION
STA. 47+92.05	STA. 47+92.05
MAH-18-19.34	MAH-18-0.91





CURVE DATA
P.I. STA. 79+05.60
Δ = 15°04'41"
D = 1°00'
T = 962.80'
L = 1907.81'
E = 80.21'
R = 5729.58'

AFFECTED UTILITIES

OHIO EDISON CO.
47 N. MAIN ST.
AKRON, OHIO

OHIO BELL TELEPHONE CO.
50 W. BOWERY ST.
AKRON, OHIO

BUILDING LEGEND
D ■ DWELLING
B ■ BARN
G ■ GARAGE
S ■ SHED

PARCEL Nº	OWNER	LOT Nº
201 WL / 201 WA	RAYMOND C. & GWENDOLYN DAVIS	54,55 FIRST VIEW
202 WL	FRANK H. FENNER & LOUISE A. FENNER AKA ANNA LOUISE FENNER	52,53 FIRST VIEW
203 WL	THEDA E. YOUNG	51 FIRST VIEW
204 WL	LEROY YOUNG	50 FIRST VIEW
205 WL	THE FORGET-ME-NOT SWEDISH TEMPERANCE SOCIETY, A CORPORATION	23 FIRST VIEW
205 A	SARA GOODRIDGE	22 FIRST VIEW
206	HOMER H. ROSE	24 FIRST VIEW
207	ERNEST MILLER & OPAL MILLER	25,26 FIRST VIEW
207 A	ELVIRA CRAMER	27 FIRST VIEW
207 B	DINA RUDICK ,	28 FIRST VIEW
207 C	LENA KRIMMER AKA MINNIE B. KRIMMER & LENA CHAPMAN YOUNG	29 FIRST VIEW

PARCEL Nº	OWNER	LOT Nº
208 WL	THEDA E. YOUNG	49 FIRST VIEW
209 WL	ERNEST R. GLIDWELL & HELEN M. GLIDWELL	47,48 FIRST VIEW
210 WL	MARY FRANCIS WISE aka., MARY F. WISE aka., MARY FRANCIS BORKO	56,57,58,59 FIRST VIEW
211 WL	SAM TRAFICANT & SARA TRAFICANT	60, 61 FIRST VIEW
212 WL	WILLIAM L. GARTLAND & MARY F. GARTLAND AKA MARY FRANCIS GARTLAND	45,46 FIRST VIEW
213 WL / 213 WA	MARY FRANCIS WISE aka., MARY F. WISE aka., MARY FRANCIS BORKO	62, W'LY 15' OF 63 FIRST VIEW
214 WL	FRED G. EDWARDS	ELY 25' 63 & W 5' 64 FIRST VIEW
215 WL	GRACE Mc GARRY	44 FIRST VIEW
216 WL	ROBERT B. STURGEON	43 FIRST VIEW
217 WL	MARGARET A. SHAFFER	E.31' 64,65,66 & 77,78 FIRST VIEW
218 WL	RUTH BELINKY	42 FIRST VIEW
219 WL	THOMAS SAVAGE SR. & ELSIE SAVAGE	41 FIRST VIEW
220 WL	ALVARA PHILLIPS	106 FIRST VIEW
221 WL	JOHN E. SIMMONS & ELAINE M. SIMMONS	67 FIRST VIEW
222 WL	WILMA L. FITCH	104 FIRST VIEW
223 WL	MICHAEL GOMEZ & JULIA GOMEZ	107 FIRST VIEW
224 WL	ALICE L. MOORE	108 FIRST VIEW
225 WL	THE ESTATE OF WILLIAM B. METZGAR DEC'D, BY MARY C. METZGER, EXECUTRIX, ETAL.	105 FIRST VIEW
226 WL	DOROTHY AHLBIN	68 FIRST VIEW
224 WL / 226 B	RUTH BELINKY	69 FIRST VIEW
226 B / 226 D	L.W. RUSSELL	70,71 FIRST VIEW
226 D	DAVID DALE SHAFFER	74,103 FIRST VIEW
226 F	CLARA RAVEN	75,76,77 FIRST VIEW
227 WL	JOHN HELSEL	39,40 FIRST VIEW
228 WL	BERTHA L. UNGER, LILLIAN LUNDSTROM, JENNIE N. LUNDT, CARL E. SANDBERG, ARTHUR G. SANDBERG & GEO. A. SANDBERG	38 FIRST VIEW
229 WL	PHILLIP CUCCARESE	37 FIRST VIEW
230 WL / 230 T	KENNETH K. CHRISTOPHER	35,36 FIRST VIEW
230 A T	GEORGE MOTICA & MARY MOTICA	6 FIRST VIEW
230 B T	GEORG MOTECA	5 FIRST VIEW

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

GRAPHIC SCALE
200 100 0 200 400 600 800

7 Name Change Pcl. 215 WL

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964			
RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964			
Nº	REVISIONS	MADE BY	DATE
1	Added 4.		9-24-64
2	Pcl. 210 WL - Deleted Lot 60, Pcl. 211 WL Added Lot 60, Pcl. 230 BT - Deleted Lot 4; Pcls. 210 WL, 211 WL, 213 WL, & 230 BT Name Change.		9-30-64
4	Combined Pcls. 226 E & 226 F	RAW	12-21-64
5	Parcel 225 WL, Name Change		1-26-65
6	Delete Parcel 207-D		2-16-65
7	Revised Pcl. 200-A-C 4-6-67 Lee		

PROPERTY MAP SHEET 1 OF 3

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

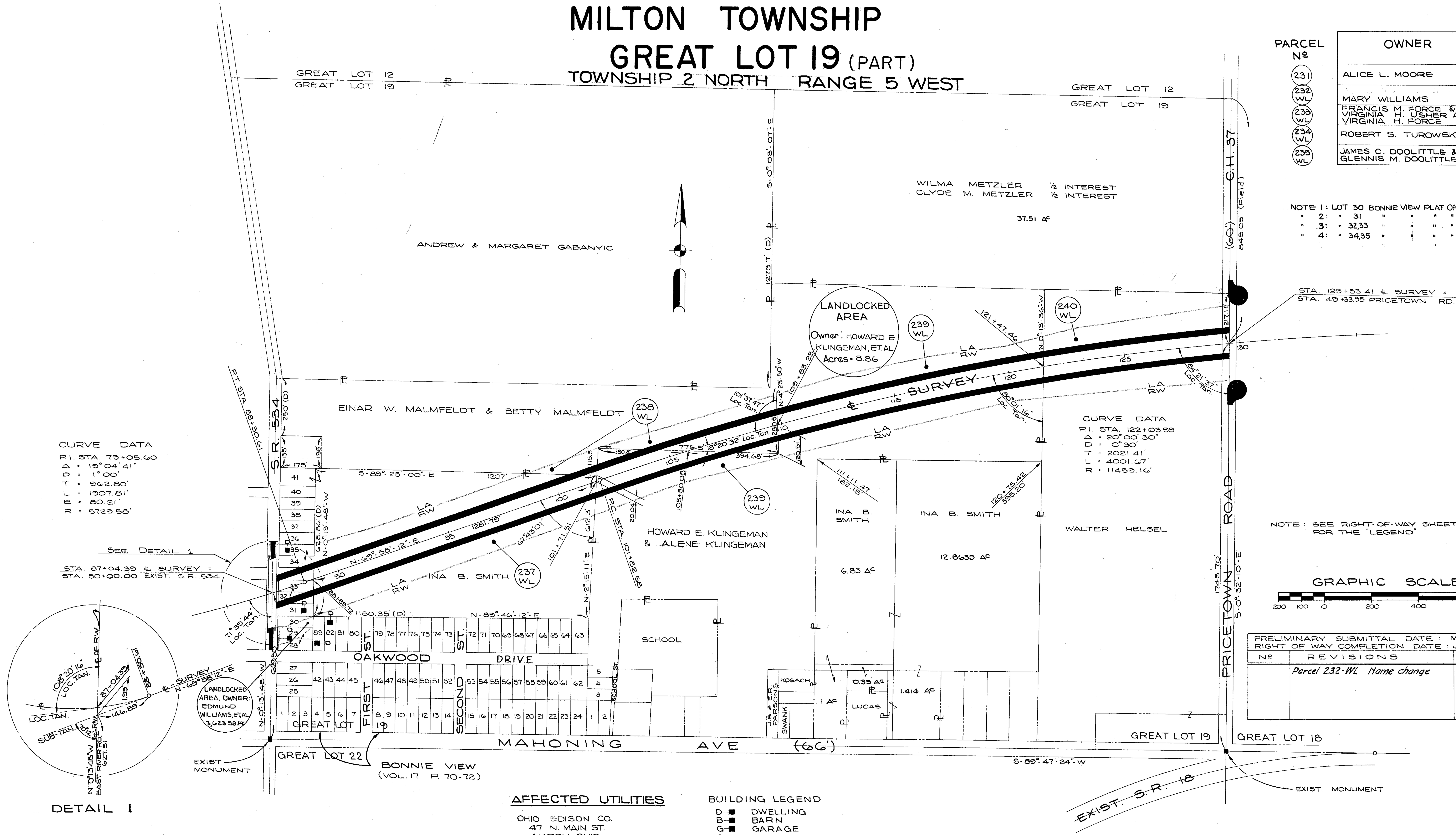
162/180

MAH. - 18 - 0.91
RIGHT of WAY SHEET 5/23

PROPERTY MAP
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19 (PART)
TOWNSHIP 2 NORTH RANGE 5 WEST

PARCEL Nº	OWNER	LOT Nº
231	ALICE L. MOORE	28, 29, H.E. SMITH'S PLAT
232 WL	MARY WILLIAMS	SEE NOTE 1
233 WL	FRANCIS M. FORCE & VIRGINIA H. USHER AKA VIRGINIA H. FORCE	SEE NOTE 2
234 WL	ROBERT S. TUROWSKI	SEE NOTE 3
235 WL	JAMES C. DOOLITTLE & GLENNIS M. DOOLITTLE	SEE NOTE 4

NOTE 1: LOT 30 BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
" 2: " 31 " " " " " "
" 3: " 32,33 " " " " " "
" 4: " 34,35 " " " " " "



GREAT LOT 12
GREAT LOT 19
ANDREW & MARGARET GABANYIC
WILMA METZLER 1/2 INTEREST
CLYDE M. METZLER 1/2 INTEREST
37.51 Ac
S. 0° 03' 07" E
1273.7' (D)
LANDLOCKED AREA
Owner: HOWARD E. KLINGEMAN, ET.AL
Acres = 8.86
EINAR W. MALMFELDT & BETTY MALMFELDT
238 WL
239 WL
240 WL
237 WL
SURVEY
LA RW
S. 89° 25' 00" E
N. 69° 58' 12" E
HOWARD E. KLINGEMAN & ALENE KLINGEMAN
INA B. SMITH
6.83 Ac
12.8639 Ac
WALTER HELSEL
CURVE DATA
P.I. STA. 122+03.99
Δ = 20° 00' 30"
D = 0° 30'
T = 2021.41'
L = 4001.67'
R = 11459.16'
CURVE DATA
P.I. STA. 79+05.60
Δ = 19° 04' 41"
D = 1° 00'
T = 962.80'
L = 1907.81'
E = 80.21'
R = 5729.58'
STA. 129+53.41 ℄ SURVEY = STA. 49+33.95 PRICETOWN RD.
STA. 87+04.39 ℄ SURVEY = STA. 50+00.00 EXIST. S.R. 534
SEE DETAIL 1
S.R. 534
C.H. 37
PRICETOWN ROAD
S. 0° 32' 10" E
OAKWOOD DRIVE
FIRST ST.
SECOND ST.
SCHOOL ST.
SCHOOL
KOSACH
LUCAS
0.35 Ac
1.414 Ac
1 Ac
N. 89° 46' 12" E
1180.35' (D)
GREAT LOT 19
GREAT LOT 18
GREAT LOT 22
MAHONING AVE (66')
S. 89° 47' 24" W
BONNIE VIEW (VOL. 17 P. 70-72)
EXIST. MONUMENT
EXIST. S.R. 18
LANDLOCKED AREA. OWNER: EDMUND WILLIAMS, ET.AL. 3,623 SQ.FT.
DETAIL 1

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

GRAPHIC SCALE
200 100 0 200 400 600 800

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
	Parcel 232-WL Name change		2-4-65

AFFECTED UTILITIES

OHIO EDISON CO.
47 N. MAIN ST.
AKRON, OHIO

OHIO BELL TELEPHONE CO.
50 W. BOWERY ST.
AKRON, OHIO

BUILDING LEGEND

- D-■ DWELLING
- B-■ BARN
- G-■ GARAGE
- S-■ SHED
- F-■ FOUNDATION

I-80S

FED.RD.	STATE	PROJECT	
2	OHIO		

163/180

MAH.-18-0.91

6/23

RIGHT - WAY SHEET

PROPERTY MAP

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18 (PART)
TOWNSHIP 2 NORTH RANGE 5 WEST

EXIST. MONUMENT

GREAT LOT 13

CREED RD.

GREAT LOT 18

END ACQUISITION STA. 767+10.13

END PAVEMENT 762+25

PAUL C. BIGELOW SR. & OLGA BIGELOW

246

LANDLOCKED AREA
OWNER: VINCENT PORTER
ACRES: 0.206

246 WL

VINCENT PORTER

244 WL

END CONTRACT MAH-18-0.91 STA. 162+50

BEGIN CONTRACT MAH-18-3.08 STA. 162+50

VINCENT PORTER

244 WL

END ACQUISITION MAH-18-0.91 STA. 175+47

N 0°-19'-55"-W

1288.42' (CALC)

N 89°-34'-56"-W

JOHN & MARY KOVACH
(PARCEL TO BE PURCHASED UNDER CONTRACT MAH-18-3.08)

1349.61' (CALC.)
1360.92' (D)
N-87°-02'-48"-W

BEGIN ACQUISITION MAH-18-3.08 STA. 162+61.67

241

94°21'37" LOC. TAN.

