STATE OF OHIO
DEPARTMENT OF HIGHWAYS

I-680-9(1)222

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9()222	

1/492

MAHONING COUNTY
MAH-18-17.20

YOUNGSTOWN EXPRESSWAY SYSTEM

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 REVISED CODE OF OHIO.

MAR 10 1964
GROUND PHOTOLAB

MAH-18-17.20
MAHONING COUNTY
CITY OF YOUNGSTOWN

LIMITED ACCESS

PART I - STEEL STREET TO HAYES AVENUE

CONVENTIONAL SIGNS

Center Line
Corporation Line
Fence Line
Guard Rail (proposed)
Railroad
Power Poles
Telephone Poles
Trees or Stumps (Existing)

-INDEX OF SHEETS-

Title Sheet	1	Oakwood St. Improvement	226 - 230
Location Map	2	Silliman St. " "	231 - 233
Typical Sections	3-6	Steel St. & Glenwood Ave. " "	234 - 235
General Notes	7-14	Salt Springs Rd. Improvement	236 - 243
Maintenance of Traffic	15-16	Park Rd. " "	244 - 247
Computations	17-18	Marshall St. Improvement	248 - 260
Summary of Quantities	19-31	Edwards St. " "	261 - 267
Superelevation Tables	32-35	Burns St. & Hall Ct. Access Rd.	268 - 271
Plan & Profile MAH-18-17.20	36-47	High St. Improvement	272 - 286
Plan & Profile Ramps	48-62	Oakhill Ave. "	287 - 291
Details Ramps	63-69	Pike St. Relocation	292 - 295
Intersection Details of Ramps	70-73	Woodlawn Ave. East Imp.	296 - 300
Interchange With Mahoning West - Federal Expressway	74-77	Woodlawn Ave. West. Imp.	301 - 306
Grading Plan - Ramps "F & H"	78	Lighting Plans	307 - 310
Storm Sewer Profiles	79-83	Retaining Walls	311 - 327
Utility Relocations	84-104	Approach Slabs	328 - 331 & 331A
Manhole Details	105-106	Structures over 20'	332 - 466
Miscellaneous Details	107-111	Right-of-Way	467 - 492
Roadway Culverts	112-121		
Cross Sections - Expressway	122-181		
Cross Sections - Ramps	182-216		
Cross Sections - Interchange Mahoning West - Federal Expy.	217-225		

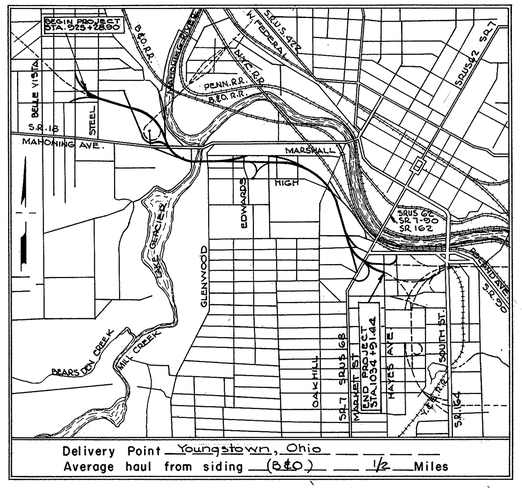
333-349-383-421-425, REV. 7-28-60

-LINE DATA-

Begin Project & I-680-9(1)222 Sta. 925+28.90
End Project & I680-9(1)222 Sta. 1034+91.44
Net Length of Project - 10,962.54 Lin. Ft. = 2.076 Mile

Add for Approaches = 11,660.77 Lin. Ft.
Total Length of Work = 22,623.31 Lin. Ft. = 4.284 Mile

(See Sheet Nº 8)



LOCATION MAP

SCALE OF FEET
2000 0 2000 4000 6000

Portion to be improved
Future Construction

Sheet 354 revised 9-1-60.
Sheets 181 & 184 Revised 11-18-60 REC.
Sheets 17, 19, 24, 25, 26, 28, 29, & 112 revised 11-23-60 REC.
Sheets 361 & 391 revised 1-12-61.

SCALE

Plan 1" = 50'
Profile : Horizontal 1" = 50'
Profile : Vertical 1" = 5'

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 Paul Kostyshak
Date 4-28-60 Division Deputy Director

Approved Guy E Nesper
Date 5-20-60 Deputy Director of Planning & Programming

Approved C W Merriman
Date 5-12-60 Engineer of Bridges

Approved [illegible]
Date 5-17-60 Engineer of Location & Design

Approved C W McCaughey
Date 5-18-60 Deputy Director of Design & Construction

Approved G A Berry
Date 5-20-60 First Assistant Director

Approved [illegible]
Date 5-20-60 Director of Highways

Approved J Phillip Richley
Date 4-27-60 Commissioner of Engineering, City of Youngstown

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ASSOCIATES and ROBERT J. SCHOMER
CONSULTING ENGINEERS
AKRON, OHIO YOUNGSTOWN, OHIO

File No. MAH-18-17.20
Date of Letting _____ 19__
Contract No. _____

Supplemental Prints of Standard Construction Drawings						
BT 50-10-TIE Nº1	10-1-47	I-8 MH Nº1A	1-26-59	S-27 PC-3	2-20-45	I-15 Nº6 7-1-59
BT TIE	3-2-53	I-8 MH Nº2	1-26-59	S-27 PC-4	1-4-54	I-8 CB Nº4 7-1-58
F-1	9-1-58	I-12	T-1-54	T-35	1-2-56	I-8 CB Nº5 7-1-58
F-3	9-1-58	I-14B	1-22-52	TJ	5-1-56	
G-7.01	6-1-56	I-15 Nº1	5-21-59			
I-1,2,3,4,&5	4-24-58	I-15 Nº2A	5-21-59			
I-8, CB 2-2A&B	3-2-59	I-21-23	8-1-56	AS-1-54	12-1-54	
I-8, CB 2-3&2-4	1-26-59	L-1	4-1-50	CSB-2-56, SHTS 2&3	2-2-59	
I-8, CB Nº6	1-26-59	L-3	4-1-50	RB-1-55	2-2-59	
I-8I Nº2	4-23-59	L-3A	4-1-50	AA-1-57	2-2-59	
I-8I, Nº2A	4-23-59	LJ Nº1	7-1-55	CS-2-54	2-2-59	
I-8 MH Nº1	1-26-59	R1-1	7-15-56	P-1-54	2-2-59	

Supplemental Specifications	
B-213	R. 3-12-59
I-124	1-11-56
S-101	12-2-59
M-106.6(d)	R. 4-1-58
M-206.14	7-15-59
18	R. 6-15-59

MICROFILMED
SEP 18 1963

MAR 10 1964
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

_____ Division Engineer _____ Date

FED. RD.	STATE	PROJECT	
	OHIO		

2/432

MAH-18-17.20

℄ CURVE Nº 1 DATA
Δ = 43°-47'-40"
Dc = 5°-30'
Rc = 1041.74'
Ls = 400'
Θs = 11°-00'
Lc = 796.26'
Ts = 621.04'
Es = 87.89'

℄ CURVE Nº 2 DATA
Δ = 54°-44'-10"
Dc = 5°-30'
Rc = 1041.74'
Ls = 400'
Θs = 11°-00'
Lc = 995.20'
Ts = 742.31'
Es = 138.49'

℄ CURVE Nº 3 DATA
Δ = 60°-43'-03"
Dc = 5°-30'
Rc = 1041.74'
Ls = 400'
Θs = 11°-00'
Lc = 703.95'
Ts = 813.68'
Es = 172.95'

℄ CURVE Nº 4 DATA
Δ = 74°-52'-50"
Dc = 2°-45'
Rc = 2083.48'
Ls = 300'
Θs = 4°-07'-30"
Lc = 2422.93'
Ts = 1746.61'
Es = 542.86'

℄ CURVE Nº 5 DATA
Δ = 53°-49'-25"
Dc = 5°-45'
Ls = 400'
Rc = 996.45'
Θs = 11°-30'
Lc = 536.06'
Ts = 708.91'
Es = 128.51'

LEGEND

- EXPRESSWAY CONSTRUCTION, FEDERAL PARTICIPATION
- CITY STREET IMPROVEMENT, 100% CITY
- FUTURE EXPRESSWAY

MICROFILMED
SEP 19 1985

GENERAL PLAN

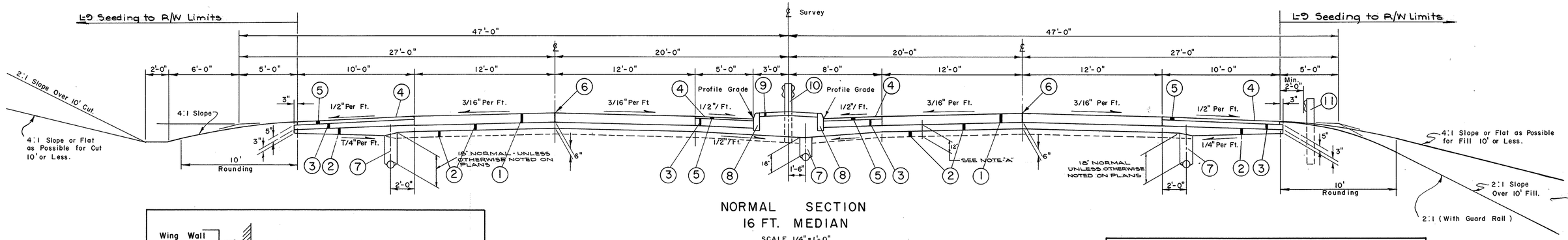
FED. RD.	STATE	PROJECT	
2	OHIO		

3
492

MAH - 18 - 17.20

TYPICAL SECTIONS

TYPE - T - 71

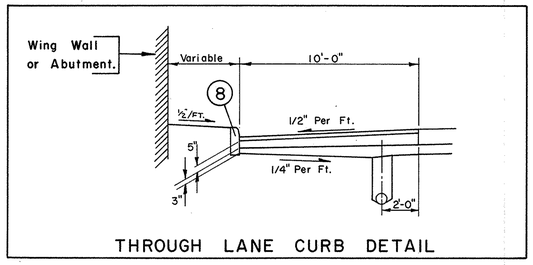


NORMAL SECTION
16 FT. MEDIAN

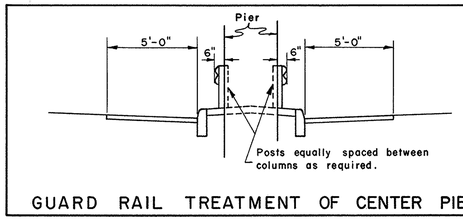
SCALE 1/4" = 1'-0"

Limiting Stations

	929+99.42	- 937+46.56
	951+41.76	- 954+73.06
	969+77.01	- 979+19.25
	980+79.75	- 986+75.45
Right Lane	1016+98.42	- 1021+55.38
Left Lane	1019+17.15	-



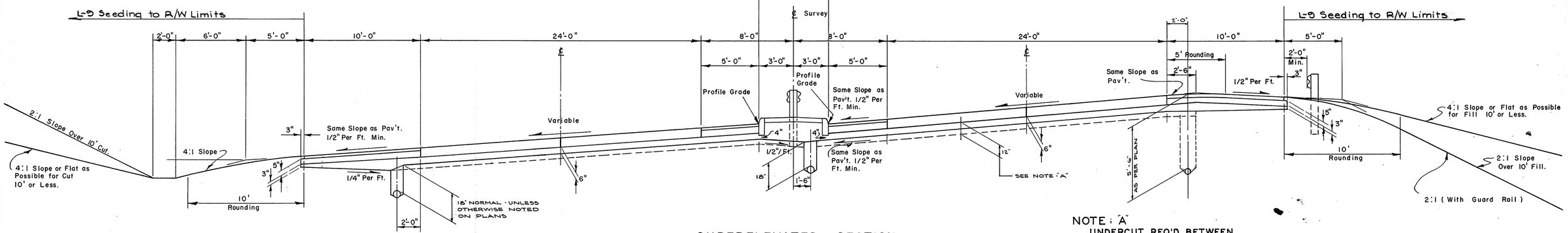
THROUGH LANE CURB DETAIL



GUARD RAIL TREATMENT OF CENTER PIER

Varies 6' To 16.02' — Sta. 925+28.90 To Sta. 929+99.42

6' Normal



SUPERELEVATED SECTION
16 FT. MEDIAN

SCALE 1/4" = 1'-0"

Limiting Stations

	925+28.90	- 929+99.42
	937+46.56	- 951+41.76
	954+73.06	- 962+48.25
	968+46.93	- 969+77.01
	986+75.45	- 1005+07.87
	1006+87.22	1015+84.50 Left Lane
		1016+98.42 Right Lane
	1021+55.38	- 1034+91.44

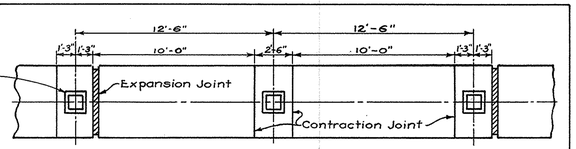
NOTE : "A"

UNDERCUT REQ'D. BETWEEN

STA.	918+50	TO	STA. 928+00
STA.	932+00	TO	STA. 943+00
STA.	974+50	TO	STA. 976+00
STA.	989+50	TO	STA. 991+00
STA.	1015+00	TO	STA. 1016+50
STA.	1024+00	TO	STA. 1032+00

¼" Expansion Joint Material around Posts shall be included for payment with Item I-21.

NOTE: Backfill around Guard Rail Posts in Median shall be Granular Material.



JOINT DETAIL AT GUARD RAIL POSTS IN CONCRETE MEDIAN

(1) T-71 10" Reinforced Portland Cement Concrete Pavement

(2) I-22 Subbase (Variable Depth)

(3) I-18 5" Stabilized Crushed Aggregate

(4) T-31 Bituminous Surface Treatment Consisting of One Application of .008 C.Y. No. 6 Aggregate And 0.25 Gal. Bituminous Material. (See Note in Proposal.)

(5) B-219 3" Waterproofed Aggregate Base Course

(6) Standard Longitudinal Joint

(7) I-4 6" Pipe Underdrain

(8) I-12 Standard Type 6 Curb

(9) I-21. 4" Standard Type 1 Portland Cement Concrete Median Pavement

(10) I-15 ST'D. Barrier Rail, Steel Beam (Deep)

(11) I-15 ST'D. Guard Rail, Steel Beam (Deep)

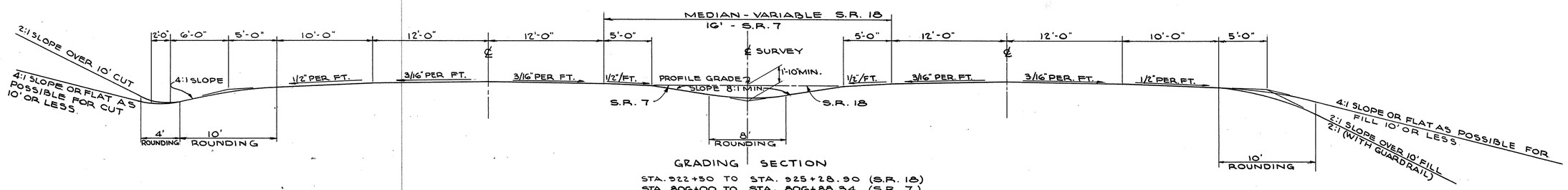
CODE - 7221

TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

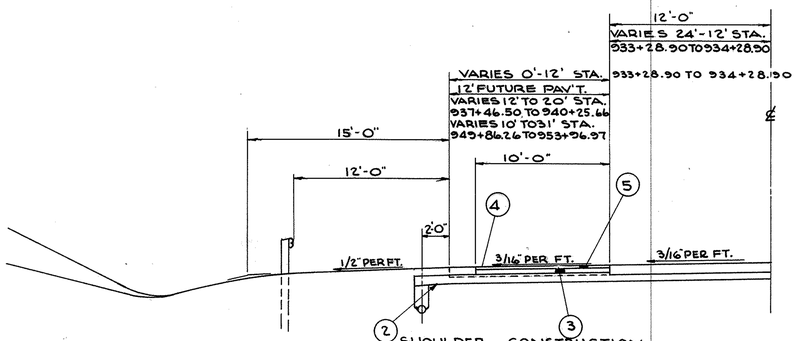
4 / 492

MAH - 18 - 17.20



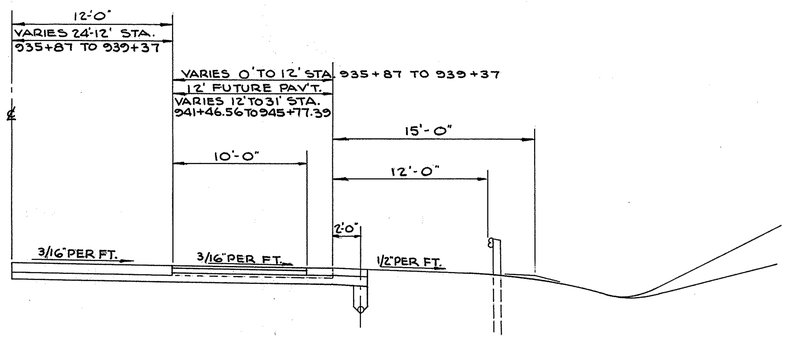
GRADING SECTION

STA. 922+50 TO STA. 925+28.90 (S.R. 18)
STA. 806+00 TO STA. 806+88.34 (S.R. 7)



SHOULDER CONSTRUCTION

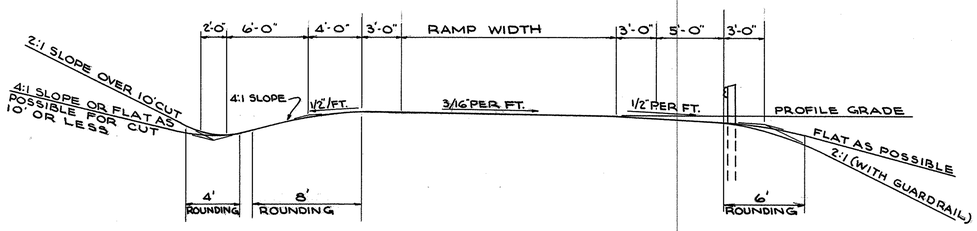
STA. 934+28.90 TO STA. 937+46.56



SHOULDER CONSTRUCTION

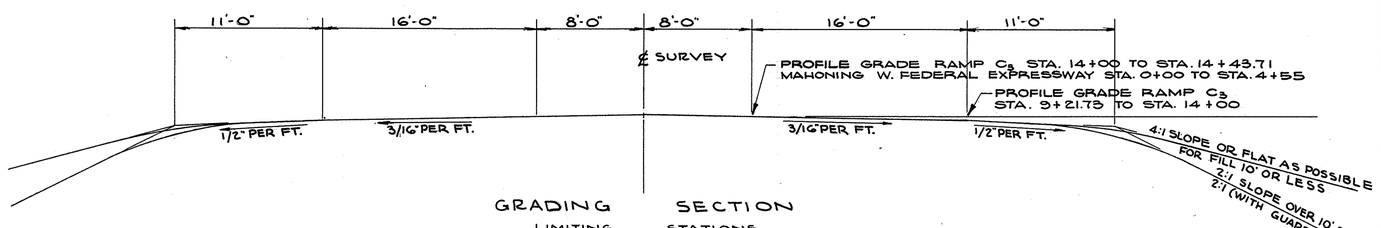
STA. 939+37 TO STA. 941+46.56

② — I-22 SUBBASE (VARIABLE DEPTH)
③ — I-18 5" STABILIZED CRUSHED AGGREGATE
④ — T-31 BITUMINOUS SURFACE TREATMENT
⑤ — B-219 3" WATERPROOFED AGGREGATE BASE COURSE



GRADING SECTION

RAMP-A_3 STA. 3+57.88 TO STA. 9+45.66
RAMP-B_3 STA. 4+08.93 TO STA. 11+70.58
RAMP-C_3 STA. 4+05.43 TO STA. 10+57.54



GRADING SECTION

LIMITING STATIONS

MAHONING - WEST FEDERAL EXPRESSWAY - STA. 0+00 TO STA. 4+55
RAMP C_3 - D_3 STA. 9+21.73 TO STA. 14+43.71

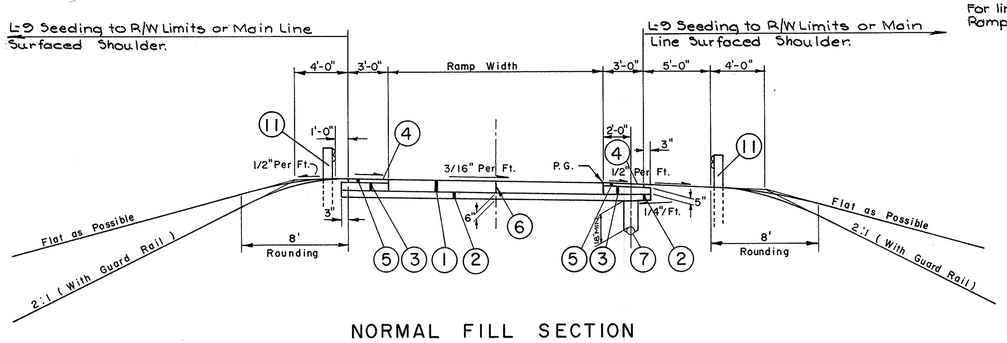
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

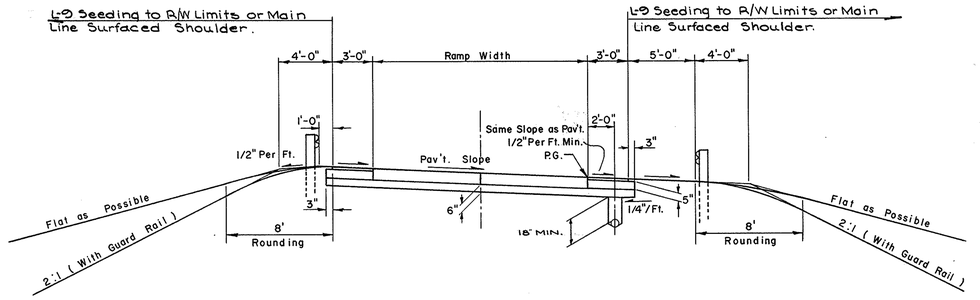
5 / 492

MAH. - 18 - 17.20

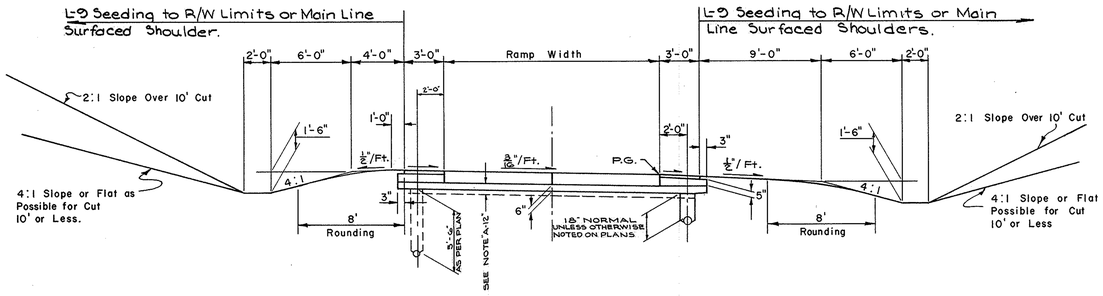
TYPE - T-71
For limiting Stations See Ramp Plan & Profile Sheets.



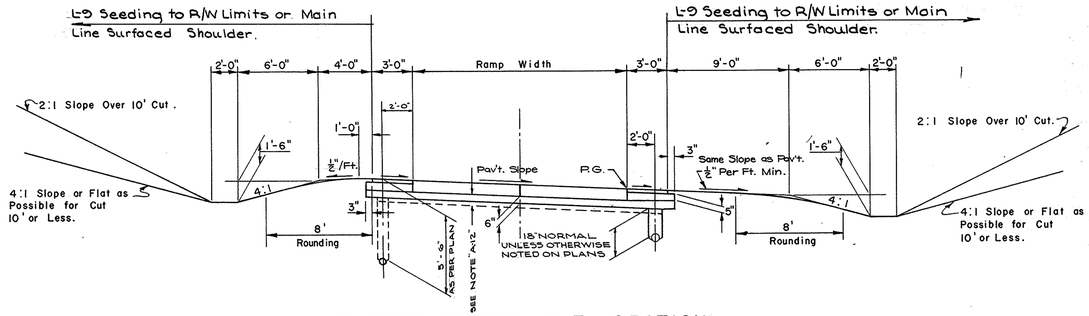
NORMAL FILL SECTION



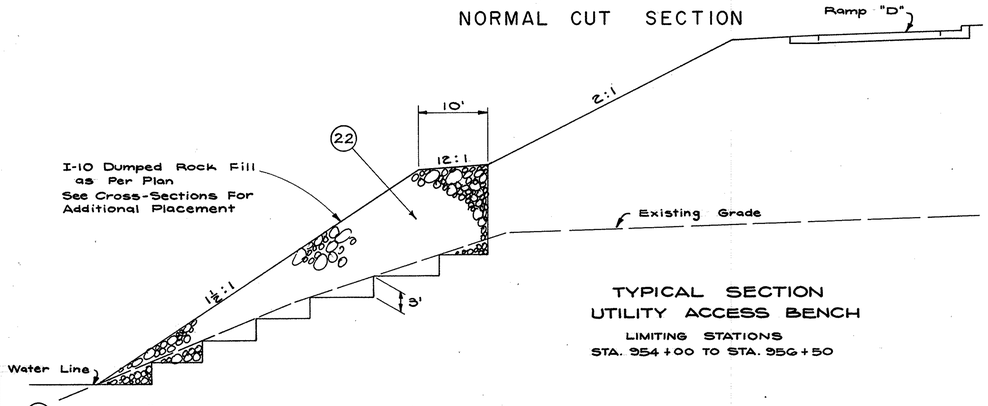
SUPERELEVATED FILL SECTION



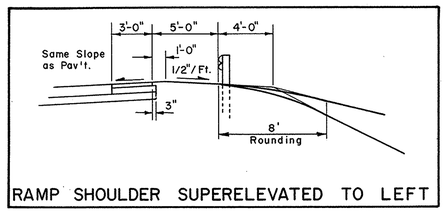
NORMAL CUT SECTION



SUPERELEVATED CUT SECTION



TYPICAL SECTION
UTILITY ACCESS BENCH
LIMITING STATIONS
STA. 954+00 TO STA. 956+50



RAMP SHOULDER SUPERELEVATED TO LEFT

NOTE "A"

UNDERCUT REQ'D. BETWEEN;

RAMP 'A' STA. 0+00 TO STA. 12+00 - STA. 16+00 TO STA. 20+00
RAMP 'B' STA. 12+00 TO STA. 16+00
RAMP 'D' STA. 0+00 TO STA. 15+00
RAMP 'E' STA. 0+00 TO STA. 7+00
RAMP 'H' STA. 6+00 TO STA. 9+00
RAMP 'J' STA. 13+50 TO STA. 16+50
RAMP 'K' STA. 0+00 TO STA. 4+00 - STA. 9+50 TO STA. 18+50
RAMP 'M' STA. 11+00 TO STA. 17+00
RAMP 'N' STA. 8+00 TO STA. 12+00

(1) T-71 9" Reinforced Portland Cement Concrete Pavement
(2) I-22 Subbase (Variable Depth)
(3) I-18 Stabilized Crushed Aggregate
(4) T-31 Bituminous Surface Treatment Consisting of One Application of .008 C.Y. No. 6 Aggregate 0.25 Gal. Bituminous Material. (See Note in Proposal.)
(5) B-219 3" Waterproofed Aggregate Base Course
(6) Standard Longitudinal Joint
(7) I-4 6" Pipe Underdrain
(22) I-10 Dumped Rock Fill as Per Plan
Material For This Item Shall Be Bank Run Slag. Grading Requirements Are Hereby Waived. However, The Material Shall Be Such That It Can Be Placed In Two Foot Lifts.
(11) I-15 Std. Guard Rail, Steel Beam (Deep)

CODE - 7221

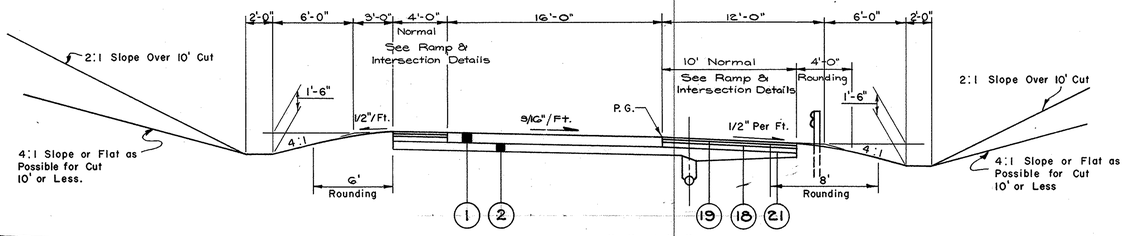
RAMP TYPICAL SECTIONS

TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

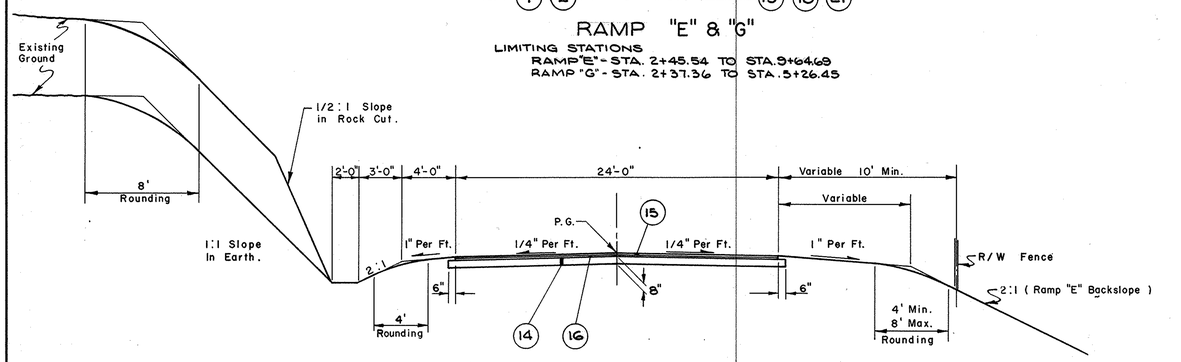
MAH-18-17.20

6
492

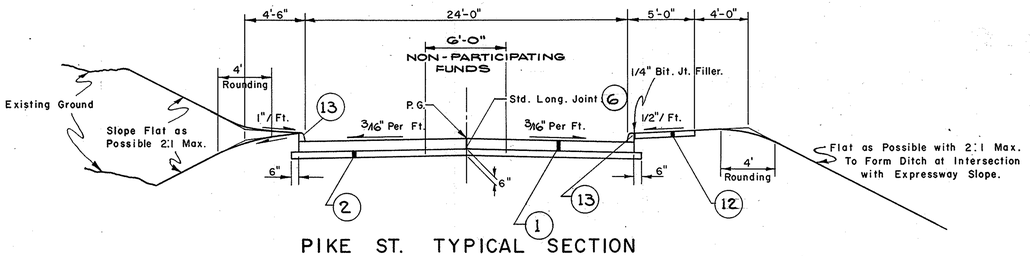


RAMP "E" & "G"

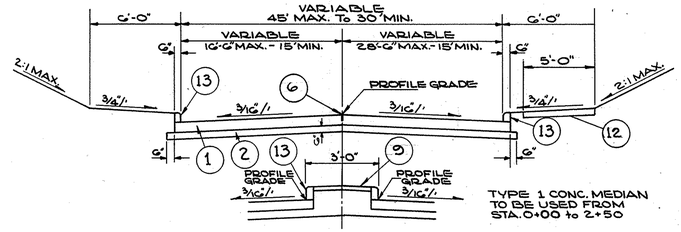
LIMITING STATIONS
RAMP "E" - STA. 2+45.54 TO STA. 9+64.68
RAMP "G" - STA. 2+37.36 TO STA. 5+26.45



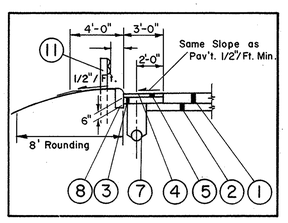
PARK ROAD TYPICAL SECTION

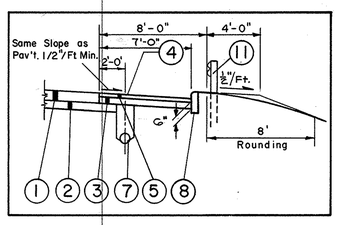


PIKE ST. TYPICAL SECTION

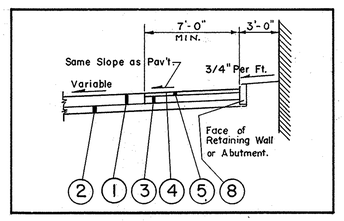


RELOCATED SALT SPRINGS ROAD

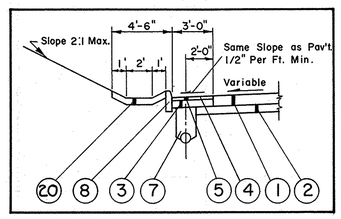




RAMP CURB DETAILS



RAMP ALONG WALL OR ABUTMENT



RAMP WITH CURB & PAVED GUTTER

(1) T-71 9" Reinforced Portland Cement Concrete Pavement
(2) I-22 Subbase (Variable Depth)
(3) I-18 Stabilized Crushed Aggregate
(4) T-31 Bituminous Surface Treatment
(5) B-219 3" Waterproofed Aggregate Base Course
(6) Standard Longitudinal Joint
(7) I-4 6" Underdrain
(8) I-12 Standard Type 6 Curb
(9) I-21 Standard Type 1 Concrete Median
(11) I-15 Standard Guardrail, Steel Beam (Deep)
(12) I-13 5" Concrete Sidewalk
(13) I-12 Standard Type 2-A Concrete Curb
(14) B-19 8" Aggregate Base Course.
(15) T-35 1¼" Asphaltic Concrete Surface Course. Type 'C' (70-85)
(16) B-35 1¾" Asphaltic Concrete Leveling Course. (70-85)
(18) B-35 1¾" Asphaltic Concrete Leveling Course. (70-85)
(19) T-35 1¼" Asphaltic Concrete Surface Course. Type 'C' (70-85)
(20) I-14 Standard Type 1 Paved Gutter
(21) B-35 6" Asphaltic Concrete Base Course (70-85) (2-3" Courses)

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

7
492

GENERAL NOTES

ROAD NAME SIGNS:

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

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE FOR THE EXECUTIVE USE OF THE STATE EMPLOYEES, IN ACCORDANCE WITH SEC. S-0.01 (b) HAVING A MINIMUM OF 500 SQUARE FEET OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THE FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT.

DESIGN SPEED:

THE GEOMETRICS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 50 MILES PER HOUR.

UTILITIES

THE CONTRACTOR SHALL NOTIFY AT LEAST 48 HOURS BEFORE BREAKING GROUND ALL PUBLIC SERVICE CORPORATIONS HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. ANY AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS.

R/W MONUMENTS, FEDERAL PROJECT 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 CONSTRUCTION CREWS.

ELEVATION DATUM:

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

SPECIAL DITCHES

FOR SPECIAL DITCH GRADES, SEE CROSS SECTIONS.

PIPE FOR SUBGRADE DRAINAGE

10 LIN. FT. OF 8" CORRUGATED METAL PIPE, SEC. M-6.4(a), SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR, IN MANHOLES, CATCH BASINS AND INLETS FOR EACH SUBGRADE DRAIN, WHERE, AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH SHALL BE MADE AT THE PRICE BID FER LINEAL FOOT OF PIPE UNDERDRAIN OUTLETS.

SUBGRADE COMPACTION FOR DRIVEWAYS

THE SUBGRADE FOR DRIVEWAYS FAVED WITH T-71 MATERIAL SHALL BE COMPACTED FOR A DEPTH OF SIX (6) INCHES TO THE DENSITY REQUIREMENTS SHOWN IN TABLE III, ITEM E-1. PAYMENT FOR SUBGRADE COMPACTION, AS SPECIFIED ABOVE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1, ROADWAY EXCAVATION.

REMOVAL & STORAGE OF CURB & SIDEWALK

EXISTING STONE CURB AND FLAGSTONE SIDEWALK SHALL REMAIN THE PROPERTY OF THE CITY OF YOUNGSTOWN AND SHALL BE STORED WITHIN THE RIGHT-OF-WAY LIMITS.

HEAVY EQUIPMENT

THE CONTRACTOR SHALL EXERCISE CARE IN THE OPERATION OF HEAVY EQUIPMENT OVER FINISHED WORK AND WILL BE REQUIRED TO REMOVE AND REPLACE ANY COMPLETED WORK DESTROYED THEREBY. CULVERTS SHALL BE BACKFILLED TO A HEIGHT OF FOUR FEET BEFORE LOADED EARTH-MOVING EQUIPMENT IS PERMITTED TO CROSS THE TRENCH. HEAVY EQUIPMENT SHALL NOT BE OPERATED OVER ANY COMPLETED LAYER OF EMBANKMENT COMPACTED SUBGRADE OR SUBBASE IF SUCH OPERATION TENDS TO DESTROY THE SOIL STRUCTURE OR PIPE UNDERDRAINS; HOWEVER, IF SUCH OPERATION CANNOT BE AVOIDED, THE CONTRACTOR WILL BE REQUIRED TO REDUCE THE SIZE OF LOADS TO AN EXTENT THAT DAMAGE DOES NOT OCCUR. ANY ADDITIONAL FILL AND SUBSEQUENT EXCAVATION REQUIRED TO PROVIDE THE MINIMUM SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.

GUARD RAIL POST ANCHORS

AT LOCATIONS WHERE PIER FOOTINGS INTERFERE WITH INSTALLATION OF FULL LENGTH GUARD RAIL POSTS, SHORT POSTS SHALL BE PROVIDED AND SHALL BE ANCHORED IN ACCORDANCE WITH STANDARD DRAWING I-15 NO. 6. COST OF PROVIDING AND INSTALLING NECESSARY ANCHORS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT OF GUARD RAIL.

GUARD RAIL PARAPET ANCHORS:

THE CONTRACTOR SHALL PROVIDE ONE ADDITIONAL GUARDRAIL POST IN THE CENTER OF THE FIRST PANEL OF DEEP STEEL BEAM GUARDRAIL ADJACENT TO THE PARAPET, COST OF WHICH SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FEET OF GUARDRAIL.

ITEMS L-10, SODDING I-10 DUMPED ROCK CHANNEL PROTECTION, I-14 PAVED GUTTER.

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

L-9 COMMERCIAL FERTILIZER

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

SEEDING AND PROTECTING

QUANTITIES FOR SEEDING ITEM L-9 ARE CALCULATED FOR ALL AREAS WITHIN RIGHT-OF-WAY LIMITS SEED SHALL BE SOWN AT THE RATE OF 3 POUNDS PER 1,000 SQUARE FEET EXCEPT AS OTHERWISE NOTED IN THE PLANS. SEEDING FORMULA FOR ALL SEEDED AREAS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

65% KENTUCKY BLUEGRASS
25% KENTUCKY 31 FESCUE
5% REDTOP
5% WHITE DUTCH CLOVER

REMOVAL OF TREES AND STUMPS

THE SIZE AND NUMBER OF TREES AND STUMPS SHOWN BELOW FOR REMOVAL UNDER THE CONSTRUCTION AS DETAILED ON THESE PLANS, ARE AS NEARLY CORRECT AS AVAILABLE INFORMATION PERMITS. THE STATE OF OHIO WILL NOT BE RESPONSIBLE FOR ANY VARIATIONS FOUND DURING CONSTRUCTION. THE LUMP SUM BID FOR ITEM E-9 REMOVAL OF TREES AND STUMPS, SHALL CONSTITUTE FULL PAYMENT FOR THIS ITEM, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS AND SUCH TREES AS MARKED BY THE ENGINEER SHALL BE REMOVED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE NUMBER OF TREES ARE ESTIMATED TO BE 1400.

FLARING OF GUARD RAIL AT BRIDGE

GUARD RAIL SHALL BE FLARED TO MEET THE BRIDGE RAILING IN SUCH A MANNER THAT THE CHANGE IN ALIGNMENT OF THE GUARD RAIL SHALL NOT EXCEED 1:20.

REPLACEMENT

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

I-22 UNDER APPROACH SLABS

THE AREA BETWEEN THE BOTTOM SURFACE OF THE APPROACH SLAB AND THE SUBGRADE SHALL BE BACKFILLED WITH ITEM I-22 6" SUBBASE.

CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING T.J.

PERMITS, LAWS AND REGULATIONS

THE CONTRACTOR SHALL SECURE, ALL NECESSARY PERMITS FROM THE MUNICIPAL OR OTHER PUBLIC AUTHORITIES & SHALL GIVE ALL NOTICES REQUIRED BY LAW OR MUNICIPAL ORDINANCES.

GUARD RAIL

THE LENGTHS OF INDIVIDUAL RUNS OF GUARD RAIL SHALL BE ADJUSTED AT THE TIME OF CONSTRUCTION TO ACCOMMODATE STANDARD PANEL LENGTHS.

UTILITIES

FOLLOWING IS A LIST OF THE UTILITIES WITHIN THE LIMITS OF THIS PROJECT:

EAST OHIO GAS CO.
OHIO EDISON CO.
MAHONING VALLEY SANITARY DISTRICT
OHIO BELL TELEPHONE CO.
BALTIMORE AND OHIO RAILROAD
CITY OF YOUNGSTOWN WATER DEPT.
CITY OF YOUNGSTOWN SEWER DEPT.
AMERICAN TELEPHONE & TELEGRAPH

DRAIN PIPES

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

I-2 4" PIPE FOR STORM SEWERS M-6.8(a)
-- 1000 LIN. FT.

THE ABOVE QUANTITY IS PROVIDED FOR NEW DRAIN PIPES AND CURB OPENINGS AT LOCATIONS DESIGNATED BY THE ENGINEER. IT SHALL INCLUDE THE CURB OPENING, FURNISHING AND INSTALLING THE PIPE, AND OTHER INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THIS ITEM. THE SPECIFIC LOCATION AND USAGE OF ESTIMACED QUANTITIES SET UP ON THIS PLAN TO BE USED AS DIRECTED BY THE ENGINEER SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

FILLING BASEMENTS OUTSIDE NORMAL WORK LIMITS:
IN ADDITION TO THE GENERAL REMOVAL REQUIREMENTS OF SEC. E-1.03(C), ALL BASEMENTS OR PORTIONS THEREOF WITHIN THE RIGHT-OF-WAY ON THIS PROJECT BUT BEYOND THE NORMAL SLOPE LINES SHALL BE FILLED TO SURROUNDING GROUND ELEVATION AS DIRECTED BY THE ENGINEER. PRIOR TO FILLING WITHIN THIS AREA, THE BASEMENT FLOORS AND WALLS SHALL BE BROKEN UP OR REMOVED AS PROVIDED UNDER SEC. E-1.03(C) (AND ALL HOUSE DRAINS NOT REMOVED SHALL BE PLUGGED AS PROVIDED ELSEWHERE IN THESE NOTES.)
WHERE BASEMENTS EXTEND BEYOND THE RIGHT-OF-WAY LINE, BUT ARE WITHIN SLOPE EASEMENT OR WORK AGREEMENT LINES, THEY SHALL BE FILLED TO THE ELEVATION OF THE SURROUNDING GROUND AS DIRECTED BY THE ENGINEER BUT THE REQUIREMENTS OF SEC. E-1.03(C) FOR REMOVALS BELOW THE PROPOSED FINISHED SURFACE SHALL BE WAIVED FOR THE PORTIONS EXTENDING BEYOND THE RIGHT-OF-WAY LINE.
PAYMENT FOR ALL OF THE ABOVE, EXCEPT PLUGGING, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1.

CONSTRUCTION LAYOUT STAKES

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

DRIVEWAY RECONSTRUCTION:

THE CONTRACTOR WILL REMOVE WHERE NECESSARY AT THE LOCATIONS DESIGNATED ON THE PLANS, EXISTING DRIVEWAYS WHICH ARE TO BE RE-GRADED. THESE DRIVEWAYS ARE TO BE REPLACED IN KIND AND PAYMENT SHALL BE AT THE UNIT BID PRICE FOR THE SPECIFIC TYPE OF MATERIAL TO BE REPLACED. SEE SHEET NO. 107 . CHART "A"

FED. RD.	STATE	PROJECT	
2	OHIO		

8
492

MAH - 18 - 17.20

GENERAL NOTES

BERMS AND SLOPES

BERMS, SLOPES AND ROUNDING SHALL BE FINISHED IN ACCORDANCE WITH STANDARD DRAWING RI-1 EXCEPT WHERE OTHERWISE SHOWN ON THE TYP. SECTION. ALL SLOPES IN TRANSITION FROM CUT TO FILL SHALL BE MADE IN A MANNER TO BLEND WITH THE SURROUNDING TERRAIN AS DIRECTED BY THE ENGINEER.

THE GRADING TOLERANCE AS NOTED IN SECTION E-1.10 OF THE SPECIFICATIONS SHALL BE MODIFIED AS FOLLOWS. THE FINISHED GRADED AND SEEDED SECTION IN THE AREAS OF LAWNS OR RESIDENCES SHALL NOT DEVIATE MORE THAN ONE INCH VERTICALLY BELOW THE GRADE AND LINES AS SHOWN IN THESE PLANS. THESE AREAS ARE TO BE IN SMOOTH CONTOUR AND FREE FROM STICKS, STONES AND OTHER DEBRIS. CARE SHALL BE EXERCISED, AS DIRECTED BY THE ENGINEER, TO ASSURE THAT PROPER SURFACE DRAINAGE IS OBTAINED IN THE AREAS INVOLVED AS WELL AS ADJACENT TO OR ACROSS ANY DRIVEWAYS THAT MAY BE LOCATED IN THE AREAS. PAYMENT FOR ANY ADDITIONAL TOOLS, LABOR INCLUDING HANDRAKING IF NECESSARY, INCIDENTALS AND OPERATIONS NECESSARY TO ACCOMPLISH THIS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION.

CURBS ON APPROACH SLABS

THE HEIGHT AND FACE OF CURBS ON APPROACH SLABS SHALL BE TRANSITIONED FROM THE STANDARD SECTION USED ON THE APPROACH PAVEMENT TO THE SECTION USED ON THE BRIDGE CURBING WITHIN THE LIMITS OF THE APPROACH SLAB.

PLACING SOD IN DITCHES

ALL SOD PLACED IN DITCHES SHALL BE LAID WITH THE LONG EDGES OF THE STRIPS PERPENDICULAR TO THE FLOW LINE OF THE DITCH. SUCCESSIVE STRIPS SHALL BE NEATLY MATCHED AND ALL JOINTS STAGGERED OR BROKEN. THE SOD SHALL BE STAKED SECURELY WITH STAKES PLACED ON MAXIMUM TWO (2) FOOT CENTERS IN ROWS NOT MORE THAN TWO (2) FT. APART. STAKES IN ADJACENT ROWS SHALL BE STAGGERED. THE STAKES SHALL BE WOOD FROM 1/2"x3/4"x12" TO 1"x1"x24" AS REQUIRED TO HOLD THE SOD AND SHALL BE DRIVEN FLUSH WITH THE TOP OF THE SOD.

GLENWOOD AVE. STONE WALL

STONE REMOVED FROM THE STONE RETAINING WALL AT GLENWOOD AVE., SHOWN ON SHEET NO. 235 ITEM S-24 SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE STORED WITHIN THE R/W.

CONCRETE STEPS

REMOVAL OF EXISTING STEPS SHALL BE INCLUDED UNDER THE UNIT PAICE BID PER LIN. FT. OF ITEM I-13 "CONCRETE STEPS". RISER HEIGHT MAY BE VARIED IN THE FIELD AT THE DIRECTION OF THE ENGINEER.

NATURAL SAND AND GRAVEL SUBGRADE

NATURAL SAND & GRAVEL WILL BE ENCOUNTERED AT SUBGRADE ELEVATION IN MANY CUT SECTIONS. IN AREAS WHERE THIS MATERIAL CONTAINS NOT MORE THAN 15% PASSING A NO. 200 SIEVE, EXCAVATION OF THIS MATERIAL AND REPLACEMENT WITH I-22 SHALL BE NON-PERFORMED AS DIRECTED BY THE ENGINEER.

I-13 5" SIDEWALKS BETWEEN APPROACH SLAB CURBS & ABUTMENTS

1/2" PREMOULDED EXPANSION JOINT FILLER SHALL BE USED BETWEEN THE FACES OF THE ABUTMENT & SIDEWALK AND THE APPROACH SLAB CURB & SIDEWALK. THE COST OF THE EXPANSION JOINT FILLER SHALL BE INCLUDED UNDER THE UNIT PRICE BID PER SQ. FT. FOR ITEM I-13 5" PORTLAND CEMENT CONCRETE SIDEWALK.

SS-18 RIGHT OF WAY FENCE:
RIGHT OF WAY FENCE SHALL BE ERECTED 2' INSIDE THE LIMITED ACCESS LINE UNLESS OTHERWISE SHOWN ON THE PLANS.

12" I-22 COURSE THROUGH SILT AREAS

IN THE FOLLOWING AREAS OF A-1a AND A-1b SILT A 12" THICKNESS OF I-22 SHALL BE USED UNDER THE CONCRETE PAVEMENT AND SHOULDERS CUT TO THE I-N LINE.

MAIN LINE STATION
918 + 50 — 922 + 00
932 + 00 — 942 + 00
974 + 50 — 976 + 00
988 + 50 — 991 + 00
1015 + 00 — 1016 + 50
1021 + 00 — 1032 + 00

RAMP A
0 + 00 — 12 + 00
16 + 00 — 20 + 00

RAMP B
12 + 00 — 16 + 00

RAMP D
0 + 00 - 15 + 00

RAMP E
0 + 00 - 7 + 00

RAMP H
6 + 00 - 9 + 00

RAMP K
0 + 00 - 4 + 00
9 + 50 - 18 + 50

RAMP M
11 + 00 - 17 + 00

RAMP N
8 + 00 - 12 + 00

COMPACTION USING A HEAVY PNEUMATIC TIRED ROLLER

THERE ARE SEVERAL AREAS OF EXISTING RANDOM FILL BETWEEN STATIONS 1006 + 00 1020 + 00. WHERE THESE DEPOSITS OCCUR IN THE SUBGRADE FOR PAVEMENT OR FOUNDATION FOR FILL THEY SHALL BE ROLLED WITH A 50 TON PNEUMATIC TIRED ROLLER (SEE PROPOSAL). THE APPROXIMATE AREAS OF ROLLING ARE SHOWN ON SHEET NO. 167 & 169. THESE AREAS MAY BE VARIED AS DIRECTED BY THE ENGINEER. BETWEEN STATIONS 1008 TO 1012 WHERE THE RANDOM FILL FORMS THE FOUNDATION FOR EMBANKMENT IT WILL BE NECESSARY TO EXCAVATE THE RANDOM FILL SLOPE TO FORM WORKING BENCHES FOR THE PNEUMATIC TIRED ROLLER. THE EXCAVATION NECESSARY SHALL BE PAID FOR UNDER ITEM E-1 "ROADWAY EXCAVATION - METHOD B". IN CUT AREAS THE EXCAVATION SHALL BE COMPLETED TO APPROXIMATE SUBGRADE ELEVATION BEFORE ROLLING IS BEGUN. ROLLING SHALL BE DONE FOR THE FULL ROADWAY WIDTH BETWEEN DITCHES; OR WHERE EMBANKMENT IS REQUIRED; FOR THE FULL WIDTH ON WHICH THE EMBANKMENT IS TO REST. THE FOLLOWING QUANTITY IS ESTIMATED FOR THE ROLLING OPERATION.

ITEM SPECIAL 40 HOURS FILL COMPACTION USING A HEAVY PNEUMATIC TIRED ROLLER — GRANULAR BORROW MEETING THE REQUIREMENTS OF ITEM T-1.02 "GRANULAR MATERIAL" AND IN ADDITION MEETING THE REQUIREMENT OF AT LEAST 75% BY WEIGHT OF GRAINS OR PARTICLES RETAINED ON A NO 200 SIEVE; SHALL BE USED TO LEVEL UP RUTS THAT DEVELOPE AS ROLLING PROGRESSES. THE FOLLOWING QUANTITY IS ESTABLISHED FOR THIS PURPOSE.

ITEM E-N 1575 CY SPECIAL BORROW USING GRANULAR MATERIAL SECTION E-1.02; AS PER PLAN.

GENERAL NOTES

DRAINAGE

1. WHERE ABANDONED SEWER PIPES OR WATER MAINS ARE ENCOUNTERED DURING CONSTRUCTION; THE PIPES SHALL BE CUT AND PLUGGED IN ACCORDANCE WITH METHODS OUTLINED IN SECTION I-16.03. PAYMENT FOR CUTTING AND PLUGGING AND THE REMOVAL OF THE PIPE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 " ROADWAY EXCAVATION - METHOD B"

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

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

RELOCATED PIKE STREET

Subsequent to the completion of these plans the City of Youngstown advised that they propose to let a contract to construct a sewer line in relocated Pike Street starting at the junction of existing 68" and 54" combination sewers (See sheet 292) and extending easterly on relocated Pike St. This work proposes a new junction chamber at the intersection of the existing 68" and 54" lines with manholes at approximate Pike St. stations 7+16 and 9+35 and will eliminate the need for 18" line P-82 and manholes B-1 and A-75.

When the Youngstown Sewer Contract becomes effective the overlapping work on this contract shall be non-performed.

The Contractor on this project shall cooperate with the contractor on the sewer project so as not to unduly inconvenience his operations.

LINE DATA CALCULATIONS FOR STREETS & APPROACHES

SALT SPRINGS ROAD:
BEGIN WORK - STA. 0+00
END WORK - STA. 7+44.52
NET LENGTH OF WORK = 744.52 L.F.

WOODLAND AVE. (EAST)
BEGIN WORK - STA. 1+20.96
END WORK - STA. 8+66.06
NET LENGTH OF WORK = 745.10 L.F.

MARSHALL ST.
BEGIN WORK - STA. 0+00
END WORK - STA. 22+50
NET LENGTH OF WORK = 2250 L.F.

EDWARDS ST.
BEGIN WORK - STA. 0+63.31
SUSPEND WORK - STA. 6+20
RESUME WORK - STA. 7+04.13
END WORK - STA. 9+90.32
NET LENGTH OF WORK = 851.88 L.F.

HIGH ST.
BEGIN WORK - STA. 14+59.16
END WORK - STA. 34+00
NET LENGTH OF WORK = 1940.84 L.F.

OAKWOOD AVE.
BEGIN WORK - STA. 0+10
END WORK - STA. 6+41.66
NET LENGTH OF WORK = 631.66 L.F.

RELOC. BURNS ST. & HALL COURT
BEGIN WORK - 0+23.20
END WORK - 3+94.80
NET LENGTH OF WORK = 371.51 L.F.

OAKHILL AVE.
BEGIN WORK - STA. 48+25
END WORK - STA. 51+65.14
NET LENGTH OF WORK = 340.14 L.F.

WOODLAND AVE. (WEST)
BEGIN WORK - STA. 0+32
END WORK - STA. 7+50
NET LENGTH OF WORK = 718 L.F.

SILLIMAN ST.
BEGIN WORK - STA. 0-47
END WORK - STA. 5+91.01
NET LENGTH OF WORK = 638.01 L.F.

PIKE ST. RELOCATION:
BEGIN WORK - STA. 0+18
END WORK - STA. 9+90
NET LENGTH OF WORK = 972 L.F.

PARK ROAD:
BEGIN WORK - STA. 0+00
END WORK - STA. 9+34.87
NET LENGTH OF WORK = 934.87 L.F.

MAIN LINE APPROACHES:
BEGIN WORK - STA. 921+75
BEGIN PROJECT - STA. 925+28.90
LENGTH OF WORK 353.90 L.F.
END PROJECT - STA. 806+88.34
END WORK - STA. 805+20
EQUATION - 1034+91.44 BACK, EQUALS 806+88.34 AHEAD
LENGTH OF WORK - 168.34 L.F.
NET LENGTH OF WORK (APPROACHES) = 522.24 L.F.

TOTAL LENGTH OF STREETS & APPROACHES = 11660.77 LIN.FT.

GENERAL NOTES

UTILITIES RELOCATION

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

9/432

GENERAL:

CONSTRUCTION PLANS INCLUDE RELOCATING LINES AND APPURTENCES OF THREE UTILITY FACILITIES DISRUPTED BY CONSTRUCTION OF EXPRESSWAY. THIS RELOCATION WORK TO BE PERFORMED IN CONNECTION WITH AND BY THE CONTRACTOR OF YOUNGSTOWN EXPRESSWAY WORK IN ORDER THAT UTILITIES RELOCATIONS CAN BE CLOSELY COORDINATED WITH EXPRESSWAY WORK AND WITH EACH OTHER.

THE THREE FACILITIES ARE:

CITY OF YOUNGSTOWN SEWER DEPARTMENT; (C.O.Y. SEWER DEPT.) RELOCATION OF VARIOUS LATERAL AND INTERCEPTOR SEWERS.

CITY OF YOUNGSTOWN WATER DEPARTMENT; (C.O.Y. WATER DEPT.) RELOCATION OF VARIOUS SERVICE MAINS AND THE 36 INCH PRESTRESSED REINFORCED CONCRETE AND 30 INCH CAST IRON PIPE SUPPLY MAINS IN PLUM STREET.

MAHONING VALLEY SANITARY DISTRICT: (M.V.S.D.): RELOCATION OF 42 INCH FEEDER MAIN OAKWOOD AVE. SECTION, RUNNING EAST FROM STEEL ST. AT OAKWOOD AVE. (M.V.S.D. STA. 67+00) TO A CROSS CONNECTION VALVE VAULT AT SALT SPRINGS ROAD (M.V.S.D. STA. 86+23) THEN RUNNING SOUTH IN SALT SPRINGS ROAD UNDER MAHONING AVE. BRIDGE AT PRICE ROAD (M.V.S.D. STA. 107+50). THIS RELOCATION WORK OCCURS BETWEEN EXPRESSWAY STATION 930+00 AND STATION 959+00.

THE LOCATIONS OF THESE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. THE LOCATION, TYPE, DEPTH, AND SIZE OF ALL EXISTING PIPES ARE SHOWN AS NEAR EXACT AS THE ABAILABLE INFORMATION WILL PERMIT. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO MAKES NO GUARANTEES AS TO THEIR ACCURACY OR COMPLETENESS. THE STATE WILL NOT BE RESPONSIBLE FOR ANY VARIATIONS FOUND DURING CONSTRUCTION.

THERE WILL BE NO SEPERATE PAYMENT FOR EXCAVATION FOR WATER AND SEWER LINES. REQUIRED EXCAVATION OVER AND ABOVE THAT INDICATED FOR ROADWAY EXCAVATION SHALL BE INCLUDED IN THE APPROPRIATE UNIT PRICE FOR SEWERS ETC..

SHEETING AND BRACING ORDERED LEFT IN PLACE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT UNDER ITEM E-2 "SHEET PILING LEFT IN PLACE."

WHERE CONCRETE ENCASED SEWER OR WATER PIPES ARE REQUIRED SUCH ENCASEMENT WILL BE INCLUDED IN UNIT PRICE BID FOR FURNISHING AND LAYING PIPE, ITEM 1-2 COMBINED SEWERS CONCRETE ENCASED OR ITEM 1-12H NEW WATER MAINS, CONCRETE ENCASED. SEE SHEET 102 FOR DETAILS.

WHERE CONCRETE ENCASEMENT IS REQUIRED FOR EXISTING WATER LINES IT SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT UNDER ITEM 1-12H ENCASEMENT OF EXISTING WATER MAINS. SEE SHEET 102 FOR DETAILS.

THE CONSTRUCTION OR RELOCATED WATER MAINS OWNED BY THE CITY OF YOUNGSTOWN AND THE MAHONING VALLEY SANITARY DISTRICT WILL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE CITY AND DISTRICT AS SEPARATELY AFFECTED.

THE CONTRACTOR SHALL NOTIFY CITY OF YOUNGSTOWN WATER DEPARTMENT OR MAHONING VALLEY SANITARY DISTRICT 48 HOURS IN ADVANCE OF BREAKING GROUND ON EACH WATER MAIN RELOCATION. HE WILL OBTAIN PERMISSION FROM APROPRIATE AUTHORITY BEFORE TAKING ANY WATER MAIN OUT OF SERVICE. HE WILL ARRANGE WORK AND MATERIALS IN ADVANCE SO THAT ANY WATER MAIN WILL BE OUT OF SERVICE A MINIMUM PERIOD OF TIME.

ALL CONSTRUCTION ON WATER MAINS SHALL CONFORM TO STATE OF OHIO DEPARTMENT OF HIGHWAYS SUPPLEMENTAL SPECIFICATION 1-12H, AS AMENDED HEREIN.

NO SEPERATE PAYMENT WILL BE MADE FOR CONCRETE ANCHORAGES OR CONCRETE THRUST BLOCKS REQUIRED IN LAYING WATER LINES. THE COST FOR SUCH CONCRETE SHALL BE INCLUDED IN UNIT PRICE BID FOR ITEM 1-12H "NEW WATER MAINS."

THE DRAWINGS SHOW THE LOCATION AND PROFILE OF THE LINE TO BE LAID, AND TYPICAL DETAILS OF THE PIPING AND STRUCTURES. DEPENDING UPON THE TYPE OF PIPE TO BE USED, THE LINE AND GRADE OF THE WATER PIPE MAY BE MODIFIED SLIGHTLY SO THAT CURVATURE MAY BE MADE INSOFAR AS PROPER AT THE JOINTS WITHOUT USE OF SPECIAL FITTINGS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PARTICULAR TYPE OF PIPE CHOSEN AT THE AWARD OF CONTRACT. ALL PROPOSED MODIFICATIONS FROM THE PIPE PROFILE SHOWN ON THE DRAWINGS SHALL BE SUBMITTED IN DETAIL TO THE ENGINEER FOR APPROVAL BEFORE ANY MATERIAL IS ORDERED.

WHERE ABANDONED SEWER PIPES OR WATER MAINS ARE ENCOUNTERED DURING CONSTRUCTION; THE PIPES SHALL BE CUT AND PLUGGED IN ACCORDANCE WITH METHODS OUTLINED IN SECTION 116.03. PAYMENT FOR CUTTING AND PLUGGING AND REMOVAL OF THE PIPE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 "ROADWAY EXCAVATION METHOD "B"

PROPOSED SEWERS AND WATER MAINS UNDER EXISTING PAVEMENT:

REPLACEMENT OF EXISTING PAVEMENT FOR CONSTRUCTION OF PROPOSED SEWERS AND WATER MAINS SHALL BE AS SHOWN ON SHEET #30. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM B-70 "PORTLAND CEMENT CONCRETE BASE COURSE FOR PAVEMENT REPLACEMENT," AND ITEM T-35 "ASPHALTIC CONCRETE SURFACE COURSE FOR PAVEMENT REPLACEMENT"

WHERE REFERENCE IS MADE TO ITEMS BY MEANS OF TRADE NAMES OR MANUFACTURERS, IT SHALL BE UNDERSTOOD THAT SUCH REFERENCE IS MADE FOR THE PURPOSE OF ESTABLISHING A STANDARD, AND THAT OTHER PRODUCTS WHICH CAN BE PROVEN FULLY EQUAL WILL BE EQUALLY ACCEPTABLE. BIDDERS WISHING TO OFFER SUBSTITUTIONS FOR THE STANDARDS NAMED SHALL SO INDICATE IN THEIR PROPOSAL. OTHERWISE BIDS WILL BE CONSTRUED TO BE BASED ON THE STANDARD, WHICH SHALL BE INSTALLED. IF SUBSTITUTIONS OFFERED ARE DEEMED NOT EQUAL, THE CONTRACTOR MAY BE REQUIRED TO PROVIDE THE STANDARD OR ITS EQUAL AT NO CHANGE FROM BID PRICE.

REMOVAL OF EXISTING 42" FEEDER MAIN:

ALL EXISTING 42" MAHONING VALLEY SANITARY DISTRICT FEEDER MAIN, WHICH IS REPLACED BY THE RELOCATED MAIN, WILL BE REMOVED BY THE CONTRACTOR. WHERE EXISTING MAIN IS UNCOVERED BY ROADWAY EXCAVATION THE PAYMENT FOR REMOVAL SHALL BE INCLUDED IN THE PRICE BID PER CU.YD. FOR ITEM E-1 ROADWAY EXCAVATION. ANY EXISTING MAIN WHICH HAS TO BE UNCOVERED OUTSIDE THE LIMITS OF ROADWAY EXCAVATION AND REMOVAL SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM E-12 42" PIPE REMOVAL.

CITY OF YOUNGSTOWN SEWER RELOCATIONS:

THE CONTRACTOR SHALL CONDUCT HIS OPERATION THAT THE FLOW OF ALL EXISTING SEWERS WILL BE MAINTAINED AT ALL TIMES. ANY ADDITIONAL LABOR OR COST INVOLVED IN MAINTAING THIS FLOW BY PUMPING OR BY ANY OTHER APPROVED METHOD WHICH IS NECESSARY FOR THE COMPLETION OF THIS PROJECT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 1-2 "COMBINED SEWERS".

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

PAYMENT FOR REMOVAL AND/OR ABANDONING OF PIPE OUTLETS NECESSITATED BY THE ABANDONING OF EXISTING CATCH BASINS OR MANHOLES, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 1-16 "MANHOLES, CATCH BASINS, OR INLETS ABANDONED" UNLESS PAYMENT IS OTHERWISE AUTHORIZED SPECIFICALLY UNDER OTHER ITEMS IN THE PLANS.

WHERE IT IS NECESSARY UNDER ITEM 1-8 "MANHOLES ADJUSTED TO GRADE" TO REPLACE UNSATISFACTORY MANHOLE FRAME AND COVER CASTINGS, PAYMENT FOR THE NEW CASTINGS SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH FOR ITEM 1-8 "MANHOLE FRAME AND COVER FURNISHED AND PLACED". PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING AND PLACING ALL CASTINGS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM TO THE SATISFACTION OF THE ENGINEER.

REMOVAL OF EXISTING HOUSE DRAINS:

NO SEPARATE PAYMENT WILL BE MADE FOR THE REMOVAL, FROM ABANDONED SITES, OF HOUSE CONNECTIONS, INCLUDING SANITARY, YARD, ROOF, BASEMENT OR OTHER SIMILAR PIPE DRAINS WITHIN THE ROADWAY CONSTRUCTION LIMITS, UNLESS SPECIFICALLY OTHERWISE ITEMIZE FOR PAYMENT ON THE PLANS.

WHERE AN EXISTING SEWER IS REPLACED BY A RELOCATED SEWER, NO SEPARATE PAYMENT WILL BE MADE FOR THE COST OF EXTENDING HOUSE CONNECTIONS TO THE NEW SEWER. THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 1-2 "COMBINED SEWERS". SEE SHEET # FOR CONNECTION DETAILS.

REINF. CONC. COMBINATION STORM AND SANITARY SEWER SHALL CONFORM TO ITEM 1-2 "COMBINATION SEWERS UNDER PAVEMENT AND APPROACHES", AS AMENDED HEREIN.

JOINTS SHALL BE OF THE SPIGOT AND SHOULDER TYPE UTILIZING A RUBBER GASKET RETAINED BETWEEN THE GROOVED CONCRETE SPIGOT AND THE CONCRETE SHOULDER, INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS. EXTERIOR JOINT RECESS AND INTERIOR RECESS, FOR PIPE 30" AND LARGER, SHALL BE POINTED WITH CEMENT MORTAR.

PIPE SHALL BE COATED INSIDE WITH TWO COATS OF COAL TAR PITCH PAINT AT A RATE OF NOT MORE THAN 180 SQUARE PER GALLON PER COAT. WATERPROOFING MATERIAL SHALL CONSIST OF "INERTOL STANDARD THICK", "KAPPERS SUPER SERVICE", "PITT.-CHEM 103", OR EQUAL.

CITY OF YOUNGSTOWN WATER MAIN RELOCATIONS:

ALL WATER MAINS BELONGING TO THE CITY OF YOUNGSTOWN AND OVER 8 INCHES IN DIAMETER WILL BE REMOVED AND STORED ON THE RIGHT OF WAY FOR DISPOSAL BY THE CITY. THIS WORK WILL BE PERFORMED UNDER ITEM E-12 "PIPE REMOVAL FOR STORAGE".

ALL CAST IRON PIPE AND APPURTANCES USED IN WATER MAIN CONSTRUCTION WILL CONFORM TO OHIO SUPPLEMENTAL SPECIFICATION 1-124 AND SHALL BE OF MECHANICAL JOINT TYPE AND FITTED WITH LUGS FOR TIED OR HARNESSED JOINTS AT ALL BENDS WITH DEFLECTION GREATER THAN 5°

GATE VALVES: TO CONFORM TO A.W.W.A. SPECIFICATION. C-500 WITH THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS. VALVE WILL BE: OF MECHANICAL JOINT; DOUBLE DISC, PARALLEL SEATS; NON-RISING STEM; CAST IRON STUFFING BOX AND SOLID BRASS GLAND; DISC TO BE CAST IRON WITH BRASS FACES; 16 INCH DIAMETER AND LARGER VALVES TO BE SUPPLIED WITH BY-PASSES, BEVEL GEARING, OPEN AND CLOSED INDICATOR WITH TRACKS, ROLLERS AND SCRAPERS OF HIGH GRADE BRONZE; VALVES ARRANGED TO OPEN BY TURNING TO RIGHT, CLOCKWISE; AND AN ARROW ON WRENCH NUT WILL SHOW DIRECTION OF TURN TO OPEN; WITH VALVE STEMS OF HIGH GRADE MANGANESE BRONZE.

FIRE HYDRANTS TO CONFORM TO A.W.W.A. SPECIFICATION C-502, WITH THE FOLLOWING SUPPLEMENTAL SPECIFICATION: FIRE HYDRANTS SHALL BE OF COMPRESSION TYPE, VALVES OPEN AGAINST PRESSURE; 6 INCH DIAMETER INLET CONNECTION TO FIT MECHANICAL JOINT AND WITH HARNESSING LUGS; BE FURNISHED WITH 2 HOSE NOZZLES 2½ INCH I.D. NAT. THD. FIRE HOSE COUPLING SCREW THREAD AND 1 PUMPER NOZZLE 4½ INCH I.D. YOUNGSTOWN STD. THD., SEE DETAIL, AND MATCHING CAPS; HAVE BURY LENGTH 5½ FEET; LEATHER NOZZLE CAP GASKET; DRAIN OPENING WITH LEATHER FACED VALVE; LEATHER FACED INLET VALVE NOT LESS THAN 5 INCH DIAMETER; BRONZE STUFFING BOX AND GLAND; OPERATING AND CAP NUTS BE OF BRASS OR BRONZE, SQUARE SHAPED, FINISHED WITH SLIGHT TAPER 27/32 INCH SQUARE ON TOP TO 29/32 INCH SQUARE ON BOTTOM AND STAND PIPE EXPOSED ABOVE SIDE WALK BE PAINTED FEDERAL ORANGE. SEE THREAD DETAIL SHEET #92.

VALVE BOXES WILL BE SIZE "B" WITH NO 6 ROUND BASE, ADJUSTABLE SCREW TYPE, SHAFT NOT LESS THAN 5¼ INCH DIAMETER. DROP COVER TO HAVE "WATER" CAST THERE ON AND RECESSED FOR EASE OF REMOVAL.

36 INCH PRESSURE PIPE DESCRIPTION:

THE CONTRACTOR SHALL FURNISH, DELIVER, STRING AND INSTALL, IN TRENCH, COMPLETE AND READY FOR SERVICE, INCLUDING TESTING, THE 36 INCH PRESSURE PIPE LINE IN PLUM STREET. PIPE MATERIALS AND TYPES OF CONSTRUCTION SHALL BE LIMITED TO REINFORCED CONCRETE PIPE, STEEL CYLINDER TYPE, PRESTRESSED, PRESSURE CLASS 150 P.S.I.

WATER METER BOXES:

THE CITY WATER WORKS DEPARTMENT WILL RELOCATE ALL PRIVATELY OWNED WATER METER BOXES AND THIS ITEM WILL NOT BE INCLUDED AS PART OF THE WORK TO BE PERFORMED BY THE STATE CONTRACTOR.

SPECIAL ATTENTION IS DIRECTED TO RELOCATION OF 36" AND 30 INCH SUPPLY MAINS IN PLUM STREET. THESE MAINS SUPPLY THE SOUTH WESTERLY SECTION OF YOUNGSTOWN WHICH HAS STORAGE FACILITIES SUFFICIENT FOR APPROXIMATELY FIVE (5) HOURS, (3,000,000 GAL.) PRIOR TO REMOVING THESE LINES FROM SERVICE THE CONTRACTOR SHALL: (1) ACCOMPLISH ALL POSSIBLE RELOCATION WORK; (2) HAVE ALL SUBSEQUENT NECESSARY MATERIALS AND EQUIPMENT AVAILABLE; (3) OBTAIN PERMISSION FROM CITY OF YOUNGSTOWN WATER DEPARTMENT TO TAKE LINE OUT OF SERVICE; (4) BREAK LINE AND ACCOMPLISH CONNECTIONS DURING PERIOD OF MINIMUM WATER DEMAND WHICH IS 11:00 P.M. TO 5:00 A.M.

EXISTING WATER MAIN CUT AND PLUGGED OUTSIDE ROAD WAY CONSTRUCTION LIMITS SHALL BE PAID FOR UNDER ITEM 1-12H NEW WATER MAIN AT CONTRACT UNIT PRICE BID PER EACH "CUT AND PLUG".

GENERAL NOTES
UTILITIES RELOCATION

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

10
492

MAHONING VALLEY SANITARY DISTRICT RELOCATIONS

MAHONING VALLEY SANITARY DISTRICT MANHOLES IN 42" FEEDER MAIN RELOCATION WORK WILL BE CONSTRUCTED AS SHOWN ON THE DETAILED DRAWINGS. THESE MANHOLES WILL BE CONSTRUCTED UNDER ITEM I-8 "MANHOLES SPECIAL" AS AMENDED FOR THIS CONTRACT. SEE DETAIL SHEET NO. 98.

42" FEEDER MAIN RELOCATION EAST OF STEEL STREET WILL REQUIRE SPECIAL PROTECTION AND SUPPORTS FOR MAINTAINING SERVICE IN EXISTING MAIN DURING RELOCATION WORK UNDER EXISTING MAIN.

42" FEEDER MAIN RELOCATION SOUTH OF VALVE VAULT IN SALT SPRINGS ROAD AREA WILL REQUIRE CAREFULL COORDINATION WITH 33 INCH SEWER RELOCATION IN THIS AREA. 33 INCH RELOCATION MUST BE COMPLETED BEFORE 42" WATER MAIN RELOCATION CAN BE ACCOMPLISHED AT STA. 114+60 VICINITY.

THE 42" FEEDER MAIN PROVIDES THE WATER SUPPLY FOR THE CITY OF YOUNGSTOWN. THIS LINE SHALL BE OUT OF SERVICE FOR THE SHORTEST POSSIBLE TIME. PRIOR TO REMOVING THIS LINE FROM SERVICE THE CONTRACTOR SHALL: (1) ACCOMPLISH ALL FOSSILBE RELOCATION WORK; (2) HAVE ALL SUBSEQUENT NECESSARY MATERIALS AND EQUIPMENT AVAILABLE; (3) OBTAIN PERMISSION FROM MAHONING VALLEY SANITARY DISTRICT TO TAKE THE LINE OUT OF SERVICE; (4) BREAK LINE AND ACCOMPLISH CONNECTIONS DURING PERIOD OF MINIMUM WATER DEMAND WHICH IS 11:00 P.M. TO 3:00 A.M.

CAST IRON PIPE, VALVES, AND APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS STIPULATED UNDER CITY OF YOUNGSTOWN WATER MAIN RELOCATIONS, HEREINBEFORE.

ALL EXISTING 42" PIPE, REPLACED BY RELOCATION, SHALL BE REMOVED WITH NO ATTEMPT TO SALVAGE FOR MAHONING VALLEY SANITARY DISTRICT.

42 INCH PRESSURE PIPE
DESCRIPTION:

THE CONTRACTOR SHALL FURNISH, DELIVER, STRING AND INSTALL IN THE TRENCH, COMPLETE AND READY FOR SERVICE, INCLUDING TESTING, THE 42 INCH PRESSURE PIPE LINE OF THE TYPE AND MATERIAL SELECTED FROM THE SEVERAL ALTERNATE MATERIALS AND TYPES OF CONSTRUCTION OFFERED IN THE PROPOSAL.

IT IS INTENDED THAT THE TYPE AND MATERIAL OF THE PIPE WILL BE UNIFORM THROUGHOUT THIS SECTION OF THE RELOCATION.

THE ALTERNATE PIPE MATERIALS AND TYPES OF CONSTRUCTION SHALL BE AS SPECIFIED HEREIN AND SHALL BE LIMITED TO THE FOLLOWING:

(1) WELDED STEEL PIPE WITH COUPLED JOINTS

(2) REINFORCED CONCRETE PIPE, STEEL CYLINDER TYPE, PRESTRESSED, PRESSURE CLASS 150 PSI.

GENERAL SPECIFICATIONS FOR WATER LINES:

THIS ITEM CONSISTS OF FURNISHING ALL MATERIALS, EXCAVATION, AND BACKFILLING, CONSTRUCTING ALL NECESSARY JOINST AND CONNECTIONS, HYDROSTATIC TESTING, DISINFECTION, PROVIDING PROTECTIVE COATING, AND DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL WHICH MAY BE REQUIRED TO COMPLETE THIS ITEM. IN ACCORDANCE WMTH SPECIFICATIONS I-124 AS AMENDED HEREIN, SEE SECTION I-124.13 FOR BASIS OF PAYMENT.

EXCAVATION AND BACKFILL

EXCAVATION SHALL INCLUDE THE REMOVAL, HANDLING, REHANDLING, REFILL AND DISPOSAL OF ANY AND ALL MATERIALS ENCOUNTERED IN THE WORK AND SHALL INCLUDE ALL PUMPING, BAILING, DRAINAGE AND TEMPORARY SHEETING AND BRACING. THE WORK OF EXCAVATION SHALL ALSO INCLUDE THE RESPONSIBILITY FOR ADDED EXPENSE OR OTHER LIABILITY WHICH MAY ARISE FROM QUICKSAND, OBSTICLES OR CONDITIONS, FORESEEN AND UNFORESEEN, AND ENCOUNTERED IN THE WORK OF THIS CONTRACT.

THE USE OF EXCAVATING MACHINERY WILL BE PERMITTED EXCEPT IN PLACES WHERE OPERATION OF SAME WILL CAUSE DAMAGE TO ADJACENT PROPERTY, STRUCTURES OR COMPLETED WORK, IN WHICH CASE HAND METHODS SHALL BE EMPLOYED.

MAINTANENCE OF EXCAVATIONS:

THE CONTRACTOR SHALL MAINTAIN ALL EXCAVATIONS IN GOOD ORDER DURING THE CONSTRUCTION SO AS NOT TO HINDER OR INJURE THE PIPE LAYING, MASONRY WORK OR OTHER WORK. HE SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT MOVEMENT OF THE SIDES OF SUCH EXCAVATIONS, AND SHALL REMOVE AT HIS OWN EXPENXE ANY MATERIAL SLIDING INTO THE EXCAVATION.

THE CONTRACTOR SHALL FURNISH AND PUT IN PLACE SUCH SHEETING AND BRACING AS MAY BE REQUIRED TO SUPPORT THE SIDES OF ALL TRENCHES OR OTHER EXCAVATIONS, AND SHALL REMOVE SUCH SHEETING AND BRACING AS THE TRENCH OR EXCAVATION IS FILLED UP, UNLESS THE ENGINEER SHALL ORDER IT LEFT IN PLACE.

EXCLUSION OR REMOVAL OF WATER:

THE CONTRACTOR SHALL AT ALL TIMES DURING CONSTRUCTION, PROVIDE PROPER AND SATISFACTORY MEANS AND DEVICES FOR THE EXCLUSION OR REMOVAL OF WATER ENTERING THE EXCAVATION, AND SHALL REMOVE ALL SUCH WATER AS FAST AS IT MAY COLLECT IN SUCH A MANNER AS SHALL NOT INTERFERE WITH THE PROSECUTION OF THE WORK.

PROTECTION OF PIPES AND DRAINS, ETC.:

THE CONTRACTOR SHALL PROVIDE SUITABLE TEMPORARY CHANNELS OF FLOW FOR ALL WATER COURSES AND SHALL HOLD THE DISTRICT AND CITY HARMLESS AGAINST ALL CLAIMS FOR DAMAGES GROWING OUT OF OBSTRUCTIONS TO THE FLOW OF SEWERS, DRAINS, DITCHES OR GUTTERS, OR BECAUSE OF INJURY TO OIL, GAS, WATER OR OTHER PIPES OR CONDUITS OR FIXTURES RELATING TO THE SAME, AND HE SHALL GIVE WRITTEN NOTICE TO THE OWNER (OR OWNERS) OF SUCH PIPES OR FIXTURES IN TIME TO PERMIT SUCH OWNERS TO CO-OPERATE WITH HIM IN PROTECTING THEIR PROPERTY.

SURPLUS EXCAVATED MATERIAL, OVER AND ABOVE THAT REQUIRED FOR BACKFILLING, MOUNDING OVER THE PIPE AND MAKING OTHER FILLS AND EMBANKMENTS TO THE FINISHED LINES AND GRADES INDICATED ON THE DRAWINGS OR DIRECTED BY THE ENGINEER, SHALL BE DISPOSED OF BY DUMPING AT SUCH LOCATIONS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE MATERIAL IS DUMPED IN AN ORDERLY MANNER WITHIN THE LIMITS DESIGNATED.

BACKFILLING SHALL BE DONE FIRST OVER THE MIDDLE PORTION OF EACH LENGTH OF PIPE, LEAVING ALL FIELD JOINTS EXPOSED. THE FIELD JOINTS SHALL BE LEFT IN THIS CONDITION UNTIL AFTER THE PIPE HAS BEEN TESTED FOR TIGHTNESS. AFTER THE PIPE HAS BEEN TESTED AND ACCEPTED BY THE ENGINEER, BACKFILLING SHALL BE COMPLETED AT THE JOINTS.

FILLING AGAINST THE WALLS OF STRUCTURES SHALL BE DONE AS ORDERED, AND NOT UNTIL THE WALLS HAVE ACQUIRED SUFFICIENT STRENGTH AND ARE SUFFICIENTLY CURED AND REINFORCED BY THE ADJACENT MASONRY TO TAKE THE THRUST SAFELY.

IF ANY OF THE REFILLS SHALL SETTLE SO AS TO BE BELOW THE REQUIRED LEVELS FOR THE PROPOSED FINISHED SURFACE AT ANY PLACE, BEFORE THE FINAL ACCEPTANCE OF THE WORK TO BE DONE UNDER THIS CONTRACT, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE AND COST, SUPPLY ADDITIONAL MATERIALS AND BUILD UP THE LOW PLACES AS DIRECTED.

SPECIFICATIONS FOR WELDED STEEL PIPE:

THE WELDED STEEL PIPE FURNISHED AND LAID SHALL BE MANUFACTURED, TESTED, MARKED, HANDLED AND DELIVERED IN CONFORMITY WITH THE AMERICAN WATER WORKS ASSOCIATION STANDARD SPECIFICATION FOR ELECTRIC FUSION WELDED STEEL WATER PIPE OF SIZES 30 INCHES AND OVER (AMERICAN WATER WORKS ASSOCIATION NUMBER C 201), WITH A WALL THICKNESS OF NOT LESS THAN 1/2 INCH, AND MAY BE DELIVERED IN STANDARD LENGTHS OF 20 FEET, 30 FEET, OR 40 FEET, AS THE CONTRACTOR MAY ELECT. ALL PIPE TO BE LAID SHALL BE CAPABLE OF WITHSTANDING WATER WORKING PRESSURES OF 150 PSI (300 PSI SHOP TEST). GIRTH SEAMS SHALL BE NOT LESS THAN 5 FEET APART.

THE EXTERIOR AND INTERIOR SURFACE OF ALL WELDED STEEL PIPE SHALL BE CLEANED AND COATED AS FOLLOWS:

THE INTERIOR SURFACE OF THE PIPE SHALL RECEIVE A COAT OF COAL-TAR PRIMER FOLLOWED BY A HOT COAT OF COAL-TAR ENAMEL APPLIED BY MECHANICAL MEANS.

THE EXTERIOR SURFACE OF THE PIPE SHALL RECIEVE A COAT OF COAL-TAR PRIMER FOLLOWED BY A HOT COAT OF COAL-TAR ENAMEL. AN ASBESTOS COAL-TAR SATURATION BELT WRAPPING SHALL THEN BE APPLIED, AND SHALL BE FOLLOWED BY A SURFACE COAT OF WATER-RESISTANT WHITE-WASH.

ALL PIPE COATING MATERIALS SHALL BE BITUMINOUS JET SET PRIMER AND BITUMASTIC 70-B ENAMEL AS MANUFACTURED BY THE KOPPERS COMPANY, INC., PITTSBURGH, PENNSYLVANIA, OR EQUAL, AND SHALL CONFORM TO MATERIAL SPECIFICATIONS AND SHALL BE APPLIED AND TESTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR COAL-TAR ENAMEL PROTECTIVE COATINGS FOR STEEL WATER PIPE, SIZES 30 INCH AND OVER (A.W.W.A. C203-51).

FOR PIPE COATING TEST PURPOSES, THE CONTRACTOR SHALL FURNISH A PORTABLE ENGINE-GENERATOR UNIT TO PROVIDE A SOURCE OF 110 VOLT A.C. ELECTRIC CURRENT. THE CONTRACTOR SHALL FURNISH ALL FUEL AND SHALL MAINTAIN THE UNIT IN SATISFACTORY OPERATING CONDITION FOR AS LONG A PERIOD OF TIME AS NECESSARY TO COMPLETE THE PIPE COATING TESTS. THE UNIT SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

THE FIELD JOINTS IN THE STEEL PIPE LINE SHALL BE MADE UP WITH DRESSER OR EQUAL MECHANICAL COUPLINGS. PIPE ENDS SHALL BE PREPARED WITH PLAIN ENDS FOR MECHANICAL COUPLINGS AND, IN ADDITION, ANY SPECIAL ENDS REQUIRED FOR APPURTENANCES.

THE ENDS OF THE PIPE WHERE DRESSER TYPE COUPLINGS ARE USED SHALL BE NOT MORE THAN ONE THIRTY-SECOND (1/32) OF AN INCH SMALLER THAN THE NOMINAL OUTSIDE DIAMETER OF THE PIPE FOR A DISTANCE OF TWELVE (12) INCHES FROM THE ENDS OF THE PIPE, AND SHALL PERMIT THE PASSING FOR THAT DISTANCE OF A GAUGE RING WHICH HAS AN INTERNAL BORE OF THREE THIRTY-SECOND (3/32) OF AN INCH LARGER THAN THE NOMINAL OUTSIDE DIAMETER OF THE PIPE. THE OUTSIDE DIAMETER OF THE PIPE IS TO BE DETERMINED BEFORE SHIPMENT BY THE USE OF A STEEL TAPE CIRCUMFERENTIALLY APPLIED TO PREVENT THE COATING AND SHIPMENT OF UNDERSIZED PIPE, OR USE OF PIPE WHICH, MEASURED DIAMETRICALLY THE LONG WAY, MIGHT APPEAR TO BE UP TO SIZE.

SPECIAL SECTIONS, CLOSURE PIECES, FABRICATED STEEL FITTINGS, AND ADAPTORS, SHALL BE OF THE SAME MATERIALS AND FABRICATION, STRENGTHS AND COATINGS, AS THE PIPE LINE IN WHICH INSTALLED. WHEN CLOSURE PIECES ARE REQUIRED IN THE FIELD FOR STEEL PIPE, THE CONTRACTOR WILL BE REQUIRED TO MAKE MEASUREMENTS FOR THE SAME AND HE SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THE PIECES.

WHERE PIPE IS CUT WITH AN ACETYLENE TORCH OF SIMILAR METHOD, THE BURNED EDGES SHALL BE GROUND OR CHIPPED SMOOTH BEFORE MAKING JOINTS. WHERE REQUIRED, LONGITUDINAL WELDS SHALL BE GROUND OR CHIPPED TO THE PIPE SURFACE TO CLEAR DRESSER COUPLINGS. THE PIPE COATING AND WRAPPING DAMAGED IN CUTTING OFF THE ENDS OF CLOSURE PIECES OR OTHERWISE SHALL BE REPAIRED AS SET FORTH IN APPLICABLE SECTIONS OF THE AMERICAN WATER WORKS ASSOCIATION SPECIFICATIONS C203.

UPON DEMAND OF THE ENGINEER, THE MANUFACTURER SHALL PERFORM SUCH ADDITIONAL NUMBER OF TESTS AS HE MAY DEEM NECESSARY TO ESTABLISH THE QUALITY OF THE MATERIAL OFFERED FOR USE. THE ENGINEER SHALL BE FURNISHED WITH CERTIFIED RECORDS OR REPORTS OF THE RESULTS OF ALL TESTS, SUCH RECORDS OR REPORTS TO CONTAIN A SWORN STATEMENT THAT THE TESTS HAVE BEEN MADE AS SPECIFIED. THE ENGINEER SHALL BE AT LIBERTY AT ALL TIMES TO INSPECT THE PIPE AND MATERIAL AT THE PLANT INCLUDING THE COATING OF THE PIPES. THE SIZES, UNIFORMITY AND CONDITION OF ALL PIPES HEREIN REFERRED TO SHALL BE SUBJECT TO HIS INSPECTION AND APPROVAL AND HE MAY REJECT WITHOUT PROVING, ANY PIPE WHICH IS NOT IN CONFORMITY WITH THE SPECIFICATIONS OR DRAWINGS.

SPECIFICATIONS FOR REINFORCED CONCRETE PIPE:

THE REINFORCED CONCRETE PIPE TO BE FURNISHED AND LAID SHALL BE OF MATERIALS AND FABRICATION IN CONFORMITY WITH THE AMERICAN WATER WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE WATER PIPE, STEEL CYLINDER TYPE, PRESTRESSED (A.W.W.A. C301-58) WITH NON-EMBEDDED STEEL CYLINDER, HAVING MINIMUM THICKNESSES NOT LESS THAN THOSE TABULATED FOR 42 INCH PIPE AND FOR 36 INCH PIPE AND SHALL BE DELIVERED IN STANDARD LENGTHS OF 16 FEET. ALL PIPE TO BE LAID SHALL BE CAPABLE OF WITHSTANDING WATER WORKING PRESSURES UP TO 150 PSI (275 PSI SHOP TEST).

IN ADDITION TO THE TESTS REQUIRED UNDER A.W.W.A. SPECIFICATIONS C301, THE PIPE SHALL BE TESTED AT THE PLACE OF MANUFACTURE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

THE PIPE MANUFACTURER WILL BE REQUIRED TO MANUFACTURE ONE (1) SAMPLE OF EACH CLASS 150 PIPE OF 42" DIAMETER AND OF 36" DIAMETER MADE IN ACCORDANCE WITH THE TENTATIVELY APPROVED DESIGN FOR TESTS UNDER THE SUPERVISION OF THE ENGINEER.

THE ENGINEER SHALL SUPERVISE THE FABRICATION AND MANUFACTURE OF THE SAMPLE OF EACH PIPE AND RECORD THE MATERIALS USED, THE DATES OF MANUFACTURE AND PERIODS OF CURING AND ESTABLISH THE DATES FOR CONDUCTING THE REQUIRED TESTS.

THE METHOD OF TESTING SHALL BE THE SAME AS THAT USED FOR REINFORCED CONCRETE CULVERT PIPE AND SHALL, IN ALL RESPECTS CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT PIPE (A.S.T.M. DESIGNATION: C76).

THE SAMPLE OF EACH PIPE SHALL SUPPORT WITHOUT RUPTURE OR INJURIOUS CRACKS OR DAMAGE FOR THIRTY (30) MINUTES A SUPERIMPOSED LOAD OF 11,000 LBS. PER LINEAL FOOT. A CRACK OF .01 INCH OR MORE IN WIDTH FOR A LENGTH OF ONE (1) FOOT OR MORE SHALL BE CONSIDERED INJURIOUS AND RENDER THE PIPE UNACCEPTABLE WHEN IT OCCURS AT 75% OR LESS OF THE ABOVE ULTIMATE CRUSHING LOAD (11,000 LB/FT.).

A LENGTH OF THE CLASS 150 OF EACH SAMPLE PIPE SHALL THEN BE SUBJECTED TO AN INTERNAL PRESSURE OF 275 PSI FOR AT LEAST THIRTY (30) MINUTES WITHOUT DAMAGE, RUPTURE, CRACKS, OR LEAKAGE. THE PIPE SHALL ALSO BE REQUIRED TO SUPPORT AN INTERNAL PRESSURE OF 550 PSI WITHOUT BURSTING.

EACH PIECE OF PIPE MANUFACTURED SHALL BE STAMPED OR MARKED TO SHOW THE FOLLOWING:

1. DATE OF MANUFACTURE
2. NUMBER OF UNITS MANUFACTURED THAT DATE FOR THIS CONTRACT.

FAILURE OF PIPE AS TESTED SHALL BE CONSIDERED AS JUST CAUSE TO REJECT ALL PIPE IDENTIFIED OR MARKED AS MANUFACTURED SAME DATE AS SAMPLE.

THE YARD TEST OF 275 PSI SHALL BE APPLIED TO ONE (1) LENGTH OUT OF EACH ONE THOUSAND (1,000) FEET OF PIPE FABRICATED FOR THE JOB AND SHALL BE SELECTED BY THE ENGINEER AT RANDOM FROM THE SUPPLIER'S FABRICATION YARD AFTER THE PIPE HAS REACHED ITS DESIGNED AGE (APPROXIMATELY 28 DAYS). THE PIPE MUST WITHSTAND THIS TEST WITHOUT CRACKING & WITHOUT LEAKAGE.

UPON DEMAND OF THE ENGINEER, THE MANUFACTURER SHALL PERFORM SUCH ADDITIONAL NUMBER OF TESTS AS HE MAY DEEM NECESSARY TO ESTABLISH THE QUALITY OF THE MATERIAL OFFERED FOR USE. THE ENGINEER SHALL BE FURNISHED WITH CERTIFIED RECORDS OR REPORTS OF THE RESULTS OF ALL TESTS, SUCH RECORDS OR REPORTS TO CONTAIN A SWORN STATEMENT THAT THE TESTS HAVE BEEN MADE AS SPECIFIED.

SPECIAL SECTIONS, CLOSURE PIECES, BENDS, ADAPTERS AND OTHER SPECIAL FITTINGS SHALL BE OF THE SAME MATERIALS AND FABRICATION AS THE PIPE LINE IN WHICH INSTALLED.

SPECIFICATIONS FOR HANDLING OF PIPE

MARKING ALL PIPE:

EACH SECTION OF PIPE AND EACH SPECIAL SHALL HAVE CONSPICUOUSLY PAINTED ON THE INSIDE THE DATE OF MANUFACTURE AND SERIAL NUMBER FOR IDENTIFICATION AND THE WORKING PRESSURE FOR WHICH INTENDED. ALL SPECIALS SHALL HAVE THE TOP CENTERLINE CONSPICUOUSLY MARKED ON THE INSIDE AND THE OUTSIDE OF THE PIPE. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH FIELD SKETCHES AND SCHEDULES SHOWING WHERE EACH NUMBERED PIPE AND SPECIAL GOES IN THE LINE.

DELIVERY:

THE ORDER AND DESTINATION OF DELIVERY OF THE VARIOUS PIECES OF PIPE AND SPECIALS SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL OF THE ENGINEER, AND THE MANUFACTURER SHALL RECEIVE SHIPPING INSTRUCTIONS FROM THE CONTRACTOR.

NO CONCRETE PIPE SHALL BE SHIPPED UNTIL THE STRENGTH OF THE CONCRETE HAS REACHED 4500 PSI.

HANDLING:

ALL PIPE SHALL BE HANDLED AND TRANSPORTED AT ALL TIMES WITH THE SUITABLE CARE AND PRECAUTIONS REQUIRED FOR THE PARTICULAR MATERIAL AND CONSTRUCTION OF THE PIPE.

ALL COATED PIPE SHALL BE HANDLED, STACKED AND STORED IN SUCH MANNER AS NOT TO DAMAGE THE COATING ON EITHER INSIDE OR OUTSIDE OF PIPE. STEEL PIPE WITH COAL-TAR EXTERIOR FELT WRAPPED COATINGS SHALL BE HANDLED AT ALL TIMES WITH PROPER EQUIPMENT, SUCH AS STOUT WIDE CANVAS SLINGS AND WIDE PADDED SKIDS DESIGNED TO PREVENT DAMAGE TO THE COATINGS. ALL PIPES WITH COAL-TAR PROTECTIVE TREATMENT SHALL BE HANDLED WITH SUCH EQUIPMENT AND TOOLS AS WILL NOT SERIOUSLY ABRADE, CHIP, INDENT OR REMOVE THE INTERIOR OR EXTERIOR COATING. DUMPING OF PIPE FROM TRUCK OR CONVEYOR WILL NOT BE PERMITTED.

DELIVERY INSPECTION:

EACH PIPE SECTION WILL BE INSPECTED AS IT IS DELIVERED ON THE JOB EITHER AT THE CAR UNLOADING POINT OR AT THE POINT OF UNLOADING FROM THE TRUCKS IN STRINGING ALONG THE LINE. ANY PIPE SECTION OR SPECIAL SECTION THAT SHOWS DENTS, KINKS, ABRUPT CHANGES OF CURVATURE OTHER THAN DETAILED OR SPECIFIED, AND/OR ANY OTHER INJURIES AT THE DELIVERY POINT, MAY BE REJECTED. ANY PIPE SECTION OR SPECIAL SECTION THAT HAS BEEN DROPPED FROM A TRUCK OR CRANE OR HAS OTHERWISE RECEIVED A DAMAGING SHOCK PRIOR TO COMPLETION OF DELIVERY WILL BE REJECTED.

REJECTED SECTIONS OF PIPE MAY BE REPAIRED OR RECONDITIONED OR SECTIONS THEREFROM MAY BE SALVAGED ON THE APPROVAL AND UNDER THE DIRECTIONS AND SUPERVISION OF THE ENGINEER AND SUBJECT TO HIS COMPLETE SATISFACTION AND RETESTING BOTH PHYSICALLY AND UNDER HYDRAULIC PRESSURE.

STORAGE:

EACH SECTION OF STEEL PIPE, AS IT IS DELIVERED ALONG THE LINE OF THE WORK, SHALL BE STORED ON TIMBERS NOT LESS THAN 3 FEET LONG WHICH SHALL REMAIN UNDER THE PIPE UNTIL IT IS MOVED INTO THE TRENCH. CONCRETE PIPE SHALL BE STORED DIRECTLY ON THE GROUND AND WEDGED TO PREVENT THE PIPE FROM ROLLING.

GENERAL NOTES
UTILITIES RELOCATION

FED. RD	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

11
492

SPECIFICATIONS FOR INSTALLATION

LAYING:

WHILE THE PIPE IS SUSPENDED, IN BEING PLACED IN TRENCH, IT SHALL BE CAREFULLY INSPECTED AND ALL ABRASIONS OF COATING ON EXTERIOR SURFACE THAT WILL BE INACCESSIBLE AFTER LAYING SHALL BE SATISFACTORILY REPAIRED.

WHERE PIPE IS TO BE SURROUNDED OR CRADLED WITH CONCRETE, IT SHALL BE LAID ON SUITABLE WOODEN BLOCKING TO MAINTAIN IT AT GRADE UNTIL THE CONCRETE IS PLACED; THE BLOCKING SHALL BE REMOVED FROM TIME TO TIME AS THE WORK OF CONCRETING PROCEEDS.

NO PIPE SHALL BE LAID IN WATER, OR WHEN THE TRENCH CONDITIONS OR THE WEATHER IS UNSUITABLE FOR SUCH WORK, EXCEPT BY PERMISSION OF THE ENGINEER.

WHENEVER NECESSARY TO DEFLECT PIPE FROM A STRAIGHT LINE, EITHER IN THE VERTICAL OR HORIZONTAL PLANE THE DEGREE OF DEFLECTION PER JOINT SHALL BE AS APPROVED BY THE ENGINEER.

WORKMEN SHALL NOT ENTER STEEL COATED PIPE AT ANY TIME WITHOUT WEARING RUBBERS, RUBBER BOOTS, OR SOFT SLIPPERS AND CARE SHALL BE TAKEN AT ALL TIMES TO PREVENT DAMAGE TO THE INTERIOR PROTECTIVE LINING.

FIELD JOINTS IN STEEL PIPE:

ALL FIELD JOINTS BETWEEN SECTIONS OF STEEL PIPE SHALL BE MADE WITH MECHANICAL COUPLINGS EQUAL TO DRESSER STYLE NO. 38, AS MANUFACTURED BY THE MANUFACTURING DIVISION OF THE DRESSER INDUSTRIES, BRADFORD, PA.

THE PIPE COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE, WITH DIAMETER TO PROPERLY FIT THE PIPE. EACH COUPLING SHALL CONSIST OF TWO FOLLOWER FLANGES, ONE STEEL MIDDLE RING, TWO MOULDED RUBBER GASKETS, AND SUFFICIENT ROLLED THREAD, TRACK HEADED BOLTS TO PROPERLY COMPRESS THE GASKETS. THE MIDDLE RING OF THE COUPLINGS SHALL BE NOT LESS THAN THE THICKNESS OF PIPE AND SHALL BE EIGHT (8) INCHES IN LENGTH. THE STEEL MIDDLE RING SHALL BE JOINED BY A WELD OF UNIFORM STRENGTH MADE BY AN APPROVED ELECTRICAL PROCESS. THE RING SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE PLATE. THE MIDDLE RING SHALL BE TESTED FOR POROSITY BY COMPRESSED AIR AND FOR STRENGTH BY STRESSING TO THE YIELDING POINT DURING THE SIZING OPERATION.

THE STEEL FOLLOWER FLANGES SHALL BE EITHER PRESSED FROM SOLID PLATE OR MADE OF BAR STOCK WELDED AS ABOVE. THEY SHALL ALSO BE STRENGTH TESTED AND ACCURATELY SIZED IN THE SAME MANNER AS THE MIDDLE RING.

THE MOULDED RUBBER GASKETS SHALL BE APPROXIMATELY ONE-EIGHTH(1/8) INCH SMALLER IN DIAMETER THAN THE THEORETICAL OUTSIDE DIAMETER OF THE PIPE AND SHALL BE OF A GRADE HAVING SATISFACTORY RECORD OF PERFORMANCE IN ACTUAL AND COMPARABLE SERVICE.

ALL METAL PARTS OF THE COUPLINGS INCLUDING BOLTS AND NUTS SHALL BE COATED AT THE SHOP WITH ONE (1) COAT OF BITUMINOUS PRIMER FURNISHED BY THE SAME MANUFACTURER WHO FURNISHED COATING FOR THE MAIN BODY OF THE PIPE.

AFTER EACH SECTION OF LINE HAS BEEN SATISFACTORILY TESTED, THE CONTRACTOR SHALL COMPLETELY COVER ALL MECHANICAL COUPLINGS AND PORTIONS OF THE PIPE WHICH ARE UNCOATED AND UNWRAPPED BY ENCLOSING THE ENDS OF THE PIPE AND THE COUPLINGS WITH A TIGHT CANVAS OR OTHER FABRICATION OR WITH LIGHT GAUGE METAL AND SHALL POUR THE SPACE INCLUDING THE COUPLINGS FULL OF COMPOUND OF THE SAME TYPE AS USED BY THE MANUFACTURER OF THE PIPE FOR THE ENAMEL COATING.

WITH MECHANICAL COUPLINGS ON THE PIPE ENDS, THE INTERIOR COATING WILL NOT BE DAMAGED AT THE JOINTS AND WILL NOT REQUIRE FIELD COATING EXCEPT TO REPAIR DAMAGE DISCOVERED ON FINAL INSPECTION.

DRESSER TYPE COUPLINGS WITH MIDDLE RING STOPS REMOVED SHALL BE SUPPLIED FOR USE AT CLOSURES.

FIELD JOINTS IN REINFORCED CONCRETE

BEFORE LAYING REINFORCED CONCRETE CYLINDER PIPE, THE PIPE ENDS SHALL BE MADE SMOOTH BY FILING, OR OTHER MEANS, WIRE BRUSHED AND WIPED CLEAN AND DRY. PIPE ENDS SHALL BE KEPT CLEAN UNTIL JOINTS ARE MADE. AFTER CLEANING AND DRYING, ALL CONTACT SURFACES OF THE GASKETS AND STEEL JOINT RINGS SHALL BE COATED WITH AN APPROVED VEGETABLE SOAP AND THE GASKET SNAPPED INTO THE GROOVE JUST BEFORE INSERTING THE SPIGOT END INTO THE SOCKET. IMMEDIATELY AFTER THE JOINT IS PULLED TOGETHER WITH WINCH CABLE AND "STRONG BACK", THE GASKET RING CHECKED AND THE PIPE BLOCKED IN PLACE, A HEAVY MUSLIN BAND 6" WIDE SHALL BE INSTALLED AROUND THE OUTSIDE OF THE PIPE JOINT AND SECURED THERE WITH WIRE TIES. THEN EARTH SHALL BE CAREFULLY TAMPED UNDER AND ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE OF THE PIPE. ALL BLOCKING SHALL BE REMOVED WHEN BACKFILLING HAS REACHED THE SPRINGLINE OF THE PIPE. THE ANNULAR SPACE OF THE JOINT UNDER THE MUSLIN STRIP SHALL THEN BE FILLED WITH THIN CEMENT GROUT OF PROPER CONSISTENCY. THE MUSLIN BAND SHALL BE LEFT IN PLACE AND, BEFORE THE GROUT HAS SET, THE UPPER PORTION OF THE JOINT SHALL BE MADE WITH 1:2 CEMENT MORTAR. THE INTERNAL RECESSES OF THE JOINT SHALL BE CAREFULLY FILLED WITH 1:2 CEMENT MORTAR WELL PRESSED AND CAULKED INTO PLACE BY HAND AND PROPERLY SMOOTHED OFF TO MAKE A FLUSH JOINT FOLLOWING THE APPROVAL OF THE FIELD TEST BY THE ENGINEER.

SPECIFICATIONS FOR FIELD TESTING

GENERAL:

AFTER THE PIPE IS LAID AND JOINTS MADE UP, THE MIDDLE PORTION OF EACH LENGTH MAY BE BACKFILLED, LEAVING THE JOINTS EXPOSED, AND THE PIPE LINE SHALL BE TESTED IN CONVENIENT LENGTHS. THE TEST PRESSURE TO BE APPLIED SHALL BE EQUIVALENT TO A HEAD OF WATER HAVING A FREE WATER SURFACE AT THE MID-POINT OF THE SECTION TESTED.

THE CONTRACTOR SHALL FURNISH THE NECESSARY CLEAN WATER, PUMPS, PIPES, CONNECTIONS AND TEMPORARY HEADS TO MAKE THESE TESTS. THE SPECIFIED PRESSURE SHALL BE MAINTAINED UNTIL ALL JOINTS CAN BE INSPECTED AND ALL LEAKS IN THE PIPE LINE UNDER TEST ARE PROPERLY MADE TIGHT TO THE SATISFACTION OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE TRENCH, PIPING OR ANY OF THE APPURTENANCES FURNISHED BY HIM; AND ANY PIPE, SPECIALS OR APPURTENANCES BROKEN BY SAID TEST SHALL BE AT ONCE REPLACE BY THE CONTRACTOR.

LEAKAGE TEST:

BEFORE FINAL ACCEPTANCE, THE LEAKAGE IN THE ENTIRE LINE OR APPROVED SECTIONS THEREOF SHALL BE MEASURED UNDER MAXIMUM OPERATING PRESSURE BY FILLING THE PIPE LINE AND MAINTAINING THE PRESSURE FOR ONE HOUR BY PUMPING ADDITIONAL WATER INTO THE MAIN AS MAY BE NECESSARY. THE QUANTITY OF WATER THUS PUMPED INTO THE MAIN MULTIPLIED BY TWENTY FOUR SHALL BE TAKEN AS THE LEAKAGE PER DAY.

THE PERMITTED LEAKAGE PER DAY UNDER THIS TEST SHALL NOT EXCEED ONE THOUSAND GALLONS PER MILE OF LENGTH WHEN SUBJECTED TO THE TEST PRESSURES OR TO THE MAXIMUM OPERATING PRESSURES PLUS 50 PSI. ALLOWANCE MAY BE MADE FOR ANY LEAKAGE AT VALVES, PLUGS, BULKHEADS, ETC. AS AGREED ON AND MEASURED DURING THE TEST. (IN GENERAL, THESE PRESSURES WILL RANGE FROM 150 PSI TO 50 PSI).

IF THE ACTUAL LEAKAGE IS GREATER THAN THE AMOUNT PERMITTED, THE LINE JOINTS SHALL BE TIGHTENED AS REQUIRED AND THE LEAKAGE TEST REPEATED UNTIL THE LINE MEETS THE REQUIREMENTS.

THE CONTRACTOR SHALL LEAVE THE TRENCH OPEN AT THE JOINTS UNTIL SATISFACTORY COMPLETION OF LEAKAGE TEST.

FED. RD.	STATE	PROJECT	
2	OHIO		

112
4-92

MAH-18-17.20

GENERAL NOTES

I-8 MANHOLE SPECIALS

UNDER THE PROVISIONS OF ITEM I-8 MANHOLES, CATCH BASINS, INLETS, MONUMENT ASSEMBLIES OR MONUMENT BOXES THE CONTRACTOR WILL CONSTRUCT THE NECESSARY MANHOLES REQUIRED IN THE RECONSTRUCTION OF THE 42" FEEDER WATER MAIN OWNED BY THE MAHONING VALLEY SANITARY DISTRICT AND SPECIAL MANHOLES FOR THE CITY OF YOUNGSTOWN. THE FOLLOWING SPECIFICATIONS ARE INTENDED TO SUPPLEMENT THE APPLICABLE PORTIONS OF ITEM I-8 FOR DEFINITION OF THE ADDITIONAL AND/OR SPECIAL CHARACTERISTICS OF THE MANHOLES.

THE FOLLOWING ITEM DESIGNATIONS ARE ASSIGNED TO THE SPECIAL MANHOLES REQUIRED:

ITEM I-8	MANHOLE	SPECIAL ACCESS MANHOLE	M.V S.D.
ITEM I-8	MANHOLE	SPECIAL AIR VALVE MANHOLE	M.V.S.D.
ITEM I-8	MANHOLE	SPECIAL COMBINATION AIR VALVE & ACCESS MANHOLE	M.V.S.D.
ITEM I-8	MANHOLE	SPECIAL BLOW OFF MANHOLE	M.V.S.D.
ITEM I-8	MANHOLE	SPECIAL BLOW OFF SETTING	M.V.S.D.
ITEM I-8	MANHOLE	SPECIAL YOUNGSTOWN STANDARD SEWER MANHOLES TYPE: Y-A; Y-B; Y-C; Y-D	C.O.Y.
ITEM I-8	MANHOLE	SPECIAL SEWAGE REGULATOR CHAMBER	C.O.Y.

PAYMENT FOR EACH OF THE ABOVE SPECIAL MANHOLES WILL BE AT THE PRICE BID PER EACH AND SAID PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR THE TOTAL CONSTRUCTION OF THE MANHOLE STRUCTURE, INCLUDING ALL EXCAVATION AND BACKFILL, FURNISHING AND HAULING AND PLACING ALL CASTINGS, REINFORCING STEEL, CONCRETE MASONRY, ALL PIPE AND SPECIALS, INCLUDING SPECIAL VALVES, PIPING AND INCIDENTALS EITHER DEFINED HEREIN OR DETAILED ON THE CONTRACT PLANS, ALL CONNECTIONS AND OTHER MATERIALS, ETC., AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM. PIPING AND APPURTENANCES SHALL CONFORM TO THE APPLICABLE STANDARDS OF SPECIFICATION I-124 AND HEREINAFTER.

GENERAL

MAHONING VALLEY SANITARY DISTRICT SPECIAL MANHOLES ARE IN CONJUNCTION WITH RELOCATIONS OF 42" FEEDER MAIN BELONGING TO MAHONING VALLEY SANITARY DISTRICT. THE FOLLOWING SPECIFICATION SUPPLEMENTS APPLY ONLY TO THESE MAHONING VALLEY SANITARY DISTRICT ITEMS.

(1) IRON CASTINGS

ALL IRON CASTINGS SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS (A.S.T.M. DESIGNATION: A-48), WHICH REQUIREMENTS, EXCEPT AS MODIFIED HEREIN, ARE HEREBY MADE A PART OF THESE SPECIFICATIONS. THE CASTINGS SHALL BE SMOOTH, CLEAN AND FREE FROM SCALES, LUMPS, BLISTERS AND OTHER DEFECTS AND SHALL BE OUT OF WIND. NO PLUGGING OR FILLING WILL BE ALLOWED.

ALL CASTINGS SHALL BE MADE ACCURATELY TO THE DIMENSIONS SHOWN, AND, WHERE NECESSARY TO SECURE PERFECTLY FLAT AND TRUE SURFACES, THEY SHALL BE PLANED, BUT ALLOWANCES SHALL BE MADE IN THE PATTERNS SO THAT THE SPECIFIED THICKNESS WILL NOT BE REDUCED BY SUCH PLANING.

THE TOP OF EACH CAST IRON MANHOLE COVER SHALL BE CHECKERED. AROUND THE OUTSIDE EDGE, THE TOP OF THE PLATE FOR A WIDTH OF ONE INCH SHALL BE LEFT PLAIN AND FLUSH WITH THE TOP OF THE CHECKERING.

(2) PATTERNS

MANHOLE CASTINGS SHALL BE THOSE MANUFACTURED BY THE FLOCKHART COMPANY OF NEWARK, NEW JERSEY, OR EQUAL. ALL MANHOLE CASTINGS SHALL BE CIRCULAR, WALKWAY, DOUBLE COVER TYPE, WITH SEALED AND LOCKED INNER COVERS.

ALL 24-INCH MANHOLE FRAMES AND COVERS SHALL BE FLOCKHART SLAB-TYPE 601-RA, NO. 62335, FOR INSTALLATION IN THE TOP SLABS OF CHAMBERS, OR PIT-TYPE 601-A, NO. 62331, FOR INSTALLATION ON TOP OF BRICK MASONRY MANHOLE OPENINGS, AS INDICATED ON THE DRAWINGS. THE 30 INCH CASTINGS FOR THE AIR VALVE MANHOLES SHALL BE SLAB-TYPE 601-RA, NO. 62355.

THE DIMENSIONS OF THE SECTIONS OF CASTINGS MUST BE AT LEAST AS GREAT AS THOSE INDICATED, AND ANY MARKED DEVIATION OF THE DESIGN FROM THESE TYPES MUST RECIEVE THE APPROVAL OF THE ENGINEER.

(3) VENT PIPES

ALL 6-INCH FLANGED CAST-IRON VENT PIPING SHALL CONFORM TO THE REQUIREMENTS OF A.W.W.A. SPECIFICATIONS C 102 AND SHALL BE THICKNESS CLASS I, 0.43 INCH SHELL THICKNESS. FLANGES AND FLANGED FITTINGS SHALL CONFORM TO ASA SPECIFICATIONS B16.1. ALL VENT OPENINGS SHALL BE COVERED WITH 3/8-INCH SQUARE MESH, NO. 16 GAUGE WOVEN WIRE SCREENS.

(4) MANHOLE STEPS

MANHOLE STEPS SHALL BE MADE OF GENUINE WROUGHT IRON, BENT HOT, AND SHALL BE HOT-DIP GALVANIZED ACCORDING TO THE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR HOT GALVANIZED COATINGS ON STRUCTURAL STEEL SHAPES, PLATES AND BARS AND THEIR PRODUCTS (A.S.T.M. DESIGNATION: A123).

(5) SHOP PAINTING

THE IRON WORK SHALL BE THOROUGHLY CLEANED IN THE SHOP. PARTS TO BE SET IN THE CONCRETE SHALL NOT BE OILED OR PAINTED, BUT IMMEDIATELY BEFORE BEING EMBEDDED IN THE CONCRETE THEY SHALL BE THOROUGHLY CLEANED AND ALL DIRT, DUST AND ADHERING SUBSTANCES REMOVED. ALL OTHER PARTS NOT GALVANIZED, SHALL BE GIVEN A SHOP COAT OF APPROVED PAINT.

(6) FINISH PAINTING

THE CONTRACTOR SHALL FURNISH ALL MATERIALS FOR AND SHALL DO ALL THE FINISH PAINTING OF ALL EXPOSED MISCELLANEOUS WORK FURNISHED.

ALL EXPOSED MANHOLE FRAMES AND COVERS AND THE CAST PIPE VENTS SHALL BE THOROUGHLY CLEANED OF ALL DUST, DIRT AND OTHER SUBSTANCES. THE SHOP COAT SHALL BE TOUCHED UP AND TWO FINISH COATS OF DU PONT DULUX METAL PROTECTIVE BLACK SHALL BE APPLIED.

NO PAINTING WILL BE REQUIRED FOR GALVANIZED GENUINE WROUGHT IRON WORK.

AIR VALVE INSTALLATIONS IN AIR VALVE MANHOLES

(1) DESCRIPTION:

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL OF THE AIR VALVE INSTALLATIONS AS INDICATED ON THE CONTRACT DRAWINGS.

THESE INSTALLATIONS SHALL BE COMPLETE, INCLUDING THE AIR VALVE, GATE VALVE, FLANGED PIPE SADDLE AND ALL ACCESSORY PIPING AND APPURTENANCES AS SHOWN OR AS REQUIRED TO MAKE A PROPER FUNCTIONING AIR VALVE OF THE TYPE REQUIRED.

TWO ALTERNATE TYPES OF AIR VALVES MAY BE REQUIRED, DEPENDING ON THE TYPE OF PIPE USED IN THE PIPE LINE. IF REINFORCED-CONCRETE PIPE IS USED, A SIMPLE AIR-RELEASE TYPE AIR VALVE WILL BE REQUIRED; BUT, IF STEEL PIPE IS USED, A COMBINATION OF AIR-INLET AND AIR-RELEASE VALVES WILL BE REQUIRED IN EACH AIR VALVE INSTALLATION.

THE CONTRACTOR SHALL FURNISH AND INSTALL THE COMBINATION OF AIR-RELEASE AND AIR-INLET VALVES NECESSARY IF STEEL PIPE IS USED IN THE PIPE LINE.

THE CONTRACTOR SHALL FURNISH AND INSTALL THE SIMPLE AIR-RELEASE VALVE NECESSARY IF REINFORCED CONCRETE PIPE IS USED IN THE PIPE LINE.

ALL AIR VALVES SHALL BE DESIGNED FOR A WATER WORKING PRESSURE OF 150 PSI (300 PSI TEST).

ALL MATERIALS SHALL BE OF THE BEST OBTAINABLE FOR THE PURPOSE, AND THE WORKMANSHIP SHALL CONFORM TO THE BEST MODERN METHODS AND LATEST APPROVED STANDARDS.

(2) COMBINATION OF AIR-INLET AND AIR-RELEASE VALVES FOR STEEL PIPE:

IF STEEL PIPE IS USED IN THE PIPE LINE, THE CONTRACTOR SHALL FURNISH AND INSTALL, FOR EACH AIR VALVE INSTALLATION, A COMBINATION OF A SIMPLEX TYPE VAC 6-INCH AIR AND VACUUM VALVE WITH A SIMPLEX TYPE AGFD STANDARD AIR-RELEASE VALVE, AS MANUFACTURED BY THE SIMPLEX VALVE AND METER COMPANY, OR APPROVED EQUAL.

THE COMBINED AIR-INLET AIR-RELEASE VALVES SHALL BE DESIGNED AND CONSTRUCTED TO PERMIT THE ESCAPE OF AIR AUTOMATICALLY FROM THE PIPE LINE WHILE IT IS BEING FILLED, AUTOMATICALLY TO PERMIT AIR TO ENTER THE PIPE LINE WHILE IT IS BEING EMPTIED, AND AUTOMATICALLY TO PERMIT THE ESCAPE OF AIR THAT ACCUMULATES UNDER PRESSURE IN THE PIPE LINE AT THE HIGH POINTS.

THE VALVE BODIES AND COVERS SHALL BE MADE OF CAST IRON CONFORMING TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS(A.S.T.M. DESIGNATION: A48) CLASS 25. THE OPERATING MECHANISMS SHALL BE BRONZE OR OTHER SUITABLE NON-CORRODIBLE MATERIAL AND SHALL BE ATTACHED TO AND REMOVABLE AS A UNIT WITH THE COVERS. THE VALVES SHALL BE CONTROLLED BY NON-COLLAPSIBLE, BUOYANT METAL FLOATS, THE TOPS OF WHICH SHALL FORM THE VALVES AND SHALL CLOSE AGAINST BRONZE VALVE SEATS.

THE VALVES SHALL BE SIMPLE AND RUGGED IN CONSTRUCTION AND THE WORKING PARTS SHALL BE ARRANGED TO PERMIT A FULL CLEAR PASSAGE FOR AIR. THE VALVES MUST POSITIVELY CLOSE UNDER LOW OR HIGH WATER PRESSURE AND MUST NOT BLOW SHUT WHILE DISCHARGING AIR REGARDLESS OF VELOCITY. THERE SHALL BE A BLOW-OFF CONNECTION IN THE COVER AND A DRAIN PLUG PROVIDED NEAR THE BOTTOM OF EACH VALVE.

THE AIR-VALVE SHALL BE ADJUSTABLE BY MEANS OF A LEVER AND COUNTER-WEIGHT SYSTEM AND SHALL BE SET SO THAT, AFTER THE PIPE LINE IS PLACED IN OPERATION, THE VALVE WILL BE ACTIVATED PERMITTING THE INGRESS OF AIR WHEN THE PRESSURE IN THE PIPE LINE DROPS SUFFICIENTLY TO CREATE A DIFFERENTIAL PRESSURE ACROSS THE VALVE OF 0.10 PSI.

(3) AIR RELEASE VALVE FOR REINFORCED CONCRETE PIPE:

IF REINFORCED CONCRETE PIPE IS USED IN THE PIPE LINE, THE CONTRACTOR SHALL FURNISH AND INSTALL, FOR EACH AIR VALVE INSTALLATION, A SIMPLEX TYPE AV AUTOMATIC AIR RELEASE VALVE, AS MANUFACTURED BY THE SIMPLEX VALVE AND METER COMPANY, OR APPROVED EQUAL.

THE AIR-RELEASE VALVES SHALL BE DESIGNED AND CONSTRUCTED TO AUTOMATICALLY PERMIT THE ESCAPE OF AIR THAT ACCUMULATES IN THE HIGH POINTS OF THE PIPE LINE. THE VALVE BODY AND COVER SHALL BE MADE OF CAST IRON (A.S.T.M.-A48, CLASS 25). THE OPERATING MECHANISM SHALL BE BRONZE OR OTHER SUITABLE NON-CORRODIBLE MATERIAL, AND SHALL BE ATTACHED TO AND REMOVABLE WITH THE COVER. THE FLOAT SHALL BE SEAMLESS COPPER AND SUFFICIENTLY STRONG TO WITHSTAND AN EXTERNAL TEST PRESSURE OF 600 PSI WITHOUT COLLAPSING. THERE SHALL BE A BLOWOFF CONNECTION IN THE COVER.

(4) SHUTOFF GATE VALVES

AHEAD OF EACH AIR VALVE THERE SHALL BE INSTALLED A GATE VALVE, AS SHOWN ON THE DRAWINGS, THE FULL SIZE OF THE PIPE CONNECTION. THESE SHUTOFF VALVES SHALL BE STANDARD IRON BODY BRONZE MOUNTED GATE VALVES CONFORMING TO THE A.W.W.A. STANDARD SPECIFICATIONS FOR GATE VALVES FOR ORDINARY WATER SERVICE (A.W.W.A. -C500).

(5) INSTALLATION

THE AIR VALVES SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER WITH ALL AUXILIARY AND CONNECTING PIPING IN A NEAT ASSEMBLY. THREADED JOINTS SHALL BE MADE UP WITH SUITABLE JOINT COMPOUND AND SHALL BE DROP-TIGHT. FLANGED JOINTS SHALL BE AMERICAN 125 POUND STANDARD WITH FULL GASKETS OF APPROVED MATERIAL AND STANDARD SIZED WROUGHT-IRON BOLTS WITH SQUARE HEADS AND SEMI-FINISHED HEXAGON NUTS.

ON TEST, ALL JOINTS SHALL BE INSPECTED AND MADE TIGHT AGAINST LEAKAGE.

(6) PAINTING

AFTER EACH INSTALLATION HAS BEEN COMPLETED AND TESTED, ALL EXPOSED IRON AND STEEL SURFACES OF THE VALVES AND PIPING INSIDE THE AIR VALVE MANHOLE SHALL BE CLEANED, PRIMED WITH BITUMASTIC PRIMER, AND GIVEN ONE COAT OF BITUMASTIC ENAMEL APPLIED HOT, AND OF SUFFICIENT THICKNESS TO PROVIDE COMPLETE PROTECTION.

ACCESS MANHOLE INSTALLATIONS IN ACCESS MANHOLES

(1) DESCRIPTION

THE CONTRACTOR SHALL FURNISH AND INSTALL THE ACCESS MANHOLE INSTALLATIONS IN THE PIPE LONE AT THE POINTS SHOWN ON THE CONTRACT DRAWINGS. EACH ACCESS MANHOLE INSTALLATION SHALL INCLUDE THE PRESSURE MANHOLE AND RING CONNECTION PIECE TO THE PIPE AS DETAILED TO SUIT THE TYPE OF PIPE IN WHICH INSTALLED AND THE ACCESSORIES AND APPURTENANCES INVOLVED IN THE PRESENCE OF AN ACCESS MANHOLE IN THE PIPE LINE.

(2) FABRICATION DETAILS:

EACH ACCESS MANHOLE SHALL HAVE A CLEAR ELLIPTICAL OPENING 14 INCHES BY 16 INCHES IN SIZE. THE RING CONNECTION PIECE AND CLAMPS SHALL BE CAST STEEL MEETING THE REQUIREMENTS OF TENTATIVE SPECIFICATIONS FOR MEDIUM-STRENGTH STEEL CASTINGS (A.S.T.M. DESIGNATION: A27). THE COVER SHALL BE CAST IRON CONFORMING TO THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS (A.S.T.M. DESIGNATION: A48).

THE VARIOUS SECTIONS OF THE ACCESS MANHOLE CASTINGS SHALL BE OF SUFFICIENT THICKNESS AND SHALL BE ADEQUATELY STIFFENED BY RIBBING, SO AS TO WITHSTAND THE HYDROSTATIC TEST PRESSURES TO WHICH THE PIPE LINE WILL BE SUBJECTED, WITHOUT CRACKING OR WARPING. A GASKET OF NEOPRENE RUBBER, OR OTHER APPROVED MATERIAL, SHALL BE INSERTED BETWEEN THE FACES OF THE COVER AND SADDLE PIECE SO THAT THE ACCESS MANHOLE IS DROP-TIGHT UNDER TEST.

IN GENERAL, THE FABRICATION OF THE ACCESS MANHOLE SHALL SUIT THE MATERIAL AND TYPE OF CONSTRUCTION OF THE PIPE IN WHICH IT IS TO BE INSTALLED. WHETHER STEEL PIPE OR REINFORCED CONCRETE CYLINDER PIPE IS USED IN THE PIPE LINE, THE CONNECTION PIECE OF THE ACCESS MANHOLE SHALL BE WELDED TO THE STEEL SHELL IN A CONTINOUS WATERTIGHT JOINT.

THE MAIN PIPE SHELL SHALL BE REINFORCED TO COMPENSATE FOR THE METAL REMOVED IN MAKING THE MANHOLE OPENING, AND THE PIPE SECTION WITH THE MANHOLE OPENING SHALL HAVE A BURSTING STRENGTH AND A STIFFNESS AGAINST EXTERNAL LOAD AT LEAST EQUAL TO A TYPICAL PIPE SECTION WITHOUT AN OPENING.

(3) INSTALLATION:

THE ACCESS MANHOLES SHALL BE FABRICATED AND INSTALLED IN THE SHOP BEFORE SHIPMENT OF THE SECTION IN WHICH INSTALLED.

EACH SECTION OF PIPE IN WHICH AN ACCESS MANHOLE IS LOCATED SHALL BE INSTALLED SO THAT THE ACCESS MANHOLE IS EXACTLY ON THE TOP OF THE CENTERLINE OF THE PIPE. IT WILL BE ENCLOSED BY A SMALL CONCRETE CHAMBER WITH CAST IRON MANHOLE FRAME AND COVER, AND PROVISIONS SHALL BE MADE TO PERMIT CONSTRUCTION OF THIS CHAMBER AT EACH ACCESS MANHOLE INSTALLATION.

(4) PAINTING:

ALL EXPOSED METAL PARTS OF THE ACCESS MANHOLES BOTH INSIDE AND OUTSIDE SHALL BE GIVEN TWO COATS OF APPROVED COAL-TAR ENAMEL IN THE SHOP BEFORE SHIPMENT AND TWO ADDITIONAL FINISH COATS IN THE FIELD AFTER INSTALLATION. THIS COATING SHALL BE EQUAL TO INERTOL 66 OR KOPPERS' BITUMASTIC 50.

HOSE VALVE

(1) DESCRIPTION: THE HOSE VALVE SHALL BE A 3/4 INCH BRASS ANGLE HOSE VALVE SIMILAR TO CRANE NO. 117 OR EQUAL. THE VALVE SHALL BE SUITABLE FOR OPERATION AT WATER WORKING PRESSURE OF NOT LESS THAN 250 PSI. THE VALVE SHALL BE OF THE RISING STEM TYPE, AND THE OUTLET SHALL HAVE HOSE THREADS OF TYPE AND SIZE TO BE DESIGNATED BY THE ENGINEER. A BRASS CAP AND CHAIN SHALL BE FURNISHED TO PROTECT THE OUTLET WHEN NOT IN USE.

(2) INSTALLATION:

THE HOSE VALVE CONNECTION SHALL BE INSTALLED IN THE MANHOLES AT THE LOCATIONS SHOWN. THE VALVE SHALL BE SET VERTICALLY, PLUMB AND TRUE AT THE TOP CENTER OF THE PIPE. THE COMPLETED INSTALLATION SHALL BE TESTED FOR LEAKS AT THE SAME HYDROSTATIC PRESSURE AS THE SECTION OF PIPE IN WHICH IT IS LOCATED, AND ANY LEAKS OR DEFECTS WHICH MAY BE FOUND UPON TEST SHALL BE REMEDIED IN A SATISFACTORY MANNER. THE COST OF THE HOSE VALVE SHALL BE INCLUDED IN THE BID PRICE FOR THE SPECIAL MANHOLE IN WHICH IT IS INSTALLED.

SPECIAL BLOWOFF MANHOLES

(1) BLOW-OFF MANHOLES SHALL BE CONSTRUCTED TO THE DETAIL SHOWN ON THE PLANS AND SHALL INCLUDE THE INLET AND OUTLET PIPING CONNECTION.

SPECIAL BLOWOFF SETTING

(1) DESCRIPTION:

THE CONTRACTOR SHALL FURNISH AND INSTALL THE BLOWOFF INSTALLATIONS IN THE PIPE LINE AT THE LOW POINT AS SHOWN ON THE DRAWINGS. EACH BLOW OFF INSTALLATION SHALL INCLUDE THE BLOWOFF FITTINGS, GATE VALVE AND PIPING TO END OF CONCRETE SUPPORT.

THE CONCRETE CRADLES OR SUPPORTS AT THE BLOWOFF INSTALLATIONS SHALL BE FURNISHED AS A PART OF THE INSTALLATION.

(2) BLOWOFF VALVES:

THE BLOWOFF VALVES SHALL BE STANDARD IRON-BODY, BRONZE-MOUNTED GATE VALVES OF THE SIZE SHOWN AND OF DOUBLE-DISC, NON-RISING STEM TYTE, SUITABLE FOR WATER WORKING PRESSURE OF 150 PSI (300 PSI TEST). THESE VALVES SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE AMERICAN WATER WORKS ASSOCIATION FOR GATE VALVES FOR ORDINARY WATER SERVICE (A.W.W.A. C500). EACH VALVE SHALL BE SUPPLIED WITH AN ADJUSTIBLE CAST IRON KEY BOX WITH LOCKED COVER EXTENDING TO THE FINISHED GROUND SURFACE. THREE (3) OPERATING KEYS OF SUITABLE LENGTH SHALL BE FURNISHED.

CAST-IRON PIPE AND FITTINGS

(1) ALL BELL AND SPIGOT STRAIGHT CAST IRON PIPE SHALL BE CENTRIFUGALLY CAST IN CONFORMITY WITH THE AMERICAN STANDARD SPECIFICATIONS FOR CAST IRON PIPE CENTRIFUGALLY CAST (A.W.W.A. C106 OR A.W.W.A. C108). ALL 8 INCH BELL AND SPIGOT PIPE SHALL BE THICKNESS CLASS 25, 0.52 INCH SHELL THICKNESS.

ALL FLANGED STRAIGHT CAST IRON PIPE SHALL BE MANUFACTURED IN CONFORMITY WITH THE STANDARD SPECIFICATIONS FOR CAST IRON PIT CAST PIPE FOR WATER OF THE AMERICAN WATER WORKS ASSOCIATION (A.W.W.A. C102) INSOFAR AS THEY APPLY. ALL 8 INCH FLANGED PIPE SHALL BE THICKNESS CLASS 4, 0.58 INCH SHELL THICKNESS.

ALL CAST IRON BELL AND SPIGOT FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE TENTATIVE STANDARD SPECIFICATIONS FOR CAST IRON PRESSURE FITTINGS OF THE AMERICAN WATER WORKS ASSOCIATION (A.W.W.A. C100-54T) INSOFAR AS THEY APPLY.

FED.RD	STATE	PROJECT	
2	OHIO		

13
492

MAH-18-17.20

GENERAL NOTES

I-8 MANHOLE SPECIALS

CAST IRON PIPE AND FITTINGS CONT'D.

ALL CAST IRON FLANGES AND FLANGED FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASA SPECIFICATIONS B 16.1 -1948. ALL FLANGES SHALL BE FACED AND DRILLED AND SPOT FACED ON THE BACK TO UNIFORM THICKNESS AROUND THE BOLT HOLES.

ALL CAST IRON PIPE AND FITTINGS SHALL HAVE STANDARD TAR DIP COATING ON EXTERIOR AND INTERIOR SURFACES.

(7) BOLTS AND GASKETS:

THE CONTRACTOR SHALL FURNISH ALL BOLTS AND GASKETS NECESSARY FOR THE MAKING UP OF FLANGED JOINTS. ALL BOLT SHALL BE OF BEST QUALITY HOT GALVANIZED LOW CARBON STEEL OR TONCAN METAL, DUCTILE, TOUGH, FIBROUS AND UNIFORM IN CHARACTER. THE MATERIALS SHALL HAVE AN ULTIMATE TENSIL STRENGTH OF NOT LESS THAN 45,000 POUNDS PER SQUARE INCH, AND ELASTIC LIMIT OF NOT LESS THAN 25,000 POUNDS PER SQUARE INCH, AND AN ELONGATION OF AT LEAST 20% IN 8 INCHES. GASKETS SHALL BE GARLOCK RED RUBBER NO. 22, 1/8 INCH THICK, OR EQUAL; THEY SHALL BE CUT TO FIT FULL FACE THE JOINTS FOR WHICH THEY ARE INTENDED. BOLTS SHALL HAVE U.S. STANDARD THREADS AND HEXAGONAL NUTS.

(3) LAYING:

PROPER AND SUITABLE TOOLS AND APPLIANCES FOR THE SAFE AND CONVENIENT HANDLING AND LAYING OF THE PIPES AND FITTINGS SHALL BE USED, GREAT CARE SHALL BE TAKEN TO PREVENT THE PIPE COATING FROM BEING DAMAGED PARTICULARLY ON THE INSIDE OF THE PIPES AND FITTINGS, AND ANY SUCH DAMAGE SHALL BE REMEDIED AS DIRECTED. ALL PIPES AND FITTINGS SHALL BE CAREFULLY EXAMINED BY THE CONTRACTOR FOR DEFECTS JUST BEFORE LAYING AND NO PIPE OR FITTING SHALL BE LAID WHICH IS KNOWN TO BE DEFECTIVE.

IF ANY DEFECTIVE PIPE IS DISCOVERED AFTER HAVING BEEN LAID, IT SHALL BE REMOVED AND REPLACED WITH A SOUND PIPE OR FITTING IN A SATISFACTORY MANNER, BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL PIPES AND FITTINGS SHALL BE THOROUGHLY CLEANED BEFORE THEY ARE LAID AND SHALL BE KEPT CLEAN UNTIL THEY ARE USED IN THE COMPLETED WORK. WHEN LAID, THE PIPE SHALL CONFORM TO THE LINES AND GRADES GIVEN BY THE ENGINEER. OPEN ENDS OF PIPE SHALL BE KEPT PLUGGED WITH A BULKHEAD DURING CONSTRUCTION. PIPE LAID IN TRENCH SHALL BE LAID TO A FIRM AND EVEN BEARING FOR ITS FULL LENGTH.

(4) PIPE JOINT:

JOINTS FOR BELL AND SPIGOT PIPE SHALL BE POURED WITH LEAD AND THOROUGHLY CAULKED. THE SPIGOT OF EACH PIPE SHALL BE PROPERLY SEATED IN THE BELL OF ITS COMPANION PIECE AND SHALL BE ADJUSTED FOR LINE AND GRADE AND FOR CONTINUITY OF INTERIOR SURFACE. THE JOINT SHALL BE CAULKED FIRMLY WITH APPROVED PREFABRICATED MATERIAL TO SUCH A DEPTH AS WILL AFFORD A POURED JOINT TWO AND ONE-HALF INCHES DEEP.

LEAD FOR JOINTING SHALL BE PURE PIG LEAD. THE MELTING POT SHALL BE KEPT NEAR TO THE JOINT TO BE POURED AND SHALL BE KEPT CLEAR OF DROSS. EACH JOINT SHALL BE MADE IN ONE POUR AND THOROUGHLY CAULKED BY SKILLED WORKMEN SO AS TO BE TIGHT WITHOUT OVERSTRESSING THE BELL OF THE PIPE.

FLANGED JOINTS SHALL BE MADE UP IN ACCORDANCE WITH STANDARD PRACTICE AND THE MANUFACTURER'S INSTRUCTIONS.

(5) TESTING:

AFTER THE PIPING HAS BEEN PLACED, AND BEFORE THE TRENCHES ARE BACKFILLED, THE PIPES SHALL BE TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER AND TESTS SHALL BE CONTINUED UNTIL ALL LEAKS HAVE BEEN MADE TIGHT TO THE SATISFACTION OF THE ENGINEER. THE CONTRACROR SHALL FURNISH ALL NECESSARY PUMPS, GAGES, BULKHEADS AND OTHER MATERIAL, PIPES, OR APPLIANCES NECESSARY TO CONDUCT THE TESTS AS HEREINAFTER DESCRIBED:

THE 8-INCH FLANGED PIPING UP TO THE GATE VALVE SHALL BE TESTED TO THE SAME HYDROSTATEC PRESSURE AS THAT SPECIFIED FOR THE SECTION OF THE PIPE LINE IN WHICH THE PARTICULAR BLOWOFF CONNECTION IS LOCATED.

THE 8-INCH BELL AND SPIGOT CONNECTION FROM THE GATE VALVE TO THE BLOWOFF MANHOLE WILL NOT BE SUBJECT TO A HYDROSTATIC TEST BUT ALL JOINTS WILL BE CAREFULLY INSPECTED BEFORE BEING APPROVED.

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS PERTAIN ONLY TO CITY OF YOUNGSTOWN SEWER DEPARTMENT WORK.

SPECIAL SEWAGE REGULATOR CHAMBER AND REGULATOR EQUIPMENT INSTALLATION

(1) WORK INCLUDED:

THE CONTRACTOR SHALL FURNISH AND INSTALL THE SEWAGE REGULATOR , INCLUDING ALL BRACKETS, I-BEAMS, ANCHOR BOLTS AND OTHER APPURTENANT ACCESSORIES INCIDENTAL TO A COMPLETE INSTALLATION, AS CALLED FOR ON THE DRAWINGS AND AS SPECIFIED HEREIN. IT SHALL ALSO INCLUDE EXCAVATION AND BACKFILL, CONCRETE, STEEL REINFORCEMENT, MANHOLE FRAMES AND COVERS AND STEPS.

(2) QUALIFICATIONS OF MANUFACTURER:

REGULATOR EQUIPMENT TO BE FURNISHED SHALL BE MANUFACTURED BY A COMPANY HAVING MANUFACTURED REGULATOR EQUIPMENT OF COMPARABLE SIZE FOR THE CONDITIONS REQUIRED HEREIN, FOR A PERIOD OF FIVE YEARS

(3) TYPE AND SIZE:

REGULATOR EQUIPMENT SHALL BE SMMILAR OR AT LEAST EQUAL TO THAT MANUFACTURED BY BROWN & BROWN, INC., LIMA, OHIO. THE TYPE REGULATOR AND THE SIZE OF REGULATING GATES, FLOATS, AND APPURTENANCES SHALL BE SUITABLE FOR INSTALLATION AND OPERATION UNDER THE CONDITIONS SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED TO FACILITATE EASY ADJUSTMENT FOR CHANGING FLOWS.

(4) MATERIALS AND WORKMANSHIP:

SPECIFICATIONS FOR STRUCTURAL STEEL AND MISCELLANEOUS STEEL, WROUGHT IRON AND NON-FERROUS METAL WORK, SHALL INSOFAR AS THEY APPLY BE CONSIDERED AND ARE HEREBY MADE A PART OF THE SPECIFICATION FOR REGULATOR EQUIPMENT.

CAST IRON SHALL BE TESTED UNDER AND SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A48, FOR GRAY IRON CASTINGS. REGULATOR GATE WALL CASTINGS, GATE BODIES, SHUTTERS, FLOATS, TRANSMISSION WHEELS, WALL BRACKETS, RADIAL HINGE ARMS, AND FLOAT TRAVEL LIMIT COLLARS SHALL BE CLASS 40. OUTBOARD SUPPORTS, PILLOW BLOCK CASES , CAPS AND ROLLER CAGES AND SECTIONAL COUNTER-WEIGHTS SHALL BE CLASS 20.

WROUGHT IRON FOR THE TRANSMISSION SHAFTS, ANCHOR BOLTS, TRANSMISSION ASSEMBLY BOLTS AND FLOAT GUIDES SHALL BE TESTED UNDER AND SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A189 -GRADE B.

COIL CHAINS SHALL BE OF SILICON BRONZE METAL.

WIRE ROPE SHALL BE 7 X 7 X 7 STAINLESS STEEL.

STEEL I-BEAMS AND STEEL PLATES SHALL BE NEW STOCK OF THE SIZE AND LENGTHS AS SPECIFIED, SHOWN ON THE DRAWINGS OR AS DIRECTED AND SHALL IN ALL RESPECTS CONFORM TO THE STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL AND BUILDINGS, A.S.T.M. DESIGNATION A7.

ALL ANCHOR BOLTS AND TRANSMISSION ASSEMBLY BOLTS SHALL BE GALVANIZED.

ALL GALVANIZING WORK SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A153, FOR ZINC COATING (HOT DIP) FOR IRON AND STEEL HARDWARE.

BRASS CASTINGS FOR RADIAL HINGE ARM NUTS, ADJUSTING BUCKLES AND WEATHER PROOFING GLANDS FOR PILLOW BLOCKS SHALL BE TESTED UNDER AND SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION B30, FOR COPPER-BASE ALLOYS IN INGOT FORM FOR SAND CASTINGS, COMPOSITION NO. 4.

ALL STUDS, NUTS, SCREWS, FACES FOR REGULATOR GATE NOZZLE AND SHUTTER, TRANSMISSION ROPE CONNECTING BOLTS, ADJUSTING BUCKLE PARTS, AND ALL BOLTS NOT OTHERWISE SPECIFIED SHALL BE S.A.E. 73 TOBIN BRONZE. ALL BOLTS SHALL HAVE FORGED HEXAGON HEADS AND ALL NUTS SHALL BE HEXAGONAL.

THE REGULATING GATE AND WALL CASTING SHALL BE ASSEMBLED INTEGRALLY. THE WALL CASTING SHALL BE FLANGED TO SUIT THE COMPANION FLANGE ON THE REGULATOR GATE BODY. THE INTAKE OF THE WALL CASTING TUBE SHALL BE BELLED TO APPROXIMATE THE "VENA CONTRACTA" OF THE INFLOWING STREAM. THE LENGTH OF THE WALL CASTING SHALL BE EQUAL TO THE WALL THICKNESS. FLANGES SHALL BE ACCURATELY FACED, TAPPED AND STUDDED TO SUIT REGULATOR GATE FLANGES. THICKNESS OF METAL SHALL BE THE SAME AS FLANGED CAST IRON PIPE FOR COMPARABLE SIZES.

THE REGULATOR GATE SHALL BE OF THE ARC OR SECTOR TYPE, AND SHALL INCLUDE A TUBE SECTION OF SIZE AS CALLED FOR ON THE PLANS WITH FLANGED ENDS, AN ARC OR SECTOR SHAPED SHUTTER SECTION WHICH SHALL SWING CONCENTRICALLY ALONG THE TUBE SECTION FLANGE BY MEANS OF RADIAL HINGE ARMS ATTACHED TO THE GATE TUBE. THE BACK FLANGE SHALL BE ACCURATELY MACHINED AND FITTED TO THE COMPANION FLANGE ON THE WALL CASTING WITH A SUITABLE GASKET BETWEEN. THE FLANGE AND THE HINGE ARM BEARINGS OR TRUNNIONS SHALL BE CAREFULLY AND ACCURATELY MACHINED CONCENTRICALLY.

THE GATE SHUTTER SHALL BE A WELL-RIBBED CASTING, ACCURATELY MACHINED TO INSURE CLOSE FITTING, WELL BALANCED AND SO CONSTRUCTED THAT THE TENSION IN THE TRANSMISSION CONNECTION SHALL BE CONSTANT REGARDLESS OF THE POSITION OF THE SHUTTER WITHIN ITS WORKING RANGE.

THE COMPANION FACES ON GATE TUBE AND SHUTTER SHALL BE FACED WITH BRONZE BARS NOT LESS THAN 1/4" THICK AND 2-1/2" WIDE. THE BARS SHALL BE EXTRUDED OR CAREFULLY FORMED TO FIT THE SURFACES TO WHICH THEY ARE ATTACHED. THEY SHALL BE ATTACHED WITH BRONZE SCREWS NOT LESS THAN 3/8" IN DIAMETER AND 1" LONG WITH COUNTERSUNK HEADS OF SUCH DESIGN THAT THE HEADS MAY BE MACHINED AFTER SCREWS ARE INSERTED AND SUBSTANTIAL HEADS REMAIN. PLASTIC GASKET MATERIAL SHALL BE APPLIED BETWEEN THE BRONZE FACES AND FINISHED SURFACES TO WHICH THEY ARE ATTACHED TO PRECLUDE THE POSSIBILITY OF WATER ENTERING TO CAUSE CXIDATION. PLASTIC GASKET MATERIAL SHALL BE SUCH THAT IT WILL PERMANENTLY HARDEN WITHOUT CONTRACTION WITHIN 12 TO 24 HOURS AFTER APPLICATION. AFTER BRONZE FACES HAVE BEEN APPLIED AND THE GASKET MATERIAL HAS PERMANENTLY SET THE COMPANION FACES SHALL BE RE MACHINED, GROUND AND LAPPED SO THAT WHEN THE GATE IS CLOSED IT SHALL BE WATERTIGHT.

RADIAL HINGE ARMS SHALL BE DESIGNED TO PERMIT MICROMETER ADJUSTMENTS OF THE CLEARANCE BETWEEN THE COMPANION FACES.

SUITABLE OUTBOARD SUPPORTING MEANS SHALL BE PROVIDED FOR THE REGULATOR GATE IN ORDER TO RELIEVE THE CHAMBER WALL OF ANY STRAIN DUE TO OVERHANG. THE REGULATOR GATE SHALL BE PROVIDED WITH STOPS TO LIMIT THE DOWNWARD TRAVEL OF THE SHUTTER.

THE FLOAT SHALL BE A HOLLOW CAST IRON CASTING OR FABRICATED OF GALVANIZED WELDED STRUCTURAL STEEL PLATES OF SUCH DIMENSIONS THAT A CHANGE OF NOT MORE THAN 1/2" IN SUBMERGENCE WILL REVERSE THE DIRECTION OF GATE SHUTTER TRAVEL. A SMALL CIRCULAR OPENING SHALL BE CAST IN TOP OF THE HEAD AND COVERED WITH A SUITABLE COVERPLATE AND SUITABLE GASKET INSERTED BETWEEN HEAD AND PLATE. FLOAT SHALL HAVE LUGS CAST OR WELDED ON OPPOSITE SIDES OF SHELL TO PROPERLY ENGAGE THE FLOAT GUIDES. FLOATS SHALL BE CAST IN ONE PIECE AND SHALL BE TESTED HYDROSTATICALLY AND PROVEN WATERTIGHT UNDER 30 PSI PRESSURE.

FLOAT GUIDES SHALL BE WROUGHT IRON TUBES OF APPROXIMATELY 3-INCH OUTSIDE DIAMETER WITH A WALL THICKNESS OF NOT LESS THAN 1/4 INCH. GUIDES SHALL BE GROUTED INTO INSERTS SET FLUSH WITH THE BOTTOM OF THE FLOAT COMPARTMENT AND SHALL BE EXACTLY PARALLEL AND VERTICAL.

ADJUSTIBLE CAST IRON GUIDE COLLARS SHALL BE ATTACHED TO THE FLOAT GUIDES TO LIMIT THE UPWARD AND DOWNWARD TRAVEL OF THE FLOAT.

THE TRANSMISSION UNIT SHALL CONSIST OF AN OVERHEAD SHAFT EXTENDING ABOVE THE GATE AND FLOAT WITH GROOVED WHEELS. TO THESE WHEELS COIL CHAINS SHALL BE ATTACHED FOR CONNECTION TO THE REGULATOR GATE SHUTTER AND THE FLOAT.

THE TRANSMISSION SHAFT SHALL BE MACHINE FINISHED AND SHALL REST IN TWO UNIVERSAL TYPE WEATHER-PROOF ROLLER BEARING PILLOW BLOCKS SUPPORTED BY GALVANIZED STEEL I-BEAMS RESTING ON CAST IRON BRACKETS MOUNTED UPON THE CHAMBER WALLS WITH ANCHOR BOLTS CAST IN THE CONCRETE. THE TRANSMISSION WHEELS SHALL BE CAST IRON AND ACCURATELY BORED, FACED AND KEYED TO SHAFT. THE PERIPHERAL GROOVES SHALL BE MACHINE FINISHED.

THE TRANSMISSION CHAINS SHALL BE EQUIPPED WITH AN ADJUSTABLE BUCKLE IN EACH CHAIN TO PERMIT ADJUSTMENTS IN LENGTH. SECTIONAL CAST COUNTERWEIGHTS SUPPORTED BY A CARRIER SHALL BE INSERTED IN THE PROPER TRANSMISSION CHAIN TO ACCURATELY BALANCE THE GATE SHUTTER AND FLOAT.

GATE SHUTTER, FLOAT AND TRANSMISSION SHALL BE IN PERFECT BALANCE SO THAT THE GATE SHUTTER TRAVEL WILL CONTINUE IN FIXED PROPORTION TO THE RISE OR FALL OF WATER IN THE FLOAT COMPARTMENT AFTER SHUTTER TRAVEL HAS BEGUN.

AMERICAN BUREAU OF STANDARDS CLASS 2 FITS SHALL AFPLY TO ALL SCREWS.

LUBRICATION OF THE TRANSMISSION SHAFT AND GATE TRUNNIONS SHALL BE PROVIDED FOR BY MEANS OF BRONZE ALEMITE GREASE FITTINGS. ONE APPROVED GREASE COMPRESSOR SHALL BE FURNISHED.

(5) GENERAL DESCRIPTION

EACH SEWAGE REGULATOR SHALL CONSIST OF A REGULATOR GATE AND FLOAT ASSEMBLY INTER-CONNECTED BY A TRANSMISSION UNIT. THE FLOAT TRAVEL SHALL BE ACTUATED THROUGH CHANGING LEVELS IN THE FLOAT CHAMBER EFFECTED BY FLOW THROUGH FLOW DEPTH IN THE INTERCEPTING SEWER AND DEPTH OF FLOW IN THE COMBINED SEWERS.

(6) INSTALLATION:

PRIOR TO THE MANUFACTURE OF ANY EQUIPMENT THE DIMENSIONS OF THE STRUCTURE SHALL BE CAREFULLY VERIFIED BY THE CONTRACTOR IN THE FIELD, SO AS TO INSURE THE FITTING OF THE EQUIPMENT AS FURNISHED. THIS VERIFICATION SHALL TAKE PLACE EVEN THOUGH CERTAIN DIMENSIONS HAVE BEEN INDICATED ON THE CONTRACT DRAWINGS.

ELEVATIONS SHOWN ON THE PLANS FOR THE INVERTS OF THE EXISTING OUTFALL SEWERS AT THE REGULATOR CHAMBERS HAVE BEEN CALCULATED FROM CITY RECORDS AND FROM FIELD SURVEYS AND IN MOST CASES HAVE BEEN FIELD CHECKED. HOWEVER, IN SOME CASES IT MAY BE NECESSARY AS THE WORK PROGRESSES TO MODIFY SLIGHTLY THE ELEVATION OF SOME OF THESE STRUCTURES. IN THAT EVENT, THE DRAWINGS WILL BE REVISED AND THE RELATIVE DIFFERENCE IN ELEVATION BETWEEN THE PARTS OF THE REGULATORS AND STRUCTURES THAT CONTROL OR AFFECT THE FLOW OF SEWAGE SHALL BE MAINTAINED IN THEIR SAME RELATIVE POSITIONS TO EACH OTHER.

THE CONTRACTOR SHALL UNCOVER OR EXPOSE ALL EXISTING OUTFALL SEWERS WHERE THEY CROSS THE INTERCEPTING SEWER WELL IN ADVANCE OF PIPE LAYING OR OTHER TYPES OF SEWER CONSTRUCTION, AS DIRECTED BY THE ENGINEER, SO THAT THE ENGINEER MAY CHECK THE LOCATION AND ELEVATION OF THE OUTFALL SEWERS AND MAKE ANY NECESSARY REVISIONS IN THE DETAILS OF THE DRAWINGS.

THE SEWAGE REGULATORS SHALL BE INSTALLED AS SHOWN ON THE PLANS.

THE REGULATOR GATE WALL CASTINGS SHALL BE CAREFULLY AND ACCURATELY SET IN THE REGULATOR CHAMBER WALL FORMS AND PROPERLY SUPPORTED UNTIL THE CONCRETE HAS BEEN PLACED AROUND IT. THE FLOAT BASE AND FLOAT GUIDES SHALL BE FASTENED TO THE FLOOR OF THE REGULATOR CHAMBER BY SUITABLE BOLTS CAST IN THE CONCRETE FLOOR OF THE CHAMBER AT THE EXACT POSITION SHOWN ON THE PLANS. ANCHOR BOLTS FOR SUPPORTING THE WALL BRACKETS THAT SUPPORT THE TRANSMISSION UNIT SHALL BE CAST IN THE CONCRETE WALL OF THE REGULATOR CHAMBER. ALL ANCHOR BOLTS SHALL BE ACCURATELY SET BY THE USE OF SUITABLE TEMPLATES.

THE TRANSMISSION UNIT SHALL BE ERECTED BY CLAMPING THE STEEL I-BEAMS TO THE WALL BRACKETS AND CLAMPING THE PILLOW BLOCK OF THE SHAFT BEARINGS TO THE I-BEAMS. THESE UNITS SHALL BE CAREFULLY POSITIONED SO THAT THE TRANSMISSION CHAINS ARE EXACTLY PERPENDICULAR WHEN ERECTED AND THE FLOAT AND REGULATOR GATE MOVE FREELY WITHOUT BINDING.

ALL ERECTION WORK SHALL BE CAREFULLY AND ACCURATELY DONE BY SKILLED CRAFTSMEN. INSTRUCTIONS AND RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURER SHALL BE FOLLOWED IN HANDLING AND INSTALLING THE REGULATORS.

AFTER THE EQUIPMENT HAS BEEN INSTALLED, IT SHALL BE LUBRICATED AND CAREFULLY ADJUSTED TO THE CAPACITY DIRECTED BY THE ENGINEER.

(7) TESTING, INSPECTION AND MAINTAINCE:

ALL BASIC MATERIALS SPECIFIED HEREIN FOR SEWAGE REGULATORS SHALL BE TESTED AND INSPECTED BY AN APPROVED COMMERCIAL TESTING LABORATORY PRIOR TO FABRICATION. CERTIFIED COPIES, IN DUPLICATE, OF THE INSPECTION AND ACCEPTANCE REPORTS OF THE TESTING LABORATORY SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO USE OF THE MATERIALS. THE COST OF INSPECTING AND TESTING MATERIALS SHALL BE BORNE BY THE CONTRACTOR AS AN INCIDENTAL PART OF THE WORK. WHERE THE MANUFACTURER HAS LABORATORY AND TESTING FACILITIES SATISFACTORY TO THE ENGINEER, THE USE OF THESE FACILITIES MAY BE SUBSTITUTED FOR THE COMMERCIAL TESTING LABORATORY SPECIFIED ABOVE PROVIDED THE WRITTEN APPROVAL OF THE ENGINEER OF THE MANUFACTURER'S FACILITIES IS SECURED BEFORE THE DELIVERY OF ANY OF THESE MATERIALS.

AFTER DELIVERY TO THE SITE, ANY MATERIAL WHICH HAS BEEN DAMAGED IN TRANSIT OR FOUND OTHERWISE DEFECTIVE WILL BE REJECTED AND THE CONTRACTOR SHALL REMOVE SUCH MATERIAL FROM THE SITE.

AFTER THE EQUIPMENT HAS BEEN COMPLETELY INSTALLED, IT SHOULD BE ACCURATELY ADJUSTED TO PROVIDE FOR MAXIMUM AND MINIMUM FLOWS, AND FOR THE OPERATING RANGE DESIGNATED BY THE ENGINEER. IF SO ORDERED BY THE ENGINEER, THE MANUFACTURER SHALL FURNISH AN ENGINEER TO SUPERVISE THE INSTALLATION AND/OR ADJUSTMENT OF THE EQUIPMENT AT THE CONTRACTOR'S EXPENSE.

THE SEWAGE FLOW REGULATORS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THE ENTIRE WORK HAS BEEN COMPLETED AND ACCEPTED BY THE ENGINEER.

(8) DETAILED DRAWINGS:

THE CONTRACTORS ATTENTION IS CALLED TO THE SUBMISSION OF DETAILED DRAWINGS FOR THE APPROVAL OF THE ENGINEER PRIOR TO THE MANUFACTURE OR FABRICATION OF ANY MATERIAL OR EQUIPMENT. THESE DRAWINGS SHALL SHOW IN DETAIL THE DIMENSIONS AND ARRANGEMENT OF ALL EQUIPMENT TOGETHER WITH THE METHODS OF SUPPORTING AND ANCHORING ALL STRUCTURAL WORK, AND SHALL BE ACCOMPANIED WITH SUCH SPECIFICATIONS AS ARE NECESSARY TO SUPPLEMENT THOSE HEREIN. THE CONTRACTOR SHALL ALSO SUBMIT THE MANUFACTURER'S DETAILED COMPUTATIONS SHOWING THAT THE EQUIPMENT HE INTENDS FURNISHING HAS THE REQUIRED CAPACITY UNDER THE HYDRAULIC CONDITIONS SHOWN ON THE DRAWINGS.

GENERAL NOTES
I-8 MANHOLE SPECIALS

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

14
492

(5) PAINTING:

ALL OPERATING GEAR SHALL BE CLEANED, FILLED AND PAINTED WITH A HIGH GRADE PAINT AT THE POINT OF MANUFACTURE. ALL CASTINGS, FRAMES AND OTHER METALS NOT CONSTRUCTED OF BRONZE, BRASS OR FINISHED STEEL SHALL BE COATED AT THE POINT OF MANUFACTURE IN ACCORDANCE WITH THE A.W.W.A. STANDARD SPECIFICATIONS FOR CAST IRON PIPE AND FITTINGS, EXCEPT MACHINED SURFACES WHICH SHALL BE GIVEN A COATING OF GREASE OR OTHER SUITABLE MATERIAL.

CITY OF YOUNGSTOWN MANHOLES TYPES YA, YB, YC, & YD

(1) WATERPROOFING

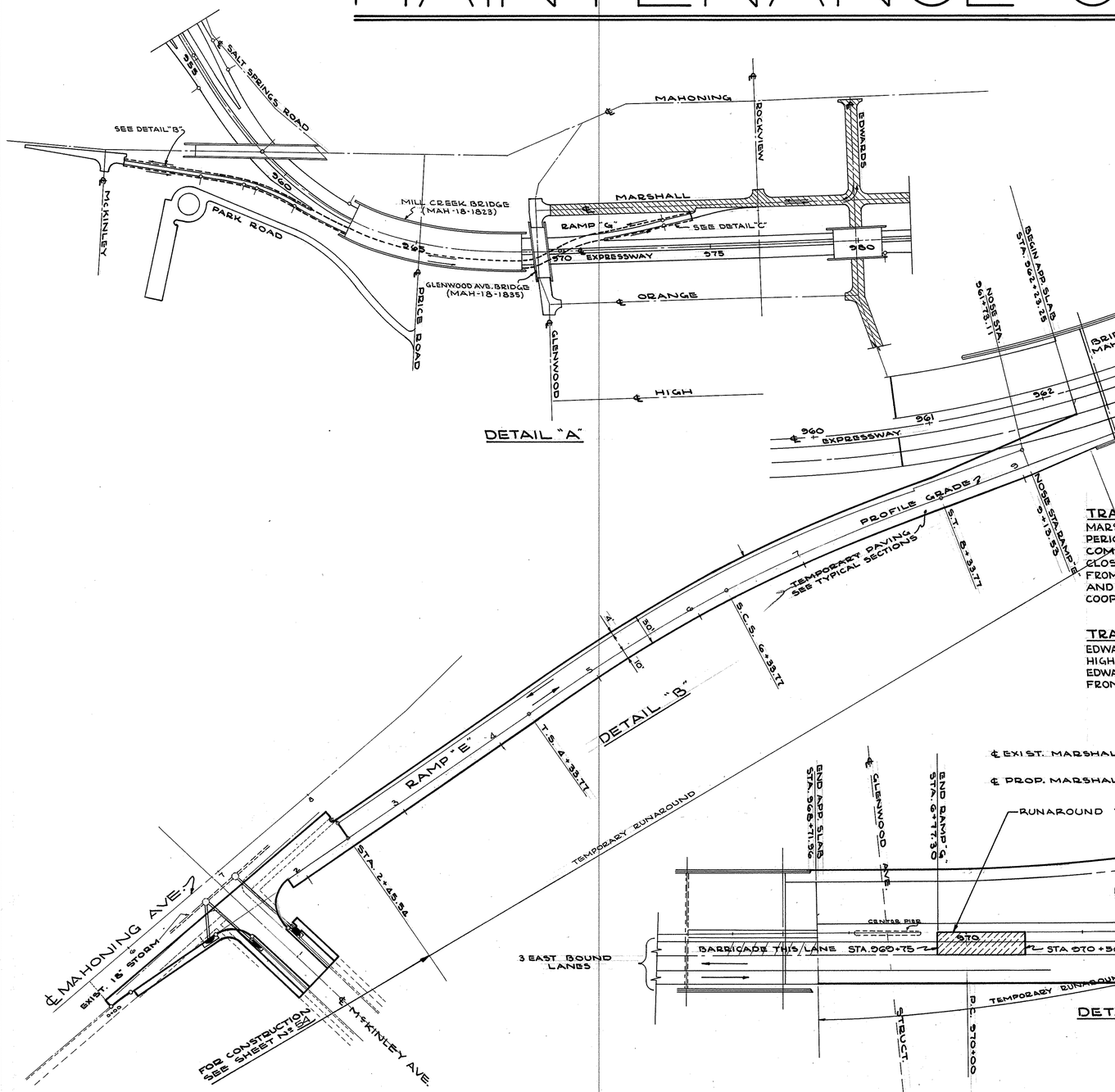
MANHOLES SHALL BE COATED INSIDE WITH TWO COATS OF COAL TAR PITCH PAINT, APPLIED AT A RATE OF NOT MORE THAN 150 SQ. FT. PER GALLON PER COAT. PAYMENT SHALL BE INCLUDED UNDER THE CONTRACT PRICE BID PER EACH FOR ITEM I-8 CITY OF YOUNGSTOWN MANHOLE TYPES YA, YB, YC, & YD.
WATERPROOFING MATERIAL SHALL CONSIST OF "INERTOL STANDARD THICK" "KOPPERS SUPER SERVICE", "PITT-CHEM 103", OR EQUAL.

MAINTENANCE OF TRAFFIC

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

15
492



DETAIL "A"

DETAIL "B"

TRAFFIC ON MAHONING AVE.

MAHONING AVE. MAY BE CLOSED TO TRAFFIC FOR THE CONSTRUCTION OF THE MAHONING AVE. BRIDGE, (MAH.-18-1815) AND TRAFFIC DETOURED AS SHOWN IN DETAIL "A". TRAFFIC WILL BE DETOURED OVER RAMP "E", THE MILL CREEK BRIDGE (STRUCTURE MAH.-18-1823) RAMP "G", MARSHALL ST., AND EDWARDS ST. PRIOR TO REMOVING THE MAHONING AVE. BRIDGE FROM SERVICE FOR RECONSTRUCTION. THE NECESSARY CONSTRUCTION TO MAINTAIN MAHONING AVE. TRAFFIC INCLUDES THE FOLLOWING ITEMS-

(a) RAMP "E" COMPLETE CONSTRUCTION INCLUDING McKINLEY AVE. INTERSECTION FROM STA. 0+00 TO STA. 3+64.69
(b) MAIN LINE PAVING FROM STA. 960+75 TO MILL CREEK. STRUCTURE STA. 962+23.25
(c) MILL CREEK STRUCTURE No 1823 INCLUDING APPROACH SLABS
(d) RUNAROUND PAVEMENT FROM EXPRESSWAY STA. 969+75 TO 970+50 AND STA. 2+37.36 TO 3+37.36
(e) MAIN LINE PAVING FROM MILL CREEK STRUCTURE STA 968+71.96 TO STA. 972+00
(f) RAMP "G" COMPLETE CONSTRUCTION FROM STA. 0+00 TO STA. 6+77.30
(g) MARSHALL ST. COMPLETE CONSTRUCTION FROM GLENWOOD TO EDWARDS.
(h) GLENWOOD AVE. STRUCTURE No MAH.-18-1835
(J) GLENWOOD AVE. IMPROVEMENT.

PAYMENT FOR THE PLACEMENT AND REMOVAL OF THE RUNAROUND PAVEMENT ON RAMP "G" AND THE RUNAROUND PAVEMENT BETWEEN EXPRESSWAY STA. 969+75 AND STA. 970+50 SHALL BE INCLUDED UNDER ITEM S-15 TEMPORARY RUNAROUND CLASS "A" MAHONING AVE.

TRAFFIC ON GLENWOOD AVE.

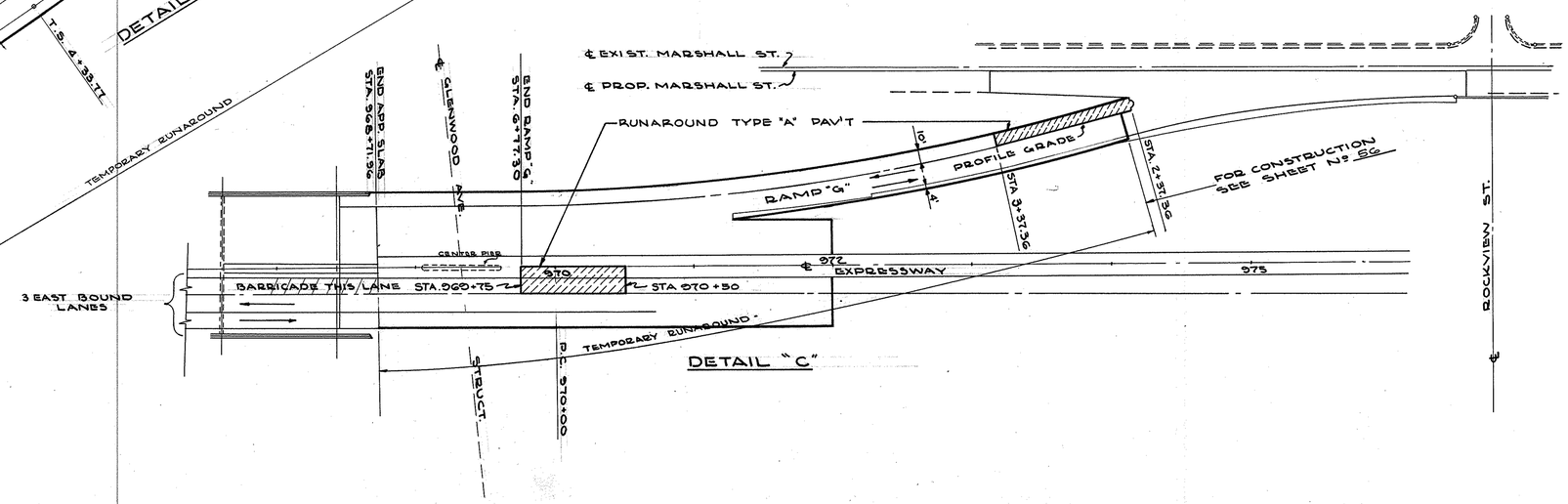
GLENWOOD AVE. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE GLENWOOD AVE. BRIDGE AND APPROACHES AND TRAFFIC DETOURED OVER HIGH ST. AND EDWARDS ST. TO MAHONING AVE.-THE MARSHALL ST. IMPROVEMENT MUST BE COMPLETE PRIOR TO THE CLOSING OF GLENWOOD AVE.-TWO WAY TRAFFIC WILL BE MAINTAINED ON MARSHALL ST. DURING THE TIME THAT GLENWOOD AVE. IS CLOSED FOR CONSTRUCTION. THE EDWARDS ST. INPROVEMENT MUST BE COMPLETE & OPEN TO TRAFFIC PRIOR TO THE CLOSING OF GLENWOOD AVE.

TRAFFIC ON MARSHALL ST.

MARSHALL ST. MAY BE CLOSED TO TRAFFIC FROM GLENWOOD AVE. TO ISALY DRIVEWAY APPROACH AT STA. 4+94.5 DURING THIS PERIOD TWO WAY TRAFFIC WILL BE MAINTAINED FROM THE ISALY DRIVEWAY APPROACH AT STA. 4+94.5 TO EDWARDS ST.- UPON COMPLETION OF CONSTRUCTION OF THE MARSHALL ST. IMPROVEMENT FROM GLENWOOD AVE. TO STA. 4+94.5, MARSHALL ST. MAY BE CLOSED FROM STA. 4+94.5 TO EDWARDS ST. AND TWO WAY TRAFFIC MAINTAINED OVER THE COMPLETED MARSHALL ST. CONSTRUCTION FROM GLENWOOD AVE. TO THE ISALY DRIVEWAY APPROACH AT STA. 4+94.5. PART WIDTH CONSTRUCTION SHALL BE EMPLOYED AND ONE WAY TRAFFIC MAINTAINED FROM EDWARDS ST. TO THE END OF CONSTRUCTION STA. 22+50. THE CONTRACTOR SHALL COOPERATE TO MAINTAIN ACCESS TO WAREHOUSES ON THE NORTH SIDE OF MARSHALL ST. AS DIRECTED BY THE ENGINEER

TRAFFIC ON EDWARDS ST.

EDWARDS MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE EDWARDS ST. IMPROVEMENT AND TRAFFIC DETOURED OVER HIGH ST. AND GLENWOOD AVE. - GLENWOOD AVE. SHALL NOT BE CLOSED DURING THE PERIOD THAT EDWARDS ST. IS CLOSED. EDWARDS ST. SHALL NOT BE CLOSED FROM MARSHALL ST. TO MAHONING AVE. DURING THE TIME THAT MARSHALL ST. IS CLOSED FROM GLENWOOD AVE. TO THE ISALY DRIVEWAY APPROACH AT STA. 4+94.5.



DETAIL "C"

MAINTENANCE OF TRAFFIC

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

16
492

GENERAL:

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

2. PRIOR TO THE CLOSING OF ANY STREET THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SCHEDULE OF CONSTRUCTION OPERATIONS. UPON RECIEPT OF APPROVAL OF THE SCHEDULE OF CONSTRUCTION OPERATIONS FROM THE ENGINEER AND THE CITY OF YOUNGSTOWN THE STREET MAY BE CLOSED.

3. THE CONTRACTOR SHALL PROVIDE LIGHTS, SIGNS AND BARRICADES AT THE LOCATIONS SPECIFIED UNDER THE MAINTENANCE OF TRAFFIC AND AT SUCH OTHER LOCATIONS AS DEEMED NECESSARY BY THE ENGINEER. BARRICADES SHALL MEET THE REQUIREMENTS FOR MOVABLE GATE DETAILED ON STANDARD CONSTRUCTION DRAWING No. G-7.01. LIGHTS SHALL MEET THE REQUIREMENTS OF SEC. G-7.07 OF THE SPECIFICATIONS. STANDARD "ROAD CLOSED" SIGNS SHALL BE 40"x 24" IN SIZE. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND REMOVE BARRICADES, LIGHTS AND SIGNS: COST OF WHICH SHALL BE INCLUDED IN THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

4. THE CONTRACTOR MAY SUBMIT ALTERNATES TO THE SUGGESTED MAINTENANCE OF TRAFFIC PLANS. SUCH ALTERNATES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER AND SHALL REQUIRE THE WRITTEN APPROVAL OF THE DIRECTOR AND THE CITY OF YOUNGSTOWN BEFORE BEING PLACED INTO OPERATION.

MAINTAINING LOCAL TRAFFIC:

THE FOLLOWING QUANTITIES ARE INCLUDED FOR MAINTAINING LOCAL TRAFFIC.

- T-10 TRAFFIC COMPACTED SURFACE COURSE ..... 500 CU. YDS.
- M-10 CALCIUM CHLORIDE ..... 10.0 TONS
- T-35 ASPHALTIC CONCRETE SURFACE COURSE OR APPROVED BITUMINOUS PREMIXED SURFACE COURSE FOR MAINTAINING TRAFFIC ..... 75 CU. YDS.

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

PEDESTRIAN TRAFFIC

ADEQUATE PROVISION FOR PEDESTRIAN TRAFFIC SHALL BE MAINTAINED DURING THE CONSTRUCTION OF THE PROJECT.

PROTECTION OF TRAFFIC

THE CONTRACTOR SHALL SAFEGUARD THE TRAVELING PUBLIC BY PROVIDING PLATFORMS, NETS, OR OTHER SUITABLE PROTECTION ABOVE THE TRAVELED LANES. PAYMENT FOR THIS PROTECTION SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR "MAINTAINING TRAFFIC."

TRAFFIC ON STEEL ST.

STEEL ST. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE STEEL ST. BRIDGE (MAH-18-1761) AND APPROACHES AND TRAFFIC DEOURED OVER EXISTING STREETS.

TRAFFIC ON SILLIMAN ST.

SILLIMAN ST. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE SILLIMAN ST. IMPROVEMENT AND TRAFFIC DETOURED OVER EXISTING CITY STREETS.

TRAFFIC ON OAKWOOD AVE.

OAKWOOD AVE. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE OAKWOOD AVE. IMPROVEMENT AND TRAFFIC DETOURED OVER EXISTING CITY STREETS.

TRAFFIC ON SALT SALT SPRINGS RD.

SALT SPRINGS RD. IS VACATED FROM BRIDGE ST. TO THE MAHONING AVE. BRIDGE. THE CONTRACTOR WILL, HOWEVER, COOPERATE TO MAINTAIN TWO WAY TRAFFIC ON THIS ROAD THE MAXIMUM LENGTH OF TIME. PART WIDTH CONSTRUCTION SHALL BE EMPLOYED ON THE CONSTRUCTION OF THE SALT SPRINGS RD. IMPROVEMENT AND TWO WAY TRAFFIC MAINTAINED.

TRAFFIC ON HIGH ST.

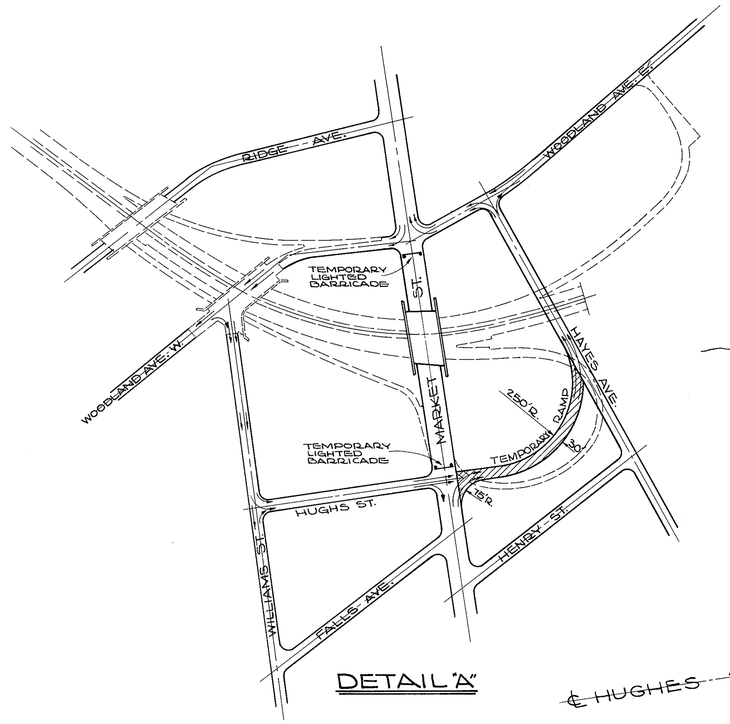
HIGH ST. MAY BE CLOSED DURING THE CONSTRUCTION OF THE HIGH ST. IMPROVEMENT AND THE TRAFFIC DETOURED OVER EXISTING CITY STREETS. PART WIDTH CONSTRUCTION SHALL BE EMPLOYED IN THE EDWARDS ST. - HIGH ST. INTERSECTION AND TWO WAY TRAFFIC MAINTAINED.

TRAFFIC ON OAK HILL AVE.

PART WIDTH CONSTRUCTION SHALL BE EMPLOYED AND TWO WAY TRAFFIC MAINTAINED DURING THE CONSTRUCTION OF THE OAK HILL AVE. IMPROVEMENT AND THE CONSTRUCTION OF THE EXPRESSWAY STRUCTURE (MAH-18-1904) OVER OAK HILL AVE.

TRAFFIC ON PIKE ST.

PIKE ST. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE EXPRESSWAY AND THE PIKE ST. RELOCATION. THE CONSTRUCTION OF THE PIKE ST. RELOCATION SHALL BE PURSUED DILIGENTLY TO REDUCE TO THE MINIMUM THE LENGTH OF TIME PIKE ST. IS CLOSED TO TRAFFIC.



DETAIL "A"

TRAFFIC ON MARKET ST.

TWO WAY TRAFFIC WILL BE MAINTAINED ON MARKET ST. DURING THE CONSTRUCTION OF THE MARKET STREET BRIDGE (MAH-18-1950) AND APPROACHES AS SHOWN ON DETAIL "A". MARKET ST. SOUTHBOUND TRAFFIC WILL BE DETOURED OVER WEST WOODLAND, WILLIAMS, AND HUGHS STREETS WHICH WILL BE MADE ONE WAY TO ACCOMODATE THE TRAFFIC IN THE FOLLOWING MANNER.

WEST WOODLAND - MARKET TO WILLIAMS - ONE WAY, WEST BOUND
WILLIAMS - WEST WOODLAND TO HUGHS - ONE WAY, SOUTH BOUND
HUGHS - WILLIAMS TO MARKET - ONE WAY, EAST BOUND

MARKET ST. NORTH BOUND TRAFFIC WILL BE DETOURED OVER THE RUNAROUND ROAD, HAYES AVE. AND EAST WOODLAND AVE. WHICH WILL BE MADE ONE WAY TO ACCOMODATE THIS TRAFFIC IN THE FOLLOWING MANNER:

RUNAROUND ROAD - MARKET TO HAYES, ONE WAY NORTHBOUND.
HAYES AVE. - RUNAROUND RUNAROUND ROAD TO EAST WOODLAND AVE., ONE WAY NORTHBOUND.
EAST WOODLAND AVE. - HAYES AVE. TO MARKET ST., ONE WAY WESTBOUND.

PAYMENT FOR PLACEMENT & REMOVAL OF THE RUNAROUND ROAD SHALL BE INCLUDED UNDER ITEM S-15 TEMPORARY RUNAROUND ROAD - TYPE "A" MARKET ST.

TRAFFIC ON WEST WOODLAND AVE.

WEST WOODLAND AVE. FROM MARKET ST. TO THE END OF WORK STA. 7+50 MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE WOODLAND AVE. BRIDGE (MAH-18-1941) AND WOODLAND AVE. IMPROVEMENT. TWO WAY TRAFFIC WILL BE MAINTAINED ON MARKET ST. DURING THE PERIOD THAT WEST WOODLAND AVE. IS CLOSED FOR CONSTRUCTION.

TRAFFIC ON WILLIAMS ST.

WILLIAMS ST. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE WOODLAND AVE. BRIDGE (MAH-18-1941) AND THE WOODLAND AVE. - WILLIAMS ST. INTERSECTION. ACCESS WILL BE MAINTAINED TO THE GENERAL ELECTRIC DRIVE STA. 8+62.

TRAFFIC ON EAST WOODLAND

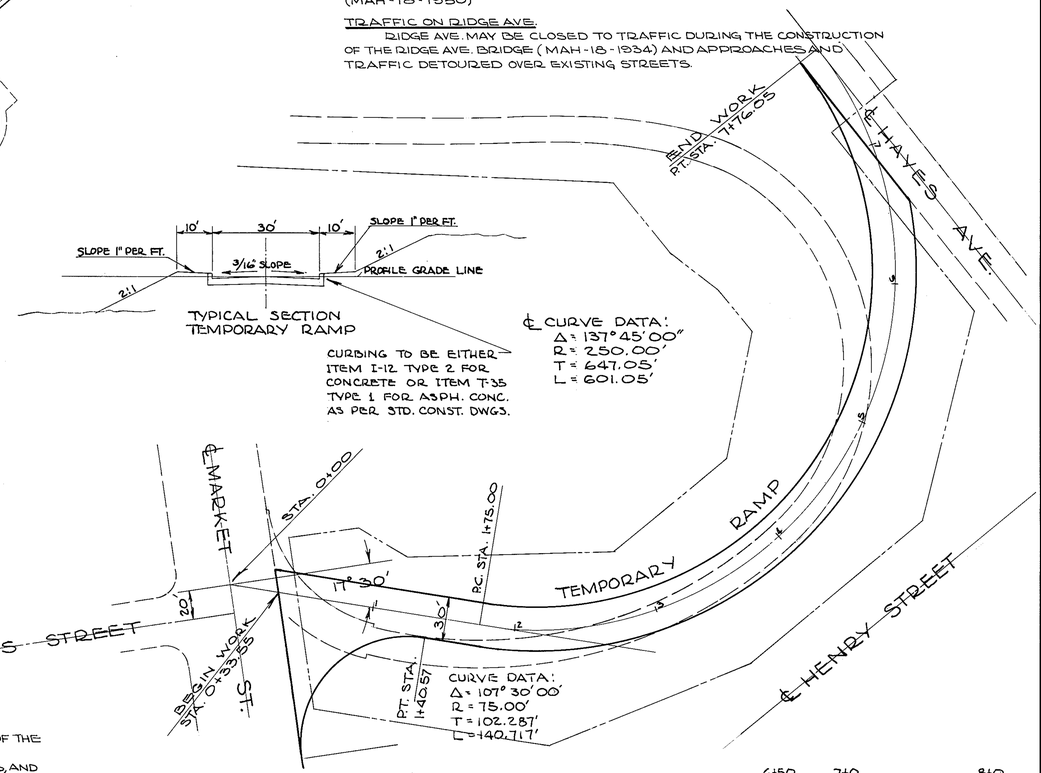
PART WIDTH CONSTRUCTION WILL BE EMPLOYED AND TWO WAY TRAFFIC MAINTAINED ON WOODLAND AVE. (EAST) DURING THE CONSTRUCTION OF THE WOODLAND AVE. (EAST) IMPROVEMENT.

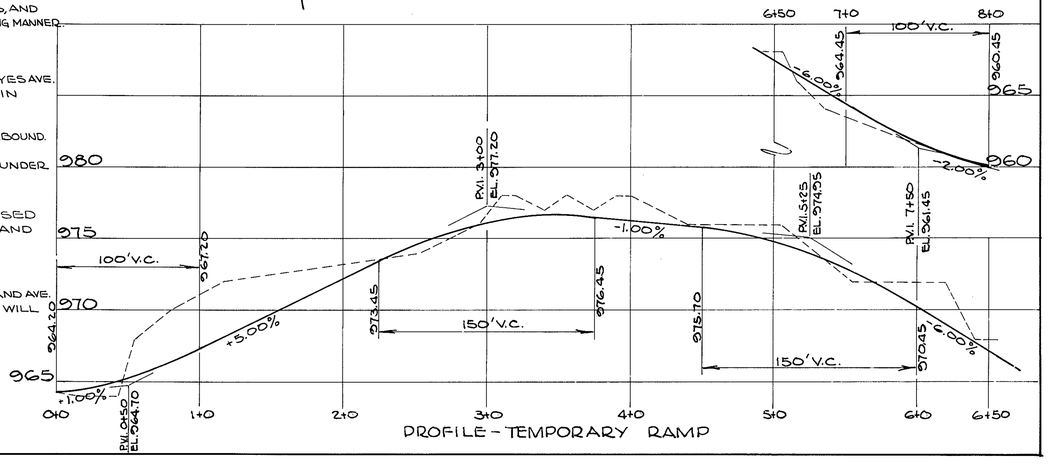
TRAFFIC ON HAYES AVE.

TWO WAY TRAFFIC SHALL BE MAINTAINED ON HAYES AVE. UNTIL THE COMPLETION OF CONSTRUCTION OF THE MARKET ST. BRIDGE (MAH-18-1950)

TRAFFIC ON RIDGE AVE.

RIDGE AVE. MAY BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION OF THE RIDGE AVE. BRIDGE (MAH-18-1934) AND APPROACHES AND TRAFFIC DETOURED OVER EXISTING STREETS.





COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

17
492

MAH - 18 - 17.20

EARTHWORK ANALYSIS

	EXCAVATION	EMBANKMENT
MAH. - 18 - 17.20		
STA. 922+50 TO STA. 930+00	120,957	0
STA. 930+00 TO STA. 940+00	168,837	0
STA. 940+00 TO STA. 950+00	93,429	71,068
STA. 950+00 TO STA. 960+00	66,322	102,687
STA. 960+00 TO STA. 970+00	68,894	958
STA. 970+00 TO STA. 980+00	137,006	16,570
STA. 980+00 TO STA. 990+00	6,612	101,858
STA. 990+00 TO STA. 1000+00	38,064	48,134
STA. 1000+00 TO STA. 1010+00	1,277	111,244
STA. 1010+00 TO STA. 1020+00	52,031	82,435
STA. 1020+00 TO STA. 1030+00	140,901	264
STA. 1030+00 TO STA. 805+20	132,670	0
RAMP - A	5,246	43
RAMP - B	24,188	0
RAMP - C	130,149	35,818
RAMP - D	151	11,082
RAMP - E	29,561	0
RAMP - F	16,141	2,270
RAMP - H	69,534	0
RAMP - L	11,159	26
RAMP - K	673	0
RAMP - M	42,139	0
RAMP - N	41,345	0
INTERCHANGE WITH MAHONING-W. FEDERAL EXPRESSWAY		
MAHONING-W. FEDERAL EXPRESSWAY	231	174,512
RAMP - B_3	20	58,898
RAMP - C_3	33,433*	21,173
PIKE STREET	1,648	7,466
BURNS STREET AND HALL COURT	943	53
TOTALS	1,433,561	846,559
EMB. + 20%		1,015,870
SURPLUS = ROADWAY EXC. + EXC. FOR STRUCTURES + CHANNEL EXC. - (EMBANKMENT + 20%)		
1,433,561 + 248 + 63 - 1,015,870 = 418,002 C.Y.		

PARTICIPATING FUNDS

* 10 F. and P. Participation

	EXCAVATION	EMBANKMENT
OAKWOOD AVENUE	252	5
SILLIMAN STREET	507	13
SALT SPRINGS ROAD	1,805	433
PARK ROAD	35,155	0
MARSHALL STREET	6,083	29
EDWARDS STREET	2,312	1
HIGH STREET	991	38
OAKHILL AVENUE	136	104
EAST WOODLAND AVENUE	958	0
WEST WOODLAND AVENUE	1,017	48
RAMP - "M"	12,913	0
RAMP - "D" 10+00 TO END	1,199	30,546
TOTALS	63,328	31,217
EMB. + 20%		37,460
SURPLUS = EXC. - (EMB. + 20%) = 25,868		

NON-PARTICIPATING FUNDS

PAVEMENT & BASE

	ITEM-T-71 10" PORTLAND CEMENT CONCRETE PAV'T. S.Y.		ITEM-T-71 9" PORTLAND CEMENT CONCRETE S.Y.		ITEM-1-18 5" STABILIZED CRUSHED AGGREGATE C.Y.		ITEM-I-22 SUBBASE C.Y.		ITEM-T-31 BITUMINOUS SURFACE TREATMENT No 6 AGGREGATE C.Y.		ITEM-T-31 BITUMINOUS SURFACE TREATMENT BITUMINOUS MAT'L.-GAL.		ITEM-B-219 WATERPROOFED AGGREGATE BASE COURSE C.Y.			
	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS
STA. 925+28.90 TO STA. 930+00	2,512				139		749		8		246		82			
STA. 930+00 TO STA. 940+00	6,557				439		1,940		25		772		257			
STA. 940+00 TO STA. 950+00	5,333				474		1,787		27		833		278			
STA. 950+00 TO STA. 960+00	5,886				330		1,726		19		589		196			
STA. 960+00 TO STA. 970+00	2,331				133		681		8		238		79			
STA. 970+00 TO STA. 980+00	5,960				408		1,786		23		730		243			
STA. 980+00 TO STA. 990+00	4,773				366		1,555		21		657		219			
STA. 990+00 TO STA. 1000+00	5,840				396		1,778		23		707		236			
STA. 1000+00 TO STA. 1010+00	4,793				329		1,464		19		587		196			
STA. 1010+00 TO STA. 1020+00	5,363				325		1,551		19		580		193			
STA. 1020+00 TO STA. 1030+00	6,107				352		1,770		20		630		210			
STA. 1030+00 TO STA. 1034+91.44	2,685				175		819		10		312		104			
RAMP - A	556		1,426		88		409		5		147		45			
RAMP - B	1,082		1,442		121		562		7		215		72			
RAMP - C	373		3,299		170		809		10		302		101			
RAMP - D	1,223		1,015	2,136	113	66	476	427	7	4	201	110	67	37		
RAMP - E	105		1,936		63		406									
RAMP - F	763		952		68		366		4		122		41			
RAMP - G	462		1,502		72		414									
RAMP - H			2063		106		470		6		190		63			
RAMP - J	1,312		1,776		118		645		7		211		70			
RAMP - K	1,011		2050		126		660		7		226		75			
RAMP - L	222		1,140		48		284		3		85		29			
RAMP - M	1041		2353		125		714		7		223		74			
RAMP - N	400		1693		66		421		4		117		39			
SALT SPRINGS ROAD				4,091				710								
MARSHALL STREET				8,609				1,497								
EDWARDS STREET			1,075	2,887			142	547								
PIKE STREET			2,015	650			360	105								
WEST WOODLAND AVENUE			761				108									
RAMPS "F" & "H" INTERSECTION			1573		32		319		2		53		18			
TOTAL	66,690		28,071	18,373	5,177	66	25,171	3,286	291	4	8973	110	2987	37		

	ITEM-B-19 AGGREGATE BASE COURSE C.Y.		ITEM-B-35 ASPHALTIC CONC. PRE-LEVELING COURSE C.Y.		ITEM-I-22 SUBBASE C.Y.		ITEM-B-70 9" PORTLAND CEMENT BASE COURSE S.Y.		ITEM-T-30 BITUMINOUS PRIME COAT GAL.		ITEM-B-35 ASPHALTIC CONC. LEVELING COURSE C.Y.		ITEM-T-35 ASPHALTIC CONC. SURFACE COURSE TYPE "C" C.Y.		ITEM-B-35-4" ASPHALTIC CONC. BASE COURSE C.Y.	
	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS
OAKWOOD STREET						229		1039		213		118		59		
SILLIMAN STREET				46.5		158		553		242.5		134.8		67.4		
STEEL STREET							49				26		13			
SALT SPRINGS ROAD												5				
PARK ROAD		585		105										105		
GLENWOOD AVENUE					50		267				14.8		7.4			
MARSHALL STREET																
EDWARDS STREET																
HIGH STREET				24		352		844		641		356		178		
OAKHILL AVENUE				37		62		220		169		110		55		
WEST WOODLAND AVENUE				101		143		663		189		106	53			
EAST WOODLAND AVENUE				24		202		771		300		166		83		
RAMPS "F" & "H"			8.5				135		13.5		29.6		14.8			
STA. 920+00 TO STA. 930+00	5		1.6								1.0					
ISALY DAIRY		63												37		
RAMPS 'E' & 'G'											70.0		30.0		240	
BURNS ST. AND HALL CT.	218										54.6		27.3			
TOTAL	223	648	10.1	337.5	50	1146	451	4090	13.5	1,754.5	195.0	995.8	165.5	584.4	240	

Rev 11-2-60 RE

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

18
492

MAH-18-17.20

H10 DUMPED ROCK FILL AS PER PLAN CU. YDS.	
RAMP-"D" PARTICIPATING FUNDS	5,414
RAMP-"D" NON-PARTICIPATING FUNDS	1,429
TOTAL	6,843

ITEM E-1 COMPACTED SUBGRADE - S.Y.		
	P. FUNDS	N.P. FUNDS
EXPRESSWAY PAVEMENT APPROACH SLABS & PAVED SHOULDERS	88,507	
RAMPS PAVEMENT & PAVED SHL'DR.	42,053	2,576
SALT SPRINGS ROAD		4,140
MARSHALL STREET		8,609
EDWARDS STREET	1,075	2,887
PIKE STREET	2,665	
PARK ROAD		2,828
W. WOODLAND AVE.	761	
BURNS STREET & HALL COURT	983	
TOTAL	136,044	21,040

E-11 WATER $\frac{5}{1000}$ x (EMBANKMENT + I·22 + B·13 (M. GAL.)		
	P. FUNDS	N.P. FUNDS
$\frac{5}{1000}$ x (846,506 + 25,276 + 5)	4,359	
$\frac{5}{1000}$ x (28,592 + 3,181 + 585)		162
TOTAL	4,359	162

PAVEMENT REPLACEMENT FOR SEWER & WATER LINE CONSTRUCTION

	ITEM·B·70 PORTLAND CEMENT BASE COURSE FOR PAV'T. REPL.		ITEM·T·35 ASPALTIC CONC. SURFACE COURSE FOR PAV'T. REPL. TYPE "C"	
	N.P. FUNDS	P. FUNDS	N.P. FUNDS	P. FUNDS
SILLIMAN STREET	187	47		2.0
OAKWOOD STREET	60	85		3.5
STEEL STREET		35		
MAHONING AVENUE		93		3.9
GLENWOOD AVENUE		205		6.6
ROCKVIEW AVENUE		343		11.9
EDWARDS STREET		6		
PLUM STREET		52		2.2
WEST STREET		124		3.8
SMITH STREET		34		1.3
HILKER STREET		8		0.2
OAKHILL AVENUE	79	21		0.1
PIKE STREET		10		
RIDGE STREET		23		0.9
WOODLAND AVENUE	180	201		
WILLIAMS STREET				
MARKET STREET		575		24.0
HAYES AVENUE		13		0.5
HIGH STREET	154			
TOTAL	660	1,875		60.9

ITEM L-9 SEEDING & FERTILIZER

	ITEM L-9 SEEDING S.Y.		ITEM L-9 FERTILIZER TONS (20#/1000 S.F.)	
	P. FUNDS	N.P. FUNDS	P. FUNDS	N.P. FUNDS
STA. 922+50 TO STA. 930+00	13,502		1.215	
STA. 930+00 TO STA. 940+00	16,777		1.510	
STA. 940+00 TO STA. 950+00	19,047		1.714	
STA. 950+00 TO STA. 960+00	18,703		1.683	
STA. 960+00 TO STA. 970+00	3,604		.324	
STA. 970+00 TO STA. 980+00	17,848		1.606	
STA. 980+00 TO STA. 990+00	13,558		1.220	
STA. 990+00 TO STA. 1000+00	17,743		1.597	
STA. 1000+00 TO STA. 1010+00	13,726		1.235	
STA. 1010+00 TO STA. 1020+00	20,932		1.884	
STA. 1020+00 TO STA. 1030+00	8,006		.721	
STA. 1030+00 TO STA. 1034+91.44	6,985		.629	
RAMP - A	3,070		.276	
RAMP - B	5,924		.533	
RAMP - C	26,280		2.401	
RAMP - D	1,262	5,910	.114	.532
RAMP - E	6,621		.596	
RAMP - F	6,415		.577	
RAMP - H	10,388		.935	
RAMP - K	522		.047	
RAMP - L	2,403		.216	
RAMP - M	7,202		.648	
RAMP - N	5,222		.470	
INTERCHANGE WITH MAH.W.FED.EXP.				
MAHONING W. FEDERAL	7,728		.696	
RAMP·B_3	7,673		.691	
RAMP·C_3 & D_3	4,953		.446	
M.V.S.D. EASEMENT		6,000		.540
OAKWOOD STREET		580		.052
SILLIMAN STREET		700		.063
SALT SPRINGS ROAD		5,000		.450
PARK ROAD		7,229		.651
GLENWOOD AVENUE		50		.005
MARSHALL STREET		760		.068
EDWARDS STREET		412		.037
HIGH STREET		1,420		.128
OAKHILL AVENUE		342		.031
PIKE STREET		2,977		.268
WEST WOODLAND AVE.		490		.044
EAST WOODLAND AVE.		300		.027
STEEL STREET		33		.003
TOTAL	266,496	26,203	23.984	2.899

QUANTITY SUMMARY
ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

19
492

	ITEM	8	16	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	70	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	SUB-TOTAL ITEM	SUB-TOTAL QUANTITY	SUB-TOTAL UNIT	DESCRIPTION
	E-1			SEE SHEET Nº 17																												~~1,400,128~~ 1,433,568	~~96,761~~ 63,328	E-1	1,496,889	C.Y.	ROADWAY EXCAVATION - METHOD "B", AS PER PLAN
	E-1			SEE SHEET Nº 18																												136,044	21,040	E-1	157,084	S.Y.	COMPACTED SUBGRADE
	E-8			1252					844	1331	1393	1820	1060	430	2490							467			1000	305								E-8	12392	S.Y.	REMOVAL & DISPOSAL OF EXISTING RIGID PAVEMENT
	E-8			1120							287					224	960													356	2947			E-8	2947	S.Y.	REMOVAL & DISPOSAL OF EXISTING NON-RIGID PAVEMENT
	E-8																																	E-8		S.Y.	REMOVAL & DISPOSAL OF EXISTING WEARING COURSE
	E-8			8190					7370	4910	8860	9040	5300	1730	6780	2180	2085					1850			5000	1050	3720				76	68141		E-8	68,141	S.F.	REMOVAL & DISPOSAL OF EXISTING SIDEWALK
	E-8																																	E-8		S.F.	REMOVAL & STORAGE OF EXISTING SIDEWALK
	E-8			1876					726	718	1450	1820	1060	430	992	340	770					190			710	220	345				225	11872		E-8	11,872	L.F.	REMOVAL & DISPOSAL OF EXISTING CURB, CURB & GUTTER OR HEADER CURB
	E-8																																	E-8		L.F.	REMOVAL & STORAGE OF EXISTING STONE CURB
	E-4	1575																													1575			E-4	1575	C.Y.	SPECIAL BORROW USING GRANULAR MATERIAL AS PER PLAN
	E-9																														LUMP			E-9	LUMP	LUMP	REMOVAL OF TREES & STUMPS
P NP	E-11			SEE SHEET Nº 18																											4359	LUMP 162		E-11	4521	M. GALS.	WATER
P NP	I-10			SEE SHEET Nº 18																											5414	1429		I-10	6843	C.Y.	DUMPED ROCK FILL AS PER PLAN
	I-8			1	1	3	3	2	1	2	2	2	2	1	2																22			I-8	22	EACH	MONUMENT ASSEMBLIES, STANDARD
	I-13																										3720	1624	1002	45	2781	9172		I-13	9172	S.F.	5" PORTLAND CEMENT CONC. SIDEWALKS INCLUDING 5" CINDER BASE
	I-13																																	I-13		L.F.	CONCRETE STEPS
	I-15			275	450		375	400	450	925	650	1425	1375	350	125	275	87.5	1050	262.5	1100	1300	137.5	550		50	900	775	275	500			14062.5			I-15	14062.5	L.F.	GUARD RAIL, ST'D TYPE, DEEP
	I-15			462.5	912.5	1000	925	300	925	925	1000	825	1000	825	525																9625			I-15	9,625	L.F.	GUARD RAIL, BARRIER TYPE, DEEP
P NP	L-5			SEE SHEET Nº 18																											266,496			L-5	292,699	S.Y.	SEEDING & PROTECTION AS PER PLAN
P NP	L-5			SEE SHEET Nº 18																											24	26,203 3		L-5	27	TONS	COMMERCIAL FERTILIZER (12-12-12)
	L-10			106	285	306	172		148	36	278	267	78	56		18	684	142		152	237	333	287	139	289	162		146	200	217	4738			L-10	4738	S.Y.	SODDING
	SS-18																																	SS-18		L.F.	FENCE TYPE "C"
	SS-18																																	SS-18		L.F.	FENCE TYPE "A"
	SPECIAL	40																													40			SPECIAL	40	HOURS	FILL COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER
	T-35		75																												75			T-35	75	C.Y.	ASPHALTIC CONC. SURFACE COURSE OR APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING LOCAL TRAFFIC
	T-10		500																												500			T-10	500	C.Y.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING LOCAL TRAFFIC
	M-10		10																												10			M-10	10	TONS	CALCIUM CLORIDE FURNISHED AND APPLIED FOR MAINTAINING LOCAL TRAFFIC
	S-15																														LUMP			S-15	LUMP	LUMP	TEMPORARY RUNAROUND - CLASS "A" MAHONING AVE.
	S-15																														LUMP			S-15	LUMP	LUMP	TEMPORARY RUNAROUND - CLASS "A" MARKET ST.
	S-1																																	S-1		C.Y.	CLASS "C" CONC. FOR RETAINING WALLS (RESIDENTIAL)
	S-4																																	S-4		LBS.	REINFORCING STEEL FOR RETAINING WALLS (RESIDENTIAL)
	S-29																																	S-29		C.Y.	POROUS BACKFILL
	S-24										LUMP																				LUMP			S-24	LUMP	LUMP	REMOVAL OF EXISTING RETAINING WALL W-1
	S-24										LUMP																				LUMP			S-24	LUMP	LUMP	REMOVAL OF EXISTING RETAINING WALL W-2

P = PARTICIPATING NP = NON-PARTICIPATING FUND

Rev 11-23-60

QUANTITY SUMMARY
ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

20
492

	ITEM	71	227	232	234	235	236	249	250	253	262	273	274	288	297	302	244	268	293	SUB-TOTAL FROM SHEET 19	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
	E-1																			1,496,880			E-1	1,496,880	C.Y.	ROADWAY EXCAVATION - METHOD "B", AS PER PLAN
	E-1																			157,084			E-1	157,084	S.Y.	COMPACTED SUBGRADE
P.	E-8	645																		12,392	645		E-8	29,533	S.Y.	REMOVAL & DISPOSAL OF EXISTING RIGID PAVEMENT
N.P.	E-8		864		349	438	3910	3814	2836		2574			258		1453						16,456				
	E-8																			2,947			E-8	2947	S.Y.	REMOVAL & DISPOSAL OF EXISTING NON-RIGID PAVEMENT
P.	E-8	404																		0	404		E-8	3959	S.Y.	REMOVAL & DISPOSAL OF EXISTING WEARING COURSE
N.P.	E-8		592	100	137								1613		1113							3,555				
P.	E-8	2520																226		68,141	2,746		E-8	159,112	S.F.	REMOVAL & DISPOSAL OF EXISTING SIDEWALK
N.P.	E-8		4510	4794	3144	3120	400	13884	10105	260	9010	11672	7302	3354	6960	9510						88,225				
P.	E-8																			0			E-8	5000	S.F.	REMOVAL & STORAGE OF EXISTING STONE SIDEWALK
N.P.	E-8																					5000				
P.	E-8	715																57		11,872	772		E-8	18,461	L.F.	REMOVAL & DISPOSAL OF EXISTING CURB, CURB & GUTTER OR HEADER CURB
N.P.	E-8		1147	1241			45							353	1469	1562						5,817				
P.	E-8																			0			E-8	11,012	L.F.	REMOVAL & STORAGE OF EXISTING STONE CURB
N.P.	E-8				630	529		2205	1825		1777	2546	1500									11,012				
																				1,575			E-4	1575	C.Y.	SPECIAL BORROW USING GRANULAR MATERIAL AS PER PLAN
	E-9																				LUMP		E-9	LUMP	LUMP	REMOVAL OF TREES & STUMPS
	E-11																			4,521		LUMP	E-11	4521	M. GALS.	WATER
	I-8																			6,843			I-10	6,843	C.Y.	DUMPED ROCK FILL AS PER PLAN
	I-8																			22			I-8	22	EACH	MONUMENT ASSEMBLIES, STANDARD
P.	I-13	2156																1260		5,172	3,416		I-13	66,557	S.F.	5" PORTLAND CEMENT CONC. SIDEWALKS INCLUDING 5" CINDER BASE
N.P.	I-13		4040	1762	612	360	4250	5271	3140	260	7352	6979	3553	3518	7710	5162						53,969				
P.	I-13																			0			I-13	57.65	L.F.	CONCRETE STEPS
N.P.	I-13		6.25									7	6.5		37.9							57.65				
	I-15																			14,062.5			I-15	14,062.5	L.F.	GUARD RAIL, ST'D TYPE, DEEP
	I-15																									
	I-15																			2,625			I-15	2,625	L.F.	GUARD RAIL, BARRIER TYPE, DEEP
																				292,699			L-5	292,699	S.Y.	SEEDING & PROTECTION AS PER PLAN
																				27			L-5	27	TONS	COMMERCIAL FERTILIZER (12-12-12)
																				4,738			L-10	4,738	S.Y.	SODDING
									335													335	SS-18	335	L.F.	FENCE TYPE "C" REMOVED AND REBUILT
																				0	21,808		SS-18	21,808	L.F.	FENCE TYPE "C"
P.	SS-18																			0	207		SS-18	442	L.F.	FENCE TYPE "A"
N.P.	SS-18								235													235				
	SPECIAL																			40			SPECIAL	40	HOURS	FILL COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER
																							L-7	614	S.Y.	HAND LAID - STONE RIP-RAP
																614						614				
																				75			T-35	75	C.Y.	ASPHALTIC CONC. SURFACE COURSE OR APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING LOCAL TRAFFIC
																				500			T-10	500	C.Y.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING LOCAL TRAFFIC
																				10			M-10	10	TONS	CALCIUM CLORIDE FURNISHED AND APPLIED FOR MAINTAINING LOCAL TRAFFIC
	S-15																			LUMP			S-15	LUMP	LUMP	TEMPORARY RUNAROUND - CLASS "A" - MAHONING AVE.
	S-15																			LUMP			S-15	LUMP	LUMP	TEMPORARY RUNAROUND - CLASS "A" - MARKET ST.
P.	S-22																	LUMP			LUMP		S-22	LUMP	LUMP	REMOVAL OF PORTION OF EXISTING CONC. COAL BIN
N.P.	S-22																	LUMP				LUMP	S-22	LUMP	LUMP	REMOVAL OF PORTION OF EXISTING HOUSE
P.	S-24																						S-24	LUMP	LUMP	REMOVAL OF EXISTING STONE WALL
N.P.	S-24					LUMP																LUMP				
P.	S-1																						S-1	22.5	C.Y.	CLASS "C" CONC. FOR RETAINING WALLS (SEE SHEET 226)
N.P.	S-1											5			17.5							22.5				
P.	S-4																						S-4	921		REINFORCING STEEL FOR RETAINING WALLS (SEE SHEET 226)
N.P.	S-4											210			711							921				
P.	S-29																			0			S-20	19		POROUS BACKFILL (SEE SHEET 226)
N.P.	S-29											3			16							19				
	S-24																			LUMP			S-24	LUMP	LUMP	REMOVAL OF EXISTING RETAINING WALL W-1
	S-24																			LUMP			S-24	LUMP	LUMP	REMOVAL OF EXISTING RETAINING WALL W-2
												LUMP										LUMP	S-24	LUMP	LUMP	REMOVAL OF EXISTING CONC. BLK. RETAINING WALL
															LUMP					LUMP		LUMP	S-24	LUMP	LUMP	REMOVAL OF EXISTING RETAINING WALL
P.	SS-18																						SS-18	335	L.F.	REMOVAL & REUSE OF EXISTING FENCE & POSTS
N.P.	SS-18								335													335				
P.	T-10																						T-10	45	C.Y.	TRAFFIC COMPACTED SURFACE COURSE
N.P.	T-10								45													45				

P. = PARTICIPATING FUNDS N.P. = NON-PARTICIPATING FUNDS

FED. RD.	STATE	PROJECT	
2.	OHIO		

21
492

MAH.-18-17.20

QUANTITY SUMMARY
ROADWAY

PARTICIPATING FUNDS

BID ITEM	QUANTITY	UNIT	DESCRIPTION
S-24	LUMP	LUMP	2½ STY. BR. HSE. & FR. GAR. PARCEL 28 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~1 STY. FR. HSE. PARCEL 40 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. & BR. GAR. PARCEL 51 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. ~~& FR. GAR.~~ PARCEL 74 LA
S-24	LUMP	LUMP	2 STY. BR. 4 APTS & STORE BLDG; TILE GAR. PARCEL 112 LA
S-24	LUMP	LUMP	2 STY. BR. TAVERN & APT. BLDG. - FR. GAR. PARCEL 97 LA
S-24	LUMP	LUMP	2 STY. BR. HSE. & FR. GAR. PARCEL 96 LA
S-24	LUMP	LUMP	2 STY. BR. STORE & APT. BLDG. - BR. GAR. PARCEL 113 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. SHED PARCEL 118 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 121 LA~~
S-24	LUMP	LUMP	ST. MICHAEL'S CHURCH & BL. BLDG. CONC. BL. PAVILION PARCEL 133 LA
S-24	LUMP	LUMP	2 STY. BR. OFFICE BLDG. & SCALES PARCEL 140 LA
S-24	LUMP	LUMP	1 STY. BL. OFFICE & SHOP BLDG. PARCEL 146 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~R.R. SIDING - B & O R.R. (LIN. FT.) PARCEL 144 LA~~
S-24	LUMP	LUMP	1 STY. BL. BLDG. PARCEL 147 LA
S-24	LUMP	LUMP	1 STY. BL. BLDG. PARCEL 148 LA
S-24	LUMP	LUMP	1 STY. BL. & STONE BLDG. PARCEL 151 LA
S-24	LUMP	LUMP	1 STY. FR. SHED PARCEL 149 LA
S-24	LUMP	LUMP	1 STY. BL. BLDG. & 1 CONC. FDN. PARCEL 150 LA
S-24	LUMP	LUMP	1- STY. BL. BLDG. PARCEL 155 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~1 STY. FR. HSE. PARCEL 138 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 BILL BOARDS - GEN. OUTDOOR ADV. PARCEL 159 LA~~
S-24	LUMP	LUMP	2½ STY. FR. HSE. PARCEL 160 LA
S-24	LUMP	LUMP	2 STY. FR. OFFICE BLDG. & VARIOUS FR. SHEDS PARCEL 161 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE'S PARCEL 158 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 192 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & BL. GAR. PARCEL 218 LA~~
S-24	LUMP	LUMP	2 STY. FR. TAVERN BLDG. PARCEL 217A LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 218 LA
S-24	LUMP	LUMP	2 STY. BR. APT. BLDG. - 3 UNITS PARCEL 217 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 253P-A
S-24	LUMP	LUMP	2 STY. BR. CHURCH PARCEL 253H-A
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 253J-A
S-24	LUMP	LUMP	2 STY. FR. HSE. CONC. BL. GAR. PARCEL 234 A
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 241 A~~
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 250 -A
S-24	LUMP	LUMP	~~2 STY. FR. HSE.~~ - FR. GAR. ~~& SHED~~ PARCEL 251A-A
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 255 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE & BL. GAR. PARCEL 253D-A~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 253F-A~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 253G-A~~
S-24	LUMP	LUMP	1 STY. ~~BL. &~~ STUCCO HSE. FR. HSE. PARCEL 253L-A
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 253M-A~~
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 262 C LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 262 F LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. FR. GAR. & SHED PARCEL 261 D LA~~
S-24	LUMP	LUMP	3 STY. FR. APT. BLDG. (6 UNITS) PARCEL 397 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & TILE GAR. PARCEL 395 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 393 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 369 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & FR. GAR. PARCEL 368 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 393 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & BL. GAR. PARCEL 367 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STY. FR. HSE. & FR. GAR. PARCEL 366 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STY. FR. HSE. & FR. GAR. PARCEL 390 LA~~
S-24	LUMP	LUMP	2½ STY. FR. HSE. PARCEL 390 A LA
S-24	LUMP	LUMP	2 STY. FR. DUPLEX PARCEL 364 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 365 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 391 A LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 406 B LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 391 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 406 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 392 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. DUPLEX PARCEL 394 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 - 2 STY. FR. HSE'S PARCEL 407 LA~~
S-24	LUMP	LUMP	3 STY. BR. & FR. STORE & APT. PARCEL 425 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 425 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 426 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 428 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 430 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 431 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 433 LA~~
S-24	LUMP	LUMP	2 STY. BR. WAREHOUSE PARCEL 433 A LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 263 LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 265 LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 265 A LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 265 B LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 266 LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 266 B LA
S-24	LUMP	LUMP	2 STY. STUCCO HSE. PARCEL 266 C LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 271 LA~~

PARTICIPATING FUNDS

BID ITEM	QUANTITY	UNIT	DESCRIPTION
~~S-24~~	~~LUMP~~	~~LUMP~~	~~1 STY. FR. HSE. PARCEL 272 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 273 C LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 275 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 273 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 277 LA~~
S-24	LUMP	LUMP	1 STY. BL. BLDG. PARCEL 280 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 285 A LA
S-24	LUMP	LUMP	FR. SHED PARCEL 287 B LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 287 C LA
S-24	LUMP	LUMP	CHURCH BLDG. & SHED PARCEL 310 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 312 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 311 LA~~
S-24	LUMP	LUMP	1 STY. BL. BLDG. - 2 FR. BLDGS. & TRUCK SCALE PARCEL 313 B A
S-24	LUMP	LUMP	1 STY. BL. OFFICE BLDG. & THREE SHEDS. PARCEL 313 LA
S-24	LUMP	LUMP	1 STY. FR. BLDG., FR. GAR. & CON. BL. GAR. PARCEL 316 LA
S-24	LUMP	LUMP	3-2 STY. FR. HSE. - 1-2 STY. BR. HSE. & 1-3 STY. LAB. BLDG. PARCEL 318 LA
S-24	LUMP	LUMP	FR. GAR. ~~& BL. BLDG.~~ PARCEL 320 A LA
S-24	LUMP	LUMP	~~FR. GAR.~~ STUCCO GAR. PARCEL 323 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. 1 STY. FR. HSE. & FR. SHED PARCEL 322 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 327 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 328 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & FR. GAR. PARCEL 328 A LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 330 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STY. FR. HSE. PARCEL 331 LA~~
S-24	LUMP	LUMP	2½ STY. FR. APT. HSE. & BL. GAR. PARCEL 332 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 351 LA-A
S-24	LUMP	LUMP	2 STY. FR. HSE. ~~& STY. BRICK BLDG. & FR. GAR.~~ PARCEL 352 LA
S-24	LUMP	LUMP	2 - 2 STY. FR. HSE'S PARCEL 348 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 342 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 341 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 350 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STY. FR. HSE. PARCEL 347 LA~~
S-24	LUMP	LUMP	2½ STY. FR. HSE. ~~& FR. GAR.~~ PARCEL 340 LA
S-24	LUMP	LUMP	2½ STY. FR. HSE. & FR. GAR. PARCEL 339 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. ~~& FR. SHED.~~ PARCEL 334 LA
S-24	LUMP	LUMP	FR. GAR. PARCEL 333 A LA
S-24	LUMP	LUMP	1 STY. FR. BLDG. PARCEL 353 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & FR. GAR. PARCEL 358 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 359 LA~~
S-24	LUMP	LUMP	2 STY. FR. STORE & APT. BLDG. PARCEL 361 C LA
S-24	LUMP	LUMP	1 STY. BL. OFFICE BLDG. ~~& 2 STY. BL. BLDG.~~ PARCEL 363 LA
S-24	LUMP	LUMP	2 STY. BR. APT. BLDG. (10 UNITS) PARCEL 362 LA
S-24	LUMP	LUMP	1 STY. BR. WAREHOUSE PARCEL 370 LA
S-24	LUMP	LUMP	3 STY. BR. SCHOOL BLDG. PARCEL 387 LA
S-24	LUMP	LUMP	2 STY. FR. DUPLEX PARCEL 379 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. PARCEL 383 LA~~
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & BL. GAR. PARCEL 383 B LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 384 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. & BL. GAR. PARCEL 384 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 384 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 384 LA
S-24	LUMP	LUMP	2 STY. FR. & BL. BLDG. PARCEL 384 LA
S-24	LUMP	LUMP	2 STY. FR. HSE., FR. GAR. & FR. SHED. PARCEL 315 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STY. FR. HSE. & FR. GAR. PARCEL 376 LA~~
S-24	LUMP	LUMP	2 STY. FR. DUPLEX & FR. GAR. PARCEL 378 LA
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 374 LA
S-24	LUMP	LUMP	2½ STY. FR. HSE. PARCEL 373 LA
~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STY. FR. HSE. & FR. SHED PARCEL 372 LA~~
S-24	LUMP	LUMP	2 STY. FR. HSE. PARCEL 371 LA
S-24	LUMP	LUMP	FR. SHED PARCEL 4 LA
S-24	LUMP	LUMP	1 STY. FR. HSE. & FR. SHED PARCEL 37 LA
S-24	LUMP	LUMP	FR. SHED PARCEL 52 LA
S-24	LUMP	LUMP	2 STY. FR. HSE., FR. SHED, & FR. GAR. PARCEL 53 LA
S-24	LUMP	LUMP	2 STY. FR. HSE., BR. GAR. & CON. BL. SHED PARCEL 124 LA
S-24	LUMP	LUMP	2 STY. FR. HSE., CON. BL. GAR. & CON. BL. SHED PARCEL 125 LA
S-24	LUMP	LUMP	BR. GAR. (BURNED OUT) WALLS REMAINING PARCEL 127 LA
S-24	LUMP	LUMP	4 STY. FR. BLDG., & 4 FR. SHEDS. PARCEL 170 LA, 170 ALA, 170 BLA
S-24	LUMP	LUMP	STONE SPRING HOUSE FOUNDATION PARCEL 267 LA
S-24	LUMP	LUMP	1½ STY. FR. HSE. PARCEL 283 BLA
S-24	LUMP	LUMP	1 STY. TILE WHSE. WITH ATTACHED STEEL BLDG PARCEL 314 LA
S-24	LUMP	LUMP	CON. BL. BLDG. & FR. GAR. PARCEL 321 LA
S-24	LUMP	LUMP	1 STY BR. BLDG. PARCEL 326 LA
S-24	LUMP	LUMP	4 STY. FR. APT. BLDG. PARCEL 360 LA

PARTICIPATING FUNDS EXCEPT AS NOTED

TYPE CODE 7221

BID ITEM	QUANTITY	UNIT	DESCRIPTION
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
S-24	LUMP	LUMP	
			"LIGHTING QUANTITIES"
S-25	57	EACH	STANDARD 27'-0" POLE WITH 15' BRACKET
S-25	55 *	EACH	STANDARD 27'-0" POLE WITH 10' BRACKET
S-25	3	EACH	TWIN STANDARD 27'-0" POLE WITH 1-10' & 1-15' BRACKET
S-25	7	EACH	BRIDGE STANDARD 27'-0" POLE WITH 10' BRACKET
S-25	900	LIN.FT.	CONCRETE ENCASED 3" ASBESTOS-CEMENT CONDUIT
S-25	1400	LIN.FT.	CONCRETE ENCASED 2" ASBESTOS-CEMENT CONDUIT
S-25	74 ≠	EACH	LUMINAIRE-21,500 LUMEN TYPE III
S-25	51 ≠	EACH	LUMINAIRE-21,500 LUMEN TYPE II
S-25	56,750 ≠	LIN.FT.	#6-5000 VOLT LIGHTING SINGLE COND. CABLE
S-25	35,500 ≠	LIN.FT.	#2-600 VOLT GRD. GRID SINGLE COND. CABLE
S-25	250 ≠	LIN.FT.	#8-1000 VOLT SEC. SINGLE COND. CABLE
S-25	115 ≠	EACH	5/8" X 8'-0" GROUND RODS
S-25	150 ≠	EACH	24" SQUARE CONCRETE PULL BOX
S-25	2 ≠	EACH	LUMINAIRE-7000 LUMEN TYPE V
			* - 3 UNITS ARE NON-PARTICIPATING
			≠ - 100% NON-PARTICIPATING
			"RETAINING WALLS"
			HIGH STREET-MAINLINE STA. 1005+22.23 TO STA. 1005+47.59
			RAMP "L" STA. 6+28.66 TO STA. 7+98
			WOODLAND TO MARKET STA. 1025+65.85 TO STA. 1029+73.06
			RAMP "K" STA. 11+77.82 TO STA. 15+81
			RAMP "M" STA. 5+83.03 TO STA. 9+07.87
			HILKER STREET
			"ESTIMATED QUANTITIES"
E-2	12228	C.Y.	UNCLASSIFIED EXCAVATION
S-1	2192	C.Y.	CLASS "E" CONCRETE (FOOTINGS)
S-1	2237	C.Y.	CLASS "E" CONCRETE (WALLS)
S-3	1024	LIN.FT.	WATERPROOFING-12"X 1/2" PREMOLDED SEALING STRIP
S-4	334526	LBS.	REINFORCING STEEL
S-9	815	S.F.	1" PREFORMED EXPANSION JOINT FILLER SEC. M-10.02
S-16	LUMP	LUMP	FIRST TEST PILE
S-18	15850	LIN.FT.	12" CAST IN PLACE REINFORCED CONCRETE PILES
S-29	1432	C.Y.	POROUS BACKFILL
E-2	9912	SQ.FT.	STEEL SHEET PILING LEFT IN PLACE
E-2	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING
S-18	411	LIN.FT.	CORRUGATED STEEL SHEET PILING

QUANTITY SUMMARY
PAVEMENT

FED.RD.	STATE	PROJECT	
2	OHIO		

22
492

MAH-18-17.20

PARTICIPATING FUNDS / NON-PARTICIPATING FUNDS

	ITEM	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	54	55	56	57	58	59	60	61	62	70	71	227	232			SUB-TOTAL ITEM	SUB-TOTAL QUANTITY	SUB-TOTAL UNIT	DESCRIPTION
P.	I-7																																	I-7		S.Y.	REINFORCED CONCRETE APPROACH SLABS (T=13")
P.	I-12													200			200		200			200			200		200					1200		I-12	1200	L.F.	SPECIAL CONCRETE CURB, AS PER PLAN
P.	I-12																						536	371	276	173	283	837	405			2881		I-12	2881	L.F.	ST'D. TYPE 2A CONCRETE CURB
P.	I-12																								53		80	172				305		I-12	2361	L.F.	ST'D. TYPE 2 COMBINATION CURB AND GUTTER
N.P.																														997	1059		2056				
P.	I-12	1037	1974	1974	1967	856	2007	1807	1978	1618	1800	2329	1076		578			206	106	206	206		306	1236	369	938	364	104	1402			27044		I-12	27044	L.F.	ST'D. TYPE 6 CONCRETE CURB
N.P.																																					
	I-18	SEE SHEET Nº17																														5177		I-18	5243	C.Y.	STABILIZED CRUSHED AGGREGATE - SHOULDERS & APPROACHES
P.	I-21	603	658	658	656	248	606	606	660	548	545	662	323																			6779	66	I-21	6779	S.Y.	4" PORTLAND CEMENT CONC. MEDIAN PVM'T., STD. TYPE 1
	I-21														45			22		31			27	18		25						168		I-21	168	S.Y.	4" PORTLAND CEMENT CONC. MEDIAN PAVEMENT.
P.	I-22	SEE SHEET Nº17																														25221		I-22	29,653	C.Y.	SUBBASE
P.	I-23																																4432	I-23		EACH	ST'D PRECAST PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS
P.	B-21D	SEE SHEET Nº17																														2387		B-21D	3024	C.Y.	WATERPROOFED AGGREGATE BASE COURSE
	B-15	SEE SHEET Nº17																														223	37	B-15	871	C.Y.	AGGREGATE BASE COURSE
	B-35	SEE SHEET Nº17																													1	196	648	B-35	1182	C.Y.	ASPHALTIC CONCRETE LEVELING COURSE (70-85)
	B-35	SEE SHEET Nº17																														10	986	B-35	348	C.Y.	ASPHALTIC CONCRETE PRE-LEVELING COURSE (70-85)
	B-70	SEE SHEET Nº17																														451	338	B-70	4591	S.Y.	9" PORTLAND CEMENT CONCRETE BASE COURSE
	B-70	SEE SHEET Nº 18																														1875	4140	B-70	2335	S.Y.	9" PORTLAND CEMENT CONC. BASE COURSE FOR PVM'T. REPLACEMENT
	T-30	SEE SHEET Nº17																														14	660	T-30	1768	GALS.	BITUMINOUS PRIME COAT SEC. M-5.7 RT-2 OR RT-3
	B-35	SEE SHEET Nº17																														240	1754	B-35	240	C.Y.	ASPHALTIC CONCRETE BASE COURSE (70-85)
	T-31	SEE SHEET Nº17																														291		T-31	295	TONS	BITUMINOUS SURFACE TREATMENT - Nº 6 AGGREGATE
P. N.P.	T-31	SEE SHEET Nº17																														8973	4	T-31	9083	GALS.	BITUMINOUS SURFACE TREATMENT - BITUMINOUS MATERIAL
	T-35																																110				
	T-35	SEE SHEET Nº17																														166		T-35	750	C.Y.	ASPHALTIC CONCRETE SURFACE COURSE - TYPE C (70-85)
P.	T-35																																584	T-35	3	C.Y.	ASPHALTIC CONC. SURFACE COURSE-TYPE C FOR DRIVEWAYS (70-85)
N.P.	T-35																													3			3				
	T-35	SEE SHEET Nº18																														61		T-35	61	C.Y.	ASPHALTIC CONC. SURFACE COURSE-TYPE C FOR PVM'T. REPLACEMENT (70-85)
P.	T-70																																	T-71	109	S.Y.	5" REINF. PORTLAND CEMENT CONC. PVM'T. FOR DRIVEWAY APPROACHES AS PER PLANS
N.P.	T-70																													49	60		109				
P.	T-71																																	T-70	115	S.Y.	5" PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAYS
N.P.	T-71																													41	78		119				
	T-71	SEE SHEET Nº17																														28071		T-71	46444	S.Y.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
																																18373				
	T-71	SEE SHEET Nº17																														66690		T-71	66690	S.Y.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

* P-Denotes Participating Funds

* N.P.-Denotes Non-Participating Funds

QUANTITY SUMMARY
PAVEMENT

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

23
492

TYPE CODE 7221

	ITEM	234	235	236	238	249	250	253	262	273	274	288	292	297	302	SUB-TOTAL FROM SHEET 22	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
P.	I-7																2,843		I-7	2,843	S.Y.	REINFORCED CONCRETE APPROACH SLABS (T=13")
P.	I-12															1,200			I-12	1,200	L.F.	SPECIAL CONCRETE CURB, AS PER PLAN
P.	I-12			2168	651	2111	1675		1674				1978		341	7,881	1,978		I-12	13,479	L.F.	STD. TYPE 2A CONCRETE CURB
N.P.	I-12																	8,620				
P.	I-12		106							2310	1500	348		1373	508	2,361		6,205	I-12	8,566	L.F.	ST'D. TYPE 2 COMBINATION CURB AND GUTTER
N.P.	I-12																					
P.	I-12	103			22		100					236			760	27,044	760		I-12	28,265	L.F.	ST'D. TYPE 6 CONCRETE CURB
N.P.	I-12																	4461				
P	I-18															5,243			I-18	5,243	C.Y.	STABILIZED CRUSHED AGGREGATE, SHOULDERS & APPROACHES
P.	I-21															6,779			I-21	6,999	S.Y.	4" PORTLAND CEMENT CONC. MEDIAN PVM'T., STD. TYPE 1
N.P.	I-21			220														220				
																168			I-21	168	S.Y.	4" PORTLAND CEMENT CONC. MEDIAN PVM'T. as per plan.
P.	I-22															296.53			I-22	29,653	C.Y.	SUBBASE
P.	I-23															0			I-23	9	EACH	ST'D. PRECAST PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS
N.P.	I-23			9														9				
P.	B-19															871			B-19	940	C.Y.	AGGREGATE BASE COURSE.
N.P.	B-19							65		5	1							69				
P.	B-219															3,024			B-219	3024	C.Y.	WATERPROOFED AGGREGATE BASE COURSE
P.	B-19																					
P.	B-35															1,182			B-35	1182	C.Y.	ASPHALTIC CONCRETE LEVELING COURSE (70-85)
																348			B-35	348	C.Y.	ASPHALTIC CONCRETE PRE-LEVELING COURSE (70-85)
P.	B-70															4,501			B-70	4,501	S.Y.	9" PORTLAND CEMENT CONCRETE BASE COURSE
P.	B-70															2,535			B-70	2,535	S.Y.	9" PORTLAND CEMENT CONC. BASE COURSE FOR PVM'T. REPLACEMENT
P.	T-30															1,768			T-30	1,768	GALS.	BITUMINOUS PRIME COAT SEC. M-5.7 RT-2 OR RT-3
																240			B-35	240	C.Y.	ASPHALTIC CONCRETE BASE COURSE (70-85)
P.	T-31															295			T-31	295	C.Y.	BITUMINOUS SURFACE TREATMENT - No 6 AGGREGATE
P.	T-31															9,083			T-31	9083	GALS.	BITUMINOUS SURFACE TREATMENT - BITUMINOUS MATERIAL
P.	T-35																					
P.	T-35															750			T-35	787	C.Y.	ASPHALTIC CONCRETE SURFACE COURSE - TYPE C (70-85)
N.P.	T-35							37										37				
P.	T-35															3			T-35	3	C.Y.	ASPHALTIC CONC. SURFACE COURSE-TYPE C FOR DRIVEWAYS (70-85)
P.	T-35															61			T-35	61	C.Y.	ASPHALTIC CONC. SURFACE COURSE-TYPE C FOR PVM'T. REPLACEMENT (70-85)
P.	T-70															109			T-71	1,698	S.Y.	5" PORTLAND CEMENT CONC. PVM'T. FOR DRIVEWAY APPROACHES AS PER PLANS
N.P.	T-70					302	266		699	173	18			77	54			1589				
P.	T-70															119			T-70	212	S.Y.	5" PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAYS
N.P.	T-70									8				19	66			93				
P.	T-71															46,444			T-71	46,444	S.Y.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
P.	T-71															66,690			T-71	66,690	S.Y.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

* P- Denotes Participating Funds. * N.P.- Denotes Non-Participating Funds.

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

24
492

ITEM	7	9	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	53	54	55	56	57	58	59	60	61	62			76	84	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	SUB-TOTAL ITEM	SUB-TOTAL QUANTITY	SUB-TOTAL UNIT	DESCRIPTION
E-2					280													412												280			E-2	280	C.Y.	EXCAVATION FOR STRUCTURES
E-2		10,000																												10,000			E-2	10,000	SQ.FT.	SHEET PILING LEFT IN PLACE
E-3																																	E-3		C.Y.	CHANNEL EXCAVATION
E-12																																	E-12		L.F.	PIPE REMOVED UNDER 15"
E-12																																	E-12		L.F.	PIPE REMOVED 15" TO 42"
I-2	1000																													300		700	I-2	1000	L.F.	4" ___ STORM SEWERS M-6.8 (4)
I-2												180																		180			I-2	180	L.F.	8" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2			286	196	179	322	181	522	118	98	185	100	491	205			117		152	52	22	46	312	408	177	32	119				4324			I-2	4324	L.F.	12" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2			75				146		155	458		316	221				84						64			48				1567			I-2	1567	L.F.	15" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2					102		52			43		658		60																813 ~~915~~	102	I-2	915	L.F.	18" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2														137																137			I-2	137	L.F.	21" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2										57																				57			I-2	57	L.F.	21" CLASS "B" STORM SEWERS U P OR A SEC. M-6.6(b) OR SEC M-6.8(b)
I-2										246																				246			I-2	246	L.F.	24" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2											136																			136			I-2	136	L.F.	27" CLASS "B" STORM SEWERS U P OR A SEC. M-6.6 (c)
I-2										284	40			146																470			I-2	470	L.F.	27" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2			156											136																292			I-2	292	L.F.	27" CLASS "B" STORM SEWERS U P OR A SEC. M-6.6 (b) OR SEC. M-6.8 (b)
I-2			344	48																										392			I-2	392	L.F.	30" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2				252																										252			I-2	252	L.F.	33" CLASS "B" STORM SEWERS U P OR A. SEC. M-6.6(b) OR SEC. M-6.8(b)
I-2				684	123																									807			I-2	807	L.F.	33" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2											205																			205			I-2	205	L.F.	33" CLASS "B" STORM SEWERS U P OR A SEC. M-6.6(c)
I-2					354																									354			I-2	354	L.F.	33" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES M-6.6(d)
I-2											222																			222			I-2	222	L.F.	36" CLASS "B" STORM SEWERS U P OR A SEC. M-6.6(b) OR SEC M-6.8(b)
I-2																																	I-2		L.F.	36" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES M-6.6(d)
I-2								97			84															47				228			I-2	228	L.F.	12" CLASS "B" STORM SEWERS
I-2								97			54															137				191			I-2	191	L.F.	15" CLASS "B" STORM SEWERS
																													63	63			I-2	63	L.F.	12" CLASS "A" STORM SEWERS M-6.5(a) - M-6.8(b)
I-2				42					27		60	73																		202			I-2	202	L.F.	12" CLASS "A" STORM SEWERS M-6.4c
I-2						84						78																		162			I-2	162	L.F.	18" CLASS "A" STORM SEWERS M-6.4c
I-2									125																					125			I-2	125	L.F.	15" CLASS "A" STORM SEWERS
I-2											178																			178			I-2	178	L.F.	18" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d
I-2																																	I-2		L.F.	8" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8 b
I-2																																	I-2		L.F.	12" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8 b
I-2																													492	492			I-2	492	L.F.	15" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8 b
I-2																																					
I-2																																	I-2		L.F.	15" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d
I-2																																	I-2		L.F.	18" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8 b
I-2																																					
I-2																																	I-2		L.F.	18" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d
I-2																																	I-2		L.F.	21" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d
I-2																																					
I-2																																	I-2		L.F.	24" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b or M-6.8 b
I-2																																	I-2		L.F.	24" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 c
I-2																																	I-2		L.F.	24" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d
I-2																																	I-2		L.F.	27" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b. OR M-6.8 b
I-2																																	I-2		L.F.	27" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b CONCRETE ENCASED
I-2																																	I-2		L.F.	27" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b

* AS PER PLAN

Rev 11-22-60 RE

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

25
492

TYPE CODE 7221

	ITEM		86	87	90	93	94	96	98	99	101	112	114	120	227	232	235	236	244	251	263	275	288	292	297	302	116	97
	E-2											130	51	67													40	
	E-3											10	53														400	
P.	E-12																											
N.P.	E-12																	15										
	E-12		1013	1677	152				472																			
	I-2																											
	I-2																											
P.	I-2			15																				136				
N.P.	I-2																	446										
P.	I-2																							65				
N.P.	I-2																											
P.	I-2																											
N.P.	I-2																		96									
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-2																											
	I-1																											
	I-2																											
	I-2																											
	I-2																											
P.	I-2																											
N.P.	I-2																		26									
	I-2																											
	I-2																											
P.	I-2																							526				
N.P.	I-2																											
P.	I-2																											
N.P.	I-2																60											
P.	I-2																											
N.P.	I-2																277	26			372	278	79					
	I-2									39																		
P.	I-2				20		170	470																				
N.P.	I-2															109				277				76	245			
	I-2		185							14																		
	I-2																											
	I-2				27						24																	
	I-2									482																		
P.	I-2									186																		
N.P.	I-2																			84								
	I-2				65																							
	I-2				336					447																		
	I-2		186	269																								
	I-2			30																								

	SUB-TOTAL FROM SHEET 24	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS
E-2	280	288	
	10,000		
E-3	0	463	
E-12	0		
E-12	0	3,314	
I-2	1,000		
I-2	180		
I-2	4,324	151	
I-2			446
I-2	1,567	65	
I-2			
I-2	915		
I-2			96
I-2	137		
I-2	57		
I-2	246		
I-2	136		
I-2	470		
I-2	292		
I-2	392		
I-2	252		
I-2	807		
I-2	205		
I-2	354		
I-2	222	141	
I-2	~~286~~	286	
I-1			
I-2	228		
I-2	191		
I-2	63		
I-2	202		
I-2			26
I-2	162		
I-2	125		
I-2	178	526	
I-2	0		
I-2	0		60
I-2	0		1032
I-2	0	49	
I-2	0	669	
I-2	492	213	711
	0		
I-2	0	313	
I-2	0	51	
I-2	0	482	
I-2	0	186	
I-2			84
I-2	0	65	
I-2	0	783	
I-2	0	455	
I-2	0	30	

ITEM	QUANTITY	UNIT	DESCRIPTION
E-2	568	C.Y.	EXCAVATION FOR STRUCTURES
E-2	10,000	SQ. FT.	SHEET PILING LEFT IN PLACE
E-3	463	C.Y.	CHANNEL EXCAVATION
E-12	15	L.F.	PIPE REMOVED (UNDER 15")
E-12	3314	L.F.	PIPE REMOVED (15" TO 42")
I-2	1000	L.F.	4" STORM SEWERS M-6.8(a)
I-2	180	L.F.	8" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	4321	L.F.	12" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	1632	L.F.	15" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	1011	L.F.	18" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	137	L.F.	21" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	57	L.F.	21" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(b) OR M-6.8(b)
I-2	246	L.F.	24" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	136	L.F.	27" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(c)
I-2	470	L.F.	27" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	292	L.F.	27" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(b) OR SEC. M-6.8(b)
I-2	392	L.F.	30" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(b) OR SEC. M-6.8(b)
I-2	252	L.F.	33" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(b) OR SEC. M-6.8(b)
I-2	807	L.F.	33" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES
I-2	205	L.F.	33" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(c)
I-2	354	L.F.	33" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES M-6.6(d)
I-2	363	L.F.	36" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(b) OR SEC. M-6.8(b)
I-2	286	L.F.	36" CLASS "B" STORM SEWERS U.P.O.R.A. SEC. M-6.6(d)
I-2	228	L.F.	12" CLASS "B" STORM SEWERS
I-2	191	L.F.	15" CLASS "B" STORM SEWERS
I-2	63	L.F.	12" CLASS "A" STORM SEWERS M-6.5(a) & M-6.8(a)
I-2	228	L.F.	12" CLASS "A" STORM SEWERS M-6.4c
I-2	162	L.F.	18" CLASS "A" STORM SEWERS M-6.4c
I-2	125	L.F.	15" CLASS "A" STORM SEWERS
I-2	704	L.F.	18" CLASS "B" STORM SEWERS UNDER PAVEMENT & APPROACHES M-6.6d
I-2	60	L.F.	10" STORM SEWER UNDER PAVEMENT & APPROACHES M-6.8b
I-2	1032	L.F.	12" STORM SEWER UNDER PAVEMENT & APPROACHES M-6.8b
I-2	49	L.F.	8" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6b
I-2	1380	L.F.	12" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8b
I-2	705	L.F.	15" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8b
I-2	313	L.F.	15" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6d
I-2	51	L.F.	18" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.8b
I-2	482	L.F.	18" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6d
I-2	270	L.F.	21" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6d
I-2	65	L.F.	24" COMBINATION * SEWERS U.P.O.R.A. SEC. M-6.8(b) OR SEC. M-6.6b
I-2	783	L.F.	24" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6d
I-2	455	L.F.	27" COMBINATION * SEWERS U.P.O.R.A. SEC. M-6.8(b) OR SEC. M-6.6b
I-2	30	L.F.	27" COMBINATION * SEWERS UNDER PAVEMENT & APPROACHES M-6.6b CONCRETE ENCASED

* AS PER PLAN

Rev. 11-23-07 REC

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

26
492

PARTICIPATING FUNDS / NON-PARTICIPATING FUNDS

ITEM	9	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	74	76	86			SUB-TOTAL ITEM	SUB-TOTAL QUANTITY	SUB-TOTAL UNIT	DESCRIPTION
I-2																															308	308		I-2	308	L.F.	27" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 c *
I-2																															132	132		I-2	132	L.F.	27" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 c * CONCRETE ENCASED
I-2																															275	275		I-2	275	L.F.	27" COMBINATION SEWERS M-6-6 c *
I-2																																		I-2		L.F.	30" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b *
I-2																																		I-2		L.F.	30" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d *
I-2																															24	24		I-2	24	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b * RADIUS PIPE
I-2																																		I-2		L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b *
I-2																																				L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b *
I-2																																		I-2		L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d *
I-2																																		I-2		L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d * CONCRETE ENCASED
I-2																																					
I-2																																		I-2		L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 b *
I-2																																		I-2		L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 c *
I-2																																		I-2		L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d *
I-2																																		I-2		L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 d * CONCRETE ENCASED
I-2																																					
I-2																																		I-2		L.F.	54" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-106.6(d) * CONCRETE ENCASED
I-4		570	2782	2057	1616	772	2548	2340	1901	1648	986	1746	983	1435	1566	1001	883	1633	1031	1127	976	707	1812	862	2230	888	1216	1178	302			38886		I-4	38886	L.F.	6" UNDERDRAINS
I-4		60	40	50	50	30	30	60	40	42	10	30	60	10	20	30	10	10	10	20	20	10		10	20	10		28	10			720		I-4	720	L.F.	8" PIPE OUTLETS FOR UNDERDRAINS M-6.4 a
I-5		1	2	3		2	1	2	1	7			3	1	3	3	3	1	2	4	2	3	2	2	1	1	2	2	1			55		I-5	55	EACH	6" PIPE SPECIALS FOR UNDERDRAINS
I-5											20																					20		I-5	20	EACH	8" PIPE SPECIALS FOR STORM SEWER
I-5						1																				1						2		I-5	2	EACH	12" PIPE SPECIALS FOR STORM SEWER
I-5					2			2		2																						6		I-5	6	EACH	12" PIPE SPECIALS M-6.4 a FOR STORM SEWER
I-5											3																					3		I-5	3	EACH	15" PIPE SPECIALS FOR STORM SEWER
I-5											22																					22		I-5	22	EACH	18" PIPE SPECIALS FOR STORM SEWER
I-5						2																										2		I-5	2	EACH	18" PIPE SPECIALS M-6.4 a FOR STORM SEWER
I-5																																		I-5		EACH	24" PIPE SPECIALS FOR STORM SEWER
I-5			1																													1		I-5	1	EACH	33" PIPE SPECIALS FOR STORM SEWER
I-5																																		I-5		EACH	48" PIPE SPECIALS FOR STORM SEWER
I-8																							4									4		I-8	4	EACH	MANHOLES ADJUSTED TO GRADE
I-8	10																															10		I-8	10	EACH	YOUNGSTOWN MANHOLE COVER FURNISHED & PLACED AS PER PLAN
I-8		3	2	1		2	2	2	3	4	2	2	3			1										1	1		1			30		I-8	30	EACH	ST'D. NUMBER 1 MANHOLE
I-8			1							1			1																		3		I-8	3	EACH	ST'D. NUMBER 2 MANHOLE WITHOUT DROP PIPE
I-8		4	3	1		3	2	2	2	4	3	2	2			1								4	2	1	3	1		2	(41) ~~42~~	1	I-8	42	EACH	ST'D. NUMBER 2-2A CATCH BASIN
I-8		1																														1		I-8	1	EACH	ST'D. NUMBER 4 CATCH BASIN
I-8						1	2		2		1															2		1				9		I-8	9	EACH	ST'D. NUMBER 6 CATCH BASIN
I-8		1	1	2	2	1	1			2			1												1							12		I-8	12	EACH	ST'D. NUMBER 2A-6 PAVED SHOULDER INLET

* As per plan

Rev. 11-23-60 NEC

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

27
492

TYPE CODE 7221

ITEM	87	90	93	97	06	08	09	101	227	232	235	236	244	251	263	275	288	292	297	302	SUB-TOTAL FROM SHEET 26	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
I-2																					308			I-2	308 ✓	L.F.	27" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES, M-6.6c *
I-2																					132			I-2	132 ✓	L.F.	27" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6 c * [CONCRETE ENCASED]
I-2																					275			I-2	275 ✓	L.F.	27" COMBINATION SEWERS, M-6.6 c *
I-2		50																				50		I-2	50 ✓	L.F.	30" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6b *
I-2		297																				297		I-2	297 ✓	L.F.	30" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6c *
I-2																					24			I-2	24 ✓	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES (RADIUS PIPE) M-6.6 b *
I-2	525																					525		I-2	525 ✓	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6b *
I-2		295																				295		I-2	295 ✓	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6c *
I-2	763																					763		I-2	763 ✓	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6d *
I-2	62																					62		I-2	62 ✓	L.F.	33" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6d * [CONCRETE ENCASED]
I-2			1118					32														1150		I-2	1150 ✓	L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6b *
I-2			57					38														95		I-2	95 ✓	L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6c *
I-2			200					703														903		I-2	903 ✓	L.F.	48" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6d *
I-2						377																377		I-2	377 ✓	L.F.	54" COMBINATION SEWERS UNDER PAVEMENT & APPROACHES M-6.6.d * [CONCRETE ENCASED]
I-2															175								175	I-2	175 ✓	L.F.	15" STORM SEWER UNDER PAVEMENT & APPROACHES M-6.8(b)
I-2															326								326	I-2	326 ✓	L.F.	21" STORM SEWER UNDER PAVEMENT & APPROACHES M-6.8(b)
I-4												16									38,886		16	I-4	38,902 ✓	L.F.	6" UNDERDRAINS
I-4												10									720		10	I-4	730 ✓	L.F.	8" PIPE OUTLETS FOR UNDERDRAINS M-6.4a
I-5																					55			I-5	55 ✓	EACH	6" PIPE SPECIALS FOR UNDERDRAINS
I-5			1			2															20	3		I-5	23 ✓	EACH	8" PIPE SPECIALS FOR STORM SEWERS
I-5		2		1																	2	3		I-5	5 ✓	EACH	12" PIPE SPECIALS FOR STORM SEWERS
I-5																					6			I-5	6 ✓	EACH	12" PIPE SPECIALS M-6.4a FOR STORM SEWERS
I-5			1			2															3	3		I-5	6 ✓	EACH	15" PIPE SPECIALS FOR STORM SEWERS
I-5			3					2													22	5		I-5	27 ✓	EACH	18" PIPE SPECIALS FOR STORM SEWERS
I-5																					2			I-5	2 ✓	EACH	18" PIPE SPECIALS M-6.4a FOR STORM SEWERS
I-5		2																			0	2		I-5	2 ✓	EACH	24" PIPE SPECIALS FOR STORM SEWERS
I-5																					1			I-5	1 ✓	EACH	33" PIPE SPECIALS FOR STORM SEWERS
I-5			3					2													0	5		I-5	5 ✓	EACH	48" PIPE SPECIALS FOR STORM SEWERS
P. I-8																					4			I-8	45 ✓	EACH	MANHOLES ADJUSTED TO GRADE
N.P. I-8									2	2	2	6		3	2	8	4		4	2			41				
I-8																					10			I-8	10 ✓	EACH	YOUNGSTOWN MANHOLE COVER FURNISHED & PLACED AS PER PLAN
P. I-8																		1			30	1		I-8	39 ✓	EACH	ST'D. NUMBER 1 MANHOLES
N.P. I-8										2					4	2							8				
I-8															1			1			3	1	1	I-8	5 ✓	EACH	ST'D. NUMBER 2 MANHOLES WITHOUT DROP PIPE
P. I-8																		1			42	1		I-8	48 ✓	EACH	ST'D. NUMBER 2-2A CATCH BASINS
N.P. I-8													3	2									5				
I-8																					1			I-8	1 ✓	EACH	ST'D. NUMBER 4 CATCH BASIN
I-8																					9			I-8	9 ✓	EACH	ST'D. NUMBER 6 CATCH BASINS
I-8																					12			I-8	12 ✓	EACH	ST'D. NUMBER 2A-6 PAVED SHOULDER INLETS

* As per plan

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

28
492

MAH-18-17.20

ITEM	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	53	54	55	56	57	58	59	60	61	62	76	84	85	116	PARTICIPATING FUNDS	NONPARTICIPATING FUNDS	SUB-TOTAL ITEM	SUB-TOTAL QUANTITY	SUB-TOTAL UNIT	DESCRIPTION
I-8				2	1				1		2	1											2							5			I-8	5	EACH	ST'D. NUMBER 2A-8 PAVED SHOULDER INLET
I-8	1		1					2																						4			I-8	4	EACH	ST'D. NUMBER 2A-10 PAVED SHOULDER INLET
I-8										1	1																			2			I-8	2	EACH	ST'D. NUMBER 2A-12 PAVED SHOULDER INLET
I-8																						1								1			I-8	1	EACH	ST'D. NUMBER 2A-16 PAVED SHOULDER INLET
I-8			1														1													2			I-8	2	EACH	ST'D. NUMBER 2-4 CATCH BASIN
I-8						1	1																							2			I-8	2	EACH	NUMBER 2-6 MEDIAN INLET MODIFIED AS PER PLAN
I-8		1					1			1																				3			I-8	3	EACH	NUMBER 2-8 MEDIAN INLET MODIFIED AS PER PLAN
I-8															2			3												5			I-8	5	EACH	CITY OF YOUNGSTOWN TYPE-1 INLET
I-8																			1	1	2	2	2	1	1	2				12			I-8	12	EACH	CITY OF YOUNGSTOWN TYPE-2 INLET
I-8																												6		6			I-8	6	EACH	CITY OF YOUNGSTOWN TYPE-YA MANHOLE
I-8																																	I-8		EACH	CITY OF YOUNGSTOWN TYPE-YB MANHOLE
I-8																																	I-8		EACH	CITY OF YOUNGSTOWN TYPE-YC MANHOLE
I-8																																	I-8		EACH	CITY OF YOUNGSTOWN TYPE-YD MANHOLE
I-8																																	I-8		EACH	SPECIAL SEWAGE REGULATOR CHAMBER-AS PER PLAN
																																	I-8		EACH	CITY OF YOUNGSTOWN TYPE-YA MANHOLE (MODIFIED)
SPECIAL																																	SPECIAL		LUMP	SPECIAL- JUNCTION CHAMBER, AS PER PLAN
I-10	58	273	23	65	41		1	38								71					79								(650) ~~653~~	3		I-10	653	C.Y.	DUMPED ROCK CHANNEL PROTECTION
I-14	65		145	250				52	240	900			27	255							44	213	403	238	353	250	450			3329			I-14	3329	L.F.	ST'D. PAVED GUTTER TYPE-1
I-14			42																											42			I-14	42	L.F.	ST'D. PAVED GUTTER TYPE-2
I-14	30	40	30		40	20	20	20	60	40	40	40			30							60	20	20	40	20	20			590			I-14	590	L.F.	PAVED GUTTER-TYPE-1 MODIFIED, AS PER PLAN
I-16																												5	2	7			I-16	7	EACH	MANHOLES ABANDONED
I-16																					2							4		6			I-16	6	EACH	INLETS ABANDONED
S-1			2.3	1.8	0.8		0.3										0.8													(5.5) ~~5.8~~	0.3		S-1	5.8	C.Y.	CLASS "E" CONCRETE FOR STRUCTURES
S-4																														60.7	60.7		S-1	60.7	C.Y.	CLASS "C" CONCRETE FOR STRUCTURES
S-24																														7420	7420		S-4	7420	LB'S.	REINFORCING STEEL
																																	S-24			REMOVAL OF EXISTING HEADWALL
S-27			252																											252			S-27	252	L.F.	42" PIPE FOR ROADWAY CULVERT M-6.4 d 10 GA. OR M-6.6 (d)
S-27																	133															133	S-27	133	L.F.	42" PIPE FOR ROADWAY CULVERT M-6.6 b & M-6.4 d 12 GA.
S-27																	261													261			S-27	261	L.F.	42" PIPE FOR ROADWAY CULVERT M-6.4 d 8 GA.

Rev-11-23-07 RE

QUANTITY SUMMARY
DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

29
492

TYPE CODE 7221

	ITEM	SUB-TOTAL FROM SHEET 28	86	87	90	92	93	94	96	98	99	101	103	112	114	120	227	232	235	236	244	249	250	251	263	275	288	292	97	297	302	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
	I-8	9																																I-8	9	EACH	ST'D. NUMBER 2A-8 PAVED SHOULDER INLET
	I-8	4																																I-8	4	EACH	ST'D. NUMBER 2A-10 PAVED SHOULDER INLET
	I-8	2																																I-8	2	EACH	ST'D. NUMBER 2A-12 PAVED SHOULDER INLET
	I-8	1																																I-8	1	EACH	ST'D. NUMBER 2A-16 PAVED SHOULDER INLET
	I-8	2																																I-8	2	EACH	ST'D. NUMBER 2-4 CATCH BASIN
	I-8	2																																I-8	2	EACH	ST'D NUMBER 2-6 MEDIAN INLET MODIFIED AS PER PLAN
	I-8	3																																I-8	3	EACH	ST'D NUMBER 2-8 MEDIAN INLET MODIFIED AS PER PLAN
P.	I-8	5							3									2		7				2	8						3	19	I-8	27	EACH	CITY OF YOUNGSTOWN TYPE-1 INLET
N.P.	I-8																																				
P.	I-8	12							3																			4			7	61	I-8	80	EACH	CITY OF YOUNGSTOWN TYPE-2 INLET
N.P.	I-8																6	4	1	7				9		13	6			6	9						
	I-8	6	2	6	9				2		6		2																			27		I-8	33	EACH	CITY OF YOUNGSTOWN TYPE-YA MANHOLE
	I-8	0					5			1		5																			11		I-8	11	EACH	CITY OF YOUNGSTOWN TYPE-YB MANHOLE
	I-8	0									2																				2		I-8	2	EACH	CITY OF YOUNGSTOWN TYPE-YC MANHOLE
	I-8	0			2		3					3																1			8		I-8	8	EACH	CITY OF YOUNGSTOWN TYPE-YD MANHOLE
	I-8	0	1																												1		I-8	1	EACH	SPECIAL SEWAGE REGULATOR CHAMBER
	I-8			1																											1		I-8	1	EACH	CITY OF YOUNGSTOWN TYPE YA MANHOLE (MODIFIED)
	SPECIAL	0		LUMP																											LUMP		SPECIAL	LUMP	LUMP	MANHOLE EXTENSION, AS PER PLAN
	SPECIAL	0										LUMP																			LUMP		SPECIAL	LUMP	LUMP	SPECIAL- JUNCTION CHAMBER, AS PER PLAN
	I-10	653												12	40	35															87		I-10	740	C.Y.	DUMPED ROCK CHANNEL PROTECTION
P.	I-14	3823																																I-14	5899	L.F.	ST'D. PAVED GUTTER TYPE-1
N.P.	I-14																				1214	76	680									1,970					
	I-14	42																																I-14	42	L.F.	ST'D. PAVED GUTTER TYPE-2
P.	I-14	580																									10				10			I-14	650	L.F.	ST'D PAVED GUTTER - TYPE-1 MODIFIED, AS PER PLAN
N.P.	I-14																				30		20									50					
	I-16	7	6	9	4	1	1	2	1	2	3	1	2															2			34		I-16	47	EACH	MANHOLES ABANDONED
P.	I-16	6					2	4		2	6	2	2															4		6	22	6	I-16	76	EACH	INLETS ABANDONED
N.P.	I-16																	1	1	7				15	3	11	5			5		48					
P.	S-1	5.8												1.0	0.8	0.8															2.6		S-1	8.7	C.Y.	CLASS "E" CONCRETE FOR STRUCTURES
N.P.	S-1																				0.3											0.3					
	S-4	7420																																S-4	7420	LB'S.	REINFORCING STEEL
	S-24		LUMP																												LUMP		S-24	LUMP	LUMP	REMOVAL OF EXISTING HEADWALL
	S-24			LUMP																												LUMP	S-24	LUMP	LUMP	REMOVAL OF EXISTING 4'x4' CONCRETE BOX CULVERT
	S-27													408																	228	408 180	S-27	408	L.F.	18" PIPE FOR ROADWAY CULVERTS M-6.6 (a)
	S-27														152																	152	S-27	152	L.F.	24" PIPE FOR ROADWAY CULVERTS M-6.6 (c)
	S-27	252																															S-27	252	L.F.	42" PIPE FOR ROADWAY CULVERTS M-6.4 (d) 10 GA. or M-6.6 (d)
	S-27 *	133																															S-27	133	L.F.	42" PIPE FOR ROADWAY CULVERTS M-6.6 (b) M-6.4 (d) 12-GA.
	S-27	261																															S-27	261	L.F.	42" PIPE FOR ROADWAY CULVERTS M-6.4 (d) 8-GA.
	S-27															247															247		S-27	247	L.F.	24" PIPE FOR ROADWAY CULVERTS M-6.6 (d)
	S-1	60.7																															S-1	60.7	C.Y.	CLASS "C" CONCRETE FOR STRUCTURES

* NON-PARTICIPATING

Rev. 11-23-66

QUANTITY SUMMARY
WATER LINES

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

30
492

TYPE CODE 7221

ITEM	84	85	87	90	92	94	97	98	99	101	103	232	251	96	PARTICIPATING FUNDS	NON-PARTICIPATING FUNDS	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
																				~MAHONING VALLEY SANITARY DISTRICT RELOCATION~
E-12		376	1330	214											1920		E-12	1920	L.F.	42" PIPE REMOVAL - STEEL
I-124		988	494	340											1822		I-124	1822	L.F.	42" NEW WATER MAIN C 201 OR C 301
I-124		338	716												1054		I-124	1054	L.F.	42" NEW WATER MAIN C 201 OR C 301 CONCRETE ENCASED
I-124		300	10	35											345		I-124	345	L.F.	8" NEW WATER MAIN CL 23
I-124		1													1		I-124	1	EA.	8" FITTINGS CL 250
I-8		2	3												5		I-8	5	EA.	MVSD ACCESS MANHOLE - SPECIAL AS PER PLAN
I-8			1												1		I-8	1	EA.	MVSD AIRVALVE MANHOLE
I-8			1												1		I-8	1	EA.	MVSD BLOWOFF MANHOLE
I-8		1	1	1											3		I-8	3	EA.	MVSD BLOWOFF SETTING - SPECIAL AS PER PLAN
I-8		1													1		I-8	1	EA.	MVSD COMBINATION AIRVALVE & ACCESS MANHOLE - SPECIAL AS PER PLAN
I-16			2												2		I-16	2	EA.	ACCESS MANHOLE ABANDONED
I-16			1												1		I-16	1	EA.	AIRVALVE & MANHOLE ABANDONED
I-16			1												1		I-16	1	EA.	BLOWOFF & MANHOLE ABANDONED
																				~CITY OF YOUNGSTOWN WATER LINES~
E-12	267			427		350										1044	E-12	1044	L.F.	12" TO 36" PIPE REMOVED FOR STORAGE - CAST IRON
E-12						253										253	E-12	253	L.F.	36" PIPE REMOVED FOR STORAGE - PRESTRESSED CONCRETE
E-12	1					2	3	3	2	1	2					14	E-12	14	EA.	FIRE HYDRANT REMOVED FOR STORAGE
E-12	1					300	3	3	3	3	1	2		1	300	17	E-12	300	L.F.	12" TO 36" PIPE REMOVED
														186	186		I-124	186	L.F.	VALVES REMOVED FOR REUSE OR STORAGE
I-124	20				362	26	23	35	112	66	45			135	824		I-124	824	L.F.	4" NEW WATER MAIN CL 22
I-124									297						297		I-124	297	L.F.	6" NEW WATER MAIN CL 22
I-124								990							990		I-124	990	L.F.	6" NEW WATER MAIN CL 22 CONCRETE ENCASED
I-124				174					234						408		I-124	408	L.F.	8" NEW WATER MAIN CL 23
I-124				295					166						461		I-124	461	L.F.	8" NEW WATER MAIN CL 23 CONCRETE ENCASED
I-124	104														104		I-124	104	L.F.	12" NEW WATER MAIN CL 23
I-124	240														240		I-124	240	L.F.	12" NEW WATER MAIN CL 23 CONCRETE ENCASED
I-124				174		19									193		I-124	193	L.F.	16" NEW WATER MAIN CL 25
I-124				296		373									669		I-124	669	L.F.	16" NEW WATER MAIN CL 25 CONCRETE ENCASED
I-124						16									16		I-124	16	L.F.	30" NEW WATER MAIN CL 26
I-124						62									62		I-124	62	L.F	30" NEW WATER MAIN CL 26 CONCRETE ENCASED
I-124						11									11		I-124	11	L.F.	36" NEW WATER MAIN C 301
I-124						249									249		I-124	249	L.F.	36" NEW WATER MAIN C 301 CONCRETE ENCASED
P. I-124											1	5			6		I-124	6	EA.	FIRE HYDRANTS - REMOVE & RESET
N.P. I-124														1	1		I-124	1	EA.	2" VALVE & BOX CL 150
I-124	2					2	2	1	3	2	4			2	18		I-124	18	EA.	FIREHYDRANTS
I-124	2				1	2	2	3	5	2	4			1	1		I-124	1	EA.	4" VALVES & BOXES CL 150
I-124				2										3	24		I-124	24	EA.	6" VALVES & BOXES CL 150
I-124	1														2		I-124	2	EA.	16" VALVES & BOXES CL 150
I-124				1				1	1						1		I-124	1	EA.	12" VALVES & BOXES CL 150
I-124															3		I-124	3	EA.	8" VALVES & BOXES CL 150
I-124																	I-124		EA.	30" VALVES & BOXES CL 150
I-124						1									1		I-124	1	EA.	30" VALVES & BOXES CL 200

QUANTITY SUMMARY
WATER LINES

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

31
492

PARTICIPATING FUNDS / NON PARTICIPATING FUNDS

TYPE CODE 7221

ITEM	84	90	92	93	94	97	98	99	101	103	227	251	275	96	PARTICIPATING	NON PARTICIPATING
														2	2	
I-124	2		3		2	2	3	13		4				6	35	
I-124		9					13	11	4						37	
I-124	8														8	
I-124		9			4										13	
I-124					3										3	
I-124					3										3	
I-124				2	2	1	1							2	8	
I-124					87										87	
I-124					300										300	
I-124					328										328	
P. I-124	1														1	
N.P. I-124											1	7	12			20
SPECIAL					LUMP										LUMP	
P. I-124																
N.P. I-124												686				686
I-8					1										1	
SPECIAL															LUMP	LUMP

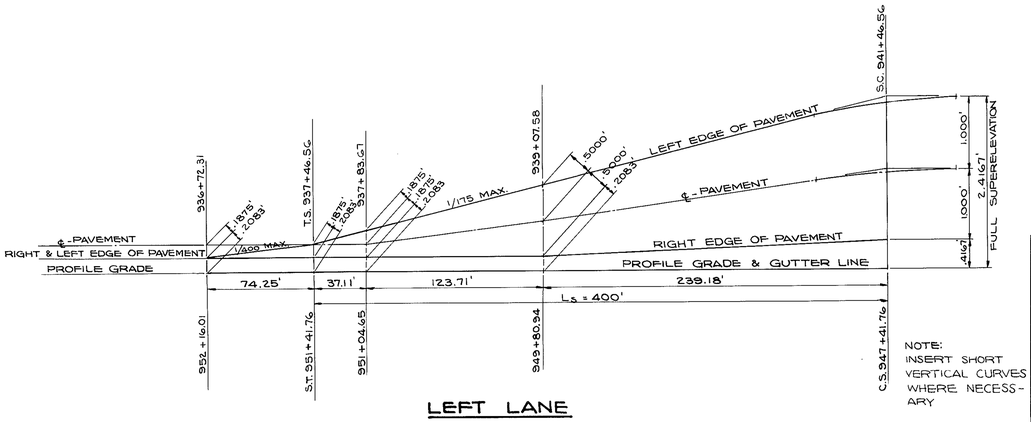
BID ITEM	QUANTITY	UNIT	DESCRIPTION
			CITY OF YOUNGSTOWN WATER LINES (CONTINUED)
I-124	2	EACH	4" FITTINGS CL 250
I-124	35	EACH	6" FITTINGS CL 250
I-124	37	EACH	8" FITTINGS CL 250
I-124	8	EACH	12" FITTINGS CL 250
I-124	13	EACH	16" FITTINGS CL 150
I-124	3	EACH	30" FITTINGS CL 150
I-124	3	EACH	36" FITTINGS CL 301
I-124	8	EACH	CUT & PLUG EXISTING WATER MAIN
I-124	87	L.F.	CONCRETE ENCASEMENT OF EXISTING 16" WATER MAIN AS PER PLAN
I-124	300	L.F.	CONCRETE ENCASEMENT OF EXISTING 30" WATER MAIN AS PER PLAN
I-124	328	L.F.	CONCRETE ENCASEMENT OF EXISTING 36" WATER MAIN AS PER PLAN
I-124	21	EACH	VALVE BOX ADJUSTED TO GRADE
SPECIAL	LUMP	LUMP	VALVE BOX - AS PER PLAN
I-124	686	L.F.	LOWERING WATER LINE AS PER PLAN
I-8	1	EACH	MANHOLES ADJUSTED TO GRADE
SPECIAL	LUMP	LUMP	CONSTRUCTION LAYOUT STAKES.

STRUCTURES OVER 20' SPAN

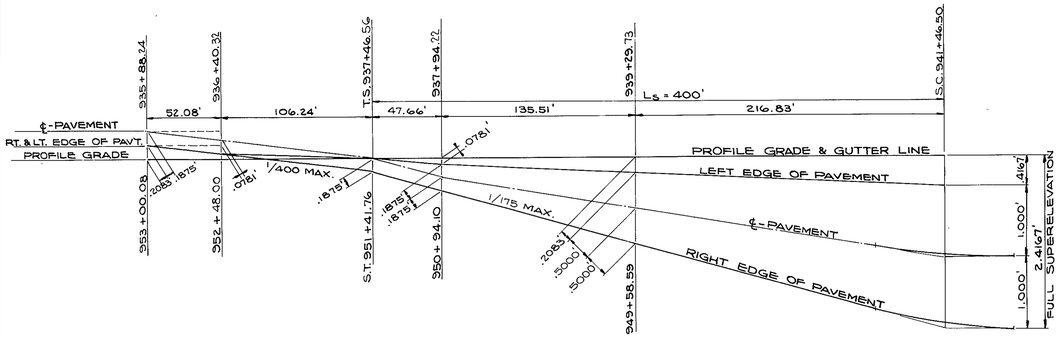
MAH-18-1761	STEEL ST.	OVER S.R.18	SEE SHEET NO. 333
MAH-18-1776	RAMP "C"	" "	" " 341
MAH-18-1815	MAHONING AVE.	" "	" " 340
MAH-18-1823	S.R.18	OVER PRICE RD.	" " 361
MAH-18-1835	GLENWOOD	OVER S.R.18	" " 383
MAH-18-1855	S.R.18	" EDWARDS	" " 395
MAH-18-1904	" "	" OAK HILL	" " 413
MAH-18-1923	" "	"	" " 418
MAH-18-1934	RIDGE RD.	" S.R.18	" " 425
MAH-18-1941	W. WOODLAND AVE.	" "	" " 439
MAH-18-1950	MARKET ST.	" " "	" " 456

FED. RD.	STATE	PROJECT	
2	OHIO		

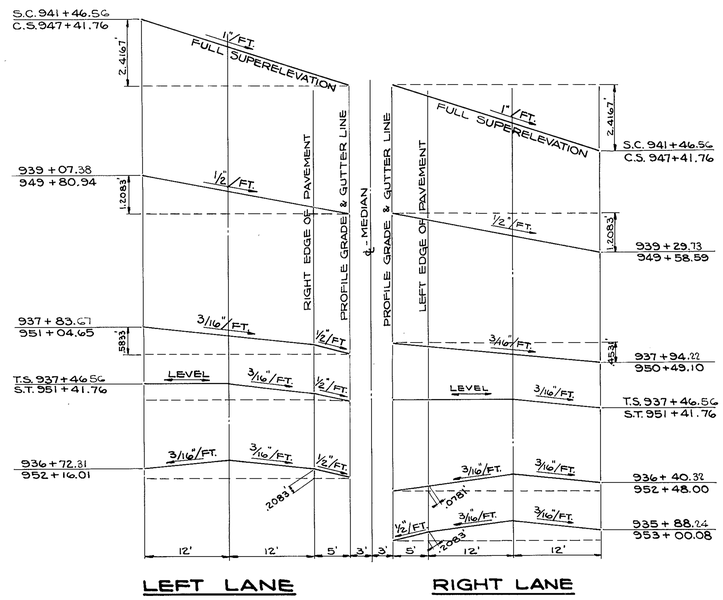
MAH - 18 - 17.20



LEFT LANE



RIGHT LANE



LEFT LANE RIGHT LANE

SUPERELEVATION TABLE
CURVE Nº 2
Δ = 54° 44' 10" RT.

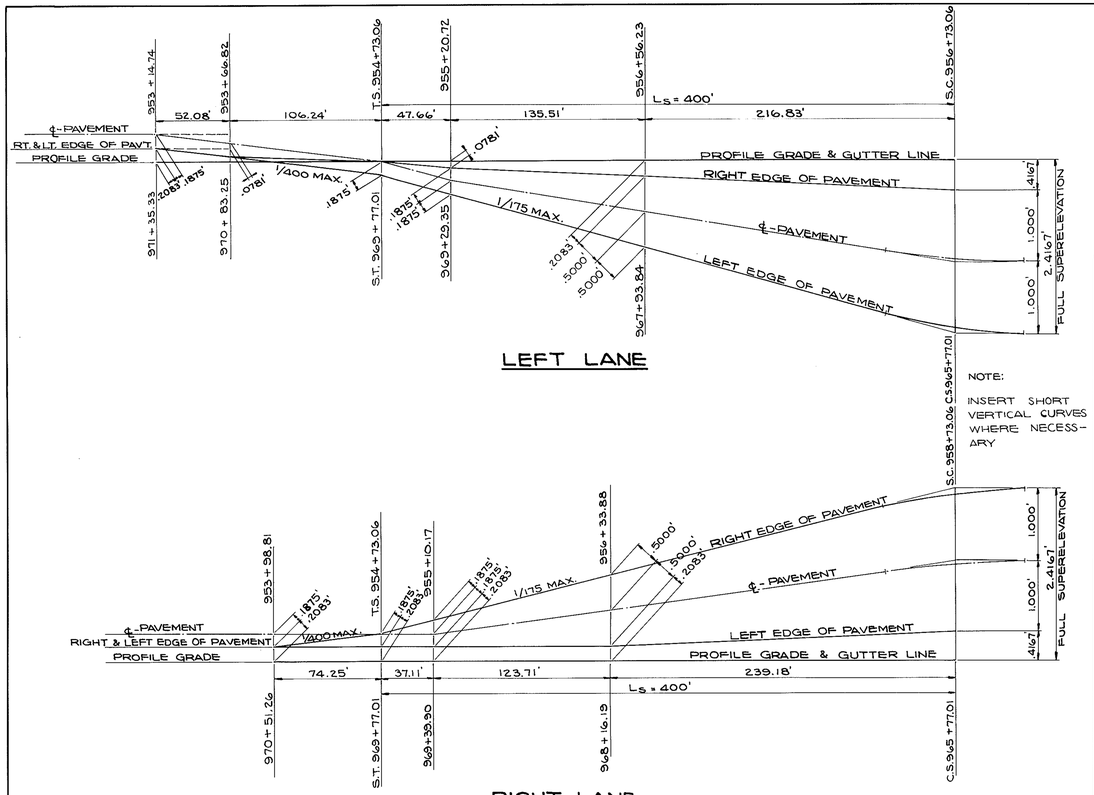
℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
935+88.24				900.28	900.49	900.68	900.49
936+00				899.94	900.12	900.31	900.12
936+25				899.23	899.35	899.54	899.35
936+40.32				898.79	898.87	899.06	898.87
936+50				898.51	898.58	898.75	898.56
936+72.31	898.08	898.27	898.08	897.87			
936+75	898.02	898.20	898.01	897.80	897.85	897.98	897.79
937+00	897.36	897.48	897.29	897.08	897.11	897.20	897.01
937+25	896.72	896.77	896.58	896.37	896.39	896.42	896.23
937+46.56	896.15	896.15	895.96	895.75	895.75	895.75	895.56
937+50	896.07	896.05	895.86	895.65	895.65	895.63	895.44
937+75	895.48	895.34	895.15	894.94	894.89	894.78	894.59
937+83.67	895.27	895.09	894.90	894.69			
937+94.22				894.39	894.31	894.12	893.94
938+00	894.89	894.66	894.43	894.22	894.14	893.94	893.74
938+25	894.30	894.01	893.72	893.51	893.41	893.15	892.89
938+50	893.71	893.35	893.00	892.79	892.66	892.34	892.03
938+75	893.13	892.70	892.29	892.08	891.92	891.55	891.18
939+00	892.54	892.05	891.57	891.36	891.18	890.75	890.32
939+07.38	892.36	891.86	891.36	891.15			
939+25	891.96	891.42	890.88	890.65	890.45	889.96	889.47
939+29.73				890.51	890.31	889.80	889.30
939+50	891.36	890.77	890.18	889.93	889.70	889.16	888.61
939+75	890.77	890.13	889.49	889.22	888.97	888.37	887.76
940+00	890.18	889.48	888.79	888.50	888.22	887.56	886.90
940+25	889.60	888.84	888.10	887.79	887.49	886.77	886.05
940+50	889.00	888.20	887.40	887.07	886.75	885.97	885.19
940+75	888.42	887.57	886.71	886.36	886.01	885.18	884.34
941+00	887.83	886.93	886.02	885.64	885.27	884.38	883.48
941+25	887.25	886.30	885.33	884.93	884.53	883.59	882.65
941+46.56	886.73	885.73	884.73	884.31	883.89	882.89	881.89
941+50	886.63	885.60	884.63	884.21	883.79	882.79	881.79
941+75	885.93	884.93	883.93	883.51	883.09	882.09	881.09
942+00	885.28	884.28	883.28	882.86	882.44	881.44	880.44
942+25	884.63	883.63	882.63	882.21	881.79	880.79	879.79
942+50	884.01	883.01	882.01	881.59	881.17	880.17	879.17
942+75	883.41	882.41	881.41	880.99	880.57	879.57	878.57
943+00	882.85	881.85	880.85	880.43	880.01	879.01	878.01
943+25	882.29	881.29	880.29	879.87	879.45	878.45	877.45
943+50	881.77	880.77	879.77	879.35	878.93	877.93	876.93
943+75	881.27	880.27	879.27	878.85	878.43	877.43	876.43
944+00	880.79	879.79	878.79	878.37	877.95	876.95	875.95
944+25	880.34	879.34	878.34	877.92	877.50	876.50	875.50
944+50	879.91	878.91	877.91	877.49	877.07	876.07	875.07
944+75	879.50	878.50	877.50	877.08	876.66	875.66	874.66

℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
945+00	879.12	878.12	877.12	876.70	876.28	875.28	874.28
945+25	878.76	877.76	876.76	876.34	875.92	874.92	873.92
945+50	878.43	877.43	876.43	876.01	875.59	874.59	873.59
945+75	878.11	877.11	876.11	875.69	875.27	874.27	873.27
946+00	877.83	876.83	875.83	875.41	874.99	873.99	872.99
946+25	877.57	876.57	875.57	875.15	874.73	873.73	872.73
946+50	877.33	876.33	875.33	874.91	874.49	873.49	872.49
946+75	877.11	876.11	875.11	874.69	874.27	873.27	872.27
947+00	876.92	875.92	874.92	874.50	874.08	873.08	872.08
947+25	876.76	875.76	874.76	874.34	873.92	872.92	871.92
947+41.76	876.61	875.65	874.65	874.23	873.81	872.89	871.81
947+50	876.54	875.58	874.60	874.19	873.78	872.84	871.91
947+75	876.31	875.39	874.46	874.07	873.69	872.76	871.84
948+00	876.09	875.22	874.34	873.97	873.61	872.74	871.88
948+25	87 .89	875.07	874.24	873.90	873.56	872.76	871.95
948+50	875.72	874.94	874.17	873.85	873.54	872.79	872.04
948+75	875.56	874.84	874.12	873.82	873.53	872.84	872.15
949+00	875.54	874.77	874.10	873.82	873.56	872.92	872.29
949+25	875.33	874.72	874.10	873.84	873.60	873.03	872.45
949+50	875.25	874.68	874.12	873.88	873.66	873.15	872.63
949+58.59				873.90	873.69	873.19	872.69
949+75	875.20	874.69	874.18	873.96	873.77	873.31	872.85
949+80.94	875.18	874.68	874.18	873.97			
950+00	875.16	874.71	874.26	874.05	873.88	873.48	873.07
950+25	875.15	874.77	874.38	874.17	874.03	873.68	873.33
950+50	875.16	874.83	874.51	874.30	874.18	873.89	873.60
950+75	875.21	874.94	874.68	874.47	874.37	874.14	873.91
950+94.10				874.61	874.53	874.34	874.16
951+00	875.26	875.06	874.86	874.65	874.58	874.42	874.23
951+04.65	875.28	875.09	874.90	874.69			
951+25	875.35	875.27	875.08	874.87	874.84	874.78	874.59
951+41.76	875.47	875.42	875.23	875.02	875.02	875.02	874.83
951+50	875.48	875.50	875.31	875.10	875.11	875.12	874.93
951+75	875.66	875.74	875.55	875.34	875.36	875.43	875.24
952+00	875.82	875.97	875.78	875.57	875.61	875.72	875.53
952+16.01	875.93	876.12	875.93	875.72			
952+25				875.81	875.87	876.03	875.84
952+48				876.02	876.10	876.29	876.10
952+50				876.04	876.13	876.32	876.13
952+75				876.28	876.43	876.62	876.43
953+00				876.51	876.72	876.91	876.72
953+00.08				876.51	876.72	876.91	876.72

FED. RD.	STATE	PROJECT	
2	OHIO		

33
492

MAH - 18 - 17.20



SUPERELEVATION TABLE
CURVE Nº 3
Δ = 60°43'03" LT.

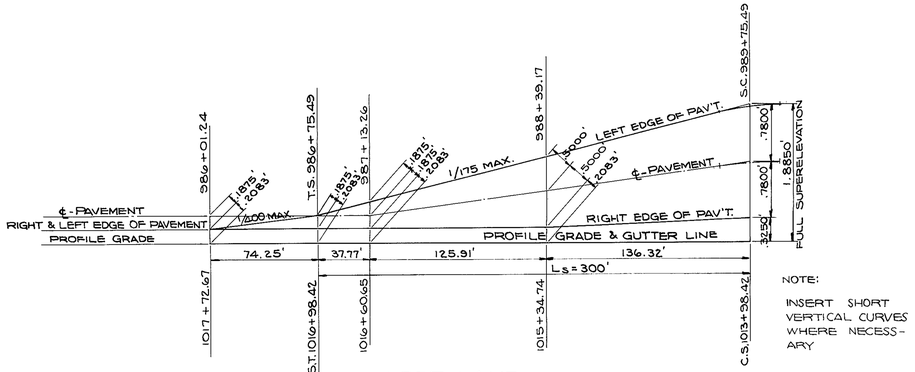
℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
953+14.74	876.86	877.05	876.86	876.65			
953+25	876.92	877.11	876.92	876.74			
953+50	877.10	877.29	877.10	876.98			
953+66.82	877.22	877.41	877.22	877.14			
953+75	877.28	877.47	877.29	877.22			
953+98.81				877.44	877.65	877.84	877.65
954+00	877.45	877.64	877.51	877.45	877.66	877.85	877.66
954+25	877.61	877.80	877.72	877.68	877.89	878.08	877.96
954+50	877.79	877.98	877.94	877.92	878.13	878.32	878.26
954+73.06	877.95	878.14	878.14	878.14	878.35	878.54	878.54
954+75	877.96	878.15	878.16	878.16	878.37	878.56	878.57
955+00	878.05	878.24	878.35	878.39	878.60	878.79	878.92
955+10.17				878.49	878.70	878.89	879.07
955+20.72	878.13	878.31	878.50	878.58	878.79	879.00	879.21
955+25	878.15	878.34	878.54	878.62	878.83	879.05	879.27
955+50	878.25	878.50	878.75	878.86	879.07	879.35	879.64
955+75	878.35	878.65	878.97	879.10	879.31	879.65	880.01
956+00	878.44	878.80	879.17	879.33	879.54	879.95	880.37
956+25	878.53	878.95	879.38	879.56	879.77	880.24	880.73
956+33.88				879.65	879.86	880.36	880.86
956+50	878.63	879.11	879.60	879.80	880.02	880.55	881.09
956+56.23	878.65	879.15	879.65	879.86	880.09	880.63	881.18
956+75	878.72	879.26	879.80	880.03	880.27	880.86	881.44
957+00	878.81	879.42	880.02	880.27	880.54	881.18	881.81
957+25	878.91	879.57	880.22	880.50	880.79	881.49	882.17
957+50	879.01	879.72	880.44	880.74	881.05	881.80	882.54
957+75	879.11	879.88	880.66	880.98	881.31	882.11	882.90
958+00	879.20	880.03	880.86	881.21	881.56	882.41	883.26
958+25	879.29	880.18	881.07	881.44	881.81	882.72	883.61
958+50	879.39	880.34	881.28	881.68	882.08	883.03	883.98
958+73.06	879.48	880.48	881.48	881.90	882.32	883.32	884.32
958+75	879.50	880.50	881.50	881.92	882.34	883.34	884.34
959+00	879.73	880.73	881.73	882.15	882.57	883.57	884.57
959+25	879.96	880.96	881.96	882.38	882.80	883.80	884.80
959+50	880.20	881.20	882.20	882.62	883.04	884.04	885.04
959+75	880.44	881.44	882.44	882.86	883.28	884.28	885.28
960+00	880.67	881.67	882.67	883.09	883.51	884.51	885.51
960+25	880.90	881.90	882.90	883.32	883.74	884.74	885.74
960+50	881.14	882.14	883.14	883.56	883.98	884.98	885.98
960+75	881.38	882.38	883.38	883.80	884.22	885.22	886.22
961+00	881.61	882.61	883.61	884.03	884.45	885.45	886.45
961+25	881.84	882.84	883.84	884.26	884.68	885.68	886.68
961+50	882.08	883.08	884.08	884.50	884.92	885.92	886.92
961+75	882.32	883.32	884.32	884.74	885.16	886.16	887.16
962+00	882.55	883.55	884.55	884.97	885.39	886.39	887.39
962+25	882.78	883.78	884.78	885.20	885.62	886.62	887.62
962+50	883.02	884.02	885.02	885.44	885.86	886.86	887.86

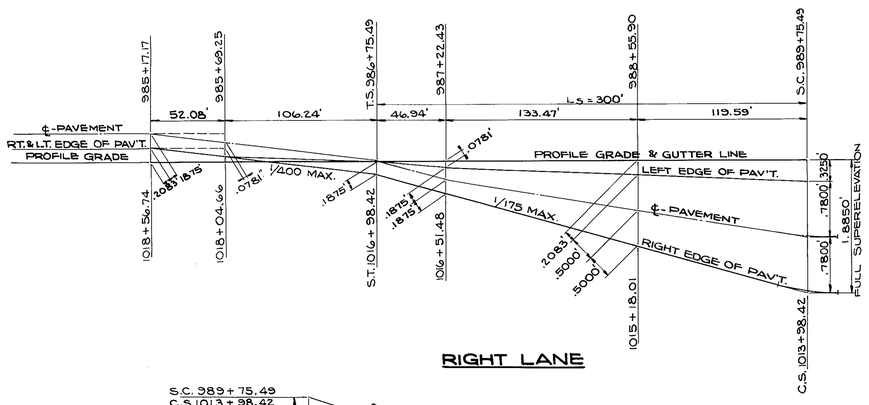
℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
962+75	883.26	884.26	885.26	885.68	886.10	887.10	888.10
963+00	883.49	884.49	885.49	885.91	886.33	887.33	888.33
963+25	883.72	884.72	885.72	886.14	886.56	887.56	888.56
963+50	883.96	884.96	885.96	886.38	886.80	887.80	888.80
963+75	884.20	885.20	886.20	886.62	887.04	888.04	889.04
964+00	884.43	885.43	886.43	886.85	887.27	888.27	889.27
964+25	884.66	885.66	886.66	887.08	887.50	886.50	889.50
964+50	884.90	885.90	886.90	887.32	887.74	888.74	889.74
964+75	885.14	886.14	887.14	887.56	887.98	888.98	889.98
965+00	885.37	886.37	887.37	887.79	888.22	889.22	890.22
965+25	885.60	886.60	887.60	888.02	888.44	889.44	890.44
965+50	885.84	886.84	887.84	888.26	888.68	889.68	890.68
965+75	886.08	887.08	888.08	888.50	888.92	889.92	890.92
965+77.01	886.09	887.09	888.09	888.51	888.93	889.93	890.93
966+00	886.47	887.40	888.33	888.73	889.13	890.08	891.03
966+25	886.81	887.70	888.59	888.96	889.33	890.23	891.13
966+50	887.19	888.02	888.85	889.20	889.55	890.40	891.25
966+75	887.57	888.34	889.12	889.44	889.77	890.56	891.36
967+00	887.94	888.65	889.37	889.67	889.98	890.72	891.47
967+25	888.31	888.97	889.62	889.90	890.19	890.88	891.57
967+50	888.69	889.29	889.89	890.14	890.41	891.05	891.68
967+75	889.07	889.61	890.15	890.38	890.62	891.21	891.79
967+93.84	889.34	889.84	890.34	890.55			
968+00	889.44	889.92	890.41	890.61	890.83	891.36	891.90
968+16.19				890.76	890.97	891.47	891.97
968+25	889.81	890.23	890.66	890.84	891.05	891.53	892.00
968+50	890.18	890.55	890.92	891.08	891.29	891.70	892.12
968+75	890.56	890.87	891.18	891.32	891.53	891.88	892.23
969+00	890.93	891.19	891.44	891.55	891.76	892.05	892.34
969+25	891.31	891.50	891.70	891.78	891.99	892.21	892.44
969+29.35	891.38	891.56	891.75	891.83	892.04	892.26	892.46
969+39.90				891.92	892.13	892.32	892.50
969+50	891.68	891.87	891.98	892.02	892.23	892.42	892.55
969+75	892.06	892.25	892.26	892.26	892.47	892.66	892.6
969+77.01	892.08	892.27	892.27	892.27	892.48	892.67	892.6
970+00	892.36	892.55	892.51	892.49	892.70	892.89	892.83
970+25	892.65	892.84	892.76	892.72	892.93	893.12	892.99
970+50	892.95	893.14	893.01	892.96	893.17	893.36	893.17
970+51.26				892.97	893.18	893.37	893.18
970+75	893.26	893.45	893.27	893.20			
970+83.25	893.35	893.54	893.35	893.27			
971+00	893.56	893.75	893.56	893.43			
971+25	893.84	894.03	893.84	893.66			
971+35.33	893.97	894.16	893.97	893.76			

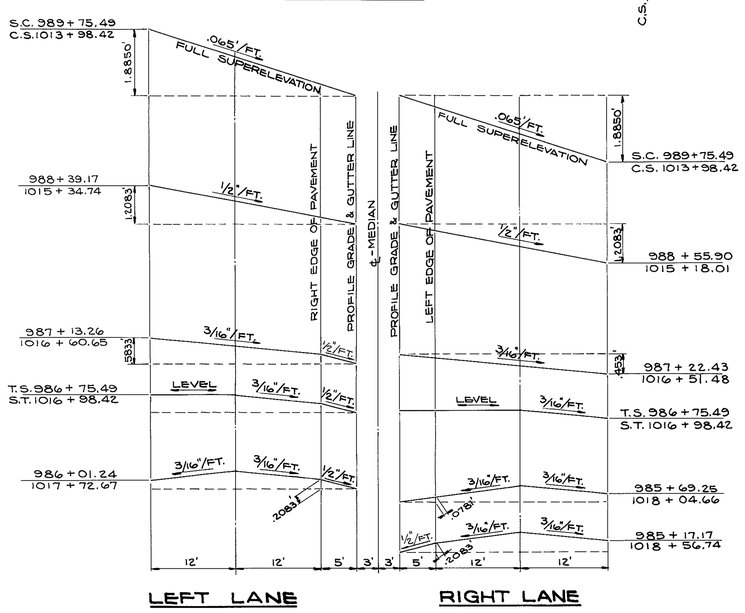
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

SUPERELEVATION TABLE
CURVE Nº 4
Δ = 74° 52' 50" RT.







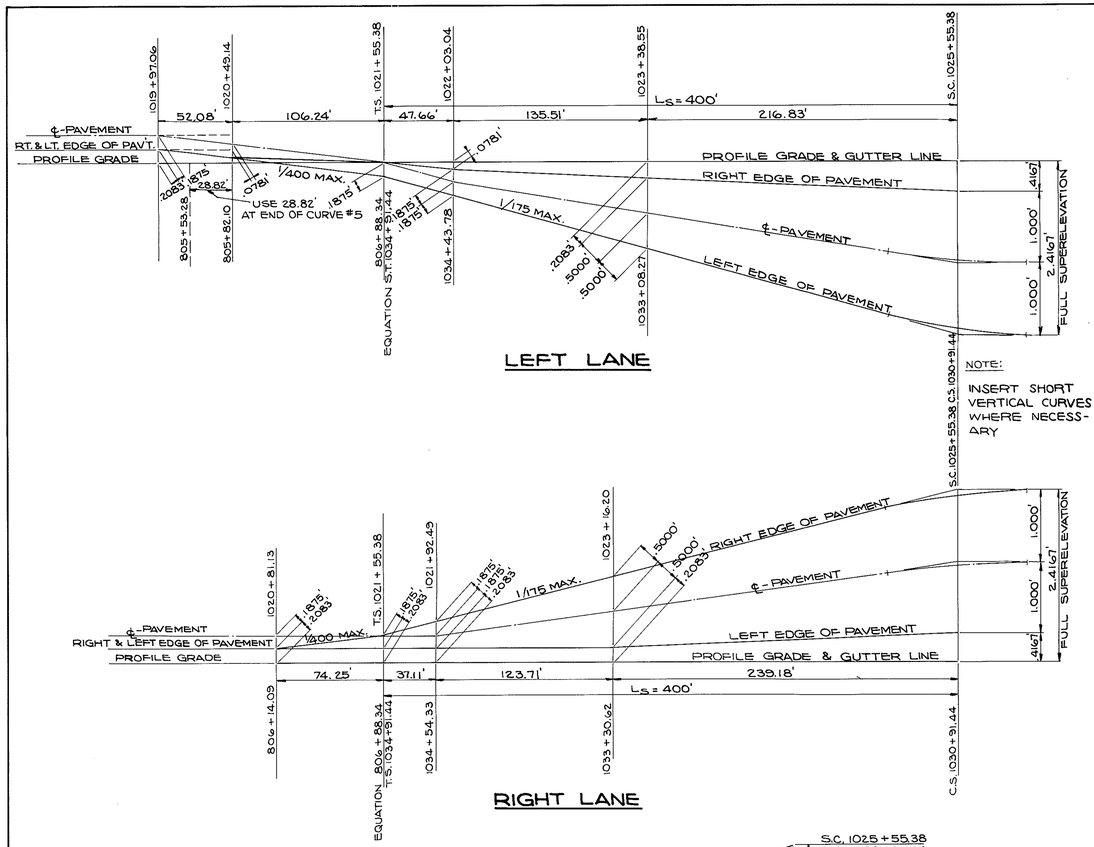
℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
985+17.17				903.11	903.32	903.51	903.32
985+25				902.99	903.18	903.37	903.18
985+50				902.58	902.71	902.89	902.71
985+69.25				902.23	902.31	902.50	902.31
985+75				902.12	902.19	902.37	902.18
986+00				901.61	901.67	901.80	901.61
986+01.24	901.79	901.98	901.79	901.58			
986+25	901.32	901.45	901.26	901.05	901.09	901.18	900.99
986+50	900.76	900.83	900.64	900.43	900.45	900.49	900.30
986+75	900.16	900.17	899.98	899.77	899.77	899.77	899.58
986+75.49	900.15	900.15	899.96	899.75	899.75	899.75	899.56
987+00	899.58	899.46	899.27	899.06	899.02	898.92	898.74
987+13.26	899.24	899.06	898.87	898.66			
987+22.43				898.36	898.28	898.09	897.91
987+25	898.95	898.73	898.51	898.30	898.22	898.02	897.83
987+50	898.30	898.02	897.74	897.53	897.42	897.17	896.92
987+75	897.65	897.31	896.97	896.76	896.63	896.32	896.01
988+00	897.00	896.60	896.20	895.99	895.84	895.47	895.10
988+25	896.36	895.89	895.43	895.22	895.04	894.62	894.19
988+39.17	895.99	895.49	894.99	894.78			
988+50	895.71	895.18	894.67	894.45	894.25	893.76	893.28
988+55.90				894.26	894.05	893.55	893.05
988+75	895.07	894.49	893.92	893.68	893.45	892.91	892.37
989+00	894.42	893.79	893.17	892.91	892.66	892.05	891.45
989+25	893.78	893.10	892.42	892.14	891.86	891.20	890.54
989+50	893.13	892.40	891.67	891.37	891.07	890.35	889.63
989+75	892.48	891.70	890.92	890.60	890.28	889.50	888.72
989+75.49	892.48	891.70	890.92	890.59	890.26	889.48	888.70
990+00	891.72	890.94	890.16	889.83	889.50	888.72	887.94
990+50	890.18	889.40	888.62	888.29	887.96	887.18	886.40
991+00	888.64	887.86	887.06	886.75	886.42	885.64	884.86
991+50	887.10	886.32	885.54	885.21	884.88	884.10	883.32
992+00	885.56	884.78	884.00	883.67	883.34	882.56	881.78
992+50	884.02	883.24	882.46	882.13	881.80	881.02	880.24
993+00	882.48	881.70	880.92	880.59	880.26	879.48	878.70
993+50	880.94	880.16	879.38	879.05	878.72	877.94	877.16
994+00	879.40	878.62	877.84	877.51	877.18	876.40	875.62
994+50	877.86	877.08	876.30	875.97	875.64	874.86	874.08
995+00	876.32	875.54	874.76	874.43	874.10	873.32	872.54
995+50	874.78	874.00	873.22	872.89	872.56	871.78	871.00
996+00	873.24	872.46	871.68	871.35	871.02	870.24	869.46
996+50	871.70	870.92	870.14	869.81	869.48	868.70	867.92
997+00	870.16	869.38	868.60	868.27	867.94	867.16	866.38
997+50	868.62	867.84	867.06	866.73	866.40	865.62	864.84
997+75	867.88	867.10	866.32	865.99	865.66	864.88	864.10
998+00	867.21	866.43	865.65	865.32	864.99	864.21	863.43
998+25	866.61	865.83	865.05	864.72	864.39	863.61	862.83
998+50	866.07	865.29	864.51	864.18	863.85	863.07	862.29
998+75	865.60	864.82	864.04	863.71	863.38	862.60	861.82
999+00	865.19	864.41	863.63	863.30	862.97	862.19	861.41
999+25	864.85	864.07	863.29	862.96	862.63	861.85	861.07
999+50	864.57	863.79	863.01	862.68	862.35	861.57	860.79
999+75	864.36	863.58	862.80	862.47	862.14	861.36	860.58
1000+00	864.22	863.44	862.66	862.33	862.00	861.22	860.44
1000+25	864.14	863.36	862.58	862.25	861.92	861.14	860.36
1000+50	864.14	863.36	862.58	862.25	861.92	861.14	860.36
1000+75	864.19	863.41	862.63	862.30	861.97	861.19	860.41
1000+00	864.31	863.53	862.75	862.42	862.09	861.31	860.53

℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
1001+25	864.50	863.72	862.94	862.61	862.28	861.50	860.72
1001+50	864.75	863.97	863.19	862.86	862.53	861.75	860.97
1001+75	865.08	864.30	863.52	863.19	862.86	862.08	861.30
1002+00	865.46	864.68	863.90	863.57	863.24	862.46	861.68
1002+25	865.92	865.14	864.36	864.03	863.70	862.92	862.14
1002+50	866.52	865.74	864.96	864.63	864.30	863.52	862.74
1002+75	867.02	866.24	865.46	865.13	864.80	864.02	863.24
1003+00	867.66	866.88	866.10	865.77	865.44	864.66	863.88
1003+25	868.38	867.60	866.82	866.49	866.16	865.38	864.60
1003+50	869.16	868.38	867.60	867.27	866.94	866.16	865.38
1004+00	870.79	870.01	869.23	868.90	868.57	867.79	867.01
1004+50	872.42	871.64	870.86	870.53	870.20	869.42	868.64
1005+00	874.05	873.27	872.49	872.16	871.83	871.05	870.27
1005+50	875.68	874.90	874.12	873.79	873.46	872.68	871.90
1006+00	877.31	876.53	875.75	875.42	875.09	874.31	873.53
1006+50	878.94	878.16	877.38	877.05	876.72	875.94	875.16
1007+00	880.57	879.79	879.01	878.68	878.35	877.57	876.79
1007+50	882.20	881.42	880.64	880.31	879.98	879.20	878.42
1008+00	883.83	883.05	882.27	881.94	881.61	880.83	880.05
1008+50	885.46	884.68	883.90	883.57	883.24	882.46	881.68
1009+00	887.09	886.31	885.53	885.20	884.87	884.09	883.31
1009+50	888.72	887.94	887.16	886.83	886.50	885.72	884.94
1010+00	890.35	889.57	888.79	888.46	888.13	887.35	886.57
1010+50	891.98	891.20	890.42	890.09	889.76	888.98	888.20
1011+00	893.61	892.83	892.05	891.72	891.39	890.61	889.83
1011+50	895.24	894.46	893.68	893.35	893.02	892.24	891.46
1012+00	896.87	896.09	895.31	894.98	894.65	893.87	893.09
1012+50	898.50	897.72	896.94	896.61	896.28	895.50	894.72
1013+00	900.13	899.35	898.57	898.24	897.91	897.13	896.35
1013+50	901.76	900.98	900.20	899.87	899.54	898.76	897.98
1013+98.42	903.34	902.56	901.78	901.45	901.12	900.34	899.56
1014+00	903.38	902.60	901.82	901.50	901.18	900.41	899.63
1014+25	904.07	903.35	902.62	902.32	902.02	901.31	900.59
1014+50	904.76	904.08	903.41	903.13	902.86	902.20	901.54
1014+75	905.45	904.83	904.21	903.95	903.70	903.10	902.50
1015+00	906.14	905.57	905.00	904.76	904.53	903.99	903.45
1015+18.01				905.34	905.13	904.63	904.13
1015+25	906.83	906.32	905.80	905.58	905.38	904.89	904.41
1015+34.74	907.10	906.60	906.10	905.89			
1015+50	907.52	907.06	906.60	906.39	906.21	905.79	905.37
1015+75	908.21	907.82	907.42	907.21	907.06	906.69	906.33
1016+00	908.90	908.56	908.23	908.02	907.89	907.59	907.28
1016+25	909.60	909.32	909.05	908.84	908.74	908.49	908.24
1016+50	910.29	910.07	909.86	909.65	909.57	909.38	909.19
1016+51.48				909.67	909.59	909.40	909.22
1016+60.65	910.58	910.40	910.21	910.00			
1016+75	910.99	910.87	910.68	910.47	910.43	910.34	910.15
1016+98.42	911.63	911.63	911.44	911.23	911.23	911.23	911.04
1017+00	911.67	911.68	911.49	911.28	911.28	911.28	911.09
1017+25	912.43	912.50	912.31	912.10	912.12	912.17	911.98
1017+50	913.18	913.31	913.12	912.91	912.95	913.04	912.85
1017+72.67	913.86	914.05	913.86	913.65			
1017+75				913.73	913.78	913.92	913.73
1018+00				914.54	914.61	914.79	914.60
1018+04.66				914.69	914.77	914.96	914.77
1018+25				915.36	915.49	915.68	915.49
1018+50				916.17	916.36	916.55	916.36
1018+56.74				916.39	916.60	916.79	916.60

FED. RD.	STATE	PROJECT	
2	OHIO		

35
492

MAH - 18 - 17.20

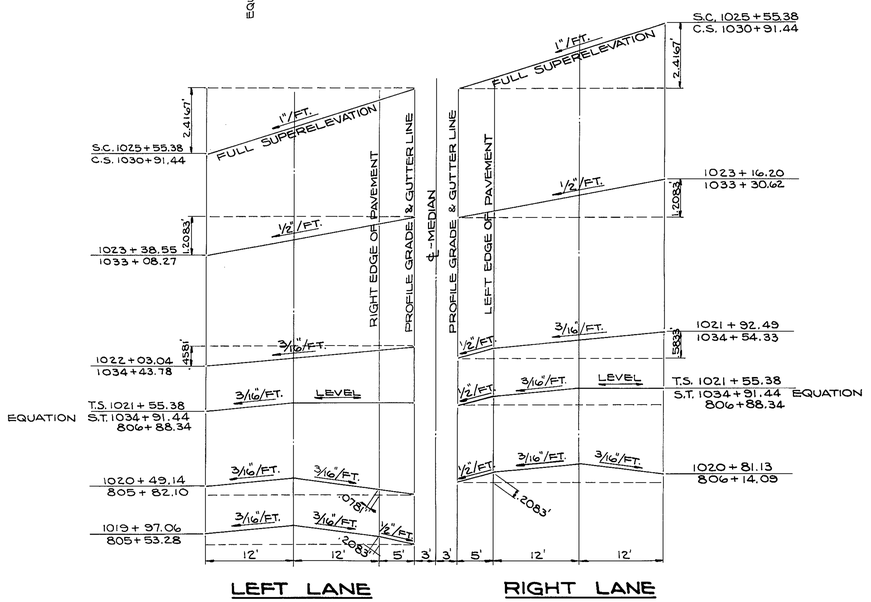


LEFT LANE

NOTE:

INSERT SHORT VERTICAL CURVES WHERE NECESSARY

RIGHT LANE



LEFT LANE RIGHT LANE

SUPERELEVATION TABLE
CURVE Nº 5
Δ = 53° 49' 25" LT.

℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
1019+97.06	921.17	921.36	921.17	920.96			
1020+00	921.26	921.35	921.26	921.06			
1020+25	922.02	922.21	922.02	921.88			
1020+49.14	922.74	922.93	922.74	922.66			
1020+50	922.76	922.95	922.77	922.69			
1020+75	923.52	923.71	923.57	923.51			
1020+81.13				923.70	923.91	924.10	923.91
1021+00	924.27	924.46	924.36	924.32	924.53	924.72	924.56
1021+25	925.03	925.21	925.16	925.14	925.35	925.54	925.44
1021+50	925.77	925.96	925.95	925.95	926.16	926.35	926.32
1021+55.38	925.94	926.13	926.13	926.13	926.34	926.53	926.53
1021+75	926.47	926.66	926.74	926.77	926.98	927.17	927.27
1021+92.49				927.34	927.55	927.74	927.92
1022+00	927.14	927.33	927.51	927.58	927.79	927.99	928.20
1022+03.04	927.23	927.41	927.60	927.68			
1022+25	927.81	928.05	928.28	928.38	928.59	928.86	929.12
1022+50	928.41	928.70	929.00	929.12	929.33	929.66	929.99
1022+75	928.96	930.56	929.67	929.82	930.03	930.43	930.82
1023+00	929.48	929.89	930.30	930.47	930.68	931.14	931.60
1023+16.20				930.87	931.08	931.58	932.08
1023+25	929.95	930.42	930.89	931.08	931.30	931.81	932.33
1023+38.55	930.17	930.67	931.17	931.38			
1023+50	930.36	930.89	931.41	931.63	931.87	932.44	933.01
1023+75	930.74	931.32	931.91	932.15	932.41	933.03	933.65
1024+00	931.06	931.70	932.34	932.61	932.89	933.57	934.24
1024+25	931.34	932.04	932.74	933.03	933.33	934.06	934.78
1024+50	931.56	932.31	933.07	933.39	933.71	934.49	935.27
1024+75	931.75	932.56	933.38	933.72	934.06	934.89	935.72
1025+00	931.89	932.76	933.64	934.00	934.37	935.25	936.13
1025+25	931.99	932.91	933.84	934.23	934.62	935.55	936.49
1025+50	932.0	933.02	934.00	934.41	934.82	935.81	936.80
1025+55.38	932.0	933.04	934.02	934.44	934.86	935.86	936.86
1025+75	932.13	933.13	934.13	934.55	934.97	935.97	936.97
1026+00	93 .22	933.22	934.22	934.64	935.06	936.06	937.06
1026+25	932.26	933.26	934.26	934.68	935.10	936.10	937.10
1026+50	932.26	933.26	934.26	934.68	935.10	936.10	937.10
1026+75	932.21	933.21	934.21	934.63	935.05	936.05	937.05
1027+00	932.12	933.12	934.12	934.54	934.96	935.96	936.96
1027+25	931.97	932.97	933.97	934.39	934.81	935.81	936.81
1027+50	931.78	932.78	933.78	934.20	934.62	935.62	936.62
1027+75	931.55	932.55	933.55	933.97	934.39	935.39	936.39
1028+00	931.27	932.27	933.27	933.69	934.11	935.11	936.11
1028+25	930.94	931.94	932.94	933.36	933.78	934.78	935.78
1028+50	930.56	931.56	932.56	932.98	933.40	934.40	935.40
1028+75	930.14	931.14	932.14	932.56	932.98	933.98	934.98

℄ STATION	LEFT LANE			PROFILE GRADE	RIGHT LANE		
	LEFT EDGE	℄	RIGHT EDGE		LEFT EDGE	℄	RIGHT EDGE
1029+00	929.67	930.67	931.67	932.09	932.51	933.51	934.51
1029+25	929.15	930.15	931.15	931.57	931.99	932.99	933.99
1029+50	928.59	929.59	930.59	931.01	931.43	932.43	933.43
1029+75	927.98	928.98	929.98	930.40	930.82	931.82	932.82
1030+00	927.32	928.32	929.32	929.74	930.16	931.16	932.16
1030+25	926.67	927.67	928.67	929.09	929.51	930.51	931.51
1030+50	926.08	927.08	928.08	928.50	928.92	929.92	930.92
1030+75	925.55	926.55	927.55	927.97	928.39	929.39	930.39
1030+91.44	925.27	926.25	927.23	927.65	928.07	929.07	930.07
1031+00	925.13	926.11	927.09	927.50	927.91	928.89	929.87
1031+25	924.86	925.78	926.71	927.09	927.48	928.40	929.33
1031+50	924.64	925.50	926.37	926.73	927.10	927.97	928.85
1031+75	924.49	925.30	926.10	926.44	926.78	927.61	928.43
1032+00	924.40	925.15	925.90	926.21	926.53	927.31	928.08
1032+25	924.36	925.05	925.74	926.03	926.33	927.05	927.77
1032+50	924.39	925.02	925.66	925.92	926.20	926.87	927.53
1032+75	924.48	925.06	925.63	925.87	926.13	926.74	927.35
1033+00	924.62	925.14	925.65	925.87	926.10	926.67	927.23
1033+08.27	924.68	925.18	925.68	925.89			
1033+25	924.83	925.29	925.75	925.94	926.15	926.66	927.17
1033+30.62				925.96	926.17	926.67	927.17
1033+50	925.08	925.49	925.89	926.06	926.27	926.72	927.17
1033+75	925.40	925.75	926.10	926.24	926.45	926.84	927.23
1034+00	925.79	926.08	926.37	926.49	926.70	927.02	927.35
1034+25	926.23	926.46	926.69	926.79	927.00	927.26	927.52
1034+43.78	926.60	926.78	926.97	927.05			
1034+50	926.73	926.92	927.08	927.15	927.36	927.56	927.75
1034+54.33				927.22	927.43	927.62	927.80
1034+75	927.30	927.49	927.55	927.58	927.79	927.98	928.06
1034+91.44	927.69	927.88	927.88	927.88	928.09	928.28	928.28
806+88.34	927.69	927.88	927.88	927.88	928.09	928.28	928.28
806+75	928.00	928.19	928.17	928.16	928.37	928.56	928.53
806+50	928.62	928.81	928.74	928.71	928.92	929.11	929.02
806+25	929.29	929.48	929.37	929.32	929.53	929.72	929.56
806+14.09				929.61	929.82	930.01	929.82
806+00	930.00	930.19	930.03	929.97			
805+82.10	930.59	930.78	930.59	930.51			
805+75	930.83	931.02	930.83	930.72			
805+53.28	931.58	931.77	931.58	931.37			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

36
492

MAH-18-17.20

ESTIMATED QUANTITIES I-5 GUARDRAIL & BARRIER RAIL

CODE	LOCA.	TYPE 2-A GR (L.F.)	TYPE 2A B.R. (L.F.)
R-1	SILLIMAN 9+06	75	
R-2	SILLIMAN 12+25	125	
R-3	℄	75	462.5
SHT. TOTAL		275	462.5

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	LOCA.	TYPE 6	
G-1	SILLIMAN	48	
G-3	925+00025 to 930+00	989	
SHT. TOTAL		1037	

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

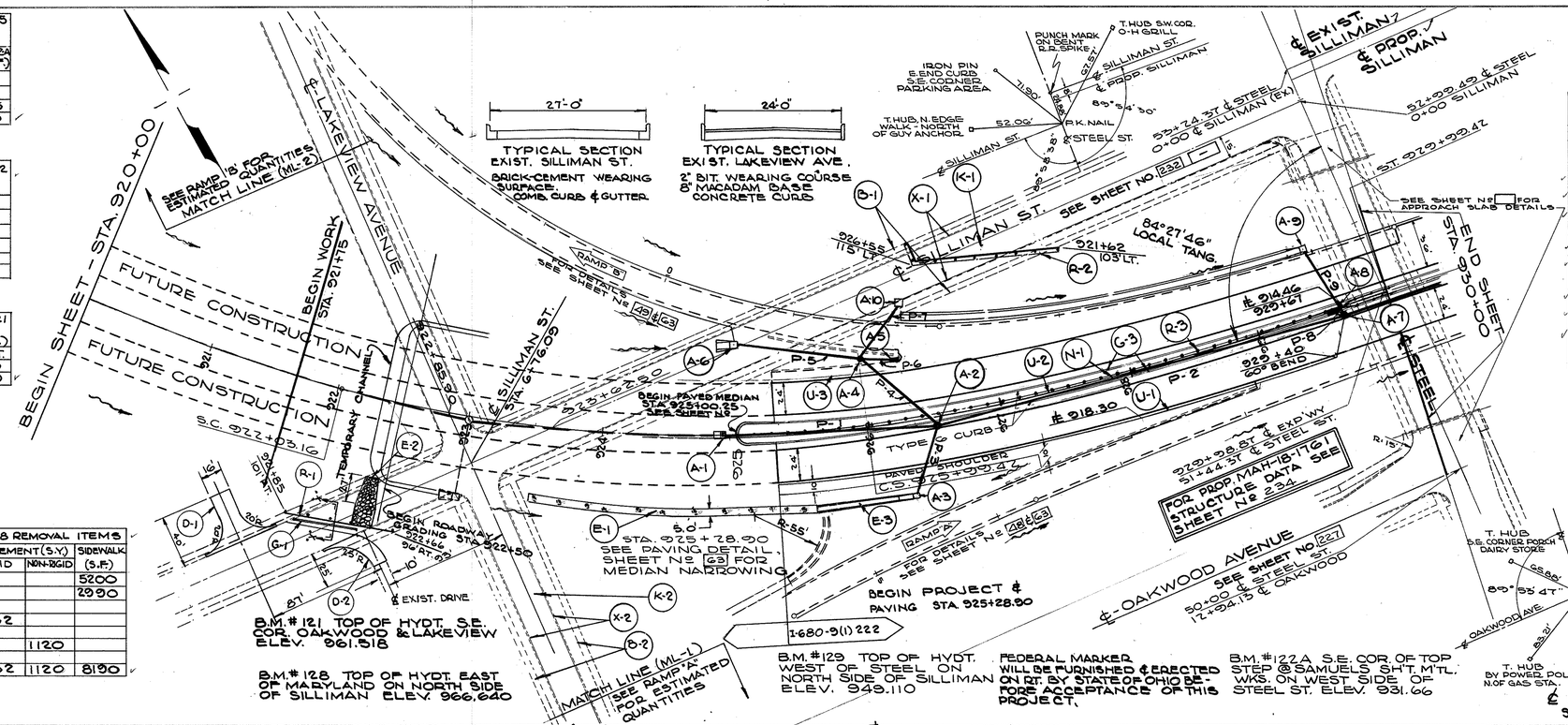
CODE	FROM	TO	QUANT.
N-1	925+00025	930+00	603
SHEET TOTAL			603

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	FROM	TO	CURB OR COMB. CURB & GUTTER (L.F.)	PAVEMENT (S.Y.) RIGID	PAVEMENT (S.Y.) NON-RIGID	SIDEWALK (S.F.)
B-1	G-1	R-2				5200
B-2	ML-1	ML-2				2990
X-1	G-1	R-2	1040			
X-2	ML-1	ML-2	836	1252		
K-1	G-1	R-2				
K-2	ML-1	ML-2			1120	
SHEET TOTAL			1876	1252	1120	8190

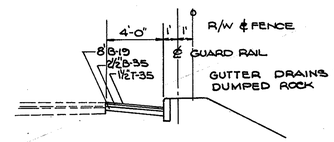
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
FIL. OF PLAT CHECKED
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CROSS SECS. CHECKED
E. M.'s NOTED
NO.
STRUCTURE NO'S AT M'S CHKD.
BY
DATE



ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

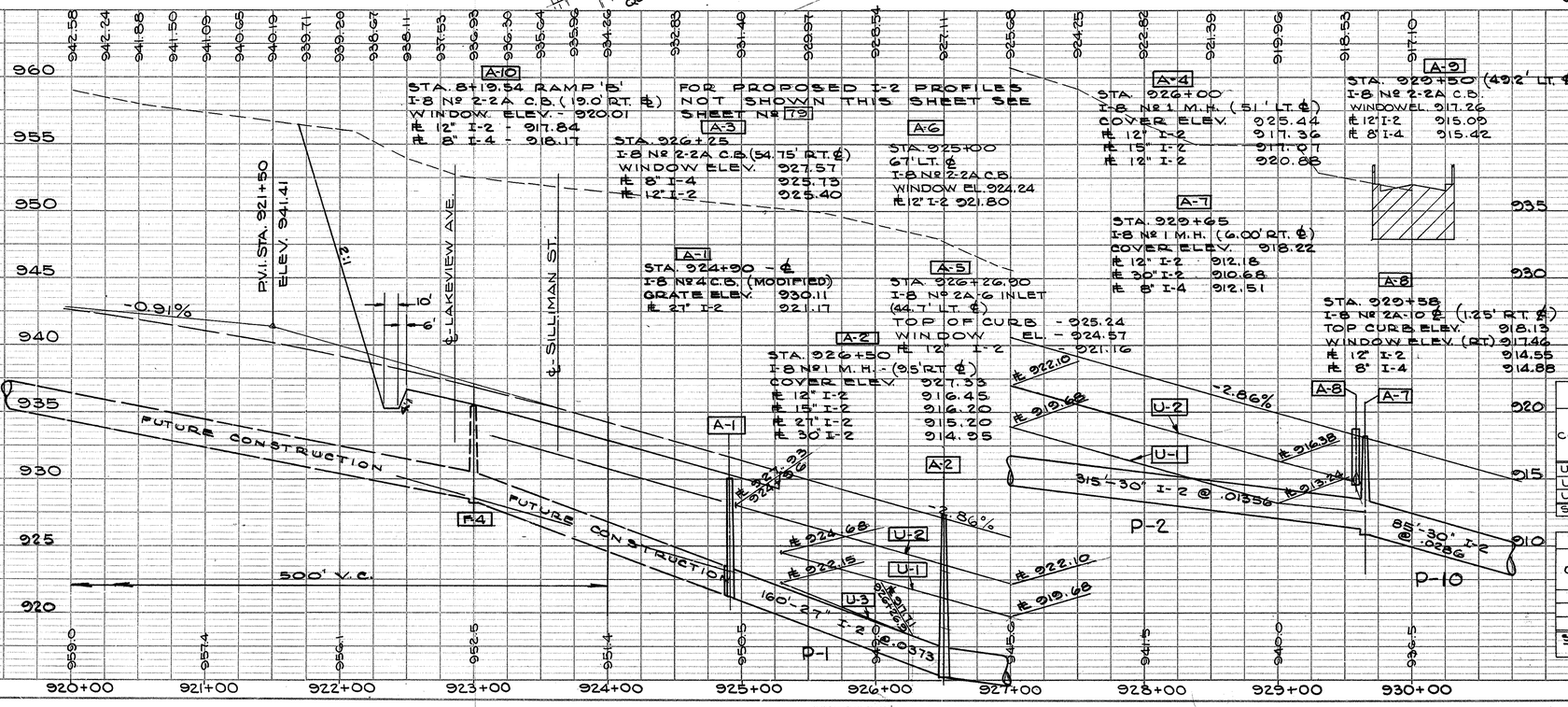
CODE	LOCATION ℄ STATION	#4 C.B. MOD. EACH	#1 M.H. EACH	2-2A C.B. EACH	24-6 INLET EACH	24-10 INLET EACH	I-14 TYPE-1 PAVED GUTTER MOD. LIN. FT.
A-1	924+90 ℄	1					
A-2	926+50 9.5' RT.		1				
A-3	926+25 54.5' RT.			1			10
A-4	926+26.9 41.7' LT.		1				
A-5	926+26.9 44.7' LT.				1		
A-6	925+00 67.0' LT.			1			10
A-7	929+65 6.0' RT.		1				
A-8	929+58 1.5' RT.					1	
A-9	929+50 49.2' LT.			1			
A-10	RAMP "B" 8+19.54 19.0' LT. ℄			1			10
SHEET TOTAL		1	3	4	1	1	30



G-1 Section X-X

℄ CURVE DATA № 1

Δ = 43°47'40"	P = 6,392'
D_c = 5°30'	K = 199.756'
R_c = 1041.74'	X = 398.528
L_s = 400'	Y = 25.532'
Θ_s = 11°00'	L.T. = 267.184'
L_c = 396.26'	S.T. = 133.804'
T_s = 621.043'	L.C. = 399.344'
E_s = 87.89'	



ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CL. 'B' STORM SEWER UNDER PAVT. OR APPR. LIN. FT. 27"	30"	12"	15"
P-1	A-1	A-2	156'			
P-2	A-2	A-7		311'		
P-3	A-3	A-2			52'	
P-4	A-4	A-2				75'
P-5	A-6	A-4			98	
P-6	A-5	A-4			24	
P-7	A-10	A-4			48	
P-8	A-8	A-7			9	
P-9	A-9	A-8			55	
P-10	A-7	930+00		33		
SHEET TOTAL			156'	344	286	75'

I-4 PIPE UNDERDRAIN LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP - SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	I-5 PIPE SPEC. EACH 6"-60° BEND
U-1	925+29	A-7	D	120	50	1
U-2	924+36	A-8	S	450	10	
U-3	925+29	A-5	D			
SHEET TOTAL				570'	60'	1

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	L-10 SOD SQ. YDS.	I-10 DUMP ROCK CHANNEL PROT. C.Y.	I-14 PVD. GUTTER TYPE L LIN. FT.
E-1	923+50	925+40	106		
E-2	921+90	—		58	
E-3	925+40	926+05			65
SHEET TOTAL			106'	58'	65'

PLATE I — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FIR-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

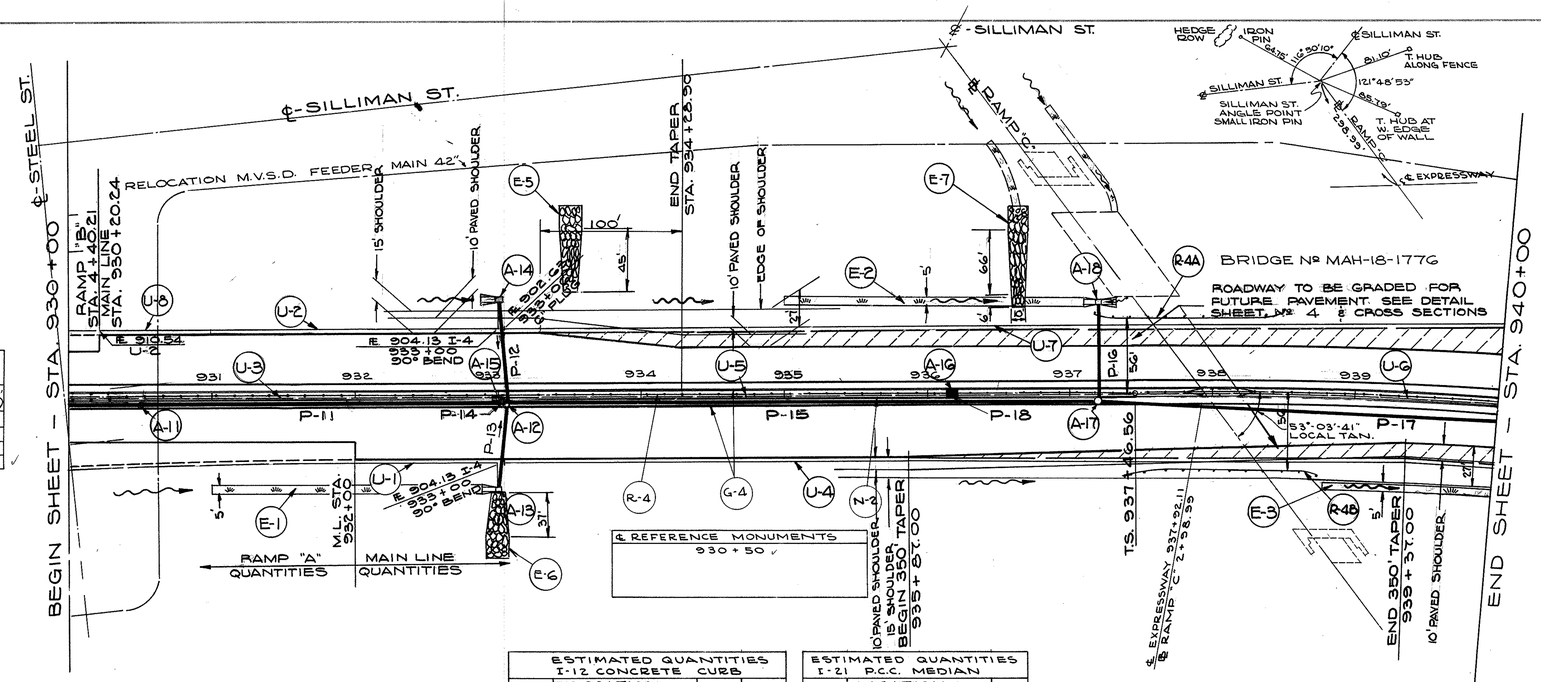
STA. 920+00 To 930+00

MICROFILMED
SEP 19 1985

FED. RD	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

37
492



ESTIMATED QUANTITIES I-15 GUARDRAIL & BARRIER RAIL			
CODE	LOCA.	G.R.(L.F.)	B.R.(L.F.)
R-4	℄	175	912.5
R-4A	LT.	137.5	
R-4B	RT.	137.5	
SHT. TOTAL		450.0	912.5

ESTIMATED QUANTITIES I-12 CONCRETE CURB				
CODE	LOCATION FROM	TO	TYPE	L.F.
G-4	930+00	940+00	6	1974

ESTIMATED QUANTITIES I-21 P.C.C. MEDIAN			
CODE	LOCATION FROM	TO	S.Y.
N-2	930+00	940+00	658

B.M.#5 TOP STEM OF HYDT. N.E. COR. STEEL & 3RD. ST. ELEV. 945.457

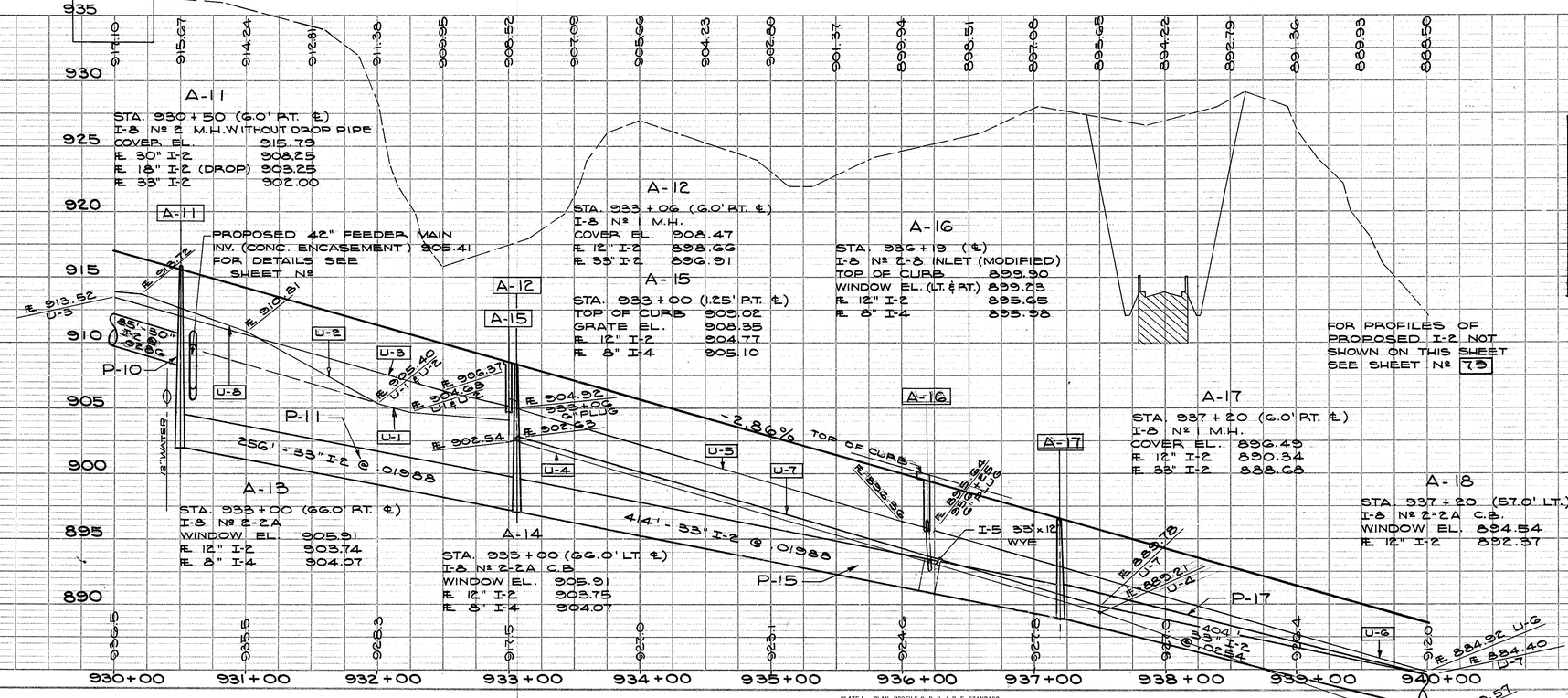
B.M.# 3-A R.R. SPIKE IN E. SIDE 20" POPLAR 60' LT. ℄ SILLIMAN @ APPROX. STA. 7+70 ELEV. 923.72

ESTIMATED QUANTITIES I-8 MANHOLES & CATCH BASINS							I-14 PAVED GUTTER MODIFIED TYPE-1 (LIN. FT.)
CODE	LOCATION ℄ STATION	#2 M.H. WITHOUT DROP PIPE EACH	# 1 M.H. EACH	#2-2A C.B. EACH	#2A-G INLET EACH	#2-8 INLET MOD. EACH	
A-11	930+50 6.0' RT.	1					
A-12	933+06 6.0' RT.		1				
A-13	933+00 66.0' RT.			1			10
A-14	933+00 66.0' LT.			1			10
A-15	933+00 1.25' RT.				1		
A-16	936+19 ℄					1	
A-17	937+20 6.0' RT.		1				
A-18	937+20 66.0' LT.			1			20
SHEET TOTAL		1	2	3	1	1	40

ESTIMATED QUANTITIES I-2 PIPES							I-5 PIPE SPECIALS	
CODE	LOCATION		CLASS "B" STORM SEWERS UNDER PAV'T OR APPROACH LIN. FT.				CLASS "B" STORM SEWER UNDER PAV'T OR APPR. - EACH	
	FROM	TO	30"	18"	33"	12"	18"30° BEND	33"-12" WYE
P-10	930+00	A-11	48					
P-11	A-11	A-12			252	*		
P-12	A-14	A-12				69		
P-13	A-13	A-12				57		
P-14	A-15	A-12				5		
P-15	A-12	A-17			406			
P-16	A-18	A-17				60		
P-17	A-17	940+00			278			
P-18	A-16	936+22				5		1
SHEET TOTAL			48		684	196		1

* M-6.6 & or M-6.8 b

℄ CURVE DATA № 2
Δ = 54°44'10"
Dc = 5°30'
Ls = 400'
Θs = 11°00'
Rc = 1041.74'
Lc = 595.20'
Ts = 742.31'
Es = 138.49'
P = 6.392'
K = 199.756'
x = 398.528'
Y = 25.532'
L.T. = 267.184'
S.T. = 133.804'
L.C. = 399.344'



I-4 PIPE UNDERDRAIN LIN. FT.						
CODE	LOCATION FROM	TO	DEEP - SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	I-5 PIPE SPEC EACH
U-1	932+00	A-13	S	120	10	1
U-2	930+20	A-14	S	310	10	1
U-3	930+00	A-15	S	288	10	-
U-4	933+04	940+00	D	696	-	-
U-5	933+06	A-16	S	297	10	-
U-6	936+25	940+00	S	375	-	-
U-7	933+06	940+00	D	696	-	-
SHEET TOTAL				2782	40	2

EROSION CONTROL				
CODE	LOCATION FROM	TO	I-10 SOD S.Y.	I-10 DUMPROCK CHAN.PROC C.Y.
E-1	931+00	932+50	106	
E-2	935+00	937+10	117	
E-3	938+80	940+00	62	
E-5	933+50			83
E-6	933+00			72
E-7	936+62			118
SHEET TOTAL			285	273

STA. 930+00 to 940+00

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

PLAN / PROFILE
SURVEYED
PLANS PLOTTED
GRADES CHECKED
S. R. NOTED
STRUCTURE NOTATNS CK'ED.
NOTE BOOK
NO.
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

38
492

MAH-18-17.20

FOR FUTURE CONSTRUCTION
SEE SHEET Nº 74&75

RAMP A3 & B3 ARE TO BE ROUGH GRADED ONLY FOR CONSTRUCTION
DETAILS SEE SH'T. Nº 4&74

STA. 943+92.72 ℄ RT. 18 EXP.
0100 ℄ MAH.-WEST FED. EXP.

℄ MAHONING-WEST FEDERAL EXPWAY.

NOSE STATIONS
RAMP A3
940+25.66 M.L.

SC 941+46.56

BEGIN SHEET – STA. 940+00

RAMP A3

SPUR-LINE (TO BE REMOVED BY OTHERS)
RAMP B3

CS 947+41.76

END SHEET – STA. 950+00

#872.51
945+23
6°-90° BEND

6" I-4
945+82 90° BEND

#869.43
946+80-6"PVC

#869.06
947+55
6°-22½° BEND

405.43 NOSE STA. RAMP C3
945+77.39 M.L.

40' OUTLET INV. 862.01 DITCH

12"x18"

3'x5'

NOTE: 2-2A C.B.@ STA. 947+00 (69.0' RT. ℄) SHALL BE MODIFIED TO INCLUDE A THIRD WINDOW; OPENING TO THE EAST.

℄ REFERENCE MONUMENTS
STA. 941+46.56
STA. 944+50
STA. 947+41.76

30' OPEN CHANNEL FOR CONSTRUCTION
DETAILS SEE SHEET Nº 114

S-27 18" CULVERT
SEE SHEET Nº 112

FOR DETAILS & QUANTITIES OF RAMP C3 SEE SHEET Nº 4,74&75

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS							I-14 PAVED GUTTER TYPE-I MOD. L.F.
CODE	LOCATION ℄ STATION	#1 M.H. EACH	#2-4 C.B. EACH	#2-2A C.B. EACH	#2A-10 INLET EACH	#2A-6 INLET EACH	
A-19	941+25 6.0' RT.	1					
A-20	945+73 136.0' LT.		1				10
A-22	945+25 1.25' RT.				1		
A-24	947+00 69.0' RT.			1			20
A-25	948+00 1.25' LT.					1	
A-26	948+90 1.25' LT.					1	
SHEET TOTAL		1	1	1	1	2	30

ESTIMATED QUANTITIES I-15 GUARD RAIL & BARRIER RAIL			
CODE	LOCA.	GR.(L.F.)	B.R.(L.F.)
R-5	℄		1000

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)			
CODE	FROM	TO	TYPE G
G-5	940+00	950+00	1974
SH'T TOTAL			1974

ESTIMATED QUANTITIES I-2 PIPES						
CODE	LOCATION		CLASS "B" STORM SEWERS UNDER PAV'T & APPR. (LIN. FT.)			
	FROM	TO	33"	33" M-6.6(d)	18"	12"
P-17	940+00	A-19	123			
P-19	A-19	H-7		354		
P-23	A-22	H-6				64
P-25	H-3	A-24			102	
P-26	H-4	A-25				57
P-27	H-5	A-26				58
SHEET TOTAL			123	354	102	179

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)			
CODE	FROM	TO	QUANT.
N-3	940+00	950+00	658
SHEET TOTAL			658

ESTIMATED QUANTITIES CULVERTS				
CODE	LOCATION		42"S-27 PIPE M-C.4.d GAGE 10 LIN. FT.	E-2 EXCAVATION CU. YDS.
	FROM	TO		
C-20	H-1	A-20	252	280

℄ CURVE DATA Nº 2
Δ = 54°44'10"
Dc = 5°30'
Ls = 400'
Θs = 11°00'
Rc = 1041.74'
Lc = 595.20'
Ts = 742.31'
Es = 138.49'
P = 6.392'
K = 199.756'
x = 398.528'
y = 25.532'
L.T. = 267.184'
S.T. = 133.804'
L.C. = 399.344'

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	6" OUTLET PIPE M-6.4 a	6" 30° BEND	6" 90° BEND
U-1	940+00	A-22	S	515	10		
U-2	A-19	950+00	D	468	10		1
U-3	940+00	944+25	D	445	10		1
U-4	940+30	945+25	D	509	10		1
U-5	946+80	947+85	S	120	10		
SHEET TOTAL				2057	50		3

P-C 4 ENDWALLS			
CODE	LOCATION		S-1 CONC. CL. "E" CU. YDS.
H-1	944+79.80	106' RT. ℄	0.76
H-3	946+00	116.0' RT. ℄	0.30
H-4	948+00	55.5' RT. ℄	0.23
H-5	948+90	56.5' RT. ℄	0.23
H-6	945+25	66' LT. ℄	0.23
H-7	944+87	114' RT ℄	0.55
	SHEET TOTAL		2.30

EROSION CONTROL						
CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-10 DUMPED ROCK C.Y.	I-14 PAVED GUTTER L.F. TYPE-I	TYPE-II
E-1	940+00	944+25 RT.	236			
E-2	944+25	944+32 RT.			40	
E-3	944+32	944+79 RT.				42
E-4	H-3			3		
E-5	944+50	945+20	70			
E-6	945+20	945+73 LT.			105	
E-7	944+87	945+00		20		
	SHEET	TOTAL	306	23	145	42

FOR PROFILES OF PROPOSED I-2 NOT SHOWN THIS SHEET SEE SHEET Nº 75&80 C-82

A-21
STA. 945+67
I-8 Nº 2-2A C.B. (136.0' LT. ℄)
WINDOW EL. 851.45
12" I-2 848.75

A-20
STA. 945+73
I-8 Nº 2-4 C.B. (136.0' LT. ℄)
WINDOW ELEV. 855.50
42" S-27 844.30

A-19
STA. 941+25 (6.0' RT. ℄)
I-8 Nº 1 M.H.
COVER ELEV. 885.00
33" I-2 878.42
1000' V.C.

A-22
STA. 945+25 (1.5' RT. ℄)
I-8 Nº 2A-10 INLET
TOP OF CURB – 876.84
WINDOW ELEV. (LT.) 876.17
12" I-2 872.76
12" I-2 @ DITCH 869.22

A-24
STA. 948+00 (1.5' LT. ℄)
I-8 Nº 2-6 INLET
TOP CURB – 874.47
WINDOW ELEV. 873.80
LT. LANE ONLY
12" I-2 870.39

A-25
STA. 948+90 (1.5' LT. ℄)
I-8 Nº 2-6 INLET
TOP CURB – 874.32
WINDOW ELEV. 873.61
LT. LANE ONLY
12" I-2 870.24

404'-33" I-2 @ 0.25%

-2.86%

EL. 884.58

#884.92

#880.51

#872.51

#872.18

#869.45

#869.42

#869.06

#870.81

#870.47

#869.43

#869.06

P.V.I. STA. 946+37.28
ELEV. 870.28

P-17

P-19
(SEE SHEET Nº 82)

U-1 U-2 U-3 U-4 U-5

C-20 C-21 C-22

E-1 E-2 E-3 E-4 E-5 E-6 E-7

H-1 H-2 H-3 H-4 H-5 H-6 H-7

N-3

R-5

P-23 P-25 P-26 P-27

TOP CURB

See Sheet 79

STA. 940+00 to 950+00

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
261 FIM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RIGHT-OF-WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
R.R. CROSSING
STRUCTURE NOTATIONS CH'KD.
BY
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

39
492

BANK RUN SLAG - FOR CONSTRUCTION DETAILS SEE SHEET Nº 5 & X-SECTIONS

MAHONING RIVER

℄ SALT SPRINGS RD. - STA. 950+00

BEGIN SHEET

END SHEET

FOR DETAIL & QUANTITIES OF RAMP 'B' SEE SHEET Nº 74

FOR DETAIL & QUANTITIES OF RAMP 'D' SEE SHEET Nº 52 53 & 64

FOR DETAILS OF S-27 24" CULVERT LT. & RT. STA. 955+50 SEE SHEET Nº 120 & 121

TO BE REMOVED BY OTHERS.

FACE OF ABUTMENT

℄ EXPRESSWAY

TANG. 32.50'

40'

958+83.99 REF. PINS SET 100' E. & W. OF ℄ EXPY. ON MAHONING AVE. BRIDGE ℄

958+73.00

℄ MAHONING AVE.

1000' V.C.

26°48'42" TANG. LOCATE

RAMP B

RAMP "C"

RAMP "D"

NOSE STA. RAMP "D" 18+95.07 B.L. 953+93.85 M.L.

STA. 954+73.06 P.I. STA. 955+96.97 M.L.

FOR DETAIL & QUANTITIES OF RAMP 'C' SEE SHEET Nº 51 & 64

STA. 20+63.26 RAMP "C" QUANTITIES

STA. 955+75.00 MAINLINE QUANTITIES

RELOC. 16" WATER

RELOC. 8" WATER

RELOC. 8" ST. SEW.

MAJOR ST. SEW.

STA. 958+83.99 STRUCTURE MAH-18-1815

FOR CONSTRUCTION DETAILS & QUANTITIES OF RELOC. WATER & ST. SEWER LINES SEE SHEET Nº 90 & 91

RAMP "C" SEE SHEET Nº 51

4°07'48"

IRON PIN POINT ON RANDOM LINE

R.R. SPIKE 2.25' S. OF S.W. COR. - GAS STA.

R.R. SPIKE 2.8' W. OF FENCE 12 JOINT

41.32'

47.51'

53.69'

37.08'

38.04' RANDOM LINE

ANGLE POINT

38.23'

T. HUB BY W. GATE POST LUMBER YARD

T. HUB N.E. CORNER RETAINING WALL HOUSE #1357

℄ MAHONING

℄ REFERENCE MONUMENTS
STA. 951 + 41.76
STA. 954 + 73.06
STA. 959 + 50

℄ CURVE DATA Nº 3

Δ = 60°43'03	P = 6.39'
Dc = 5°30'	K = 199.76'
Rc = 1041.74'	X = 398.53'
Ls = 400'	Y = 25.53'
Θs = 11°00'	L.T. = 267.18'
Lc = 703.95'	S.T. = 133.80'
Ts = 813.68'	L.C. = 399.34'
Es = 172.95'	

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION ℄ STATION	*2A-8 INLET EACH	*2A-6 INLET EACH	
A-27	950+00 1.25' LT.	1		
A-28	952+75 1.25' LT.		1	
A-29	955+00 1.25' LT.	1		
A-31	957+50 1.25' RT.		1	
SHEET TOTAL		2	2	

ESTIMATED QUANTITIES I-5 GUARDRAIL & BARRIER RAIL

CODE	LOCA	G.R.(L.F.)	B.R.(L.F.)
R-6	℄	150	925
R-6A	RT.	125	
SH'T. TOTAL		375	925

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	TYPE G
G-6	950+00	960+00	1067
SHEET TOTAL	—		1067

ESTIMATED QUANTITIES I-2 PIPES L.F. — I-5

CODE	LOCATION FROM	TO	STORM SEWER CL. B "STORM" CL. SEWER UNDER "A" PAV'T OR APPR. 12"			PIPE SPEC. EACH 12" M-6.4 C	18" x 30" BEND M-6.4 A
P-28	A-27	H-6	60				
P-29	A-28	H-7	104				
P-30	A-29	H-8	55			42	2
P-31	A-31	H-9	100				
P-32	A-31	A-30	3				
SHEET TOTAL			322	~	—	42	2

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

CODE	FROM	TO	QUANT.
N-4	950+00	960+00	656
SHEET TOTAL			656

ENDWALLS

CODE	LOCATION	3-1 CONC. CL. "E" C.Y.	TYPE
H-6	950+00 60.5' RT. ℄	0.23	PC-4
H-7	953+00 104' RT. ℄	0.23	PC-4
H-8	955+00 99' RT. ℄	0.23	PC-4
H-9	957+50 90' RT. ℄	0.90	PC-1
SHEET TOTAL		1.59	—

EROSION CONTROL

CODE	LOCATION FROM	TO	L-10 SOD S.Y.	I-10 DUMPROCK CHANNEL PROTECTION C.Y.	I-14 PAVED GUTTER TYPE I (L.F.)
E-1	H-7	H-8	89		
E-2	H-8			1.95	
E-3	H-8	E-4	83		
E-4	956+50	957+50			100
E-5	958+50	960+00			150
E-6	957+00	140' LT.		67.00	
SHEET TOTAL			172	68.95	250

I-4 UNDERDRAINS L.F.

CODE	LOCATION FROM	TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.6 A
U-1	950+00	952+69	S	259	10
U-2	A-28	954+96	S	211	10
U-3	A-29	957+44	S	234	10
U-4	A-31	960+00	S	240	10
U-5	952+00	955+57	S	312	10
U-6	950+00	953+60	S	360	10
SHEET TOTAL				1616'	50

PROPOSED STRUCTURE MAH-18-1815
TYPE: 3-WEST SPANS CONTINUOUS STEEL BEAM - EAST SPAN - SINGLE SPAN STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 64'-0", 80'-0", 81'-9", 40'-9" ℄/℄ BRGS.
ROADWAY: 32'-11" C/C
LOAD FREQUENCY: C.F. 2000. ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
SKEW: 43°11'21" L.F.
APPROACH SLAB: 25'-0" LONG.
WEARING SURFACE: -1" MONOLITHIC.
ALIGNMENT: SAME AS EXISTING STRUCTURE
TRAFFIC COUNT: 20,900 ADT 1959

FOR PROFILES OF PROPOSED I-2 NOT SHOWN ON THIS SHEET SEE SHEET Nº 80

A-27
STA. 950+00 (1.25' LT.)
I-8 Nº 2A-8 INLET
TOP OF CURB 874.55
WINDOW ELEV. (LT.) 873.88
℄ 12" I-2 870.48

A-28
STA. 952+75 (1.25' LT. ℄)
I-8 Nº 2A-6 INLET
TOP OF CURB 876.78
WINDOW ELEV. (LT.) 876.11
℄ 12" I-2 872.71
℄ 8" I-4 873.04

A-29
STA. 955+00 (1.25' LT.)
I-8 Nº 2A-8 INLET
TOP OF CURB 878.89
WINDOW ELEV. 878.22
℄ 12" I-2 874.82
℄ 8" I-4 875.15

A-31
STA. 957+50 (1.25' LT.)
I-8 Nº 2A-6 INLET
TOP OF CURB 881.24
WINDOW ELEV. 880.57
℄ 12" I-2 877.17
℄ 8" I-4 877.50

STA. 955+50 S-27 24" CULVERT ℄ 852.21

STA. 959+14 PROPOSED RELOC. 30" STORM SEWER ℄ ELEV. 873.39 - 1.0' CONC. ENCASEM'T.

STA. 959+20 PROPOSED 24" STORM SEWER ℄ ELEV. 873.24 - 1.0' CONC. ENCASEM'T.

STA. 959+32 PROPOSED 16" C.I. WATER MAIN ℄ ELEV. 877.00 - 1.0' CONC. ENCASEM'T.

STA. 959+36 PROPOSED RELOC. 8" WATER MAIN ℄ ELEV. 876.80 - 1.0' CONC. ENCASEM'T.

℄ STRUCTURE

℄ ELEV. ℄ 879.51

STA. 950+00 to 960+00

FED. RD.	STATE	PROJECT	
2	OHIO		

40 / 492

MAH-18-17.20

I-12 CONC. CURB - TYPE G			
CODE	STATION FROM	TO	L.F.
C-1	968+64	969+77	113

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS							I-14 TYPE-1 PAVED GUTTER MOD. LIN. FT.
CODE	LOCATION & STATION	#1 M.H. EACH	#2-2A C.B. EACH	#2A-6 INLET EACH	#2A-8 INLET EACH	#6 C.B. EACH	
A-33	8+00 RAMP "E" 19.0' RT. ℄		1				20
A-34	8+00 RAMP "E" 19.0' LT. ℄					1	
A-35	968+69 52' LT. ℄			1			
A-36	969+00 6.0' LT. ℄	1					
A-37	968+85 67.0' RT. ℄		1				10
A-38	969+00 1.25' RT. ℄				1		
A-39	969+93 66.0' LT. ℄		1				10
A-40	969+93 6.0' LT. ℄	1					
SHEET TOTAL		2	3	1	1	1	40

ESTIMATED QUANTITIES I-2 PIPES			STORM SEWER (L.F.)				I-5 PIPE SPEC. EA.
CODE	LOCATION FROM	TO	CL "B" UNDER PAV'T OR APPR. 15"	12"	CL "A" 18"	CL "A" 15" M-6.4b	CL "B" ST. SW U.P. & 12"x45° BEND M-6.4b
P-33	A-34	H-12		135			
P-34	A-33	A-34		36			1
P-36	A-35	H-10				40	1
P-37	A-36	A-35			50		
P-38	A-37	H-11				44	1
P-39	A-36	A-40	89				
P-40	A-36	A-38		5			
P-41	970+00	A-40		5			
P-42	A-39	A-40	57				
SHEET TOTAL			146	181	52	84	1 2

ESTIMATED QUANTITIES I-5 GUARDRAIL & BARRIER RAIL			
CODE	LOCA.	G.R.(L.F.)	B.R.(L.F.)
R-7	℄		225
R-8	℄	150	75
R-9	RT.	112.5	
R-10	LT.	137.5	
SHEET TOTAL		400.0	300

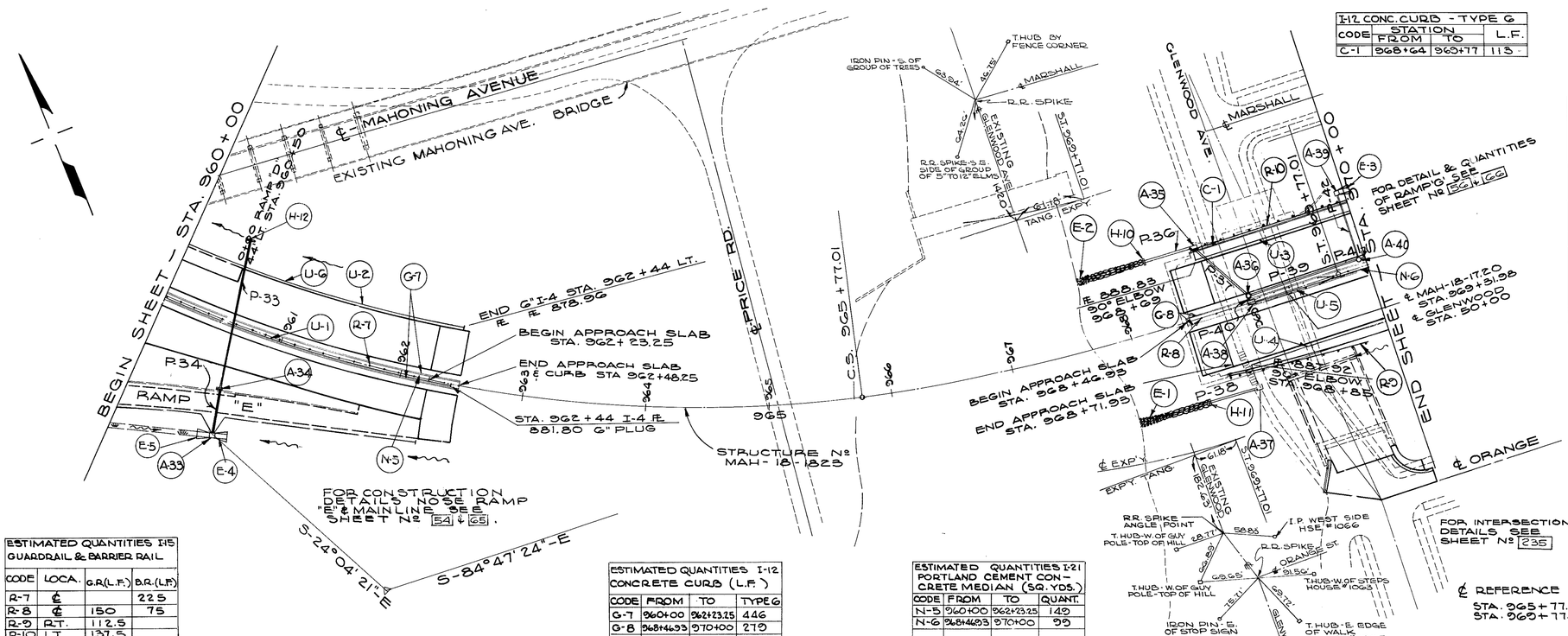
ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)			
CODE	FROM	TO	TYPE G
G-7	960+00	962+23.25	446
G-8	968+46.93	970+00	279
SHEET TOTAL			743

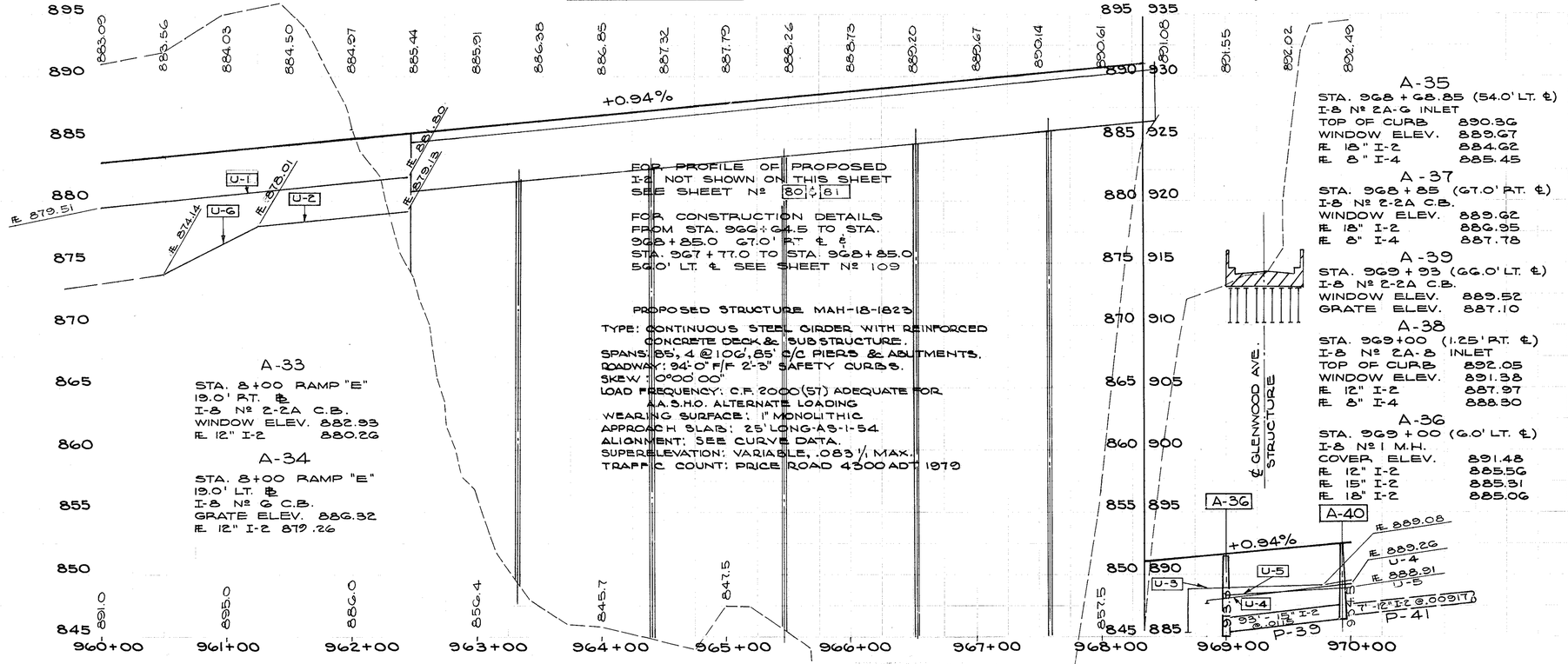
ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)			
CODE	FROM	TO	QUANT.
N-5	960+00	962+23.25	149
N-6	968+46.93	970+00	99
SHEET TOTAL			248

I-1 PIPE UNDERDRAINS LIN. FT.						
CODE	LOCATION FROM	TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4a	I-5 PIPE SPEC. EACH 6"x90°
U-1	960+00	962+44	S	244		
U-2	961+25	962+44	S	119		
U-3	968+69	970+00	S	130	10	1
U-4	968+85	970+00	S	114	10	1
U-5	969+00	970+00	S	90	10	
U-6	961+25	960+50	D	75		
SHEET TOTAL				772	30	2

EROSION CONTROL					
CODE	LOCATION FROM	TO	I-10 SOD S.Y.	I-10 DUMPED ROCK C.Y.	
E-1	967+89.5	968+42		23	
E-2	967+82	968+24		18	
SHEET TOTAL				41	

P.C. 4 ENDWALLS			
CODE	LOCATION		S-1 CONC. CL."E" C.Y.
H-10	968+23.85	52' LT. ℄	0.30
H-11	968+40	67' RT. ℄	0.30
H-12	960+50	68' LT. ℄	0.23
SHEET TOTAL			0.83





A-33
STA. 8+00 RAMP "E"
19.0' R.T. ℄
I-8 Nº 2-2A C.B.
WINDOW ELEV. 882.93
℄ 12" I-2 880.26

A-34
STA. 8+00 RAMP "E"
19.0' LT. ℄
I-8 Nº G C.B.
GRATE ELEV. 886.32
℄ 12" I-2 879.26

A-35
STA. 968 + 68.85 (54.0' LT. ℄)
I-8 Nº 2A-G INLET
TOP OF CURB 890.36
WINDOW ELEV. 889.67
℄ 18" I-2 884.62
℄ 8" I-4 885.45

A-37
STA. 968 + 85 (67.0' RT. ℄)
I-8 Nº 2-2A C.B.
WINDOW ELEV. 889.62
℄ 18" I-2 886.95
℄ 8" I-4 887.78

A-39
STA. 969 + 93 (66.0' LT. ℄)
I-8 Nº 2-2A C.B.
WINDOW ELEV. 889.52
GRATE ELEV. 887.10

A-38
STA. 969+00 (1.25' RT. ℄)
I-8 Nº 2A-8 INLET
TOP OF CURB 892.05
WINDOW ELEV. 891.38
℄ 12" I-2 887.97
℄ 8" I-4 888.30

A-36
STA. 969 + 00 (6.0' LT. ℄)
I-8 Nº 1 M.H.
COVER ELEV. 891.48
℄ 12" I-2 885.56
℄ 15" I-2 885.31
℄ 18" I-2 885.06

A-40
STA. 969 + 93 (6.0' LT. ℄)
I-8 Nº 1 M.H.
COVER ELEV. 892.54
℄ 12" I-2 886.63
℄ 15" I-2 886.38

℄ REFERENCE MONUMENTS
STA. 965+77.01
STA. 969+77.01

Δ = 60°43'03"
Dc = 5° 30'
Rc = 1041.74'
Ls = 400'
θs = 11°00'
Lc = 703.95'
Ts = 813.68'
Es = 172.95'

P = 6.39'
X = 199.76'
Y = 398.53'
Y = 25.53'
L.T. = 267.18'
S.T. = 133.80'
L.C. = 399.34'

FED. RD.	STATE	PROJECT	
2	OHIO		

41 / 492

MAH.-18-17.20

24'-0"

COBBLESTONE SURFACE STONE CURB

TYPICAL SECTION EXISTING ROCKVIEW

FOR MARSHALL ST. IMPROVEMENT SEE SHEET Nº 248 - 260

℄ - MARSHALL STREET

BEGIN SHEET - STA. 970+00

END SHEET - STA. 980+00

℄ - EDWARDS ST.

℄ - ROCKVIEW

℄ - ORANGE AVE.

RAMP G SEE SHEET Nº

9' PAVED SHOULDER

24" TYPE G CURB

STA. 971+19 6" I-4 PLUG

STA. 974+34 6" I-4 PLUG

STA. 976+68.30

STA. 979+10 6" I-4 PLUGS

STA. 979+99.50

BEGIN APPROACH SLAB STA. 978 + 94.25

END CURB & MEDIAN 979+19.25

STRUCTURE Nº MAH-18-1855

PROPOSED 15" STORM SEWER

EXISTING 15" COMB. SEWER

MARSHALL ST. INLET. SEE SHEET Nº 249

EDWARDS ST. IMPROVEMENT SEE SHEET Nº 262 - 263

EDWARDS ST. INLET.

S 84°47'24"-E

G-9 SEEDING TO CURB.

PROPOSED 48" COMBINED SEWER FOR DETAILS SEE SHEET Nº 93

REMOVE EXIST. S.W.

FOR SUMMARY OF EDWARDS ST. REMOVAL ITEMS SEE SHEET 25

LIMIT OF EDWARDS ST. QUANTITIES.

T. HUB BY JOG IN FENCE — IRON PIN 3'W. N.W. COR. HSE #27 — ℄ MARSHALL — ON M.H. COVER — ℄ ROCKVIEW — THUB W. OF 12" TREE — ℄ EXP'Y 976+68.30

IRON PIN AT S.W. COR. HSE #30 — R.R. SPIKE AT S.W. COR. WAREHOUSE — EXISTING ℄ MARSHALL — P.K. NEAREST D. RIM OF M.H. — ℄ EDWARDS — ℄ EXP'Y 979+99.50

THUB BY N.E. COR. HSE #30

IRON PIN BY STONE RET. WALL — THUB S.W. COR. PORCH HSE #133 — PNT ON M.H. COVER EXISTING ORANGE — THUB S. SIDE ℄ MAPLE

ITEM G-11 REMOVE EXISTING STONE CURB AT DRIVES & REPLACE WITH TYPE G CURB. RE-MOVE DRIVEWAY APPROACH, BACKFILL & SEED.

B.M.# 12 TOP OF HYDT. N.E. COR. GLENWOOD & MARSHALL ST. ELEV. 903.57

B.M.# 22 TOP OF STEM ON HYDT. N. SIDE ORANGE AVE. 100' FROM GLENWOOD. ELEV. 931.84

B.M.# 23 TOP OF STEM ON HYDT. N. SIDE ORANGE AVE. 350' FROM GLENWOOD. ELEV. 931.69

B.M.# 24 TOP OF BOLT @ PT OF ARROW ON W. SIDE OF HYDT. N.W. COR. ORANGE & ROCKVIEW. ELEV. 927.30

℄ REFERENCE MONUMENTS STA. 978+50

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION ℄ STATION	#1 M.H. EACH	#2-2A C.B. EACH	#6 C.B. EACH	#2A-6 INLET EACH	2-6 MOD INLET EACH
A-41	971+25 6' LT. ℄	1				
A-42	971+25 1.25' LT. ℄				1	
A-43	971+30.71 38' LT. ℄			1		
A-44	971+84.50 42.5' LT. ℄			1		
A-45	975+00 6' LT. ℄	1				
A-46	975+00 ℄					1
A-47	978+75 106' LT. ℄		1			
A-48	979+50 84' RT. ℄		1			
SHEET TOTAL		2	2	2	1	1

ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CL'B' STORM SEWER UNDR PAVT. APPRS. 12" L.F.	CLASS 'B' STORM SEWERS 12" L.F.
P-41	A-41	970+00	123	
P-43	A-42	A-41	2	
P-44	A-43	A-41	28	
P-45	A-44	A-43	52	
P-46	A-45	A-41	371	
P-47	A-46	A-45	2	
P-48	A-47	10+3249 MARSHALL		70
P-49	A-48	4+44.84 EDWARDS		27
SHEET TOTAL			522	97

ESTIMATED QUANTITIES I-15 GUARDRAIL & BARRIER RAIL

CODE	LOCA.	G.R (L.F.)	BR. (L.F.)
R-9	℄		925
R-9A	LT.	400	
R-10	LT.	50	
SHT. TOTAL		450	925

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	TYPE G
G-9	970+00	979+19.25	1816
G-10	ROCKVIEW	—	55
G-11	DRIVES	—	136
SHEET TOTAL			2007

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

CODE	FROM	TO	QUANT.
N-7	970+00	979+19.25	606
SHEET TOTAL			606

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	LOCATION FROM	LOCATION TO	CURB (L.F.)	PAVEMENT RIGID (S.Y.)	SIDEWALK (S.F.)
B-1	ORANGE	MARSHALL			2880
B-2	GLENWOOD	EDWARDS			4490
K-1	ORANGE	MARSHALL	590		
K-1	ORANGE	MARSHALL		787	
G-11	GLENWOOD	EDWARDS	136	57	
SHEET TOTAL			726	844	7370

I-4 PIPE UNDERDRAINS LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4a	I-5 SPECIAL 6" 30° BENDS EACH
U-1	977+00	971+32	D	558	10	
U-2	979+10	977+00	S	210		
U-3	971+19	970+00	S	119		
U-4	974+34	971+25	S	357	10	1
U-5	979+10	975+04	S	396	10	
U-6	970+25	970+00	S	25		
U-7	977+00	970+25	D	675		
U-8	979+10	977+00	S	210		
SHEET TOTAL				2548	30	1

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	L-10 SOD SQ.YDS.	I-14 TYPE I PAVED GUTTER (MOD) L.F.
E-1	976+50	978+65	119.7	
E-2	978+75	979+40	28.9	
E-3	978+75	—		10
E-4	979+50	—		10
SHEET TOTAL			1486	20

A-42
STA. 971+25
1.25' LT. ℄
I-8 Nº 2A-6 INLET
WINDOW EL. 893.49
℄ 12" I-2 890.08

A-43
STA. 971+30.71
38' LT. ℄
I-8 Nº 6 C.B.
GRATE 893.72
℄ 12" I-2 890.45

A-44
STA. 971+84.50
42.5' LT. ℄
I-8 Nº 6 C.B.
GRATE EL. 894.13
℄ 12" I-2 890.88

A-46
STA. 975+00 ℄
I-8 Nº 2-6 MODIFIED INLET
WINDOW ℄ (LT & RT.) 897.02
℄ 12" I-2 893.61
℄ 8" I-4 893.77

A-41
STA. 971+25
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 893.76
℄ 12" I-2 887.84
℄ 8" I-4 888.17

A-45
STA. 975+00
I-8 Nº 1 M.H. (6.0' LT. ℄)
COVER ELEV. 897.31
℄ 12" I-2 891.39
℄ 12" I-2 893.55

A-48
STA. 979+50
I-8 Nº 2-2A C.B. (84' RT. ℄)
WINDOW ELEV. 887.20
℄ 12" I-2 885.03

A-47
STA. 978+75
I-8 Nº 2-2A C.B. (106' LT. ℄)
WINDOW ELEV. 870.33
℄ 12" I-2 868.16

FOR PROFILES OF PROP. I-2 NOT SHOWN THIS SHEET SEE SHEET # 80

STA. 976+58 PROPOSED 48" COMBINATION SEWER ℄ 882.23 1.00' CONC. ENCASEMENT

℄ EDWARDS ST. STRUCTURE

P-41 125'-12" I-2 @ 0.005 ft

P-46 375'-12" I-2 @ 0.0047

+0.94%

STA. 970+00 TO 980+00

PROPOSED STRUCTURE MAH-18-1855
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE.
SPANS: 48', 60', 48' C/C BRGS.
ROADWAY: 100'-0" F/F PARAPETS.
LOADING FREQUENCY: C.F. 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
SKEW: 0°16'06" R.F. BRIDGE SQUARE
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
SUPERELEVATION: NONE
TRAFFIC COUNT: 3400 ADT 1979
ALIGNMENT: STRAIGHT TANGENT.

PRINTED IN U.S.A. BY R. R. DONNELLEY & SONS CO. FOR FHWA AND OHIO DEPT. OF HIGHWAYS
PHOENIX LITHOTYPE CO., CHICAGO

FED. RD.	STATE	PROJECT	
2	OHIO		

42 / 492

MAH-18-17.20

SEE SHEET 248 249 FOR MARSHALL ST. IMPROVEMENT

℄ - MARSHALL ST.

BEGIN SHEET – STA. 980+00

END SHEET – STA. 990+00

NOTE 114 PAVED GUTTER TO BE INCLUDED IN THE MARSHALL ST. QUANTITIES

END APPROACH SLAB STA. 981+04.75

BEGIN MEDIAN & CURB STA. 980+73.75

EXIST. 36" C.I.P. FOR DETAILS SEE SHEET № 94

EXIST. 30" C.I.P. FOR DETAILS SEE SHEET № 94

PAVED SHOULDER

S-84°47'24"-E

STA. 983+27 6"I-4 PLUGS

TYPE 6 CURB

STA. 983+23 6"I-4 PLUGS

STA. 984+45 6"I-4 PLUG

STA. 985+66 6"I-4 PLUG

STA. 980+90 6"I-4 PLUGS

BRIDGE № MAH-18-P-56

44° EXP. STRUCTURE RAMP "F" STA. 5+60

FOR CONSTRUCTION DETAILS & ALIGNMENT OF RAMP "H" SEE SHEET № 55 & 65

SEE SHEET № 55 RAMP "F"

IRON PIN-S.W. CORNER H'SE #824

P.K. NAIL

THUB BY FENCE H'SE # 830

IRON PIN 2' INSIDE COR. OF STONE WALL

R.R. SPIKE IN WALK 8" N. OF S.E. COR. YOA BLDG.

THUB BY SIDE GATE H'SE # 817

T. HUB AT S. SIDE OF DRIVE

MARSHALL

LOC. TAN.

℄ EXP.

FOR SUMMARY OF EDWARD'S ST. REMOVAL ITEMS SEE SHEET 262

℄ PLUM ST.

℄ WEST AVE.

PROPOSED RELOCATED 16" C.I.P. FOR DETAILS SEE SHEET № 94

MATCH LINE-3 RAMP "H" REMOVAL QUANTITIES

MATCH LINE-4 RAMP "H" REMOVAL QUANTITIES

RAMP "H"

RAMP "J"

COBBLESTONE OR BRICK CEMENT WEARING SURFACE

NO CURB: CONCRETE GUTTER

EXISTING SECTION PLUM ST.

BRICK – CONCRETE WEARING SURFACE

STONE CURB

EXISTING SECTION WEST AVE.

℄ REFERENCE MONUMENTS
986+75.49
989+75.49

NOTE: THE ℄ OF EDWARDS IS AT STA. 979+99.5 SAID ℄ IS NOT PARALLEL TO THE MATCH LINE.

B.M. # 18-A R.R. SPIKE IN 34" MAPLE 105' S. OF INT. HIGH & EDWARDS & 18' W. OF ℄ EDWARDS. ELEV. 929.55

B.M. # 19-A R.R. SPIKE IN W. SIDE 18" W. CHERRY 140' S. OF INT. HIGH & PLUM, LOCA. 18' E. OF ℄ PLUM ST. ELEV. 932.18

B.M. # 20-A R.R. SPIKE IN E. SIDE 18" MAPLE LOCA. 42' E. OF HIGH & WEST ST. INT. & 21' S. OF ℄ HIGH ST. ELEV. 933.70

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS					
CODE	LOCATION ℄ STATION	# 1 M.H. EACH	2-2A C.B. EACH	#2-6/#2-8 MOD. INLET	#2-6/#2-8 MOD. INLET
A-49	981+07 ℄			1	
A-50	981+07 84' RT. ℄	1			
A-51	981+50 85' RT. ℄		1		
A-53	985+60 ℄				1
A-54	989+00 6' LT. ℄	1			
A-55	989+ 54' RT. ℄		1		
SHEET TOTAL		2	2	1	1

ESTIMATED QUANTITIES I-2 PIPES LIN. FT.						I-5 PIPE SPEC. EACH 12"-45° BENDS M-64(6)
CODE	LOCATION FROM	TO	CL. 'B' STORM SEWER UNDER PAVT. OR APPR. 12"	15"	CLASS 'A' STORM SEWER 12" M-64(6)	15"
P-50	A-49	A-50	55		27	2
P-51	A-51	A-50				40
P-53	A-53	H-1	63			
P-54	A-55	A-54		57		
P-55	A-54	990+00		98		
P-56	A-50	4+44.84 EDWARDS				85
SHEET TOTAL			118'	155	27	125 2

ESTIMATED QUANTITIES I-21 PCC MEDIAN			
CODE	LOCATION FROM	TO	S.Y.
N-8	980+79.75	990+00	606

PC-4 ENDWALLS		
CODE	LOCATION	21" CLASS 'B' CONC. CU. YDS.
H-1	985+60 66' LT.	0.23

℄ CURVE DATA № 4

Δ = 74° 52' 50"
Dc = 2° 45'
Rc = 2083.48'
Ls = 300'
Θs = 4° 07' 30"
Lc = 2422.93'
Ts = 1746.61'
Es = 542.86'

P = 1.80'
K = 149.97'
x = 299.84'
y = 7.197'
L.T. = 200.06'
S.T. = 100.05'
L.C. = 299.93'

FOR PROFILES OF PROP. I-2 NOT SHOWN THIS SHEET SEE SHEET № 81 80 & 82

℄ PLUM ST.

P.V.I. STA. 984+66.12 ELEV. 903.66

ESTIMATED QUANTITIES I-15 GUARD RAIL & BARRIER RAIL			
CODE	LOCATION	BARRIER RAIL	GUARD RAIL
R-10	℄	925	
R-10A	LT.		925
R-10B	RT.		
SHEET TOTAL		925'	925'

+0.94%

-3.08%

500' V.C.

EL. 903.92

EL. 898.57

A-49
STA. 981+07 ℄
I-8 № 2-G MODIFIED INLET
WINDOW EL. 902.73
℄ 12" I-2 898.78
℄ 8" I-4 899.11

A-50
STA. 981+07
84' RT. ℄
I-8 № 1 M.H.
COVER EL. 890.10
℄ 12" I-2 884.14
℄ 15" I-2 883.89

A-51
STA. 981+50
85' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 889.30
℄ 15" I-2 886.86
℄ 8" I-4 887.44

A-53
STA. 985+60 ℄
I-8 № 2-8 MODIFIED INLET
WINDOW EL. 902.23
℄ 12" I-2 898.82
℄ 4" I-4 899.49

A-55
STA. 986+00
54' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 888.70
℄ 12" I-2 886.53

STA. 986+78.5
EXIST. 36" R.C.P.
℄ 879.00
TO BE ENCASED
1' CONCRETE

986+90
EXIST. 30" C.I.P.
℄ 878.8
TO BE ENCASED
1.0 CONCRETE

A-54
STA. 989+00
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 892.06
℄ 15" I-2 885.98

STA. 989+31
PROP. 16" C.I.P.
℄ 881.75
1.0' CONC. ENCASEMENT

P-55
100'-15" I-2
@ .03G2

I-4 PIPE UNDERDRAINS LIN. FT.						I-5 PIPE SPECIALS EACH	
CODE	LOCATION FROM	TO	6" PIPE	DEEP OR SHALLOW	8" OUTLET PIPE M-6.4a	6" 30° BEND	6"x8" TEE
U-1	980+90	981+50	58	D			1
U-2	981+05	A-49		D	30		
U-3	980+90 981+50	A-49	33	D	20		
U-4	980+90	981+11.06	21	D			
U-5	981+50	983+23	173	S			
U-6	981+50	983+23	173	S			
U-7	983+27	988+50	523	S			
U-8	983+27	A-52	220	S	10	1	
U-9	984+45	988+50	405	S			
U-10	988+50	990+00	150	D			
U-11	985+66	990+00	434	S			
U-12	988+50	990+00	150	D			
SHEET TOTAL			2340'		60'	1	1

EROSION CONTROL					
CODE	LOCATION FROM	TO	L-10 SOD S.Y.	I-10 DUMPED ROCK CU. YDS.	I-14 TYPE I PAVED GUTTER (MOD.) LIN. FT.
E-1	985+60	986+25	36		
E-2	985+60	–		1	
E-3	985+90	986+00			10
E-4	981+50	981+60			10
SHEET TOTAL			36'	1	20'

ESTIMATED QUANTITIES I-12 CONCRETE CURB			
CODE	LOCATION FROM	TO	TYPE 6 L.F.
G-11	980+79.75	990+00	1807'

ESTIMATED QUANTITIES E-8 REMOVABLE ITEMS						
CODE	LOCATION FROM	TO	CURB L.F.	RIGID PAV'T. S.Y.	SIDEWALK S.F.	GUTTER L.F.
B-1	ML-3	MARSHALL			2560	
B-2	ML-4	RAMP "J"			2350	
X-1	ML-4	RAMP "J"	468			
K-1	ML-3	MARSHALL		707		
K-2	ML-4	RAMP "J"		624		
S-1	ML-3	MARSHALL				250
SHEET TOTAL			468	1331	4910	250

STA. 980+00 TO 990+00

PLOTTED 10/27/71 PLOTTED BY R.E.S. DRAWING SUBMITTED BY
PROFILE
THIS SHEET
THIS ROAD
PRINTED IN U.S.A. THE RIGHT TO USE THIS IMAGE AND PRINT IT IN ANY PROCESS, INTENDED OR, CHICAGO

FOR MARSHALL ST. IMPROVEMENT
SEE SHEET Nº 248 260

FOR CONSTRUCTION DETAILS ~ NOSE RAMP "J" & MAINLINE SEE SHEET Nº 58 & 67

PROPOSED 15" COMB. SEWER - FOR DETAILS SEE SHEET Nº 97 —

FOR WALL DETAILS SEE SHEETS ___ TO ___

T. HUB S.W. COR. HSE Nº 514
10.93
ANGLE POINT R.R. SPIKE & HILKER
54.78
51.54'
T. HUB S.W. COR. HSE Nº 509
IRON PIN BY N.W. COR. PARKING LOT FENCE

ESTIMATED QUANTITIES 5.24 REMOVAL OF EXIST. STRUCTURES		
CODE	TYPE	QUANTITY
W-1	WALL	1
W-2	WALL	1

FED. RD.	STATE	PROJECT	
2	OHIO		

43
492

MAH-18-17.20

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION ℄ STATION	#1 M.H. EACH	2-2A C.B. EACH	#6 C.B. EACH	2A-10 INLET EACH
A-56	994+50 1.25' LT. ℄				1
A-57	994+60 6' LT. ℄	1			
A-58	994+50 54' RT. ℄		1		
A-59	13+80 RAMP 'H' 19' RT. ℄		1		
A-60	997+00.41 46' LT. ℄			1	
A-61	997+10 6' LT. ℄	1			
A-62	996+86.03 38' RT. ℄			1	
A-63	999+50 6' LT. ℄	1			
A-64	999+50 1.25' LT. ℄				1
SHEET TOTAL		3	2	2	2

℄ REFERENCE MONUMENTS
995+00
1000+00

ESTIMATED QUANTITIES I-2 PIPES LIN. FT.

CODE	LOCATION FROM	TO	CLASS "B" STORM SEWERS UNDER PAV'T OR APPR. 12"	15"	18"	21"	24"	27"
P-55	990+00	A-57		458				
P-57	A-56	A-57	9					
P-58	A-58	A-57				57		
P-59	A-59	A-58			43			
P-60	A-57	A-61					246	
P-61	A-60	A-61	39					
P-62	A-62	A-61	48					
P-63	A-61	A-63						236
P-64	A-63	1000+00						48
P-65	A-64	A-63	2					
SHEET TOTAL			98	458	43	57	246	284

WALTER ST.
BRICK CEMENT
STONE CURBS

HILKER ST.
SMITH TO ℄ PT.
BITUMINOUS SURFACE
MACADAM BASE

SMITH ST.
HIGH TO HILKER
BRICK CEMENT
STONE GUTTERS

SMITH ST.
HILKER TO MARSHALL
BITUMINOUS SURFACE
COBBLESTONE BASE
STONE GUTTERS

℄ CURVE DATA Nº 4

Δ = 74° 52' 50"
Dc = 2° 45'
Rc = 2083.48'
Ls = 300'
Θs = 4° 07' 30"
Lc = 2422.93'
Ts = 1746.61'
Es = 542.86'

P = 1.80'
K = 149.97'
x = 299.84'
y = 7.197'
L.T. = 200.06'
S.T. = 100.05'
L.C. = 299.93'

ESTIMATED QUANTITIES I-21 P.C.C. MEDIAN

CODE	LOCATION FROM	TO	S.Y.
N-9	990+00	1000+00	655.5

ESTIMATED QUANTITIES I-12 CONCRETE CURB

CODE	LOCATION FROM	TO	TYPE-6 L.F.
G-12	990+00	1000+00	1078

FOR CONSTRUCTION DETAILS NOSE RAMP "H" & MAINLINE SEE SHEET Nº 57 & 66

B.M.#15 TOP OF STEM ON HYDT. N. SIDE OF MARSHALL @ SMITH ELEV. 848.78

B.M.# 21 TOP OF STEM ON HYDT. N.W. COR. HIGH & SMITH ELEV. 926.02

DETAIL "A"

FOR PROFILES OF PROPOSED I-2 NOT SHOWN THIS SHEET SEE SHEET Nº 81.

A-57
STA. 994+60
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 875.86
℄ 12" I-2 872.21
℄ 15" I-2 865.70
℄ 21" I-2 865.20
℄ 24" I-2 864.95

A-61
STA. 997+10
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 868.16
℄ 12" I-2 863.07
℄ 12" I-2 866.85
℄ 24" I-2 859.95
℄ 21" I-2 859.70

A-63
STA. 999+50
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 862.88
℄ 12" I-2 859.02
℄ 24" I-2 855.15
℄ 27" I-2 854.90

A-56
STA. 994+50
1.25' LT. ℄
I-8 Nº 2A-10 INLET
WINDOW EL. 875.80
℄ 12" I-2 872.39
℄ 8" I-4 872.72

A-60
STA. 997+00.41
46' LT. ℄
I-8 Nº 6 C.B.
GRATE EL. 870.42
℄ 12" I-2 867.67

A-58
STA 994+50
54' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 870.91
℄ 18" I-2 866.67
℄ 21" I-2 866.42

A-62
STA. 996+86.03
38' RT. ℄
I-8 Nº 6 C.B.
GRATE EL. 866.38
℄ 12" I-2 863.58
℄ 8" I-4 863.91

A-59
RAMP "H" STA. 13+80
19' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 870.32
℄ 18" I-2 867.61

A-64
STA. 999+50
1.25' LT. ℄
I-8 Nº 2A-10 INLET
WINDOW EL. 862.51
℄ 12" I-2 859.10
℄ 8" I-4 859.43

STA. 995+38
PROPOSED VIT. PIPE COMBINATION SEWER
℄ 15" 855.92
1.0' CONC. ENCASEMENT

I-4 UNDERDRAINS

CODE	LOCATION FROM	TO	DEEP OR SHALLOW	6" PIPE	8" PIPE OUTLET M-6.4a	I-5 PIPE SPECIALS EACH 6" 90° BEND
U-1	990+00	991+00	D	157	10	1
U-2	990+00	994+00	S	440	10	
U-3	990+00	992+25	D	225		
U-4	992+25	996+86	S	451	10	
U-5	994+56	999+50	S	484	10	
U-6	999+56	1000+00	S	44		
U-7	999+00	1000+00	S	100		
SHEET TOTAL				1901	40	1

EROSION CONTROL

CODE	LOCATION FROM	TO	L-10 SOD S.Y.	I-10 DUMPED ROCK CU.YDS.	I-14 TYPE I PAVED GUTTER (MOD.) LIN. FT.	I-14 TYPE I PAVED GUTTER LIN. FT.
E-1	995+00	1000+00	278			
E-2	995+72	—				52
E-3	995+75			38		
E-4	RAMP 'H' 15+80				20	
SHEET TOTAL			278	38	20	52

ESTIMATED QUANTITIES I-15 GUARD RAIL & BARRIER RAIL

CODE	LOCATION FROM	TO	BARRIER RAIL (L.F.)	GUARD RAIL (L.F.)
R-11	990+00 ℄	1000+00 ℄	1000	
R-11-A	990+00 LT.	995+50 LT.		550
R-12	SMITH			50
R-13	SMITH			50
SHEET TOTAL			1000	650

ESTIMATED QUANTITIES E-8 REMOVABLE ITEMS

CODE	LOCATION FROM	TO	CURB	RIGID PAV'T.	NON RIGID PAV'T.	SIDEWALK	GUTTERS
B-1	SOUTH R/W	NORTH R/W				3000	
B-2	SMITH	1000+00				4160	
B-3	SMITH	WALL				1700	
X-1	SMITH	1000+00	850				
K-1	SOUTH R/W	NORTH R/W		533			
K-2	SMITH	1000+00		860			
K-3	SMITH	WALL			287		
S-1							600
SHEET TOTAL			850	1393	287	8860	600

STA. 990+00 to 1000+00

NOTE: ADJUST COVER OF M.H. A-69 TO CONFORM TO 2:1 SLOPE.

FOR STORM SEWER PROFILES FROM A-65 TO A-70 SEE SHEET Nº 81

FOR OAK HILL IMPROVEMENT SEE SH'T. Nº 286

FOR STORM SEWER PROFILE FROM A-10 TO B-1 SEE SHEET Nº 98

℄ REFERENCE MONUMENTS
STA. 1005+00
STA. 1010+00

FOR DETAIL & QUANTITIES OF RAMP 'J' SEE SHEET Nº 52 & 6

FOR HIGH ST. IMPROVEMENT SEE SHEET Nº 272 - 286

FOR PIKE ST. IMPROVEMENT SEE SH'T. Nº 292

FOR DETAILS & QUANTITIES OF RELOC. PIKE ST. SEE SHEET Nº 292

FOR SPECIAL COMPACTION SEE CROSS SECTIONS & GEN. NOTES SH. Nº 8

PROPOSED 54" SEWER SEE SHEET Nº 98

BRICK CEMENT STONE CURB
TYPICAL SECTION
EXIST. WALTER ST.

STONE CURB
ASPHALT SURFACE
BRICK CEMENT BASE
TYPICAL SECTION
EXIST. PIKE ST.

FED. RD.	STATE	PROJECT	
2	OHIO		

44
192

MAH-18-17.20

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION & STATION	#1-M.H. EACH	#2A-6 INLET EACH	#2-2 A C.B. EACH	#2A-8 INLET EACH	# 2 M.H. EACH
A-65	1000+41.48 6' LT. ℄	1				
A-66	1000+41.48 1.25' LT. ℄		1			
A-67	1001+50 6' LT. ℄	1				
A-68	1001+50 1.25' LT. ℄		1			
A-69	1001+50 88' LT. ℄	1				
A-70	0+05 PIKE ST. ℄					1
A-72	1003+50 100' LT. ℄	1				
A-73	1003+50 115.5' LT. ℄			1		
A-74	1003+50 81.5' RT. ℄			1		
A-76	1006+30 107' LT. ℄			1		
A-77	1007+50 92' RT. ℄			1		
A-78	1007+10 1.25' RT. ℄				1	
SHEET TOTAL		4	2	4	1	1

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

CODE	FROM	TO	QUANT.
N-10	1000+00	1005+01.81	333
N-11	1006+87.22	1010+00	215
SHEET TOTAL			548

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	TYPE 6
G-15	1000+00	1005+01.81	1002
G-16	1006+87.22	1010+00	616
SHEET TOTAL			1618

ESTIMATED QUANTITIES I-15 GUARDRAIL & BARRIER RAIL

CODE	LOCA.	G.R.(L.F.)	B.R.(L.F.)
R-14	℄		512.5
R-14A	LT.	325	
R-14B	RT.	500	
R-15	℄		312.5
R-15A	LT.	325	
R-15B	RT.	275	
SHT. TOTAL		1425'	825.0

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	FROM	TO	CURB (L.F.)	PAVEMENT RIGID (S.Y.)	SIDEWALK (S.F.)
B-1	1000+00	OAKHILL			5600
B-2	OAKHILL	1010+00			3440
X-1	1000+00	OAKHILL	1110		
X-2	OAKHILL	1010+00	710		
K-1	1000+00	OAKHILL		1110	
K-2	OAKHILL	1010+00		710	
SHEET TOTAL			1820	1820	9040

B.M.# 39-A R.R. SPIKE IN N. SIDE OF 28" MAPLE, 24' S. OF INT. PIKE & OAKHILL AND LOCA. 80' W. OF ℄ OAKHILL AVE.
ELEV. 861.87

B.M.# 31 TOP OF STEM ON HYDT. N. SIDE OF WALTER ST.
ELEV. 845.71

B.M.# 40 TOP OF BOLT WEST SIDE OF HYDT. ON SOUTH SIDE OF PIKE ST. @ ANGLE PT.
ELEV. 846.45

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 TYPE-1 PAVED GUTTER L.F.
E-1	1000+00	1003+40	189	
E-2	1003+60	1005+00	78	
E-3	1007+60	1010+00		240
SHEET TOTAL			267	240

I-4 UNDERDRAINS LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUT. PIPE M-6.4 a	I.S PIPE SPECIALS 6'-30° BEND	I.S PIPE SPECIALS 6'x6' TEE
U-1	1000+00	1000+41.48	S	30	10	1	
U-2	1000+00	1001+00	D	114	10		1
U-3	1005+13	1001+00	S	413			
U-4	1005+01	1000+41.48	S	447	10	1	
U-5	1007+10	1010+00	S	340	10	2	1
U-6	1006+95	1010+00	S	304	2		1
SHEET TOTAL				1648	42'	4	3

EROSION CONTROL

CODE	LOCATION	
	FROM	TO
E-4		20
E-5		20
E-6		10
E-7		10

℄ CURVE DATA Nº 4

Δ = 74° 52' 50"	P = 1.80'
D_c = 2° 45'	K = 149.97'
R_c = 2083.48'	x = 299.84'
L_s = 300'	y = 7.197'
Θ_s = 4° 07' 30"	L.T. = 200.06'
L_c = 2422.93'	S.T. = 100.05'
T_s = 1746.61'	L.C. = 299.93'
E_s = 542.86'	

ESTIMATED QUANTITIES - I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CLASS 'B' STORM SEWER UNDER PAVEMENT & APPROACHES 12"	27"	33"	18" M-6.6d	36" M-6.6 b M-6.8 b	CL. 'B' STORM SEWER 15"	12"	CL 'A' STORM SEWER 12" M-6.4 c	I.S PIPE M-6.4 c SPECIALS 12"x30° BEND EACH
P-64	1000+00	A-65		40							
P-66	A-67	A-65	105								
P-67	A-66	A-65	2								
P-68	A-68	A-67	2								
P-69	A-65	A-69		*136							
P-70	A-69	A-72			205						
P-71	A-72	A-70					222				
P-74	A-76	A-80							72		
P-75	A-77	54" SEWER						54			
P-76	A-73	A-72							12		
P-77	A-74	A-72				178					
P-83	A-78	A-71	80							60	2
SHEET TOTAL			189'	4	205	178	222	54'	84'	60'	2'

A-65
STA. 1000+41.48
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 862.45
FE. 12" I-2 854.78
FE. 12" I-2 858.60
FE. 27" I-2 853.53
FE. 8" I-4 858.62

A-67
STA. 1001+50
6' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 863.06
FE. 12" I-2 857.14
FE. 12" I-2 859.21

A-69
STA. 1001+50
88' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 849.00
FE. 27" I-2 837.67
FE. 33" I-2 837.17

A-70
STA. 0+05 PIKE ST. ℄
I-8 Nº2 M.H.
COVER EL. 848.91
FE. 36" I-2 834.68

A-72
STA. 1003+50
100' LT. ℄
I-8 Nº 1 M.H.
COVER EL. 848.00
FE 33" I-2 836.09
FE. 36" I-2 835.84
FE. 12" I-2 837.84
FE. 18" I-2 837.34

A-73
STA. 1003+50
115.5' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 840.17
FE. 12" I-2 838.00

A-74
STA. 1003+50
81.5' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 848.20
FE. 18" I-2 845.49

A-66
STA. 1000+41.48
1.25' LT. ℄
I-8 Nº 2A-6 INLET
WINDOW EL. 862.08
FE. 12" I-2 858.67

A-68
STA. 1001+50
1.25' LT. ℄
I-8 Nº 2A-6 INLET
WINDOW EL. 862.63
FE. 12" I-2 859.28

A-76
STA. 1006+90
107' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 850.50
FE. 12" I-2 848.33

A-77
STA. 1007+50
92' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 854.80
FE. 15" I-2 852.34
FE. 8" I-4 852.67

A-78
STA. 1007+10
1.25' LT. ℄
I-8 Nº 2A-8
TOP OF CURB 879.34
WINDOW EL. 878.67
FE. 12" I-2 874.26

PROPOSED STRUCTURE MAH-18-1904
TYPE: STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 49'-0", 70'-0", 56'-0" C/C BRGS.
ROADWAY: 88'-0" F/F PARAPETS
LOAD FREQUENCY: C.F. 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW: 23° 54' 16" R.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
SUPERELEVATION: .065 "/'
ALIGNMENT: 2°45'00" RT.
TRAFFIC COUNT: 26,000 ADT. 1979

STA. 0+54.83 PIKE ST. (RELOC.)
I-8 YNGST. TYPE II INLET
12.0' RT. ℄ PIKE ST.
TOP OF CURB 848.73
WINDOW EL. 847.98
FE 12" I-2 844.67
FE. 12" I-2 844.23
FE. INLET 842.98

STA. 1006+90
I-8 Nº 2-2A C.B.
107' LT. ℄
WINDOW EL. 850.50
FE. 12" I-2 848.33

STA. 1007+50
I-8 Nº 2-2A C.B.
WINDOW EL. 854.80
FE. 8" I-4 852.67
FE. 15" I-2 852.34

SEWER PROFILES
HORIZ. 1" = 20'
VERT. 1" = 5'

STA. 1000+00 TO 1010+00

FED. RD.	STATE	PROJECT	
2	OHIO		

45/492

MAH-18-17.20

18'-0"

ASPHALT SURFACE
BRICK CEMENT BASE
STONE CURB

TYPICAL SECTION
EXIST. PIKE ST.