STA. 129+53.41 & SURVEY 49+35.39 PRICETOWN RD

2033.30' TO MONUMENT AT CREED RD

ROAD (60')

PRICETOWN

S 0°-32'-10"-E

1745.70'

C.H. 37

TOWN HALL

241 A

CURVE DATA
P.I. STA. 122+03.99
Δ = 20°-00'-30"
D = 0°-30'
T = 2021.41'
L = 4001.67'
R = 11459.16'

241 WL

BERT L. WOLSTEIN
PAUL LIPMAN
MICHAEL L. MILLER, CO-TRUSTEE

PT. 141+84.25

147+91.03

LA RW

RW

℄

N-85°-58'-42"-E

STA. 149+87.15 & SURVEY STA. 74C+09.66 RELOC. S.R. 534

SEE DETAIL FOR FIELD INFO. ESTABLISHING THE GREAT LOT LINE

RELOCATED S.R. 534

244 WL

V. PORTER

244

ROBERT C. HUGLI

245

BEGIN ACQUISITION RELOC. S.R. 534 STA. 728+64

GREAT LOT 18

GREAT LOT 17

N 0°-19'-55"-W

S.R. 534

S-89°-47'-12"-W

GREAT LOT 23

EXIST. MONUMENT

MAHONING AVE.

534

GREAT LOT 23

GREAT LOT 17 (66')

CREED ROAD

S 89°-57'-56"-W

NAIL FD.

S 89°-41'-54"-W

2626.44'(MEAS.)
2622.18'(DEED)

2625.86'(MEAS.)
2626.28'(DEED)

COUNTY MON.

IRON FD.

IRON FD.

N 0°-19'-55"-W
GREAT LOT 17

1983.00'(CALC.)

185+22.73

SURVEY 1948.14
N 84°-42'-05"-E

N 89°-58'-42"-E

2261.12'

162+61.67

CURVE DATA
Δ = 8°-16'-33"
D = 0°-30'
T = 527.96'
L = 1055.17'
R = 11,459.16'

1805.85'(CALC.)

5264.39'(ELIMINATION)

2022.89'(M)

(M) 1659.10

NEWTON FALLS RD.

EXIST. S.R. 18
S 89°-51'-29"-W

5277.97' (MEAS.)

IRON FD.

COUNTY MON.

DETAIL OF FIELD INFO. TO ESTABLISH GREAT LOT LINE

M = OBSERVED ANGLE
MEAS. = MEASURED DISTANCE

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

GRAPHIC SCALE
200 100 0 200 400 600 800

AFFECTED UTILITIES

OHIO EDISON CO.
47 N. MAIN ST.
AKRON, OHIO

OHIO BELL TELEPHONE CO.
50 W. BOWERY ST.
AKRON, OHIO

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE : JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	ADDED END PAVEMENT STATION - S.R. 534	C.B.	1-7-65
2	PARCEL 243 WL NAME CHANGE	W.I.	1-26-65
3	PARCEL 241 Added To 243 243 DELETED		8-30-66

Pcl 241 NAME Change 9-2-66 BY W.I.

PROPERTY MAP SHEET 3 OF 3

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

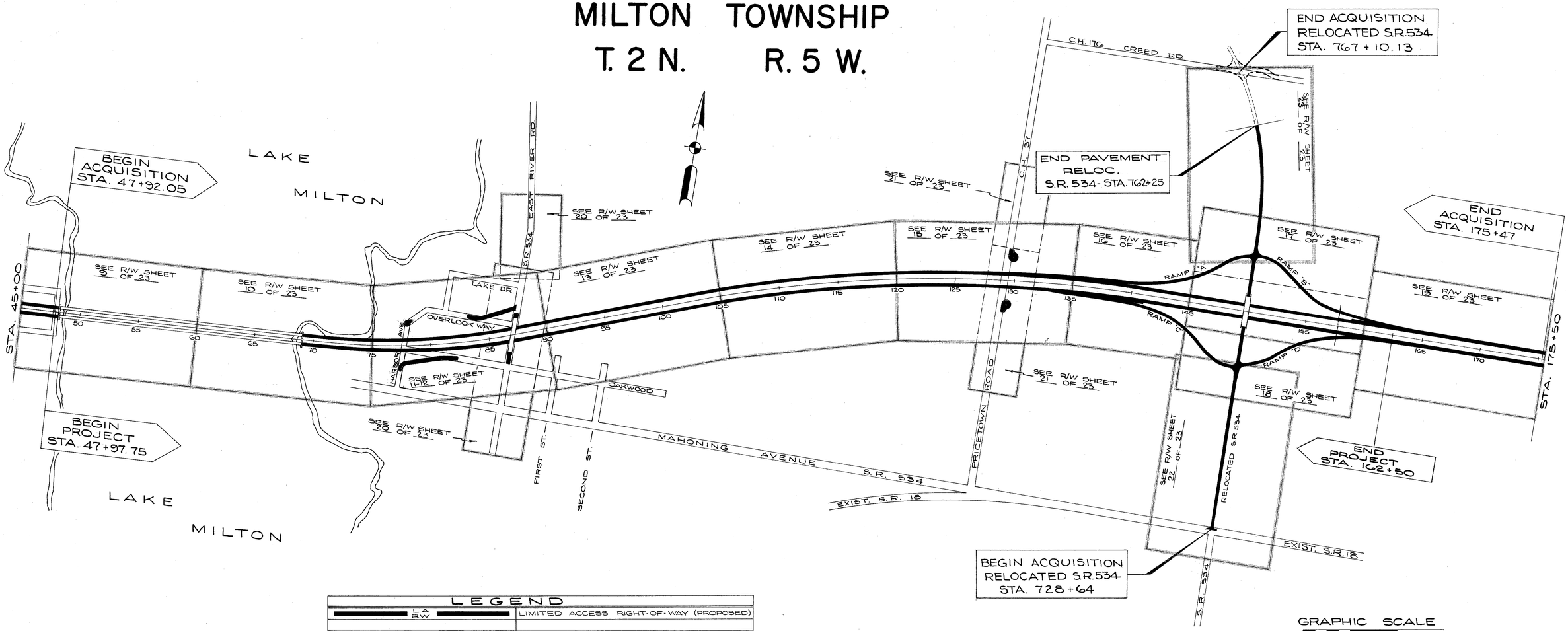
164/180

MAH.-18-0.91

RIGHT of WAY SHEET 7/23

KEY MAP

MAHONING COUNTY
MILTON TOWNSHIP
T. 2 N. R. 5 W.



LEGEND

L.A. R/W	LIMITED ACCESS RIGHT-OF-WAY (PROPOSED)
R/W	STANDARD EASEMENT (PROPOSED)
L.A. R/W	LIMITED ACCESS AS PROPOSED UNDER PREVIOUS CONTRACT
	ALL PROPOSED EASEMENTS NOT INCLUDED ABOVE (PROPOSED)
	CONSTRUCTION LIMITS & LOT DIVISIONS
	EXISTING RIGHT-OF-WAY
℄	EXISTING PROPERTY LINES
	FORMER PROPERTY OR LOT LINE
x x x x	EXISTING & PROPOSED FENCE
	POLE FOR OHIO EDISON POWER LINES
	POLE FOR OHIO BELL TELEPHONE LINES
	POLE FOR OHIO EDISON & OHIO BELL TELEPHONE LINES

GRAPHIC SCALE
400 0 400 800

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE : JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	REVISED "END PAV'T." NOTE - S.R. 534	C.B.	1-7-65

KEY MAP - STA. 45+00 to STA. 175+50

I-80S

SUMMARY OF RIGHT-OF-WAY REQUIRED

TOTAL NUMBER OF OWNERS 53

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91

RIGHT OF WAY SHEET

165/180

8/23

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	DEED AREA PORTION ROAD OCCUPIES	DEED AREA CORRECTION (ACRES)	TO BE ACQUIRED LAND (ACRES)	TO BE ACQUIRED BLDGS.	RESIDUE LEFT	RESIDUE RIGHT	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS
200 AERIAL	CITY OF YOUNGSTOWN, OHIO	COURT CASE	34823	TOTAL ACRES CANNOT BE DETERMINED FROM AVAILABLE INFO.				NO				9-10	
200WL		228	198				0.509	NO				9	
200AWL		162	190				5.488	YES				10-11-12	
		158	554										
200AC							0.0725	NO				11-12	
200A							0.089	—				9	
200B							0.089	—				9	
200C							0.089	—				9	
200D							0.089	—				9	
200E							0.089	—				9	
200F							0.089	—				9	
200G							0.089	—				9	
200H							0.089	—				9	
200J							0.089	—				9	
200K							0.089	—				9-10	
200L							0.089	—				10	
200M							0.089	—				10	
200N							0.089	—				10	
200P							0.089	—				10	
200Q							0.089	—				10	
200R							0.089	—				10	
200S							0.089	—				10	
200AWA							—	SEE 200AWL				11	
201 WL	RAYMOND C. DAVIS &	676	355	13,371 S.F.	—	—	7,232 S.F.	YES	6,139 S.F.	—	—	11-12	LOTS 54,55, FIRST VIEW ALLOTMENT
201 WA	GWENDOLYN DAVIS	645	451	—	—	—	—	—	—	—	—		
202WL	FRANK H. FENNER & LOUISE A. FENNER AKA ANNA LOUISE FENNER	511 / 288	220 / 610	13,400 S.F.	—	—	13,400 S.F.	YES	—	—	—	11-12	LOTS 52, 53, FIRST VIEW
203WL	THEDA E. YOUNG	931	173	5,250 S.F.	—	—	5,250 S.F.	YES	—	—	—	11-12	LOT 51, FIRST VIEW
204WL	LEROY YOUNG	689	325	5,250 S.F.	—	—	5,250 S.F.	NO	—	—	—	11-12	LOT 50, FIRST VIEW
* 205WL	THE FORGET-ME-NOT SWEDISH TEMPERANCE SOCIETY, A CORPORATION	358	483	6,700 S.F.	—	—	6,700 S.F.	YES	—	—	—	11-12	LOT 23, FIRST VIEW
206	HOMER H. ROSE	408	480	5,250 S.F.	—	—	1,111 S.F.	NO	—	4,139 S.F.	—	11-12	LOT 24, FIRST VIEW
207	ERNEST MILLER & OPAL MILLER	599	279	9,750 S.F.	—	—	1,261 S.F.	NO	—	8,489 S.F.	—	11-12	LOTS 25,26, FIRST VIEW
207A	ELVIRA CRAMER	418	85	6,000 S.F.	—	—	420 S.F.	NO	—	5,580 S.F.	—	11-12	LOT 27, FIRST VIEW
207B	DINA RUDICK	687	345	6,000 S.F.	—	—	301 S.F.	NO	—	5,699 S.F.	—	11-12	LOT 28, FIRST VIEW
207C	LENA KRIMMER AKA MINNIE B. KRIMMER & LENA CHAPMAN YOUNG	COURT CASE 320	36927 154	6,000 S.F.	—	—	181 S.F.	NO	—	5,819 S.F.	—	11-12	LOT 29, FIRST VIEW
208WL	THEDA E. YOUNG	682	561	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 49, FIRST VIEW
209WL	ERNEST R. GLIDWELL & HELEN M. GLIDWELL	679 / 655	218 / 557	12,000 S.F.	—	—	12,000 S.F.	YES	—	—	—	11-12	LOTS 47,48, FIRST VIEW
210WL	MARY FRANCIS WISE a.k.a., MARY F. WISE a.k.a., MARY FRANCIS BORKO	804 / 995	118 / 689	28,485	—	—	4871	YES	23,610	—	—	11-12	LOTS 56,57,58,59 FIRST VIEW
211WL	SAM TRAFICANT & SARAH TRAFICANT	1028 / 1028	205 / 203	12,000	—	—	5436	NO	6551	—	—	11-12	LOTS 60 & 61, FIRST VIEW
212WL	WILLIAM L. GARTLAND & MARY F. GARTLAND AKA MARY FRANCIS GARTLAND	691 / 657 / 623	75 / 375 / 208	12,000 S.F.	—	—	12,000 S.F.	YES	—	—	—	11-12	LOTS 45, 46, FIRST VIEW
213 WL	MARY FRANCIS WISE a.k.a., MARY F.	678	120	8,250 S.F.	—	—	5,122 S.F.	YES	3,097 S.F.	—	—	11-12	62, WLY 15' OF 63, FIRST VIEW
213 WA	WISE a.k.a., MARY FRANCIS BORKO	995	689										
214WL	FRED G. EDWARDS	594	565	5250 S.F.	—	—	5250 S.F.	YES	—	—	—	11-12	ELY 25' LOT 63, W 9' LOT 64, FIRST VIEW
215WL	GRACE Mc GARRY	1049	468	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 44, FIRST VIEW
216WL	ROBERT B. STURGEON	725	312	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 43, FIRST VIEW
217WL	MARGARET A. SHAFFER	637 / 639 / 598 / 575	564 / 245 / 128 / 5	16,500 S.F.	—	—	16,500 S.F.	YES	—	—	—	11-12	E. 31' LOTS 64, 65, 66, FIRST VIEW
218WL	RUTH BELINKY	934	61	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 42, FIRST VIEW
219WL	THOMAS SAVAGE SR. & ELVIE SAVAGE	511	577	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 41, FIRST VIEW
220WL	ALVARA PHILLIPS	642	195	6,000 S.F.	—	—	6,000 S.F.	YES	—	—	—	11-12	LOT 106, FIRST VIEW
221WL	JOHN E. SIMMONS & ELAINE M. SIMMONS	750	465	6,000 S.F.	—	—	6,000 S.F.	YES	—	—	—	11-12	LOT 67, FIRST VIEW
222WL	WILMA L. FITCH	673	412	6,750 S.F.	—	—	6,750 S.F.	NO	—	—	—	11-12	LOT 104, FIRST VIEW
223WL	MICHAEL GOMEZ & JULIA GOMEZ	789	273	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12	LOT 107, FIRST VIEW
224WL (SEE 231)	ALICE L. MOORE	949 / 835	374 / 607	6,000 S.F.	—	—	6,000 S.F.	NO	—	—	—	11-12-20	LOT 108, FIRST VIEW
225WL	THE ESTATE OF WILLIAM B. METZGAR, DEC'D, BY MARY C. METZGER, EXECUTRIX, ETAL.	310	564	6,750 S.F.	—	—	6,750 S.F.	NO	—	—	—	11-12-20	LOT 105, FIRST VIEW
226WL	DOROTHY AHLBIN	559	428	7,500 S.F.	—	—	7,500 S.F.	NO	—	—	—	11-12-20	LOT 68, FIRST VIEW
226AWL	RUTH BELINKY	934	61	7,500 S.F.	—	—	7,500 S.F.	NO NO	—	—	—	11-12-20	LOT 69, FIRST VIEW

NAME CHANGE Pcl 241 WL 9-2-66 BY WI

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	DEED AREA PORTION ROAD OCCUPIES	DEED AREA CORRECTION (ACRES)	TO BE ACQUIRED LAND (ACRES)	TO BE ACQUIRED BLDGS.	RESIDUE LEFT	RESIDUE RIGHT	LAND ISOLATED (ACRES)	SHEET Nº	REMARKS
226B / 226BT	L.W. RUSSELL	793	506	15,000 S.F.	—	—	2,622 S.F. / 316 S.F.	NO	12,373 S.F.	—	—	11-12-20	LOTS 70, 71, FIRST VIEW
226CT	OMIT PARCEL	—	—	—	—	—	—	—	—	—	—	—	
226DWL / 226D	DAVID DALE SHAFFER	565	230	12,750 S.F.	—	—	479 S.F. / 4461 S.F.	NO NO	7,793 S.F.			11-12	LOTS 74, 103, FIRST VIEW
226F	CLARA RAVEN	1043 / 661 / 540	327 / 157 / 630	16000 S.F.	—	—	1505 S.F.	NO	16,495 S.F.	—	—	11-12	LOTS 75,76,77 FIRST VIEW
227WL	JOHN HELSEL	876	311	15,000 S.F.	—	—	15,000 S.F.	YES	—	—	—	11-12-20	LOTS 39, 40, FIRST VIEW
228WL	BERTHA L. UNGER, LILLIAN LUNDSTROM, JENNIE N. LUNDT, CARL E. SANDBERG, ARTHUR G. SANDBERG & GEORGE A. SANDBERG	594	504	7,500 S.F.	—	—	7,500 S.F.	NO	—	—	—	11-12-20	LOT 38, FIRST VIEW
229WL	PHILLIP CUCCARESE	326	18	7,500 S.F.	—	—	7,500 S.F.	NO	—	—	—	11-12-20	LOT 37, FIRST VIEW
230WL / 230 / 230T	KENNETH K. CHRISTOPHER	830 / 789	221 / 263	15,000 S.F.	—	—	7,970 S.F. / 400 S.F. / 4,005 S.F.	NO NO	—	6,630 S.F.	—	11-12-20	LOTS 35, 36, FIRST VIEW
230AT	GEORGE MOTICA & MARY MOTICA	764	274	7,500 S.F.	—	—	3,013 S.F.	NO	—	4,487 S.F.	—	11-12-20	LOT 6, FIRST VIEW
230BT	GEORG MOTECA	751	368	7,500 S.F.	—	—	1,414 S.F.	NO	—	6,086 S.F.	—	11-12-20	LOT 5, FIRST VIEW
231 (SEE 224)	ALICE L. MOORE	949	374	15,000 S.F.	—	—	500 S.F.	NO NO	—	14,500 S.F.	—	11-12-20	LOTS 28, 29, H.E. SMITHS PLAT
232WL	MARY WILLIAMS	271	351	7,500 S.F.	—	—	3,877 S.F.	NO	—	3,623 S.F.	3,623 S.F.	11-12-20	LOT 30, BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
233WL	FRANCIS M. FORCE & VIRGINIA H. USHER NKA VIRGINIA H. FORCE	967 / 823	332 / 196	7,500 S.F.	—	—	7,500 S.F.	YES	—	—	—	11-12-20	LOT 31, BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
234WL	ROBERT S. TUROWSKI	793	380	15,000 S.F.	—	—	15,000 S.F.	NO	—	—	—	11-12-20	LOTS 32, 33, BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
235WL	JAMES C. DOOLITTLE & GLENNIS M. DOOLITTLE	792 / 857	224 / 32	15,000 S.F.	—	—	15,000 S.F.	YES	—	—	—	11-12-20	LOT 34 & 35 BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
236WL	OMIT PARCEL	—	—	—	—	—	—	—	—	—	—	—	
237WL / 237X / 237Y	INA B. SMITH	840	273	17.10 AC	—	17.28 AC	7.50 AC / 0.278 AC / 0.008 AC	NO — —	3.71 AC	6.07 AC	—	13 / 13 / 11	PART OF Q.L. 19 LOT 41, BONNIE VIEW PLAT OF H.E. SMITH'S SUBDIVISION
238WL / 238X	EINAR W. MALMFELDT & BETTY I. MALMFELDT	868	562	17.18 AC	—	16.47 AC	2.612 AC / 0.105 AC	NO —	13.86 AC	—	—	13-14 / 13	
239WL	HOWARD E. KLINGEMAN & ALENE KLINGEMANN	1017	242	36.59 AC	—	—	9.466 AC	NO	8.86 AC	18.26 AC	8.86 AC	13-14-15	
240WL	WALTER HELSEL	583	39	37.50 AC	1.94 AC	36.17 AC	5.35 AC	NO				15-21	PORTION EXIST. ROAD OCCUPIES 0.21 AC
		526	50					NO	2.27 AC	28.55 AC	—	15-21	
240T							0.09 AC	NO —				15-21 / 15	CASE #175769
241WL / 241 / 241-A	BERTL. WOLSTEIN / PAUL LIPMAN / MICHAEL L. MILLER, CO-TRUSTEE	1090	80	79.50 Ac.	UNDETERMINED	80.129 Ac.	10.835 AC / 0.234 AC / 0.233 AC	NO NO NO	16.148 Ac.	52.846 Ac.	—	15-16-21 / 15-21 / 15-21	PORTION EXIST. ROAD OCCUPIES 0.217 AC / PORTION EXIST. ROAD OCCUPIES 0.086 AC / PORTION EXIST. ROAD OCCUPIES 0.079 AC
242	OMIT PARCEL	—	—	—	—	—	—	—	—	—	—	—	
243WL	SAME AS 241WL RE: SOLON HOMES INC., AN OHIO CORPORATION	1092	82	20.35 Ac.	0.17 Ac.	20.60 Ac.	6.898 Ac.	NO	2.704 Ac.	10.999 Ac.	2.70 Ac.	16-17-18 / 22-23	CASE #175816
244WL / 244 / 244X / 244Y	V. PORTER AKA VINCENT PORTER	261 / 232 / 124	127 / 368 / 631	128.1 AC	UNDETERMINED	—	26.156 AC / 1.283 AC / 0.053 AC / 0.221 AC	NO NO	UNDETERMINED FROM AVAILABLE INFORMATION		0.206 AC	17-18-19-22-23 / 22 / 23 / 19 / 17	PORTION EXIST. ROAD OCCUPIES 0.075 AC
245	ROBERT C. HUGLI	934	315	2.50 AC	0.224 AC	2.54 AC	0.907 AC	NO	1.341 AC	0.29 AC	—	22	PORTION EXIST. ROAD OCCUPIES 0.075 AC
246WL / 246	PAUL C. BIGELOW SR. & OLGA BIGELOW	946	696	68.00 AC	2.053 AC	—	1.224 AC / 3.242 AC	NO	UNDETERMINED FROM AVAILABLE INFORMATION		—	23	PORTION EXIST. ROAD OCCUPIES 0.272 AC
205A	SARA GOODRIDGE	361	402	6,700 S.F.	—	—	1,738 S.F.	NO	—	4,962 S.F.	—	11, 12	LOT 22, FIRST VIEW
237Z	JOHN & MURIEL GALICIA	978	488	7,500 S.F.	—	—	1,125 S.F.	NO	—	—	—	11	LOT 83, BONNIE VIEW PLAT OF H.E. SMITHS SUBDIVISION
246X	PAUL C. BIGELOW SR. & OLGA BIGELOW	946	696	SEE 246 WL	—	—	0.023 AC	NO	(SEE 246WL)	—	—	23	
244-WA	V. PORTER AKA VINCENT PORTER											22	CHANNEL CLEANOUT

CASE #175816 COMBINED WITH CASE #175769 FOR COURT SETTLEMENT

15. Added Pcl. 243WL Back on Plan & Revised Pcl. 241WL to Reflect Court Settlement per Booher J.E.B. 2/18/69.

14 Revised Area Pcl 200-A-C 4-6-67 Lee

13 added Pcl 241 WL To 243 WL Pcl 243 Deleted 8-30-66 BY WI

12. Added Pcl 244-WA 4-22-66

7. Parcel 243WL Name Change 1-26-65

8. Parcel 207D Name Change 1-26-65

9. Parcel 232-WL Name change 2-8-65

10. Deleted Parcel 207D 2-11-65

11. Parcel 215 WL Name Change 4-15-65 4 Combined R/s. 226E & 226F RAW. 12-21-64

5. REVISED T.B.A. PCL. 200AWL C.B. 1-7-65

6. Parcel 225 WL, Name Change 1-26-65

* INDICATES A NUMBER OUT OF NUMERICAL ORDER TO BE FOUND AT THE END OF THE COLUMN

RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964

DATE OF PREPARATION		
REV.	DATE	DESCRIPTION
1	9-15-64	ADDED PARCEL 214
2	9-24-64	Deleted Pcl. 214 Added Pcl 226D-WL
3	9-30-64	Pcl. 210WL-Deleted Lot 60, Pcl. 211WL-Added Lot 60, Pcl. 230BT-Deleted Lot 4; Pcls. 210WL, 211WL, 213WL & WA, Vol., Pg., & Name Change; Pcls. 210WL, 211WL Area Chan

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

166/180

MAH - 18 - 0.91

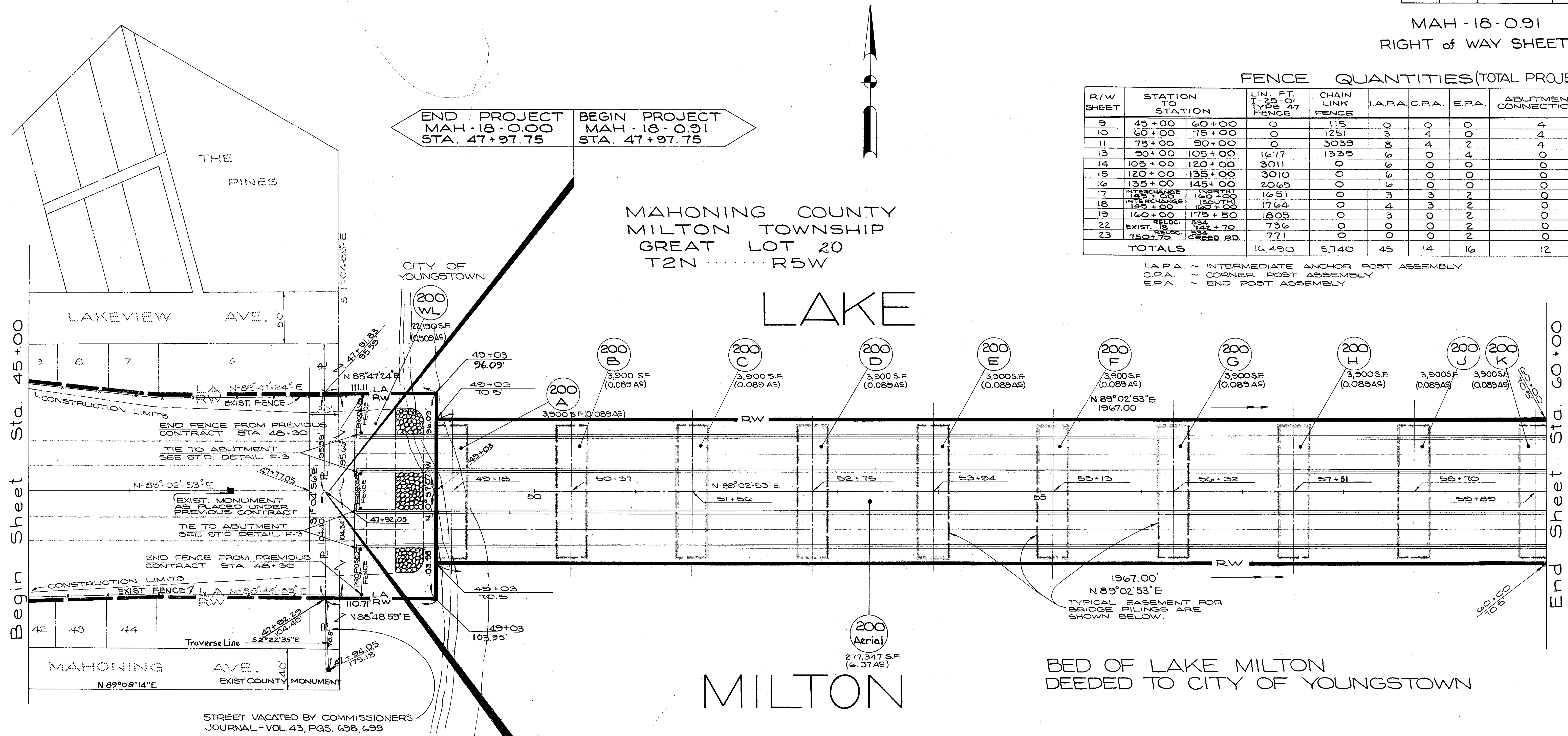
RIGHT of WAY SHEET

9/23

FENCE QUANTITIES (TOTAL PROJECT)

R/W SHEET	STATION TO STATION		LIN. FT. I-25-01 TYPE 47 FENCE	CHAIN LINK FENCE	I.A.P.A.	C.P.A.	E.P.A.	ABUTMENT CONNECTIONS
9	45 + 00	60 + 00	0	115	0	0	0	4
10	60 + 00	75 + 00	0	1251	3	4	0	4
11	75 + 00	90 + 00	0	3039	8	4	2	4
13	90 + 00	105 + 00	1677	1335	6	0	4	0
14	105 + 00	120 + 00	3011	0	6	0	0	0
15	120 + 00	135 + 00	3010	0	6	0	0	0
16	135 + 00	145 + 00	2065	0	6	0	0	0
17	INTERCHANGE 145 + 00	(NORTH) 160 + 00	1651	0	3	3	2	0
18	INTERCHANGE 145 + 00	(SOUTH) 160 + 00	1764	0	4	3	2	0
19	160 + 00	175 + 50	1805	0	3	0	2	0
22	EXIST. RELOC. 18	534 742 + 70	736	0	0	0	2	0
23	RELOC. 750 + 70	534 CREED RD.	771	0	0	0	2	0
TOTALS			16,490	5,740	45	14	16	12

I.A.P.A. ~ INTERMEDIATE ANCHOR POST ASSEMBLY
C.P.A. ~ CORNER POST ASSEMBLY
E.P.A. ~ END POST ASSEMBLY



BED OF LAKE MILTON
DEEDED TO CITY OF YOUNGSTOWN

NOTES (1) SEE RIGHT-OF-WAY SHEET № 7 FOR THE "LEGEND"
(2) SEE ABOVE FOR FENCE QUANTITIES, THIS SHEET

(SEE CENTER LINE SURVEY PLAT FOR DETAIL)