FOR DETAILS & QUANTITIES OF RELOC., PIKE ST. SEE SHEET Nº 29&295

NOTE:
FOR DETAIL OF SCUPPER DRAINS SEE SHEET Nº 82

RENNER BREWERY

EXIST. 68" COMBINATION SEWER FOR DETAILS SEE SHEET Nº 96

PROPOSED RELOC. 54" COMBINATION SEWER - FOR DETAILS SEE SHEET Nº

BEGIN SHEET — STA. 1010+00

END SHEET — STA. 1020+00

℄ PIKE ST.

RELOC. PIKE ST. STA. 9+90

"M" CELLAR

EMPTY BOTTLE STORAGE B'L'D'G.

TRUCK GARAGE

FOR DETAIL & QUANTITIES OF RAMP 'L' SEE SHEET Nº 6G & 6B

FOR CURB & MEDIAN QUANTITIES LT. OF ℄ BETWEEN APPROACH SLABS, SEE SHEET Nº STRUCTURE Nº MAH-18-1023

BEGIN APPROACH SLAB 1019+18.75

END APPROACH SLAB 1015+83.75

BEGIN TAPER STA. 1014+30 OF RAMP 'L' STA. 1013+70 ℄ EXP.

STA. 8+83.47 ℄ RAMP 'L' STA. 1013+17.15 ℄ EXP.

RAMP 'L'

RAMP 'K'

STA. 1013+98.42 RAMP 'K' STA. 0+00 ℄ EXP.

STA. 1016+98.42 RAMP 'K' STA. 1018+25 ℄ EXP.

FOR DETAIL & QUANTITIES OF RAMP 'K' SEE SHEET Nº 5B & 6B

FOR SPECIAL COMPACTION SEE CROSS SECTIONS & GEN. NOTES SH. Nº 8

BITUMINOUS SURFACED PARKING AREA

HOSPITAL SERVICE B'L'D'GS

B.M.#41 TOP OF STEM ON HYDT. @ S. SIDE OF PIKE ST. W. OF RENNER BREWERY. ELEV. 850.67

B.M.#42 TOP OF STEM ON HYDT. @ SOUTH SIDE OF PIKE ST. IN FRONT OF BREWERY. ELEV. 852.80

P-84 P-85 P-86 P-87 P-88 P-90 P-91 P-92 P-93

S-9°54'34"-E

B-1 K-1 X-1 R-17A R-17B R-16 N-12 U-1 U-2 G-18 G-17 A-84 A-85 A-86 A-87 A-88 E-1 E-2 E-3 E-4 E-5 E-6 E-7 A-90 N-13 A-91 N-14 G-19 A-92

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

CODE	FROM	TO	QUANT.
N-12	1010+00	1015+84.50	385.5
N-13	1015+84.50	1019+18	111
N-14	1019+18	1020+00	48.8
SHEET TOTAL			545.3

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	FROM	TO	CURB (L.F.)	PAVEMENT RIGID (S.Y.)	SIDEWALK (S.F.)
B-1	1010+00	9+90			5300
X-1	1010+00	9+90	1060		
K-1	1010+00	9+90		1060	
SHEET TOTAL			1060	1060	5300

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	TYPE G
G-17	1010+00	1020+00	990.7
G-18	1010+00	1015+84.5	571.2
G-19	1019+18	1020+00	73.5
G-17A	1012+30	1013+95	165
SHEET TOTAL			1800.4

ESTIMATED QUANTITIES I-15 GUARDRAIL & BARRIER RAIL

CODE	LOCA.	G.R. (L.F.)	B.R. (L.F.)
R-16	℄		1000
R-17	R.T.	600	
R-17A	LT.	575	
R-17B	RT.	200	
SH'T. TOTAL		1375'	1000'

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION & STATION	#2A-12 INLET EACH	#1 M.H. EACH	#2-2A C.B. EACH	#6 C.B. EACH	#2-8 MOD. INLET EACH
A-84	1010+50 1.25' LT. ℄	1				
A-85	1010+50 60' RT. ℄		1			
A-86	1015+50 6.0' RT. ℄		1			
A-87	1015+50 63.0' RT. ℄			1		
A-88	1015+50 132.0' RT. ℄			1		
A-90	1017+25 4.5' RT. ℄				1	
A-91	1019+25 ℄					1
A-92	1019+30.6 61.0' LT. ℄			1		
SHEET TOTAL		1	2	3	1	1

ESTIMATED QUANTITIES I-2 PIPES LIN. FT. — I-5 PIPE SPEC.

CODE	LOCATION FROM	LOCATION TO	C.L. "B" ST. SEWER UNDER PVM'T. OR APPR. 12"	8"	15"	C.L. "A" STORM SEWER L.F. 18"	12"M-G.4(6)	18"M-G.4(6)	12"x15" TEE EACH	12"x15" WYE EACH	18" 30° BEND M-G.4(6) EACH	8" 30° BEND EACH	8"x18" TEE EACH
P-84	B-1	A-85				108		78			2		
P-85	A-85	A-86				496							
P-86	A-84	A-85	7										
P-87	A-88	A-87					73						
P-88	A-87	A-86				54							
P-85	1015+88	1019+23		180								2.0	
P-90	A-90	P-91	2										
P-91	A-86	1020+00			316				1	2			2.0
P-92	A-91	A-92	87										
P-93	A-91	P-90	4										
SHEET TOTAL			100	180	316	658	73	78	1	2	2	2.0	2.0

℄ REFERENCE MONUMENTS
STA. 1013 + 98.42
STA. 1016 + 98.42

℄ CURVE DATA Nº 4

Δ	= 74°52'50"	P	= 1.80'
D_C	= 2°45'	K	= 149.97'
R_C	= 2083.48'	X	= 299.84
L_S	= 300'	Y	= 7.157'
Θ_S	= 4°01'30"	L.T.	= 200.06'
L_C	= 2422.93	S.T.	= 100.05
T_S	= 1746.61	L.C.	= 299.93
E_S	= 542.86		

A-84
STA. 1010 + 50
I-8 Nº 2A-12 (1.25' LT. ℄)
TOP OF CURB 890.55
WINDOW EL. 889.92
FE 12" I-2 886.51

A-85
STA. 1010 + 50
I-8 Nº 1 M.H. (6.0' RT. ℄)
COVER EL. 889.89
FE 18" I-2 883.43
FE 12" I-2 886.11

A-86
STA. 1015 + 50
I-8 Nº 1 M.H. (6.0' RT. ℄)
COVER EL. 906.29
FE 15" I-2 899.03
FE 18" I-2 898.78

A-87
STA. 1015 + 50
I-8 Nº 2-2A C.B.
WINDOW EL.
FE 15" I-2.

A-88
STA. 1015 + 50
I-8 Nº 2-2A C.B.
WINDOW EL. 930.25
FE 15" I-2 M-G.4(c) 928.08

A-89
STA. 1015 + 88.5
I-8 Nº 2A-10 INLET (1.25' LT. ℄)
TOP OF CURB 908.12
WINDOW EL. 907.45
FE 12" I-2 904.04

A-90
STA. 1017 + 25
I-8 Nº G C.B. (4.5' RT. ℄)
GRATE EL. 912.03
FE 12" I-2 908.36

A-91
STA. 1019 + 25
I-8 Nº 2-8 INLET (MODIFIED)
TOP OF CURB 919.12
WINDOW EL. 918.45
FE 12" I-2 915.04
FE 8" I-4 915.37

A-92
STA. 1019 + 30.6
I-8 Nº 2-2A C.B. (61.0' LT. ℄)
GRATE EL. 919.31
FE 12" I-2 917.14

FOR PROFILES OF PROPOSED I-2 NOT SHOWN ON THIS SHEET SEE SHEET Nº 83

P-85: 500'-18" I-2 @ .0306; +3.26%; FE 884.88; FE 889.74

P-91: 500'-15" I-2 @ .0358; +3.26%; FE 911.97; FE 918.40

PROPOSED STRUCTURE MAH-18-1923
TYPE: CONTINUOUS CONC. SLAB DECK WITH CAPPED PILE SUBSTRUCTURE.
SKEW: 0°00'
SPANS: SEE BRIDGE, SHEET Nº 417
ROADWAY: 41'-10" F/C CURBS WESTBOUND LANE
LOAD FREQUENCY: C.F. 2000 ADEQUATE FOR AASHO OR ALTERNATE.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG
ALIGNMENT: SAME AS ROADWAY (SUBSTRUCTURE STRAIGHT)
SUPERELEVATION: VARIES

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 PAVED GUTTER L.F. TYPE I	TYPE I (MOD)
E-1	1015+60	1018+50		290	
E-2	1015+60	1017+00	78		
E-3	1010+00	1014+00		400	
E-4	1012+30	1015+40		210	
E-5					10
E-6					10
E-7					20
	TOTAL		78'	900	40

I-4 UNDERDRAINS LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEED OR SHALLOW	6" PIPE	8" OUTLET PIPE M-G.4(a)
U-1	1010+00	1018+21	S	821	
U-2	1018+25	1020+00	S	65	10
SHEET TOTAL				886	10'

STA. 1010+00 to 1020+00

FED. RD.	STATE	PROJECT		
2	OHIO			

46
492

MAH-18-17.20

Note:
FOR RIDGE AVE. STRUCTURE
SEE SHEET Nº 424

Note:
FOR WOODLAND AVE. STRUCTURE
SEE SHEET Nº 438

ESTIMATED QUANTITIES I-21 P.C.C. MEDIAN			
CODE	LOCATION FROM	LOCATION TO	S.Y.
N-15	1020+00	1030+00	662.2

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS						
CODE	LOCATION & STATION	#1 M.H. EACH	#2-A-12 INLET EACH	#2-2A C.B. EACH	#2-A-8 INLET EACH	
A-93	1021+00 6.0'RT.	1				
A-94	1021+15 1.25'RT.		1			
A-95	1022+50 61.0' LT.	1				
A-96	1021+90 88.0'RT.			1		
A-97	1023+00 43.5'RT.				1	
A-98	1023+00 57.0'LT.			1		
A-99	1029+50 ℄				1	
SHEET TOTAL		2	1	2	2	

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	14 PAVED GUTTER TYPE I MOD. L.F.
E-1	1022+00	1023+00	56	
E-2				10
E-3				30
TOTAL			56	40

I-4 UNDERDRAINS LIN. FT.					
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4(a)
U-1	1020+00	1021+11	S	111	
U-2	A-94	1030+00	S	875	10
U-3	A-7 "K"	A-99	D	760	20
SHEET TOTAL				1746	30

RIDGE AVE
BITUMINOUS SURFACE
BRICK CEMENT BASE
STONE CURB

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS					
CODE	LOCATION FROM	LOCATION TO	CURB	SIDE-WALK	RIGID PAV'T.
B-1	47+86.14	50+00.43		1730	
X-1	"	"	430		
K-1	"	"			430
SHEET TOTAL			430	1730	430

ESTIMATED QUANTITIES I-15 BARRIER RAIL			GUARD RAIL
CODE	LOCATION	L.F.	L.F.
R-18	℄	825	350

℄ REFERENCE MONUMENTS
1025+55.38

PROPOSED STRUCTURE
MAH.-18-1934
TYPE: CONTINUOUS STEEL BEAM, WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPAN = 78'-0" 81'-6" c/c BEARINGS
ROADWAY: 28' F/F CURB-5' SIDEWALK-BOTH SIDES
LOAD FREQUENCY - CF400 - ADEQUATE FOR AASHO ALTERNATE LOADING
SKEW = 15°-27'-25" R.F.
WEARING SURFACE 1" MONOLITHIC
APPROACH SLAB 25' LONG, AS-1-54
SUPERELEVATION - NONE
ALIGNMENT = TANGENT
TRAFFIC COUNT: 3900 ADT 1979

℄ CURVE DATA Nº 25

Δ = 53° 49' 25"	P = 6.68'
Dc = 5° 45'	K = 199.73'
Ls = 400'	x = 398.39'
Rc = 996.45'	y = 26.68'
Θs = 11° 30'	L.T. = 267.23'
Lc = 536.06'	S.T. = 133.85'
Ts = 708.91'	L.C. = 399.28'
Es = 128.51'	Δc = 30°49'25"

STA. 1029+50 (61.0' RT.℄)
I-8 Nº 2A-8 INLET
℄ 15" I-2 930.84

B.M.#47 TOP OF STEM ON HYDT. @ RIDGE & WERNER ELEV. 952.47

B.M.# 51 TOP OF STEM ON HYDT. S.E. COR. WOODLAND & WILLIAMS. ELEV. 962.54

B.M.# 52 N.E. BOLT ON HYDT. S.E. COR. WOODLAND & MARKET ST. ELEV. 942.32

B.M.#54 TOP OF STEM ON HYDT. @ N.W. COR. HUGHES & MARKET ST. ELEV. 966.86

BEGIN APPROACH SLAB 47+86.14

END APPROACH SLAB STA. 50+00.43

BRIDGE Nº. MAH-18-19.34

FOR RETAINING WALL DETAIL SEE SHEET

BEGIN APPROACH SLAB WOODLAND STA. 6+17.59

END APPROACH SLAB STA. 4+15.49

BRIDGE Nº. MAH-18-19.41

SEE SHEET 281-285 FOR WOODLAND AVE. DETAILS

SEE SHEET 55

SEE SHEET 59

SEE SHEET 60

FOR PROFILES OF PROPOSED I-2 NOT SHOWN THIS SHEET SEE SHEET Nº 83

T.S. 1021+55.38

S.C. 1025+55.38

BEGIN-T-FEL 1026+25.33

P.C.C. 1024+00 RAMP "M" 1+78.31

END TAPER 1026+25 RAMP "M" 1+00

BEGIN TAPER 1023+67.64 RAMP "M"

END TAPER 1027+17.64 RAMP "M"

EXP. STA. 1021+51.99
RIDGE STA. 48+91.43

EXP. STA. 1025+08.07
WOODLAND 4+58.34

℄ WILLIAMS 9+89.53
℄ WOODLAND 5+51.53

P.V.I. 1026+00
ELEV. 940.62

-2.72%
+3.26%

℄ 931.57
℄ 931.42
℄ 924.82
926.16

800' V.C.

INLET & STORM SEW. RAMP K ℄ 924.16

℄ 921.10 STA 1021+11 6" PLUG

550' 15" I-2 @ .0358

A-93
STA. 1021+00 (6.0' RT ℄)
I-8 Nº 1 M.H.
COVER ELEV. 924.44
℄ 12" I-2 917.20
℄ 15" I-2 916.95

A-94
STA. 1021+15 (1.25' RT. ℄)
I-8 Nº 2A-12 INLET
TOP OF CURB -925.31
WINDOW ELEV. 924.64
℄ 8" I-4 921.56
℄ 12" I-2 921.23

A-96
STA. 1021+90 (88.0' RT. ℄)
I-8 Nº 2-2A C.B.
WINDOW ELEV. 925.94
℄ 15" I-2 923.48

A-98
STA. 1023+00
I-8 Nº 2-2A C.B. (57.0' LT. ℄)
WINDOW EL. 926.17
℄ 12" I-2 924.00

A-95
STA. 1022+50 (61.0 LT.℄)
I-8 Nº 1 M.H.
COVER EL. 927.77
℄ 12" I-2 -921.85

A-97
STA. 1023+00 (42.0' RT ℄)
I-8 Nº 2A-8 INLET
TOP OF CURB - 931.90
WINDOW EL. - 931.23
℄ 12" I-2 -927.82

A-99
STA. 1029+50 (61'℄ RT.)
I-8 Nº 2A-8 INLET
TOP OF CURB - 934.92
WINDOW EL. 934.25
℄ 15" I-2 930.84
℄ 8" I-4 931.42

A-100
STA. 1030+60
I-8 Nº 1 M.H. 60' RT ℄
COVER ELEV. 928.00
℄ 12" I-2 924.00
℄ 15" I-2 922.50
℄ 24" I-2 915.60
℄ 48" I-2 913.66

130' 12" I-2 @ .0642

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION FROM	LOCATION TO	CL."B" STORM SEWER UNDER PAV'T. & APPR. 15" L.F.	12" L.F.
P-91	1020+00	A-93	98	
P-92	A-93	A-7"K"	86	
P-93	A-93	A-5"L"	37	
P-94	A-93	A-94		12
P-95	A-95	A-5"L"		148
P-96	A-95	A-98		47
P-97	A-7"K"	A-96		41
P-98	A-7"K"	A-97		116
P-99	A-99	A-100		127
SHEET TOTAL			221	491

STA. 1020+00 TO 1030+00

FED. RD.	STATE	PROJECT	
2.	OHIO		

47
492

MAH-18-17.20

PROPOSED RELOCATED 48" ST. SEWER. FOR DETAILS SEE SHEET Nº 99 & 101

I-680-9(1) 222

S.R.18 STATIONING

S.R.7 STATIONING

END MAIN-LINE GRADING STA. 806+00

30'-0"

BRICK CEMENT WEARING SURFACE
STONE CURB
TYPICAL SECTION
EXIST. HAYES AVE.

68'-0"

5" REINF. CONC. OR BRICK CEMENT BASE
3" ASPHALT SURFACE
STONE CURB
TYPICAL SECTION
EXIST. MARKET ST.

℄ ERIE ST.
EXP. STA. 1036+51.33

END APPROACH SLAB STA. 50+84.01

BRIDGE Nº MAH-18-19.50

BEGIN SHEET - STA. 1030+00

1030+91.44

℄ MARKET ST.

SEE SHEET G-2 RAMP "N"

SEE SHEET G-1 RAMP "M"

℄ HAYES AVE. EXP STA. 1034+37.19

1034+91.44 (BACK)
806+88.34 (AHEAD)

EQUATION 1034+91.44 (BACK) = 806+88.34 (AHEAD)

804+79.03

PROVIDE 18" I-2 STUB FOR FUTURE SEWER

TEMPORARY CHANNEL

END WORK STA. 805+20

END SHEET - STA. 802+00

MARLIN ST.

FULTON STREET

END PROJECT

FEDERAL MARKER WILL BE FURNISHED AND ERECTED ON THE LEFT BY THE STATE OF OHIO BEFORE ACCEPTANCE OF THIS PROJECT.

FOR RETAINING WALL DETAIL SEE SHEET

BEGIN APPROACH SLAB STA. 48+55.15

℄ EXP STA. 1030+23.49
℄ MARKET ST. STA. 50+00

℄ WOODLAND

℄ EXP'Y

℄ MARKET ST.

RR. SPIKE 4T. ±

RR. SPIKE

270.65'

45.16'

60.45'

83°53'47"

C.S. 1030+91.44

S.T. 1034+91.44

S 18°18'29" E

78.21'

50.88'

38.38'

"X" CUT IN ST.

B.M.#61 TOP OF STEM ON HYDT. @ W. SIDE OF ERIE S. OF HENRY. ELEV. 961.37

B.M.#59 TOP OF STEM ON HYDT. @ N.W. COR. HAYES & HENRY ELEV. 969.19

℄ REFERENCE MONUMENTS
STA. 1030+91.44
STA. 1034+91.44

B.M.#69 TOP OF STEM ON HYDT. @ E. SIDE OF MARLIN & N. OF KYLE ELEV. 947.98

ESTIMATED QUANTITIES I-8 INLETS, MANHOLES & CATCH BASINS

CODE	LOCATION & STATION	I-8 Nº1 M.H.	I-8 2A-8 INLET	I-8 2-2A INLET	I-8 2A-6 INLET	I-8 Nº2 M.H.
A-100	1030+60 6' LT. ℄					1
A-101	1030+60 1.25' RT. ℄		1			
A-102	1033+50 6' LT. ℄	1				
A-103	1032+00 6' LT. ℄	1				
A-104	1033+50 54' RT. ℄			1		
A-105	1033+00 1.25' RT. ℄				1	
A-106	1034+91.44 54' LT. ℄			1		
A-107	1034+91.44 6' LT. ℄	1				
SHEET TOTAL		3	1	2	1	1

ESTIMATED QUANTITIES I-21 PORTLAND CEMENT CONCRETE MEDIAN (SQ. YDS.)

CODE	FROM	TO	QUANT.
N-16	1030+00	1034+91.44	322.5
SHEET TOTAL			322.5

ESTIMATED QUANTITIES I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	TYPE 6
G-21	1030+00	1034+91.44	966.2
G-22	HAYES	—	30
G-23	HAYES	—	30
G-21A	1030+00	1030+50	50
SHEET TOTAL			1076.2

ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CL. "B" STORM SEWER UNDER PAV'T. & APPROACHES 12"	18"	21"	27"
P-1	A-3 RAMP N	A-103	99			
P-2	A-104	A-102		57		
P-3	A-105	A-102	47			
P-4	A-106	A-107	56			
P-5	A-101	A-100	3			
P-6	A-107	A-102			3	137
P-7	A-102	A-103				146
P-8	A-103	A-100				136 *
SHEET TOTAL			205	60	137	146

ESTIMATED QUANTITIES I-15 GUARDRAIL & BARRIER RAIL

CODE	LOCA.	TYPE 2-B G.R. (L.F.)	TYPE 2B B.R. (L.F.)
R-19	℄	150	525
R-20	HAYES	62.5	
R-21	HAYES	62.5	
SH'T. TOTAL		275	525

EROSION CONTROL

CODE	I-14 PAVED GUTTER-TYPE I (MOD.) L.F.
E-1	20
E-2	20

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	LOCA.	SIDEWALK (S.F.)	CURB (L.F.)	PAVEMENT RIGID (S.Y.)
B-1	HAYES	2450		
X-1	HAYES		610	
K-1	HAYES			1050
B-2	MARKET	4330		
X-2	MARKET		382	
K-2	MARKET			1440
SH'T. TOTAL		6780	992	2490

* M-6.6 b or M-6.8 b

℄ CURVE DATA Nº 5

Δ = 53°49'25"
Dc = 5°45'
Ls = 400
Rc = 996.45'
Θs = 11°30'
Lc = 536.06'
Ts = 708.91'
Es = 128.51'

P = 6.68'
K = 199.73'
x = 398.39'
y = 26.68'
L.T. = 267.23'
S.T. = 133.85'
L.C. = 399.28'
Δc = 30°49'25"

A-106
STA. 1034+91.44 (54' LT.)
I-8 Nº 2-2A INLET
WINDOW EL. 924.15
℄ 12" I-2 921.58

A-105
STA. 1033+00
1.25' RT. ℄
I-8 Nº 2-A-6 INLET
TOP OF CURB 926.37
WINDOW EL. 925.70
℄ 12" I-2 922.29
℄ 8" I-2 922.62

A-104
STA. 1033+50 (54' RT.)
I-8 Nº 2-2A INLET
WINDOW EL. 924.74
℄ 15" I-2 922.28
℄ 18" I-2 922.03
℄ 8" I-4 923.03

A-101
STA. 1030+60 (1.25' RT. ℄)
I-8 Nº 2-A-8 INLET
TOP OF CURB 928.75
WINDOW EL. 928.08
℄ 12" I-2 924.67

A-103
STA. 1032+00 (6' LT. ℄)
I-8 Nº 1 M.H.
COVER EL. 926.08
℄ 24" I-2 917.27
℄ 12" I-2 918.27

A-100
STA. 1030+60 (6' LT. ℄)
I-8 Nº 2 M.H.
COVER EL. 928.00
℄ 12" I-2 924.00
℄ 24" I-2 915.66
℄ 48" I-2 913.66
℄ 8" I-4 924.33

A-102
STA. 1033+50 (6' LT. ℄)
I-8 Nº 1 M.H.
COVER EL. 925.99
℄ 18" I-2 919.51
℄ 21" I-2 919.26
℄ 24" I-2 919.01
℄ 12" I-2 920.0

A-107
STA. 1034+91.44 (6' LT. ℄)
I-8 Nº 1 M.H.
COVER EL. 927.88
℄ 12" I-2 921.80
℄ 18" I-2 921.40
℄ 21" I-2 921.15

FUTURE CONSTRUCTION

STA. 802+00 (1.25' RT. ℄)
I-8 Nº 2A-10 INLET
TOP OF CURB 942.42
WINDOW EL. 941.75
℄ 12" I-2 938.34

STA. 802+45 (℄)
I-8 Nº 1 M.H.
COVER EL. 942.11
℄ 12" I-2 934.22
℄ 18" I-2 933.99

STA. 802+00 (54' RT. ℄)
I-8 Nº 2-2A
GRATE EL. 937.40
℄ 18" I-2 934.69

STA. 805+53 ℄
I-8 Nº 2-10 MODIFIED
TOP OF CURB 931.88
WINDOW EL. 931.21
℄ 12" I-2 928.00

600' V.C.

PV.I. 1033+00
ELEV. 921.58

6'

6"

443-18" I-2 @ 2.842%

3.00%

-2.72%

℄ 925.45

℄ 924.86

℄ 923.98

℄ 926.15

℄ 924.33

℄ 6"-I-4 923.68

P-8: 140' 24" I-2 @ .0116
P-7: 150'-24" I-2 @ .0116
P-6: 141'-21" I-2 @ .0134

PROPOSED STRUCTURE MAH-18-19.50
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 77'-6", 56'-9" C/C BEARING ALONG ℄ ROADWAY: 68'-0", F/F 12' SIDEWALKS.
LOAD FREQ: 2000 C.F. (S7) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC.
APPROACH SLAB: 25' LONG AS-1-54
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SKEW: 6° 06' 13" L.F.
TRAFFIC COUNT: 64,000 ADT 1979

A-8 RAMP "N"

P-1: 103'-12" I-2 @ .00165

P-2: 60'-18" I-2 @ .042

P-3: 51'-12" I-2 @ .0447

P-4: 60'-12" I-2 @ .003

7'-12" I-2

R5

I-4 UNDERDRAINS

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" PIPE OUTLET M-6.4a	I-5 PIPE SP. 6"-90° BEND	I-5 PIPE SP. 6"-45° BEND
U-1	1030+00	1030+60	S	48	10		
U-2	1030+62	1033+00	S	226	10		
U-3	1033+00	1034+91	S	179	10		
U-4	1031+50	1033+50	S	238	10	1	1
U-5	A-104	1034+91.4	S	151	10	1	
U-6	A-3 "N"	1034+91.4	S	141	10		
SH'T. TOTAL					985'	60	2	1

SEWER PROFILE
HORIZ. 1" = 20'
VERT. 1" = 5'

STA. 1030+00 TO 802+00

FED. RD.	STATE	PROJECT	
2	OHIO		

48 / 492

MAH.-18-1720

PLAN & PROFILE — RAMP "A"

SILLIMAN ST.

℄ MARYLAND AVE.

℄ LAKEVIEW AVE.

℄ STEEL ST.

℄ OAKWOOD AVE.
SEE SHEET Nº 226 230

BRIDGE Nº
MAH.-18-1761

24'

TYPICAL SECTION
LAKEVIEW AVE.

2" BIT WEARING COURSE
8" MACADAM BASE
CONCRETE CURB

SEE INTERSECTION DETAIL SHEET Nº 64 FOR DETAIL ℄ QUANTITIES RAMP "A" ℄ OAKWOOD

SEE EXP. CROSS SECTIONS

SEE YE SHEET Nº 36

SEE RAMP-A CROSS SECTIONS

SEE EXP. CROSS SECTIONS

MAINLINE CURVE DATA
Δ: 23°41'40"
D: 4°00'00"
T: 104.74'
L: 208.22'
E: 5.36'
e: 4.0%
Tangent to Curve
Curve to Tangent
P.C. STA. 928+87.00
P.T. STA. 930+95.22
C.L. of Steel St. STA. 929+99.42

NOTE:
THE MEDIAN TRANSITIONS FROM 40' TO 16' IN CURVE. SEE DETAIL FOR OFFSETS. SEE DETAIL RAMPS 'A' & 'B' SHEET Nº 57

STA. 5+50 ℄ - DBL. "T"

STA. 6+14.76 6"I-4 PLUG

NOSE - 33.13 RT. OF STA. 928+87.00

NOSE STA. 929+38.87

STEEL ST. STA. 929+99.42

BACK OF WALK CURVE DATA
Δ: 14° 37' 52.5"
D: 2° 30' 0"
T: 25.80'
L: 51.37'
P.C.: 1+93.39
P.T.: 2+44.76
E: 0.65'
NOSE - 7.51 RT. STA. 1+96.10

FACE OF CURB
Δ: 14° 37' 52.5"
D: 2° 30' 0"
T: 26.16'
L: 51.93'
P.C.: 1+93.61 (20.5' LT.)
P.T.: 2+45.54
E: 0.66'

END CURB 3' RT. 1+96.10

END WALK STA. 1+19.19 6"I-4 PLUG

MATCH LINE Nº 1

CONSTRUCT 4' WALK

CONSTRUCT 5' WALK

BEGIN RAMP "A"
STA. 3+55.61
(18.5' LT.)
(OAKWOOD AVE.)

STA. 1+96.10 6"I-4 PLUG

CURVE DATA
Δ: 8°05'26.5"
D: 6°
R: 954.93'
T: 67.53'
L: 134.84'
E: 2.39

SPIRAL DATA
Ls = 200'
Φ = 5°
D1 = 1°
D2 = 6°
LT = 173.94'
ST = 126.31'
Δ1 = Δ2 = T

C.S. STA. 4+39.31

S.C. STA. 6+30.31

NOSE 14' LT. OF STA. 8+14.76

CURVE DATA
Δ: 4°58'27"
D: 1°
R: 5729.58'
T: 248.88'
Lc: 497.47'
E: 3.40'

Note:
FOR STEEL ST. IMPROVEMENT SEE SH. Nº 231 234

P.T. 11+27.73 = 44' RT. OF 932+00

END RAMP "A"
44' RT. OF STA. 932+00

NOSE - 17.5 LT. OF STA. 4+69.96

END TAPER 11.5' LT. OF STA. 5+69.96

END WORK
STA. 6+41.66
(11.5' LT.)

RAMP 'A' STA. 0+00
OAKWOOD STA. 3+75.21

BEGIN 350' TAPER 44' RT. OF STA. 935+87.00
END 350' TAPER 37' RT. OF STA. 939+37.00

ESTIMATED QUANTITIES I-12 CONCRETE CURB			
CODE	LOCATION FROM	LOCATION TO	SPECIAL L.F.
G-1	6+14.76	8+14.76	200

ESTIMATED QUANTITIES I-15 GUARD RAIL			
CODE	LOCATION FROM	LOCATION TO	TYPE B-2A L.F.
R-1	8+12.5 RT.	9+75 RT.	162.50
R-2	5+01.76 LT.	6+14.76 LT.	112.50
SHEET TOTAL			275

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS					
CODE	LOCATION FROM	LOCATION TO	CURB L.F.	NON-RIGID PAV'T.	SIDE-WALK
B-1	M-L-1	OAKWOOD			750
X-1	M-L-1	OAKWOOD	168		
K-1	M-L-1	OAKWOOD		224	
B-2	3+55.61 OAKWOOD	6+41.66 OAKWOOD			1430
X-2	4+69.96	6+41.66	171.7		
SHEET TOTAL			339.7	224	2180

B.M.#119
TOP OF HYDRANT 7.8' S.E. COR. OAKWOOD & MARYLAND
ELEVATION - 968.48

B.M.#121
TOP OF HYDRANT 6.2' S.E. COR. OAKWOOD & LAKEVIEW
ELEVATION - 961.52

B.M.#122-A
S.E. COR. TOP STED. - SAMUEL'S SHEET METAL WORKS (HSE #220)
WEST SIDE STEEL ST.
ELEVATION - 931.66

SEE EXACT STA. @ BOTTOM OF SHEET

STATION	PROFILE GRADE	S.E. OUTSIDE EDGE
2+05.47	951.32	0.0 951.32
3+00	951.03	+.02 951.05
3+25	949.41	+.16 949.57
3+50	947.79	+.29 948.08
3+75	946.17	+.42 946.59
4+00	944.55	+.56 945.11
4+25	942.93	+.69 943.62
4+30.31	942.5	+.72 943.31
4+50	941.31	+.67 941.98
4+75	939.69	+.61 940.30
5+00	938.07	+.56 938.63
5+25	936.45	+.50 936.95
5+50	934.83	+.43 935.26
5+75	933.21	+.38 933.59
6+00	931.59	+.32 931.91
6+25	929.97	+.26 930.23
6+30.31	929.62	+.25 929.87

BEGIN RAMP ℄ OAKWOOD STA. 3+75.21
P.V.C. STA. 0+00 EL. 968.25
GRADE 968.5
PVI STA. 1+00 EL. 963.99
E 956.42 U-2
U-2
GRADE 965.0
F SEE 1.80 U-1
P.V.T. STA. 2+00 EL. 955.51
GRADE 961.5
HORIZONTAL P.C. POINT STA. 2+95.47 EL. 951.52
-6.48%
GRADE 955.5
U-2
U-1
E 932.63 U-2
E 932.07 U-1
CALCULATIONS BASED ON 200' V.C. ~ g = 6.48%, g1 = 5.47%

E 932.07 U-1
E 932.18 U-2
PVC 6+37 EL. 929.19
150' V.C.
PVI STA. 7+17 EL. 924.33
E 925.79 U-2
U-2
-5.26%
PVT STA. 7+87 EL. 921.88
NOSE STA. 8+15.73 EL. 920.58
GRADE 943.3
GRADE 938.5
U-1
E 932.18 U-2
E 925.79 U-2
GRADE 937.0
GRADE 935.0
PT. 11+27.73 EL. 911.40
E 905.40 U-1
GRADE 934.5
11+27.73

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	6"x6" 90° TEE	
U-1	1+96.10	11+27.73	D	932			
U-2	1+19.19	6+14.76	D	503	10	1	
SHEET TOTAL				1435	10	1	

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 PAVED GUTTER L.F. TYPE 1
E-1	4+40	4+70	18	
E-2	4+70	4+88		27
SHEET TOTAL			18	27

LEGEND
- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE: 1" = 50'

MAH.-18-1720

FED. RD.	STATE	PROJECT	
2	OHIO		

49
492

SEE RAMP "B" - WELLINGTON INTERSECTION DETAIL SHEET Nº 70 FOR CURB & SIDEWALK QUANTITIES AND CONSTRUCTION DETAILS

END RAMP "B"

RAMP ℄ ENDS AT STA. 15+98.54
℄ WELLINGTON - STA. 6+33.94

END CONSTRUCTION ℄ STA. 15+88.54

TYPE 2-A CURB

B.M.#125
NORTH SIDE WELLINGTON ~ TOP R.H. AT HOUSE 1 TOP ELEVATION 950.75

SPIRAL DATA
Ls: 150'
Θs: 7°30'
p: 1.64'
k: 74.96'
Xc: 149.74'
Yc: 6.54'
L.T.: 100.09'
S.T.: 50.08'
L.C.: 149.89'

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS

CODE	LOCATION FROM	LOCATION TO	CURB L.F.	NON RIGID PAVT. S.Y.	SIDEWALK S.F.
B-1	M-L-2	WELLINGTON INCLUDING RETURNS			2085
X-1	M-L-2	WELLINGTON INCLUDING RETURNS	770		
K-1	M-L-2	WELLINGTON INCLUDING RETURNS		960	
SHEET TOTAL			770'	960	2085'

ESTIMATED QUANTITIES
I-12 CONCRETE CURB

CODE	LOCATION FROM	LOCATION TO	TYPE 6 L.F.
G-1	7+57.04	9+19.54	162.5
G-2	925+28.90	926+28.90 INCLUDING 4 MOSS	106
G-3	5+11	8+19	309
TOTAL THIS SHEET			577.5

CURB RETURN (WEST)
R: 30.17'
Δ: 90°11'32"
T: 30.15'
L: 47.28'

CURB RETURN (EAST)
R: 30.17'
Δ: 89°42'28"
T: 29.85'
L: 47.09'

TYPICAL SECTION
LAKEVIEW AVE.
2" BIT WEARING COURSE
8" MACADAM BASE
CONCRETE CURB

ESTIMATED QUANTITIES
I-15 GUARD RAIL

CODE	LOCATION FROM	LOCATION TO	TYPE 2-A L.F.
B-1	5+10 RT.	4+22.5 RT.	87.5

I-21 P.C.C. 4" MEDIAN PAVING

CODE	S.Y.
M-1	45

MAINLINE CURVE DATA
Δ: 43°47'40"
Dc: 5°30'
Ls: 100'
Ts: 621.04'
Es: 87.89'
Xc: 398.53'
Yc: 29.53'

SPIRAL DATA
Ls: 350'
Θs: 17°30'
p: 8.88'
k: 174.46'
Xc: 346.75'
Yc: 35.40'
L.T.: 234.48'
S.T.: 117.71'
L.C.: 348.55'

CURVE DATA
Δ: 58°27'20"
Dc: 10°
R: 572.96'
T: 321.18'
Lc: 584.56'
Ec: 86.83'

NOTE:
THE MEDIAN TRANSITIONS FROM 40' TO 16' IN CURVE Nº 1 ~ FOR OFFSETS, SEE DETAILS ~ RAMPS 'A' & 'B'
SEE SHEET Nº G3

B.M.#122-A ~ S.E. COR. TOP STEP ~ SAMUEL'S SHEET METAL WORKS (HSE. # 220, WEST SIDE STEES. ST.
ELEVATION ~ 951.66

~LEGEND~
- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAVMT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE: 1" = 50'

I-5 STA. 918+03.16
STA. 914+83.57
915 ℄ YOUNGSTOWN - I EXP'WY
920
0+00
℄ MARYLAND AVENUE
S. 35° 00' 51" E
I-5 STA. 922+09.16
925
SEE EXP. CROSS SECTIONS
S. 76° 48' 31" E
℄ WELLINGTON AVENUE (ML-2)
℄ LAKEVIEW AVENUE
℄ STILLMAN STREET
℄ OAKWOOD AVENUE
℄ STEEL STREET
BRIDGE Nº 2 MAH.-18-1761
BEGIN RAMP "B" 44' LT. OF ℄ STA. 930+20.24
12' RAMP ℄
STA. 5+04 6"-I-4 PLUG
STA. 8+19 6"-I-4 PLUG
STA. 12+00 6"x6" TEE
STA. 12+00 6"-90° BEND
STA. 8+29.04 6"-60° BEND
STA. 15+56.71 6"-I-4 PLUG
STA. 15+56.29 6"-I-4 PLUG
STA. 15+84.77
SEE RAMP "B" CROSS SECTIONS
SEE NOTE BELOW
TYPE 6 CURB
NOSE STA. RAMP "B" 23' LT. OF STA. 8+19.54
NOSE STA. (MAINLINE) 47.75' LT. STA. 922+29.90
S.C. STA. 922+09.16
STA. 15+88.54
END CONSTRUCTION ℄ STA. 15+88.54

I-4 UNDERDRAINS LIN. FT. CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	I-5 PIPE SPEC. EACH 6" 60° BEND	6" 90° BEND	6"x6" TEE
U-1	15+56.71	11+25	D	430				1
U-2	15+56.29	12+00	D	374			1	
U-3	11+25	8+19.54	S	401	10	1		
U-4	8+16	5+09	D	297	10			
U-5	5+04	4+40.21	S	64				
SHEET TOTAL				1566	20	1	1	1

EROSION CONTROL CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 PVD. GUTTER LIN. FT. TYPE-1
E-1	8+19.54	5+21		299
E-2	15+00	8+31	371.7	
E-3	15+00	9+38	312.2	
SHEET TOTAL			683.9	299

PROP. GRADE
EXISTING GROUND
955
950
945
940
935
930
925
920

STA. 15+88.54 EL. 955.73
+2.75 %
P.V.I. 15+25 EL. 951.98
P.V.T. STA. 15+75 EL. 953.36
E 947.04
E 946.68
P.V.C. STA. 14+75 EL. 949.61
U-2
U-1
100' V.C.
+4.75 %
E 931.76
E 930.54
E 930.15
200' V.C.
P.V.T. STA. 10+25 EL. 928.23
P.V.I. STA. 9+25 EL. 923.48
P.V.C. STA. 8+25 EL. 922.64
NOSE STA. 8+19.54 - EL. 922.81
BEGIN RAMP "B" 32' LT. OF ℄ STA. 934+60.45
GRAPHIC GRADE
+0.64 %
U-3
E 920.09
E 919.79
E 915.42
E 914.93
E 913.72
U-4
U-5
15+98.54 15 14 13 12 11 10 9 8+19.54 7 6 5 4+40.21

STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE
9+50	925.25	+1.22	926.47
9+75	926.12	+1.22	927.34
10+00	927.10	+1.22	928.32
10+25	928.23	+1.22	929.45
10+50	929.42	+1.22	930.64
10+75	930.61	+1.22	931.83
11+00	931.79	+1.22	933.01
11+25	932.98	+1.22	934.20
11+50	934.17	+1.22	935.39
11+75	935.36	+1.22	936.58
12+00	936.54	+1.22	937.76
12+25	937.73	+1.22	938.95
12+50	938.92	+1.22	940.14
12+75	940.11	+1.22	941.33
13+00	941.29	+1.22	942.51
13+25	942.48	+1.22	943.70
13+50	943.67	+1.22	944.89
13+65.72	944.42	+1.22	945.64
13+75	944.86	+1.16	946.02
13+84.77	945.32	+1.11	946.43
14+00	946.04	+1.02	947.06
14+25	947.23	+.88	948.11
14+50	948.42	+.73	949.15
14+75	949.61	+.59	950.20
15+00	950.74	+.45	951.19
15+25	951.73	+.31	952.04
15+34.77	952.09	+.25	952.34

PLAN & PROFILE - RAMP "B"

FED.RD.	STATE	PROJECT	
2	OHIO		

50
492

MAH.-18-17.20

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS

CODE	LOCATION & STATION	YNG'T. TYPE-I INLET EACH	TYPE-I M.H. EACH	*2-2A C.B. EACH
A-1	5+84.81 14.0' RT. & SILLIMAN ST.	1		
A-2	5+87.21 20.0' LT. & SILLIMAN ST.	1		
A-3	6+25 9.0' RT. & SILLIMAN ST.		1	
A-4	7+44 57' LT. &			1
SHEET TOTAL		2	1	1

ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CL. 'B' STORM SEWER, UPA 12"	15"
P-1	5+51 SILLIMAN	A-3	32	
P-2	A-3	6+55 SILLIMAN		84
P-3	A-2	A-3	44	
P-4	A-1	A-3	41	
SHEET TOTAL			117	84

ESTIMATED QUANTITIES I-15 GUARD RAIL

CODE	LOCATION FROM	LOCATION TO	TYPE 2-A L.F.
R-1	4+53 LT.	8+28 LT.	315
R-2	4+28 RT.	11+03 RT.	675
SHEET TOTAL			1050

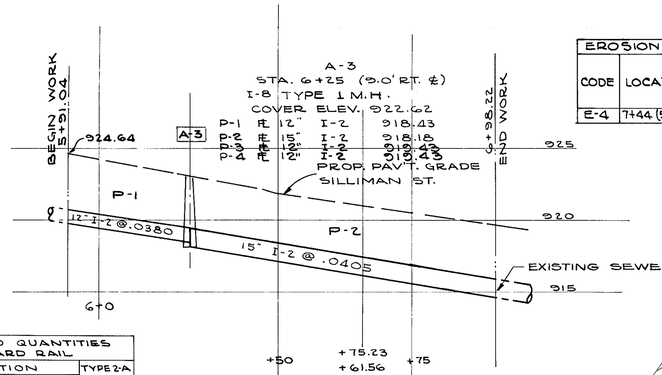
EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SOD S.Y.
E-1	0+70	1+35	39
E-2	0+70	1+72	68
E-3	5+00	5+57.5	35
SHEET TOTAL			142

EROSION CONTROL

CODE	LOCATION	I-14 PAVED GUTTER TYPE I (MOD.) LIN. FT.
E-4	7+44 (57' LT.)	30

STORM SEWER PROFILE
STA. 5+91.04 TO STA. 6+98.22
SILLIMAN ST.



BEGIN WORK
SILLIMAN - 6+96.98
SILLIMAN - 5+91.01

SEWER EQUATION - 6+75.23 BACK = 6+61.56 AHEAD

SEE INTERSECTION DETAIL SHEET Nº 70 FOR REMOVAL AND CONSTRUCTION QUANTITIES

0+00 RAMP "C" 6+34.41 EXIST. SILLIMAN TYPE 2 CURB

SILLIMAN ST. CURVE DATA
Δ: 6°36'00.80"
T: 6°36'04.
T: 0+70.65
P.C.: 5+91.01
P.T.: 6+21.96

SILLIMAN
FOR PAVT. ELEV. FROM STA. 0+00 TO STA. 0+81.94 SEE INTERSECTION DETAILS SHEET Nº 70

EXPRESSWAY STA. 937+92.11
RAMP "C" STA. 2+98.99

EXPRESSWAY STA. 943+92.72
RAMP ENDS 14+43.71

℄ YOUNGSTOWN EXP'WY

P.C. 941+46.56

CURVE DATA
Δ: 19°05'51.15"
T: 1°40'01.15"
Δ: 0°20'00.00"
L.C.: 200'

0+90 RAMP 941+46.56 P.T.

SPIRAL DATA
Ls: 754.75'
Δ+Δ': 50°31'13"
Θs: 32°43'22"
S.T.: 164.15'
T.L.: 102.92'
Δc: 8°55'56"
Δs: 41°37'17"
p: 11.96'

SPIRAL DATA
Ls: 200'
Θs: 32°44'26"
L.T.: 135.69'
S.T.: 68.81'
L.C.: 197.17'
Δc: 19°05.58'
Δs: 57.17'
p: 98.92'
p: 99.40'

CURVE DATA
Δ: 204°02'55"
R: 175'
Lc: 622.23'
Dc: 32°44'26"
T: 821.58'

50°31'13"

FOR CHANNEL DETAILS SEE SHEET 107 108

FOR CULVERT DETAILS SEE SHEET 112 113

FOR CULVERT DETAILS SEE SHEET 107 108

B.M. #7
TOP P.H. - 1582
SECOND ST. ON
NORTH SIDE
EL. 936.04'

RAMP D3
RAMP C3
RAMP B

8+57.5 RAMP "C"
6" PLUG

E.-4 18' LT. ℄

FOR CONTINUATION OF RAMP "C" SEE SHEET 51

T.S. 13+95.11
T.S. 12+57.54

TRANSITIONAL CURVE DATA
Ls: 200'
Θs: 25°58'25"
p: 6.93'
k: 99.42'
x: 196.53'
y: 27.51
L.T.: 134.58'
S.T.: 67.80'
L.C.: 198.45'
Δ: 47°56'46"
T: 208.78'
Es: 30.15'
Rc: 259'

MAINLINE CURVE DATA
Δ: 54°44.10'
Dc: 5°30'
Rc: 1041.74'
Lc: 505.20'
Ls: 400'
T: 747.31'
Es: 139.49'
θs: 11°
L.T.: 267.18'
S.T.: 133.80'
L.C.: 3999.34'
x: 398.53'
y: 25.53'
p: 6.39'
k: 199.76'

BRIDGE Nº MAH.-18-1776

TS. 957+46.56

P.I. 0+70 TO 0+81.94 ON RAMP "C"

STA. 1+35

100' R.

P.C. 23' LT. OF 5+34.04

P.T. 18' LT. OF 6+38.29

P.C. 18' LT. OF 6+38.29

P.T. 18' LT. OF 6+56.24

P.C. 18' LT. OF 6+56.24

P.T. 18' LT. OF 6+82.76

P.C. 12' LT. OF 6+82.76

P.T. 12' LT. OF 6+98.22

5.0' WIDTH

E-2

E-1

E-3

A-1

A-2

A-3

A-4

U-1

U-2

U-3

U-4

R-1

R-2

P-1

P-2

P-3

P-4

-5.32%

-4.00%

-3.33% (LOCAL GRADE)

-3.33% (MAIN TANGENT)

FE. 905.46
4+25
6" PLUG

FE. 890.46
8+00
90° BEND

FE. 887.76
8+00 90° BEND

FE. 887.83
8+57.5
6" PLUG

FE. 887.76

FE. 874.46
21.0' LT. ℄

FE. 916.75

FE. 916.26
+57
6" PLUG

FE. 916.25
6"+6"+6" TEE

FE. 905.46
4+25
6" PLUG

92.10 6" PLUG
5+91.64
SILLIMAN

5+91.64

STA. 6+34.41 SILLIMAN =
STA. 10+00.00 RAMP "C"

0+81.94 P.T.

GRAPHIC GRADE

EXPRESSWAY STA. 937+92.11
RAMP "C" STA. 2+98.99

STA. 6+56
S-27-18" CULVERT
INV. ℄ 870.60

STA. 10+50
S-27 24" CULVERT
INV. ℄ - 866.05

PVC. STA. 12+25
EL. 869.69

NOTE: I-8 Nº 2-2A C.B. @ STA. 7+41 (63.0' LT. ℄) RAMP SHALL BE MODIFIED TO INCLUDE A 36" WINDOW OPENING TO THE NORTHEAST WITH A CONC. GUTTER AT EACH WINDOW.

A-1 (SILLIMAN ST.)
STA. 5+84.18 14' RT.
CITY OF YOUNGSTOWN #1 INLET
TOP EL. 925.33
WINDOW EL. 924.65
℄ 12" I-2 921.15

A-2 (SILLIMAN ST.)
CITY OF YOUNGSTOWN #1 INLET
TOP EL. 925.33
WINDOW EL. 924.58
℄ 12" I-2 921.08

NOTE: STA. 8+57.5 TO STA. 12+57.5 I-4 UNDERDRAIN SHALL BE PLACED 2.0' LT. OF LT. EDGE OF PROPOSED FUTURE PAVEMENT.

A-4
STA. 7+44 (57.0' LT. ℄)
I-8 Nº 2-2A C.B.
WINDOW ELEV. 875.30
℄ 15" I-2 872.80

PROPOSED STRUCTURE MAH-18-1776
TYPE - CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPAN: 60'-6" 74'-6" 75'-6" 47'-0" ℄ BRG'S.
ROADWAY: 28'-0" F/F PARAPETS
LOAD FREQUENCY = C.F.-2000 ADEQUATE FOR A.A. S.H.O. ALTERNATE LOADING
SKEW: 36°-56'-15" L.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
SUPERELEVATION = NONE
ALIGNMENT = TANGENT
TRAFFIC COUNT = NOT AVAILABLE

I-4 UNDERDRAINS

CODE	LOCATION		DEEP OR SHALLOW	6" PIPE L.F.	8" OUTLET PIPE M-6.42	I-5 PIPE SPEC. EACH 6"-90° BEND	6"x6" TEE
U-1	4+25	8+00	S	388	10	1	
U-2	8+57.5	12+00	S	346			
U-3	8+00	8+57.5	D	72	10	1	
U-4	5+92 SILLIMAN	1+57 RAMP-C	D&S	195	10		1
SHEET TOTAL				1001	30	2	1

STATION	PROFILE GRADE	S.E. OUTSIDE EDGE
6+57.54	899.49	+.25 899.74
6+75	898.79	+.21 899.00
7+00	897.79	+.14 897.93
7+25	896.79	+.08 896.87
7+50	895.79	+.02 895.81
7+57.54	895.49	0.0 895.49
7+75	894.79	-.04 894.75
8+00	893.79	-.11 893.68
8+25	892.79	-.17 892.62
8+50	891.79	-.23 891.56
8+57.54	891.49	-.25 891.24
8+75	890.79	-.34 890.45
9+00	889.79	-.48 889.31
9+25	888.79	-.62 888.17
9+50	887.79	-.75 887.04
9+75	886.79	-.89 885.90
10+00	885.79	-1.02 884.77
10+25	884.79	-1.16 883.63
10+50	883.79	-1.29 882.50
10+57.54	883.49	-1.33 882.16
10+75	882.79	-1.24 881.55
11+00	881.79	-1.10 880.69
11+25	880.79	-.97 879.82
11+50	879.79	-.83 878.96
11+75	878.79	-.70 878.09
12+00	877.79	-.56 877.23
12+25	876.79	-.43 876.36

A-4
STA. 7+51 (63.0' LT. ℄)
I-8 Nº 2-2A C.B.
WINDOW ELEV. 875.30
℄ 15" I-2 866.25

℄ 866.25
S-27-18" CULVERT

PROFILE 2-2A @ STA. 7+41
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

~LEGEND~

- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAVMT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE: 1" = 50'

PLAN & PROFILE ~ RAMP "C" (SHEET 1 OF 2)

FED.RD.	STATE	PROJECT	
2	OHIO		

51
492

MAH.-18-17.20

B.M.
TOP F.H. ~ S.W. COR., PRICE RD. & SALT SPRINGS RD. UNDER MAHONING BRIDGE.
EL. 850.56

B.M. #7
TOP F.H. ~ 1582 SECOND ST. ON NORTH SIDE.
EL. 930.04

CURVE I
CURVE II
CURVE III
℄ YOUNGSTOWN EXP'WY
℄ MAHONING AVE
℄ PIER LINE
12 RAMP "C"
EXPOSED PORTION OF PIER 12 RAMP "C" TO BE REMOVED
FOR BEGIN RAMP "C" SEE SHEET NO. □
T.S. 8+57.54
S.C. 9+29.40
C.S. 9+75.18
ST. 13+52.63
SPIRAL DATA
L_s = 254.25'
$\Delta_t + \Delta_c$ = 50°31'13"
Θ_s = 32°43'32"
L.T. = 164.15'
T.T. = 107.92'
Δ_t = 8°53'56"
Δ_c = 41°37'17"
p = 11.06'
STA. 945+00
106.0' RT. ℄ - BEGIN 42" S-27
3.0' OPEN CHANNEL FOR CONSTRUCTION DETAILS SEE SHEET NO. 114 115
SPIRAL DATA:
L_s = 200'
Θ_s = 32°44'26"
L.T. = 135.93'
S.T. = 68.81'
L.C. = 197.12'
= 193.58'
= 97.17'
= 55.92'
p = 9.40'
CURVE DATA
Δ = 204°02'55"
R = 175'
L_c = 623.73'
D_c = 32°44'26"
T = 821.58'
C.S. 11+52.63
STA. 6+56
5-27 18" CULVERT
FOR DETAILS SEE SHEET NO. 112 ℄ 113
S.C. 10+57.54 RAMP "C"
R = 870.18'
13+25 9° = 90° BEND
R = 870.12'
ST. 12+57.54
P-1
STA. 10+50.0
5-27 24" CULVERT
FOR DETAILS SEE SHEET NO. 114 115
CURVE Nº I TRANSITIONAL CURVE DATA
L_s = 200'
Θ_s = 2°58'23"
R_x = 6.93'
R_y = 199.42'
x_t = 196.53'
y_t = 27.54'
L.T. = 134.58'
S.T. = 67.80'
L.C. = 130.45'
Δ = 47°56'46"
T_s = 208.78'
E_s = 30.15'
D_c = 2.39°
CURVE Nº II MAINLINE CURVE DATA
Δ = 54°44'10"
D_c = 5°30'
R = 1041.74'
L_c = 595.20'
L_s = 400'
T_s = 742.31'
E_s = 138.45'
Θ_s = 11°
L.T. = 767.18'
S.T. = 393.80'
L.C. = 3999.54'
x_t = 398.53'
y_t = 25.53'
R_x = 6.39'
R_y = 199.76'
CURVE Nº III MAINLINE CURVE DATA
Δ = 60°43.03
D_c = 5°30'
R = 1041.74'
L_c = 709.85'
L_s = 400'
T_s = 813.68'
E_s = 172.95'
Θ_s = 11°
L.T. = 767.18'
S.T. = 393.80'
L.C. = 3999.54'
x_t = 398.53'
y_t = 25.53'
R_x = 6.39'
R_y = 199.76'
RAMP CURVE DATA
Δ = 24°45'30"
D_c = 12°
R = 477.46'
L_c = 206.32'
T = 104.82'
L_s = 200'
Θ_s = 12°
T_s = 317.83'
E_s = 50.58'
L.T. = 133.64'
S.T. = 66.95'
L.C. = 199.61'
x_t = 199.12'
y_t = 15.92'
R_x = 99.85'
R_y = 3.49'
Δ = 48°45'50"
CURB (SPECIAL TYPE) SEE DETAIL
STA. 955+50
S-27 24" CULVERT
FOR DETAILS SEE SHEET NO. 120
NOSE STA. 18+53.07 LT.
NOSE STA. 18+63.38 RT.
ST. 955+41.46
ST. 955+73.06
ST. 20+01.47
P.C. 20+63.26 44° RT.
P.C. 955+75
R = 866.77 6" TEE
R = 877.02 6" PLUG
R-1
U-1
U-2
U-3
G-1
C.S. 15+01.47
FOR CONSTRUCTION DETAILS NOSE RAMP "C" & MAINLINE SEE SHEET NO. 64
STA. 20+63.26 RAMP "C" QUANTITIES
STA. 955+75.00 MAINLINE QUANTITIES

ESTIMATED QUANTITIES I-15 GUARD RAIL			
CODE	LOCATION		TYPE 2-A
	FROM	TO	L.F.
E-1	18+00 RT.	20+63.26 RT.	262.5
SHEET TOTAL			262.5

I-12 CONCRETE CURB			
CODE	LOCATION		SPECIAL
	FROM	TO	L.F.
G-1	16+53.07 LT.	18+53.07 LT.	200

I-10 DUMPED ROCK CHANNEL PROTECTION		
CODE	STATION	C.Y.
P-1	13 + 10	71

~LEGEND~
- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAVMT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB
- FUTURE PAVING

SCALE: 1" = 50'

PROP. GRADE
EXIST. GROUND
-4.00%
+1.82%
P.V.C. STA. 12+25 EL. 876.79
P.V.I. STA. 14+25 EL. 868.79
400' V.C.
R = 874.46 21.0' LT. ℄
R = 870.18
R = 867.57
R = 875.37
R = 877.02
R = 866.77
NOSE STA. 18+53.07 EL. 876.59
P.C. RAMP "C" STA. 20+63.26 44° RT. 955+75
GRAPHIC GRADE

STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE
12+25	876.79	-.43	876.36
12+50	875.84	-.29	875.55
12+57.54	875.57	-.25	875.32
12+75	874.97	-.19	874.78
13+00	874.20	-.10	874.10
13+25	873.52	-.01	873.51
13+26.33	873.49	0.0	873.49
13+50	872.93	+.09	873.02
13+75	872.43	+.18	872.61
13+95.11	872.10	+.25	872.35
14+00	872.02	+.28	872.30
14+25	871.70	+.41	872.11
14+50	871.48	+.55	872.03
14+75	871.34	+.68	872.02
15+00	871.30	+.82	872.12
15+25	871.34	+.95	872.29
15+50	871.48	+1.09	872.57
15+75	871.70	+1.12	872.82
15+95.11	871.89	+1.33	873.22
16+00	872.03	+1.33	873.36
16+25	872.43	+1.33	873.76
16+50	872.89	+1.33	874.22
16+53.07	872.94	+1.33	874.27
16+75	873.34	+1.29	874.63
17+00	873.80	+1.25	875.05
17+23.40	874.23	+1.21	875.44

I-4 UNDERDRAINS						I-5 PIPE SPEC. EA.	
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE LIN.FT.	8" L.F. OUTLET PIPE M-6.4a	6"-90° BEND	6"x6" TEE
	FROM	TO					
U-1	12+00	15+00	S	300		2	
U-2	15+00	19+75	D	495	10		1
U-3	19+75	20+63	S	88			
SHEET TOTAL				883	10	2	1

PLAN & PROFILE ~ RAMP "C"

(SHEET 2 OF 2)

FED. RD.	STATE	PROJECT	
2	OH 10		

52
492

MAH.-18-17.20

ESTIMATED QUANTITIES I-15 GUARD RAIL			
CURB	LOCATION		
	FROM	TO	L.F.
R-1	0+75 RT.	10+00 RT.	925
R-2	8+25 LT.	10+00 LT.	175
SHEET TOTAL			1100

ESTIMATED QUANTITIES I-12 CONCRETE CURB			
CODE	LOCATION		TYPE 6
	FROM	TO	L.F.
G-1	4+35.03	5+35.03	100
G-2	954+96.97 INCLUDING NOSE	955+96.97	106
SHEET TOTAL			206

I-21 4" PCC MEDIAN PAVING	
CODE	S.Y.
M-1	22

LEGEND

- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

NON-PARTICIPATING FUNDS

PARTICIPATING FUNDS

CURVE DATA
Δc = 14°25'12"
Dc = 7°
R = 818.51'
Lc = 206'
Tc = 103.55'
Δs = 24°55'12"
Ts = 256.09'

MAHONING RIVER

SPIRAL DATA
θs = 5°15'
Ls = 150'
LT = 100.04'
ST = 50.04'
LC = 149.94'
XLT = 149.87'
YLT = 4.58'
p = 1.14'
k = 74.98'

CURVE DATA
Δ = 18°54'
Dc = 7°
R = 818.51'
T = 136.24'
Lc = 270.00'

EDGE OF RIVER BED

TRAVERSE LINE

B.M.
TOP F.H. / S.W. COR. PRICE RD. & SALT SPRINGS RD. UNDER MAHONING BRIDGE
EL. 850.56

MAHONING AVE & PIER LINE

BEGIN WORK
0+00 AT 44' LT. OF STA. 960+50

BEGIN RAMP D
PVMT. WIDTH 0+50
FULL PAVEMENT 1+00

SALT SPRINGS ROAD

R/W LINE OF EXPY.

BRIDGE No
MAH.-18-1823

STA. 10+72.88
ST. 10+72.88

U-2 U-3 E-1 R-1 R-2 G-1 G-2 M-1 U-1

E-1 5'

BANK-RUN SLAG FOR CONST. DETAILS SEE CROSS SECTIONS

STA. 8+54
6"I-4 PLUG
STA. 8+50
6"-90° BEND

MATCH LINE SHEET RAMP D

STA. 5+35.03
6"I-4 PLUG

TYPE 6 CURB

12" BERM SEE CROSS SECTIONS

C.S. 2+70.00

C.S. 4+23.23 L.T.

T.S. 5+46.86

S.T. 4+20.00

S.C. 4+70.23

TYPICAL SECTION
SALT SPRINGS RD.
BITUMINOUS SURFACE
MACADAM BASE

℄ YOUNGSTOWN EXPWY

952 953 954 955 956 957 958 959 960 961 962 963

T.S. 954+73.06

S.T. 951+41.76

FOR NOSE DETAILS OF RAMP 'D' & MAINLINE SEE SHEET No 64

NOSE STA. 44' LT. OF STA. 955+96.97

24" S-27 CULVERT FOR DETAILS SEE SHEET No 120

S.C. 958+73.06

958+83.97

ESTIMATED QUANTITIES S-8 REMOVAL ITEMS			
CODE	LOCATION		NON RIGID
	FROM	TO	PAV'T. S.Y.

MAINLINE CURVE DATA
Δ = 60°43.03'
Dc = 5°30'
Ls = 400'
Ts = 813.68'
Es = 172.95'
Xc = 398.53'
Yc = 25.53'

863.62 864.43 865.31 866.20 867.08 867.97 868.86 869.74 870.62 871.51 872.39 873.28 874.02 874.84 875.47 875.98 876.40 876.71 876.92 877.02 877.12 877.17 877.22 877.27 877.32 877.37 877.35 877.45 877.55 877.66 877.77 877.90 878.03 878.15 878.26 878.40 878.61 878.92 879.22 879.57 879.87 880.14

-0.20%

-3.54%

U-1 U-2 U-3

E 871.71 U-2

E 865.51 U-3

E 865.31 U-3

E 857.87 U-2

E 857.62 U-3

E 857.00

PVT. STA. 8+00 EL. 873.28

PVI STA. 7+00 EL. 876.82

PVC. STA. 6+00 EL. 877.02

STA. 6+30 EL. 862.50

STA. 5+31 EL. 861.26

NOSE STA. 4+35.03 EL. 871.35

BEGIN RAMP 'D' EL. 880.14

E 874.14

200' V.C.

1.25%

0.56%

10%

BERM GRADE

GRAPHIC GRADE

HORIZONTAL ST. STA. 10+72.88 EL. 863.62

PROFILE GRADE MOVES ACROSS PAVEMENT

STA. 4+85
S-27 24" CULVERT
E 849.31

STATION	PROFILE GRADE	S.E. OUTSIDE EDGE
5+66.88	877.09	+.50 877.59
5+75	877.07	+.51 877.58
6+00	877.02	+.56 877.58
6+25	876.97	+.61 877.53
6+50	876.71	+.66 877.37
6+75	876.40	+.71 877.11
7+00	875.98	+.77 876.75
7+16.88	875.65	+.79 876.44
7+25	875.47	+.80 876.27
7+50	874.84	+.80 875.64
7+75	874.02	+.80 874.82
8+00	873.28	+.80 874.08
8+25	872.39	+.80 873.19
8+50	871.51	+.80 872.31
8+75	870.62	+.80 871.42
9+00	869.74	+.80 870.54
9+22.88	868.86	+.80 869.73
9+25	868.85	+.75 869.60
9+50	867.97	+.70 868.67
9+75	867.08	+.61 867.69
10+00	866.20	+.52 866.72
10+25	865.31	+.42 865.73
10+50	864.43	+.33 864.76
10+72.88	863.62	+.25 865.87

EROSION CONTROL			
CODE	LOCATION		L-10 SOD S.Y.
	FROM	TO	
E-1	8+00	10+72.88	151.7

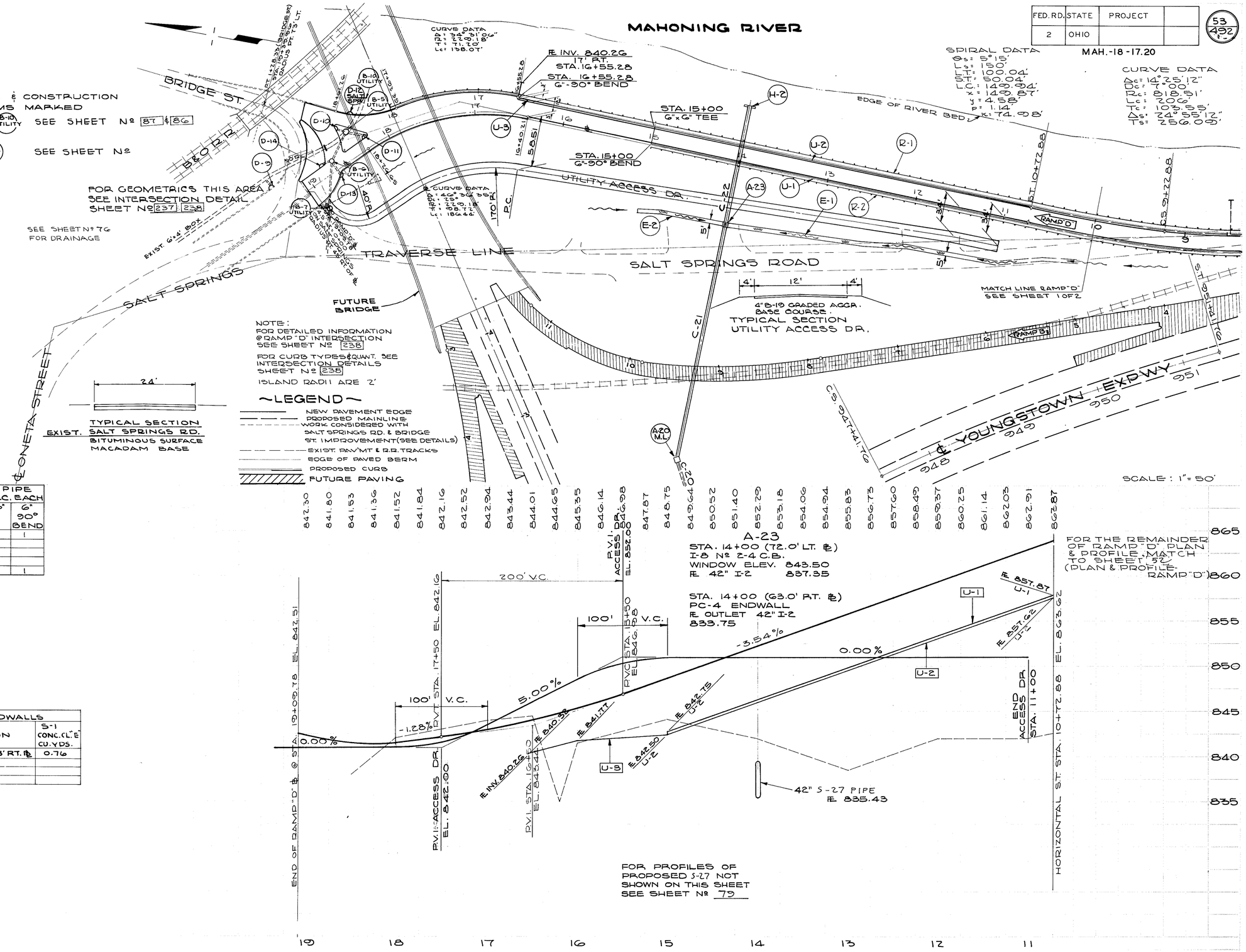
I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 &	6" 90° BEND	
	FROM	TO					
U-1	0+00	8+50	D	876	10	1	
U-2	5+35.03	10+72.88	D	538			
U-3	8+54	10+72.88	D	219			
SHEET TOTAL				1633	10	1	

PLAN & PROFILE — RAMP "D" (SHEET 1 OF 2)

FED. RD.	STATE	PROJECT	
2	OHIO		

53
492

MAH.-18-17.20



FOR LOCATIONS & CONSTRUCTION DETAILS OF ITEMS MARKED

B-5 UTILITY RELOC. B-6 UTILITY RELOC. B-7 UTILITY RELOC. B-10 UTILITY SEE SHEET Nº 87 & 86

D-9 THRU D-14 SEE SHEET Nº

FOR GEOMETRICS THIS AREA SEE INTERSECTION DETAIL SHEET Nº 237 238

SEE SHEET Nº 76 FOR DRAINAGE

SPIRAL DATA
θ_s: 5°15'
L_s: 150'
L.T.: 100.04'
S.T.: 50.04'
L.C.: 149.94'
x: 149.87'
y: 4.58'
p: 1.14'
k: 74.98'

CURVE DATA
Δ_c: 14°25'12"
D_c: 7°00'
R_c: 818.51'
L_c: 206'
T_c: 103.55'
Δ_s: 24°55'12"
T_s: 256.09'

CURVE DATA
Δ: 34°31'06"
R: 229.18'
T: 71.20'
L_c: 138.07'

℄ INV. 840.26 17' RT. STA. 16+55.28
STA. 16+55.28 6"-90° BEND
STA. 15+00 6"x6" TEE
STA. 15+00 6"-90° BEND

℄ CURVE DATA
Δ: 46°36'35"
D_c: 25°
R: 229.18'
T: 98.72'
L_c: 186.44'

NOTE:
FOR DETAILED INFORMATION @ RAMP "D" INTERSECTION SEE SHEET Nº 238
FOR CURB TYPES & QUANT. SEE INTERSECTION DETAILS SHEET Nº 238
ISLAND RADII ARE 2'

4" B-19 GRADED AGGR. BASE COURSE.
TYPICAL SECTION UTILITY ACCESS DR.

MATCH LINE RAMP "D" SEE SHEET 1 OF 2

24'
TYPICAL SECTION
EXIST. SALT SPRINGS RD.
BITUMINOUS SURFACE MACADAM BASE

~LEGEND~
NEW PAVEMENT EDGE
PROPOSED MAINLINE
WORK CONSIDERED WITH SALT SPRINGS RD. & BRIDGE ST. IMPROVEMENT (SEE DETAILS)
EXIST. PAV'MT & R.R. TRACKS
EDGE OF PAVED BERM
PROPOSED CURB
FUTURE PAVING

ESTIMATED QUANTITIES I-15 GUARD RAIL			
CODE	LOCATION FROM	TO	L.F.
R-1	10+00 RT.	18+00 RT.	800
R-2	10+00 LT.	15+00 LT.	500
SHEET TOTAL			1300

EST. QUANT. I-8 INLETS, MANHOLES & CATCH BASINS			
CODE	LOCATION & STATION	#2-4 INLET EACH	
A-23	14+00 72' LT. ℄	1	

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION FROM	TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	6"x6" TEE	6" 90° BEND
U-1	10+72.88	15+00	D	444			1
U-2	10+72.88	16+00	D	525		1	
U-3	16+00	16+55.78	S	62	10		
SHEET TOTAL				1031	10	1	1

EST. QUANT. PIPE CULVERTS					
CODE	LOCATION FROM	TO	S-27 42" PIPE M-6.6(b) M-6.4(d) GAGE-12	S-27 42" PIPE M-6.4(d) GAGE-8	E-2 EXCAV. FOR STRUCT. CU. YDS.
C-21	A-20	A-23		261	338
C-22	A-23	H-2	133		74
SHEET TOTAL			133	261	412

EROSION CONTROL			
CODE	LOCATION FROM	TO	L-10 SOD S.Y.
E-1	10+72.88	14+00	181.7
E-2	15+00	14+00	55.7
SHEET TOTAL			237.4

P-C 4 ENDWALLS			
CODE	LOCATION		S-1 CONC. CL. "E" CU. YDS.
H-2	14+00	63' RT. ℄	0.76

FOR PROFILES OF PROPOSED S-27 NOT SHOWN ON THIS SHEET SEE SHEET Nº 79

PLAN & PROFILE ~ RAMP "D" (SHEET 2 OF 2)

FED.RD.	STATE	PROJECT		54 / 492
2	OHIO			

MAH.-18-17.20

E-8 REMOVAL & DISPOSAL OF EXISTING

CODE	RIGID PAVT. SQ.YDS.	SIDEWALK SQ.FT.	HEADER CURB L.F.
R-1	467		
R-2		1,850	
R-3			190

I-15 STD. GUARD RAIL, STEEL BEAM (DEEP)

CODE	STATION FROM	STATION TO	LIN. FT.
G-1	8+36 ±	9+13 ±	137.50

I-12 CONCRETE CURB

CODE	STATION FROM	STATION TO	TYPE & L.F.	SPECIAL L.F.
C-1	2+45.54	3+45.54	106	
C-2	7+13.53	9+13.53		200

MAINLINE CURVE DATA

RT: Δ = 6°04'05"
D = 5°30'00"
R = 1041.74'
T = 55.23'
L = 110.32'
LC = 110.27'
E = 1.46'

PT: 6+79.99'
PC: 7+90.31'
X = 2998.58'
Y = 29.58'
LT: 110.32'
PT: 7+79.99'
PC: 7+90.31'
LC: 3000.34'

McKINLEY AVE. - TYPICAL SECTION

50'
1' 5' 6' 13' 13' 6' 5' 1'
6"
R/W R/W
ITEM I-13.5" SIDEWALK INCLUDING 5" CINDER BASE
ITEM I-12 COMBINED CURBS & GUTTER, TYPE 2.8
6" I-22 SUBBASE
9" T-71 REINFORCED PORT. CEMENT CONC. PAVE.

BRIDGE Nº

MAH-18-1815

BRIDGE Nº

MAH-18-1823

PARK ROAD DRIVE

FOR DETAILS SEE PLAN & PROFILE (PARK ROAD) SHEET Nº 244

B.M.#10

MAHONING AVE. @ OLD LADIES HOME. HYDRANT ON N. SIDE, TOP OF STEM
ELEV. 924.80

BEGIN WORK

27' RT. OF STA. 5+55.87

END WORK

28' RT. OF STA. 8+07.56

END WORK

ON A RADIAL LINE WITH STA. 1+25

END WORK

@ BRIDGE APPROACH SLAB RAMP STA. 9+64.60 (46.96' RT. OF 962+23.28)

FOR CONSTRUCTION DETAILS OF RAMP 'E' & MAHONING AVE. SEE SHEET Nº 71

FOR CONSTRUCTION DETAILS NOSE RAMP 'E' AND MAIN-LINE SEE SHEET Nº 65

DAVEMENT EDGE OF RAMP 'E' 0+20.17

BEGIN RAMP "C" TAPER 44' RT. OF 955+43.57

END RAMP "C" TAPER 44' RT. OF 962+25

NOSE ~30' RT. OF STA. 962+73.11

BEGIN RAMP "D" END RAMP "C"

NOSE ~27.50' RT. OF STA. 8+07.56 (℄ MAHONING)

ANGLE POINT 9+10.15

100' TRANSITION

3+45.54 6" I-4 PLUG

EXIST. 18" STORM

P.I. P.R. P.S.

STA. 1+85.71 6" I-4 PLUG

NOSE ~23.5' LT. OF STA. 2+45.54 (RAMP 'E')

STA. 7+00 6" 90° BEND

STA. 7+91.50 6" 60° BEND

STA. 8+08.50 6" 60° BEND

STA. 9+61 6" I-4 PLUG

T.S. STA. 4+33.77

S.C.S. STA. 6+33.77

S.T. STA. 8+33.77

NOSE ~ STA. 9+13.53

P.C. STA. 10+44.72 44' RT. STA. 963+00

PARK ROAD SEE SHEET Nº 244

℄ PRICE RD.

RAMP 'E'

SODDING

P.C. RAMP 'E' 0+00 27' RT. OF 5+55.87

P.T. RAMP 'E' 0+20.32

0+40.67 (Mc KINLEY) 1+42.07 (RAMP 'E')

RAMP CURVE DATA
Δ = 5°49'.19"
D = 100.00'
L = 20.32'

CURB RETURN DATA
Δ = 78°00'41"
T = 20.75'
L = 34.04'
PC = 1+08.33
PT = 0+58.07

CURB RETURN DATA
Δ = 101°58'.19"
D = 200.87
L = 344.90
T = 1+74.14
PC = 0+89.57
PT = 1+85.71

TRANSITIONAL CURVE DATA

L_s = 200'
D_c = 7°00'00"
θ_s = 7°00'00"
R_c = 818.51'
Δ = 14°00'00"
L.T. = 133.44'
S.T. = 66.76'
L.C. = 199.87'
T_s = 200.70'
E_s = 8.20'

26'±

BITUMINOUS SURFACE
BRICK
CONCRETE

EXISTING Mc KINLEY AVE.

7'-0" 40'-0" 7'-0"

BITUMINOUS SURFACE
BRICK
CONCRETE

EXISTING MAHONING AVE.

LEGEND

NEW PAVEMENT EDGE
PROPOSED MAINLINE
WORK DETAILED ELSEWHERE
CENTERLINE
EXIST. EDGE OF PAV'MT & CURB
EXIST. SIDEWALK
EDGE OF PAVED BERM
PROPOSED CURB

SCALE: 1" = 50'

PROFILE GRADE

BEGIN RAMP "E" STA. 0+00 27' RT. STA. 5+55.87 ON MAHONING AVENUE EL. 922.78

922.43 921.87 921.16 920.42 920.00 919.32 918.51 917.81 917.04 916.02 914.44 912.87 911.30 909.72 908.14 906.57 905.00 903.42 901.84 900.27 898.70 897.12 895.54 893.97 892.40 890.82 889.24 887.64 886.04 885.64 885.89 885.87 886.32 886.78 887.22 887.65 888.09 888.46 888.71 889.05

℄ 912.14

℄ 904.28

U-1 U-2 U-3

-6.30 %

150' V.C.

GRAPHIC GRADE

P.V.C. STA. 6+75 EL. 889.24

P.V.I. STA. 7+50 EL. 884.52

P.V.T. STA. 8+25 EL. 885.87

END RAMP "E" STA. 10+44.72 44' RT. STA. 963+00 EL. 889.52

+1.80%

℄ 882.32 ℄ 881.84 ℄ 880.65 ℄ 882.31 ℄ 885.38 INV. ℄ 880.59

STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE
6+33.77	891.84	+.80	892.64
6+00	893.97	+.71	894.68
5+75	895.54	+.64	896.18
5+50	897.12	+.57	897.69
5+25	898.70	+.50	899.20
5+00	900.27	+.43	900.70
4+75	901.84	+.36	902.20
4+50	903.42	+.29	903.71
4+33.77	904.44	+.25	904.69
4+25	905.00	+.25	905.25
4+00	906.57	+.25	906.82
3+75	908.14	+.25	908.39
3+50	909.72	+.25	909.97
3+25	911.30	+.26	911.56
3+00	912.87	+.26	913.13

EST. QUANTITIES I-8 INLETS MANHOLES & CATCH-BASINS

CODE	LOCATION & STATION	YOUNGS. TYPE I INLET EACH	
A-1	1+01.50	℄ McKINLEY 13' LT. ℄	1
A-2	0+64.90	℄ McKINLEY 13' RT. ℄	1
A-3	0+80.97		1
SHEET TOTALS			3

I-4 UNDERDRAINS LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 &	I-5 PIPE SPEC. EACH 6" 60° BEND	6" 90° BEND	6"x6" TEE
U-1	3+45.54	7+00	D	354			1	
U-2	1+85.71	8+00	D	612	10	1		1
U-3	9+61	8+00	S	161	10	1		
SHEET TOTALS				1127	20	2	1	1

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.
E-1	2+50	7+00	300
E-2	6+25	6+85	33
SHEET TOTALS			333

A-1
STA. 1+01.50 RAMP 'E'
YOUNGSTOWN TYPE I INLET
TOP OF CURB 920.92
WINDOW EL. 921.17
℄ 12" I-2 917.25

STA. 6+75 MAHONING
EXIST. M.H. 12.7' RT. ℄
COVER 920.53
EX. 18" INV. 913.73
℄ 12" I-2 914.23

24'~ 12" I-2 @ .0886

P-1

A-2
STA. 0+64.90 McKINLEY
YOUNGSTOWN TYPE I INLET
TOP OF CURB - 921.95
WINDOW ELEV. 921.00
℄ 12" I-2 918.28

STA. 6+75 MAHONING
EXIST. M.H. 12.7' RT. ℄
COVER 920.53
EX. 18" INV. 913.73
℄ 12" I-2 914.23

57'~ 12" I-2 @ .0705

P-2

ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CLASS "B" STORM SEWER LIN. FT. 12"	UNDER PAV'T & APPR.
P-1	A-1	6+75	31	
P-2	A-2	6+75	54	
P-3	A-3	7+08	67	
SHEET TOTALS			152	

A-3
STA. 0+80.97 McKINLEY
YOUNGSTOWN TYPE I
TOP OF CURB 921.74
WINDOW EL. 920.99
℄ 12" I-2 918.07

STA. 7+08 MAHONING
EXIST. M.H. 12' RT. ℄
COVER EL. 919.64
EX. 18" INV. 913.09
℄ 12" I-2 913.59

70'~ 12" I-2 @ .0711

P-3

EXIST. GROUND

0+00 1 2 3 4 5 6 7 8 9 10 10+44.72

PLAN & PROFILE ~ RAMP "E"

FED. RD.	STATE	PROJECT	
2	OHIO		

55
192

MAH.-18-17.20

℄ YOUNGSTOWN EXP'WY

BEGIN WORK
44' RT. OF STA. 975+54.99

BEGIN RAMP STA. 0+00
44' RT. STA. 975+54.99

℄ ROCKVIEW ST.

6" I-4 (SEE MAIN LINE)

STRUCTURE NO. MAH-18-18.55

STA. 5+26
6"x6" TEE

STA. 7+23
6" I-4 PLUG

STA. 7+27
6" I-4 PLUG

NOSE STA. 44' RT. OF MAINLINE
STA. 985+18.78
NOSE STA. 23' LT. OF RAMP
STA. 8+11.06

6" STANDARD TYPE 6 CURB

P.C. STA. 5+56.07
44' RT. STA. 981+11.06

CURVE DATA
Dc = 4°00'00"
R = 1432.40'
Δ = 10°14'10"
Lc = 255.90'
T = 128.29'

STA. 8+25
36" RT. ℄

STA. 8+25
6"x6" TEE

C.S. STA. 8+11.27

SPIRAL DATA
Ls = 200'
Δ1+Δ2 = 3°
T1 = 130.18'
Tt = 77.04'
θs = 2°

FOR DETAILS NOSE RAMP & MAINLINE SEE SHEET Nº 65

℄ ORANGE AVE.

℄ PROP. EDWARDS

℄ EXIST. EDWARDS

FOR CONSTRUCTION DETAILS RAMP "F" & HIGH ST. SEE SHEET Nº 71

S.C. STA. 10+11.27

CURVE DATA
Dc = 35°00'00"
R = 173.62'
Δ = 91°04'48"
Lc = 276.00'
T = 176.75'

℄ PLUM ST.

C.S. STA. 12+87.97

SPIRAL DATA
Ls = 200'
θs = 33°
L.T. = 135.73'
S.T. = 68.85'
L.C. = 197.01'

STA. 14+87.97
6" I-4 PLUG

℄ RAMP "F"

NOSE STA. 16+12.72
RAMP CLOSE STA. 16+17.72
BEGIN RELOC. HIGH ST. STA. 16+38.55

FOR INTERSECTION DETAILS SEE SHEET Nº 65

END RELOC. HIGH ST. STA. 17+38.55

END RAMP "F" ℄ AT STA. 17+34.85
(THIS STA. BASED ON INTERSECTION OF EXIST. EDWARDS & EXIST. HIGH.

END WORK
20' RT. OF ℄ RELOC. EDWARDS AT STA. 0+57.15

℄ RELOC. HIGH ST.
STA. 11+55.74

16' TYPE B-C CURB WITH PAVED MEDIAN

NOTE: THE ℄ OF EXIST. HIGH IS 0.07' NORTH OF ℄ PROP. HIGH ST.

℄ PROP. HIGH ST.

BEGIN PROP. & TAPER STA. 14+87.97

END PROP. & TAPER STA. 18+12.72

℄ PROP. HIGH ST.

STA. 11+55.74 (BASED ON ℄ RELOC. HIGH ST.)

ESTIMATED QUANTITIES I-15 GUARDRAIL (LIN. FT.)			
CODE	LOCATION		STEEL BEAM DEEP
	FROM	TO	
G-1	5+35	10+85	550'

ESTIMATED QUANTITIES I-12 CONCRETE CURB			
CODE	LOCATION		TYPE 6 LIN. FT.
	FROM	TO	
C-1	8+11.06	9+11.06	206'

I-21 4" PCC MEDIAN PAVING	
CODE	S.Y.
M-1	31'

~LEGEND~

- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE : 1" = 50'

A-1
STA. 16+67.64 RAMP "F"
21' RT. ℄
YOUNGSTOWN TYPE II INLET
WINDOW EL. 925.35
℄ C.B. 920.35
℄ 12" I-2 922.04

STA. 12+60 HIGH ST.
MAN HOLE
COVER EL. 926.71
℄ EXIST 31"x39" BR. SEWER 917.48
℄ 12" I-2 919.06

925
920
915
55'-12" I-2
@ .0544
P-1

B.M. #18-A
P.K. SPIKE IN 34" MAPLE
105' N. OF INT. HIGH & EDWARDS
15' W. OF ℄ EDWARDS
ELEV. 932.55

B.M. #19-A
P.K. SPIKE IN W. SIDE 18" W. CHERRY
140' S. OF INT. HIGH & PLUM; LOCATION: 18' E. OF ℄ PLUM ST.
ELEV. 932.18

STATION	PROFILE GRADE	S.E. OUTSIDE EDGE
10+11.97	910.60	+1.50 912.10
10+75	911.30	912.80
10+50	912.64	914.14
10+75	913.98	915.48
11+00	915.32	916.82
11+25	916.66	918.16
11+50	918.00	919.50
11+75	919.34	920.84
12+00	920.63	922.13
12+25	921.82	923.32
12+50	922.91	924.41
12+75	923.90	925.40
12+87.97	924.69	926.19
13+00	924.80	+1.43 926.23
13+25	925.60	+1.21 926.81
13+50	926.29	+1.12 927.41
13+75	926.88	+.97 927.85
14+00	927.33	+.82 928.15
14+25	927.66	+.66 928.32
14+50	927.87	+.51 928.38
14+75	927.96	+.36 928.32
14+87.97	927.97	+.28 928.25

EST. QUANTITIES I-8 : NLETS MANHOLES & CATCH BASINS			
CODE	LOCATION & STATION	YOUNGS. TYPE II INLET EACH	
A-1	STA. 16+67.64 21' RT. ℄	1	
SHEET TOTALS			

EST. QUANTITIES I-2 PIPES					
CODE	LOCATION		CLASS "B" STORM SEWERS LIN. FT. UNDER PAVT. & APPR.		
	FROM	TO	12"		
P-1	A-1	HIGH ST. 12+60	52		
SHEET TOTALS			52		

I-4 UNDERDRAINS LIN. FT.							I-5 PIPE SPEC. EACH
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	6"x6" TEE	
	FROM	TO					
U-1	5+56.07	6+25	D	96	10	1	
U-2	6+25	7+23	S	98			
U-3	7+27	14+87.97	S	782	10	1	
SHEET TOTALS				976	20	2	

EROSION CONTROL			
CODE	LOCATION		L-10 SOD S.Y.
	FROM	TO	
E-1	9+50	6+06	191.1
E-2	11+25	10+00	96.1
SHEET TOTAL			287.2

935
930
925
920
915
910
905
900

HORIZONTAL P.C. STA. 5+56.07 EL. 902.95

GRAPHIC GRADE

125' V.C.

PVC. 8+11.06 EL. 903.60

PVT. 9+36.06 EL. 906.55

-0.67%

+5.36%

PVI. 8+73.56 EL. 905.18

U-1

U-2

U-3

℄ 899.23

℄ 899.13

℄ 900.29

℄ 900.60

℄ 900.69

℄ 899.23

℄ 898.23

6" ℄ INV. 887.44

PVC. 11+75 EL. 910.34

PVI. 13+75 EL. 930.06

EL. 928.12

EL. 927.97

℄ 924.64

PROFILE GRADE MOVES TO OPPOSITE EDGE OF PAVEMENT STA. 14+87.97

GRAPHIC GRADE

400' V. C.

SEE SHEET Nº 64 FOR GRADES

END RAMP "F" ℄ STA. 17+34.85 ~ EL. 926.51

884.5 881.0 880.0 882.0 889.0 890.0 892.0 893.0 894.0 895.0 896.0 897.0 898.0 899.0 900.0 901.0 902.0 903.0 904.0 905.0 906.0 907.0 908.0 909.0 910.0 911.0 912.0 913.0 914.0 915.0 916.0 917.0 918.0 919.0 920.0 921.0 922.0 923.0 924.0 925.0 926.0 927.0 928.0 929.0 930.0 931.0 932.0 933.0 934.0 935.0 936.0 937.0 938.0 939.0 940.0 941.0 942.0 943.0 944.0 945.0

PLAN & PROFILE ~ RAMP "F"

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.-18-17.20

56 492

FOR DETAILS OF INTERSECTION RAMP "G" & MARSHALL STREET SEE SHEET Nº. 71

BEGIN RAMP "D" 44' LT. STA. 960+80
END RAMP "G"

END WORK
44' LT. OF ℄
STA. 960+80

BRIDGE Nº
MAH.-18-18.31

℄ YOUNGSTOWN EXP'WY

℄ PRICE ROAD

DAM

MILL CREEK

C.S. 965+17.00

C.S. 967+13.33

BRIDGE Nº
MAH.-18-18.55

℄ GLENWOOD AVE.

℄ ORANGE AVE.

℄ EXIST. MARSHALL ST.
℄ PROP. MARSHALL ST.

CURVE DATA
Δ: 14° 08' 36"
Dc: 4°
Rc: 1432.39'
T: 177.69'
L: 353.58'

END WORK
FOR RAMP "G" CURB RETURN 18' RT. OF STA. 3+54.74

P.C. 3+22.72

NOSE STA. 4+12.46
R.T. OF 4+54.74

TYPE 2 INTEGRAL CURB & GUTTER (SEE MARSHALL ST.)

STA. 3+77
6" I-4 PLUG

STA. 3+73
6" I-4 PLUG

STA. 3+23.72
6"90° BEND

STA. 3+23.72
6"90° BEND

STA. 7+55
R.T. OF ℄ RELOC. MARSHALL

0+08.11
N RAMP "G"

6" I-4 45° BEND

BEGIN WORK
18' RT. OF ℄ RELOC. MARSHALL STA. 1+54.05

BEGIN RAMP "G" 18' RT. OF ℄ RELOC. MARSHALL STA. 1+27.13

STA. 7+55
R.T. OF 4+54.74

NOSE STA. 5+26.45
11° LT.

NOSE STA. 5+68.08

NOSE STA. 2+45.60

NOSE STA. 2+37.14

NOSE STA. 2+27.13
38' LT.

NOSE STA. 1+28.92
38' LT.

STA. 6+77.30

STA. 1+69.33

CURVE DATA
Δ: 14° 16' 30"
Dc: 9° 59'
Rc: 573.69'
T: 71.99'
L: 142.91'

FOR INTERSECTION DETAIL OF RAMP "G" & MAINLINE SEE SHEET Nº. 66

MAINLINE CURVE DATA
Δ: 60° 43' 03"
Dc: 5° 30'
Ls: 400'
Ts: 813.68'
Es: 172.95'
Xc: 398.53'
Yc: 75.52'

ESTIMATED QUANTITIES I-8 INLETS, MANHOLES & CATCH BASINS		
CODE	LOCATION & STATION	YOUNG. TYPE II INLET EACH
A-1	4+88.08 23' RT. ℄	1

ESTIMATED QUANTITIES I-12 CONCRETE CURB			
CODE	LOCATION		TYPE 6
	FROM	TO	LIN. FT.
C-1	2+37.36	3+37.36	206

B.M. #13
TOP OF STEM - FIRE HYDRANT
18.5' LT. OF ℄ RELOC. MARSHALL STA. 3+87.50

~LEGEND~
- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE: 1" = 50'

ESTIMATED QUANTITIES I-2 PIPES			
CODE	LOCATION		CL. "B" STORM UNDER PAV'T APP. SEWER LIN. FT.
	FROM	TO	12"
P-1	D-1	4+24.3	22'

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE	8" OUT. PIPE M 6.4 a	6"-45° BEND	6"-90° BEND
	FROM	TO					
U-1	3+77	6+77.30	S	300			
U-2	3+73	3+23.72	S	67			1
U-3	3+23.72	7+55	S	340	10	1	1
SHEET TOTAL				707	10	1	2

EROSION CONTROL			
CODE	LOCATION		L-10
	FROM	TO	500 S.Y.
E-1	2+50	2+00	138.9

A-1
STA. 4+87.91
YOUNGSTOWN (230' RT. ℄ MARSHALL)
I-8 YOUNGSTOWN TYPE II INLET
TOP OF CURB 893.81
WINDOW ELEV. 893.06
℄ 12" I-2 889.75
℄ INLET 888.06

END RAMP "G" 44' LT. OF EXPRESSWAY STA. 965+50

℄ PROP. MARSHALL
℄ EXIST. MARSHALL

COVER ELEV. 894.91
℄ PROP 12" I-2 886.36
℄ EXIST. 12" I-2 886.11
℄ EXIST. 15" I-2 886.11

24' @ 12.5% = 3.0

P-1

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

STA. 6+77.30 EL. 891.89

NOSE STA. 5+68.08 EL. 892.60

NOSE STA. 2+45.60 EL. 892.96

NOSE STA. 2+37.14 EL. 892.99

PVT. STA. 1+00 EL. 894.81

PVT. STA. 2+50 EL. 892.24

PVT. STA. 3+25 EL. 893.55

℄ 891.16
℄ 891.62
℄ 891.27
℄ 891.21
℄ 892.08
℄ 892.44
℄ 891.36

U-1 U-2 U-3

0.99%
0.06%

150' V.C.

GRAPHIC GRADE

STA. BASED ON ℄ RELOC. MARSHALL

BEGIN RAMP "G" 0+08.11 18' RT. OF ℄ RELOC. MARSHALL STA. 1+27.13

℄ ROCKWELL ST.

891.91 892.21 892.49 892.77 893.05 893.33 893.57 893.82 894.07 894.31 894.56 894.81 894.95 894.98 894.90 894.73 894.45 893.55 893.08 892.62 892.17 891.31 890.26 889.82 889.48 887.59 886.07

(33.65' RT. 5+25) (34.58' RT. 5+50) (30.40' RT. 5+75) (25.50' RT. 6+00) (23.48' RT. 6+25) (24.12' RT. 6+50) (13.42' RT. 6+75) (10.38' RT. 7+00)

910 905 900 895 890 885 880 875

7 6 5 4 3 2 1 0+00

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
261 FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

PLAN & PROFILE — RAMP "G"

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.-18-17.20

57 / 492

ESTIMATED QUANTITIES I-15 GUARDRAIL (L.F.)		
CODE	LOCATION	TYPE 2-A
R-1	WEST AVE.	50'

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION FROM	TO	CLASS "B" STORM SEWER LIN. FT. UNDER. PAV'T. & APPR. 12"	
P-1	A-1	13+81	28	
P-2	A-2	31"x39" ELIP. SWR.	18	
SHEET TOTALS			46	

I-8 ADJ. MANHOLE TO GRADE
STA. 13+81 HIGH ST.
STA. 12+60 HIGH ST.
STA. 11+57 HIGH ST.
STA. 11+83.5 HIGH ST.

I-16 REMOVE INLETS
STA. 11+75 HIGH ST.
STA. 11+80 HIGH ST.

A-2
STA. 11+92.76 HIGH ST.
14' RT. ℄
YOUNGSTOWN TYPE II
WINDOW EL. 925.42
℄ C.B. 920.42
℄ 12" I-2 922.11

31"x39" SEWER
20"x12" I-2 @ 13.50
P-2
225
220
215

MAIN LINE REMOVAL QUANTITIES MATCH LINE 3

MAIN LINE REMOVAL QUANTITIES MATCH LINE 4

PROPOSED 30" & 36" WATER LINES FOR DETAILS SEE SHEET Nº 94

PROPOSED 16" C.I.P. WATER LINE FOR DETAILS SEE SHEET Nº 94 95

FOR EXISTING SECTION OF PLUM & EDWARDS STREETS SEE PLAN & PROFILE SHEET Nº 42

SEE INTERSECTION DETAIL SH'T. Nº 71 FOR PROP. CURB & SIDEWALK QUANTITIES, & "E-8" REMOVAL ITEMS.

ESTIMATED QUANTITIES E-8 REMOVAL ITEMS						
CODE	LOCATION FROM	TO	CURB (L.F.)	PAVED GUTTER (L.F.)	SIDE-WALK (S.F.)	RIGID PAV'T. (S.Y.)
B-1	M.L.3	HIGH			3000	
X-1	M.L.4	BARRICADE	400			
K-1	M.L.3	HIGH				600
S-1	M.L.3	HIGH		310		
B-2	M.L.4	BARRICADE			2000	
K-2	M.L.4	BARRICADE				400
SHEET TOTAL			400'	310'	5000	1000

FOR CONSTRUCTION DETAILS RAMP H, RAMP F & HIGH ST SEE SHEET Nº 71

TRANSITIONAL SPIRAL DATA
L': 130.00'
x: 129.95'
y: 15.89'

BEGIN RAMP "H" ℄ 0+00 SEE STA. 11+55.72 (BASED ON EX. HIGH & EDWARDS ℄'s) ON INT. OF EX. EDWARDS ST. & ℄ PROP. EDWARDS

EXTENSION OF RAMP "H" ℄ INTERSECTS AT STA. 13+16.46

NOSE STA. 6 LT. OF RELOC. HIGH 12+38.39

STA. 11+55.74 (BASED ON ℄ EX. EDWARDS) ON ℄ RELOC. HIGH ST. STA. 11+57.27

RELOC. HIGH ST.

PROP. EDWARDS

P-2

A-1

P-1

A-2

TYPE C CURB WITH 7" PAVED MEDIAN

TYPE C CURB

BEGIN PROP & TAPER STA. 14+62.15

END PROP & TAPER STA. 15+12.15

PROP 4' SIDEWALK

BEGIN TAPER OF PAVT. & SIDEWALK 10 LT. OF ℄

END SIDEWALK TAPER ONLY, TYPE 15+14.45

END PAVT. TAPER 11+97.09 14+20.0

NOSE-7 RT. 14+20.0 (RAMP)
NOSE-9 LT. 14+18.16 (HIGH)

TYPE 2 CURB & GUTTER

℄ WALLACE

END WORK STA. 14+50.16

SPECIAL NOTE:
THE ℄ OF EXIST. HIGH ST. IS 0.5' NORTH OF PROP. HIGH ST.

BEGIN WORK
29.15' SOUTH OF ℄ PROP. HIGH ST. ON A RADIAL LINE WITH PT. OF CURB RETURN

B.M. #18-A
P.K. SPIKE IN 34" MAPLE 10.8' S. OF INT. HIGH & EDWARDS 18' W. OF ℄ EDWARDS
ELEV. 926.95

STA. 3+00 6" 90° BEND

STA. 3+34.48 6"x4" PLUG

STA. 5+05 STA. 4+46.88

STA. 9+00 6" 90° BEND

STA. 9+00 6"x6" TEE

SPIRAL DATA
L': 60.00'
x: 59.98'
y: 2.00'

CURVE DATA
Δ: 74° 52' 50"
D: 40° 45'
R: 140.59'
T: 107.02'
L: 183.75'
P.C.: 11+28.86
P.T.: 13+12.61

CURVE DATA
Δ: 74° 52' 50"
D: 20° 00'
R: 286.70'
T: 214.72'
L: 374.72'
P.C.C.: 11+28.86
P.T.: 15+03.58

CURVE DATA
Δ: 74° 52' 50"
D: 20° 00'
R: 286.70'
T: 214.72'
L: 374.72'
P.C.C.: 11+28.86
P.T.: 15+03.58

EROSION CONTROL					
CODE	LOCATION FROM	TO	L.O. I-10 SOD S.Y.	L.O. I-10 DUMPROCK C.Y.	I-14 PAVED GUTTER TYPE I L.F.
E-1	8+50	13+70	188.8		
E-2	8+80	RT.		75	
E-3					44

I-4 UNDERDRAINS L.F.					I-5 PIPE SPEC. EACH	
CODE	LOCATION FROM	TO	DEEP OR SHALLOW	6" PIPE	6"-90° BEND	6"x6" TEE
U-1	3+34.48	5+00	S	166		
U-2	6+00	9+00	D	317	1	
U-3	5+00	10+00	D	498		1
U-4	10+00	18+30.27	S	831		
SHEET TOTAL				1812'	1	1

ESTIMATED QUANTITIES I-12 CONCRETE CURB LIN. FT.			
CODE	LOCATION FROM	TO	SPECIAL
G-1	14+23.12	16+23.12	200

EST. QUANTITES I-8 INLETS, MANHOLES AND CATCH-BASINS			
CODE	LOCATION & STATION	YOUNGS. TYPE II INLET EACH	
A-1	2+09 16' LT. ℄	1	
A-2	11+92.76 HIGH ST. 14' RT. ℄	1	
SHEET TOTALS		2	

HIGH ST. QUANTITIES

FOR CONSTRUCTION DETAILS NOSE RAMP "H" & MAINLINE SEE SHEET Nº 66

FOR PG. 81-4 UNDERDRAIN SEE INSERT

B.M. # 21
TOP OF STEM ON HYDRANT. N.W. COR. HIGH & SMITH
ELEV. 926.02

SCALE: 1" = 50'

PLAN

SURVEYED	
PLOTTED	
GRADES CHECKED	
R. R. ℄ NOTED	
STRUCTURE NOTATNS CHKD.	
NOTE BOOK	
NO.	

BY	DATE

PROFILE

HORIZONTAL T.S. & C.S. FOR RAMP "H" ℄

INCIDENT POINT OF ℄ EL. 926.60

GRAPHIC GRADE

P.V.C. STA. 12+76 EL. 935.15

P.V.T. STA. 5+12.75 EL. 921.75

300' V.C.

A-1
STA. 2+09 RAMP "H" 16' LT. ℄
YOUNGSTOWN TYPE II WINDOW EL. 927.85
℄ 12" I-2 924.54

STA. 13+81 HIGH ST. EXIST. M.H. COVER EL. 928.03
℄ 31"x39" SEWER 917.13
℄ 12" I-2 919.38

STA. 6+04
PROPOSED 30" C.I.P. WATER LINE
℄ 30" PIPE 809.80
1.0" CONC. ENCASEMENT

STA. 5+88
PROPOSED 36" R.C. WATER LINE
℄ 36" PIPE 809.75
1.0" CONC. ENCASEMENT

STA. 8+06
PROPOSED 16" C.I.P. WATER LINE
℄ 16" PIPE 802.39
1.0" CONC. ENCASEMENT

P.V.C. STA. 11+00 EL. 882.11

P.V.I. STA. 12+50 EL. 877.11

P.V.T. STA. 14+00 EL. 872.45

300' V.C.

NOSE STA. 6+23.12 EL. 873.17

NOSE STA. 16+23.12 EL. 863.47

STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE
4+46.88	924.87	-.25	924.51
4+50	924.67	-.24	924.43
4+75	923.44	-.18	923.76
5+00	922.08	-.12	921.96
5+75	920.61	-.05	920.56
5+46.88	919.50	0.0	919.50
5+50	919.11	+.01	919.12
5+75	917.61	+.07	917.68
6+00	916.11	+.13	916.24
6+25	914.61	+.20	914.81
6+46.88	913.50	+.25	913.55
6+50	913.11	+.26	913.37
6+75	911.61	+.36	911.97
7+00	910.11	+.46	910.57
7+25	908.61	+.56	909.17
7+50	907.11	+.66	907.77
7+75	905.61	+.76	906.37
8+00	904.11	+.86	904.97
8+25	902.61	+.95	903.56
8+46.88	901.50	+1.04	902.34
8+50	901.11		902.15
8+75	899.61		900.65
9+00	898.11		899.15
9+25	896.61		897.65
9+50	895.11		896.15
9+75	893.61		894.65
10+00	892.11		893.15
10+25	890.61		891.65
10+50	889.11		890.15
10+75	887.61		888.65
11+00	886.11		887.15
11+25	884.64		885.68
11+50	883.23		884.27
11+75	881.88		882.92
12+00	880.58		881.63
12+25	879.36		880.40
12+50	878.19		879.23
12+75	877.08		878.17
13+00	876.03		877.07
13+25	875.04		876.08
13+50	874.11		875.15
13+75	873.24		874.28
14+00	872.43		873.47

FOR CONTINUATION OF SUPERELEVATION SEE PAV'T DETAILS SHEET Nº 60

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
261 FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

PLAN & PROFILE — RAMP "H"

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.-18-17.20

58
452

FOR INTERSECTION DETAILS RAMP "J" & MARSHALL AVE. SEE SHEET Nº 72
FOR DETAILS OF INTERSECTION RAMP "J" & MAINLINE SEE SHEET Nº 67

END PROJECT @ PROP. MARSHALL ST.

℄ WEST AVE.

℄ PROP. MARSHALL ST.

STA. 13+50 18.0' RT. & 6"x6" TEE E. 850.76

STA. 13+93.92 6"I-4 PLUG

STA. 13+50 2.0' LT. & 6"x6" TEE E. 850.82

STA. 9+00 6"I-4 PLUG

PROPOSED MH. B-4 SEE SHEET Nº 57

PCC. 10+37.00

RAMP "J"

TYPE 2A CURB

TYPE G CURB

CURVE DATA
Δ: 26°08'27"
Dc: 4°00'
R: 1432.39'
T: 332.55'
L: 653.52'
E: 38.10'

STA. 16+85.52 6"I-4 PLUG

STA. 16+50.76 6"x6" TEE E. 851.87

STA. 14+93.92 6"I-4 PLUG

STA. 14+44.14 6"x6" TEE E. 852.84

STA. 16+85.52 6"I-4 PLUG

STA. 16+50.76 6"x6" TEE E. 851.87

STA. 14+93.92 6"I-4 PLUG

STA. 14+44.14 6"x6" TEE E. 852.84

℄ YOUNGSTOWN EXP'WY

995

990

1000

1005

℄ SMITH ST.

℄ WALTER STREET

NOSE STA. 8+00 44' LT. STA. 997+05.50

℄ WALKER STREET

STA. 2+50 2.5' LT. OF STA. 8+00

CURVE DATA
Δ: 10°32'12"
Dc: 1°40'
R: 3439.72'
T: 317.22'
L: 632.44'
E: 16.20'

PCC. 3+20.55 44' LT. OF STA. 10+04.00

STA. 16+85.52 6"I-4 PLUG

STA. 16+50.76 6"x6" TEE E. 851.87

STA. 14+93.92 6"I-4 PLUG

STA. 14+44.14 6"x6" TEE E. 852.84

STA. 16+85.52 6"I-4 PLUG

STA. 16+50.76 6"x6" TEE E. 851.87

STA. 14+93.92 6"I-4 PLUG

STA. 14+44.14 6"x6" TEE E. 852.84

P-1 P-2 P-3 P-4 P-5 P-6 P-7

X-1 K-1 G-3 G-2 U-4 A-5 U-5 R-1 G-4 E-5 E-6 U-1 M-1 G-5 G-6 E-1 E-2 U-2 A-2 U-3 A-3 A-4 E-3 G-1 B-1 A-6 A-7 E-4

I-15 GUARD RAIL TYPE 2-A				
CODE	FROM	TO	LOC.	L.F.
R-1	3+29.56	12+29.56	RT.	900
SHEET TOTAL				900

I-21 4" PCC MEDIAN PAVING	
CODE	S.Y.
M-1	27

I-12 CONCRETE CURB					
CODE	STATION FROM	STATION TO	LOC.	TYPE 2A L.F.	TYPE G L.F.
G-1	14+94	16+86	LT.	192	
G-2	21+44.14	22+00	RT. OF ℄ MARSHALL		
G-3	13+93.92	14+93.92	RT.		100
G-4	8+00	9+00	LT.		100
G-5	996+05.50	997+05.50	LT. & EXPWY		100
G-6	11+50	14+94	LT.	344	
SHEET TOTAL				536	300

BEGIN WORK
32' LT. OF STA. 1004+86.74

100' TAPER

BEGIN RAMP "J" 0.00 - 32' LT. OF STA. 1004+86.74

END WORK
16' RT. OF STA. 19+50.05 ON PROP. MARSHALL ST.

STA. 19+50.05 18.0' RT. EXIST. 6"x6" TEE E. 850.76

STA. 19+50.05 16.0' RT. EXIST. 6"x6" TEE E. 851.54

STA. 19+50.05 16.0' RT. EXIST. 6"x6" TEE E. 851.54

SC. 997+75.49

A-5
STA. 23+00 ℄ MARSHALL
INV. 15" COMB. SEWER 845.16
PAV'T. EL. 855.46

A-5
STA. 23+00 MARSHALL
12'2T. ℄
YOUNGSTOWN TYPE II INLET
WINDOW EL. 855.72
℄ C.B. 850.10
℄ 15" I-2 851.93
℄ 15" I-2 850.10
℄ B-I-4 850.68
55'-15" I-2
@ .0442
P-5
℄ RAMP "J"
P-6 12"-15" I-2 @ 60'-0"

A-3
STA. 13+50 RAMP "J"
37' LT. ℄
I-8 Nº 2A-8 INLET
WINDOW EL. 856.56
℄ 15" I-2 852.98

A-1
RAMP "J" STA. 9+55
61' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW 847.80
℄ 12" I-2 845.73
82'-12" I-2
@ .0518
P-7

B-4
℄ SMITH ST., 85' S. MARSHALL
I-8 Nº 1 M.H.
COVER EL. 849.80
℄ EXIST. 15" 841.23
℄ NEW 12" I-2 841.48

A-4
41.75' LT. ℄
STA. 14+50
I-8 Nº 2-2A C.B.
WINDOW EL. 860.17
℄ 12" I-2 857.67

A-3
3.7' LT. ℄
STA. 13+58
I-8 Nº 2A-16 INLET
TOP OF CURB 857.56
WINDOW EL. 856.89
℄ 12" I-2 853.73
℄ 15" I-2 853.48

A-2
STA. 12+50
41.75 LT. ℄
I-8 Nº 2-2A C.B.
WINDOW 859.95
℄ 12" I-2 857.01
100.0'-12" I-2 @ .0328
8.0' 8.0'
TOP CURB
INLET STA.
P-3 14+0
P-4 13+0

B.M. #15
TOP OF STEM ON HYDRANT @ W. SIDE OF MARSHALL @ SMITH
ELEV. 845.78

11"-12" I-2 @ .0600 P-2	
A-6	STA. 16+45 2' LT. RAMP "J" ℄ YOUNGSTOWN TYPE II INLET WINDOW EL. 867.22 ℄ C.B. 857.18 ℄ 12" I-2 858.87 ℄ 12" I-2 864.20 30° C.I.P.
A-7	STA. 16+56 4.5' LT. RAMP "J" I-8 Nº 2-2 A.C.B. WINDOW 867.03 ℄ 12" I-2 864.86
	8.0' CLR. 15" COMB. SEWER
	11"-12" I-2 @ .0738

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION FROM	LOCATION TO	CLASS "B" STORM SWR UNDER PAV. & APPROACHES (L.F.) 12"	15"
P-1	A-6	15th SEWER & MARSHALL	30	
P-2	A-7	A-6	9	
P-3	A-4	A-3	97	
P-4	A-2	A-3	97	
P-5	A-3	A-5		52
P-6	A-5	15th SEWER & MARSHALL		12
P-7	A-1	B-4	79	
SHEET TOTALS			312	64

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPEC. EACH	
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4.2	6"x6" TEE	
U-1	9+00	12+75	S	375			
U-2	12+75	13+50	D	74			
U-3	16+85.52	13+50	D	335		1	
U-4	13+93.92	13+50	D	43			
U-5	13+50(J)	23+00(MARSHALL)	D	35	10	1	
SHEET TOTALS				862'	10'	2'	

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 PAVED GUTTER L.F. TYPE 1
E-1	11+50	12+00	22.3	
E-2	12+00	12+40		40
E-3	14+60	15+25	28.9	
E-4	16+66	16+85.52		20
E-5	7+00	8+43		153
E-6	5+00	7+00	111.1	
SHEET TOTALS			162.3	213

STATION	PROFILE GRADE	S.E. OUTSIDE EDGE
8+00	870.78	870.40
8+25	871.43	871.05
8+50	872.09	871.71
8+75	872.62	872.24
9+00	872.93	872.55
9+25	873.01	872.63
9+50	872.83	872.45
9+75	872.34	871.96
10+00	871.80	871.42
10+25	870.93	870.55
10+37	870.65	870.27
10+37	870.53	+.38 870.71
10+50	869.51	869.89
10+75	868.79	868.67
11+00	867.07	867.45
11+25	865.85	866.23
11+50	864.63	865.01
11+75	863.41	863.79
12+00	862.19	862.57
12+25	860.97	861.35
12+50	859.75	860.13
12+75	858.53	858.91
13+00	857.53	857.91
13+25	856.96	857.34
13+50	856.82	857.20
13+75	857.12	857.50
14+00	857.86	858.24
14+25	859.03	859.41
14+50	860.41	860.79
14+75	861.79	862.17
14+93.92	862.84	863.22

E-8 REMOVAL ITEMS						
CODE	STATION FROM	STATION TO	LOC.	CURB	S.W.	RIGID PAVT.
B-1	19+50.05	22+00	MARSHALL ST. - RT.		1050 S.F.	
X-1	19+50.05	22+00	MARSHALL ST. - RT.	220 L.F.		
K-1	19+50.05	22+00	MARSHALL ST. - RT.			305 S.Y.
SHEET TOTAL				220 L.F.	1050 S.F.	305 S.Y.

EST. QUANTITIES I-8 INLETS MANHOLES & CATCH-BASINS						I-14 PAVED GUTTER TYPE-1 MOD. L.F.
CODE	LOCATION & STATION	YOUNGS TYPE II INLET EACH	2-2A C.B. EACH	2A-16 INLET EACH		
A-1	9+55 61' RT. ℄		1			20
A-2	12+50 4.75' LT. ℄		1			10
A-3	13+50 3.7' LT. ℄			1		
A-4	14+50 4.75' LT. ℄		1			10
A-5	MARSHALL 23+00 12' RT. ℄	1				
A-6	16+45 2' LT. ℄	1				
A-7	16+56 4.5' LT. ℄		1			20
SHEET TOTALS		2	4	1		60

GRAPHIC GRADE

END RAMP "J" STA. 16+85.52 E. 862.84

NOSE STA. 14+93.92 E. 862.84

P.V.I. STA. 14+25 EL. 859.03

P.V.I. STA. 13+50 EL. 854.87

P.V.C. STA. 12+75 EL. 858.53

PVT. STA. 10+50 EL. 869.51

P.V.I. STA. 9+50 EL. 874.71

PROFILE GRADE MOVES 870.93 ACROSS PAVMT.

NOSE STA. 8+00 EL. 870.78

P.V.C. STA. 8+50 EL. 872.09

STA. 3+20.55 P.C.C.

150' V.C.

200' V.C.

-4.85%

+2.07%

-4.80%

+2.24%

U-5 A-4 A-3 A-2 U-1 P-3 P-4 U-4 U-2

TOP CURB

℄ 852.53

℄ 852.86

℄ 850.76

A-4
STA. 14+50
I-8 Nº 2-2A C.B.
4.75' LT. ℄
WINDOW EL. 860.17
℄ 12" I-2 857.67

FOR LOCATIONS & ELEVATIONS OF A-4, A-3, & A-2 SEE DETAILS ON THIS SHEET

16+85.52 16 15 14 13 12 11 10 9 8 7 6 5 4 3+29.56

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

PLAN & PROFILE - RAMP "J"

FED.RD.	STATE	PROJECT	
2	OHIO		

59 492

MAH.-18-17.20

EROSION CONTROL I-14				
CODE	LOCATION FROM	LOCATION TO	PAVED GUTTER TYPE L LIN. FT.	PAVED GUTTER TYPE L MOD. LIN. FT.
E-1	11+77.81	15+81	403	
E-2	16+00	13' RT.		10
E-3				10
SHEET TOTAL			403'	20'

I-18 SIDEWALK - S.F.			
CODE	LOCATION FROM	LOCATION TO	QUANTITY
H-1	RAMP "K"	HUGHES	1440
H-2	RAMP "K"	BRIDGE	2280
SHEET TOTAL			3720'

E-8 REMOVAL ITEMS				
CODE	LOCATION FROM	LOCATION TO	SIDEWALK	CURB
B-1	BRIDGE	HUGHES	3720 S.F.	
X-1	BRIDGE	HUGHES		345 L.F.

I-15 GUARD RAIL STL. BEAM (DEEP)				
CODE	FROM	TO	LOC.	L.F.
R-1	6+62.50	7+87.50	RT.	125
R-2	12+00	16+50	LT.	450
R-3	10+00	12+00	RT.	200
SHEET TOTAL				775'

PLAN

	BY	DATE
SURVEYED		
PLOTTED		
GRADES CHECKED		
B. M.'s NOTED		
RT. OF WAY CHECKED		
STRUCTURE NOTATIONS CHKD.		

NOTE BOOK

NO.

℄ YOUNGSTOWN EXP'WY

BRIDGE № MAH.-18-1934

BRIDGE № MAH.-18-1941

℄ RIDGE AVE.

℄ EXIST. WOODLAND & PROP. WOODLAND

MAINLINE CURVE DATA

PROPOSED RELOCATION 21" COMB. SEWER FOR DETAILS SEE SHEET № 99 & 100

PROPOSED RELOC. 6" WATER MAIN FOR DETAILS SEE SHEET № 99 & 100

PROPOSED RELOC. 48" COMBINATION SEWER. FOR DETAILS SEE SHEET № 101

BRIDGE № MAH.-18-1950

℄ MARKET ST.

STA. 1030+69.49 80+00 (MARKET ST.)

STA. 1029+00 (RAMP "M")

12' SIDEWALK BACK TO BRIDGE

℄ 946.79 STA. 16+42.65 6"~90° BEND

NOSE ELEV. 1.6' LT. OF RAMP "K" MARKET ST. STA. 44+85.39

EXIST. 48" BRICK

FOR INTERSECTION DETAILS SEE SHEET № 72

STA. 43+98.24 ℄ MARKET & HUGHES

TAC CURB RETURN ELEV. 1.5' RT. OF ℄ MARKET & HUGHES

EXISTING MANHOLE

90°03'35"

END WORK RAMP "K" STA. 19+23.48 (2.00' RT.) 70.01' LT.

SCALE: 1" = 50'

1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029

1030

P.C. STA. 4+46.81 44' RT. OF STA. 1018+25

44' RT. STA. 4+46.81 DECELERATION LANE INCLUDING 100' TAPER

CURVE DATA
$D_c = 3°00'00"$
$\Delta = 5°15'00"$
$R = 1909.86'$
$T = 87.56'$
$L = 175'$
$E = 2.01'$

BEGIN WORK
44' RT. OF STA. 1018+25

P.T. STA. 6+71.87

P.C. STA. 7+28.13

NOSE STA. 7+99.63 44' RT. STA. 102+12.13

102+51.99 48+91.91 (RIDGE)

5+21.53 97+69.53 (WILLIAMS)

END PROD & TAPER STA. 7+45

FOR CONSTRUCTION DETAILS & ELEVATIONS RAMP "K" & MAINLINE SEE SHEET № 68

1025+08.02 4+98.94 (PROP. WOODLAND)

1025+69.32 5+59.94 (EXIST. WOODLAND)

PROPOSED WATER LINE RELOC. 8"

FOR ADDITIONAL INFORMATION ON PROP. WOODLAND SEE SHEET № 303

SEE SHEET № FOR RETAINING WALL DETAILS.

P.T. STA. 14+03.81

P.C. STA. 16+42.65

P.T. STA. 17+38.17

CURVE DATA
$D_c = 3°00'00"$
$\Delta = 20°15'00"$
$R = 1909.86'$
$T = 341.06'$
$L = 675'$
$E = 30.21'$

FOR CONSTRUCTION DETAIL OF 2-2A C.B. @ STA. 16+0 SEE SHEET № 109

I-4 ℄ 955.79 16+64 6" PLUG

CURVE DATA
$D_c = 55°00'30"$
$T = 93.14'$
$L = 96.14'$

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH BASINS						
CODE	LOCATION & STATION	#2-2A C.B EACH	#2-2A G INLET EACH	YNGST. TYPE II INLET EACH	#1 M.H. EACH	#2-2A-8 INLET EACH
A-1	11+80 15.0' RT.	1				
A-2	15+04 43.25' RT		1			
A-3	17+45 3.0' RT.			1		
A-4	18+68 3.0' RT.			1		
A-5	16+00 13.0' RT.	1				
A-6	15+75 6.0' RT.				1	1
A-7	8+02 21.0' RT.					1

ESTIMATED QUANTITIES I-12 CONCRETE CURB. (LIN. FT.)				
CODE	LOCATION FROM	LOCATION TO	TYPE 6	TYPE 2-A
C-1	6+87.50	7+87.50	100	
C-2	102+78.13	1022+78.13	100	
C-3	10+25	15+99	584	
C-4	16+02	16+42.65	46	
C-5	16+42.65	HUGHS		280
C-6	16+42.65	MARKET		91
C-7	7+99.63	12+00	406	
SHEET TOTAL			1236'	371'

I-21 4" PCC MEDIAN PAVING	
CODE	S.Y.
M-1	18'

B.M.# 47
TOP OF STEM ON HYDRANT @ RT. OF ℄ WERNER ST. ELEV. = 952.47

B.M.# 52
N.E. BOLT ON WOODLAND ST. @ MARKET ST. ELEV. = 944.32

I-4 UNDERDRAINS LIN. FT.							
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 &	I-5 PIPE SPEC. EACH 6"-90° BEND	
U-1	4+46.81	17+41	D & S	1204			
U-2	16+42.95	8+10	D	823	10		
U-3	A-3	18+64	D	113	10	1	
SHEET TOTAL				2230	20'	1'	

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION FROM	LOCATION TO	CLASS "B" STORM SEWERS CIRC. REINF. CONC. PIPE LIN. FT. UNDER PAV'T. APP. 12"	DRTA
P-1	A-1	PROP. M.H. @ INTERSECTION EX. 48" SWR.	36	
P-2	A-3	47+81 MARKET EX. M.H. 34' LT. 19+23	52	
P-3	A-4	A-6	68	
P-4	A-2	A-6	69	
P-5	A-5	A-6	22	
P-6	A-6	48+14 MARKET	161	
SHEET TOTAL			408'	

FOR PROFILES OF PROPOSED I-2 NOT SHOWN THIS SHEET SEE SHEET №: 83

A-7
STA. 8+02 (21.0' LT. ℄)
I-8 № 2A-8
TOP OF CURB 927.91
WINDOW EL. 927.24
℄ 12" I-2 923.85
℄ 8" I-4 924.16

A-6
STA. 15+75 (60' RT. ℄)
I-8 № 1 M.H.
COVER ELEV. 950.00
℄ 12" I-2 944.10
℄ 8" I-4 944.43

A-5
STA. 16+0 (13.0' RT. ℄)
I-8 № 2-2A C.B.
WINDOW ELEV. 950.05
℄ 12" I-2 947.86

A-4
STA. 18+68 (13.0' RT. ℄)
YNGST. TYPE II INLET
TOP OF CURB 962.41
WINDOW ELEV. 961.66
℄ 12" I-2 958.35
℄ INLET 956.66

A-3
STA. 17+45
I-8 YNGST. TYPE II (3.0' RT. ℄)
TOP OF CURB 957.33
WINDOW ELEV. 956.58
℄ 12" I-2 953.27
℄ INLET 951.58

A-2
STA. 15+04 (4.25' RT. ℄)
I-8 № 2A-6 INLET
TOP OF CURB 948.54
WINDOW ELEV. 947.87
℄ 12" I-2 944.46

STA. 19+23.5
EXIST. M.H. (34.0 LT. ℄)
COVER ELEV. 964.98
℄ 12" I-2 955.00
℄ 48" (EXIST.) 950.86

STA. 47+81.5
EXIST. 48" DR. SW.
℄ 943.98
℄ 12" I-2 945.98

STA. 11+88
21" COMB. SEWER RELOC.
℄ 929.02
1.0' CONC. ENC.

STA. 11+94
RELOC. 8" W.M.
℄ 931.5
1.0' CONC. ENCASEMENT

STA. 1+46.81 ℄ 915.30

P.C. STA. 4+46.81 EL. 918.85

P.T. STA. 6+71.87 EL. 914.67

P.C. STA. 7+28.13 EL. 914.67

NOSE STA. 7+99.63 EL. 913.85

P.I. STA. 9+32.44 EL. 932.65

P.V.I. STA. 10+00 EL. 927.60

P.V.I. STA. 12+00 EL. 926.80

P.V.I. STA. 14+03.81 EL. 948.04

P.V.I. STA. 16+0 EL. 955.08

P.V.I. STA. 17+00 EL. 955.08

END RAMP STA. 19+23.48 EL. 954.47

℄ 911.97

℄ 926.58

℄ 946.72

℄ 955.79

+2.60%
+4.85%
+2.60%
+4.44%

200' V.C.

GRAPHIC GRADE

STATION	PROFILE S.E. OUTSIDE EDGE		OUTSIDE GRADE
9+49.63	933.60	-.80	932.80
10+00	935.04	-.80	934.24
10+25	935.69	-.80	934.89
10+50	936.34	-.80	935.54
10+75	936.99	-.80	936.19
11+00	937.64	-.80	936.84
11+25	938.29	-.80	937.49
11+50	938.94	-.80	938.14
11+75	939.59	-.80	938.79
12+00	940.24	-.80	939.44

CON'T.

STATION	PROFILE S.E. OUTSIDE EDGE		OUTSIDE GRADE
12+09.87	940.54	-.80	939.54
12+25	940.89	-.72	940.17
12+50	941.54	-.67	940.87
12+75	942.19	-.52	941.67
13+00	942.84	-.47	942.47
13+25	943.49	-.32	943.17
13+50	944.14	-.22	943.92
13+75	944.79	-.12	944.67
14+00	945.44	-.07	945.47
14+05.87	945.54	0.0	945.54
14+25	946.09	+.05	946.14
14+50	946.74	+.12	946.86
14+75	947.59	+.18	947.51
15+00	948.04	+.24	948.28
15+05.87	948.14	+.75	948.39

PROFILE

	BY	DATE
SURVEYED		
PLOTTED		
GRADES CHECKED		
B. M.'s NOTED		
STRUCTURE NOTATIONS CHKD.		

NOTE BOOK

NO.

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO. CHICAGO

PLAN & PROFILE — RAMP "K"

FED. RD.	STATE	PROJECT	
2	OHIO	+	

MAH.-18-17.20

GO 492

PLAN | PROFILE

SURVEYED | PLOTTED | DESIGNED | CHECKED | QUANTITIES CHECKED | RT. OF WAY CHECKED | B. M.'s NOTED | STRUCTURE NOTATIONS CHK'D

NOTE BOOK | NO.

BY | DATE

END WORK 44' LT. OF STA. 1013+17.15

BEGIN WORK 15' RT. ON A RADIAL LINE WITH STA. 0+00 OT (REFER TO INTERSECTION DETAILS - RAMP "L" FOR PAV'MT LIMITS @ WOODLAND)

℄ YOUNGSTOWN EXPWY.

BEGIN ACCELERATION LANE TAPER 44' LT. OF STA. 1013+69.07
END TAPER 32' LT. OF STA. 1010+19.07

CURVE DATA
Δ: 11°-14'-32.69"
D: 14°-32'-49.5"
T: 154.00'
L: 307.07'

FOR CONSTRUCTION DETAILS RAMP "L" & MAINLINE SEE SHEET Nº [ ]

NOSE - 38' LT. OF 1001+50.01 — 74° 32' 35"

BRIDGE Nº MAH-18-1934

STA. 5+56 - ℄ PROP. RELOC. 6" W.M. FOR DETAILS SEE SHEET Nº 99 | 100

℄ RIDGE AVE.

1021+51.99 45+91.43 (RIDGE)

TS 1021+55.38

NOSE - 14' LT. OF STA. 1021+52.05

SEE SHEET Nº [ ] FOR RETAINING WALL DETAILS

BEGIN TYPE G CURB 10.0' RT. 1021+77.46

PCC STA. 5+99.47

CURVE DATA
Δ: 74°-40'-00"
D: 148.01°
R: 38.71'
T: 58.27'

SPIRAL DATA
Ls: 100.00'
θs: 5°-15'
Xs: 99.84'
Ys: 4.58'
Lc: 149.84'

STA. G+28.88 RAMP ℄ STA. 49+60.45 RIDGE ℄

NE 924.74 5+25 G-90° BEND

5.0'

SC 3+06.62

2 TYPE H CURBS

SEE INTERSECTION DETAIL SHEET Nº 72

NOSE - 24' LT. OF STA. 1021+48.00 (WOODLAND) 18° RT. 2+47.00 ℄ SIDE WALK @ STA. 1+29.48

PT 0+85.62

TS 1+56.62

PC STA. 0+00 0° 00' 00" OT

℄ SIDEWALK

℄ EXIST. WOODLAND

℄ PROP. WOODLAND

CURVE DATA
Δ: 74°-40'-00"
D: 148.01°
R: 38.71'
T: 58.27'
L: 125.45'

SEE WOODLAND AVE. RELOCATION FOR ADDITIONAL INFORMATION (SHEET Nº 302)

MAINLINE CURVE DATA
PDD: 5°-40'-25"
R: 1012.45'
D: 5°-40'-25"
T: 100.00'
E: 5°-40'-25"
L: 198.51'
℄

FED. RD.	STATE	PROJECT	
2	OHIO		

61
492

MAH.-18-17.20

PLAN | SURVEYED | PLOTTED | ALIGNMENT CHECKED | ST. OF WAY CHECKED | NOTE BOOK | NO. | BY | DATE

PROFILE | SURVEYED | PLOTTED | PROFILE CHECKED | B. M.'s NOTED | NOTE BOOK | NO. | STRUCTURE NO'S AT RIGHT ANGLES OR SKEW | BY | DATE

S.C. STA. 1025+55.38

BRIDGE Nº
MAH.-18-1050

BEGIN RAMP "M" 0+00
32' RT. OF ℄ STA. 1025+29.33

END TAPER 1+00
44' RT. OF 1026+25

P.C.C. STA. 1+78.31
44' RT. OF 1027+00

CURVE DATA
Δ: 14°
Dc: 5°30'
Ts: 201'
Lc: 400'

BEGIN APPROACH SLAB
℄ MARKET ST. STA. 48+05.19

FOR DETAILS
48" COMBINED SEWER
SEE SHEET Nº 101

FOR DETAILS OF
NOSE RAMP "M" &
MAINLINE SEE SHEET
Nº. G9

CONSTRUCT TYPE 6 CURB (LIMITS CORRESPOND WITH LENGTH OF RETAINING WALL)

FOR RETAINING WALL DETAILS SEE SHEET Nº

SPIRAL DATA
Ds: 3°30'
Ls: 200'
L.T.: 199.96'
S.T.: 100.00'

SPIRAL DATA
Ds: 2°58'52"
Ls: 150'
L.T.: 101.54'
S.T.: 51.22'

CURVE DATA
Δ: 108°31'12"
Dc: 9°58.11'
Rc: 570'
T: 720.44'
Lc: 784.10'

See Sheet Nº For Temporary Run Around

CURVE DATA
Δ: 67°01'16"
Dc: 57°17'45"
Rc: 100'
T: 69.53'
Lc: 117.03'

CURVE DATA
Δ: 68°00'43"
Dc: 190°05'55"
Rc: 30'
T: 22.33'
Lc: 35.75'

END RAMP "M" ℄ STA. 46+32.57

CONSTRUCT 12' SIDEWALK

END WORK
32' RT. OF STA. 46+07.00

STA. 46+07.00

B.M. #54
TOP OF STEM ON HYDRANT @ N.W. COR. HUGHES & MARKET ST. ELEV. 966.86

STA. 45+99.24

NOSE ~ 24' LT OF STA. 45+65.03 (RAMP) 45+88.51 (MARKET ST.)

TYPE 2A CURB

FOR CONSTRUCTION DETAILS RAMP "M" & MARKET STREET INTERSECTION SEE SHEET Nº 72

B.M. #59
TOP OF STEM ON HYDRANT @ N.W. COR. HAYES & HENRY
ELEV. 969.93

℄ HUGHES STREET

℄ MARKET STREET

℄ HAYES AVENUE

℄ HENRY STREET

BEGIN WORK
32' RT. OF STA. 1025+29.33

B-7
STA 48+49
℄ MARKET ST.
I-8 YNGST. Y-8 M.H.
COVER ELEV. 955.6
E 12" I-2 949.15
E 48" I-2 941.15

P-1 51'~12" I-2 @ .0308
P-2 36'~12" I-2 @ .0368

MAINLINE CURVE DATA
Δ: 55°49'.75"
Dc: 5°45'
Ts: 708.91'
Es: 128.51'
Ls: 400'
Rc: 996.45'
Θs: 11°30'
x: 398.39'
y: 26.68'
L.T.: 267.23'
S.T.: 133.85'
L.C.: 399.28'

I-15 STD. GUARD RAIL STEEL BEAM-DEEP			
CODE	STATION FROM	STATION TO	L.F.
G-1	4+00	6+00	300
G-2	7+00	9+00	200
			500'

I-21 4" PCC MEDIAN PAVING	
CODE	S.Y.
M-1	25'

ESTIMATED QUANTITIES I-8 INLETS, MANHOLES & CATCH BASINS			
CODE	LOCATION & STATION	I-8 Nº 2-2A C.B. EACH	YOUNGS. TYPE II INLET EACH
A-1	5+97 16.5' RT.	1	
A-2	MARKET 48+60 34' RT.		1
A-3	9+50 15' RT.	1	
A-4	9+50 33' LT.	1	
SHEET TOTAL		3'	1'

ESTIMATED QUANTITIES I-2 PIPES						
CODE	LOCATION FROM	LOCATION TO	CLASS "B" STORM SEWER UNDER PAV'T. & APPROACHES 12"	CLASS "B" STORM SEWER 15"	CLASS "B" STORM SEWER 12"	CLASS "B" STORM SEWER 15"
P-1	A-2	B-7	32			
P-2	A-1	A-2			47	
P-3	A-3	A-4		48		
P-4	A-4	A-104				137
SHEET TOTAL			32'	48'	47'	137'

I-12 CONCRETE CURB				
CODE	STATION FROM	STATION TO	TYPE 6 L.F.	TYPE 2-A L.F.
C-1	1+78.31	2+10	732	
C-2	15+16.16	16+33.57		118
C-3	15+16.16	15+60.5		55
C-4	5+42.01	6+42.01	206	
			938'	173'

I-13 5' SIDEWALK	
CODE	S.F.
S-1	180
S-2	822
	1002'

I-4 UNDERDRAINS					I-5 PIPE SPEC	
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	8" PIPE OUTLET M-6.4 a	6" PIPE	6" CROSS	6" TEE
U-1	4+50	15+16	S		300		
U-1	"	"	D		766		
U-2	5+50	7+00	D		150	1	1
SHEET TOTAL					1216'	1	1'

EROSION CONTROL					
CODE	LOCATION FROM	LOCATION TO	L-10 SOD S.Y.	I-14 GUTTER TYPE 1 L.F.	I-14 GUTTER TYPE 1 MOD. L.F.
E-1	13+00	9+40	200		
E-2	5+87	9+40		353	
E-3					10
E-4					20
E-5					10
			200'	353'	40'

~LEGEND~
- NEW PAVEMENT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB

SCALE: 1"=50'

A-104
STA. 1033+00
I-8 Nº 2-2A C.B.
54.0 RT. ℄
WINDOW EL. 924.74
E 15" I-2 922.28
E 18" I-2 922.03

P-3 52'~15" I-2 @ .01
P-4 141'~15" I-2 @ .1184

HORZ. 1"=20'
VERT. 1"=5'

A-1
STA. 5+97 16.5' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL.=954.08
E 12" I-2 = 951.91

A-2
℄ MARKET ST. STA. 48+60
54' RT. ℄
YOUNGSTOWN TYPE II INLET
E 12" I-2 = 950.03
TOP OF CURB = 954.53
WINDOW EL.=953.78
BOTTOM EL.=948.78
E 12" I-2 = 850.47

A-3
STA. 9+50 15' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL.=941.94
E 15" I-2 = 939.50

A-4
STA. 9+50 33' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL.=944.59
E 15" I-2 = 938.58

HORIZONTAL CURVE STA. 1+78.31 TO STA. 2+10

BRIDGE INTERSECTION POINT ℄ MARKET ST.

NOSE STA. 5+42.01 EL. 932.14

P.V.C. STA. 5+50 EL. 933.05

GRADE BEGIN RAMP "M" 0+00 - 32' RT. 1025+29.33

150' V.C.

P.V.T. STA. 7+00 EL. 939.66

E 938.30

E 937.87

E 930.24

E 927.84

E 925.14

E 924.52

E 924.32

E 923.71

E 923.51

E 922.90

E 922.70

E 922.49

E 922.29

E 922.08

E 921.88

E 921.67

E 921.47

E 921.26

E 921.06

E 920.85

E 920.65

E 920.44

E 920.24

E 920.03

E 919.83

E 919.62

E 919.42

E 919.21

E 919.01

E

FED.RD.	STATE	PROJECT	
2	OHIO		

MAH.-18-17.20

62
492

FOR CONTINUATION OF RAMP 'N' SEE MAINLINE PLAN & PROFILE SHEET STA. 1020+00 TO 1050+00 SHEET Nº 40

TAPER BEGINS 44' LT. OF STA. 1027+17.64
END OF RAMP 'N' 52' LT. OF STA. 1023+67.64

BRIDGE Nº MAH-18-1050

END WORK 44' LT. OF 1050+50. P.C.C. 11+73.95

BEGIN RAMP 'N' ℄ 0+00
T+31.06 (WOODLAND)
0+07.50 (RAMP 'N')

℄ WOODLAND AVENUE

EXIST. ℄
PROP. ℄

S 88°57'35" E

P.C. 7+27.72

CURB RETURN DATA
Δ: 91°22'25"
D: 38°11'50"
R: 150'
T: 149.74'
L: 239.24'

P.T. 0+80.01
12 RT.

I.S. STA. 1+18.61

SPIRAL DATA
Ls: 150'
Θs: 28°38'52"
L.T.: 101.34'
S.T.: 51.22'

SPIRAL DATA
Ls: 200'
Θs: 38°11'50"
L.T.: 133.44'
S.T.: 66.76'

SPIRAL DATA
Ls: 150'
Θs: 28°38'52"
L.T.: 101.34'
S.T.: 51.22'

CURVE DATA
Δ: 24°30'
Dc: 7°
Rc: 818.51'
T: 177.72'
Lc: 350'

CURVE DATA
Δ: 36°11'18"
R: 150'
D: 38°11'50"
T: 49.01'
Lc: 94.74'

S.C. STA. 2+68.61

TYPE 2A CURB

TYPE C CURB

℄ MARKET STREET

℄ HAYES AVENUE

℄ ERIE STREET

℄ MARLIN STREET

EXIST 15" C.S. @ 0.46

℄ YOUNGSTOWN EXPWAY

PROPOSED RELOCATION 48" COMBINATION SEWER FOR DETAILS SEE SHEET Nº 101

STA. 1030+19.40
50+00 (MARKET ST.)

NOSE STA. 1032+82.24

NOSE STA. 38' LT. OF STA. 1032+82.24

C.S. STA. 1030+91.44

NOSE STA. 9+50.51

C.S. STA. 8+25.95

C.S. STA. 5+13.35

C.S. STA. 2+68.61

5' WIDTH

5' PAVED BERM

FOR CONSTRUCTION DETAILS - RAMP 'N' & MAIN LINE SEE SHEET NO. 69

MAINLINE CURVE DATA
Δ: 53°49'25"
D: 5°00'00"
Dc: 11°30'
T: 1035.91'
Es: 178.91'
Yx: 398.39'

Δ: 20°08'00"
D: 5°00'00"
Dc: 11°30'
T: 1035.91'
Es: 178.91'
Yx: 398.39'

1035

S 19°41'44" E

END WORK
ON A RADIAL LINE WITH STA. 7+75.45

NOSE STA. 7+34 LT. 15' RT. 7+75.45 (RAMP) (MARLIN)

I-12 CONCRETE CURB & COMBINATION CURB & GUTTER

CODE	LOCATION FROM	LOCATION TO	TYPE-6 L.F.	TYPE-2 L.F.	TYPE-2A L.F.	SPECIAL L.F.
C-1	8+58	11+73.95	276			
C-2	7+50.31	9+50.31				200
C-3	0+00	0+80		80		
C-4	0+80	3+63.35			283	
C-5	2+75.49	3+63.35	88			

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	I-10 SOD S.Y.	I-14 PAVED GUTTER TYPE I LIN. FT.	I-14 GUTTER TYPE I MOD. L.F.
E-1	9+00	11+50		250	
E-2	5+00	A-4	217		
E-3					20
SHEET TOTAL			217	250	20

I-13 5' SIDEWALK

CODE	S.F.
S-1	45

I-4 UNDERDRAINS LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	I-5 PIPE SPEC. EACH 6" 90° BEND	
U-1	11+74	A-3	D	240	18	1	
U-2	A-4	3+27	S	627		1	
U-3	A-6	3+21	S	311	10		
SHEET TOTAL				1178	28	2	

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH-BASINS

CODE	LOCATION & STATION	#2-2A C.B EACH	#6 C.B EACH	#1 M.H. EACH	YOUNGS TYPE2 INLET EACH	
A-2	9+47.5 -14.0 LT. ℄		1			
A-3	9+34.5 -17.0 LT. ℄			1		
A-4	9+00 -19.0 RT. ℄	1				
A-5	2+82.3 - 12.0' RT. ℄ MARLIN				1	
A-6	0+52 - 2.0' LT. ℄				1	
SHEET TOTAL		1	1	1	2	

ESTIMATED QUANTITIES I-2 PIPES

CODE	LOCATION FROM	LOCATION TO	CLASS "B" STORM SEWERS UNDER PAV & APP. 12"	
P-2	A-3	A-4	15	
P-3	A-2	A-3	50	
P-4	A-5		EX. 15" C.S. & MH.	
P-5	A-6		EX. M.H. & 44" MARLIN & WOODLAND	
SHEET TOTALS			119	

B.M.#54
TOP OF STEM ON HYDRANT 10' N.W. OF TOP OF HIGHES & MARKET ST. ELEV. 966.86

B.M.#69
TOP OF STEM ON HYDRANT ON E. SIDE OF MARLIN @ N. OF KYLE ST. ELEV. 947.98

SCALE: 1"=50'

A-4
STA. 9+0 (19.0' RT. ℄)
I-8 2-2A C.B.
WINDOW ELEV. 921.23
℄ 8" I-4 919.04
℄ 15" I-2 918.79

A-6
STA. 0+52 (2.0' LT. ℄)
YNG'ST TYPE II INLET
TOP OF CURB 931.10
WINDOW ELEV. 930.35
℄ 12" I-2 927.04
℄ INLET 925.35

A-5
STA. 2+82.3 MARLIN
I-8 YNG'ST. TYPE II
TOP OF CURB 933.08
WINDOW EL. 932.58
℄ 12" I-2 932.02
℄ INLET 930.33

EXIST. 15" C.S. ℄ 929.80

11.0' 12" I-2 @ 0.1850

A-3
STA. 9+34.5
I-8 Nº 1 M.H.
COVER ELEV. 924.36
℄ 8" I-4 918.77
℄ 12" I-2 918.44

A-2
STA. 9+47.5 (16.5' LT. ℄)
I-8 Nº 6 C.B.
GRATE EL. 924.23
℄ 12" I-2 - 920.98

15'-12" I-2 @ 0.1698

STA. 9+34.5
I-8 Nº 1 M.H.
℄ 12" - 918.44

P-2
STA. 9+0 (19.0' RT. ℄)
WINDOW EL. 921.23
℄ 8" I-4 919.04
℄ 12" I-2 918.79
BASE LINE RAMP 'N'

50'-12" I-2 @ 0.0070

P-5
STA. 0+80.01 ~ P.T. CURB RETURN
EL. 931.00

2.00'

45'-12" I-2 @ 0.0420

℄ RAMP 'L'

STA. 0+12
℄ MARLIN
EXIST. M.H.
℄ 12" I-2 923.35
℄ EXIST 15" 914.4

PROP. PAVT.

P-4
EXIST. 15" C.S. ℄ 929.80

P-3
15'-12" I-2 @ 0.1698

GRAPHIC GRADE

TAPER BEGINS 44' LT. OF STA. 1027+17.64
END RAMP 'N' 52' LT. OF STA. 1023+67.64

HORIZONTAL

P.C.C. 11+73.95

NOSE STA. 9+50.51
ELEV. 932.40

P.V.I. 9+34.00
ELEV. 919.11

P.V.C. STA. 6+34 - EL. 928.32

P.V.T. STA. 6+25 EL. 928.60

P.V.C. STA. 5+25
EL. 932.78

P.V.I. STA. 5+75
EL. 930.13

P.V.T. 4+50
EL. 930.76

-3.00%

+2.72%

6.00' V.C.

10.00' V.C.

15.00%

℄ 919.08

℄ 917.93

℄ 917.43
0+34.5

STA. 11+68
RELOC. 48" C.S.
℄ 48" 912.69
1.0 CONC. ENC.

FOR PROFILE GRADE & PAVT. DETAILS FOR 0+0 TO 0+80.01 SEE SHEET Nº 73

STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE	STATION	PROFILE GRADE	S.E.	OUTSIDE EDGE
8+73.95	924.73	+.88	925.11	5+75	930.41	+.25	930.66
8+00	924.56	+.80	925.36	5+52.35	931.40	+.25	931.65
7+75	924.96	+.73	925.69	5+50	931.53	+.26	931.79
7+50	925.41	+.65	926.06	5+25	932.78	+.39	933.17
7+25	925.93	+.57	926.50	5+13.35	933.40	+.47	933.87
7+00	926.51	+.49	927.00	5+00	934.11	+.55	934.66
6+75	927.15	+.41	927.56	4+75	935.34	+.69	936.03
6+50	927.84	+.33	928.17	4+50	936.76	+.83	937.59
6+34	928.32	+.28	928.60	4+25	937.97	+.98	938.95
6+25	928.60	+.25	928.85	4+00	939.03	+1.12	940.15
6+23.95	928.63	+.25	928.88	3+75	939.87	+1.26	941.13
6+00	929.44	+.25	929.69	3+63.35	940.16	+1.33	941.49

PLATE I — PLAN - PROFILE O. P. R. & R. E. STANDARD
2GI FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

PLAN & PROFILE - RAMP "N"

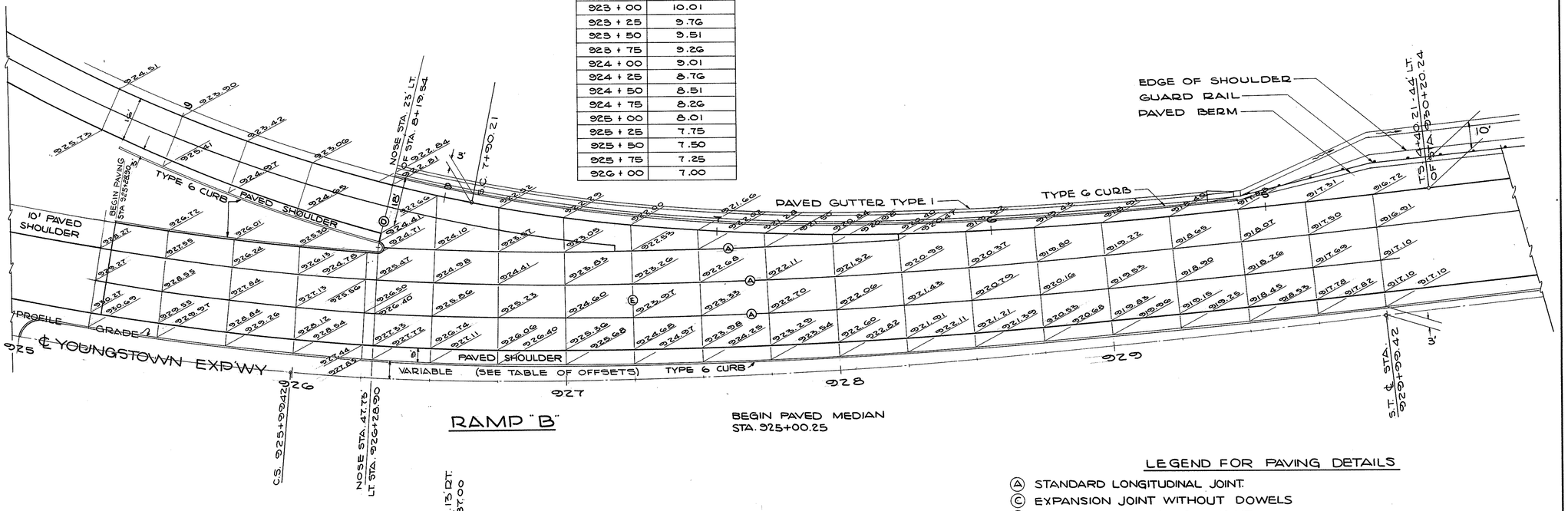
FED. RD.	STATE	PROJECT	
2	OHIO		

63
492

MAH-18-17.20

TABLE OF OFFSETS - CURVE Nº 1		
STATION	℄ TO FACE CURB	℄ TO O.E. RAMP "B"
926+28.90	6.73	70.73
926+50	6.51	67.61
926+75	6.25	63.41
927+00	6.00	59.72
927+25	5.75	56.65
927+50	5.50	53.72
927+75	5.25	51.49
928+00	5.00	49.62
928+25	4.75	47.94
928+50	4.50	46.70
928+75	4.25	45.75
929+00	4.00	45.05
929+25	3.75	44.50
929+50	3.50	44.20
929+75	3.25	43.97
929+99.42	3.00	44.00

TABLE OF OFFSETS - CURVE 1	
STATION	℄ TO FACE CURB
922 + 50	10.51
922 + 75	10.26
923 + 00	10.01
923 + 25	9.76
923 + 50	9.51
923 + 75	9.26
924 + 00	9.01
924 + 25	8.76
924 + 50	8.51
924 + 75	8.26
925 + 00	8.01
925 + 25	7.75
925 + 50	7.50
925 + 75	7.25
926 + 00	7.00



LEGEND FOR PAVING DETAILS

- Ⓐ STANDARD LONGITUDINAL JOINT
- Ⓒ EXPANSION JOINT WITHOUT DOWELS
- Ⓓ STANDARD EXPANSION JOINT
- Ⓔ STANDARD CONTRACTION JOINT-PLACED AT 60' INTERVALS OR LESS

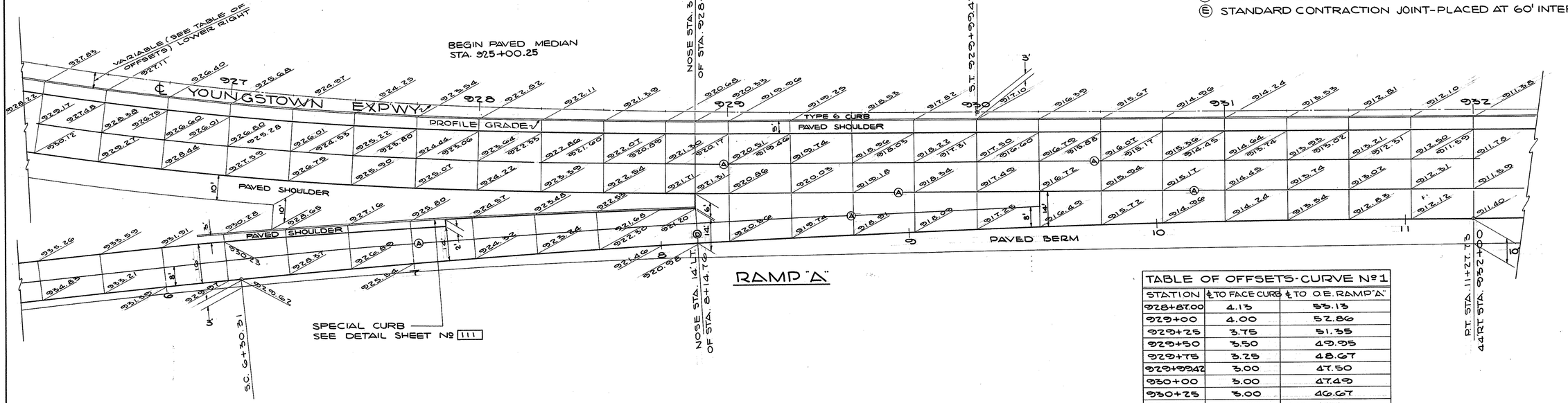


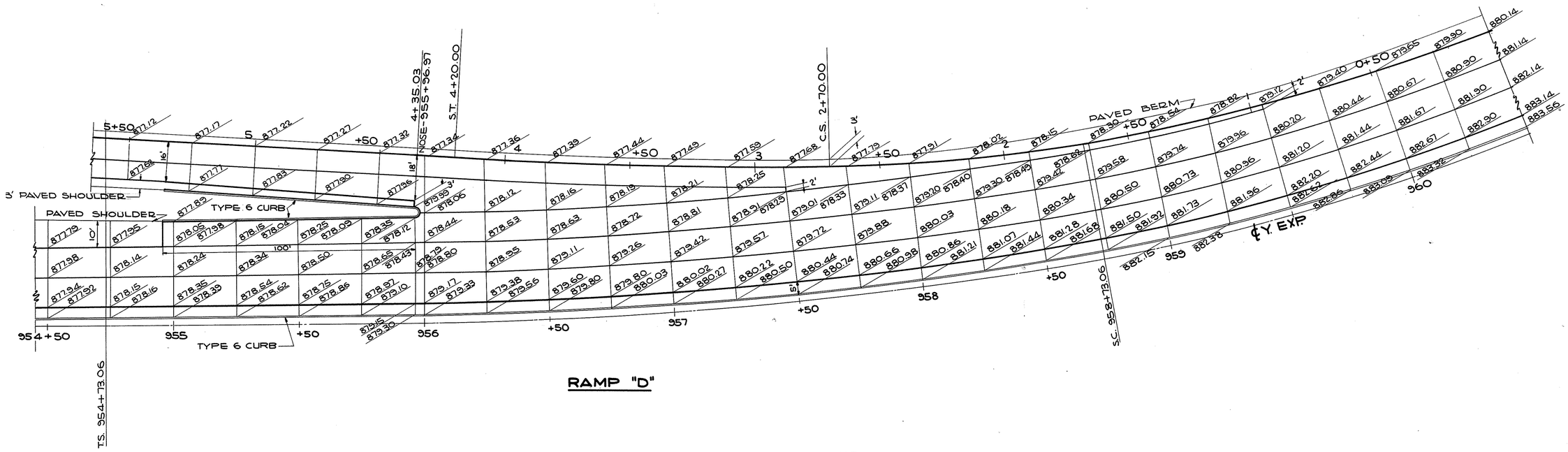
TABLE OF OFFSETS - CURVE Nº 1		
STATION	℄ TO FACE CURB	℄ TO O.E. RAMP "A"
928+87.00	4.13	55.13
929+00	4.00	52.86
929+25	3.75	51.35
929+50	3.50	49.95
929+75	3.25	48.67
929+99.42	3.00	47.50
930+00	3.00	47.49
930+25	3.00	46.67
930+50	3.00	45.96
930+75	3.00	45.36
931+00	3.00	44.87
931+25	3.00	44.49
931+50	3.00	44.22
931+75	3.00	44.05
932+00	3.00	44.00

DETAILS - RAMPS "A" & "B"

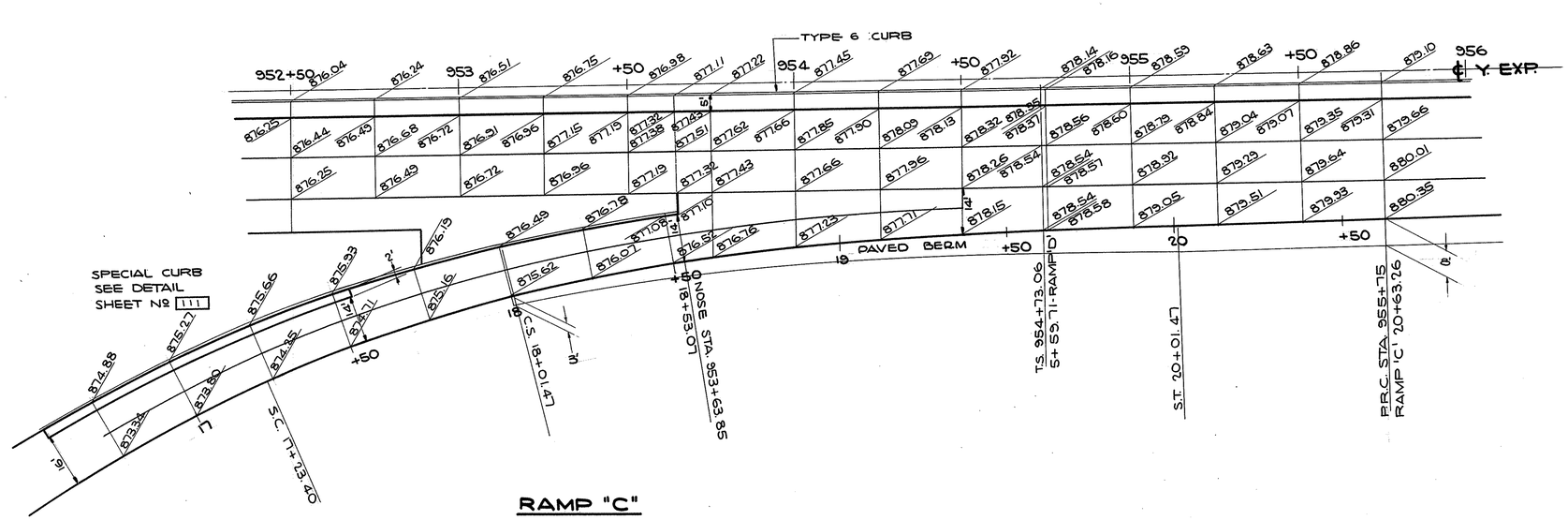
FED. RD.	STATE	PROJECT	
2	OHIO		

G4
492

MAH - 18 - 17.20



RAMP "D"



RAMP "C"

DETAILS - RAMPS "C" & "D"

FED. RD.	STATE	PROJECT	
2	OHIO		

G5
492

MAH-18-17.20

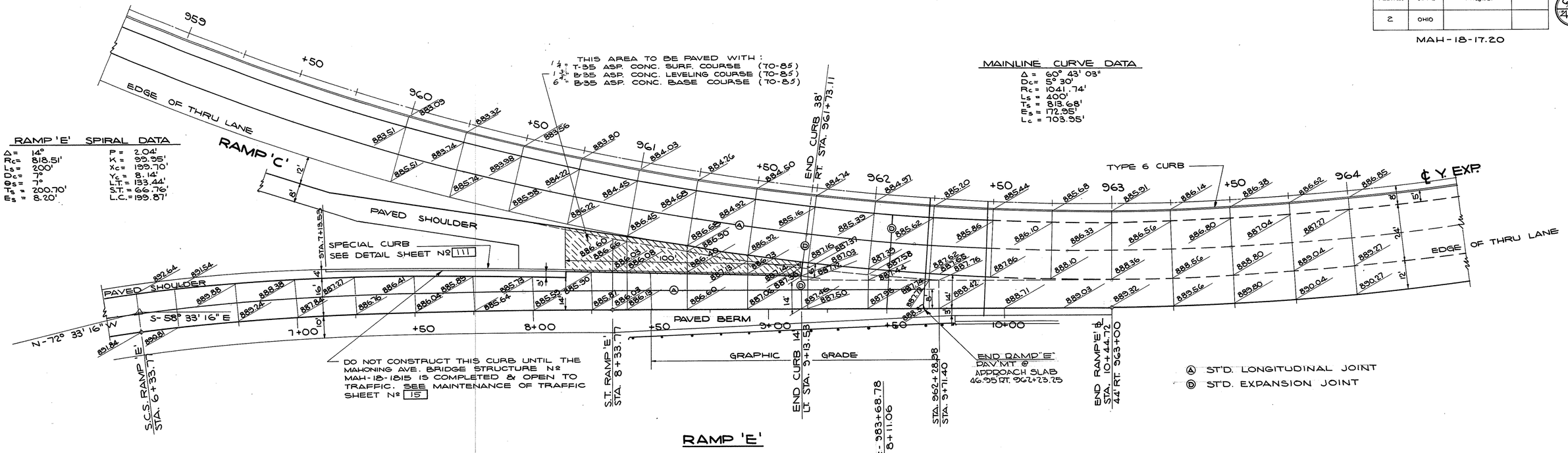
RAMP 'E' SPIRAL DATA

Δ = 14°	P = 2.04'
R_c = 818.51'	K = 99.95'
L_s = 200'	Xc = 199.70'
D_c = 7°	Y_c = 8.14'
Θ_s = 7°	L.T. = 133.44'
T_s = 200.70'	S.T. = 66.76'
E_s = 8.20'	L.C. = 199.87'

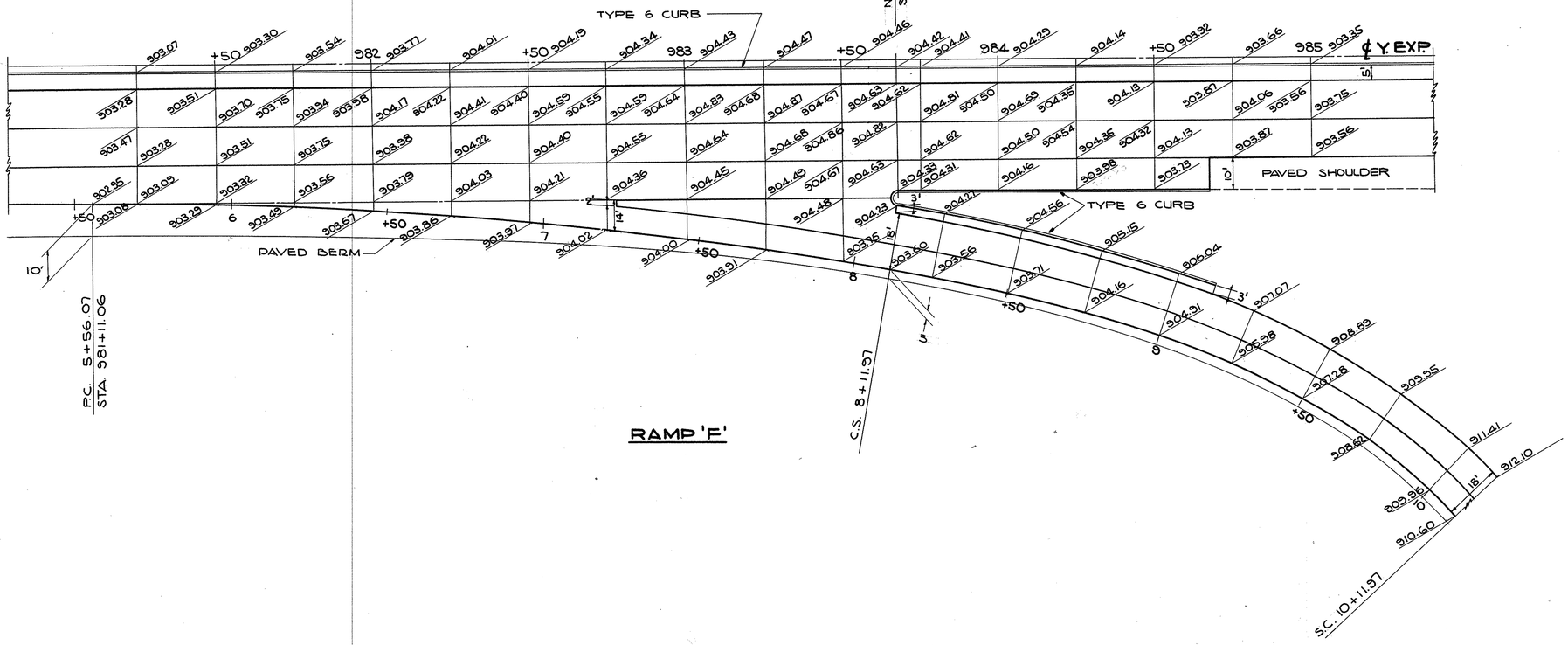
THIS AREA TO BE PAVED WITH :
1¾" T-35 ASP. CONC. SURF. COURSE (70-85)
1½" B-35 ASP. CONC. LEVELING COURSE (70-85)
6¾" B-35 ASP. CONC. BASE COURSE (70-85)

MAINLINE CURVE DATA

Δ = 60° 43' 03"
D_c = 5° 30'
R_c = 1041.74'
L_s = 400'
T_s = 818.68'
E_s = 172.95'
L_c = 703.95'



RAMP 'E'



RAMP 'F'

DETAILS - RAMPS "E" & "F"

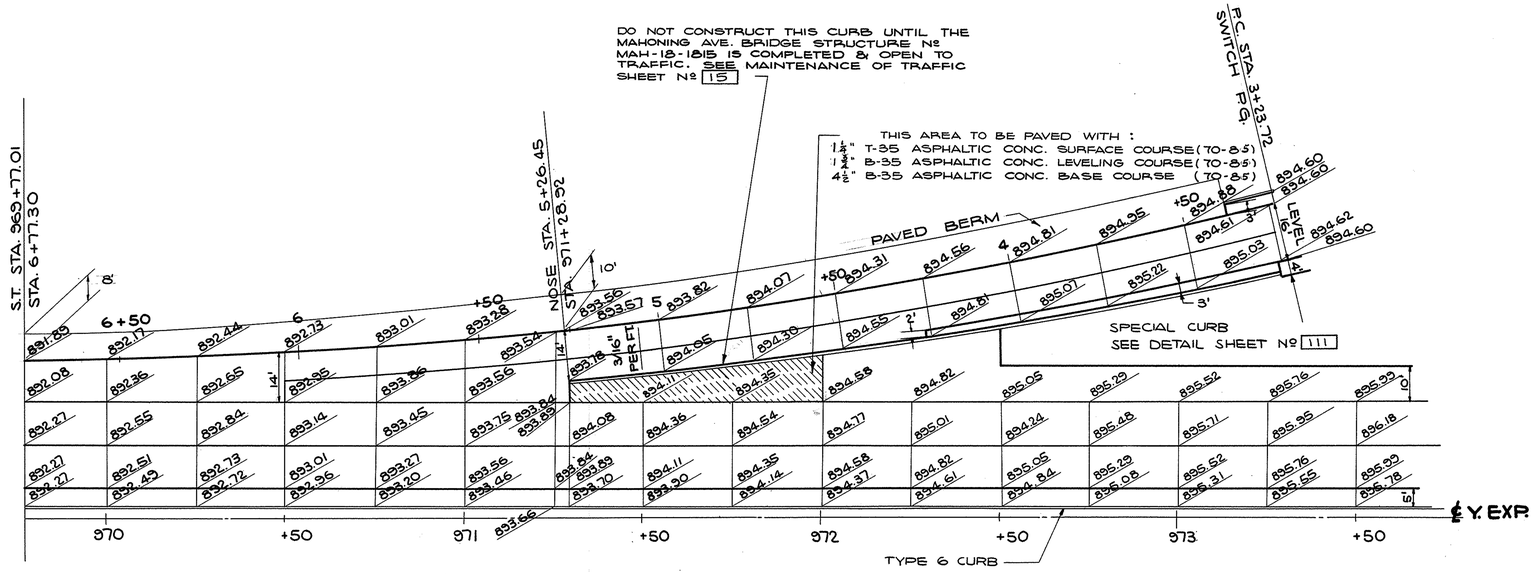
FED. RD.	STATE	PROJECT	
2	OHIO		

GG 402

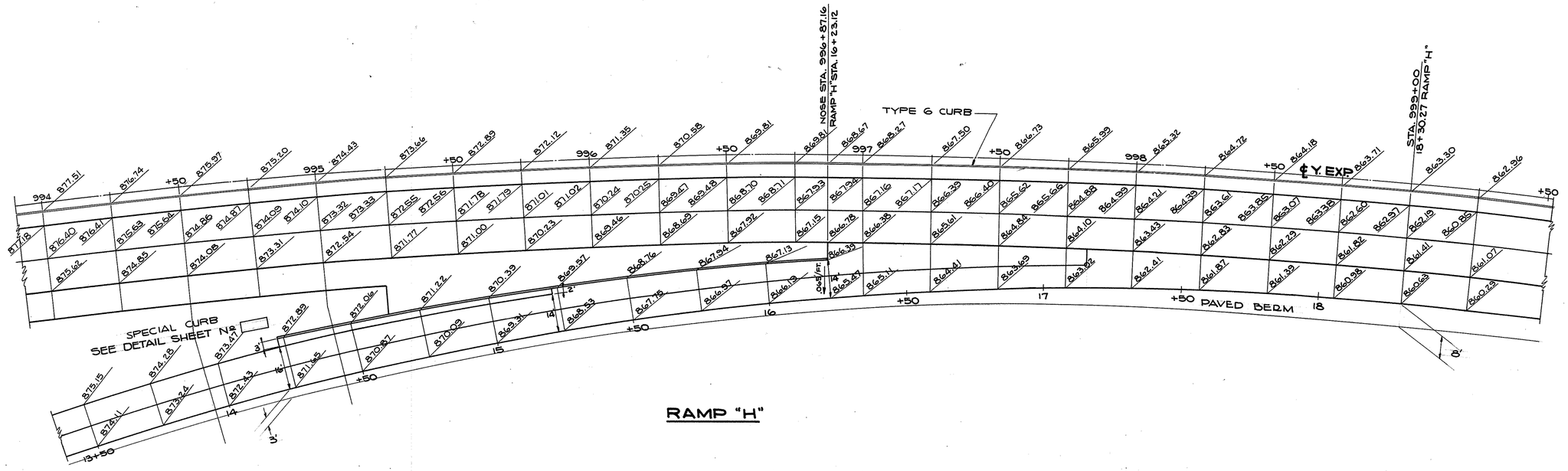
MAH-18-17.20

DO NOT CONSTRUCT THIS CURB UNTIL THE MAHONING AVE. BRIDGE STRUCTURE Nº MAH-18-1815 IS COMPLETED & OPEN TO TRAFFIC. SEE MAINTENANCE OF TRAFFIC SHEET Nº 15

THIS AREA TO BE PAVED WITH :
1 1/4" T-35 ASPHALTIC CONC. SURFACE COURSE (70-85)
1 3/4" B-35 ASPHALTIC CONC. LEVELING COURSE (70-85)
4 1/2" B-35 ASPHALTIC CONC. BASE COURSE (70-85)



RAMP 'G'



RAMP "H"

DETAILS - RAMPS "G" & "H"

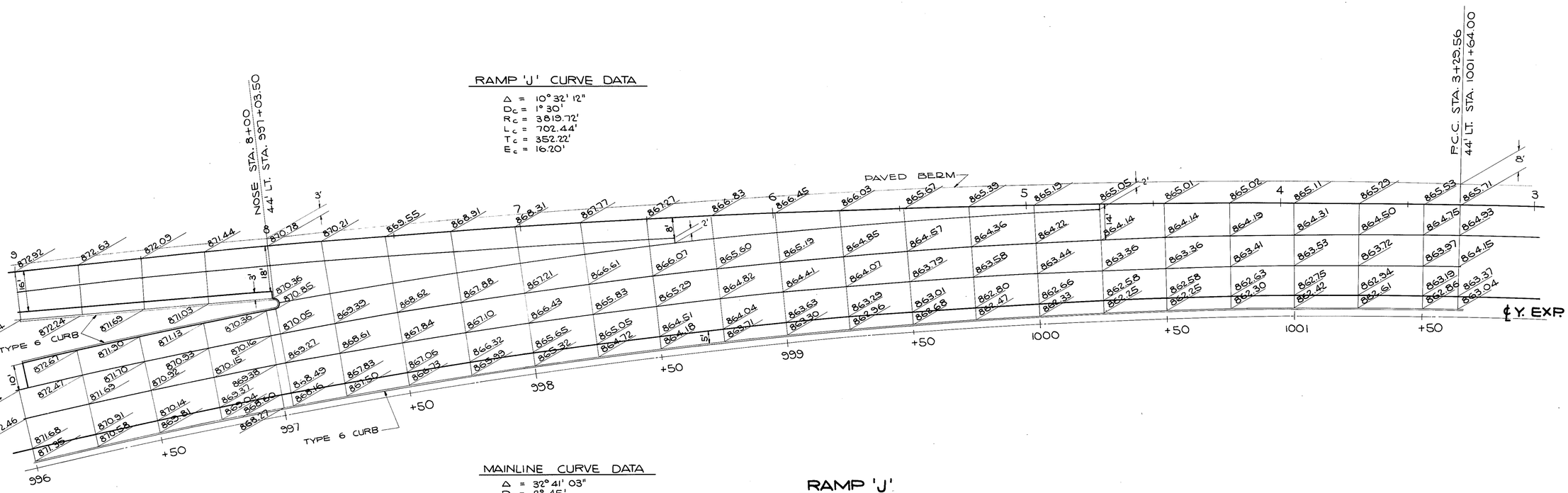
FED.RD.	STATE	PROJECT	
2	OHIO		

G7
492

MAH - 18 - 17.20

RAMP 'J' CURVE DATA

Δ = 10° 32' 12"
D_c = 1° 30'
R_c = 3819.72'
L_c = 702.44'
T_c = 352.22'
E_c = 16.20'



MAINLINE CURVE DATA

Δ = 32° 41' 03"
D_c = 2° 45'
R_c = 2083.48'
L_c = 1188.51'
T_c = 610.91'

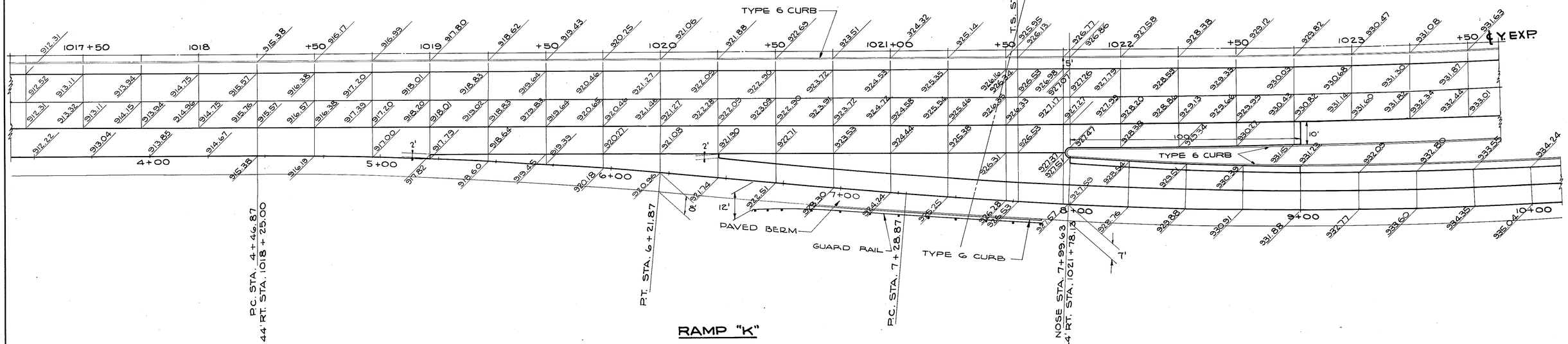
RAMP 'J'

DETAIL - RAMP 'J'

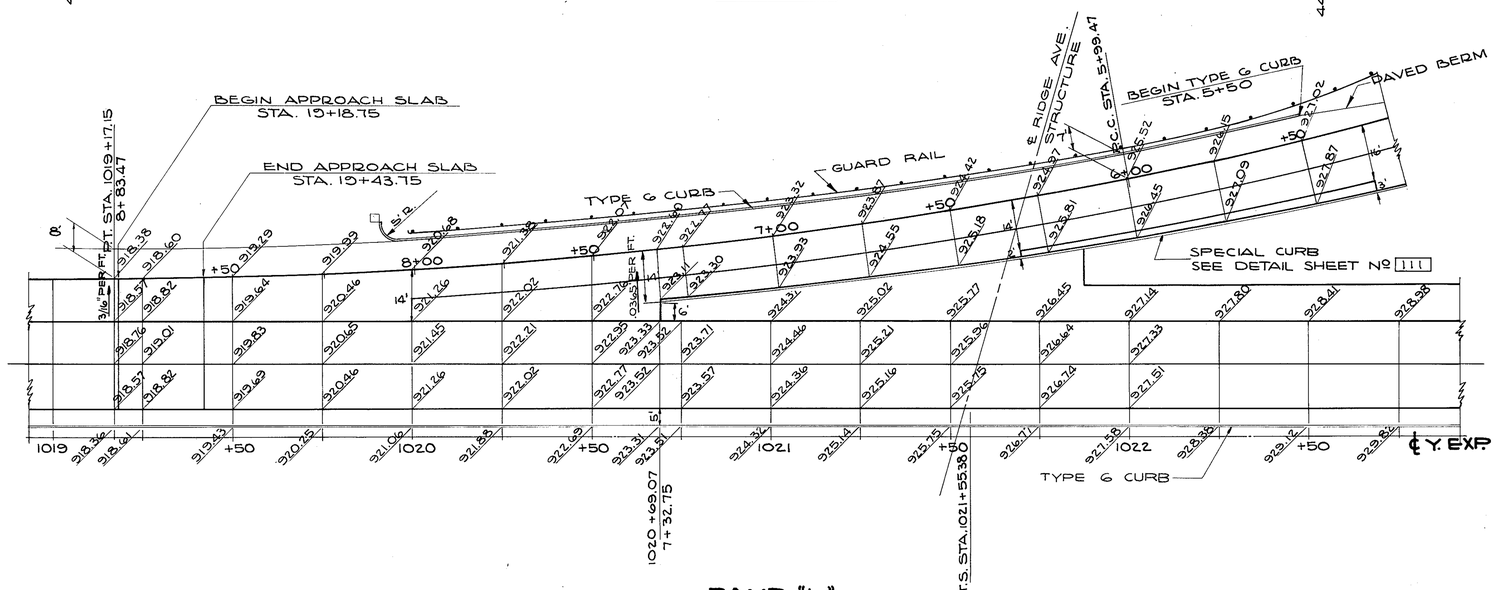
FED. RD.	STATE	PROJECT	
2	OHIO		

68
492

MAH-18-17.20



RAMP "K"



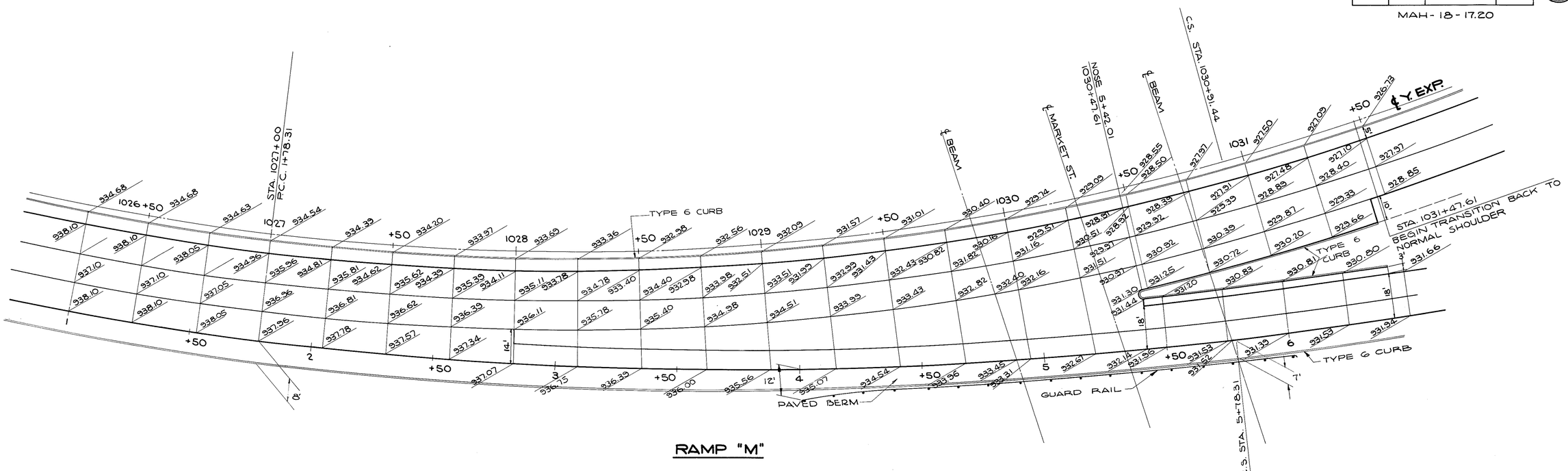
RAMP "L"

DETAILS - RAMPS "K" & "L"

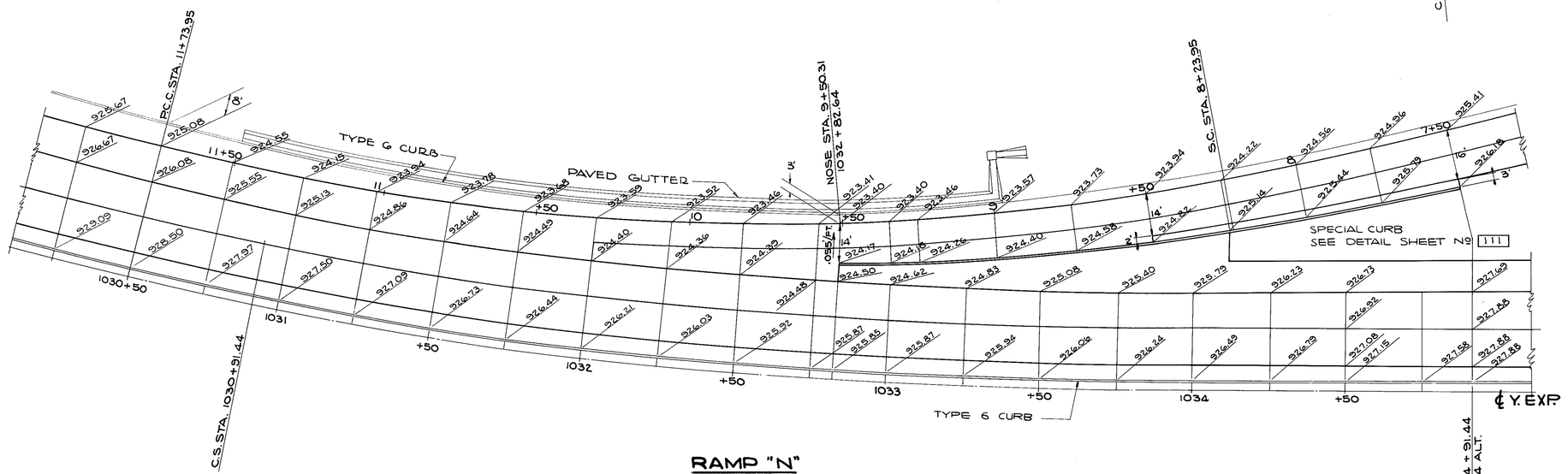
FED. RD.	STATE	PROJECT	
2	OHIO		

69
492

MAH-18-17.20



RAMP "M"



RAMP "N"

DETAILS - RAMPS "M" & "N"

FED. RD.	STATE	PROJECT	
2	OHIO		

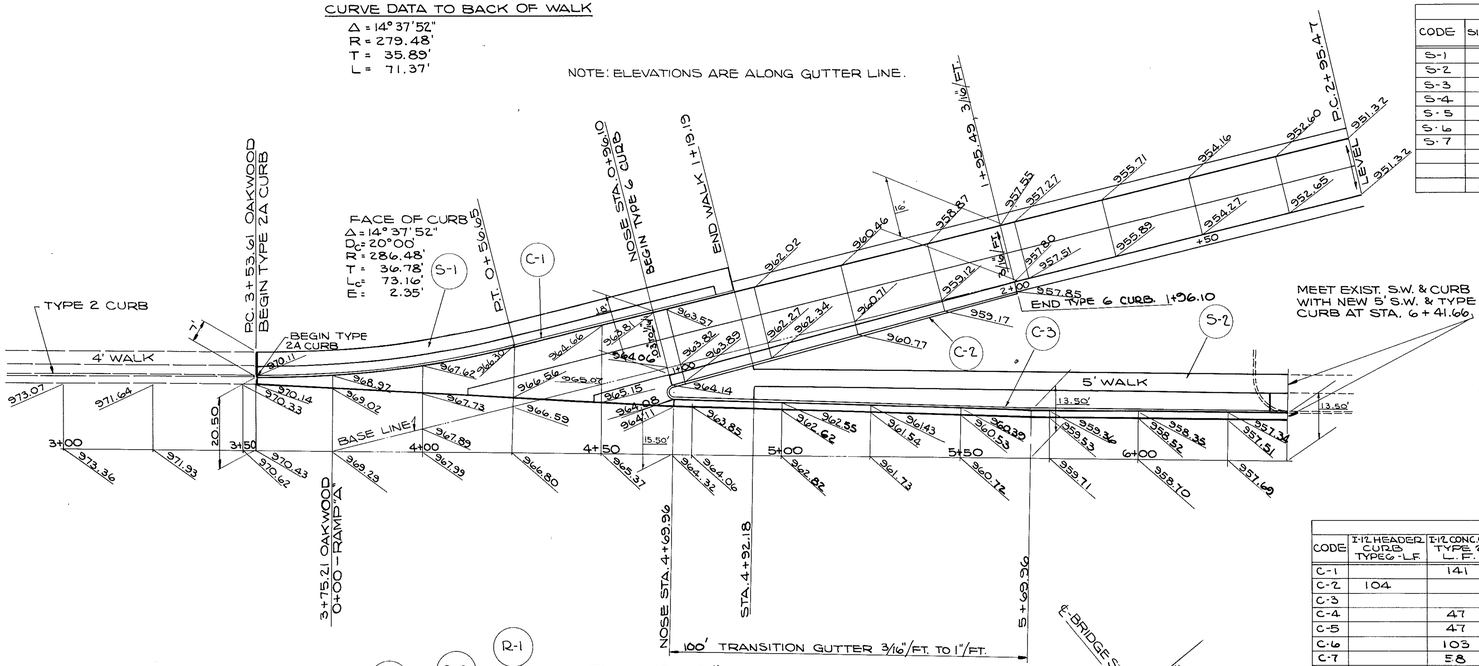
MAH-18-17.20

70
492

CURVE DATA TO BACK OF WALK
Δ = 14° 37' 52"
R = 279.48'
T = 35.89'
L = 71.37'

NOTE: ELEVATIONS ARE ALONG GUTTER LINE.

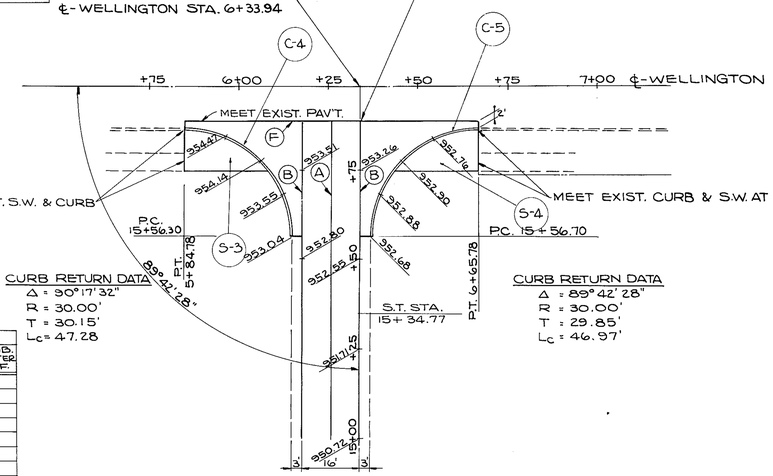
CODE	I-15 SIDEWALK S.F.	
S-1	705	
S-2	895	
S-3	172	
S-4	172	
S-5	585	
S-6	240	
S-7	42	
	2781	✓



RAMP "A"

END RAMP "B" STA. 15+98.54
℄-WELLINGTON STA. 6+33.94

END WORK STA. 15+88.54



CURB RETURN DATA
Δ = 90° 17' 32"
R = 30.00'
T = 30.15'
Lc = 47.28

CURB RETURN DATA
Δ = 89° 42' 28"
R = 30.00'
T = 29.85'
Lc = 46.97'

RAMP "B"

CODE	I-12 HEADER CURB TYPE 2 - L.F.	I-12 CONC. CURB TYPE 2-A L.F.	I-12 COMB. CURB & GUTTER TYPE 2 - L.F.
C-1		141	
C-2	104		
C-3			172
C-4		47	
C-5		47	
C-6		103	
C-7		58	
C-8		63	
C-9		102	
C-10		138	
C-11		138	
Total	104 ✓	837 ✓	172 ✓

LEGEND FOR INTERSECTIONS

Ⓐ STANDARD LONGITUDINAL JOINT.
Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS.
Ⓒ EXPANSION JOINT WITHOUT DOWELS - LOCATED ON RADIAL LINES.
Ⓓ STANDARD EXPANSION JOINT.
Ⓔ STANDARD CONTRACTION JOINT - PLACED AT 60' INTERVALS OR LESS.

000.00 DENOTES PAVEMENT ELEVATIONS.

CURVE	Δ	R	T	Lc	P.C.	P.T.
1	63°09'50"	64.00	39.34'	70.55'	5+91.01	6+61.56
2	63°09'50"	50.00	30.74'	55.12'	5+94.04	6+68.29
3	58°39'03"	100.00	56.164'	102.365	5+91.64	0+81.94
4	9°03'33"	100.00	7.91'	15.81'	17.25 LT. 0+46.44	10 LT. 0+62.19
5	112°17'24"	15.00			17.25 LT. 0+46.44	10 RT. 6+87.18
6	102°08'37"	15.00	18.54'	26.72'	17.31 RT. 6+71.47	15 LT. 6+82.71
7	18°46'33"	100.00	12.97'	25.79'	17.31 RT. 6+71.47	14 RT. 6+96.98

RAMP "C"

℄-BRIDGE ST.

CURVE DATA
℄-BRIDGE ST.
Δ = 128° 59' 50"
R = 57.00'
T = 119.49'
Lc = 128.33'

P.R.C. STA. 17+93.95

SALT SPRINGS RD.