REFERENCE MONUMENTS TO BE SET

SH'T. №	MONUMENTS & STATIONS	
10	P.C. STA.	69 + 42.80
11 - 12	P.O.C. STA.	77 + 00.00
11 - 12 - 20	P.T. STA.	88 + 50.61
13	P.C. STA.	101 + 82.58
14	P.O.C. STA.	111 + 00.00
15	MIDDLE ORDINATE	121 + 83.41
15 - 21	P.O.C. STA.	131 + 00.00
16	P.T. STA.	141 + 84.25
17 - 18	P.O.T. STA.	152 + 00.00

END ACQUISITION MAH - 18 - 0.00 STA. 47 + 92.05

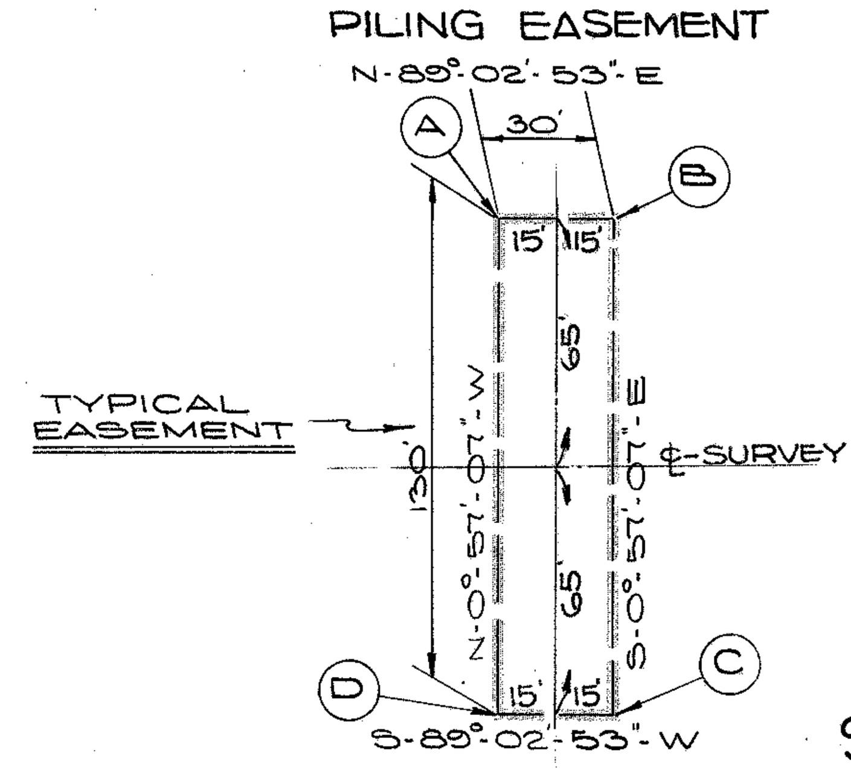
BEGIN ACQUISITION MAH - 18 - 0.91 STA. 47 + 92.05

■ EXISTING MONUMENT P.O.T. STA. 47+00.00

STATIONS & OFFSETS FOR THE BRIDGE PILING EASEMENTS

PARCEL	A	B	C	D
200 A	49+03 (65')	49+33 (65')	49+33 (65')	49+03 (65')
200 B	50+22 (65')	50+52 (65')	50+52 (65')	50+22 (65')
200 C	51+41 (65')	51+71 (65')	51+71 (65')	51+41 (65')
200 D	52+60 (65')	52+90 (65')	52+90 (65')	52+60 (65')
200 E	53+79 (65')	54+09 (65')	54+09 (65')	53+79 (65')
200 F	54+98 (65')	55+28 (65')	55+28 (65')	54+98 (65')
200 G	56+17 (65')	56+47 (65')	56+47 (65')	56+17 (65')
200 H	57+36 (65')	57+66 (65')	57+66 (65')	57+36 (65')
200 J	58+65 (65')	58+95 (65')	58+95 (65')	58+65 (65')
200 K	59+74 (65')	60+04 (65')	60+04 (65')	59+74 (65')
200 L	60+93 (65')	61+23 (65')	61+23 (65')	60+93 (65')
200 M	62+12 (65')	62+42 (65')	62+42 (65')	62+12 (65')
200 N	63+31 (65')	63+61 (65')	63+61 (65')	63+31 (65')
200 P	64+50 (65')	64+80 (65')	64+80 (65')	64+50 (65')
200 Q	65+69 (65')	65+99 (65')	65+99 (65')	65+69 (65')
200 R	66+88 (65')	67+18 (65')	67+18 (65')	66+88 (65')
200 S	68+07 (65')	68+37 (65')	68+37 (65')	68+07 (65')

TYPICAL BRIDGE PILING EASEMENT



GRAPHIC SCALE

100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964 RIGHT OF WAY COMPLETION DATE : JUNE 30, 1964			
№	REVISIONS	MADE BY	DATE
1	REVISE LA/RW TO RW	C.B.	1-7-65
2	REVISED FENCE QUANTITIES	C.B.	1-7-65

STA 45+00 TO STA. 60+00

I-805

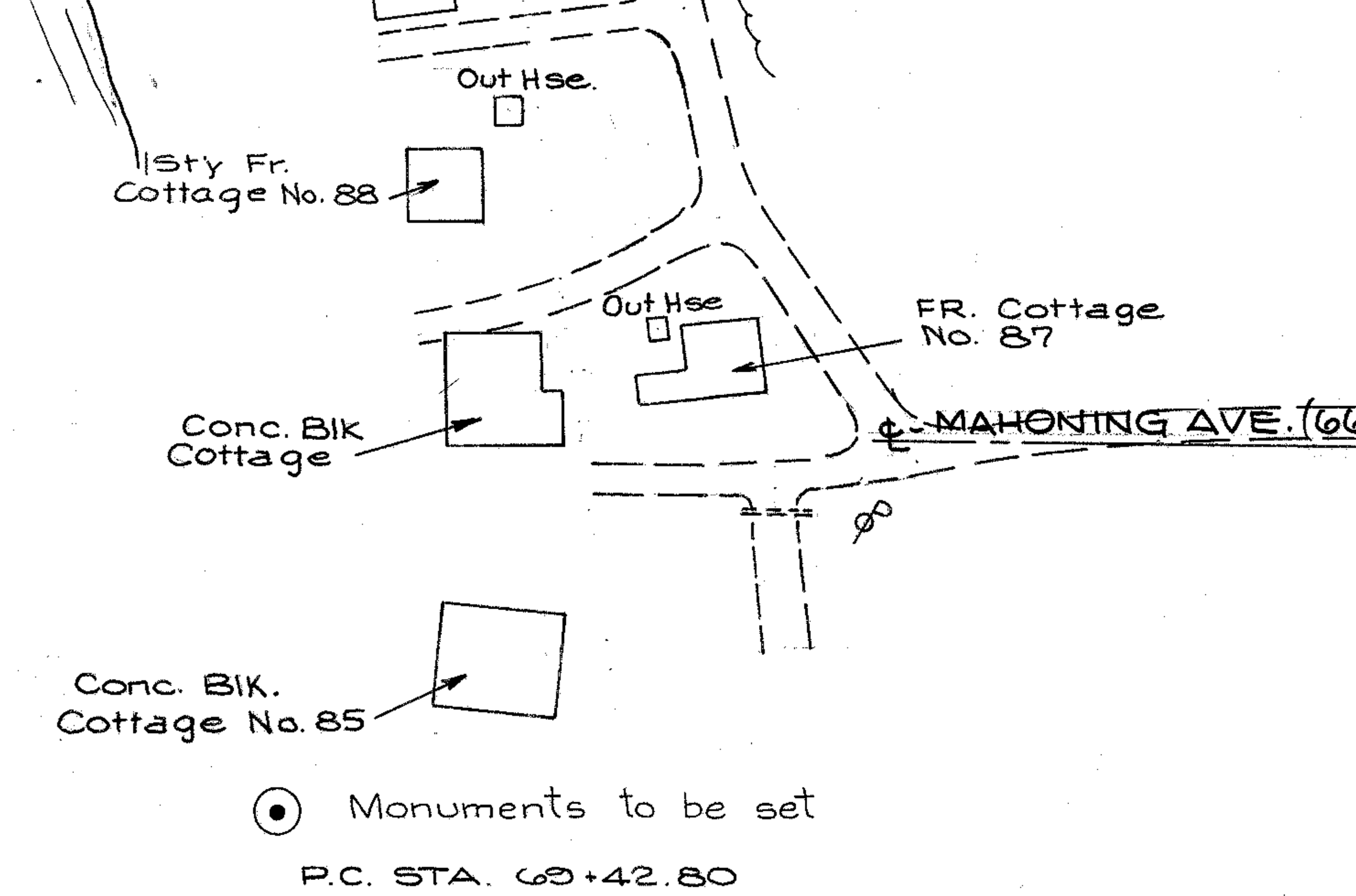
FED. RD.	STATE	PROJECT	
2	OHIO		

167/180

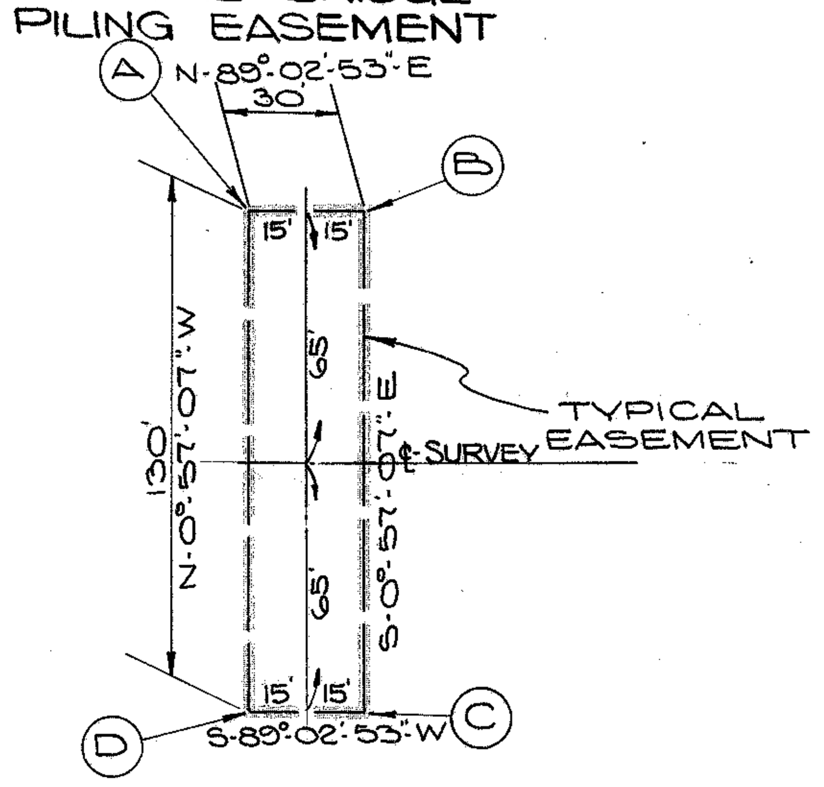
MAH - 18 - 0.91
RIGHT of WAY SHEET

10/23

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W
CURVE DATA
P.I. STA. 75+05.60
Δ = 19°04'41"
D = 1°00'
T = 962.80'
L = 1907.81'
E = 80.21'
R = 5729.58'
GREAT LOT 20
GREAT LOT 19
LAKE
BED OF LAKE MILTON DEEDED TO CITY OF YOUNGSTOWN.
LAKE MILTON
MILTON
Begin Sheet Sta. 60+00
End Sheet Sta. 75+00
200 K (SEE SHT. 9)
200 L 3,900 S.F. (0.089 AC)
200 M 3,900 S.F. (0.089 AC)
200 N 3,900 S.F. (0.089 AC)
200 P 3,900 S.F. (0.089 AC)
200 Q 3,900 S.F. (0.089 AC)
200 R 3,900 S.F. (0.089 AC)
200 S 3,900 S.F. (0.089 AC)
200 Aerial (SEE SHT. 9)
200 A WL 239,057 S.F. (5.488 AC)
CITY OF YOUNGSTOWN
SURVEY
RW
1967.00'
N-89°02'-53"-E
N 85°36'28"E 607.59'
N 86°28'33"E 541.21'
N 79°01'46"E 368.32'
CONSTRUCTION LIMITS
TIE TO ABUTMENT SEE STD. DETAIL F-3
P.C. STA. 69+42.80
3"-6" Trees
Brush
3-12" Poplar
Small Trees
Thick Brush & Scattered Trees
FOR DETAILS & INFORMATION ON BRIDGE EASEMENTS, SEE BELOW.



TYPICAL BRIDGE PILING EASEMENT



STATIONS & OFFSETS FOR THE BRIDGE PILING EASEMENTS

PARCEL	A	B	C	D
200 K	59+74 (65')	60+04 (65')	60+04 (65')	59+74 (65')
200 L	60+93 (65')	61+23 (65')	61+23 (65')	60+93 (65')
200 M	62+12 (65')	62+42 (65')	62+42 (65')	62+12 (65')
200 N	63+31 (65')	63+61 (65')	63+61 (65')	63+31 (65')
200 P	64+50 (65')	64+80 (65')	64+80 (65')	64+50 (65')
200 Q	65+69 (65')	65+99 (65')	65+99 (65')	65+69 (65')
200 R	66+88 (65')	67+18 (65')	67+18 (65')	66+88 (65')
200 S	68+07 (65')	68+37 (65')	68+37 (65')	68+07 (65')

⊙ Monuments to be set
P.C. STA. 69+42.80

NOTES: (1) SEE RIGHT-OF-WAY SHEET № 7 FOR THE "LEGEND"
(2) FOR FENCE QUANTITIES, SEE RW SHEET № 9 OF 23

GRAPHIC SCALE
100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964

№	REVISIONS	MADE BY	DATE
1	Added ℄		9-24-64
2	REVISE LA/RW TO RW	C.B.	1-7-65
3	REVISED LA & FENCE RT. OF 69+00	C.B.	1-7-65
4	REVISED ACREAGE - 200A WL	C.B.	1-7-65

STA 60+00 TO STA. 75+00

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

168/180

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W

MAH - 18 - 0.91

RIGHT of WAY SHEET 11/23

FOR DETAILS OF EAST RIVER ROAD. SEE R/W SHEET Nº 20

1402

CURVE DATA
TEMPORARY RUNAROUND
CURVE Nº 1,2&3
Δ = 39° 25'
R = 286.47'
Lc = 197.08'
T = 102.62'
Ch = 193.21'

CURVE Nº 4
Δ = 39° 25'
R = 139.58'
Lc = 96.02'
T = 50.00
Ch = 94.14

RELOC. OVERLOOK
CURVE DATA
Δ = 25° 27' 09"
R = 221.40'
T = 50'
Lc = 98.35'
Dc = 25° 52' 45"
Ch = 97.54'
P.C. 50+00 (RELOC. OVERLOOK)
P.T. 50+98.35

BONNIE VIEW SUBDIVISION
(PLAT RECORDED IN VOLUME 17 PAGE 10)

END TEMPORARY RUN-AROUND P.T. STA. 18+34.64
EAST RIVER ROAD STA. 52+96.74

Begin Sheet Sta. 75+00

End Sheet Sta. 90+00

LAKE DR.

OVERLOOK WAY

OAKWOOD AVENUE

HARBOR AVENUE

EAST RIVER ROAD

S.R. 534

CITY OF YOUNGSTOWN

CONSTRUCTION LIMITS

2 Phase Wire 7200/12470Y
3 Secondary 120/240 V

RELOCATED OAKWOOD DR.
Δ = 76° 13' 55"
R = 63.73'
T = 50.00'
Lc = 84.79'
E = 17.29'
Ch = 78.68'

RELOCATED OAKWOOD DR.
Δ = 13° 45' 00"
R = 1,104.58'
T = 133.18'
Lc = 265.08'
E = 8.00'
Ch = 263.81'

CURVE DATA
P.I. STA. 79+05.60
Δ = 19° 04' 41"
D = 1° 00'
T = 962.80'
L = 1907.81'
E = 80.21'
R = 5729.58'

FIRST VIEW SUBDIVISION
(PLAT RECORDED IN VOLUME 19 PAGE 82)

MAHONING AVE. (66')

FOR CALCULATIONS OF THIS SHEET SEE R/W SHEET Nº 12

● IRON PINS FOUND
⊙ MONUMENTS TO BE SET
POC. STA. 77+00
P.T. STA. 88+50.61

INA B. SMITH
0.278 Ac

INA B. SMITH
379 S.F.
(0.0087 AC)

JOHN & MURIEL GALICIA

GRAPHIC SCALE
100 75 50 25 0 50 100

NOTES: (1) SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE LEGEND
(2) FOR FENCE QUANTITIES, SEE R/W SHEET Nº 9 OF 23

#6 Revised Pcl. 200-A,C 4-6-67 Lw
#5 Deleted Parcel 207 D 2-11-65

3 Revised Temp. Easement Line & Construction Limits Lot 5

4 combined Pcls. 226 E & 226 F R.M.K. 12-22-64

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964
RIGHT-OF-WAY COMPLETION DATE : JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	ADDED PARCEL 214		9-15-64
2	Deleted Pcl. 214 & Added Pcl 226-D-WL		9-24-64
3	Z Deleted & R. Added Between Lots 4 & 5; R. Deleted & Z Added Between Lots 60 & 61; R. Added Between Lots 59 & 60;		9-30-64

(TOPOGRAPHY SHEET - FIRST VIEW & BONNIE VIEW SUBDIVISION)

STA. 75+00 - STA. 90+00

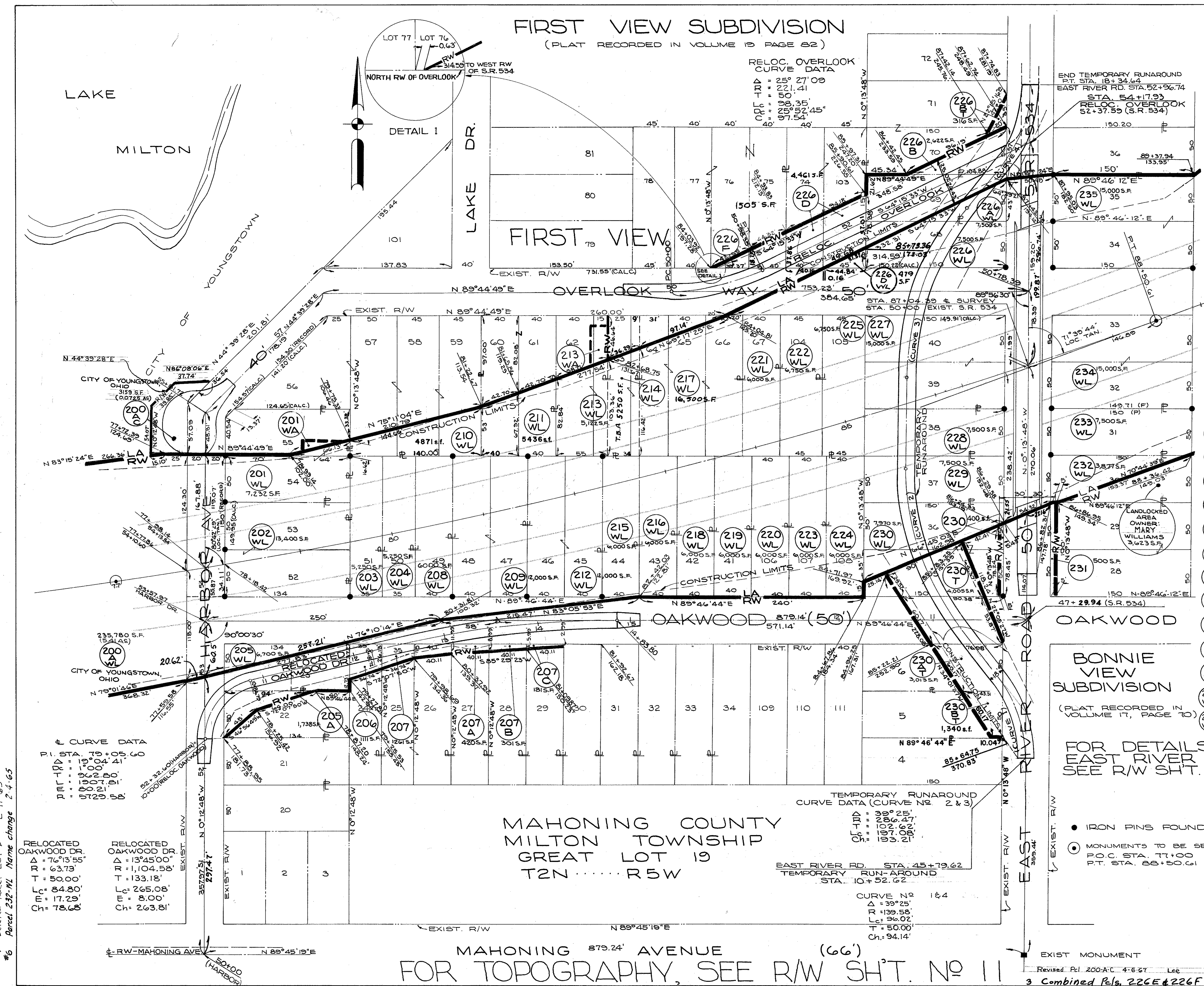
I-80S

FED. RD.	STATE	PROJECT
2	OHIO	

169/180

MAH-18-0.91
RIGHT of WAY SHEET

12/23



#8 Name Change Pcl. 215 WL 4-15-65
#7 Deleted Parcel 207 P 2-11-65
#6 Parcel 232-WL Name change 2-4-65

201 WL, 201 WA	RAYMOND C. & GWENDOLYN DAVIS
202 WL	FRANK H. FENNER & LOUISE A. FENNER AKA ANNA LOUISE FENNER
203 WL	THEDA E. YOUNG
204 WL	LEROY YOUNG
205 WL	THE FORGET-ME-NOT SWEDISH TEMPERANCE SOCIETY, A CORPORATION
205 A	SARA GOODRIDGE
206	HOMER H. ROSE
207	ERNEST MILLER & OPAL MILLER
207 A	ELVIRA CRAMER
207 B	DINA RUDICK
207 C	LENA KRIMMER AKA MINNIE B. KRIMMER & LENA CHAPMAN YOUNG
208 WL	THEDA E. YOUNG
209 WL	ERNEST R. GLIDWELL & HELEN M. GLIDWELL
210 WL	MARY FRANCIS WISE a.k.a., MARY F. WISE a.k.a., MARY FRANCIS BORKO
211 WL	SAM TRAFICANT & SARAH TRAFICANT
212 WL	WILLIAM L. GARTLAND & MARY F. GARTLAND AKA MARY FRANCIS GARTLAND
213 WL, 213 WA	MARY FRANCIS WISE a.k.a., MARY F. WISE a.k.a., MARY FRANCIS BORKO
214 WL	FRED G. EDWARDS
215 WL	GRACE McGARRY
216 WL	ROBERT B. STURGEON
217 WL	MARGARET A. SHAFFER
218 WL	RUTH BELINKY
219 WL	THOMAS SAVAGE SR. & ELSIE SAVAGE
220 WL	ALVARA PHILLIPS
221 WL	JOHN E. SIMMONS & ELAINE M. SIMMONS
222 WL	WILMA L. FITCH
223 WL	MICHAEL GOMEZ & JULIA GOMEZ
224 WL	ALICE L. MOORE
225 WL	THE ESTATE OF WILLIAM B. METZGAR, DEC'D, BY MARY C. METZER, EXECUTRIX, ETAL.
226 WL	DOROTHY AHLBIN
226 A	RUTH BELINKY
226 B, 226 BT	L.W. RUSSELL
226 D, 226 DT	DAVID DALE SHAFFER
226 F	CLARA RAVEN
227 WL	JOHN HELSEL
228 WL	BERTHA L. UNGER, LILLIAN LUNDSTROM, JENNIE N. LUNDT, CARL E. SANDBERG, ARTHUR G. SANDBERG & GEORGE A. SANDBERG
229 WL	PHILLIP CUCCARESE
230 WL, 230, 230 T	KENNETH K. CHRISTOPHER
230 A	GEORGE MOTICA & MARY MOTICA
230 B	GEORG MOTECA
231	ALICE L. MOORE
232 WL	MARY WILLIAMS
233 WL	FRANCIS M. FORCE & VIRGINIA H. USHER NKA VIRGINIA H. FORCE
234 WL	ROBERT S. TUROWSKI
235 WL	JAMES C. DOOLITTLE & GLENNIS M. DOOLITTLE

NOTES (1) SEE RIGHT-OF-WAY SHEET № 7 FOR THE "LEGEND"
(2) FOR FENCE QUANTITIES, SEE R/W SHEET № 9 OF 23
(3) FOR FENCE DETAILS FOR THIS SHEET SEE R/W SHEET № 11 OF 23

GRAPHIC SCALE
100 75 50 25 0 50 100

● IRON PINS FOUND

⊙ MONUMENTS TO BE SET
P.O.C. STA. 77+00
P.T. STA. 88+50.61

2 Revised Temp. Easement Line & Construction Limits Lot 5

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964			
RIGHT OF WAY COMPLETION DATE : JUNE 30, 1964			
№	REVISIONS	MADE BY	DATE
1	Added distances and Pcl. 226D-WL		9-24-64
2	Z Deleted & ℄ Added Between Lots 4&5; ℄ Deleted & Z Added Between Lots 60&61; ℄ Added Between Lots 59 & 60; Name Change Pcls 210WL, 211WL, & 213WL & WA		10-1-64

Revised Pcl 200-A-C 4-6-67 Lee

3 Combined Pcls. 226E & 226F R.A.W. 12-21-64
4 Parcel 225 WL, Name Change 1-26-65
5 Parcel 207 D, Name Change 1-26-65

(CALCULATION SHEET - FIRST VIEW & BONNIE VIEW SUBDIVISIONS)
STA. 77+78.03 TO STA. 88+89.72

I-805

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91
RIGHT of WAY SHEET

LOT 41
VOL. 17 PG. 70-72
237 X (0.278 AC)
INA B. SMITH
CHANNEL CURVE DATA
Δ = 18°30'
R = 307.01'
T = 50'
Dc = 18°39'45"
Lc = 99.13'
END CHANNEL CLEANOUT 53+50
Heavy Woods
Stumps & Fallen Trees
Cleared Area
N 77°05'42"E
201.56'
N 69°56'47"E
1207' (DEED)
S 89°25'00"E
903.81'
END CHAIN LINK FENCE - STA. 92+00 (BACK)
BEGIN TYPE 47 FENCE - STA. 92+00 (AHEAD)
I.A.P.A. 123'
CONSTRUCTION LIMITS
Scattered Piles
Fallen Trees
EINAR W. MALMFELDT
& BETTY I. MALMFELDT
238 X (0.105 AC)
238 WL 2.612 AC
Tree Count
Sta. 98+00 to Sta. 106+00
45 - 12" Maple
17 - 12" Beech
3 - 24" Oak
81 - 12" "
15 - 12" Hickory
24 - 14" Oak
20 - 16" "
10 - 12" Elm
1 - 24" Stump
5 - 24" Oak
22 - 14" Oak
65 - 12" Oak
7 - 14" Maple
32 - 12" "
22 - 12" Hickory
4 - 20" Stumps
END CHANNEL CLEAN-OUT @ STA. 52+30
℄ CURVE DATA
P.I. STA. 122+03.99
Δ = 20°00'30"
D = 0°30'
T = 2021.41'
L = 4001.67'
E = 176.81'
R = 11459.16'
N 72°06'04"E
794.90'
259.67'
327.57'
TYPE 2 CROSSING
SEE STD. DETAIL
238 WL (SEE LEFT)
Cleared Area
℄ SURVEY
N-69°58'-12"-E
N-69°58'-12"-E SUB-TANGENT
101+75 50+00
101+71.51 PROPERTY LINE
18" x 204' CULVERT
P.C. 101+82.58
Sawdust Pile
Oak Lumber Pile
Scattered Trees
CONSTRUCTION LIMITS
END CHAIN LINK FENCE STA. 101+30 (BACK)
BEGIN TYPE 47 FENCE STA. 101+30 (AHEAD)
I.A.P.A. 130'
1280.73'
N 69°17'28"E
379.78'
LA RW
Begin Sheet Sta. 90+00
End Sheet Sta. 105+00
14 - 14" Oak
9 - 14" Hickory
2 - 24" Oak
17 - 16" "
293 - 12" "
5 - 20" "
15 - 12" Hickory
1 - 14" Stump
6 - 24" Oak
10 - 14" Oak
250 - 12" Oak
20 - 20" Oak
25 - 14" Hickory
25 - 12" "
2 - 16" Stumps
TREE COUNT
STA. 87+00 TO STA. 98+00
Heavy Woods
Scattered Trees
237 WL
INA B. SMITH
7.502 ACRES
239 WL
HOWARD E. KLINGEMAN
& ALENE KLINGEMAN
FOR ACREAGE
SEE R/W SHEET No 14
FIRST ST.
SECOND ST.
OAKWOOD DRIVE
1180.35' (D)
N-89°46'-12"-E
N-2°15'-11"-E
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W
GRAPHIC SCALE
100 75 50 25 0 50 100
MONUMENTS TO BE SET
P.C. STA. 101+82.58

NOTES (1) SEE RIGHT OF WAY SHEET No 7 FOR THE "LEGEND"

(2) FOR FENCE QUANTITIES, SEE R/W SHEET No 9 OF 23.