NOTE:
FOR INTERSECTION DETAIL SEE SH. Nº 238

1'-0"
1" T-35 ASP. CONC. SURFACE COURSE TYPE "C"
2" T-35 ASP. CONC. SURFACE COURSE TYPE "A"
3"
T-71 PAV'T
EXIST. PAV'T.
I-22 SUBBASE

JOINT "F"

℄-CURVE DATA
Δ = 46° 36' 35"
Dc = 25°
R = 229.18'
T = 98.72'
Lc = 186.44

TYPE 2A CURB

P.C. STA. 16+55.28 BEGIN CURB

P.C. STA. 16+40.21 ℄-RAMP "D" BEGIN CURB

3' PAVED SHOULDER

RAMP "D"

E-8 REMOVAL & DISPOSAL OF EXISTING			
CODE	CURB & GUTTER	SIDEWALK	NON-RIGID PAVEMENT
R-1	225 L.F. ✓		
R-2		76 S.F. ✓	
R-3			356 S.Y. ✓

SCALE: 1" = 20'

INTERSECTION DETAILS

E-8 REMOVAL & DISPOSAL OF EXISTING				
CODE	RIGID PVT S.Y.	SIDEWALK S.F.	HEADER CURB L.F.	WEARING COURSE S.Y.
R-1	645			
R-2		1364		
R-3			418	
R-4		1156		
R-5			297	
R-6				404

I-12 CONCRETE CURB		
CODE	TYPE 2A L.F.	TYPE 6 L.F.
C-1	305	
C-2		257
C-3	100	
C-4		120
C-5		297
C-6		314
C-7		312
C-8		102

I-13 5" CONCRETE SIDEWALK	
CODE	SQ. FT.
S-1	864
S-2	136
S-3	1156

FED. RD.	STATE	PROJECT	
2	OHIO		

71
452

MAH-18-17.20

MAHONING AVE. STA. 6+92.92
McKINLEY AVE. STA. 0+00
MAHONING AVE. NOSE STA. 8+02.56
℄-MAHONING AVE.
83° 50' 00"
MEET EXIST. CURB
MEET EXIST. PAV'T.
McKINLEY AVE. 0+40.62
RAMP "E" 1+42.07
MEET EXIST. CURB
1.5' R.
4'
PAVED SHOULDERS
STA. 3+45.54 END CURB
MAHONING AVE. STA. 15+55.87
RAMP "E" STA. 0+00
P.T. STA. 0+20.32
S.W. CURB RETURN
Δ = 78°00'41"
R = 25'
T = 20.25'
Lc = 34.04
Δ = 5°49'19"
R = 200'
T = 10.17'
Lc = 20.32'
P.C. 1+08.33
P.T. 0+58.07
P.C. 0+74.14
P.T. 1+85.71
S.E. CURB RETURN
Δ = 101°59'19"
R = 25'
T = 30.87'
Lc = 44.50'
℄-McKINLEY AVE.
RAMP "E" NOSE STA. 2+45.54
TYPE 2A CURB & GUTTER
MEET EXIST. PAV'T. 1+25
MEET EXIST. CURB
S-1
C-1
C-3
C-8
C-7
C-6
C-4
RAMP "E"
NOTE:
DO NOT CONSTRUCT THIS CURB UNTIL THE MAHONING AVE. BRIDGE STRUCTURE № MAH-18-1815 IS COMPLETE & OPEN TO TRAFFIC. SEE MAINTENANCE OF TRAFFIC SHEET № 15
MARSHALL ST. STA. 4+94.74 22.5' RT.
MARSHALL ST. STA. 7+27.13
EXIST. ℄- MARSHALL
3+94.74
100' TAPER
10'
3+00
℄-RAMP "E"
TYPE 2A CURB
TYPE 6 CURB
PAVED SHOULDER
STA. 3+37.30 END CURB
RAMP "G" 2+57.36 ON ℄ MARSHALL ST.
PT 2+46.02
PC. 3+13.72 SWITCH P.G.
RAMP "G"
BEGIN RAMP "G" PC STA. 0+08.11
87.6.07

℄-EXIST EDWARDS
℄-PROP. EDWARDS
MEET EDWARDS ST. SEE SH. № (STREET IMPROVEMENT PROGRAM)
FACE OF CURB 20' RT. OF ℄ RELOC EDWARDS PT. STA. 0+57.15
Δ = 79°47'56"
R = 50'
T = 41.81'
Lc = 69.64'
6" T-22 SUBBASE
10" D-10 PCC BASE COURSE
1" T-35 ASPH. CONC. SURFACE COURSE TYPE "A"
1" T-35 ASPH. CONC. SURFACE COURSE TYPE "C"
T-30 TACK COAT
NOTE: ALL ELEVATIONS ARE ON GUTTER LINE.
NOSE STA. 4' LT. - RELOC. HIGH STA. 12+38.38
EXTENSION OF RAMP "H" INT. AT STA. 13+16.46
SEE SKETCH "A" FOR ENLARGED VIEW OF THIS AREA
MEET EXISTING PAVEMENT
℄-HIGH ST.
END T-71 SPR.U. PAVEMENT
℄-RAMPS "F" & "H"
TYPE 6 CURB
EXIST. HIGH
PROP 4' SIDEWALK
TYPE 6 CURB
REMOVE EXISTING SIDEWALK
REMOVE EXISTING CURB
REMOVE EXIST. PAVEMENT
R-1
R-2
R-3
R-4
R-5
S-2
S-3
C-2
C-5
C-6
C-7
C-4
MEET EXIST. EDWARDS -BEGIN WORK 29.15' SO. OF ℄-PROP. HIGH ST. ON A RADIAL LINE WITH P.T. OF CURB RETURN.
CURB RETURN DATA
Δ = 90°18'30"
R = 15'
T = 15.08'
Lc = 23.64'
P.C. 14+21 RT. OF STA. 11+85.93
REMOVE EXISTING WEARING SURFACE (R-6)
RESURFACE WITH
1" T-35 ASPH. CONC. SURFACE COURSE TYPE "A"
2" T-35 ASPH. CONC. SURFACE COURSE TYPE "A"
D-35 ASPH. CONC. LEVELING COURSE
BEGIN TAPER OF PAV'T. & SIDEWALK STA. 12+50 RT.
END ℄-SIDEWALK ONLY 17' RT. - STA. 13+14.53
END ℄-SIDEWALK TAPER 13+14.53
END PAV'T TAPER 11' RT. - STA. 14+50
NOSE - 7' RT. STA. 2+46.07 (RAMP "H") 14+18.16 (RELOC. HIGH)
END WORK STA. 14+51.16 MEET HIGH ST. (ST. IMPR. PROGRAM)
RAMPS "F" & "H"
SPIRAL DATA
Ls = 200'
Θs = 33°
L.T. = 135.73'
S.T. = 68.85'
Lc = 197.07'
S.T. STA. 11+82.37 (RAMP "F")
T.S. STA. 12+46.88 (RAMP "H")
C.S. STA. 12+87.97
TRANSITIONAL SPIRAL DATA
Θs = 13°28'23"
Ls = 200'
Dc = 13°28'23"
Rc = 425.26'
L.T. = 202.64'
T.S. = 133.72'
S.T. = 167.02'
Lc = 199.51'
D = 3.91'
X = 99.82'
Y = 15.59'
END CURB 3' RT. OF RAMP ℄ STA. 3+34.48
13.75' TAPER
END CURB 2' LT. OF RAMP "F" STA. 13+50
3' PAVED SHOULDER
SKETCH "A"
ENLARGED DETAILS OF INTERSECTION AT HIGH, EDWARDS & ℄ OF RAMPS "F" & "H" ~ NO SCALE
℄-IMPROVED HIGH ST.
℄-OLD HIGH ST.
BEGIN RAMP "H" 0+00 END RAMP "F" 17+32.82 (RAMP "F")
109°09'
STA. 11+57.86
℄-RAMPS "F" & "H"
8°56'56"
℄-EXIST. HIGH ST.
℄-PROP. HIGH ST.
0.07
88°41'30"
STA. 11+57.27
STA. 11+55.72
STA. 11+55.74
STA. 11+57.31
℄-EXIST. EDWARDS
℄-PROP. EDWARDS

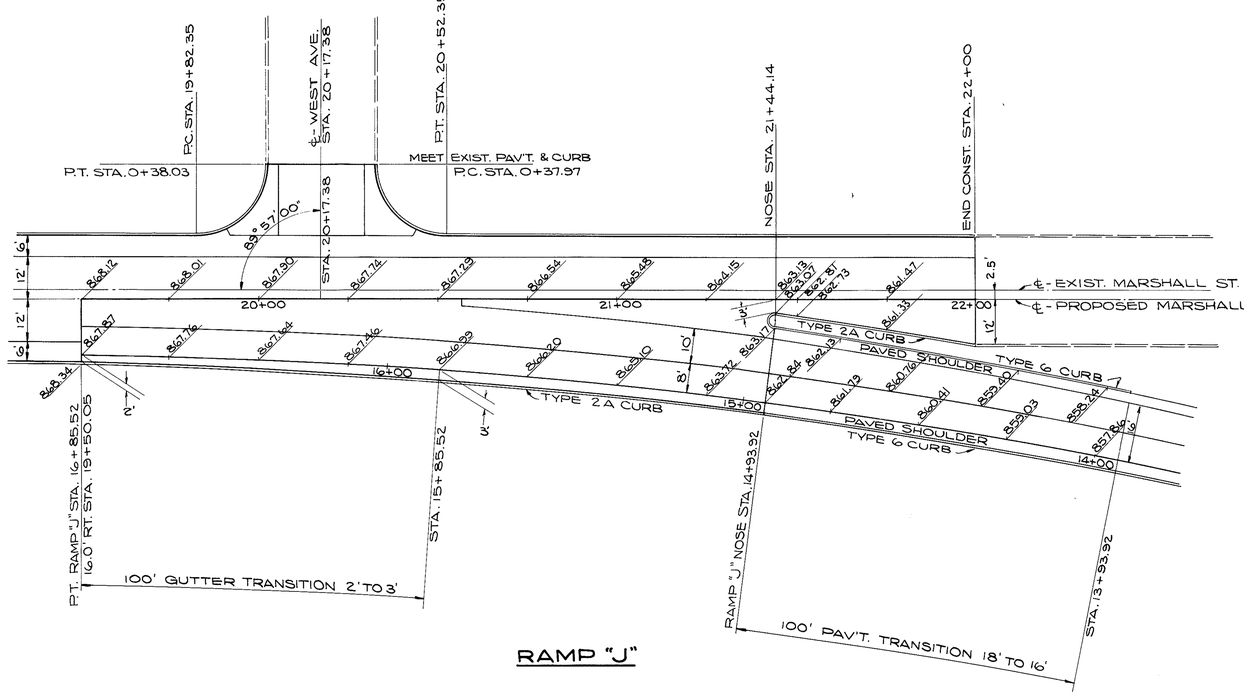
NOTE: FOR LEGEND SEE SHEET 70
SCALE: 1" = 20'

INTERSECTION DETAILS

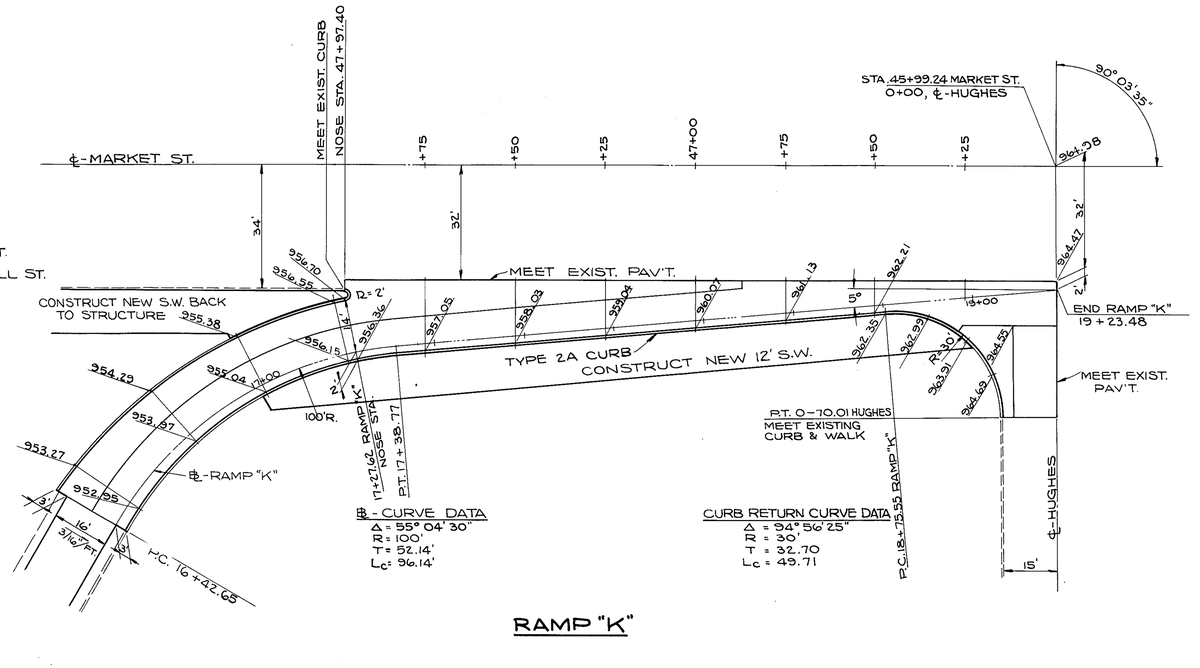
FED. RD.	STATE	PROJECT	
2	OHIO		

72
492

MAH - 18 - 17.20



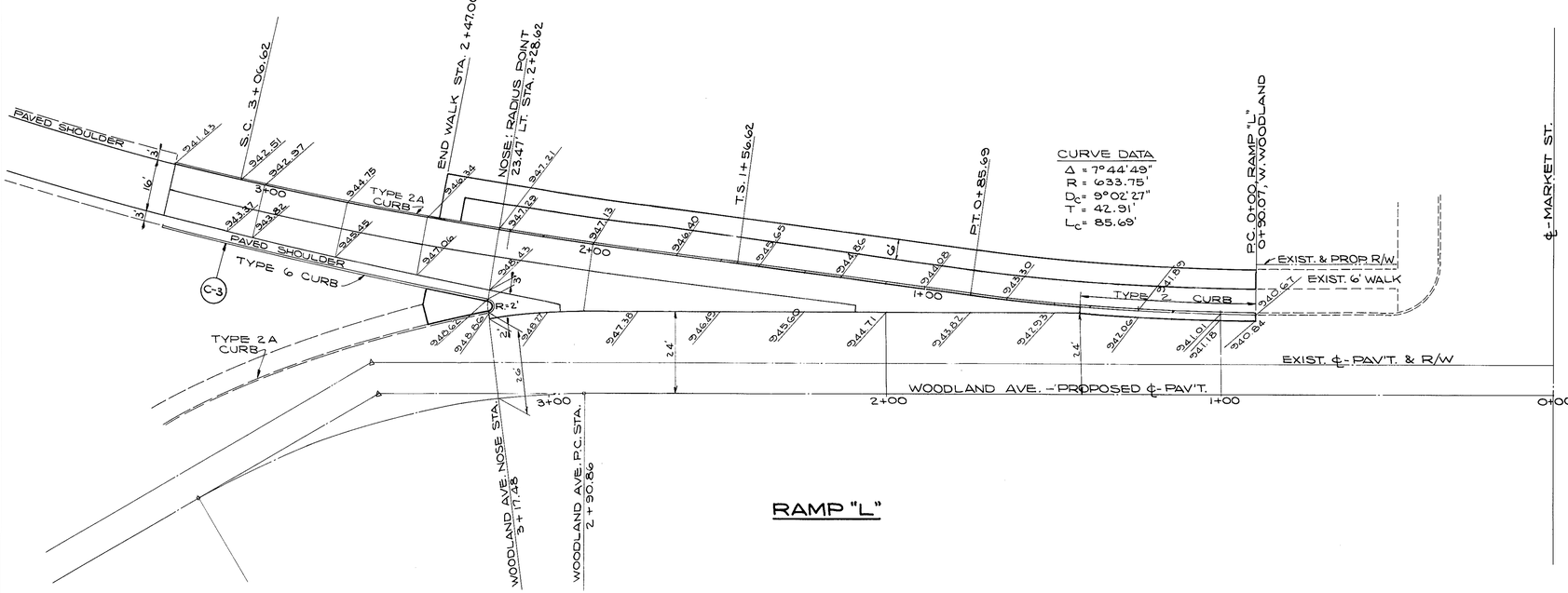
RAMP "J"



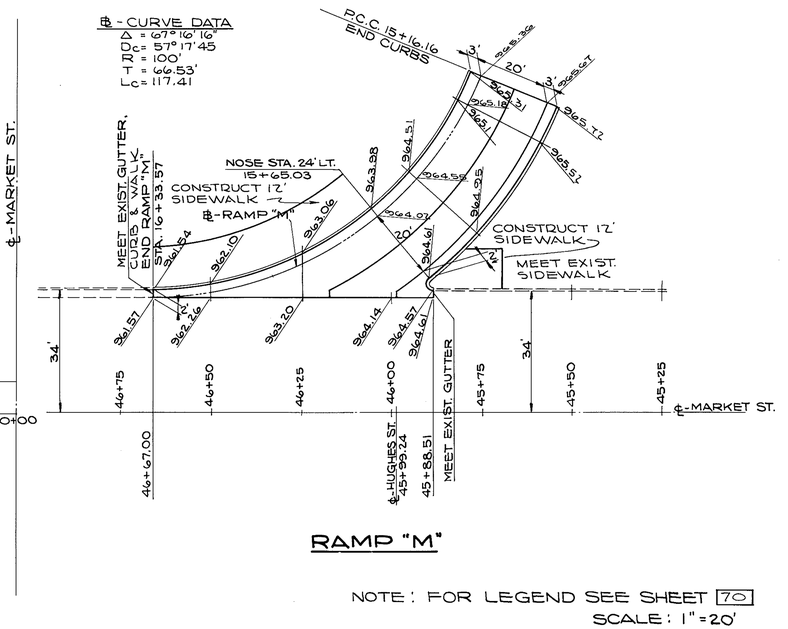
RAMP "K"

℄ - CURVE DATA
Δ = 55° 04' 30"
R = 100'
T = 52.14'
L_c = 96.14'

CURB RETURN CURVE DATA
Δ = 94° 56' 25"
R = 30'
T = 32.70
L_c = 49.71



RAMP "L"



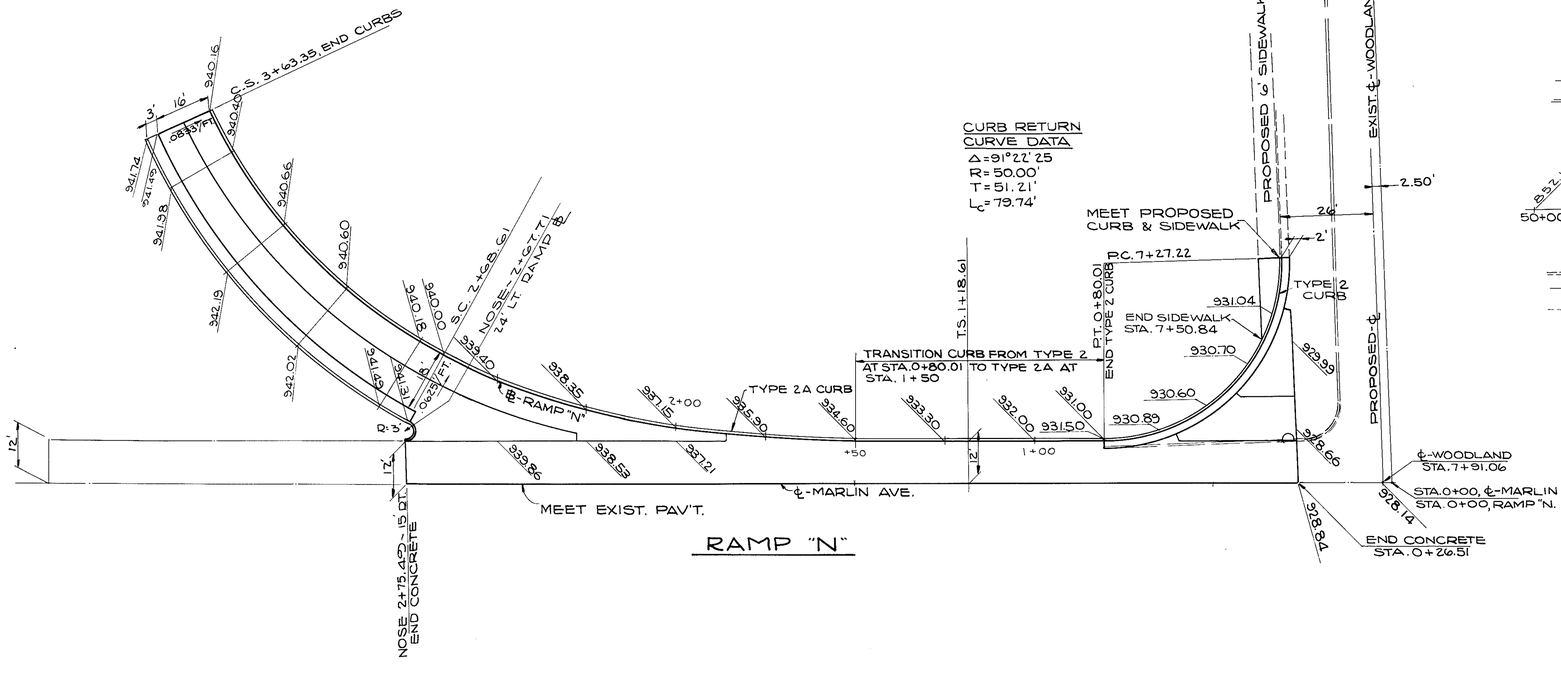
RAMP "M"

NOTE: FOR LEGEND SEE SHEET 70
SCALE: 1" = 20'

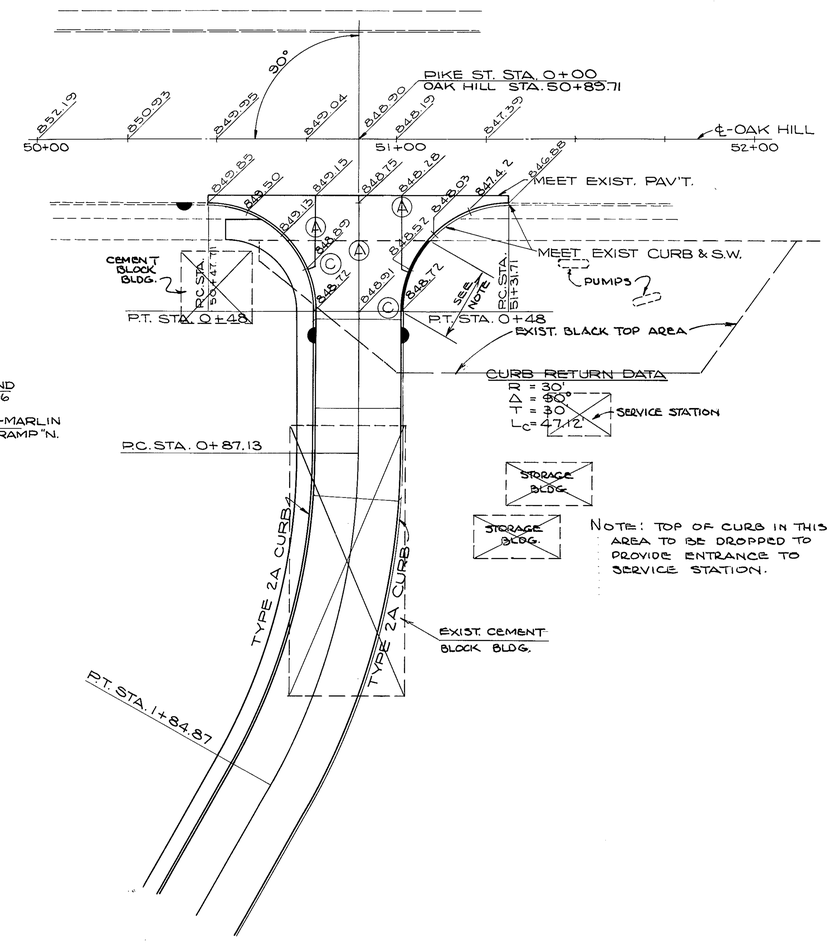
INTERSECTION DETAILS

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20



RAMP "N"



INTERSECTION ~ RELOC. PIKE & OAK HILL

NOTE: FOR LEGEND SEE SHEET 70
SCALE: 1" = 20'

INTERSECTION DETAILS

FED.RD	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

74
282

I-4 PIPE UNDERDRAINS LIN. FT.						
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4 a	I-5 PIPE SPEC. EACH 6"x90°
	FROM	TO				
U-1	6+00	9+70	D	392	10	1
SHEET TOTAL				392	10	1

BEGIN RAMP "A" 32' LT. OF STA. 7+01.71

FUTURE BRIDGE

NOSE - 14' LT. OF STA. 11+70.58 (RAMP D)

NOSE - 31' RT. OF STA. 4+46.87 (W. FEDERAL)

CURVE DATA
Δ: 75°22'06"
Δc: 31°22'06"
Dc: 12°
R: 760.44'
T: 73.13'
Lc: 142.58'
Ts: 305.60'
Ls: 200'

S.C. 3+00 - 47.68 LT. 4+01.95

NOSE - 23' LT. OF STA. 3+57.88

100 DAY'S TRANSITION

FIELD TIE WITH DT #2

NOSE - 42' LT. OF STA. 3+40.14

S.C. 9+86

Δ: 42°29'47"
Dc: 2°
R: 572.08'
T: 221.93'
L: 424.19'
Lc: 414.73'
Rc: 554.93'

STA. 14+00 (69' RT. ℄ RAMP "D")
P.C. 4 ENDWALL
℄ INV. 42'S-27-833.74

STA. 14+00 (72' LT. ℄)
I-8 NS. 2-4 (RAMP "D")
WINDOW EL. 843.50
℄ 42'S-27-837.31

SALT SPRINGS TRAVERSE LINE

SPIRAL DATA
Ls: 200'
θs: 2°
T: 100'
L: 200'
S.T.: 6.97'

SPIRAL DATA
Xs: 199.97'
Ys: 2.33'
K: 99.98'
P: 0.58'

TS. 7+86

ST. 10+72.88

RAMP "D"

CURVE DATA
Δ: 6°19'17"
Dc: 2°
R: 572.08'
T: 31.62'
L: 63.16'
Lc: 63.13'

CS. 9+72.88

NOTE:
FOR COMPLETE INFORMATION ON RAMP "D", SEE PLAN & PROFILE SHEET Nº 52 & 53

STA. 6+00
℄ 885.31
6"x90° BEND

BEGIN WEST FEDERAL EXPRESSWAY 0+00
END RAMP "A" STA. 14+43.71

℄ MAHONING-WEST FEDERAL EXPRESSWAY

STA. 945+73 (136' LT. ℄)
I-8 NS. 2-4 C.B.
WINDOW ELEV. 855.50
℄ 42'S-27-844.30

CS. 9+44.76

NOSE - 44' RT. OF STA. 7+76.93

CS. 9+41.76

STA. 945+25
I-8 NS. 2-10 INLET
WINDOW EL. 857.17
℄ 12' I-2 872.76

FUTURE STRUCTURE

CS. 7+01.76

SPIRAL DATA
θs: 9°
Ls: 300'
Lc: 100.24'
S.T.: 100.24'
Xs: 299.76'
Ys: 15.68'
K: 149.88'
P: 3.92'

FUTURE PAVED SHOULDER

RAMP "A"

BASE LINE ℄ P.G.

24' OFFSET BASELINE

RAMP "C"

RAMP "C" SPIRAL DATA
Ls: 754.75'
Δ1+Δ2: 50°31'13"
θs: 32°43'22"
T1: 104.15'
T2: 107.92'
Δ1: 8°53'56"
Δ2: 41°37'17"
P: 11.96'

ST. 4+16

NOSE - 23.06' LT. 4+08.93

11' SHOULDER

7' SHOULDER

15' SHOULDER

SC. 7+16.88

ST. 7+96.97

44' LT. 7+00

10' SURFACED SHOULDER

℄ YOUNGSTOWN EXP'WY

NOSE - 14' LT. STA. 9+45.00

ST. 10+72.88

100'

ST. 13+52.63

STA. 944+87 (114' RT. ℄)
PC-4 ENDWALL
℄ INV. 851.25

STA. 945+00
106' RT. ℄
PC-4 ENDWALL
℄ INV. 42'S-27 851.00

NOSE - 75' LT. OF STA. 4+00.43

SC. 5+25.40

ST. 9+51.41.76

NOSE - 44' LT. 9+50+86.26

RAMP "C" CURVE DATA
Δ: 70°4' 07'55"
R: 175'
Lc: 672.73'
Dc: 32°44' 26"
T: 821.58'

SC. 13+93.11

NOTE:
FOR COMPLETE INFORMATION ON RAMP "C", SEE PLAN & PROFILE SHEET Nº 50 & 51

NOTE:
PROPOSED I-2 PIPES S-27 CULVERTS AND I-8 C.B. SHOWN ON THIS SHEET ARE TO BE CONSTRUCTED UNDER THIS CONTRACT.

~LEGEND~

- NEW & FUTURE PAV'MT EDGE
- PROPOSED MAINLINE
- WORK DETAILED ELSEWHERE
- CENTERLINE
- EXIST. EDGE OF PAV'MT & CURB
- EXIST. SIDEWALK
- EDGE OF PAVED BERM
- PROPOSED CURB
- FUTURE PAVEMENT GRADING PERFORMED WITH THIS PROJECT SEE CROSS SECTIONS

SCALE: 1" = 50'

END RAMP "A" @ STA. 933+37.00 (EXP'WY)
2'-0" D.I. (RAMP "C")

BEGIN RAMP "A" 933+37.00 TAPER

933+32.11 (EXP'WY)
2'-0" D.I. (RAMP "C")

NOSE - 39' LT. OF STA. 9+40+75.66

FUTURE PAVED SHOULDER

T.S. 933+46.56

STA. 7+41 RAMP "C"
(65' LT. ℄)
I-8 NS. 2-2A C.B. MOD.
WINDOW EL. 875.30 (3 REQ)
℄ 15' I-2 872.86

STA. 5+57.50 RAMP "C"
(65' RT. ℄)
P.C. 4 MODIFIED ENDWALL
℄ INV. 18'S-27-875.50

STA. 10+50 RAMP "C"
(44' RT. ℄)
P.C. 4 ENDWALL
℄ INV. 24'S-27-867.70

STA. 10+50 RAMP "C"
108' LT. ℄
P.C. 4 HEADWALL
℄ 24" I-2 862.00

STA. 10+35 RAMP "C"
(76' RT. ℄)
P.C. 4 HEADWALL
℄ INV. 18" I-2 858.50

3' BOTTOM CHANNEL 2:1 SLOPES FOR LAYOUT SEE SHT. Nº FOR CROSS SEC. SEE SHT. Nº

NOTE:
THE PROFILE GRADE FOR RAMPS "C" & "D" IS CARRIED ALONG THE BASE LINE OF RAMP "C"

T.S. 8+57.54

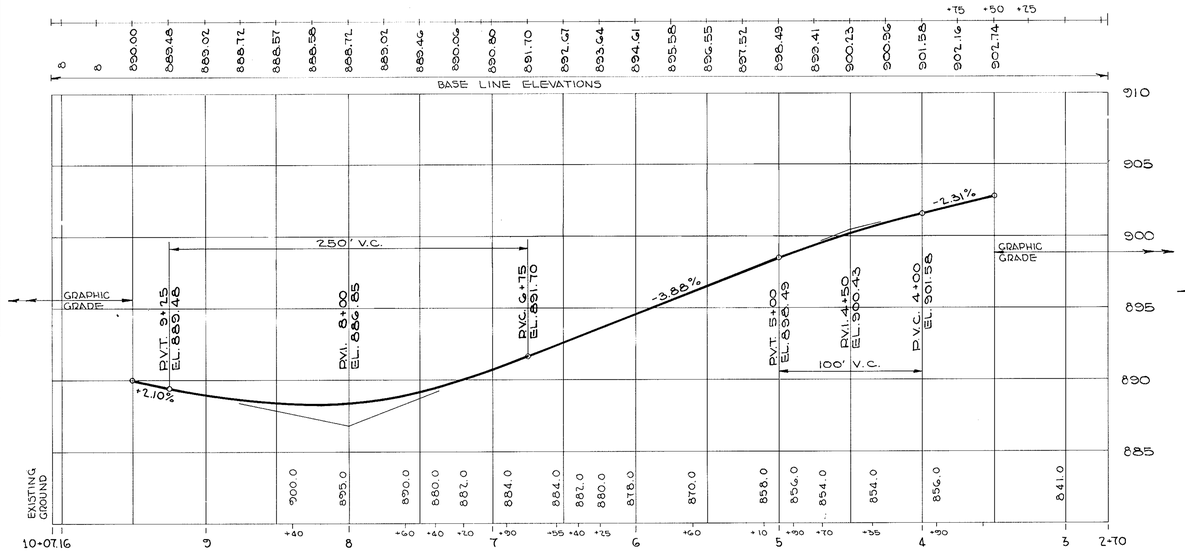
S.C. 8+57.54

T.S. 12+57.94

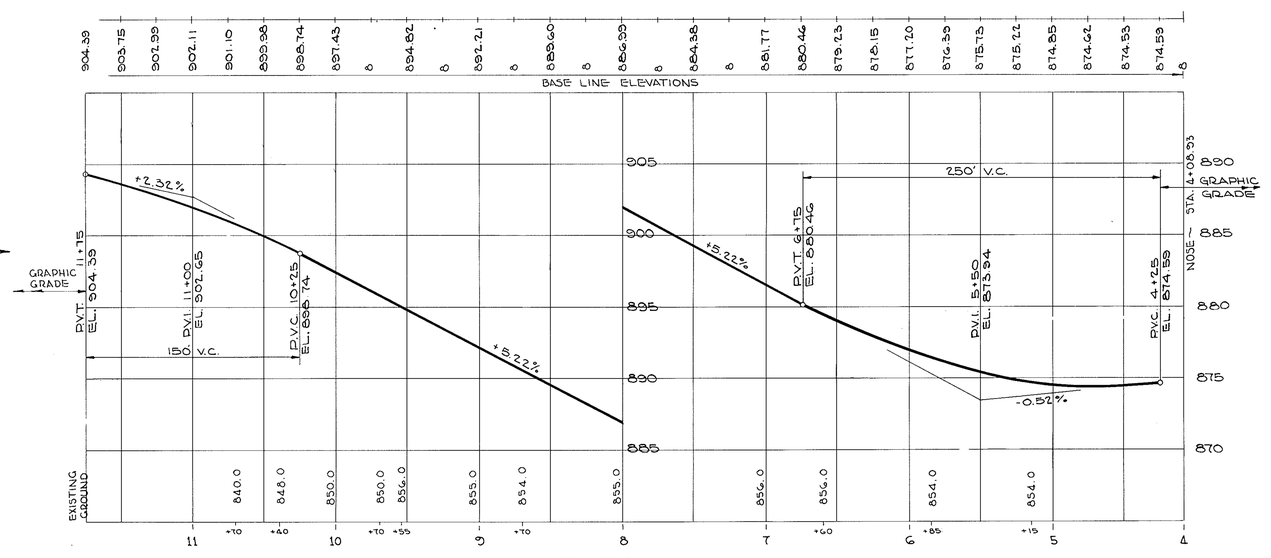
GEOMETRIC PLAN OF FUTURE CONSTRUCTION

FED. RD.	STATE	PROJECT	
2	OHIO		

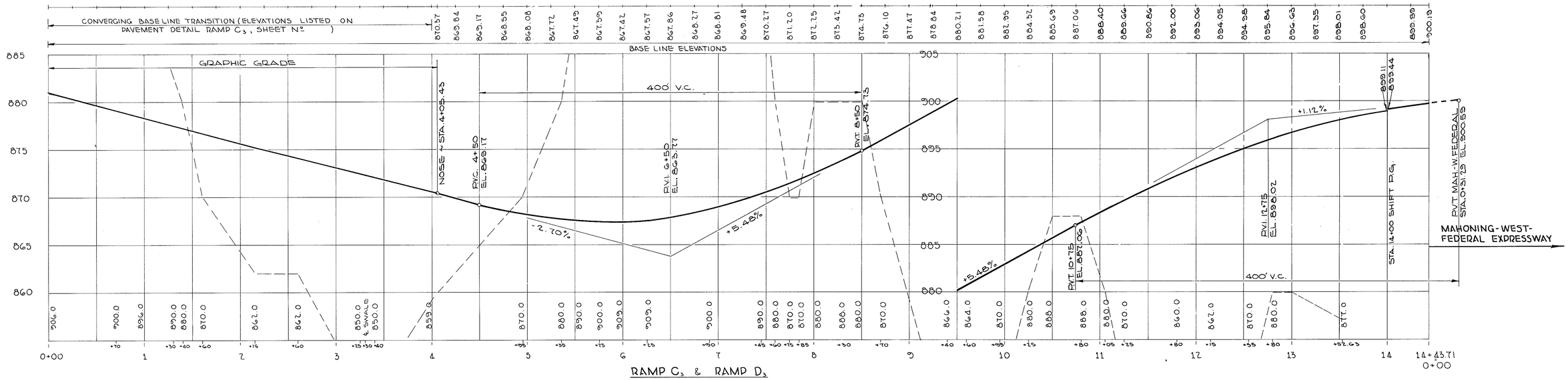
MAH-18-17.20



RAMP A_3



RAMP B_3



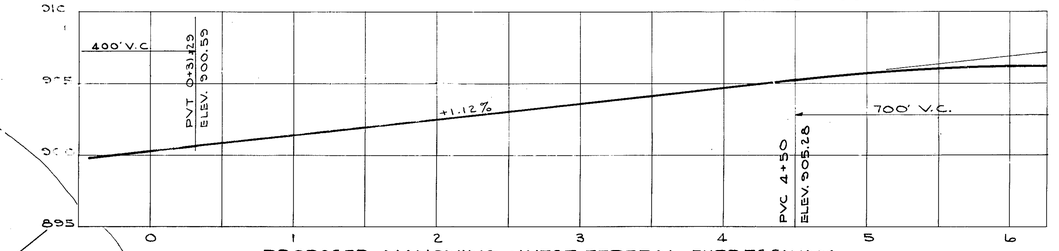
RAMP C_3 & RAMP D_3

PROFILES~RAMPS A_3, B_3, C_3 & D_3

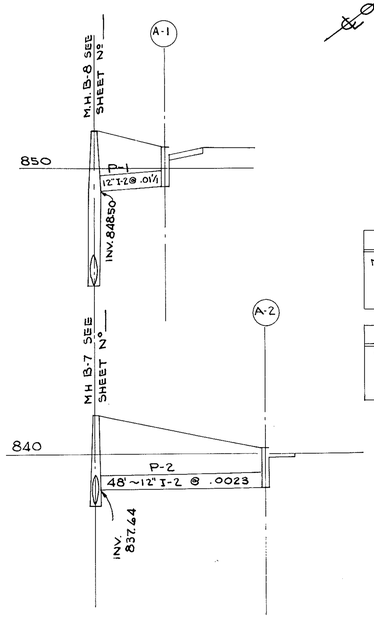
FED. RD.	STATE	PROJECT	
2	OHIO		

76
452

MAH-18-17.20



PROPOSED MAHONING - WEST FEDERAL EXPRESSWAY
(PROFILE)
STA. 0+00 TO STA. 6+00



A-1
MAH. W. FED. STA. 4+50 145' LT.
I-8 Nº 2-2A C.B.
WINDOW EL. 850.87
Æ 12" I-2 848.70

A-2
RAMP "D" STA. 18+50 33' LT.
I-8 Nº 2-2A C.B.
WINDOW EL. 839.92
Æ 12" I-2 837.75

EROSION CONTROL		
CODE	I-14 PAVED GUTTER TYPE-I (L.F.)	I-14 PAVED GUTTER TYPE-I MOD. (L.F.)
E-1	350	
E-2	100	
E-3		10
E-5		10

I-2 12" STORM SEWER M-6.5(a) M-6.8(a)	LIN. FT.
P-1	18
P-2	45

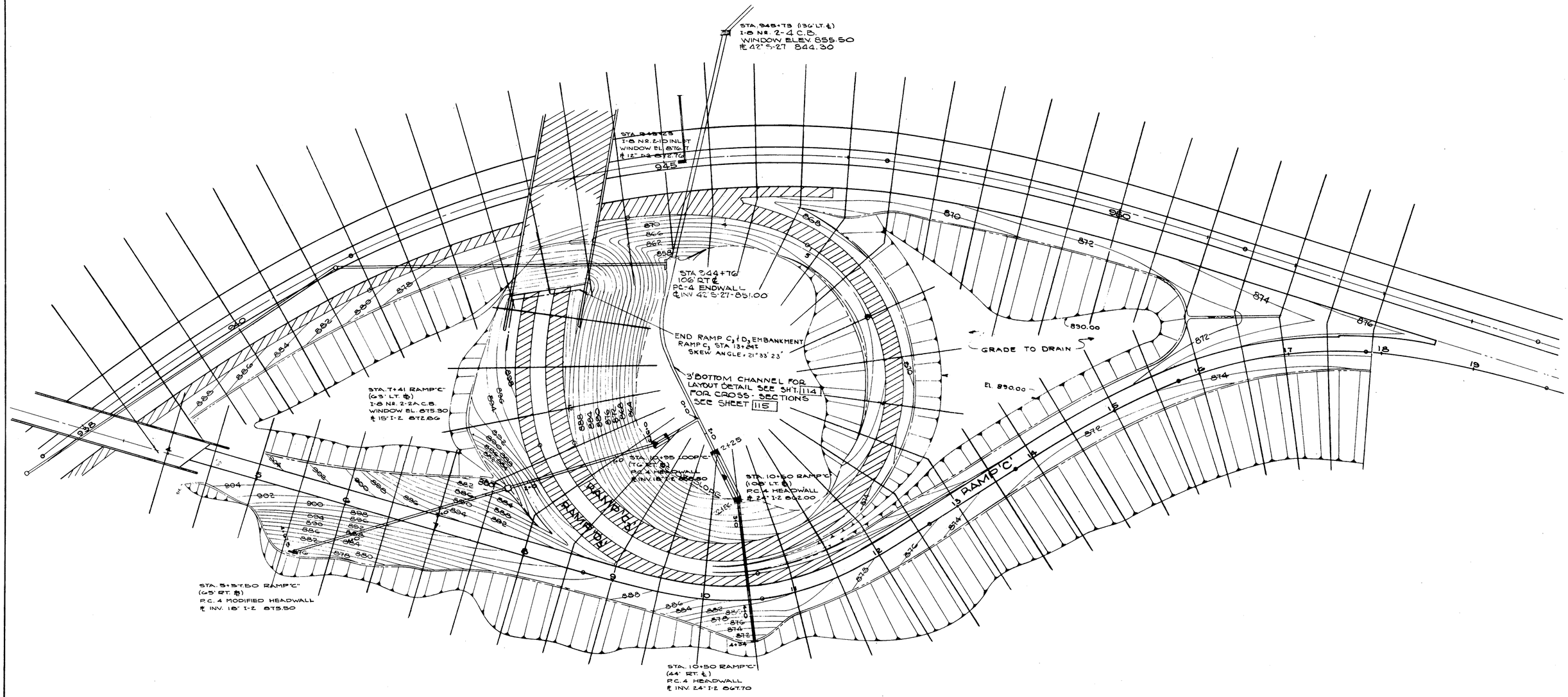
I-8 Nº 2-2A CATCH BASINS - EACH	
A-1	1
A-2	1

DRAINAGE PLAN — RAMPS "A3", "B3", & "D"

FED. RD.	STATE	PROJECT	
2	OHIO		

77
492

MAH-18-17.20

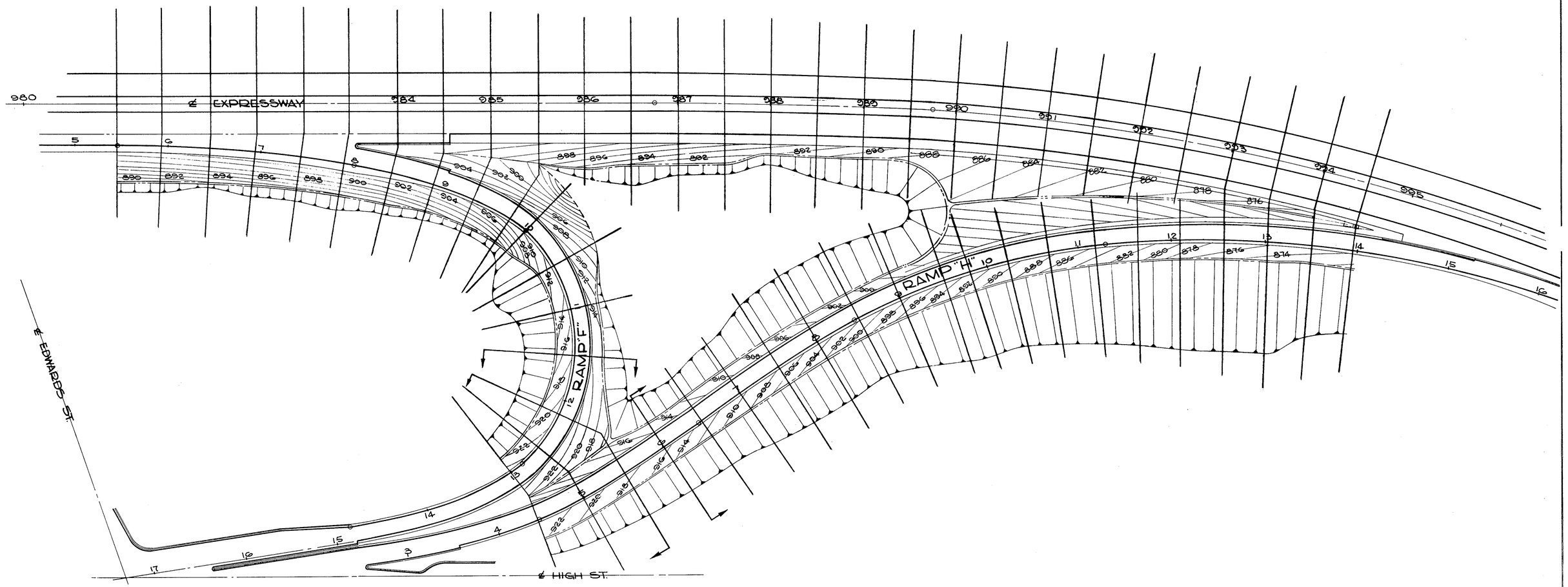


DRAINAGE PLAN · RAMPS "C" "C3" & "D3"

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

78
492



GRADING PLAN - RAMPS "H" & "F"

FED.RD.	STATE	PROJECT	
2	OHIO		

79
492

A-3
STA. 926+25
(54.75' RT. ℄)
I-8 Nº 2-2A C.B.
WINDOW EL. 927.57
FE 12" I-2 925.40
FE 8" I-4 925.73

A-2
STA. 926+50
I-8 Nº 1 M.H. (9.5' RT. ℄)
COVER 927.33
FE 12" I-2 916.45
FE 15" I-2 916.20
FE 27" I-2 915.20

A-4
STA. 926+00
51' LT. ℄
I-8 Nº 1 M.H.
COVER = 925.44
FE 12" I-2 917.32
FE 15" I-2 917.07
FE 12" I-2 920.88

℄ Y.E.

55' 12" I-2 @.1672 P-3

79' - 15" I-2 @.0112½ P-4

52'-12" I-2 @.01½ P-7

A-10
STA. 8+19.54 RAMP "B"
19' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 920.01
FE 12" I-2 917.84
FE 8" I-4 918.17

A-4
STA. 926+00
I-8 Nº 1 M.H.
51' LT. ℄
COVER 925.44
FE 12" I-2 920.88
FE 12" I-2 917.32
FE 15" I-2 917.07

101' 12" I-2 @.0490 P-5

A-6
STA. 925+00
67' LT. ℄
I-8 Nº 2 2A C.B.
WINDOW EL. 924.24
FE 12" I-2 922.07

A-9
STA. 929+50
49.2' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 917.26
FE 12" I-2 915.09
FE 8" I-4 915.42

A-7
STA. 929+65
I-8 Nº 1 M.H.
6' RT. ℄
COVER 918.22
FE 12" I-2 912.30
FE 12" I-2 914.46
FE 27" I-2 911.05

℄ Y.E.

58' 12" I-2 @.0481 P-9

A-7 MAH-18-17.20
STA. 929+65
6' RT. ℄
I-8 Nº 1 M.H.
COVER 918.22
FE 12" I-2 912.30
FE 12" I-2 914.46
FE 27" I-2 911.05

A-8
STA. 929+58
1.25' RT. ℄
I-8 Nº 2A-10 INLET
WINDOW EL. 917.46
FE 12" I-2 914.55

3' 12" I-2 @.0100 P-8

A-14
STA. 933+00
66' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 905.91
FE 12" I-2 903.74
FE 8" I-4 904.07

A-12
STA. 933+06
6' RT. ℄
I-8 Nº 1 M.H.
COVER 908.47
FE 12" I-2 904.69
FE 12" I-2 898.66
FE 33" I-2 896.91

A-13
STA. 933+00
66' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 905.91
FE 12" I-2 903.74
FE 8" I-4 904.07

℄ Y.E.

72' 12" I-2 @.0668 P-12

60' 12" I-2 @.0802 P-13

A-12
STA. 933+06
6' RT. ℄
I-8 Nº 1 M.H.
COVER 908.47
FE 12" I-2 904.69
FE 12" I-2 898.66
FE 33" I-2 896.91

8' 12" I-2 @.0100 P-14

A-15
STA. 933+00
1.25' RT. ℄
I-8 Nº 2A-6 INLET
WINDOW EL. 908.35
FE 12" I-2 904.77
FE 8" I-4 905.10

A-16
STA. 936+19 (℄)
I-8 Nº 2-8 MODIFIED INLET
WINDOW EL. (LT. ℄ P.T.) 899.23
FE 12" I-2 895.65

℄ RAMP "B"

5' 12" I-2 @ 0.5475 P-18

STA. 936+22
33" x 12" WYE
FE 33" I-5 890.63

A-18
STA. 937+20
57' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 894.54
FE 12" I-2 892.37

A-17
STA. 937+20
6' RT. ℄
I-8 Nº 1 M.H.
COVER 896.49
FE 12" I-2 890.34
FE 33" I-2 888.68

℄ Y.E.

63' 12" I-2 @.0322 P-16

A-21
STA. 945+67
136' LT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL. 851.45
FE 12" I-2 848.78

A-20
STA. 945+73
136' LT. ℄
I-8 Nº 1 M.H.
COVER 852.78
FE 42" I-2 844.41
FE 12" I-2 848.42

6' 12" I-2 @.0600 P-24

A-4 A-5
STA 926+26.90
44.73 LT. ℄
I-8 Nº 2A
TOP OF CURB - 925.24
WINDOW EL- 924.57
FE 12" = 921.16

28'-12" I-2 @.01 P-6

H-1
STA. 945+00
102' RT. ℄
P.C. 4 ENDWALL
FE INV. 42" S-27
851.00

℄ Y.E

H-2
STA. 14+00
63' RT. ℄ RAMP "D"
P.C. 4 ENDWALL
FE INV. 42" S-27 833.75

A-23
STA. 14+00
72' LT. ℄ RAMP "D"
I-8 Nº 2-4 C.B.
WINDOW EL. 843.50
FE 42" S-27 837.31

A-20
STA. 945+73
136' LT. ℄
I-8 Nº 2-4 C.B.
WINDOW ELEV. 855.60
FE 42" S-27 844.30

℄ RAMP "D" STA. 14+00

℄ ACCESS RD.

135' 42" S-27 M-G.G(b) OR M-G.4(d) GAGE-12 @.0264 C-22

261 42" S-27 M-G.4(d) GAGE 8 @.0264 C-21

252' 42" S-27 M-G.4(d) GAGE-10 OR M-G.6(d) @.0264 C-20

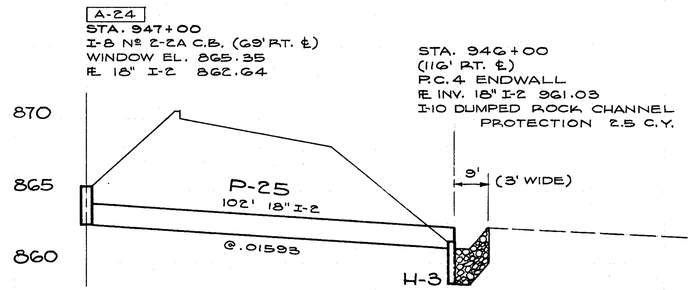
STORM SEWER PROFILES

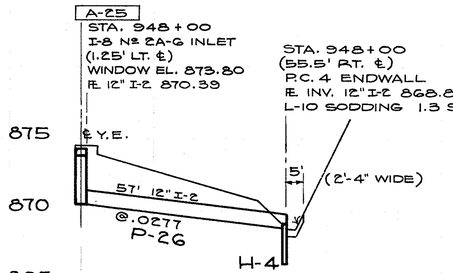
FED. RD.	STATE	PROJECT	
2	OHIO		

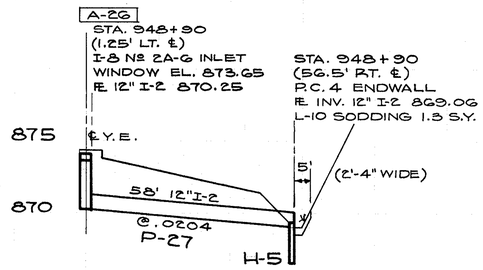
80
492

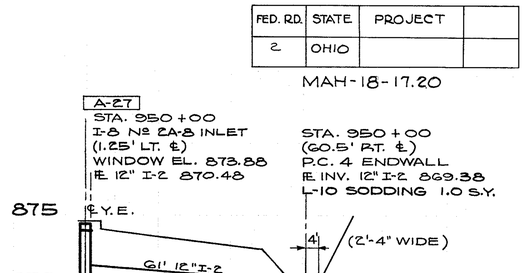
MAH-18-17.20

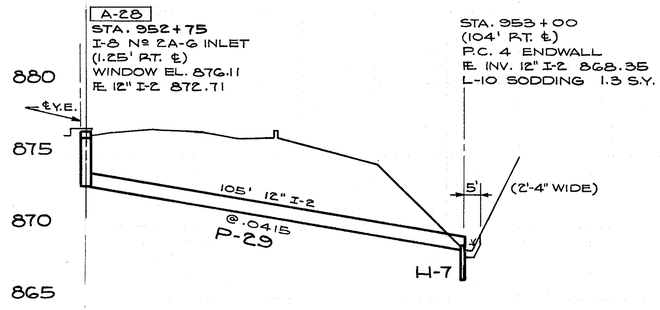
A-41

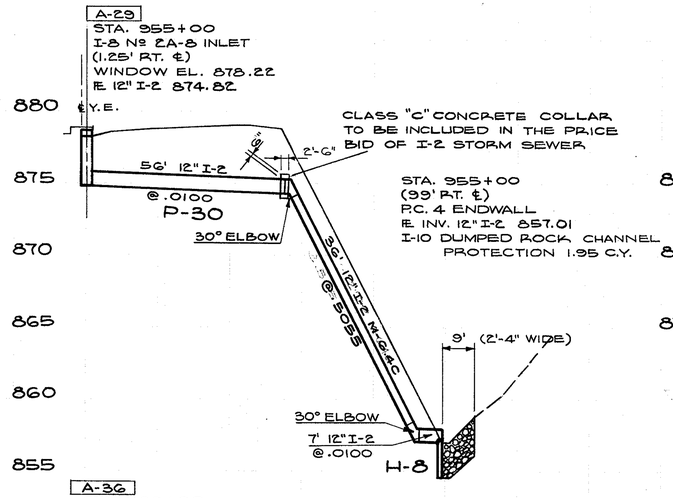


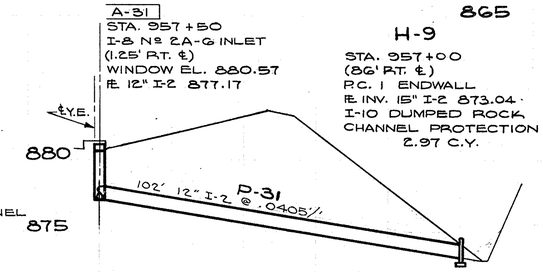


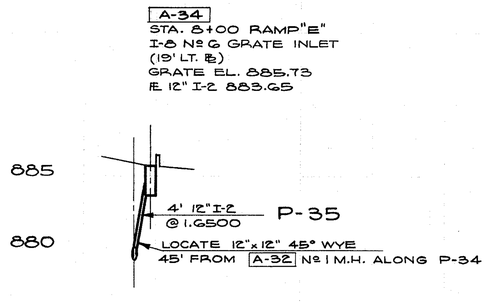


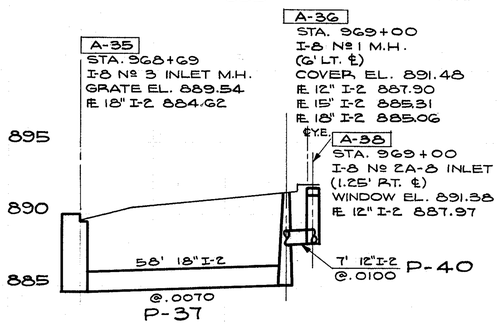


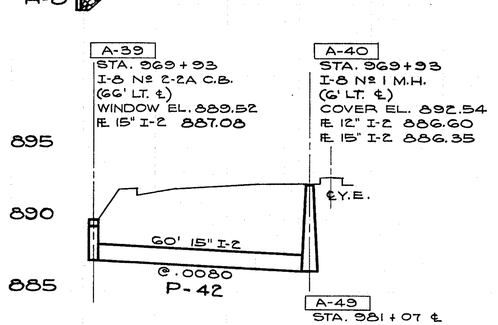


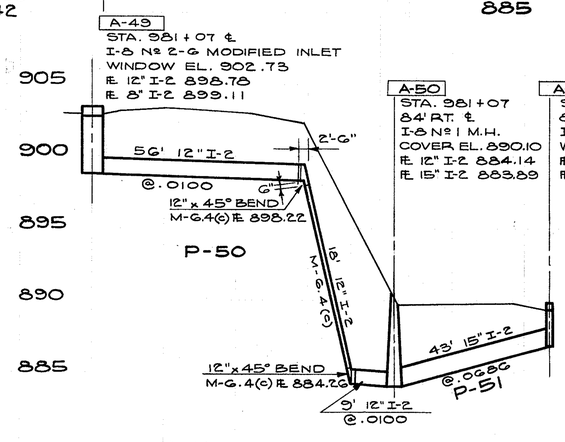


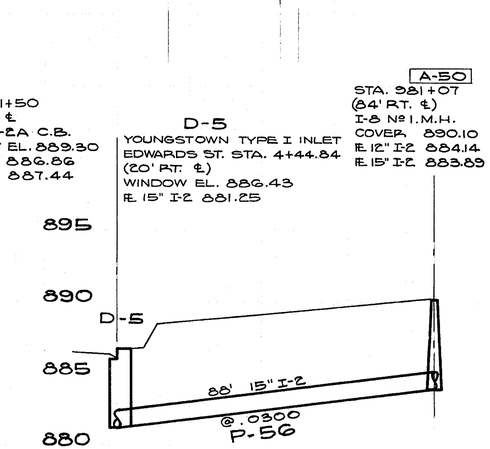


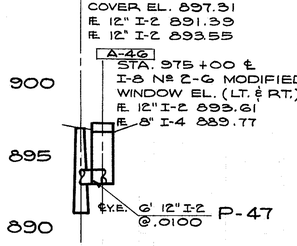


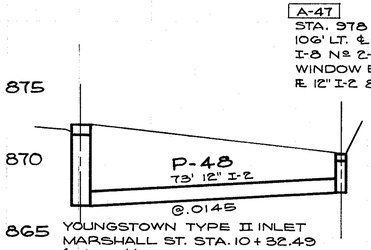


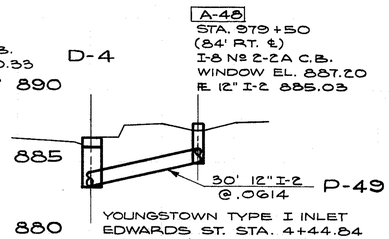












STORM SEWER PROFILES

FED. RD.	STATE	PROJECT	
2	OHIO		

81
492

MAH-18-17.20

A-52
STA. 985+60
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 902.52
℄ 12" I-2 896.60
℄ 12" I-2 898.76

A-53
STA. 985+60 ℄
I-8 № 2-8 MODIFIED INLET
WINDOW EL. 902.23
℄ 12" I-2 898.82

6' 12"I-2 @.0100 P-52

A-54
STA. 989+00
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 893.06
℄ 12" I-2 886.23
℄ 15" I-2 885.98

℄ Y.E.

60' 12"I-2 @.0500
P-54

A-55
STA. 989+00
54' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 888.70
℄ 12" I-2 886.53

A-57
STA. 994+60
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 875.86
℄ 12" I-2 872.21
℄ 15" I-2 865.70
℄ 21" I-2 865.20
℄ 24" I-2 864.95

℄ Y.E.

61' 21"I-2 @.0200
P-58

A-58
STA. 994+50
54' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 870.91
℄ 18" I-2 866.67
℄ 21" I-2 866.42

℄ RAMP "H"

47' 18"I-2 @.0200
P-59

A-59
RAMP "H" STA. 13+80
19' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 870.32
℄ 18" I-2 867.61

A-57
STA. 944+60
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 875.86
℄ 12" I-2 872.21
℄ 15" I-2 865.70
℄ 21" I-2 865.20
℄ 24" I-2 864.95

℄ Y.E.

12' 12"I-2 @.0150 P-57

A-56
STA. 994+50
1.25' LT. ℄
I-8 № 2A-10 INLET
WINDOW EL. 875.20
℄ 12" I-2 972.39

A-60
STA. 997+00.41
46' LT. ℄
I-8 № 6 C.B.
GRATE EL. 870.42
℄ 12" I-2 867.67

A-61
STA. 997+10
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 868.16
℄ 12" I-2 863.07
℄ 12" I-2 866.83
℄ 24" I-2 859.95

A-62
STA. 996+86.03
38' RT. ℄
I-8 № 6 C.B.
GRATE EL. 866.38
℄ 12" I-2 863.58

℄ Y.E.

42' 12"I-2 @.0200 P-61

51' 12"I-2 @.0100 P-62

A-63
STA. 999+50
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 862.88
℄ 12" I-2 859.02
℄ 24" I-2 855.15

℄ Y.E.

5' 12"I-2 @.0150 P-65

A-64
STA. 999+50
1.25' LT. ℄
I-8 № 2A-10 INLET
WINDOW EL. 862.51
℄ 12" I-2 859.10

A-65
STA. 1000+41.48
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 862.45
℄ 12" I-2 854.78
℄ 12" I-2 858.60
℄ 27" I-2 853.53
℄ 8" I-4 858.62

℄ Y.E.

5' 12"I-2 @.0150 P-67

A-66
STA. 1000+41.48
1.25' LT. ℄
I-8 № 2A-6 INLET
WINDOW EL. 862.08
℄ 12" I-2 858.67

A-67
STA. 1001+50
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 863.06
℄ 12" I-2 857.14
℄ 12" I-2 859.21

℄ Y.E.

5' 12"I-2 @.0150 P-68

A-68
STA. 1001+50
1.25' LT. ℄
I-8 № 2A-6 INLET
WINDOW EL. 862.69
℄ 12" I-2 859.28

A-78
STA. 1007+10
1.25' LT. ℄
I-8 2A-8
TOP OF CURB 879.34
WINDOW EL. 878.67
℄ 12" I-2 874.26

2'-6" 6" 30° BEND 45' 12"I-2 @.01

CLASS "C" CONCRETE COLLAR TO BE INCLUDED WITH PRICE BID OF I-2 STORM SEWER

2'-6" MIN.

60' 12"I-2 M.G.4c P-83

A-73
STA. 1003+50
115.5' LT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 840.17
℄ 12 I-2 838.00

A-72
STA. 1003+50
81.5' RT. ℄
I-8 № 2-2A C.B.
WINDOW EL. 848.20
℄ 18" I-2 845.49

℄ Y.E.

182' 18" I-2
M-6.6(d) @ 4.48%
P-77

16' 12"I-2 @.01 P-76

A-71
℄ RELOCATED PIKE

35' 12"I-2 @.01
I-5 PIPE SPEC. 30° BEND
℄ 845.00

A-65
STA. 1000+41.48
6' LT. ℄
I-8 № 1 M.H.
COVER EL. 862.45
℄ 12" I-2 854.78
℄ 12" I-2 858.60
℄ 27" I-2 853.53
℄ 8 I-4 858.62

140' 27"I-2 M-6.6c @.1133 P-69

A-69
STA. 1001+50
88' LT. ℄
I-8 № 1 M.H.
COVER EL. 849.00
℄ 27" I-2 837.67
℄ 33" I-2 837.17

209' 33" I-2 M-6.6b or M-6.8b @.00517 P-70

A-72
STA. 1003+50
100' LT. ℄
I-8 № 1 M.H.
COVER EL. 848.00
℄ 33" I-2 836.09
℄ 12" I-2 837.84
℄ 18" I-2 837.34
℄ 36" I-2 835.84

226' 36" I-2 M-6.6b or M-6.8b @.00514 P-71

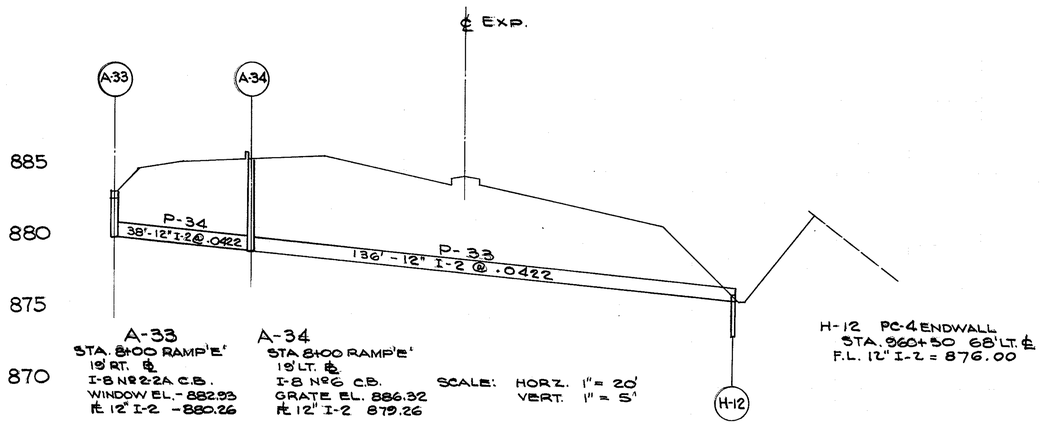
A-70
STA. 0+05 PIKE ST. ℄
I-8 № 1 M.H.
COVER EL. 848.91
℄ 12" I-2 844.16
℄ 36" I-2 834.68

P-72

STORM SEWER PROFILES

FED. RD.	STATE	PROJECT		82 492
3	OHIO			

MAH-18-17.20

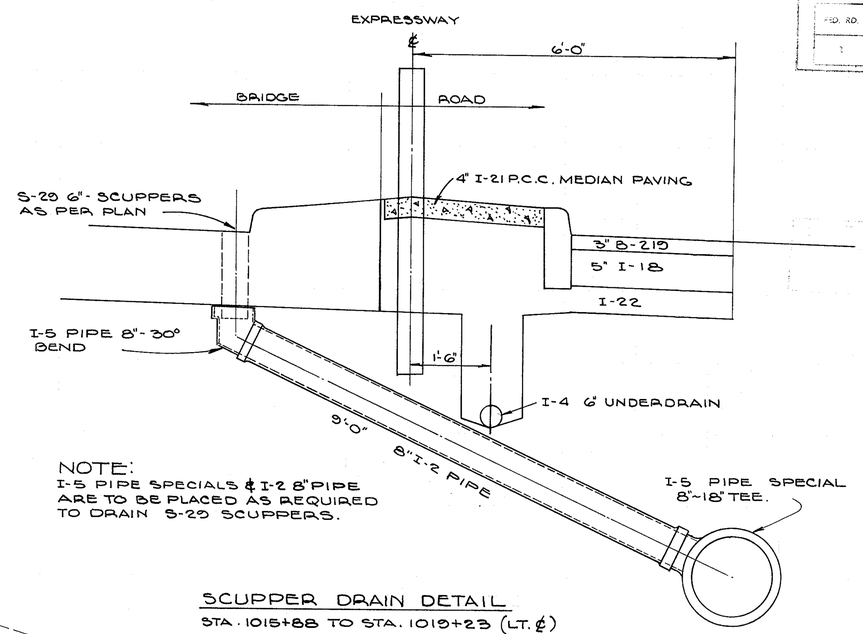


A-33
STA. 8+00 RAMP 'E'
19' RT. ℄
I-8 Nº 2-2A C.B.
WINDOW EL.- 882.93
℄ 12" I-2 -880.26

A-34
STA 8+00 RAMP 'E'
19' LT. ℄
I-8 Nº 6 C.B.
GRATE EL. 886.32
℄ 12" I-2 879.26

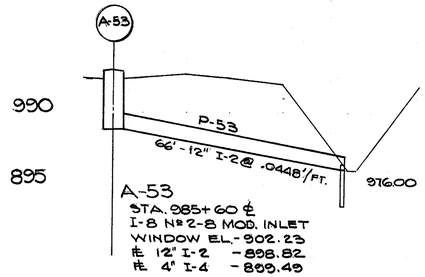
SCALE: HORZ. 1" = 20'
VERT. 1" = 5'

H-12 PC-4 ENDWALL
STA. 960+30 68' LT. ℄
F.L. 12" I-2 = 876.00

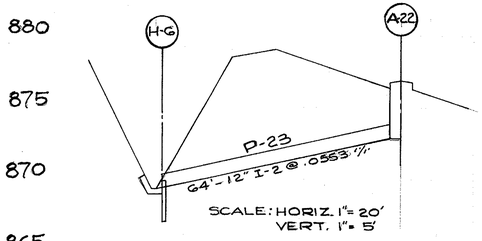


NOTE:
I-5 PIPE SPECIALS ℄ I-2 8" PIPE ARE TO BE PLACED AS REQUIRED TO DRAIN S-29 SCUPPERS.

SCUPPER DRAIN DETAIL
STA. 1015+88 TO STA. 1019+23 (LT. ℄)

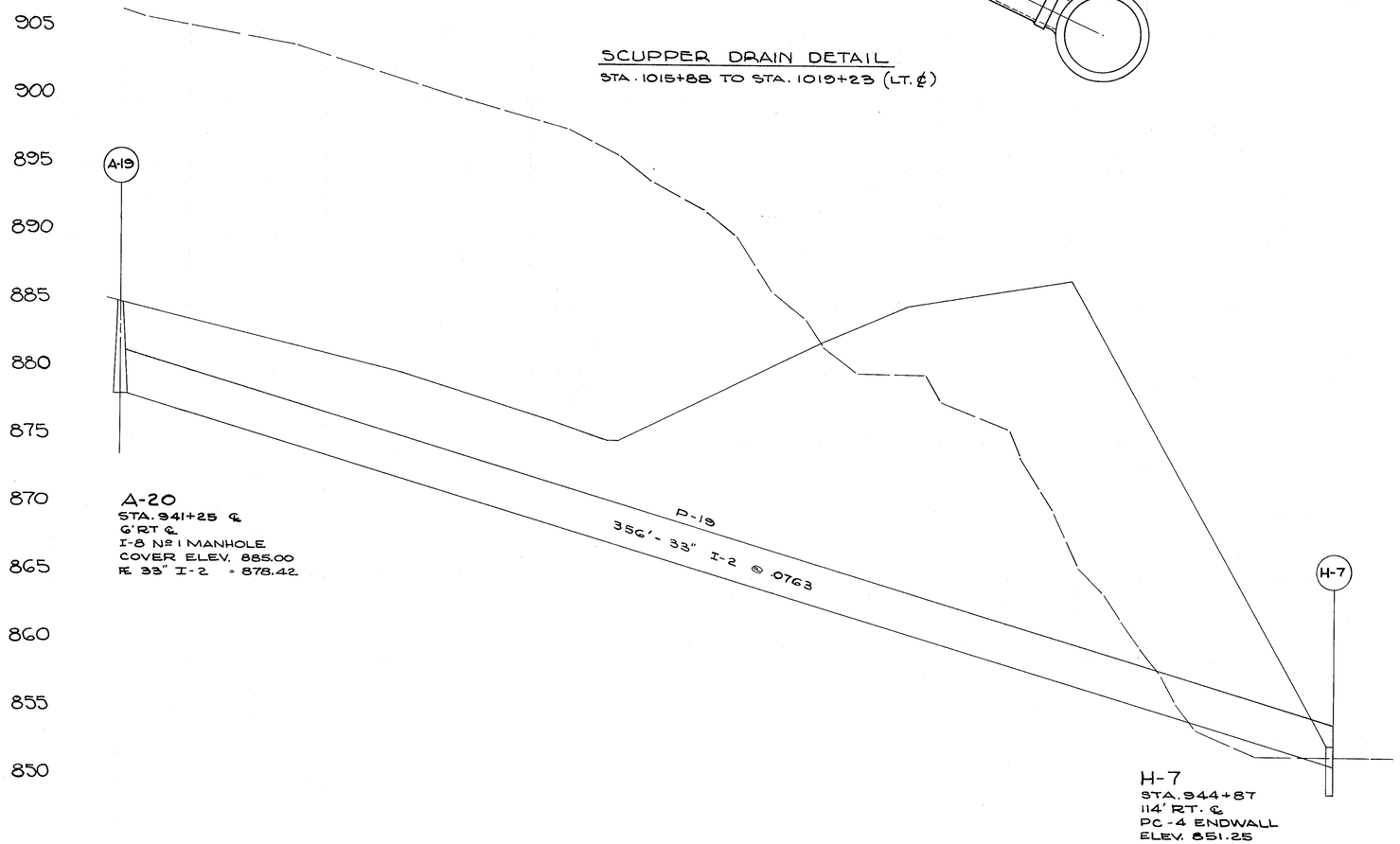


A-53
STA. 985+60 ℄
I-8 Nº 2-8 MOD. INLET
WINDOW EL.- 902.23
℄ 12" I-2 -898.82
℄ 4" I-4 -899.49



H-G
PC-4 ENDWALL
STA. 945+25
(66' LT. OF ℄)
℄ 12" I-2 = 869.22

A-22
STA. 945+25 (1.5' RT ℄)
I-8 Nº 2A-10 INLET
WINDOW ELEV. = 876.17
℄ 12" I-2 = 872.76



A-20
STA. 941+25 ℄
6' RT ℄
I-8 Nº 1 MANHOLE
COVER ELEV. 885.00
℄ 33" I-2 = 878.42

H-7
STA. 944+87
114' RT. ℄
PC-4 ENDWALL
ELEV. 851.25

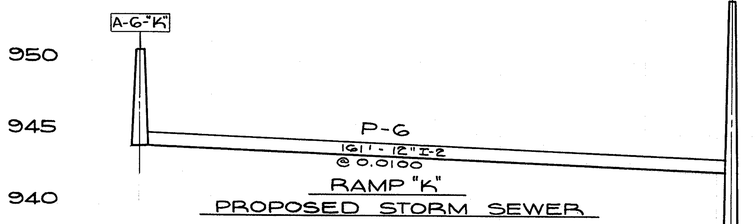
FED. RD.	STATE	PROJECT	
2	OHIO		

83
492

MAH-18-17.20

A-6-"K"

STA. 15+75 (6.0' RT. ℄ "K")
I-8 № 1 MANHOLE
COVER EL. 950.00
℄ 12" I-2 944.10



RAMP "K"
PROPOSED STORM SEWER

B-6

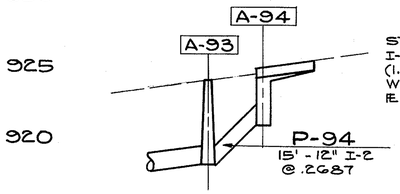
STA. 48+74 MARKET ST.
I-8 № 2 MANHOLE ℄
COVER EL. 954.40
℄ 48" PROP I-2 928.50
℄ 48" EXIST. BR. 939.94
℄ 12" I-2 942.46

A-93

STA. 102+00
I-8 № 1 MANHOLE
(6.0' RT. ℄)
COVER EL. 924.44
℄ 12" I-2 917.20
℄ 15" I-2 916.95

A-94

STA. 1021+15
I-8 № 2A-12 INLET
(1.25' RT. ℄)
WINDOW EL. 924.64
℄ 12" I-2 921.23



A-93

STA. 1021+00
I-8 № 1 MANHOLE
(6.0' RT. ℄)
COVER EL. 924.44
℄ 12" I-2 917.20
℄ 15" I-2 916.95

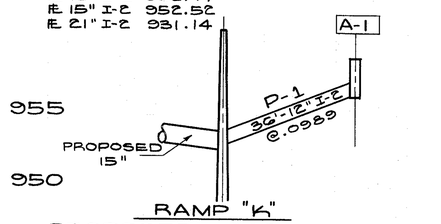
A-5-"L"

STA. 7+02.5 RAMP "L"
I-8 № 1 MANHOLE
(21.0' LT. ℄)
COVER EL. 924.17
℄ 12" I-2 918.25
℄ 15" I-2 918.00

A-1

STA. 11+80 RAMP "K"
(15.25' RT. ℄)
I-8 № 2-2A C.B.
WINDOW EL. 958.50
℄ 12" I-2 956.33

WILLIAMS ST.
STA. 9+02.5
PROP. MANHOLE (DROP)
COVER EL. 960.80
℄ 12" I-2 952.77
℄ 15" I-2 952.52
℄ 21" I-2 931.14



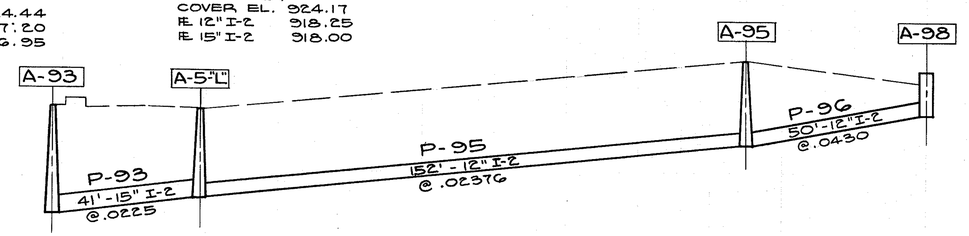
RAMP "K"
PROPOSED STORM SEWER

A-95

STA. 1022+50
I-8 № 1 MANHOLE
(21.0' LT. ℄)
COVER EL. 927.77
℄ 12" I-2 921.85

A-98

STA. 1023+00
I-8 № 2-2A C.B.
(57.0' LT. ℄)
WINDOW EL. 926.17
℄ 12" I-2 924.00

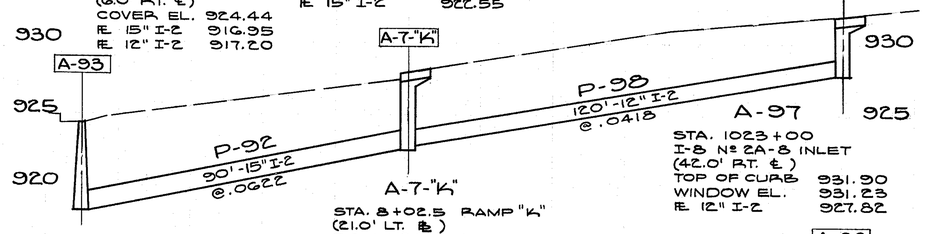


A-7

STA. 8+02 RAMP "K"
(21.0' LT. ℄)
I-8 № 2A-8 INLET
TOP OF CURB 927.91
WINDOW EL. 927.34
℄ 12" I-2 922.80
℄ 15" I-2 922.55

A-93

STA. 102+00
(6.0' RT. ℄)
COVER EL. 924.44
℄ 15" I-2 916.95
℄ 12" I-2 917.20

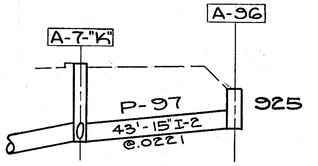


A-97

STA. 1023+00
I-8 № 2A-8 INLET
(42.0' RT. ℄)
TOP OF CURB 931.90
WINDOW EL. 931.23
℄ 12" I-2 927.82

A-7-"K"

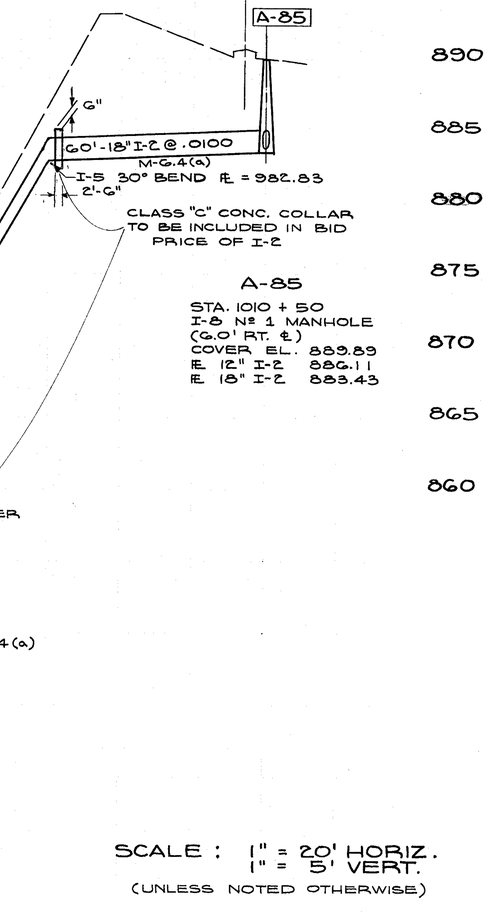
STA. 8+02.5 RAMP "K"
(21.0' LT. ℄)
I-8 № 2A-8 INLET
WINDOW EL. 927.34
℄ 12" I-2 922.80
℄ 15" I-2 922.55



A-96

STA. 1021+90
I-8 № 2-2A C.B.
(88.0' RT. ℄)
WINDOW EL. 925.94
℄ 15" I-2 923.50

RAMP "K"
PROPOSED STORM SEWER



A-85

STA. 1010+50
I-8 № 1 MANHOLE
(6.0' RT. ℄)
COVER EL. 889.89
℄ 12" I-2 886.11
℄ 18" I-2 883.43

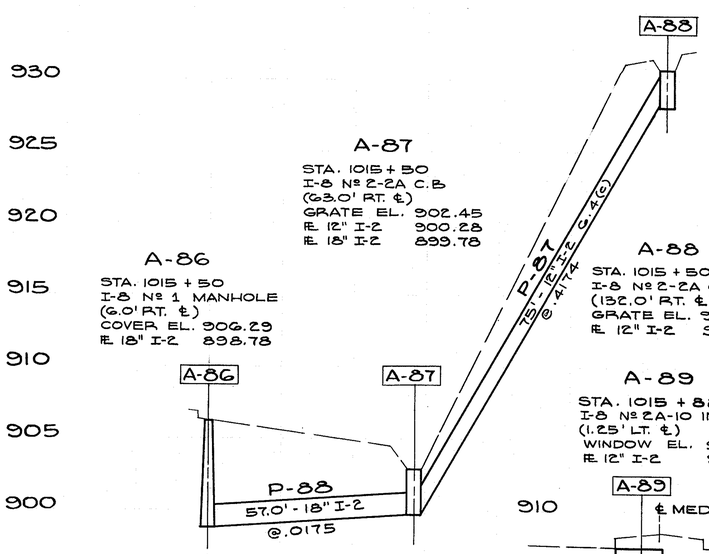
B-1

STA. 4+40 (7.0' LT. ℄)
RELOC. PIKE ST.
I-8 M.H. Y-B
COVER EL. 859.11
℄ 18" I-2 833.58
℄ 36" I-2 832.44
℄ 54" I-2 830.77
℄ 5'-8" BR. (EXIST.) 829.6

EXIST. 5'-8"
BRICK SEWER

SCALE : 1" = 20' HORIZ.
1" = 5' VERT.
(UNLESS NOTED OTHERWISE)

A-88



A-87

STA. 1015+50
I-8 № 2-2A C.B.
(63.0' RT. ℄)
GRATE EL. 902.45
℄ 12" I-2 900.28
℄ 18" I-2 899.78

A-86

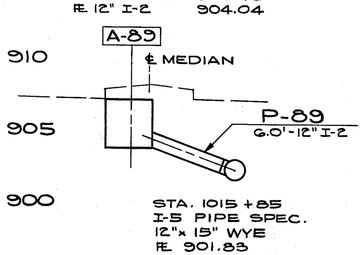
STA. 1015+50
I-8 № 1 MANHOLE
(6.0' RT. ℄)
COVER EL. 906.29
℄ 18" I-2 898.78

A-88

STA. 1015+50
I-8 № 2-2A C.B.
(132.0' RT. ℄)
GRATE EL. 930.25
℄ 12" I-2 928.08

A-89

STA. 1015+88.5
I-8 № 2A-10 INLET
(1.25' LT. ℄)
WINDOW EL. 907.45
℄ 12" I-2 904.04



STA. 1015+85
I-5 PIPE SPEC.
12"x 15" WYE
℄ 901.83

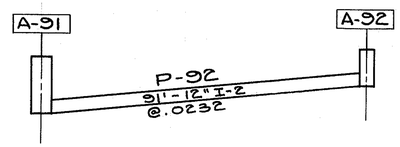
SCALE : 1" = 5' HORIZ.
1" = 5' VERT.

A-91

STA. 1019+25 - ℄
I-8 № 2-8 INLET (MODIFIED)
WINDOW EL. 918.45
℄ 12" I-2 915.04

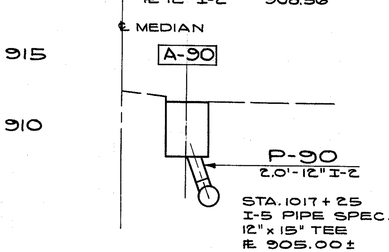
A-92

STA. 1019+90.5
I-8 № 2-2A C.B.
(21.0' LT. ℄)
GRATE EL. 919.31
℄ 12" I-2 917.14



A-90

STA. 1017+25
I-8 № 6 C.B.
(4.5' RT. ℄)
GRATE EL. 912.03
℄ 12" I-2 908.36



STA. 1017+25
I-5 PIPE SPEC.
12"x 15" TEE
℄ 905.00±

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

RAMP - STORM SEWER PROFILES

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS	I-16 MANHOLES ABANDONED EA.	I-16 CATCH BASINS ABANDONED EA.
EXISTING STRUCTURES "A"						
A-1	N.W. CURB ON SILLIMAN @ LAKEVIEW	CATCH BASIN		ABANDON		1
A-2	S.W. CURB ON SILLIMAN @ LAKEVIEW	CATCH BASIN		ABANDON		1
A-3	℄ SILLIMAN, 26'E. ℄ LAKEVIEW	MANHOLE	INV. 944.21	ABANDON -	1	
A-4	℄ SILLIMAN, 346'E. ℄ LAKEVIEW	MANHOLE	INV. 935.07	ABANDON -	1	
A-5	℄ LAKEVIEW, 40'S. ℄ SILLIMAN	MANHOLE	INV. 951.12	ABANDON -	1	
A-6	℄ OAKWOOD, 43'E. ℄ LAKEVIEW	MANHOLE	INV. 949.55	UNDISTURBED - ABANDON 12" LAKEVIEW INLET		
A-7	21'W. ℄ STEEL, 178'N. ℄ OAKWOOD	MANHOLE	INV. 936.55	ABANDON -	1	
A-8	20'E. ℄ STEEL, 215'N. ℄ OAKWOOD	MANHOLE	INV. 936.6	ABANDON -	1	
A-9	18'W. ℄ STEEL, 269'N. ℄ OAKWOOD	CATCH BASIN		ABANDON -		1
A-10	℄ SILLIMAN, 153'W. ℄ LAKEVIEW	MANHOLE	15" INV. 947.00	12" INV 947.25 NEW 15" OUTLET		
A-11	S.W. CURB ON SILLIMAN @ STEEL	CATCH BASIN		ABANDON -		1
PROPOSED STRUCTURES "B"					I-8 MANHOLES - YOUNGSTOWN TYPE Y-A EA.	
B-1	℄ OAKWOOD, 165'E. ℄ LAKEVIEW	MANHOLE Y-A	15" INV. 945.60	TOP EL. 952.3, ESTABLISH IN EXIST. 15" LINE	1	
B-2	11'N. ℄ OAKWOOD, 136'E. ℄ LAKEVIEW	MANHOLE Y-A	15" INV. 945.70	TOP EL. 953.3	1	
B-3	11'N. ℄ OAKWOOD, 41'E. ℄ LAKEVIEW	MANHOLE Y-A	15" INV. 945.90	TOP EL. 956.4	1	
B-4	3'W. ℄ LAKEVIEW, 775'S. ℄ SILLIMAN	MANHOLE Y-A	15" INV. 946.33	TOP EL. 954.7	1	
B-5	13'S. ℄ SILLIMAN, 92'W. ℄ LAKEVIEW	MANHOLE Y-A	15" INV. 946.55	TOP EL. 954.5	1	
B-6	7'N. ℄ SILLIMAN, 290'W. ℄ STEEL	MANHOLE Y-A	12" INV. 933.71	TOP EL. 942.2, ESTABLISH IN EXIST. 12" LINE	1	

DESCRIPTION OF WORK - COMBINED SEWERS.

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS "E"						
E-1	℄ SILLIMAN	A-10	A-3	12"	179'	SLOPE 1.69%, ABANDON
E-2	℄ SILLIMAN	A-3	A-4	12"	320'	SLOPE 2.81%, ABANDON
E-3	℄ SILLIMAN	A-4	B-6	12"	40'	SLOPE 3.39%, ABANDON
E-4	℄ LAKEVIEW	A-5	A-6	12"	286'	SLOPE 0.5%, ABANDON
E-6	℄ OAKWOOD	A-6	B-1	15"	122'	SLOPE 3.28%, HOUSE LINES FROM N. ABANDONED
E-7	21'W. ℄ STEEL	A-7	12+72	10"	12.5'	ABANDON
E-8	21'E. ℄ STEEL	A-8	B-7	10"	112.5'	ABANDON
PROPOSED SEWERS "F"						
F-1	OAKWOOD AVE.	B-1	B-2	15"	30'	SLOPE 0.2%, PLUG EXIST. HOUSE SEWERS FROM B-3 N. SIDE OAKWOOD TO E-6.
F-2	OAKWOOD AVE.	B-2	B-3	15"	95'	SLOPE 0.2%,
F-3	UNDER RAMP "A"	B-3	B-4	15"	215'	SLOPE 0.2%,
F-4	LAKEVIEW TO SILLIMAN	B-4	B-5	15"	110'	SLOPE 0.2%
F-5	SILLIMAN ST.	B-5	A-10	15"	62'	SLOPE 0.73%

I-2 COMBINATION SEWERS UNDER PAVT & APPROACHES 15" M-6.8 b L.F.

26
91
211
106
58

FED. RD.	STATE	PROJECT	
2	OHIO		

84 / 492

MAH-18-17.20

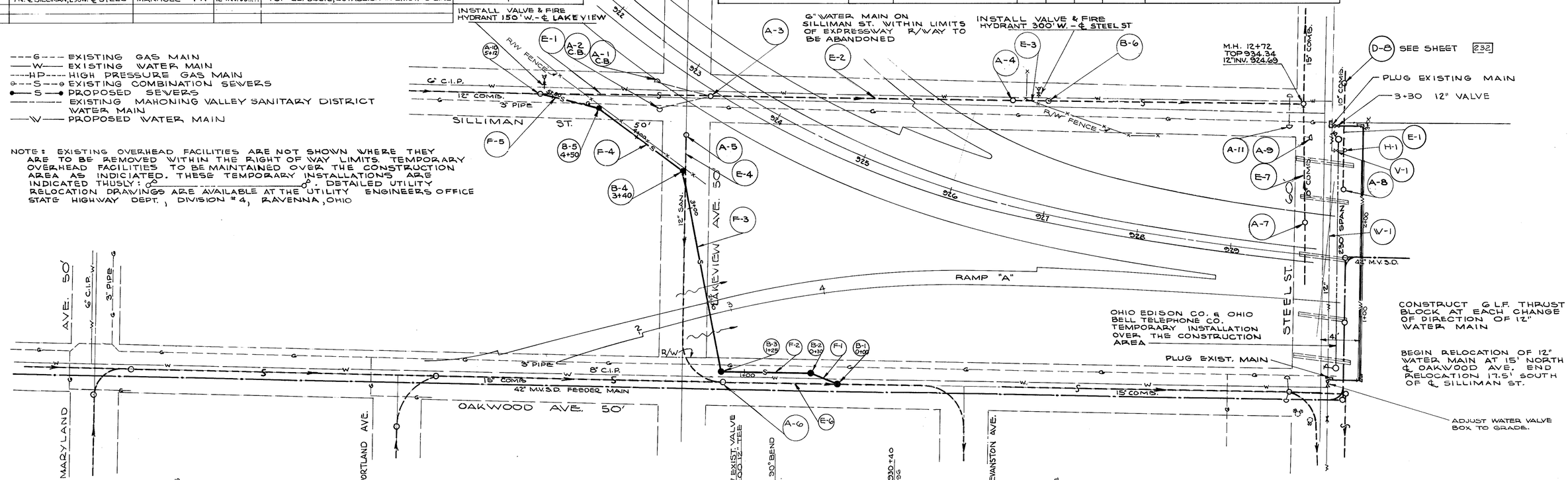
WATER REQUIREMENTS.

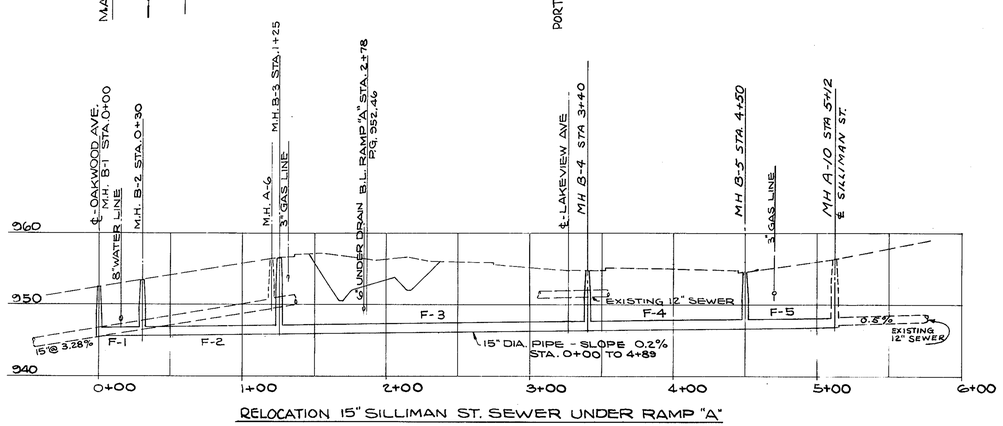
I-124 NEW WATER MAIN.

BID ITEM	DESCRIPTION	QUANT.
12" FITTINGS	90° BEND W/LUGS CL 250	2
	TEE CL 250	2
	SPECIAL BEND W/LUGS CL 250	4
	TOTAL	8
6" FITTINGS	90° BEND W/LUGS CL 250	2
6" VALVES & BOXES	CL 250	2
12" VALVES & BOXES	CL. 150	1
FIRE HYDRANTS		2
6" NEW WATER MAIN	CL. 22	20 L.F.
12" NEW WATER MAIN	CL. 23	104 L.F.
12" NEW WATER MAIN	CONC. ENCASED CL 23	240 L.F.
VALVE BOX	ADJUSTED TO GRADE	1

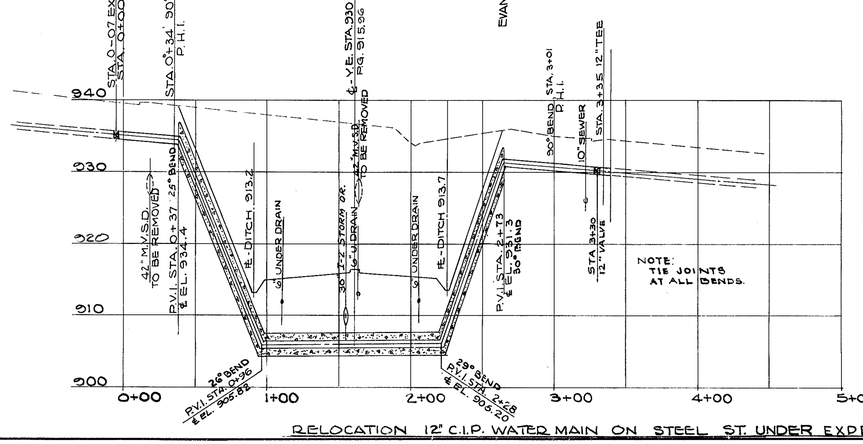
---6--- EXISTING GAS MAIN
——W—— EXISTING WATER MAIN
----HP---- HIGH PRESSURE GAS MAIN
⊖---S---⊖ EXISTING COMBINATION SEWERS
●—S—● PROPOSED SEWERS
——— EXISTING MAHONING VALLEY SANITARY DISTRICT WATER MAIN
——W—— PROPOSED WATER MAIN

NOTE: EXISTING OVERHEAD FACILITIES ARE NOT SHOWN WHERE THEY ARE TO BE REMOVED WITHIN THE RIGHT OF WAY LIMITS. TEMPORARY OVERHEAD FACILITIES TO BE MAINTAINED OVER THE CONSTRUCTION AREA AS INDICIATED. THESE TEMPORARY INSTALLATIONS ARE INDICATED THUSLY: ——o——o——. DETAILED UTILITY RELOCATION DRAWINGS ARE AVAILABLE AT THE UTILITY ENGINEERS OFFICE STATE HIGHWAY DEPT., DIVISION #4, RAVENNA, OHIO





RELOCATION 15" SILLIMAN ST. SEWER UNDER RAMP "A"



RELOCATION 12" C.I.P. WATER MAIN ON STEEL ST. UNDER EXPRESSWAY

W-1	H-1	V-1
E-12 12" PIPE REMOVED FOR STORAGE L.F.	E-12 FIRE HYDRANT REMOVED FOR STORAGE EA.	E-12 ℄ VALVE REMOVED FOR STORAGE EA.
267'	1	1

FOR DETAILS OF CONCRETE ENCASEMENT SEE SHEET 105

FOR DETAILS OF THRUST BLOCKS FOR 12" WATER MAIN SEE SHEET 85

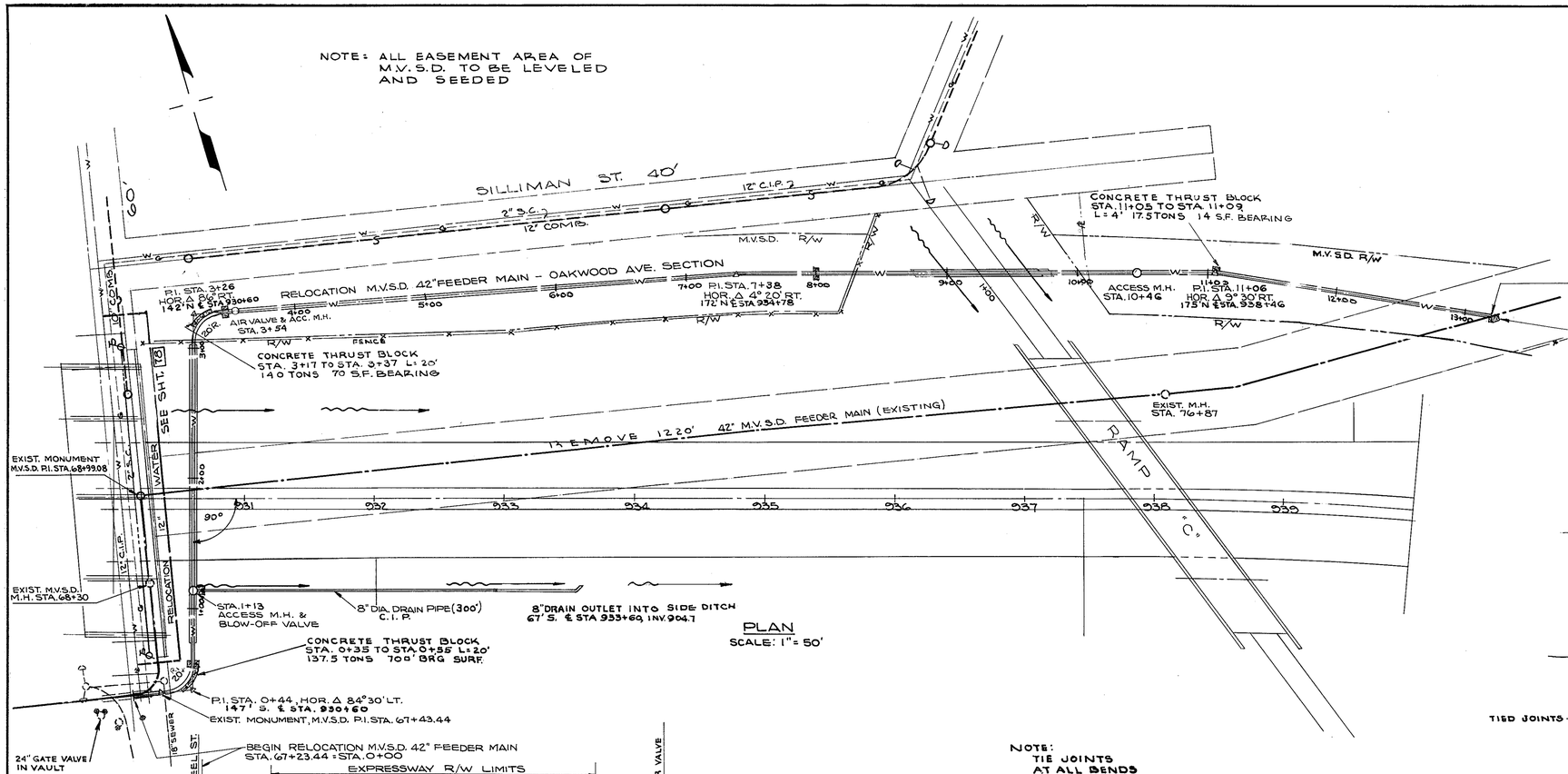
RELOCATIONS OF SILLIMAN ST. SEWER & STEEL ST. WATER MAIN

FED. RD.	STATE	PROJECT	
2	OHIO		

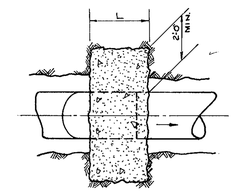
85
492

MAH-18-17.20

M.V.S.D. WATER REQUIREMENTS.		
I-124 NEW WATER MAIN		
42" DIA. PIPE	C 201 OR C 301	988 L.F.
42" DIA. PIPE ENCASED	C 201 OR C 301	338 L.F.
8" DIA.	CL. 23	300 L.F.
I-124 8" WATER MAIN FITTINGS		
8" DIA. 45° BEND	CL. 250 W/LUGS	1
I-8 MANHOLES - SPECIAL M.V.S.D.		
SPECIAL ACCESS MANHOLE		2
SPECIAL COMBINED ACC. & AIR VALVE M.H.		1
SPECIAL BLOW-OFF SETTING		1
I-16 MANHOLES ABANDONED		2
E-12 42" PIPE REMOVED		376 L.F.

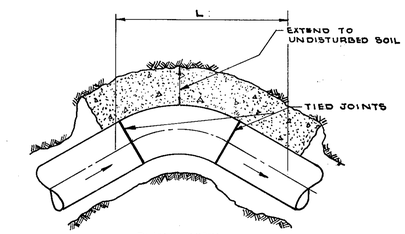


PLAN
SCALE: 1" = 50'

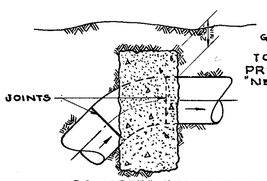


PLAN VIEW

NOTE: ON CONC. ENCASED PIPE WHICH REQUIRES THRUST BLOCKS, THRUST BLOCKS SHALL EXTEND BEYOND CONC. ENCASEMENT TO UNDISTURBED SOIL

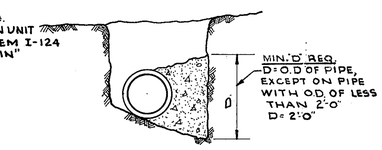


PLAN VIEW



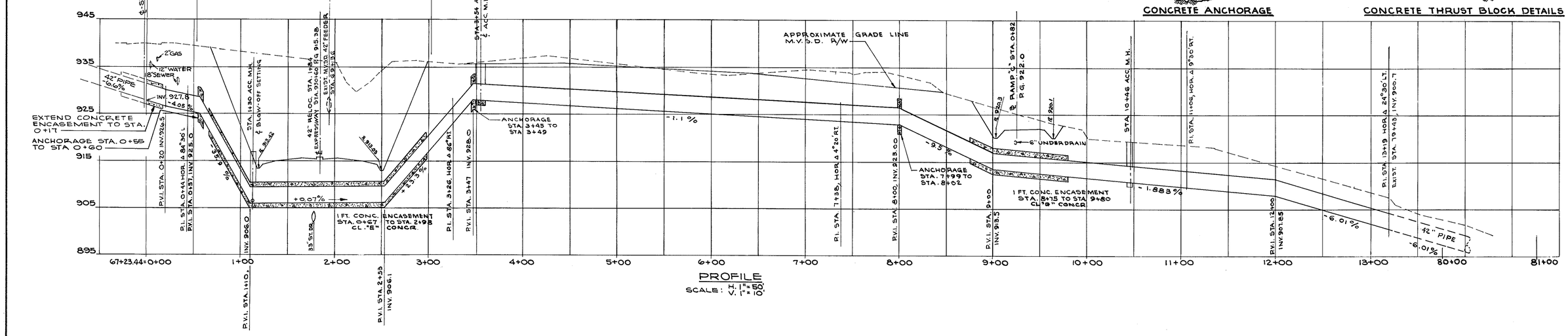
GENERAL NOTE: CLASS "B" CONCRETE. TO BE INCLUDED IN UNIT PRICE BID FOR ITEM I-124 "NEW WATER MAIN"

CONCRETE ANCHORAGE



CONCRETE THRUST BLOCK DETAILS

NOTE: TIE JOINTS AT ALL BENDS

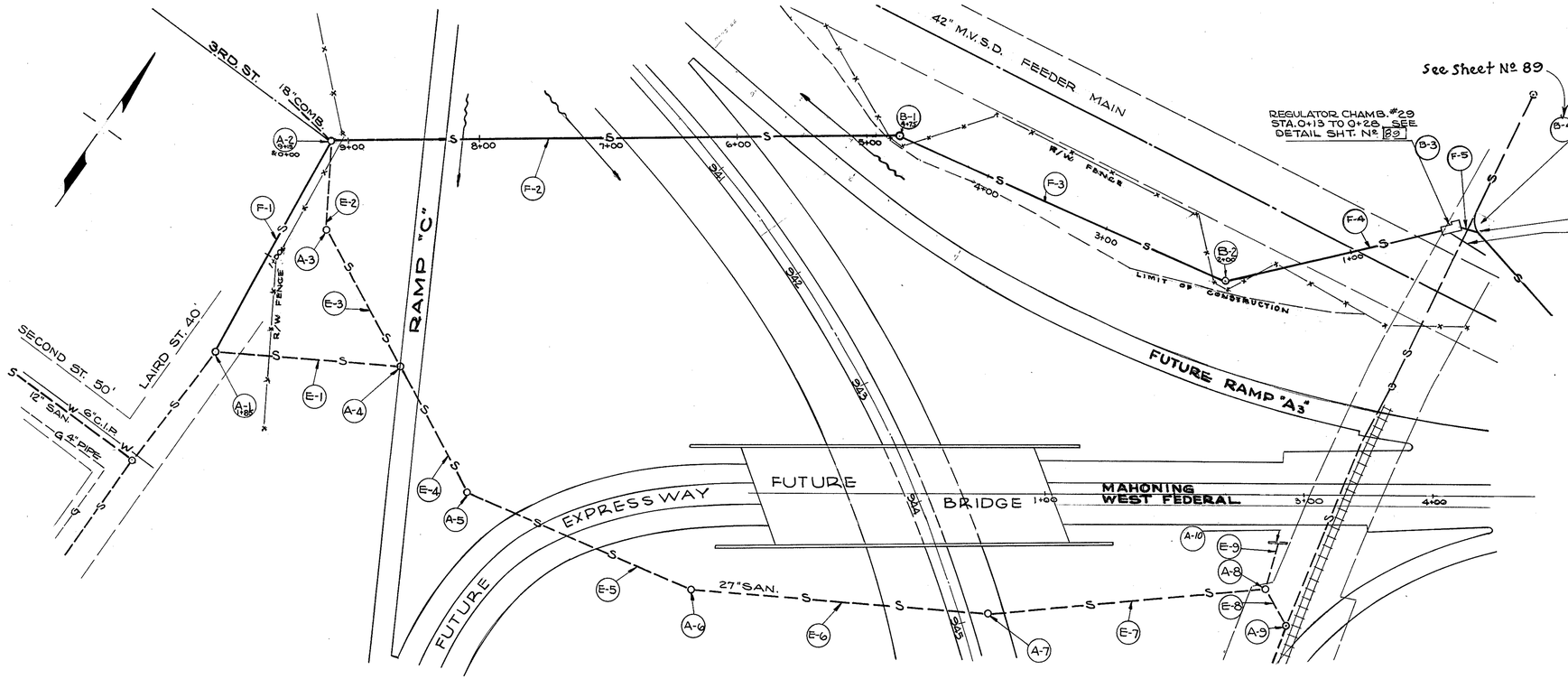


PROFILE
SCALE: H. 1" = 50' V. 1" = 10'

RELOCATION: M.V.S.D. 42" FEEDER MAIN - OAKWOOD AVE. SECTION

FED. RD.	STATE	PROJECT	
2	OHIO		

86
492



SEWER REQUIREMENTS

CODE	I-2 COMBINATION SEWER 27" M-6.6 c	I-2 COMBINATION SEWERS UNDER PVM'T. & APPROACHES 33" RADIUS PIPE M-6.6 b	15" M6.8(b)	27" M6.6(b)	27" M6.6(c)	27" M6.6(c)
F-1			185'			
F-2					308	*132
F-3	275			173'		
F-4				13'		
F-5		24				
TOTAL	275	24	185'	186'	308	*132

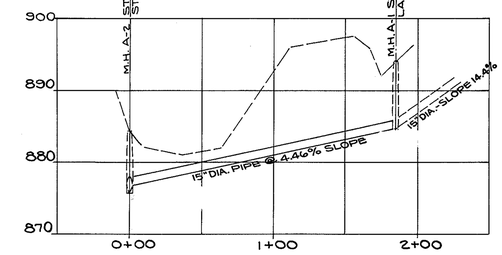
*Encased in Concrete

I-16 MANHOLES ABANDONED	
	6

S-24 STRUCTURE REMOVAL	
3'x17'x1' HEADWALL	1

I-8 MANHOLES		
SPECIAL YOUNGSTOWN MANHOLES	TYPE Y-A	2
SPECIAL SEWAGE REGULATOR CHAMBER		1

E-12 27" PIPE REMOVED
1013 LIN. FT.



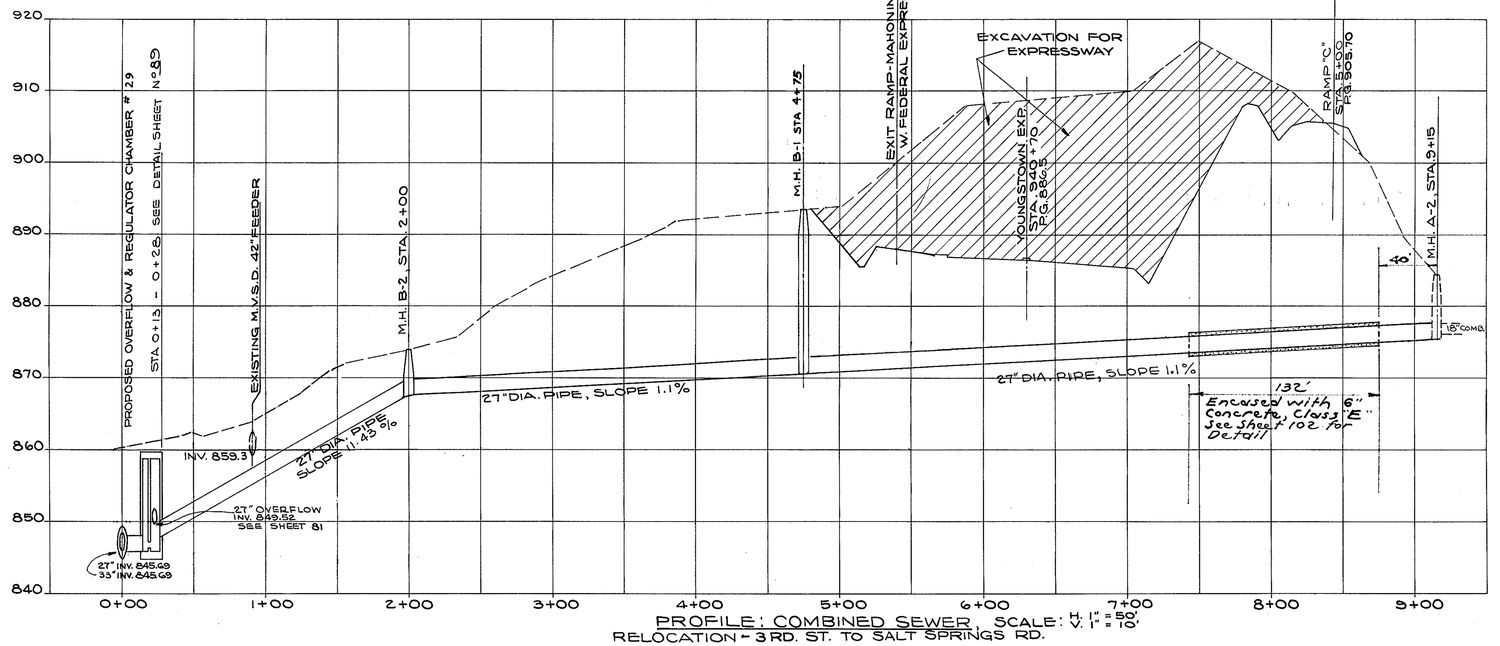
PROFILE: SCALE: H. 1" = 50'
V. 1" = 10'
RELOCATION - 15" SEWER, LAIRD ST. TO EAST END OF 3RD. ST.
CODE F-1

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION		ELEV.	REMARKS
EXISTING STRUCTURES					
A-1	4' E. & LAIRD ST., 105' N. & 2ND. ST.	MANHOLE	I-8	15" INV. 884.74	TOP 894.1 CHANGE OUTLET
A-2	END 3RD. ST. M.H. 9+78.2 (S. SPR)	MANHOLE	I-8	15" INV. 876.5	18" INV. 876.24, 27" INV. 875.5 TOP 884.24 CHANGE OUTLET
A-3	SALT SPR. TO 3RD. ST. M.H. 9+09.3	MANHOLE	I-16	27" INV. 871.6	TOP 879.02 ABANDON
A-4	SALT SPR. TO 3RD. ST. M.H. 7+88.6	MANHOLE	I-16	27" INV. 865.7	TOP 873.10 ABANDON
A-5	SALT SPR. TO 3RD. ST. M.H. 6+80	MANHOLE	I-16	27" INV. 860.4	TOP 866.70 ABANDON
A-6	SALT SPR. TO 3RD. ST. M.H. 4+81	MANHOLE	I-16	27" INV. 851.41	TOP 857.24 ABANDON
A-7	SALT SPR. TO 3RD. ST. M.H. 2+51	MANHOLE	I-16	27" INV. 848.82	TOP 854.32 ABANDON
A-8	SALT SPR. TO 3RD. ST. M.H. 0+32.8	O.V. FLO. M.H.	I-16	27" INV. 844.55	TOP 856.16 ABANDON
A-9	SALT SPRINGS LINE M.H. 50+71.5	MANHOLE		27" INV. 845.24	TOP 856.7 SEE SHEET Nº 81
A-10	END OF E-9 OVERFLOW	END WALL	S-24	30" DIA.	3'x17'x1' ABANDON
PROPOSED STRUCTURES					
B-1	124' N. STA. 941 +60 EXP.-WAY	MANHOLE	Y-A	27" INV. 870.63	TOP 893.0
B-2	164' N. STA. 2+38 MAH.-W. FED.	MANHOLE	Y-A	27" INV. 867.16	TOP 874.0
B-3	STA. 0+27, 204' N STA 4+06 MAH. W. FED	REGULATOR CH.	29	27" INV. 847.89	SEE DETAIL SHEET Nº 89

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	N. END LAIRD ST. TO 27" LINE	A-1	A-4	15"	142'	ABANDON
E-2	SALT SPR. RD. TO E. END 3RD. ST.	A-2	A-3	27"	69'	REMOVED E-12
E-3	SALT SPR. RD. TO E. END 3RD. ST.	A-3	A-4	27"	120.5	REMOVED E-12
E-4	SALT SPR. RD. TO E. END 3RD. ST.	A-4	A-5	27"	108.5	REMOVED E-12
E-5	SALT SPR. RD. TO E. END 3RD. ST.	A-5	A-6	27"	199'	REMOVED E-12
E-6	SALT SPR. RD. TO E. END 3RD. ST.	A-6	A-7	27"	230'	REMOVED E-12
E-7	SALT SPR. RD. TO E. END 3RD. ST.	A-7	A-8	27"	218.5	REMOVED E-12
E-8	SALT SPR. RD. TO E. END 3RD. ST.	A-8	A-10	27"	32.5	REMOVED E-12
E-9	OVERFLOW PIPE RUNS N. TO CREEK	A-8	N. TO CREEK	30"	35	REMOVED (C.I. PIPE OVERFLOW) E-12
PROPOSED SEWERS						
F-1	LAIRD ST. N. TO END 3RD. ST.	A-1	A-2	15"	185'	SLOPE 4.46 %
F-2	UNDER EXP.-WAY STA. 940+70	A-2	B-1	27"	440'	SLOPE 1.1%
F-3	W. TO E. N. EXP.-WAY	B-1	B-2	27"	275'	SLOPE 1.1%
F-4	N. OF RAMP A_3	B-2	B-3	27"	173'	SLOPE 11.43%
F-5	N. OF MAH. W. FED.	B-3	B-4	27"	13'	SLOPE 1.1 %



PROFILE: COMBINED SEWER SCALE: H. 1" = 50'
V. 1" = 10'
RELOCATION - 3RD. ST. TO SALT SPRINGS RD.

SEWER RELOCATIONS: LAIRD ST.; 3RD. ST. TO SALT SPRINGS RD.

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

87/492

ACCESS CORRIDOR FOR MAINTENANCE MVSD 42" FEEDER MAIN & 33" SAN. SEWER

MAHONING RIVER

C.M.P. 4' BOX SEWER EXTENSION SEE SHEET 116

BRIDGE STREET

EXISTING C.M.P. BOX SEWER

BANK SLAG FILL FOR BANK PROTECTION

TOP OF BANK

TOE OF BANK FILL

P.I. 2+17 Δ = 32°45' R.T. 62' WEST RAMP D

RAMP "D"

CORRIDOR

S.L.P. THRUST BLOCK

57.5 TONS 34.8 BRG SURF

ACC. M.H. 11+35

42" MVSD

AIR VALVE 8+00

SALT SPRING RD. 60'

P.I. STA. 0+03 Ha 25°40' Lt. 19' W. & STA. 1+24 MAH. W. FED.

BEGIN RELOCATION BLOW OFF MVSD 42" FEEDER MAIN STA. 0+01 STA. 8+41 = STA. 0+00

P.I. STA. 86+23 BLOW OFF MH & VALVE VAULT

ACCESS M.H.

BLOW OUT ACC. M.H. 88+35

EXISTING 42" MVSD FEEDER MAIN - REMOVE

EXISTING PIPE STA. 93+05 TO STA. 93+35 DO NOT REMOVE - FILL W/ SAND & LEAVE IN PLACE

P.I. STA. 7+02 Ha 17°45' Lt. 31' W. & STA. 11+11 RAMP "D"

THRUST BLOCK STA. 6+36 TO STA. 7+10 L = 14' 32.5 TONS 49 0 BRG. SURF.

ACC. MH. 7+20

1 FT. THICK CONCR. ENCASEMENT

P.I. STA. 11+90 Ha 9°Lt. 39' E. & STA. 6+26 RAMP "D"

ACC. MH. 12+10

ACC. MH. 99+71

ACCESS BENCH FOR MAINTENANCE SEWER & WATER LINES

FOR REMAINDER OF MVSD 42" FEEDER MAIN & 33" SEWER RELOCATION SEE SHEET Nº 90

FUTURE RAMP "B3"

FUTURE RAMP "B"

RAMP "C"

4" R.R. SPUR (TO BE REMOVED BY OTHERS)

EXISTING 33" SEWER

ABUTMENT

RESET ACCESS M.H. COVER STA. 88+61 42" MVSD. OAKWOOD SECTION NEW EL. 853.0 SEE DETAIL "A"

STA. 16+36 END RELOCATION 33" SEWER

SPECIAL FILL FOR 33" SEWER RELOCATION COVER

SAME AS B-3 SHEET #85

FEEDER MAIN

MVSD 42"W

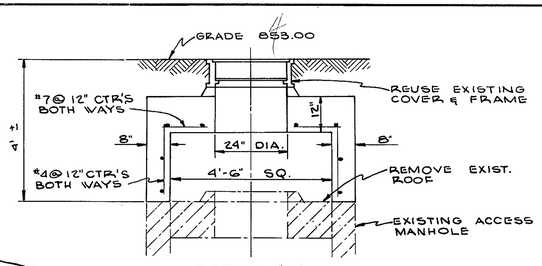
FUTURE RAMP "A3"

MANHOLE "A3"

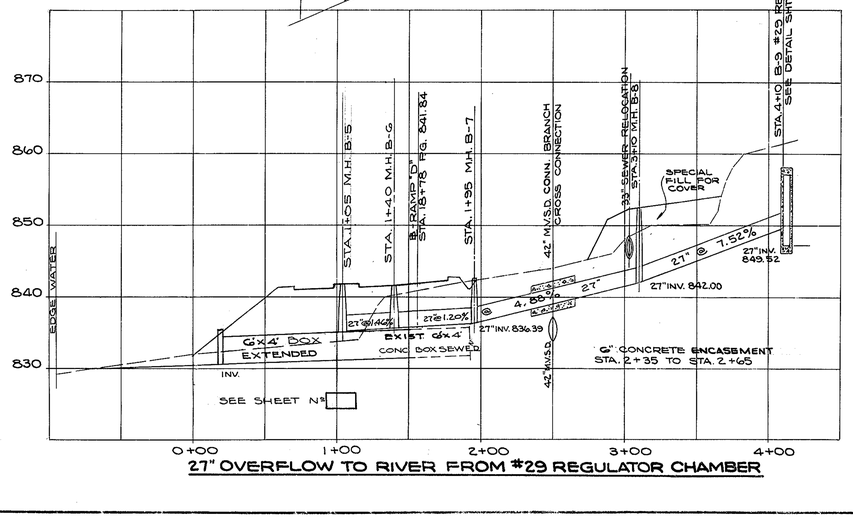
NOTES:
PROVIDE 3'@12" STUBS & PLUGS @ MANHOLES B-5 & B-6 FOR PROPOSED CATCH BASINS D-10, D-11, D-12, D-13 & D-14.

FOR DETAILS OF ITEMS D-10 D-11 D-12 D-13 D-14 SEE SHEET Nº 236

NOTE: FOR PROFILES OF SEWER & WATER LINE RELOCATIONS SEE SHEET Nº 88



DETAIL "A"



27" OVERFLOW TO RIVER FROM #29 REGULATOR CHAMBER

ITEM I-2 CLASS "B" STORM SEWERS UNDER PAVEMENT AND APPROACHES				
SIZE	FROM	TO	LENGTH	% GRADE
12"	B-5	D-10	3' STUB	7.21%
12"	B-5	D-11	3' STUB	4.40%
12"	B-5	D-12	3' STUB	7.12%
12"	B-6	D-13	3' STUB	4.04%
12"	B-6	D-14	3' STUB	10.38%

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS	
EXISTING STRUCTURES					
A-1	SALT SPRGS. LINE W. - R.R.	MANHOLE 40+68	33" INV. 843.40	TOP EL. 851.99	ABANDON I-16
A-2	" " SEWER E. - R.R.	MANHOLE	33" INV. 842.93	TOP EL. 853.41	ABANDON I-16
A-3	" " " W. - R.R.	MANHOLE 42+00	33" INV. 843.3	TOP EL. 853.93	ABANDON I-16
A-4	" " " W. - R.R.	MANHOLE 43+25	33" INV. 843.43	TOP EL. 854.90	ABANDON I-16
A-5	" " " W. - R.R.	MANHOLE 45+98	33" INV. 843.64	TOP EL. 854.50	ABANDON I-16
A-6	" " " W. - R.R.	MANHOLE 47+82	33" INV. 844.50	TOP EL. 856.10	ABANDON I-16
A-7	" " " W. - R.R.	MANHOLE 50+00	33" INV. 844.62	TOP EL. 856.44	ABANDON I-16
A-8	" " "	MANHOLE	SEE	SHEET Nº 84	
A-9	" " " W. - R.R.	MANHOLE 50+72	33" INV. 845.33	TOP EL. 856.73	ABANDON I-16
A-10	" " " N. - R.R.	MANHOLE 52+50	33" INV. 845.26	TOP EL. 858.81	ABANDON I-16
A-11	" " " S. ONETA	MANHOLE 55+01	33" INV. 846.04	TOP EL. 863.44	UNDISTURBED
PROPOSED STRUCTURES					
B-1	26' W. RAMP "D" & STA. 11+03.5	MANHOLE Y-A	33" INV. 843.90	TOP EL. 854.8	
B-2	48' W. RAMP "D" & STA. 15+18	MANHOLE Y-A	33" INV. 844.77	TOP EL. 851.2	
B-3	140' N. STA. 4+91 MAH. W. FED. EX.	MANHOLE Y-A	33" INV. 845.50	TOP EL. 852.25	
B-11		MANHOLE		SEE SHEET Nº 84	
B-5	18' W. STA. 18+48 RAMP "D" &	MANHOLE Y-A	33" INV. 845.69	TOP EL. 841.88 & 12" I-2 STUB = 836.74	
B-6	12' W. STA. 18+70 RAMP "D" &	MANHOLE Y-A	27" INV. 835.73	TOP EL. 841.56 & 12" I-2 STUB = 837.23	
B-10	18+40 RAMP "D"	6'X4' Box CULVT	—	FOR DETAIL & QUAN. SEE SHEET Nº 116	
B-7	103' N. STA. 5+95 MAH. W. FED. EX.	MANHOLE Y-A	27" INV. 836.39	TOP EL. 842.8 & 12" I-2 837.64	
B-8	135' N. STA. 4+83 MAH. W. FED. EX.	MANHOLE Y-A	27" INV. 842.00	TOP EL. 852.6 & 12" I-2 848.50	
B-9	SEE B-3 SHEET #80	#29 REG. CH.	27" INV. 849.52	SEE DETAIL SHEET Nº 83	
B-10	SEE DETAIL "A"				

I-8 MANHOLES		
SPECIAL YOUNGSTOWN MANHOLES	TYPE Y-A	G
	Y-A MOD	1

I-16 MANHOLES ABANDONED
9

SPECIAL, AS PER PLAN	
MH. EXTENSION	1

E-12 PIPE REMOVAL
SEWER OVER 15" DIA
1677 LIN. FT

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS	ITEM
EXISTING SEWERS							
E-1	SALT SPRGS. SEG. BL. SEWER	A-8	A-1	33"	217'	REMOVED	E-12
E-2	" " " "	A-1	A-2	33"	117'	REMOVED	E-12
E-3	" " " "	A-2	A-3	33"	30'	REMOVED	E-12
E-4	" " " "	A-3	A-4	33"	125'	REMOVED	E-12
E-5	" " " "	A-4	A-5	33"	275'	REMOVED	E-12
E-6	" " " "	A-5	A-6	33"	184'	REMOVED	E-12
E-7	" " " "	A-6	A-7	33"	218'	REMOVED	E-12
E-8	" " " "	A-7	A-9	33"	72'	REMOVED	E-12
E-9	" " " "	A-9	A-10	33"	175'	REMOVED	E-12
E-10	" " " "	A-10	B-4	33"	149'	SLOPE 0.312%	E-12
E-11	" " " "	A-11	B-4	33"	101'	SLOPE 0.312% UNDISTURBED	E-12
E-12	CULVERT UNDER R.R.			4'x4'	70'	REMOVED	S-24
E-13	CULVERT UNDER S.SPR.RD.			48"	115'	REMOVED	E-12
PROPOSED SEWERS							
F-1	UNDER RAMP "D"	B-11	B-1	33"	475'	SLOPE 0.21%	
F-2	WEST OF RAMP "D"	B-1	B-2	33"	415'	SLOPE 0.21% 6"	
F-3	UNDER MAH. W. FED. EXP.	B-2	B-3	33"	350'	SLOPE 0.21% 62' CONCR. ENC. OVER 42" WATERLINE	
F-4	N. MAH. W. FED. EXP. RWY.	B-3	B-4	33"	110'	SLOPE 0.21%	
F-5	UNDER RAMP "D"	B-6	B-5	27"	32'	SLOPE 1.46%	
F-6	UNDER RELOCATED S. SPR. RD.	B-6	B-7	27"	52'	SLOPE 1.20% 6"	
F-7	OVER M.V.S.D. CROSS CONNECTION	B-7	B-8	27"	115	SLOPE 4.88% 30' CONCR. ENC. OVER 42" WATERLINE	
F-8	FROM REG. CH. #29	B-8	B-9	27"	100'	SLOPE 7.52%	

I-2 COMBINATION SEWERS UNDER PAVEMENT AND APPROACHES (LIN. FT.)

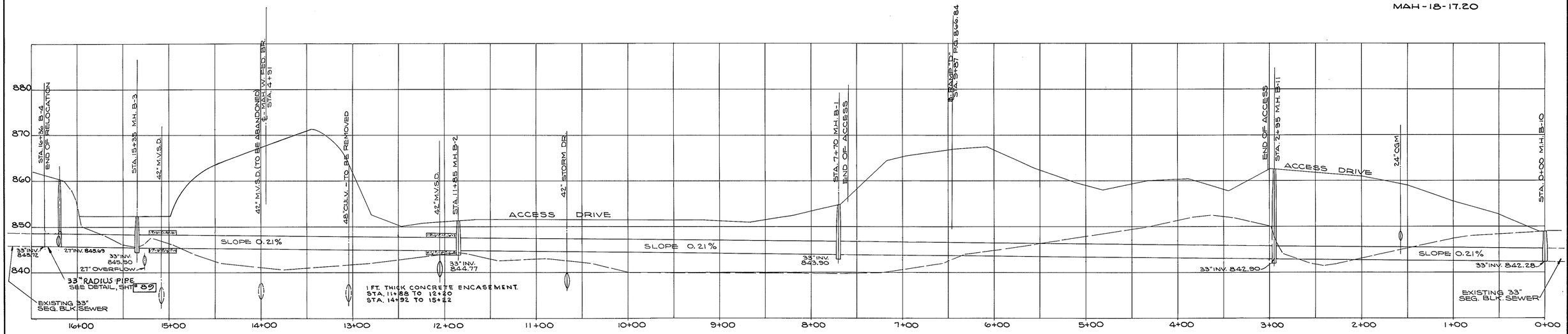
CODE	27" DIAM. M 6.6 (b)	27" DIAM. M 6.6(b) CONC. ENC.	27" DIAM.	33" DIAM. M 6.6(b)	33" DIAM. M 6.6(d)	33" DIAM. M 6.6(d) CONC. ENC.	
F-1					475'		
F-2				415			
F-3					288'	62'	
F-4				110'			
F-5	32						
F-6	52						
F-7	85'	30'					
F-8	100						
TOTAL	269'	30'		525'	763'	62'	

RELOCATIONS: SEWER & WATER LINES - SALT SPRINGS RD.

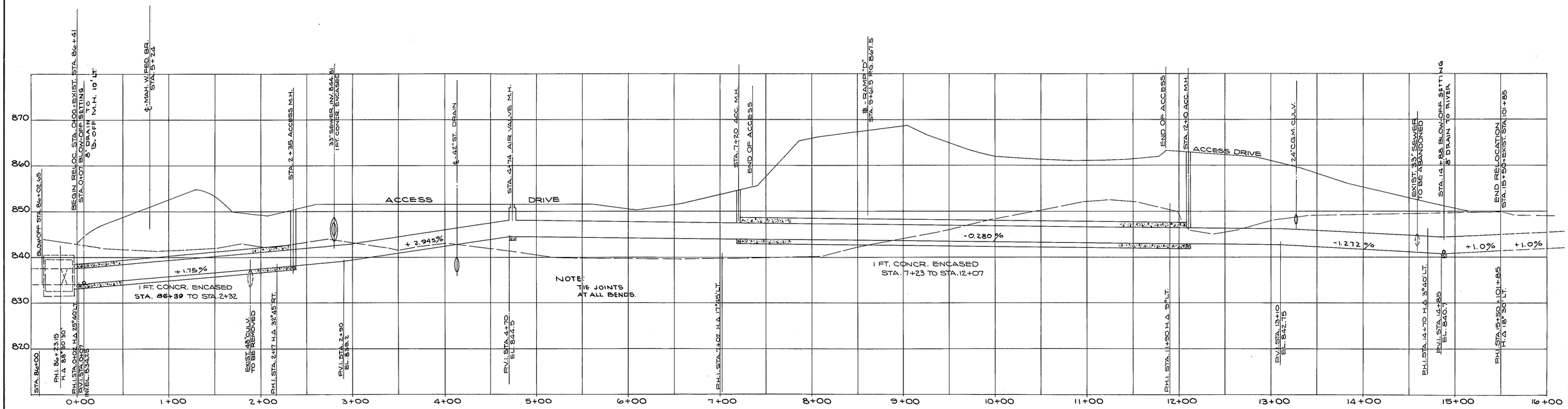
FED. RD.	STATE	PROJECT	
2	OHIO		

88
492

MAH-18-17.20



33" RCSP STA. 0+00 TO STA. 16+18
RADIUS PIPE CURVE STA. 16+18 TO STA. 16+36



RELOCATION 42" MVSD FEEDER MAIN
OAKWOOD AVE. SECTION
(SALT SPRINGS RD. AREA)

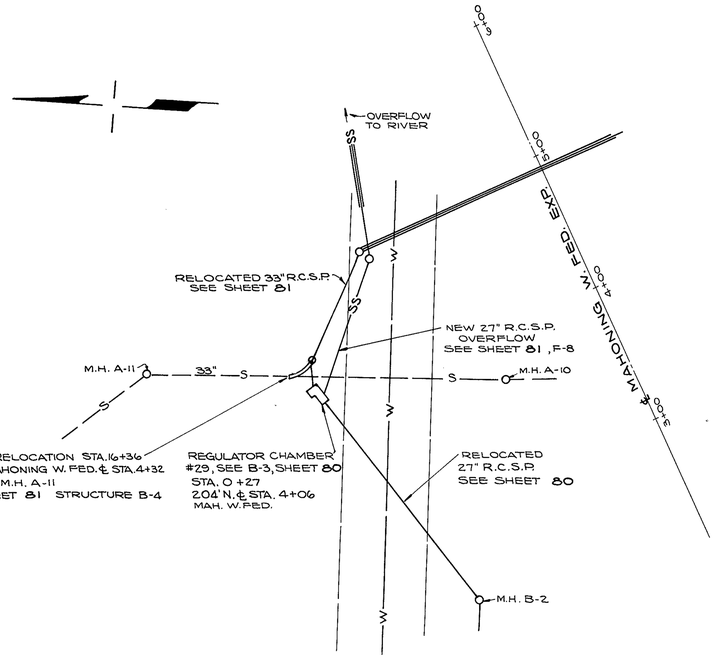
SCALE: HOR. 1" = 50'
VERT. 1" = 10'

RELOCATIONS OF SALT SPRINGS RD. AREA. SEWER & WATER MAINS

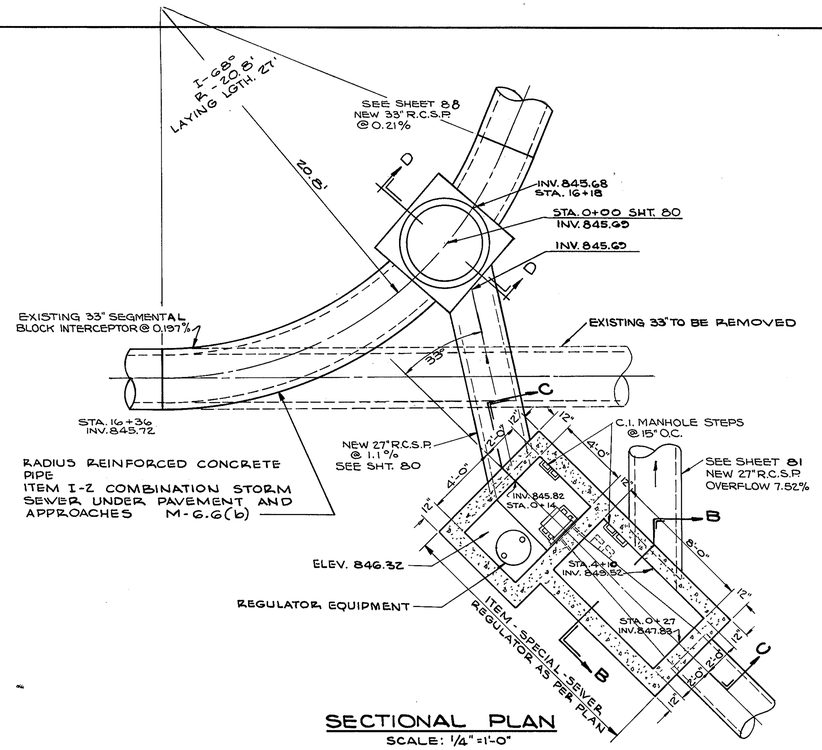
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

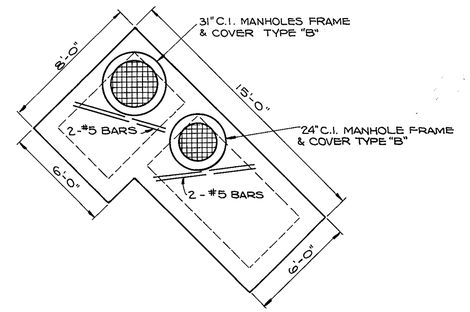
89
492



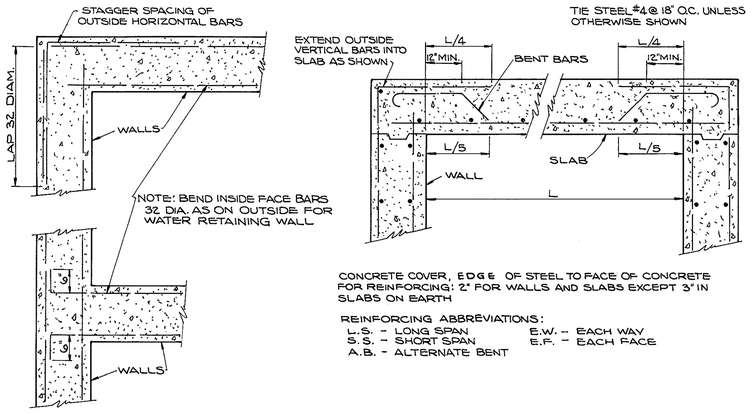
LOCATION PLAN
SCALE: 1" = 50'



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

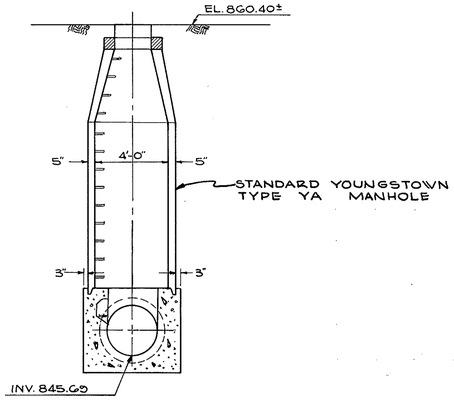


ROOF PLAN
SCALE: 1/4" = 1'-0"

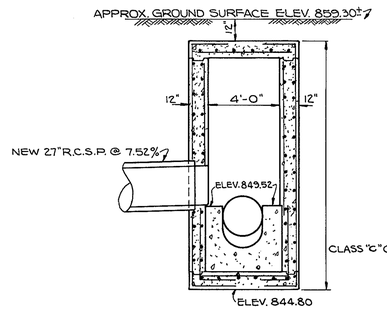


HORIZONTAL SECTION VERTICAL SECTION

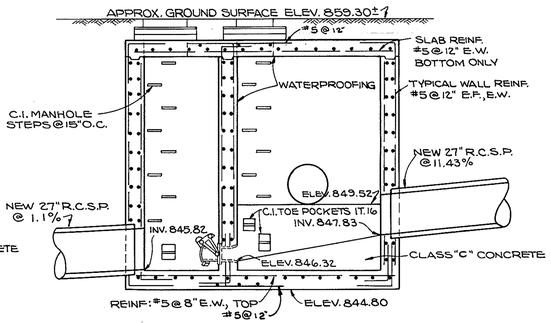
TYPICAL REINFORCING DETAILS
NO SCALE



SECTION D-D



SECTION B-B



SECTION C-C

REGULATOR EQUIPMENT SCHEDULE								
CHAMBER NO.	TYPE	FLOW M.G.D. ULTIMATE	MAXIMUM WATER ELEV. OUTFALL SEWER	FLOAT CHAMBER WATER SURFACE LOW	FLOAT CHAMBER WATER SURFACE HIGH	REGULATOR GATE SIZE	FLOAT SIZE	RATIO FLOAT TO GATE TRA
29	B	0.65		847.54	897.95	7 1/2" x 12 3/8"	24"	1 : 2

NOTES:

ALL REGULATORS ARE TO BE OF THE BROWN & BROWN TYPE OR APPROVED EQUAL. THE REGULATING EQUIPMENT IS TO BE DESIGNED FOR ULTIMATE FLOWS. THE CONTROLLING ELEVATION FOR EACH TYPE "B" REGULATOR IS THE INVERT ELEVATION OF THE EXISTING INTERCEPTING SEWER. IF THESE ELEVATIONS ARE DIFFERENT FROM ELEVATIONS SHOWN, ALL RELATING ELEVATIONS WILL BE CHANGED BY A CORRESPONDING AMOUNT. ALL REGULATOR GATES SHALL BE FULLY OPENED UNTIL THE LOW WATER ELEVATION OF FLOAT CHAMBER IS REACHED. WHEN HIGH WATER ELEVATION OF FLOAT CHAMBER IS REACHED, ALL TYPE "B" REGULATOR GATES SHALL BE COMPLETELY CLOSED.

REGULATOR CHAMBER NO. 29
SCALE: 1/4" = 1'-0"

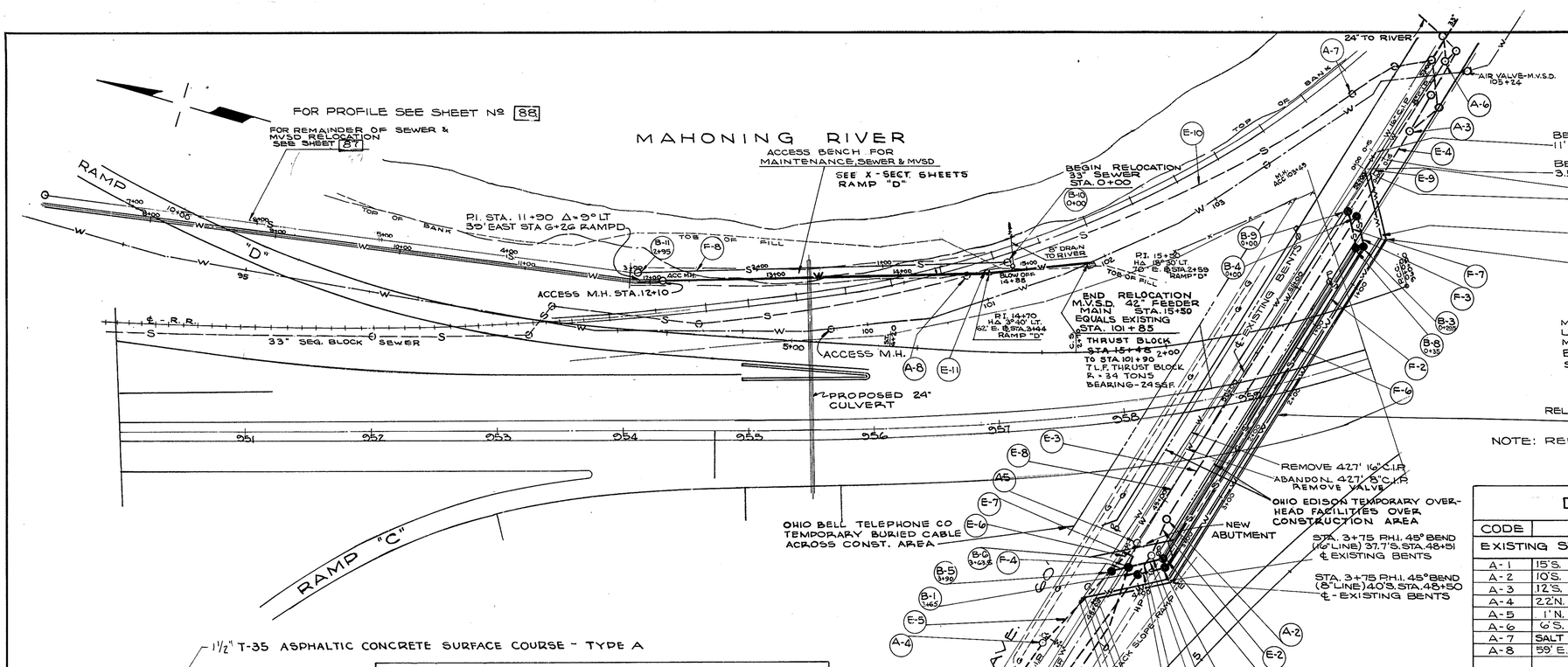
26.4 CU. YD. CONCRETE
APPROX. 3316# REINFORCING STEEL
CLASS "C" CONCRETE

DETAIL - CAST IN PLACE CURVE & REGULATOR CHAMBER NO. 29

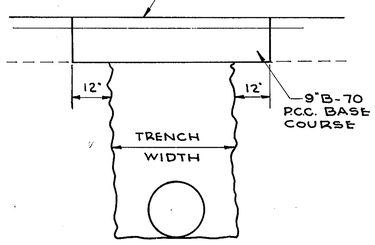
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

90
492



1½" T-35 ASPHALTIC CONCRETE SURFACE COURSE - TYPE A



PAVEMENT REPLACEMENT.

WATER REQUIREMENTS

I-124 NEW WATER MAIN

16" DIA.	C.I. PIPE	CL. 25	174 L.F.
16" DIA.	C.I. PIPE	CL. 25, CONCRETE ENC.	296 L.F.
8" DIA.	C.I. PIPE	CL. 23	174 L.F.
8" DIA.	C.I. PIPE	CL. 23, CONCRETE ENC.	295 L.F.
VALVE	16" DIA.	CL. 150	2
VALVE	8" DIA.	CL. 150	1
BENDS	16" DIA.	45° W/LUGS CL 150	2
BENDS	16" DIA.	SPEC. W/LUGS CL 150	7
BENDS	8" DIA.	45° W/LUGS CL 250	2
BENDS	8" DIA.	SPEC. W/LUGS CL 250	7

E-12 PIPE REMOVED

16" C.I. PIPE REMOVED	427 L.F.

M.V.S.D. WATER REQUIREMENTS

I-124 NEW WATER MAIN

42" DIA. PIPE	C-201 OR C-301	340 L.F.
8" DIA.	CL 23	35 L.F.

I-8 MANHOLES SPECIAL M.V.S.D.

SPECIAL BLOW-OFF SETTING	1

E-12 PIPE REMOVED

42" DIA. STEEL PIPE REMOVED	214 L.F.

I-2 COMBINATION SEWERS UNDER PAV'T. & APPROACHES

CODE	12" DIA M6.8(b)	15" DIA M6.8(b)	24" DIA M6.6(a)	24" DIA M6.6(c)	30" DIA M6.6(c)	30" DIA M6.6(a)	30" DIA M6.6(b)	33" DIA M6.6(c)	33" DIA M6.6(a)	33" DIA M6.6(b)	33" DIA M6.6(c)
F-1	16'			30'							
F-2	4'				306'						
F-3					30'						
F-4							27'				
F-5							32'				
F-6								297'			
F-7				35'							
F-8											295'
TOTAL	20'			65'	336'		59'	297'			295'

I-8 MANHOLES

TYPE		EA.
YOUNGSTOWN	Y-A	9
	Y-D	2

I-16 MANHOLES ABANDONED

4

I-5 PIPE SPECIALS

CODE	TEE'S M6.6(b) 24"x24"x12"	TEE'S M6.6(b)	90° BEND M6.8(b) 12" DIA	90° BEND M6.8(b)
F-1	1		1	
F-2	1		1	
TOTAL	2		2	

E-12 PIPE REMOVED

15" TO 42"	152 L.F.

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	15' S. STA. 48+61.5 ℄ EX. PIERS	MANHOLE I-16	INV. 900.36	TOP 908.26 TOP BRIDGE - ABANDON
A-2	10' S. STA. 48+90 ℄ EX. PIERS	MANHOLE I-16	INV. 887.36	TOP 894.96 UNDER BRIDGE - ABANDON
A-3	12' S. STA. 52+56 ℄ EX. PIERS	MANHOLE	INV. 851.65	TOP 860.79 UNDER BRIDGE - UNDISTURBED
A-4	22' N. STA. 47+57.5 ℄ EX. PIERS	MANHOLE	INV. 903.21	TOP 911.56 - UNDISTURBED
A-5	1' N. STA. 48+64.5 ℄ EX. PIERS	MANHOLE I-16	INV. 895.08	TOP 908.08 TOP BRIDGE - ABANDON
A-6	6' S. STA. 53+17.5 ℄ EX. PIERS	MANHOLE	INV. 846.03	TOP 854.23 UNDER BRIDGE - UNDISTURBED
A-7	SALT SPRINGS 33" SEWER	M. H. 35+09	33" INV. 841.5	TOP 850.55 - UNDISTURBED
A-8	59' E. RAMP "D" B.L. STA. 3+63	M. H. 38+50 I-16	33" INV. 842.37	TOP 845.56 ABANDON
PROPOSED STRUCTURES				
B-1	13' S. STA. 48+31	MANHOLE Y-A	24" INV. 900.73	TOP 909.2, ESTABLISH IN EXIST. LINE
B-2	34' S. STA. 48+52.5	DROP M.H. Y-D	24" INV. 884.10	TOP 908.4, 24" INV. 900.37, 12" DIA. DROP PIPE
B-3	34' S. STA. 51+58	DROP M.H. Y-D	24" INV. 861.66	TOP 881.2, 24" INV. 865.89, 12" DIA. DROP PIPE
B-4	11.8' S. STA. 51+77	MANHOLE Y-A	30" INV. 859.39	TOP 867.4, 24" INV. 859.89 ESTAB. IN EXIST. LINE
B-5	11' N. STA. 48+13	MANHOLE Y-A	30" INV. 899.05	TOP 909.7, ESTABLISH IN EXIST. LINE (30")
B-6	7.5' S. STA. 48+32	MANHOLE Y-A	30" INV. 897.93	TOP 909.2, 18" INV. 898.93, ESTAB. IN EXIST. LINE (18")
B-7	30' S. STA. 48+54	MANHOLE Y-A	30" INV. 884.00	TOP 908.2, 30" INV. 896.04,
B-8	30' S. STA. 51+51	MANHOLE Y-A	24" INV. 865.36	TOP 880.4, 30" INV. 866.18
B-9	3.7' S. STA. 51+74	MANHOLE Y-A	24" INV. 861.57	TOP 868.0, ESTABLISH IN EXIST. 24" LINE
B-10	71' E. RAMP "D", ℄ STA. 3+29	MANHOLE Y-A	33" INV. 842.28	TOP 849.0, ESTABLISH IN EXIST. 33" LINE
B-11	46' E. RAMP "D", ℄ STA. 6+27	MANHOLE Y-A	33" INV. 842.90	TOP 862.6

DESCRIPTION OF WORK - COMBINED & STORM SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	MAHONING AVE.	B-1	A-1	24"	31'	SLOPE 1.19% - REMOVE E-12
E-2	MAHONING AVE. THRU ABUTMENT	A-1	A-2	30"	29'	SLOPE 44.8% - ABANDON
E-3	MAHONING AVE. UNDER BRIDGE	A-2	B-4	30"	287'	SLOPE 9.75% - ABANDON
E-4	MAHONING AVE. UNDER BRIDGE	B-4	A-3	30"	79'	SLOPE 9.75% - UNDISTURBED
E-5	MAHONING AVE.	A-4	B-5	30"	56'	SLOPE 7.5% - UNDISTURBED
E-6	MAHONING AVE.	B-5	A-5	30"	53'	SLOPE 7.5% - REMOVE E-12
E-7	MAHONING AVE.	B-6	A-5	18"	34'	SLOPE 8.4% - REMOVE E-12
E-8	MAHONING AVE. UNDER BRIDGE	A-5	B-9	24"	309'	SLOPE 10.83% - ABANDON
E-9	MAHONING AVE. UNDER BRIDGE	B-9	A-6	24"	144'	SLOPE 10.83% - UNDISTURBED
E-10	SALT SPRINGS SEWER	A-7	B-10	33"	305'	SLOPE 0.253% - UNDISTURBED
E-11	SALT SPRINGS SEWER	A-8	B-10	33"	34'	SLOPE 0.253% - REMOVE E-12
PROPOSED SEWERS						
F-1	MAHONING AVE	B-1	B-2	24"	30'	SLOPE 1.2% -
F-2	S. MAHONING AVE. BRIDGE	B-2	B-3	24"	305.5'	SLOPE 6.0%
F-3	UNDER MAHONING AVE. BRIDGE	B-3	B-4	24"	29.5'	SLOPE 6.0%
F-4	MAHONING AVE. BRIDGE	B-5	B-6	30"	26.5'	SLOPE 4.23%
F-5	MAHONING AVE.	B-6	B-7	30"	31.5	SLOPE 6.0% -
F-6	S. MAHONING AVE. BRIDGE	B-7	B-8	30"	297'	SLOPE 6.0%
F-7	UNDER MAHONING AVE. BR	B-8	B-9	24"	35'	SLOPE 10.83%
F-8	EAST OF RAMP "D"	B-10	B-11	33"	295'	SLOPE 0.21% -
F-1	DROP M.H. B-2			12"	16'	1-24"x24"x12" TEE 1-12" 90° EL.
F-2	DROP M.H. B-3			12"	4'	1-24"x24"x12" TEE 1-12" 90° EL.

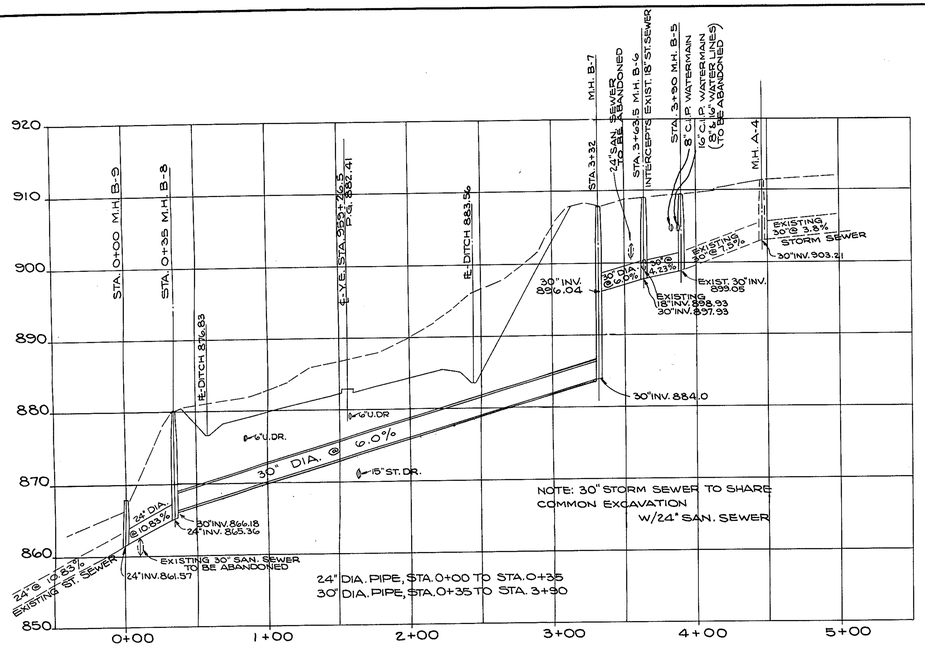
FOR PROFILES OF RELOCATIONS SEE SH. 91

RELOCATIONS OF MAHONING AVE. SEWER & WATER MAINS

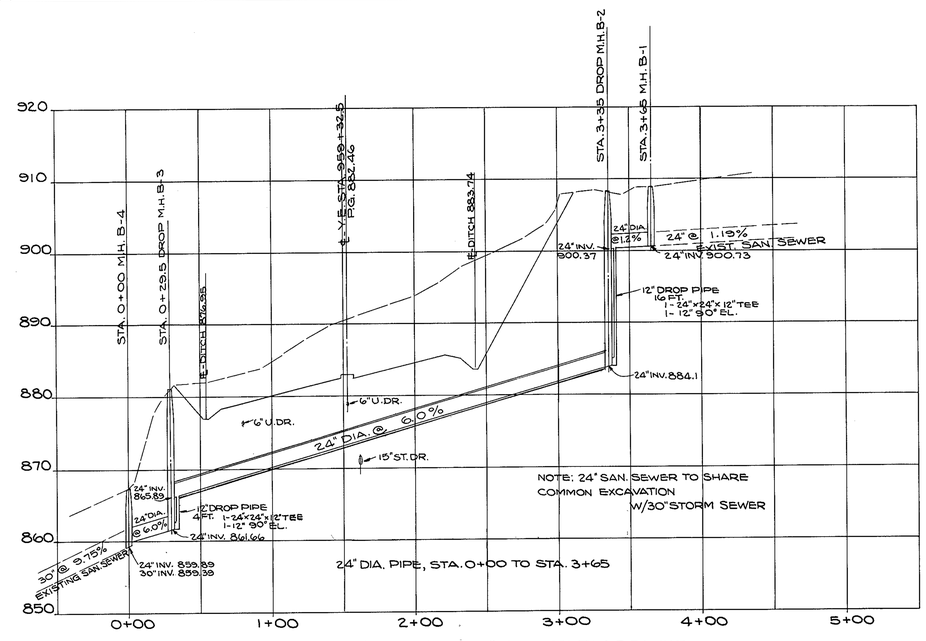
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

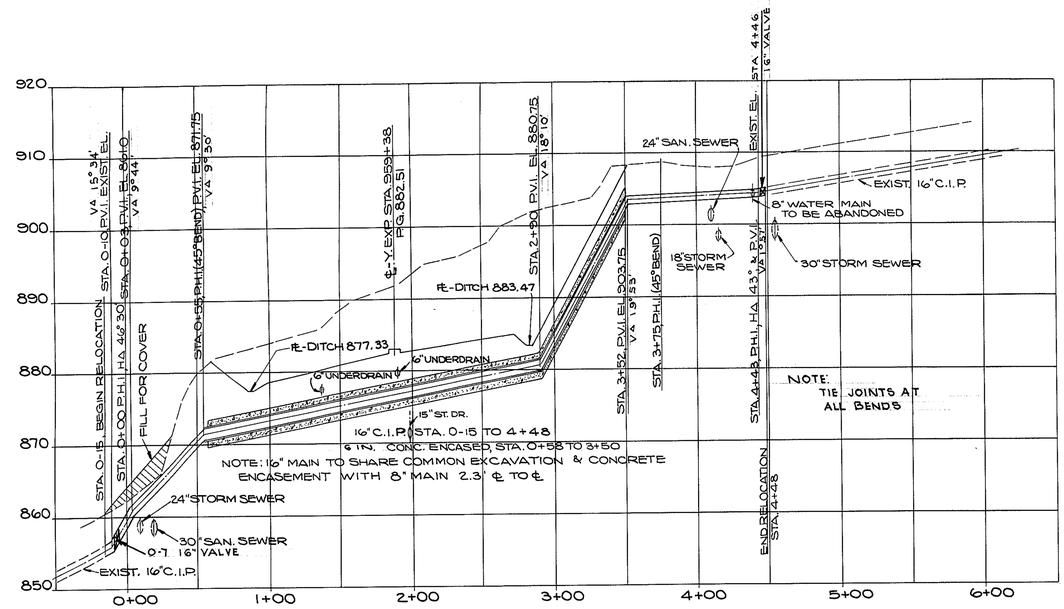
91
492



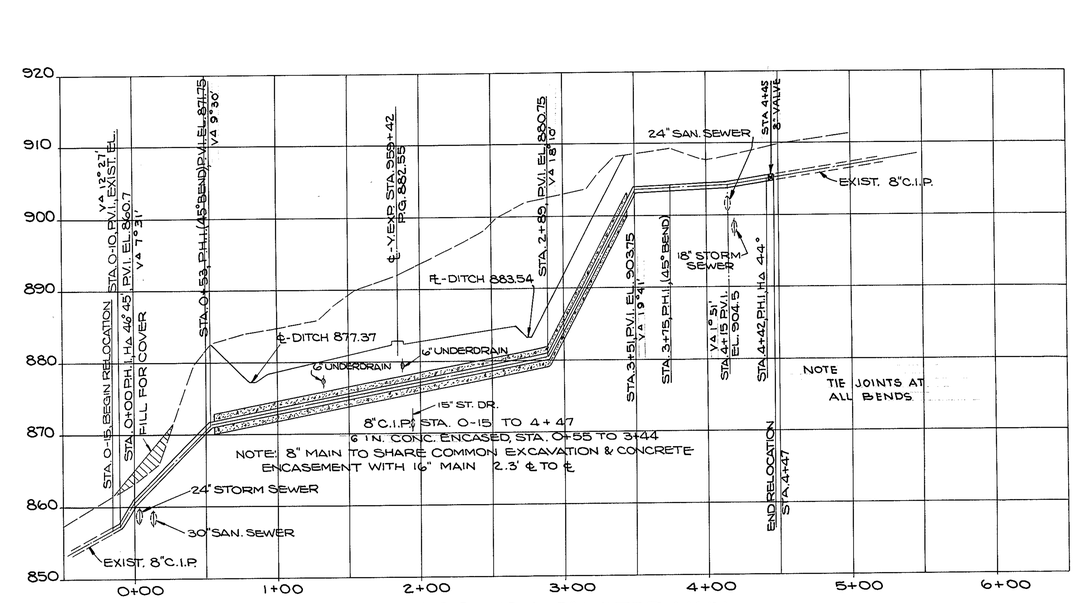
RELOCATION - 30" STORM SEWER MAHONING AVE.



RELOCATION - 24" SANITARY SEWER MAHONING AVE.



RELOCATION - 16" WATER MAIN UNDER MAHONING AVE. BRIDGE



RELOCATION - 8" WATER MAIN UNDER MAHONING AVE. BRIDGE

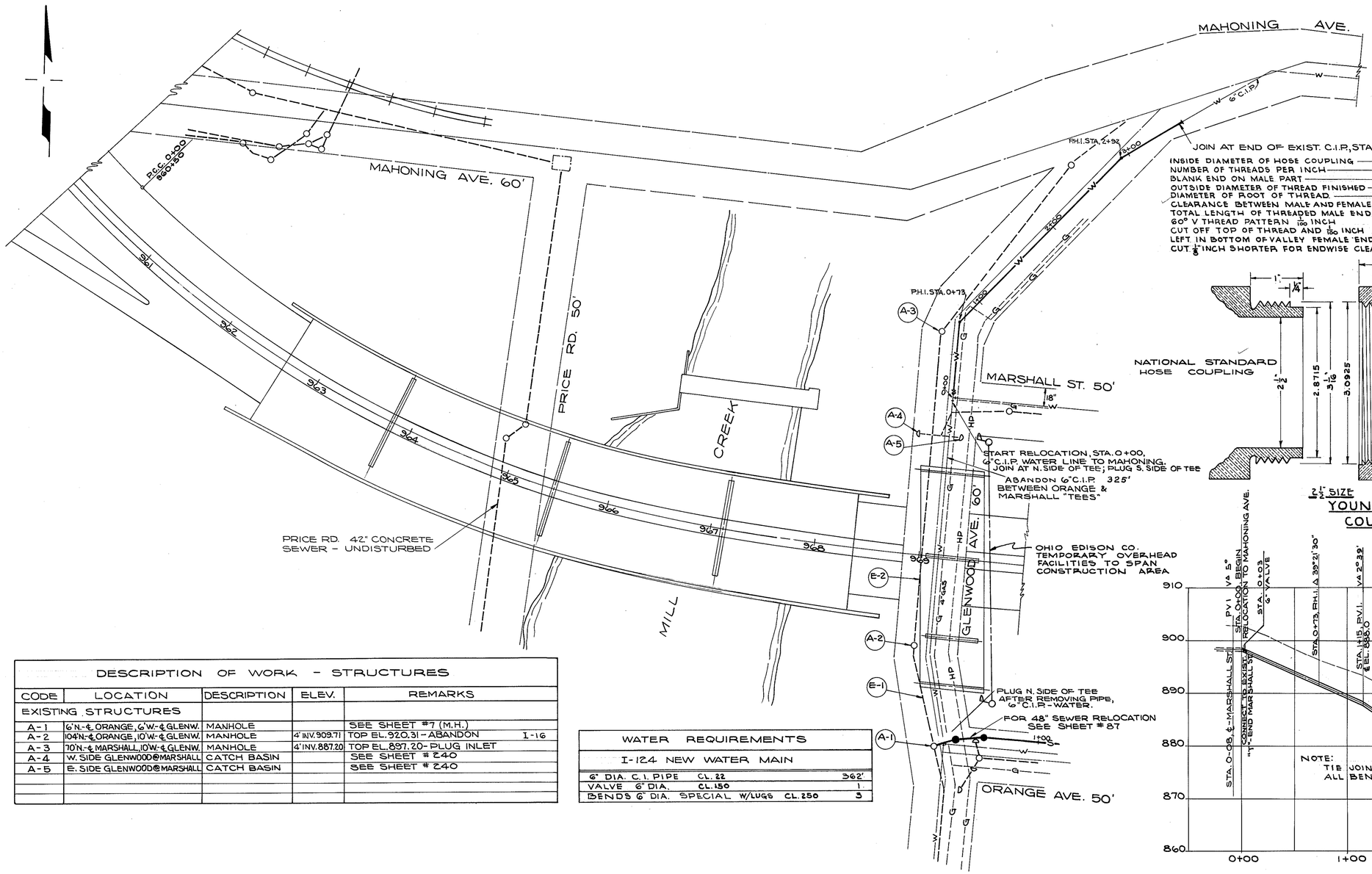
SCALE: HOR. 1" = 50'
VERT. 1" = 10'

FOR PLAN VIEW OF RELOCATIONS SEE SH. 90

PROFILES - RELOCATIONS OF MAHONING AVE. SEWER & WATER MAINS

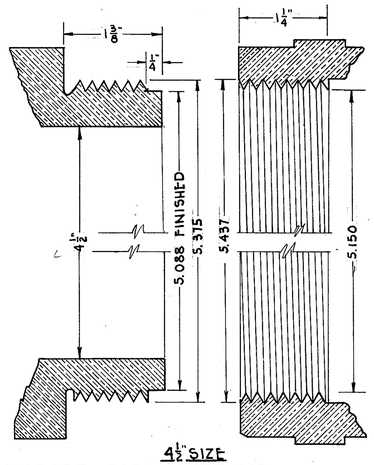
FED. RD.	STATE	PROJECT	
2	OHIO		

32
492

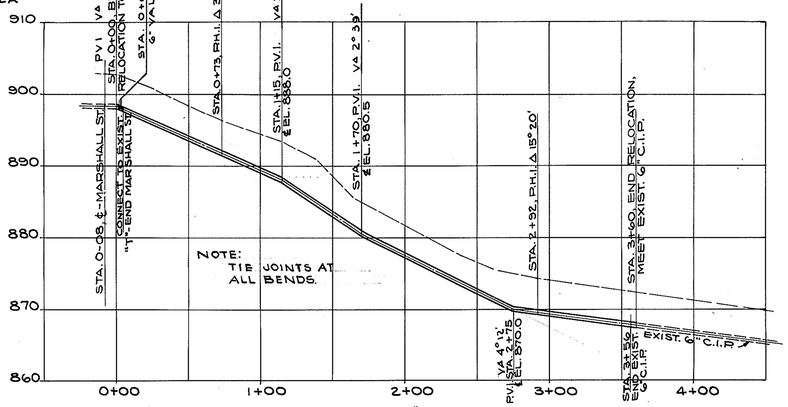


INSIDE DIAMETER OF HOSE COUPLING — $4\frac{1}{2}$"
NUMBER OF THREADS PER INCH — 6
BLANK END ON MALE PART — $\frac{1}{4}$"
OUTSIDE DIAMETER OF THREAD FINISHED — $5\frac{3}{8}$"
DIAMETER OF ROOT OF THREAD — 5.088
CLEARANCE BETWEEN MALE AND FEMALE THREADS — .062
TOTAL LENGTH OF THREADED MALE END — $1\frac{3}{8}$"
60° V THREAD PATTERN
FEMALE END TO BE CUT $\frac{1}{8}$" INCH SHORTER FOR ENDWISE CLEARANCE

INSIDE DIAMETER OF HOSE COUPLING — $2\frac{1}{2}$"
NUMBER OF THREADS PER INCH — $7\frac{1}{2}$
BLANK END ON MALE PART — $\frac{1}{4}$"
OUTSIDE DIAMETER OF THREAD FINISHED — $3\frac{1}{16}$"
DIAMETER OF ROOT OF THREAD — 2.8715
CLEARANCE BETWEEN MALE AND FEMALE THREADS — .03
TOTAL LENGTH OF THREADED MALE END — 1.00
60° V THREAD PATTERN $\frac{1}{100}$ INCH
CUT OFF TOP OF THREAD AND $\frac{1}{100}$ INCH
LEFT IN BOTTOM OF VALLEY FEMALE END TO BE CUT $\frac{1}{8}$" INCH SHORTER FOR ENDWISE CLEARANCE



YOUNGSTOWN STANDARD FIRE HYDRANT COUPLINGS FOR $2\frac{1}{2}$" & $4\frac{1}{2}$" HOSE



PROFILE: 6" WATER MAIN CONNECTION - MARSHALL ST. TO MAHONING AVE. VIA GLENWOOD AVE.
SCALE: H. 1" = 50'
V. 1" = 10'

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	6' N.-℄ ORANGE, 6' W.-℄ GLENW.	MANHOLE		SEE SHEET #7 (M.H.)
A-2	104' N.-℄ ORANGE, 10' W.-℄ GLENW.	MANHOLE	4' INV. 909.71	TOP EL. 920.31 - ABANDON I-16
A-3	70' N.-℄ MARSHALL, 10' W.-℄ GLENW.	MANHOLE	4' INV. 887.20	TOP EL. 897.20 - PLUG INLET
A-4	W. SIDE GLENWOOD@MARSHALL	CATCH BASIN		SEE SHEET # 240
A-5	E. SIDE GLENWOOD@MARSHALL	CATCH BASIN		SEE SHEET # 240

WATER REQUIREMENTS

I-124 NEW WATER MAIN

6" DIA. C.I. PIPE	CL. 22	362'
VALVE 6" DIA.	CL. 150	1
BENDS 6" DIA. SPECIAL W/LUGS	CL. 250	3

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	GLENWOOD	A-1	A-2	48"	98'	DOUBLE RING BRICK - ABANDON
E-2	GLENWOOD	A-2	A-3	48"	300'	DOUBLE RING BRICK - ABANDON

SEWER REQUIREMENTS

I-16 STRUCTURES ABANDONED

MANHOLES ABANDONED
1

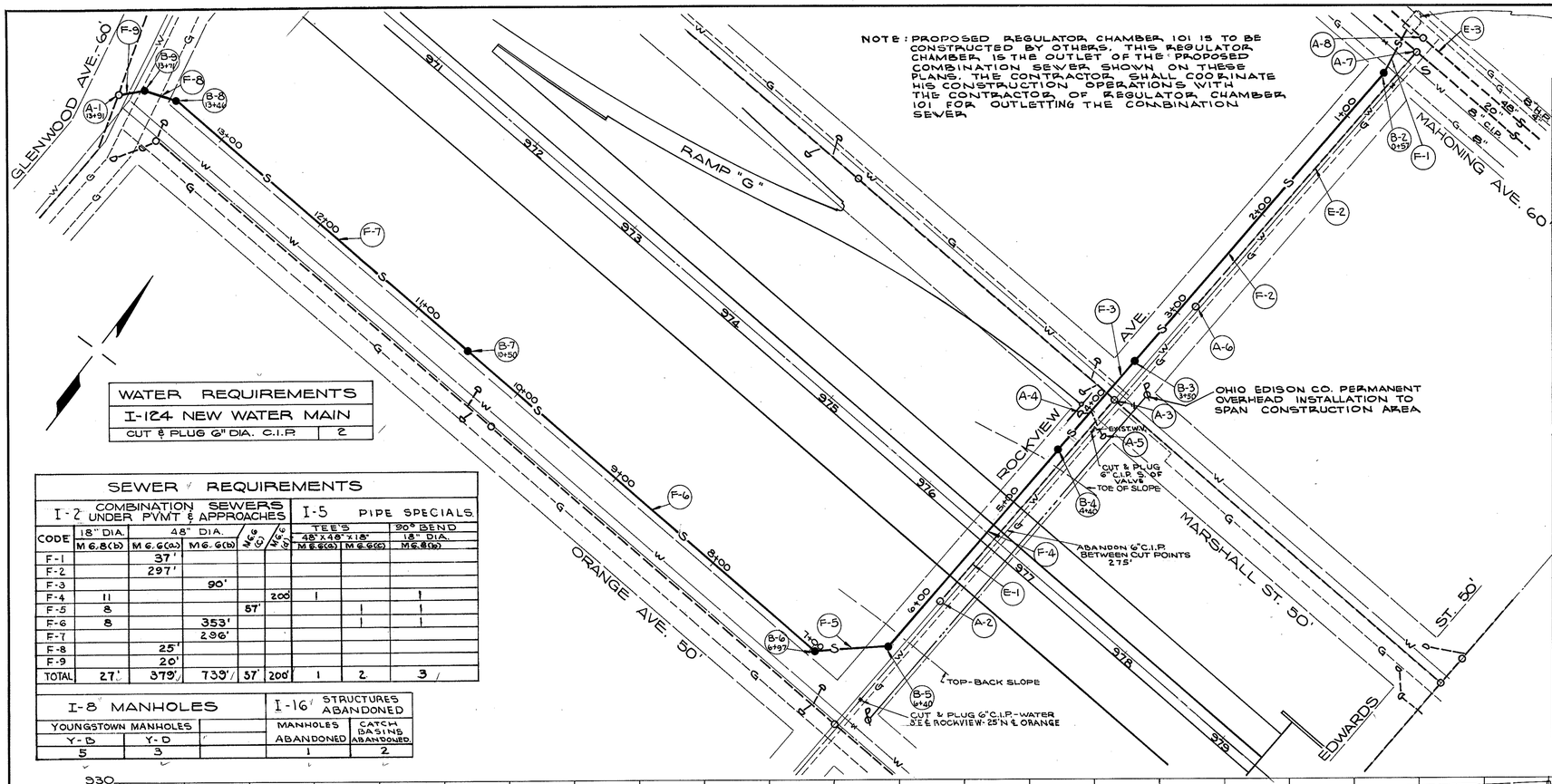
RELOCATION - 6" WATER MAIN - GLENWOOD AVE.

FED. RD.	STATE	PROJECT	
2	OHIO		

93
492

NOTE: PROPOSED REGULATOR CHAMBER 101 IS TO BE CONSTRUCTED BY OTHERS. THIS REGULATOR CHAMBER IS THE OUTLET OF THE PROPOSED COMBINATION SEWER SHOWN ON THESE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION OPERATIONS WITH THE CONTRACTOR OF REGULATOR CHAMBER 101 FOR OUTLETTING THE COMBINATION SEWER

PROPOSED REGULATOR CHAMBER №101 SEE DETAIL DWG. #719-G-3 ON FILE YOUNGSTOWN SEWER DEPT. BEGIN RELOCATION S. WALL REGULATOR CHAMBER @ STA. 0+20



WATER REQUIREMENTS

I-124 NEW WATER MAIN	
CUT & PLUG 6" DIA. C.I.P.	2

SEWER REQUIREMENTS

I-2 COMBINATION SEWERS UNDER PVMT & APPROACHES						I-5 PIPE SPECIALS		
						TEE'S		90° BEND
CODE	18" DIA.	48" DIA.				48"X48"X18"		18" DIA.
	M 6.8(18)	M 6.6(48)	M 6.6(18)	M 6.6(12)	M 6.6(8)	M 6.8(48)	M 6.6(18)	M 6.8(18)
F-1		37'						
F-2		297'						
F-3			90'					
F-4	11				200'	1		1
F-5	8			57'			1	1
F-6	8		353'				1	1
F-7			296'					
F-8		25'						
F-9		20'						
TOTAL	27'	379'	739'	57'	200'	1	2	3

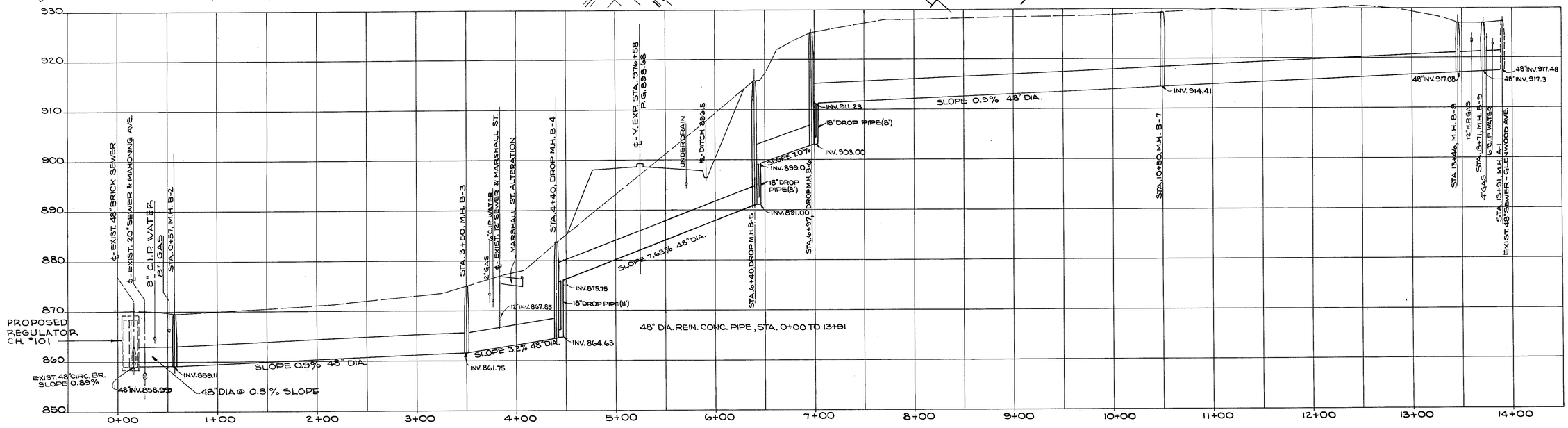
I-8 MANHOLES			I-16 STRUCTURES ABANDONED	
YOUNGSTOWN MANHOLES			MANHOLES	CATCH BASINS
Y-B	Y-D		ABANDONED	ABANDONED
5	3		1	2

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	G.N. & ORANGE, G.W. & GLENWOOD	MANHOLE	48"INV. 917.48	TOP EL. 927.28 - NEW OUTLET I-8
A-2	123'N. & ORANGE, & ROCKVIEW	MANHOLE	10"INV. 897.09	TOP EL. 907.59 - ABANDON I-16
A-3	& MARSHALL, & ROCKVIEW	MANHOLE	15"INV. 866.48	12"INV. 867.25, TOP EL. 876.65-UNDISTURBED
A-4	ROCKVIEW S. OF MARSHALL	CATCH BASIN		ABANDON - I-16
A-5	ROCKVIEW S. OF MARSHALL	CATCH BASIN		ABANDON - I-16
A-6	95.4' N. MARSHALL, & ROCKVIEW	MANHOLE	12"INV. 863.54	TOP EL. 872.66 - UNDISTURBED
A-7	& MAHONING, & ROCKVIEW	MANHOLE	20"INV. 856.14	TOP EL. 869.15 - UNDISTURBED
A-8	11.3' N. & MAHONING, 3' W. & ROCKVIEW	MANHOLE	48"INV. 858.91	TOP EL. 868.96 - UNDISTURBED
PROPOSED STRUCTURES				
B-2	29'S. & MAHONING, 8'W. & ROCKVIEW	MANHOLE Y-D	48"INV. 859.11	TOP EL. 869.5
B-3	33'N. & MARSHALL, 8'W. & ROCKVIEW	MANHOLE Y-D	48"INV. 861.75	TOP EL. 875.0
B-4	57'S. & MARSHALL, 8'W. & ROCKVIEW	DROP M.H. Y-D	48"INV. 864.63	INV. 875.75 (48"INLET) TOP EL. 883.7
B-5	10'N. & ORANGE, 8'W. & ROCKVIEW	DROP M.H. Y-D	48"INV. 891.00	INV. 899.0 (48"INLET) TOP EL. 916.0
B-6	30'N. & ORANGE, 48'W. & ROCKVIEW	DROP M.H. Y-D	48"INV. 903.00	INV. 911.23 (48"INLET) TOP EL. 925.5
B-7	30'N. & ORANGE, 401'W. & ROCKVIEW	MANHOLE Y-D	48"INV. 914.41	TOP EL. 929.4
B-8	30'N. & ORANGE, 35'E. & GLENWOOD	MANHOLE Y-D	48"INV. 917.08	TOP EL. 927.0
B-9	13'N. & ORANGE, 10'E. & GLENWOOD	MANHOLE Y-D	48"INV. 917.30	TOP EL. 927.1

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	ROCKVIEW AVE.	A-2	A-3	10'	205'	ABANDON
E-2	ROCKVIEW AVE.	A-6	A-7	12"	260'	UNDISTURBED
E-3	MAHONING AVE.	A-8	B-1	48"	35'	SLOPE 0.89%, DOUBLE RING BRICK
PROPOSED SEWERS						
F-1	MAHONING AVE.	REG.CH.	B-2	48"	37'	SLOPE 0.3% REIN. CONC. PIPE
F-2	ROCKVIEW AVE.	B-2	B-3	48"	297'	SLOPE 0.9% REIN. CONC. PIPE
F-3	ROCKVIEW AVE.	B-3	B-4	48"	90'	SLOPE 3.2% REIN. CONC. PIPE
F-4	ROCKVIEW AVE.	B-4	B-5	48"	200'	SLOPE 7.63% REIN. CONC. PIPE
F-5	ROCKVIEW TO ORANGE	B-5	B-6	48"	57'	SLOPE 7.0% REIN. CONC. PIPE
F-6	ORANGE AVE.	B-6	B-7	48"	353'	SLOPE 0.9% REIN. CONC. PIPE
F-7	ORANGE AVE.	B-7	B-8	48"	296'	SLOPE 0.9% REIN. CONC. PIPE
F-8	ORANGE TO GLENWOOD	B-8	B-9	48"	25'	SLOPE 0.9% REIN. CONC. PIPE
F-9	GLENWOOD	B-9	A-1	48	20'	SLOPE 0.9% REIN. CONC. PIPE
	DROP MANHOLES B-4, B-5, B-6			18"	27'	3 TEES 48"x48"x18", 3-90° ELLS, 18" DIA.



GLENWOOD AVE. 48" SEWER RELOCATION
TO MAHONING AVE. VIA ORANGE & ROCKVIEW

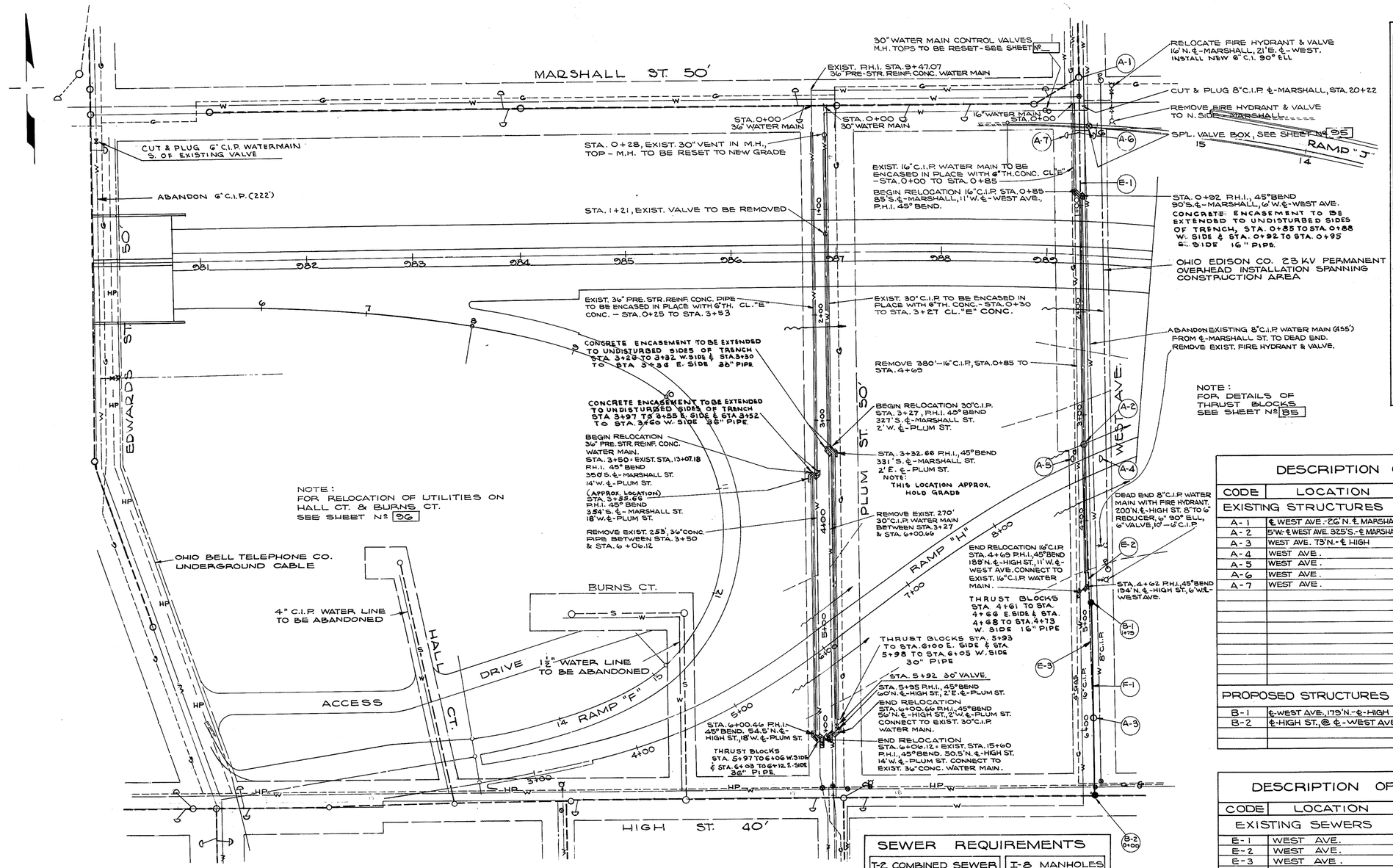
SCALE: H: 1" = 50'
V: 1" = 10'

RELOCATION - GLENWOOD AVE. SEWER

MAH-18-17.20

FED. RD.	STATE	PROJECT	
2	OHIO		

94
492



WATER REQUIREMENTS

I-12 4 NEW WATER MAIN

36" DIA. PRESTRESSED REINF. CONC. PIPE C-301		11 L.F.
36" DIA. PRESTR'S'D REINF. CONC. PIPE C-301 CONC. ENCASED		249 L.F.
30" DIA. C.I. PIPE	CL 26	16 L.F.
30" DIA. C.I. PIPE	CL 26 CONC. ENCASED	62 L.F.
16" DIA. C.I. PIPE	CL. 25	19 L.F.
16" DIA. C.I. PIPE	CL. 25 CONC. ENCASED	373 L.F.
6" DIA. C.I. PIPE	CL. 22	26 L.F.
BENDS 90° W/LUGS, 6" DIA. C.I.P.	CL-250	2
BENDS 45° TIED, 36" DIA. PRESTR. REF. CONC. C-301		3
BENDS 45° 30" DIA. C.I.P. W/LUGS	CL 150	3
BENDS 45° 16" DIA. C.I.P. W/LUGS	CL 150	4
SPECIAL BENDS TIED, 36" DIA. PRESTR. REINF. CONC. C 301		3
SPECIAL BENDS 30" DIA. C.I.P. W/LUGS	CL 150	3
SPECIAL BENDS 16" DIA. C.I.P. W/LUGS	CL 150	5
REDUCER 8" DIA. TO 6" DIA. C.I.P.	CL 250	1
VALVES 30" DIA. C.I.P.	CL 200	1
VALVES 6" DIA. C.I.P.	CL 150	2
FIRE HYDRANTS		2
CUT & PLUG EXISTING WATER MAINS		2

E-12 PIPE REMOVED FOR STORAGE	
30" DIA. VALVE REMOVAL	1
6" DIA. VALVE REMOVAL	2
FIRE HYDRANT REMOVAL	2
36" PRESTR. REINF. CONC. PIPE	253 L.F.
C.I.P. REMOVAL	650 L.F.

I-8 M.H. ADJUSTED TO GRADE	
30" AIR VALVE M.H.	1

S.S. SPECIAL VALVE BOX	
SEE DETAIL SHEET 89	1

I-124 CONCRETE ENCASEMENT OF EXIST. WATER MAINS (6" MIN. THK.)	
36" DIA. PRESTR. REINF. CONC. PIPE	328 L.F.
30" DIA. C.I.P.	300 L.F.
16" DIA. C.I.P.	87 L.F.

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	℄ WEST AVE. - 26' N. ℄ MARSHALL	MANHOLE	856.08	TOP 866.51 UNDISTURBED
A-2	5' W. ℄ WEST AVE. 325' S. ℄ MARSHALL	MANHOLE I-16	910.51	TOP 919.0 ABANDONED
A-3	WEST AVE. 73' N. ℄ HIGH	MANHOLE I-16	923.34	TOP 930.99 ABANDONED
A-4	WEST AVE.	CATCH BASIN I-16	——	REMOVE
A-5	WEST AVE.	CATCH BASIN I-16	——	REMOVE
A-6	WEST AVE.	CATCH BASIN I-16	——	REMOVE
A-7	WEST AVE.	CATCH BASIN I-16	——	REMOVE
PROPOSED STRUCTURES				
B-1	℄ WEST AVE., 179' N. ℄ HIGH	MANHOLE Y-A	12" INV. 918.00	TOP 928.75
B-2	℄ HIGH ST., @ ℄ WEST AVE.	MANHOLE Y-A	INV. 912.49	12" INV. 917.46 TOP 932.4

SEWER REQUIREMENTS

I-12 COMBINED SEWER		
CODE	12" DIA.	
	M 6.8 (b)	
F-1	179'	

I-8 MANHOLES
YOUNGSTOWN M.H.
Y-A

I-16 STRUCTURES ABANDONED	
MANHOLES ABANDONED	CATCH BASINS ABANDONED
2	4

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	WEST AVE.	A-2	A-1	15"	350'	ABANDON
E-2	WEST AVE.	B-1	A-2	15"	150'	ABANDON
E-3	WEST AVE.	A-3	B-1	15"	106'	SLOPE 3.85% ABANDON
PROPOSED SEWERS						
F-1	WEST AVE.	B-1	B-2	12"	179'	SLOPE 0.3% MAKE HOUSE CONNECTIONS

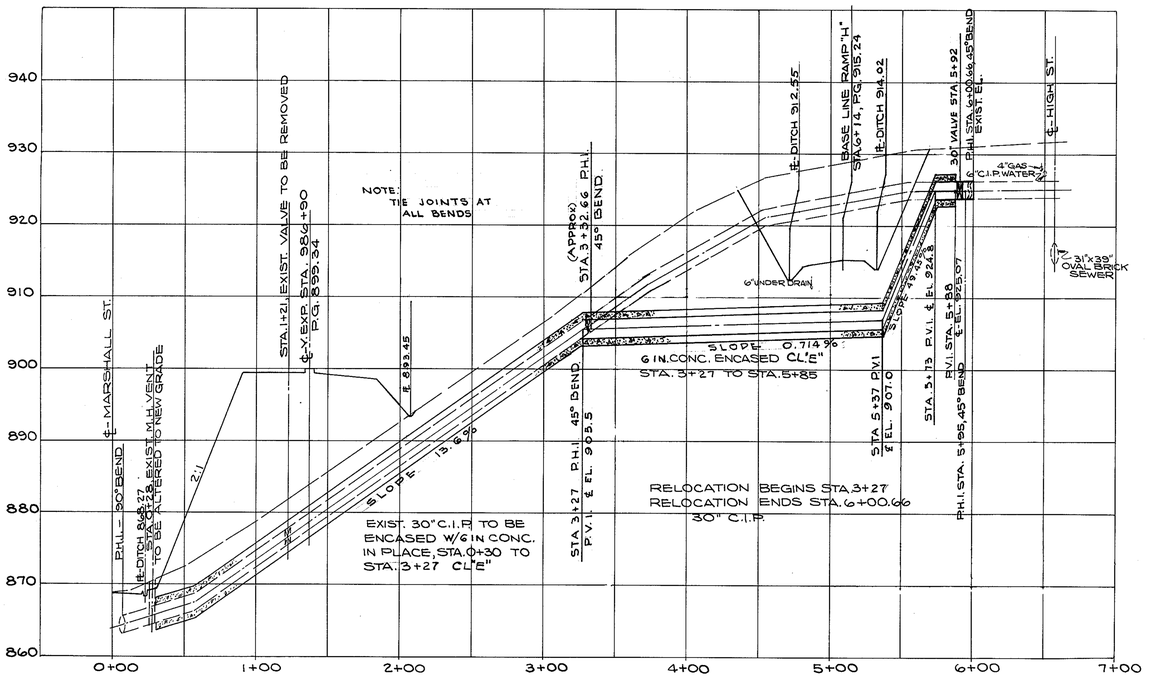
FOR PROFILES OF RELOCATIONS SEE SH. 95

RELOCATIONS: SEWER & WATER LINES - PLUM ST. & WEST AVE.

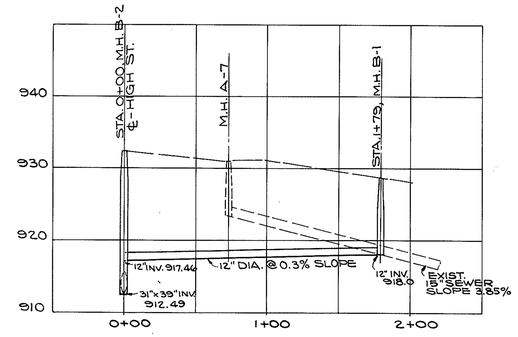
FED. RD.	STATE	PROJECT	
2	OHIO		

95
492

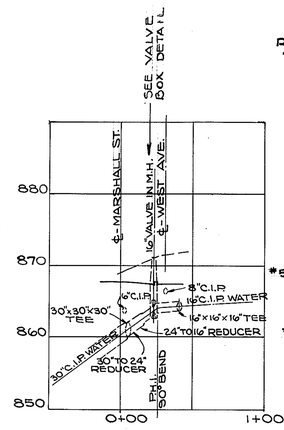
MAH-18-17.20



RELOCATION: 30" C.I.P. WATER MAIN - PLUM ST.



SEWER RELOCATION
WEST AVE.

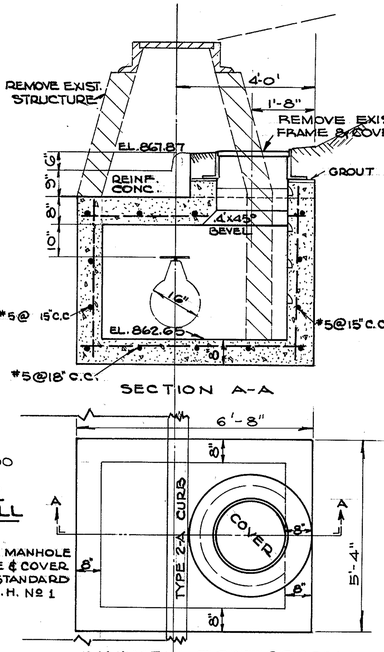


30" TO 16" CROSSOVER
WEST AVE. & MARSHALL

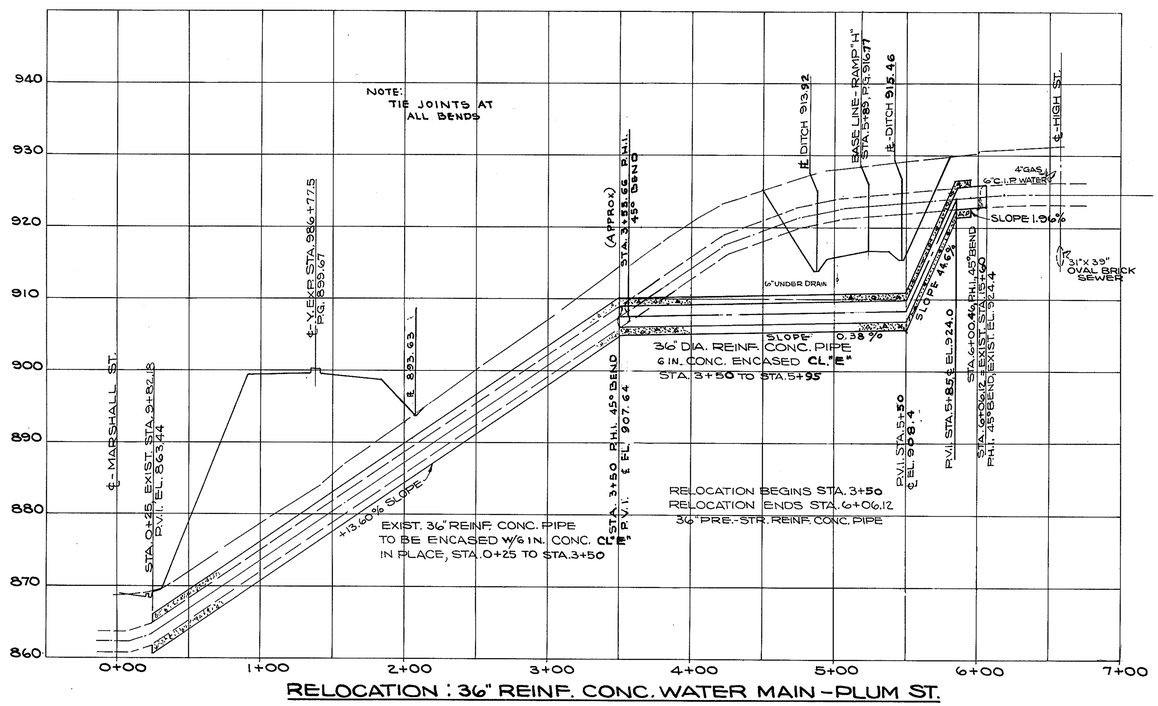
ESTIMATED SP'L. VALVE BOX QUANTITIES

CLASS "C" CONCRETE	3.4 C.Y.
REINFORCING STEEL	184 LBS.