PRELIMINARY SUBMITTAL DATE:		MARCH 4, 1964
RIGHT-OF-WAY COMPLETION DATE:		JUNE 30, 1964
No	REVISIONS	MADE BY	DATE

STA. 90+00 TO STA. 105+00

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

171/180

MAH - 18 - 0.91
RIGHT of WAY SHEET

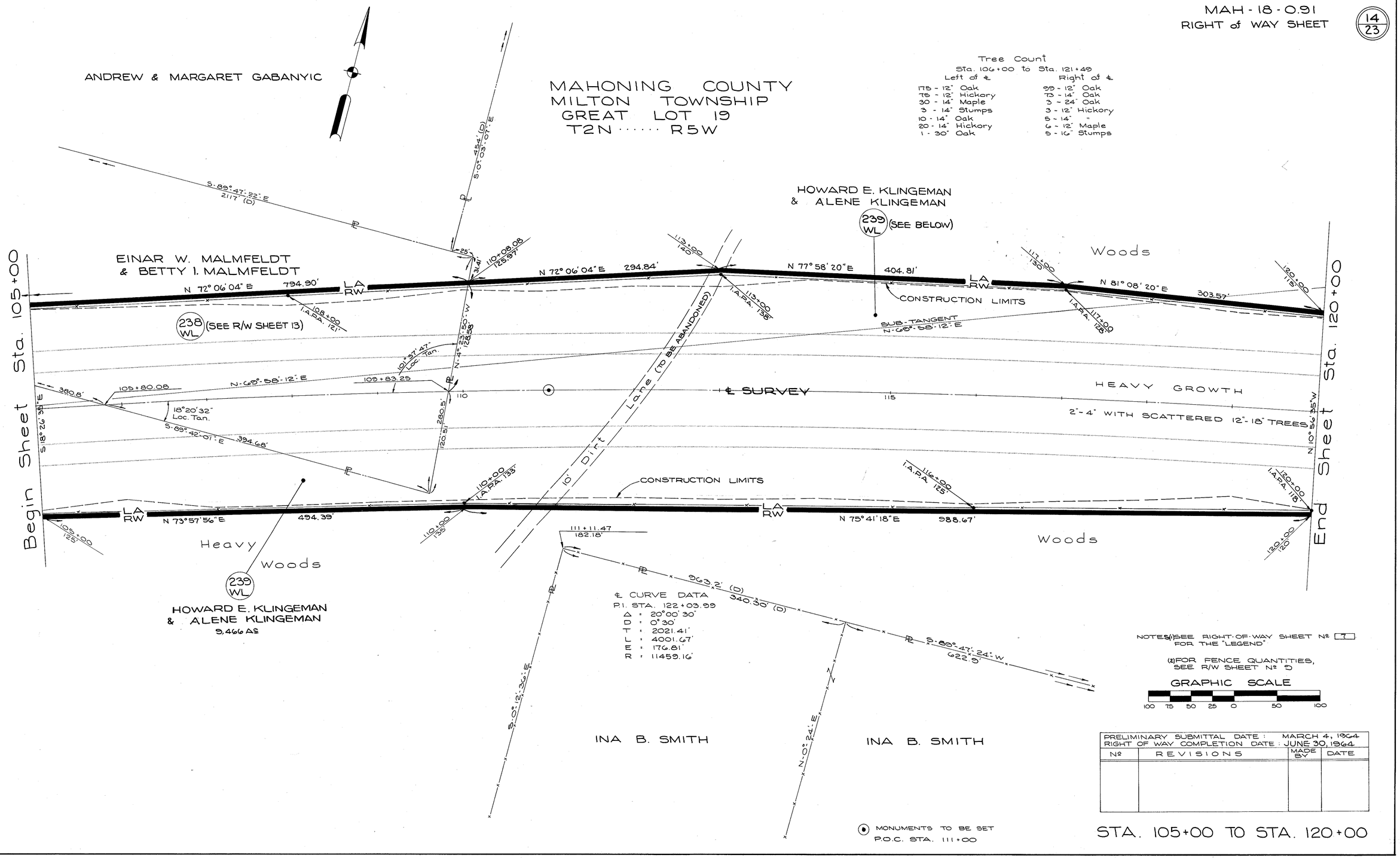
14/23

ANDREW & MARGARET GABANYIC

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W

Tree Count
Sta. 106+00 to Sta. 121+49

Left of ℄	Right of ℄
175 - 12" Oak	99 - 12" Oak
75 - 12" Hickory	73 - 14" Oak
30 - 14" Maple	3 - 24" Oak
3 - 14" Stumps	3 - 12" Hickory
10 - 14" Oak	5 - 14" "
20 - 14" Hickory	6 - 12" Maple
1 - 30" Oak	5 - 16" Stumps



NOTES (1) SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND."

(2) FOR FENCE QUANTITIES, SEE R/W SHEET Nº 5

GRAPHIC SCALE
100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE : MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE : JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE

STA. 105+00 TO STA. 120+00

FED. RD.	STATE	PROJECT		
2	OHIO			

172/180

MAH - 18 - 0.91
RIGHT of WAY SHEET

15/23


MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W
HOWARD E. KLINGEMAN & ALENE KLINGEMAN
FOR ACREAGE SEE R/W SHEET Nº 14
239 WL
WALTER HELSEL
240 WL FOR ACREAGE, SEE BELOW
240 WL
T.B.A. = 5.14 AC
P.R.O. = 0.21 AC
TOTAL = 5.35 AC
241
T.B.A. = 0.148
P.R.O. = 0.086
TOTAL = 0.234 AC
241 WL
T.B.A. = 10.618 AC
P.R.O. = 0.217 AC
TOTAL = 10.835 AC
241 A
T.B.A. = 0.154 AC
P.R.O. = 0.079 AC
TOTAL = 0.233 AC
240 T
0.09 AC
BERT L. WOLSTEIN
PAUL LIPMAN
MICHAEL L. MILLER, Co-Trustees
INA B. SMITH
℄ SURVEY
N 80° 36' 14" E 677.86'
N 83° 44' 34" E 335.26'
N 87° 37' 24" E 1013.23'
N 75° 05' 45" E 172.10'
N 83° 30' 59" E 803.56'
N 84° 56' 47" E 751.47'
S 89° 59' 42" E (CALC.) 796.84' (CALC.)
10 IRON WIRE ON CROSSARMS (O.B.T. CO.)
Sta. 129+53.41 M.L. = Sta. 49+33.95 ℄ Survey Pricetown Road
CONSTRUCTION LIMITS
SUB-TANGENT
MEDIUM WOODS
Medium Woods
Open Field
Meadow
Swamp
Woods
Wooded
10" HICKORY
Cattle Lane
PRICETOWN ROAD (60')
3 PHASE WIRE 7200/12470 V. ONE NEUTRAL
Begin Sheet Sta. 120+00
End Sheet Sta. 135+00
℄ CURVE DATA
P.I. STA. 122+03.99
Δ = 20° 00' 30"
D = 0° 30'
T = 2021.41'
L = 4001.67'
E = 176.81'
R = 11459.16'
FOR DETAILS OF PRICETOWN ROAD, SEE R/W SHEET Nº 21
CHANNEL CURVE DATA
P.I. 15' LT. ℄ STA. 45+60.47
Δ = 37° 40' 31"
R = 115.13'
T = 39.28'
Ch = 74.35'
Lc = 75.70'
P.C. 39.28' LT. OF STA. 45+29.28
P.T. 15.00' LT. OF STA. 46+00
NOTE: SEE RIGHT OF WAY SHEET Nº 7 FOR THE "LEGEND"
FOR FENCE QUANTITIES, SEE R/W SHEET Nº 9
GRAPHIC SCALE
100 75 50 25 0 50 100
MONUMENTS TO BE SET
MIDDLE ORDINATE 121+83.41
P.O.C. STA. 131+00

Tree Count

Sta. 121+49 to Sta. 129+35

Left of ℄	Right of ℄
3 - 20" Oak	33 - 12" Oak
10 - 16" Oak	10 - 14" Oak
20 - 10" Oak	4 - 16" Oak
20 - 12" Hickory	3 - 36" Oak
1 - 40" Twin Oak	1 - 16" Stump
3 - 30" Oak	7 - 12" Hickory
5 - 14" Hickory	4 - 14" Hickory
	2 - 16" Hickory
	2 - 24" Hickory
	1 - 36" Elm

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	Pcl 241 Name Change	WI	8-30-66
2	Pcl 241 NAME CHANGE	WI	9-2-66
3	REVISED AREA PCL. 241WL TO REFLECT COURT SETTLEMENT PER DON BOOHER 2/17/69.	J.R.B.	2/18/69

STA. 120+00 TO STA. 135+00

I-80S

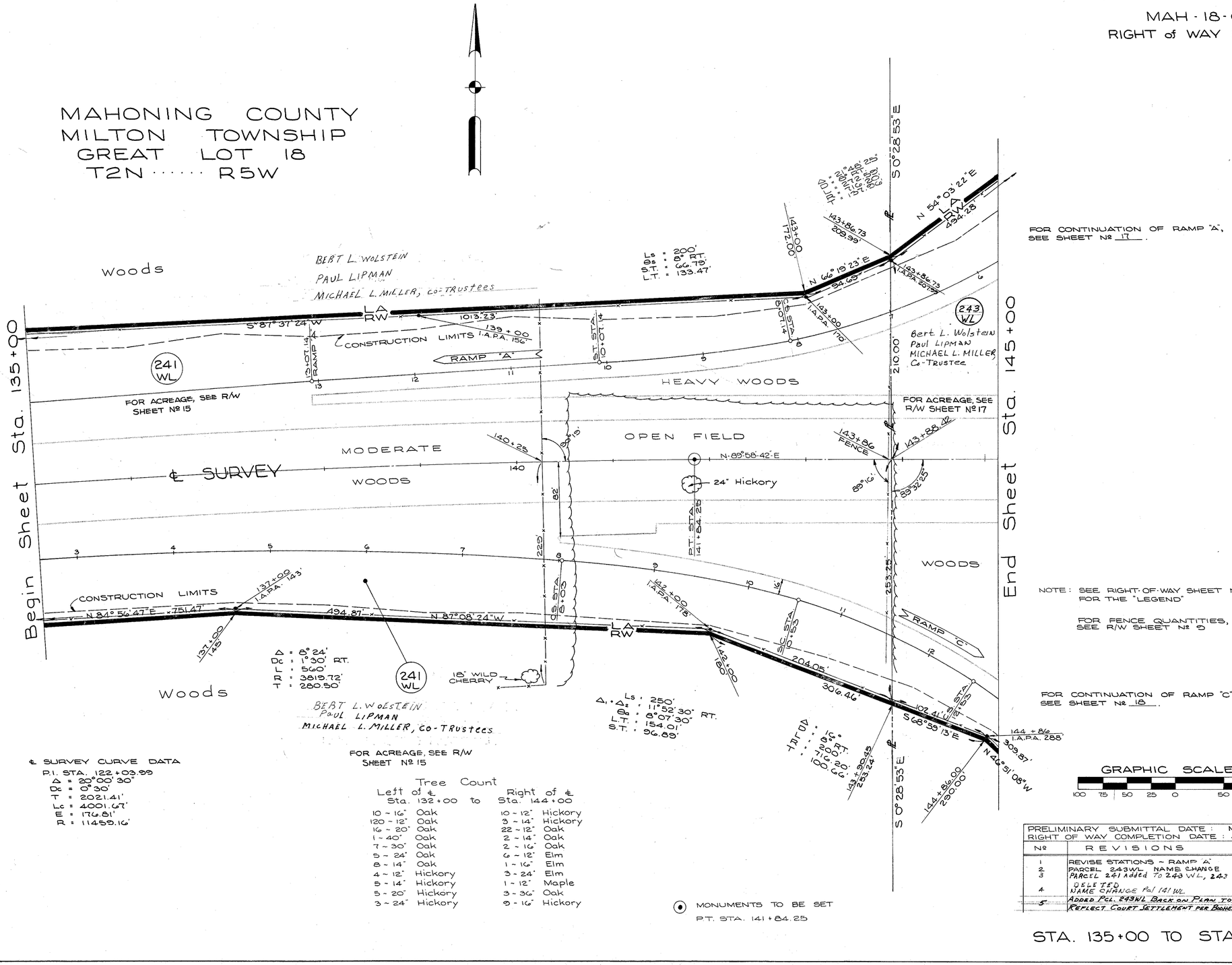
FED. RD.	STATE	PROJECT	
2	OHIO		

173/180

MAH - 18 - 0.91
RIGHT of WAY SHEET

16/23

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W



NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

FOR FENCE QUANTITIES, SEE R/W SHEET Nº 5

GRAPHIC SCALE
100 75 | 50 25 0 50 100

℄ SURVEY CURVE DATA
P.I. STA. 122+03.99
Δ = 20°00'30"
Dc = 0°30'
T = 2021.41'
Lc = 4001.67'
E = 176.81'
R = 11459.16'

Tree Count

Left of ℄ Sta. 132+00 to	Right of ℄ Sta. 144+00
10 ~ 16" Oak	10 ~ 12" Hickory
120 ~ 12" Oak	3 ~ 14" Hickory
16 ~ 20" Oak	22 ~ 12" Oak
1 ~ 40" Oak	2 ~ 14" Oak
7 ~ 30" Oak	2 ~ 16" Oak
5 ~ 24" Oak	6 ~ 12" Elm
8 ~ 14" Oak	1 ~ 16" Elm
4 ~ 12" Hickory	3 ~ 24" Elm
5 ~ 14" Hickory	1 ~ 12" Maple
5 ~ 20" Hickory	3 ~ 36" Oak
3 ~ 24" Hickory	9 ~ 16" Hickory

⊙ MONUMENTS TO BE SET
P.T. STA. 141+84.25

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964 RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964			
Nº	REVISIONS	MADE BY	DATE
1	REVISE STATIONS ~ RAMP A	C.B.	1-7-65
2	PARCEL 243WL NAME CHANGE		1-28-65
3	PARCEL 241 added To 243 WL, 243	W.I.	8-30-66
4	DELETED NAME CHANGE Pal 141 WL	SS	9-2-66
5	Added Pcl. 243WL Back on Plan To	J.P.B.	2/18/69
	Reflect Court Settlement per Bonner		