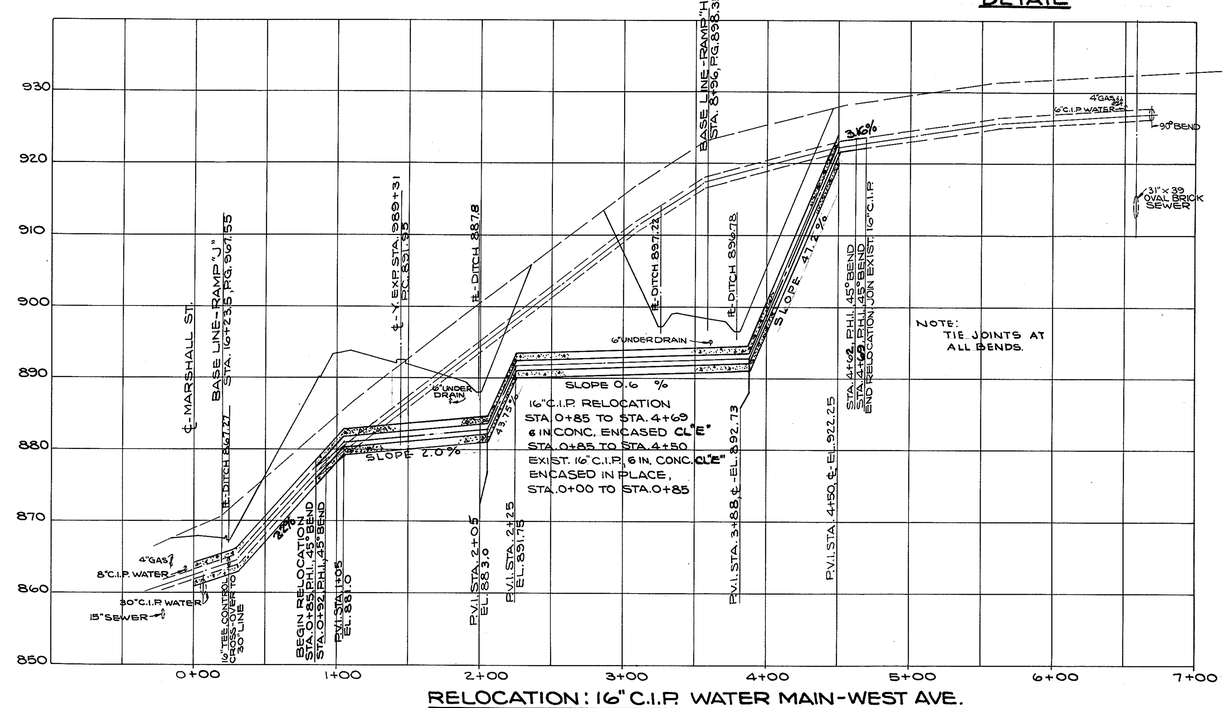
SCALE: HOR. 1" = 50'
VERT. 1" = 10'



VALVE BOX-SPECIAL DETAIL



RELOCATION : 36" REINF. CONC. WATER MAIN - PLUM ST.



RELOCATION : 16" C.I.P. WATER MAIN - WEST AVE.

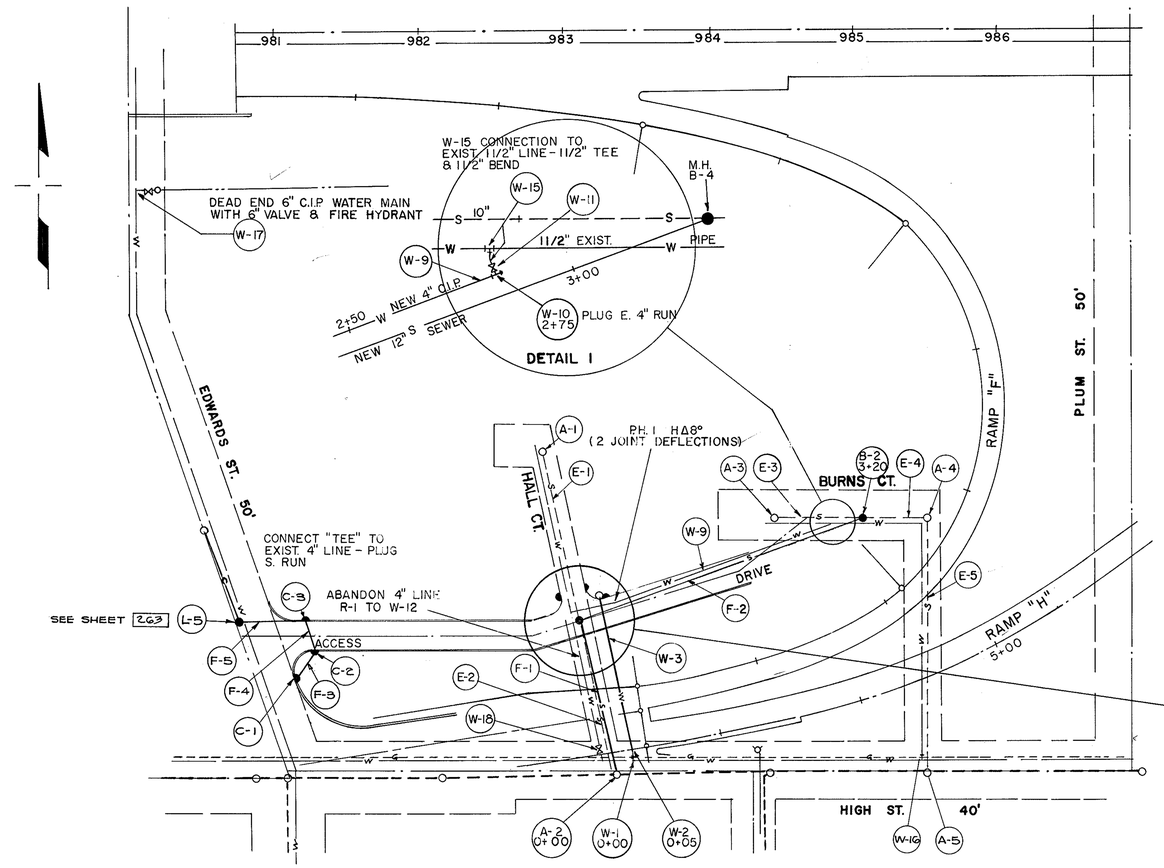
FOR PLAN OF RELOCATIONS SEE SH. 88

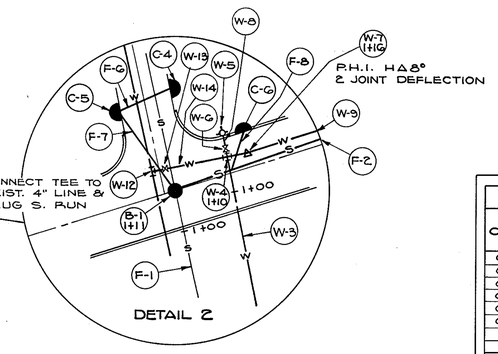
PROFILES: SEWER & WATER LINES - PLUM ST. & WEST AVE.

FED. RD.	STATE	PROJECT	
2	OHIO		

96
492

MAH-18-17.20





ESTIMATED QUANTITIES — WATER

I - 124 NEW WATER MAIN

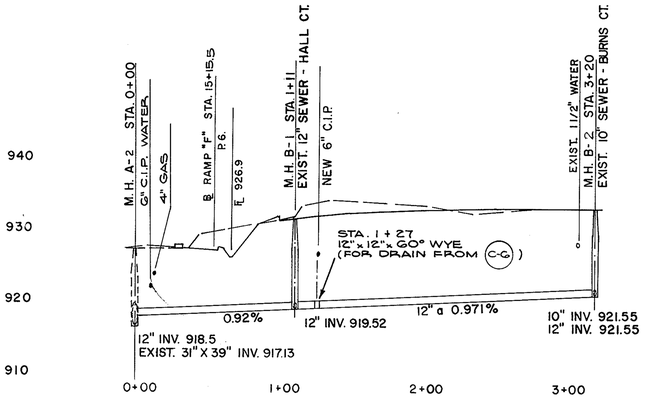
CODE	LOCATION FROM	LOCATION TO	C.I. PIPE LINEAL FT. 4" DIA. CL. 22	C.I. PIPE LINEAL FT. 6" DIA. CL. 22	C.I. FITTINGS CL. 250 EACH 6"X 4" CROSS TEE	6" TAP-IN TEE SLEEVE	4"X4"X2" REDUCING TEE	4" TEE	6" 90° BEND	6" 22 1/2° BEND	6" 11 1/4° BEND	VALVES CL. 150 EACH 2"	4"	6"	FIRE HYDRANT EACH	CUT & PLUG EXIST. LINE EACH	WROUGHT I. CONN. 2" TO 11/2" LINE EACH
W-1	HIGH ST. 11'E. & 10'N. M.H. A-2					1								1			
W-2	5' N. OF W-1	PHI HΔ13°									1						
W-3	W-1	W-4		110'						2							
W-4	5' N. STA. 2+51	ACCESS DR.			1												
W-5	115' N. STA. 2+52	ACCESS DR.											1				
W-6	BETWEEN W-4 & W-5													1			
W-7	4' N. STA. 2+57	ACCESS DR.	P.H.I.	HΔ 8°	(2 JOINT DEFLECTION)												
W-8	W-4	W-5		7'													
W-9	W-4	W-10	165'														
W-10	6.5' S. & 71' W	M.H. A-4					1 W/ PLUG										
W-11	N. OF W-10											1					
W-12	6.5' N. STA. 2+30.5	ACCESS DR.					1 W/plug										
W-13	E. OF W-12												1				
W-14	W-4	W-12	21'														
W-15	N. OF W-11																1
W-16	4' W. & 12' N.	M.H. A-5														1	
W-17	EDWARDS	110' S.℄ Y.E.		18					1					1	1		
W-18	HIGH 11' W. 17' N.	M.H. A-2														1	
TOTAL			186	135	1	1	1	1	1	2	1	1	1	3	2	2	1

E-12 PIPE REMOVED FOR STORAGE & REUSE

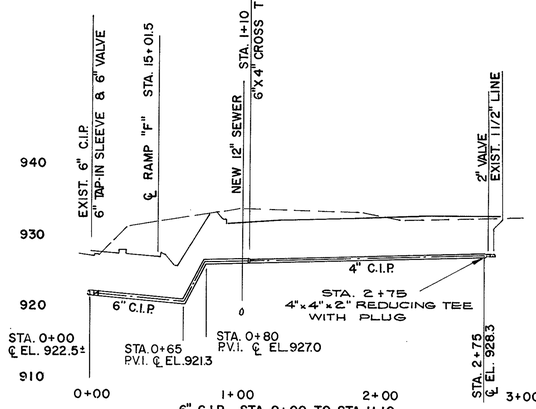
CODE	LOCATION	4" VALVE REMOVED
W-18	HIGH 11' W. & 17' N. M.H. A-2	1
TOTAL		1

I-8 INLETS & CATCH BASINS

CODE	LOCATION & STATION	WINDOW ELEV.	OUTLET SIZE	OUTLET INV. ELEV.	YNGSTN. INLETS TYPE I	YNGSTN. INLETS TYPE II
C-1	RELOC. EDWARDS 20'RT. STA. 0+57	921.63	12"	918.32	1	
C-2	ACCESS RD. 10' RT. STA. 0+54.7	918.56	12"	915.25	1	
C-3	ACCESS RD. 10' LT. STA. 0+41	918.19	12"	914.88		1
C-4	HALL CT. 8' RT. STA. 0+28.6	932.50	12"	929.19	1	
C-5	HALL CT. 8' LT. STA. 0+25	932.34	12"	929.00		1
C-6	ACCESS RD. 10' LT. STA. 2+57.7	932.32	12"	929.00		1
TOTAL					3	3



BURNS CT. - HALL CT. 12" SEWER RELOCATION



6" C.I.P. STA. 0+00 TO STA. 1+10
4" C.I.P. STA. 1+10 TO STA. 2+75

BURNS CT. - HALL CT. WATER MAIN RELOCATION

ESTIMATED QUANTITIES - SEWER

DESCRIPTION OF WORK

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURE				
A-1	N. END HALL CT.	MANHOLE	12" IE. 919.68	TOP 934.0 UNDISTURBED
A-2	3' S. & HIGH, 358.6' W. ℄ PLUM	MANHOLE	31.39" IE. 917.13	TOP 928.03 NEW 12" INLET INV. 918.5
A-3	BURNS CT., 107' W. M.H. A-4	MANHOLE	10" IE. 922.54	TOP 933.5 UNDISTURBED
A-4	BURNS CT., 178' N. M.H. A-5	MANHOLE	10" IE. 920.83	TOP 933.5 ABANDON
A-5	1.5' S. & HIGH, 142' W. ℄ PLUM	MANHOLE	31.39" IE. 915.56	TOP 930.6 UNDISTURBED
PROPOSED STRUCTURE				
B-1	℄ ACCESS DR. STA. 2+34.5	MANHOLE Y-A	12" IE. 919.52	TOP 932.15 ESTABLISHED IN EXIST. 12" LINE
B-2	45' W. M.H. A-4	MANHOLE Y-A	12" IE. 921.55	TOP 933.50 ESTABLISHED IN EXIST. 10" LINE

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWER						
E-1	HALL COURT	A-1	B-1	12"	123' APPROX.	SLOPE 0.13% UNDISTURBED
E-2	HALL COURT	B-1	A-2	12"	111'	SLOPE 0.13% ABANDON (TAKEN BY EXCAV. F-1)
E-3	BURNS COURT	A-3	B-2	10"	62'	SLOPE 1.6% UNDISTURBED
E-4	BURNS COURT	B-2	A-4	10"	45'	SLOPE 1.6% ABANDON
E-5	BURNS COURT	A-4	A-5	10"	178'	SLOPE 1.6% ABANDON (TAKEN BY EXCAV. RAMPS)
PROPOSED SEWER						
F-1	HALL CT. TO HIGH ST.	B-1	A-2	12"	111'	SLOPE 0.92%
F-2	IN NEW ACCESS DR.	B-2	B-1	12"	209'	SLOPE 0.97%
F-3	EDWARDS ST. & RAMP "F"	C-1	C-2	12"	30'	SLOPE 11.70%
F-4	ACCESS RD.	C-2	C-3	12"	25'	SLOPE 3.24%
F-5	EDWARDS ST. & ACCESS RD.	C-3	L-5	12"	42'	SLOPE 10.43%
F-6	HALL CT.	C-4	C-5	12"	16'	SLOPE 4.00%
F-7	ACCESS RD. & HALL CT.	C-5	B-1	12"	26'	SLOPE 36.46%
F-8	ACCESS RD.	C-6	F-2	12"	11'	SLOPE 77.00%
TOTAL						

PAY ITEM

I-16 STRUCTURES ABANDONED

MANHOLES ABONDONED EA.
1
TOTAL 1

I-8 MANHOLES

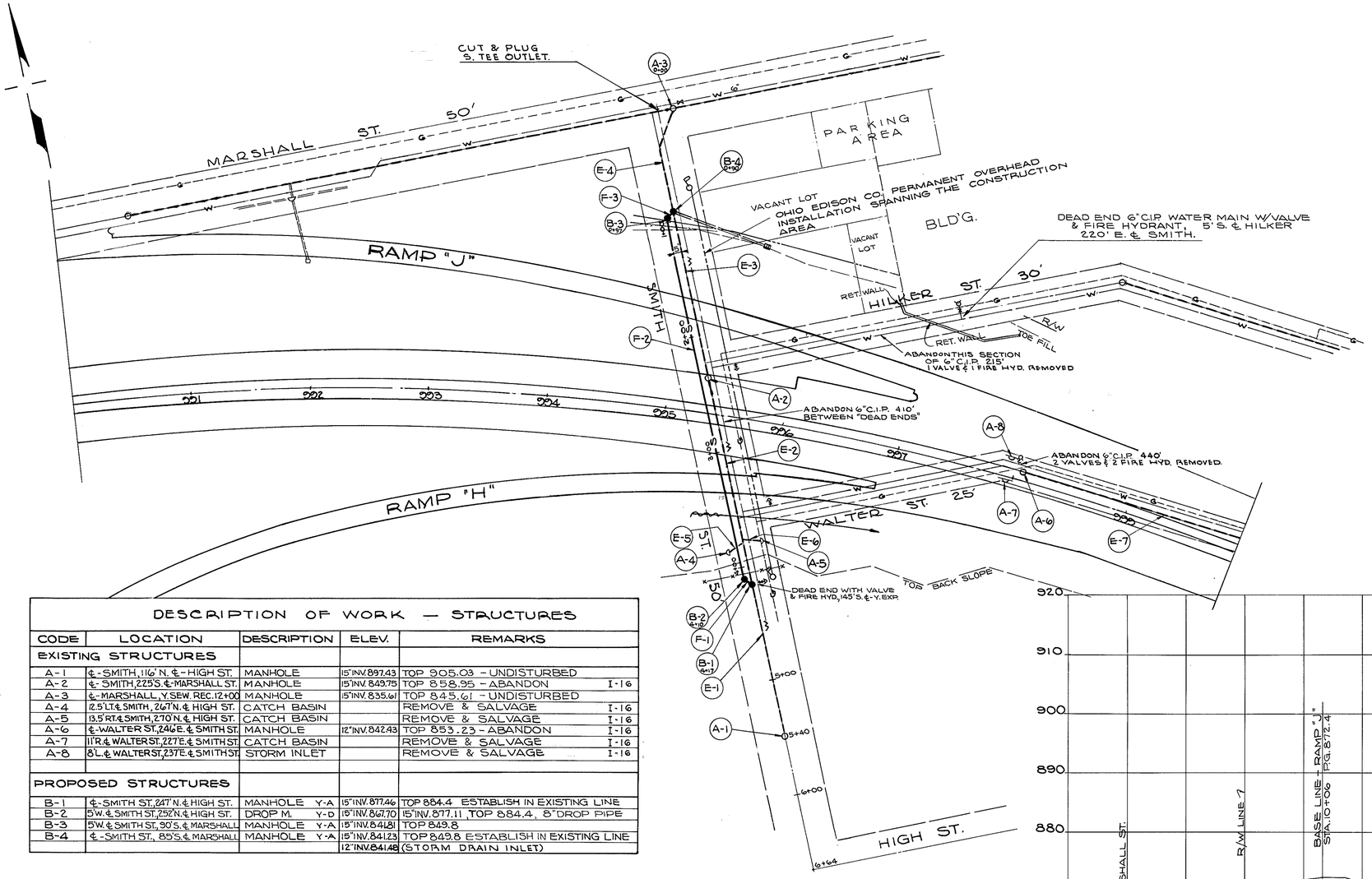
YNGSTN. MANHOLES Y-A EACH
1
1
TOTAL 2

I-2 COMBINED SEWERS PER LIN. FT. M.G.S (b) 12" DIA.	I-5 FITTINGS EACH M.G.S (b) 60° WYE 12" x 12"
111'	
209'	1
30'	
25'	
42'	
16'	
26'	
11'	
TOTAL 470'	TOTAL 1

FED. RD.	STATE	PROJECT	
2	OHIO		

97
492

MAH - 18-17.20



WATER REQUIREMENTS

I-124 NEW WATER MAIN

6" DIA. C.I. PIPE	CL. 22	23'	L.F.
VALVES 6" DIA.	CL. 150	2	EA.
BENDS 6" DIA. 90° W/LUGS	CL. 250	2	EA.
FIRE HYDRANTS		2	EA.
CUT & PLUG 6" DIA. C.I.P.		1	EA.

E-12 PIPE REMOVED FOR STORAGE

6" VALVE REMOVAL	2
FIRE HYDRANT REMOVAL	2

DESCRIPTION OF WORK — STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS	
EXISTING STRUCTURES					
A-1	℄-SMITH, 116' N. ℄-HIGH ST.	MANHOLE	15" INV. 897.43	TOP 905.03 - UNDISTURBED	
A-2	℄-SMITH, 225' S. ℄-MARSHALL ST.	MANHOLE	15" INV. 849.75	TOP 858.95 - ABANDON	I-16
A-3	℄-MARSHALL, Y. SEW. REC. 12+00	MANHOLE	15" INV. 835.61	TOP 845.61 - UNDISTURBED	
A-4	12.5' LT. ℄ SMITH, 267' N. ℄ HIGH ST.	CATCH BASIN		REMOVE & SALVAGE	I-16
A-5	13.5' RT. ℄ SMITH, 270' N. ℄ HIGH ST.	CATCH BASIN		REMOVE & SALVAGE	I-16
A-6	℄-WALTER ST, 246' E. ℄ SMITH ST.	MANHOLE	12" INV. 842.43	TOP 853.23 - ABANDON	I-16
A-7	11' R. ℄ WALTER ST, 227' E. ℄ SMITH ST.	CATCH BASIN		REMOVE & SALVAGE	I-16
A-8	8' L. ℄ WALTER ST, 237' E. ℄ SMITH ST.	STORM INLET		REMOVE & SALVAGE	I-16
PROPOSED STRUCTURES					
B-1	℄-SMITH ST, 247' N. ℄ HIGH ST.	MANHOLE Y-A	15" INV. 877.46	TOP 884.4 ESTABLISH IN EXISTING LINE	
B-2	5' W. ℄ SMITH ST, 252' N. ℄ HIGH ST.	DROP M. Y-D	15" INV. 867.70	15" INV. 877.11, TOP 884.4, 8" DROP PIPE	
B-3	5' W. ℄ SMITH ST, 90' S. ℄ MARSHALL	MANHOLE Y-A	15" INV. 841.81	TOP 849.8	
B-4	℄-SMITH ST., 85' S. ℄ MARSHALL	MANHOLE Y-A	15" INV. 841.23	TOP 849.8 ESTABLISH IN EXISTING LINE	
			12" INV. 841.48	(STORM DRAIN INLET)	

DESCRIPTION OF WORK — COMBINED SEWERS.

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	℄-SMITH ST.	A-1	B-1	15"	132'	SLOPE 15.13% - UNDISTURBED
E-2	℄-SMITH ST.	B-1	A-2	15"	183'	SLOPE 15.13% - ABANDON
E-3	℄-SMITH ST.	A-2	B-4	15"	139'	SLOPE 5.10% - ABANDON
E-4	℄-SMITH ST.	B-4	A-3	15"	90'	SLOPE 5.72% - UNDISTURBED
E-5	C.B. DRAIN	A-4	SEWER	10"	13'	ABANDON
E-6	C.B. DRAIN - SMITH ST.	A-5	SEWER	10"	14'	ABANDON
E-7	℄-WALTER ST. SEWER	A-6	SH. 10	12"	438'	SLOPE 1.64% - ABANDON
E-8	WALTER ST.	A-7	A-6			C.B. DRAIN - ABANDON
E-9	WALTER ST.	A-8	A-6			INLET DRAIN - ABANDON
PROPOSED SEWERS						
F-1	℄-SMITH ST.	B-1	B-2	15"	7'	SLOPE 5.0%, DROP PIPE, 15"x8"T, 8"-90°EL
F-2	5' W. ℄-SMITH ST.	B-2	B-3	15"	313'	SLOPE 8.27%,
F-3	℄-SMITH ST.	B-3	B-4	15"	7'	SLOPE 8.27%

SEWER REQUIREMENTS

I-2 COMBINATION SEWERS UNDER PVMT. ℄ APPROACHES

I-5 PIPE SPECIALS

CODE	8" DIA. M 6.8 (b)	15" DIA. M 6.8 (b)	TEE M 6.8 (d) 15"x15"x8"	90° BEND M 6.8 (f) 8" DIA
F-1	10'	7'	1	1
F-2		313'		
F-3		7'		
TOTAL	10'	14'	313'	1	1

I-8 MANHOLES

YOUNGSTOWN MANHOLES	
Y-A	Y-D
3	1

I-16 STRUCTURES ABANDONED

MANHOLES ABANDONED	CATCH BASINS ABANDONED
2	4

PROFILE: SCALE: H = 1" = 50' V = 1" = 10'

15" - STA. 0+90 TO 4+17

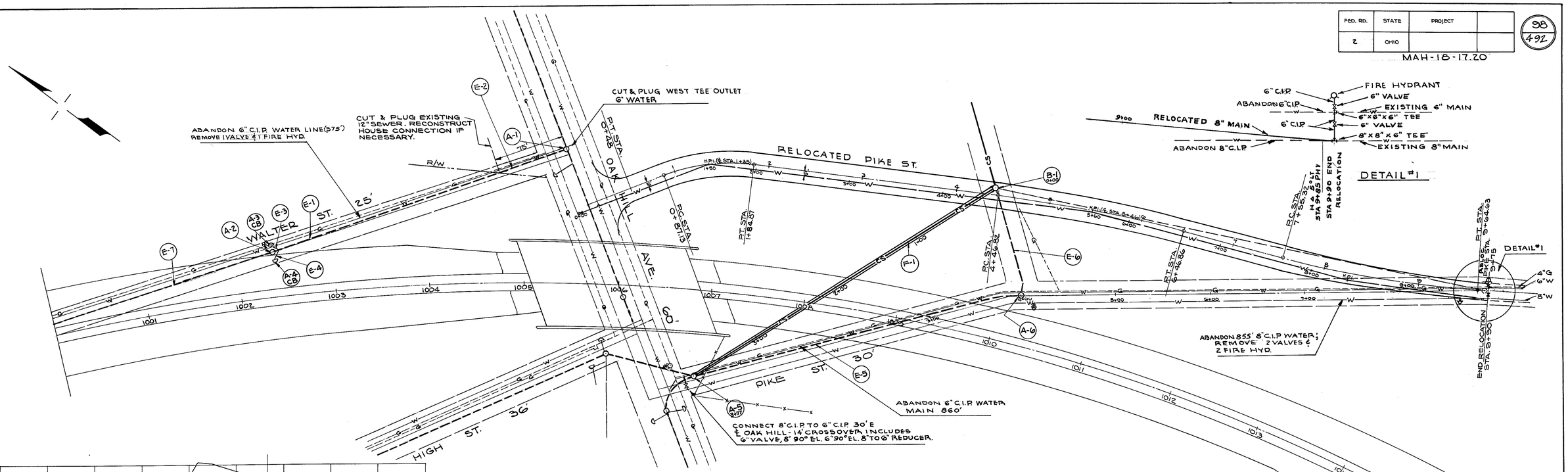
SEWER RELOCATION AT SMITH ST.

RELOCATIONS OF SMITH ST. SEWER & WATER MAIN

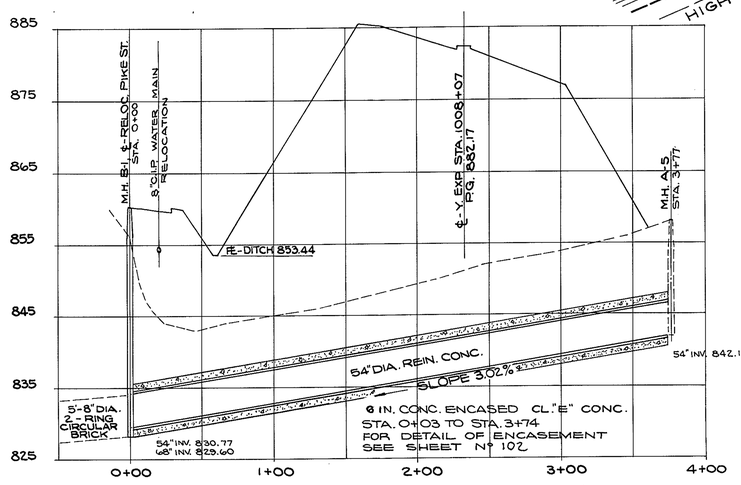
FED. RD.	STATE	PROJECT	
2	OHIO		

98
492

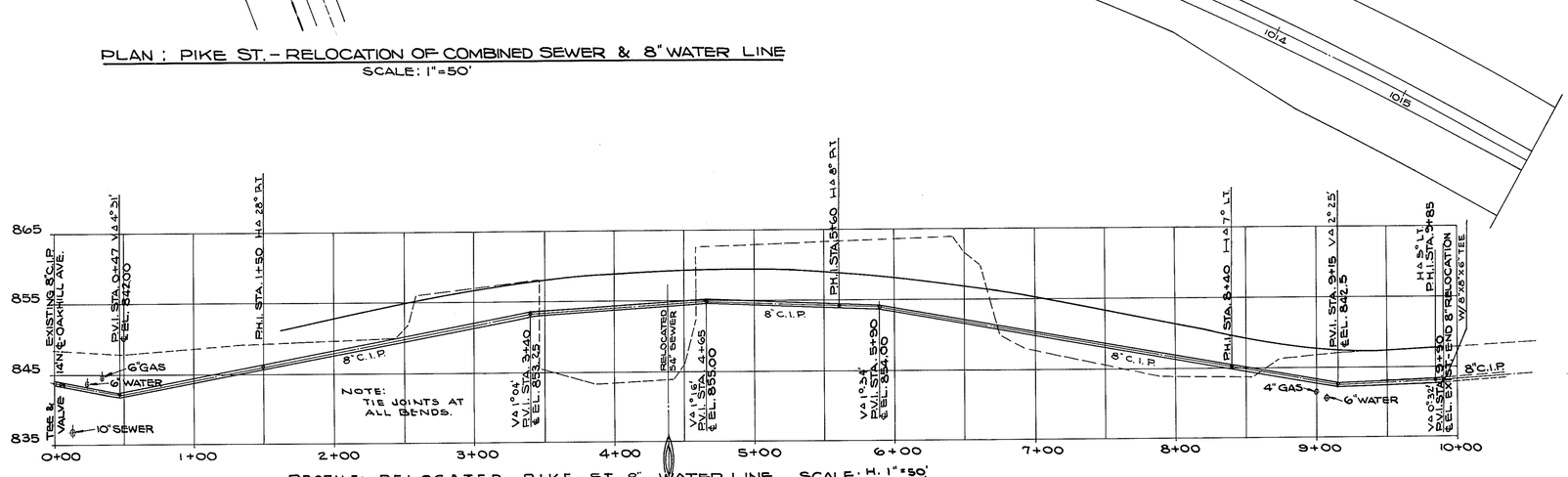
MAH-18-17.20



PLAN : PIKE ST. - RELOCATION OF COMBINED SEWER & 8" WATER LINE
SCALE: 1"=50'



PROFILE: COMBINED SEWER, SCALE: H. 1"=50' V. 1"=10'



PROFILE: RELOCATED PIKE ST. 8" WATER LINE, SCALE: H. 1"=50' V. 1"=10'

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	℄ WALTER ST.	A-2	R/W LINE	12"	255'	SLOPE 0.55% - ABANDON
E-2	℄ WALTER ST.	75'W. A-1	A-1	12"	75'	UNDISTURBED
E-3	WALTER ST.	A-3	E-2	10"		CATCH BASIN DRAIN - ABANDON
E-4	WALTER ST.	A-4	E-2	10"		CATCH BASIN DRAIN - ABANDON
E-5	℄ PIKE ST.	A-5	A-6	54"	357'	SLOPE 3.0 % - ABANDON E-12
E-6	OUTFALL	A-6	B-1	68"	115'	SLOPE 1.78 % - ABANDON E-12
E-7	℄ WALTER ST.	SH'T 90	A-1	12"		SEE SHEET #90
PROPOSED SEWERS						
F-1	OAK HILL AVE. TO RELOC. PIKE	A-5	B-1	54"	377'	SLOPE 3.02% - EX. STR REIN. CONC. PIPE (6 IN. CONCR. ENCASED)

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	℄ - OAK HILL AVE. ℄ - WALTER ST.	MANHOLE	12" INV. 832.4	TOP 846.30 - UNDISTURBED
A-2	℄ - WALTER ST. 330' W. ℄ - OAK HILL	MANHOLE I-16	12 INV. 835.92	TOP 843.10 - ABANDON
A-3		CATCH B. I-16		
A-4		CATCH B. I-16		
A-5	℄ - PIKE ST. 40.5' E. ℄ - OAK HILL	MANHOLE I-8	54" INV. 842.17	TOP 858.17 30" INV. 36" x 46" INV.
A-6	℄ - PIKE ST. 396' E. ℄ - OAK HILL	MANHOLE I-16	68" INV. 831.65	TOP 843.65 54" INV. 832.82 ABANDON
PROPOSED STRUCTURES				
B-1	7' N. ℄ - RELOCATED PIKE ST. STA. 4+40, 158' N. Y.E. ℄ STA. 1009+70	MANHOLE Y-B	68" INV. 829.6	TOP 859.11 54" INV. 830.77 ESTAB. IN EXIST. LINE

SEWER REQUIREMENTS

I-8 MANHOLES	
YOUNGSTOWN MH	
Y-B	
1	

I-16 STRUCTURES ABANDONED.	
MANHOLES ABANDONED	CATCH BASINS ABANDONED.
2	2

E-12 PIPE REMOVAL
15" TO 42"
472 LIN. FT.

I-2 COMBINED SEWERS		
CODE	54" DIA.	54" DIA. CONC. ENCASED
	M.G.G (d)	M.G.G (d)
F-1	6 LIN. FT.	371 LIN. FT.

WATER REQUIREMENT

I-124 NEW WATER MAIN		
8" DIA. C.I. PIPE	CL. 22	390' L.F.
6" DIA. C.I. PIPE	CL. 22	35' L.F.
VALVES 8" DIA.	150#	1
VALVES 6" DIA.	150#	3
BENDS 8" DIA. 90°	W/LUGS 250#	1
BENDS 8" DIA SPECIAL	W/LUGS 250#	10
BENDS 6" DIA 90°	W/LUGS 250#	2
REDUCER 8" TO 6"	250#	1
TEE 8"x8"x8"	250#	1
TEE 8"x8"x6"	250#	1
TEE 6"x6"x6"	250#	1
FIRE HYDRANTS		1
CUT & PLUG 6" DIA. C.I.P.		1

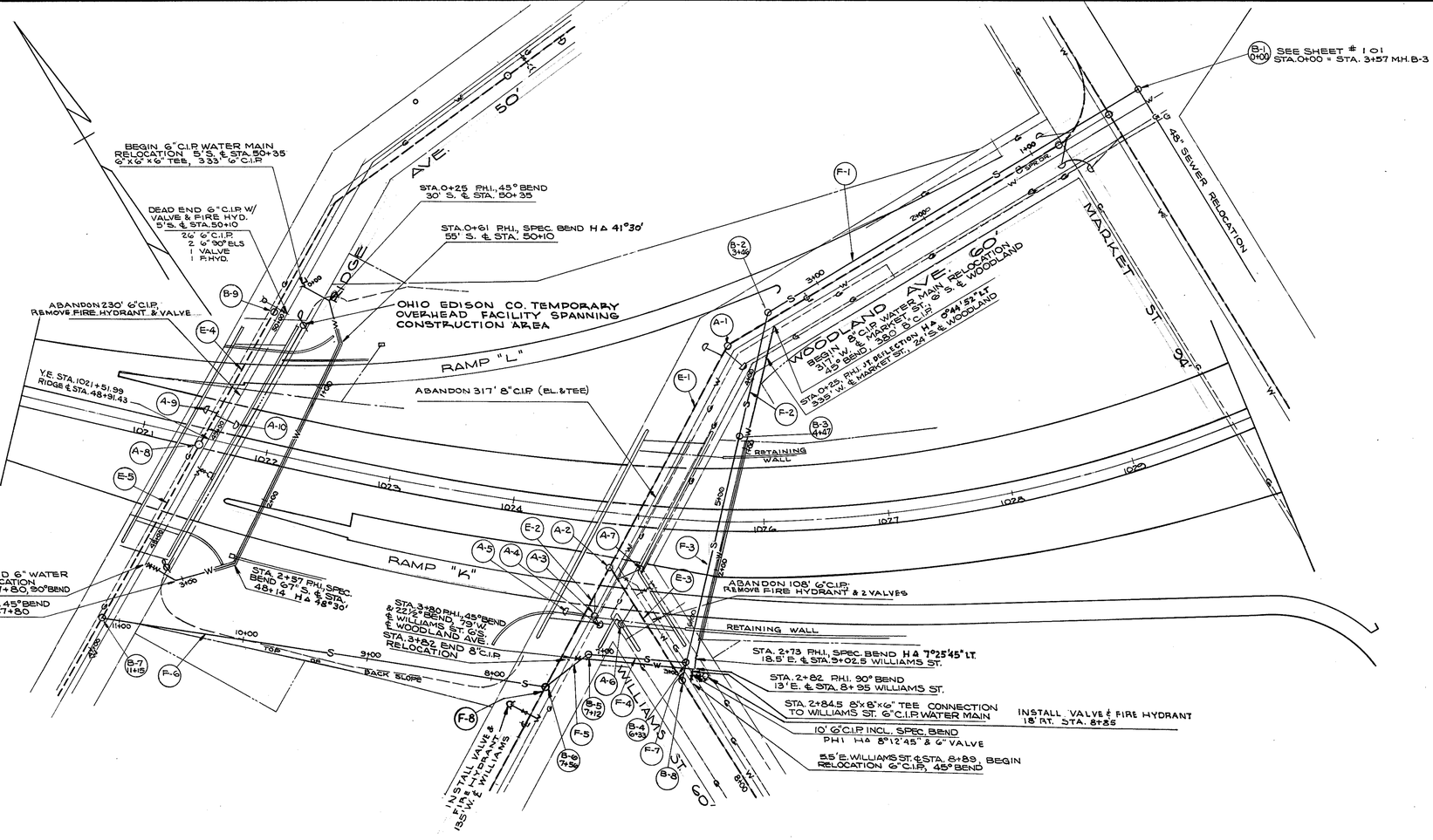
E-12 PIPE REMOVED FOR STORAGE	
VALVE REMOVAL	3
FIRE HYDRANT REMOVAL	3

PIKE ST. - RELOCATION OF COMBINED SEWER & 8" WATER LINE

FED. RD.	STATE	PROJECT	
2	OHIO		

99
492

MAH-18-17.20



WATER REQUIREMENTS

I-12 4 NEW WATER MAINS		
8" DIA. C.I. PIPE	CL. 23	234 L.F.
8" DIA. C.I. PIPE, CONC. ENCASED	CL. 23	166 L.F.
6" DIA. C.I. PIPE	CL. 22	112 L.F.
6" DIA. C.I. PIPE, CONC. ENCASED	CL. 22	297 L.F.
VALVES 8" DIA.	150#	1
VALVES 6" DIA.	150#	5
TEE'S 8"X8"X6"	250#	2
TEE'S 6"X6"X6"	250#	2
BENDS 8" DIA. 90° W/LUGS	250#	1
BENDS 8" DIA. 45° W/LUGS	250#	2
BENDS 8" DIA. 22½°	250#	1
BENDS 8" DIA. SPECIAL	250#	5
BENDS 6" DIA. 90° W/LUGS	250#	2
BENDS 6" DIA. 45° W/LUGS	250#	3
BENDS 6" DIA. SPECIAL	250#	6
FIRE HYDRANTS		5

E-12 PIPE REMOVED FOR STORAGE	
VALVE REMOVAL	3
FIRE HYDRANT REMOVAL	2

SEWER REQUIREMENTS

I-2 COMBINED SEWERS UNDER PAVEMENT & APPROACHES						I-5 PIPE SPECIALS	
CODE	8" DIA. M 6.8(b)	15" DIA. M 6.8(b)	18" DIA. M 6.6(c)	18" DIA. M 6.6(d)	21" DIA. M 6.6(d)	24" DIA. M 6.6(d)	TEE'S M 6.8(b) 15"X15"X8"	90° BEND 8" DIA M 6.8(b)
F-1						346'		
F-2						101'		
F-3					186'			
F-4				79'				
F-5			44'					
F-6			359'					
F-7	20'	14'					1	1
F-8	19'						1	1
TOTAL	39'	14'	403'	79'	186'	447'	2	2

I-8 MANHOLES	
YOUNGSTOWN MANHOLES	
Y-A	Y-C
6	2

I-16 STRUCTURES ABANDONED	
MANHOLES ABANDONED	CATCH BASINS ABANDONED
3	6

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	℄ WOODLAND, 356' W. ℄ MARKET ST.	MANHOLE	20" INV. 940.76	18" INV. 940.93 TOP 950.46 UNDISTURBED
A-2	℄ WOODLAND - ℄ WILLIAMS	MANHOLE I-16	18" INV. 949.69	15" INV. 950.19 TOP 959.14 ABANDON
A-3	8' S. ℄ WOODLAND, 40' W. ℄ WILLIAMS	MANHOLE I-16	INV. 955.21	TOP EL. 960.76 ABANDON
A-4	WOODLAND	CATCH BAS. I-16		REMOVE & SALVAGE GRATE & FRAME
A-5	WOODLAND	CATCH BAS. I-16		" " " " " "
A-6	WILLIAMS	CATCH BAS. I-16		" " " " " "
A-7	WILLIAMS	CATCH BAS. I-16		" " " " " "
A-8	4' N. RIDGE ST. & STA. 48+91	MANHOLE I-16	15" INV. 935.53	TOP EL. 946.48 ABANDON
A-9	RIDGE	CATCH BAS. I-16		REMOVE & SALVAGE GRATE & FRAME
A-10	RIDGE	CATCH BAS. I-16		" " " " " "
PROPOSED STRUCTURES				
B-1	30' E. ℄ MARKET, 6' N. ℄ WOODLAND	MANHOLE	24" INV. 912.26	SEE SHEET # 94 M.H. B-3
B-2	6' N. ℄ WOODLAND, 316' W. ℄ MARKET	MANHOLE Y-A	24" INV. 919.18	TOP EL. 948.1
B-3	STA. 4+47	MANHOLE Y-A	24" INV. 921.20	21" INV. 921.45 TOP EL. 953.3
B-4	10' E. WILLIAMS ST. STA. 9+02.5	DROP M.H. Y-C	21" INV. 931.14	18" INV. 931.39, 15" INV. 952.52, TOP EL. 960.8
B-5	18' S. ℄ WOODLAND, 70' W. ℄ WILLIAMS	MANHOLE Y-A	18" INV. 934.15	TOP EL. 961.50
B-6	℄ WOODLAND, 109' W. ℄ WILLIAMS	DROP M.H. Y-C	18" INV. 935.69	15" INV. 954.75, TOP EL. 963.20 ESTAB. IN EXIST. SEWER
B-7	4' N. RIDGE ST., ℄ STA. 47+25	MANHOLE Y-A	18" INV. 937.31	15" INV. 937.56, TOP EL. 947.9 ESTAB. IN EXIST. SEWER
B-8	℄ WILLIAMS ST., ℄ STA. 8+92	MANHOLE Y-A	15" INV. 952.94	TOP EL. 961.3 ESTAB. IN EXIST. SEWER
B-9	4' N. RIDGE ST., ℄ STA. 50+05	MANHOLE Y-A	15" INV. 931.00	TOP EL. 943.0 ESTAB. IN EXIST. SEWER

DESCRIPTION OF WORK - COMBINED SEWERS

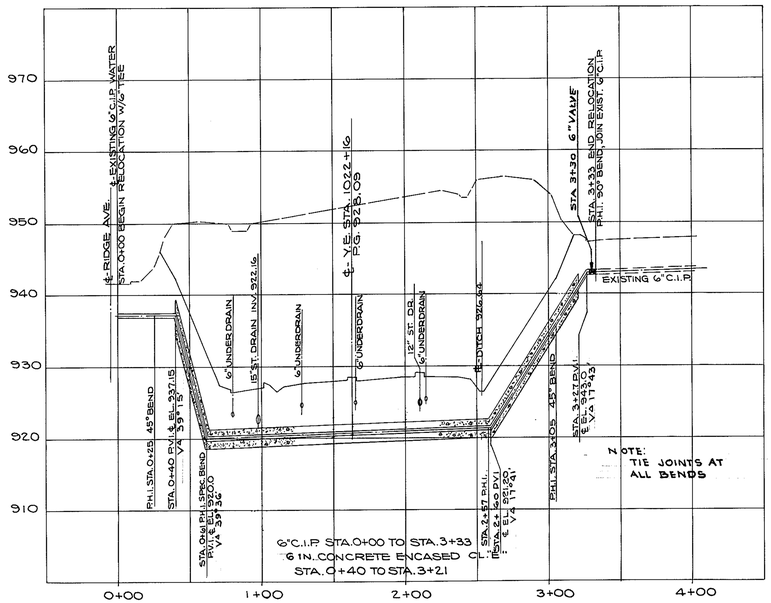
CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	WOODLAND AVE.	A-2	A-1	18"	200'	SLOPE 4.47% ABANDON
E-2	WOODLAND AVE.	B-6	A-2	15"	109'	SLOPE 4.18% ABANDON
E-3	WILLIAMS ST.	B-4	A-2	15"	108'	SLOPE 2.78% ABANDON
E-4	RIDGE AVE.	A-8	B-9	15"	114'	SLOPE 3.97% ABANDON
E-5	RIDGE AVE.	B-7	A-8	15"	166	SLOPE 1.12% ABANDON
PROPOSED SEWERS						
F-1	WOODLAND AVE.	B-1	B-2	24"	346'	SLOPE 2.0%
F-2	S. OF WOODLAND	B-2	B-3	24"	101'	SLOPE 2.0%
F-3	UNDER EXPRESSWAY	B-3	B-4	21"	186'	SLOPE 5.2%
F-4	WILLIAMS TO WOODLAND	B-4	B-5	18"	79'	SLOPE 3.5%
F-5	WOODLAND	B-5	B-6	18"	44'	SLOPE 3.5%
F-6	S. OF EXPRESSWAY	B-6	B-7	18"	359	SLOPE 0.45%
F-7	WILLIAMS	B-8	B-4	15"	14'	SLOPE 2.78%
F-7	DROP M.H. B-4			8"	20'	DROP PIPE 1-15"x15"x8" TEE, 1-8" 90° EL.
F-8	DROP M.H. B-6			8"	19'	DROP PIPE 1-15"x15"x8" TEE, 1-8" 90° EL.

FOR PROFILES OF RELOCATIONS SEE SH. 100

RELOCATIONS: SEWER & WATER LINES - RIDGE & WOODLAND

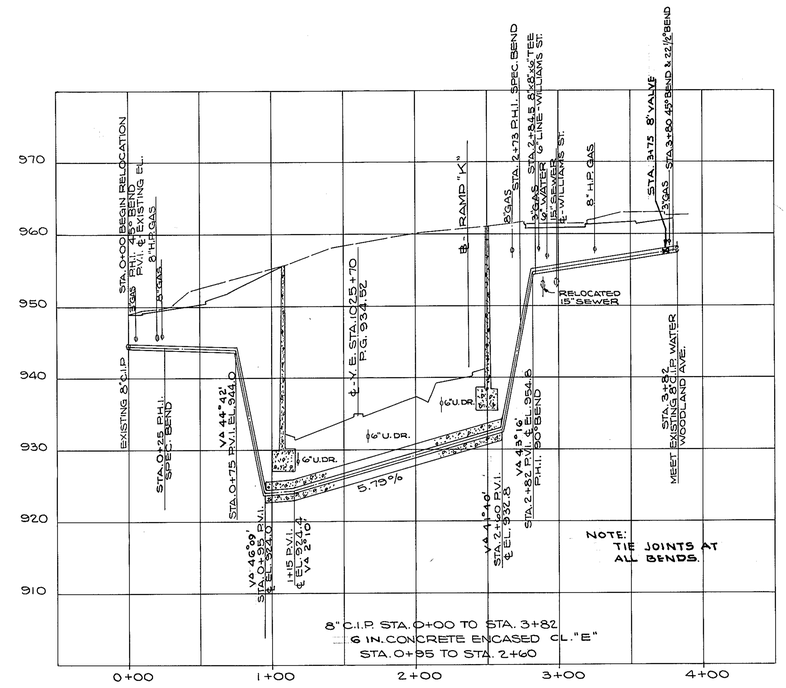
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

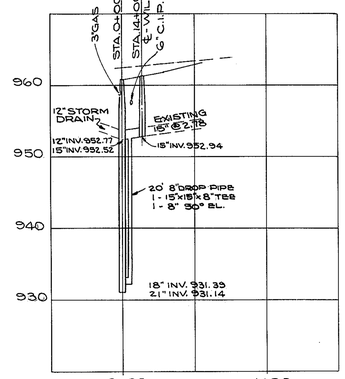


RELOCATION: 6" C.I.P. WATER MAIN - RIDGE ST.

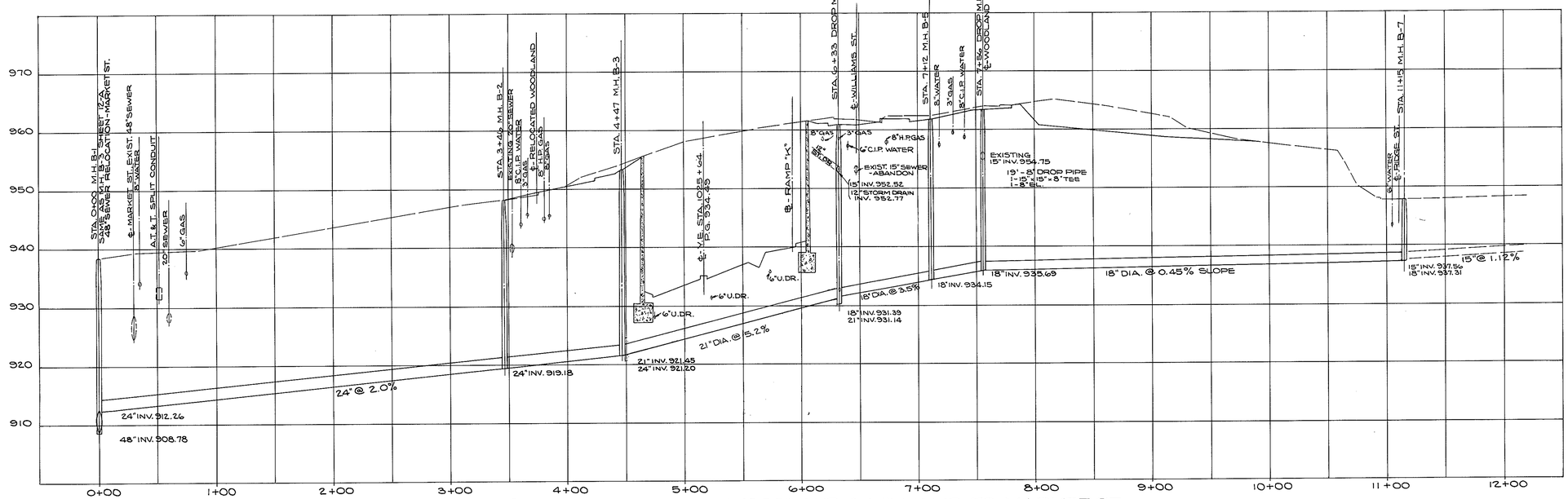
NOTE:
FOR DETAIL OF ENCASEMENT
SEE SHEET Nº 102



RELOCATION: 8" C.I.P. WATER MAIN - WOODLAND AVE.



RELOCATION: 15" SEWER WILLIAMS ST.



RELOCATION: 21" SEWER RIDGE TO WOODLAND & WILLIAMS TO MARKET ST.

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

FOR PLAN OF RELOCATIONS SEE SH. 99

FED. RD.	STATE	PROJECT	
2	OHIO		

101
492

SEWER REQUIREMENTS

I-2 COMBINATION SEWERS UNDER PVM'T. & APPROACHES — I-5 PIPE SPECIALS

CODE	18" DIA. M 6.8(b)	48" DIA. M 6.6(b)	48" DIA. M 6.6(c)	48" DIA. M 6.6(d)	TEES M 6.6(d) 48"x48"x18"	90° BENDS M 6.8(b) 18" DIA.
F-1			38'			
F-2				295'		
F-3				180'		
F-4				218		
F-5	12'			10'	1	1
F-6	12'	32'			1	1
TOTAL	24'	32'	38'	703'	2	2

I-8 MANHOLES

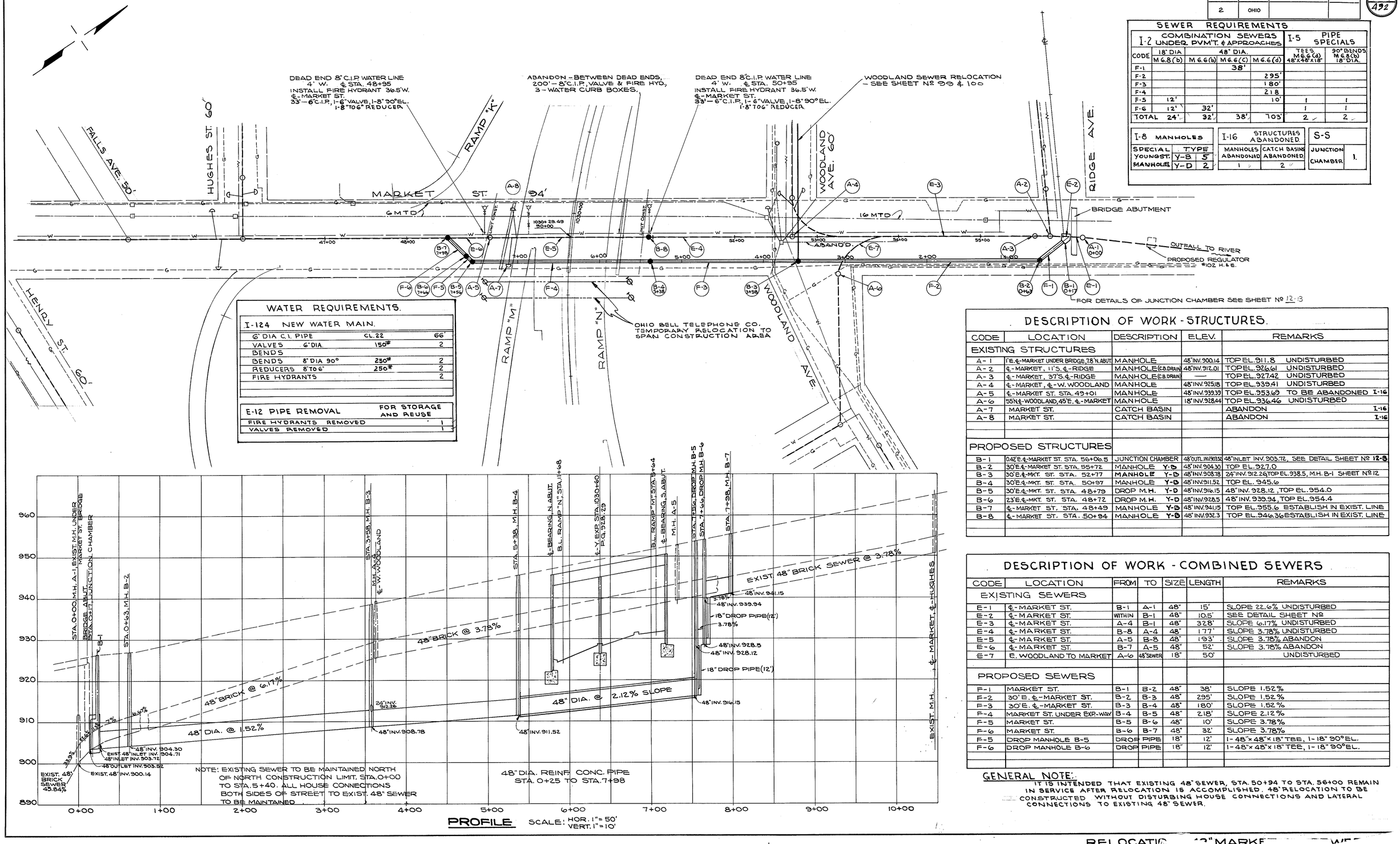
SPECIAL	TYPE	
YOUNGST.	Y-B	5
MANHOLE	Y-D	2

I-16 STRUCTURES ABANDONED

MANHOLES ABANDONED	CATCH BASINS ABANDONED
1	2

S-S

JUNCTION CHAMBER	1.



WATER REQUIREMENTS.

I-124 NEW WATER MAIN.

6" DIA C.I. PIPE	CL. 22	66'
VALVES 6" DIA.	150#	2
BENDS		
BENDS 8" DIA 90°	250#	2
REDUCERS 8" TO 6"	250#	2
FIRE HYDRANTS		2

E-12 PIPE REMOVAL FOR STORAGE AND REUSE

FIRE HYDRANTS REMOVED	1
VALVES REMOVED	1

NOTE: EXISTING SEWER TO BE MAINTAINED NORTH OF NORTH CONSTRUCTION LIMIT, STA. 0+00 TO STA. 5+40. ALL HOUSE CONNECTIONS BOTH SIDES OF STREET TO EXIST. 48" SEWER TO BE MAINTAINED.

48" DIA. REINF. CONC. PIPE STA. 0+25 TO STA. 7+98

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

DESCRIPTION OF WORK - STRUCTURES.

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	1'E. ℄-MARKET UNDER BRIDGE, 7.8' N. ABUT.	MANHOLE	48" INV. 900.14	TOP EL. 911.8 UNDISTURBED
A-2	℄-MARKET, 11' S. ℄-RIDGE	MANHOLE (C.B. DRAIN)	48" INV. 912.01	TOP EL. 926.61 UNDISTURBED
A-3	℄-MARKET, 37' S. ℄-RIDGE	MANHOLE (C.B. DRAIN)	—	TOP EL. 927.42 UNDISTURBED
A-4	℄-MARKET, ℄-W. WOODLAND	MANHOLE	48" INV. 925.18	TOP EL. 939.41 UNDISTURBED
A-5	℄-MARKET ST. STA. 49+01	MANHOLE	48" INV. 939.39	TOP EL. 953.69 TO BE ABANDONED I-16
A-6	55' N ℄-WOODLAND, 45' E. ℄-MARKET	MANHOLE	18" INV. 928.44	TOP EL. 936.46 UNDISTURBED
A-7	MARKET ST.	CATCH BASIN		ABANDON I-16
A-8	MARKET ST.	CATCH BASIN		ABANDON I-16
PROPOSED STRUCTURES				
B-1	0.42' E. ℄-MARKET ST. STA. 56+06.5	JUNCTION CHAMBER	48" OUTL. INV. 903.52	48" INLET INV. 903.72, SEE DETAIL SHEET Nº 12-13
B-2	30' E. ℄-MARKET ST. STA. 55+72	MANHOLE Y-D	48" INV. 904.30	TOP EL. 927.0
B-3	30' E. ℄-MKT. ST. STA. 52+77	MANHOLE Y-D	48" INV. 908.78	24" INV. 912.26 TOP EL. 938.5, M.H. B-1 SHEET Nº 12
B-4	30' E. ℄-MKT. ST. STA. 50+97	MANHOLE Y-D	48" INV. 911.52	TOP EL. 945.6
B-5	30' E. ℄-MKT. ST. STA. 48+79	DROP M.H. Y-D	48" INV. 916.15	48" INV. 928.12, TOP EL. 954.0
B-6	23' E. ℄-MKT. ST. STA. 48+72	DROP M.H. Y-D	48" INV. 928.5	48" INV. 939.94, TOP EL. 954.4
B-7	℄-MARKET ST. STA. 48+49	MANHOLE Y-D	48" INV. 941.15	TOP EL. 955.6 ESTABLISH IN EXIST. LINE
B-8	℄-MARKET ST. STA. 50+94	MANHOLE Y-D	48" INV. 932.3	TOP EL. 946.36 ESTABLISH IN EXIST. LINE

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	℄-MARKET ST.	B-1	A-1	48"	15'	SLOPE 22.6% UNDISTURBED
E-2	℄-MARKET ST.	WITHIN	B-1	48"	10.5'	SEE DETAIL SHEET Nº
E-3	℄-MARKET ST.	A-4	B-1	48"	328'	SLOPE 6.17% UNDISTURBED
E-4	℄-MARKET ST.	B-8	A-4	48"	177'	SLOPE 3.78% UNDISTURBED
E-5	℄-MARKET ST.	A-5	B-8	48"	193'	SLOPE 3.78% ABANDON
E-6	℄-MARKET ST.	B-7	A-5	48"	52'	SLOPE 3.78% ABANDON
E-7	E. WOODLAND TO MARKET	A-6	48" SEWER	18"	50'	UNDISTURBED
PROPOSED SEWERS						
F-1	MARKET ST.	B-1	B-2	48"	38'	SLOPE 1.52%
F-2	30' E. ℄-MARKET ST.	B-2	B-3	48"	295'	SLOPE 1.52%
F-3	30' E. ℄-MARKET ST.	B-3	B-4	48"	180'	SLOPE 1.52%
F-4	MARKET ST. UNDER EXP-WAY	B-4	B-5	48"	218'	SLOPE 2.12%
F-5	MARKET ST.	B-5	B-6	48"	10'	SLOPE 3.78%
F-6	MARKET ST.	B-6	B-7	48"	32'	SLOPE 3.78%
F-5	DROP MANHOLE B-5	DROP PIPE		18"	12'	1-48"x48"x18" TEE, 1-18" 90° EL.
F-6	DROP MANHOLE B-6	DROP PIPE		18"	12'	1-48"x48"x18" TEE, 1-18" 90° EL.

GENERAL NOTE:
IT IS INTENDED THAT EXISTING 48" SEWER, STA. 50+94 TO STA. 56+00 REMAIN IN SERVICE AFTER RELOCATION IS ACCOMPLISHED. 48" RELOCATION TO BE CONSTRUCTED WITHOUT DISTURBING HOUSE CONNECTIONS AND LATERAL CONNECTIONS TO EXISTING 48" SEWER.

RELOCATI 12" MARKE WE

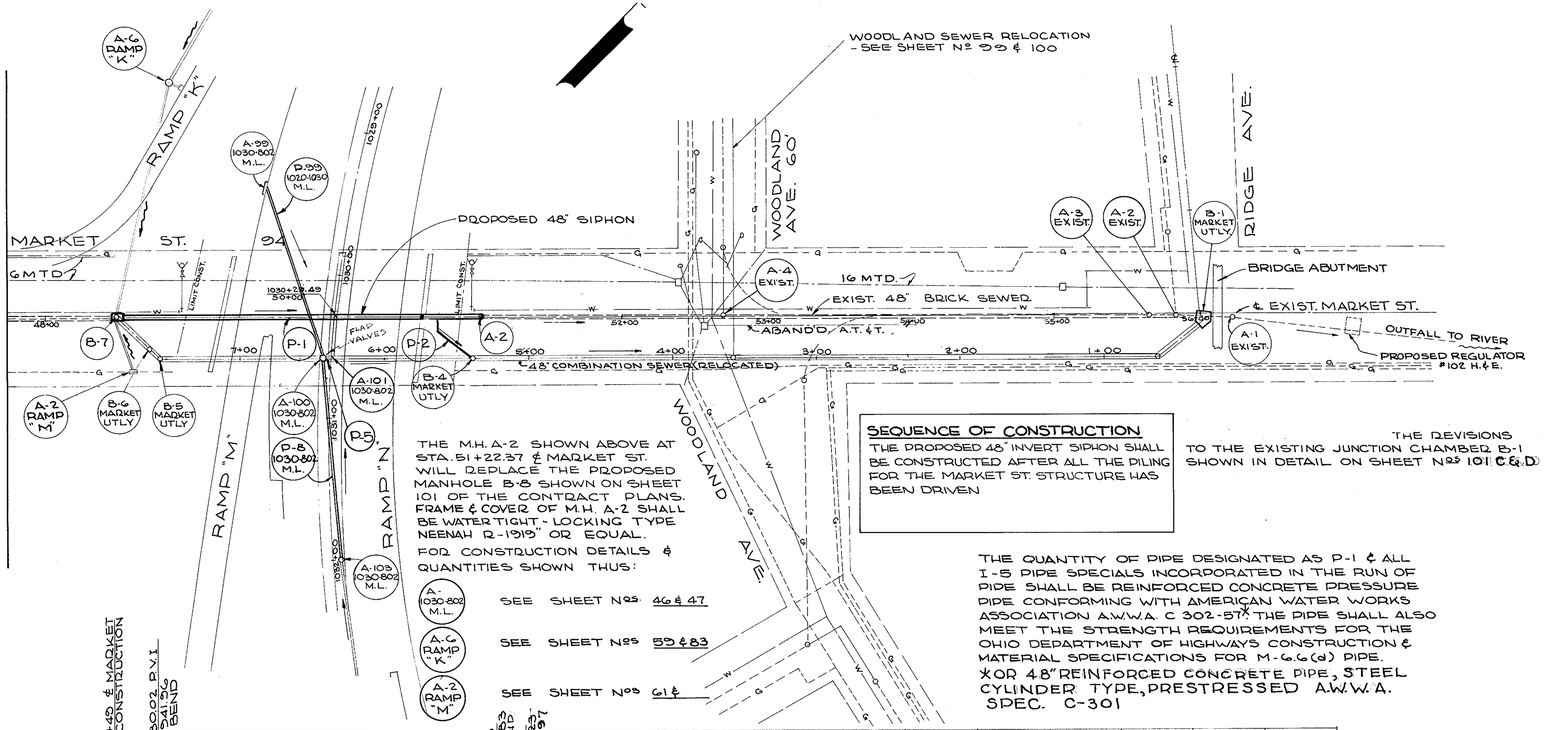
FED. RD.	STATE	PROJECT	
2	OHIO		

101A
492

MAH. 18-17.20

THE EXISTING M.H. (B-7) STA. 48+49 ℄ MARKET ST. SHALL BE TOTALLY REMOVED AND THE PROPOSED JUNCATION CHAMBER DETAIL ON SHEET Nº 101B IS TO BE CONSTRUCTED "AS PER PLAN". THE MAN-HOLE FRAME & COVER FOR B-7 IS TO BE SALVAGED & RESET AS SHOWN ON THE PROPOSED JUNCATION CHAMBER.

THE VOID BETWEEN THE PROPOSED 48" PRESSURE PIPE & THE C.M.P. IS TO PRESSURE FILL WITH M-2.1 SAND.



THE M.H. A-2 SHOWN ABOVE AT STA. 51+22.37 ℄ MARKET ST. WILL REPLACE THE PROPOSED MANHOLE B-8 SHOWN ON SHEET 101 OF THE CONTRACT PLANS. FRAME & COVER OF M.H. A-2 SHALL BE WATER TIGHT - LOCKING TYPE NEENAH R-1919" OR EQUAL.

FOR CONSTRUCTION DETAILS & QUANTITIES SHOWN THUS:

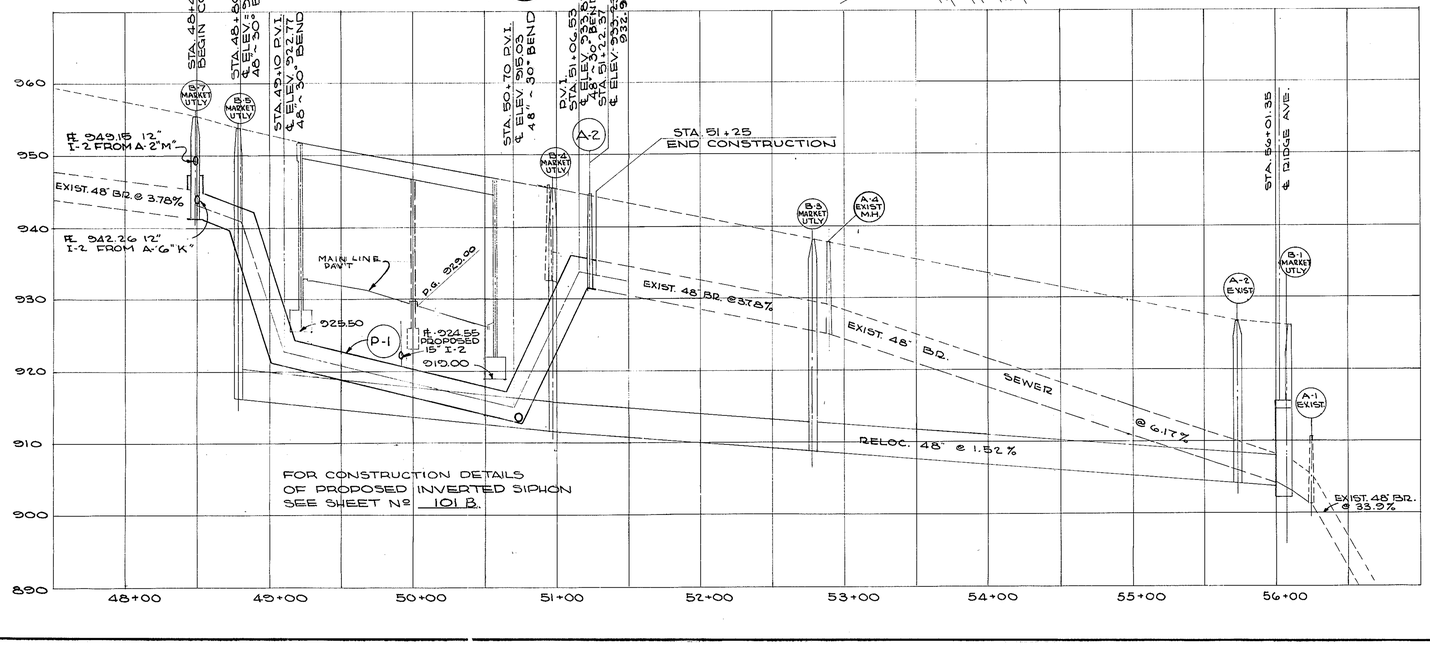
A-1030-802 M.L.	SEE SHEET Nºs 46 & 47
A-G RAMP "K"	SEE SHEET Nºs 59 & 83
A-2 RAMP "M"	SEE SHEET Nºs 61 &

SEQUENCE OF CONSTRUCTION

THE PROPOSED 48" INVERT SIPHON SHALL BE CONSTRUCTED AFTER ALL THE PILING FOR THE MARKET ST. STRUCTURE HAS BEEN DRIVEN

THE REVISIONS TO THE EXISTING JUNCTION CHAMBER B-1 SHOWN IN DETAIL ON SHEET Nºs 101 C & D

THE QUANTITY OF PIPE DESIGNATED AS P-1 ℄ ALL I-5 PIPE SPECIALS INCORPORATED IN THE RUN OF PIPE SHALL BE REINFORCED CONCRETE PRESSURE PIPE CONFORMING WITH AMERICAN WATER WORKS ASSOCIATION A.W.W.A. C 302-57. THE PIPE SHALL ALSO MEET THE STRENGTH REQUIREMENTS FOR THE OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION & MATERIAL SPECIFICATIONS FOR M-6.6(d) PIPE.
*OR 48" REINFORCED CONCRETE PIPE, STEEL CYLINDER TYPE, PRESTRESSED A.W.W.A. SPEC. C-301



FOR CONSTRUCTION DETAILS OF PROPOSED INVERTED SIPHON SEE SHEET Nº 101 B.

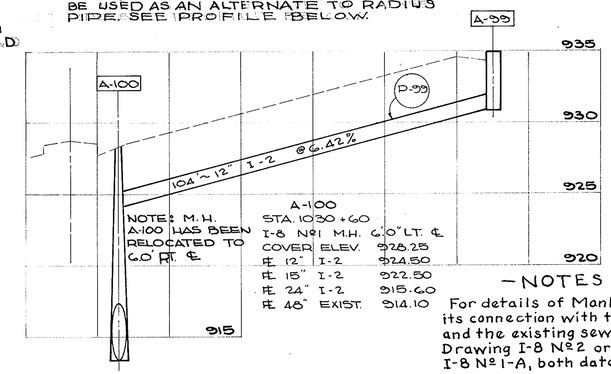
I-8 MANHOLES — S-24

CODE	LOCATION	JUNCATION CHAMBER AS PER PLAN	Nº 2 MAN-HOLE EACH	REVISE EXISTING JUNCTION CHAMBER	REMOVE EXIST. MANHOLE
B-7	48+49 ℄ MARKET ST.	1			1
A-2	51+22.37 ℄ MARKET ST.		1		
B-1	56+06.5 042E ℄ MARKET			1	
	SHEET TOTALS	1	1	1	1

ESTIMATED QUANTITIES - INVERTED SIPHON (LUMP)

CODE	LOCATION	I-2 CLASS "A" SEWERS L.F. 48" PIPE RADIUS	48" PIPE STRGHT	12" C.I. PIPE CLASS 24 LIN. FT.	66" OR OVER M-64(6) ✱	I-5 PIPE SPEC. EACH FLAP VALVES 12"	24"	48" R.H. TANG BLOW OFF WITH 125# 12" FLANGE	45° Bend 12" C.I.P. Class 24
P-1 ‡	B-7 TO A-2	112	160		36			1	
P-2	50+60.64 - B-4 UTLY			48					1
P-99	12" I-2 FROM A-99 @ A-100					1			
P- 8	24" I-2 FROM A-103 @ A-100						1		
P- 5	12" I-2 FROM A-101 @ A-100					1			
	SHEET TOTALS	112	160	48	36	2	1	1	1

THE ABOVE ESTIMATED QUANTITIES FOR THE PROPOSED SIPHON ARE FOR GENERAL INFORMATION ONLY.
✱ GAGE OF MATERIAL AS REQUIRED BY THE ENGINEER
‡ 48" STRAIGHT PIPE AND 48"-30° BENDS MAY BE USED AS AN ALTERNATE TO RADIUS PIPE. SEE PROFILE BELOW.

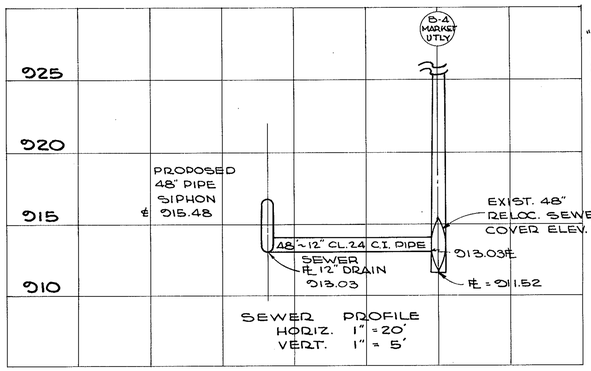


— NOTES —

For details of Manhole A-2, and its connection with this siphon and the existing sewer, see Std. Drawing I-8 Nº 2 or Std. Drw'g. I-8 Nº 1-A, both dated 1-26-59.

The location and direction of "Relief Pipe" P-2 will be as directed by the Engineer to best connect the low point of this siphon with existing manhole B-4.

The flow in the existing, and in the already relocated, 48" combination sewers shall be maintained at all times in a manner which will protect the new work herein proposed and satisfactory to the Engineer.



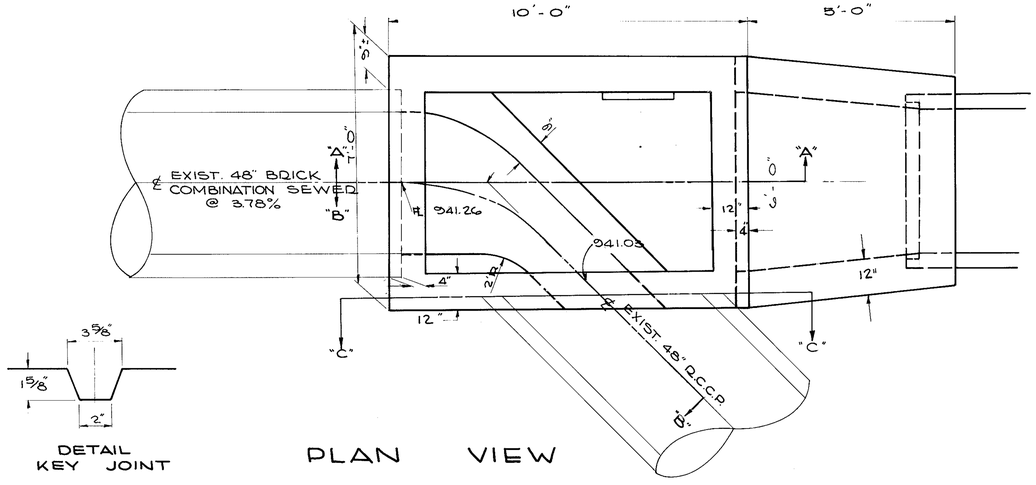
PROPOSED 48" SIPHON MARKET ST.

Rev. 4-4-62
REV. 6-5-62

FED. RD.	STATE	PROJECT	
2	OHIO		

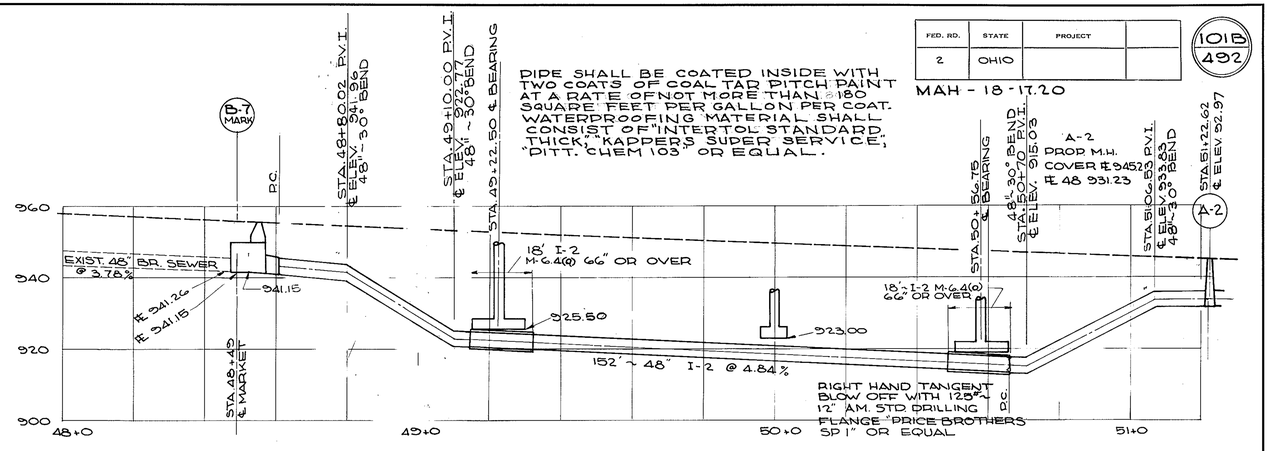
101B 492

MAH - 18 - 17.20

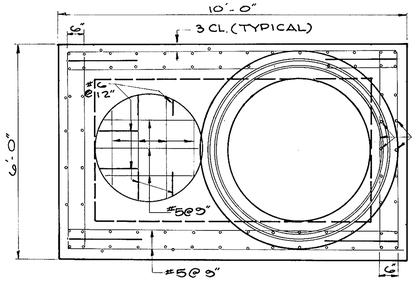


PLAN VIEW

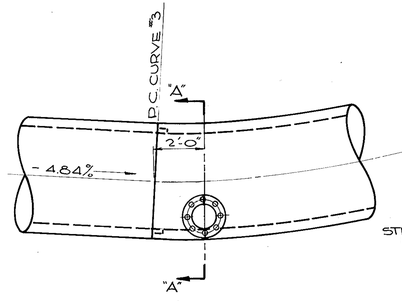
DETAIL KEY JOINT



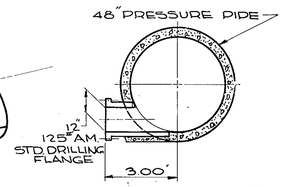
DETAIL MARKET ST. SIPHON SCALE 1" = 20' HORIZ. & VERTICAL



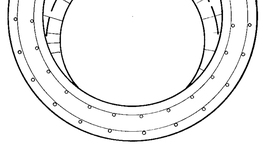
ROOF PLAN



DETAIL R.H. TANGENT BLOW-OFF

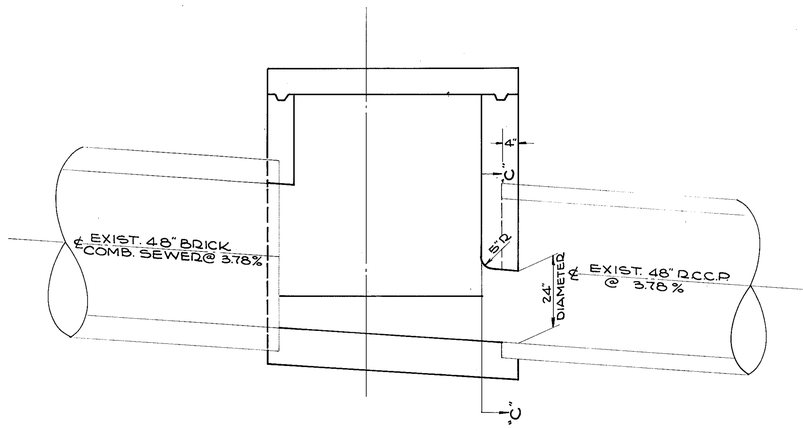


SECTION "A"-"A"

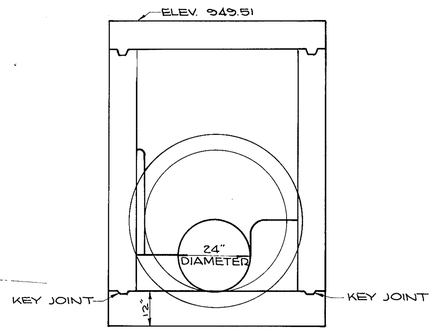


SECTION "X-X"

SECTION "A"-"A"



SECTION "B"-"B"



SECTION "C"-"C"

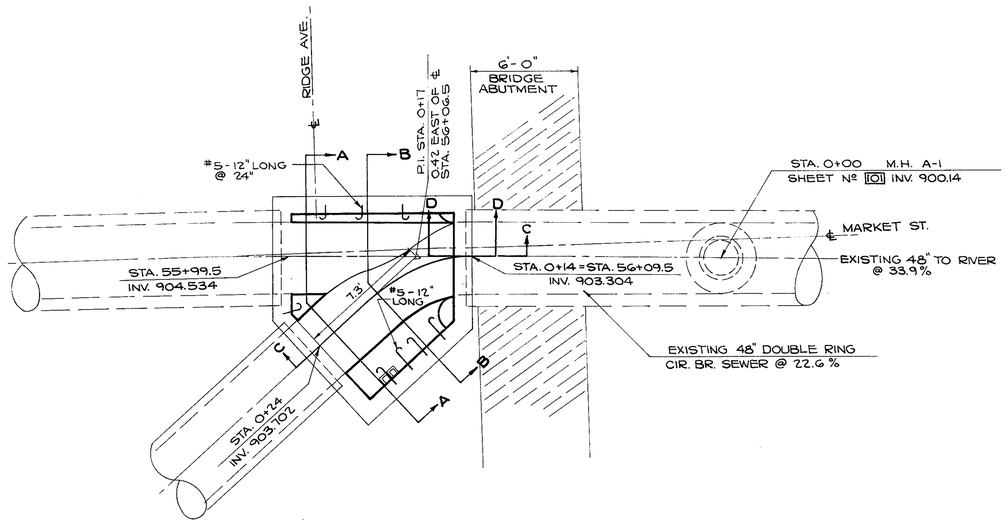
SCALE : 1" = 2'

DETAILS REVISED
JUNCTION CHAMBER B-7
MARKET ST. UTILITIES

REV 6-9-62

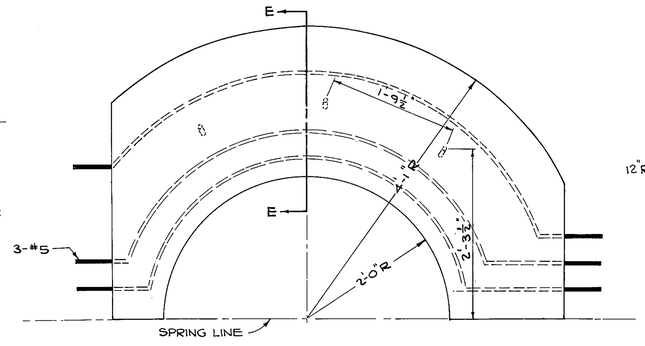
FED. RD.	STATE	PROJECT	
2	OH10		

101C
492

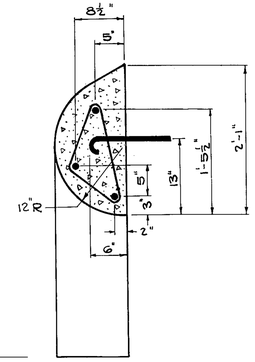


SECTIONAL PLAN

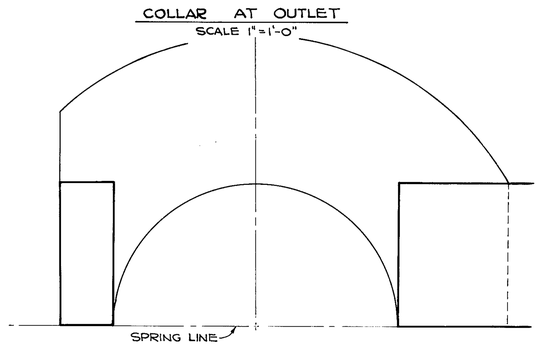
NOTE:
ALL CONCRETE TO BE CLASS "C"



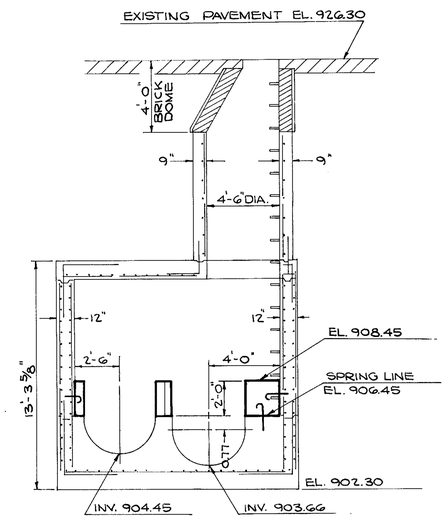
COLLAR AT OUTLET
SCALE 1"=1'-0"



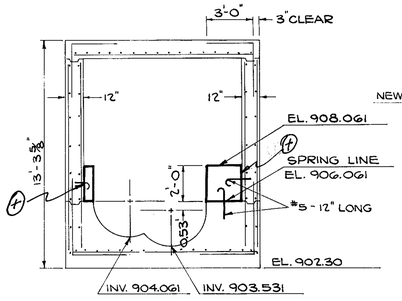
SECTION E-E



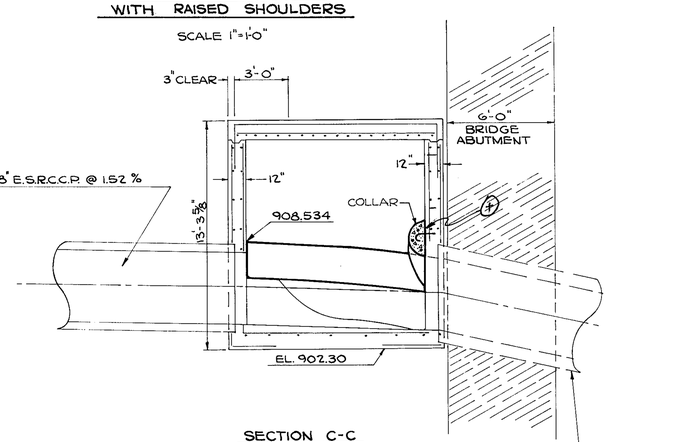
COLLAR AT OUTLET
WITH RAISED SHOULDERS
SCALE 1"=1'-0"



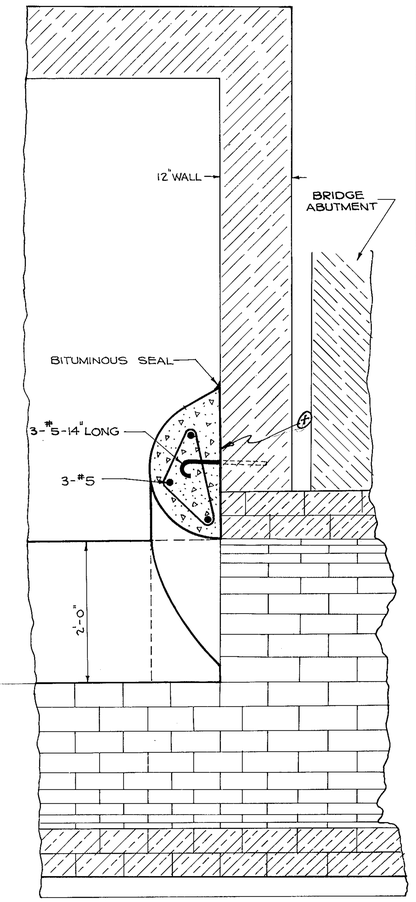
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D
SCALE 1"=1'-0"

DESIGN CHANGE TO IMPROVE OUTLET FLOW IN JUNCTION CHAMBER MARKET ST. SEWER RELOCATION STRUCTURE B-1 SHEET Nº 101 ℄

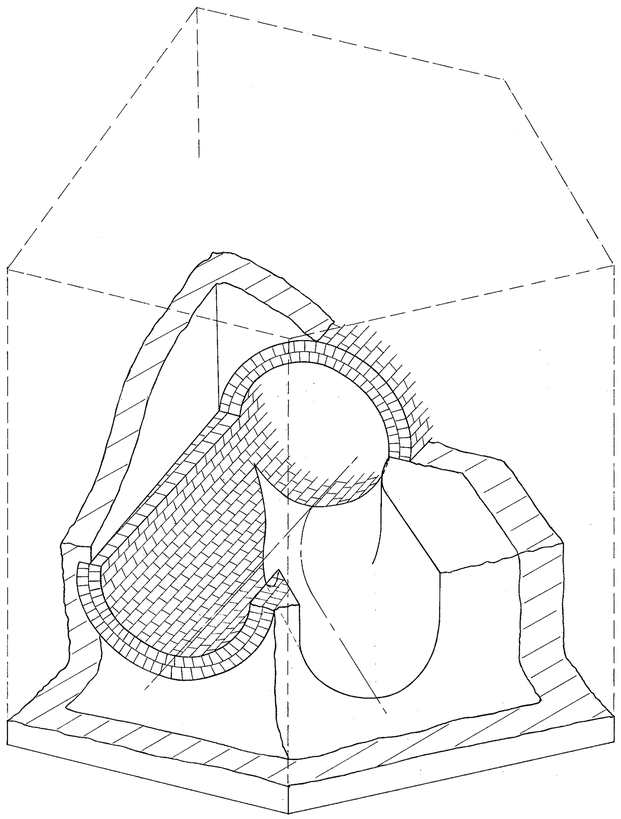
107 MAH.-18-17.20

SCALE: ¼"=1'-0"

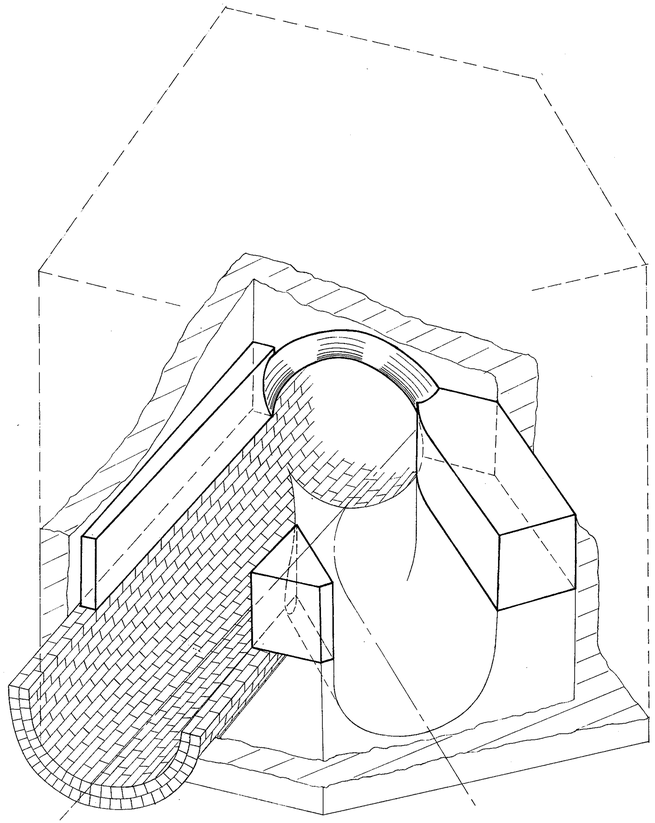
4/10

FED. RD.	STATE	PROJECT	
2	OHIO		

101D
492



JUNCTION CHAMBER
AS DESIGNED



DESIGN CHANGE TO IMPROVE
OUTLET FLOW IN
JUNCTION CHAMBER

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

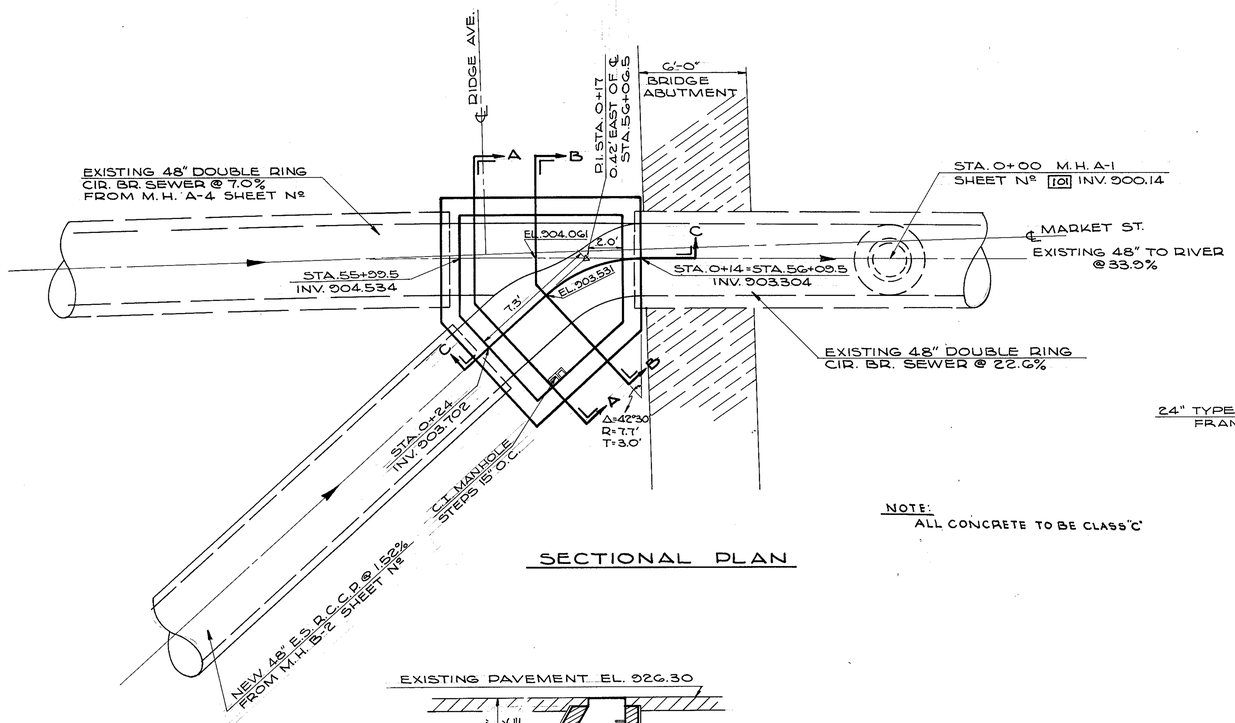
JUNCTION CHAMBER
MARKET STREET SEWER RELOCATION
STRUCTURE B-1 SHEET Nº 101 & 102
MAH-18-17.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

FED. RD.	STATE	PROJECT	
2	OHIO		

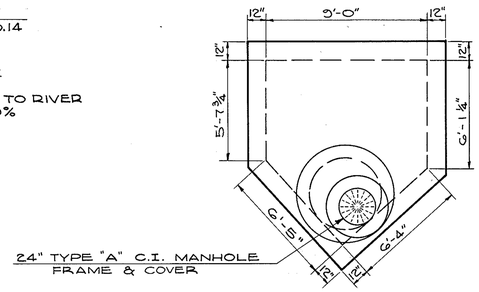
102
4-92

MAH-18-17.20



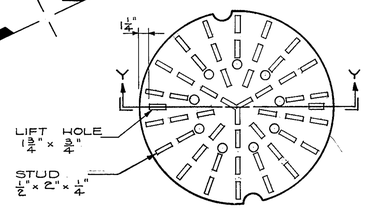
SECTIONAL PLAN

NOTE:
ALL CONCRETE TO BE CLASS 'C'

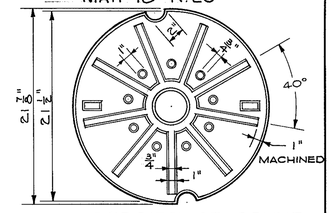


24" TYPE "A" C.I. MANHOLE FRAME & COVER

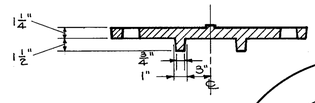
ROOF PLAN



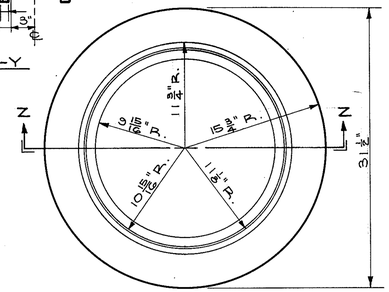
TOP OF COVER



UNDERSIDE OF COVER



SECTION Y-Y



PLAN OF FRAME

SECTION Z-Z

NOTE: CASTING SHALL BE OF CAST IRON IN ACCORDANCE W/ STATE SPECIFICATION U-7.8

YOUNGSTOWN STANDARD MANHOLE FRAME & COVER

NOTES

BEARING AREAS OF FRAME AND COVER SHALL BE SO FITTED AND FINISHED AS TO PROVIDE A FIRM AND EVEN SEAT FOR ALL PORTIONS OF THE COVER IN THE FRAME. NO PROJECTIONS SHALL EXIST ON BEARING AREAS OF EITHER CASTING AND EACH COVER SHALL SEAT IN ITS FRAME WITHOUT ROCKING. FRAMES AND COVERS SHALL BE FITTED, MATCHED AND MARKED BEFORE DELIVERY TO THE PROJECT

SETTING OF CASTING:~ THE BASE OF THE FRAME SHALL BE SET IN A FULL BED OF PORTLAND CEMENT MORTAR AND SO ADJUSTED TO CONFORM TO THE FINISHED PAVEMENT GRADE.

CASTING:~ CASTING SHALL BE OF CAST IRON IN ACCORDANCE WITH STATE SPECIFICATIONS. THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN HEREON. WEIGHT MINIMUM, FRAME 220 POUNDS, COVER 140 POUNDS

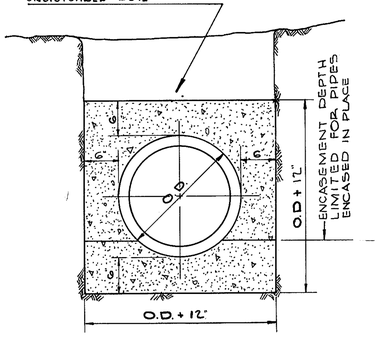
STEPS SHALL BE OF GOOD QUALITY WROUGHT IRON IN ACCORDANCE WITH MATERIAL DETAILS.

CONSTRUCTION:~ MANHOLES SHALL BE BUILT OF BRICK, PRECAST SOLID CONCRETE BLOCKS, PRECAST CONCRETE RINGS, OR CAST IN PLACE CONCRETE. WHEN MANHOLES ARE CONSTRUCTED OF BRICK, EVERY SIXTH COURSE SHALL BE A STRETCHER COURSE.

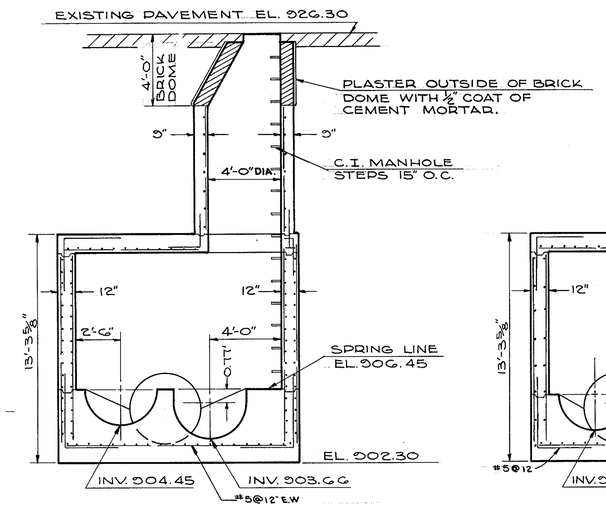
BOTTOM OF MANHOLE SHALL BE OF CLASS C CONCRETE.

CHANNEL SECTIONS IN THE MANHOLE SHALL BE CONSTRUCTED OF SPLIT PIPE OR BRICK EXCEPT CURVED SECTIONS WHICH MAY BE BUILT BY FORMING A CHANNEL IN THE CONCRETE.

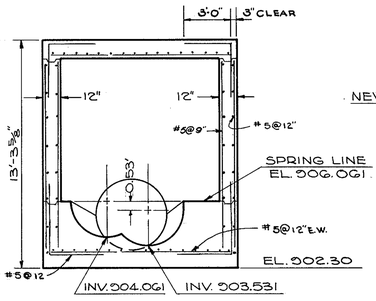
NOTE:
ON CONC ENCASED PIPE WHICH REQ THRUST BLOCKS, THRUST BLOCKS SHALL EXTEND BEYOND CONC. ENCASEMENT TO UNDISTURBED SOIL



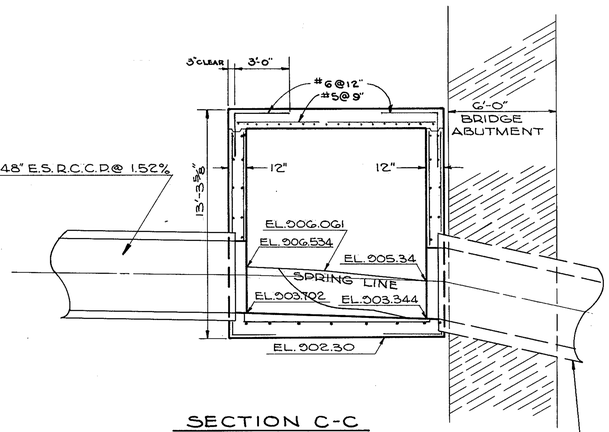
TYPICAL SECTION OF S-1 CLASS 'E' CONC. ENCASEMENT OF YOUNGSTOWN WATER MAINS AND COMBINATION SEWERS



SECTION A-A



SECTION B-B



SECTION C-C

NOTE: CONCRETE ENCASEMENT TO BE INCLUDED IN THE CONTRACT PRICE BID PER LINIAL FOOT UNDER THE APPROPRIATE ITEM OF THE FOLLOWING:
ITEM I-124 'NEW WATER MAIN (CONC. ENCASED)"
ITEM I-2 "COMBINED SEWER"
ITEM I-124 "ENCASEMENT OF EXISTING WATER MAIN"

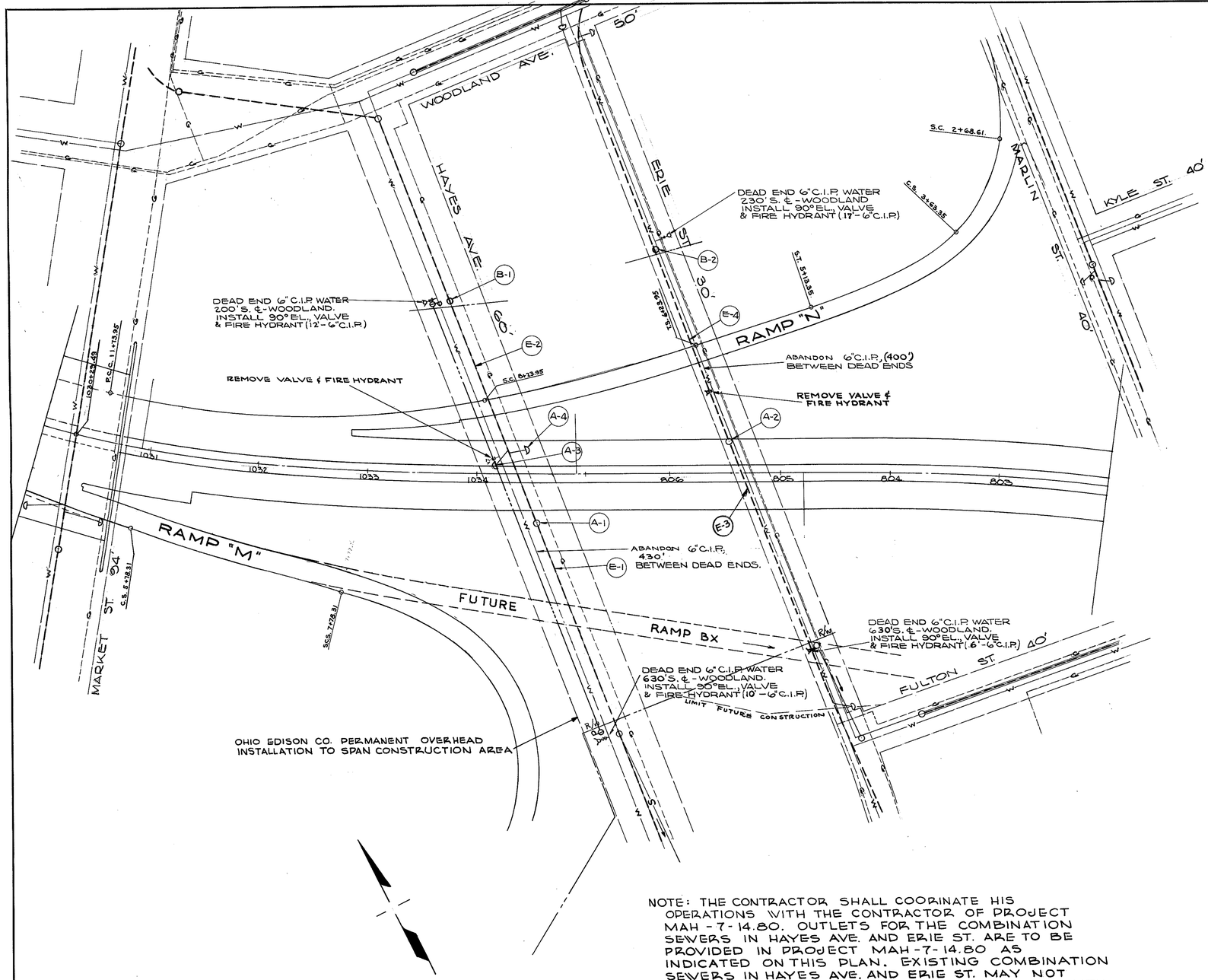
JUNCTION CHAMBER
MARKET ST. SEWER RELOCATION
STRUCTURE B-1 SHEET Nº 101
SCALE ¼" = 1'-0"

DETAIL OF JUNCTION CHAMBER RELOCATION: 48" MARKET ST. SEWER

FED. RD.	STATE	PROJECT	
2	OHIO		

103
492

MAH-18-17.20



NOTE: THE CONTRACTOR SHALL COORINATE HIS OPERATIONS WITH THE CONTRACTOR OF PROJECT MAH-7-14.80. OUTLETS FOR THE COMBINATION SEWERS IN HAYES AVE. AND ERIE ST. ARE TO BE PROVIDED IN PROJECT MAH-7-14.80 AS INDICATED ON THIS PLAN. EXISTING COMBINATION SEWERS IN HAYES AVE. AND ERIE ST. MAY NOT BE REMOVED WITHIN CONSTRUCTION LIMITS UNTIL OUTLETS ARE PROVIDED

DESCRIPTION OF WORK - STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.	REMARKS
EXISTING STRUCTURES				
A-1	℄-HAYES, 424' S. ℄-WOODLAND	MANHOLE	18" INV. 949.02	TOP 958.82 - ABANDON I-16
A-2	8' W. ℄-ERIE, 294' N. ℄-FULTON	MANHOLE	15" INV. 946.35	TOP 958.0 - ABANDON I-16
A-3	HAYES	CATCH BASIN		ABANDON I-16
A-4	HAYES	CATCH BASIN		ABANDON I-16
PROPOSED STRUCTURES				
B-1	℄-HAYES, 206' S. ℄-WOODLAND	MANHOLE Y-A	18" INV. 941.34	TOP 950.40 - ESTABLISH IN EXIST. 18" LINE
B-2	8' W. ℄-ERIE, 236' S. ℄-WOODLAND	MANHOLE Y-A	15" INV. 940.78	TOP 952.39 - ESTABLISH IN EXIST. 15" LINE

DESCRIPTION OF WORK - COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
EXISTING SEWERS						
E-1	HAYES AVE. (SHEET 3-X)	B-4	A-1	18"	181'	ABANDON
E-2	HAYES AVE.	A-1	B-1	18"	218'	ABANDON
E-3	ERIE ST. (SHEET 3-X)	B-3	A-2	15"	112'	ABANDON
E-4	ERIE ST.	A-2	B-2	15"	189'	ABANDON

SEWER REQUIREMENTS

I-8 MANHOLES
YOUNGSTOWN MANHOLES
Y-A
2

I-16 STRUCTURES ABANDONED	
MANHOLES ABANDONED	CATCH BASINS ABANDONED
2	2

WATER REQUIREMENTS

I-124 NEW WATER MAIN				
C.I. PIPE	6" DIA.		CL. 22	45'
VALVES	6" DIA.	150		4
BENDS	6" DIA.	90° 250 W/LUGS		4
FIRE HYDRANTS				4

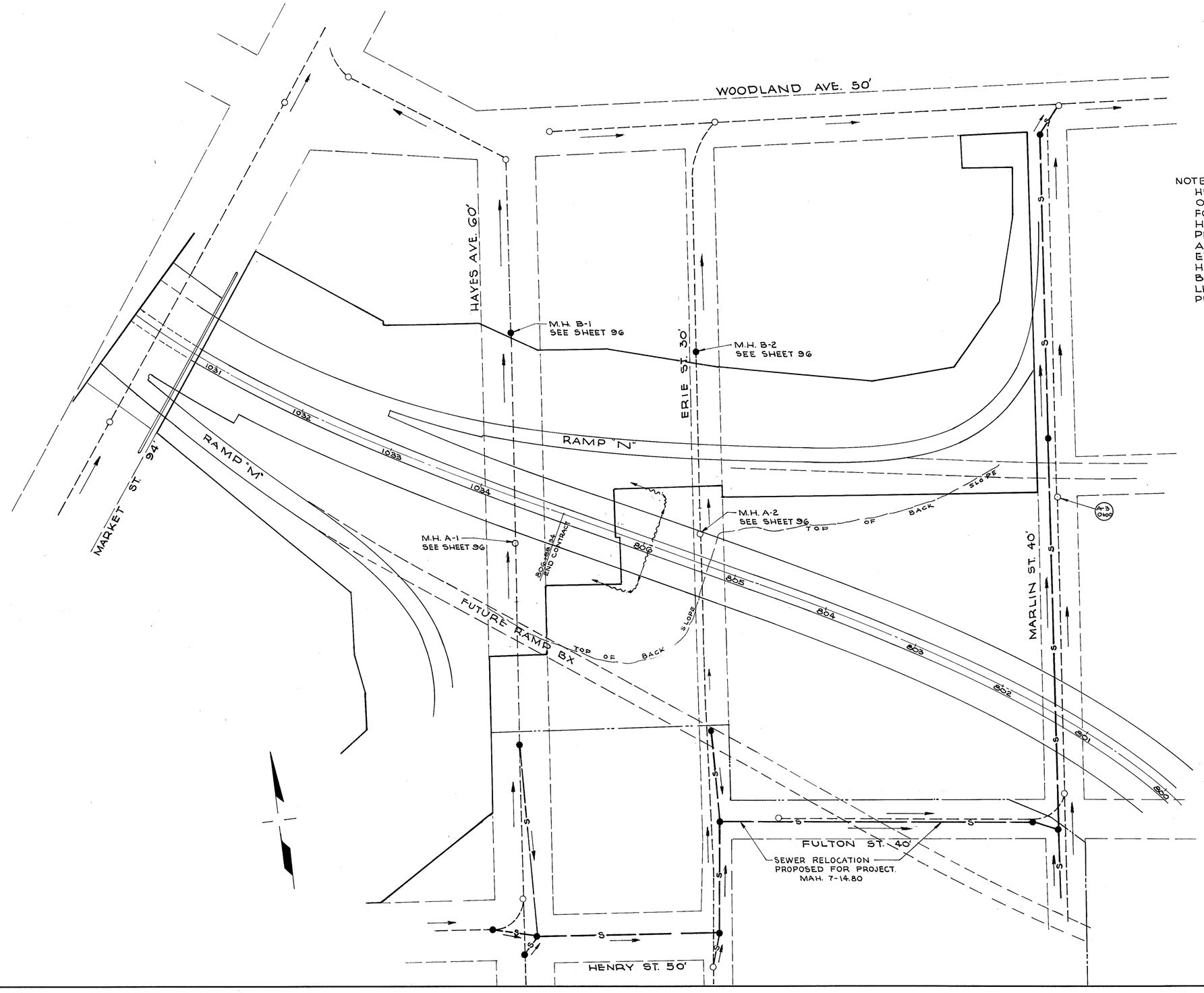
E-12 PIPE REMOVAL FOR STORAGE & REUSE	
VALVE REMOVAL	2
FIRE HYDRANT REMOVAL	2

DISPOSITION OF UTILITIES: HAYES AVE. & ERIE ST.

FED. RD.	STATE	PROJECT	
2	OHIO		

104
492

MAH-18-17.20



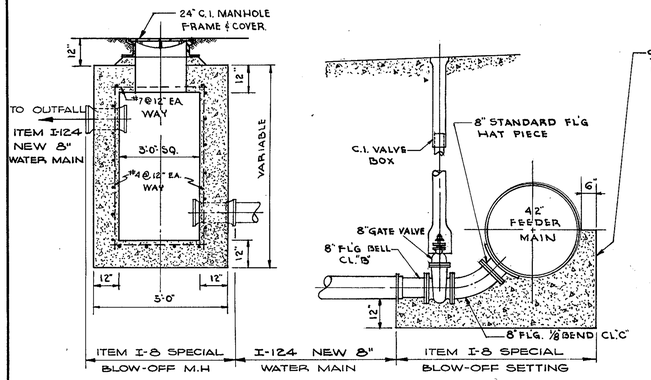
NOTE: THE CONTRACTOR SHALL COORINATE HIS OPERATIONS WITH THE CONTRACTOR OF PROJECT MAH-7-14.80. OUTLETS FOR THE COMBINATION SEWERS IN HAYES AVE. AND ERIE ST. ARE TO BE PROVIDED IN PROJECT MAH-7-14.80 AS INDICATED ON THIS PLAN. EXISTING COMBINATION SEWERS IN HAYES AVE. AND ERIE ST. MAY NOT BE REMOVED WITHIN CONSTRUCTION LIMITS UNTIL OUTLETS ARE PROVIDED.

TEMPORARY SEWER MAINS - HAYES, HENRY, ERIE, FULTON & MARLIN

FED. RD.	STATE	PROJECT	
2	OHIO		

105
492

MAH-18-17.20



BLOW-OFF MANHOLE

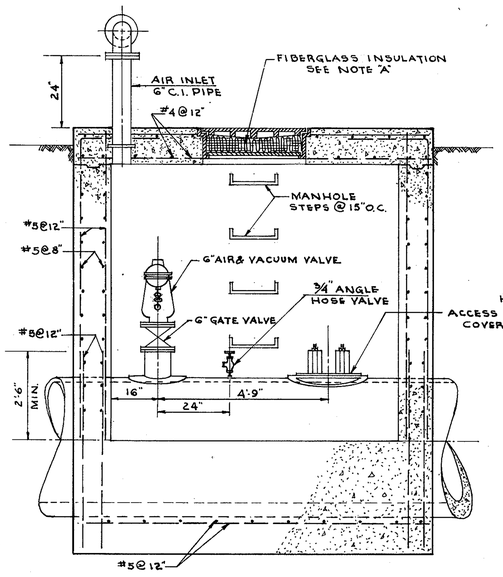
SCALE : 3/8" = 1'-0"

BLOW-OFF SETTING

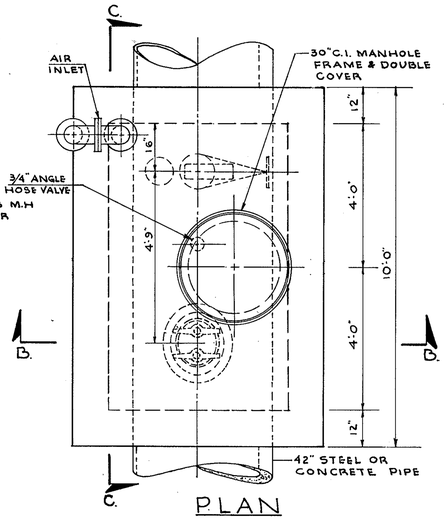
SCALE : 3/8" = 1'-0"

NOTE "A"

SPACE BETWEEN COVERS ON ALL AIR VALVE MANHOLES SHALL BE PACKED WITH FIBERGLASS INSULATION INSTALLED IN LAYERS OF 3" THICK BATT BLANKETS. CUT TO FIT PROPERLY. MATERIAL TO BE SIMILAR TO FLINTKOTE INSULATING WOOL OR EQUAL.

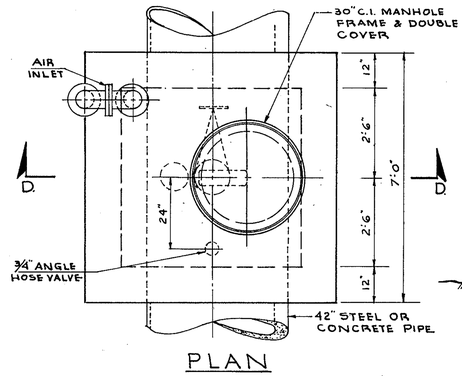


SECTION C-C



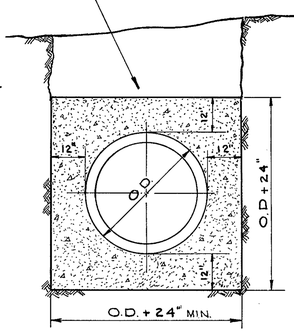
PLAN

GENERAL NOTE: MANHOLES, ALL CONCRETE TO BE CLASS "C"



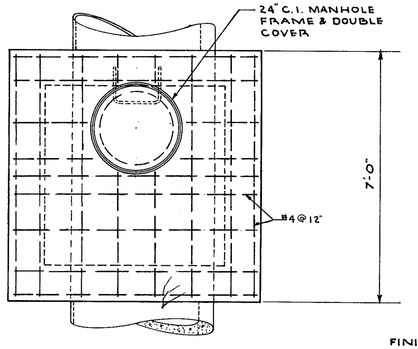
PLAN

NOTE:
ON CONC. ENCASED PIPE WHICH REQ. THRUST BLOCKS, THRUST BLOCKS SHALL EXTEND BEYOND CONC. ENCASEMENT TO UNDISTURBED SOIL

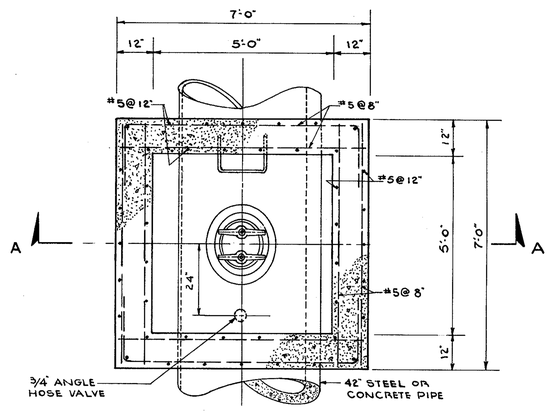


TYPICAL SECTION OF S-I CLASS "E" CONCRETE ENCASEMENT OF 42" MAHONING VALLEY SANITARY DISTRICT FEEDER MAIN

NOTE:
ENCASEMENT TO BE INCLUDED IN THE CONTRACT PRICE BID PER LIN. FT. FOR ITEM I-124 "NEW WATER MAIN" (CONCRETE ENCASED)



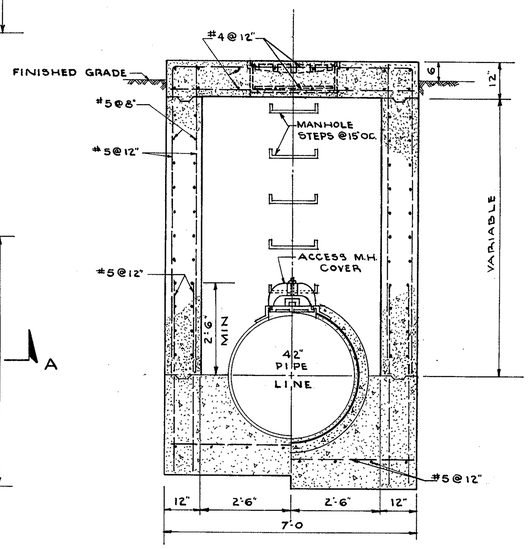
PLAN



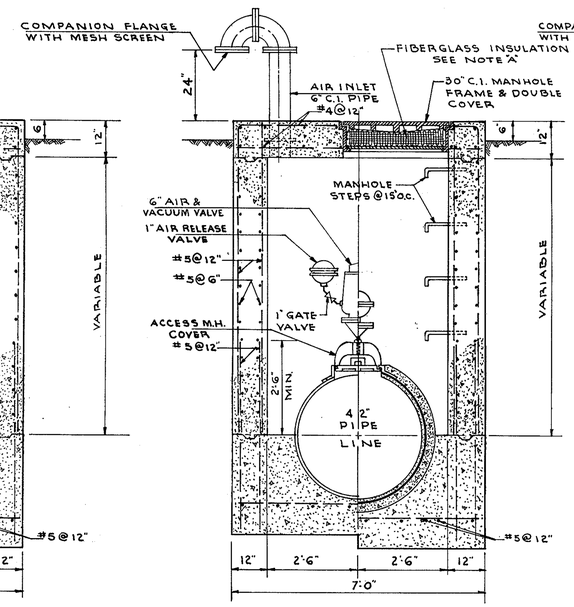
PLAN

ACCESS MANHOLE

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

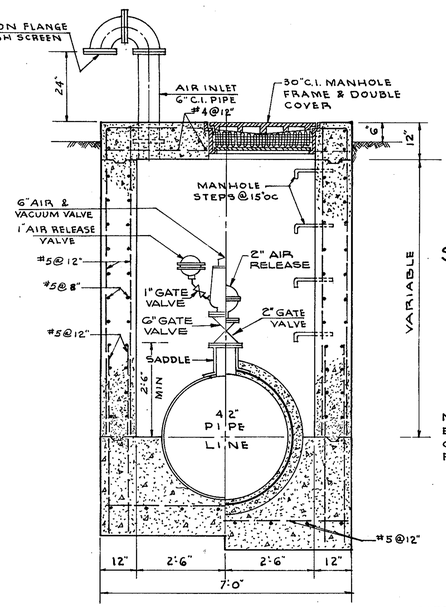


SECTION A-A



SECTION B-B

COMBINATION AIR VALVE AND ACCESS MANHOLE



SECTION D-D

AIR VALVE MANHOLE

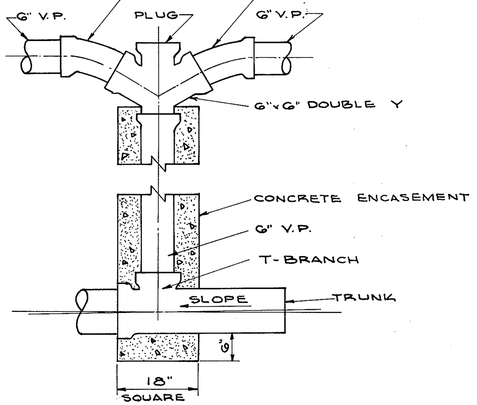
NOTE:
EQUIPMENT SHOWN IS FOR USE WITH STEEL PIPE. IF CONCRETE PIPE IS USED, EQUIPMENT SHALL BE AS FOLLOWS:
2" SADDLE
2" GATE VALVE
2" AIR RELEASE VALVE.

FED. RD.	STATE	PROJECT	
2	OHIO		

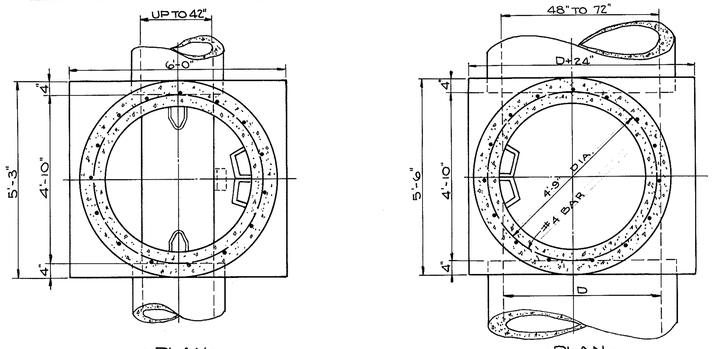
106
492

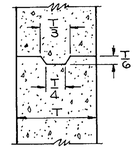
MAH-18-17.20

6" - 30° SHORT RADIUS CURVE

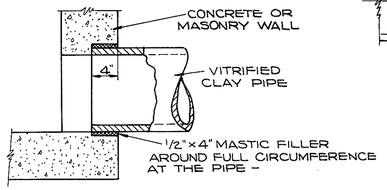


TYPICAL STACK DETAIL
FOR SANITARY SEWER LINES

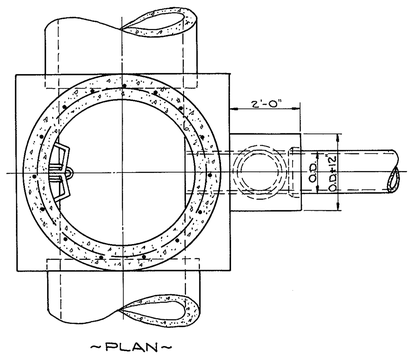


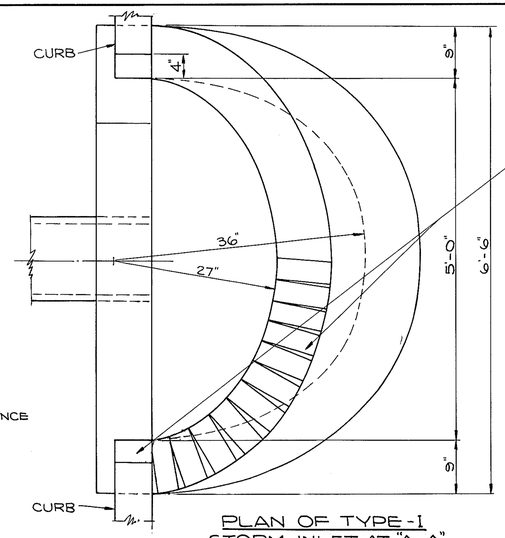


STD. CONSTRUCTION JT.
~NO SCALE~

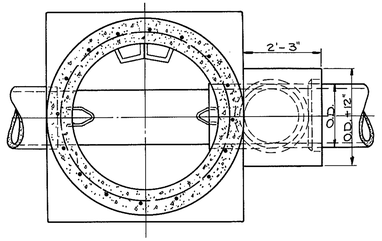


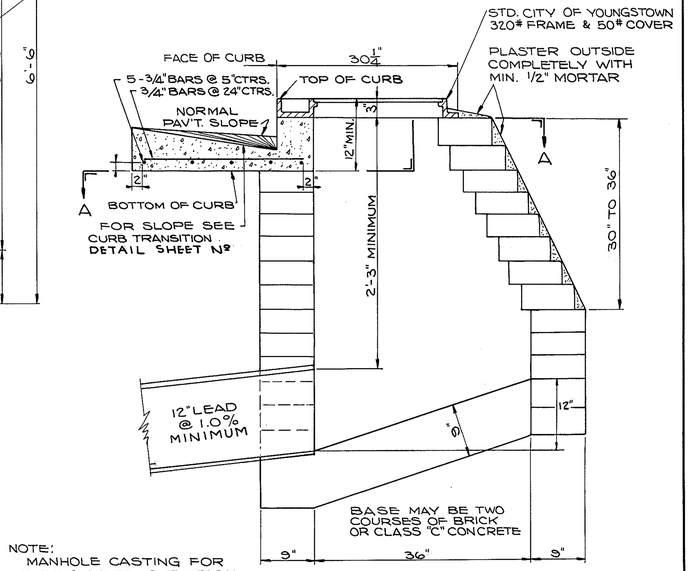
VIT. PIPE CONNECTION
~NO SCALE~





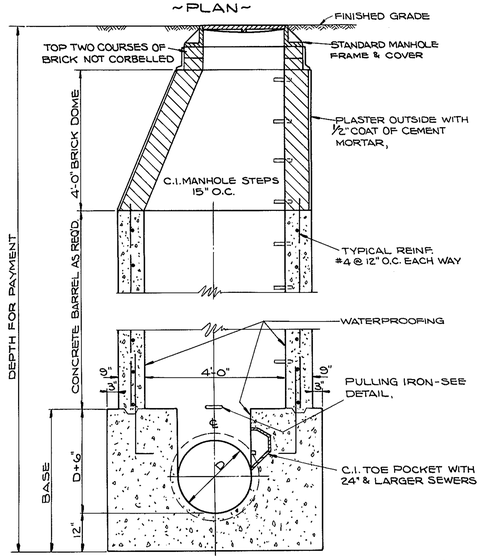
PLAN OF TYPE-I STORM INLET AT "A-A"



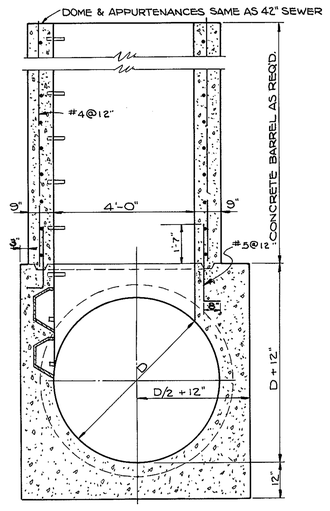


NOTE:
MANHOLE CASTING FOR TYPE-I INLET IS IDENTICAL TO CASTING FOR TYPE II INLET. FOR DETAILS SEE SHEET Nº ☐

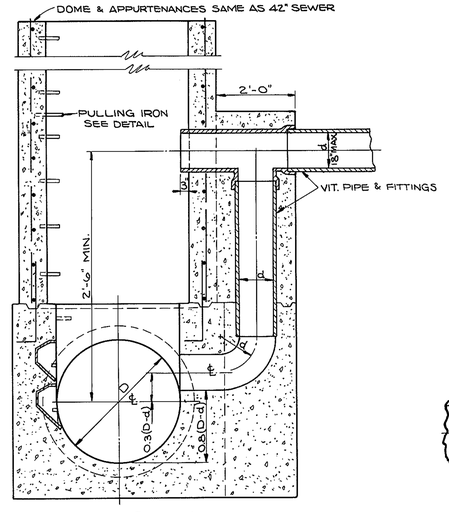
SECTIONAL ELEVATION TYPE-I STORM INLET
SCALE: 1"=1'-0"



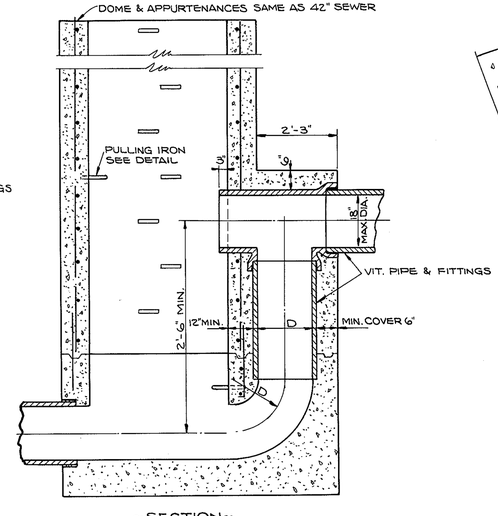
SEWERS UP TO 42" (TYPE Y-A)



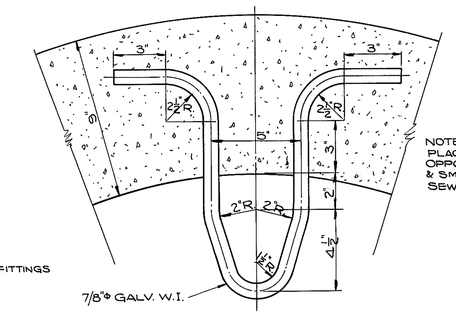
SEWERS 48" TO 72" (TYPE Y-B)



LATERAL DROP CONNECTION (TYPE Y-C)



LINE-DROP MANHOLE (TYPE Y-D)



NOTE: PULLING IRON TO BE PLACED IN MANHOLE WALLS OPPOSITE ALL SEWERS OF 18"DIA. & SMALLER & LOCATED 6" ABOVE SEWER CROWN

PULLING IRON
SCALE: 3"=1'-0"

STANDARD MANHOLE DETAILS
SCALE: 1/2"=1'-0"

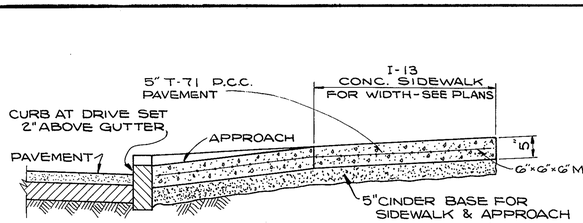
NOTE:
ALL MANHOLES - CLASS "C" CONCRETE

YOUNGSTOWN MANHOLES & INLET

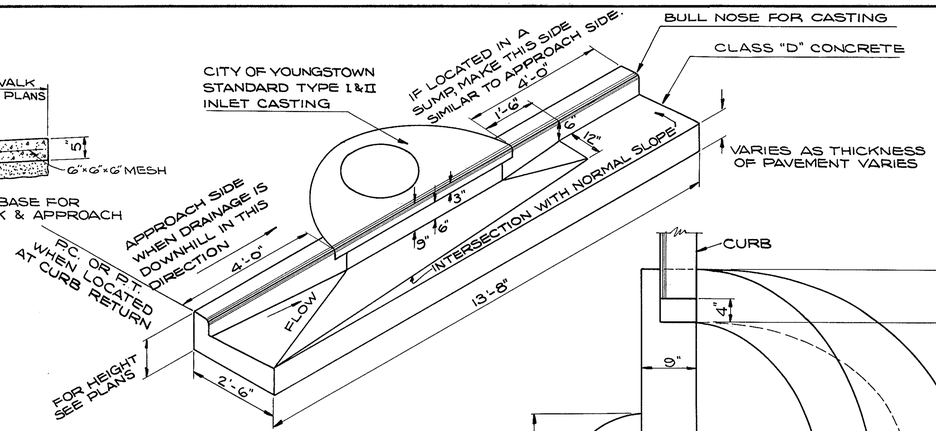
FED. RD.	STATE	PROJECT	
2	OHIO		

107/492

MAH-18-17.20

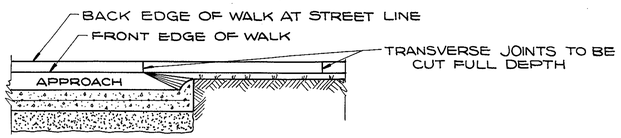


SECTION B-B

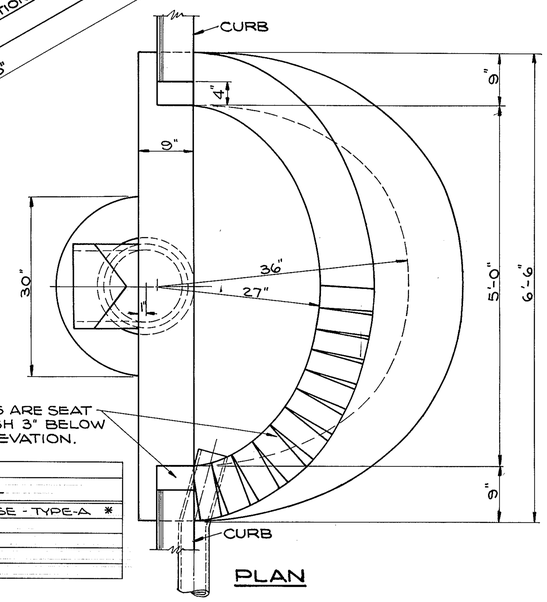


INLET APPROACH & CURB TRANSITION

SCALE: 1 1/2" = 1 FT.



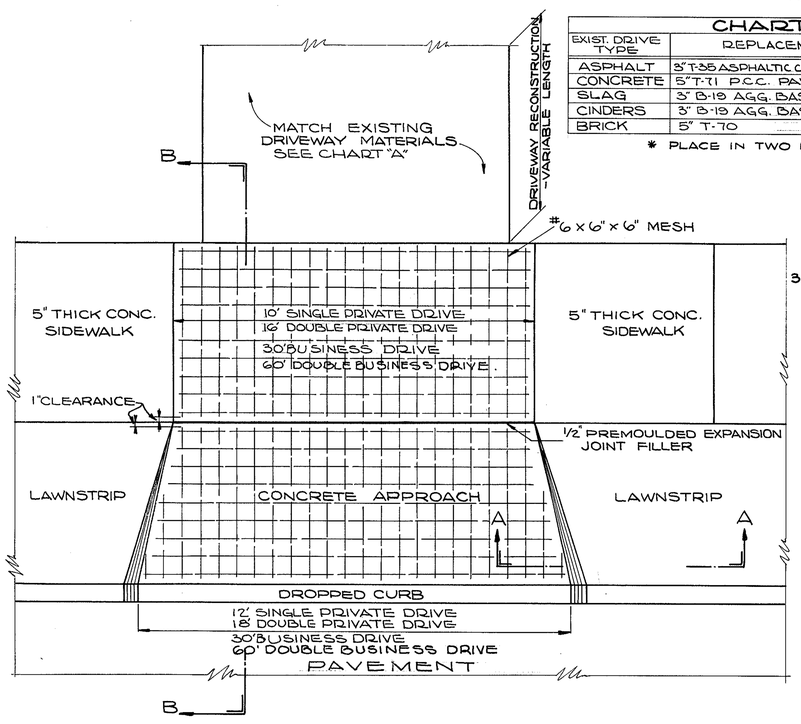
SECTION A-A



PLAN

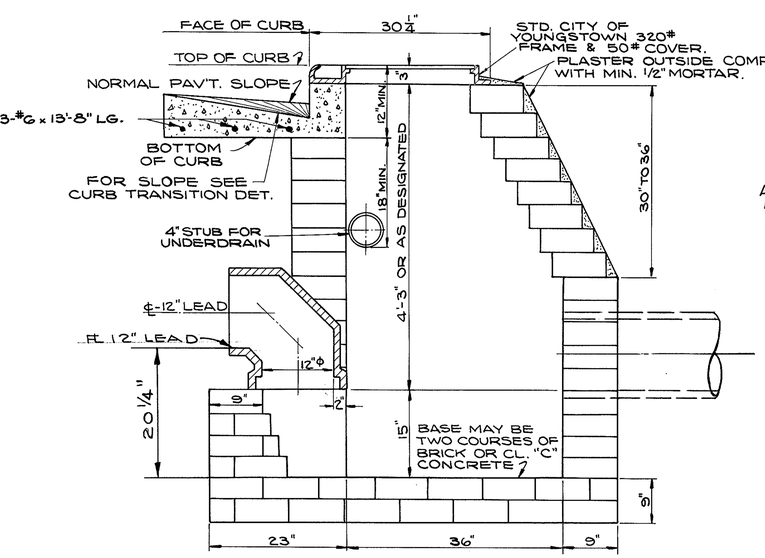
CHART "A"	
EXIST. DRIVE TYPE	REPLACEMENT MATERIAL
ASPHALT	3" T-35 ASPHALTIC CONC. SURFACE COURSE - TYPE-A *
CONCRETE	5" T-71 P.C.C. PAVEMENT
SLAG	3" B-19 AGG. BASE COURSE
CINDERS	3" B-19 AGG. BASE COURSE
BRICK	5" T-70

* PLACE IN TWO LAYERS



TYPICAL PLAN OF DRIVEWAY APPROACH

DRIVEWAY APPROACHES INCLUDING REINFORCEMENT MESH AND CINDER BASE SHALL BE INCLUDED UNDER THE CONTRACT UNIT PRICE BID PER SQ.YD. FOR "5" T-71 P.C.C. DRIVEWAY APPROACH"



SECTIONAL ELEVATION
TYPE II - COMBINATION INLET

SCALE: 1" = 1 FT.

NOTES

FRAME & COVER SHALL BE OF CAST IRON IN ACCORDANCE WITH MATERIAL DETAILS FOR STANDARD TYPE I & II 320# INLET CASTING & 50# COVER.

BRICK SHALL BE EIGHT INCHES IN SIZE LAID IN MORTAR AND INTERIOR SURFACE SHALL BE PLASTERED WITH A SMOOTH COATING OF PORTLAND CEMENT MORTAR AT LEAST ONE HALF INCH THICK TO THE HEIGHT SHOWN. THE BRICK SHALL BE LAID IN A FULL BED OF MORTAR WITH NO JOINTS APPEARING ON EITHER SURFACE OF MORE THAN THREE EIGHTHS INCHES IN THICKNESS. JOINTS SHALL BE NEATLY POINTED AND STRUCK ON THE INSIDE OF THE INLET. THE MORTAR SHALL BE COMPOSED OF ONE PART OF PORTLAND CEMENT TO TWO PARTS OF SAND BY VOLUME.

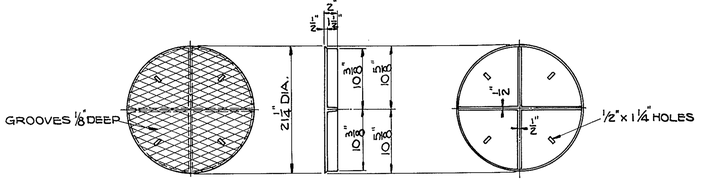
THE TOP OF THE WALLS OF THE STANDARD INLETS SHALL BE PROPERLY LEVELED OFF SO AS TO FORM A FLAT SURFACE UPON WHICH THE INLET CASTING IS TO REST.

THE TOP OF THE CASTING SHALL BE FILLED WITH CLASS "B" CONCRETE AND TROWELLED TO A SMOOTH EVEN FINISH.

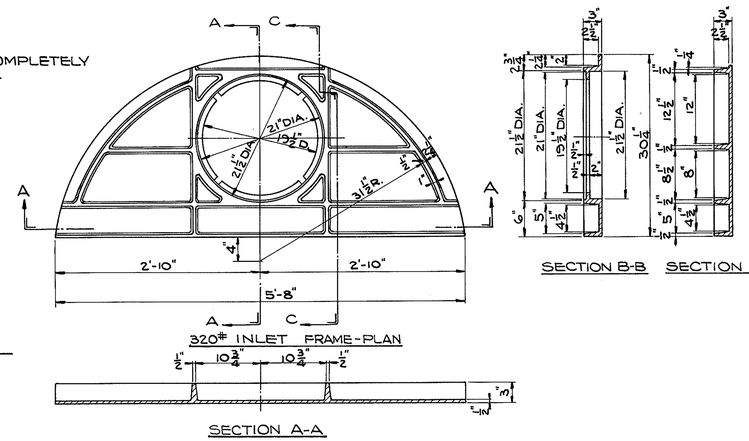
WHENEVER THE STREET GRADE IS FOUR PER-CENT OR GREATER THE STORM INLET SHALL BE SET AT SUCH AN ANGLE ALONG THE CURB SO AS TO COLLECT MAXIMUM GUTTER FLOW AS MAY BE SPECIFIED ON THE CONTRACT DRAWINGS.

THE BOTTOM OF THE STORM INLET SHALL BE CONSTRUCTED OF TWO COURSES OF BRICK LAID IN MORTAR. A CONCRETE BOTTOM MAY BE USED IN THE PLACE OF BRICK. THE PAD SHALL BE 9 INCHES IN THICKNESS, CLASS "C" CONCRETE AND LEVELED OFF TO A FLAT SURFACE.

INTEGRAL CURB AND GUTTER SHOWN WILL BE CONSTRUCTED AND PAID FOR AS ITEM I-8, "CATCH BASIN". REINFORCE SLAB WITH #4 BARS @ 4" CENTER TO CENTER, 8 FT. LONG CENTERED ON OPENING.



50# INLET COVER



DETAILS OF INLET FRAME & COVER

SCALE: 1" = 1 FT.

CITY OF YOUNGSTOWN

DRIVEWAY APPROACH & COMBINATION INLET DETAILS

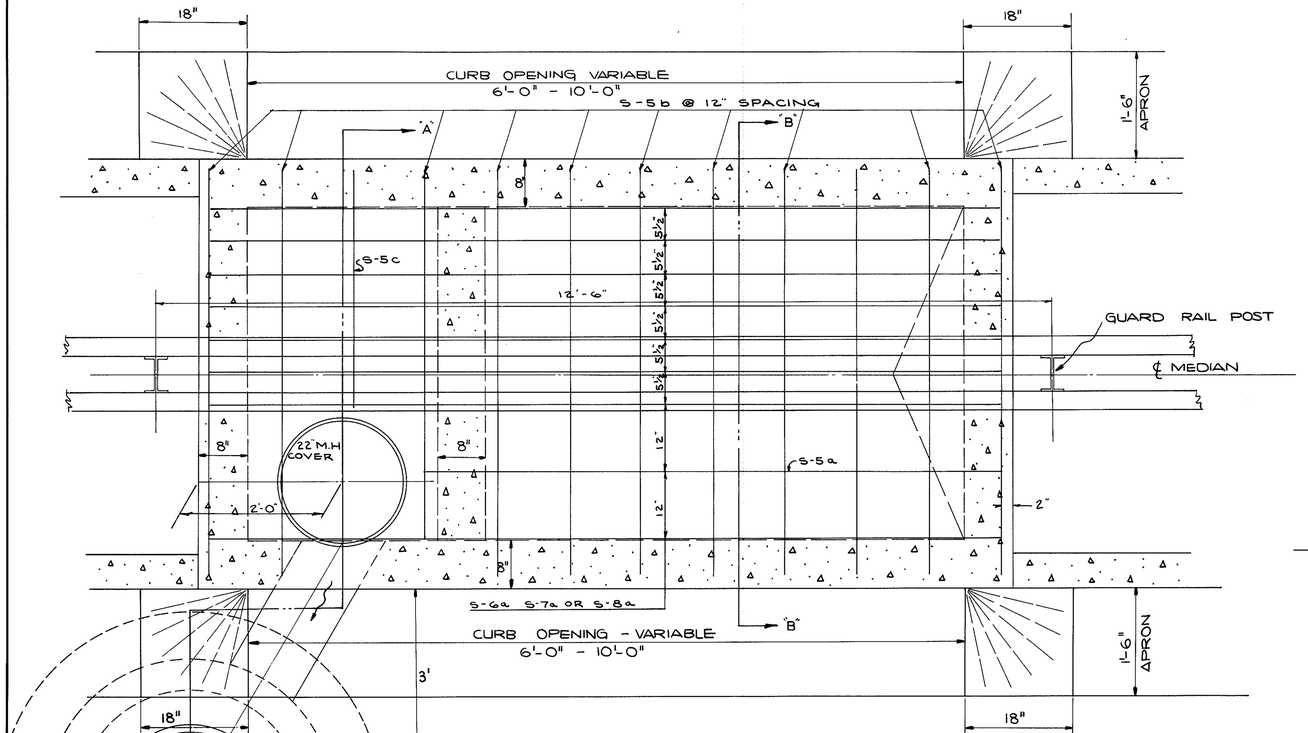
ARTERIAL HIGHWAY SYSTEM

SCALE AS SHOWN | MARCH, 1959

FED. R.D.	STATE	PROJECT	
2	OHIO		

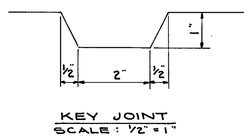
108
492

MAH-18-17.20

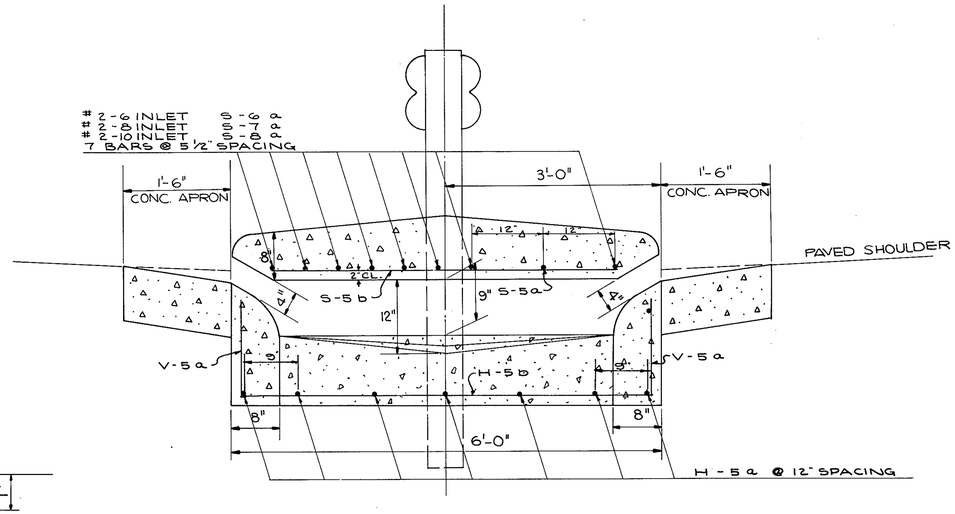


PLAN

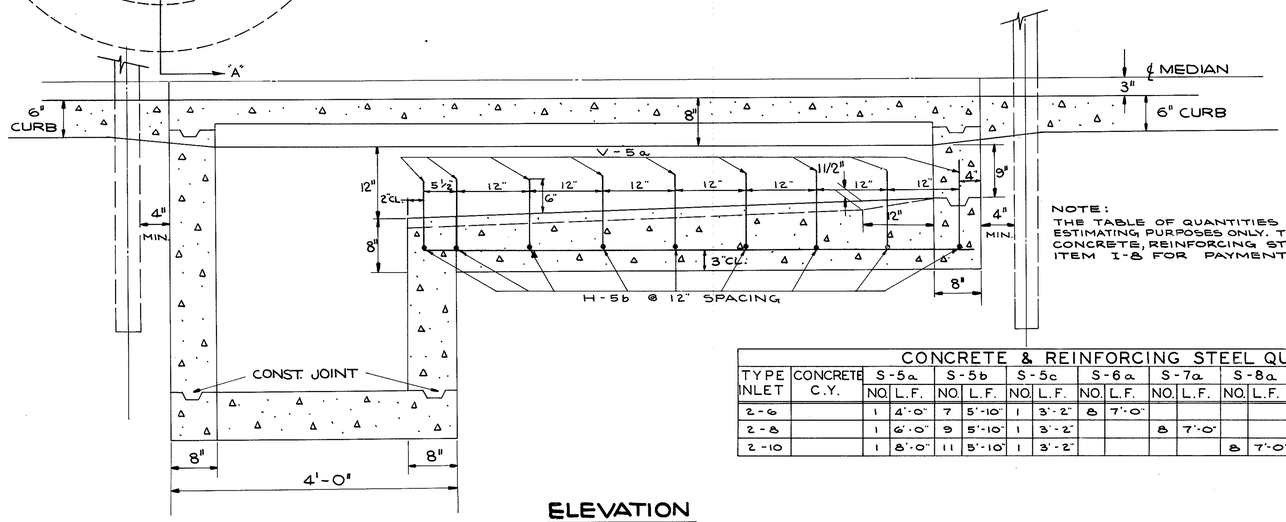
I-2 CLASS B STORM SEWER
UNDER PAV'T OR APPROACH



KEY JOINT
SCALE: ½" = 1"



SECTION B-B



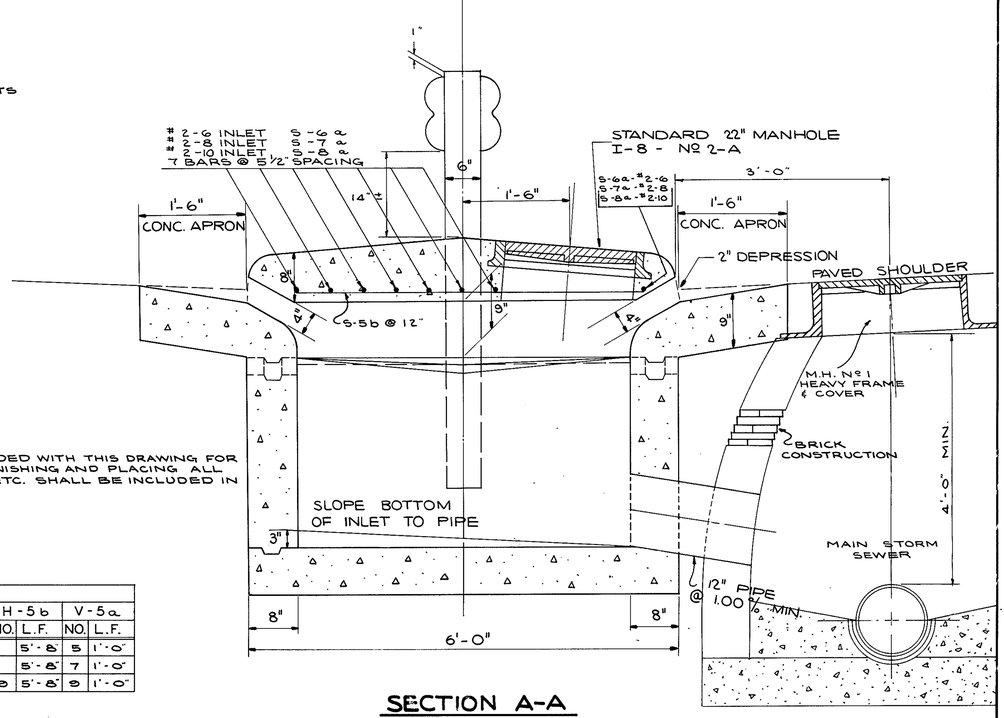
ELEVATION

QUANTITIES OF CURB WITHIN THE LIMITS OF THE INLET SHALL BE DEDUCTED FROM THE PROJECT QUANTITIES

NOTE:
THE TABLE OF QUANTITIES BELOW IS INCLUDED WITH THIS DRAWING FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL CONCRETE, REINFORCING STEEL, CASTING, ETC. SHALL BE INCLUDED IN ITEM I-8 FOR PAYMENT.

CONCRETE & REINFORCING STEEL QUANTITIES

TYPE INLET	CONCRETE C.Y.	S-5a NO.	S-5a L.F.	S-5b NO.	S-5b L.F.	S-5c NO.	S-5c L.F.	S-6a NO.	S-6a L.F.	S-7a NO.	S-7a L.F.	S-8a NO.	S-8a L.F.	TYPE	H-5a NO.	H-5a L.F.	H-5b NO.	H-5b L.F.	V-5a NO.	V-5a L.F.
2-6		1	4'-0"	7	5'-10"	1	3'-2"	8	7'-0"					#2-6	7	3'-8		5'-8	5	1'-0"
2-8		1	6'-0"	9	5'-10"	1	3'-2"			8	7'-0"			#2-8	7	5'-8"		5'-8"	7	1'-0"
2-10		1	8'-0"	11	5'-10"	1	3'-2"					8	7'-0"	#2-10	7	7'-8"	9	5'-8"	9	1'-0"



SECTION A-A

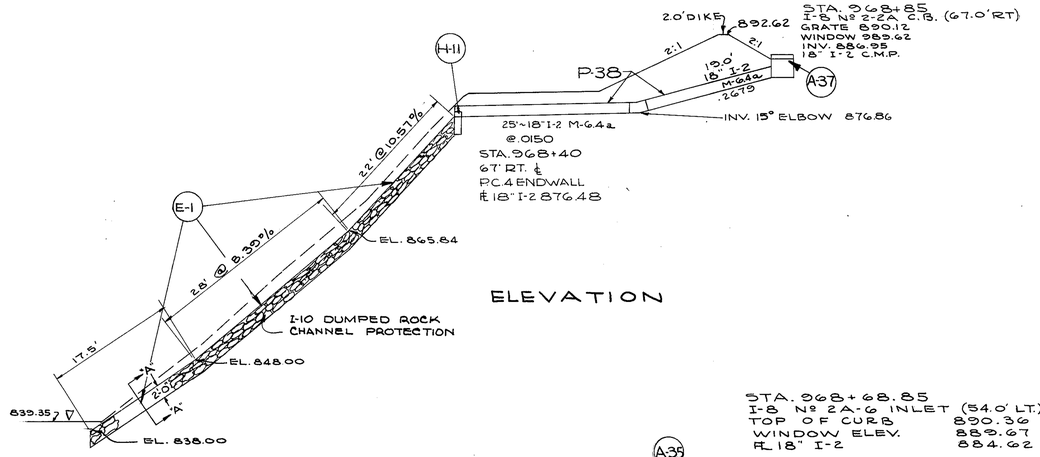
STANDARD Nº 2-6, 2-8 & 2-10 INLETS - MODIFIED

FED. RD.	STATE	PROJECT	
2	OHIO	:	

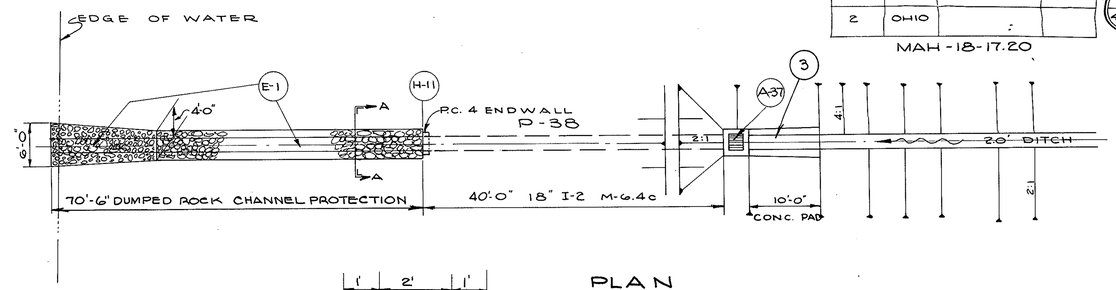
109
492

MAH-18-17.20

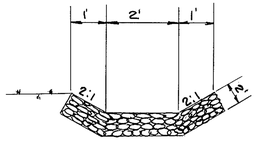
CONSTRUCTION DETAILS
STA. 966+64.5 TO 968+85.0
67.0' RT. ℄



ELEVATION

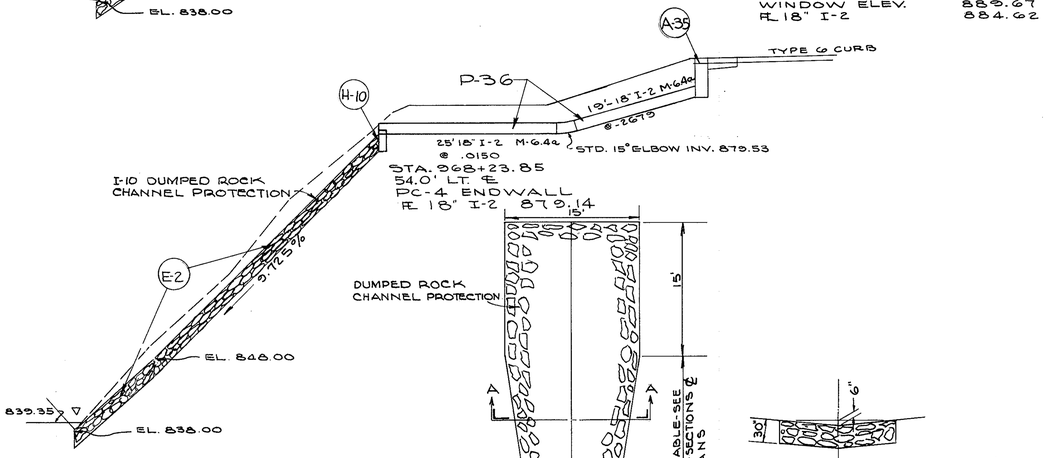


PLAN

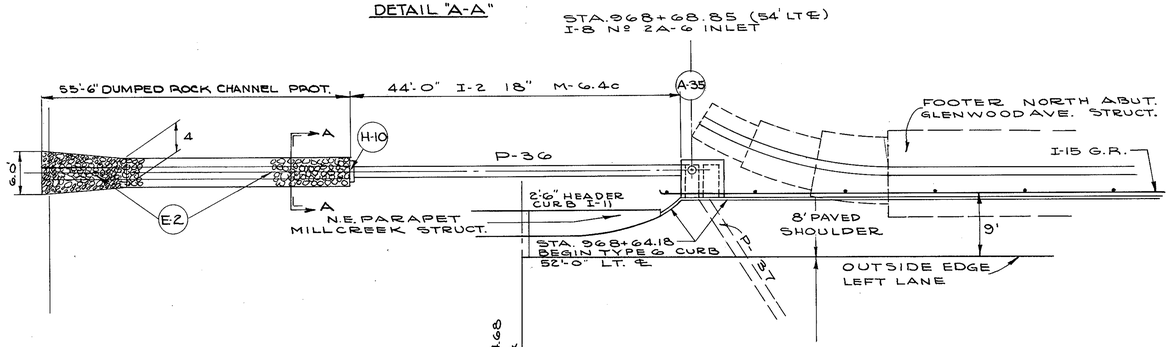


DETAIL "A-A"

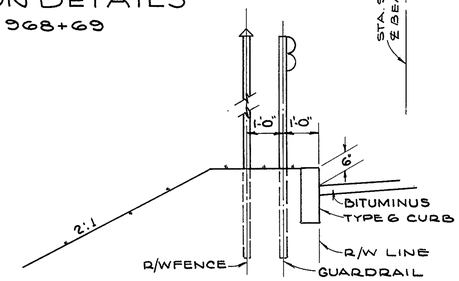
STA. 968+68.85
I-8 Nº 2A-6 INLET (54.0' LT.)
TOP OF CURB 890.36
WINDOW ELEV. 889.67
℄ 18" I-2 884.62



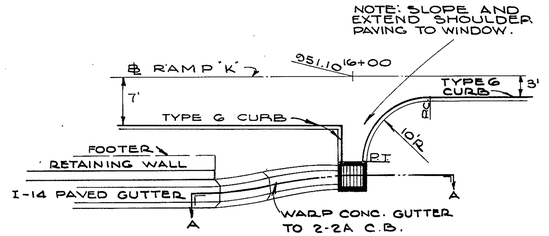
I-10 DUMPED ROCK
BACK SLOPE PROTECTION
SCALE: 1/8" = 1'-0"



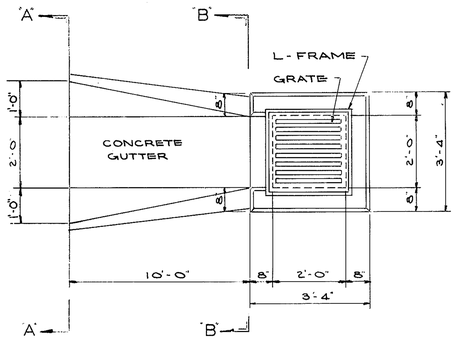
CONSTRUCTION DETAILS
STA. 967+78 TO 968+69
56.0' LT. ℄



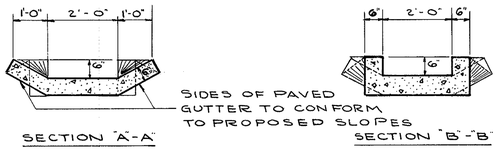
TOP OF SLOPE CURB
STA. 1012+30 TO STA. 1013+95 (RT.)



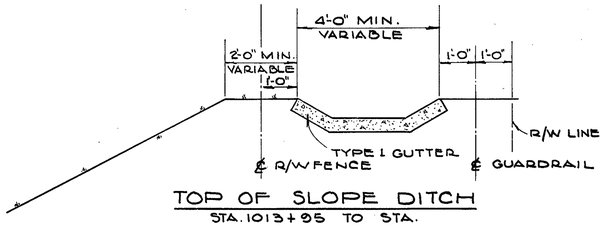
PLAN
CONSTRUCTION DETAIL
I-8 2-2A C.B. @ STA. 16+00
RAMP "K"



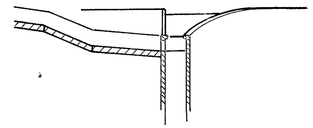
PLAN



I-14 TYPE 2 MODIFIED
CONCRETE GUTTER FOR
2-2A CATCH BASIN
SCALE: 1/2" = 1'-0"



TOP OF SLOPE DITCH
STA. 1013+95 TO STA.



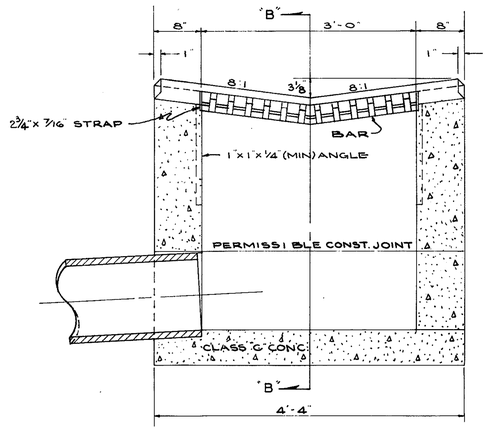
SECTION A-A

MODIFIED Nº 4 CATCH BASIN

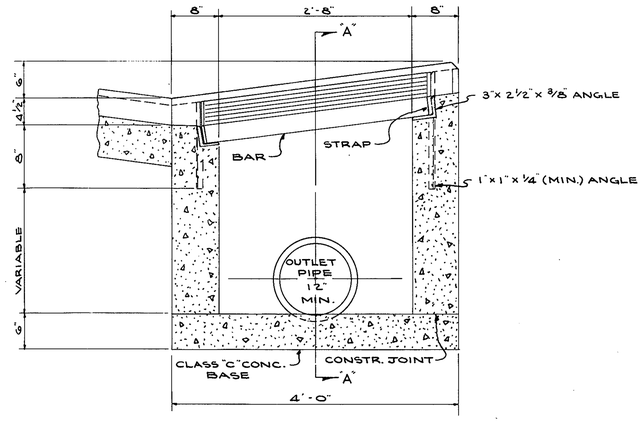
FED. RD.	STATE	PROJECT	
2	OHIO		

110
492

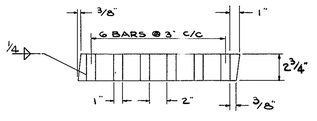
MAH-18-17.20



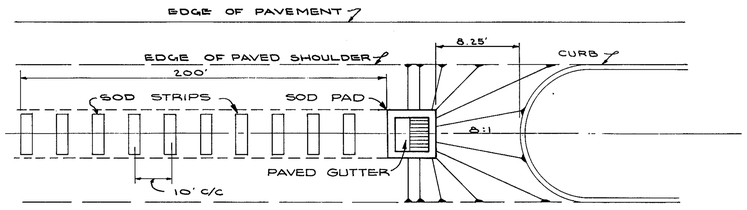
SECTION - "A" - "A"
SCALE: 1"=1'-0"



SECTION - "B" - "B"
SCALE: 1"=1'-0"



SECTION THRU GRATE
SCALE: 1½"=1'-0"



PLAN OF MEDIAN GRADING AT CATCH BASIN
SCALE: NONE

NOTES:

BRICK OR CONCRETE BLOCK MAY BE USED IN WALL CONSTRUCTION BETWEEN THE CONCRETE BASE AND THE PERMISSIBLE CONSTRUCTION JOINT.

THE WALL THICKNESS SHALL BE 8" WHERE BRICK OR CONCRETE BLOCK IS USED.

CONCRETE TO BE CLASS "C"

GRATING AND FRAME SHALL BE OF STRUCTURAL STEEL IN ACCORDANCE WITH CONSTRUCTION AND MATERIALS SPECIFICATION SEC. M-7.4(a). WELDING SHALL BE CLASS "A". THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THE ONE SHOWN HEREON AND SHALL BE GIVEN ONE COAT OF ASPHALTUM PAINT AS PER SPECIFICATIONS.

MINIMUM WEIGHT OF GRATES - 361 POUNDS.

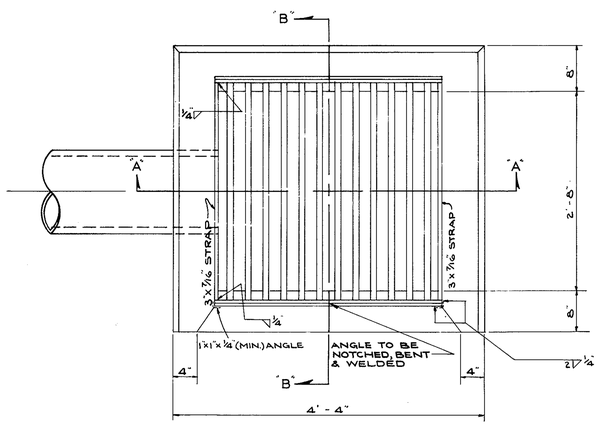
MINIMUM WEIGHT OF FRAME - 69 POUNDS.

GRATE SHALL BE DEPRESSED 3" BELOW FLOW LINE OF DITCH AT THE UPSTREAM EDGE.

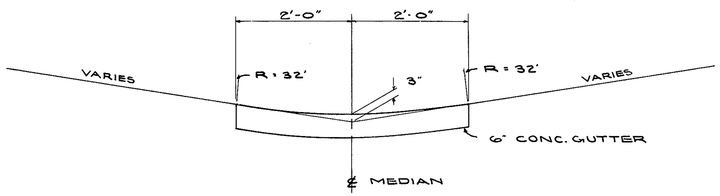
PAVED GUTTER: - THE COST OF PAVED GUTTER AND DOWNSTREAM DIKE TO BE INCLUDED IN THE UNIT PRICE BID FOR CATCH BASIN.

SEEDING AND SOD: - IN ADDITION TO THE SEEDING INDICATED IN THE PLANS, THE AREA 8' EACH WAY FROM THE DITCH CENTERLINE AND 200' UPSTREAM FROM THE CATCH BASIN, SHALL BE OVERSEEDED IN ACCORDANCE WITH THE FOLLOWING. - FROM JANUARY 1 TO JULY 1, FIVE POUNDS OF OATS (AVENA SATIUA) PER THOUSAND SQUARE FEET, - FROM JULY 1 TO JANUARY 1, TWO POUNDS OF NORTHERN RYE (LOLIUM MULTIFLORUM) PER ONE THOUSAND SQUARE FEET. A ROTARY TYPE OF MIXER SHALL NOT BE USED AND NO MULCHING WILL BE PERMITTED IN THIS AREA.

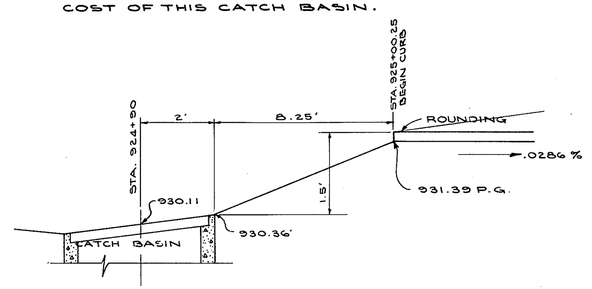
THE COST OF OVERSEEDING AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF SEEDING. THE SOD AS INDICATED ON THIS DETAIL SHALL BE INCLUDED IN THE ROADWAY QUANTITIES AND SHALL NOT BE INCLUDED IN THE COST OF THIS CATCH BASIN.

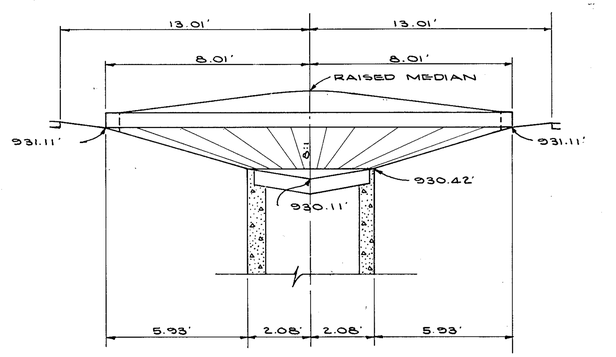


PLAN OF CATCH BASIN
SCALE: 1"=1'-0"



UPSTREAM END VIEW OF CONC. GUTTER
SCALE: NONE





CONSTRUCTION DETAILS
INLET STA. 924+90

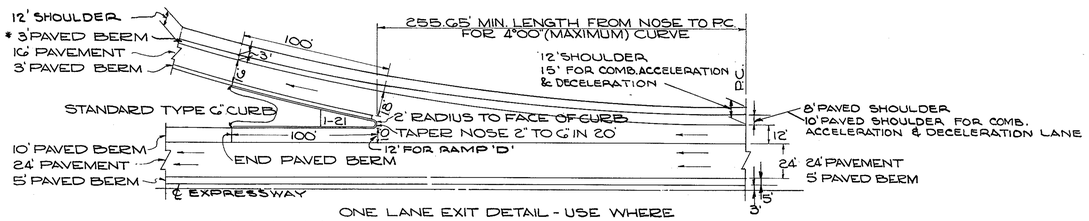
DRAINAGE DETAILS

OK
WKD

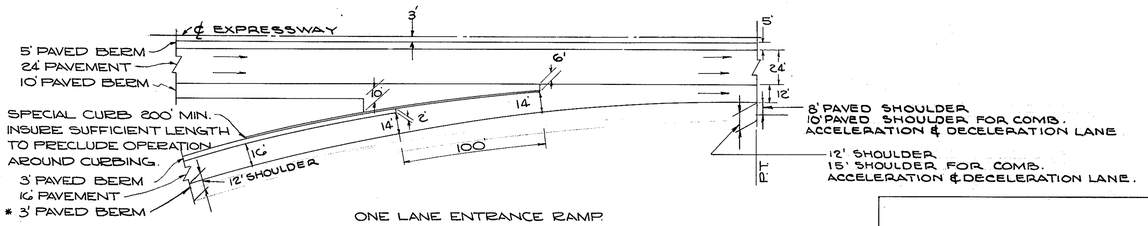
FED. RD.	STATE	PROJECT	
2	OHIO		

111
492

MAH-18-17.20



ONE LANE EXIT DETAIL - USE WHERE ONE LANE EXIT RAMP LEAVES AN EXPRESSWAY FROM A DECELERATION LANE, EXPRESSWAY IS NOT REDUCED IN NUMBER OF LANES.



ONE LANE ENTRANCE RAMP

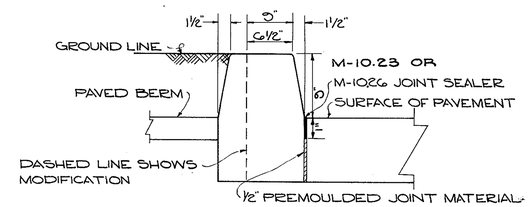
ONE LANE ENTRANCE DETAIL - USE WHERE
1. ONE LANE ENTERING JOINS AN EXPRESSWAY ON AN ACCELERATION LANE.
2. ONE LANE ENTERING JOINS AN EXPRESSWAY ON AN ADDITIONAL LANE.

DETAILS OF ENTRANCE & EXIT TERMINALS

NOTES:

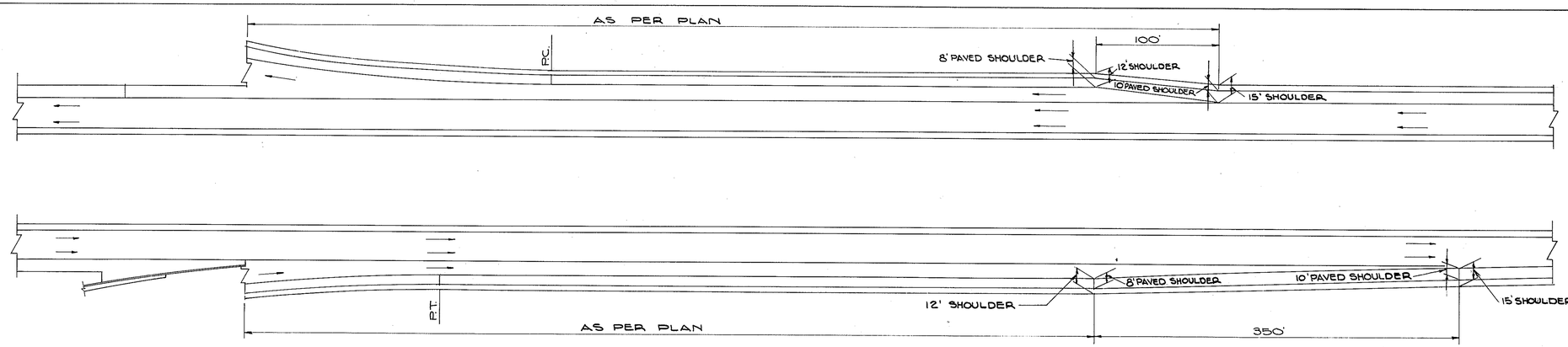
TRANSITION PAVED BEERM FROM 10' TO 8' IN LENGTH FOR PAVEMENT TRANSITION.

0.0312 FT./FT. MAXIMUM CHANGE IN RATE OF PAVEMENT CROSS SLOPE.



½" PREMOULDED JOINT MATERIAL WHERE CURB IS ADJACENT TO CONCRETE PAVEMENT.

SPECIAL PORTLAND CEMENT CONCRETE CURB DETAILS



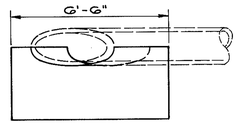
TYPICAL ACCELERATION & DECELERATION LANES

RAMP "C" STA. 6+56

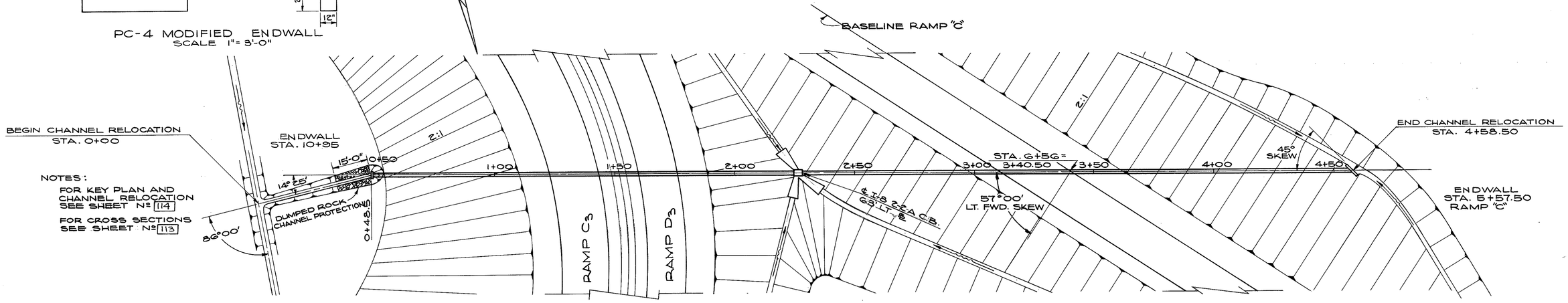
FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

112/492



PC-4 MODIFIED ENDWALL
SCALE 1" = 3'-0"

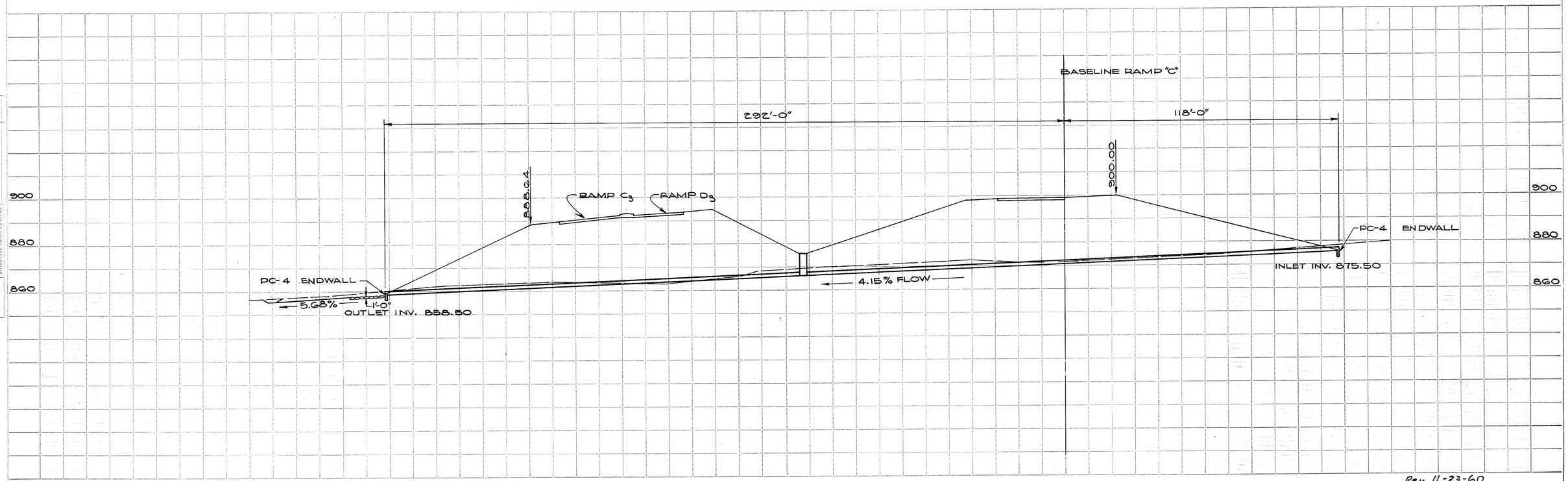


NOTES:
FOR KEY PLAN AND CHANNEL RELOCATION SEE SHEET Nº 114
FOR CROSS SECTIONS SEE SHEET Nº 113

PLAN
SCALE : 1" = 20'-0"

CULVERT DATA (d)
TYPE : STANDARD PIPE CULVERT M 6.6 (c)
SIZE : 18" x 410'-0"
SKEW : 57° 00' LT. FWD.
WORK REQ'D. : BUILD NEW 18" x 410' STD. PIPE
M 6.6 (c) (d) HW50 = 3.75 Vn = 13.8
AREA = 5.2 ACRES
Q50 = 17.0 C.F.S.

ESTIMATED QUANTITIES		
E-2	EXCAVATION FOR STRUCTURES	129.82 CU. YDS.
E-3	CHANNEL EXCAVATION	10.20 CU. YDS.
I-10	DUMPED ROCK CHANNEL PROTECTION	12.00 CU. YDS.
S-1	CONCRETE FOR STRUCTURES CLASS "E"	1.02 CU. YDS.
S-27	18" PIPE FOR ROADWAY STRUCTURES	408 L.F.



Rev 11-23-60

CULVERT DETAIL RAMP "C" STA. 6+56

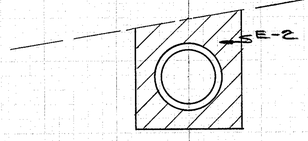
PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, ST. OF WAY CHECKED, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B.M.'s NOTED, STRUCTURE NOTATIONS CH'KD, NO., BY, DATE

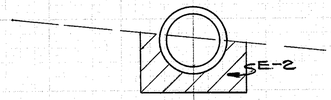
PLATE 1 — PLAN - PROFILE O. P. R. & R. S. STANDARD
251 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

FED. RD.	STATE	PROJECT		113 / 432
2	OHIO			

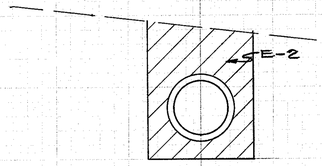
MAH-18-17.20



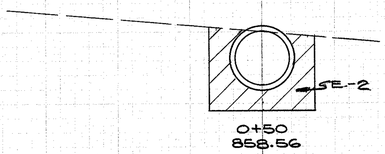
2+00
864.79



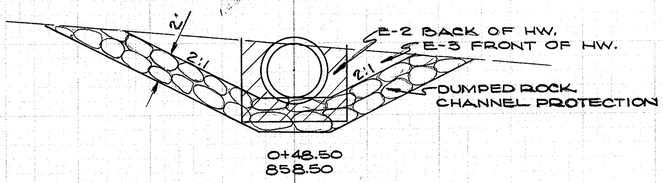
1+50
862.71



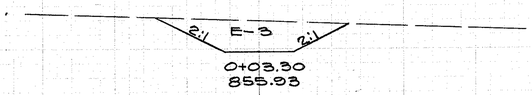
1+00
860.64



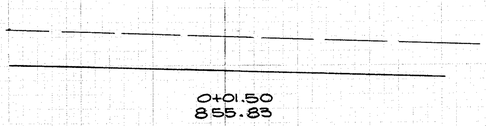
0+50
858.56



0+48.50
858.50

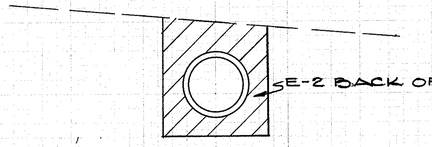


0+03.30
855.93

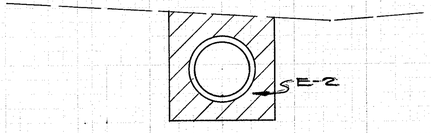


0+01.50
855.83

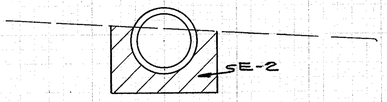
866
864
864
862
862
860
860
858
860
858
858
856
856



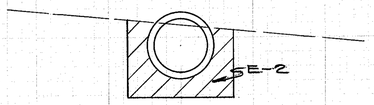
4+58.50
875.50
ZERO SECTION FRONT OF HEADWALL.



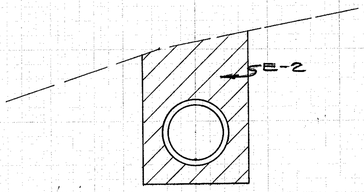
4+50
875.16



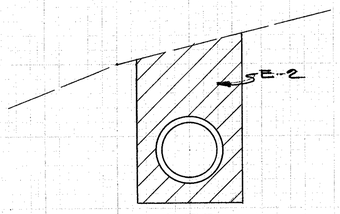
4+00
873.09



3+50
871.01



3+00
868.94



2+50
866.86

876
874
876
874
874
872
872
870
870
868
868
866

STA.	END AREA		CU. YDS.	
	E-2	E-3	E-2	E-3
0+01.50	0	0	0	0
0+03.30	0	3.46	0	0.12
0+48.50	6.36	8.60	0	10.08
0+50	6.40	0	0.35	0
1+00	10.66	0	15.80	0
1+50	4.53	0	14.05	0
2+00	8.91	0	12.45	0
2+50	12.78	0	20.10	0
3+00	11.68	0	22.70	0
3+50	5.84	0	16.20	0
4+00	5.26	0	10.30	0
4+50	8.61	0	12.85	0
4+58.50	9.34	0	2.82	0
HW.EXC.			2.20	
TOTAL			120.82	10.20

CHANNEL
CROSS SECTIONS
RAMP "C" STA. 6+56
SCALE: 1" = 2'-0"

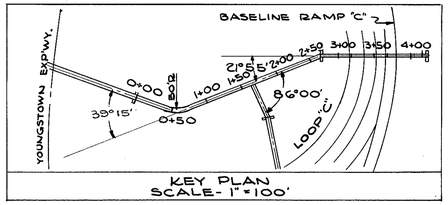
12 8 4 0 4 8 12 12 8 4 0 4 8 12

RAMP C STA. 10+50

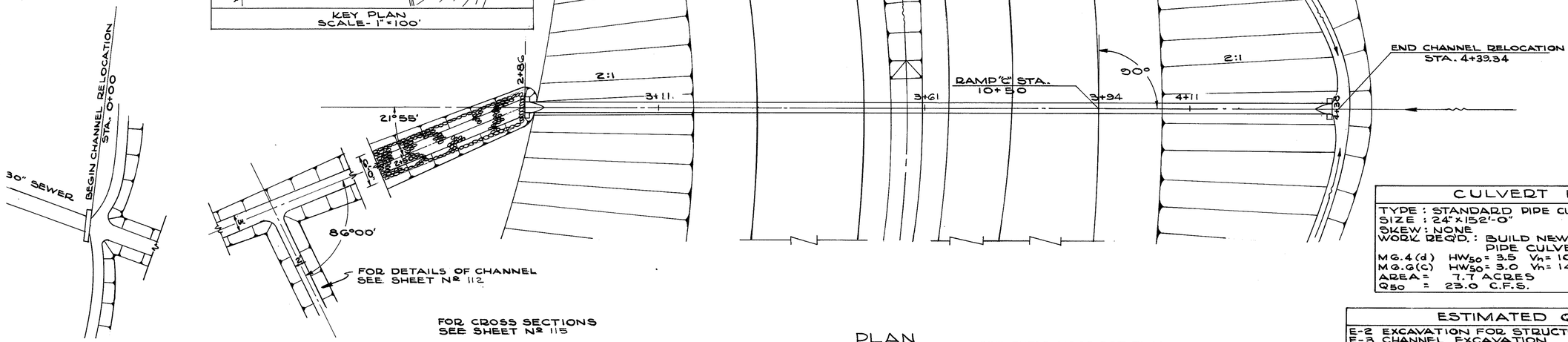
FED. RD.	STATE	PROJECT	
2	OHIO		

114
492

MAH-18-17.20



KEY PLAN
SCALE- 1"=100'



PLAN
SCALE 1"=10'

SEE SHEET Nº 68 FOR PLAN OF CHANNEL RELOCATION

CULVERT DATA

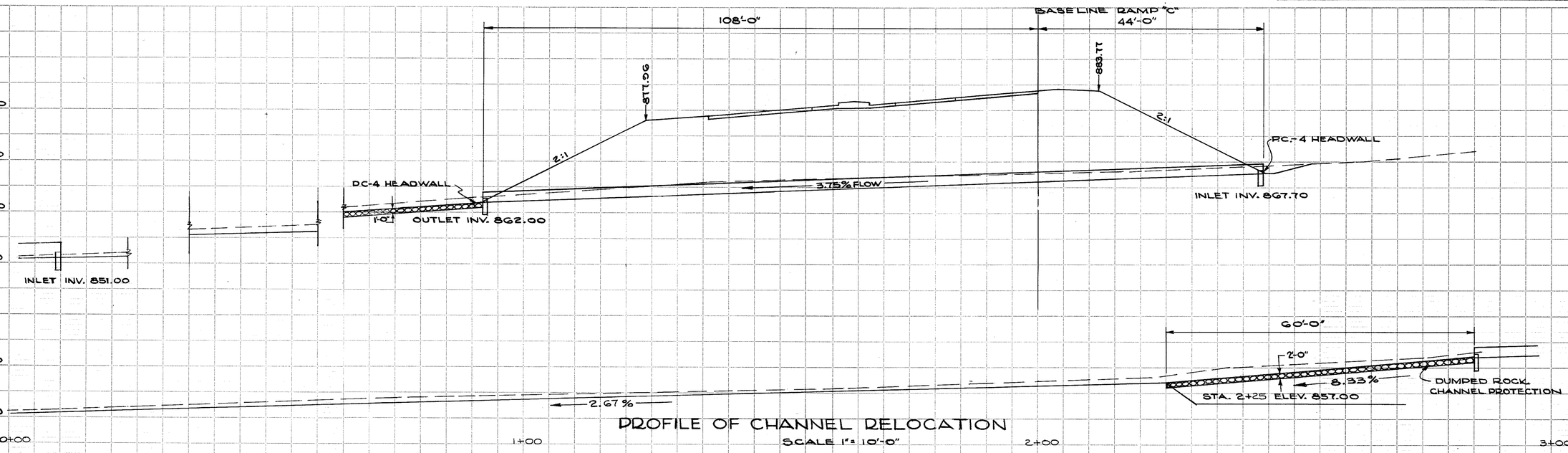
TYPE : STANDARD PIPE CULVERT MG.4(d), MG.G(C)
SIZE : 24"x152'-0"
SKEW : NONE
WORK REQ'D. : BUILD NEW 24"x 152' STANDARD PIPE CULVERT AS SHOWN.
MG.4(d) HW_{50} = 3.5 V_h = 10.3
MG.G(C) HW_{50} = 3.0 V_h = 14.3
AREA = 7.7 ACRES
Q50 = 23.0 C.F.S.

ESTIMATED QUANTITIES

E-2 EXCAVATION FOR STRUCTURES	51.47 CU.YDS.
E-3 CHANNEL EXCAVATION	52.16 CU.YDS.
I-10 DUMPED ROCK CHANNEL PROTECTION	40 CU.YDS.
S-1 CONCRETE FOR STRUCTURES CLASS "E"	0.82 CU. YDS.
S-27 24" DIPE FOR ROADWAY CULVERTS	152 L.F.

PLAN | SURVEYED | BY | DATE
PLOTTED
ALIGNMENT CHECKED
ALL OF WAY CHECKED
NOTE BOOK
NO.

PROFILE | SURVEYED | BY | DATE
PLOTTED
CROSS SECTIONS CHECKED
R. & L. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.

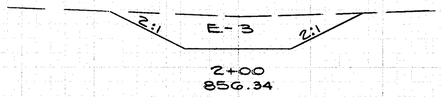


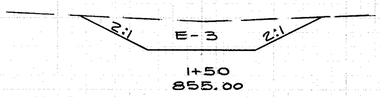
PROFILE OF CHANNEL RELOCATION

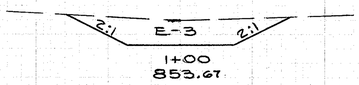
SCALE 1"= 10'-0"

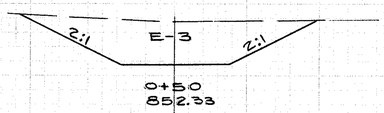
PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
261 FM-3 ACEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

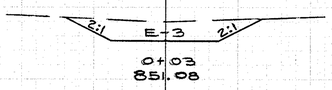
CULVERT DETAIL RAMP "C" STA. 10+50

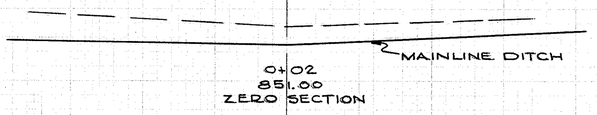








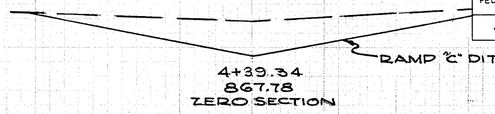




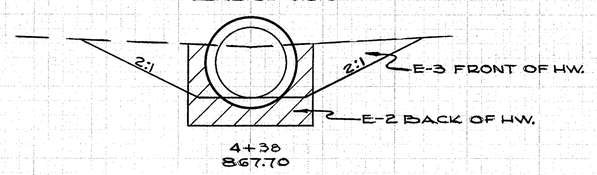
858
856
856
854
854
852
854
852
852
850
852
850

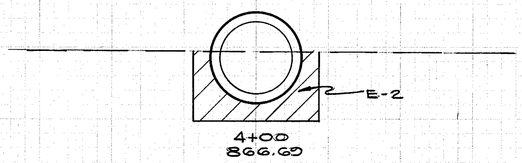
STA.	END AREA		CU. YDS.	
	E-2	E-3	E-2	E-3
0+02	0	0	0	0
0+03	0	2.24	0	0.04
0+50	0	7.20	0	8.23
1+00	0	3.80	0	10.20
1+50	0	3.29	0	6.55
2+00	0	3.83	0	6.55
2+50	0	7.82	0	10.80
2+86	5.98	3.97	0	5.17
3+00	8.21	0	6.57	0
3+50	9.06	0	12.00	0
4+00	6.67	0	23.80	0
4+38	7.52	8.83	7.10	4.40
4+39.34	0	0	0	0.22
HW.EXC.			2.00	
TOTAL			51.47	52.16

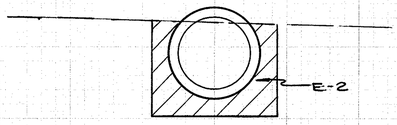
CHANNEL
CROSS SECTIONS
RAMP "C" STA. 10+50
SCALE 1" = 2'-0"

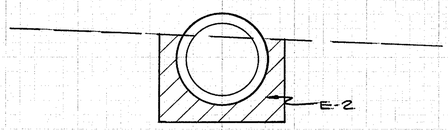


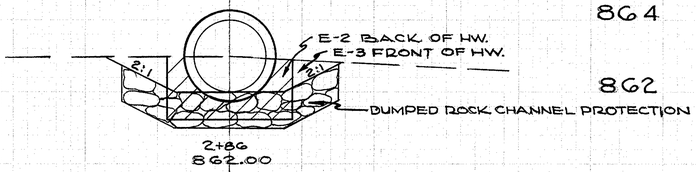
MAH-18-17.20

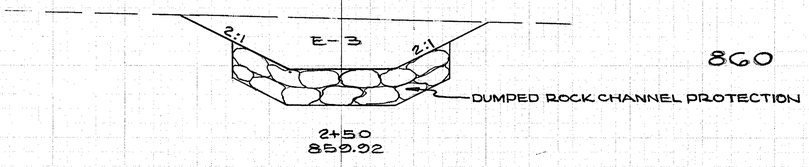












870
868
868
866
866
864
864
862
864
862
862
860

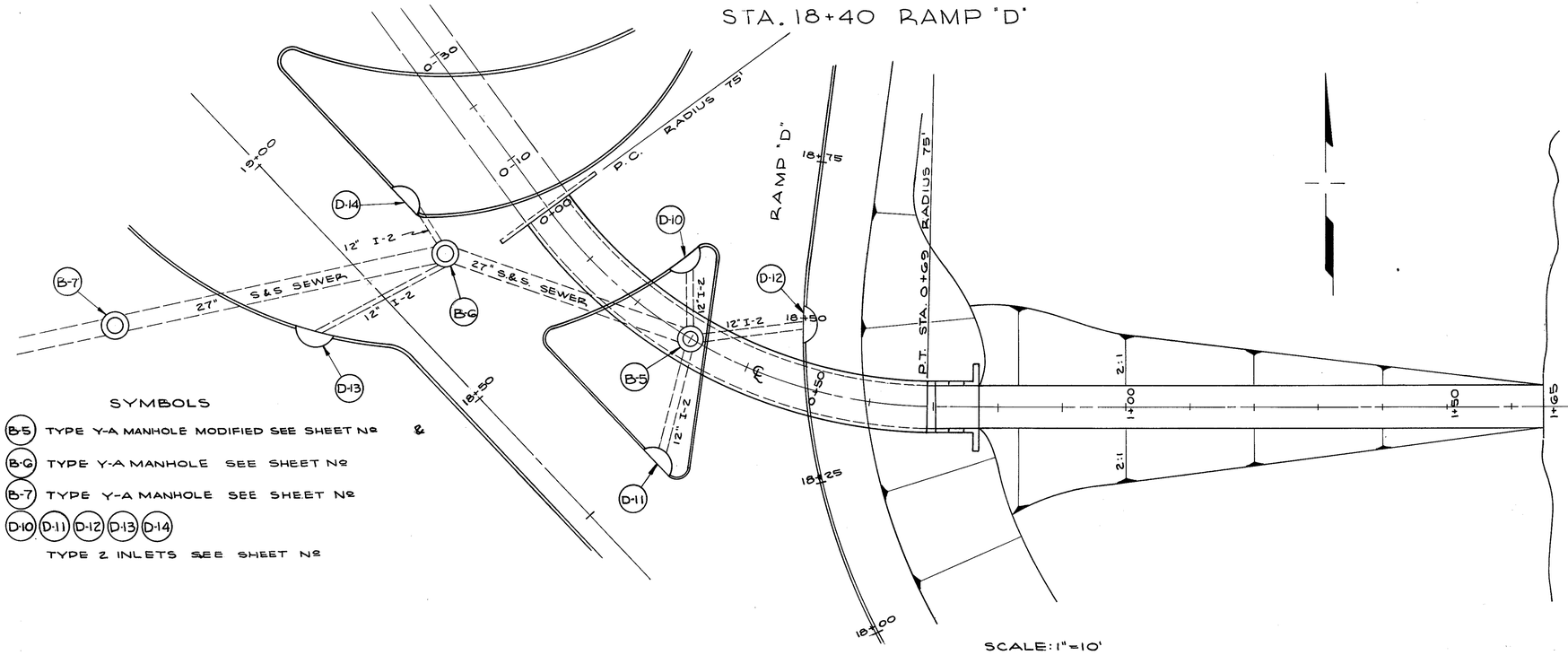
12 8 4 ℄ 4 8 12 12 8 4 ℄ 4 8 12

FED.RD.	STATE	PROJECT	
2	OHIO		

116
492

MAH-18-17.20

STA. 18+40 RAMP "D"



SYMBOLS

B-5 TYPE Y-A MANHOLE MODIFIED SEE SHEET Nº &

B-6 TYPE Y-A MANHOLE SEE SHEET Nº

B-7 TYPE Y-A MANHOLE SEE SHEET Nº

D-10 D-11 D-12 D-13 D-14

TYPE 2 INLETS SEE SHEET Nº

SCALE: 1"=10'

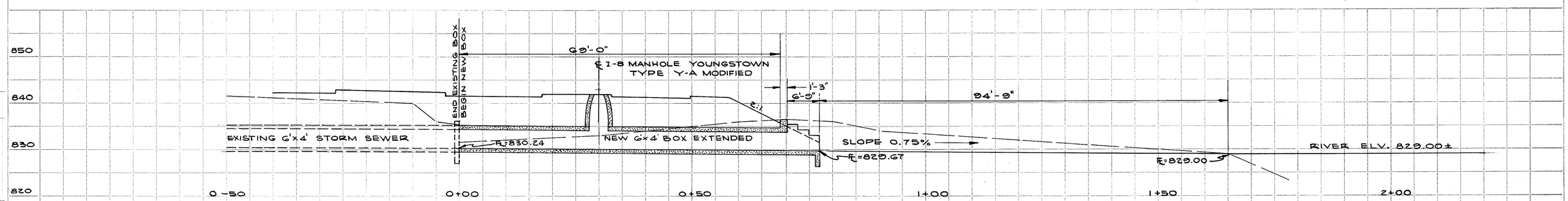
CULVERT DATA

TYPE: REINFORCED CONCRETE BOX CULVERT
SIZE: 6'x4' x 77'
WORK REQUIRED: BUILD NEW 6'x4'x77' REINFORCED CONCRETE BOX CULVERT WITH WINGWALLS AND Y-A MODIFIED YOUNGSTOWN MANHOLE AS SHOWN.

ESTIMATED QUANTITIES

E-3	CHANNEL EXCAVATION	400 CU.YDS.
S-1	CONCRETE FOR STRUCTURES CLASS "C"	60.70 CU.YDS.
S-4	REINFORCING STEEL	7,420 LBS.
E-2	EXCAVATION FOR STRUCTURES	40 CU.YDS.

SEE SHEET Nº 118 FOR CHANNEL CROSS SECTIONS.
SEE SHEET Nº 117 FOR CONSTRUCTION DETAILS OF BOX CULVERT AND MODIFIED MANHOLE.



PLAN — NOTE BOOK NO. — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — BY — DATE

PROFILE — NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — B.M.'s NOTED — STRUCTURE NOTATIONS CHKD — BY — DATE

PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

BOX CULVERT STA. 18+40 RAMP "D"

FED. RD.	STATE	PROJECT	
2	OHIO		

117
492

MAH-18-17.20

REINFORCING BAR SCHEDULE

MARK	NO. REQD.	LENGTH	WEIGHT	SHP. OR RAD.	MARK	NO. REQD.	LENGTH	WEIGHT	SHP. OR RAD.
401	91	11'-7"	704	BT.	509	5	23'-1"	120	75°-0"
402	172	7'-6"	862	ST.	510	5	22'-6"	117	73°-6"
403	92	2'-5"	149	BT.	511	12	22'-1"	276	71°-9"
404	168	5'-11"	664	BT.	512	242	7'-6"	1893	ST.
405	86	4'-0"	230	ST.	513	1	5'-1"	5	76°-6"
406	6	5'-6"	22	ST.	514	1	14'-10"	15	76°-6"
407	6	4'-4"	17	ST.	515	1	3'-9"	4	75°-0"
408	2	3'-2"	4	ST.	516	1	14'-5"	15	75°-0"
409	15	1'-8"	14	BT.	517	1	4'-4"	5	73°-6"
410	2	16'-3"	22	BT.	518	1	14'-7"	15	73°-6"
411	8	1'-10"	10	ST.	519	1	4'-1"	4	75°-9"
412	7	3'-6"	16	BT.	520	1	14'-8"	15	75°-9"
413	10	6'-6"	43	ST.	521	1	3'-9"	4	74°-3"
414	3	12'-6"	25	ST.	522	1	14'-5"	15	74°-3"
415	4	3'-11"	10	BT.	523	8	4'-10"	40	BT.
416	4	3'-5"	9	BT.	524	16	3'-10"	64	BT.
417	8	2'-8"	14	BT.	525	8	4'-0"	33	BT.
418	4	5'-3"	14	ST.	526	16	3'-0"	50	BT.
419	2	4'-1"	5	ST.	527	19	8'-4"	165	ST.
420	2	2'-11"	4	ST.					
					701	3	9'-2"	56	BT
					702	3	12'-6"	77	ST
501	12	24'-2"	302	78°-9"	703	4	7'-8"	63	ST,
502	6	23'-9"	149	77°-3"					
503	5	23'-4"	122	75°-9"	TOTAL WEIGHT = 7420 LBS.				
504	5	22'-11"	120	74°-3"	REPLACEMENT BARS				
505	6	22'-5"	140	72°-9"					
506	12	21'-11"	274	71°-3"	RE 401	1	5'-3"		ST.
507	12	24'-1"	301	78°-3"	RE 501	1	5'-6"		ST.
508	5	23'-7"	123	76°-6"	RE701	1	6'-3"		ST.

IF THE BARS ARE FABRICATED FROM STOCK THAT HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. S-402 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

ESTIMATED QUANTITIES

ITEM	UNIT	DESCRIPTION	QUAN.
E-2	CU. YDS.	UNCLASSIFIED EXCAVATION	40
S-1	CU. YDS.	CLASS "C" CONCRETE	60.7
S-14	LBS.	REINFORCING STEEL	7420

NOTES

SEE SHEET FOR LOCATION AND QUANTITIES.

SEE SHEET 99 FOR DETAILS OF YOUNGSTOWN MANHOLE TYPE "A" MOD.

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.

CONTRACTION JOINTS SHALL EXTEND ENTIRELY AROUND CULVERT BARREL AND SHALL BE PROVIDED WITH KEYS AS SHOWN.

FOUNDATION MATERIAL OF APPROXIMATELY UNIFORM BEARING CAPACITY IS CONTEMPLATED. SPOTS OF SOFT EARTH SHALL BE REMOVED AND BE REPLACED WITH THOROUGHLY COMPACTED GRANULAR FILL.

EMBANKMENT SHALL BE PLACED SYMMETRICALLY ON BOTH SIDES OF THE CULVERT AFTER THE TOP SLAB IS IN PLACE. EMBANKMENT OVER THE BARREL SHALL BE PLACED IN HORIZONTAL LAYERS SIMULTANEOUSLY WITH THAT ON EACH SIDE OF CULVERT.

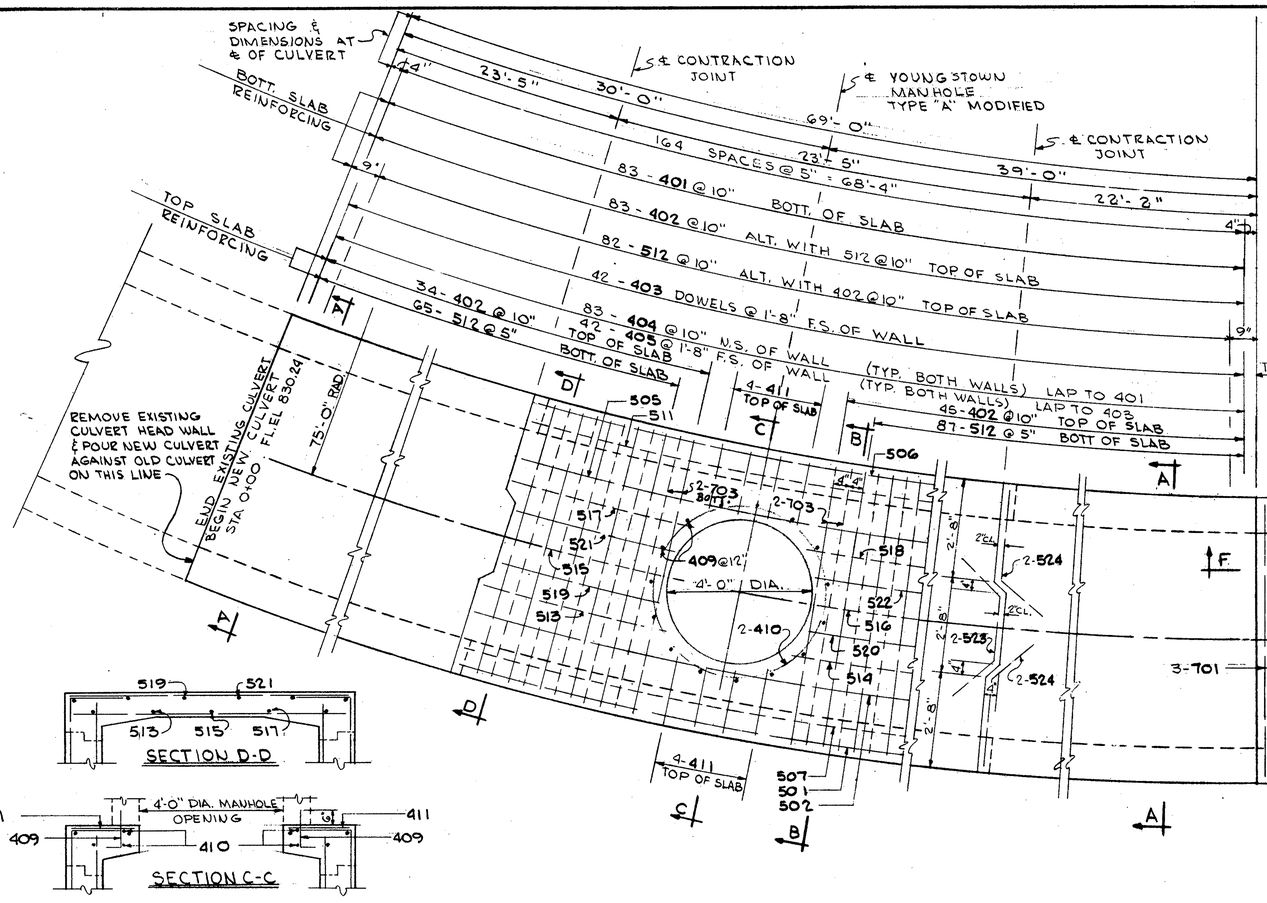
CONCRETE SHALL BE CLASS "C"

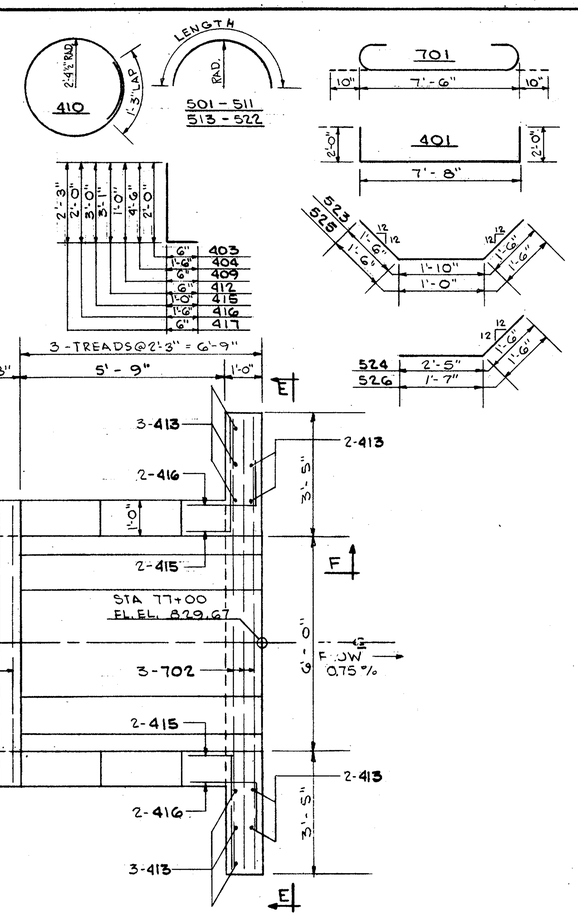
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

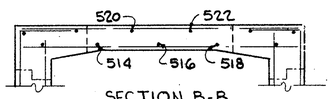
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

6'X4' BOX CULVERT
UNDER RAMP "D"
STA. 18+40
YOUNGSTOWN MAHONING COUNTY

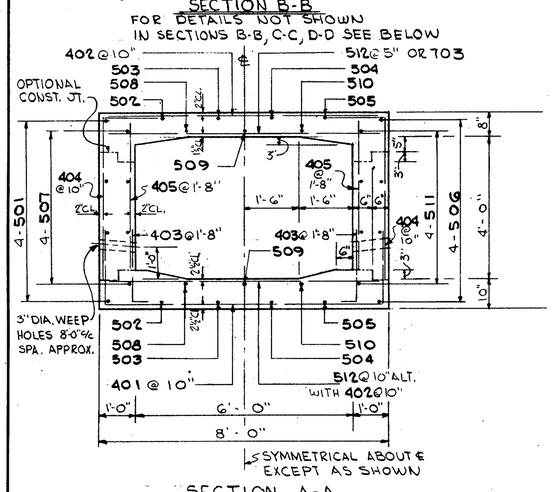
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		DHC	DHC		

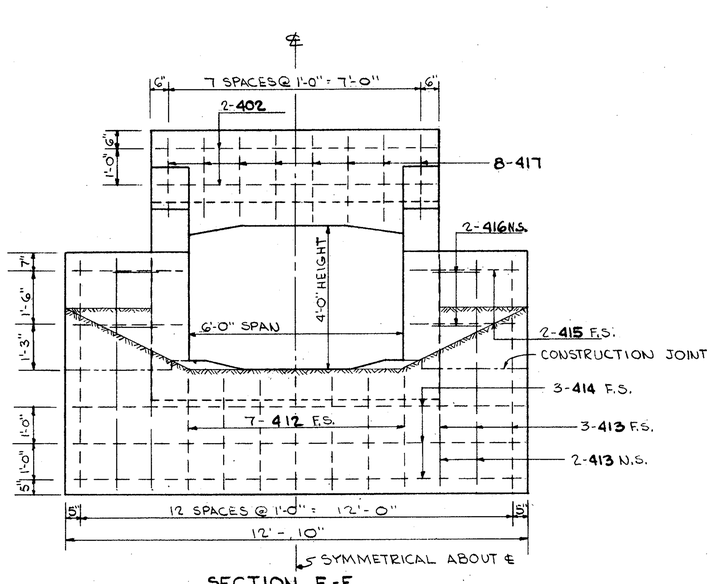


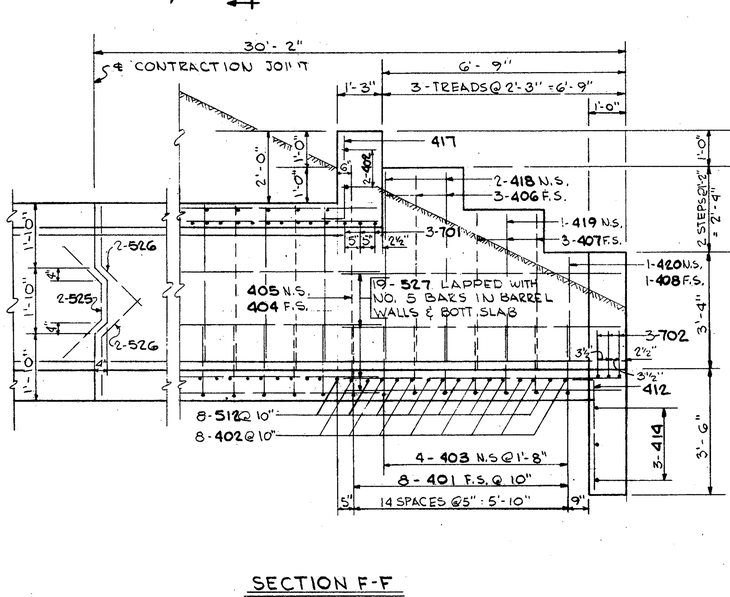




FOR DETAILS NOT SHOWN IN SECTIONS B-B, C-C, D-D SEE BELOW



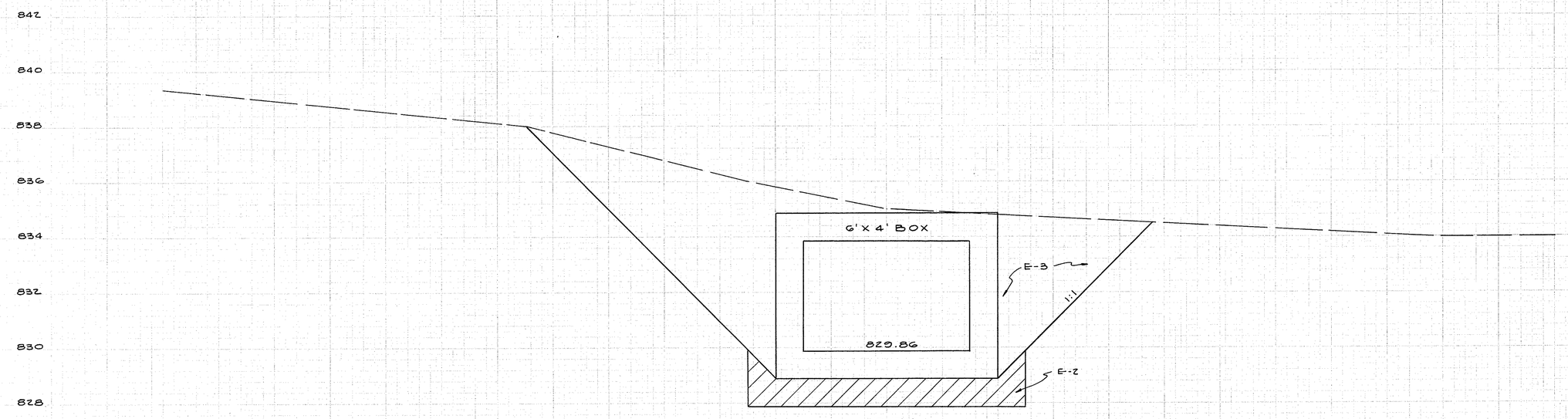


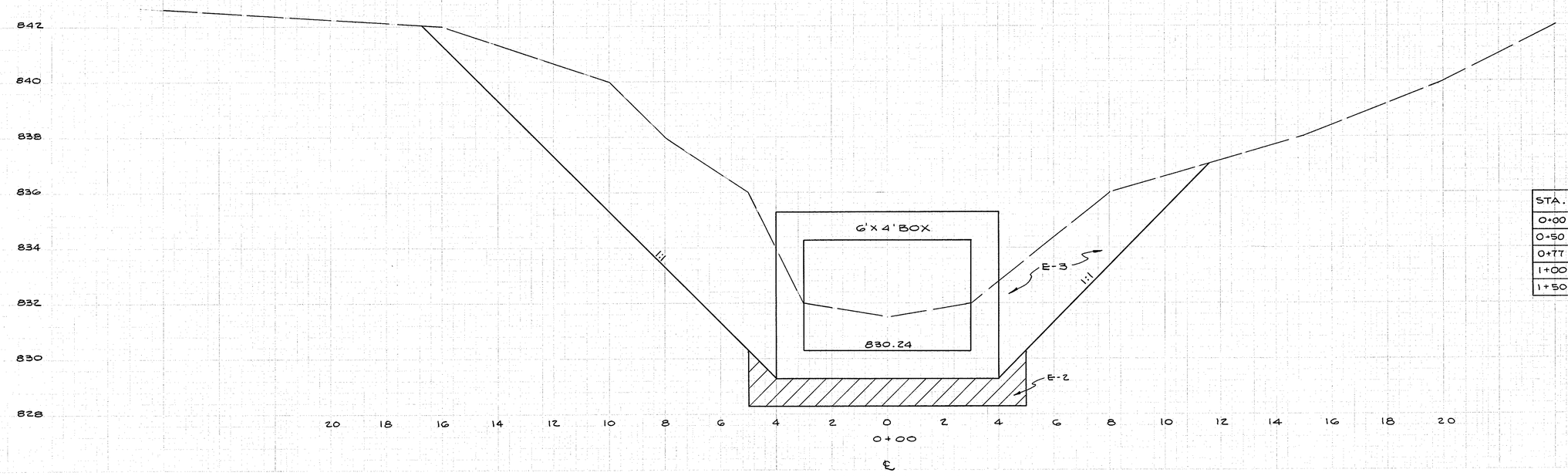


FED. RD.	STATE	PROJECT	
2	OHIO		

118
492

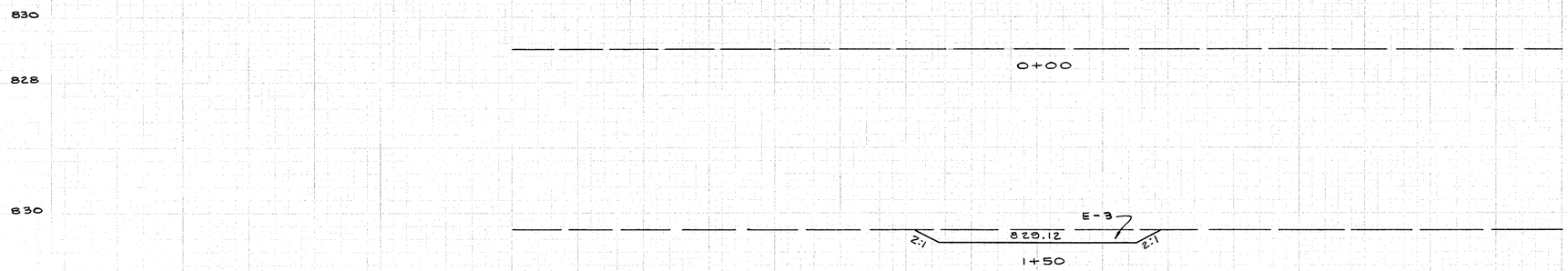
MAH-18-17.20

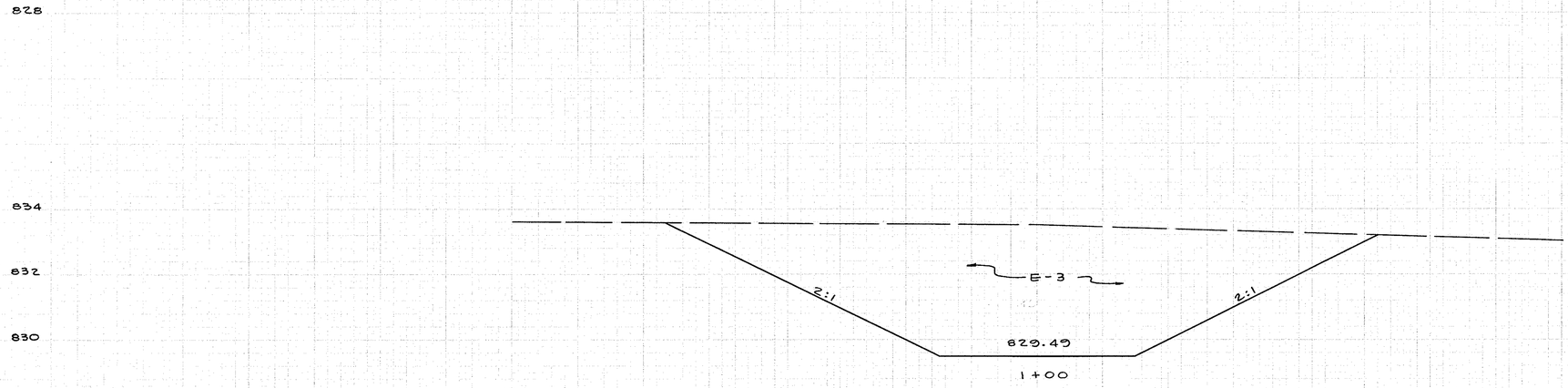


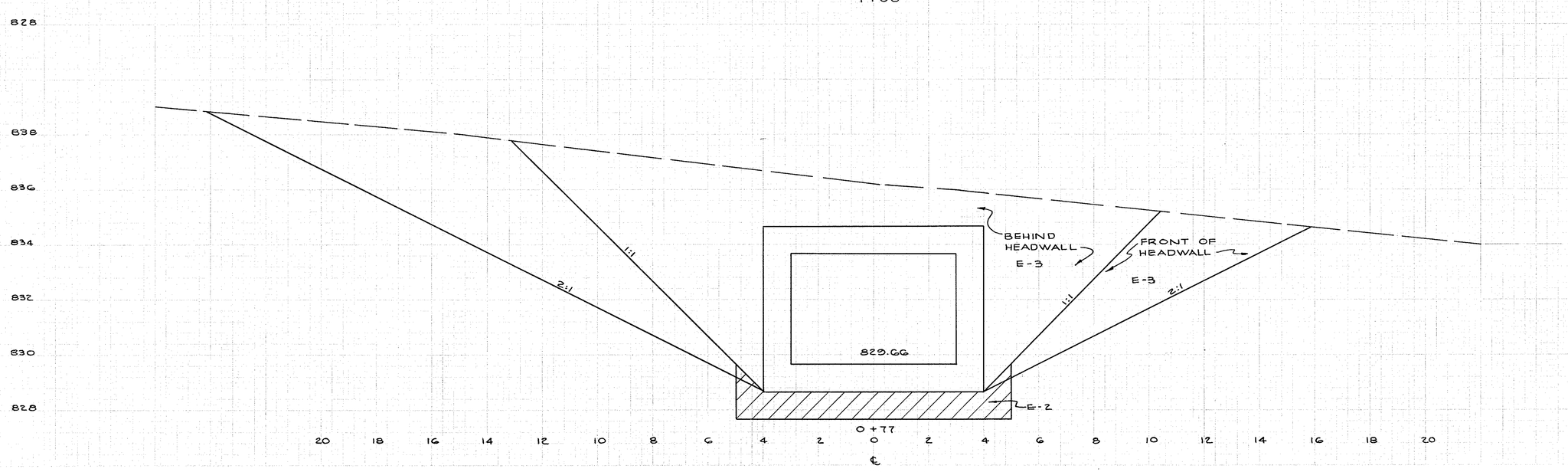


STA.	END AREA			CU.YDS.	
	E-2	E-3 (2:1)	E-3 (1:1)	E-2	E-3
0+00	11	0	93		
				20	196
0+50	11	0	120		
				20	111
0+77	11	161	102		
				0	92
1+00	0	55	0		
				0	1
1+50	0	3	0		

BOX CULVERT STA.18+40 RAMP "D"







BOX CULVERT STA. 18+40 RAMP "D"

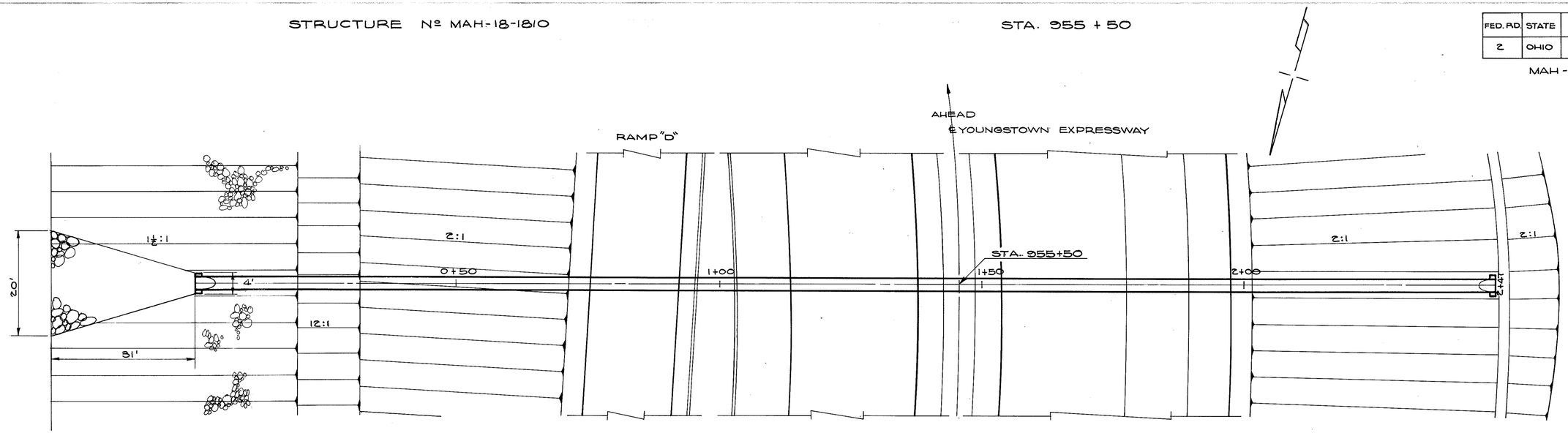
STRUCTURE Nº MAH-18-1810

STA. 955 + 50

FED. RD.	STATE	PROJECT	
2	OHIO		

120
492

MAH - 18 - 17.20



FOR CROSS SECTIONS
SEE SHEET Nº 121

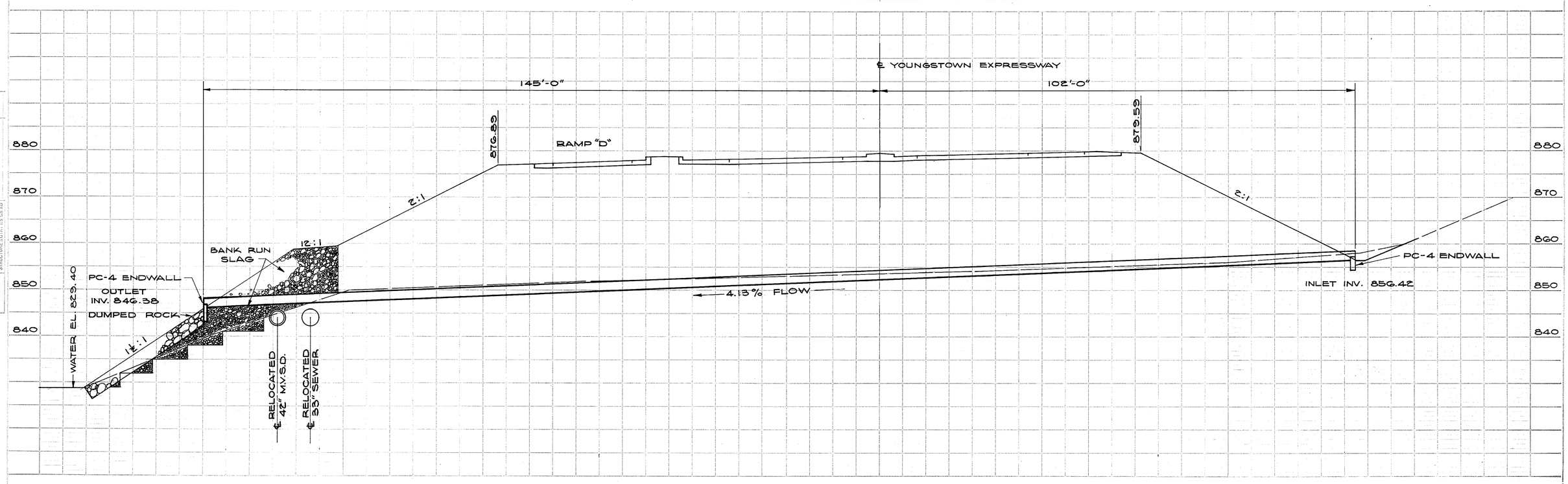
PLAN
SCALE : 1" = 10'

CULVERT DATA

TYPE : STANDARD PIPE CULVERT M6.6(d) M6.4(d) GAGE 14.
SIZE : 24" x 247'-0"
SKEW : NONE
WORK REQ'D : BUILD NEW 24" x 247' STANDARD PIPE CULVERT AS SHOWN.
M6.4(d) HW_{50}
M6.6(d) HW_{50}
AREA = 8.8 AC
Q_{50} = 29 C.F.S.

ESTIMATED QUANTITIES

E-2	EXCAVATION FOR STRUCTURES	67.37 CU.YDS.
S-1	CONCRETE FOR STRUCTURES CLASS "E"	0.82 CU.YDS.
S-27	24" PIPE FOR ROADWAY CULVERTS	247 L.F.
I-10	DUMPED ROCK CHANNEL PROTECTION	35 C.Y.



CULVERT DETAIL STA. 955 + 50

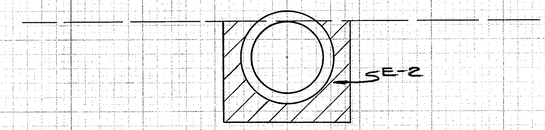
PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, NOTE BOOK NO., BY, DATE

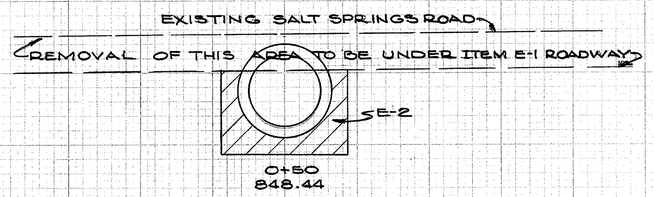
PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B. M.'s NOTED, STRUCTURE NOTATIONS CH'KD, NOTE BOOK NO., BY, DATE

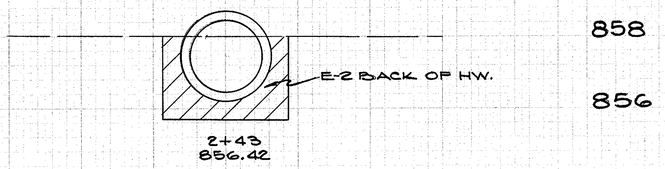
PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
201 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

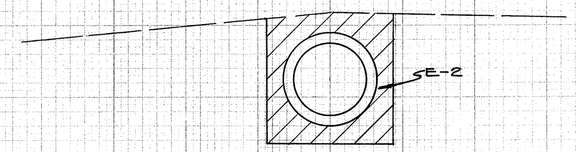
FED. RD.	STATE	PROJECT		12.1 / 492
2	OHIO			

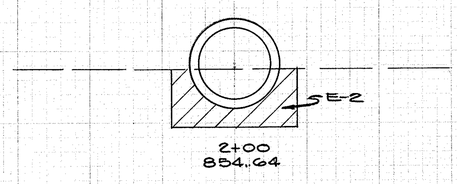
MAH -18-17.20

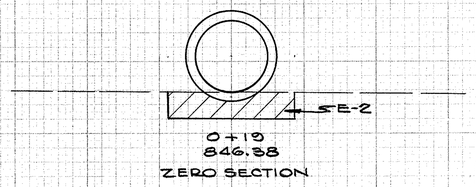






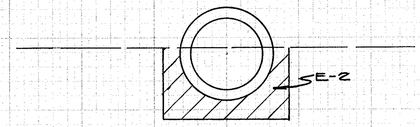






STA.	END AREA	CU. YDS.
	E-2	E-2
0+19	2.52	0
0+27	12.61	2.24
0+50	8.30	8.90
1+00	9.08	16.05
1+50	7.00	15.75
2+00	5.60	11.65
2+43	8.05	10.88
HW. EXC.		1.0
TOTAL		67.37

CULVERT
CROSS SECTIONS
STA. 955+50
SCALE 1"=2'-0"



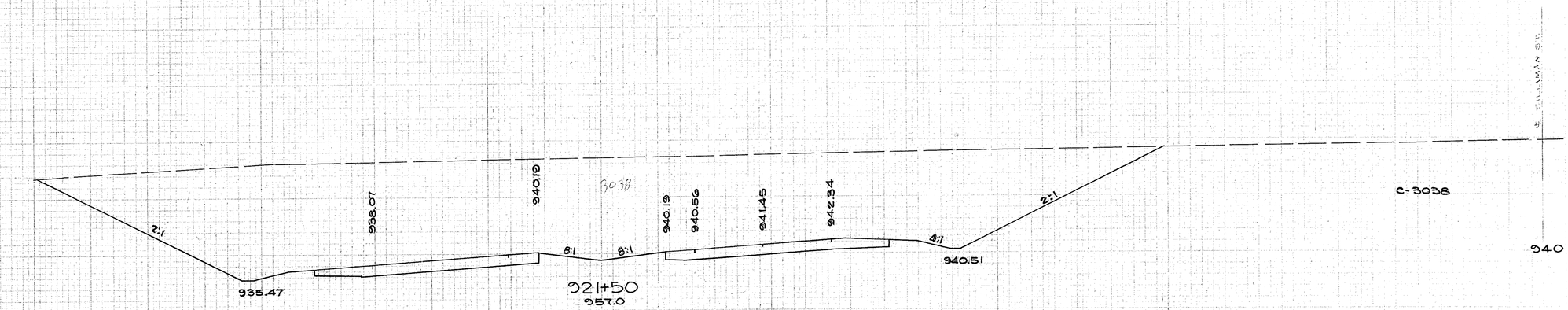
12 8 4 ℄ 4 8 12 8 4 ℄ 4 8

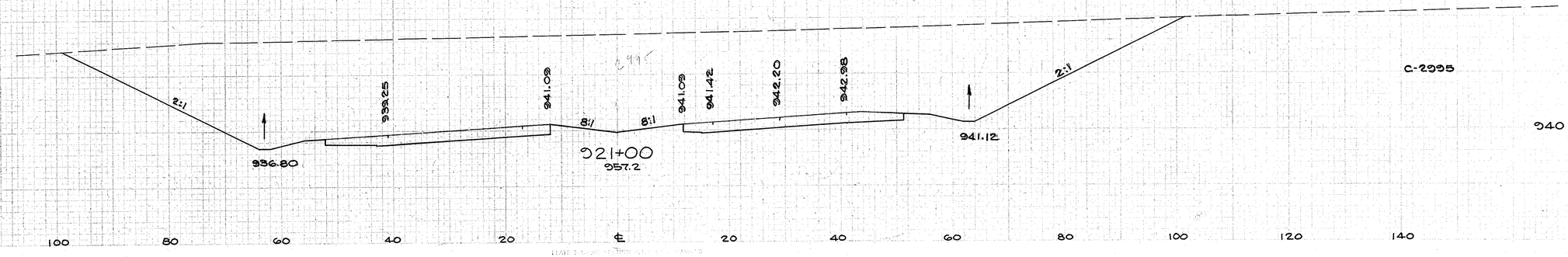
	STATE	PROJECT	
	OHIO		

122
492

MAH-18-17.20







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

921+00 TO 922+00

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

123
492

MAH.-18-17.20

END AREA	CUBIC YARDS

104

SEE RAMP "B" X-SECTIONS

℄ SILLIMAN ST.

933.84 | 934.26 | 934.26 | 934.68 | 934.68

2:1 | 8:1 | 8:1 | 4:1 | 2:1

929.09 | 933.13 | 934.87

924+00
952.00

C-3053
F-0

940

C-5620
F-0

℄ SILLIMAN ST.

℄ LAKEVIEW AVE

120

SEE RAMP "B" X-SECTIONS

933.22 | 935.64 | 935.64 | 936.06 | 936.06

2:1 | 8:1 | 8:1 | 4:1 | 2:1

930.47 | 934.45 | 936.25

923+50
952.06

C-3017
F-0

940

C-5520
F-0

℄ LAKEVIEW AVE

℄ SILLIMAN ST.

124

SEE RAMP "B" X-SECTIONS

934.51 | 934.93 | 934.93 | 937.35 | 939.35

2:1 | 8:1 | 8:1 | 4:1 | 2:1

931.76 | 935.68 | 937.54

923+00
953.25

C-2945
F-0

940

C-5322
F-0

℄ LAKEVIEW AVE.

℄ SILLIMAN ST

139

SEE RAMP "B" X-SECTIONS

935.69 | 938.11 | 938.11 | 938.53 | 940.53

2:1 | 8:1 | 8:1 | 4:1 | 2:1

932.94 | 936.80 | 938.72

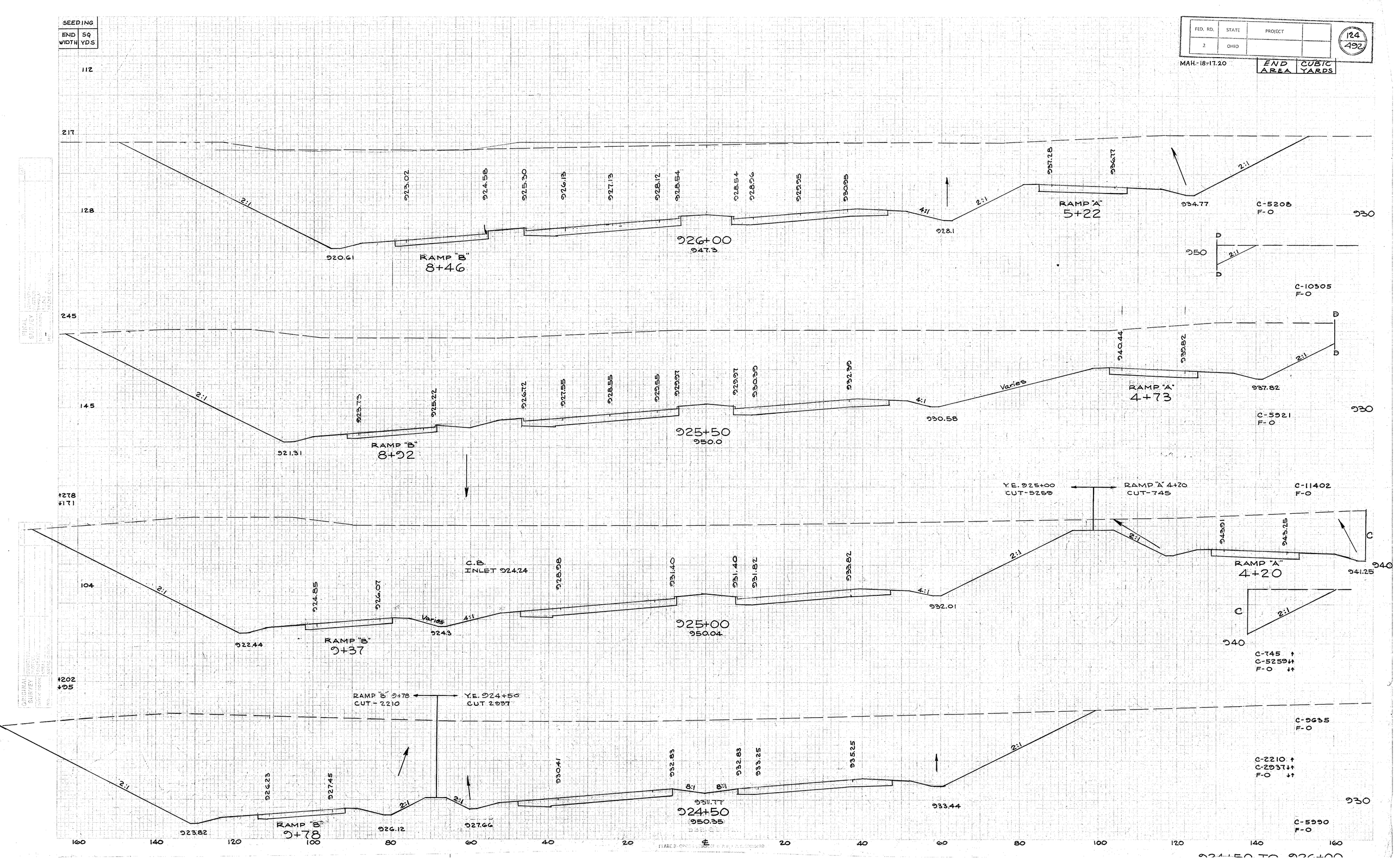
922+50
953.45

C-2803
F-0

940

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

922+50 TO 924+00



SEEDING
END WIDTH
SQ YDS
FED. RD.
STATE
PROJECT
2
OHIO
124
492
MAH.-18-17.20
END AREA
CUBIC YARDS
112
217
128
245
145
104
RAMP "B" 8+46
926+00
947.3
RAMP "A" 5+22
C-5208 F-0
C-10305 F-0
RAMP "B" 8+92
925+50
950.0
RAMP "A" 4+73
C-5921 F-0
Y.E. 925+00 CUT-5259
RAMP "A" 4+20 CUT-745
C-11402 F-0
C.B. INLET 924.24
RAMP "B" 9+37
925+00
950.04
RAMP "A" 4+20
C-745
C-5259
F-0
RAMP "B" 9+78 CUT-2210
Y.E. 924+50 CUT 2937
C-9635 F-0
C-2210
C-2937
F-0
RAMP "B" 9+78
924+50
950.35
C-5990 F-0
160
140
120
100
80
60
40
20
20
40
60
80
100
120
140
160

SEEDING	
END WIDTH	SQ YDS
86	

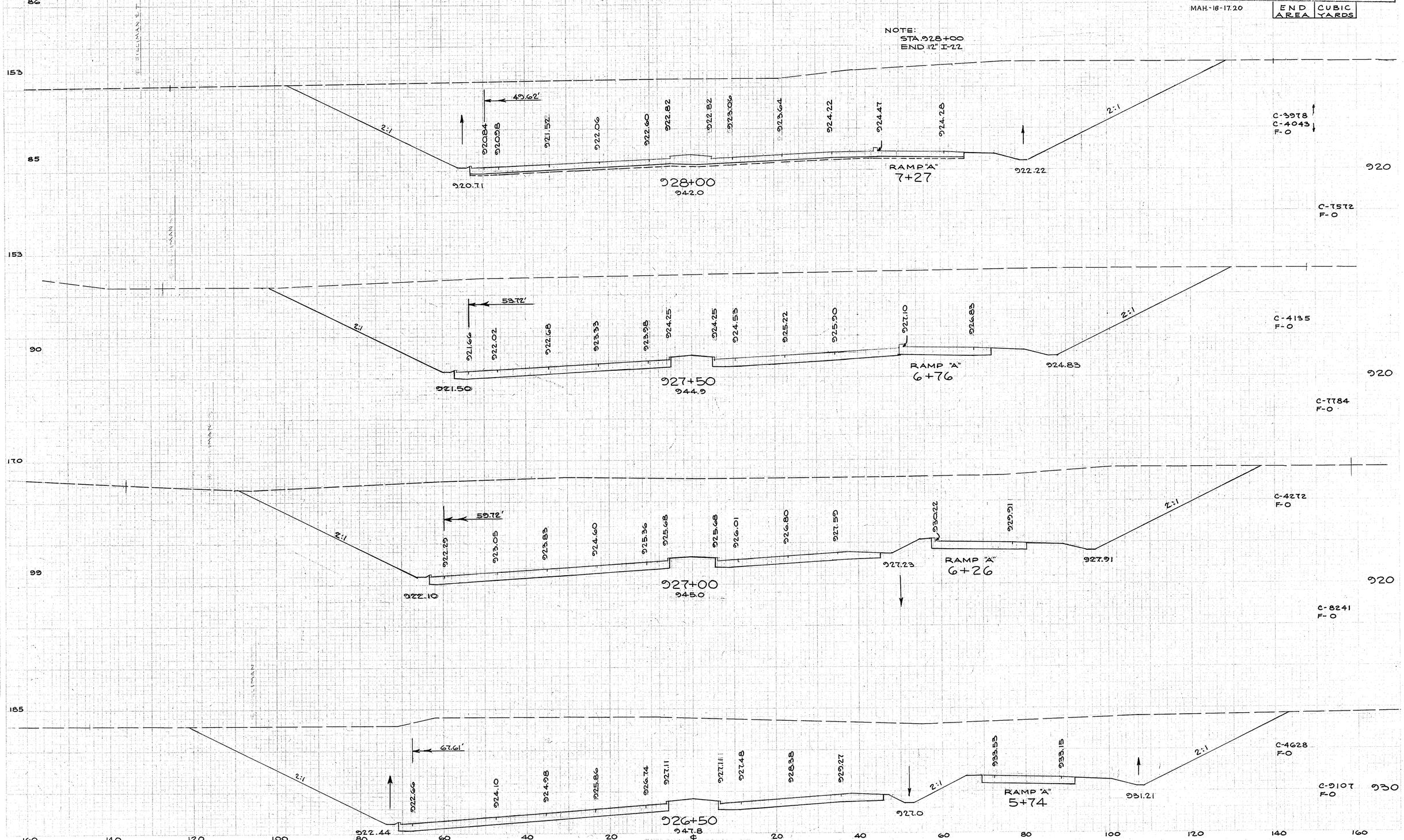
FED. RD.	STATE	PROJECT	
2	OHIO		

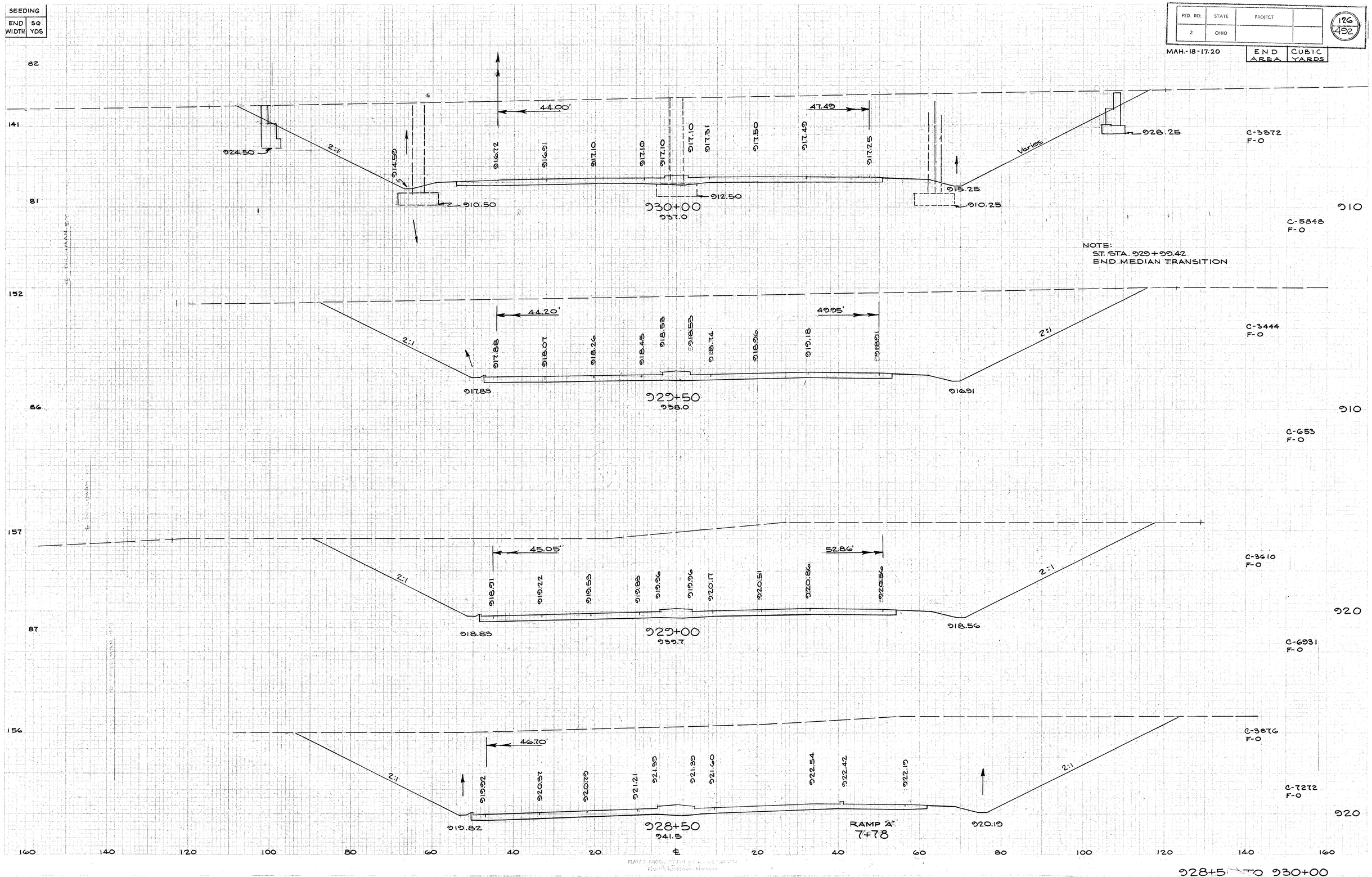
125
492

MAH.-18-17.20

END AREA	CUBIC YARDS

NOTE:
STA. 928+00
END 12" I-22




SEEDING
END WIDTH
SQ YDS
FED. RD.
STATE
PROJECT
2
OHIO
126
492
MAH.-18-17.20
END AREA
CUBIC YARDS
82
141
81
152
86
157
87
156
44.00'
47.49
924.50
2:1
914.59
916.72
916.91
917.10
917.10
917.10
917.10
917.31
917.50
917.49
917.25
Varies
928.25
910.50
912.50
915.25
910.25
930+00
937.0
C-3872
F-0
910
C-5848
F-0
NOTE:
ST. STA. 929+99.42
END MEDIAN TRANSITION
44.20'
49.95'
917.88
918.07
918.26
918.45
918.53
918.53
918.74
918.96
919.18
918.91
917.83
916.91
929+50
938.0
C-3444
F-0
910
C-653
F-0
45.05'
52.86'
918.91
919.22
919.53
919.83
919.96
919.96
920.17
920.51
920.86
920.56
918.83
918.56
929+00
939.7
C-3610
F-0
920
C-6931
F-0
46.70'
919.92
920.37
920.79
921.21
921.39
921.39
921.60
922.54
922.42
922.19
919.82
920.19
928+50
941.5
RAMP "A"
7+78
C-3876
F-0
C-7272
F-0
920
160
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140
160
928+5 TO 930+00

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT		127 492
2	OHIO			

MAH.-18-17.20

END AREA	CUBIC YARDS

88

158

89

NORMAL

44.00'

911.40 | 911.59 | 911.78 | 911.59 | 911.38 | 911.38 | 911.59 | 911.78 | 911.59 | 911.40

909.27

932+00
929.4

909.27

2:1

NOTE: STA. 932+00 BEGIN 12" I-22

C-4319 ↓
C-4269 ↓
F-0

910

C-8095
F-0

161

88

44.22'

912.81 | 913.00 | 913.19 | 913.00 | 912.81 | 912.81 | 913.02 | 913.21 | 913.02 | 912.83

910.68

931+50
934.5

910.77

2:1

C-4474
F-0

910

C-8065
F-0

157

87

44.87'

NORMAL

914.11 | 914.30 | 914.49 | 914.31 | 914.24 | 914.24 | 914.45 | 914.64 | 914.45 | 914.24

911.98

931+00
935.0

912.24

2:1

NOTE:
STA. 931+00 TO 932+00 (RT.)
TRANSITION TOTAL WIDTH
OF SHOULDER FROM 12' TO 15'

C-4236
F-0

C-7644
F-0

910

155

45.96'

915.42 | 915.61 | 915.80 | 915.71 | 915.67 | 915.67 | 915.88 | 916.07 | 915.94 | 915.72

913.29

930+50
936.5

913.72

2:1

C-4020
F-0

C-7307
F-0

910

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

930+50 TO 932+00

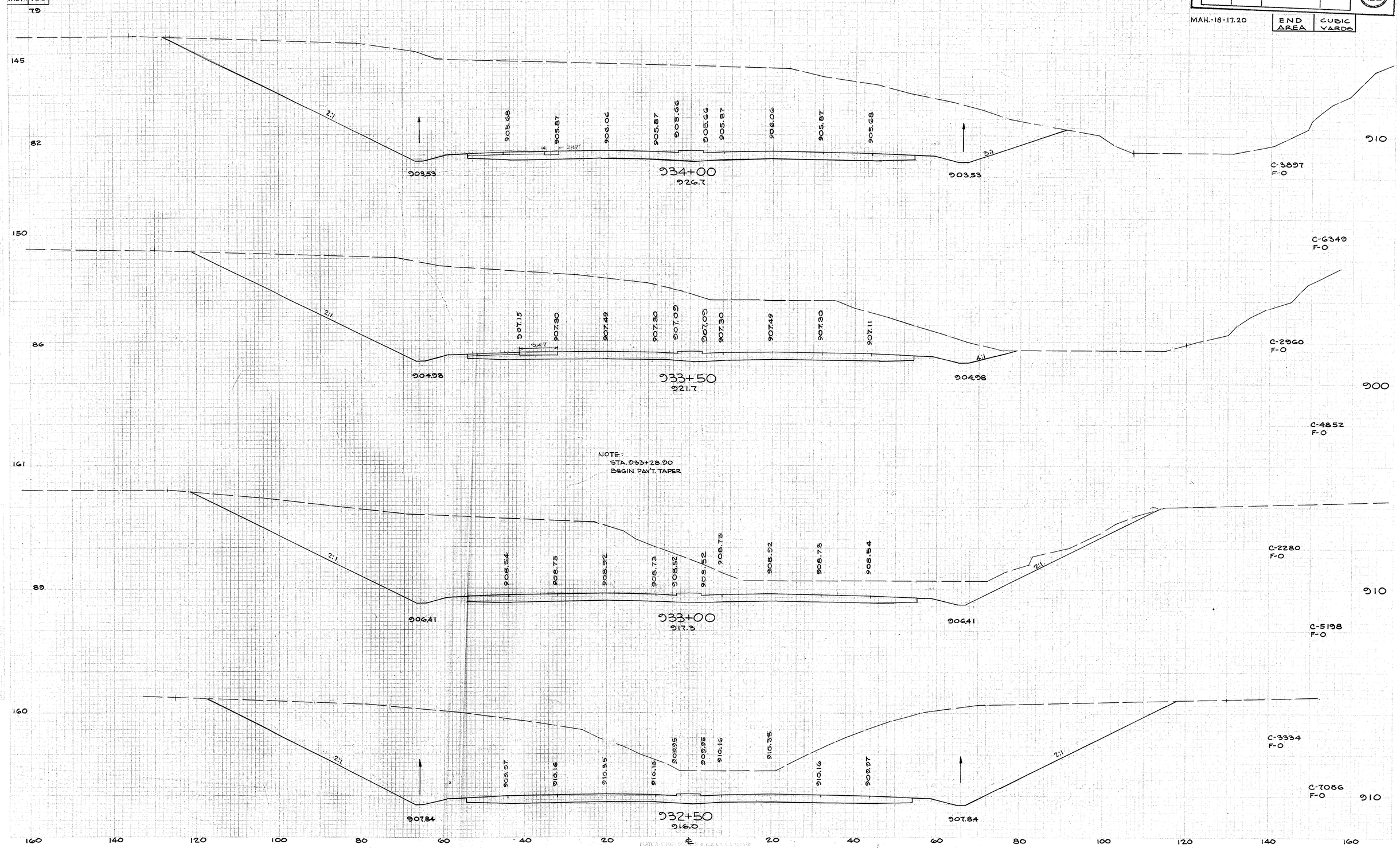
SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO	-	

128/492

MAH.-18-17.20

END AREA	CUBIC YARDS

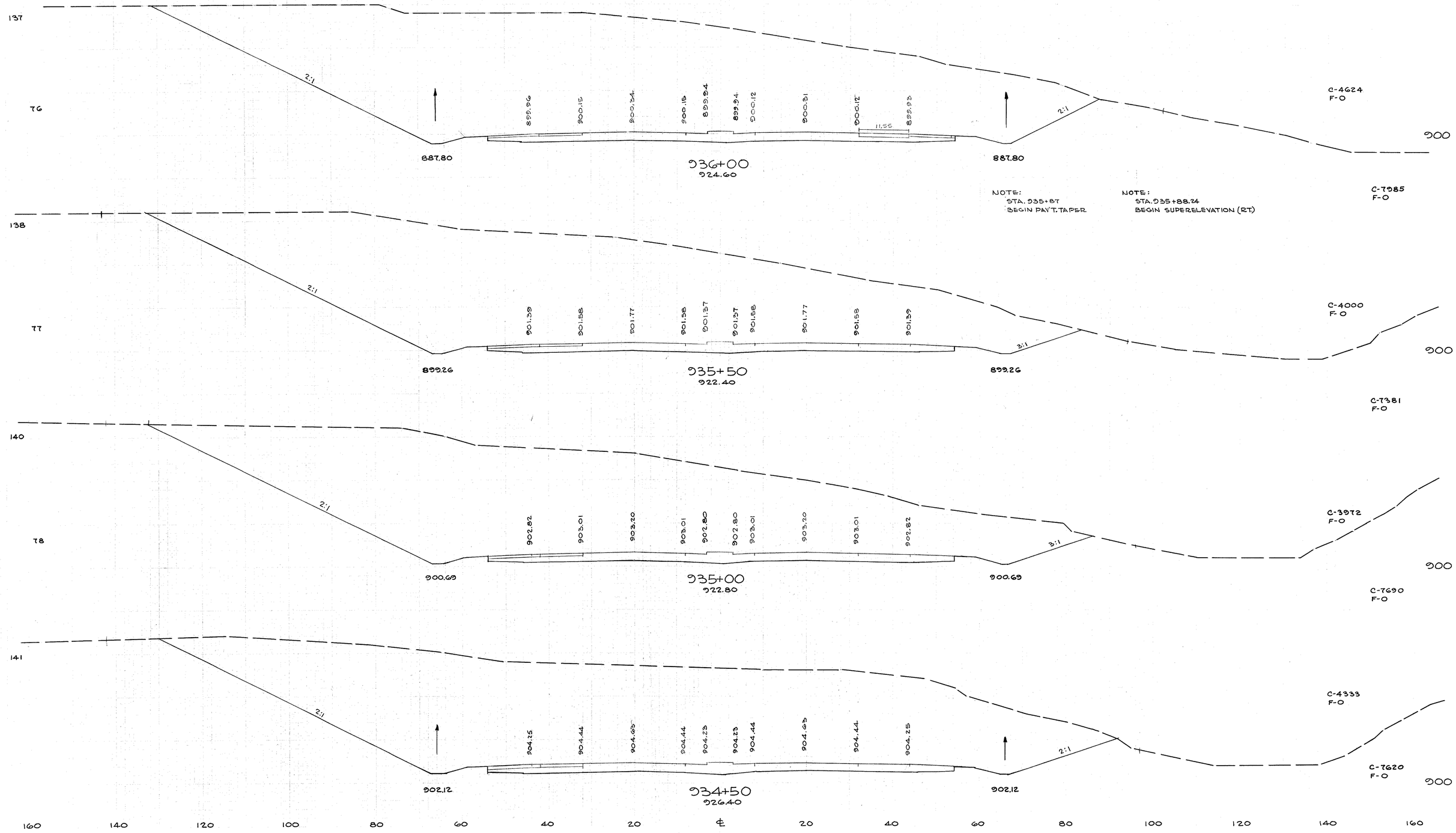


SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT		129 492
2	OHIO			

MAH.-18-17.20

END AREA	CUBIC YARDS



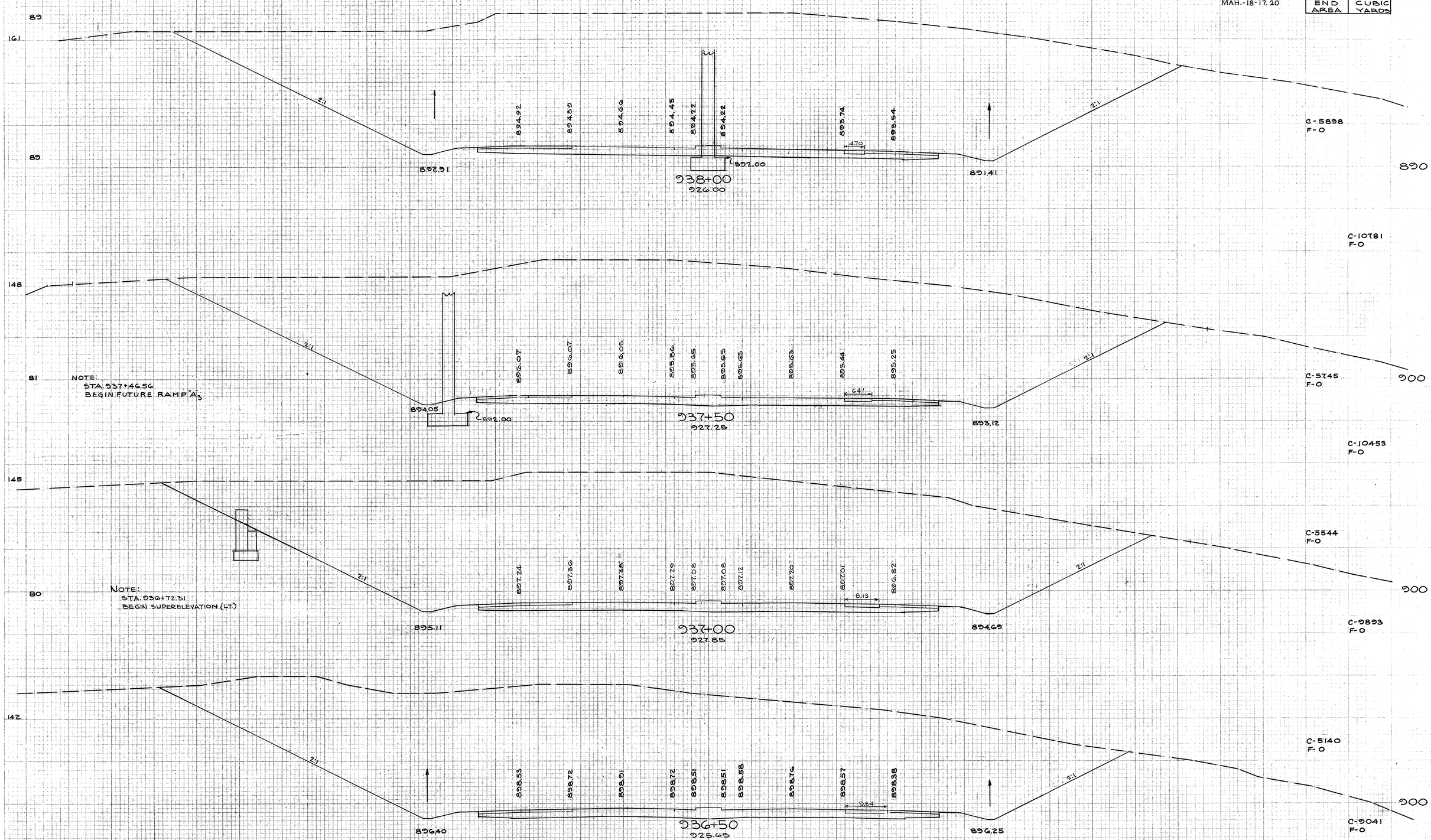
SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

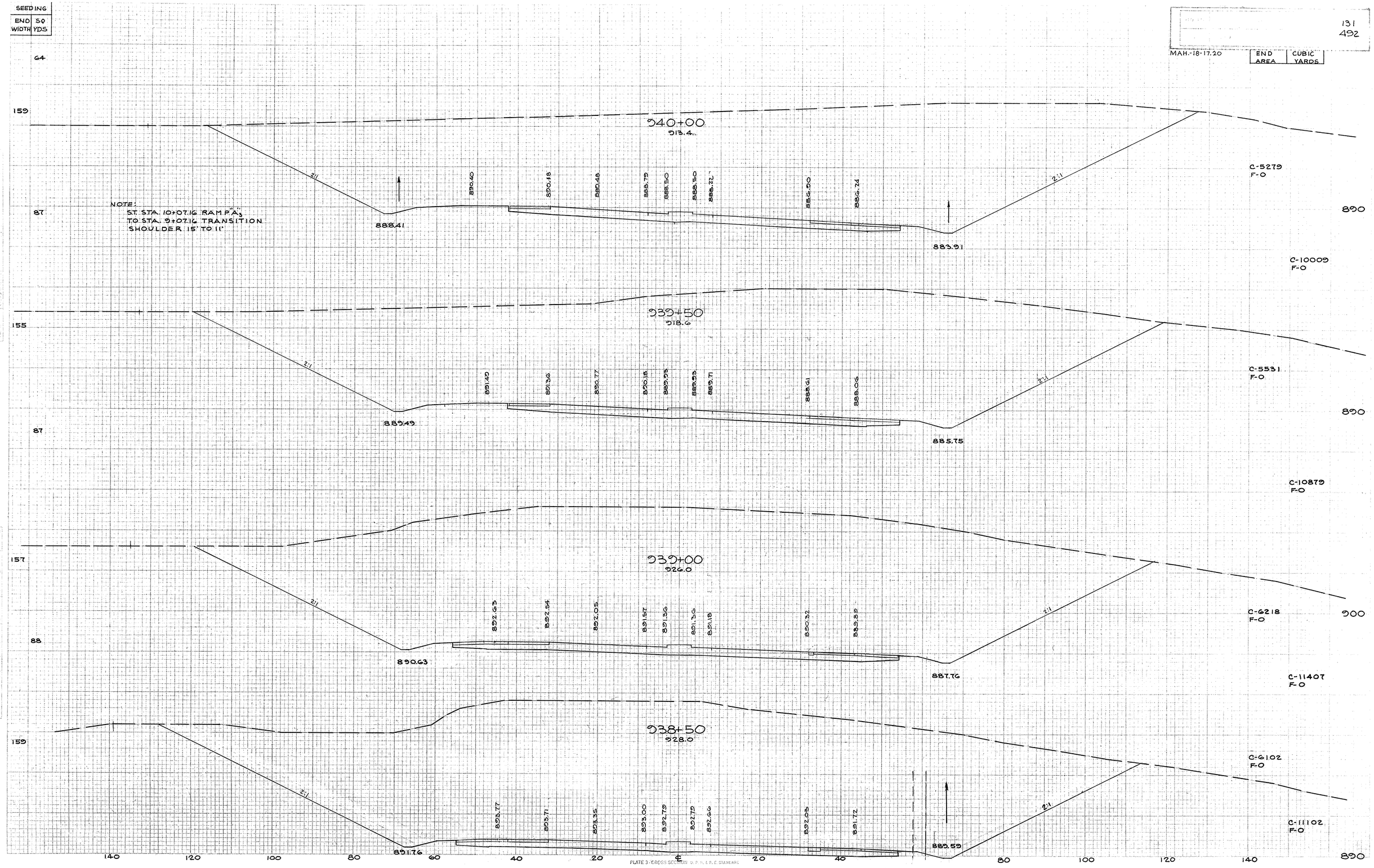
130
492

MAH.-18-17.20

END AREA	CUBIC YARDS



936+50 TO 938+00


SEEDING
END WIDTH
SQ YDS
131
492
MAH.-18-17.20
END AREA
CUBIC YARDS
64
159
87
155
87
157
88
159
940+00
913.4
NOTE:
ST. STA. 10+07.16 RAMP "A3"
TO STA. 9+07.16 TRANSITION
SHOULDER 15' TO 11'
2:1
890.40
890.18
889.48
888.79
888.50
888.50
888.22
886.90
886.74
888.41
883.91
C-5279
F-0
C-10009
F-0
939+50
918.6
891.49
891.36
890.77
890.18
889.93
889.93
889.71
888.61
888.06
889.49
885.75
C-5531
F-0
C-10879
F-0
939+00
926.0
892.63
892.54
892.05
891.57
891.36
891.36
891.18
890.32
889.89
890.63
887.76
C-6218
F-0
C-11407
F-0
938+50
928.0
893.77
893.71
893.35
893.00
892.79
892.79
892.66
892.03
891.72
891.76
889.59
C-6102
F-0
C-11102
F-0
890
900
140
120
100
80
60
40
20
℄
20
40
80
100
120
140
FINAL SURVEY
ORIGINAL SURVEY
PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

SEEDING	
END WIDTH	SQ YDS
37	

FED. RD	STATE	PROJECT	
2	OHIO		

132
492

MAH.-18-17.20

END AREA	CUBIC YARDS

75

886.10

RAMP "A3"
7+21

890.17 890.86 VARIES 4:1 882.20 884.01 883.01 882.01 881.59 881.17 879.17 878.18 2:1 875.71

942+50
884.8

C-1537
F-1392

880

44

C-4428
F-1207

83

885.14 889.73 VARIES 4:1 885.28 884.28 883.28 882.86 882.84 882.44 880.44 879.46 2:1

886.49

RAMP "A3"
7+67

883.47

942+00
897.2

876.04

C-3075
F-0

880

C-6584
F-0

45

80

886.64 888.90 884.43 885.63 884.43 884.21 884.21 882.79 882.79 881.85 880.85 2:1

886.64

RAMP "A3"
8+18

886.3

941+50
904.3

878.11

C-3967
F-0

NOTE: STA. 941+46.56 TO 942+46.56
TRANSITION TOTAL WIDTH
OF SHOULDER 15' TO 11'

C-7972
F-0

880

43

C-4643
F-0

76

888.68 888.74 887.83 886.93 886.02 885.64 885.64 885.27 883.48 882.59 2:1

886.72

RAMP "A3"
8+69

941+00
908.0

879.98

890

41

C-8320
F-0

70

2:1 889.37 889.29 889.00 888.20 887.40 887.07 887.07 886.75 885.19 884.41 2:1

887.59

RAMP "A3"
9+20

940+50
908.0

881.93

C-4343
F-0

890

C-8309
F-0

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

940+50 TO 942+50

PLATE B CROSS SECTION A.R.E.A. & A.A.S.H.T.O. STANDARDS
REVISED 1938 PUBLIC SQ., NEW YORK.

F.A.I. COUNTY ROUTE SECTION

ORIGINAL SURVEY NOTE DATUM

SEEDING	
END WIDTH	SQ YDS
99	
57	
106	
60	
109	
47	
61	
33	
59	

		PROJECT	
2	GRID		

133
492

MAH.-18-17.20

END AREA	CUBIC YARDS

MAHONING-W. FEDERAL STA. 1900

2:1 BRIDGE SLOPES

877.31

879.12 876.70 874.28 872.23

NOTE: STA. 945+00 TO 945+50 TAPER SUBBASE

2:1

945+00
850.0

851.00

C-15
F-3392

C-27
F-7153

850

MAHONING-W. FEDERAL STA. 1700

2:1 BRIDGE SLOPES

4:1

878.10

879.91 877.49 875.07 873.34

2:1

C-14
F-3733

944+50
856.0

C-13
F-6715

850

MAHONING-W. FEDERAL STA. 1400

2:1 BRIDGE SLOPES

4:1

878.98

880.79 878.37 875.95 874.43

2:1 BRIDGE SLOPES

872.01

C-0
C-12
F-3519
F-3100

F-3394
C-12

4:1

885.60

C-26
F-9905

944+00
858.2

870

850

"A"

893.06 893.78

RAMP "A3"
STA. 6+40

"A"

VARIES

4:1

879.96

881.77 879.35 876.93 875.60

2:1 Bridge Slopes

873.18

C-16
F-4290

870

943+50
860.0

C-429
F-5744

891.66 897.38

RAMP "A3"
STA. 6+76

4:1

885.90

VARIES

4:1

881.04

882.85 881.85 880.85 880.48 880.43 878.01 876.84

2:1

874.42

NOTE:
STA. 943+00
END 12"I-22

C-347
F-2275
C-352
F-2232

870

943+00
873.5

C-1843
F-3135

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

943+00 TO 945+00

SEEDING	
END WIDTH	SQ YDS

	END AREA	CUBIC YARDS
MAH-18-17.20		

134
492

41

73

876.92

874.50

872.08

869.58

867.92

4:1

4:1

4:1

10:1

2:1

8G2.29

℄ RAMP B3 DITCH

947+00
901.3

865.58

RAMP "C3"
5+10

864.0

C-4132

C-4517
F-186

880

41

76

877.83

874.91

872.49

870.23

868.07

4:1

4:1

2:1

10:1

8G2.22

℄ RAMP B3 DITCH

946+50
878.0

RAMP "C3"
4+70

862.0

C-1178
F-201

C-1467
F-1847

870

44

83

877.85

875.41

872.99

871.45

869.79

3:1

3:1

2:1

858.99

℄ RAMP B3 DITCH

946+00
862.0

RAMP "C3"
4+27

860.0

C-406
F-1794

C-390
F-4792

860

49

95

878.43

876.01

873.59

870.95

2:1

2:1

VARIES
BRIDGE SLOPE

858.43

945+50
853.3

855.29

C-15
F-3381

C-28
F-6827

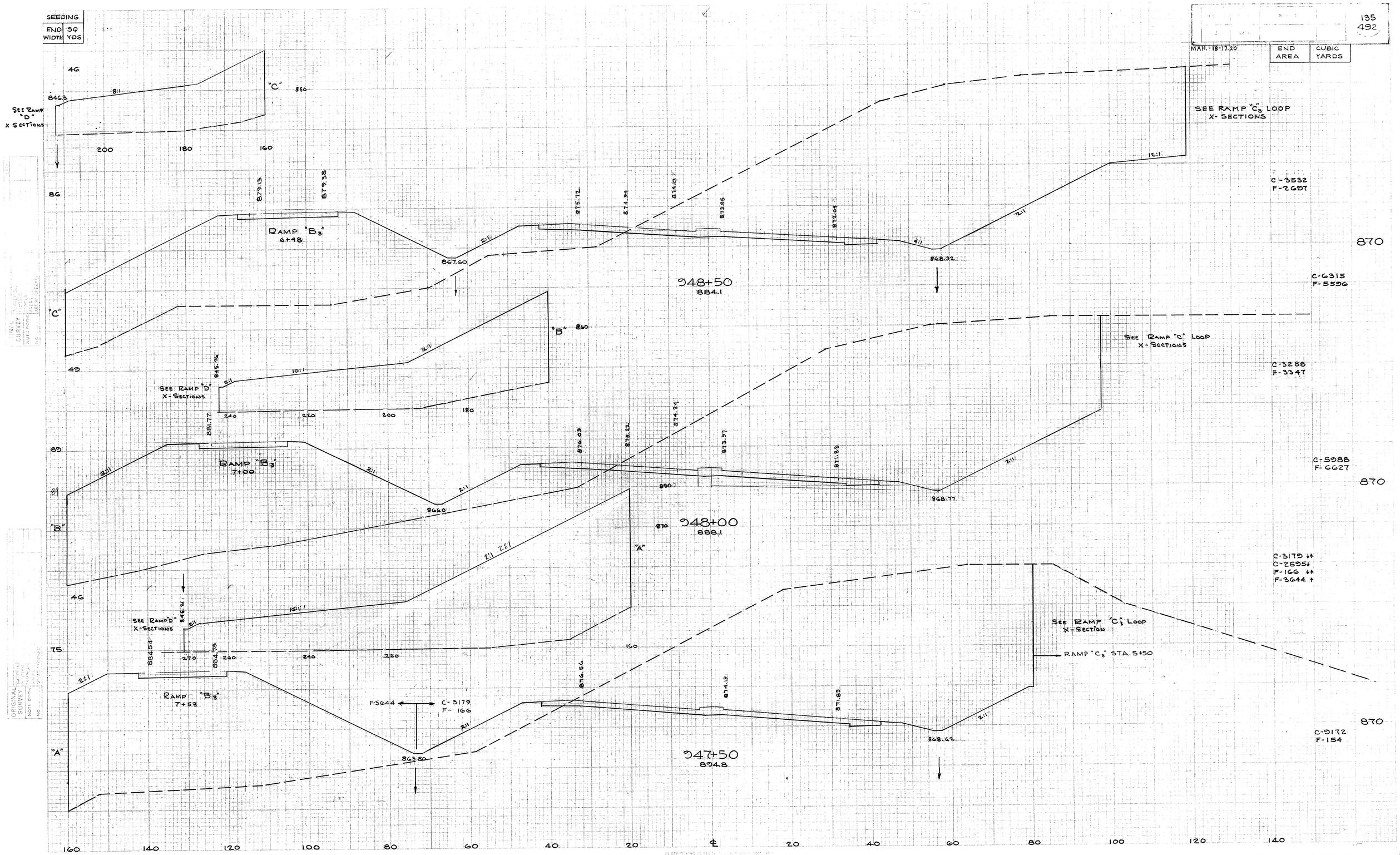
860

54

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

PLATE 5 CROSS SECTIONS C.P.R.R.R.E. STANDARD
ATLANTIC & GREAT WEST, NEW YORK.

945+50 TO 947+00


SEEDING
END WIDTH
SQ YDS
135
492
MAH.-18-17.20
END AREA
CUBIC YARDS
SEE RAMP "D" X SECTIONS
"C"
SEE RAMP "C3" LOOP X-SECTIONS
C-3532
F-2697
RAMP "B3" 6+48
948+50
884.1
C-6315
F-5596
"B"
SEE RAMP "C" LOOP X-SECTIONS
C-3288
F-3347
SEE RAMP "D" X-SECTIONS
RAMP "B3" 7+00
C-5988
F-6627
948+00
888.1
"A"
C-3179
C-2595
F-166
F-3644
SEE RAMP "D" X-SECTIONS
SEE RAMP "C3" LOOP X-SECTION
RAMP "C3" STA. 5+50
RAMP "B3" 7+53
F-3644
C-3179
F-166
C-9172
F-154
947+50
894.8
870
947+50 TO 948+50

SEEDING	
END WIDTH	SQ YDS

136
492

MAH.-18-17.20	END AREA	CUBIC YARDS

37

66

40

77

44

81

A

See Ramp "C" X-Sections

C-4622
F-1504

880

C-8929
F-3128

12:1

2:1

869.37

874.80 875.10 874.95 875.24 875.14 874.71 874.26 874.05 873.07

Ramp B3
4+96

874.00

4:1

950+00
896.7

8.95

See Ramp "D" X-Sections

875.56 875.45 874.68 874.12 873.88 872.63

Ramp "B3"
5+45

873.2

869.22

C-5021
F-1920

880

949+50
895.9

C-9683
F-3559

8.75

See Ramp "D" X-Sections

877.06 877.31 876.44 874.77 874.10 873.82 872.25

Ramp "B3"
5+96

871.40

869.07

C-5437
F-1970

880

949+00
898.0

C-8305
F-4300

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

949+00 TO 950+00

ORIGINAL SURVEY
FINAL SURVEY
NOTE BOOK
NO.
PLOTTED
CHECKED
AREAS
TOTALS CHECKED

FED. RD.	STATE	PROJECT		137 / 492
2	OHIO			

SEEDING.	
END WIDTH	SQ YDS
36	
71	
46	
95	
45	
68	

END AREA	CUBIC YARDS

MAH-18-17.20

SEE RAMP "C" X-SECTIONS

C-2441
F-914

880

875.05 875.48 875.40 875.31 875.10 875.11 875.12 874.93

863.6

2:1

RAMP "B3"

871.54

C-4984
F-1791

SEE RAMP "D" X-SECTIONS

951+50
890.8

SEE RAMP "C" X-SECTIONS

C-2942
F-1020

880

874.74 875.26 875.06 874.86 874.65 874.58 874.42 874.23

C-6363
F-2029

RAMP "B3"

869.91

855.5

SEE RAMP "D" X-SECTIONS

951+00
887.4

NOTE:
STA. 950+00 TO 951+00
TAPER SUBBASE

SEE RAMP "C" X-SECTIONS

C-3930
F-1194

880

874.53 874.85 874.98 875.17 875.16 874.83 874.51 874.30 875.00

RAMP "B3"
4+45.5

2:1

4:1

869.52

C-7919
F-2456

854.5

SEE RAMP "D" X-SECTIONS

950+50
893.0

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

950+50 TO 951+50

FINAL SURVEY FILED NOTE BOOK PAGE NO.

ORIGINAL SURVEY FILED NOTE BOOK PAGE NO. TEXAS CITIES

SEEDING	
END WIDTH	SQ YDS

		PROJECT	138 492

MAH-18-17.20

END AREA	CUBIC YARDS

141

106± EDGE WATER
EL 829.4 ±

C

170 160

875.49 876.29 876.48 876.72 876.91 876.72 876.51 876.72 876.91 876.72 876.34 875.42

4251
4103

49' ± TOP BANK
EL. 850±

RAMP "D"
7+26

875.24

RAMP "B3"

953+00
880.0

RAMP "C"
17+89

86B31

SEE RAMP "C" X-SECTIONS

C-3042 ↑
C-3139 ↑
F-2047 ↑

RAMP 'C' 17+89
C-3042

880

C-6792
F-3638

62

BANK SLAG FILL VARIES

2:1

4:1

38" SEWER

42" M.W.S.D. WATER

C

850

B

106' EDGE WATER
EL. 829.4±

170 160

874.18 874.98 875.96 876.25 876.44 876.25 876.04 876.13 876.32 876.13 875.93 874.40

122

RAMP "D"
7+73

873.49

RAMP "B3"

874.8

952+50
895.3

RAMP "C"
17+44 ±

86B45

C-4202
F-1882

SEE RAMP "C" X-SECTIONS

880

C-8525
F-3781

56' ± TOP BANK
FROM ℄ RAMP "D"
EL. 848.2 ±

2:1

BANK SLAG FILL VARIES

8

75

TOP BANK 59± FROM ℄ RAMP "D"
EL 848.0

VARIES

A

850

105' ± EDGE WATER FROM ℄
EL 829.4±

BANK SLAG FILL

C-2075 ↑
C-2930 ↑
F-1769 ↑
F-432 ↑↑

Y.E. 952+00
C-2930
F-432

RAMP 'C' 16+98
C-2075

SEE RAMP "C" X-SECTIONS

880

170 160

RAMP "D"
F-1769

872.50 873.30 875.47 875.82 875.97 876.78 875.57 875.41 875.72 875.53 875.61 873.74

873.17

+148
+60

RAMP "B3"

871.15

952+00
894.5

RAMP "C"
16+98 ±

86B59

C-4973
F-1246

2:1

A

35" SEWER

42" WATER MAIN

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

PLATE 5 - CROSS SECTION O.D.S.R.R.F. STANDARD
KENTILE & LOS ANGELES NEW YORK

952+00 TO 953+00

ORIGINAL SURVEY
NOTE BOOK
NO.
DATE
PAGE
FINAL SURVEY
NOTE BOOK
NO.
DATE
PAGE

SEEDING	
END WIDTH	SQ YDS.

FED.	STATE	PROJECT	
	CONT.		

139
492

MAH.-18-17.20

END AREA	CUBIC YARDS

112

190

197

204

128

257

960.30

962.50

962.40

12:1

2:1

11/2:1

BANK

SLAG

FILL

38" SEWER

42" WATER MVSD

GRANULATED MATERIAL

955+00
853.5

954+50
854.6

954+00
855.2

953+50
859.2

RAMP "D"
5+31 ±

RAMP "D"
5+80 ±

RAMP "D"
6+30 ±

RAMP "D"
6+80 ±

RAMP "B"

RAMP "C"
18+39

877.16 877.74 877.89 878.05 878.24 878.35 878.39 878.40 878.19 878.32 878.05

877.06 877.58 877.42 877.19 877.98 877.94 877.92 878.13 878.32 878.24 878.15

877.17

876.88 877.50 877.24 877.45 877.64 877.57 877.46 877.44 877.85 877.64 877.23

876.79

876.32 877.18 874.85 877.10 877.29 877.10 874.98 877.19 877.38 877.19 874.95 874.32

876.34

857.0

859.8

868.0

868.16

4:1

3:1

2:1

VARIES

7'-12" I-2
M-6.4(4)

C-39
F-4522

C-34
F-8987

C-73
F-4784

C-52
F-8311

C-98
F-4192

C-2652
F-6666

C-2833
F-3007

C-8346
F-4680

850

860

870

920

900

160 170

102 ± EDGE WATER FROM ℄
EL 829.4

57' TOP BANK
EL 852 ±

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

PLATE 1 CROSS SECTION

953+50 TO 955+00

SEEDING	
END WIDTH	SQ YDS

140
492

MAH-18-17.20

END AREA	CUBIC YARDS

113

878.81 880.27 880.54 881.18 881.91

S.S.H. 4.84

RAMP "D"
3+36±

877.80
872.8

A A

C-0
F-5190

860

226

957+00
853.8

GRANULATED MATERIAL

33" SEWER

42" WATER

123

878.62 879.80 880.02 880.55 881.09

S.S.H. 4.38

RAMP "D"
3+85±

2:1

A
870
A
110

C-2
F-8408

C-25
F-4533

952.40

216

BANK RUN SLAG

1½:1

GRANULATED MATERIAL

33" SEWER

42" MYSD WATER

956+50
853.6

859.6

850

125

878.43 879.33 879.54 879.95 880.32

S.S.H. 3.93

RAMP "D"
4+32

S.S.H. 9.00

2:1

C-0
F-8423

955.80

234

12:1

BANK RUN SLAG

FILL

1½:1

FILL

GRANULATED MATERIAL

33" SEWER

42" MYSD WATER

956+00
853.7

858.6

C-60
F-4564

850

124

877.26 877.87 878.03 878.24 878.86 879.07 879.35 879.64 879.93

S.S.H. 3.4

RAMP "D"
4+81±

S.S.H. 7.70

2:1

C-10
F-8420

955.20

214

12:1

BANK RUN SLAG

1½:1

FILL

INV. 849.13

24" S27

4.13 % FLOW

955+50
853.6

RC-4 END WALL

856.5

INLET INV. 856.42

C-74
F-4530

850

FILL

GRANULATED MATERIAL

33" SEWER

42" MYSD WATER

C-21
F-8752

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

PLATE 2 CROSS SECTION O.F.P.R.R. STANDARD
RUFFELL & LERNER - NEW YORK

955+50 TO 957+00

ORIGINAL SURVEY FROM FIELD NOTE BOOK TEXAS & PACIFIC NO. 1 MILES

SEEDING	
END WIDTH	SQ YDS
60	
115	
73	
141	
83	
157	
94	
182	

FED. RD.	STATE	PROJECT	
2	OHIO		

141
492

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY
NOTE BOOK
NO.

ORIGINAL SURVEY
NOTE BOOK
NO.

SEE RAMP "E" X-SECTIONS STA. 6+26

SEE RAMP "E" X-SECTIONS STA 5+73

959+00
880.0

C-1219
F-979

890

C-1374
F-2654

873.73 882.15 884.67 884.09 2:1 2:1 5.5H 6.61

854.00

959+00
880.0

873.39 881.68 882.08 883.08 883.98 883.36 2:1 2:1 5.5H 6.19

C-265
F-1887

880

958+50
865.2

873.20 881.21 881.56 882.41 883.24 882.51 2:1 2:1 5.5H 5.74

849.00

C-639
F-4351

C-400
F-2812

880

EXISTING 33" SEWER.

EXISTING 12" M.V.S.D. WATER

958+00
857.0

C-394
F-7100

873.01 880.74 880.74 881.105 881.80 882.54 883.43 880.00 A-31 5.5H 5.29

848.00

C-6
F-4546

870

EXISTING 33" SEWER

EXISTING 12" M.V.S.D. WATER

957+50
854.2

C-0
F-8707

847.50

12" WATER M.V.S.D.

GRANULATED MATERIAL

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

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

957+50 TO 959+00

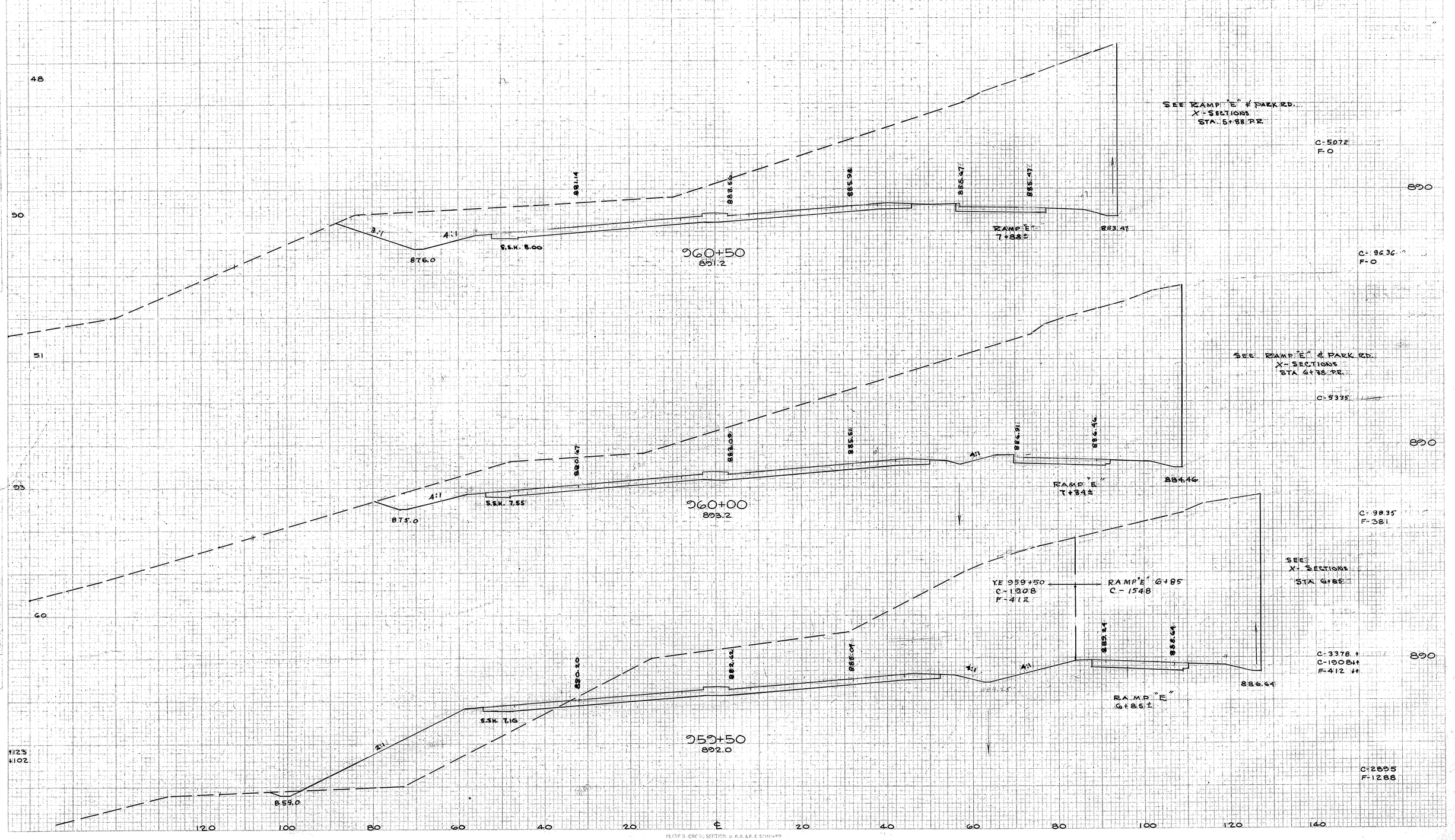
SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

142
492

MAH.-18-17.20

END AREA	CUBIC YARDS



959+50 TO 960+50

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

143
492

MAH.-18-17.20

END AREA	CUBIC YARDS

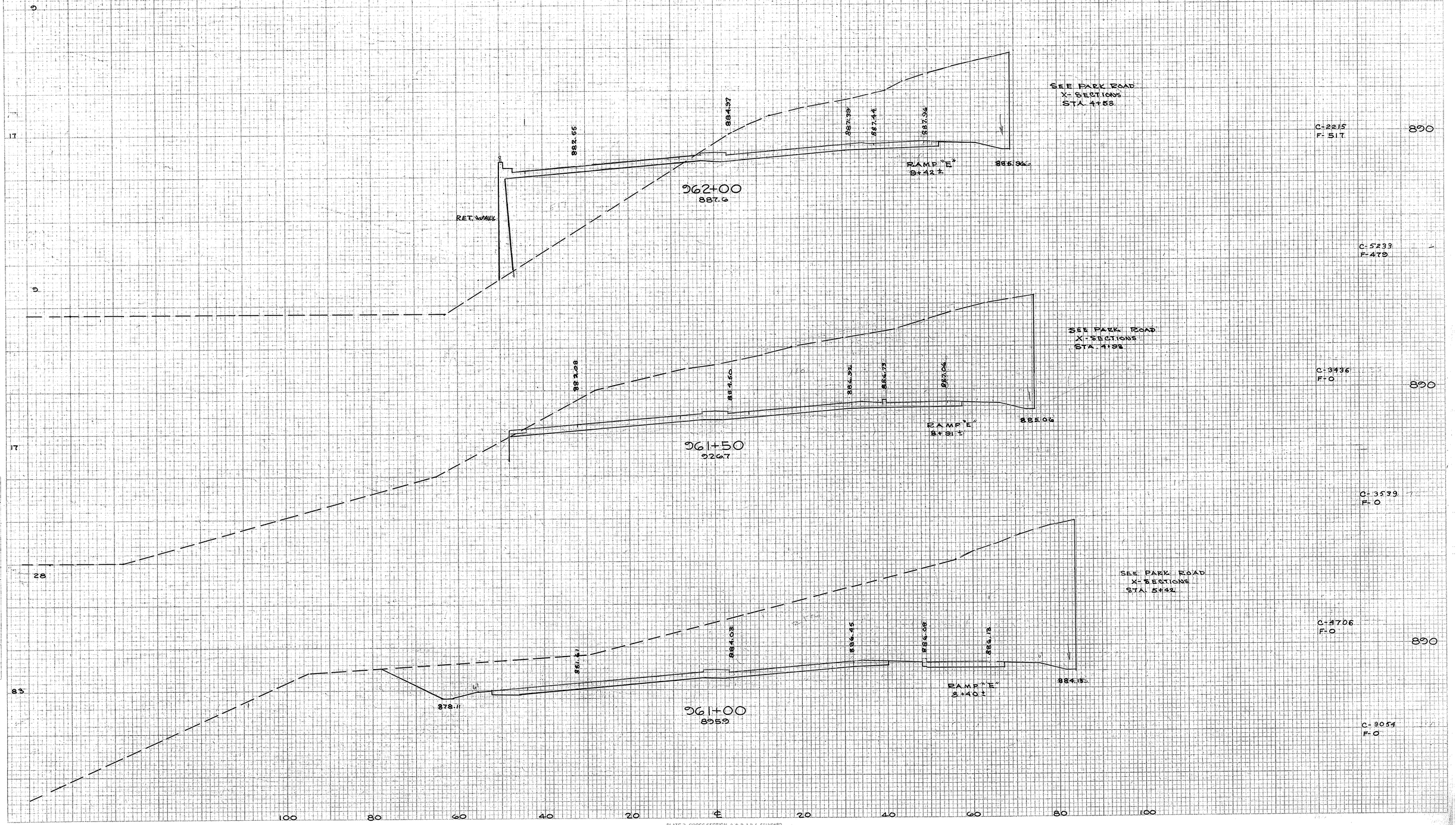
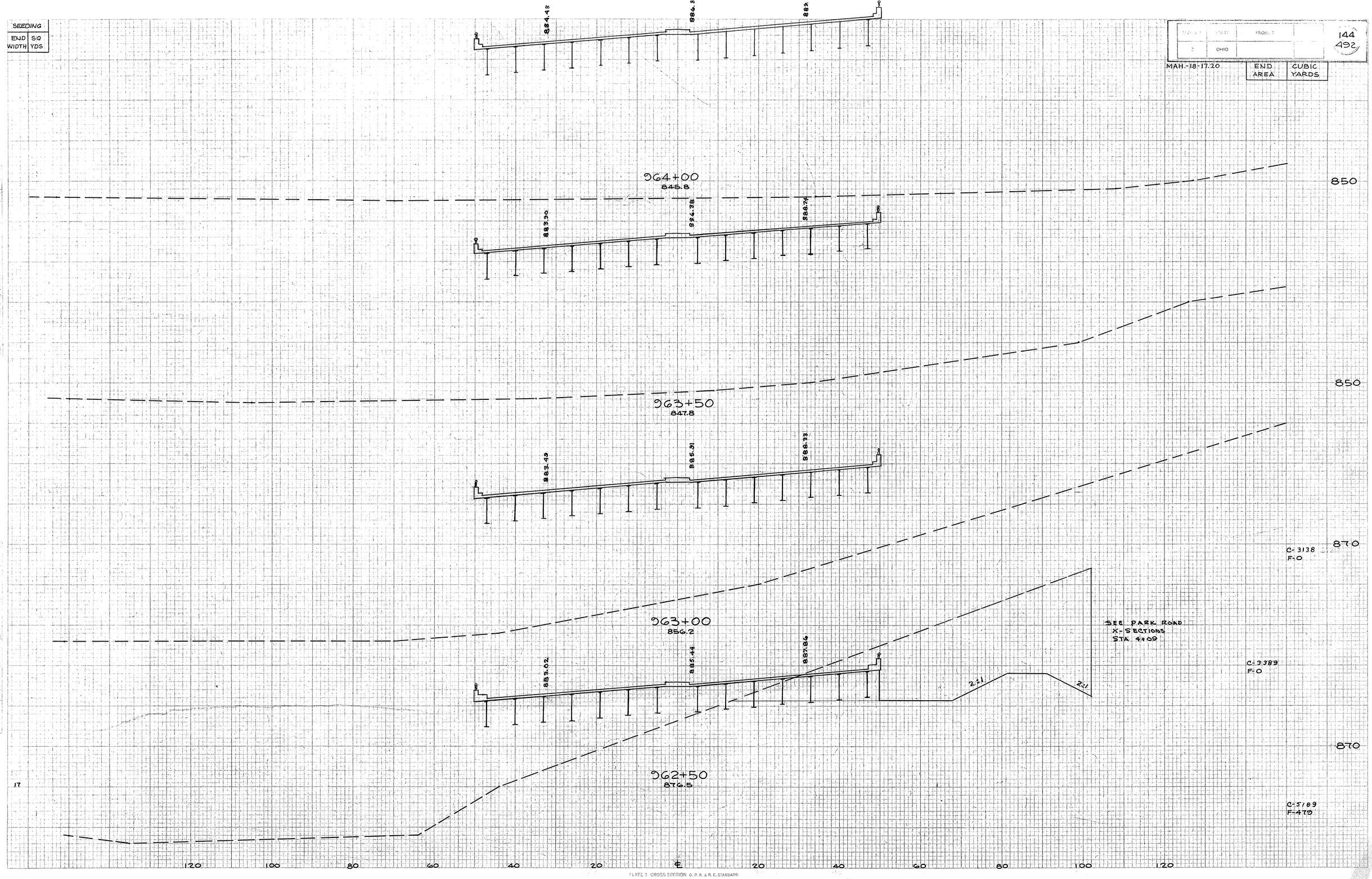


PLATE 3 - CROSS SECTION O.P.R. & R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

961+00 TO 962+00



FINAL SURVEY

ORIGINAL SURVEY

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

962+50 TO 964+00

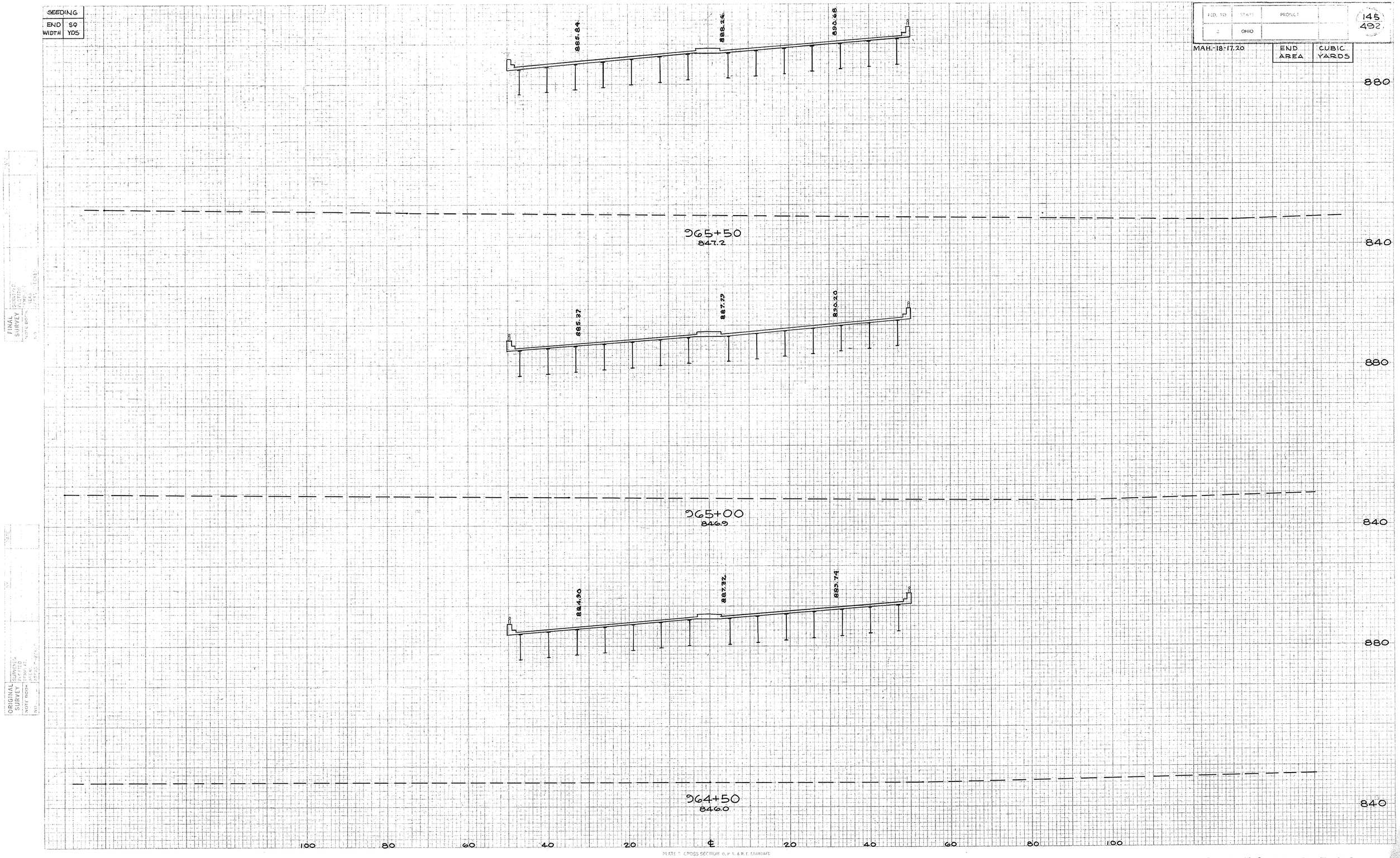


PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

964+50 TO 965+50

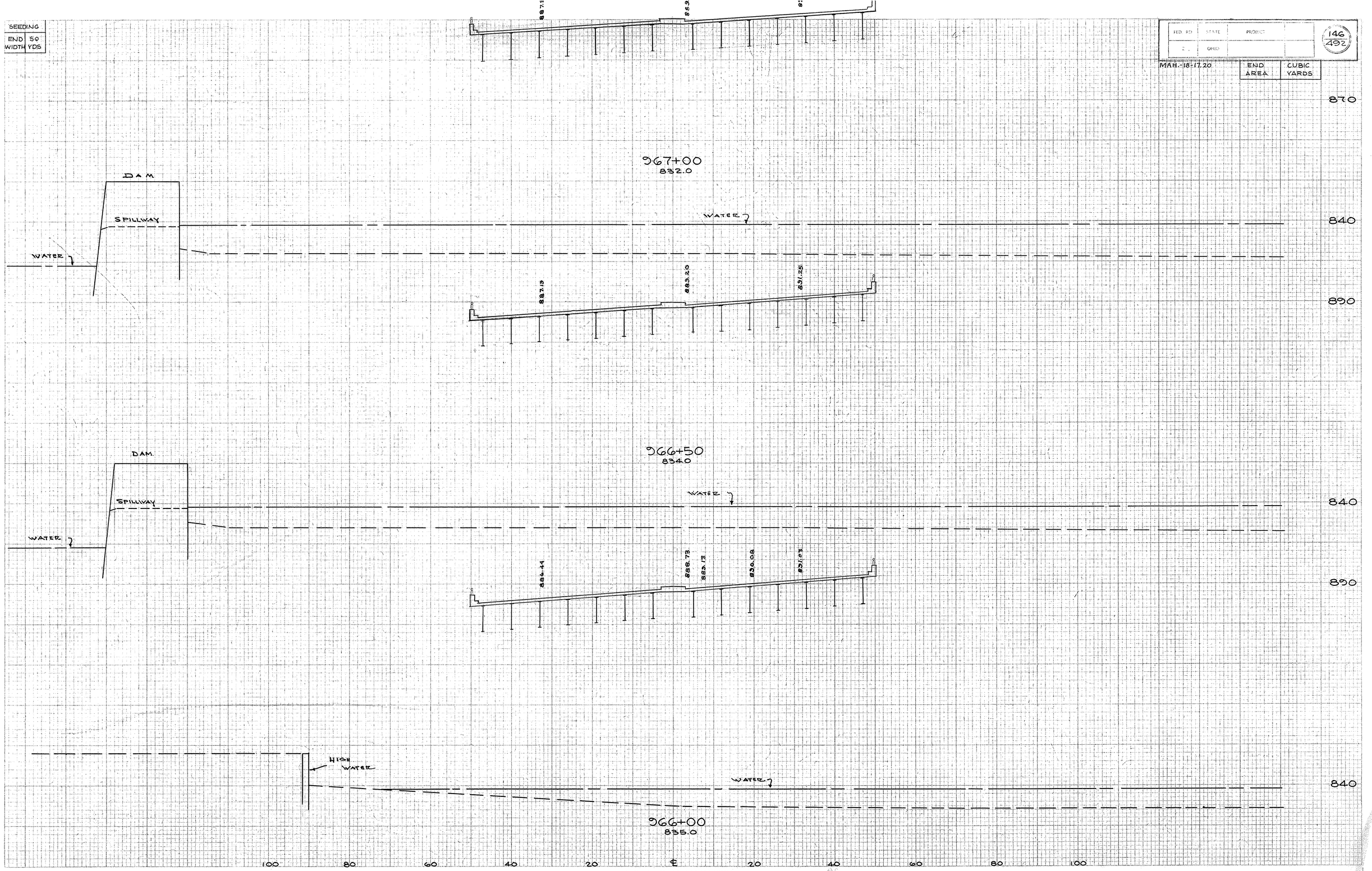


PLATE 3 - CROSS SECTION C. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

966+00 TO 967+00

SEEDING	
END WIDTH	SQ YDS

STATE OHIO	PROJECT		147 492

MAH.-18-17.20

END AREA	CUBIC YARDS

72

888.35

889.31

C=1580
F=0

880

968+50
898.0

C=1416
F=0

888.82

890

850

968+00
856.0

860.81

863.16

890

DAM

SPILLWAY

WATER 7

840

WATER 7

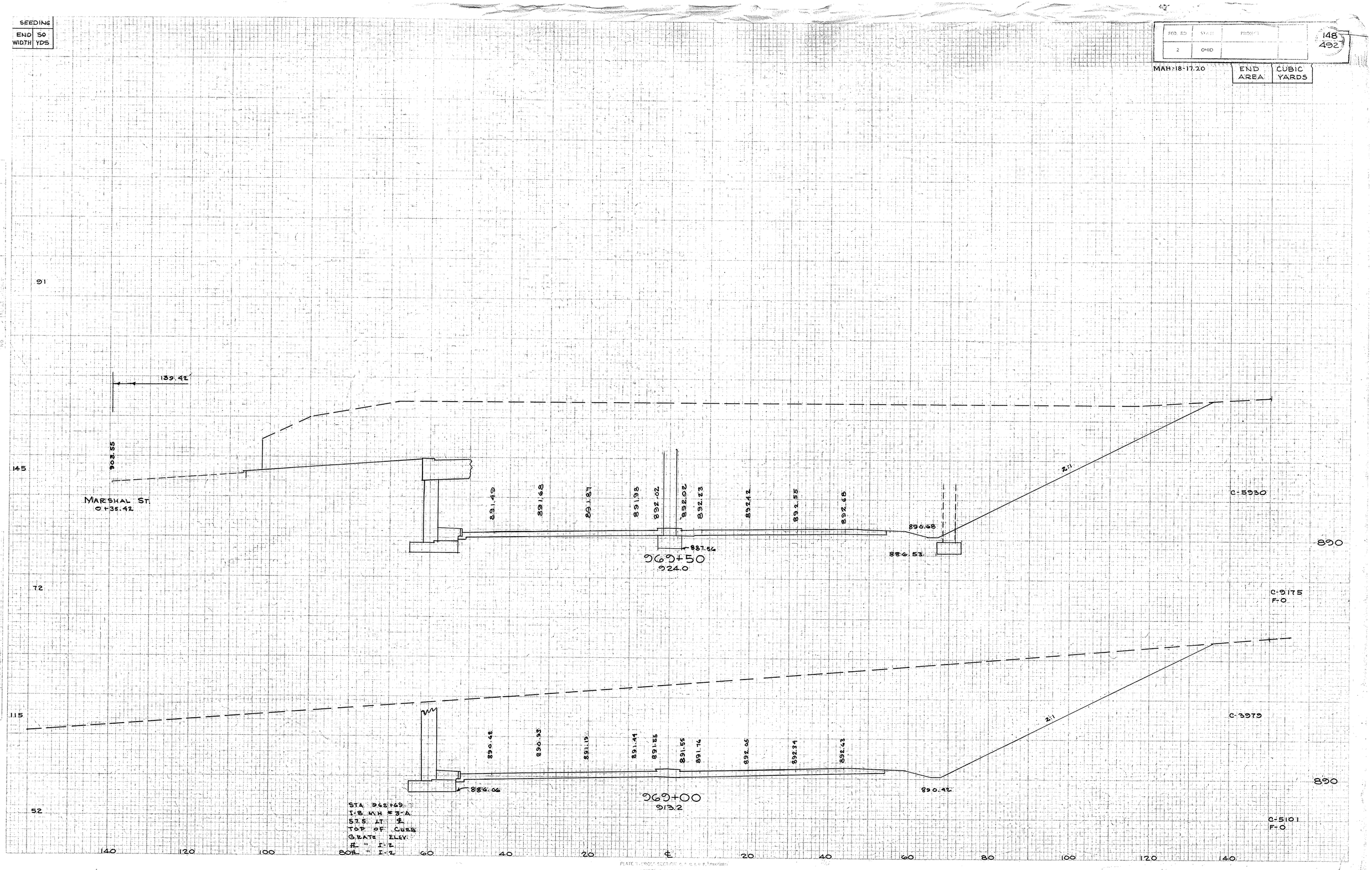
967+50
831.0

100 80 60 40 20 ℄ 20 40 60 80 100

PLATE'S CROSS SECTION C.E.P.S. A.G.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

967+50 TO 968+50

ORIGINAL SURVEY
SCALE 1000
SCALE 1000
NO. ____ DATE JULY 1937



SEEDING
END WIDTH
SQ YDS
FED. RD.
STATE
PROJECT
2
OHIO
148
492
MAH-18-17.20
END AREA
CUBIC YARDS
91
145
72
115
52
139.42
903.55
MARSHAL ST.
0+35.42
891.49
891.68
891.87
891.98
892.02
892.02
892.23
892.42
892.55
892.68
890.68
887.56
886.53
969+50
924.0
2:1
C-5930
890
C-9175
F-0
890.68
890.93
891.19
891.44
891.55
891.55
891.76
892.05
892.34
892.63
886.06
890.42
969+00
913.2
2:1
C-3979
890
C-5101
F-0
STA 963+69
I-8 MH #3-A
57.5 LT ℄
TOP OF CURB
GRATE ELEV.
℄ " I-2
80℄ " I-2
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140

SEEDING	
END WIDTH	SQ YDS

		PROJECT	149 492

MAH-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY: SURVEYED, PLOTTED, TEMPLATED, AREAS, NOTE BOOK, NO. — AREAS REVISED

ORIGINAL SURVEY: SURVEYED, PLOTTED, TEMPLATED, AREAS, NOTE BOOK, NO. — AREAS REVISED

95

172

98

139.08

902.70

½"/ft

12.58'

MARSHAL ST.
1+85.42

2:1

893.28 893.37 893.56 893.75 893.56 893.43 893.43 893.64 893.83 893.64 893.45

891.26

891.32

2:1

C-8375

971+00
231.0

890

181

139.19

903.09

½"/ft

13.56'

MARSHAL ST.
1+35.42

2:1

892.73 892.95 893.14 893.01 892.96 892.96 893.17 893.36 893.17 892.98

890.67

890.85

2:1

C-8437

NORMAL (RT)

970+50
334.0

890

C-15733
F-0

182

139.31

903.30

½"/ft

14.55'

MARSHAL ST.
0+85.42

2:1

892.17 892.36 892.55 892.51 892.45 892.49 892.70 892.83 892.83 892.77

890.06

890.78

2:1

C-8555

C-13412
F-0

970+00
334.3

890

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

PLATE D CROSS SECTION O.P.W.&.I.C. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

970+00 TO 971+00

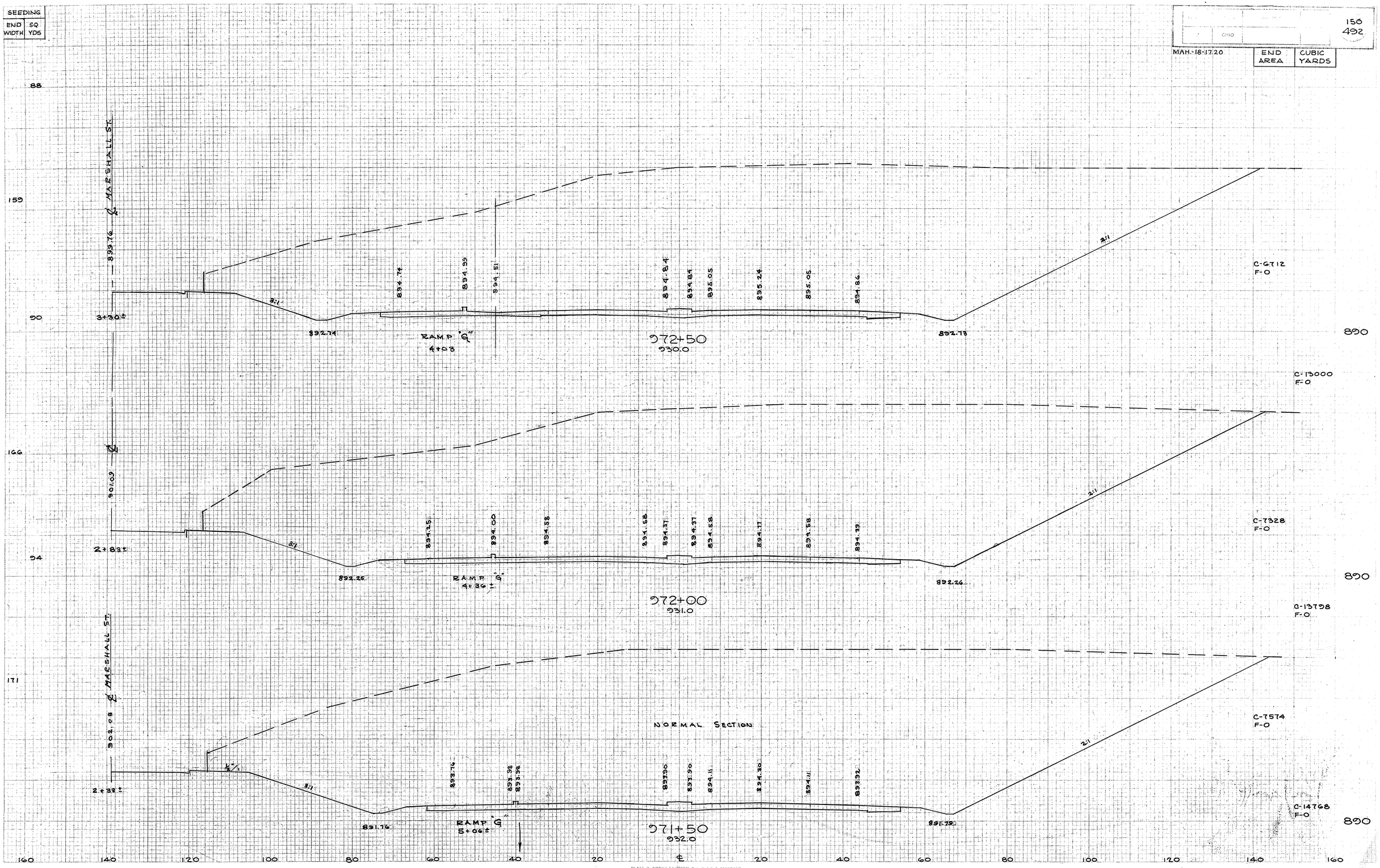


PLATE 3 - CROSS SECTION C.I.P.A.R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

971+50 TO 972+50

SEEDING	
END WIDTH	SQ YDS

STATE		
OHIO		

151
492

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — SURVEYED — PLOTTED — NOTE BOOK — PAGE — NO. — SHEETS CHECKED

ORIGINAL SURVEY — SURVEYED — PLOTTED — NOTE BOOK — PAGE — NO. — SHEETS CHECKED

94

167

894.26 894.03 893.84 893.78 892.86 894.25 896.25

MARSHAL ST 4+74

RAMP "G" 2+58

889.00

974+00
918.2

894.14

2:1

C-5053
F-0

890

94

C-9825
F-0

170

896.57 894.38 894.26 894.22 895.78 895.78 895.99 896.18 895.99 895.80

MARSHAL ST 4+23.5

893.21

RAMP "G" 3+03

893.09

973+50
922.0

2:1

C-5558
F-0

890

C-10783
F-0

91

158

NOTE:
STA 3+94.91 BEGIN TAKING QUANTITIES TO ℄ MARSHALL ST

NOTE:
RAMP "G" STA 6+23.03 TO 7+23.03
PAVT TRANSITIONS TO 3½% /' IN OPPOSITE DIRECTION
STA 6+73.03 PAVT LEVEL SWITCH PG

℄ MARSHALL ST.

898.29 894.30 895.31 895.31 895.52 895.71 895.52 895.33

3%

SPECIAL DITCH - SEE DETAIL

3+79±

892.90

RAMP "G" 3+58

894.60

973+00
924.0

893.20

2:1

C-6088
F-0

C-11852
F-0

890

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

PLATE 3 - CROSS-SECTION PAPER AS STANDARDIZED
KEUFFEL & ESSER CO., NEW YORK

973+00 TO 974+00

SEEDING	
END WIDTH	SQ YDS

OH-10	152 492

MAH.-18-17.20

END AREA	CUBIC YARDS

107

192

106

137.93

879.49

879.42

4:1

3:1

MARSHAL ST. G+85.42

RAMP "G" 0+38

877.6

898.38

898.73

NOTE: STA 976+00 END 12" I-22

976+00

201.3

896.03

2:1

C-1637 ↑
C-1685 ↓
F-0

890

C-3984
F-0

189

138.94

883.71

883.46

883.38

4:1

3:1

MARSHAL ST. G+35.42

RAMP "G" 0+98

881.0

897.68

897.44

975+50

200.0

895.55

2:1

C-2618
F-0

890

C-6012
F-0

102

NOTE:
STA. 0+00 TO 1+00 RAMP "G" TRANSITION 3' PAVED SHOULDER TO MEET 2' CONC. GUTTER ON MARSHALL ST.

180

138.16

883.72

883.57

883.33

4:1

3:1

MARSHAL ST. 5+85.42

RAMP "G" 1+49

880.33

897.19

897.15

975+00

209.8

895.08

2:1

C-3875
F-0

890

C-7822
F-0

97

NOTE: STA. 974+50 BEGIN 12" I-22

171

138.27

890.37

890.72

890.89

4:1

3:1

MARSHAL ST. 5+35.42

RAMP "G" 2+00

888.1

896.72

896.72

974+50

213.0

894.61

2:1

C-4573 ↑
C-4525 ↓
F-0

890

C-8869
F-0

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

PLATE 6 - CROSS SECTION O. P. R. & R. E. STANDARD
REUFFEL & ESSER CO., NEW YORK.

974+50 TO 976+00

FINAL SURVEY
CHECKED
PLOTTED
NOTE BOOK
NO.
TEMPLATE
AREAS CHECKED

ORIGINAL SURVEY
CHECKED
PLOTTED
NOTE BOOK
NO.
TEMPLATE
AREAS CHECKED

SEEDING	
END WIDTH	SQ YDS

STATE OHIO — 153 432

MAH.-18-17.20

END AREA	CUBIC YARDS

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

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

105

137.47

872.38

873.06

4:1

871.39

2:1

900.01

900.01

3:1

835.0

C-251
F-1771

890

978+00
888.5

2+85.42

105

137.68

873.80

873.39

4:1

872.05

2:1

899.54

899.54

3:1

837.43

C-453
F-1019

890

977+50
892.2

1.89

8+35.42

106

137.70

875.40

875.48

4:1

873.48

2:1

899.07

899.07

3:1

896.99

C-621
F-463

890

977+00
896.5

7+85.42

107

137.21

877.15

877.25

4:1

874.06

2:1

898.60

898.60

3:1

896.49

C-836
F-306

890

976+50
898.1

7+35.42

192

MARSHALL ST.

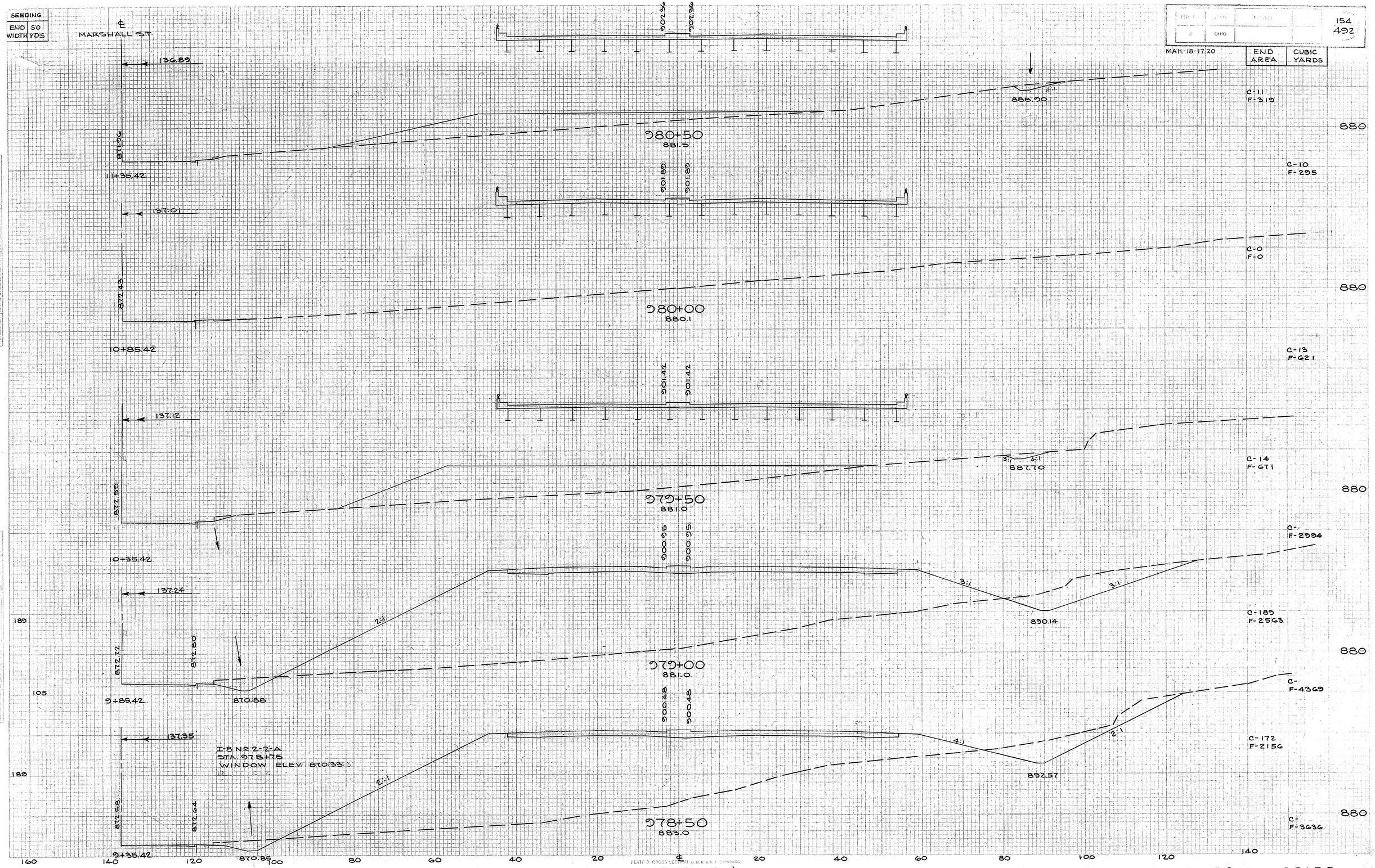
BAMP "G"
0+00.00

C-2250
F-283

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

PLATE 3-CROSS SECTION O.P.S.&R.E. STANDARD

KENFEEL & ESSER CO. NEW YORK



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

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

PLATE 3 CROSS SECTION O.P.R.&R.F. STANDARD
KRUFFEL & ESSER CO. NEW YORK

978+50 TO 980+50

SEEDING	
END WIDTH	SQ YDS

FED. PROJ.	STATE	PROJECT		155 492
	OHIO			

MAH.-18-17.20

END AREA	CUBIC YARDS

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

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

DATE — BY

80

144

136.43

870.75

2:1

870.18

MARSHALL ST.
13+35.42

904.19

904.19

RAMP "F"
6+96±

2:1

3:1

890.40

C-11
F-4090

880

982+50
875.8

79

136.65

871.05

2:1

870.47

MARSHALL ST.
12+85.42

903.77

903.77

12'

RAMP "F"
6+46±

2:1

890.00

C-7
F-3930

880

982+00
876.0

140

77

136.66

871.35

2:1

870.77

MARSHALL ST.
12+35.42

SPECIAL CONC. DITCH SEE DETAIL SHEET N°

903.30

903.30

13.50'

RAMP "F"
5+96±

2:1

889.80

4:1

C-48
F-3637

880

981+50
877.0

136

76

136.78

871.67

2:1

871.09

MARSHALL ST.
11+85.42

902.83

902.83

16'

2:1

C-5
F-3197

880

981+00
880.7

138

C-51
F-7006

C-49
F-6328

C-17
F-7426

C-15
F-3256

NOTE:
STA. 981+00 TO 982+00
TRANSITION TOTAL WIDTH
OF SHOULDER 15' TO 12'

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

PLATE 3 · CROSS SECTION · O. P. R. & H. C. STANDARD
KRUPPER & KESTER CO., NEW YORK

981+00 TO 982+50

SEEDING	
END WIDTH	SQ YDS
90	
150	
82	
146	
80	
141	
78	
143	

CO. RTE.	STATE	PROJECT		156 492
	OHIO			

MAH. 18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — NOTE BOOK — SHEET NO.

ORIGINAL SURVEY — SURVEYED — PLOTTED — NOTE BOOK — SHEET NO. — AREAS — QUANTITIES — SHEET NO.

903.92 — 902.1 — 905.18 — 904.22 — 8+88 — 895.10

135.97 — 2:1 — 865.88 — MARSHAL ST. 15+35.42 — 869.46

C-14 F-4555

884+50 875.5

C-35 F-8537

904.29 — 904.58 — 905.86 — 8+40 — 892.80

C-24 F-4665

156.09 — 2:1 — 870.10 — MARSHAL ST. 14+85.42 — 869.68

884+00 874.0

C-39 F-8513

904.46 — 2:1 — 891.30

C-18 F-4529

136.20 — 2:1 — 870.31 — MARSHAL ST 14+35.42 — 869.89

883+50 874.0

C-25 F-8206

904.43 — 904.43 — 2:1 — 801.00

C-9 F-4333

136.32 — 2:1 — 870.52 — MARSHAL ST. 13+85.42 — 870.10

883+00 875.0

C-19 F-7799

900 890 900 870 900 870

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

PLATE 7. CROSS SECTION [illegible] STANDARD
KRUPPER & TOSTER ETC., NEW YORK

883+00 TO 884+50

SEEDING	
END WIDTH	SQ YDS

NED. RD.	STA.	PROJECT	
	CHSC.		

157
492

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — UNPLOTTED / PLOTTED — NOTE BOOK — PAGE — NO. — AS ONGOING

ORIGINAL SURVEY — UNPLOTTED / PLOTTED — NOTE BOOK — PAGE — NO.

61
114
73
148
67
100
203
105
174

135.51
868.08
868.61
MARSHALL ST.
17+35.42

135.63
868.25
868.85
MARSHALL ST.
16+85.42

135.74
869.46
869.04
MARSHALL ST.
16+35.42

135.36
869.67
869.25
MARSHALL ST.
15+85.42

2:1

900.43 900.43

894.0

C-11
F-3000

986+50
878.0

901.61 901.61

4:1 VARIES

895.0

C-12
F-5893

870

C-2
F-3364

986+00
877.5

902.58 902.58 903.24 903.24

Y.E. 985+50
C-2
F-3330

RAMP "F" 9+76
C-14
F-13931

3:1

896.2

9+76
RAMP "F"

900.05 898.67

C-4
F-6198

900 899.10

150 160 170 180

880

985+50
877.0

903.35 903.35

907.66 906.48

4:1

900.94

9+34
RAMP "F"

C-2 ↑↑
C-14 ↓
F-33301↑
F-13931↓

C-21
F-8906

896.75

C-7
F-4896

880

C-19
F-8751

985+00
874.0

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

PLATE 3 CROSSSECTIONS

985+00 TO 986+50

SEEDING	
END WIDTH	SQ YDS
71	
129	
66	
110	
59	
104	
58	
105	

FED. RD.	STATE	PROJECT	
2	OHIO		

158
492

MAH-18-17.20'

END AREA	CUBIC YARDS

FINAL SURVEY — SURVEY C. PLOTTED — TEMPLATE — NOTE BOOK — PAGE — NO. — CHECKED

ORIGINAL SURVEY — SURVEY C. PLOTTED — TEMPLATE — NOTE BOOK — PAGE — NO. — CHECKED



PLATE 3 CROSS SECTIONS OF P.A.P.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK.

987+00 TO 988+50

SEEDING	
END WIDTH	SQ YDS

	STATE	PROJECT		155	
				492	

END AREA	CUBIC YARDS

MAH-18-17.20

SURVEYED / PLOTTED / TEMPLATE / NOTE BOOK / CHECKED — FINAL SURVEY

SURVEYED / PLOTTED / TEMPLATE / NOTE BOOK / CHECKED — ORIGINAL SURVEY

TG

128

75

141

82

155

80

134

72

125

SEE RAMP "H" STA. 10+70

C-2108 ↑
F-44 ↑
C-2146 ↓
F-40 ↓

890

888.44 886.75 886.75 884.86

NOTE:
STA 991+00
END 12" I-22
881.91

991+00
892.0

2:1

859.78 859.42

RAMP "J"
14+32

C-4156
F-92

SEE RAMP "H"
STA. 10+25

890.18 886.29 886.29 886.40

C-2343
F-59

890

990+50
892.5

883.41

C-4155
F-94

862.62 862.66 862.34 VARIES

MARSHALL ST.
21+53.5

RAMP "J"
14+85

861.20

SEE RAMP "H"
STA. 9+80

891.72 889.83 889.83 881.94

C-2144
F-43

990+00
894.0

884.91

890

C-3019
F-208

865.96 865.48 VARIES

MARSHALL ST.
20+91.5

864.69

891.37 891.37 889.63

C-1117 ↑
F-182 ↑
C-1085 ↓
F-192 ↓

890

989+50
892.8

2:1 4:1 2:1

887.23

NOTE
STA. 989+50
BEGIN 12" I-22

C-1644
F-456

867.51 867.18

MARSHALL ST.
20+40

865.89

NOTE:
BEGIN DITCH @ STA. 16+05 RAMP J"

892.91 892.91 891.45

C-691
F-301

NOTE:
END I-14 PAVED GUTTER
@ STA. 16+55 RAMP "J"

889.20

MARSHALL ST.
19+88.5

989+00
893.5

867.95 867.70

880

C-990
F-814

100 80 60 40 20 ℄ 20 40 60 80 100 120

PLATE 3 CROSS SECTION C. P. A. & R. R. STANDARD
REUFFEL & ESSER CO. NEW YORK

989+00 TO 991+00

SEEDING	
END WIDTH	SQ YDS

FED.	STATE	PROJECT	
	OHIO		

160
492

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY QUANTITIES NOV 2 1956 DATE

ORIGINAL SURVEY QUANTITIES NOV 2 1956 DATE

NO. — DATE — REVISIONS — BY — CHECKED

146

250

154

NOTE:
BEGIN I-14 PAVED GUTTER @STA. 12+00, FLARE TO MEET DITCH.

882.48 880.59 880.59 878.70

861.53 861.21

4:1 2:1

RAMP "J"
12+20

860.83

993+00
878.5

A

2:1

160

160

878.91 877.87

875.91 4:1 875.59

2:1

A

880

C-3696
F-615

12+57
RAMP "H"

C-6767
F-1030

1300
+133

NOTE:
END I-14 PAVED GUTTER @ 12+40
FLARE CURB TO MEET MODIFIED
2-2A INLET

884.02 882.13 882.13 880.24

858.95 858.63

2:1

RAMP "J"
12+73

992+50
882.0

877.41

SEE RAMP "H"
12+10

C-3848 *
C-764 X *
F-493 X *
AHEAD *
BACK X

880

C-1685
F-910

74

885.56 883.67 883.67 881.78

C-1056
F-490

890

992+00
883.7

878.91

C-2047
F-960

133

857.32 856.94

887.10 885.21 885.21 883.32

2:1

C-1137 †
F-547 †
C-1148 †

890

77

RAMP "J"
13+26

880.41

991+50
886.0

2:1

NOTE:
2A-8 INLET @ 13+50

144

857.61 857.23

C-3015
F-547

860

RAMP "J"
13+80

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

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

991+50 TO 993+00

SEEDING	
END WIDTH	SQ YDS.

FED. RD.	STATE	PROJECT	
	OHIO		

161
492

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK
PAGES

102 192 112 211 124 236 142 277

RAMP "J" 10+08
850.0
867.55 867.25 4:1 VARIES 869.44
876.82 874.43 874.43 872.54 872.28 871.08 2:1
871.56
995+00
865.7
14+43 RAMP "H"
868.78
C-752 F-1961
C-1868 F-3233
870

RAMP "J" 10+61
850.3
869.29 868.97 4:1 VARIES 867.18
877.76 875.97 875.97 874.08 873.63 872.59 2:1
871.41
994+50
868.0
13+35 RAMP "H"
870.31
C-1265 F-1531
C-2055 F-2652
870

RAMP "J" 11+14
851.5
866.71 866.39 4:1 VARIES 864.60
879.40 875.62 875.51 875.32 874.22 875.22 2:1
872.91
994+00
870.5
13+47 RAMP "H"
871.94
C-1954 F-1333
870

RAMP "J" 11+67
852.0
864.12 863.80 4:1 VARIES 862.75
880.94 878.05 878.05 877.16 875.91 875.29 2:1
874.41
993+50
872.4
13+03 RAMP "H"
873.63
C-2396 F-1237
C-5641 F-1719
870

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

PLATE 3 CROSS SECTION O. F. P. & B. E. STANDARD
REUPPEL & ESSER CO. NEW YORK.

993+50 TO 995+00

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	162 / 452
	OHIO		

END AREA	CUBIC YARDS

MAH-18-17.20

YOUNGSTOWN FURNACE

℄ HILKER

59 104 52 84 64 148 83 152 91 176

866.55 868.62 866.73 866.73 864.84 863.69 861.33

997+50
856.0

C-132
F-1623

860

870.86 870.44 870.16 868.27 868.27 866.38 865.11 862.81

RAMP "J"
8+03

997+00
860.8

C-202
F-2850

C-86
F-1498

860

872.19 871.79 871.70 869.81 869.81 867.92 866.60 864.32

RAMP "J"
8+54

RAMP "H"
15+87

996+50
858.0

C-283
F-3481

C-220
F-2262

860

849.0

872.96 872.58 873.24 871.85 871.85 869.96 868.12 865.85

RAMP "J"
9+05

871.8

RAMP "H"
15+38

996+00
860.0

C-439
F-4224

C-254
F-2300

860

848.7

872.77 872.45 874.78 872.89 872.89 871.00 870.72 867.62 867.34

RAMP "J"
9+55

871.1

RAMP "H"
14+20.2

995+50
862.5

C-501
F-4055

C-294
F-2079

870

848.4

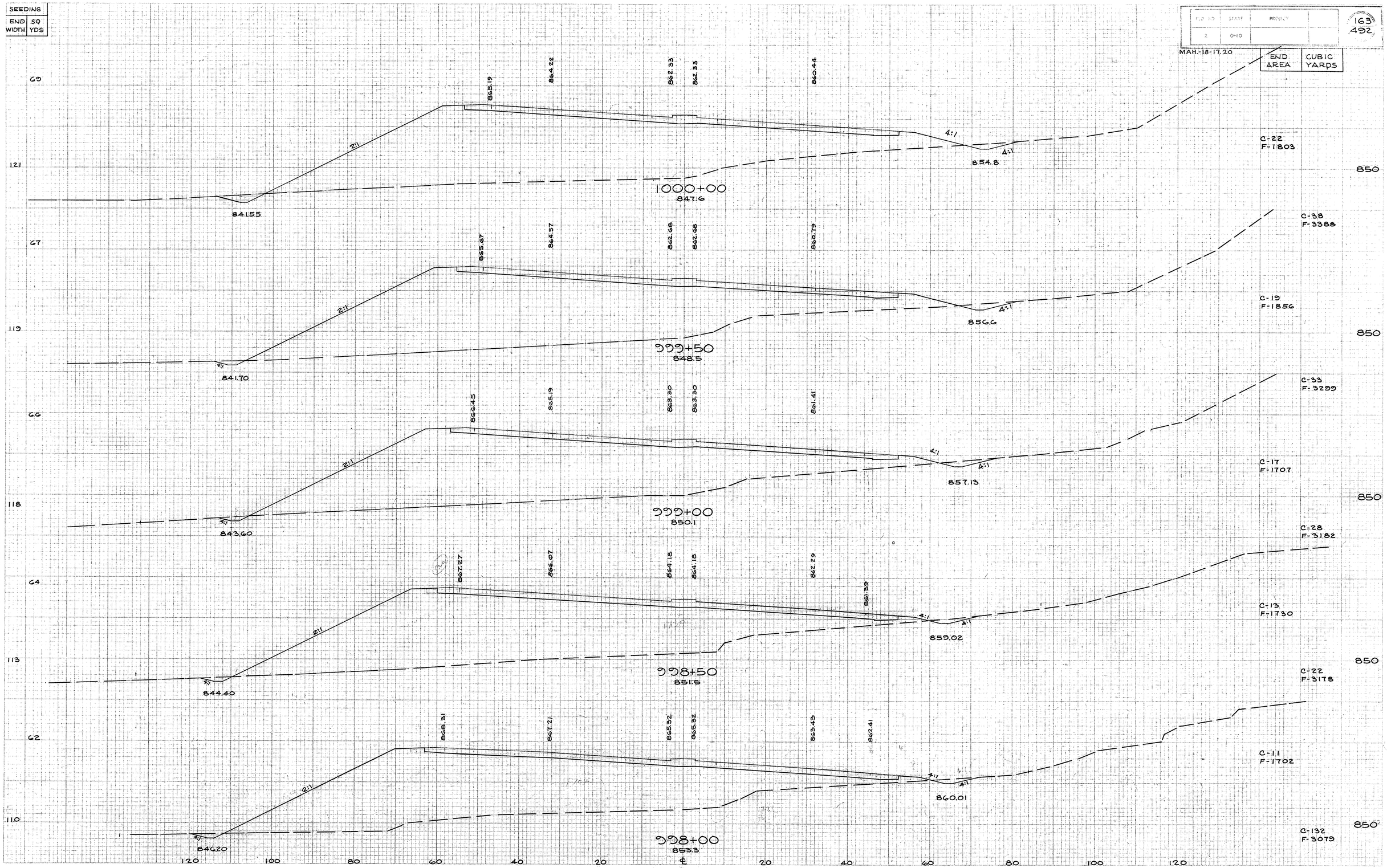
C-369
F-3741

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

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

995+50 TO 997+50

ORIGINAL SURVEY
FINAL SURVEY
NOTE BOOK
NO.
DATE
BY
REVISED



FINAL SURVEY

ORIGINAL SURVEY

PLATE 3-CROSS SECTION G.P.R.&R.E. STANDARD
KEUFFEL & ESSER CO., N.Y. (NOT TO SCALE)

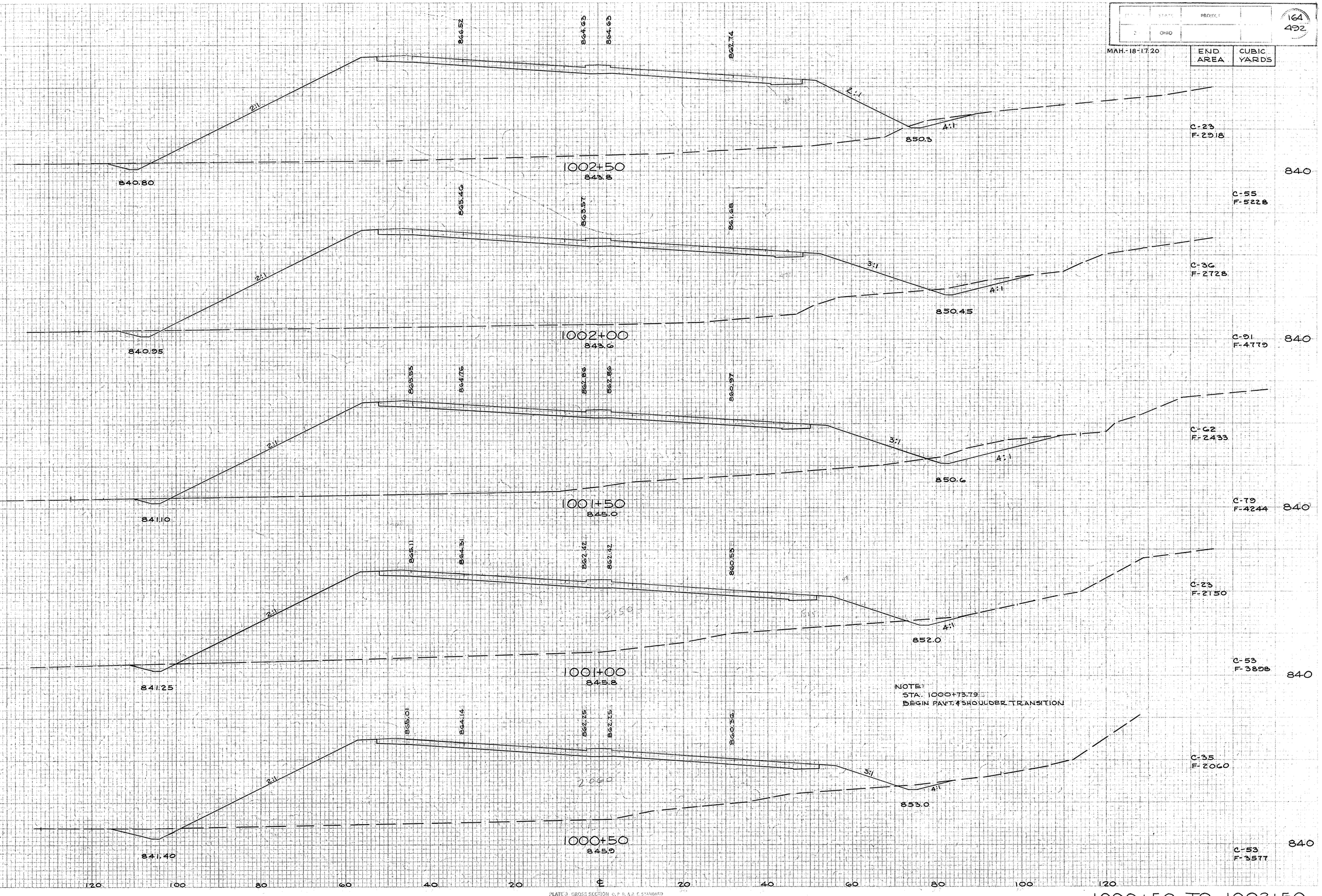
998+00 TO 1000+00

STATE	PROJECT	
OHIO		

164
492

MAH.-18-17.20

SEEDING		END AREA	CUBIC YARDS
END WIDTH	SQ YDS		
79		C-23 F-2918	840
141		C-55 F-5228	
79		C-36 F-2728	
143		C-91 F-4779	840
80		C-62 F-2433	
145		C-79 F-4244	840
76		C-23 F-2150	
130		C-53 F-3898	840
72		C-35 F-2060	
129		C-53 F-3577	840



NOTE:
STA. 1000+73.79
BEGIN PAVT. & SHOULDER TRANSITION

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

1000+50 TO 1002+50

FINAL SURVEY
ORIGINAL SURVEY

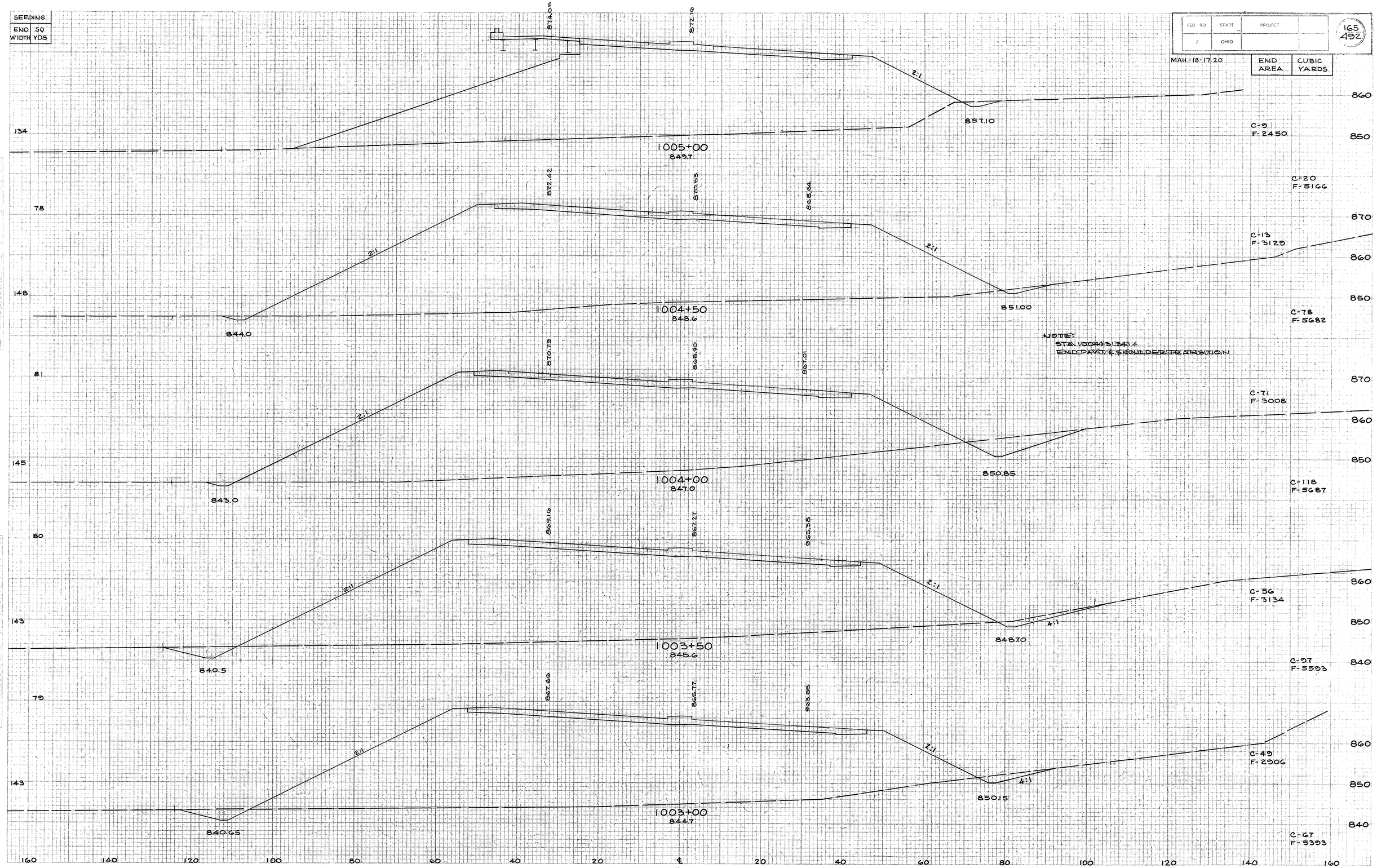


PLATE 2 - CROSS SECTION D.P.R. & R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

1003+00 TO 1005+00

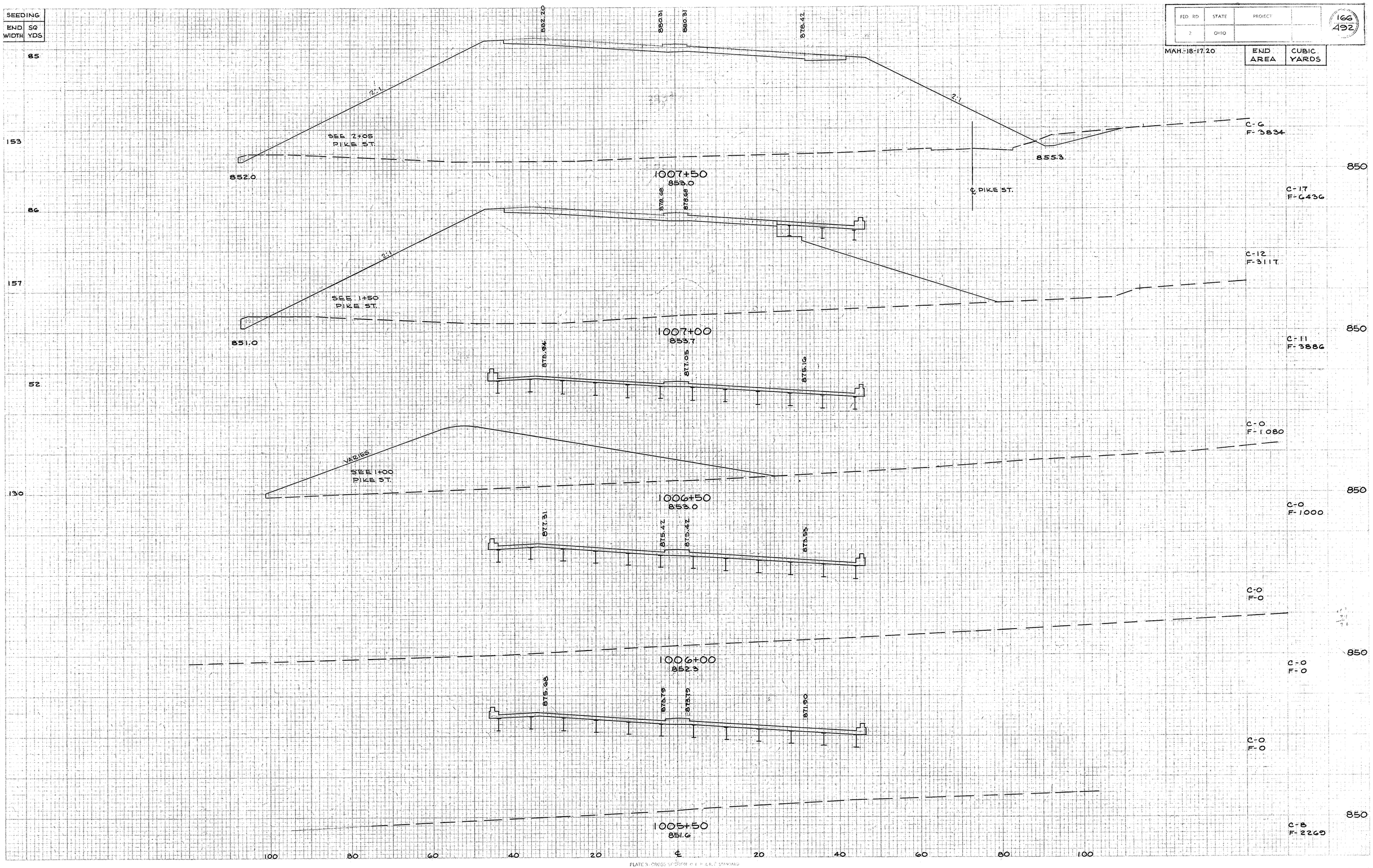


PLATE 3 - CROSS SECTION O. P. & R. R. STANDARD
KEUFFEL & ESSER CO., NEW YORK

1005+50 TO 1007+50

STATE	PROJECT		167
OHIO			492

SEEDING	
END WIDTH	SQ YDS

END AREA	CUBIC YARDS

MAH-18-17.20

89

159

888.72 886.83 886.83 884.94

2:1 2:1

856.1

SEE PIKE ST X-SECTIONS STA. 4+18

℄ PIKE ST.

SPECIAL COMPACTION

BENCHES

BOTTOM OF FILL

865.6

1009+50

845.8

C-122
F-5971

850

C-140
F-10724

87

887.09 885.20 885.20 883.31

2:1 2:1 3:1

855.9

SEE PIKE ST X-SECTIONS STA. 3+64

℄ PIKE ST.

SPECIAL COMPACTION

863.0

153

1009+00

846.6

C-29
F-5611

850

C-90
F-9241

86

885.46 883.57 883.57 881.68

2:1 2:1 4:1

855.2

SEE PIKE ST X-SECTIONS STA. 3+11

℄ PIKE ST.

SPECIAL COMPACTION

858.8

156

1008+50

849.0

C-68
F-5125

850

C-84
F-8808

86

883.83 881.94 881.94 880.05

2:1 2:1 4:1

854.0

SEE PIKE ST X-SECTIONS STA. 2+58

℄ PIKE ST.

SPECIAL COMPACTION

857.1

153

1008+00

850.8

C-23
F-4388

850

C-27
F-2613

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

PLATE + CROSS SECTION OF R.R. & I.R.T. TRACKAGE
REVISED & REDRAWN FROM WORK

1008+00 TO 1009+50

SEEDING	
END WIDTH	SQ YDS

FED. NO.	STATE	PROJECT	
2	OHIO		

168
492

MAH-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — PLOTTED — TEMPLATE — CHECKED — AREAS CHECKED — NO. —

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

168'
HOSPITAL

RW

C-174
F-6037

92

166

893.61
891.72
891.72
889.83

2:1

SPECIAL COMPACTION

870.0

855.1

SEE 5+80
PIKE ST.

℄ PIKE ST.

BENCHES

BOTTOM OF FILL

1011+00
855.6

891.98
890.69
890.09
888.20

C-251
F-11448

850

92

RW

2:1

SPECIAL COMPACTION

℄ PIKE ST.

871.0

BOTTOM OF FILL

C-97
F-6327

166

855.6

BENCHES

1010+50
854.0

888.46
888.46
886.57

890.35

850

RW

C-166
F-11650

91

STA 1010+19.07
PAVT BEGINS WIDENING (LT)

2:1

C-82
F-6255

℄ PIKE ST

SPECIAL COMPACTION

870.7

BOTTOM OF RANDOM FILL

160

855.8

SEE 4+71
PIKE ST.

BENCHES

C-189
F-11320

1010+00
849.2

840

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

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

1010+00 TO 1011+00

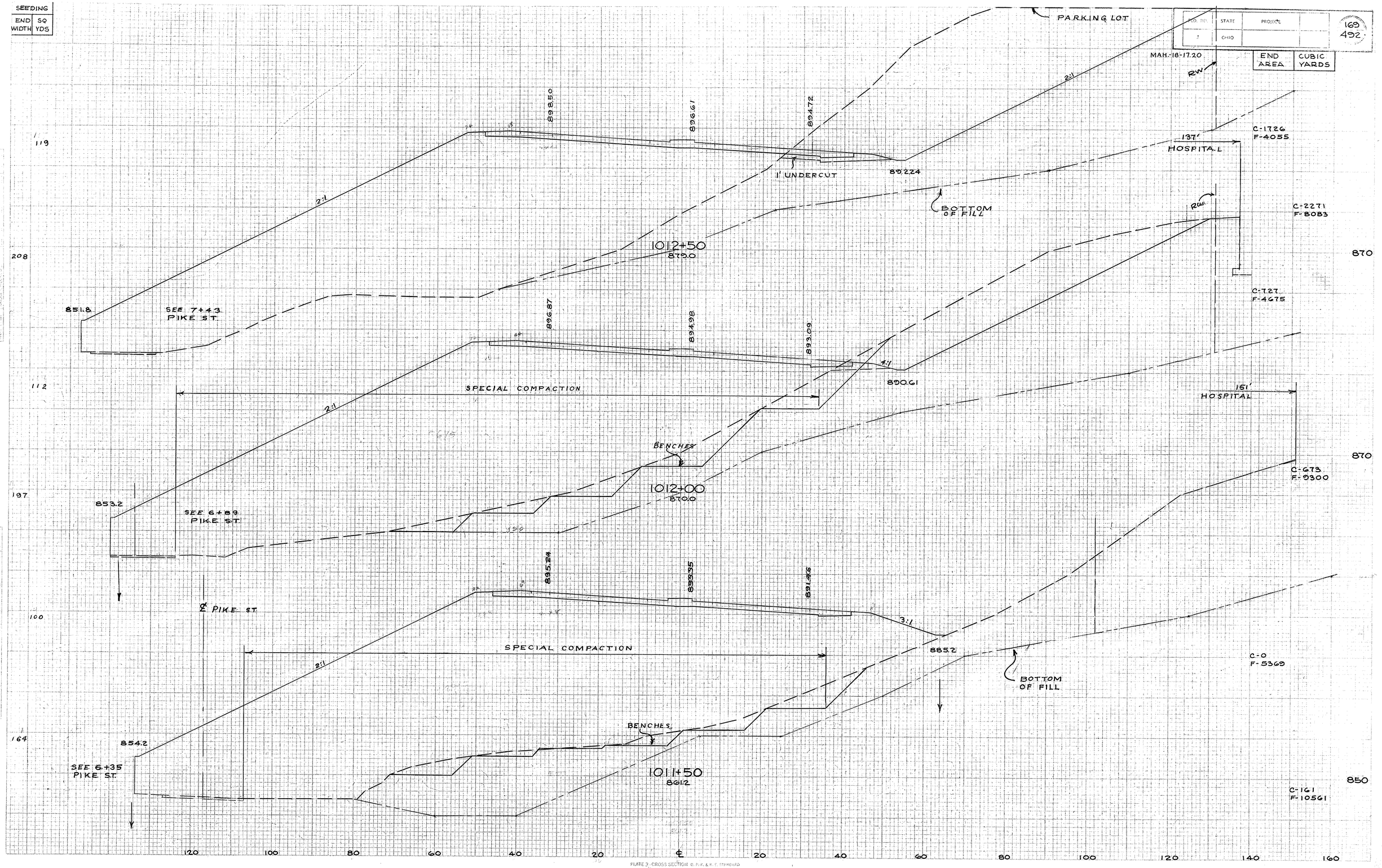


PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

170
492

END AREA	CUBIC YARDS

931.50

MAH.-18-17.20

FINAL SURVEY PLOTTED / TRACED / TEMPLAT / CHECKED / NOTE BOOK / PAGE / NO. / ASSISTANT

ORIGINAL SURVEY PLOTTED / TRACED / TEMPLAT / CHECKED / NOTE BOOK / PAGE / NO. / ASSISTANT

115

226

121

SEE 9+08 PIKE ST.

PARKING LOT

RW

C-2657
F-1593

900

C-4276
F-4354

1014+00
904.8

1' UNDERCUT

897.01

903.38
901.50
901.06
899.68

2:1

C-1961
F-3109

890

208

SEE 8+53 PIKE ST

119

1013+50
890.0

900.13
898.24
898.24
896.35

1' UNDERCUT

893.87

BOTTOM OF FILL

C-3478
F-6154

C-1795
F-3537

880

219

170 160 150

SEE 7+98 PIKE ST.

1013+00
883.3

903.77
897.87
897.68

1' UNDERCUT

895.50

C-3260
F-7030

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

PLATE 1 CROSS SECTION C.P.R. STYLE STANDARD
NEWTEFFE & RIDER CO. NEW YORK.

1013+00 TO 1014+00

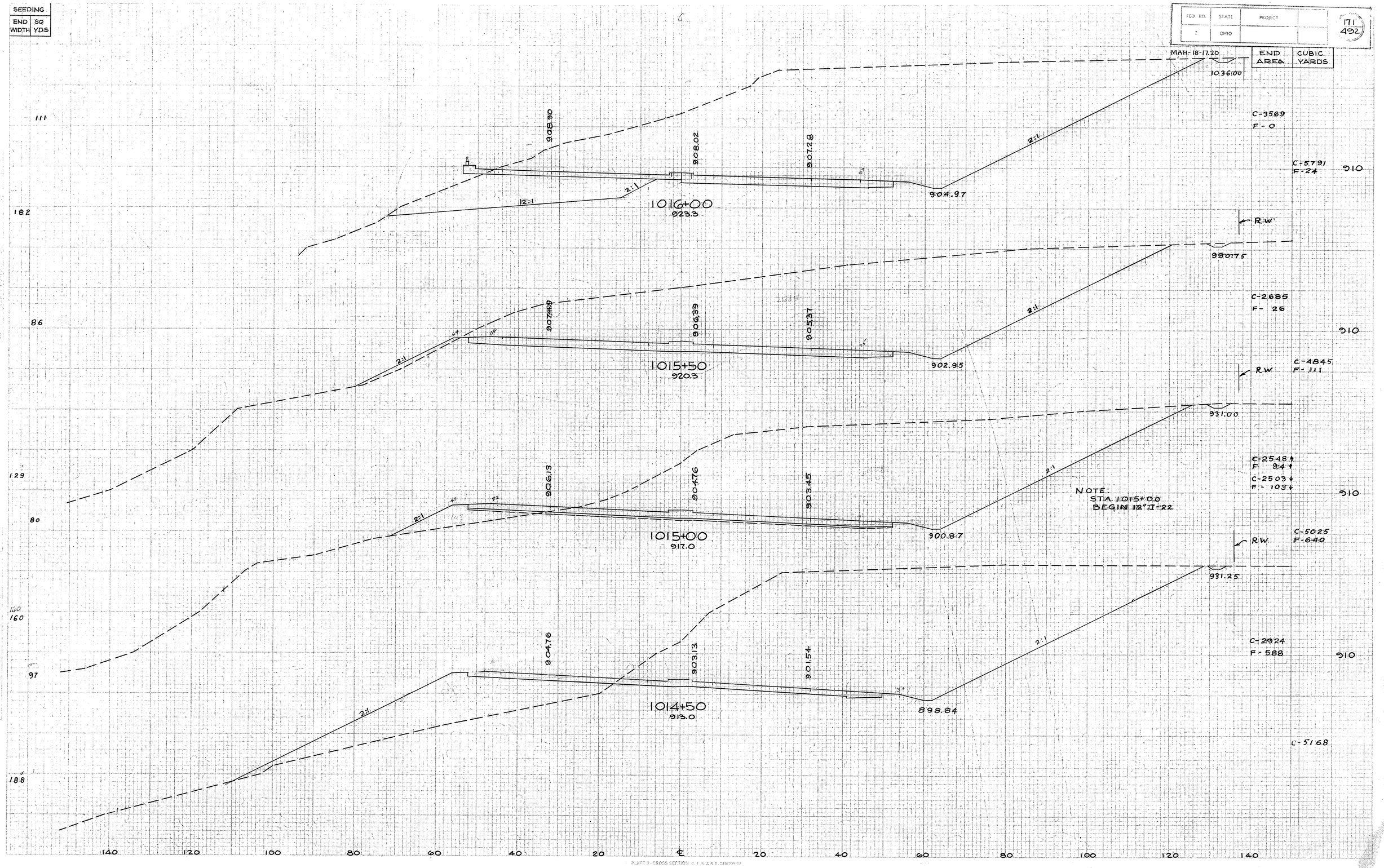


PLATE 3 - CROSS SECTION C. E. & R. F. STANDARD
KEUFFEL & ESSER CO. NEW YORK

1014+50 TO 1016+00

SEEDING	
END WIDTH	SQ YDS

FED. NO.	STATE	PROJECT		172 492
	OHIO			

END AREA	CUBIC YARDS

MAH.-18-17.20

134

244

132

232

131

239

110

158

EXISTING BOTTLE STORAGE BLDG

"M" CELLAR EXISTING BLDG

"M" CELLAR EXISTING BLDG

EXISTING BLDG

1470

1042.00

C-1025
F-360

914.75 914.94 914.75 914.54 914.61 914.79 914.53

2:1

912.1

C-2300
F-475

910

1018+00
904.0

1041.00

C-1459
F-153

913.18 913.31 913.12 912.91 912.95 913.04 912.85

2:1

910.66

C-2957
F-162

910

1017+50
906.4

1042.0

C-1735
F 22

911.67 911.68 911.49 911.28 911.49 911.68 911.67

2:1

909.66

C-3669
F-20

910

1017+00
908.0

1037.00

C-2227 ↑
F 01
C-2253 ↓
F- 04

910.29 910.07 908.86 909.65 908.19

2:1

12:1

8:1

907.00

910

1016+50
912.0

NOTE:
STA 1016+50
END 12" I-22

C-5391
F-0

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

PLATE 3. CROSS SECTION O.P.R.R.R.E. STANDARD
KENNELL & FERGER CO., NEW YORK.

1016+50 TO 1018+00

FINAL SURVEY
NOTE BOOK
PAGE

ORIGINAL SURVEY
NOTE BOOK
PAGE

SEEDING	
END WIDTH	SQ. YDS.
133	
72	
125	
65	
110	
83	
189	
119	
240	

FED. RD.	STATE	PROJECT	
	OHIO		

173
492

MAR-18-17.20

END AREA	CUBIC YARDS

C-2962
F- 0

C-2840
F-264

C-165
C-286
F-285

C-294
F-264.4

C- 31
F-257.1

C-71
F-443.9

C- 46
F-222.3

C-539
F-252.3

C-536
F-502

C-1445
F-798

930
920
900
900
900

1020+50
941.7

1020+00
918.0

1019+50
899.3

1019+00
899.0

1018+50
904.2

922.07 922.76 922.95 922.77 922.69 922.90 923.09 922.90 922.51 920.51

922.50 922.50 920.68 921.26 921.45 921.26 921.06 921.27 921.46 921.27 920.96 914.21

921.54

919.29 919.64 919.83 919.64 919.43 919.64 919.83 919.64 919.36 913.1

917.82 918.01 918.20 918.01 917.80 918.01 918.20 918.01 917.62 912.9

916.20 916.38 916.57 916.38 916.17 916.38 916.57 916.38 916.19 912.5

931.17 932.17

2:1 4:1

VARIES

← BEGIN RET. WALL
STA. 1020+02.62
STA. 7+98 RAMP "L"

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

PLATE 3-CROSS SECTIONS (C.P.S.R.R.E. STANDARD)
KEUFFEL & ESSER CO., NEW YORK.

1018+50 TO 1020+50

SEEDING	
END WIDTH	SQ YDS

FED. NO.	STATE	PROJECT	
	OHIO		

174
432

MAH.-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOKS / AREAS / TOTAL SHEETS / NO.

ORIGINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOKS / AREAS / TOTAL SHEETS / NO.

104

4183
+101

57

106
20

190

17

12

26

44

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

950

940

940

940

C-6468
F-0

C-10883
F-0

C-5286
F-0

C-8030
F-0

C-3386
F-0

C-6306
F-0

C-3424
F-0

C-5857
F-0

2:1

924.86

926.87 927.89 928.41 929.12 929.33 929.66 929.99 930.27 930.38 930.88

RAMP "L"
5+54

927.0

1022+50
954.5

RAMP "K"
8+73.8

929.15

BRIDGE ABUTMENT

6.8.14

925.45 926.37 927.14 927.33 927.51 927.58 927.58 927.79 927.99 928.20 928.38 928.47 928.67

RAMP "L"
6+03

1022+00
951.8

RAMP "K"
8+22.95

926.78

END RET. WALL
STA. 6+46.22

9+4.13

924.38 925.12 925.77 925.96 925.95 925.95 926.16 926.35 926.33 926.31 926.28

21.31

ABUT.

RAMP "L"
6+52

1021+50
946.3

RAMP "K"
7+72.70

NOTE:
STA. 7+98 TO 6+79 TOP WALL GR + 18.07%
STA. 6+79 TO 6+56.27 " " - 0.75%
STA. 6+56.27 TO 6+46.27 " " - 16.50%

940.85

938.85

923.28 923.97 924.27 924.46 924.36 924.32 924.53 924.72 924.58 924.44 924.24

17.27

RAMP "L"
7+02

1021+00
946.3

PLATE 3 CROSS SECTION © K. & E. 8 X 8 E. TANSPARENT
KEUFFEL & ESSER CO., NEW YORK.

1021+00 TO 1022+50

SEEDING	
END WIDTH	SQ. YDS.

2	OHIO		
MAH-18-17.20		END AREA	CUBIC YARDS

175
492

26

SEE RAMP "L" X-SECTIONS

2:1

931.39 931.56 933.39 935.27 936.32 937.12

RAMP "K" 10+80

928.93

1024+50
959.0

950

C-4491
F-0

71

58

C-9365
F-0

SEE RAMP "L" X-SECTIONS

2:1

931.07 932.91 934.24 934.99 935.79 2:1

RAMP "K" 10+28.72

934.16

928.73

1024+00
959.0

950

C-5623↑
C-5581↓
F-0

NOTE:
STA. 1024+00
BEGIN 12" I-22

C-9893
F-0

139

72

76
42
34

SEE RAMP "L" X-SECTIONS

930.36 931.63 933.01 932.82 933.50 934.30

RAMP "K" 9+74

932.67

928.28

1023+50
958.0

950

C-5103↑
C-5092↓
F-0

120

C-9222
F-0

64

RAMP "L" 5+07
C-1710

YE 1023+00
C-4868

928.86 929.74 929.48 930.47 930.47 930.68 931.90 931.38 932.08 932.76

RAMP "L" 5+07

926.92

926.67

RAMP "K" 9+24.67

931.15

1023+00
956.2

950

C-4868↑
C-1710↓
F-0 ++

C-12080
F-0

111
191

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

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

1023+00 TO 1024+50

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED BY
PLAT BY
AREAS
CHECKED BY

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED BY
PLAT BY
AREAS
CHECKED BY

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

176
492

END AREA	CUBIC YARDS

MAH-18-17.20

FINAL SURVEY — SURVEYED BY ... DRAWN BY ... TRACED BY ... CHECKED BY ... NOTE BOOK ... PAGE ... SCALE ... DATE ...

ORIGINAL SURVEY — SURVEYED BY ... DRAWN BY ... TRACED BY ... CHECKED BY ... NOTE BOOK ... PAGE ... SCALE ... DATE ...

962.32
FL I-14 960.00
955.61
928.63
931.17
932.12
934.54
936.96
937.96
943.27
943.98
RAMP "K"
13+44
1027+00
951.5

C-3493
F - 0

940

C-6517
F-0

943.27
FL I-14
962.27
955.89
931.45
932.26
934.68
937.10
938.10
941.81
942.61
RAMP "K"
12+91
1026+50
957.7

C-3545
F - 0

940

C-6480
F-0

963.36
962.12
956.17
931.56
932.22
934.64
937.06
937.73
940.40
941.20
RAMP "K"
12+37
1026+00
958.4

NOTE
11+77.85 TO 12+40.4 TOP WALL GR + 12.91%
12+40.4 TO 13+00.4 " " - 0.0%
13+00.4 TO 15+81 " " - 3.21%

C-3453
F - 0

950

C-6309
F-0

NOTE:
BEGIN RET WALL
STA 1025+21.81
959.64
FL I-14
958.64
ABUT.
931.52
932.03
934.41
934.41
936.80
936.96
939.05
939.85
RAMP "K"
11+85
1025+50
958.3

C-3361
F - 0

950

NOTE:
STA. 11+77.85
BEGIN RET. WALL

C-6002
F-0

SEE RAMP "L"
X-SECTIONS
78.92
ABUT.
ABUT.
931.56
931.89
934.00
934.00
936.18
937.67
938.47
RAMP "K"
11+33.57
1025+00
956.5

C-3121
F - 0

950

C-7048
F-0

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

PLATE 3. CROSS SECTION C.P.R.R.E. STANDARD
KRUPPEL & KESSER CO., NEW YORK.

1025+00 TO 1027+00

FED. RD.	STATE	PROJECT	
2	OHIO		

177
492

SEEDING	
END WIDTH	SQ YDS
49	
174 / 98	
49	
80	
40	
64	
34	
57	
29	
160 140 120 100 80 60 40 20	

END AREA	CUBIC YARDS

MAH-18-17.20
C-2680 ← → C-100

947.64 — 927.59 — 928.59 — 932.07 — 933.43 — 934.54 — 934.44 — 951.81

2:1 — 1/2:1

RAMP "K" 16+13

C-2880 ↓
C-100 ↓
F-0 ↓↑

940

NOTE: STA. 15+81
END RET. WALL

1029+50
948.5

949.56 — 928.67 — 929.67 — 932.09 — 934.51 — 935.56 — 935.46 — 949.98 — 949.70 — 955.32

2:1 — 12:1

RAMP "K" 15+58

C-5537
F-0

940

C-3000
F-0

1029+00
950.0

951.45 — 929.56 — 930.56 — 932.98 — 935.40 — 936.39 — 936.21 — 948.16 — 948.14 — 957.21

VARIES

RAMP "K" 15+04

C-5373
F-0

Fr. 954.0

C-2803
F-0

940

C-5546
F-0

1028+50
951.7

953.41 — 930.27 — 931.27 — 933.69 — 936.11 — 937.07 — 936.91 — 946.58 — 946.79 — 958.96

VARIES

RAMP "K" 14+54

Fr. I-14
958.0

C-3187
F-0

940

C-6093
F-0

1028+00
954.0

955.33 — 930.78 — 931.78 — 934.20 — 936.62 — 937.57 — 937.41 — 944.98 — 945.41 — 960.74

VARIES

RAMP "K" 13+99

Fr. I-14
958.5

C-3393
F-0

940

C-6376
F-0

1027+50
955.8

℄

PLATE 5 CROSS SECTIONS O.P. S. & R. E. STANDARD
REMPEL & REMPEL CO., NEW YORK

1027+50 TO 1029+50

FINAL SURVEY NOTE: TEMPORARY AREA SHOWN
NO. ADD'L SURVEYS
ORIGINAL SURVEY NOTE: TEMPORARY AREA SHOWN
NO. ADD'L SURVEYS

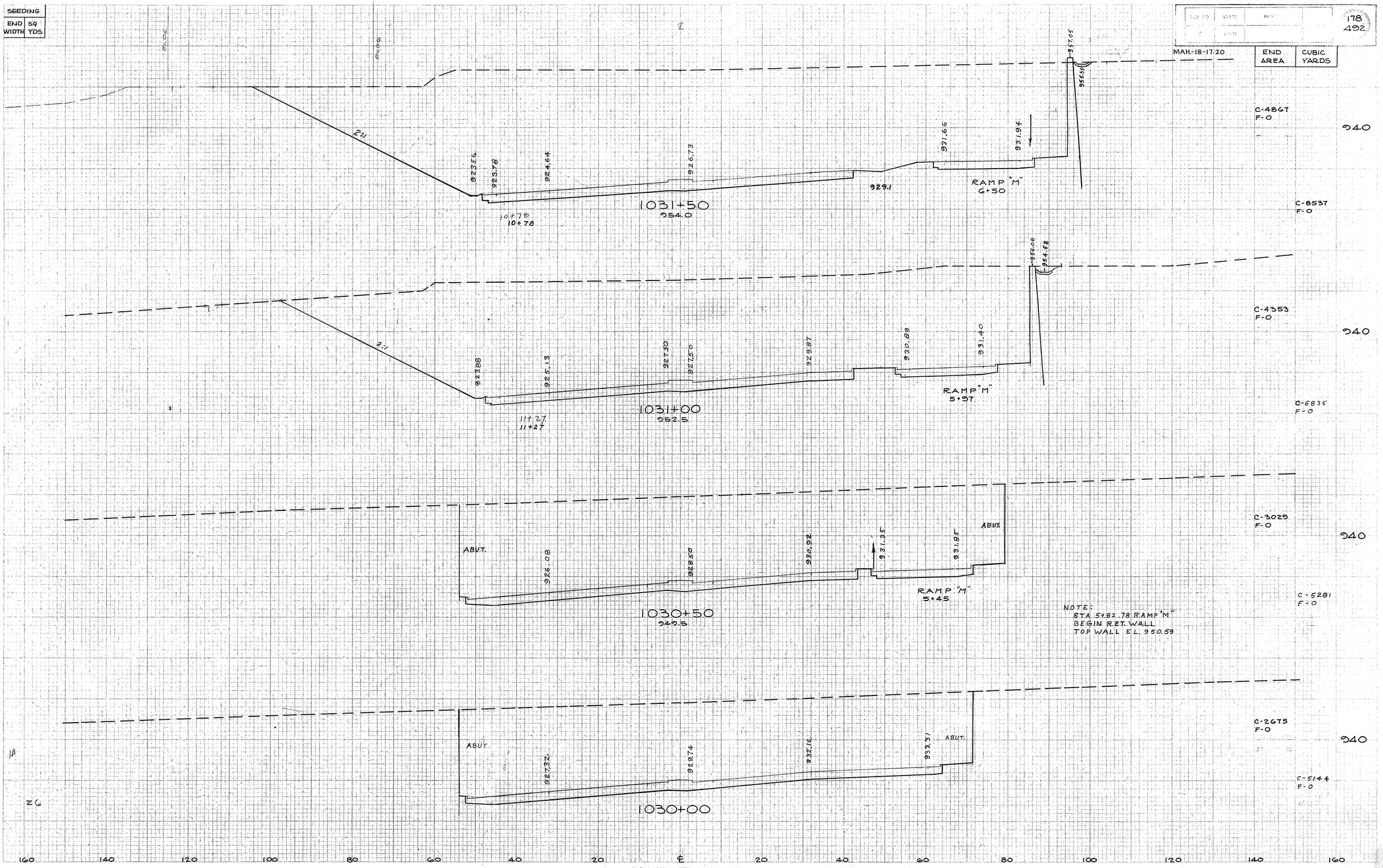


PLATE 3 CROSS SECTION G.P.R.S.P.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

1030+00 TO 1031+50

SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT		179 492
2	OHIO			

MAH-18-17.20

	END AREA	CUBIC YARDS

FINAL SURVEY GROUND CHECKED NOTE BOOK CHECKED NO. CORRECTED

ORIGINAL SURVEY FIELD NOTE BOOK NO.

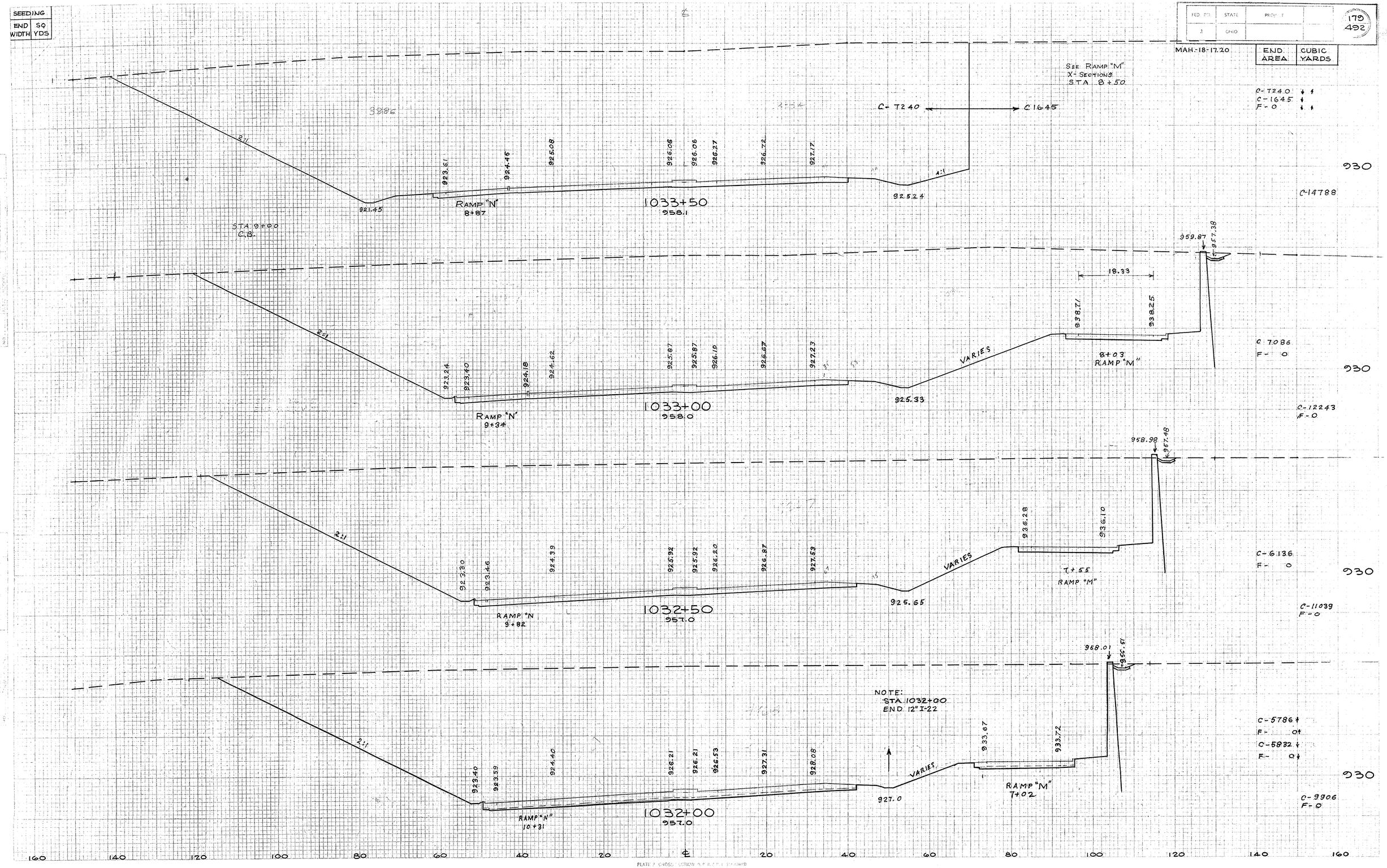


PLATE 7 CROSS SECTION O.D.O.T. E.E. STANDARD
REVISED 1-1-55 8-1-57 8-1-61

1032+00 TO 1033+50

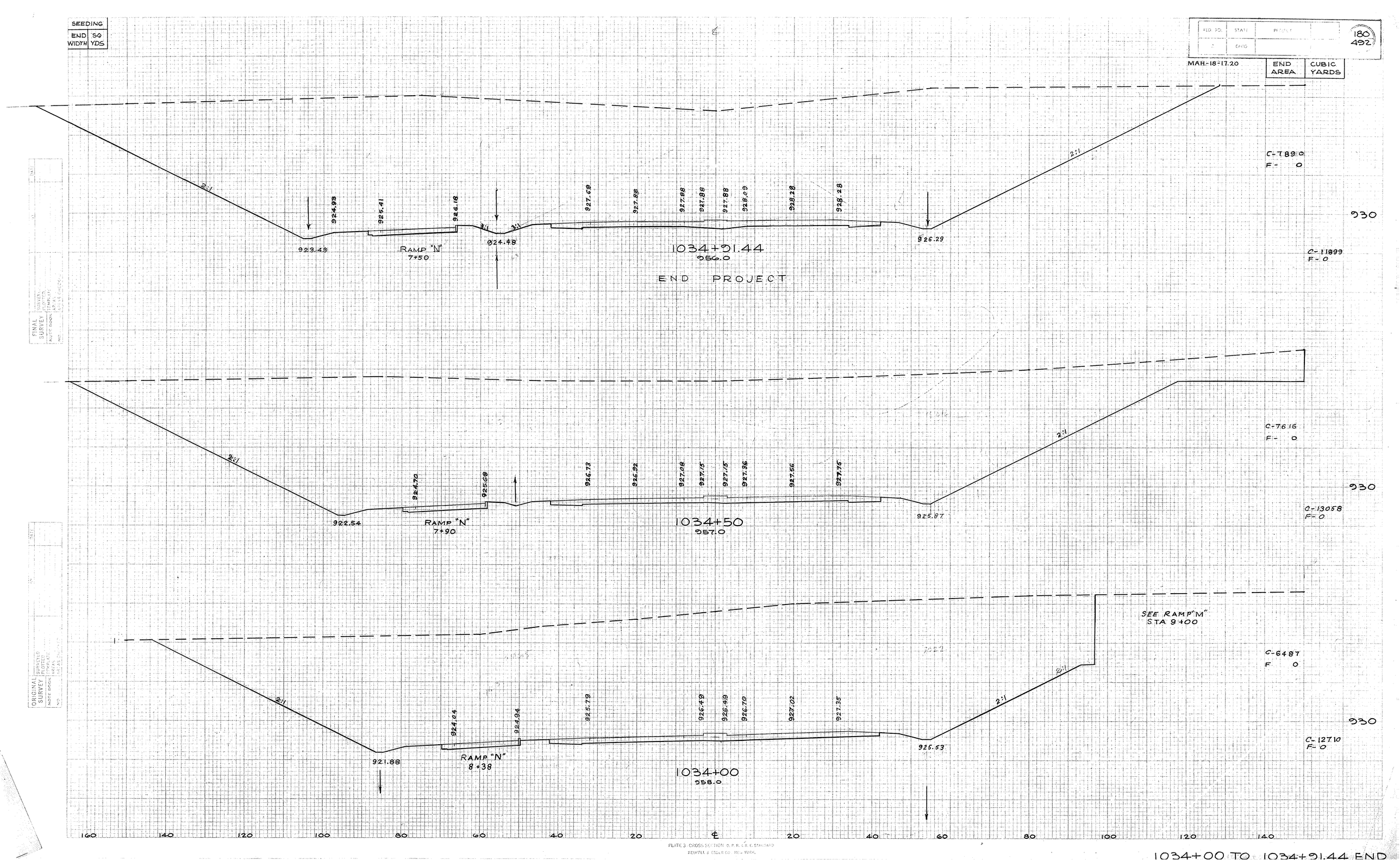


PLATE 3 CROSS SECTION O.P.R. & R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

1034+00 TO 1034+91.44 END

FED. RD.	STATE	PROJECT	
2	OHIO		

181
492

FINAL SURVEY PLOTTED NOTE BOOK AREA AREAS CHECKED NO.

ORIGINAL SURVEY PLOTTED NOTE BOOK AREA AREAS CHECKED NO.