STA. 135+00 TO STA. 145+00


I-805
FED. RD. | STATE | PROJECT
2 | OHIO
174/180
MAH-18-0.91
RIGHT of WAY SHEET
17/23
MATCH TO R/W SHEET № 23
1260.08' TO FENCE CORNER POST
S-89°37'01"-W
FENCE CORNER POST
IRON PIN FOUND
TRAVERSE TO PROPERTY PIN
LANDLOCKED AREA OWNER: VINCENT PORTER ACRES: 0.206
BERT L. WOLSTEIN
PAUL LIPMAN
MICHAEL L MILLER, Co-Trustee
243 WL
T.B.A. = 6.898 AC
STA. 0+00 RAMP "A"
STA. 751+54.66 S.R. 534
STA. 18+62.80 RAMP "B"
STA. 751+54.66 RELOC. S.R. 534
VINCENT PORTER
244 Y
0.221 AC
CHANNEL CURVE DATA
Δ = 35°30'
R = 156.20'
T = 50.00'
Lc = 96.78'
Ch = 95.24'
RAMP "A"
RAMP "B"
CONSTRUCTION LIMITS
OPEN FIELD
HEAVY WOODS
244 WL
VINCENT PORTER
FOR ACREAGE, SEE RIGHT
Open Field
244 WL
VINCENT PORTER
T.B.A. = 26.156 AC
244 WL
(SEE LEFT)
1362.10' TO FENCE CORNER POST
S.R. 534
West Bound Lane
℄ SURVEY
N 89°58'42" E
147+91.03 Property Line
147+94 Fence
STA. 149+97.15 S.R. 18
STA. 746+69.66 RELOC. S.R. 534
157+89.50
50+00
3' Ditch
CULVERT
FOR CONTINUATION OF CULVERT DETAIL, SEE SHEET № 18.
MATCH TO SHEET 18
Begin Sheet Sta. 145+00
End Sheet Sta. 160+00
18" Elm
36" Oak
3-36" Oak
20" Hickory
Tree Count
Sta. 144+00 to Sta. 150+00
2 ~ 20" Oak
2 ~ 24" Oak
42 ~ 12" Oak
5 ~ 14" Oak
4 ~ 16" Oak
2 ~ 12" Hickory
2 ~ 14" Hickory
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W
NOTE: SEE RIGHT-OF-WAY SHEET № 7 FOR THE "LEGEND"
FOR FENCE QUANTITIES, SEE R/W SHEET № 9
GRAPHIC SCALE
100 75 50 25 0 50 100
MONUMENTS TO BE SET
P.O.T. STA. 152+00
PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964
INTERCHANGE (NORTH)
STA. 145+00 TO STA. 160+00

№	REVISIONS	MADE BY	DATE
1	REVISED STATIONS - RAMP "A"	C.B.	1-7-65
2	REVISED CURVE DATA	C.B.	1-7-65
3	PARCEL 243WL NAME CHANGE		1-26-65
4	PCL 243WL ADDED TO PCL 241, PCL 243WL DELETED	W I	8-30-66
5	NAME CHANGE IN PCL 241	S.S.	9-2-66
6	ADDED PCL 243WL BACK ON PLAN TO REFLECT COURT SETTLEMENT PER BOOHER	J.R.B.	2/18/69

FED. RD.	STATE	PROJECT
2	OHIO	

175/180

MAH-18-0.91

RIGHT of WAY SHEET

18/23

Tree Count
Sta. 144+00 to Sta. 150+00
2 - 12" Hickory
4 - 16" Hickory
1 - 20" Hickory
13 - 12" Oak
6 - 14" Oak
1 - 24" Oak
1 - 12" Maple
1 - 18" Maple
648.53' to Fence Corner
S.0°28'53"E
STA. 49+97.15 S.R. 18
STA. 746+69.66 RELOC. S.R. 534
147+91.03
147+94 Fence
747+08.75
N.0°25'18"W
MATCH TO SHEET 17
SURVEY
N.89°58'42"E
157+89.50
East Bound Lane
18" Elm
36" Oak
3-36" Oak
20" Hickory
OCCUPATION PROPERTY LINE
Bert L. Wolstein
Paul Lipman
Michael L. Miller, Co. Trustee
243 WL
T.B.A. = 6.898 Ac
VINCENT PORTER
244 WL
T.B.A. = 26.156 Ac
RAMP "D"
RAMP "C"
S.R. 534
RELOC.
CORNER POST
212.70'(F)
743+52.20
CONSTRUCTION LIMITS
P.C. STA. 15+09.26
P.T. STA. 17+71.23
C.S. STA. 1+90.55
P.C. STA. 1+62.19
S.C.S. STA. 5+40.55
S.P.S. STA. 3+40.55
C.S. STA. 8+37.71
S.T.S. STA. 10+31.71
244 WL (SEE LEFT)
549.87'
N 87°53'37"E
181.55'
N 70°20'44"E
401.08'
N 51°57'55"E
176.69'
N 60°49'36"E
309.87'
N 46°51'08"W
88.08'
203.18'
121.10'
N 70°56'19"W
147+12 502.00'
147+95.29 530.75
149+09.70 (570.35) 741+00 (92.10') RELOC. 534
150+71.79 (569.07) 741+00 (70') RELOC. 534
152+26 483.00'
152+26 I.A.R.A. 481'
155+42 236.00'
157+13 175.00'
S 4°05'40"E 430.85'
S 0°10'40"W 430.03'
S.0°28'53"E
FOR CONTINUATION OF CULVERT DETAIL & CHANNEL, SEE R/W SHEET No 17.
292'-83" x 53" CULVERT
E.P.A. TO TIE TO HEADWALL
MATCH TO R/W SHEET No 22
MONUMENTS TO BE SET
P.O.T. STA. 152+00

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W

NOTE: SEE RIGHT OF WAY SHEET No 7 FOR THE "LEGEND"

FOR FENCE QUANTITIES, SEE R/W SHEET No 5.

GRAPHIC SCALE

100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE:		MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE:		JUNE 30, 1964

No	REVISIONS	MADE BY	DATE
1	Parcel 243 WL Name Change		1-26-65
2	Parcel 243 WL Added To 241 WL 243 Deleted	W.I.	8-30-66
3	NAME CHANGE Pcl 241 WL	SS	9-2-66
4	Added Pcl. 243 WL Back on Plan to Reflect Court Settlement per Booher	J.R.B.	2/18/69

INTERCHANGE (SOUTH)
STA. 145+00 TO STA. 160+00

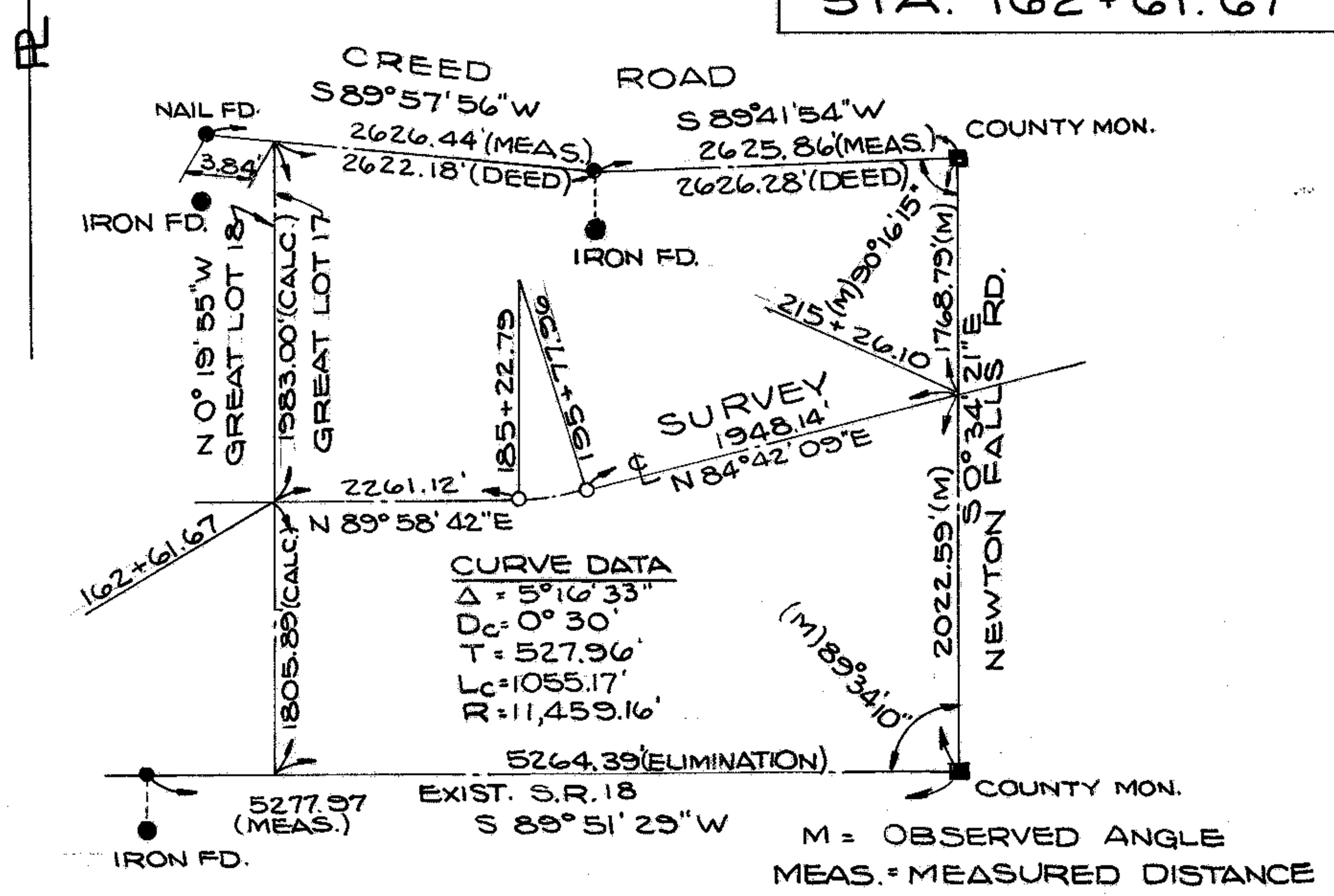
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-0.91
RIGHT of WAY SHEET

Tree Count
Sta. 162+00 to Tree Row @ 175+47

Left of ℄		Right of ℄	
52 ~ 12" Oak	1 ~ 36" Twin Elm	53 ~ 12" Oak	1 ~ 24" Maple
1 ~ 16" Oak	2 ~ 14" Oak	26 ~ 16" Oak	1 ~ 36" Maple
3 ~ 20" Oak		2 ~ 24" Oak	1 ~ 48" Maple
1 ~ 30" Oak		1 ~ 36" Oak	4 ~ 12" Hickory
1 ~ 12" Hickory		2 ~ 12" Elm	2 ~ 24" Hickory
2 ~ 14" Hickory		1 ~ 16" Elm	
2 ~ 16" Hickory		5 ~ 24" Elm	
1 ~ 36" Hickory		1 ~ 36" Elm	
1 ~ 24" Elm		1 ~ 48" Elm	
1 ~ 36" Elm		1 ~ 12" Maple	

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W
END PROJECT MAH-18-0.91 STA. 162+50
BEGIN PROJECT MAH-18-3.08 STA. 162+50
END ACQUISITION MAH-18-0.91 STA. 175+47
LIMITED ACCESS LINE UNDER THIS CONTRACT TERMINATES AT THE PURCHASE UNDER CONTRACT MAH-18-3.08
Open Field
V. PORTER
VINCENT PORTER
244 WL
FOR ACREAGE, SEE RW SHEET Nº 17 OR 18
244 X 0.053 Ac
GREAT LOT 18
GREAT LOT 17
N 0° 19' 55" W
S 83° 49' 52" E
RAMP "B"
RAMP "D"
RAMP CURVE DATA
LIMITS OF PROPERTY ACQUISITION UNDER CONTRACT MAH-18-0.91
TYPE 2 CROSSING SEE STD. DETAIL F-2
Construction Limits
CONSTRUCTION LIMITS
N 89° 58' 42" E
END FENCE 162+62.48 E.P.A. 153'
EXISTING FENCE UNDER ANOTHER CONTRACT
LIMITED ACCESS AS PROPOSED UNDER CONTRACT MAH-18-3.08
N 87° 53' 37" E
S 88° 28' 18" E
N 88° 54' 15" E
S 89° 07' 15" E
END FENCE 175+50.83 E.P.A. 138.18
OCCUPATION LINE
Begin Sheet Sta. 160+00
END SHEET STA. 175+75
LIMITED ACCESS LINE UNDER THIS CONTRACT TO TERMINATE AT THE PURCHASE UNDER CONTRACT MAH.18-3.08
BEGIN ACQUISITION MAH-18-3.08 STA. 162+61.67
136 WL
JOHN & MARY KOVACH
(PARCEL PURCHASED UNDER CONTRACT MAH-18-3.08)
Moderate Woods



DETAIL OF FIELD INFO. TO ESTABLISH GREAT LOT LINE

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 17
T2N R5W

FOR FENCE QUANTITIES, SEE R/W SHEET Nº 5

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

GRAPHIC SCALE
100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE :		MARCH 4, 1964	
RIGHT OF WAY COMPLETION DATE :		JUNE 30, 1964	
Nº	REVISIONS	MADE BY	DATE

▨ LAND PURCHASED UNDER PREVIOUS CONTRACT

■ EXIST. MONUMENTS

P.O.T. STA. 163+00
P.O.T. STA. 174+00

STA. 160+00 TO STA. 175+50

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

177/180

20/23

MAH - 18 - 0.91
RIGHT of WAY SHEET

224 WL	ALICE L. MOORE
225 WL	THE ESTATE OF WILLIAM B. METZGAR, DEC'D, BY MARY C. METZGER, EXECUTRIX, ETAL.
226 WL	DOROTHY AHLBIN
226 A WL	RUTH BELINKY
226 B, 226 B T	L.W. RUSSELL
226 D	DAVID DALE SHAFFER
226 E	HARRY WINTER & MINNIE WINTER
226 F	CLARA RAVEN
227 WL	JOHN HELSEL
228 WL	BERTHA L. UNGER, LILLIAN LUNDSTROM, JENNIE N. LUNDT, CARL E. SANDBERG, ARTHUR G. SANDBERG & GEORGE A. SANDBERG
229 WL	PHILLIP CUCCARESE
230 WL, 230, 230 T	KENNETH K. CHRISTOPHER
230 A T	GEORGE MOTICA & MARY MOTICA
230 B T	GEORG MOTECA
231	ALICE L. MOORE
232 WL	MARY WILLIAMS
233 WL	FRANCIS M. FORCE & VIRGINIA H. USHER AKA VIRGINIA H. FORCE
234 WL	ROBERT S. TUROWSKI
235 WL	JAMES C. DOOLITTLE & GLENNIS M. DOOLITTLE