C = 0
F - 0

C - 6400

805+20
END WORK

960

C - 4320
F - 0

SEE RAMP N
X-SECTIONS

930.00
930.19
930.03
929.99
930.11

2:1

C = 19974
F - 0

928.88

927.99

806+00
END GRADING

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

SEEDING	
END WIDTH	S.Q YDS

182
492

MAH-18-17.20

END AREA	CUBIC YARDS

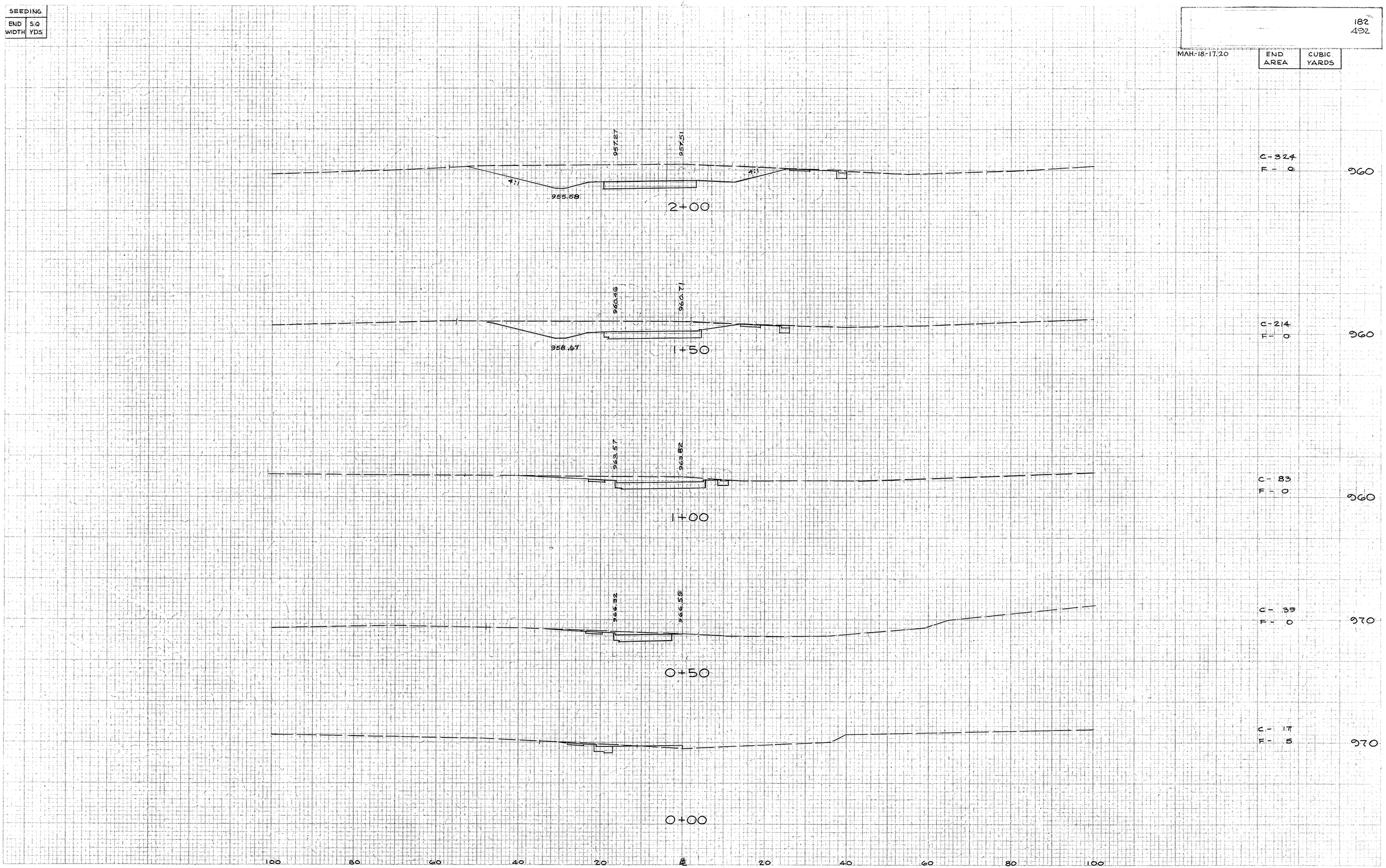


PLATE 3 - CROSS SECTION U. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO. NEW YORK.

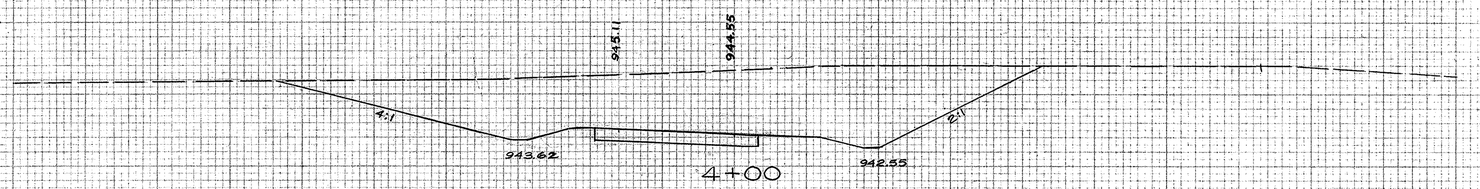
RAMP "A" 0+00 TO 2+00

SEEDING	
END WIDTH	SQ YDS

STATE	STATE PROJECT	183 492
	OHIO	

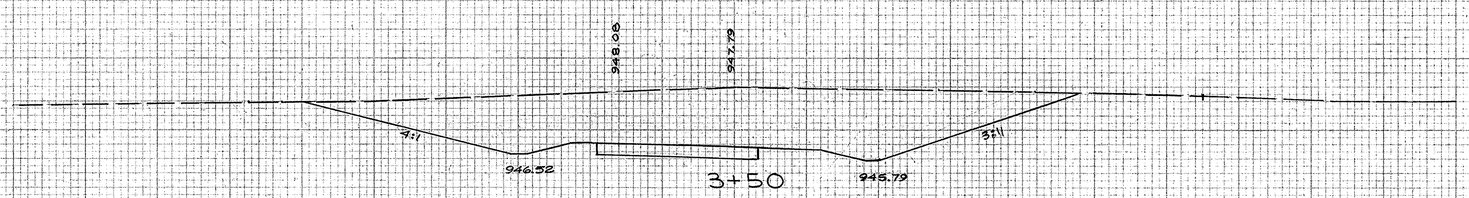
MAH-18-17.20

END AREA	CUBIC YARDS



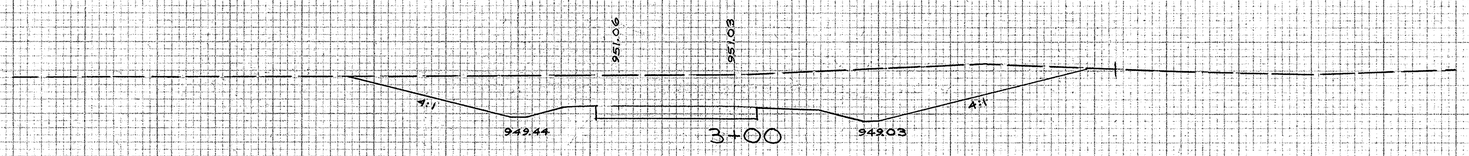
C- 795
F- 0

950



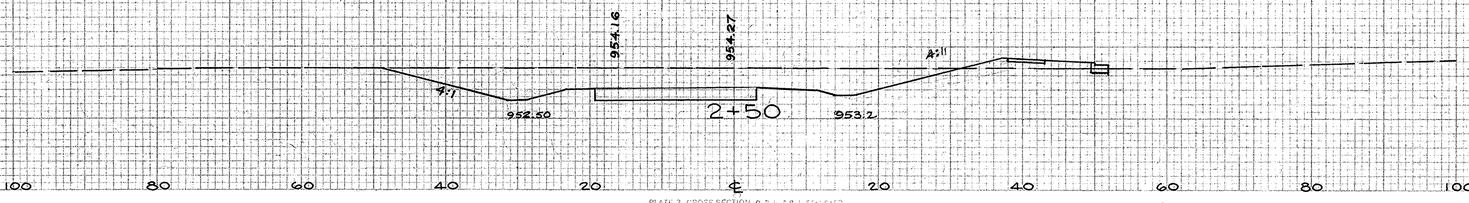
C- 702
F- 0

950



C- 485
F- 0

950



C- 272
F- 21

950

100 80 60 40 20 ℄ 20 40 60 80 100

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

RAMP "A" 2+50 TO 4+00

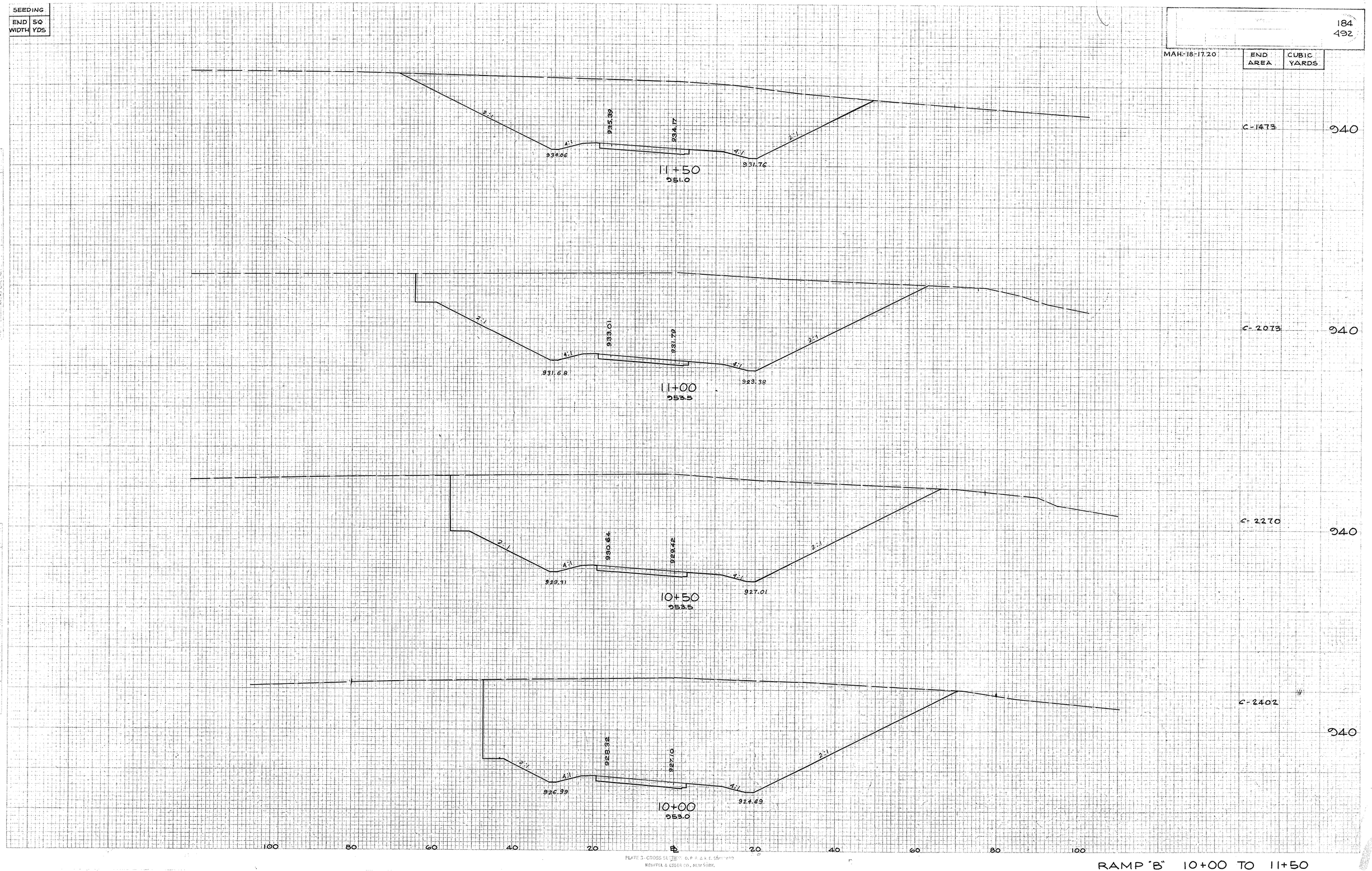


PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

RAMP "B" 10+00 TO 11+50

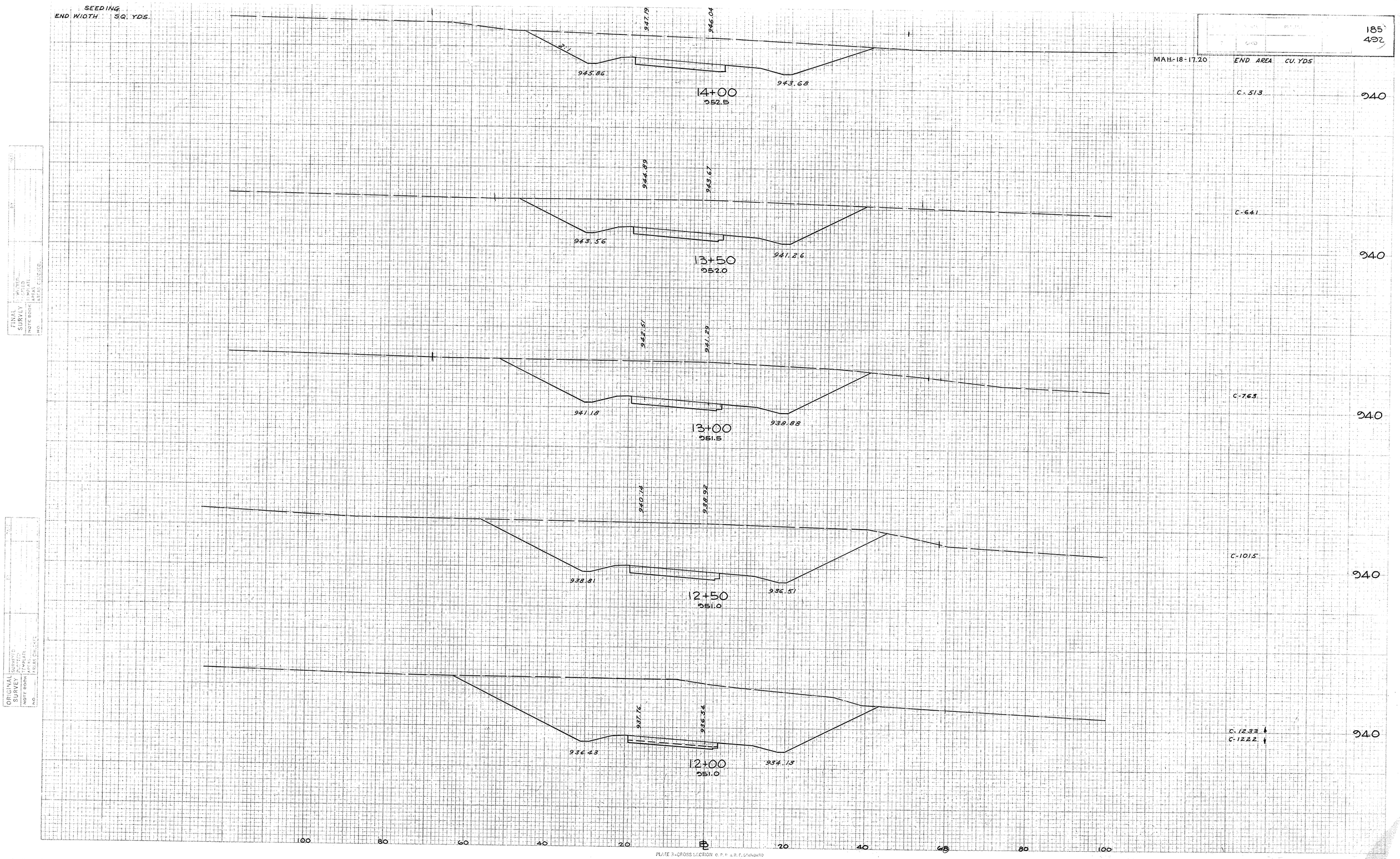
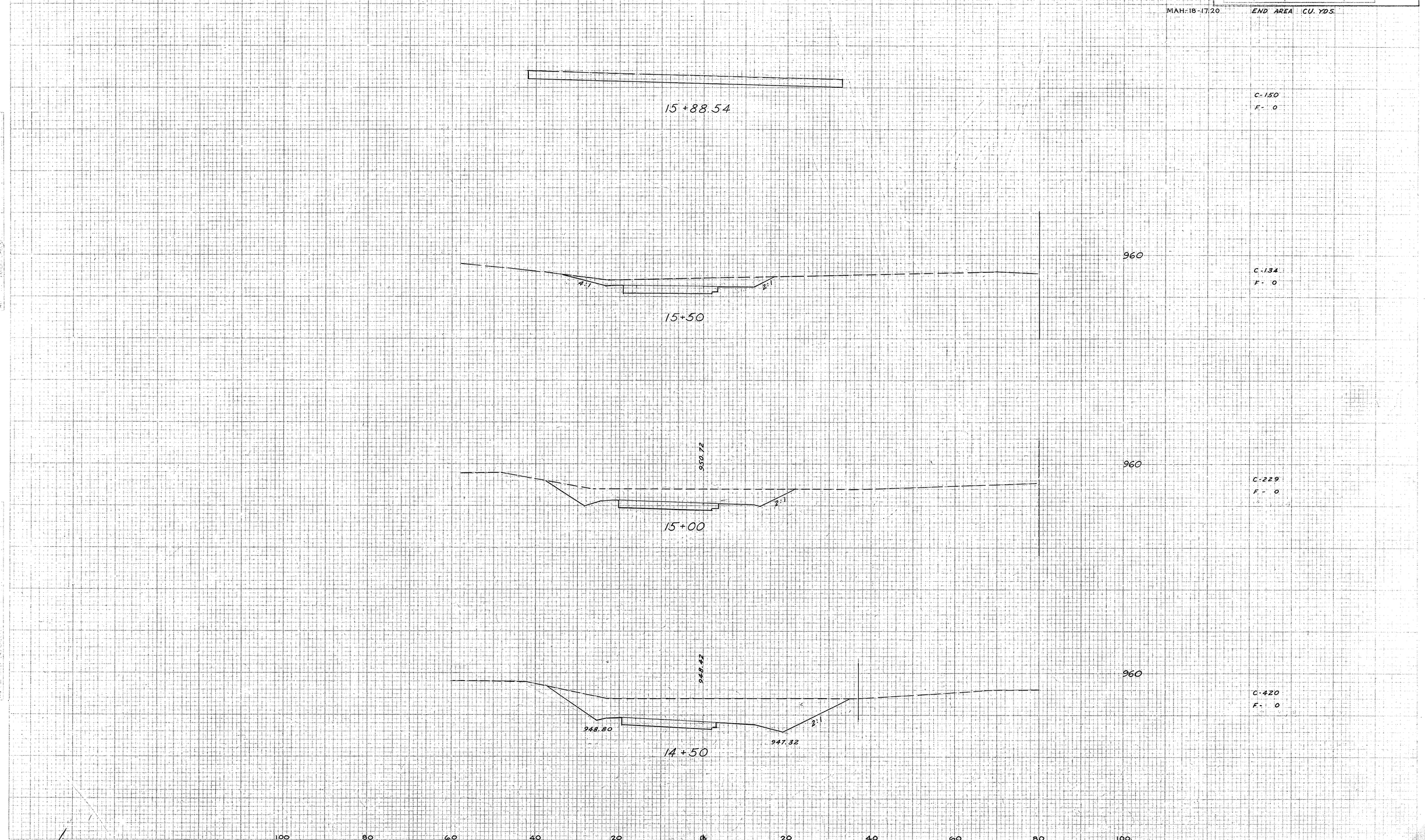


PLATE 3-CROSS SECTION O.P.R. & R.F. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

SEEDING
END WIDTH SQ. YDS.

186
492

MAH-18-17.20 END AREA CU. YDS.



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

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

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

RAMP "B" 14+50 TO 15+88.54 END

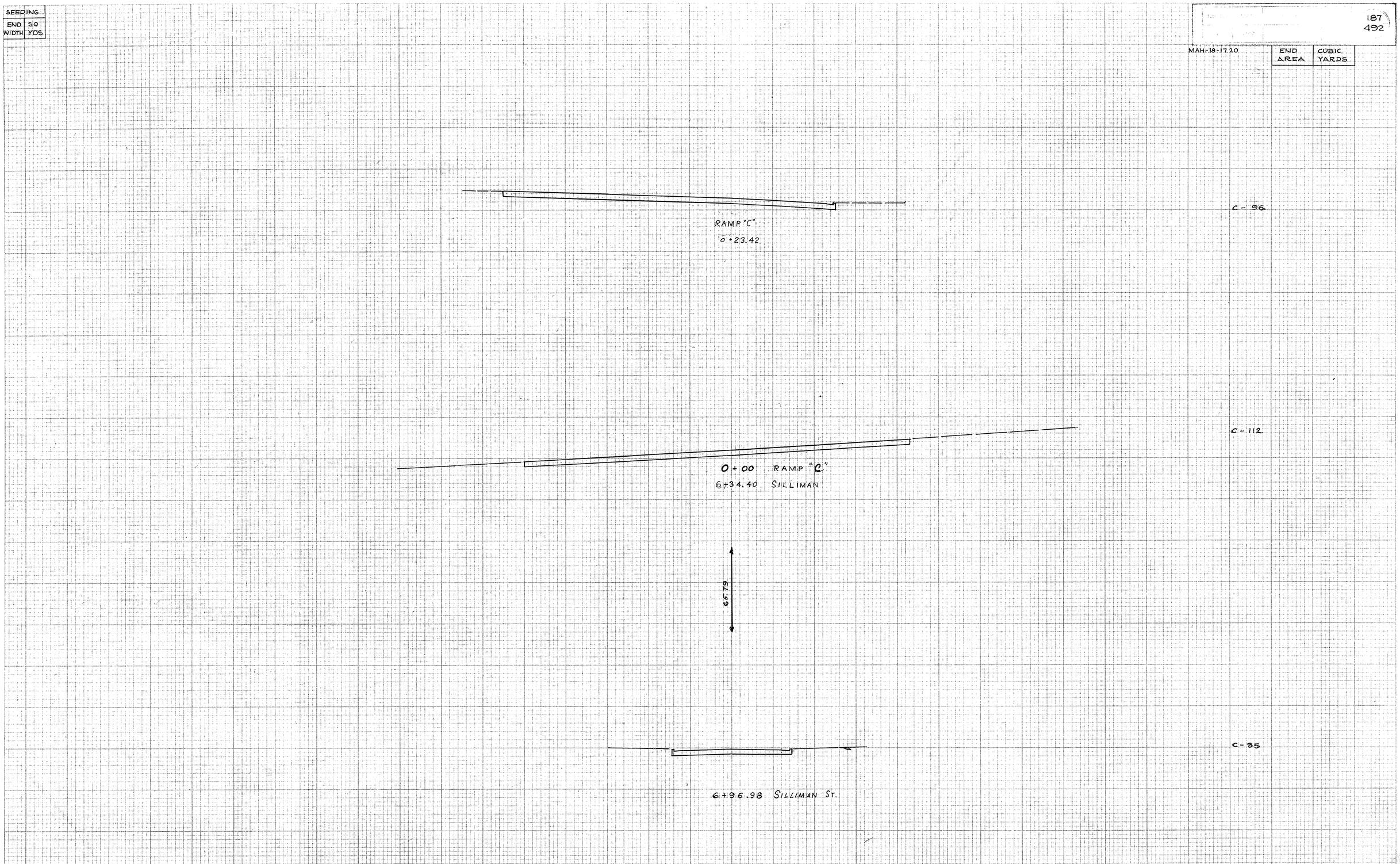


PLATE 3 CROSS SECTION O.F.P. & R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

RAMP "C" 0+00 TO 0+23.42

SEEDING	
END WIDTH	SQ YDS

MAH.-18-17,20	END AREA	CUBIC YARDS
		188 492

9.13.79

3+00

C - 0
F - 0

920

9.15.79

2+50

C - 0
F - 0

920

9.22.79

2+00

C - 0
F - 0

920

920.04 919.79

3:1 2:1

918.47

1+50

C-1073
F - 0

920

906.34

921.87 921.62

3:1 3:1

920.30 919.62

1+00

C-302
F - 0

920

922.31

3:1

920.9 920.7

0+50

C-216
F - 0

920

100 80 60 40 20 0 20 40 60 80 100

PLATE 3 CROSS SECTIONS C.P.R.R.R. LETCHWORTH
KEUFFEL & ESSER CO., NEW YORK

RAMP "C" 0+50 TO 3+00

ORIGINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
NO.
TRACED
CHECKED
FINAL
DRAWING NO.
DATE
BY

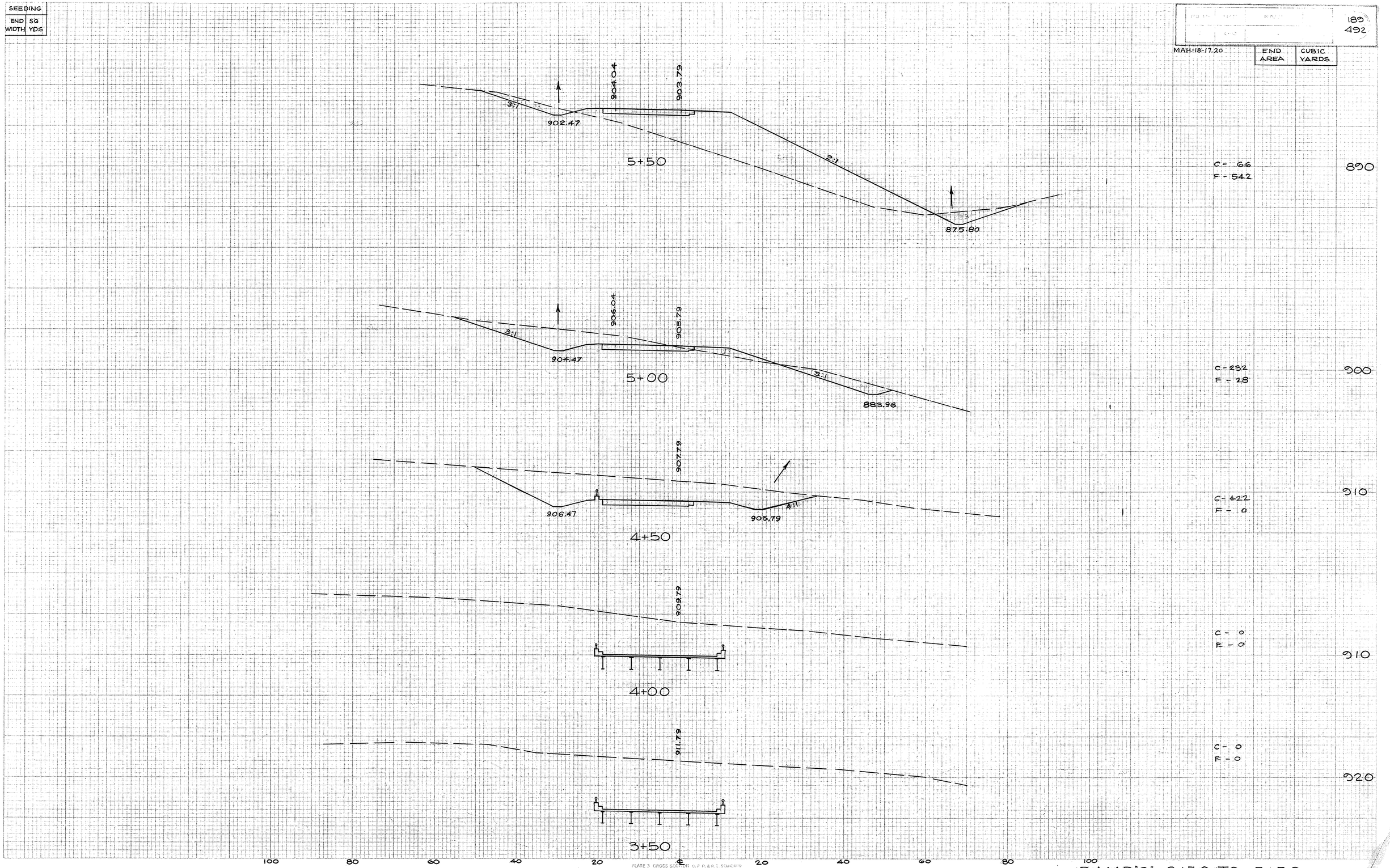
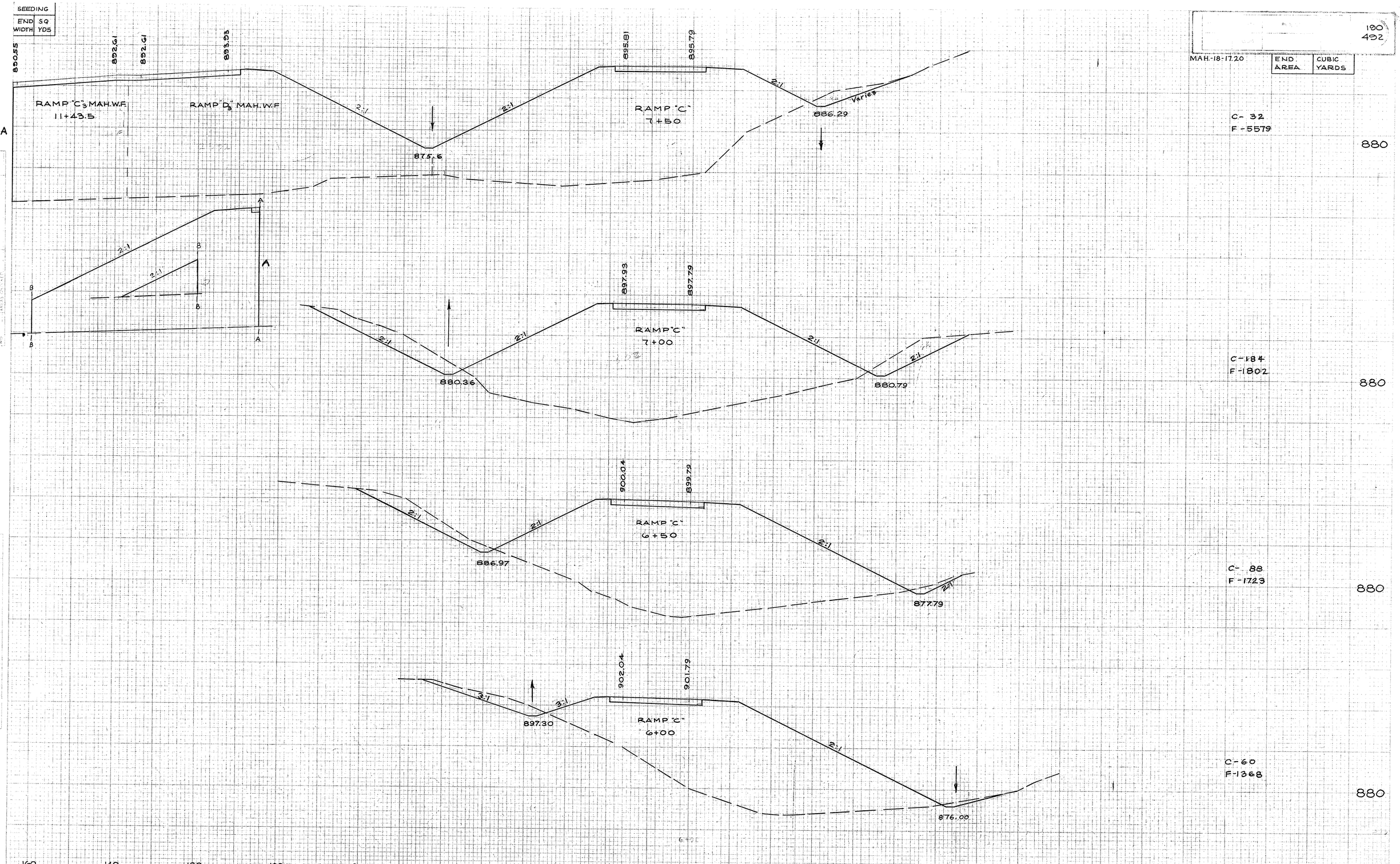
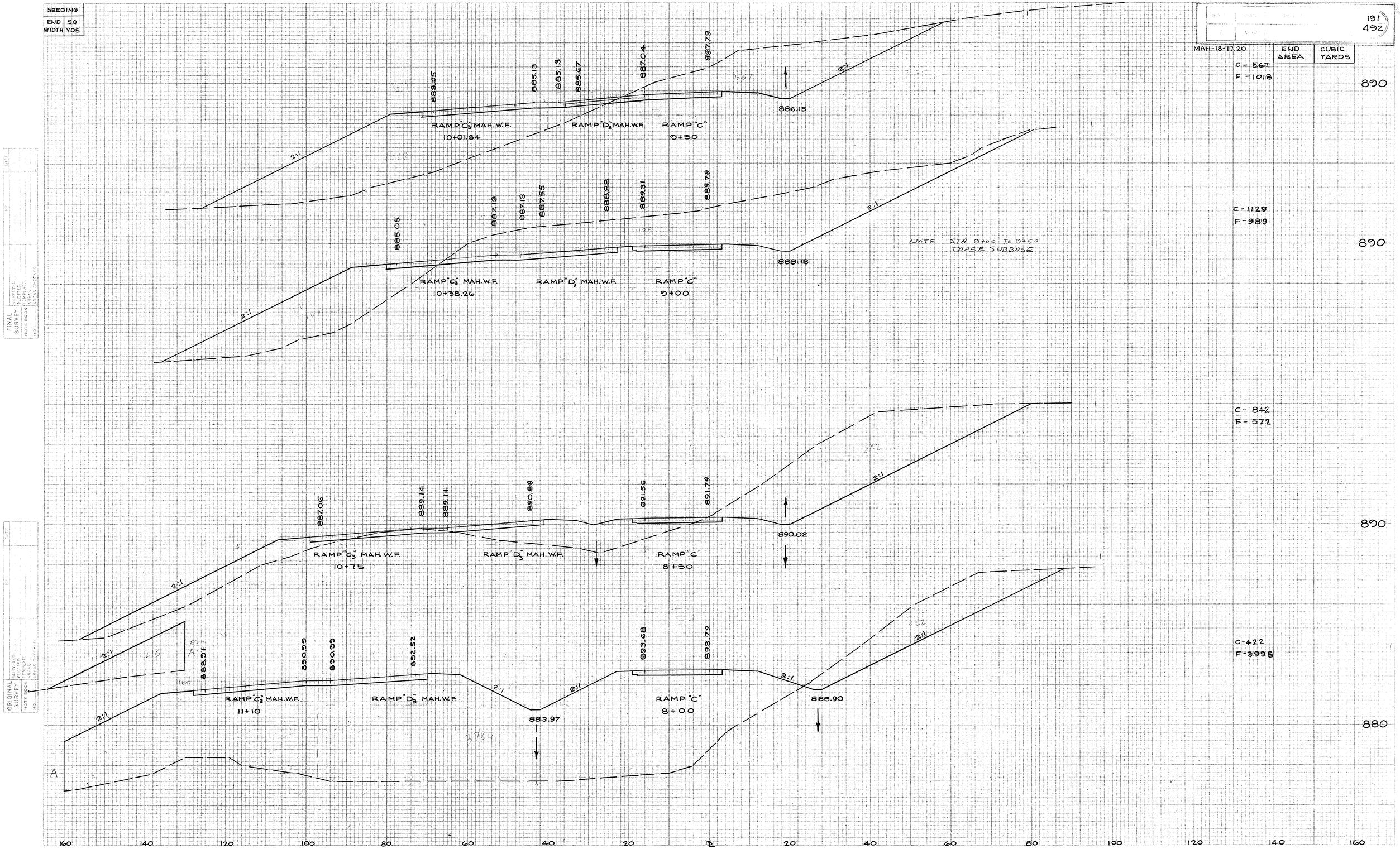


PLATE 3 CROSS SECTION O.F.R.&R.I. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

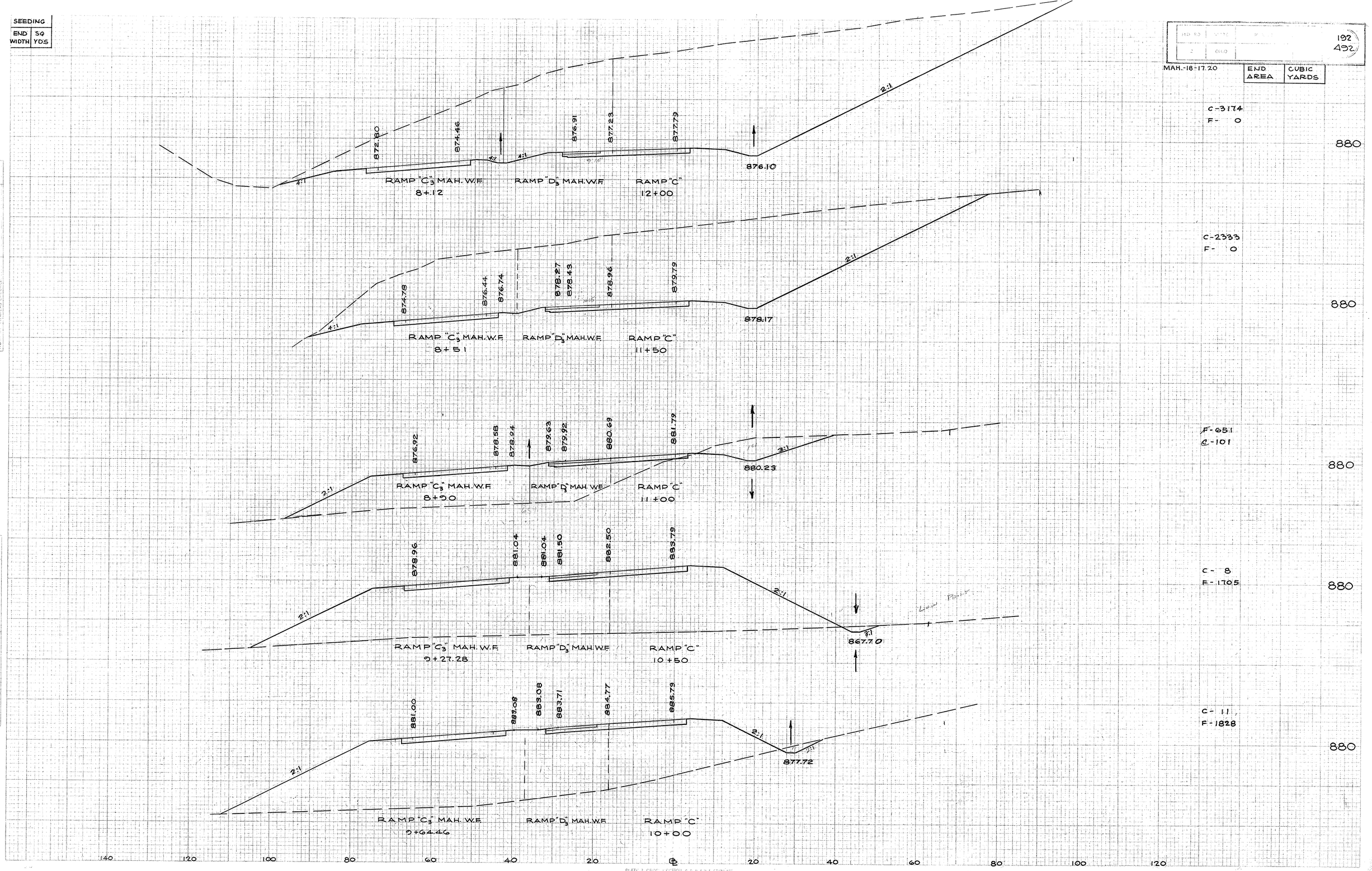
RAMP "C" 3+50 TO 5+50



RAMP "C" 6+00 TO 7+50 ; RAMP "C"3 MAH.W.F. 11+43.5



RAMP "C" 8+00 TO 9+50 ; RAMP "C3" MAH. W.F. 10+01.84 TO 11+00



RAMP "C" 10+00 TO 12+00; RAMP "C3" MAH. W.F. 8+12 TO 9+64.46

SEEDING	
END WIDTH	SQ YDS

	193 492
MAH-18-17.20	END AREA / CUBIC YARDS

SEE RAMP C_3 X-SECTIONS

12:1

2:1

872.40 872.30 872.02

870.84

RAMP "C" 14+00

870.02

2:1

C-6328
F - 0

880

SEE RAMP C_3 X-SECTIONS

A927

12:1

2:1

873.06 873.02 872.93

871.45

RAMP "C" 13+50

870.93

C-4927
F - 0

880

2:1

A

A

2:1

866.87 871.53 874.05 874.10 874.20

867.37

RAMP "C_3" MAH. W.F. 7+38

870.23

872.26

RAMP "D_3" MAH.W.F

RAMP "C" 13+00

872.40

2:1

C-4570
F - 0

880

871.08 872.74 875.40 875.55 875.84

869.58

RAMP "C_3" MAH.W.F 7+72

871.44

873.61

RAMP "D_3" MAH.W.F

RAMP "C" 12+50

874.08

2:1

C-3247
F - 0

880

160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

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

RAMP "C" 12+50 TO 14+00 ; RAMP "C_3" MAH.W.F. 7+38 & 7+72

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

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

SEEDING	
END WIDTH	SQ. YDS.

194
492

MAH-18-17.20

END AREA	CUBIC YARDS

FINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / AREAS / AREAS CHECKED — DATE / BY

ORIGINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / AREAS / AREAS CHECKED — DATE / BY

SEE MAIN LINE X-SECTIONS

C-6849

12:1 12:1 2:1 2:1

872.82 872.67 871.48

870.42 869.03

RAMP "C"
15+50

880

SEE MAIN LINE X-SECTIONS

C-7467

12:1 12:1 2:1 2:1

872.35 872.12 871.30

870.57 869.18

RAMP "C"
15+00

880

SEE MAIN LINE X-SECTIONS

C-7762

12:1 12:1 2:1 2:1

872.21 872.03 871.48

870.72 869.57

RAMP "C"
14+50

880

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

PLATE 3-CROSS SECTION U.S.P.S. S.B.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

RAMP "C" 14+50 TO 15+50

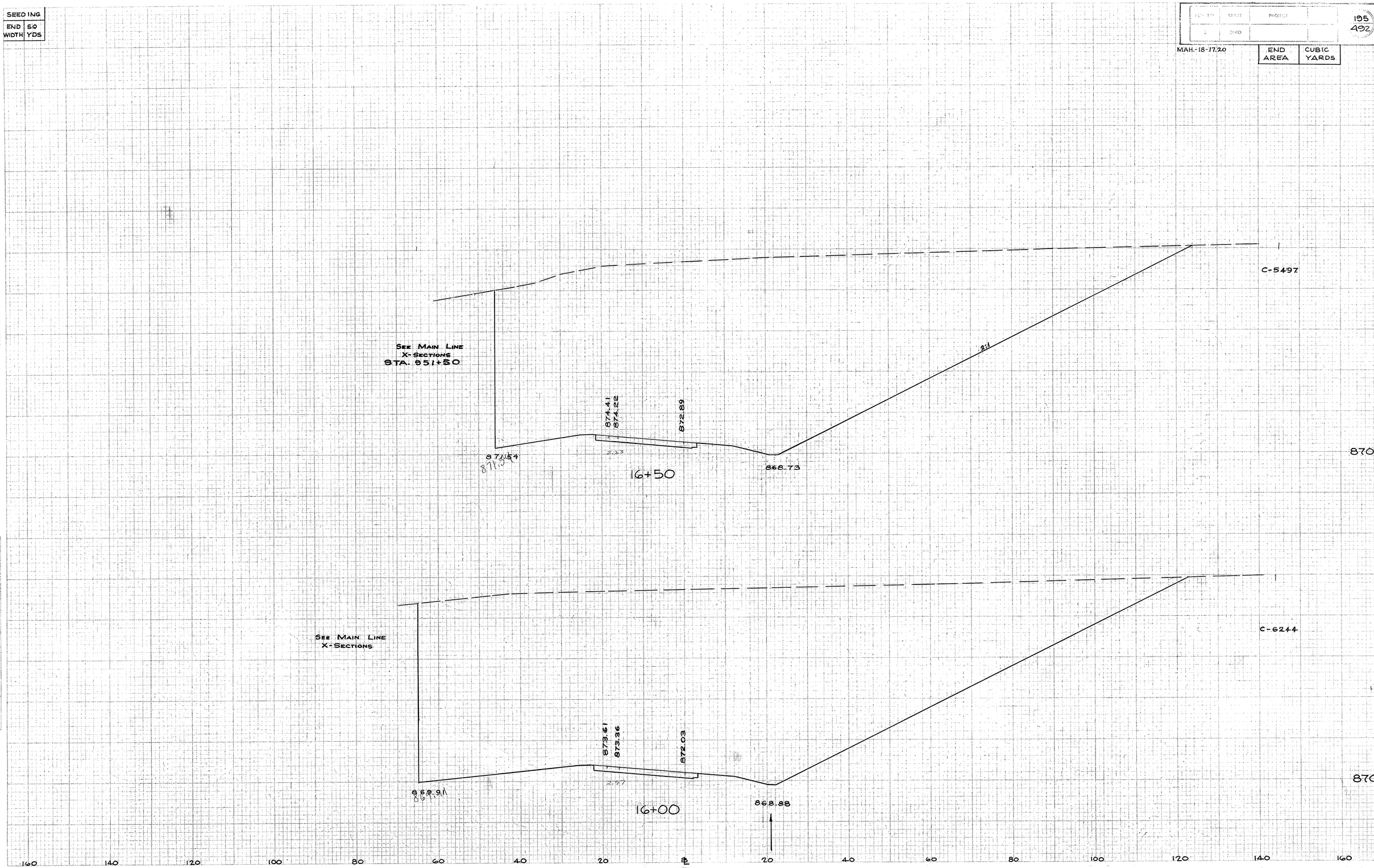
SEEDING	
END WIDTH	SQ YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

195
492

MAH.-18-17.20

END AREA	CUBIC YARDS



RAMP "C" 16+00 & 16+50

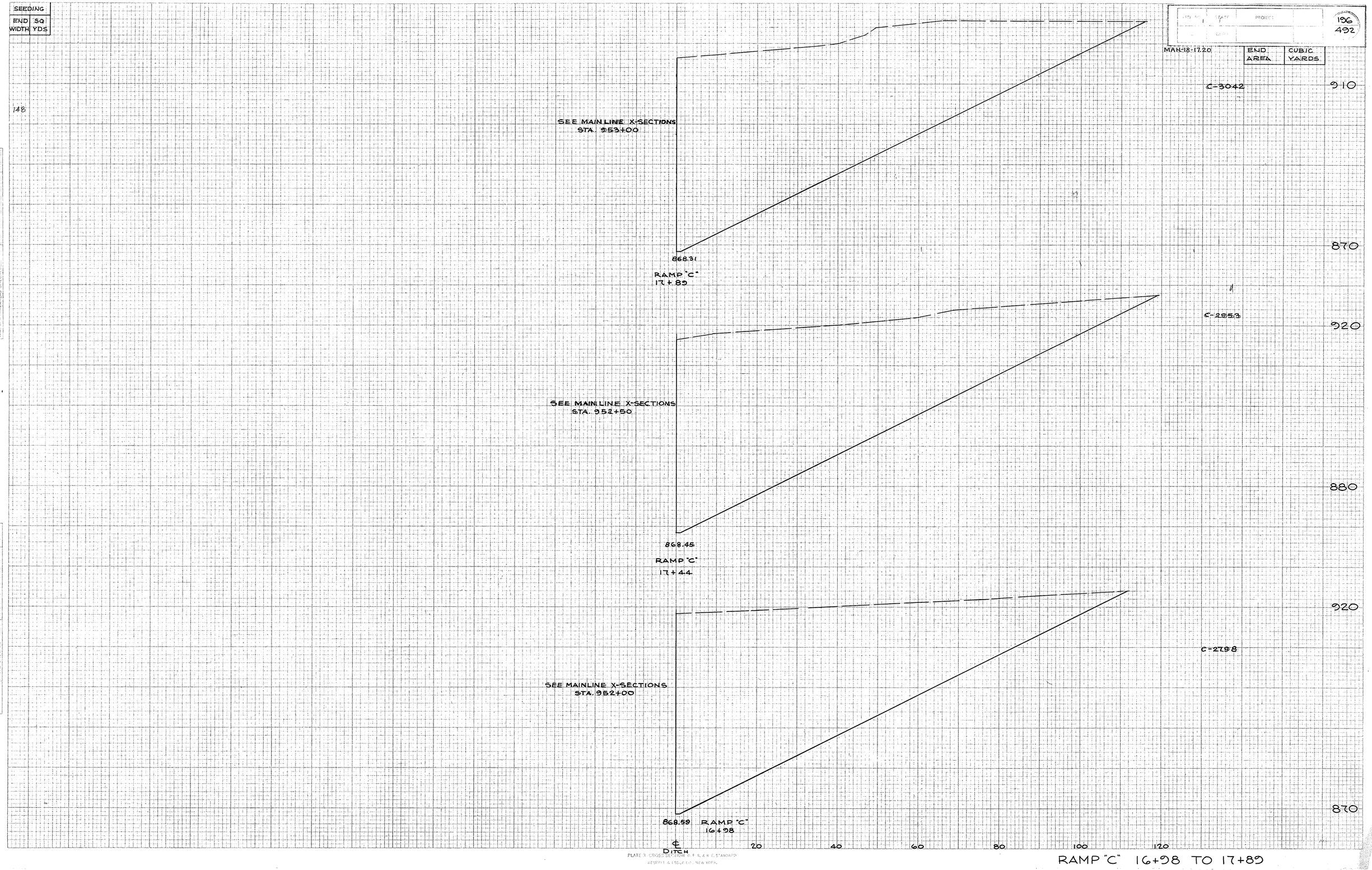


PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
BENEFIT & ESSER CO. NEW YORK

RAMP "C" 16+98 TO 17+89

SEEDING

END WIDTH	50 YDS

197
492

MAH-18-17.20

	END AREA	CUBIC YARDS
10+50	848.1	
		860
		C - 28 F-1637 BK.S.F-137
		840
		C-56 F-3155
10+00	853.0	
		860
		C - 33 F-1770 BK.S.F-152
		840
		C-77 F-3217
9+50	857.8	
		860
		C-50 F-1704 BK.S.F-163
		840
		C-60 F-3125
9+00	862.5	
		860
		C-15 F-1671 BKSF-100
		840
		C-14 F-3024
8+50	866.80	
		860
		C-0 F-1595 BK.S.F-90
		C-0 F-1716 840

864.76 | 864.43 | 866.72 | 866.20 | 868.67 | 867.97 | 870.54 | 869.74 | 872.31 | 871.51

2:1 | 1½:1

SEE RAMP "B3" X-SECTIONS

BANK SLAG FILL

42" MUSD WATER | 33" SEWER

TOP BANK 60'

TOP BANK 58'±

96'± EDGE WATER EL. 829.5±

100'± EDGE WATER EL. 829.4

VARIES

100 80 60 40 20 0 20 40 60 80 100

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

RAMP "D" 8+50 TO 10+50

ORIGINAL SURVEY
NOTE BOOK
NO.

FINAL SURVEY
NOTE BOOK
PAGES
NO.

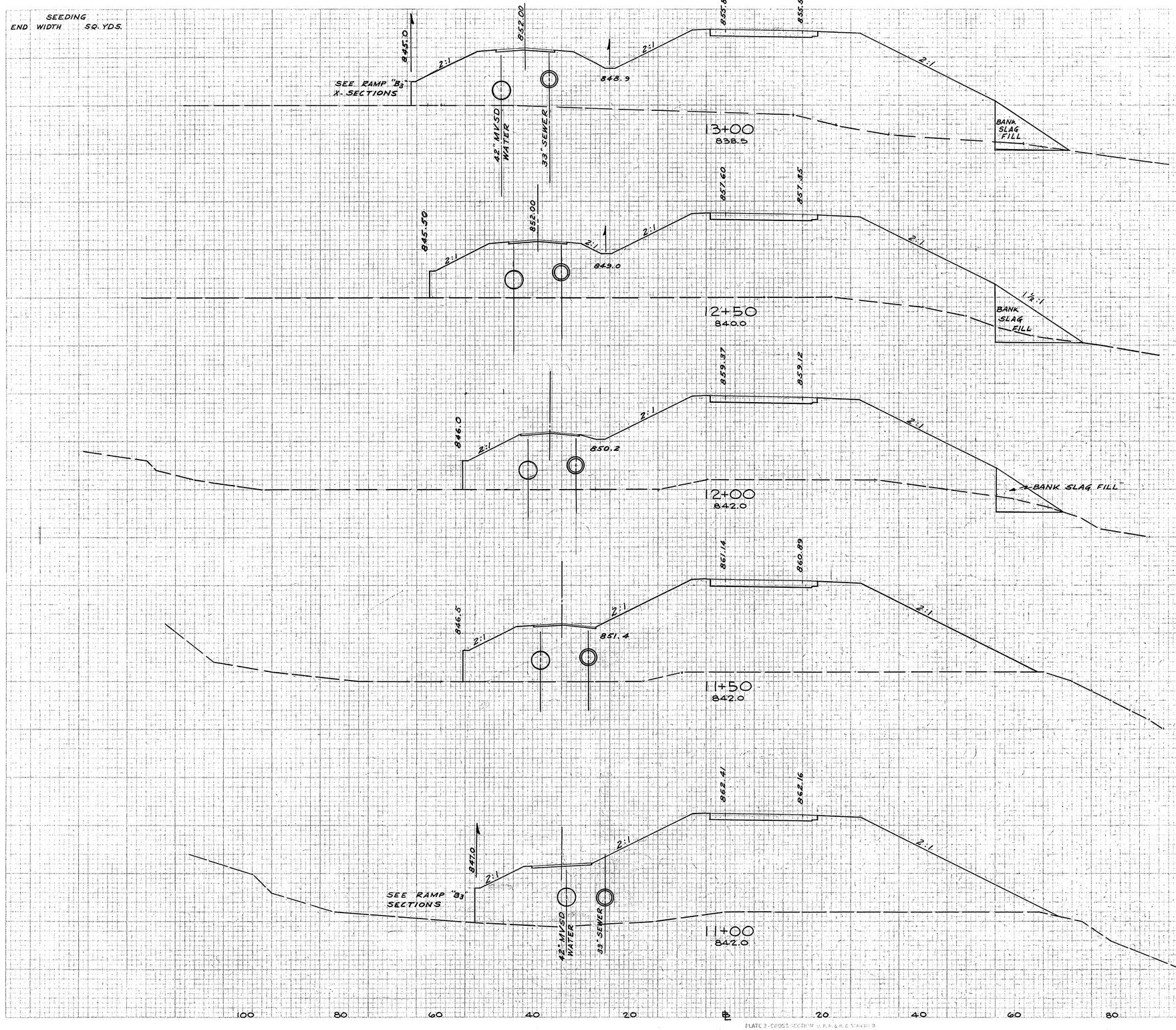
SEEDING
END WIDTH SQ. YDS.

PROJ. 198
492

MAH.-18-17.20 END AREA CU. YDS.

FINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / TRACED / CHECKED / NO. / DATE

ORIGINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / TRACED / CHECKED / NO. / DATE



C - 10
F - 1633
BK S.F. - 42.

C - 28
F - 2927

C - 20
F - 1528
BK S.F. - 108

C - 38
F - 2774

C - 21
F - 1468
BK S.F. - 63

C - 18
F - 2851

C - 0
F - 1611

C - 0
F - 3092

C - 0
F - 1728

C - 26
F - 3116

840

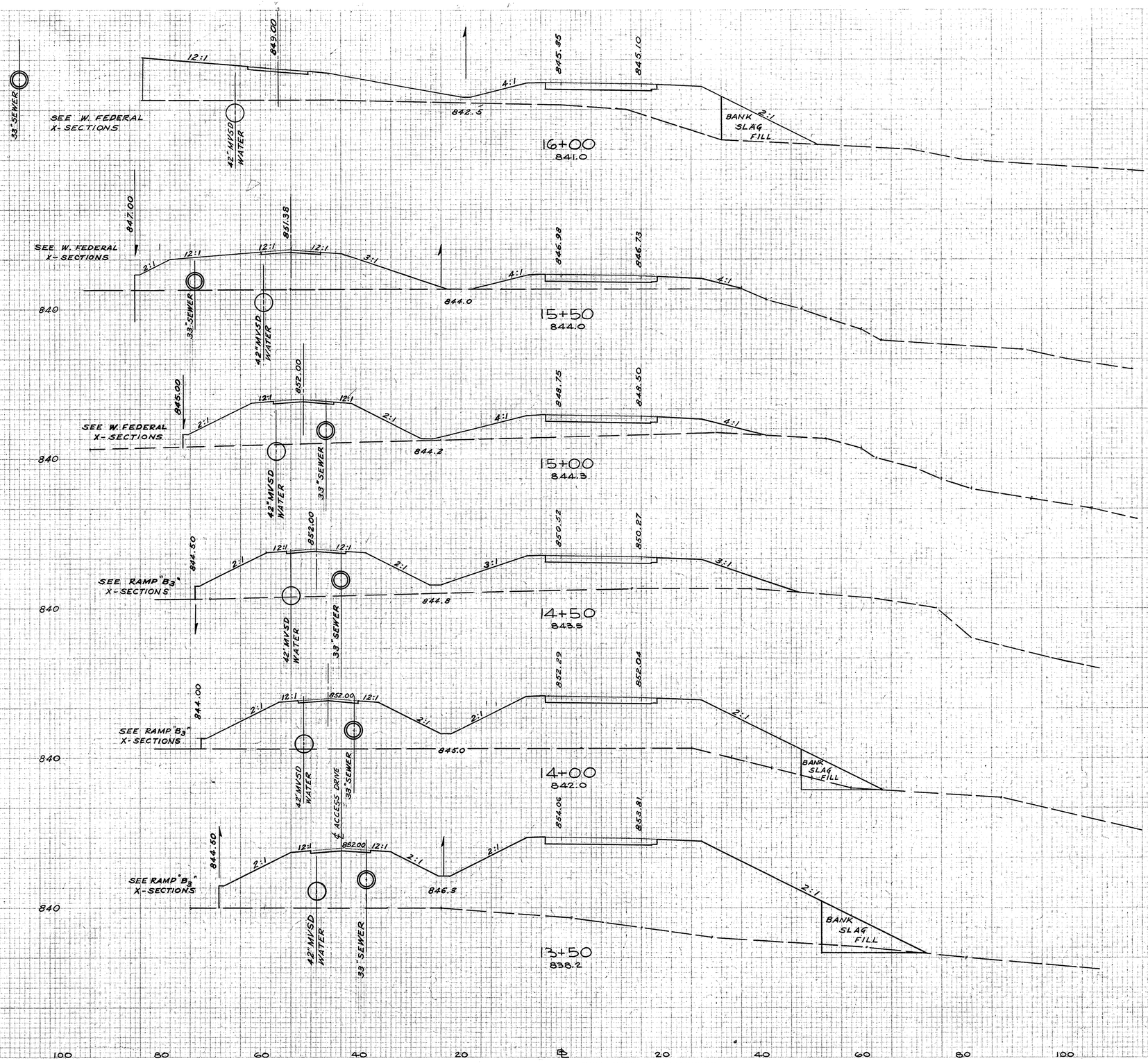
PLATE 3 - CROSS SECTION N.Y.P.A. & M.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

RAMP "D" 11+00 TO 13+00

SEEDING
END WIDTH SQ. YDS.

PROJECT 199 492

MAH.-18-17.20 END AREA CU.YDS.



C - 0
F - 6.77
BK.S.F - 81

C - 0
F - 1047

C - 0
F - 454

C - 0
F - 849

C - 0
F - 463

C - 0
F - 1040

C - 0
F - 660

C - 11
F - 1502

C - 12
F - 962
BK.S.F - 64

C - 28
F - 2305

C - 18
F - 1527
BK.S.F - 105

C - 26
F - 2926

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

RAMP "D" 13+50 TO 16+00

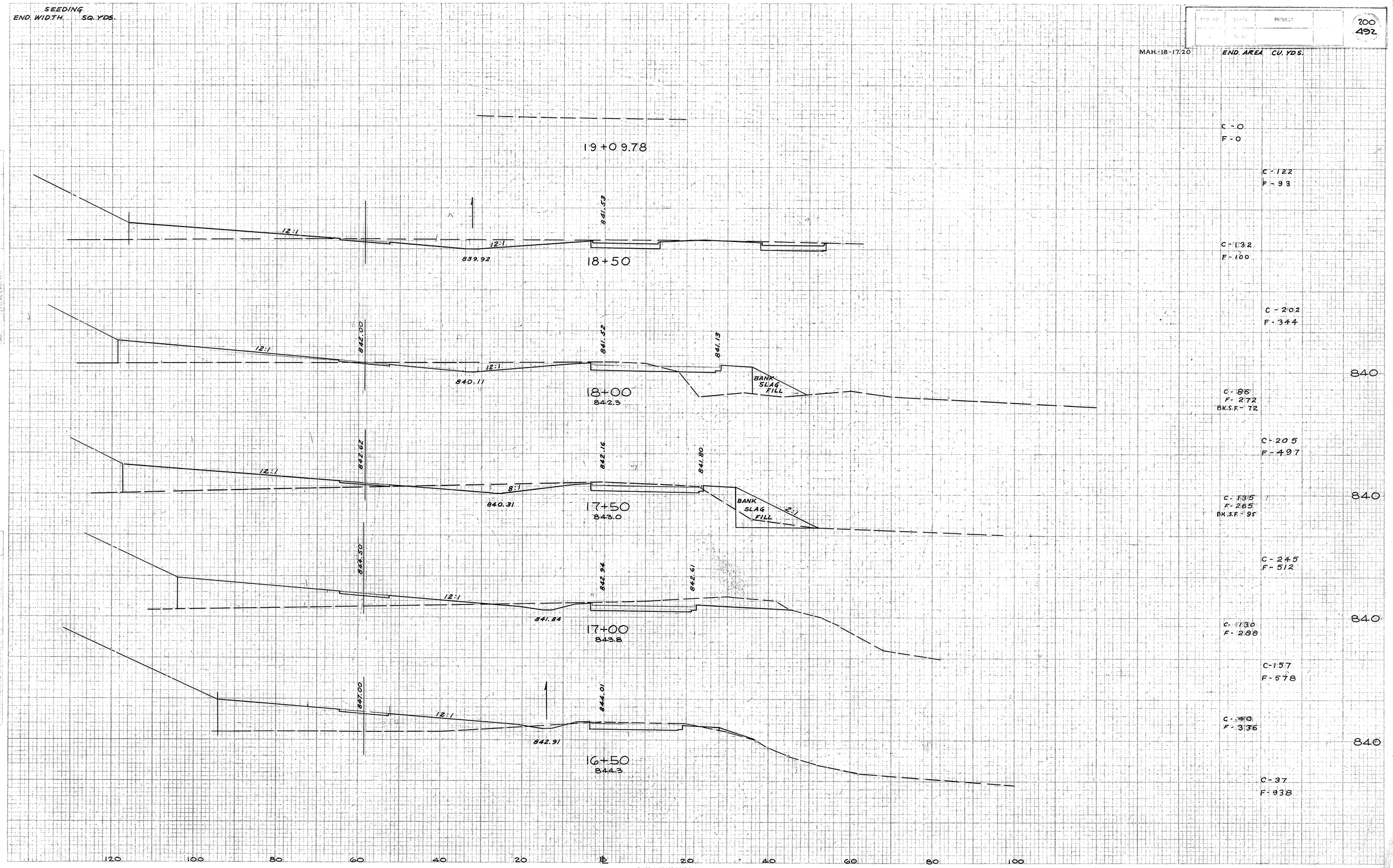
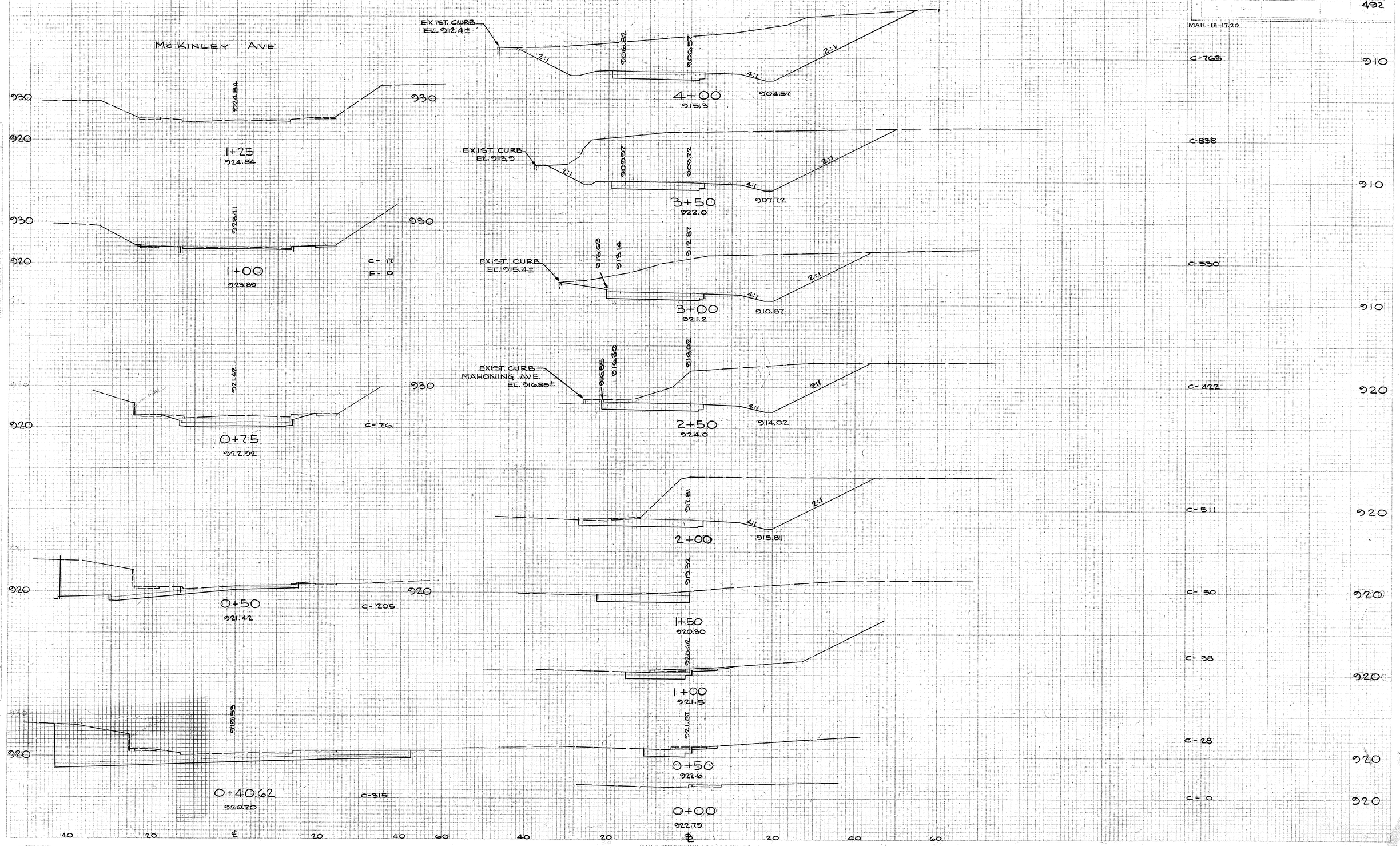


PLATE 3-CROSS SECTION O.P.R.R. & R.F. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

RAMP "D" 16+50 TO 19+09.78

MAH.-18-17.20



FINAL SURVEY

ORIGINAL SURVEY

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

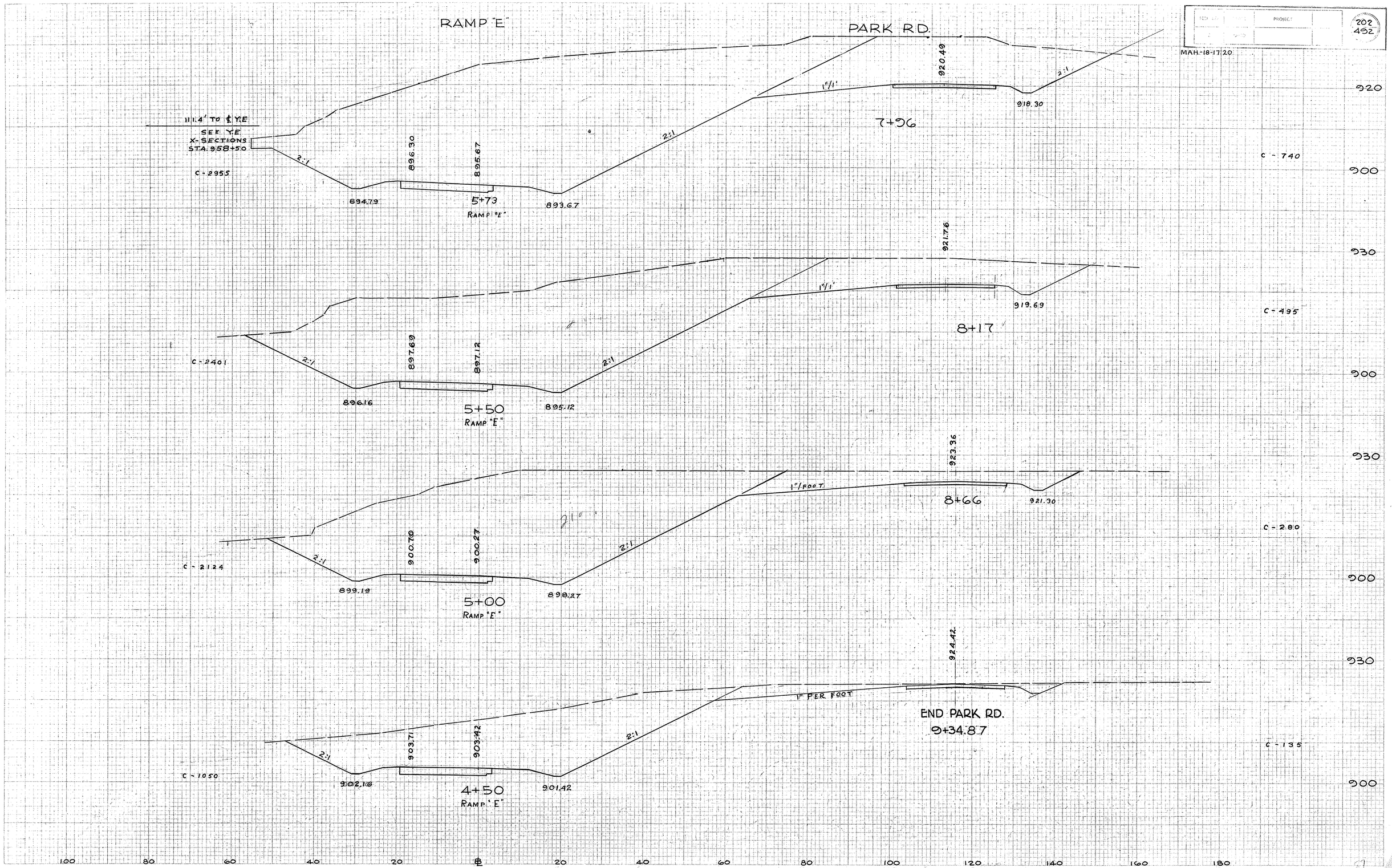


PLATE 3 - CROSS SECTION O.P.F. & R.F. STANDARD
KEUFFEL & ESSER CO. NEW YORK.

RAMP "E" 4+50 TO 5+73 ; PARK RD. 7+96 TO 9+34.87

203
492

MAH.-18-17.20

SEE Y.E.
X-SECTIONS
STA. 960+50

901.66

2:1

1:1

890.58

PARK ROAD
5+88

C=1082

900

SEE Y.E.
X-SECTIONS
STA. 960+00

906.28

2:1

1½:1

1½:1

904.29

PARK ROAD
6+38
℄

C=1091

910

SEE Y.E.
X-SECTIONS
STA. 950+50

912.016

1:1

1½:1

908.63

PARK ROAD
6+86

C=1096

910

889.24

888.64

2:1

886.64

RAMP "E"
6+85

NOTE:
END RETAINING WALL
@ STA. 7+25 PARK RD.

92.1' ℄ Y.E.

SEE Y.E.
X-SECTIONS
STA. 950+00

915.88

1½:1

1½:1

PARK ROAD
7+42
℄

913.80

C=1070

910

893.11

892.33

2:1

801.59

RAMP "E"
6+26

800.25

80 60 40 20 ℄ 20 40

PLATE 5 CROSS SECTION U.S.P.R.A.&E. STANDARD
STOTZEL & ESSER CO., NEW YORK.

RAMP "E" 6+26 TO 6+85 PARK RD 5+88 TO 7+42

FED. RD.	STATE	PROJECT	
2	OHIO		

204
492

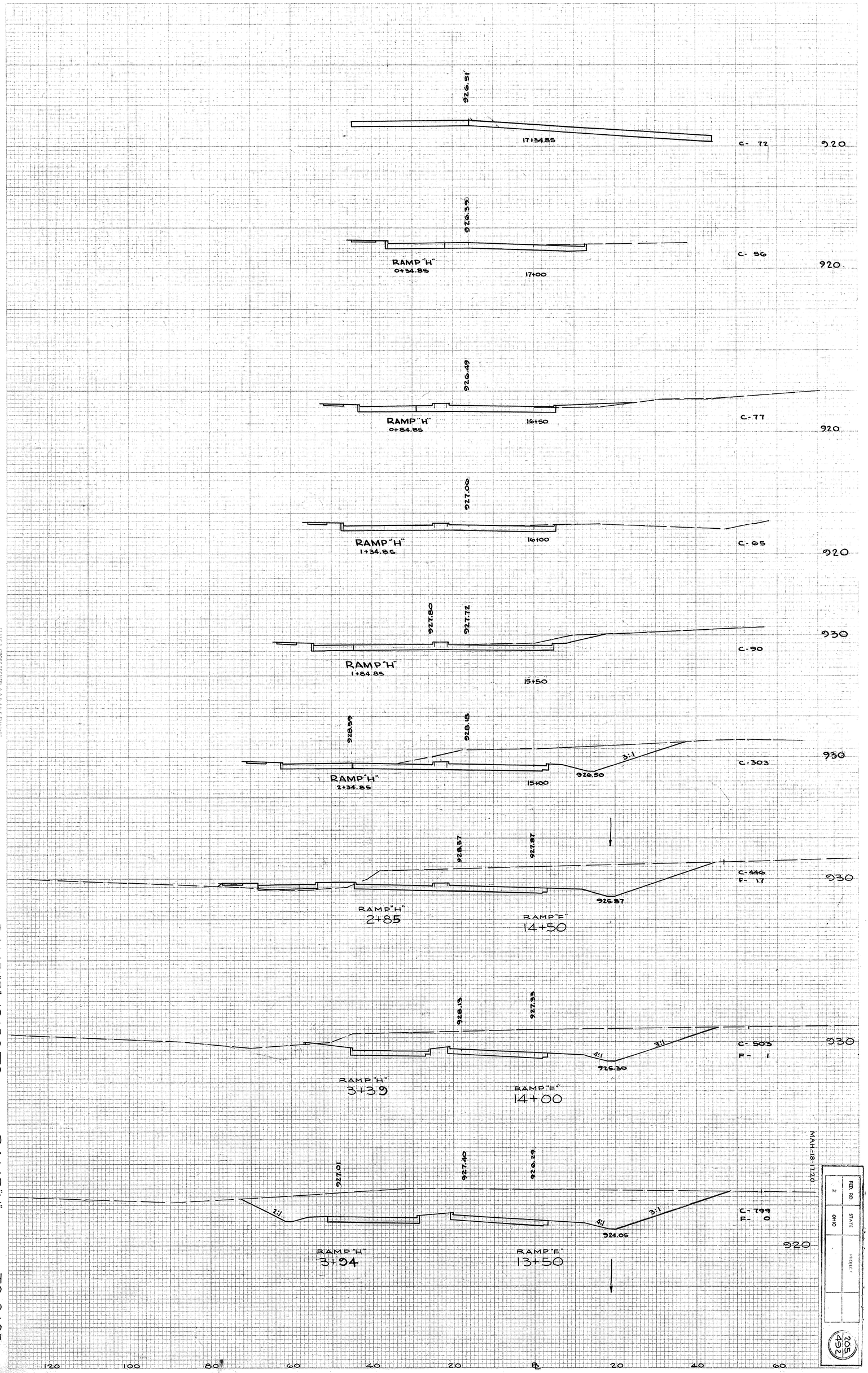
MAH-18-17.20

RAMP "F" 10+00 TO 13+00; RAMP "H" 4+45 TO 5+50

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

ORIGINAL SURVEY — NOTE BOOK

FINAL SURVEY — NOTE BOOK

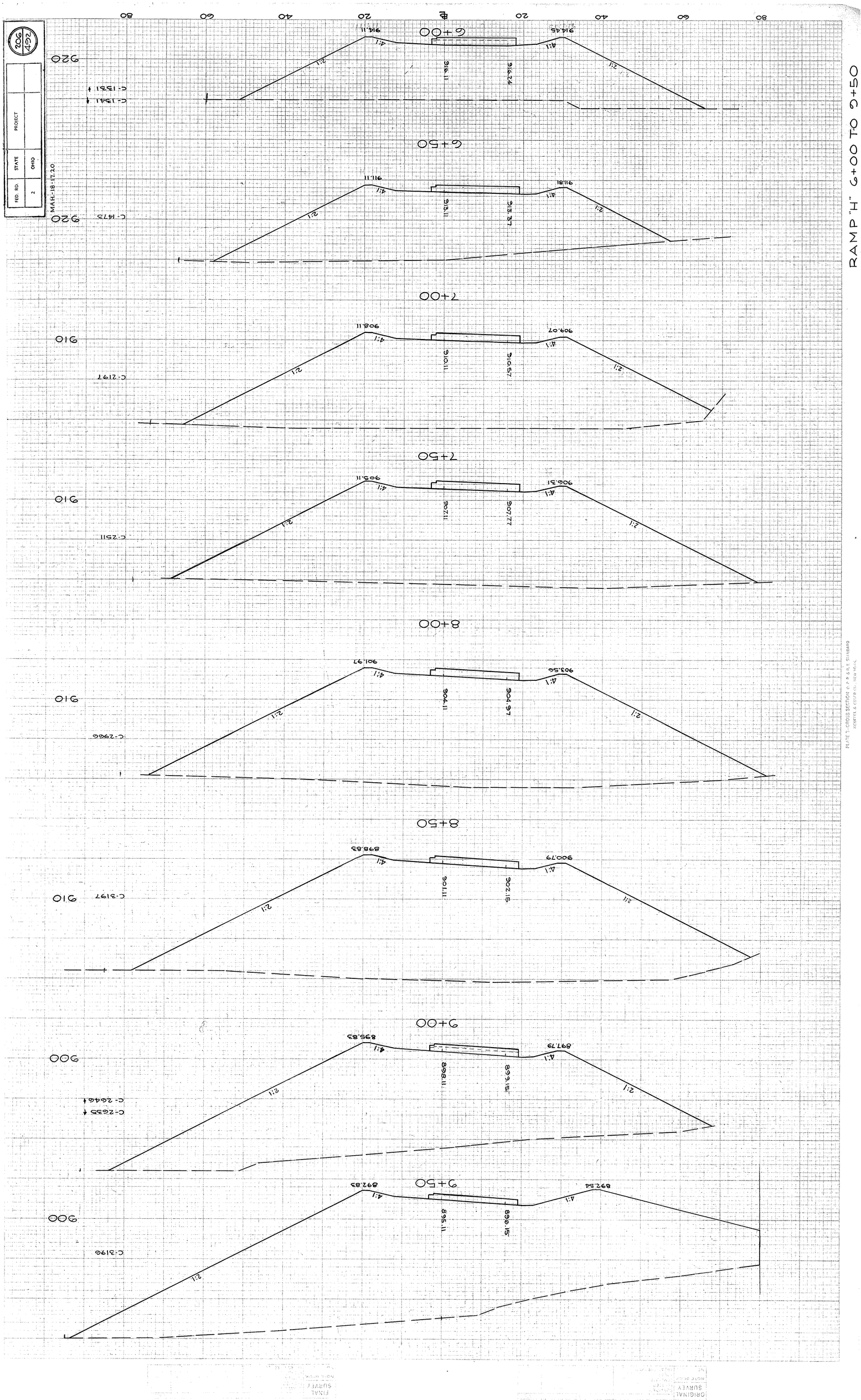


RAMP "F" 13+50 TO ; RAMP "H" TO 3+85

MAH-18-17.20

2	FED. RD.	STATE
OHIO		
	PROJECT	

205
432


RAMP "H" 6+00 TO 9+50
6+00
6+50
7+00
7+50
8+00
8+50
9+00
9+50
920
910
900
MAH-18-17.20
FED. RD.
STATE
PROJECT
OHIO
2
206
492

STATE	PROJECT
OHIO	

MAH.-18-17.20

207
492

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

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

B

B

1:2

4:1

877.79

880.07

881.11

817.41

12+10

C=3865

890

A

A

1:2

4:1

880.12

882.40

883.44

876.91

11+65

C=3822

890

1:2

882.95

884.93

885.97

882.41

11+20

C=3972

890

1:2

886.63

888.91

888.95

881.91

10+70

C=3700

900

1:2

888.23

890.61

891.65

883.41

10+25

C=3600

900

1:2

891.29

893.57

894.61

884.91

9+80

C=3274

900

80

60

40

20

℄

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

RAMP "H" 9+80 TO 12+10

ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO	AREAS		
	ATLAS CHECKED		

RAMP "K" 16+50 TO 19+23.48

964.43

19+23.48
964.47

960

963.47

19+00
963.88

C- 28

960

961.24

NOTE: END 12" I-22
STA 18+50

C- 38 ↑
C- 43 ↑

18+50
962.01

960

C- 55

18+00
960.24

957.15

C- 80

17+50
958.00

950

955.38

955.04

C- 54

17+00
956.30

950

953.27

952.95

C- 88

16+50
954.50

950

60 40 20 0 20 40 60

MAH:18-17.20

OHIO

206
492

FED. RD.	STATE	PROJECT	
2	OHIO		

209
492

MAH.-18-17.20

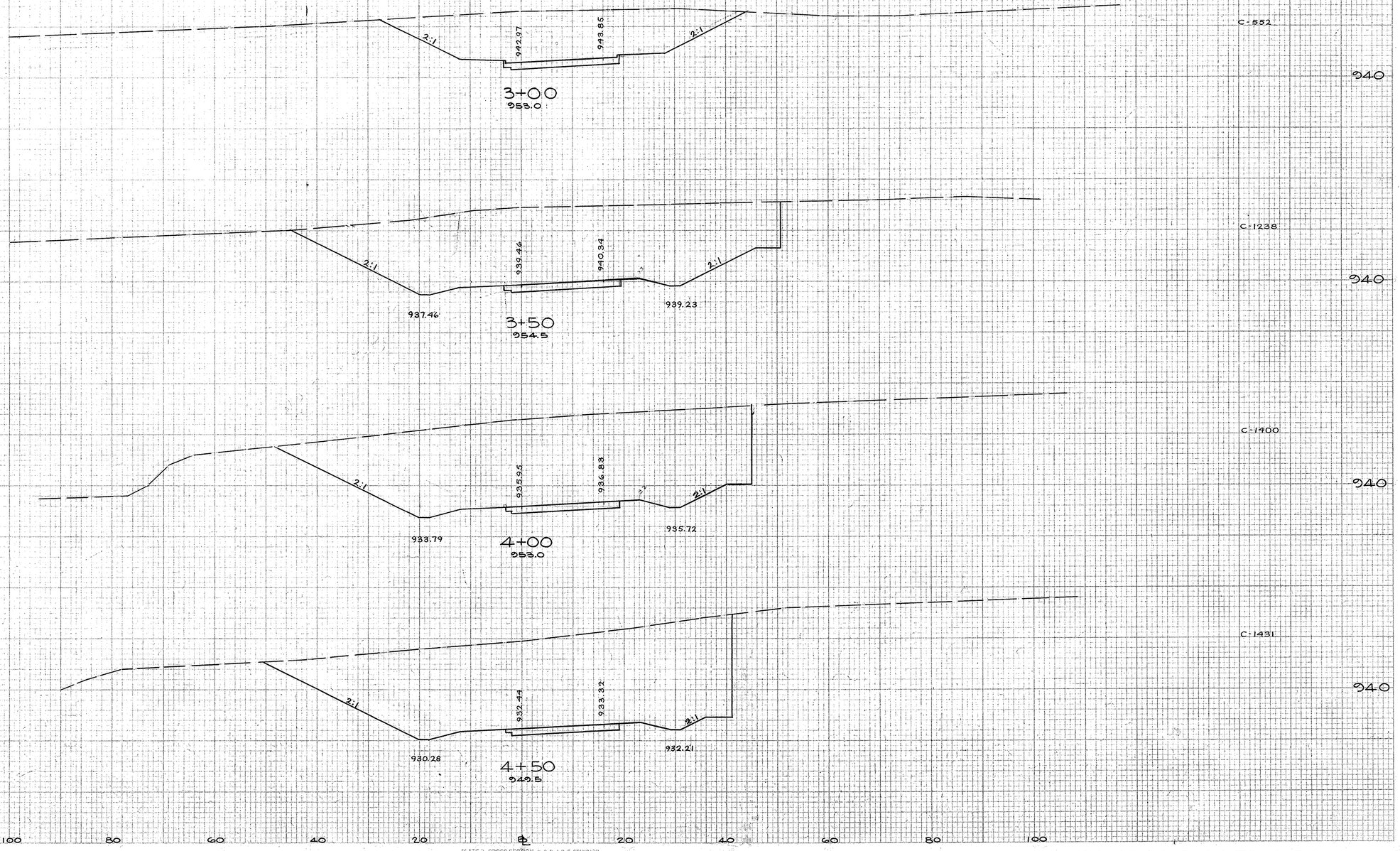


PLATE 3 - CROSS SECTION O. P. R. & P. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

RAMP "L" 3+00 TO 4+50

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

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

940.71

C = 0
F = 10

940

0+00
940.2

942.36

C = 2
F = 9

940

0+50

944.02

C = 18
F = 0

940

1+00

945.60

C = 47
F = 0

940

1+50

947.13

C = 87
F = 0

950

2+00

946.84

C = 167
F = 0

950

2+50

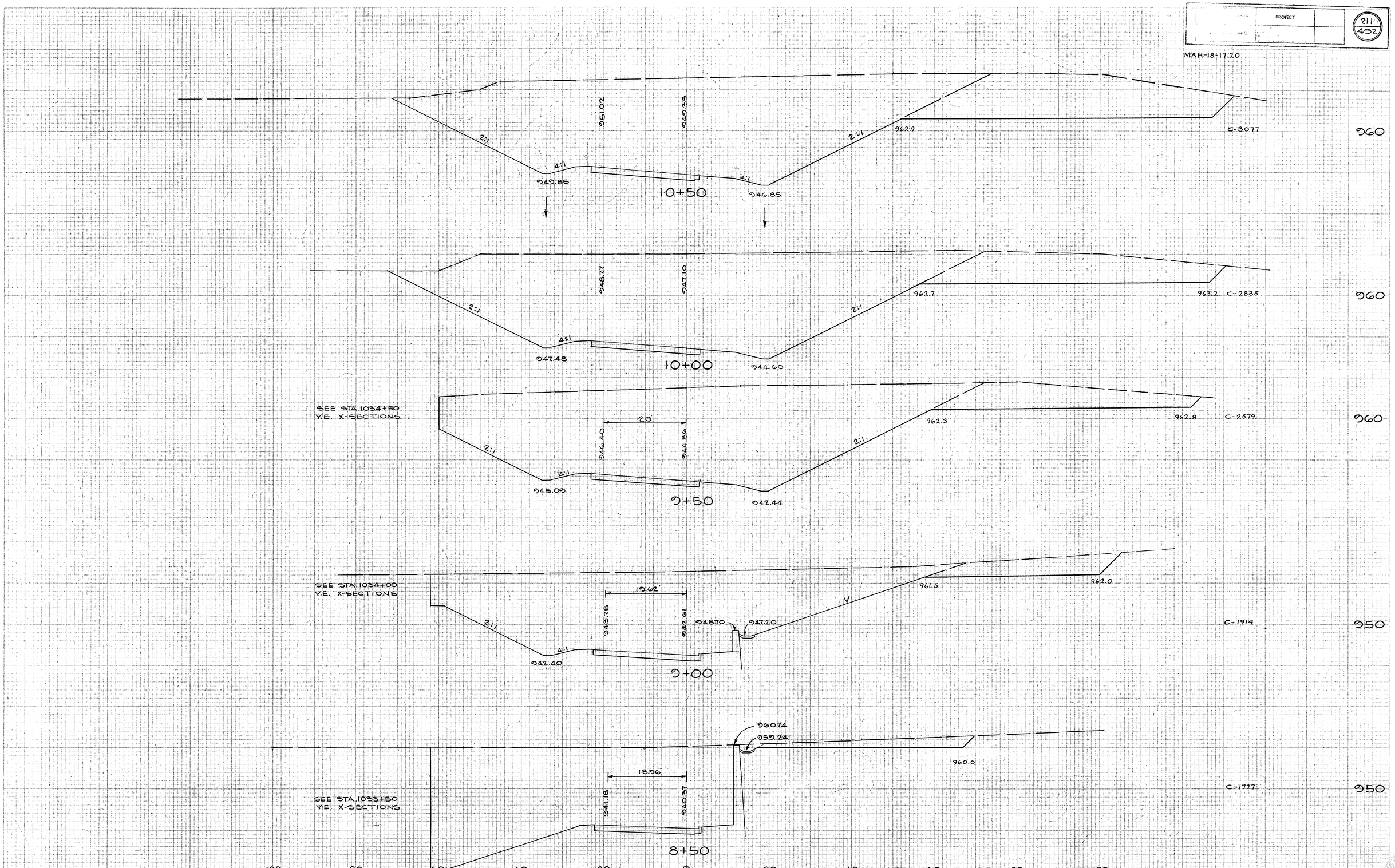
60 40 20 ℄ 20 40 60

RAMP 'L' 0+00 TO 2+50

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-[illegible]-17.20

210
452



FINAL SURVEY

ORIGINAL SURVEY

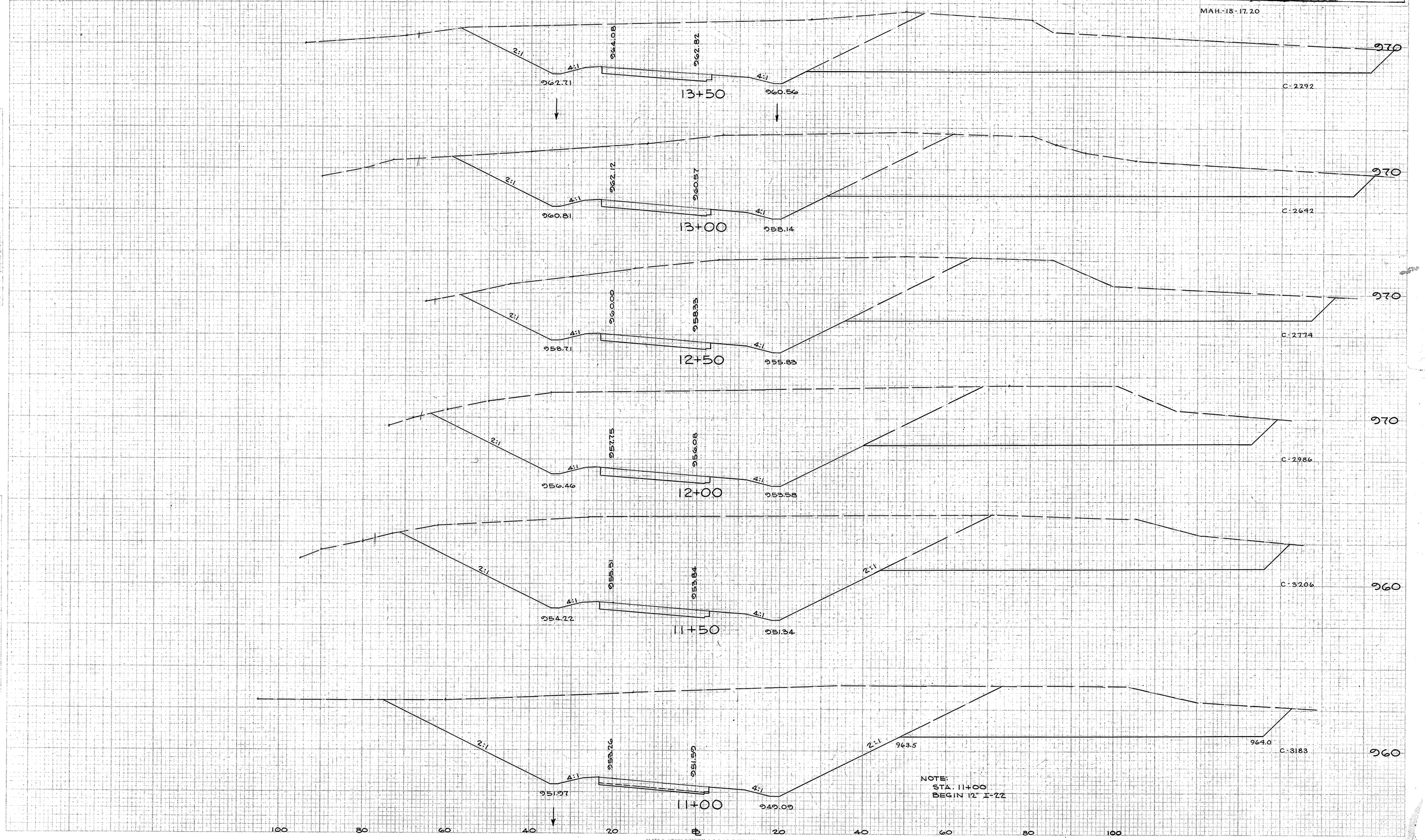
PLATE 3 - CROSS SECTION

RAMP "M" 8+50 TO 10+50

FED. RD.	STATE	PROJECT	
2	OHIO		

212
492

MAH.-18-17.20



FINAL SURVEY

ORIGINAL SURVEY

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

RAMP "M" 11+00 TO 13+50

FED. RD.	STATE	PROJECT	
2	OHIO		

213
492

MAH-18-17.20

FINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / NO. — DATE / BY / SHEETS / AREAS CHECKED

ORIGINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / NO. — DATE / BY / SHEETS / AREAS CHECKED

961.57

16+33.57
END

962.77

16+00

964.95

364.55

2:1

15+50

966.01

965.61

3:1

3:1

965.04

15+00

963.83

966.37

965.68

3:1

4:1

3:1

964.89

14+50

963.68

965.72

964.74

3:1

4:1

2:1

964.30

14+00

962.65

100 80 60 40 20 ℄ 20 40 60 80 100

PLATE 3 - CROSS SECTION O.P.P.&R.E. STANDARD

C- 4 960

C- 21 960

C-215 970

C-502 970

C-590 970

C-635 970

FED. RD	STATE	PROJECT		214 492
7	OHIO			

MAH-18-17.20

0+00 — ℄ MARLIN AVE.

C - 0
F - 0

0+50

C - 20
F - 0

930

1+00

C - 2
F - 0

930

1+50 — ℄ MARLIN AVE.

937.15

C - 2
F - 0

930

2+00

939.40 940.18

C - 12
F - 0

940

2+50

940.90 942.02

C - 108
F - 0

940

3+00 — ℄ MARLIN AVE. STA. 3+15

C - 385

940

3+50

940.40 941.28

C - 503

940

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

PLATE 3 - CROSS SECTION O.P.W.A.I. STANDARD

FED. RD.	STATE	PROJECT	
2	OHIO		

215
492

MAH-18-17.20

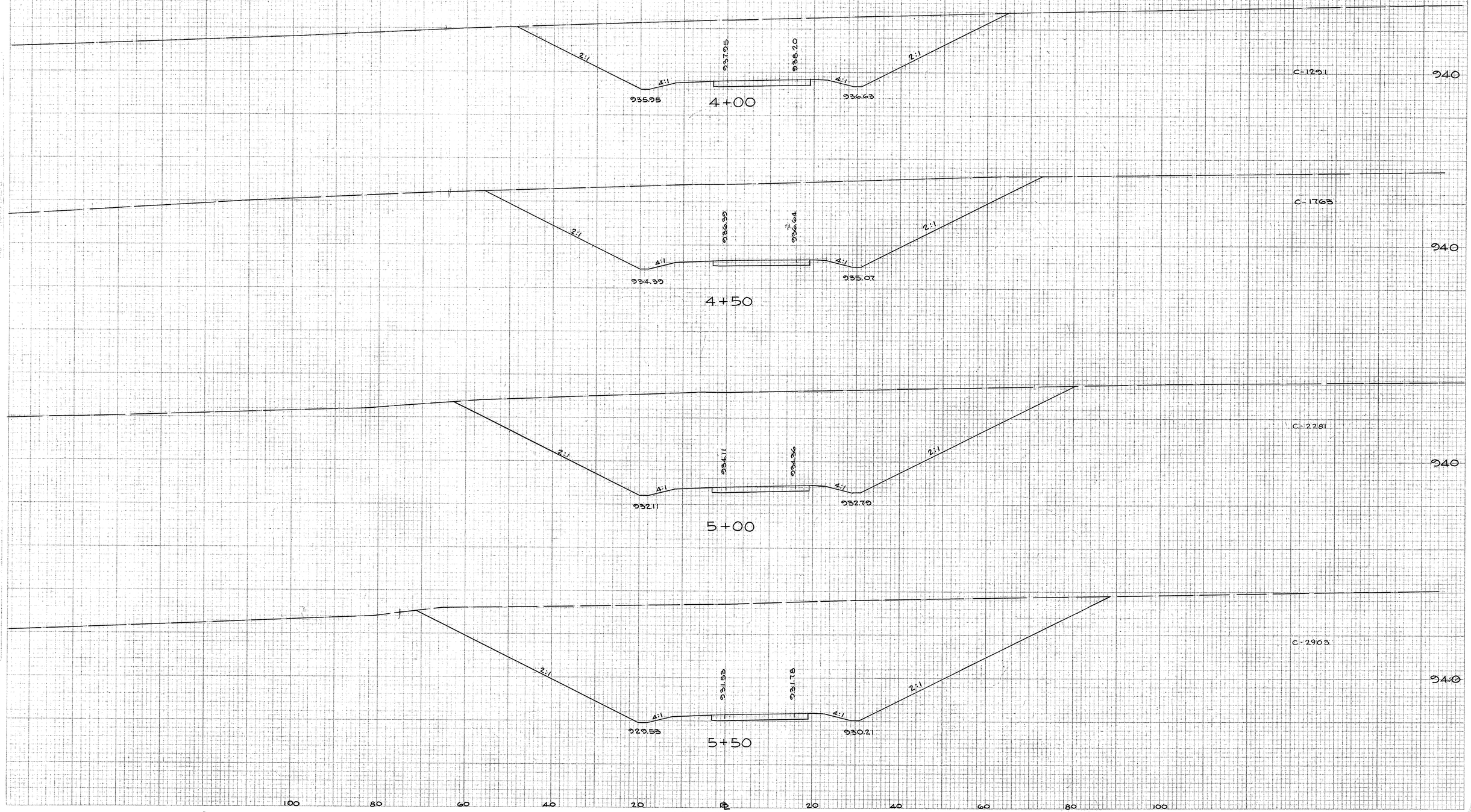


PLATE 3 CROSS SECTION O.P.R. & R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK.

RAMP "N" 4+00 TO 5+50

FED. RD.	STATE	PROJECT	
2	OHIO		

216
492

MAH.-18-17.20

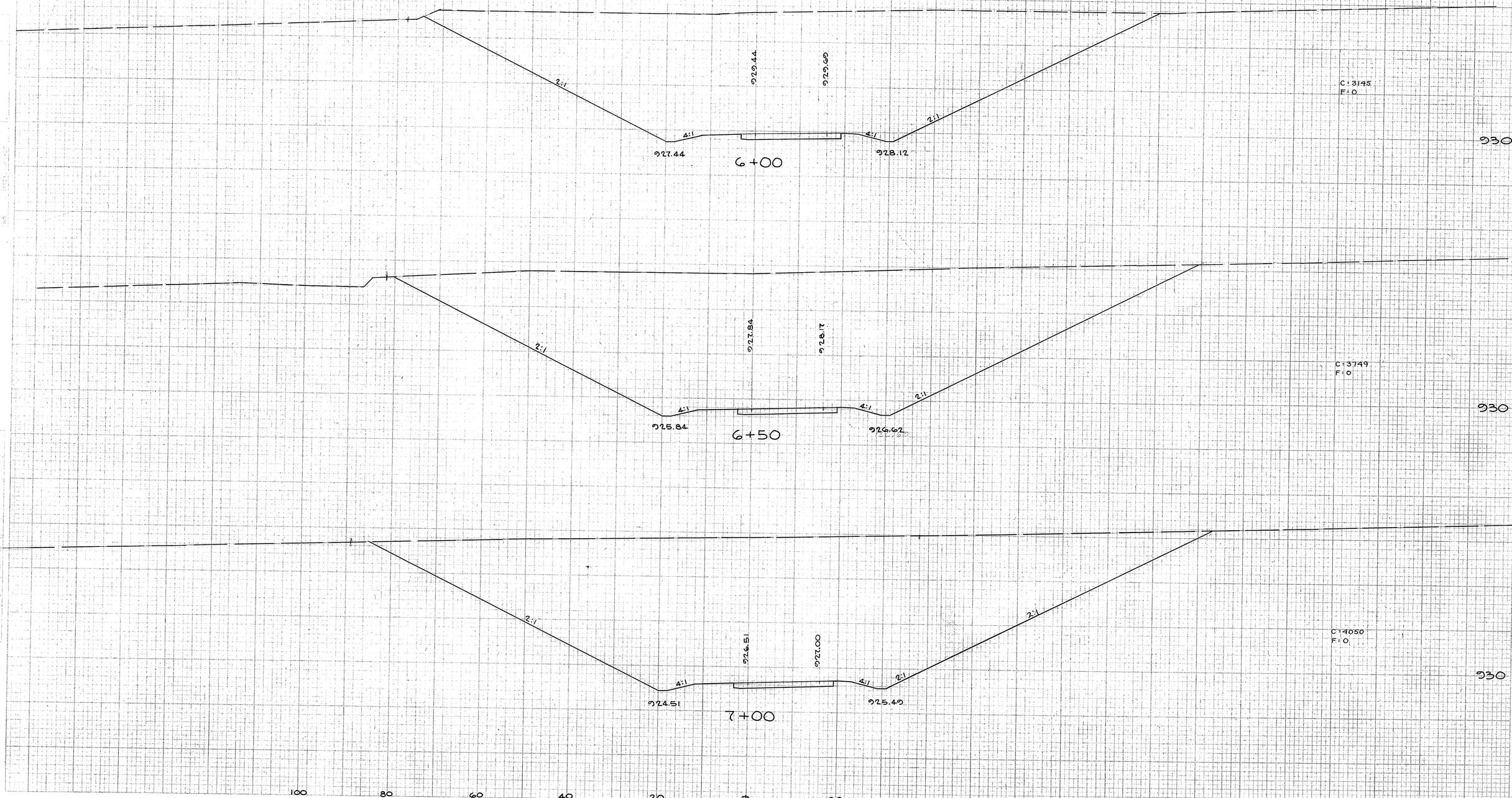


PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD

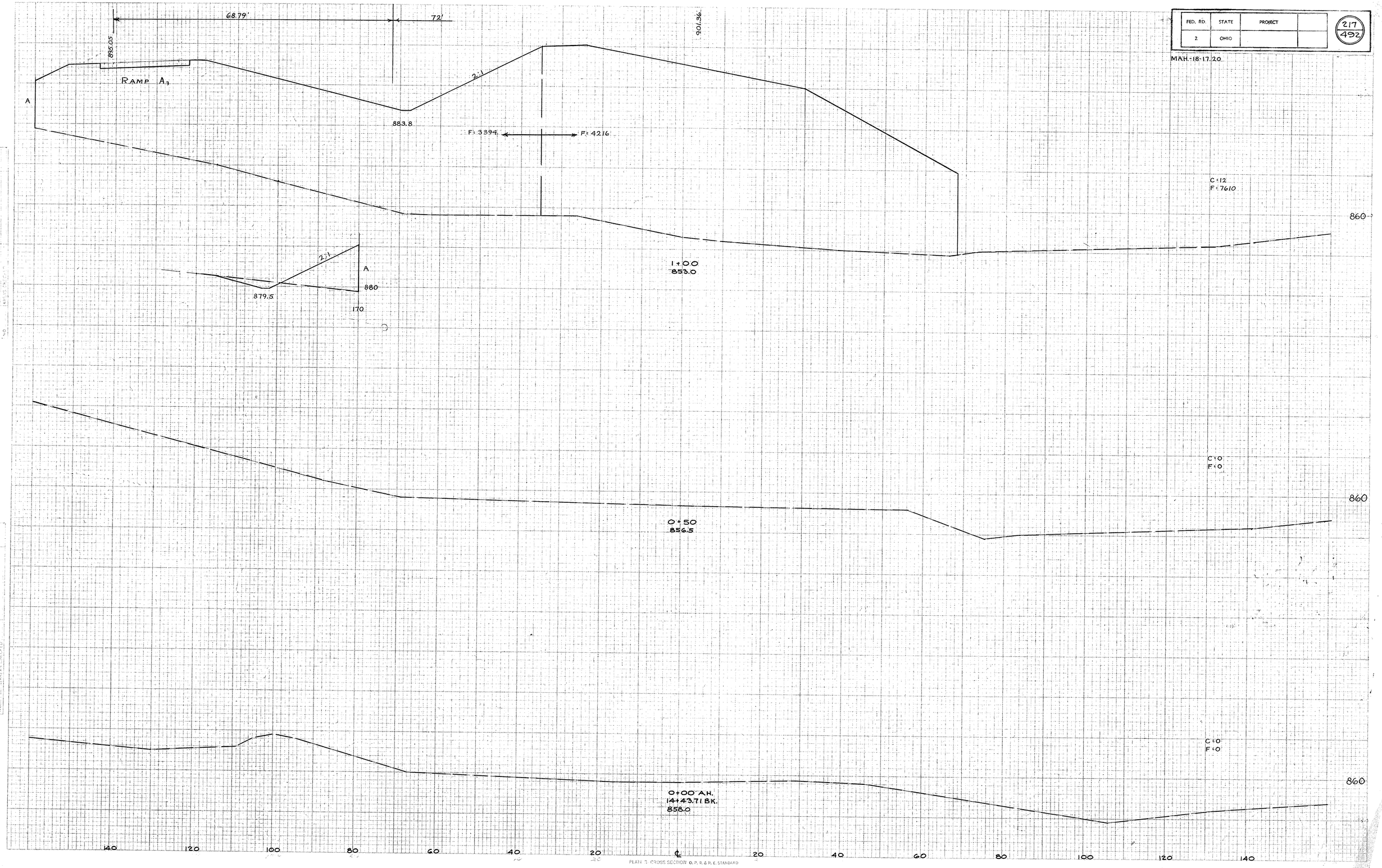
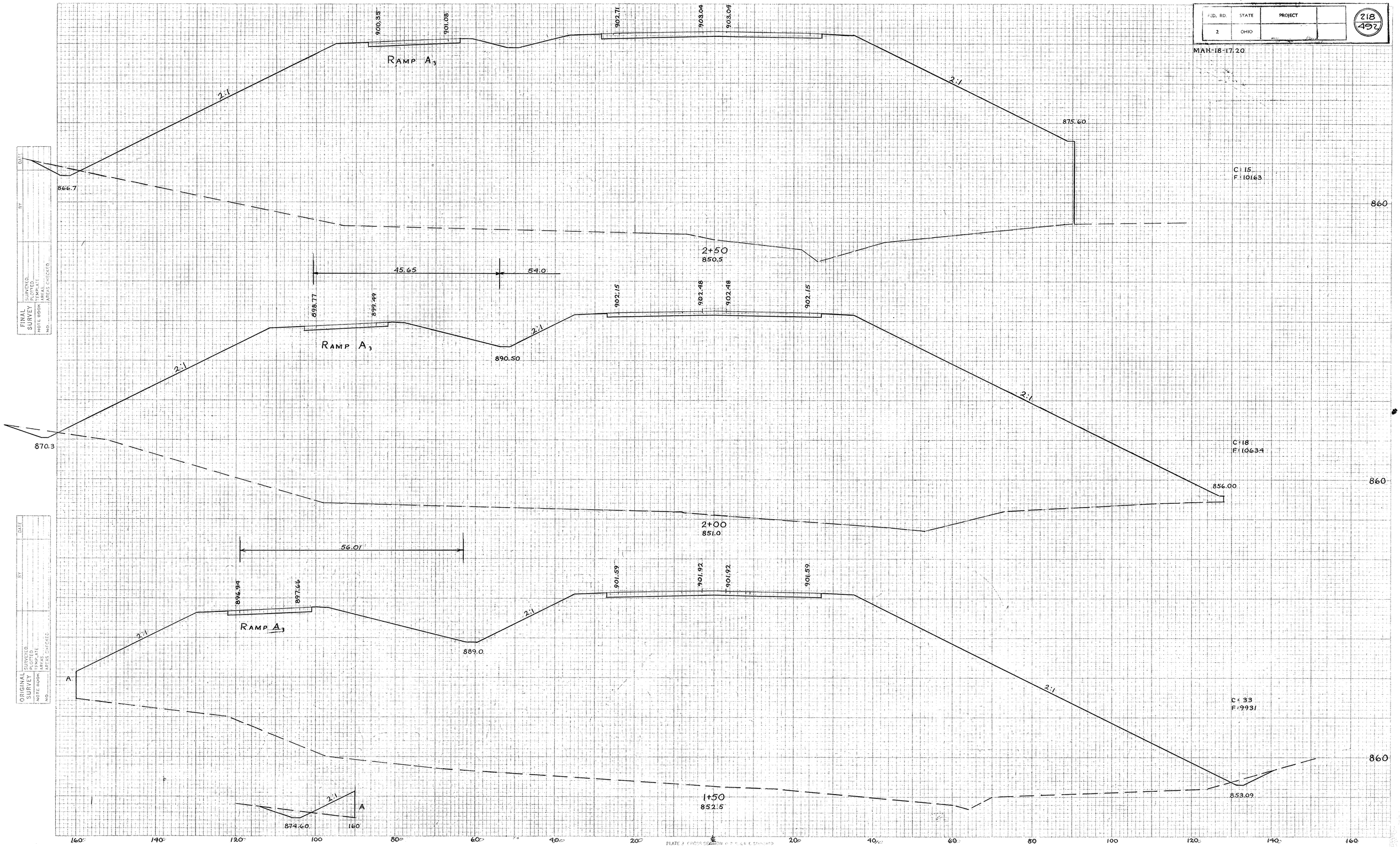


PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

218
492

MAH-18-17.20

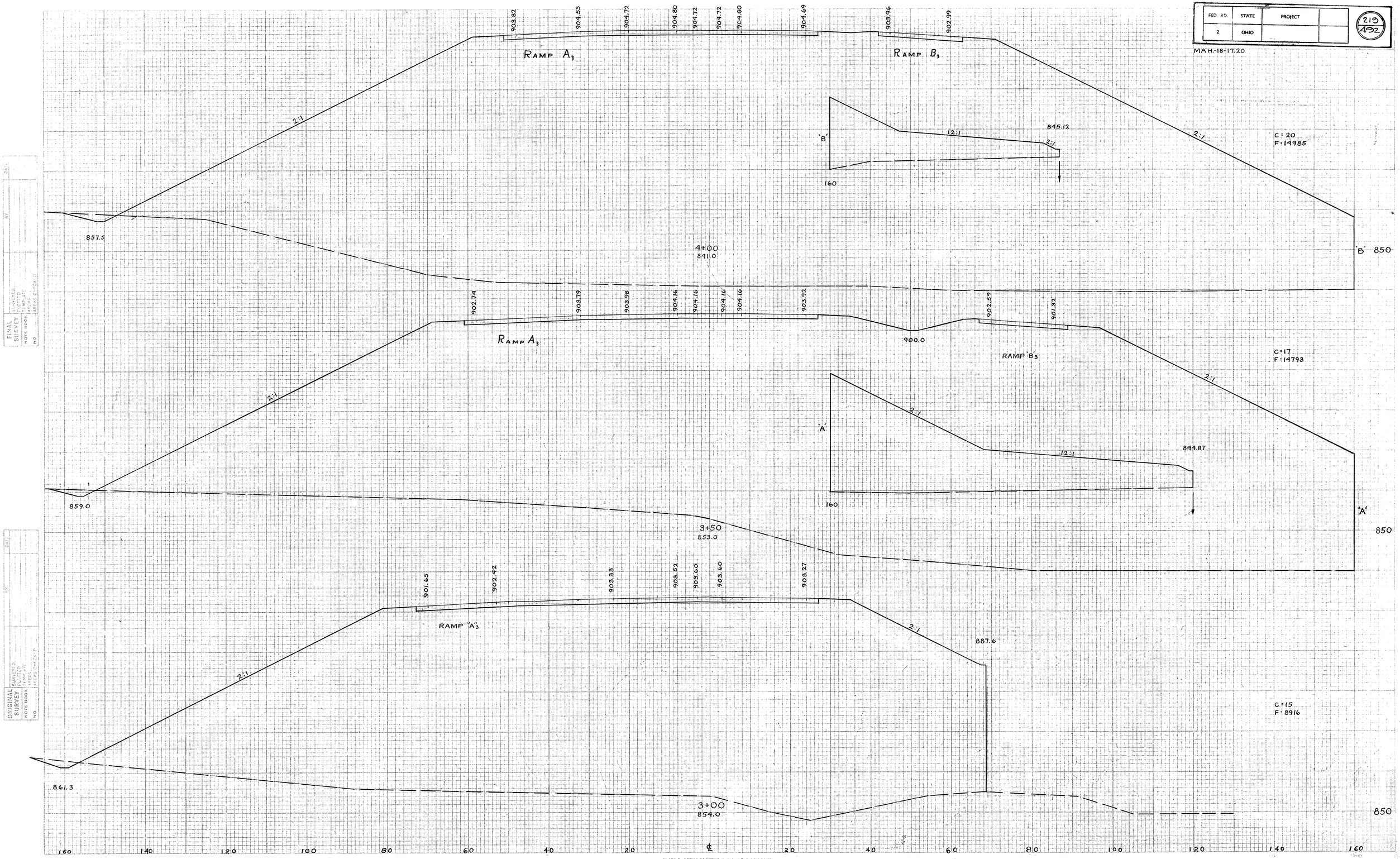


FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK NO. — BY — DATE

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

PLATE 3 CROSS SECTION O.D.P.&R.E. STANDARD

MAHONING W. FEDERAL EXPRESSWAY 1+50 TO 2+50



FINAL SURVEY

ORIGINAL SURVEY

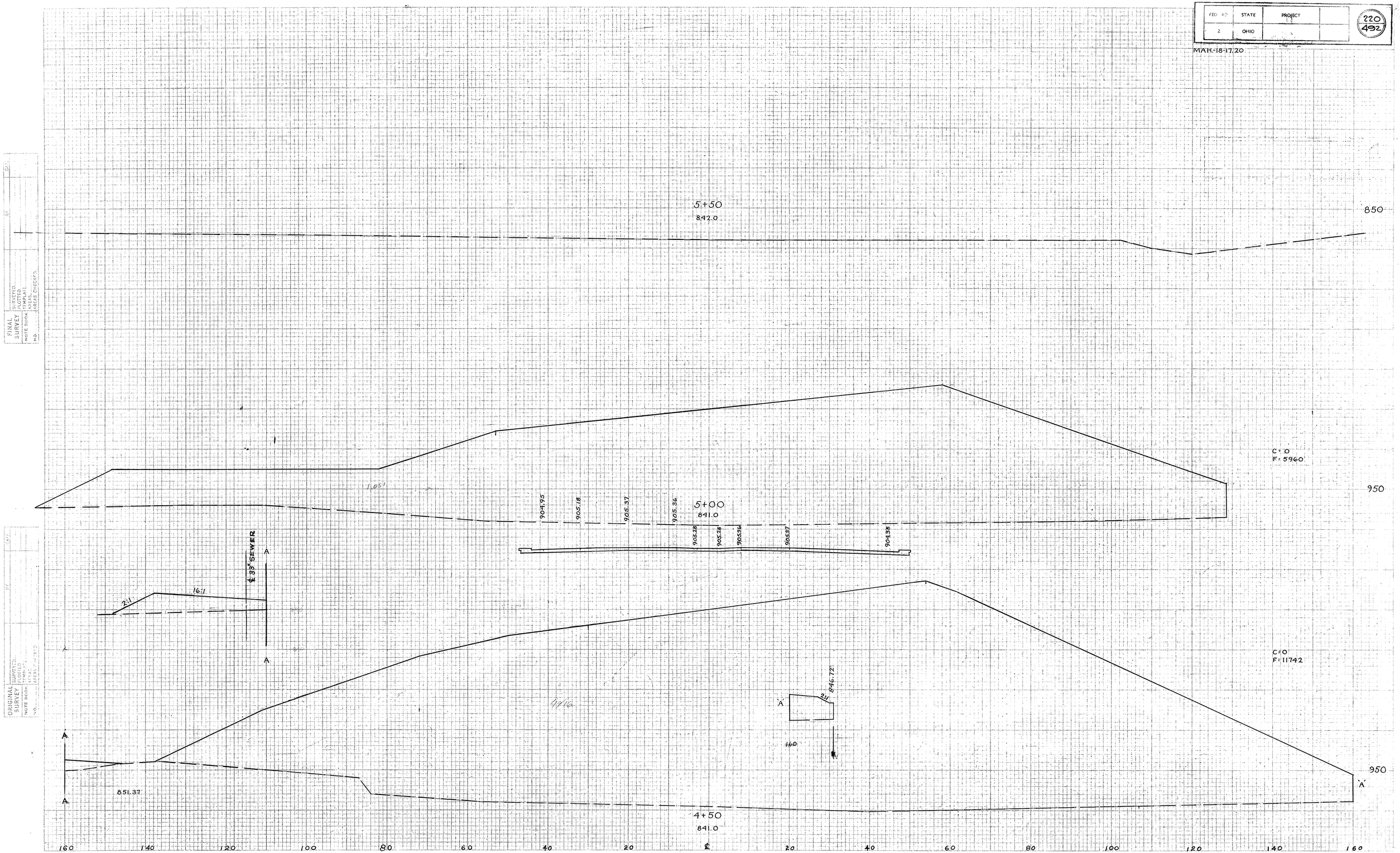
PLATE 3 CROSS SECTION C.F.F. & R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

MAHONING W. FEDERAL EXPRESSWAY 3+00 TO 4+00

FED RD	STATE	PROJECT	
2	OHIO		

220
492

MAH.-18-17.20



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

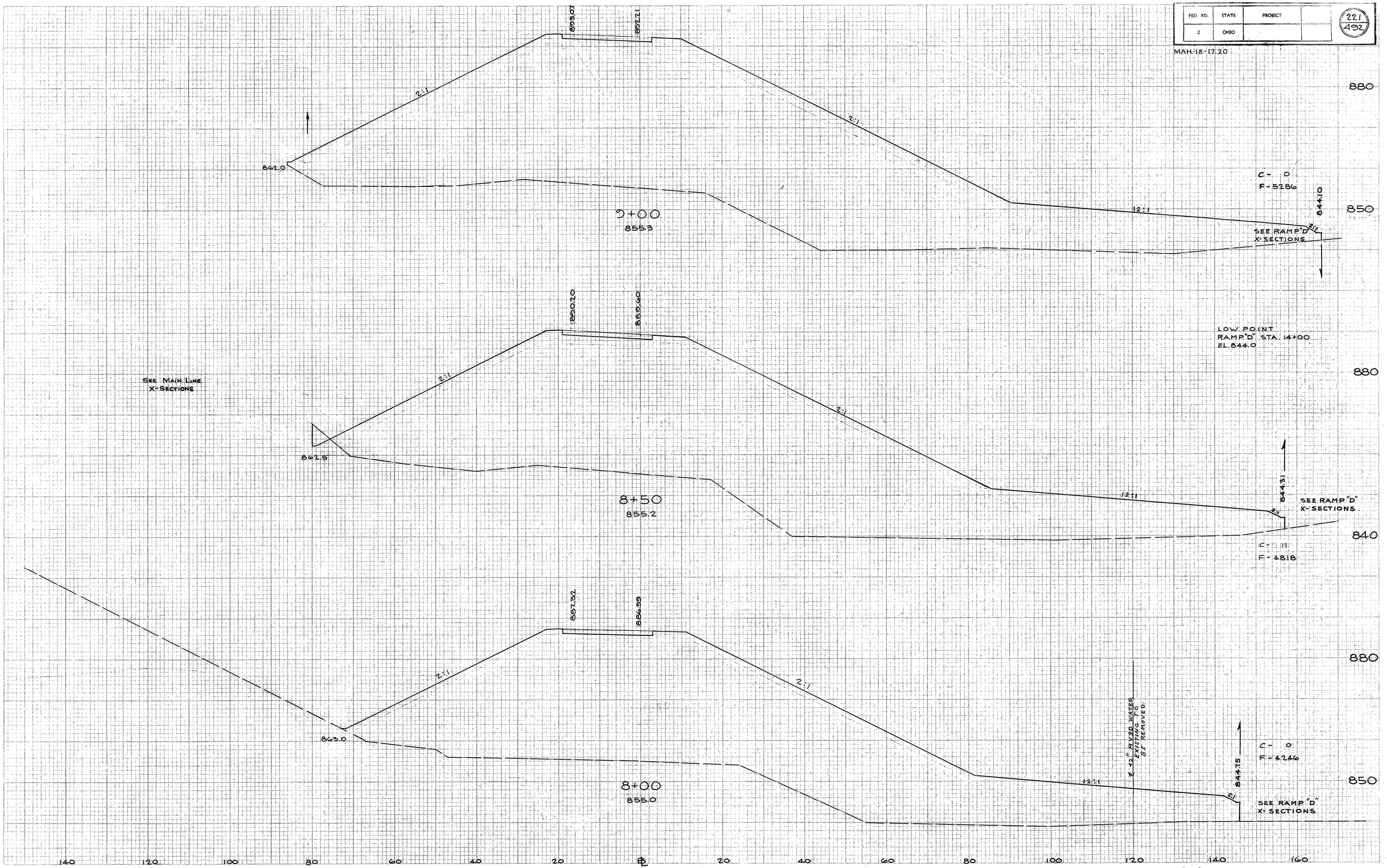
ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED

MAHONING W. FEDERAL EXPRESSWAY 4+50 TO 5+50

FED. RD.	STATE	PROJECT	
2	OHIO		

221
492

MAH-18-17.20



RAMP "B3" 8+00 TO 9+00

PLATE 3 - CROSS SECTION

FINAL SURVEY

ORIGINAL SURVEY

FED. RD.	STATE	PROJECT	
2	OHIO		

222
492

MAH.-18-17.20

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

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

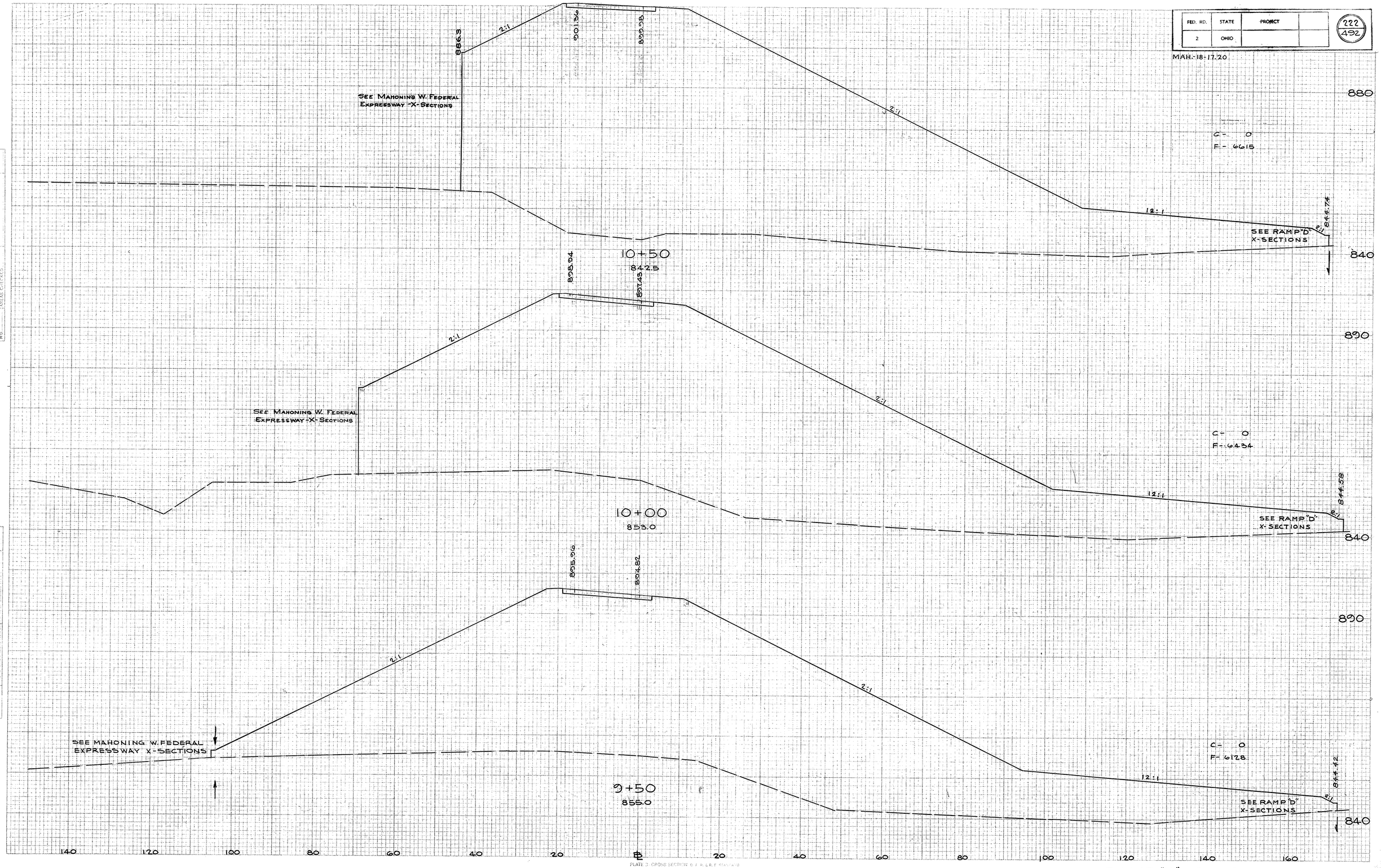


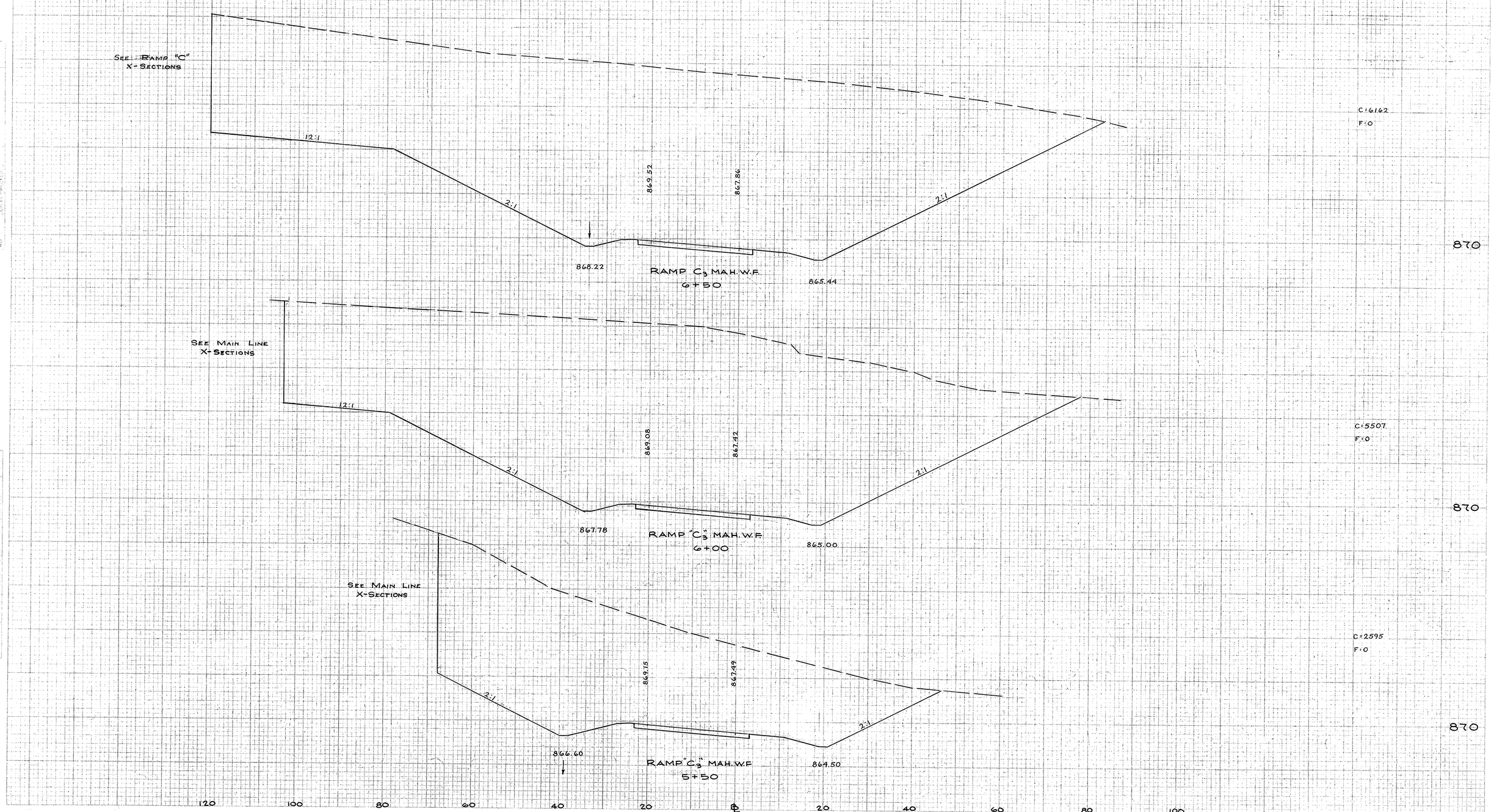
PLATE 3 CROSS SECTION O.F.R.&B.P. STANDARD
REUTTEL & ESCHLEMAN NEW YORK

RAMP "B" 9+50 TO 10+50

FED. RD.	STATE	PROJECT	
2	OHIO		

223
492

MAH.-18-17.20

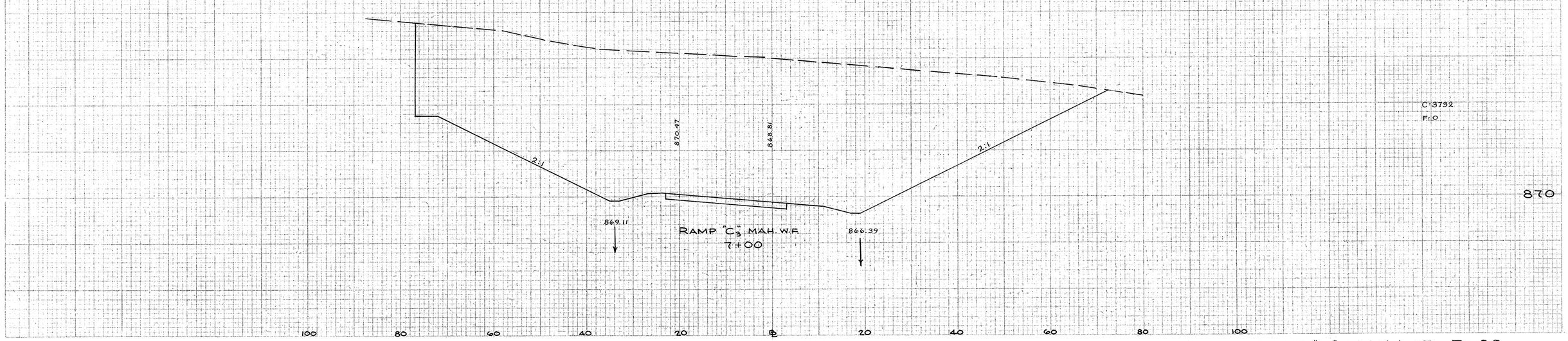


RAMP "C" MAH. W.F. 5+50 TO 6+50

FED. RD.	STATE	PROJECT	
2	OHIO		

224
492

MAH.-18-17.20



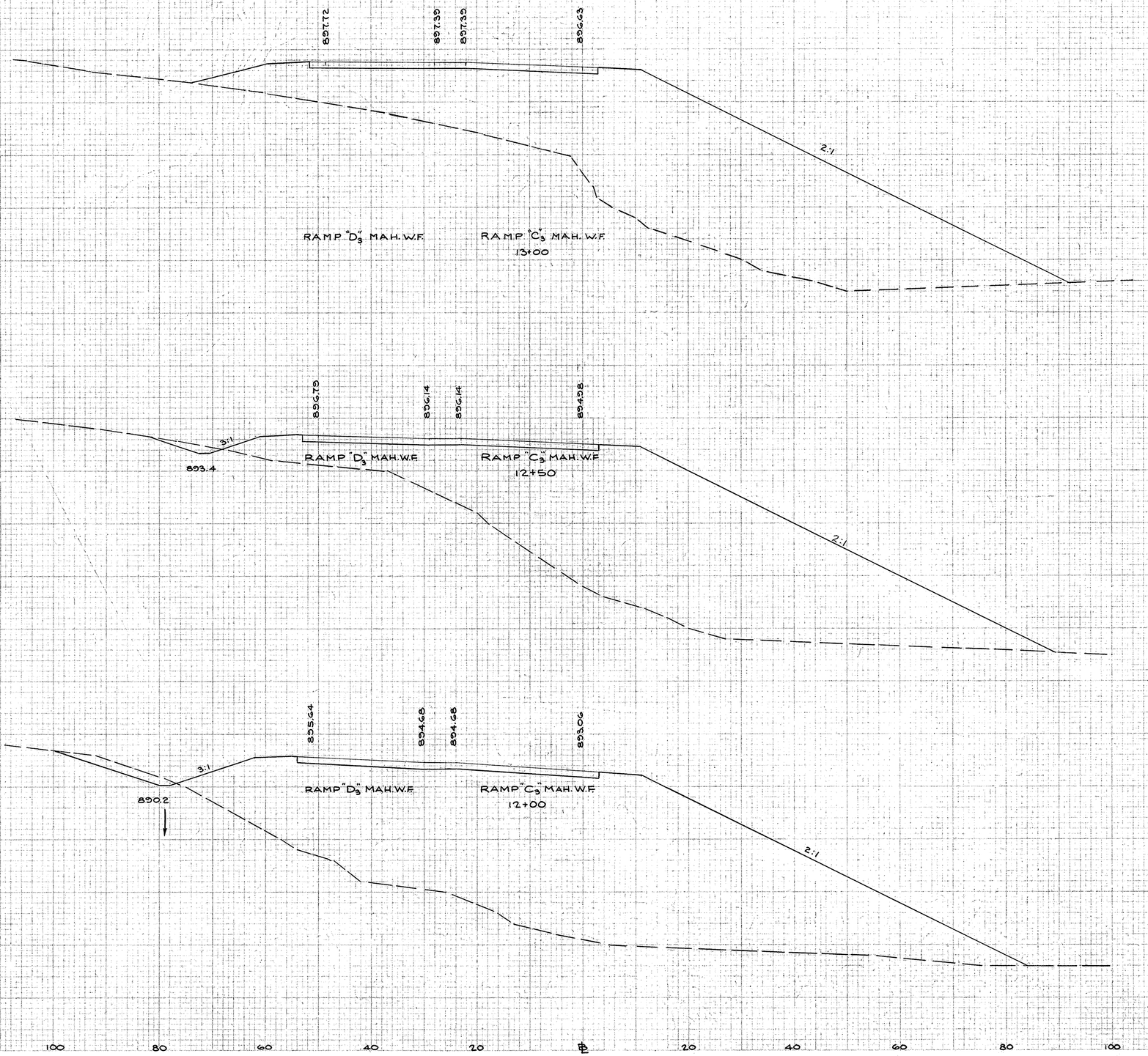
RAMP "C3" MAH. W.F. 7+00

SEEDING	
END WIDTH	SQ YDS

	225
	492

MAH-18-17.20

END AREA	CUBIC YARDS

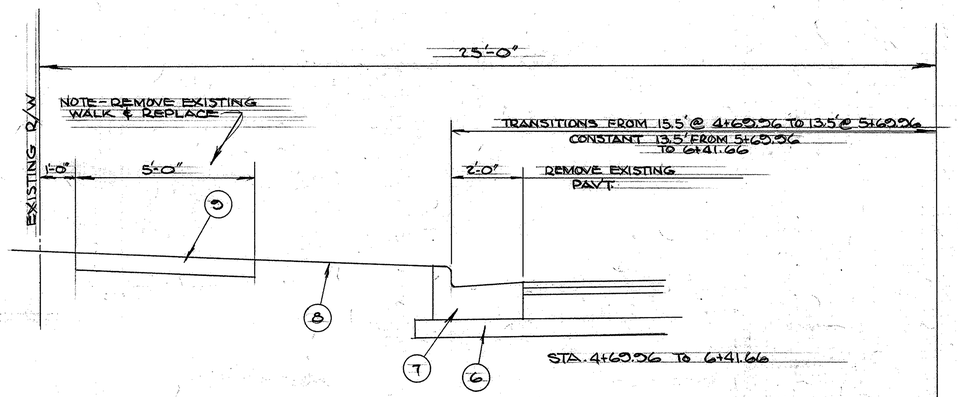


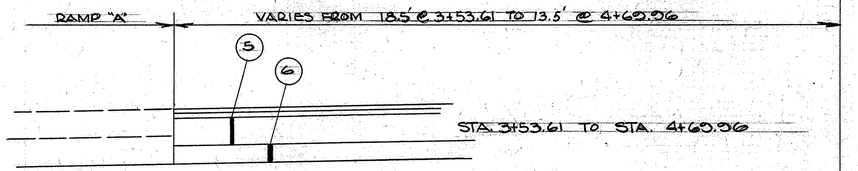
RAMP "C3" MAH.W.F. 12+00 & 13+00

FED. RD.	STATE	PROJECT	
2	OHIO		

22G
492

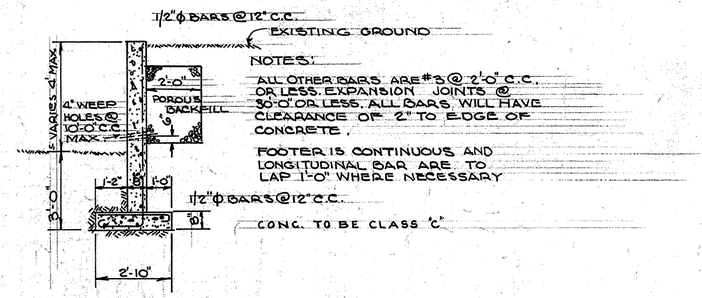
MAH-18-17.20



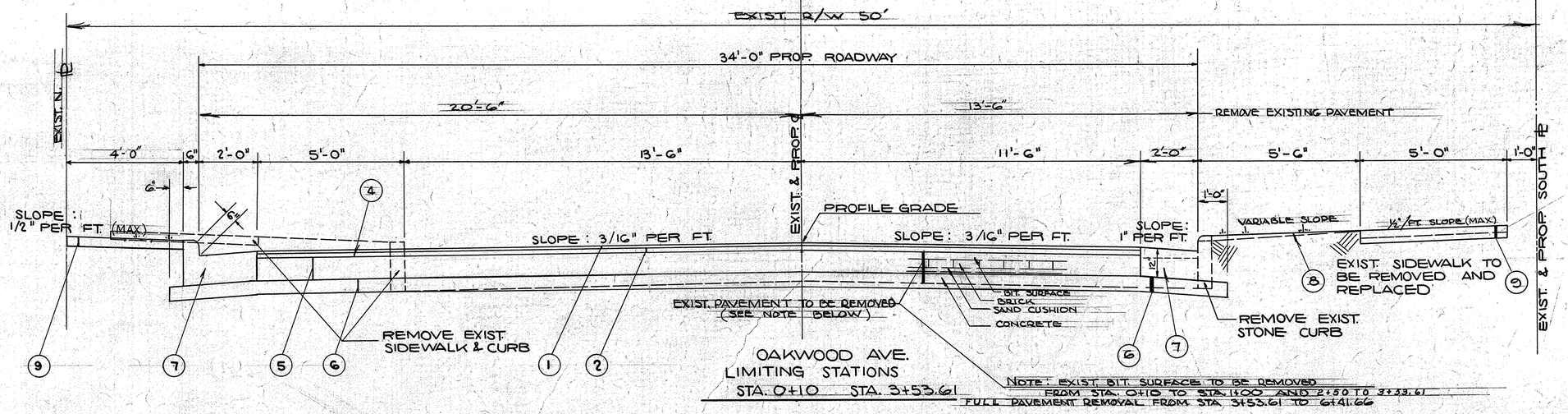


ESTIMATED QUANTITIES PER LIN. FT.					
①	CU. YDS. FOOTER	CONC. WALL	REINF. STL. LBS.	EXCA. CU. YDS	C.Y. POROUS BACKFILL
1'-0"	.0702	.083	6.841	.656	–
1'-6"	.0702	.095	7.181	.687	–
2'-0"	.0702	.107	7.515	.734	.098
2'-6"	.0702	.120	7.849	.786	.136
3'-0"	.0702	.132	8.350	.833	.173
3'-6"	.0702	.145	8.684	.885	.210
4'-0"	.0702	.159	9.018	.932	.247

① HEIGHT OF WALL ABOVE GROUND.



TYPICAL RETAINING WALL



① 1" T-35 ASPHALTIC CONCRETE SURFACE COURSE - TYPE 'C' (70-85)

② 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE (70-85)

④ T-30 BITUMINOUS TACK COAT 0.10 GAL. PER SQ. YD.

⑤ 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE

⑥ 6" I-22 SUBBASE

⑦ I-12 COMBINED CURB & GUTTER - TYPE 2

⑧ L-9 SEEDING & PROTECTING

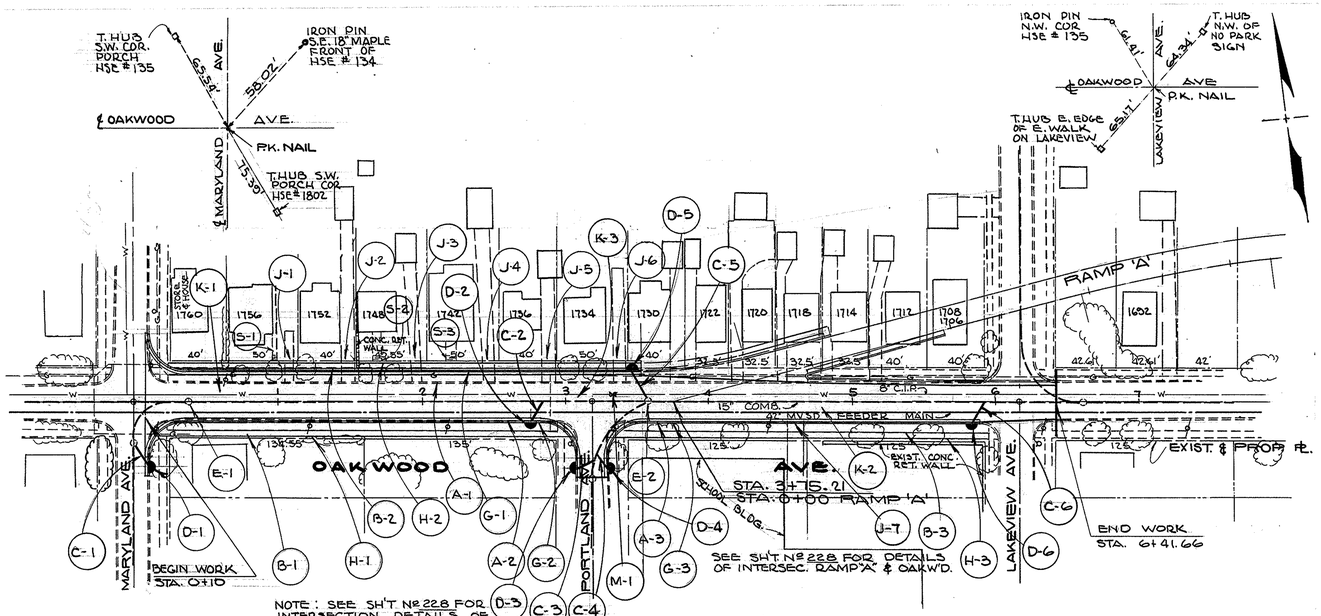
⑨ 5" I-13 CONCRETE SIDEWALK - - INCLUDING 5" CINDER SUBBASE

TYPICAL SECTION - OAKWOOD AVE.

FED. RD.	STATE	PROJECT	
&	OHIO		

MAH-18-17.20

227
492



ITEM E-8 EXIST. CURB REMOVAL (LIN. FT.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
A-1	0+12	4+60.66	13.5'L.	485
A-2	0+12	3+06	13.5'R.	363
A-3	3+28	5+94.66	13.5'R.	299

ITEM I-12 CONC. CURB REPLACE (LIN. FT.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
G-1	0+12	3+53.61	20.5'L.	355.87
G-2	0+12	3+06	13.5'R.	349.35
G-3	3+28	5+94.66	13.5'R.	292.11

ITEM I-8 M.H. ADJUSTED TO GRADE (EA.)

CODE	STA.	LOCA.	TOP ELEV.	REMARKS
E-1	0+38	ON ℄	972.17	
E-2	3+58	ON ℄	970.20	

ITEM E-8 EXIST. SIDEWALK REMVL. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-1	0+12	3+06	24'R.	1470
B-2	0+12	3+53.61	24'L.	1705
B-3	3+28	5+95.66	24'R.	1335

ITEM I-13 CONCRETE STEPS

CODE	WIDTH	Nº OF RISERS	RISER	TREAD	L.F.
S-1	4'-0"	2	8"	12"	2.5
S-2	3'-0"	2	6½"	12"	2.5
S-3	4'-0"	1	8"	12"	1.25

ITEM I-13 CONC. SIDEWALK REPLACE. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-1	0+16	3+01	24'R.	1425
H-2	0+22	3+53.61	27'L.	1355
H-3	3+33	5+95.66	24'R.	1260

ITEM I-18 INLETS YNGSTN. TYPE II (EA.)

CODE	STATION	LOCA.	WIND. FT.	C.B. INV.	
D-1	0+12	45.45ℓ	984.01	980.01	
D-2	2+73.94	13.5'R	974.50	969.50	
D-3	0+45.06	PORTL.	972.48	967.48	
D-4	0+45.60	PORTL.	971.07	966.07	
D-5	3+46.78	20.5'L.	970.21	965.21	
D-6	5+87.83	13.5'R	958.59	953.59	

ITEM I-2 COMB. SEWER (UNDER PAV'T. & APPROACHES) SEC. M-6.8(6)

CODE	FROM	TO	LOCA.	SIZE.	LIN. FT.
C-1	D-1	M.H. 0+00	RT.	12"	20
C-2	D-2	2+84	RT.	12"	18
C-3	D-3	℄ PORT.	RT.	12"	16
C-4	D-4	SEWER	RT.	12"	16
C-5	D-5	E-2	LT.	12"	25
C-6	D-6	5+02	RT.	12"	14

ITEM E-8 REMOV. & DISP. OF EXIST. WEARING COURSE

CODE	FROM STA.	TO STA.	SQ. YDS.	REMARKS
K-1	0+10	1+00	281	
K-3	2+50	3+58.61	311	

ITEM E-8 FULL DEPTH REMOV. & DISP. OF EXIST. PAV'T.

CODE	FROM STA.	TO STA.	SQ. YDS.	REMARKS
K-2	3+53.61	6+41.66	864	

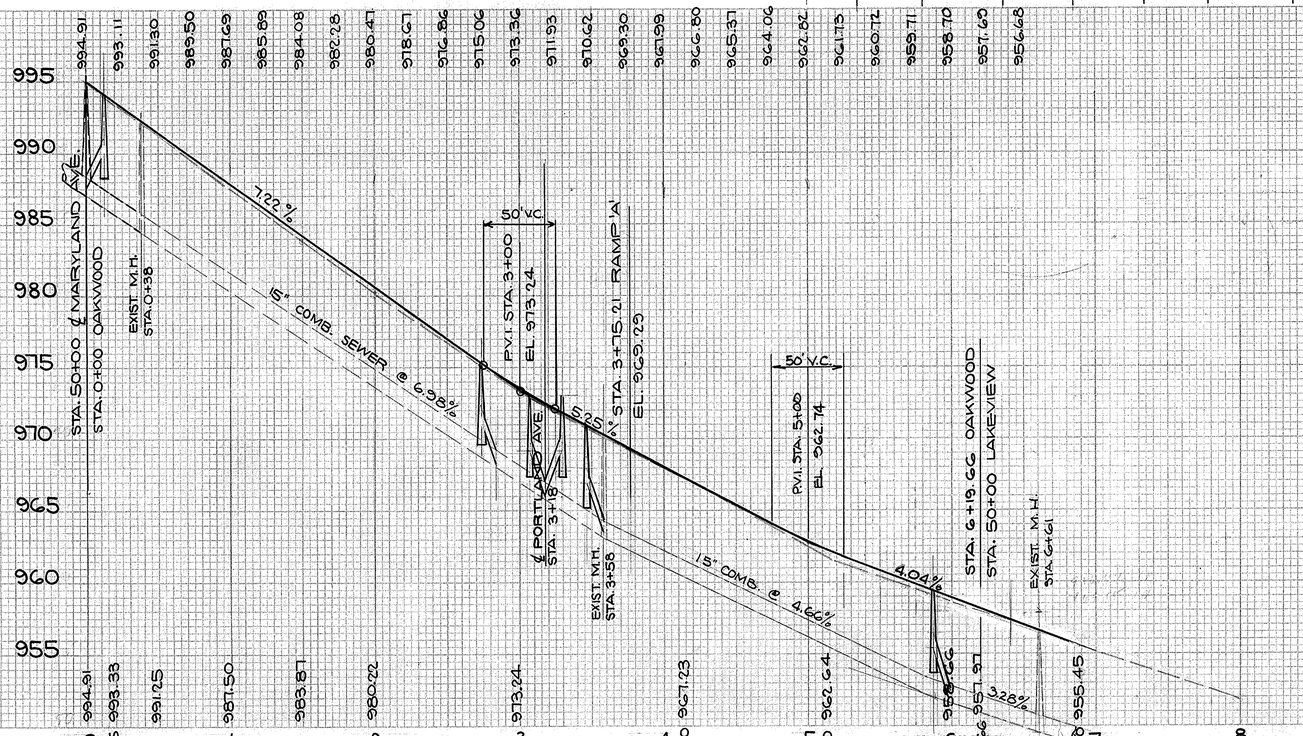
ITEM I-124 WATER VALVE BOXES ADJ. TO GR. (EA.)

CODE	STA.	LOCA.	TOP ELEV.	REMARKS
M-1	3+33	5'L OF ℄	971.43	MAIN LINE

DRIVEWAYS

TYPE	CODE	STATION	LOCA.	TYPE	LIMIT OF WORK REQ'D.	S.T-10 S.Y.	S.T-35 Y.	T-1 PCC DRIVEWAY APPROACH S.Y.
SINGLE	J-1	1+09	LT.	BR. RIBBON	45' FROM ℄	20		7
SINGLE	J-2	1+50	LT.	ASPHALT	35' FROM ℄		.75	7
SINGLE	J-3	1+97	LT.	CONC.	35' FROM ℄	9		7
SINGLE	J-4	2+48	LT.	ASPHALT	35' FROM ℄		.75	7
SINGLE	J-5	2+90	LT.	ASPHALT	35' FROM ℄		.75	7
SINGLE	J-6	3+40	LT.	ASPHALT	NONE REQ'D.			7
SINGLE	J-7	4+60	RT.	CONC.	35' FROM ℄	12		7

FB. 25, PG. 45-55
FB. 8, PG. 4-6



OAKWOOD AVE. IMPROVEMENT

SCALES: HOR. 1" = 50'
VER. 1" = 5'

PLATE 4—CROSS SECTION OF PAVEMENT
REMINGTON RAND CO., NEW YORK

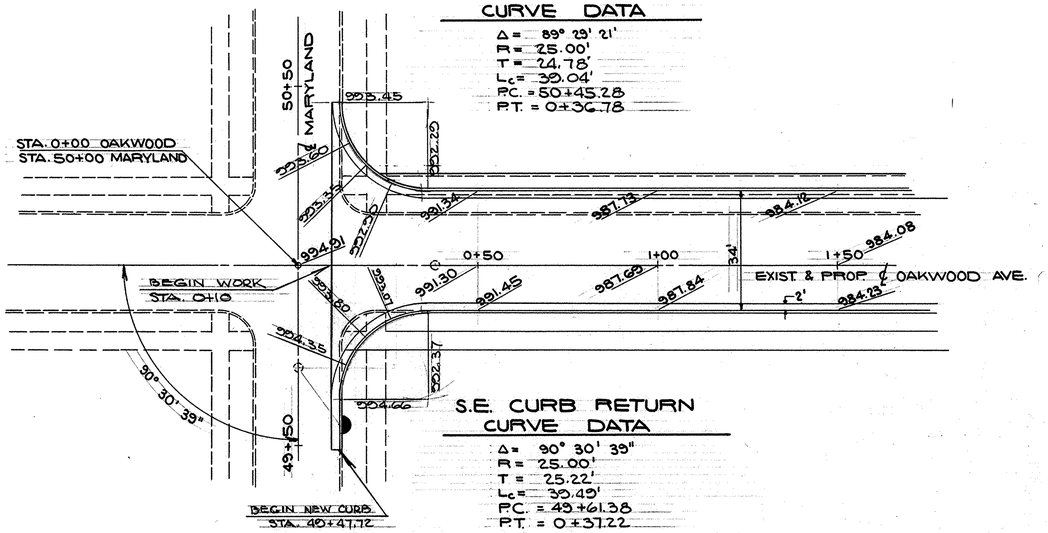
FED. RD	STATE	PROJECT	
2	OHIO		

228/492

MAH - 18 - 17.20

N.E. CURB RETURN CURVE DATA

Δ = 89° 29' 21"
R = 25.00'
T = 24.78'
L_c = 39.04'
P.C. = 50+45.28
P.T. = 0+36.78

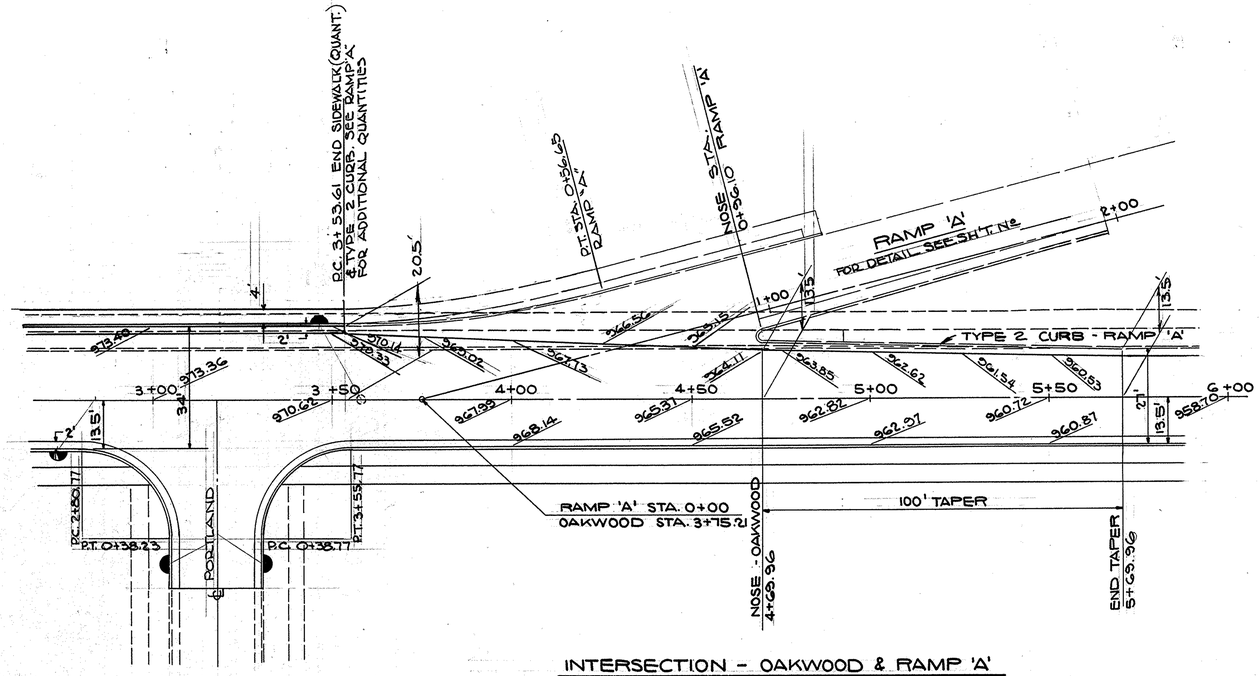


S.E. CURB RETURN CURVE DATA

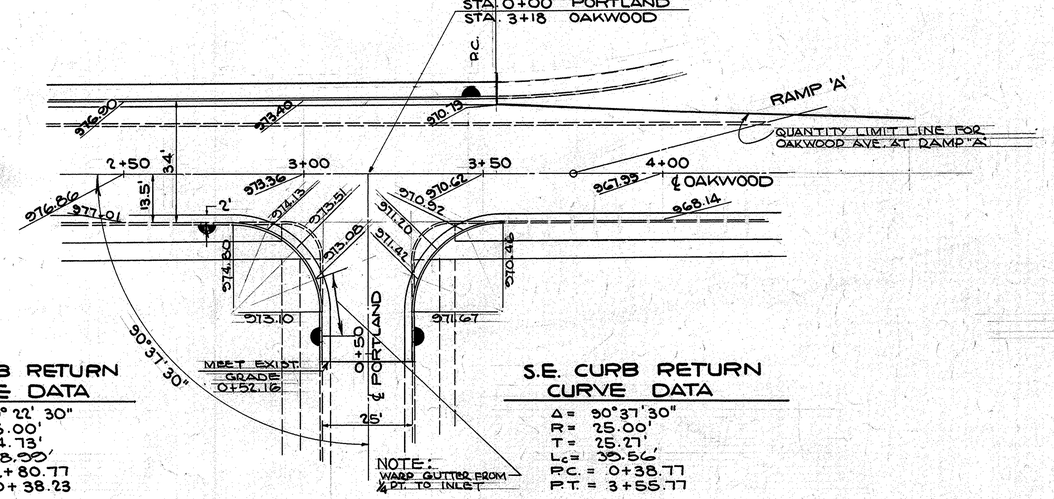
Δ = 90° 30' 39"
R = 25.00'
T = 25.22'
L_c = 39.49'
P.C. = 49+61.38
P.T. = 0+37.22

INTERSECTION - OAKWOOD & MARYLAND

NOTE: CURB RET. ELEVA'S. SHOWN ARE TOP OF CURB GRADES



INTERSECTION - OAKWOOD & RAMP 'A'



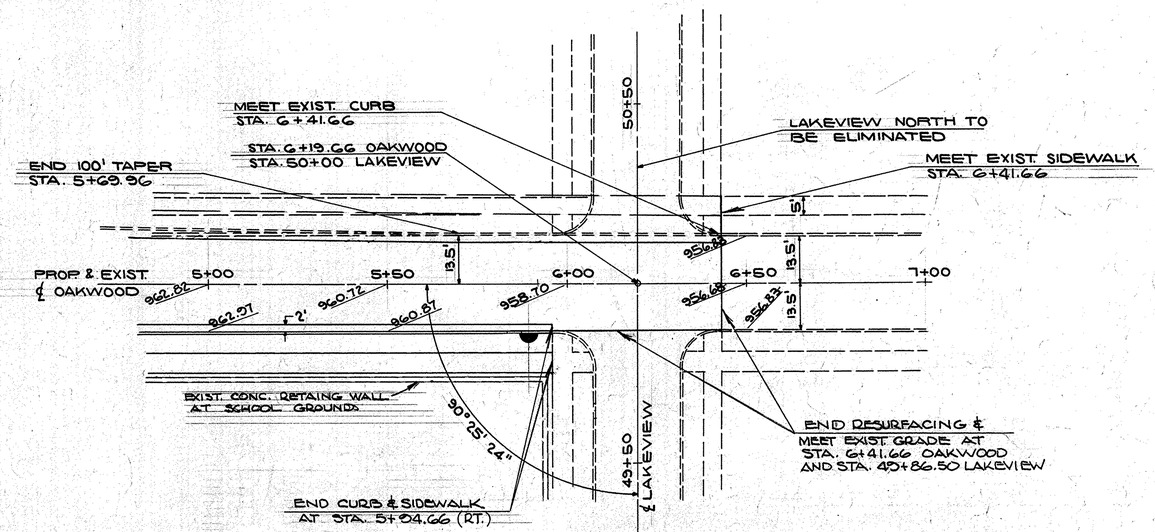
S.W. CURB RETURN CURVE DATA

Δ = 89° 22' 30"
R = 25.00'
T = 24.73'
L_c = 38.99'
P.C. = 2+80.77
P.T. = 0+38.23

S.E. CURB RETURN CURVE DATA

Δ = 90° 37' 30"
R = 25.00'
T = 25.27'
L_c = 39.56'
P.C. = 0+38.77
P.T. = 3+55.77

INTERSECTION - OAKWOOD & PORTLAND



INTERSECTION - OAKWOOD & LAKEVIEW

PAVEMENT DETAILS - OAKWOOD AVE.

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

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

SEEDING	
END WIDTH	SQ. YDS.
7	78
7	35
7	50
11	50
7	22
7	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		14.1	0.2
15.0	0.3		
		57.6	1.3
16.2	0.4		
		29.7	0.8
15.8	0.4		
		32.1	0.4
18.8	0.0		
		32.4	
16.2			
		15.6	
21.0			
		8.4	
0.0			

W.A. REQ'D

DRIVEWAY @ 2+30

973.36

974

972

3+00

(973.24)

W.A. REQ'D

DRIVEWAY @ 1+97

1:1

980.47

982

980

2+00

(980.22)

W.A. REQ'D

DRIVEWAY @ 1+50

984.08

984

982

1+50

(983.87)

W.A. REQ'D

DRIVEWAY @ 1+05

987.69

990

988

986

1+00

(987.50)

991.30

992

990

0+50

(991.25)

993.36

994

992

0+21.5

(993.29)

℄ 5' N. SWK. ON MARYLAND

994.31

994

992

0+00

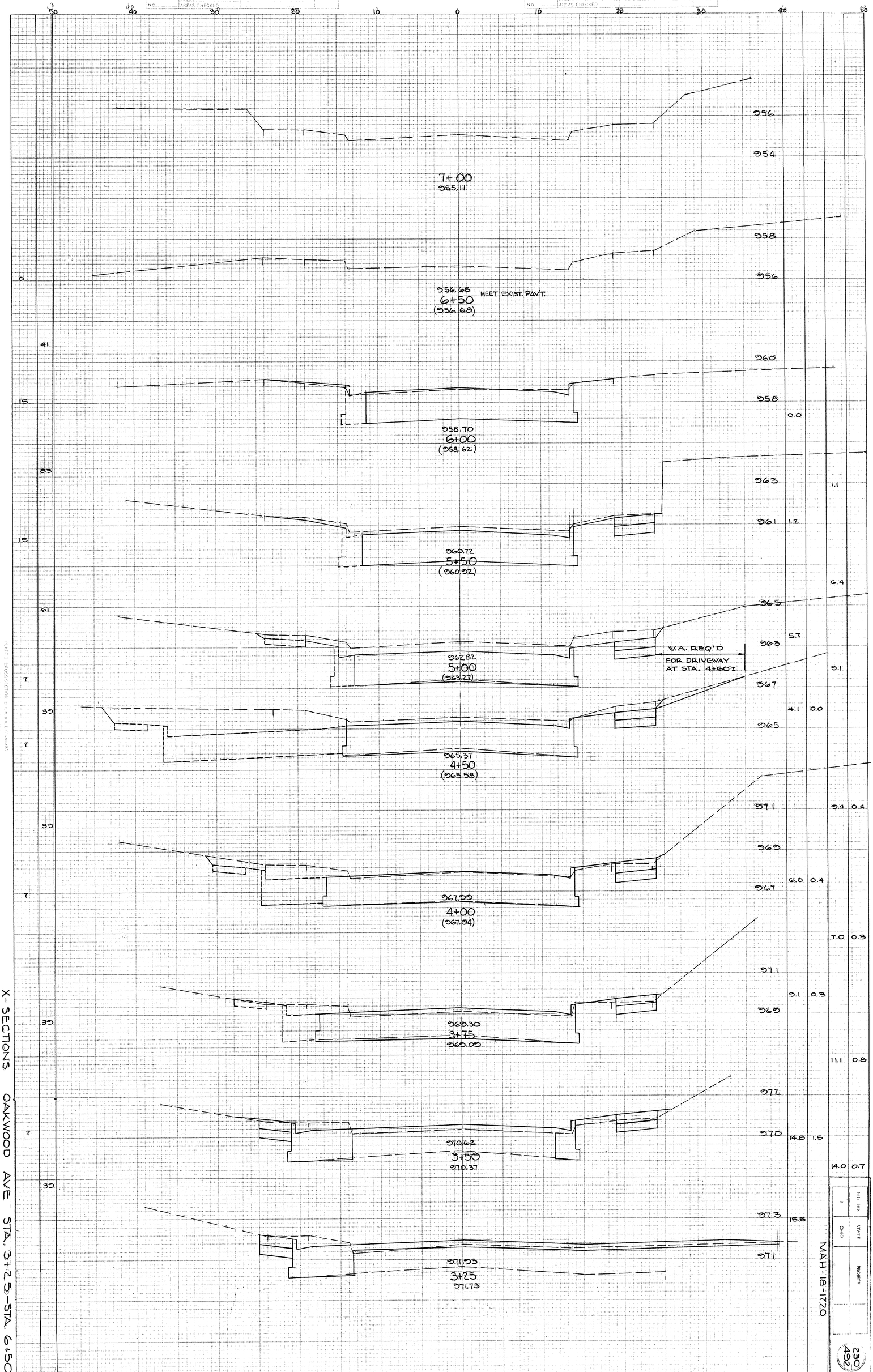
℄ OAKWOOD & MARYLAND

50 40 30 20 10 ℄ 10 20 30 40

X - SECTIONS OAKWOOD AVE. STA. 0+00 - STA. 3+00

2	FED. RD.
OHIO	STATE
	PROJECT
	MAH-18-17.20

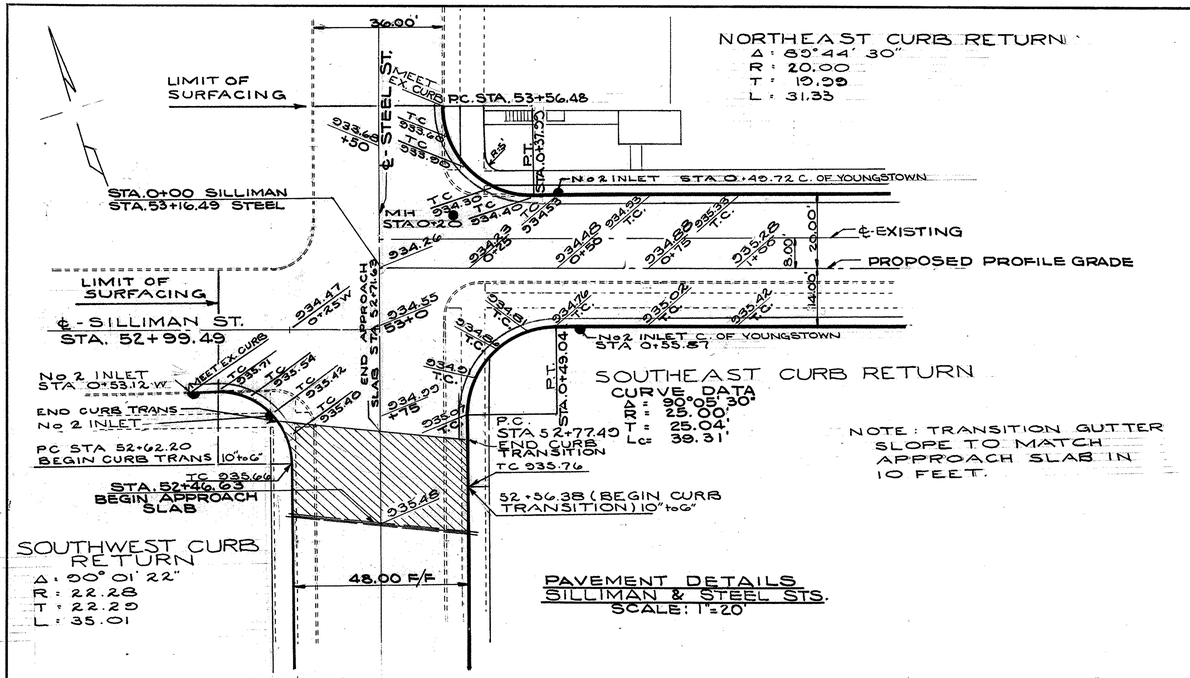
229
492

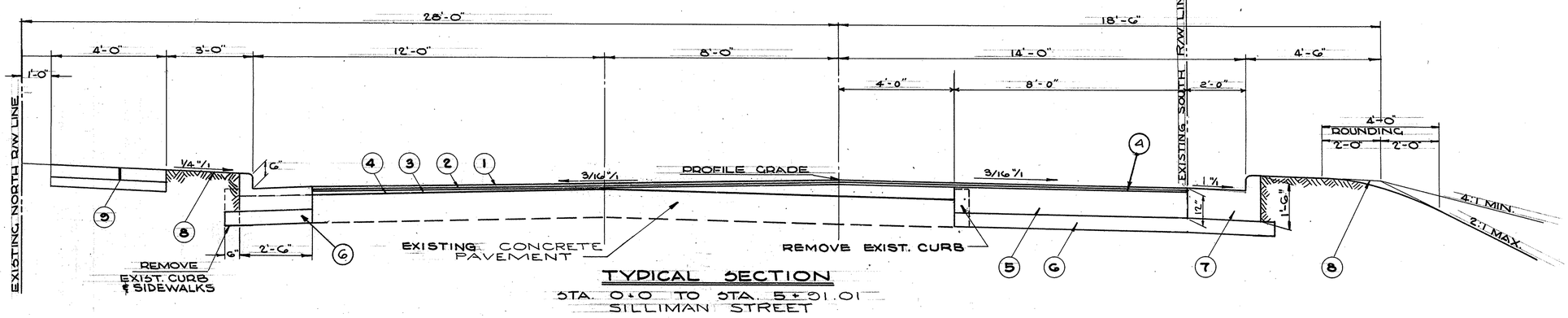

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
50 40 30 20 10 0 10 20 30 40 50
7+00
955.11
956
954
958
956
956.68
6+50
(956.68)
MEET EXIST. PAV'T.
960
958
0.0
958.70
6+00
(958.62)
963
961
1.1
1.2
960.72
5+50
(960.02)
965
963
6.4
5.7
962.82
5+00
(963.27)
V.A. REQ'D
FOR DRIVEWAY
AT STA. 4+60±
967
965
9.1
4.1
0.0
965.37
4+50
(965.58)
971
969
9.4
0.4
6.0
0.4
967.00
4+00
(967.04)
971
969
7.0
0.3
9.1
0.3
969.30
3+75
969.09
972
970
11.1
0.8
14.8
1.6
970.62
3+50
970.37
973
971
14.0
0.7
15.5
971.23
3+25
971.73
X-SECTIONS
OAKWOOD AVE
STA. 3+25 - STA. 6+50
MAH-18-1720
STATE
PROJECT
230
492

FED. RD.	STATE	PROJECT	
2	OHIO		

231
492

MAH-18-17.20





TYPICAL SECTION
STA. 0+0 TO STA. 5+91.01
SILLIMAN STREET

(1) 1" T-35 ASPHALTIC CONCRETE SURFACE COURSE TYPE "C" (70-85)
(2) 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE (70-85)
(3) B-35 ASPHALTIC CONCRETE PRELEVELING COURSE VARIABLE THICKNESS (70-85)
(4) T-30 BITUMINOUS TACK COAT 0.10 GAL. PER SQ. YD.
(5) 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE
(6) 6" I-22 SUBBASE
(7) I-12 COMBINED CURB & GUTTER TYPE 2
(8) L-9 SEEDING & PROTECTING
(9) 5" I-13 CONCRETE SIDEWALK- INCLUDING 5" CINDER SUBBASE

SILLIMAN STREET

B.M. #122 ELEV. 938.21
TOP BOLT FIRE HYDRANT
S.E. CORNER STEEL ST.
& SILLIMAN ST.

NOTE: FIRE HYDT. ON S.E. COR. SILLIMAN & STEEL TO BE MOVED & RESET ON THE N.E. COR. (LOCA. TO BE DETERMINED IN THE FIELD BY THE ENGR.)

B.M. #3 ELEV. 926.79
TOP BOLT-FIRE HYDRANT
14.0' LT. - STA. 6+03.5

STEEL ST. 60'

FOR INTERSECTION DETAIL SEE SHEET No 231

12'C.I.P. CONC. RETAINING WALL

LIMIT OF SURFACING

STA. 0+00.00
SEE SH No 234

ONE STY. BRICK BLDG.

TWO ST'Y. FR. HO.

TWO ST'Y. BRICK HO.

TWO ST'Y. FR. APART

6784 6788 15349 15350 15351 15352 15353 15354 6789 6790 6791 11781

NOTE: INLETS & LEADS & SEWER TO BE INCLUDED IN RAMP "C" QUANTITIES SHEET No

6" WATER LINE
2" GAS
EXIST. NORTH R/W

1+0 EXISTING ℄ 2+0 3+0 PROPOSED ℄ 4+0 5+0

STA. 6+34.41 SILLIMAN ST. = STA. 0+00.00 RAMP "C"

END WORK
STA. 5+91.01

O.L. 595

SILLIMAN ST. 40'

HEDGE ROW

I.P. 64.75

℄ SILLIMAN 81.0'

EXIST. ℄
NEW ℄

R=55.79

TACKED HUB ALONG FENCE

TACKED HUB @ W. END OF WALL

STA. 6+34.41

6787 6786 6785 6782 6781 6780 6779 6778 6777 11782 42446 42447 42448 42449

STA. 929+98.87 ℄ EXPRESSWAY & STEEL ST.

931 932 933 934 935 936 937 EXPRESSWAY ℄

MAINLINE STA. 937+92.11
RAMP "C" STA. 2+98.99

RAMP "C"

REMOVAL OF EXISTING CURB (L.F.)					
CODE	ITEM	FROM STA	TO STA.	LOC.	QUAN.
A-1	E-8	53+61.38	5+91.01	NORTH	503.60
A-2	E-8	APPROACH SLAB	5+91.01	SOUTH	611.89
A-3	E-8	APPROACH SLAB	0+49.29W	SOUTH	35.00

REMOVAL OF EXISTING SIDEWALK					
CODE	ITEM	FROM STA	TO STA	LOC	QUAN
B-1	E-8	0+23	5+91.01	NORTH	2272 S.F.
B-2	E-8	53+39	53+61.38	EAST	905 S.F.
B-3	E-8	0+23	5+91.01	SOUTH	2272 S.F.
B-4	E-8	APP. SLAB	53+00	EAST	1605 S.F.

INLETS ABANDONED				
CODE	ITEM	STA.	LOC.	REMARKS
I.F-1	I-16	0+27	SOUTH	PLUG LEAD

ADJUSTED GRADE - EXISTING M.H.'s			
CODE	ITEM	STA	ADJ. EL.
E-1	I-8	0+72	934.71
E-2	I-8	4+41	931.75

PROPOSED INLETS & M.H.'s						
CODE	ITEM	TYPE	STA	LOC.	WINDOW	INV.
D-1	I-8	YOUNG-2	0+53.12W	SOUTH	935.20	930.20
D-2	I-8	YOUNG-2	1/2 PT	WEST	934.70	929.70
D-3	I-8	YOUNG-2	0+55.87E	SOUTH	934.02	929.02
D-4	I-8	YOUNG-2	0+49.72E	NORTH	933.79	928.79
D-5	I-8	YOUNG-1	4+10.00E	SOUTH	932.06	928.75
D-6	I-8	YOUNG-1	4+10.00E	NORTH	931.99	928.68
D-7	I-8	No 1 M.H.	4+15	9' RT.		
D-8	I-8	No 1 M.H.	0+20	15' LT.		

REMOVAL AND DISPOSAL OF EXISTING WEARING COURSE-STEEL ST.					
CODE	ITEM	STA	TO STA	LOC.	QUANT.
K-1	E-8	52+80	53+10	15' L & R	100 SY

DRIVEWAYS				APPROACHES		
CODE	ITEM	MAT	QUANT.	ITEM	MAT	QUANT.
J-1	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-2	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-3	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-4	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-5	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-6	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-7	T-70	5" PCC	111 SY	T-71	5" PCC	76 SY
J-8	B-18		1.00 EA	T-71	5" PCC	76 SY

CONCRETE CURB & GUTTER (L.F.)							
CODE	ITEM	FROM STA	TO STA	LOC	QUAN.	TYPE	REMARKS
G-1	I-12	53+61.38	5+91.01	NORTH	520	2	
G-2	I-12	APP SLAB	5+91.01	SOUTH	520	2	
G-4	I-12	APP SLAB	0+46.29W	WEST	10	2	

I-124 FIRE HYDRANTS REMOVE & RESET		
CODE	STA.	QUANTITY
H-1	0+20	1

(SF) CONCRETE SIDEWALK				
CODE	ITEM	FROM	TO	SF
H-1	I-13	53+61.38	5+91.01	1762

I-2 STORM SEWER-UNDER PAV'T AND APPROACHES (MG.8(b))			
CODE	ITEM	TYPE	QUANT.
C-1	I-2	12"	174 LF
C-2	I-2	12"	38 LF
C-3	I-2	12"	32 LF
C-4	I-2	10"	35 LF
C-5	I-2	10"	25 LF
C-6	I-2	12"	28 LF
C-7	I-2	12"	5 LF

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

232
492

F.B. 22 PGS. 5-15
F.B. 14 PGS. 130-134
F.B. 4 PGS. 39

27'
EXISTING BRICK CURB & GUTTER
SECTION CONCRETE

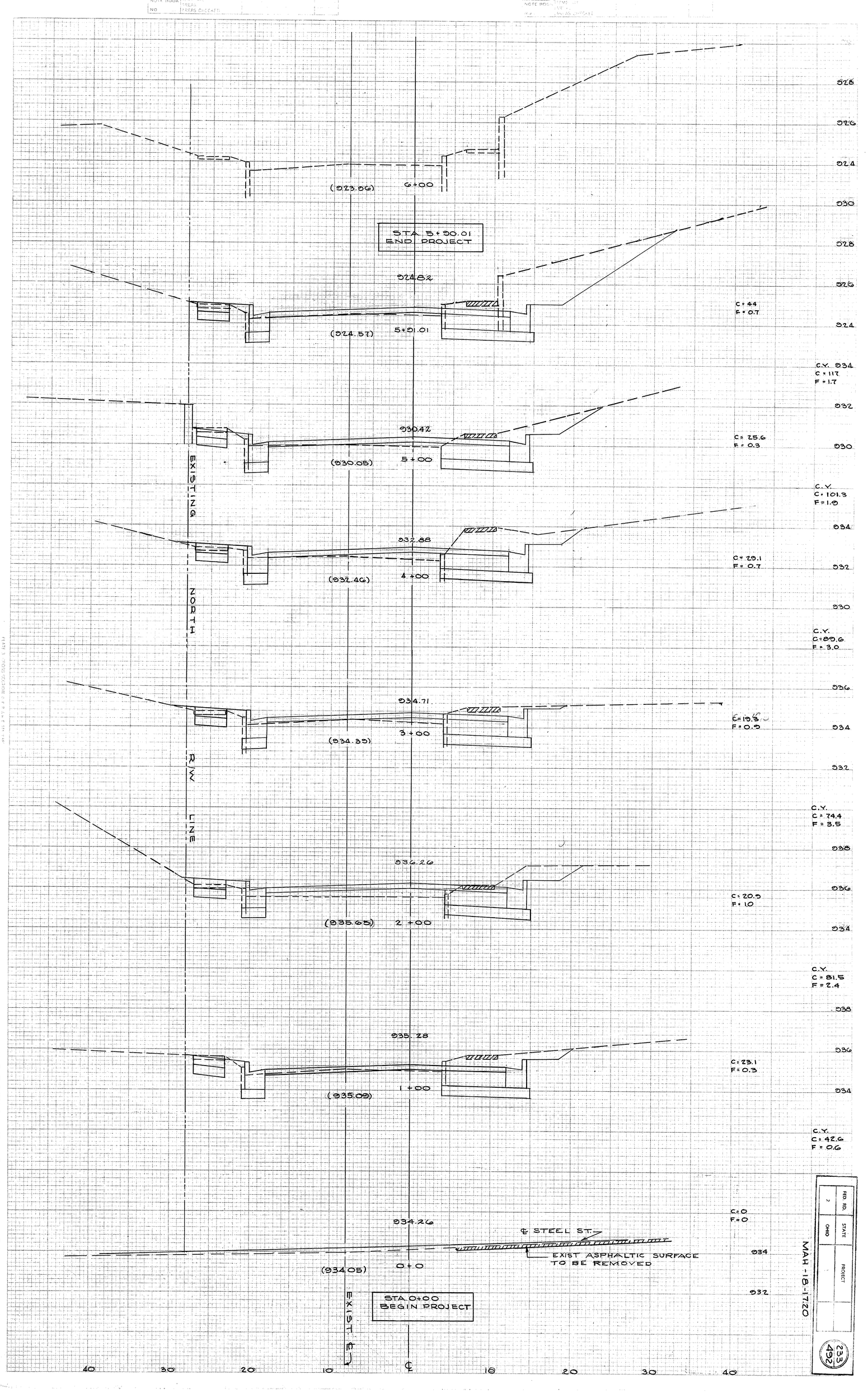
C2 INV @ MH = 929.20
C3 INV @ MH = 928.70
EX. M.H. — STA. 0+00 ℄ STEEL ST. — BEGIN PROJECT
-0.72%
PVI STA 0+25.00
ELEV. 934.08
934.24 934.23 934.48
50' V.C.
℄ 928.64
M.H. STA. 0+12
INV. 925.12
TOP 934.00
NOTE: CONSTRUCT THIS M.H. TO MEET EXISTING SEWER
934.23 935.09 935.68 935.65 935.32 934.39 933.43 932.46 931.48 930.05 927.21 923.96 921.99
EXIST. 12" COMBINATION SEWER @ 1.15%
INV @ MH = 928.00
INV @ MH = 927.66
EXIST. 15" COMBINATION SEWER @ 4.56%
12" I.P. @ 3.50% FOR 210.6'
PROPOSED GRADE RAMP "C"
935.28 933.72 932.82 931.34 930.42 929.18 924.82
EVC STA 1+40
ELEV. 935.52
PVI STA 1+90.00
ELEV. 936.72
PVT STA 2+40
ELEV. 935.80
934.24 936.06 936.27 936.25 936.26 936.04 935.62
50' V.C.
EVC STA 4+15
ELEV. 932.26
MH STA 4+15
INV. 932.26
TOPEL. 932.26
EVC STA 4+50
ELEV. 931.82
100' V.C.
PVI STA 5+00.00
ELEV. 931.55
PVT STA 5+50
ELEV. 929.18
STA. 5+91.01 END SILLIMAN ST. BEGIN RAMP "C"
TOP ELEV. 923.62
MH STA. 6+12.62
INV. 918.78 S.E.
INV. 918.78 N.E.
STA. 6+34.41 SILLIMAN ST. = STA. 0+00.00 RAMP "C"
+34.41
940 935 930 925 920 915
0+0 +20 1+0 2+0 3+0 4+0 5+0 6+0

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

SILLIMAN ST. - STEEL ST. TO ANGLE PT.

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

ORIGINAL SURVEY — SURVEYED, REVISED, NOTE BOOK, NO., BY, DATE



X-SECTIONS SILLIMAN ST. 0+0 TO 5+90.41

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

234
432

MILL CREEK

NOTE: FOR MARSHALL-GLENWOOD INTERSECTION DETAIL SEE SH. No 252

NOTE: FOR ORANGE-GLENWOOD INTERSECTION DETAIL & ITEMS OF WORK TO BE PERFORMED IN THIS AREA SEE SHT. No 235

℄ MAH-18-17.20 STA. 969+31.38
℄ GLENWOOD STA 50+00

MEET EXIST. PAVE. & SIDEWALKS

50+82.74

℄-GLENWOOD AVE.

DAM

45 45 51 35 18' 19'

See Structure Sht. No. 382 for additional Data

℄-ORANGE AVE. STA. 48+14.44

℄-EXPRESSWAY STA. 50+00

EXIST. ℄ MARSHALL ST. STA. 51+40.13

24' - ORANGE ST.
40' - GLENWOOD AVE

BITUMINOUS WEARING SURFACE
BRICK
CONCRETE

EXISTING TYPICAL SECTION
ORANGE ST. & GLENWOOD AVE.

T. HUB BESIDE P. POLE N. OF SINCLAIR STA.

T. HUB S.E. COR. PORCH DAIRY STORE

23.2' ℄ OAKWOOD 45.85'

℄ STEEL ST.

8.45'

IRON PIN N.W. CORNER CHURCH

℄ OAKWOOD

REMOVE EXISTING WEARING COURSE & RESURFACE WITH 2" I.T.-35 ASPH. CONC. SURF. COURSE TYPE A I.T.-35

BEGIN WORK STA. 49+58.53

A-1 B-1 H-1 K-1 G-1 B-3 A-3 K-2 K-3 B-2 A-2 H-2 G-2

END WORK STA. 0+89

STA. 50+00 STEEL ST. ℄ = STA. 0+00 OAKWOOD ℄

65' 15' 25' 50'

9" B-70
2" B-35
1-35

APPROACH SLAB ℄ STEEL ST.

SEE STRUCTURE SHT. No 332 FOR ADDITIONAL DATA

END APPROACH SLAB STA. 50+35.11

STA. 50+58.53 END WORK

℄-OAKWOOD AVE. STA. 50+00

84° 27' 46"

℄-SILLIMAN ST. STA. 52+99.49

SILLIMAN (W.)

T. HUB N. EDGE WALK N. OF GUY ANCHOR

52.06'

7.30'

IRON PIN AT E. END CURB FOR PARKING LOT

STEEL

24.88

PUNCH MARK ON R.R. SPIKE

SILLIMAN (E.)

6.15'

T. HUB S.W. COR. O-H GRILL

FOR INTERSECTION DETAILS SEE SHEET No 231

48+00 50+00 51+00 52+00 53+00

48' FF 8'

℄-STEEL ST.

MICROFILMED SEP 19 1985

FOR UTILITY RELOCATION SEE SHEET No 84

FOR SILLIMAN ST. DETAILS SEE SHEET No 232

EXPRESSWAY STA. 52+08.87 "
STEEL STREET STA. 51+44.37

℄-EXPRESSWAY STA. 51+44.37

B.M. # 12.2 TOP BOLT HYDT. S.E. CORNER STEEL ST. AND SILLIMAN ST. ELEV. 936.21

PROPOSED ℄ 14' 20'

℄-SILLIMAN ST. STA. 53+24.46

36'
BIT. WEARING COURSE
BRICK
CONCRETE
STONE CURB

EXIST. STEEL ST.

ITEM E-8 REMOVAL & STORAGE OF EXIST. CURB (L.F.)

CODE	FROM	TO	QUAN.	REMARKS
A-1	0+37	0+89	52	ON OAKWOOD
A-2	49+58.53	52+70	311	STEEL ST.
A-3	0+37 OAKW.	52+72	267	STEEL ST.

ITEM E-8 REMOVAL OF EXIST. SIDEWALK (S.FT.)

CODE	FROM	TO	QUAN.	REMARKS
B-1	0+30	0+89	354	ON OAKWOOD
B-2	49+58.53	52+70	1500	STEEL ST.
B-3	50+15	52+73	1290	STEEL ST.

ITEM I-12 TYPE 6 CONC. CURB REPLACEMENT (L.F.)

CODE	FROM	TO	QUAN.	REMARKS
G-1	0+37	0+89	53	OAKWOOD
G-2	49+58.53	50+08.53	50	STEEL ST.

ITEM I-13 CONC. SIDEWALK REPLACEMENT (S.F.)

CODE	FROM	TO	QUAN.	REMARKS
H-1	0+37	0+89	312	OAKWOOD
H-2	49+58.53	50+18.53	300	STEEL ST.

ITEM E-8 REMOVAL & DISP. OF EXIST. PAVEMENT (S.Y.)

CODE	FROM	TO	QUAN.	REMARKS
K-1	0+18	0+89	68	5" WEARING COURSE
K-2	49+58.53	50+10.11	69	5" WEARING COURSE
K-3	50+10.11	52+71.68	349	FULL DEPTH

GLENWOOD AVE. CROSSING

928.22 927.21 925.53 924.74 923.08 922.50 922.32

P.C. STA. 47+61.07 EL. 930.77

BEGIN WORK ℄ ORANGE AVE. STA. 48+14.44 EL. 927.27

P.V.C. STA. 48+50 EL. 924.94

100' V.C.

P.V.I. STA. 49+00 EL. 921.42

P.V.T. STA. 49+50 EL. 917.87

℄-EXPRESSWAY - STA. 50+00

7.16%

P.V.C. STA. 51+00

43' 6" V.C.

P.V.I. STA. 51+21.33 EL. 904.85

P.V.T. STA. 51+43.66

2.00%

END CONSTRUCTION STA. 51+96.36 EL. 898.32

930 925 920 915 910 905 900 895 890 885

48+00 49+00 50+00 51+00 52+00

STEEL ST. CROSSING

END WORK ℄ STA. 50+10.11

MEET EXIST. STEEL ST. STA. 49+70.81 EL. 940.75

℄ OAKWOOD AVE. STA. 50+00

℄ EXPRESSWAY STA. 51+44.37 EL. 937.16

℄-SILLIMAN ST.-WEST EL. 934.56

7.14%

℄-PROP. SILLIMAN ST. STA. 53+16.49 EL. 934.29

EXIST. ℄ SILLIMAN ST. EAST EL. 934.12

930.90 938.03 936.29 935.42 934.55

950 945 940 935 930 925 920 915 910 905

49+00 50+00 51+00 52+00 53+00

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
NOTE BOOK
NO.
BY
DATE
STRUCTURE NO. & PATHS CHKD

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
NOTE BOOK
NO.
BY
DATE
R.P. OR MAT CHECKED

Printed in U.S.A. On DIETZGEN DRAFTEX MOISTURE PROOF Cloth

PLAN-PROFILE GLENWOOD AVE.

PLATE 1. PLAN-PROFILE B.P.R. STANDARD
EUGENE DIETZGEN CO. CHICAGO - N.Y. YORK

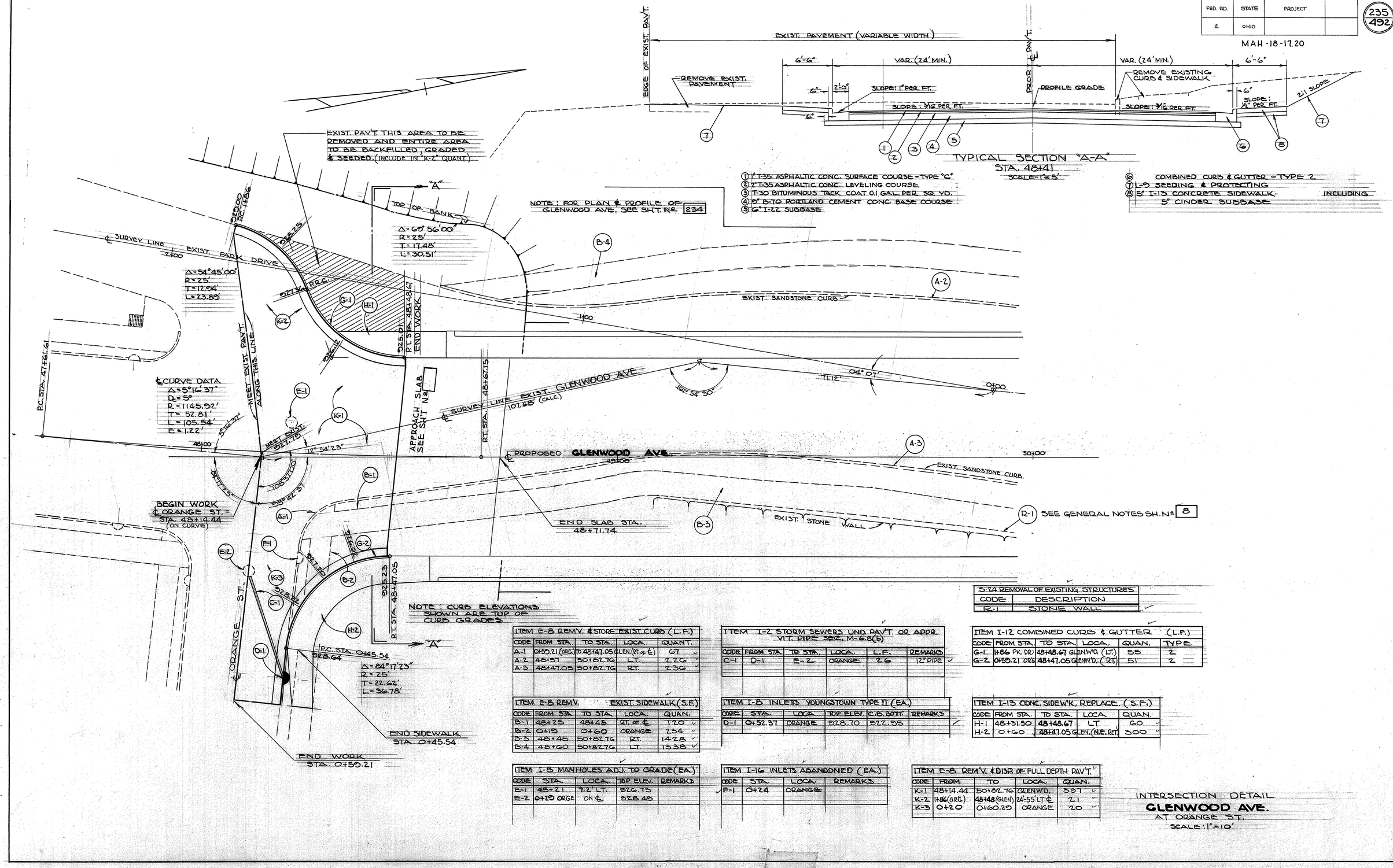
PLAN-PROFILE STEEL ST.

Printed in U.S.A. On DIETZGEN DRAFTEX MOISTURE PROOF Cloth

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

235
492



5:24 REMOVAL OF EXISTING STRUCTURES	
CODE	DESCRIPTION
R-1	STONE WALL

ITEM E-8 REM'V. & STORE EXIST. CURB (L.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUANT.
A-1	0+50.21 (ORG.)	TO 48+47.05 GLEN. (℄ op ℄)	GT	
A-2	48+57	50+87.76	LT.	226
A-3	48+47.05	50+87.76	RT.	236

ITEM E-8 REM'V. EXIST. SIDEWALK (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-1	48+25	48+45	RT. of ℄	170
B-2	0+19	0+60	ORANGE	234
B-3	48+45	50+87.76	RT.	1428
B-4	48+60	50+87.76	LT.	1338

ITEM I-8 MANHOLES ADJ. TO GRADE (EA.)

CODE	STA.	LOCA.	TOP ELEV.	REMARKS
E-1	48+21	11.2' LT.	926.75	
E-2	0+20 ORG.	ON ℄	928.45	

ITEM I-2 STORM SEWERS UND. PAV'T. OR APPR. VIT. PIPE SEC. M-6.8(b)

CODE	FROM STA.	TO STA.	LOCA.	L.F.	REMARKS
C-1	D-1	E-2	ORANGE	26	12" PIPE

ITEM I-8 INLETS YOUNGSTOWN TYPE II (EA.)

CODE	STA.	LOCA.	TOP ELEV.	C.B. BOTT.	REMARKS
D-1	0+52.37	ORANGE	928.70	922.95	

ITEM I-16 INLETS ABANDONED (EA.)