GREAT LOT 19
T2N R5W

● IRON PINS FOUND
⊙ MONUMENTS TO BE SET

P.T. STA. 88+50.61

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

FOR FENCE QUANTITIES, SEE R/W SHEET Nº 9

GRAPHIC SCALE

100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	Z Deleted & ℞ Added Between Lots 4&5 Revised Temp. Easement Line & Construction Limits Lot 5		9-30-64
2	Parcel 225 WL, Name Change		1-26-65
3	*Parcel 232-WL Name change*		*2-4-65*

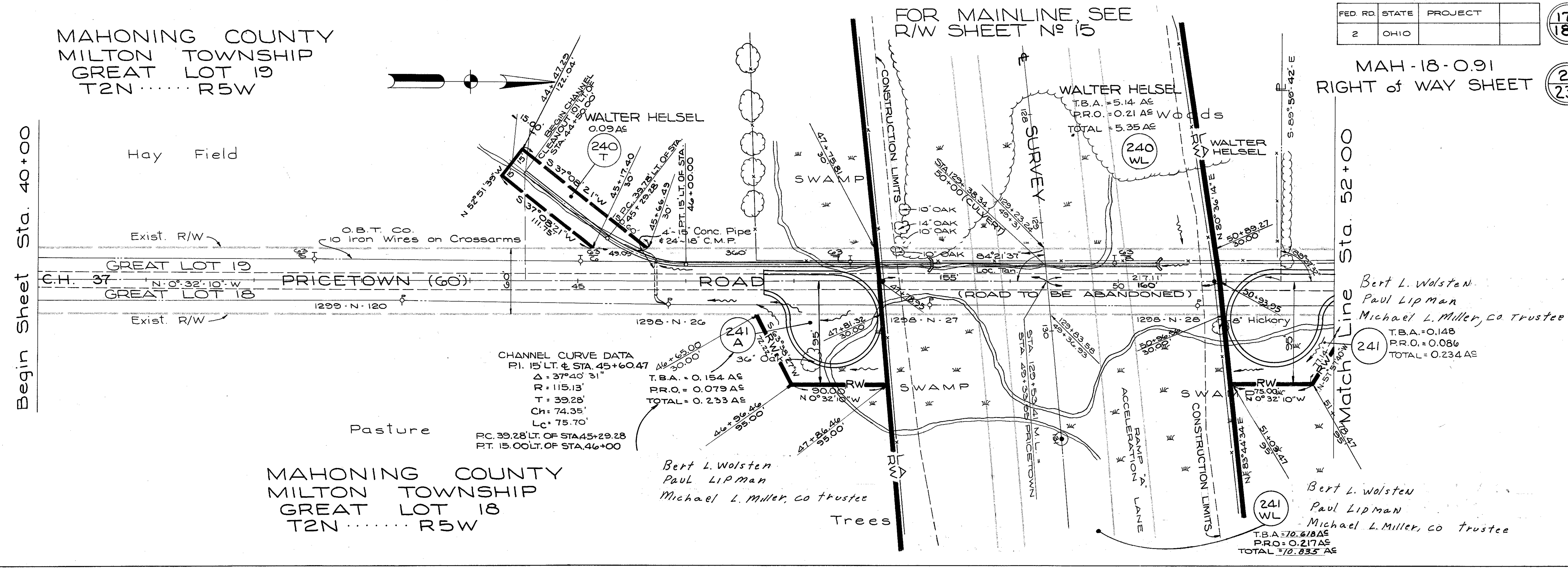
EAST RIVER RD. S.R. 534
STA. 41+00 TO STA. 60+50

I-80S

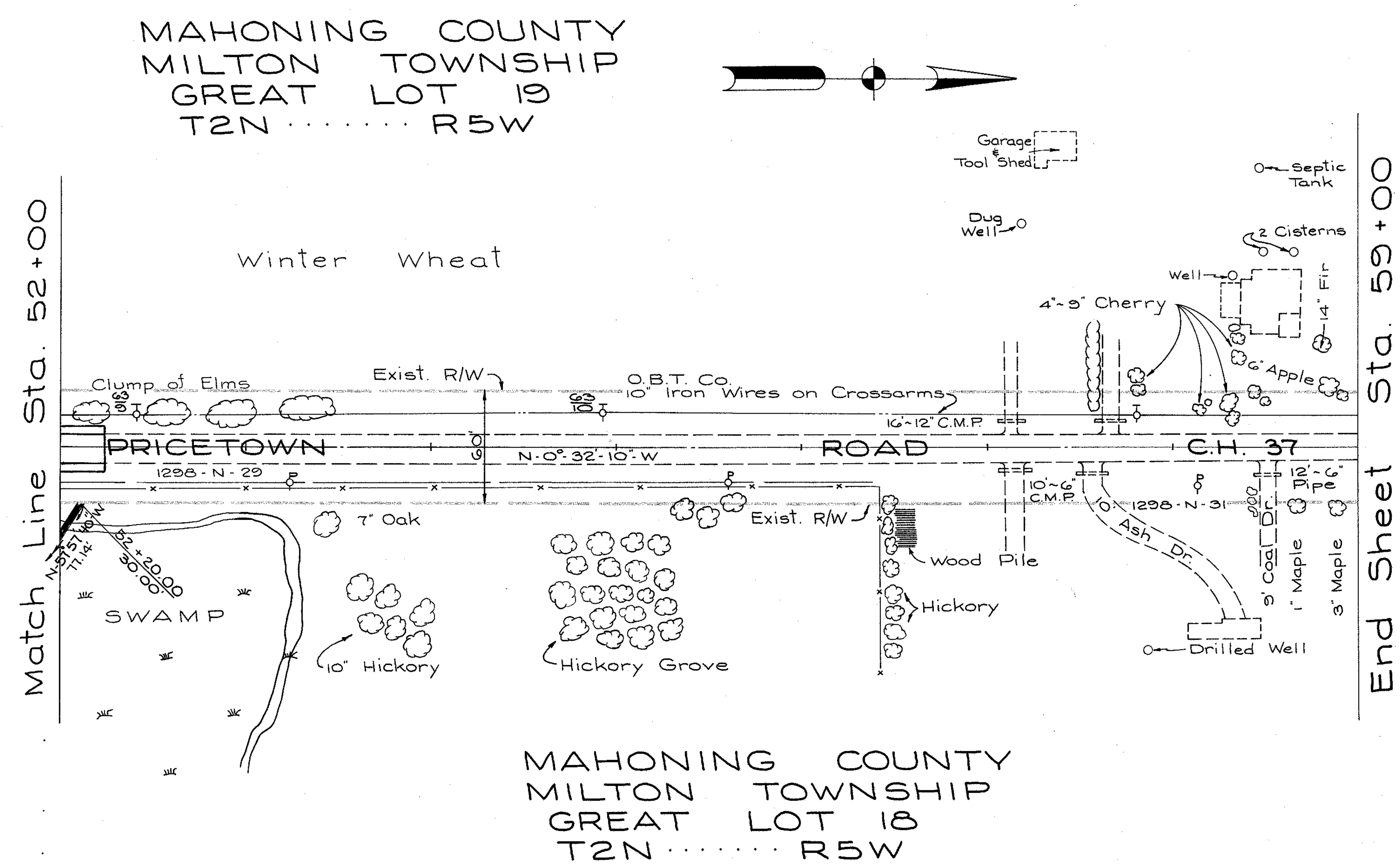
FED. RD.	STATE	PROJECT	
2	OHIO		

178/180

MAH-18-0.91
RIGHT of WAY SHEET 21/23



MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W
FOR MAINLINE, SEE R/W SHEET Nº 15
Begin Sheet Sta. 40+00
Hay Field
WALTER HELSEL
0.09 AC
240 T
WALTER HELSEL
T.B.A. = 5.14 AC
P.R.O. = 0.21 AC
TOTAL = 5.35 AC
Woods
240 WL
WALTER HELSEL
SWAMP
CONSTRUCTION LIMITS
SURVEY
Exist. R/W
O.B.T. Co.
10 Iron Wires on Crossarms
4'-15" Conc. Pipe
24'-18" C.M.P.
GREAT LOT 19
C.H. 37
N 0° 32' 10" W
PRICETOWN (60) ROAD
GREAT LOT 18
(ROAD TO BE ABANDONED)
1299-N-120
1298-N-26
1298-N-27
1298-N-28
CHANNEL CURVE DATA
P.I. 15' LT. & STA. 45+60.47
Δ = 37°40' 31"
R = 115.13'
T = 39.28'
Ch = 74.35'
Lc = 75.70'
P.C. 39.28' LT. OF STA 45+29.28
P.T. 15.00' LT. OF STA 46+00
Pasture
241 A
T.B.A. = 0.154 AC
P.R.O. = 0.079 AC
TOTAL = 0.233 AC
Bert L. Wolsten
Paul Lipman
Michael L. Miller, co trustee
Trees
RAMP "A" ACCELERATION LANE
241 WL
T.B.A. = 10.618 AC
P.R.O. = 0.217 AC
TOTAL = 10.835 AC
241
T.B.A. = 0.148
P.R.O. = 0.086
TOTAL = 0.234 AC
Match Line Sta. 52+00
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W



MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 19
T2N R5W
Match Line Sta. 52+00
Winter Wheat
Clump of Elms
Exist. R/W
O.B.T. Co.
10 Iron Wires on Crossarms
16'-12" C.M.P.
PRICETOWN ROAD C.H. 37
N 0° 32' 10" W
1298-N-29
1298-N-31
7" Oak
SWAMP
10" Hickory
Hickory Grove
Wood Pile
Hickory
Garage Tool Shed
Dug Well
Septic Tank
2 Cisterns
Well
4"-5" Cherry
6" Apple
14" Fir
10'-6" C.M.P.
12'-6" Pipe
Ash Dr.
Coal Dr.
1" Maple
3" Maple
Drilled Well
End Sheet Sta. 59+00
MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W

NOTE: SEE RIGHT-OF-WAY SHEET Nº 7 FOR THE "LEGEND"

FOR FENCE QUANTITIES, SEE R/W SHEET Nº 9

GRAPHIC SCALE

100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT OF WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	NAME CHANGE Pcl 241 WL	W I	8-30-66
2	Name Change Pcl 241 WL	W I	9-2-66
3	REVISED AREA PCL. 241 WL TO REFLECT COURT SETTLEMENT PER D. BOOHER.	J.R.B.	2/18/69

⊙ MONUMENTS TO BE SET
P.O.C. STA. 131+00

PRICETOWN ROAD (C.H. 37)
STA. 40+00 TO STA. 59+00

I-80S

FED. RD.	STATE	PROJECT	
2	OHIO		

179/180

MAH-18-0.91

RIGHT of WAY SHEET

22/23

Bert L WOLSTEIN
Paul Lipman
Michael L. Miller, Co.-Trustee
BEGIN WORK
STA. 728+76.50
RELOC. S.R. 534
BEGIN ACQUISITION
STA. 728+64
RELOC. S.R. 534
EXIST. S.R. 18
EXIST. S.R. 534
RELOC. S.R. 534
CONSTRUCTION LIMITS
S 0°28'53" E
N 1°36'01" W
S 0°37'22" W
N 4°05'40" W
S 00°10'40" W
CUT STONE FD. & USED
TELEPHONE BOOTH
ROBERT C. HUGLI
245
T.B.A. = 0.832 AS
P.R.O. = 0.075 AS
TOTAL = 0.907 AS
E.C. PORTER
245 WA
244
VINCENT PORTER
T.B.A. = 1.208 AS
RESTAURANT & SERVICE STATION
CABINS
MOTEL OFFICE
GARAGE
SERVICE STATION
DONALD PORTER
245 AWA
244 WA
CHANNEL CLEANOUT
245 BWA
ROBERT BAUMGARD
243 WL
244 WL
VINCENT PORTER
FOR ACREAGE, SEE RW SHEET Nº 18
RAMP "C"
RAMP "D"
RAMP "C" STA. 18+63.33
RELOC. S.R. 534 STA. 741+84.66
RAMP "D" STA. 0+00
RELOC. S.R. 534 STA. 741+84.66
149+09.70 (570.39')
S.R. 534 STA. 741+00 (92.10')
150+71.79 (569.07)
STA. 741+00 (70')
RELOC. S.R. 534
S.C. STA. 15+03
P.C. STA. 15+09.26
END SHEET STA. 742+70
MATCH TO R/W SHEET Nº 18

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N ······ R5W

FOR FENCE QUANTITIES, SEE R/W SHEET Nº 9

NOTE: SEE RIGHT OF WAY SHEET Nº 7 FOR THE "LEGEND"

GRAPHIC SCALE

100 75 50 25 0 50 100

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	PARCEL 243WL NAME CHANGE		1-26-65
2	PARCEL 244WA Added		4-22-66
3	EXTENDED WA PCL 244		5-19-66
4	Pcl 243 WL ADDED To 241 WL, Pcl 243 DELETED	W I	8-30-66
5	NAME CHANGE Pcl 241	S S	9-2-66
6	ADDED PCL. 243WL BACK ON PLAN TO REFLECT COURT SETTLEMENT PER BOOHER.	J.R.B.	2/18/69

FED. RD.	STATE	PROJECT		
2	OHIO			

MAH-18-0.91

RIGHT of WAY SHEET 23/23

MAHONING COUNTY
MILTON TOWNSHIP
GREAT LOT 18
T2N R5W

NOTES: (1) SEE RIGHT OF WAY SHEET Nº 7 FOR THE "LEGEND"
(2) FOR FENCE QUANTITIES SEE R/W SHEET Nº 9

PRELIMINARY SUBMITTAL DATE: MARCH 4, 1964
RIGHT-OF-WAY COMPLETION DATE: JUNE 30, 1964

Nº	REVISIONS	MADE BY	DATE
1	PARCEL 243 WL NAME CHANGE		1-26-65
2	PARCEL 243 WL ADDED TO 241 WL PCL 243 DELETED	W I	8-30-66
3	NAME CHANGE Pcl 241 WL	SS	9-2-66
4	ADDED PCL. 243WL BACK ON PLAN TO REFLECT COURT SETTLEMENT PER BOOHER.	J.R.B.	2/18/69