CODE	STA.	LOCA.	REMARKS
F-1	0+24	ORANGE	

ITEM I-12 COMBINED CURB & GUTTER (L.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.	TYPE
G-1	1+86 PK. DR.	48+48.67	GLENW'D. (LT.)	55	2
G-2	0+50.21 ORG.	48+47.05	GLENW'D. (RT.)	51	2

ITEM I-13 CONC. SIDEW'K. REPLACE. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-1	48+31.50	48+48.67	LT	60
H-2	0+60	48+47.05	GLEN. (N.E. RT)	300

ITEM E-8 REM'V. & DISP. OF FULL DEPTH PAV'T.

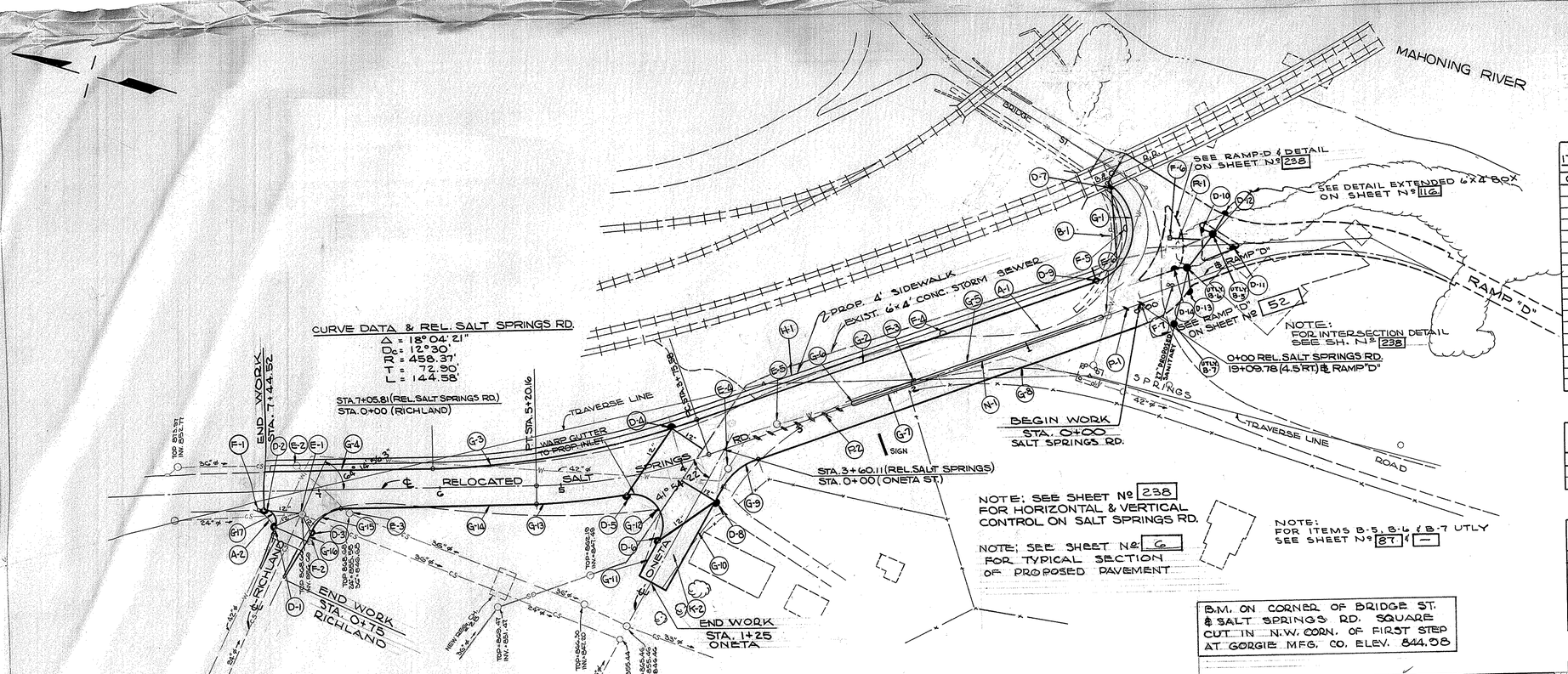
CODE	FROM	TO	LOCA.	QUAN.
K-1	48+14.44	50+87.76	GLENW'D.	397
K-2	1+86 (ORG.)	48+48 (GLEN)	24'-55' LT ℄	21
K-3	0+20	0+60.25	ORANGE	20

INTERSECTION DETAIL
GLENWOOD AVE.
AT ORANGE ST.
SCALE: 1"=10'

FED. RD	STATE	PROJECT	
2	OHIO		

MAH - 18 - 17.20

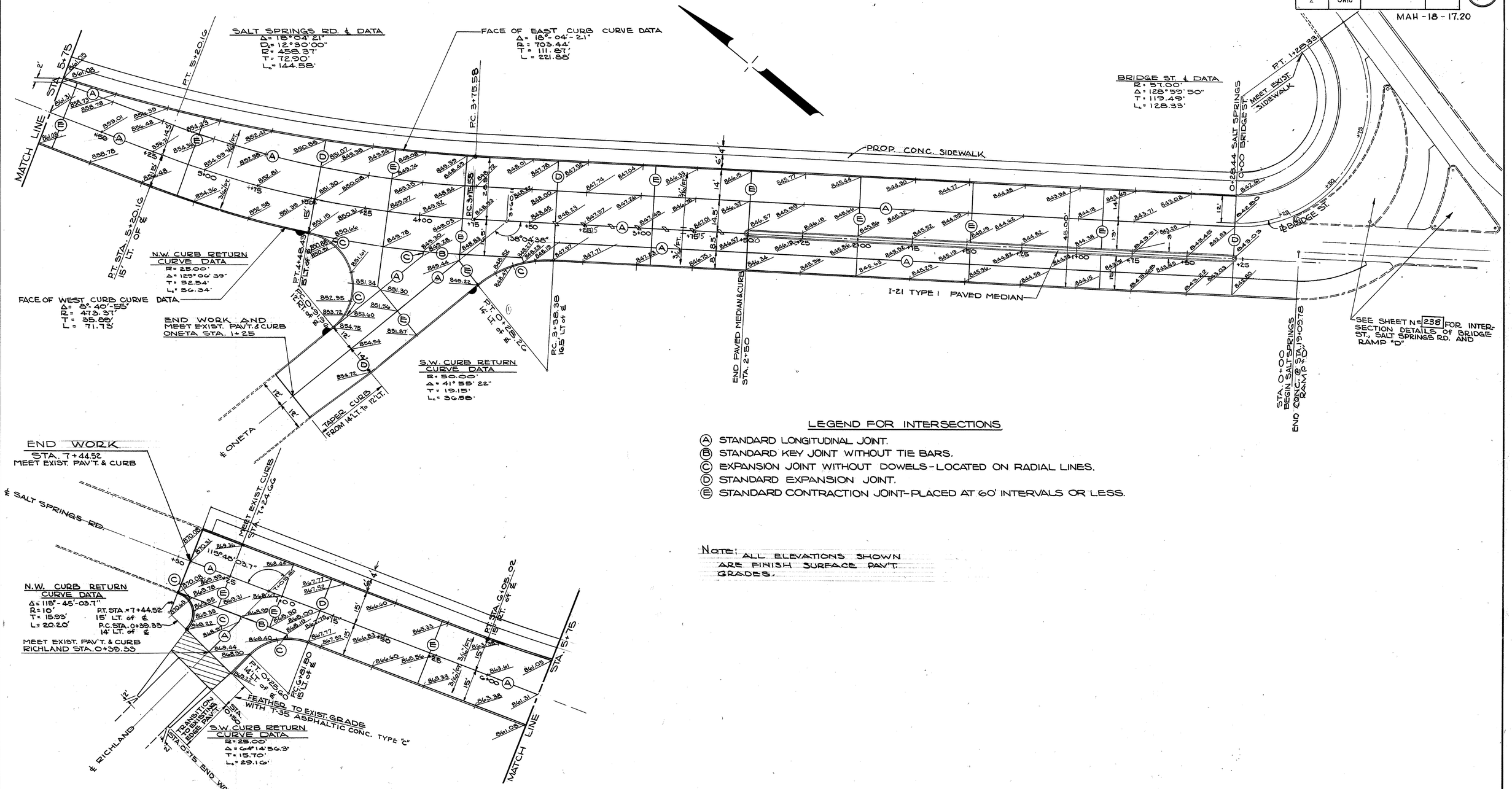
236
492


MAHONING RIVER
Bridge St.
SEE RAMP "D" & DETAIL ON SHEET Nº 238
SEE DETAIL EXTENDED 6'x4' BOX ON SHEET Nº 116
RAMP "D"
NOTE: FOR INTERSECTION DETAIL SEE SH. Nº 238
SEE RAMP "D" ON SHEET Nº 52
0+00 REL. SALT SPRINGS RD. 19+09.78 (4.5' RT) & RAMP "D"
CURVE DATA & REL. SALT SPRINGS RD.
Δ = 18°04'21"
D = 12°30'
R = 458.37'
T = 72.90'
L = 144.58'
STA. 7+05.81 (REL. SALT SPRINGS RD.)
STA. 0+00 (RICHLAND)
END WORK STA. 7+44.52
BEGIN WORK STA. 0+00 SALT SPRINGS RD.
STA. 5+20.16
TRAVERSE LINE
WARP GUTTER TO PROP. INLET
RELOCATED SALT SPRINGS RD.
2-PROP. 4' SIDEWALK
EXIST. 6'x4' CONC. STORM SEWER
STA. 3+60.11 (REL. SALT SPRINGS) STA. 0+00 (ONETA ST.)
SIGN
NOTE: SEE SHEET Nº 238 FOR HORIZONTAL & VERTICAL CONTROL ON SALT SPRINGS RD.
NOTE: SEE SHEET Nº 6 FOR TYPICAL SECTION OF PROPOSED PAVEMENT
NOTE: FOR ITEMS B-5, B-6 & B-7 UTLY SEE SHEET Nº 87 & —
B.M. ON CORNER OF BRIDGE ST. & SALT SPRINGS RD. SQUARE CUT IN N.W. CORN. OF FIRST STEP AT GORGIE MFG. CO. ELEV. 844.58
END WORK STA. 0+75 RICHLAND
END WORK STA. 1+25 ONETA
TRAVERSE LINE
ROAD
5 SPRINGS
RICHLAND
ONETA
NEW MANHOLE
TOP-855.88 INV.-847.08
TOP-855.69 INV.-847.19
TOP-855.50 INV.-847.30
TOP-855.41 INV.-847.41
TOP-855.22 INV.-847.52
TOP-855.03 INV.-847.63
TOP-854.84 INV.-847.74
TOP-854.65 INV.-847.85
TOP-854.46 INV.-847.96
TOP-854.27 INV.-848.07
TOP-854.08 INV.-848.18
TOP-853.89 INV.-848.29
TOP-853.70 INV.-848.40
TOP-853.51 INV.-848.51
TOP-853.32 INV.-848.62
TOP-853.13 INV.-848.73
TOP-852.94 INV.-848.84
TOP-852.75 INV.-848.95
TOP-852.56 INV.-849.06
TOP-852.37 INV.-849.17
TOP-852.18 INV.-849.28
TOP-851.99 INV.-849.39
TOP-851.80

FED. RD.	STATE	PROJECT	
2	OHIO		

237
492

MAH - 18 - 17.20



LEGEND FOR INTERSECTIONS

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS - LOCATED ON RADIAL LINES.
- (D) STANDARD EXPANSION JOINT.
- (E) STANDARD CONTRACTION JOINT - PLACED AT 60' INTERVALS OR LESS.

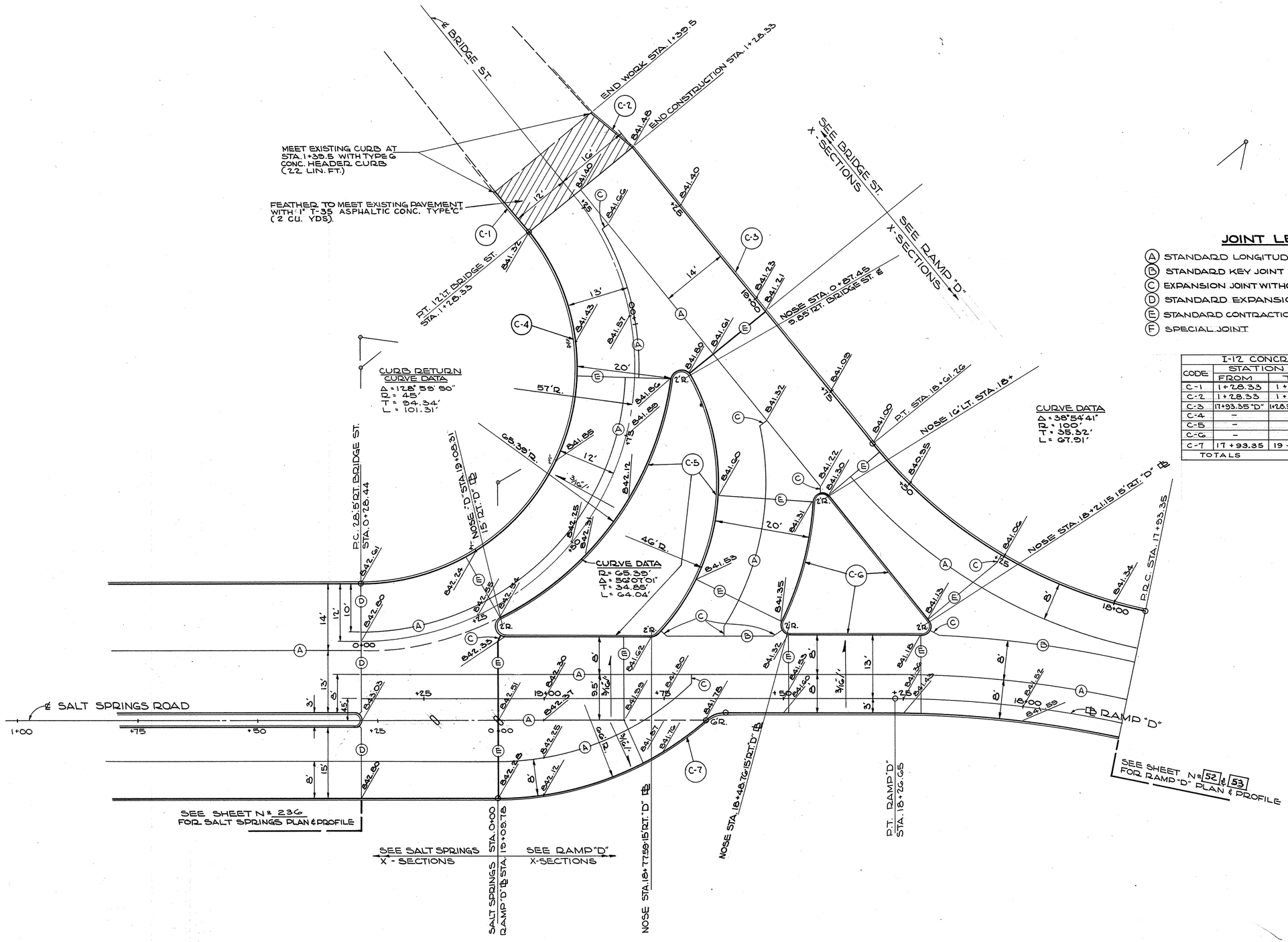
NOTE: ALL ELEVATIONS SHOWN ARE FINISH SURFACE PAV'T. GRADES.

SCALE: 1" = 20'-0"

INTERSECTION DETAILS ~ SALT SPRINGS

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20



JOINT LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS - LOCATED ON RADIAL LINES
- (D) STANDARD EXPANSION JOINT
- (E) STANDARD CONTRACTION JOINT - PLACED AT 60' INTERVALS OR LESS
- (F) SPECIAL JOINT

I-12 CONCRETE CURB

CODE	STATION FROM	STATION TO	TYPE G	TYPE 2-A
C-1	1+28.33	1+39.50	11 ⌐	
C-2	1+28.33	1+39.50	11 ⌐	
C-3	17+93.35 "D"	1+28.33 BRIDGE		148 ⌐
C-4	–	–		102 ⌐
C-5	–	–		166 ⌐
C-6	–	–		100 ⌐
C-7	17+93.35	19+09.78		135
TOTALS			22	651

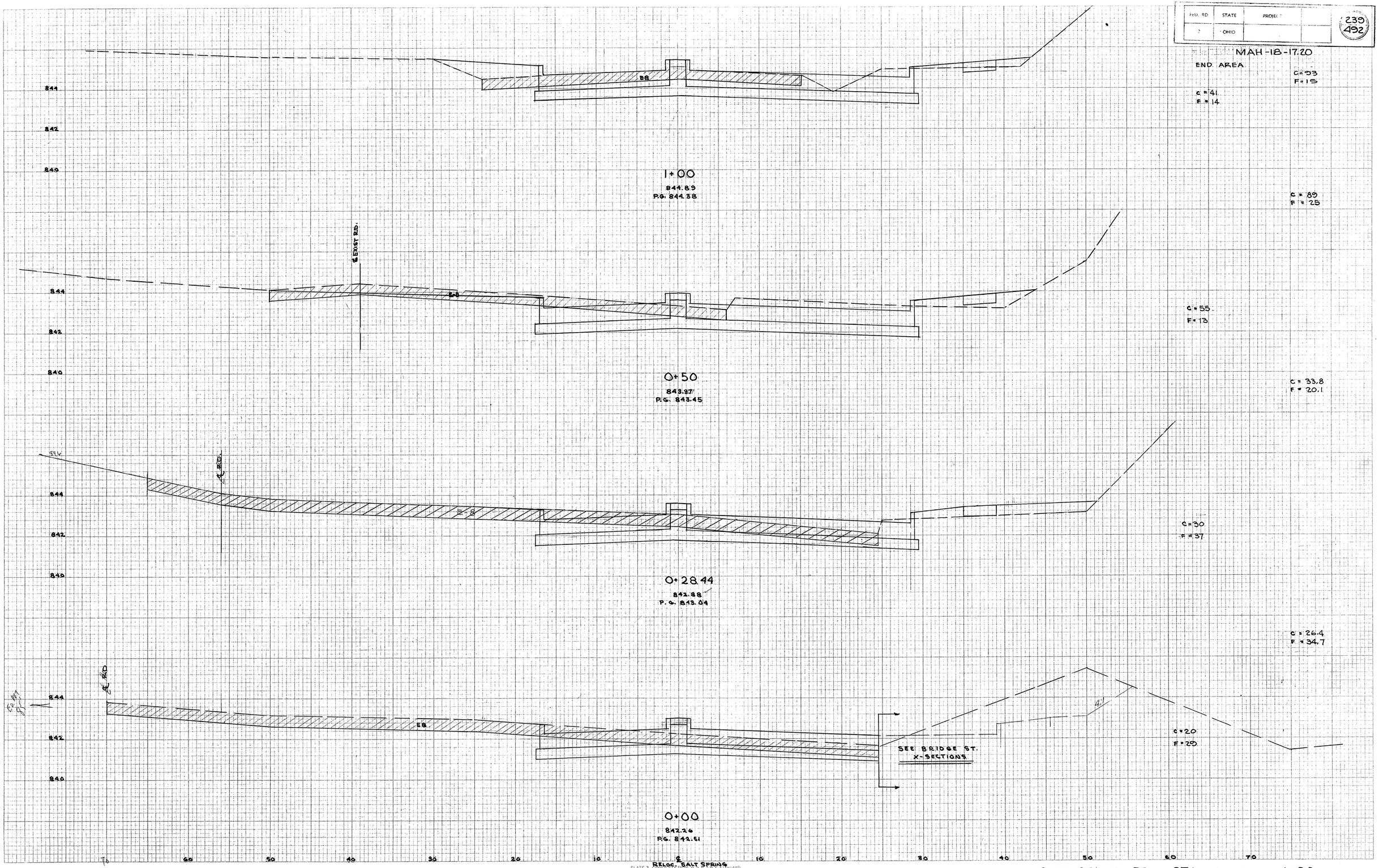
INTERSECTION DETAIL - RAMP "D", BRIDGE ST. & SALT SPRINGS

FED. RD	STATE	PROJECT	
2	OHIO		

239
492

MAH-18-17.20

END AREA



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

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

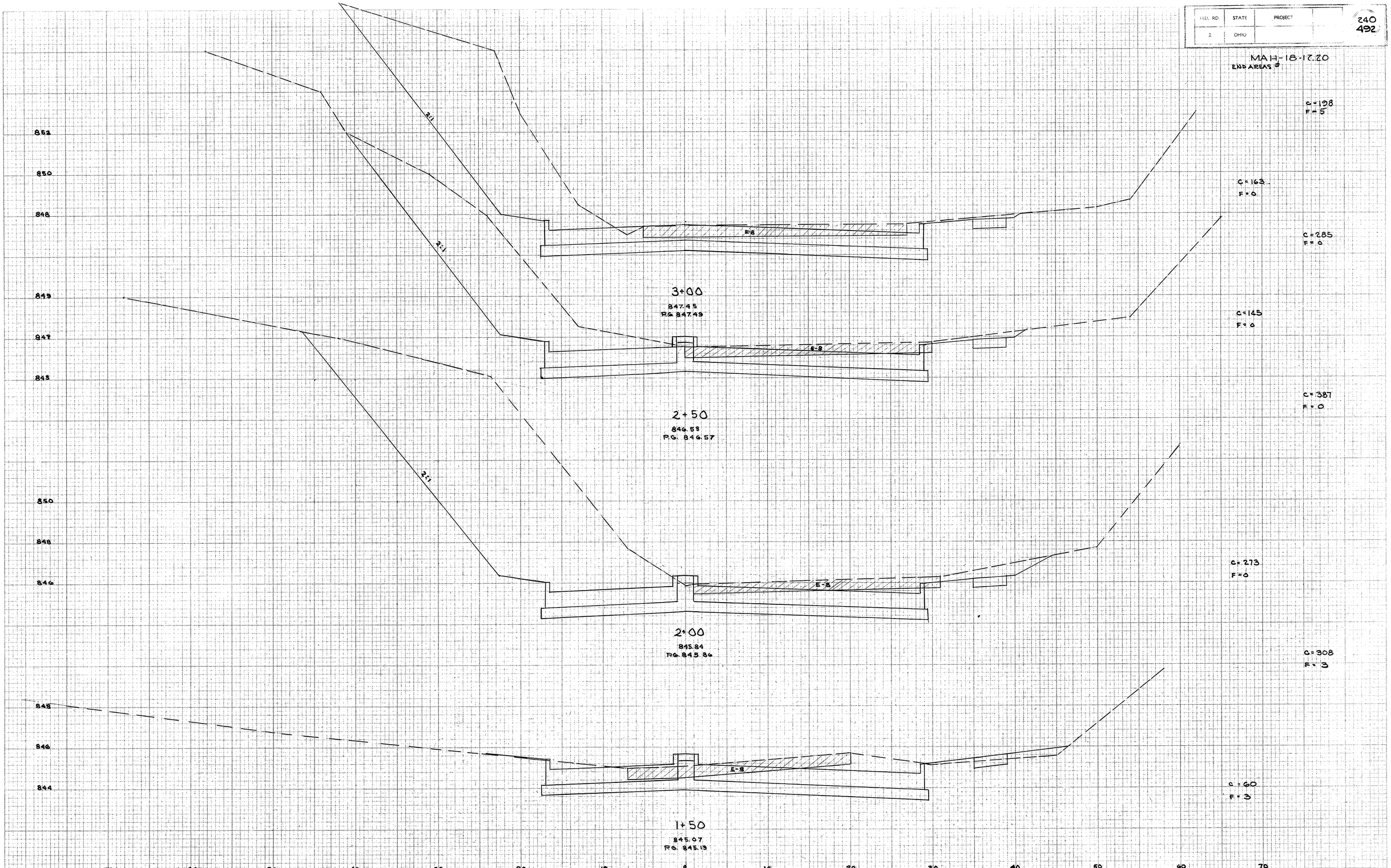
PLATE 3 - CROSS SECTION G.P.R.S.R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

SALT SPRING RD. STA 0+00 to 1+00

FED. RD.	STATE	PROJECT	
2	OHIO		

240
492

MAH-18-17.20
END AREAS #



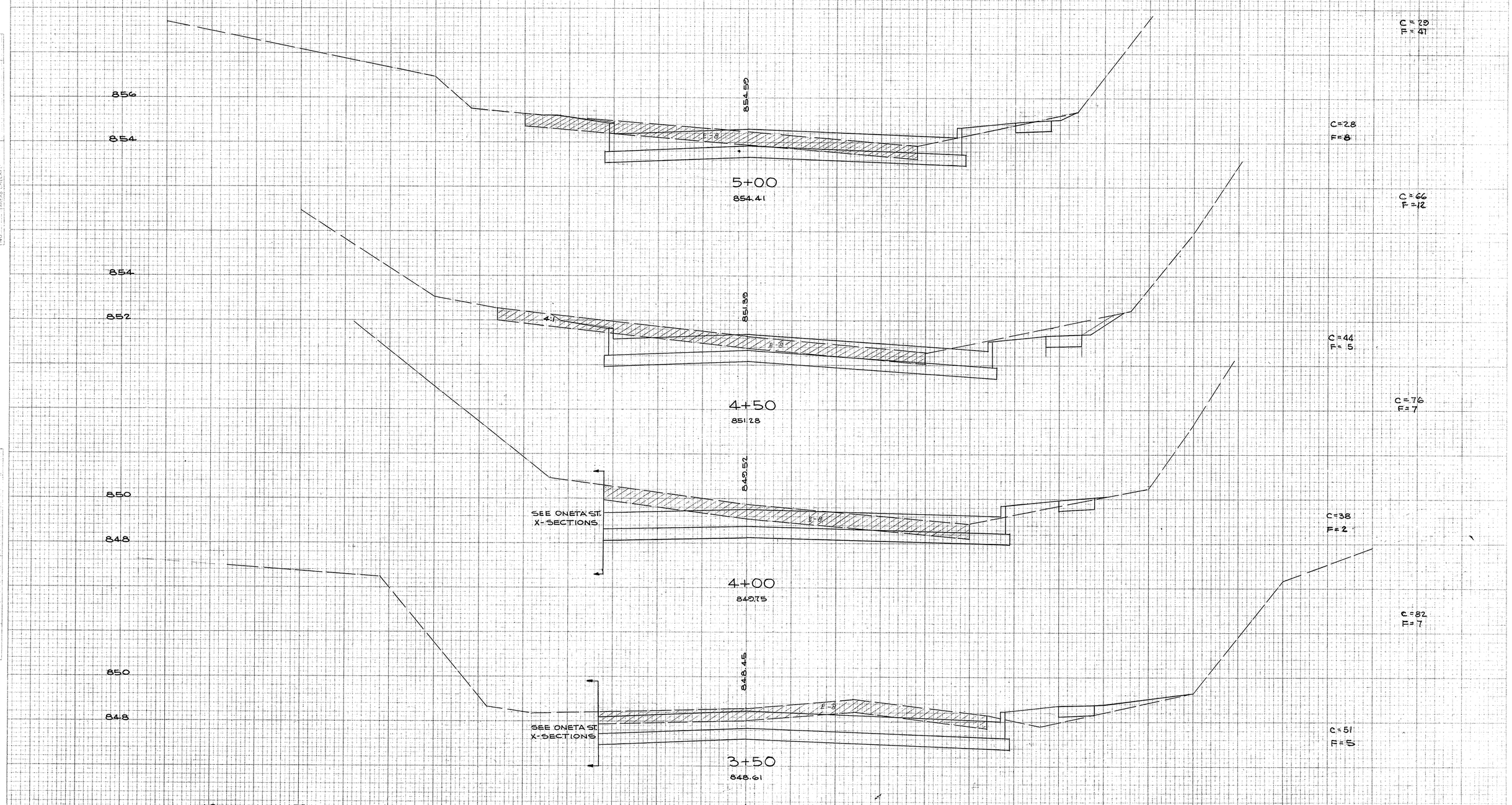
SALT SPRING RD STA 1+50 to 3+00

FED. RD.	STATE	PROJECT	
2	OHIO		

241
492

MAH-18-17.20

END AREA



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

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

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

SALT SPRING RD. 3+50 TO 5+00

FED. RD.	STATE	PROJECT	
	OHIO		

242
492

MAH - 18 - 17.20

FINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
DATE

ORIGINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
DATE

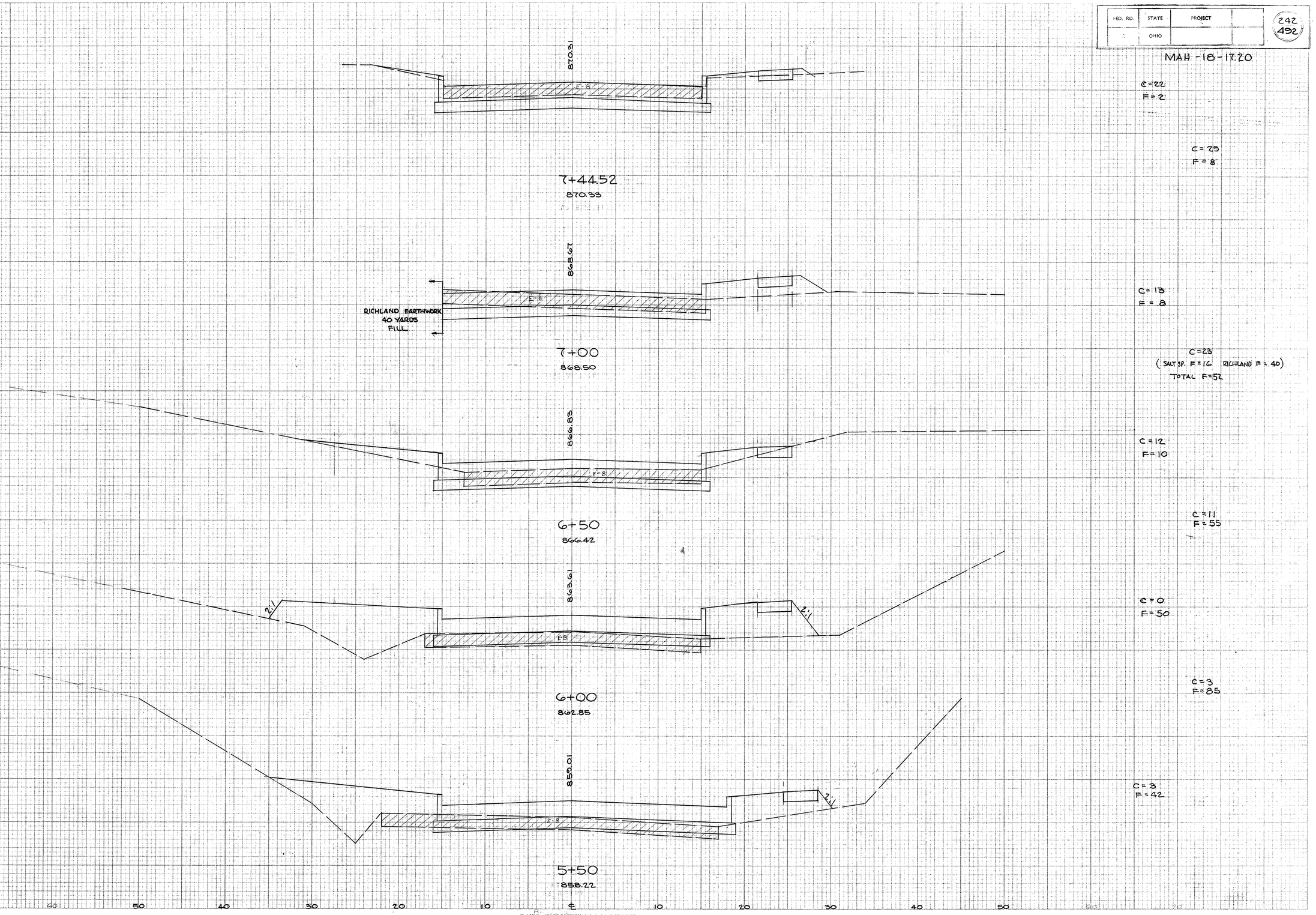


PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

SALT SPRING RD. 5+50 TO 7+44.52

FED. RD.	STATE	PROJECT	
2	OHIO		

243
492

MAH-18-17.20

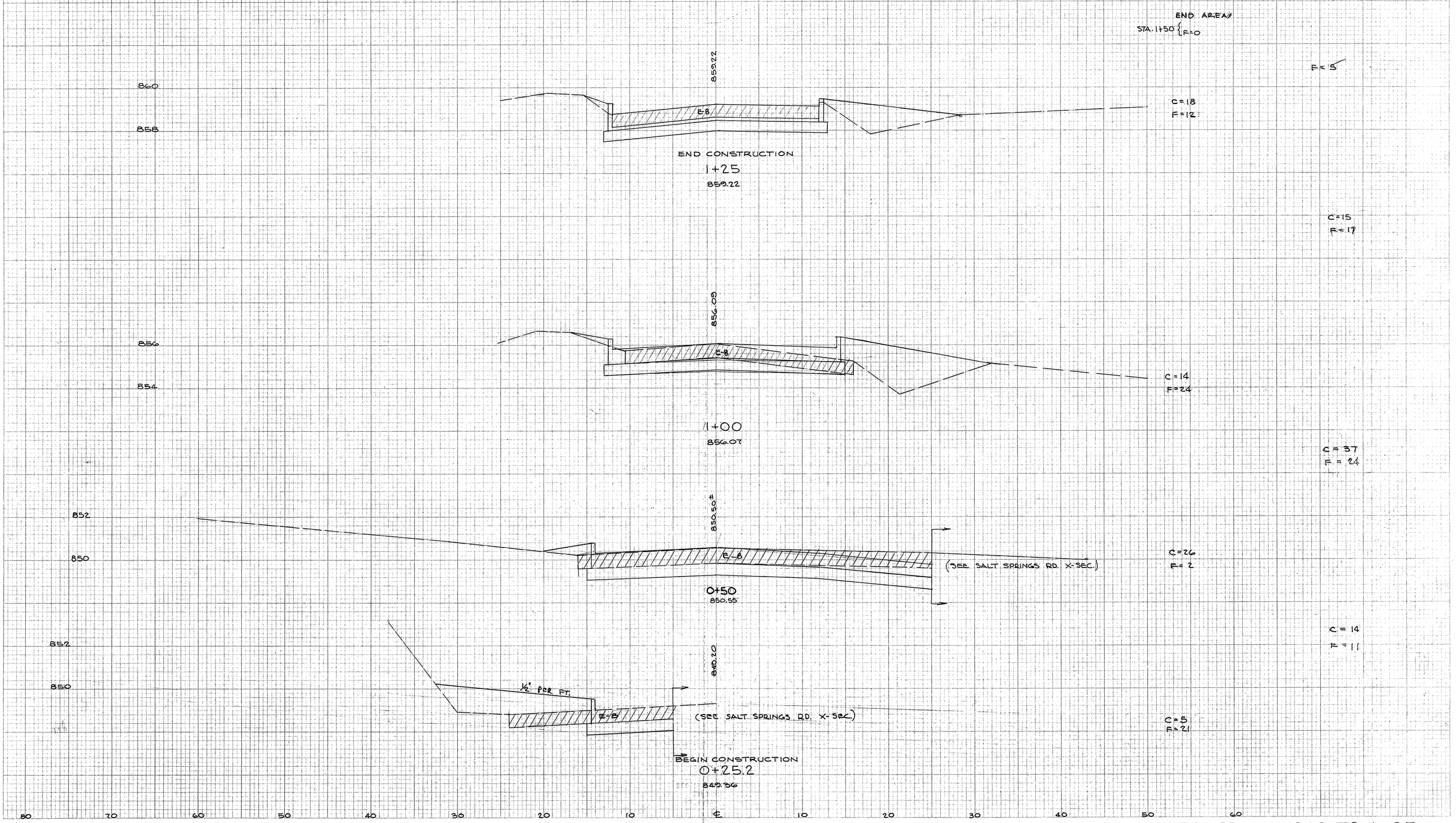


PLATE 3 CROSS SECTION O.P.R.&R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

ONETA ST. 0+25.2 TO 1+25

FED. RD.	STATE	PROJECT	
2	OHIO		

244
492

MAH-18-17.20

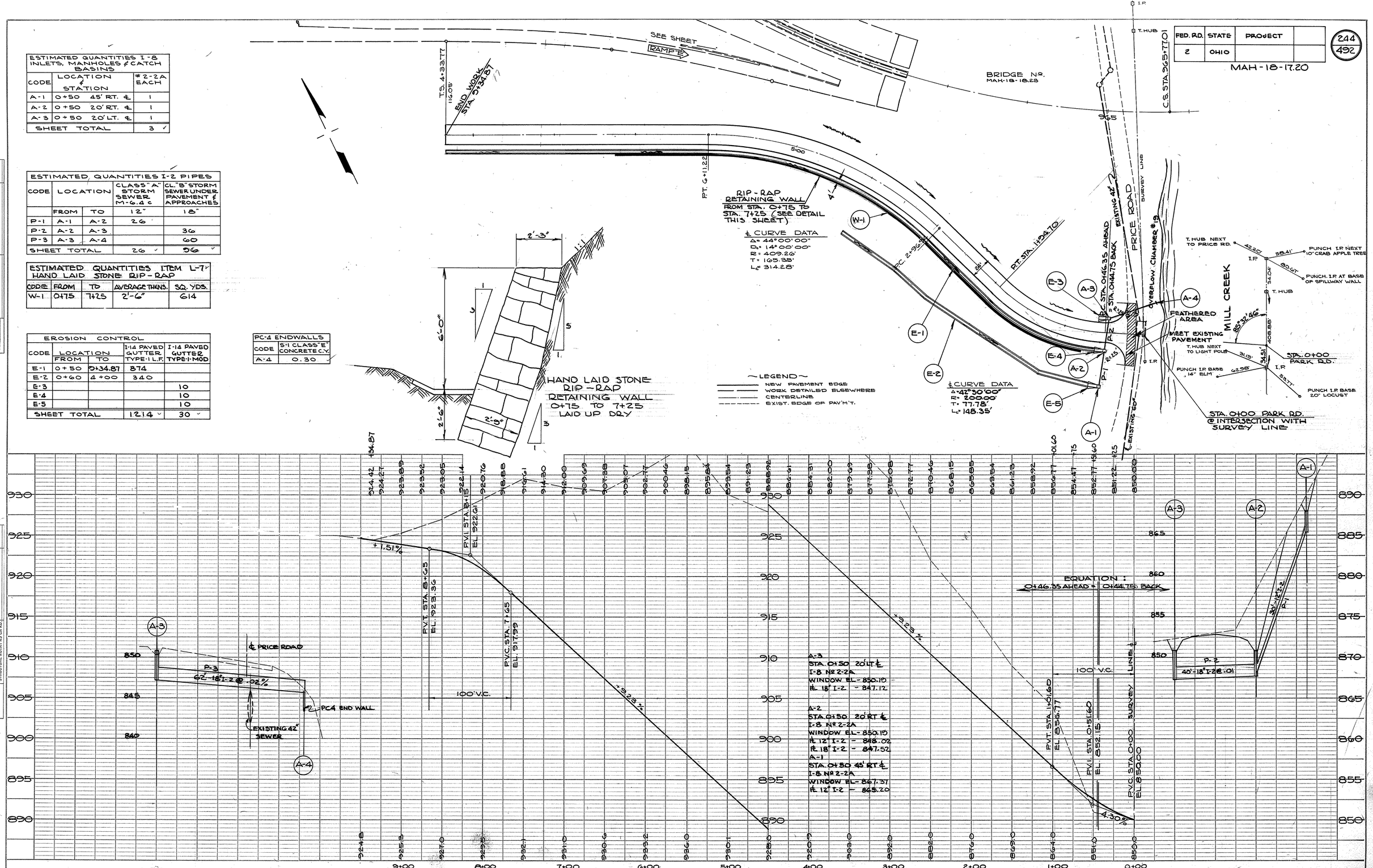
ESTIMATED QUANTITIES I-8 INLETS, MANHOLES & CATCH BASINS		
CODE	LOCATION & STATION	#2-2A EACH
A-1	0+50 45' RT. ℄	1
A-2	0+50 20' RT. ℄	1
A-3	0+50 20' LT. ℄	1
SHEET TOTAL		3 ✓

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION		CLASS "A" STORM SEWER M-6.4 c	CL. "B" STORM SEWER UNDER PAVEMENT & APPROACHES
	FROM	TO	12"	18"
P-1	A-1	A-2	26	
P-2	A-2	A-3		36
P-3	A-3	A-4		60
SHEET TOTAL			26 ✓	96 ✓

ESTIMATED QUANTITIES ITEM L-7 HAND LAID STONE RIP-RAP				
CODE	FROM	TO	AVERAGE THKNS.	SQ. YDS.
W-1	0+75	7+25	2'-6"	614

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	I-14 PAVED GUTTER TYPE-1 L.F.	I-14 PAVED GUTTER TYPE-1-MOD
E-1	0+50	9+34.87	874	
E-2	0+60	4+00	340	
E-3				10
E-4				10
E-5				10
SHEET TOTAL			1214 ✓	30 ✓

PC-4 ENDWALLS	
CODE	S-1 CLASS "E" CONCRETE C.Y.
A-4	0.30

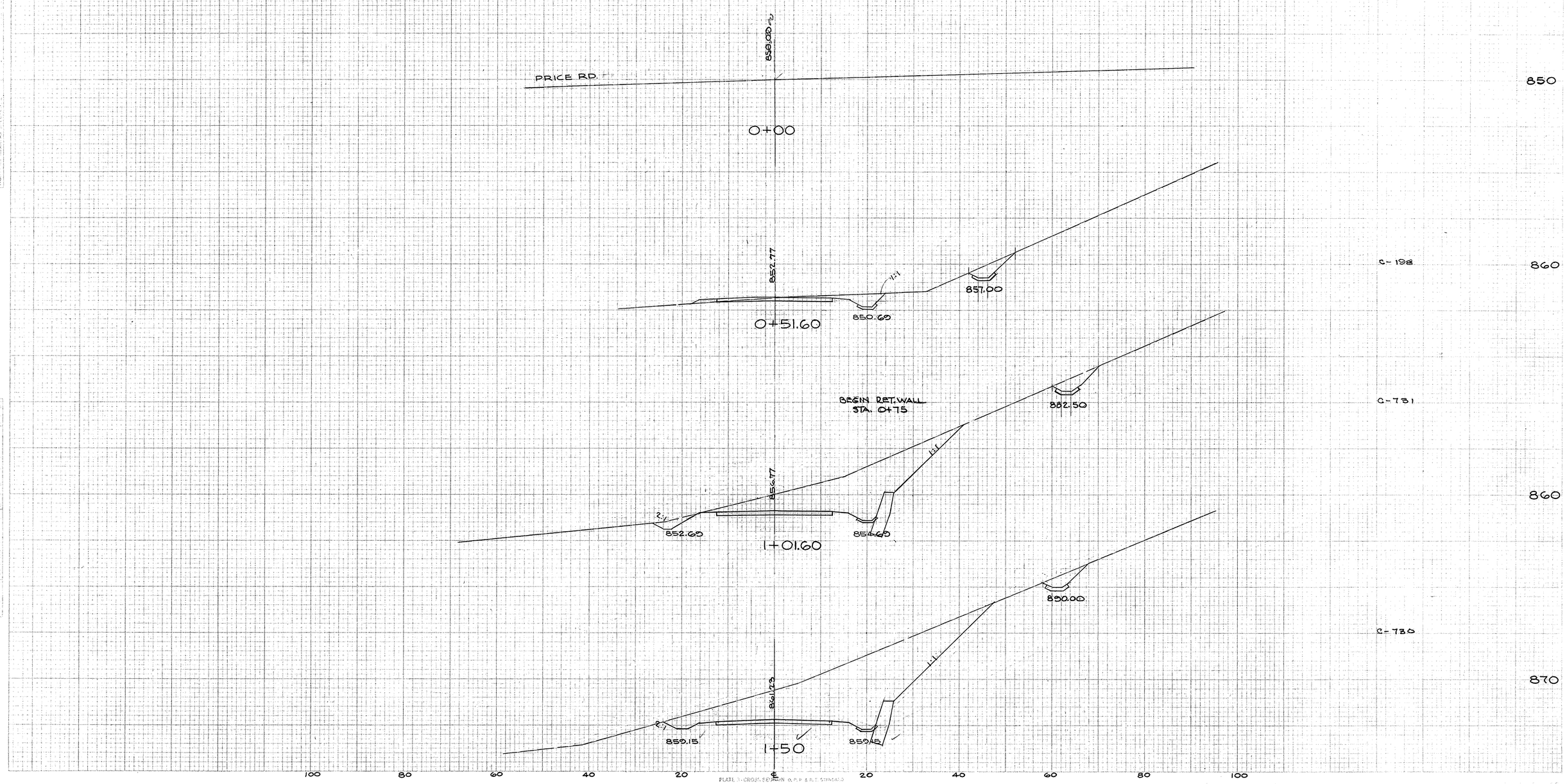


PLAN & PROFILE ~ PARK ROAD

PLATE 1 — PLAN-PROFILE O. P. R. & R. E. STANDARD
261 FM-3 AGEPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

FED. RD.	STATE	PROJECT	
2	OHIO		245 492

MAH-18-17.20

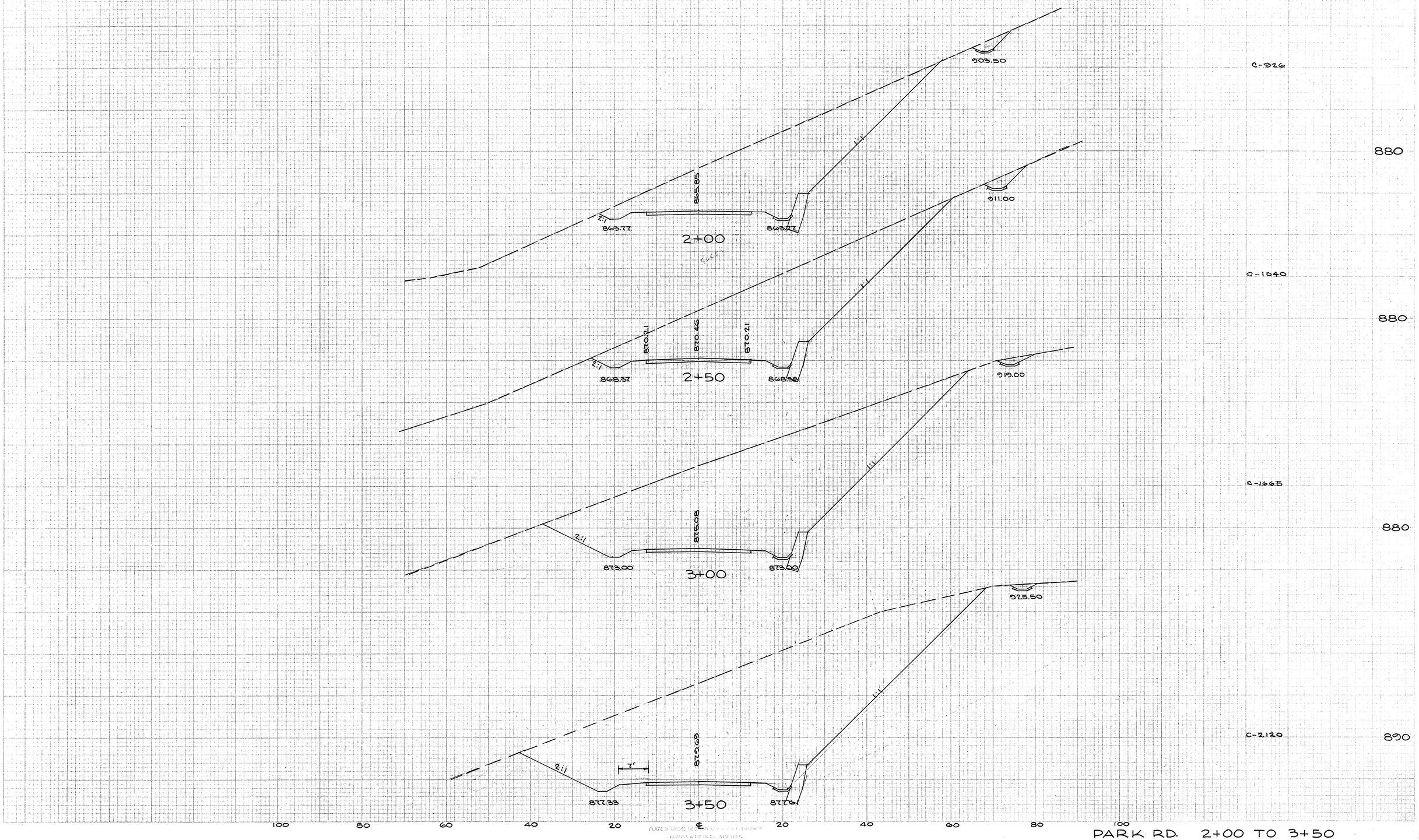


PARK RD. 0+00 TO 1+50

FED. RD.	STATE	PROJECT	
2	OHIO		

246
492

MAH-18-17.20



PARK RD. 2+00 TO 3+50

FED. RD.	STATE	PROJECT		247 492
2	OHIO			

930

MAH-18-17.20

C=1090

930

C=2362

930

C=1657

930

C=1209

RAMP "E" EX.

SEE Y.E. X-SECTIONS STA. 962+50

12'

885.14

1:1

882.39

4+09

883.06

231.00

RAMP "E" EX.

SEE Y.E. X-SECTIONS STA. 962+00

17'

889.20

4:1

3:1

1:1

885.96

886.03

4+53

887.96

RAMP "E" EX.

BEGIN DITCH PARK RD.

SEE Y.E. X-SECTIONS STA. 961+50

22'

893.36

1'½'

3:1

1:1

885.06

4+98

891.28

RAMP "E" EX.

SEE Y.E. X-SECTIONS STA. 961+00

1'½'

897.42

2:1

1:1

895.54

5+42

80 60 40 20 ℄ 20 40 60 80

PLATE 1 OF 155 SHEETS DESIGN & DRAWING STANDARD KEUFFEL & ESSER CO., NEW YORK.

PARK RD. 4+09 TO 5+42

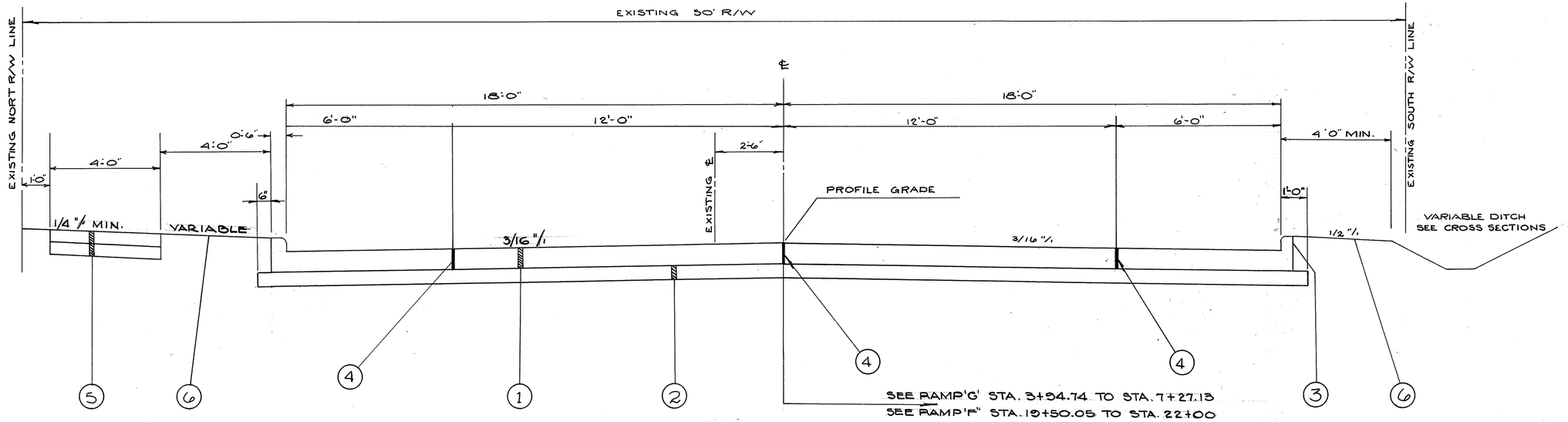
FINAL SURVEY — NOTE BOOK — NO. — DATE — SURVEYED — PLOTTED — CHECKED — AREAS — CHECKED

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

FED. RD.	STATE	PROJECT	
2	OHIO		

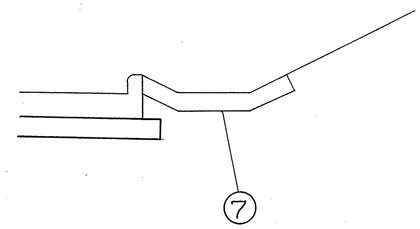
248
492

MAH-18-17.20



LIMITING		STATIONS
0+00	TO	3+94.74
7+27.13	TO	19+50.05

(1)	ITEM T-71	9"	REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(2)	ITEM I-22	6"	SUBBASE
(3)	ITEM I-12		STANDARD TYPE 2A CONCRETE CURB
(4)			STANDARD LONGITUDINAL JOINT
(5)	ITEM I-13	5"	CONCRETE SIDEWALK INCLUDING 5" CINDER SUBBASE
(6)	ITEM L-9		SEEDING AND PROTECTING
(7)	ITEM I-14		STANDARD TYPE 1 PAVED GUTTER



LIMITING		STATIONS
11+24	TO	19+50.05

TYPICAL SECTION - MARSHALL STREET

FED. RD.	STATE	PROJECT	
2	OHIO		

249
492

MAH-18-17.20

NOTE: THESE QUANTITIES INCLUDE THE INTERSECTIONS OF MARSHALL WITH GLENWOOD, ROCKVIEW, AND EDWARDS.

B.M. #13 ELEV. 902.69
TOP OF STEM - FIRE HYDRANT
15.5' LT. STA. 3+87.50

B.M. #12 ELEV. 903.57
TOP OF STEM - FIRE HYDRANT
N.E. CORNER MARSHALL ST. & GLENWOOD AVE.

STA. 969+15.83 ℄-EXPRESSWAY 1 ℄ APPROACH 2+38.5
R.R. SPK. SET
FB 17 P 9
STA. 979+99.50 R.R. SPK. SET
STA. 976+68.30 X-ON STONE
STA. 9+69+15.83 ℄-EXPRESSWAY & ℄ GLENWOOD AVE.
STA. 0+04.00 MARSHALL 51+40.13 GLENWOOD 50+82.74
STA. 0+04.00 PROP. ℄ GLENWOOD
STA. 7+27.13
7+53.43 MARSHALL 0+00 ROCKVIEW
STA. 10+84.17 MARSHALL 6+65.85 EDWARDS
STA. 7+04.13

THREE STORY BRICK BLD'G.
FOR DETAILS OF ISALY PROPERTY SEE SHEET Nº 253
FOR INTERSECTION DETAILS SEE SHEET NO.
TWO STORY BRICK APARTMENT
ONE STORY CONC. BLK. BLD'G.
NOTE: SEE CROSS SECTIONS FOR S.W. ELEV'S
MATCH LINE FOR ESTIMATED QUANTITIES STA 12+00
WATER VALVES
EXISTING MARSHALL ST.
STONE CURB
BLACKTOP 2½"
BRICK 3¾"
SAND 2"
CONCRETE 4½"

RAMP "G" QUANTITIES

E-8 REMOVAL AND DISPOSAL OF EXIST. PAVEMENT (SY)

CODE	FROM STA	TO STA	LOC	QUANT.
K-1	0+00	12+00	LT&RT	3814

I-13 CONCRETE SIDEWALK

CODE	FROM STA	TO STA	LOC	S.F.
H-1	0+25	7+40	LT.	2230
H-2	7+68	10+60	LT.	1180
H-3	11+04	12+00	LT.	1110
H-4	APP. SLAB	51+94.39	GLEN LT	751

I-14 TYPE I PAVED GUTTER

CODE	FROM STA	TO STA	LOC	LIN FT.
P-1	11+24	12+00	RT	76

I-12 CONCRETE CURB-TYPE 2A

CODE	FROM STA	TO STA	LOC	LIN. F.
G-1	0+23	7+43	LT	741
G-2	7+65	10+64	LT	321
G-3	11+04	12+00	LT	108
G-4	APP SLAB	3+94.74	RT	377
G-5	7+27.13	10+64	RT	341
G-6	11+04	12+00	RT	113
G-7	APP SLAB	51+94.39	GLEN LT	110

E-8 REMOVAL & STORAGE OF EXISTING CURB (L.F.)

CODE	FROM STA	TO STA	LOC.	L.F.
A-1	0+15	7+43	LT.	770
A-2	7+65	10+71	LT.	352
A-3	10+98	12+00	LT.	124
A-4	0+20	3+94.74	RT.	403
A-5	7+66	10+71	RT.	323
A-6	10+98	12+00	RT.	123
A-7	APP SLAB	51+94.39	GLEN LT	110

F.B. 21 PGS. 2-41
F.B. 2 PGS. 5,9&11
F.B. 17 PGS. 9&10

5" PCC DRIVEWAY APPROACH

CODE	ITEM	WIDTH	TYPE	QUANTITY
J-1	T-71	16 FT.	DOUB. PRI.	16 SY
J-2	T-71	16 FT.	DOUB. PRI.	16 SY
J-3	T-71	16 FT.	DOUB. PRI.	16 SY
J-4	T-71	16 FT.	DOUB. PRI.	16 SY
J-5	T-71	60 FT.	DOUB. BUS.	60 SY
J-6	T-71	30 FT.	SIN. BUS.	30 SY
J-7	T-71	60 FT.	DOUB. BUS.	60 SY
J-8	T-71	16 FT.	DOUB. PRI.	16 SY
J-9	T-71	10 FT.	SIN. PRI.	10 SY
J-10	T-71	16 FT.	DOUB. PRI.	16 SY
J-11	T-71	10 FT.	SIN. PRI.	10 SY
J-12	T-71	10 FT.	SIN. PRI.	10 SY
J-13	T-71	16 FT.	DOUB. PRI.	16 SY
J-27	T-71	10 FT.	SIN. PRI.	10 SY

E-8 REMOVAL OF EXISTING & DISPOSAL SIDEWALK (S.F.)

CODE	FROM STA.	TO STA.	LOC.	QUANT.
B-1	0+25	7+40	LT.	4518
B-2	7+68	10+71	LT.	1974
B-3	10+98	12+00	LT.	1498
B-4	0+25	3+94.74	RT.	2418
B-5	7+68	10+71	RT.	1986
B-6	10+98	12+00	RT.	780
B-7	APP. SLAB	51+94.39	GLEN. LT.	710

NOTE: SEE MARSHALL ST. UNDERGROUND SHEET Nº [ ] FOR WATER MAIN QUANTITIES

APPROX. PROFILE OF EXIST. WATER MAIN.
PROP. 12" C.I.P.
EXIST. 12" C.I.P.
5' CONSTANT DEPTH
GRAPHIC GRADE
-1.75%

STA. 2+93.4
EXIST. MANHOLE ℄
COVER ELEV 904.4
℄ 12" PIPE 894.84

STA. 4+94.3
EXIST. MANHOLE - ℄
COVER ELEV. 894.31
℄ 12" PIPE 886.11
℄ 15" PIPE 886.11

STA. 7+53.43
EXIST. MANHOLE - ℄
COVER ELEV. 876.67
℄ MANHOLE 866.47

END LOWERING WATER MAIN @ STA. 7+00
℄ ROCKVIEW 7+53.43 875.18

STA 10+84.17
EXIST. MANHOLE ℄
COVER ELEV 862.75
℄ 15" PIPE WEST 862.90
℄ 15" PIPE NORTH 862.35

STA 11+05.70
EXIST. MANHOLE ℄
COVER ELEV 871.47
℄ 12" PIPE EAST 861.11

PLATE 1 - CROSS SECTION OF N.Y. STANDARD
KEMPPEL & ESSER CO., NEW YORK

MARSHALL ST. - STA. 0+00 TO STA. 12+00

FED. RD.	STATE	PROJECT	
2	OHIO		

250
492

MAH-18-17.20

E-8 REMOVAL OF EXISTING SIDEWALK

CODE	FROM STA	TO STA	LOC	S.F.
B-8	12+00	20+00	LT	4878
B-9	20+33	22+00	LT	907
B-10	12+00	19+50.05	RT	4320

E-8 REMOVAL AND DISPOSAL OF EXISTING RIGID PAVEMENT

CODE	FROM STA	TO STA	LOC	SY
K-2	12+00	22+00	LT. & RT.	2836

E-8 REMOVAL & STORAGE OF EXISTING CURB (L.F)

CODE	FROM STA	TO STA	LOC	LIN. FT.
A-8	12+00	20+02	LT.	822
A-9	20+32	22+00	LT.	188
A-10	12+00	19+50.05	RT.	715
A-11	22+00	22+50	LT	50
A-12	22+00	22+50	RT	50

I-13 CONCRETE SIDEWALK

CODE	FROM STA	TO STA	LOC	S.F.
H-5	12+00	20+00	LT.	2424
H-6	20+33	22+00	LT.	716

I-12 CONCRETE CURB (L.F)

TYPE	CODE	FROM STA	TO STA	LOC	LIN. FT.
2-A	G-8	12+00	20+02	LT	773
2-A	G-9	20+32	22+00	LT	179
2-A	G-10	12+00	19+50.05	RT	723
C	G-11	22+00	22+50	LT & RT	100

I-14 PAVED GUTTER TYPE I MOD

CODE	L.F.
P-5	10
P-6	10

DRIVEWAY APPROACHES (SY)

CODE	ITEM	WIDTH @ CURB	WIDTH @ S.W.	QUANT.
J-14	T-71	16 FT	DBL. PRI.	16
J-15	T-71	30	SIN. BUS.	30
J-16	T-71	10	SIN. BUS.	10
J-17	T-71	16	DBL. PRI.	16
J-18	T-71	16	DBL. PRI.	16
J-19	T-71	10	SIN. PRI.	10
J-20	T-71	16	DBL. PRI.	16
J-21	T-71	16	DBL. PRI.	16
J-22	T-71	10	SIN. PRI.	10
J-23	T-71	16	DBL. PRI.	16
J-24	T-71	30	SIN. BUS.	30
J-25	T-71	10	SIN. PRI.	10
J-26	T-71	10	SIN. PRI.	10
J-27	T-71	30	SIN. BUS.	30
J-28	T-71	30	SIN. BUS.	30

I-14 TYPE 1 PAVED GUTTER

CODE	FROM STA	TO STA	LOC.	LIN. FT.
P-2	12+00	13+78	RT.	168
P-3	14+03	16+78	RT.	265
P-4	17+03	19+50.05	RT.	247

MATCH LINE FOR ESTIMATED QUANTITIES STA 12+00

EDWARDS ST

MARSHALL ST

WEST AVE NORTH

EXPRESSWAY

STA. 989+27.04 "X" CUT IN BR. PAV'T.

ONE STORY CONC. BLOCK BL'D'G.

TWO STY. FR. HO.

TWO STORY BRICK BL'D'G. WAREHOUSE

ONE STORY BRICK BL'D'G. WAREHOUSE

ONE STORY VIT. BLOCK BL'D'G.

ONE STORY CONC. BLOCK BL'D'G. WAREHOUSE

ONE STORY BLOCK.

TWO STORY BRICK BL'D'G.

20+17.38 MARSHALL 0.00 WEST

130 EXIST. ℄

PROP. ℄

RAMP "J" QUANTITIES

10+50.05 14+85.52 RAMP "J"

FEATHER AREA

END NORMAL STA. 22+50

END T-71 PAV'T STA. 22+00

BM. #14 ELEV. 872.07
TOP OF STEM FIRE HYDRANT
S.E. CORNER MARSHALL AVE. & WEST ST.

STA. 10+84.17
EXIST. MANHOLE - ℄
COVER ELEV. - 872.75
℄ 15" PIPE WEST - 862.90
℄ 15" PIPE NORTH - 862.35

STA. 11+95.70 - ℄
EXIST. MANHOLE
COVER 871.47
℄ 12" EAST 862.50

STA. 14+93.40
0.40' LT. ℄
EXIST. MANHOLE
COVER ELEV.
℄ 12" PIPE E & W. 860.40

STA. 17+87.30 ℄
EXIST. MANHOLE
COVER ELEV 868.77
℄ 12" PIPE 858.37
℄ 15" PIPE 858.12

STA. 19+74 - ℄
EXIST. MANHOLE
COVER ELEV. 868.96
℄ 15" PIPE E & W. 857.16

STA. 20+17.8 25.8' LT.
EXIST. MANHOLE ℄ WEST AVE. (NORTH)
COVER ELEV. 866.51
℄ 15" PIPE NORTH 856.08

STA. 10+84.17

100' V.C.

P.I. STA. 13+50
EL. 870.67

GRADE

-0.4250%

STA. 17+77.96 ℄ PLUM ST.
ELEV. 869.09

STA. 20+17.38 ℄ WEST AVE.

P.I. STA. 20+60
EL. 867.65

-5.372%

EXIST. 15" COMB. SEWER

MEET EXIST. PAV'T. STA. 22+00

MARSHALL ST. - STA. 12+00 TO STA. 22+00

PLATE 17 SECTION OF PIPE & STAFF
REGFFEL & ESSER CO. NEW YORK

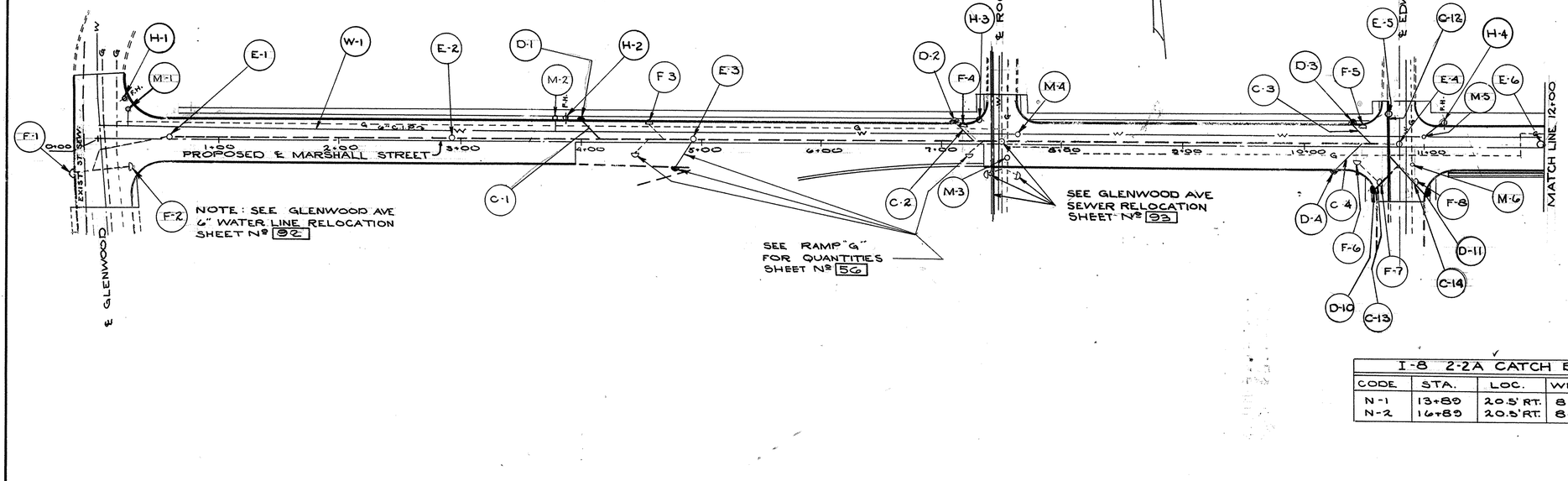
FED. RD.	STATE	PROJECT	
2	OHIO		

251
492

MAH-18-17.20

I-124 LOWER WATER LINE (6" C.I.P.)

CODE	FROM	TO	LOCA.	LIN. FT.
W-1	0+04	7+00	10' LT. ℄	696



I-8 CITY OF YOUNGSTOWN CATCH BASINS

CODE	TYPE	STA	LOC	WINDOW	INVT
D-1	2	4+00	NORTH	876.00	871.00
D-2	2	7+15.43	NORTH	876.16	871.16
D-3	2	10+37.07	NORTH	872.05	867.05
D-4	2	10+32.64	SOUTH	872.06	867.06
D-5	2	14+00	NORTH	869.03	864.03
D-6	2	14+00	SOUTH	869.03	864.03
D-7	2	17+00	NORTH	868.65	863.65
D-8	2	17+00	SOUTH	868.65	863.65
D-9	2	19+75.52	NORTH	867.48	862.48
D-10	1	3/4 PT	SOUTH	871.55	868.24
D-11	1	1/4 PT	SOUTH	871.51	868.20

I-2 COMBINATION SEWERS UNDER PAVEMENT & APPROACHES - M-6.8(b)

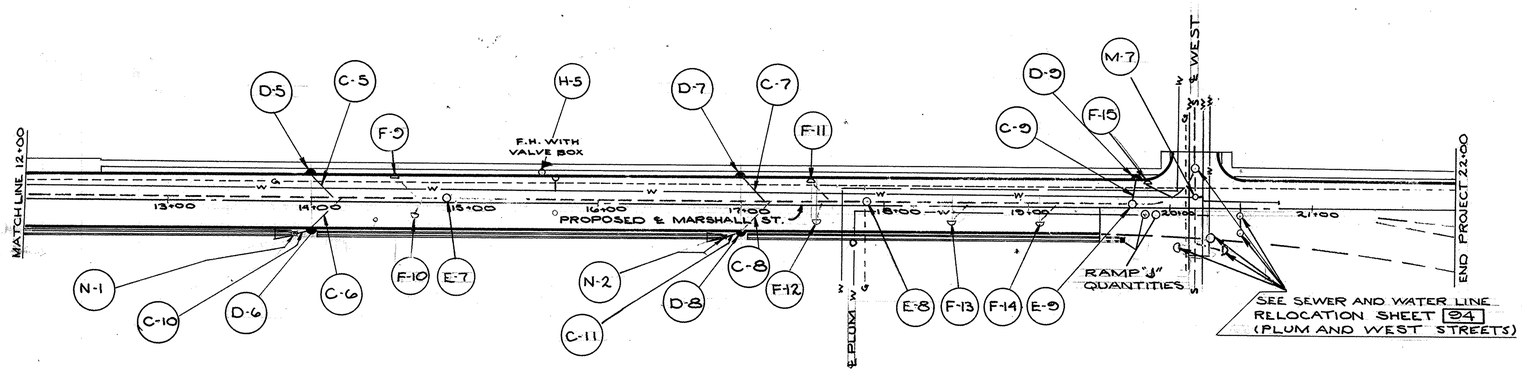
CODE	FROM ST	TO STA.	LOC.	SIZE	L.F.
C-1	4+00	4+15.5	NORTH	12"	22
C-2	7+15.69	7+31.19	NORTH	12"	22
C-3	10+43.45	10+58.95	NORTH	12"	22
C-4	10+32.45	10+52.95	SOUTH	12"	20
C-5	14+00	14+15.50	NORTH	12"	22
C-6	14+00	14+20.50	SOUTH	12"	20
C-7	17+00	17+15.50	NORTH	12"	22
C-8	17+00	17+20.50	SOUTH	12"	22
C-9	19+75.52	19+74	NORTH	12"	16
C-10	13+89	14+00	SOUTH	12"	8
C-11	16+89	17+00	SOUTH	12"	8
C-12	10+74	—	N & S	21"	84
C-13	3/4 PT	10+74	SOUTH	12"	15
C-14	1/4 PT	10+74	SOUTH	12"	40

I-16 INLETS ABANDONED

CODE	STA	LOC	REMARKS
F-1	0+18	29' RT	PLUG LEAD
F-2	0+27	23' RT	PLUG LEAD
F-3	4+57	16' LT	PLUG LEAD
F-4	7+18	16' LT	PLUG LEAD
F-5	10+48	16' LT	PLUG LEAD
F-6	10+43	10.5' RT.	PLUG LEAD
F-7	10+65	30' RT.	PLUG LEAD
F-8	10+92	28' RT.	PLUG LEAD
F-9	14+58	16' LT.	PLUG LEAD
F-10	14+73	10.5' RT.	PLUG LEAD
F-11	17+45	16' LT.	PLUG LEAD
F-12	17+53	10.5' RT.	PLUG LEAD
F-13	18+48	10.5' RT.	PLUG LEAD
F-14	19+08	10.5' RT.	PLUG LEAD
F-15	19+83	16' LT.	PLUG LEAD

I-8 2-2A CATCH BASINS

CODE	STA.	LOC.	WINDOW	INV
N-1	13+89	20.5' RT.	869.71	867.54
N-2	16+89	20.5' RT.	868.39	866.22



I-8 M.H.'s ADJ TO GRADE

CODE	STA.	LOC.
E-1	0+60	2.5' LT
E-2	2+93.4	2.5' LT
E-3	4+54.3	2.5' LT
E-4	10+84.17	2.5' LT
E-5	10+74.17	2.7' LT
E-6	11+35.7	2.5' LT
E-7	14+93.4	2.5' LT
E-8	17+87.3	2.5' LT
E-9	19+74	2.5' LT

I-124 FIRE HYDRANTS REMOVED & RESET

CODE	QUANTITY
H-1	1
H-2	1
H-3	1
H-4	1
H-5	1

I-124 VALVE BOX ADJ. TO GRADE

CODE	STA	LOC
M-1	0+24	28.5' LT.
M-2	3+82.4	17.3' LT.
M-3	7+56	11.5' RT.
M-4	7+66	8.5' LT.
M-5	11+01.4	8.5' LT.
M-6	10+90	13.3' RT.
M-7	20+17.8	7.7' LT.

UNDERGROUND MARSHALL STREET

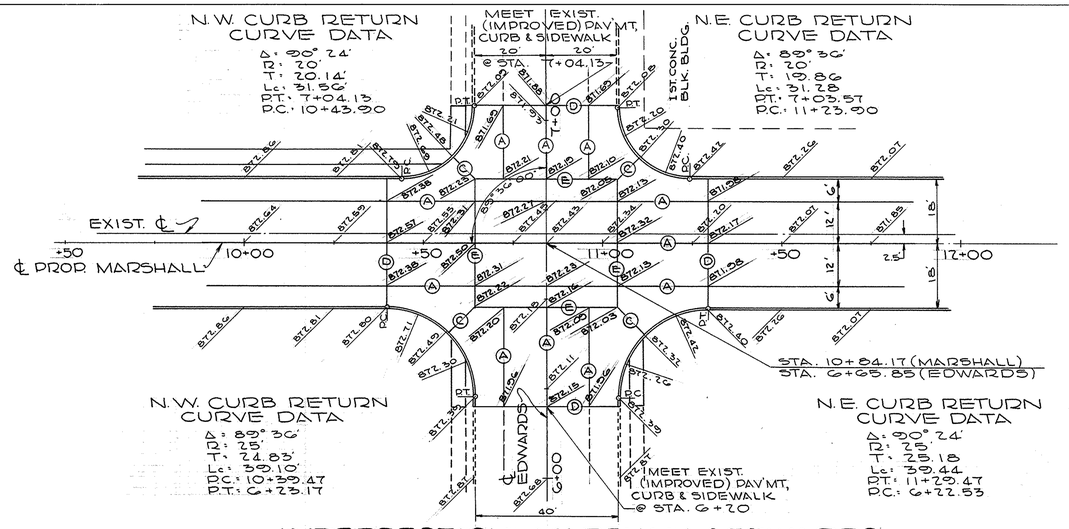
FED. RD.	STATE	PROJECT	
2	OHIO		

252
492

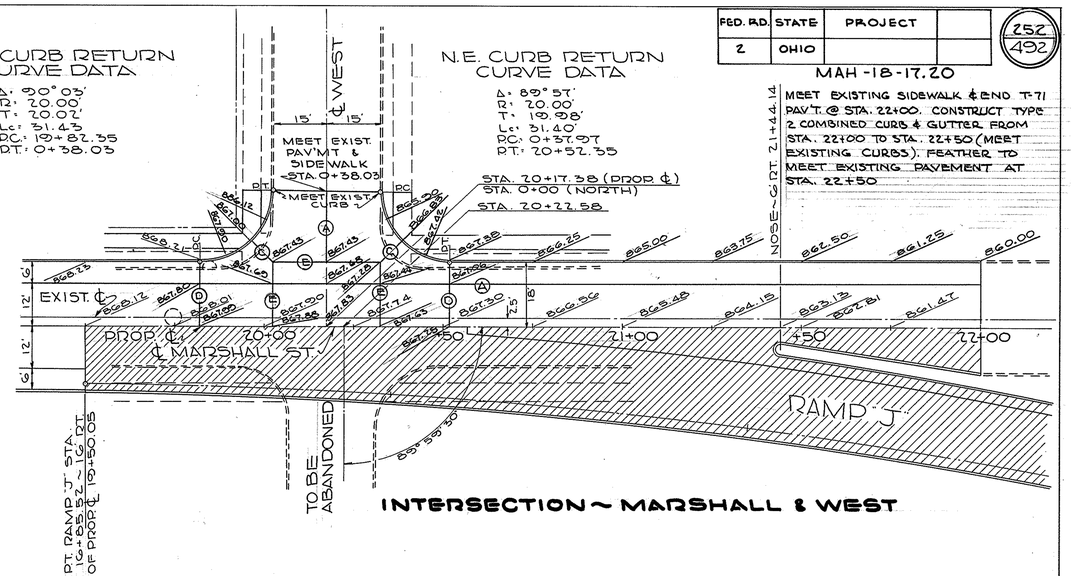
MAH-18-17.20

MEET EXISTING SIDEWALK & END T-71 PAV'T. @ STA. 22+00. CONSTRUCT TYPE 2 COMBINED CURB & GUTTER FROM STA. 22+00 TO STA. 22+50 (MEET EXISTING CURBS); FEATHER TO MEET EXISTING PAVEMENT AT STA. 22+50

NOSE ~ GRT 21+44.14



INTERSECTION ~ MARSHALL & EDWARDS



INTERSECTION ~ MARSHALL & WEST

GENERAL NOTES

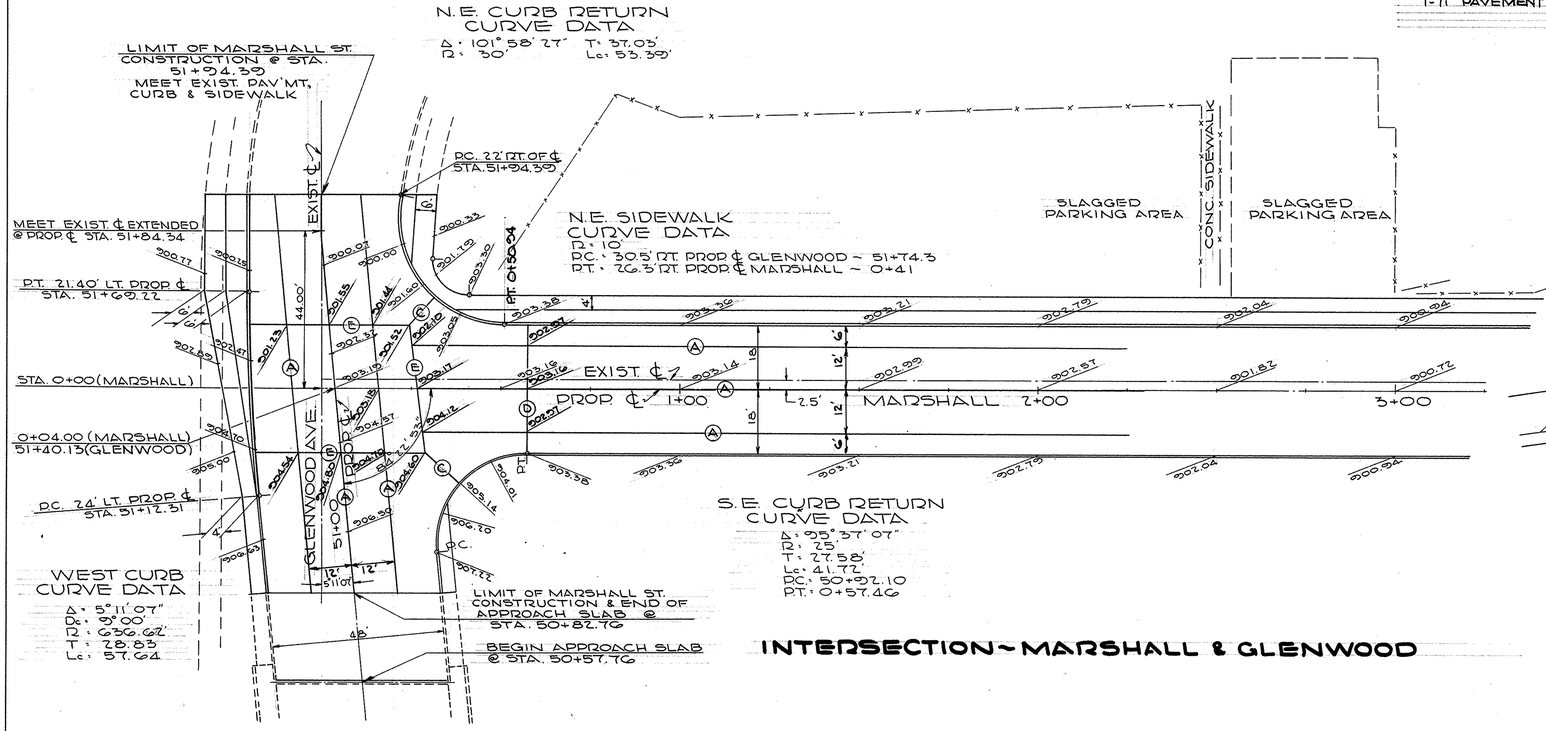
ALL ELEVATIONS SHOWN AT CURB LINE ARE TOP OF CURB

ALL ELEVATIONS SHOWN AT CURB RETURNS ARE AT QUARTER POINTS

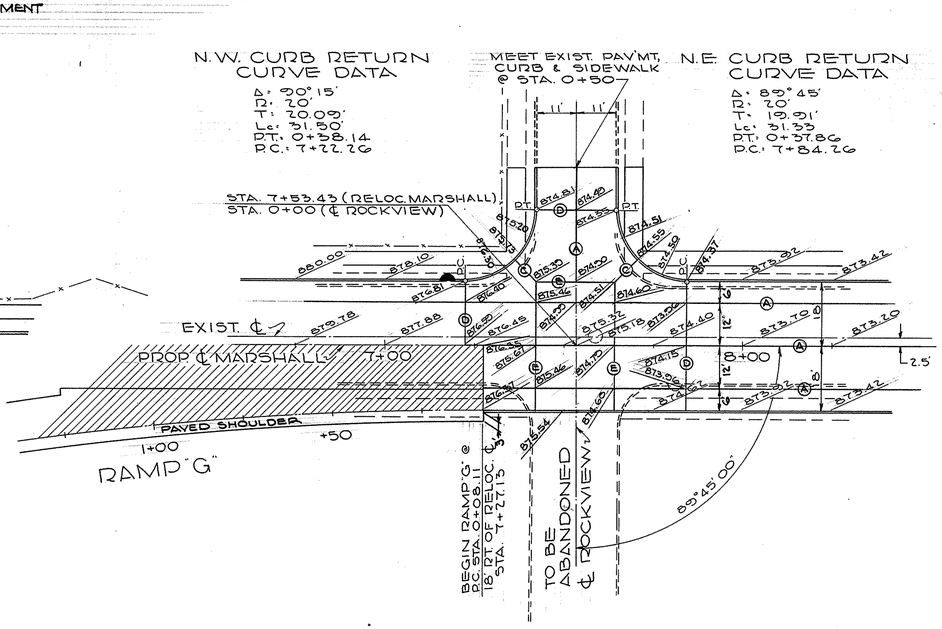
SCALE: 1" = 20'

JOINT LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS (LOCATED ON RADIAL LINES)
- (D) STANDARD EXPANSION JOINTS
- (E) STANDARD CONTRACTION JOINTS (TO BE PLACED AT 60' INTERVALS OR LESS IN ALL T-71 PAVEMENT



INTERSECTION ~ MARSHALL & GLENWOOD



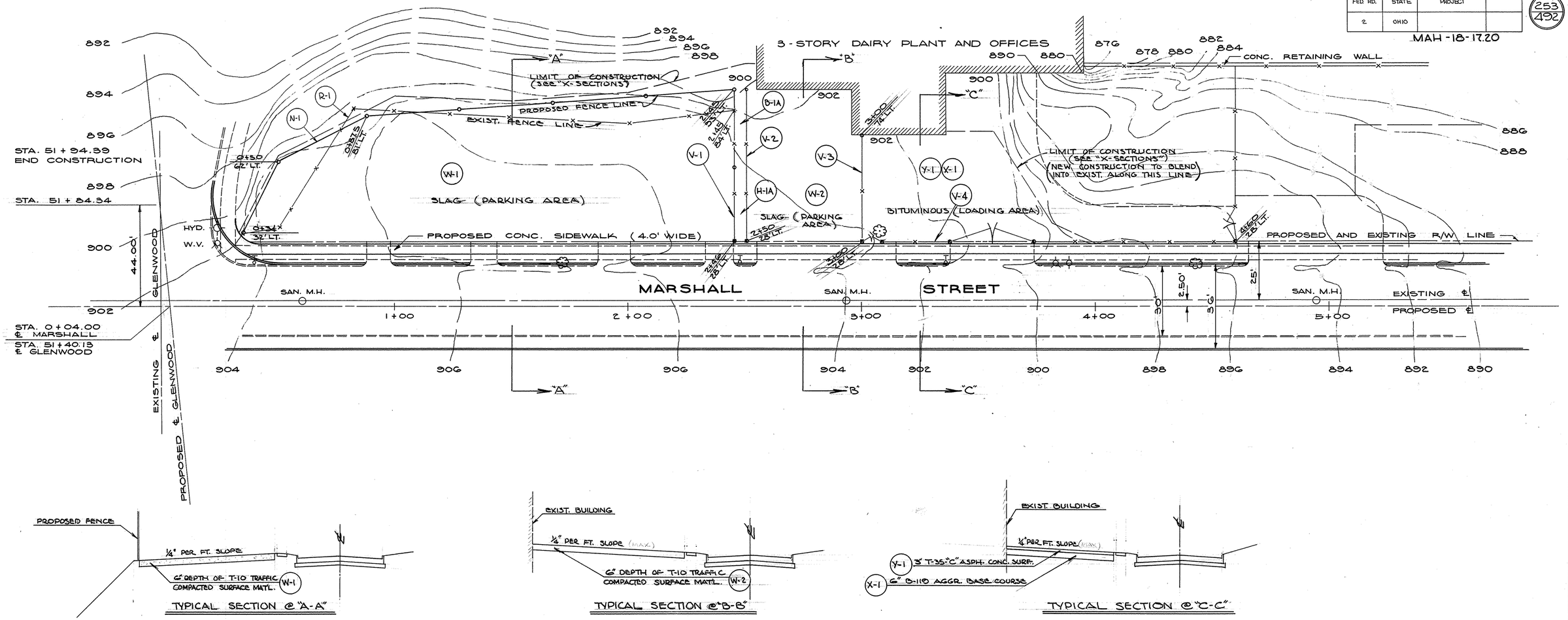
INTERSECTION ~ MARSHALL & ROCKVIEW

PAVEMENT DETAILS ~ MARSHALL ST.

FED. RD.	STATE	PROJECT	
2	OHIO		

253
492

MAH-18-17.20



TYPICAL SECTION @ "A-A"

TYPICAL SECTION @ "B-B"

TYPICAL SECTION @ "C-C"

NOTE: EXCAVATION QUANTITIES FOR PARKING & LOADING AREAS ARE INCLUDED IN ROADWAY EXCAVATION QUANTITIES ON "X-SECTION SHEETS OF MARSHALL ST.

ITEM E-8 REMOVAL & DISPOSAL OF EXIST. S. WALK (S.FT.)

CODE	FROM	TO	LOCA.	QUAN.	REMARKS
B-1A	2+48	——	28'-53' LT.	260 ✓	

ITEM I-13 CONCRETE SIDEWALK (S.FT.)

CODE	FROM	TO	LOCA.	QUAN.	REMARKS
H-1A	2+48	——	28'-53' LT.	260 ✓	SET TO LINE & GRADE

SS-18

ITEM SS-18 REMOVAL & REPLACEMENT OF EXISTING CHAIN LINK FENCE & GATES (LIN. FT.)

CODE	FROM	TO	LOCA.	QUAN.	REMARKS
V-1	2+46	-	LT.	65 ✓	
V-2	2+80	-	LT.	65 ✓	
V-3	3+00	-	LT.	45 ✓	
V-4	3+00	4+60	LT.	160 ✓	

ITEM SS-18 FENCE - TYPE "A"

CODE	FROM	TO	LOCA.	QUAN.	REMARKS
N-1	0+34	2+45		235 ✓	

ITEM T-10 TRAFFIC COMPACTED SURFACE COURSE (CU. YDS)

CODE	FROM	TO	LOCA.	DEPTH	QUANT.	REMARKS
W-1	0+34	2+46	LT.	6"	212 ✓	PARKING AREA
W-2	2+50	3+00	27'-53' LT.	6"	60 ✓	" "

ITEM B-10 AGGREGATE BASE COURSE (CU. YDS.)

CODE	FROM	TO	LOCA.	DEPTH	QUAN.	REMARKS
X-1	3+00	4+00	27'-74' LT.	6"	63 ✓	LOADING AREA

ITEM T-35 ASPHALTIC CONC. SURFACE COURSE (DRIVES)

CODE	FROM	TO	LOCA.	DEPTH	QUANTITY C.Y.	REMARKS
Y-1	3+00	4+00	27'-74' LT.	3"	37 ✓	TYPE "C"

DAIRY PROPERTY ON MARSHALL ST.

FED. RD.	STATE	PROJECT		254 / 452
2	OHIO			

MAH -18-17.20

ORIGINAL SURVEY — CERTIFIED CORRECTED — FINAL SURVEY — NOTE BOOK — DATE — BY — NO.

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

"B" "B" ¼"/1' T-10 EXIST FENCE "B" "B" 905 903 902.96 80 70

EXISTING FENCE 901 "A" 899 "A" 897

903.54 903.21 902.93

STA. 970+64.58 EXPRESSWAY

1+50 (902.24)

1/4"/1' T-10 "A" "A" EXIST. FENCE 1/4"/1' 902.37

903.76 903.36 903.14

STA. 970+14.58 EXPRESSWAY

1+0 (905.82)

904 902 900 110 100 90 80 70 FENCE 1/4"/1' 903.04 EXISTING NORTH R/W LINE

903.78 903.38 EXISTING ℄ 903.55 903.16

STA. 969+64.58 EXPRESSWAY

0+50 (903.01)

903.17

0+33 (903.63)

STA. BEGIN WORK AND CONTRACT

2.5'

905 C.Y. 75

903 C = 382.0

C.Y. 674

906

C = 346.0

904

902

906 C.Y. 550

904

902

906 C = 248.0

904

C.Y. 78

904

902 C = 0.0

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

PLATE 3 CROSS SECTIONS OF PROPOSED IMPROVEMENT AS SHOWN ON PLANS

X- SECTIONS MARSHALL ST. STA. 0+00 TO STA. 1+50

FED. RD.	STATE	PROJECT	
2	OHIO		

255/492

MAH-18-17.20

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

EXISTING ℄

MEET EXIST. GROUND @BLDG. ELEV. 902.40

3 STORY BUILDING

MEET EXIST'G GROUND 93.0' LT. ℄ EL. 902.30

"C" 904 902 "C"

90 80 70

900.61 900.72 P.G. 900.24

3+0 (903.98)

STA. 972+14.58 EXPRESSWAY

EXISTING NORTH

2.5'

'C' 'C'

DRIVEWAY

901.20 901.31 P.G.

"B" 903 901 "B"

1/4"/1'

90 80 70

R/W LINE

2+75 (904.75)

STA. 971+80.58 EXPRESSWAY

'B' 'B'

1/4"/1'

902.04 901.82 P.G. 902.04

EXISTING FENCE

'A' 904 902 'A'

1/4"/1'

901.60

90 80 70

2+50 (905.22)

STA. 971+64.58 EXPRESSWAY

'A' 'A'

DRIVEWAY

1/4"/1'

902.46 902.57 P.G. 902.76

2+0 (906.27) ℄

STA. 971+14.58 EXPRESSWAY

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

END AREA C.Y.

906

904

902 C=275.0

904 613

902

905

C=387.0

903

901 762

C=436.0

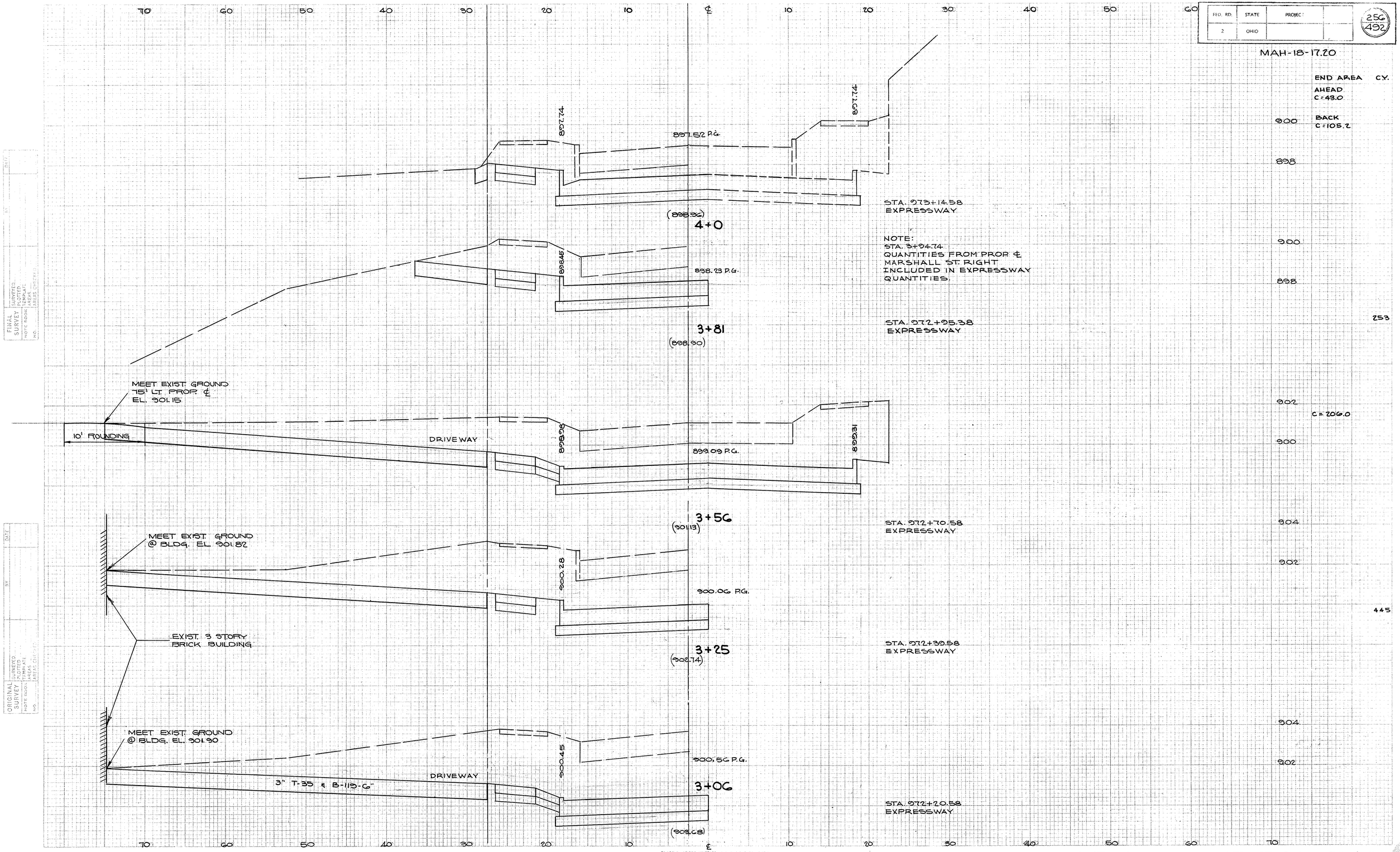
906

904 758

902

PLATE 7 CROSS SECTION C. P. R. R. E. STANDARD KEUFFEL & ESSER CO. NEW YORK.

X-SECTIONS MARSHALL ST. STA. 2+00 - STA. 3+00



X- SECTIONS - MARSHALL ST. STA. 3+06 - STA. 4+0

| | | |

ORIGINAL SURVEY

FINAL SURVEY

SEEDING END WIDTH	SEEDING SQ. YDS

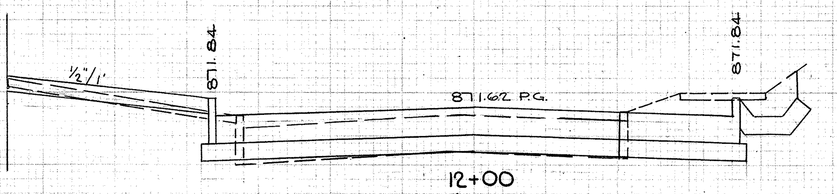
END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL



12+50
(871.10)

872
STA. 981+64.58 EXPRESSWAY
870

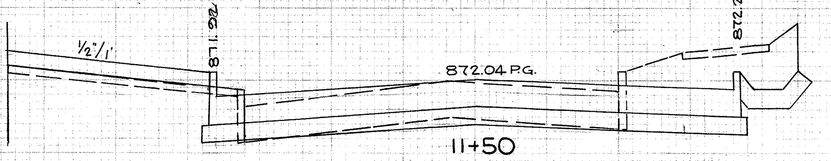
23.2 | 47



12+00
(871.80)

872
STA. 981+14.58 EXPRESSWAY
870

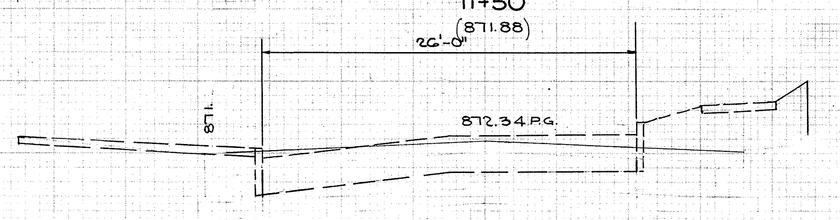
17.2 | 38



11+50
(871.88)

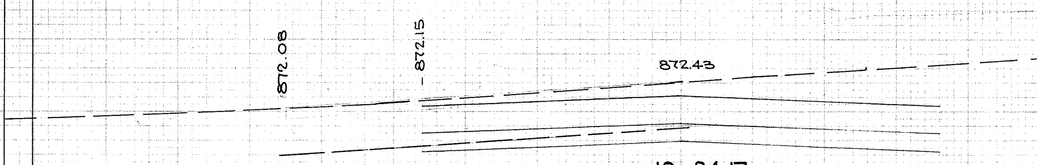
872
STA. 980+64.58 EXPRESSWAY
870

28.3 | 42



11+00
(872.52)

874
STA. 980+14.58 EXPRESSWAY
872



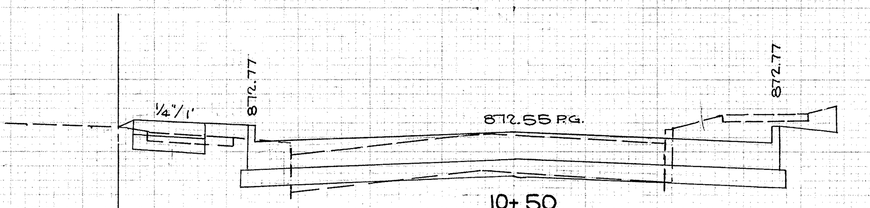
10+84.17
(872.79)

℄ EDWARDS ST.

874
872

6+20

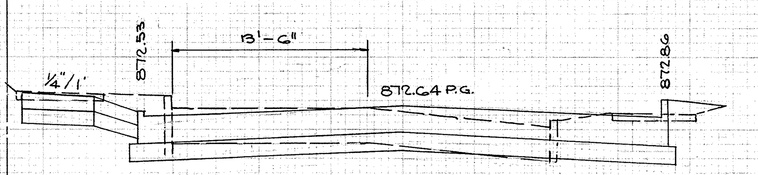
4.6 | 1.0



10+50
(872.40)

874
872
STA. 979+64.58 EXPRESSWAY

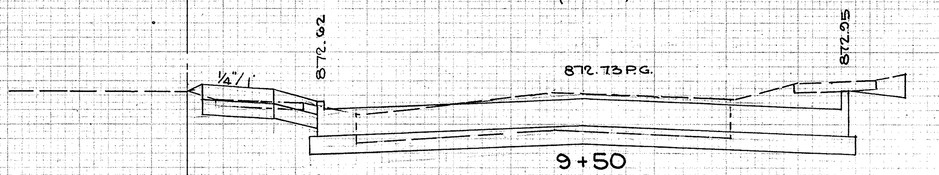
21.9 | 1.1



10+00
(872.60)

874
872
STA. 979+14.58 EXPRESSWAY

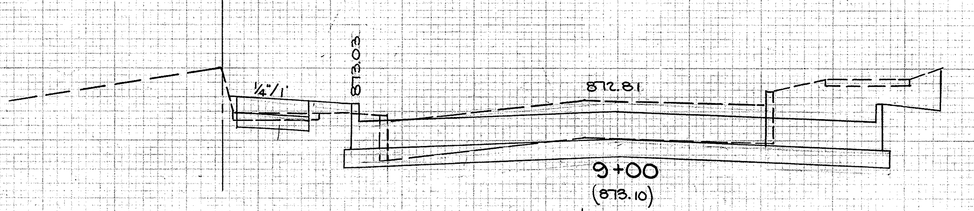
21.9 | 1.0 | 4.0 | 2.0



9+50
(872.82)

874
872
STA. 978+64.58 EXPRESSWAY

28.5 | 0.8 | 4.7 | 1.6 | 6.0 | 1.7



9+00
(873.10)

874
872
STA. 978+14.58 EXPRESSWAY

35.7 | 1.0

X-SECTIONS MARSHALL ST. STA. 9+00 - STA. 12+50

FED. RD.	STATE	PROJECT
2	OHIO	MAH-18-17.20

255 252

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
24.3		44	0.3
22.9		43	
24.7		44	
25.6		47	
25.2		51	
26.3		52	
24.8		47	
26.5		50	
25.5		50	
21.8		50	

FED. RD.	STATE	PROJECT	
2	OHIO		

259
492

MAH-18-17.20

STA. 986+64.58 EXPRESSWAY 868
STA. 986+14.58 EXPRESSWAY 868
STA. 985+64.58 EXPRESSWAY 868
STA. 985+14.58 EXPRESSWAY 868
STA. 984+64.58 EXPRESSWAY 868
STA. 984+14.58 EXPRESSWAY 870
STA. 983+64.58 EXPRESSWAY 870
STA. 983+14.58 EXPRESSWAY 870
STA. 982+64.58 EXPRESSWAY 870
STA. 982+14.58 EXPRESSWAY 870

868.97 P.G. 869.19 869.19
868.18 P.G. 869.40 869.40
869.39 P.G. 869.61 869.61
869.61 P.G. 869.83 869.83
869.82 P.G. 870.04 870.04
870.03 P.G. 869.92 870.25
870.25 P.G. 870.14 870.47
870.46 P.G. 870.68 870.68
870.69 P.G. 870.91 870.91
870.96 P.G. 870.85 871.18

17+50 (868.71)
17+00 (869.11)
16+50 (869.45) EXISTING
16+00 (869.45)
15+50 (869.79)
15+00 (869.99)
14+50 (870.15)
14+00 (870.50)
13+50 (870.70)
13+00 (870.89)

EXIST. ℄

EXIST. & PROP. NORTH R/W LINE

DRIVEWAY APPROACH

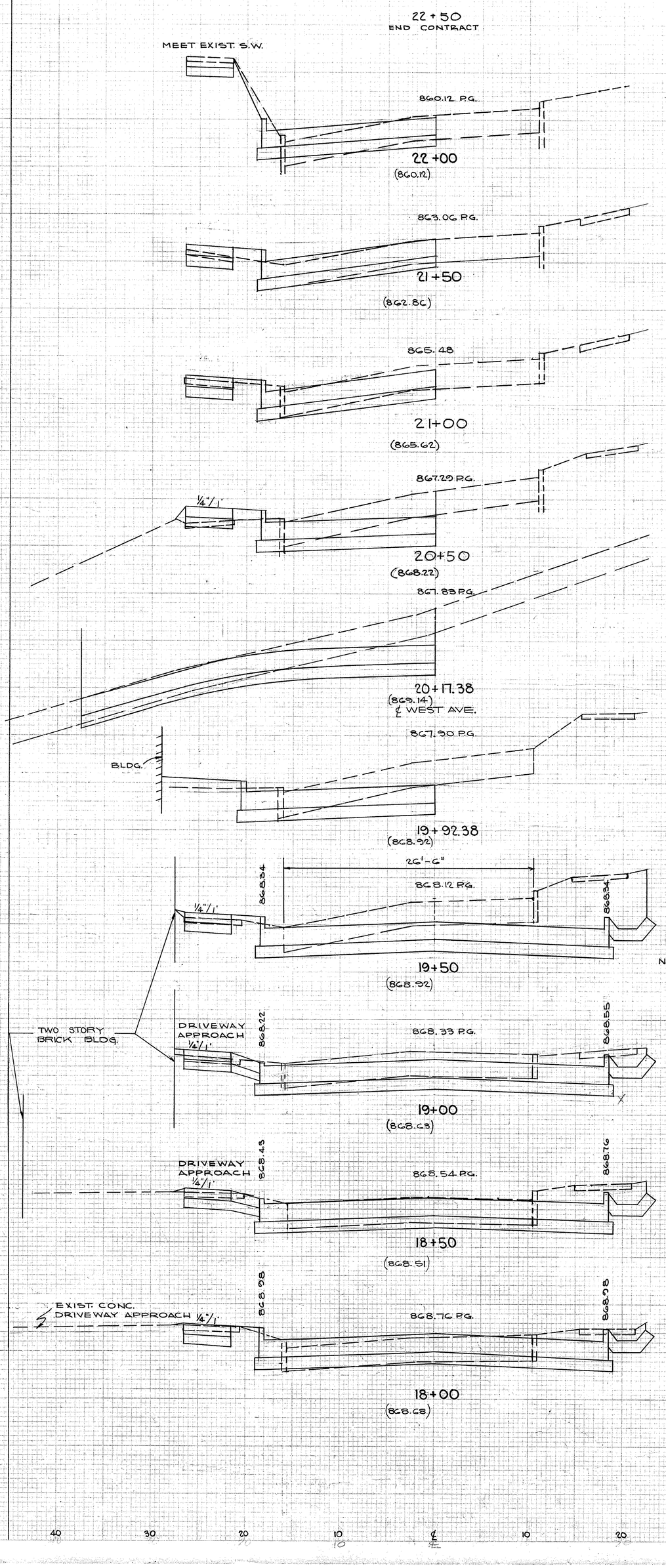
DRIVEWAY APPROACH

ONE STORY BLOCK BLDG

1/4":1'

SEEDING END SQ WIDTH YDS

X-SECTIONS MARSHALL ST. STA. 13+0 - STA. 17+50



NOTE:
STA. 19+50.05
END TYPE I GUTTER.
RAMP "J" QUANTITIES
TAKEN TO ℄ MARSHALL ST.

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
				6	0.0
		6.8			
				8	4.0
		2.0	4.3		
				6	6.4
		4.2	2.6		
				18	4.0
		14.6	1.7		
				147	5.2
		65.0	1.0		
				94	1.0
		36.5	0.0		
				62	0.3
		31.7	0.3		
				51	0.6
		23.4	0.3		

860 858 864 862 866 864 868 870 868 868 866 870 868 870 868 870 868 872 870 870

FED. RD. 2 | STATE OHIO | PROJECT

MAH-18-17.20

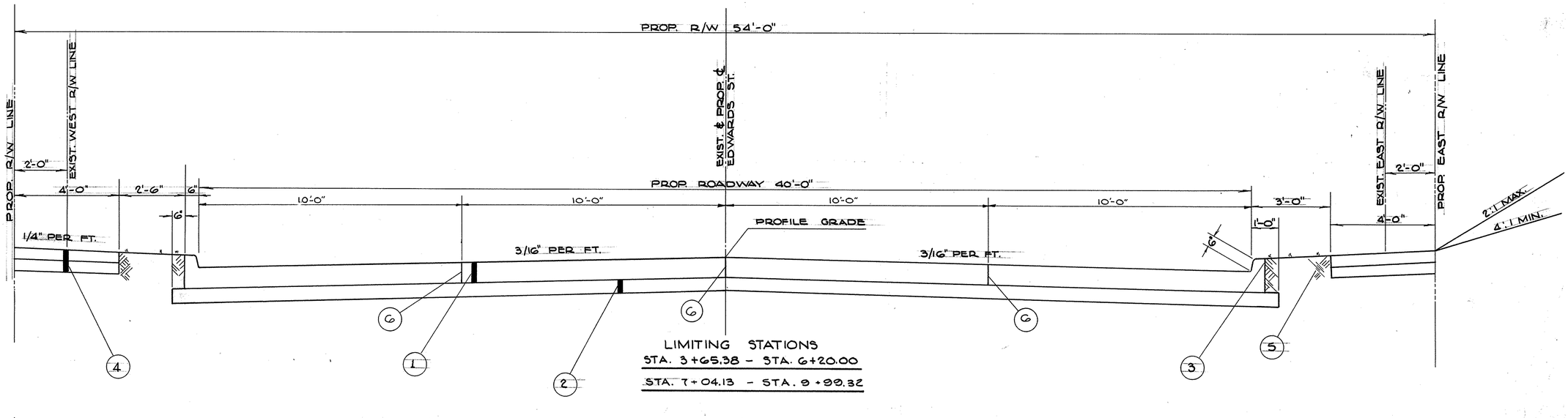
260
492

X-SECTIONS MARSHALL ST. STA. 18+0- STA. 22+0

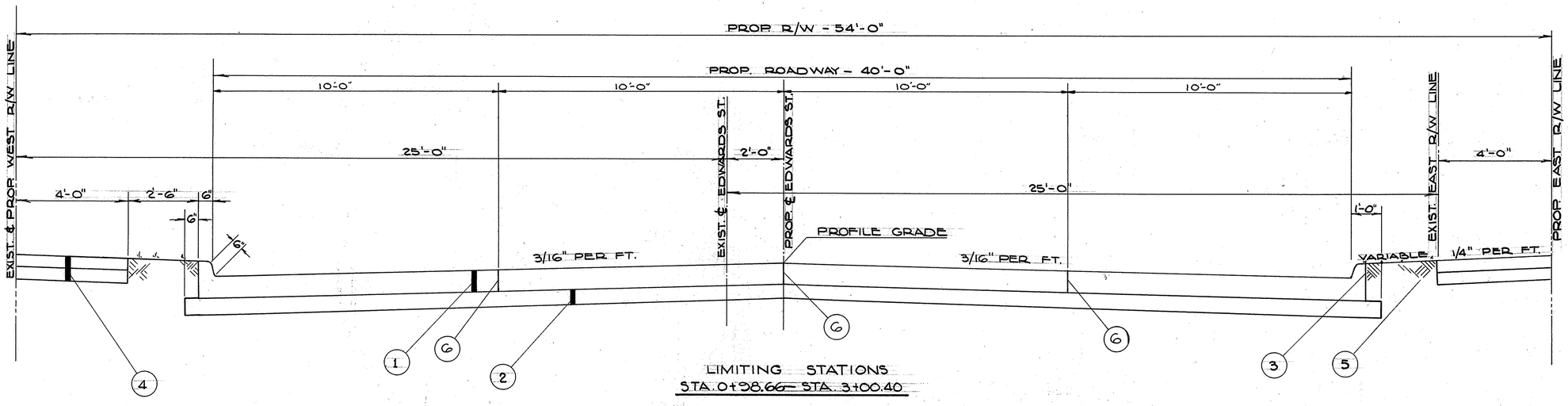
FED. RD.	STATE	PROJECT	
2.	OHIO		

MAH-18-17.20

261
492



LIMITING STATIONS
STA. 3+65.38 – STA. 6+20.00
STA. 7+04.13 – STA. 9+90.32



LIMITING STATIONS
STA. 0+98.66 – STA. 3+00.40

(1) ITEM T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(2) ITEM I-22 6" SUBBASE
(3) ITEM I-12 STANDARD TYPE 2A CONCRETE CURB
(4) ITEM I-13 5" CONCRETE SIDEWALK (CLASS "C") INCLUDING 5" CINDER SUBBASE
(5) ITEM L-9 SEEDING AND PROTECTING
(6) ST'D LONGITUDINAL JOINT

TYPICAL SECTIONS – EDWARDS ST.

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

262
492

MICROFILMED
SEP 19 1985

T- HUB BY PORCH STEPS HOUSE 903

IRON PIN BY STONE RET. WALL, 12' SW. OF 15" MAPLE

T. HUB, EAST SIDE OF 8" MAPLE, SOUTH OF HOUSE 128

T. HUB BY N.E. COR. HOUSE 901

IRON PIN AT SW. COR. HOUSE 30

PK. NEAREST S. RIM OF MH.

R.R. SPIKE IN WALK AT N.W. COR. WAREHOUSE

IRON PIN BY FRONT PORCH HOUSE 309

R.R. SPIKE

T- HUB W. SIDE OF CHURCH

T-HUB SW. COR. PORCH HOUSE 133

PT. ON MH. COVER

PT. ON MH. COVER

CURVE DATA

Δ = 18°-37'-00"
R = 200.00'
T = 32.78'
L_c = 64.98'

NOTE: TAPER CURB TO 2.0' FROM ℄ IN 10'

BM # 17 A.
"D" CUT IN NW. COR. OF BOTTOM STEP HSE. 1003 HIGH ST. EL. 933.22

BM #18
EDWARDS AND HIGH ST.
F.H. SW. COR. TOP OF STEM
EL. 929.64

BM #25
SW. COR. HO. 903 ON ORANGE
"D" CUT ON CONC. STEP
EL. 901.95

STA. 0+63.31
BEGIN WORK

FOR DETAILS ON RELOCA BURNS ST. SEE SH'T. Nº 268

NOTE: SEE EDWARDS STREET CROSS SECTIONS FOR CROSS SLOPE BETWEEN 0+63.31 ℄ 0+98.66

STA. 6+20
END WORK

STA. 9+99.32
END WORK

STA. 7+04.13
BEGIN WORK

STA. 979+99.50
℄ Y. EXP.

STA. 5+28.84

FOR DETAILS OF PROPOSED & EXIST. R/W LINES SEE TYPICAL SECTIONS SHEET NO. 261

FOR DETAILS OF INTERSECTIONS SEE SHEET Nº 263

FOR LOCATION OF PROPOSED TYPE II. INLETS OR THOSE TO BE ABANDONED OR REMOVED SEE SHEET NO. 263

SEE SH'T. Nº 263 FOR M.H'S. TO BE ADJUSTED TO GRADE.

ITEM E-8 EXIST. SIDEWALK REMOVAL (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-1	0+63.31	3+32	LT.	1520
B-2	3+54	6+20	LT.	1505
B-3	0+63.31	6+20	RT.	2785
B-4	7+04.13	9+99.32	LT.	1600
B-5	7+04.13	9+99.32	RT.	1600

ITEM I-13 CONC. SIDEWALK REPL. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-1	0+63.31	3+30	LT.	1238
H-2	3+58	6+20	LT.	1158
H-3	0+63.31	6+20	RT.	2228
H-4	7+04.13	9+90	LT.	1279
H-5	7+04.13	9+90	RT.	1440

ITEM E-8 REMOVAL & DISPOSAL OF EXISTING RIGID PAVEMENT (SQ. YD.)

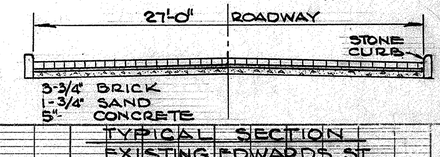
CODE	FROM	TO	S.Y.
P-1	0+57.18	6+20	1689
P-2	7+04.13	9+99.32	885
TOTAL			2574

ITEM I-12 CONC. CURB REPLACE. (L.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
G-1	0+63.31	3+37	LT.	292
G-2	3+54	6+20	LT.	260
G-3	0+63.31	6+20	RT.	530
G-4	7+04.13	9+97	LT.	292
G-5	7+04.13	9+97	RT.	291

ITEM E-8 EXIST. CURB REMOVE & STORE (L.F.)

CODE	FROM	TO	LOCA.	QUAN.
A-1	0+63.31	3+37	LT.	307
A-2	3+54	6+20	LT.	300
A-3	0+63.31	6+20	RT.	557
A-4	7+04.13	9+97	LT.	307
A-5	7+04.13	9+97	RT.	306



TYPICAL SECTION
EXISTING EDWARDS ST.

ITEM SS DRIVEWAYS

CODE	STA.	W.A. REQ.	TYPE	QUANT.
J-1	1+05 L			
J-2	1+17 R			
J-3	8+05 L			
J-4	2+12 R			
J-5	3+00 R			
J-6	3+52 R			
J-7	0+78 R			
J-8	7+26 R			
J-9	7+46 R			
J-10	8+10 R			
J-11	8+95 R			
J-12	9+36 R			
J-13	8+20 L			

DRIVE T-18 RCC APPROACHES (SY)

ITEM	QUANT
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3
T-71	5.3

SINGLE PRIVATE

10' ROUNDING

PROFILE GRADES

EXIST. ELEV.

PROF. HIGH ST. WEST
EL. 926.51

P.V.I. STA. 0+25
EL. 926.10

-1.64%

STA. 0+63.31 BEGIN WORK
EL. 922.05

-10.54%

50' V.C.

P.V.I. 1+00
EL. 918.18

-9.09%

12" COMB. SEWER

INV. 909.72 - 12"

P.V.I. STA. 3+00
EL. 900.00

-7.40%

INV. 889.71 - 12"
INV. 885.64 - 15"

P.V.I. STA. 4+00
EL. 892.60

-12.51%

100' V.C.

P.V.I. STA. 4+40
EL. 887.99

-6.99%

15" COMB. SEWER @ 9.00% FOR 150'

STA. 4+74.01 MIN. CLEAR
EL. 883.34

P.V.I. STA. 5+00
EL. 880.09

℄ EXPRESSWAY 979+99.5
5+28.84

P.V.I. STA. 6+00
EL. 871.30

P.V.I. STA. 7+50
EL. 871.15

PROP. ℄ MARSHALL
STA. 6+65.85
EL. 874.43

+1.56%

-1.47%

-1.32%

-4.68%

50' V.C.

100' V.C.

21" @ 1.00% FOR 375'

21" @ 2.00% FOR 45'

P.V.I. STA. 9+50
EL. 868.55

18" COMB. SEWER

INV. 864.32 - 15"
INV. 864.32 - 18"

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00

EDWARDS ST. PLAN - PROFILE

PLAN
SURVEYED BY
PLOTTED DATE
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO.

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
R/W NOTES
NO.
STRUCTURE NOTATIS CHKD

Printed in U.S.A.
On DIETZGEN GRAFTEX MOISTURE PROOF Cloth

PLATE 1 PLAN - PROFILE & TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

263
492

ITEM I-8 MANHOLES-ADJ. TO GRADE (EA)				
CODE	STATION	LOCA.	TOP EL.	REMARKS
E-1	1+75.96	℄	920.72	—
E-2	3+30.66	℄	897.07	

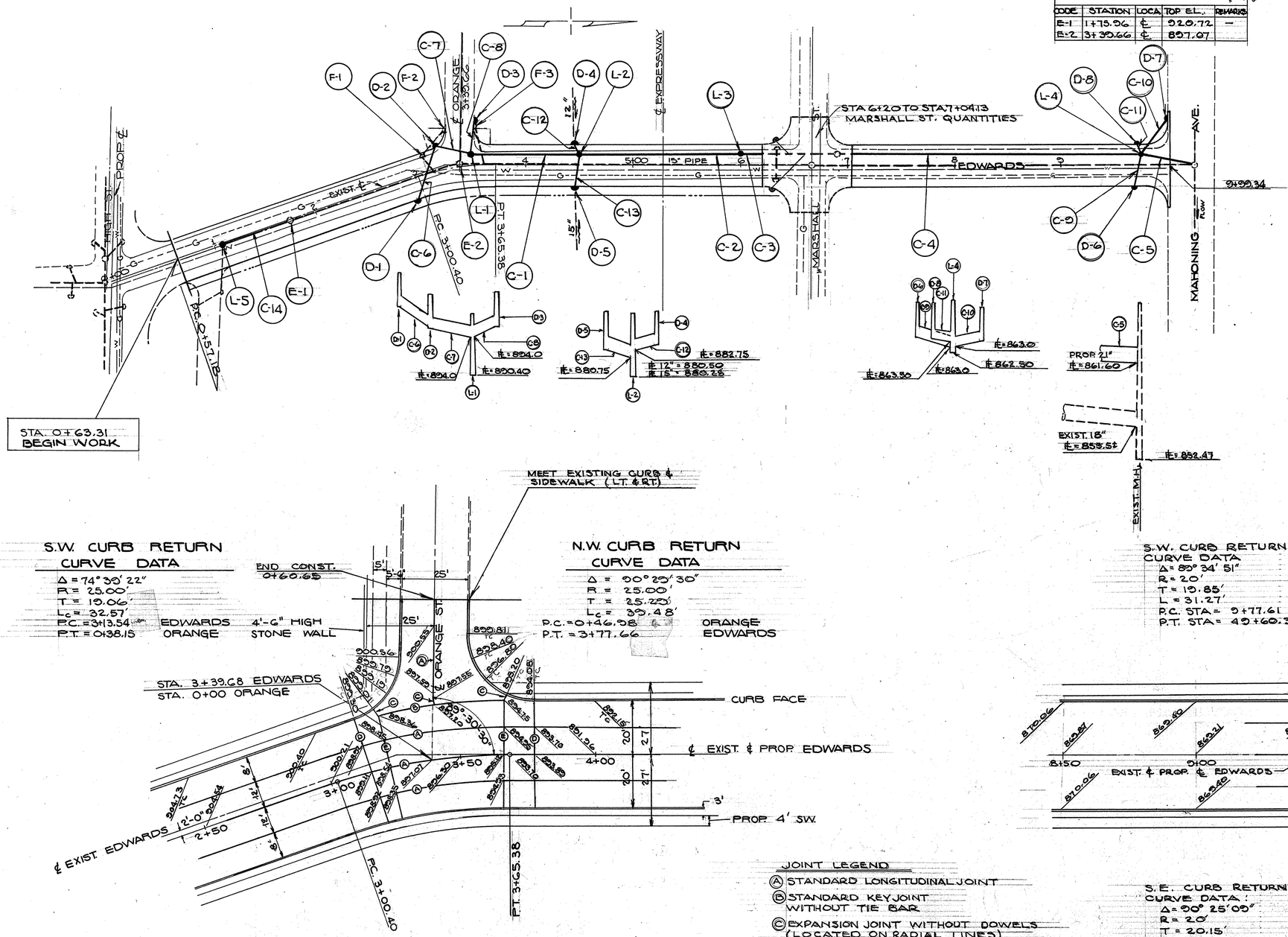
ITEM I-6 INLETS-ABAND (EACH)		
CODE	STATION	LOCA.
F-1	3+05	LT.
F-2	3+14	LT.
F-3	3+23	LT.

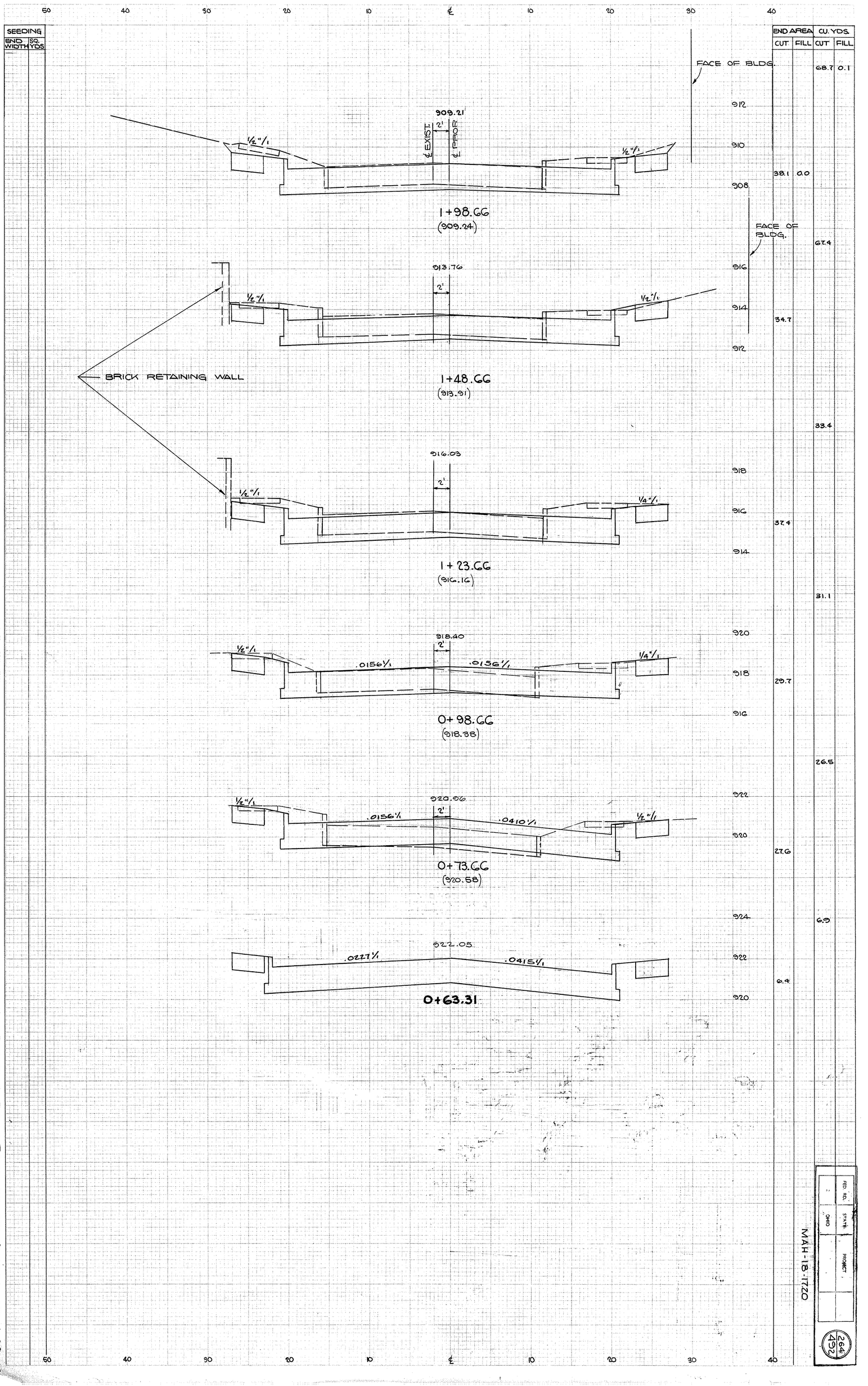
ITEM I-2 STORM SEWERS UNDER PAVEMENT & APPROACHES SEC. M6.8(b)					
CODE	FROM STA.	TO STA.	LOCA.	SIZE	L.F.
C-1	3+50	4+50	LT	12"	96
C-2	4+50	6+00	LT	15"	146
C-3	6+00	6+20	LT	21"	18
C-4	7+04.13	9+75	LT	21"	270
C-5	9+75	EX. M.H.	LT.	21"	38
C-6	D-1	D-2	L&R	12"	50
C-7	D-2	L-1	LT	12"	30
C-8	D-3	L-1	LT	12"	38
C-9	D-6	L-4	L&R	12"	30
C-10	D-7	L-4	LT	12"	37
C-11	D-8	L-4	LT	12"	11.5
C-12	D-4	L-2	LT	12"	12
C-13	D-5	L-2	L&R	15"	25
C-14	L-5	E-1	℄	12"	98

372.5 = 12"
326 = 21"
175 = 15"

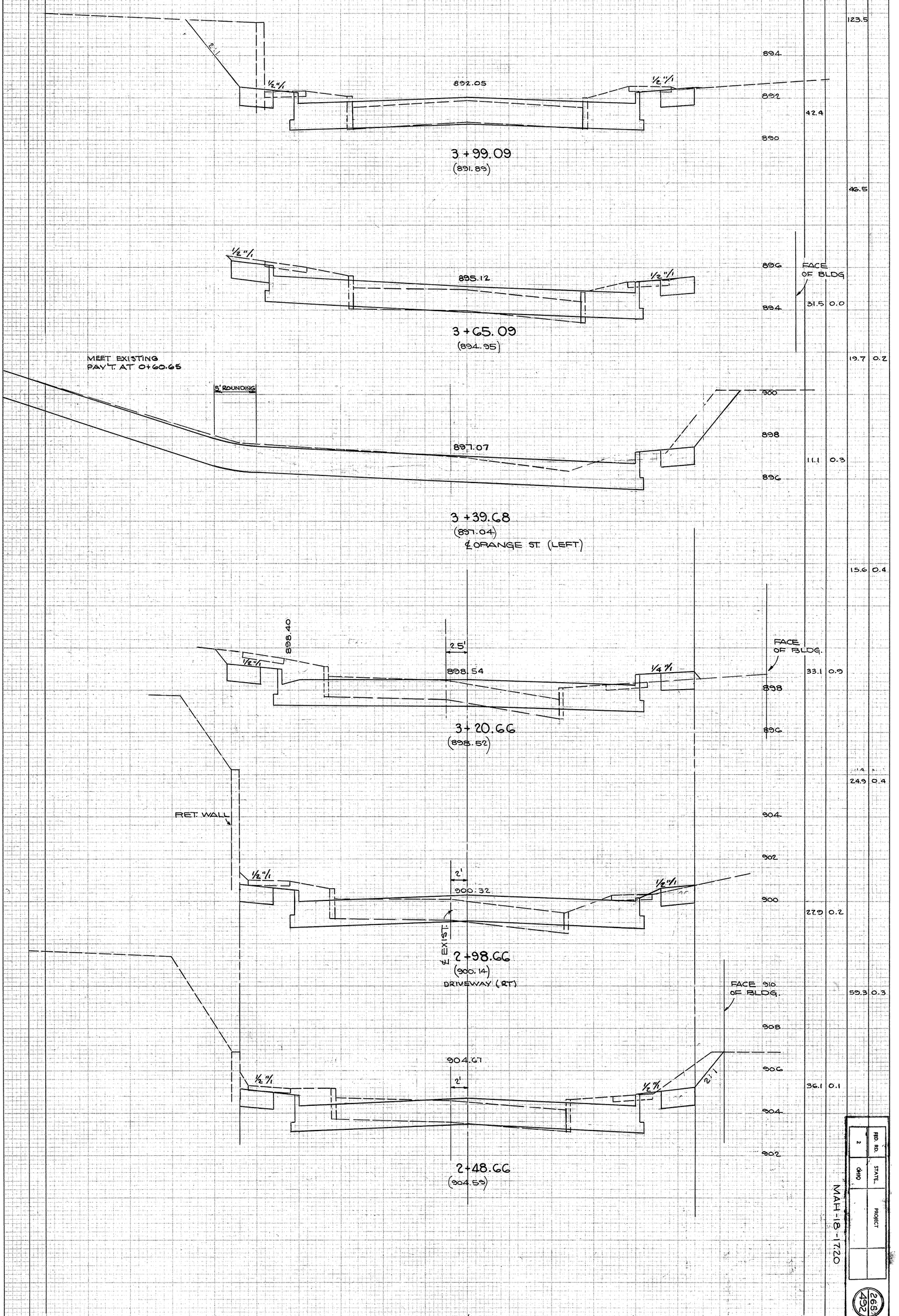
I-8 INLETS YOUNGSTOWN (No 1)				
CODE	STA.	LOC.	WINDOW	INVT.
D-1	2+03.57	RT	900.21	896.90
D-2	1/4 PT	LT	898.26	894.95
D-3	0+53.81	ORANGE	899.95	896.64
D-4	4+44.84	LT	886.43	883.12
D-5	4+44.84	RT	886.43	881.25
D-6	9+70.19	RT	867.14	863.83
D-7	10+53.51	MAHON	866.88	863.57
D-8	9+70.78	LT	867.08	863.77

ITEM I-8 MANHOLE-ST'D No 1 (EACH)						
CODE	STATION	LOCA.	12" INVERT	15" INVERT	21" INVERT	TOP
L-1	3+50	10' LT.	890.40			896.14
L-2	4+50	10' LT.	880.50	880.25		886.18
L-3	6+00	10' LT.		866.75	866.25	872.52
L-4	9+75	10' LT			862.50	867.37
L-5	1+07	℄	810.50			





SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
FACE OF BLDG.
909.21
2'
℄ EXIST.
℄ PROP.
1/2"/1
1/2"/1
1+98.66
(909.24)
913.76
2'
1/2"/1
1/2"/1
BRICK RETAINING WALL
1+48.66
(913.91)
916.03
2'
1/2"/1
1/4"/1
1+23.66
(916.16)
918.40
2'
1/2"/1
.0156'/1
.0156'/1
1/4"/1
0+98.66
(918.38)
920.96
2'
1/2"/1
.0156'/1
.0410'/1
1/2"/1
0+73.66
(920.58)
922.05
.0227'/1
.0415'/1
0+63.31
912
910
908
916
914
912
918
916
914
920
918
916
922
920
924
922
920
68.7
0.1
38.1
0.0
67.4
34.7
33.4
37.4
31.1
29.7
26.5
27.6
6.9
6.4
X - SECTIONS - EDWARDS ST. STA. 0+63.31 - STA. 1+98.66
MAH-18-17.20
FED. RD.
STATE
OHIO
PROJECT
264
492

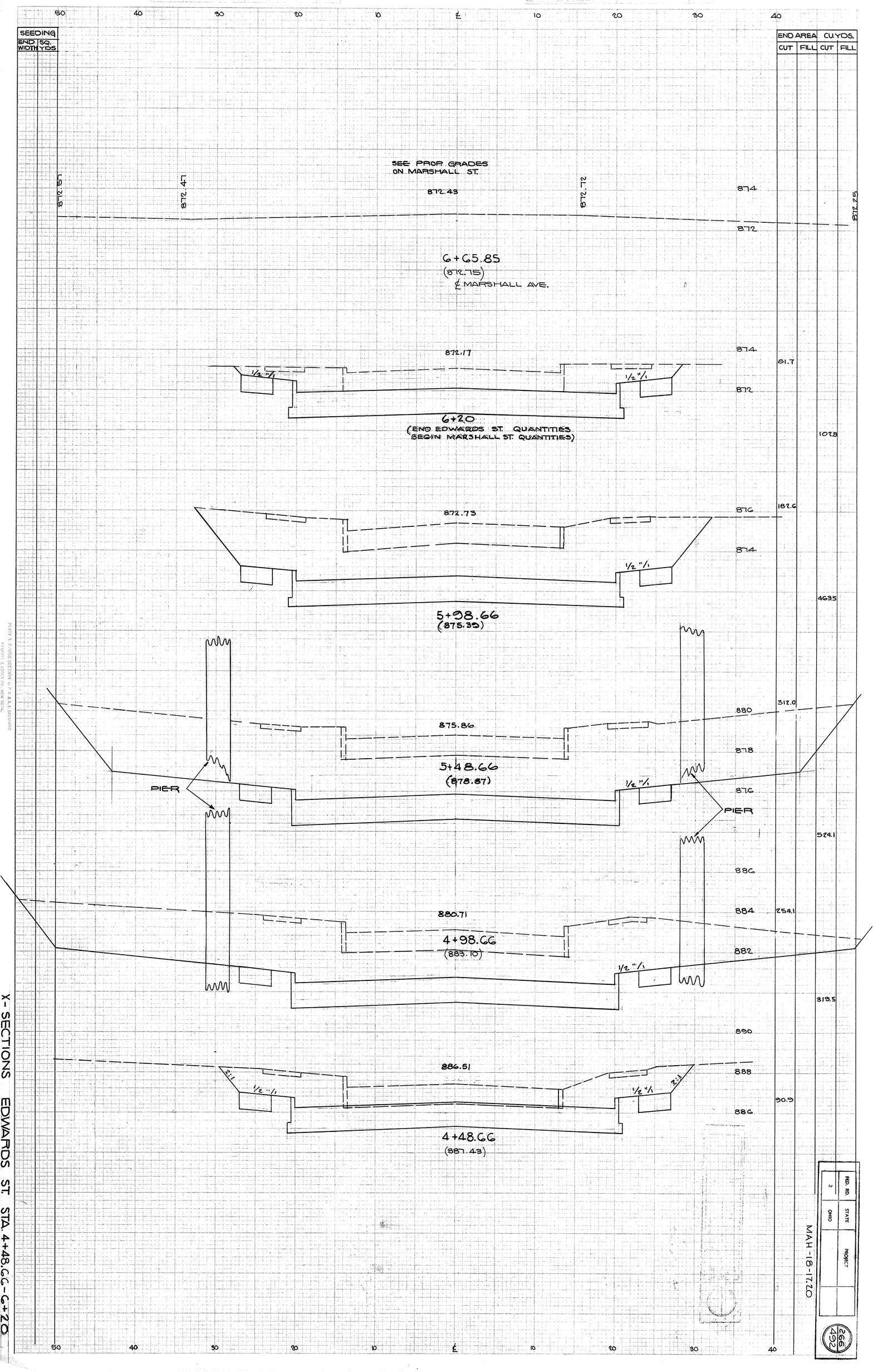


X- SECTIONS : EDWARDS ST. STA. 2+48.66 - STA. 3+99.09

MAH-18-17.20

FED. RD.	STATE	PROJECT
2	OHIO	

265
492



X-SECTIONS EDWARDS ST. STA. 4+48.66-6+20

FED. RD.	STATE	PROJECT
2	OHIO	

MAH-18-17.20

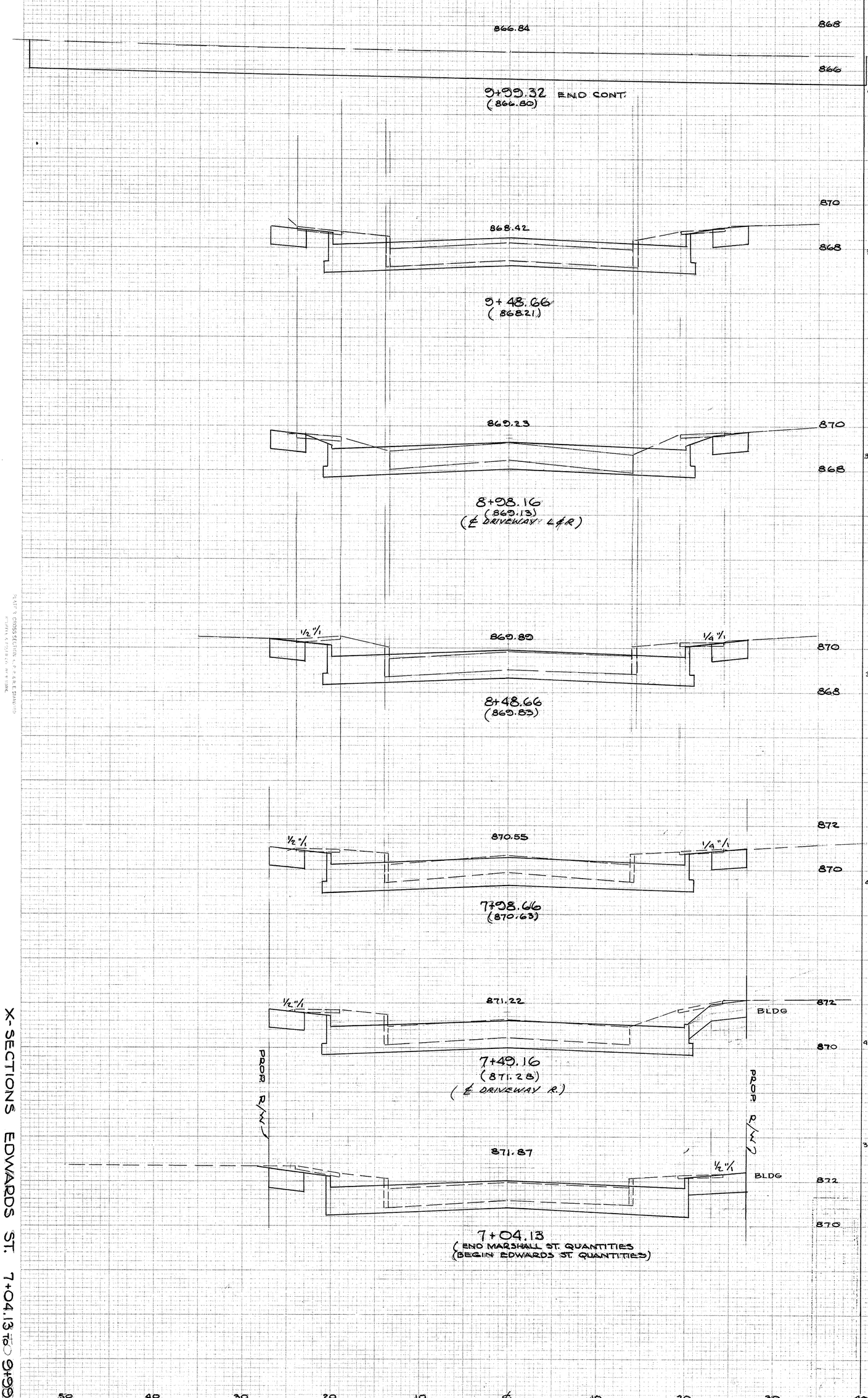
266
492

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

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

X-SECTIONS EDWARDS ST. 7+04.13 TO 9+99.32

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
9+99.32 END CONT. (866.80)	0.0			
			30.3	
9+48.66 (868.21)	33.1			
			60.5	
8+98.16 (869.13) (℄ DRIVEWAY L & R)	32.2			
			65.7	
8+48.66 (869.83)	38.7			
			73.6	
7+98.66 (870.63)	40.8			
			79.4	
7+49.16 (871.28) (℄ DRIVEWAY R.)	44.9			
			68.4	
7+04.13 (END MARSHALL ST. QUANTITIES) (BEGIN EDWARDS ST. QUANTITIES)	37.2			



FED. RD.	STATE	PROJECT
2	OHIO	

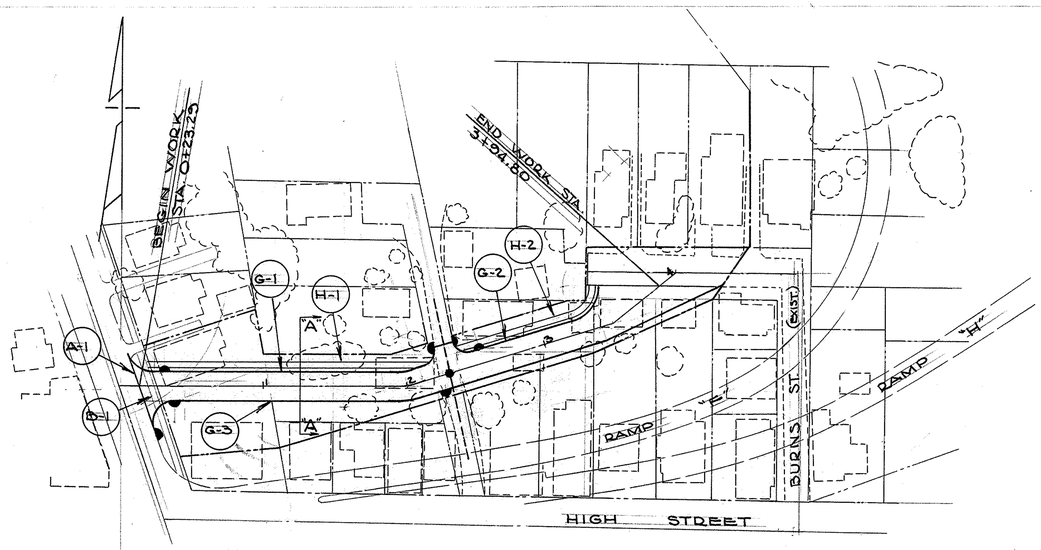
MAH-18-17.20

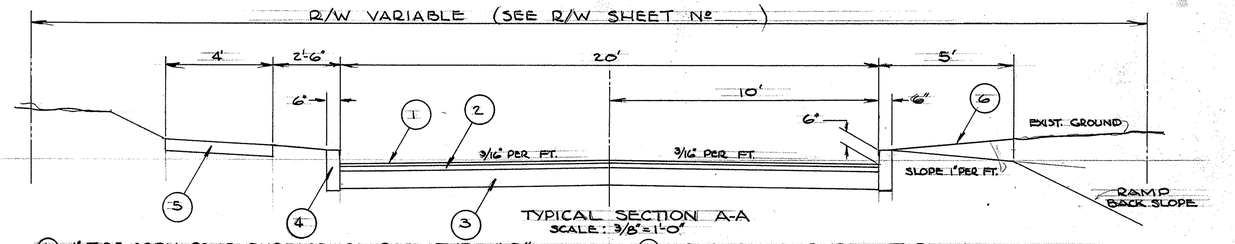
367
392

FED RD.	STATE	PROJECT	
2	OHIO		

268
492

MAH-18-17.20





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

1. 1" T-35 ASPH. CONC. SURFACE COURSE – TYPE "C"
2. 2" B-35 ASPH. CONC. LEVELING COURSE
3. 8" B-19 AGGREGATE BASE COURSE
4. I-12 CONC. CURB – TYPE 6
5. 5' I-13 CONC. SIDEWALK, CLASS "C" INCL. 5" CINDER BASE
6. L-9 SEEDING & PROTECTING

ITEM: E-8 REMOV. & DISP. OF EXIST. CURB				
CODE	FROM	TO	LOCA.	QUAN.
A-1	0+60.68	1+17.18	RT.	56.50'

ITEM: E-8 REMOV. & DISP. OF EXIST. S.WALK				
CODE	FROM	TO	LOCA.	QUAN.
B-1	0+60.68	1+17.18	RT.	226 S.F.

ITEM: I-12 TYPE 6 CONCRETE CURB				
CODE	FROM	TO	LOCATION	QUAN.
G-1	0+23.25	2+24.00	LT. of ℄	221.28'
G-2	2+39.00	3+04.80	LT. of ℄	128.07'
G-3	0+23.25	3+04.80	RT. of ℄	410.73'

760-06

ITEM: I-13 5' CONC. SIDEWALK CLASS "C"				
CODE	FROM	TO	LOCA.	QUAN.
H-1	0+25	2+15	LT. of ℄	816 S.F.
H-2	2+40	3+04.80	LT. of ℄	444 S.F.

1760

NOTE: FOR DETAILS AND QUANTITIES ON UNDERGROUND UTILITIES SEE UTILITY RE-LOCATION SHEET Nº 96

FOR RAMP "F" DETAILS SEE SHEET Nº 55

FOR RAMP "H" DETAILS SEE SHEET Nº 57

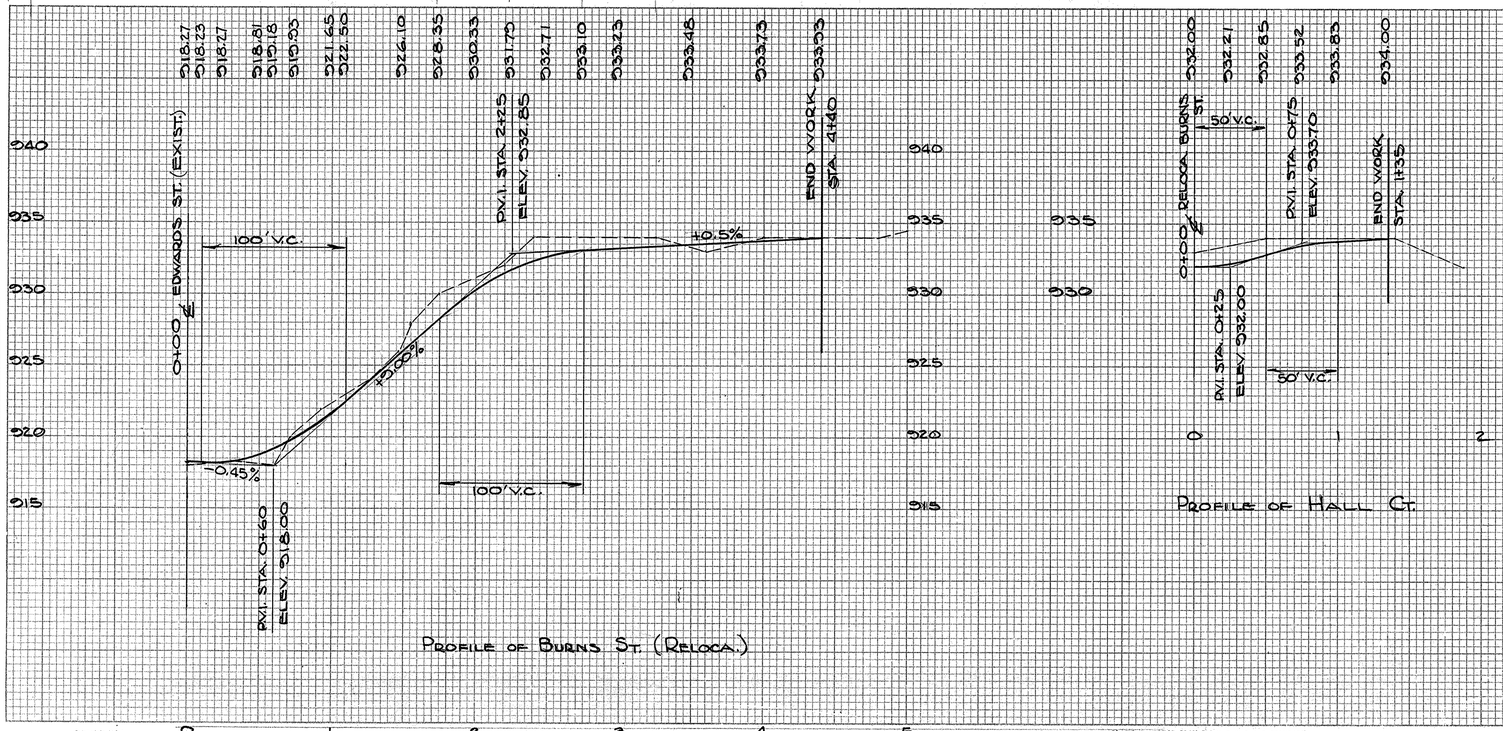
FOR HIGH ST. & EDWARDS ST. INTERSECTION DETAILS SEE SHEET Nº 71

FOR DETAILS ON EDWARDS ST. SEE SHEET Nº 262

SEE X-SEC. SH'T. Nº 271 FOR LIMITS OF WORK ON HALL CT.

FOR R/W DETAILS ON RELOCA. BURNS ST. SEE SHT. Nº 472

FOR INTERSECTION DETAILS SEE SHEET Nº 269



PROFILE OF BURNS ST. (RELOCA.)

PROFILE OF HALL CT.

PLATE 4—CROSS SECTION O. P. B. & R. E. STANDARD
EUGENE DIETZGEN CO. CHGO.—N. Y.

(RELOCA.) BURNS ST. & HALL CT.

Printed in U.S.A.
On DIETZGEN DRAFTEX MOISTURE PROOF Cloth

Printed in U.S.A.
DIETZGEN DRAFTEX MOISTURE PROOF Cloth

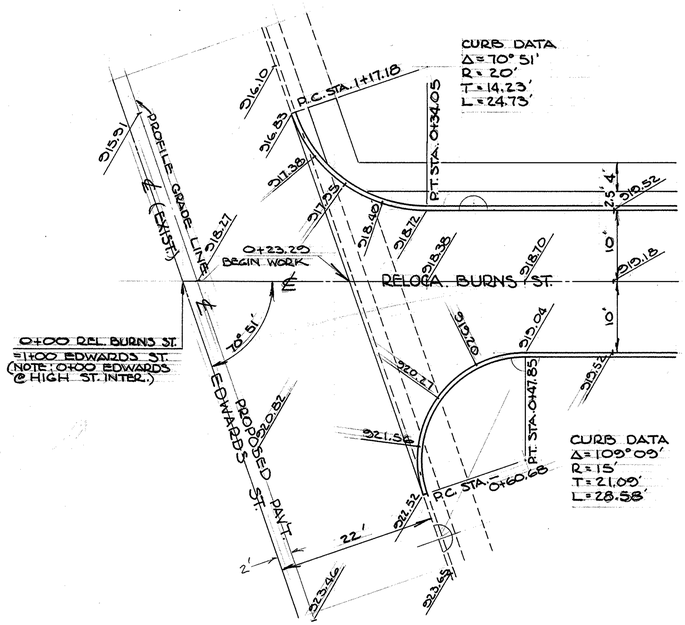
FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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

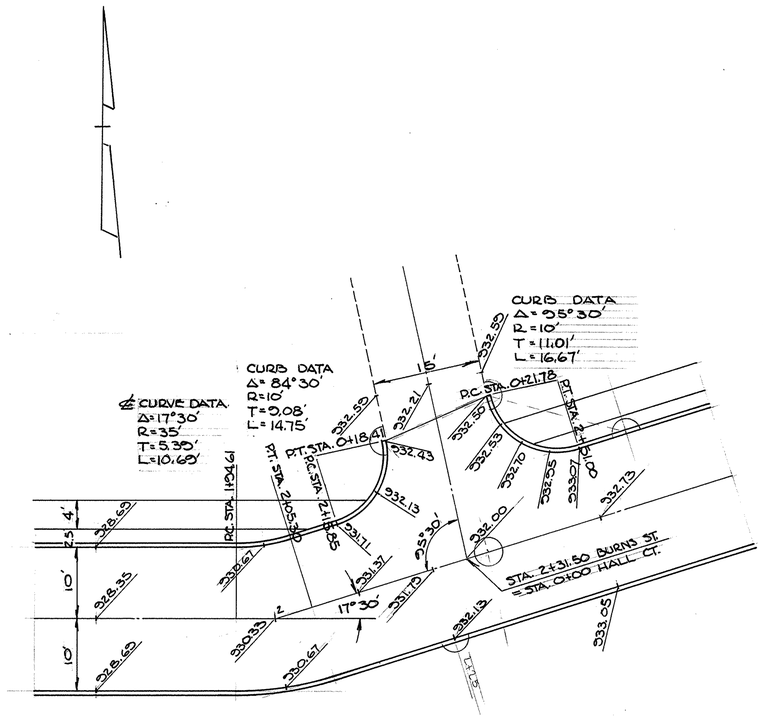
FED RD	STATE	PROJECT	
2	OHIO		

269
492

MAH-18-17.20

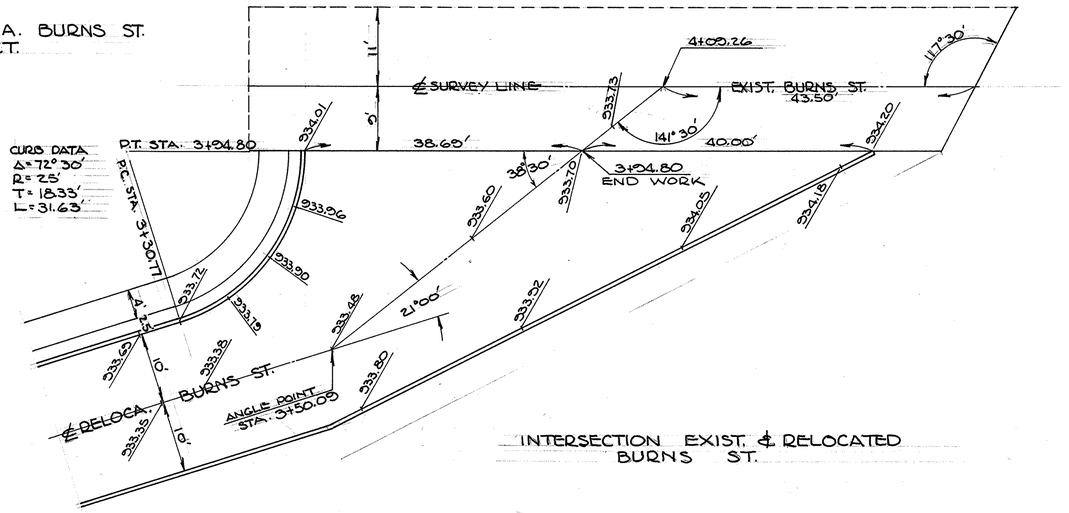


INTERSECTION EDWARDS ℄ RELOCA. BURNS ST.

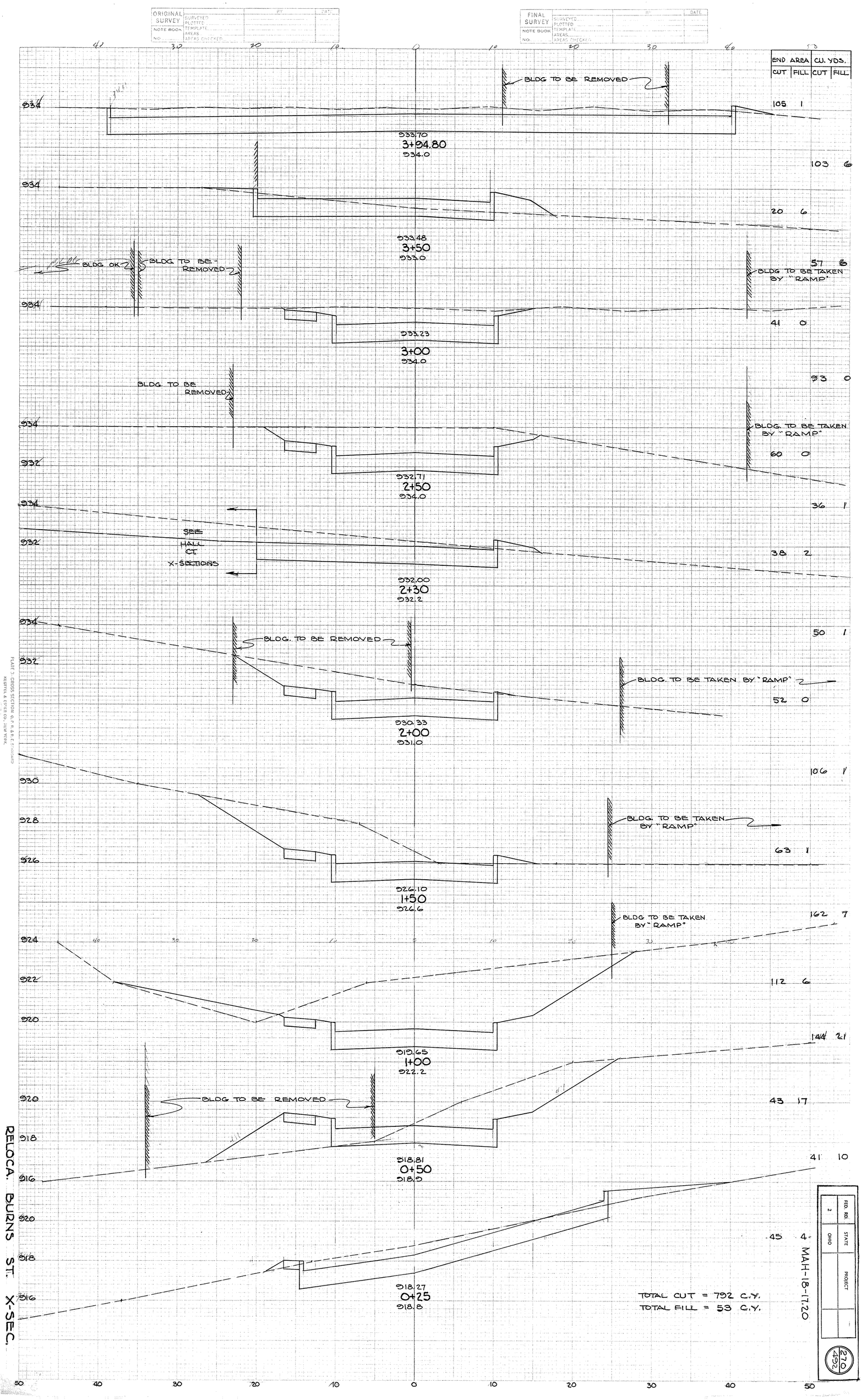


INTERSECTION RELOCA. BURNS ST. & EXIST. HALL CT.

NOTE: ALL CURB ELEV. SHOWN ARE TOP OF CURB GRADES

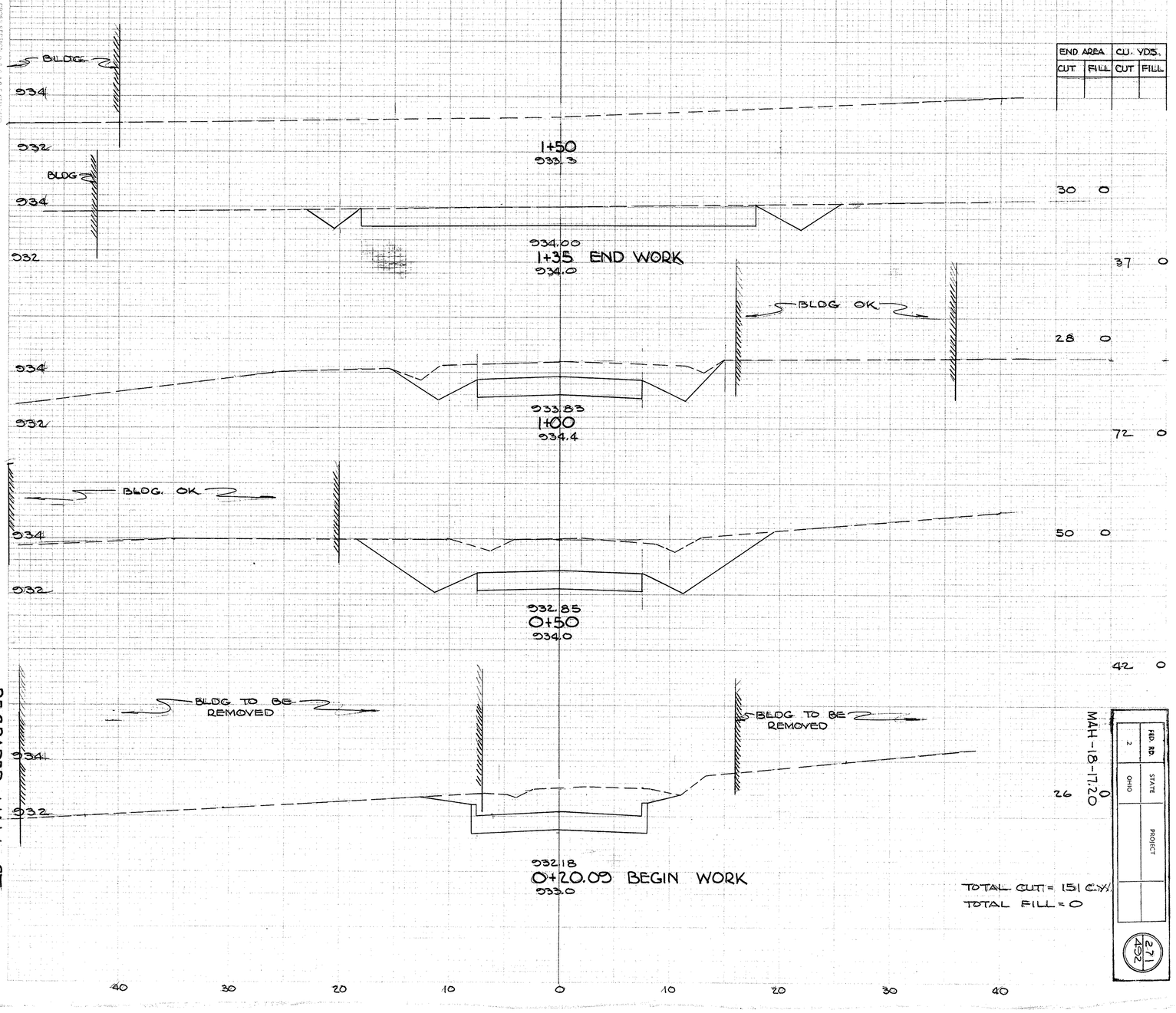


INTERSECTION EXIST. & RELOCATED BURNS ST.


ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
END AREA
CU. YDS.
CUT
FILL
CUT
FILL
BLDG TO BE REMOVED
934
105 1
933.70
3+94.80
934.0
103 6
934
20 6
933.48
3+50
933.0
BLDG OK
BLDG TO BE REMOVED
57 8
BLDG TO BE TAKEN BY "RAMP"
934
41 0
933.23
3+00
934.0
93 0
BLDG. TO BE REMOVED
934
BLDG. TO BE TAKEN BY "RAMP"
932
60 0
932.71
2+50
934.0
934
36 1
SEE HALL CT. X-SECTIONS
932
38 2
932.00
2+30
932.2
934
50 1
BLDG. TO BE REMOVED
932
BLDG. TO BE TAKEN BY "RAMP"
52 0
930.33
2+00
931.0
930
106 1
928
BLDG. TO BE TAKEN BY "RAMP"
926
63 1
926.10
1+50
926.6
BLDG TO BE TAKEN BY "RAMP"
162 7
924
922
112 6
920
919.65
1+00
922.2
144 21
920
BLDG TO BE REMOVED
43 17
918
918.81
0+50
918.9
41 10
916
920
45 4
918
918.27
0+25
918.8
916
TOTAL CUT = 792 C.Y.
TOTAL FILL = 53 C.Y.
50
40
30
20
10
0
10
20
30
40
50
PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO. NEW YORK.
RELOCA. BURNS ST. X-SEC.
FED. RD.
STATE
PROJECT
2
OHIO
MAH-18-17.20
270
492

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

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



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
30	0		
		37	0
28	0		
		72	0
50	0		
		42	0
26	0		

TOTAL CUT = 151 C.Y.
TOTAL FILL = 0

REGRADED HALL CT.

MAH-18-17.20

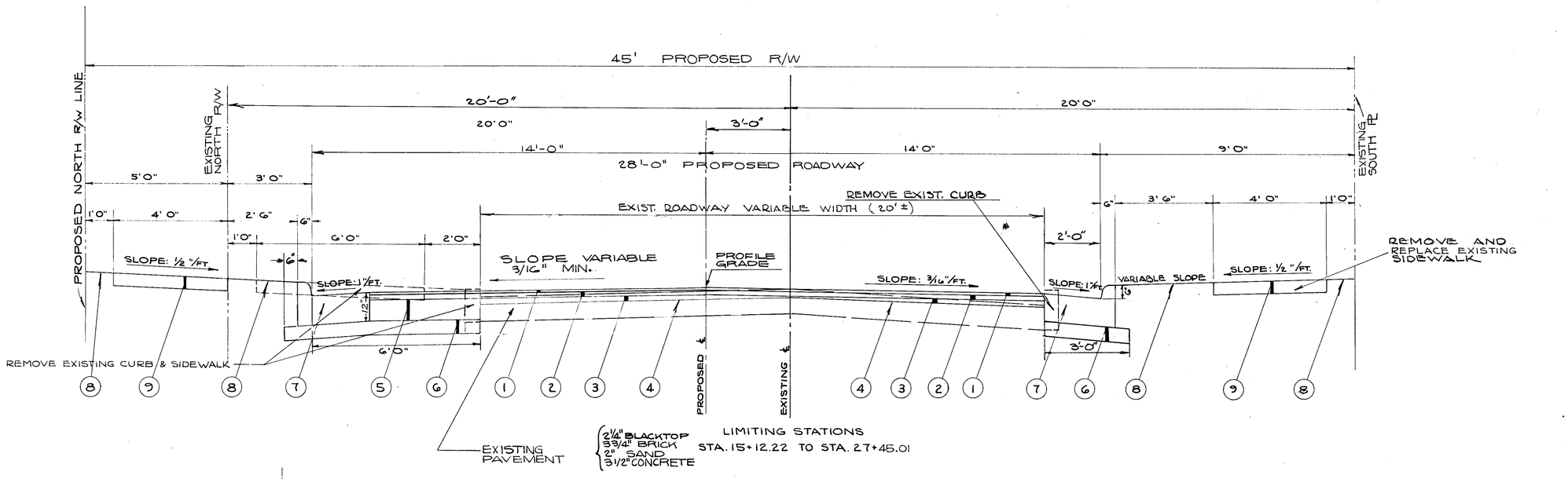
FED. RD.	STATE	PROJECT
2	OHIO	

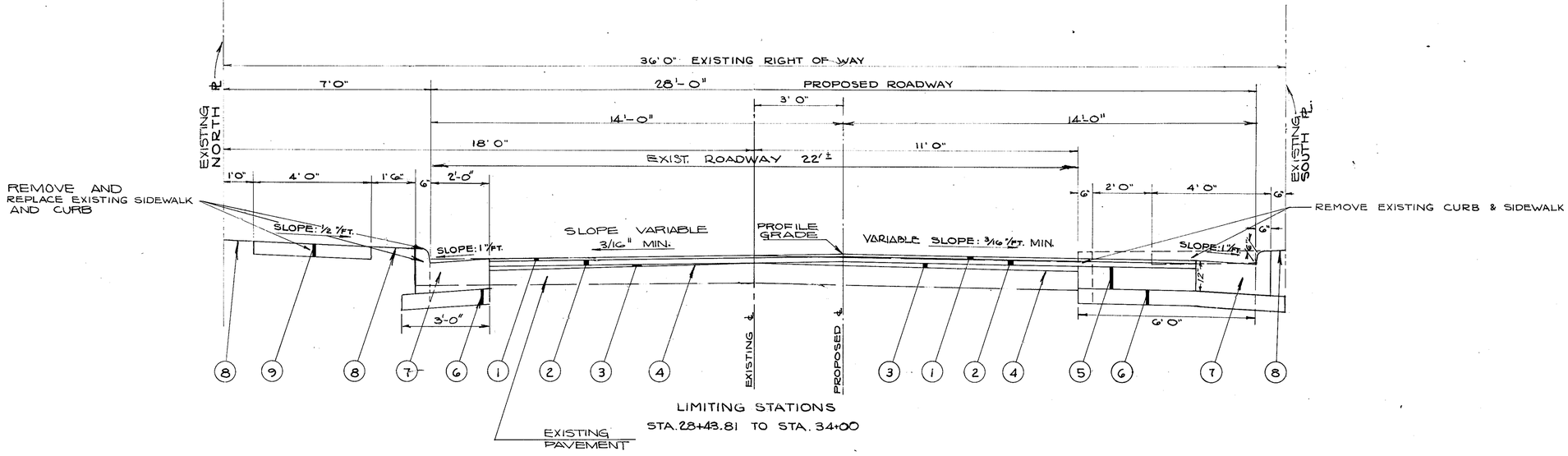
271
492

FED. RD.	STATE	PROJECT	
	OHIO		

272
492

MAH - 18 - 17.20





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

(2) 2"-B-35 ASPHALTIC CONC. LEVELING COURSE (70-85)

(3) B-35 ASPHALTIC CONC. PRE-LEVELING COURSE- VARIABLE THICKNESS (70-85)

(4) T-30 BITUMINOUS TACK COAT-0.10 GAL. PER SQ. YD.

(5) 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE

(6) 6" I-22 SUBBASE

(7) I-12 COMBINED CURB & GUTTER-TYPE 2

(8) L-9 SEEDING & PROTECTING

(9) 5" I-13 CONCRETE SIDEWALK-INCLUDING 5" CINDER SUBBASE

HIGH ST.

CODE	ITEM	REMARKS
R-1	S-24	REMOVAL AND DISPOSAL OF EXIST. CONC. BLOCK RET. WALL

NOTES :

ALL NEW LEADS SHALL BE 12" M-G.8 (b)

FOR DETAILS OF PROPOSED & EXIST. R/W LINES SEE TYPICAL SECTIONS SHEET NO. 272

FOR DETAILS OF INTERSECTIONS SEE SHEET Nº 275 AND Nº 276

FOR LOCATION OF PROPOSED TYPE II. INLETS OR THOSE TO BE ABANDONED OR REMOVED SEE SHEET NO. 275

SEE SHT. Nº 275 FOR M.H's. TO BE ADJUSTED TO GRADE.

ITEM I-13 CONCRETE STEPS					
CODE	WIDTH	Nº OF RISERS	RISER	TREAD	LF
S-1	3	3	8"	12"	3.6
S-2	4.5	3	8"	12"	3.6

NOTE: EXISTING PAVEMENT, CURBS AND SIDEWALK TO BE REMOVED AND ENTIRE AREA GRADED AND SEEDED

BEGIN NEW SIDEWALK AT STA. 17+59 LT.

NOTE: SEE UTILITY RELOCATION SHEET Nº2 FOR THIS NEW RUN OF SEWER

ITEM I-12 CONC. CURB REPLACE. (LIN. FT.)					
CODE	FROM STA.	TO STA.	LOCA.	STR. QUAN.	CRV. QUAN.
G-1	14+50.16	14+60.09	RT.	—	15.64
G-2	14+85.37	17+34.52	RT.	224.50	30.32
G-3	17+56.52	21+23.01	RT.	336.01	47.21
G-4	21+42.21	26+50	RT.	492.85	23.50
G-5	25+89.90	26+50	LT.	45.30	23.36
G-6	23+54.12	25+73.90	LT.	180.41	47.49
G-7	19+97.15	23+38.12	LT.	311.17	46.82
G-8	14+59.16	19+73.15	LT.	460.40	57.55

ITEM E-8 EXIST. CURB REMOVAL & STORAGE (L.F.)				
CODE	FROM STA.	TO STA.	LOCA.	QUAN.
A-1	14+50.16	14+60	RT	17.4
A-2	14+86	17+34	RT	248.5
A-3	17+55	21+23	RT	304
A-4	21+42	26+50	RT	521
A-5	25+00	26+50	LT.	70
A-6	23+54	25+74	LT.	258
A-7	19+97	23+38	LT.	370
A-8	17+55	19+73	LT.	256
A-9	17+55(14'L)	17+55(80'L)	LT.	66
A-10	17+27(14'L)	17+27(65'L)	LT.	51
A-11	16+09	17+24	LT.	121
A-12	14+50	15+91	LT.	135

ITEM I-13 CONC. SIDEWALK REPL. (S.F.)				
CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-1	14+50.16	14+68.56	R.T.	38
H-2	14+86.04	17+31.54	R.T.	908
H-3	17+58.04	21+20.55	R.T.	1228
H-4	21+44.15	26+50	R.T.	1823
H-5	25+01.70	26+50	LT.	233
H-6	23+56.25	25+71.70	LT.	742
H-7	19+09.11	23+36.28	LT.	1229
H-8	17+59	19+71.11	LT.	778

FED. RD.	STATE	PROJECT	
2	OHIO		

273
492

MAH - 18 - 17.20

W-1	CONC. RESIDENTIAL RET. WALL —— H=2'
S-1	CLASS "C" CONC. FOR RET. WALL —— 5 C.Y.
S-4	REINF. STEEL FOR RET. WALL — 210 LBS.
E-2	EXCAVATION FOR STRUCTURE —— 20 C.Y.
S-29	POROUS BACKFILL —— 27 C.Y.

ITEM-E-8 REMOV. & DISP. OF EXIST. WEARING COURSE				
CODE	FROM STA.	TO STA.	SQ.YDS.	REMARKS
K-1	14+50.16	15+25	161	VAR. DEPTH
K-2	16+25	18+50	550	" "
K-3	19+50	26+50	1711	" "

FEDERAL AID FUNDS — CITY OF YOUNGSTOWN FUNDS

P.C. STA. 14+59.16

FOR PAV'T CONST. DETAILS FROM STA. 14+59.16 TO STA. 15+12.22, SEE SHEET Nº 276

B.M. # 18-A. R.R. SPIKE IN 34" MAPLE, 105' S. OF HIGH & EDWARDS INT. & 18' W. OF ℄ EDWARDS ST. ELEV. 929.548

B.M. # 19-A. R.R. SPIKE, IN W. SIDE 18" WILD CHERRY 140' S. OF HIGH & PLUM INT. AND 18' E. OF ℄ PLUM ST. ELEV. 932.175

B.M. # 20-A. R.R. SPIKE IN E. SIDE 18" MAPLE, 42' E. OF HIGH & WEST INT. AND 21' S. OF ℄ HIGH ST. ELEV. 933.704

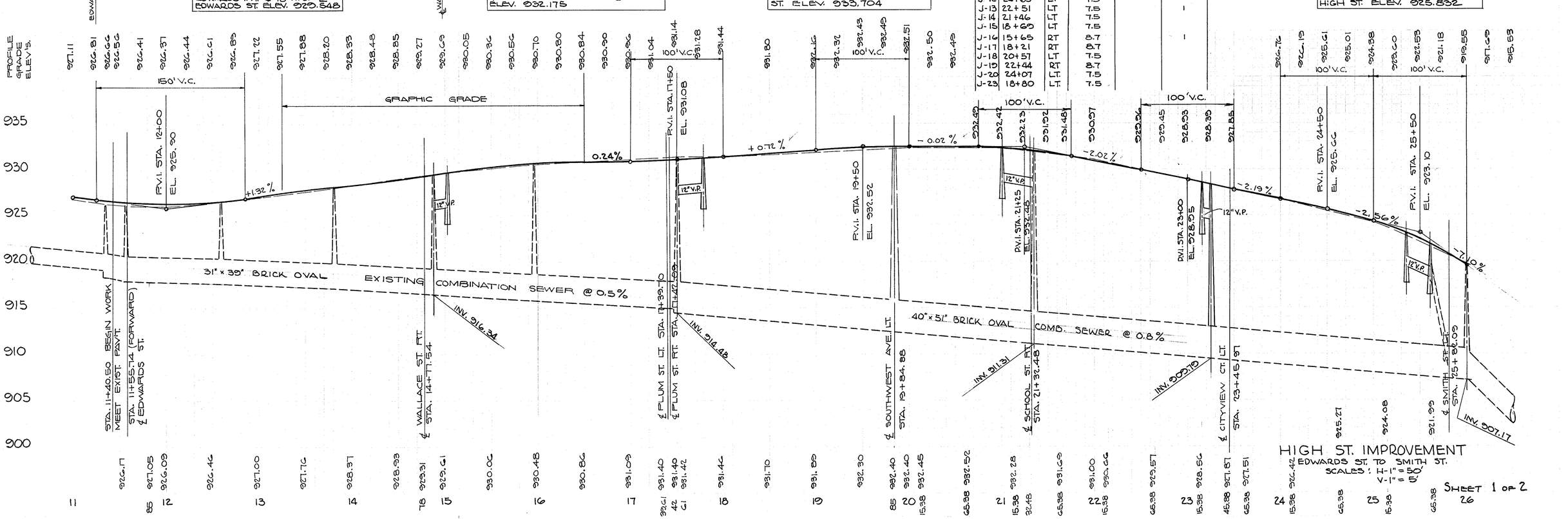
B.M. # 21-A. R.R. SPIKE IN E. SIDE 24" MAPLE, 48' W. OF ℄ INT. HIGH & SMITH AND 21' S OF ℄ HIGH ST. ELEV. 925.832

DRIVEWAYS (SINGLE PRIVATE)					
CODE	STATION	LOC.	5"T-T-I PCC DRIVEWAY APPROACH S.Y.	DRIVEWAYS 5" T-TO S.Y.	DRIVEWAYS 3"B-I9 C.Y.
J-1	16+05	RT	8.7		-
J-2	18+59	RT	8.7		-
J-3	19+27	RT	8.7		-
J-4	19+42	RT	8.7		
J-5	19+88	RT	8.7	8	
J-6	20+66	RT	8.7		
J-7	22+06	RT	8.7		
J-8	24+00	RT	8.7		
J-9	24+70	RT	8.7		
J-10	25+45	RT	8.7		
J-11	25+48	LT	7.5		
J-12	24+65	LT	7.5		
J-13	22+51	LT	7.5		-
J-14	21+46	LT	7.5		
J-15	18+69	LT	7.5		-
J-16	15+65	RT	8.7		-
J-17	18+21	RT	8.7		
J-18	20+57	LT	7.5		
J-19	22+44	RT	8.7		
J-20	24+07	LT	7.5		
J-23	18+80	LT	7.5		

ITEM E-8 EXISTING SIDEWALK REMOVAL (S.F.)									
CODE	FROM STA.	TO STA.	LOCA.	QUAN.	CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-1	14+59.16	14+68.56	R.T.	47	B-11	16+09	17+27.20	LT.	501
B-2	14+86.04	17+34.40	R.T.	1242	B-12	14+59.16	15+91	LT.	650
B-3	17+57.40	21+22.57	R.T.	1826					
B-4	21+42.77	26+50	R.T.	2536					
B-5	25+00.50	26+50	LT.	207					
B-6	23+54.47	25+73.50	LT.	1096					
B-7	19+07.68	23+37.47	LT.	1600					
B-8	17+55.20	19+72.68	LT.	1087					
B-9	17+61(14'L)	17+61(85'L)	LT.	346					
B-10	17+18(14'L)	17+18(65'L)	LT.	246					

EXIST. RET. WALL FROM 25+52 TO 27+50 NOT TO BE DISTURBED SEE CROSS SEC'S.

REPLACE RETAINING WALL SEE SHEET Nº


PROFILE GRADE ELEVS.
935
930
925
920
915
910
905
900
150' V.C.
GRAPHIC GRADE
100' V.C.
+1.32 %
0.24%
+0.72 %
- 0.02 %
-2.02%
-2.19 %
-2.56 %
-7.10 %
P.V.I. STA. 12+00 EL. 929.90
P.V.I. STA. 17+50 EL. 931.08
P.V.I. STA. 19+50 EL. 932.52
P.V.I. STA. 21+25 EL. 932.48
P.V.I. STA. 23+00 EL. 928.95
P.V.I. STA. 24+50 EL. 925.66
P.V.I. STA. 25+50 EL. 923.10
12" V.P.
STA. 11+40.50 BEGIN WORK MEET EXIST. PAV'T
STA. 11+55.74 (FORWARD) ℄ EDWARDS ST.
℄ WALLACE ST. RT. STA. 14+77.54
℄ PLUM ST. LT. STA. 17+39.70
℄ PLUM ST. RT. STA. 17+47.68
℄ SOUTHWEST AVE. LT. STA. 19+84.88
℄ SCHOOL ST. RT. STA. 21+32.48
℄ CITYVIEW CT. LT. STA. 23+45.97
℄ SMITH ST. LT. STA. 25+86.09
31" x 39" BRICK OVAL EXISTING COMBINATION SEWER @ 0.5%
40" x 51" BRICK OVAL COMB. SEWER @ 0.8 %
INV. 916.34
INV. 914.48
INV. 911.31
INV. 909.19
INV. 907.17
PROFILE GRADE ELEVS.
926.11 926.81 926.66 926.56 926.41 926.37 926.44 926.61 926.85 927.22 927.55 927.88 928.20 928.33 928.48 928.85 929.27 929.69 930.05 930.36 930.56 930.70 930.80 930.84 930.90 930.96 931.04 931.14 931.28 931.44 931.80 932.16 932.32 932.43 932.45 932.51 932.50 932.49 932.42 932.23 931.92 931.48 930.57 929.45 928.53 928.35 927.85 926.76 926.19 925.61 925.01 924.38 923.60 923.53 923.18 922.55 921.69 920.63
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
926.17 927.05 926.09 926.46 927.00 927.76 928.37 928.93 929.31 929.61 931.40 931.40 931.42 931.46 931.70 931.89 932.30 932.40 932.40 932.45 932.52 932.28 932.48 931.69 931.00 930.66 929.57 928.56 927.87 927.51 926.42 925.27 924.08 921.99
85 42 61 15.38 46.38 15.38 32.48 46.38 15.38 46.38 15.38 46.38 15.38

FED. RD.	STATE	PROJECT	
	OHIO		

274
492

MAH-18-17.20

FOR DETAILS OF ALL INTERSECTIONS, SEE SHEET No. 276

FOR RELOCATION OF EXISTING UTILITIES, SEE SHEET NO. 275

FOR DETAILS OF PAV'T. TRANSITION STA. 27+45.01 - STA. 28+43.81 SEE SHEET NO. 276

FOR LOCATION OF EXIST. & PROPOSED MANHOLES & INLETS TO BE CONSTRUCTED OR ADJUSTED TO GRADE, SEE SHEET No. 275

FOR TYPICAL PAV'T. SECTION SEE SH'T. No. 272

I-13 CONCRETE STEPS					
CODE	WIDTH	# OF RISES	RISER	TREAD	L.F.
S-1	6'-0"	5	8"	12"	6.5

ITEM E-8 EXIST. SIDEW'K. REM'V. (S.F.)				
CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-13	26+50	34+00	LT.	3181
B-14	26+50	34+00	RT.	3711

ITEM E-8 EXIST CURB REM'V. & STORE.				
CODE	FROM STA.	TO STA.	LOCA.	QUAN. L.F.
A-13	26+50	34+00	LT.	755.3
A-14	26+50	34+00	RT.	744.7

ITEM I-13 CONC. SIDEW'K REPL. (S.F.)				
CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-9	26+50	34+00	LT.	3033
H-10	26+50	27+92.07	RT.	520

ITEM I-12 CONC. CURB REPL. (L.F.)				
CODE	FROM STA.	TO STA.	LOCA	QUAN.
G-9	26+50	34+00	LT.	755.3
G-10	26+50	34+00	RT.	744.7

S-1 REPLACE EXISTING STEPS

MATCH LINE FOR QUANT. ESTIMATE STA. 26+50

NOTE: FROM STA. 25+52 TO 27+50 SOUTH SIDE NEW WALK TO FOLLOW OLD ALIGNMENT SO AS NOT TO DISTURB AN EXISTING RETAINING WALL IN THIS AREA. (SEE CROSS SECTION SH'T. No. 283)

PROPOSED NORTH R/W

EXISTING & PROPOSED SOUTH R/W LINE

P.C. 27+45.01

P.T. 28+43.81

HIGH ST. 36'

EXIST. ℄ PROPOSED

LIMIT OF R/W

OAKHILL CEMETERY O.L. 138

FOR DETAILS OF NEW RETAINING WALL SEE SH'T. No.

STA. 34+00.00 END WORK

MAINLINE STA. 1006+00.21
OAKHILL STA. 50+00.00

STA. 34+63.91 HIGH ST. (PROP.)
STA. 49+32.18 OAK HILL AVE.

OAK HILL AVE.

PIKE ST. 30'

ST. BRIDGE

ITEM E-8 REMOV. & DISP. OF EXIST. WEARING COURSE				
CODE	FROM STA.	TO STA.	SQ. YDS.	REMARKS
K-1	27+40	34+00	1613	VAR. DEPTH

ITEM	EXIST. DRIVEWAYS & APPROACHES			
CODE	STA.	LOCA	5" T-1 BIT. BASE APPROACH (S.Y.)	3" BIT. DRIVEWAYS (S.Y.)
J-21	27+17	RT.	9	
J-22	27+53	LT	9	1

T. IN HUB
56.00' STREET
℄ HIGH
60.00'
58.75
IRON PIN
T. IN HUB

SMITH ST.
R 47.55'
T. IN HUB
STREET
IRON PIN
35.68
℄ HIGH
S 1.82' E

B.M. R.R. SPIKE 24" MAPLE

B.M.# 32 - TOP STEM OF FIRE HYDT. S. SIDE HIGH ST. @ ∠ PT. ELEV. 888.96

F.D.K. REFERENCES	
F.D.# 18	PG.# 82
" # 5	" # 41-43, 85
" # 18	" # 75-81
" # 21	" # 136-149, 76-95
" # 22	" # 43-88

B.M.# 30-A. R.R. SPIKE IN N. SIDE 28" MAPLE, 24' S. OF PIKE & OAKHILL INT. AND 30' W. OF ℄ OAKHILL AVE. ELEV. 861.811

R.R. SPIKE
OAKHILL AVE.
℄ HIGH ST.
60.00'
T. IN HUB
IRON PIN
R.R. SPIKE
PIKE ST.
B.M. R.R. SPIKE IN 30" MAPLE
T. IN HUB

TOP OF PROFILE
NO. CURVE GRADE

925 920 915 910 905 900 895 885 880 875 870 865 860 855 850 845 840

-2.5% -1.10% -9.80% -11.10% -9.76% -9.28% -4.32% -2.42%

EXIST. ℄ PROFILE

GRAPHIC GRADE

SEE X-SECT. FOR TOP OF N & S CURB ELEVATIONS

P.V.I. STA. 25+50 EL. 923.10
P.V.I. STA. 27+50 EL. 906.20 (886.12)
P.V.I. STA. 30+00 (880.18) EL. 880.44
P.V.I. STA. 31+75 (863.98) EL. 863.52
P.V.I. STA. 33+00 EL. 858.12
P.V.I. STA. 14+50 EL. 916.00
P.V.I. STA. 28+50 EL. 895.10
℄ SMITH ST. STA. 25+82.09 EL. 919.55
℄ OAK HILL AVE. STA. 34+63.91 ELEV. 854.95

100' V.C.

36"x40" BRICK OVAL EXIST. COMB. SEWER

INV. 885.28

SEWER @ 9.16%

12" V.P.

INV. 856.86

36"x52" BRICK OVAL

36"x46" BRICK OVAL EXIST. COMB. SEWER @ 2.53%

INV. 848.87

| | | | | |

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

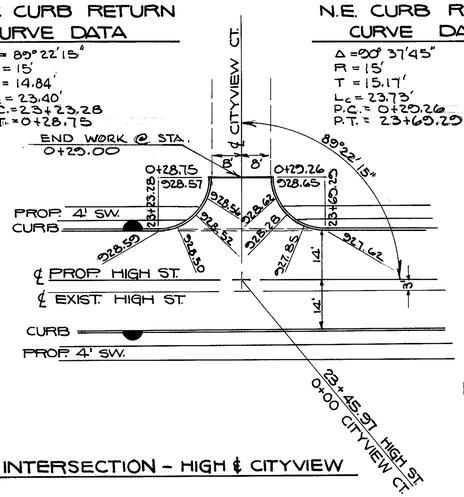
275
492

N.W. CURB RETURN CURVE DATA

Δ = 89° 22' 15"
R = 15'
T = 14.84'
L_c = 23.40'
P.C. = 2.5+23.28
P.T. = 0+28.75

N.E. CURB RETURN CURVE DATA

Δ = 90° 37' 45"
R = 15'
T = 15.17'
L_c = 23.73'
P.C. = 0+20.26
P.T. = 23+60.25

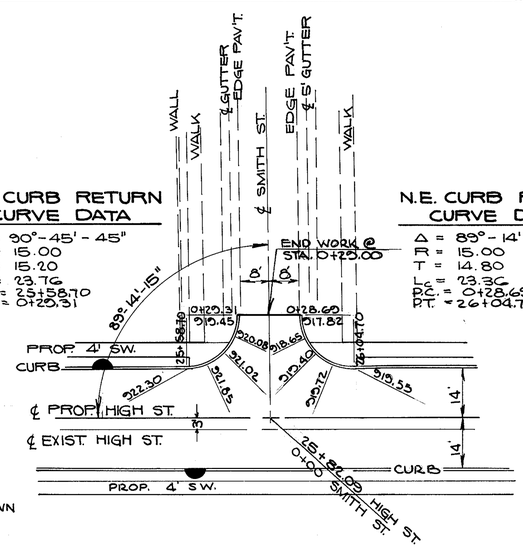


N.W. CURB RETURN CURVE DATA

Δ = 90° - 45' - 45"
R = 15.00
T = 15.20
L_c = 23.76
P.C. = 25+58.70
P.T. = 0+20.31

N.E. CURB RETURN CURVE DATA

Δ = 89° - 14' - 15"
R = 15.00
T = 14.80
L_c = 23.36
P.C. = 0+28.69
P.T. = 26+04.70



NOTE: ELEVATIONS SHOWN ON CURB RETURNS ARE TOP OF CURB ELEV.

ITEM I-8 M.H. ADJ. TO GRADE (EA.)

EXIST. TOP	CODE	STA.	LOCA.	TOP EL.	REMARKS
929.54	E-1	14+88	1.6'R	929.47	INV. 916.34
	E-2	15+97.5	1.5'R	930.67	
	E-3	17+20	0.5'L	930.90	
931.48	E-4	17+50.6	1.5'R	931.12	INV. 914.48
	E-5	17+52.5	20.5'R	931.10	
919.67	E-6	25+26.5	℄	919.78	INV. 907.17
867.46	E-7	31+33	0.5'L	867.60	INV. 856.86
931.11	E-8	21+35	1.5'R	932.09	INV. 911.31

ITEM I-8 INLETS - YOUNGSTOWN - TYPE II (EACH)

CODE	STATION	LOCA.	WINDOW ℄	C.B. INV.
D-1	15+02.27	14'R	929.12	924.12
D-2	15+03.38	14'L	929.13	924.13
D-3	17+78.77	14'L	930.72	925.72
D-4	17+78.77	14'R	930.72	925.72
D-5	21+01.12	14'R	931.82	926.82
D-6	23+16.45	14'L	927.98	922.98
D-7	23+16.45	14'R	927.98	922.98
D-8	25+35	14'L	922.57	917.57
D-9	25+61	14'R	921.34	916.34
D-10	28+11	14'L	898.84	893.84
D-11	28+11	14'R	898.78	893.78
D-12	31+25	14'L	867.19	862.19
D-13	31+25	14'R	867.72	862.72

ITEM I-8 MANHOLES (EA.)

CODE	STATION	LOCA.	INV.-SIZE	ST'D NO.	TOP ELEV.
L-1	23+25	1.5'R	900.79 (40"x51")	2	928.37
L-2	28+25	℄	885.28 (34"x40")	1	897.90

ITEM I-16 INLETS ABAND. (EA.)

CODE	STA.	LOCA.	REMARKS
F-1	14+96	10.3'R	PLUG LEAD
F-2	15+90	25.5'L	PLUG LEAD
F-3	16+05.5	25.5'L	PLUG LEAD
F-4	17+10.5	11.'R	PLUG LEAD
F-5	17+67.0	11'R	PLUG LEAD
F-6	17+70.5	10.5'L	PLUG LEAD
F-7	25+61.0	10.6'R	USE EXIST. LEAD
F-8	25+61.5	10.5'L	USE EXIST. LEAD
F-9	28+11.5	10.5'L	USE EXIST. LEAD
F-10	28+84.5	10.5'R	PLUG LEAD
F-11	21+18	11'R	PLUG LEAD

ITEM I-124 WATER VALVE BOXES ADJ. TO GR. (EA.)

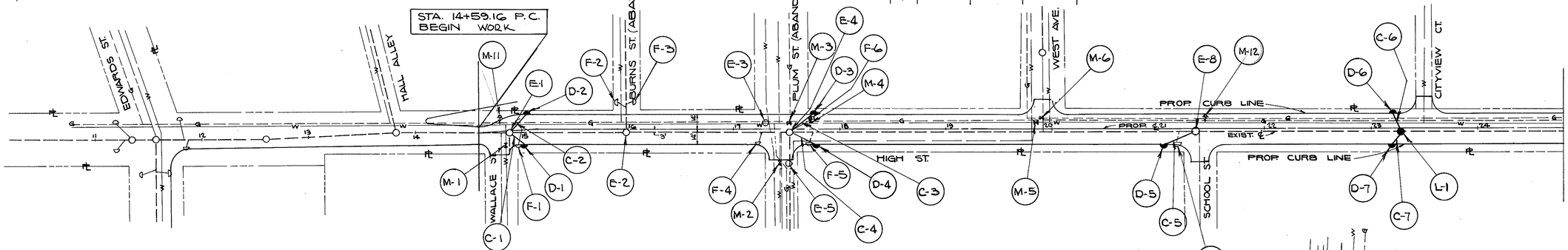
CODE	STA.	LOCA.	REMARKS
M-1	14+85	10.7' R.	MAIN LINE
M-2	17+47	25.5'R	MAIN LINE
M-3	17+52	11'L	MAIN LINE
M-4	17+72.5	10'L	HYDT. VAL.
M-5	18+85	6.7'L	MAIN LINE
M-6	19+90	10.7'L	MAIN LINE
M-7	25+41	10'L	HYDT. VAL.
M-8	28+30	1.5'L	MAIN LINE
M-9	28+32	0.1'R	MAIN LINE
M-10	29+42	10'R	HYDT. VAL.
M-11	14+79	10'L	HYDT. VAL.
M-12	21+44	9'L	HYDT. VAL.

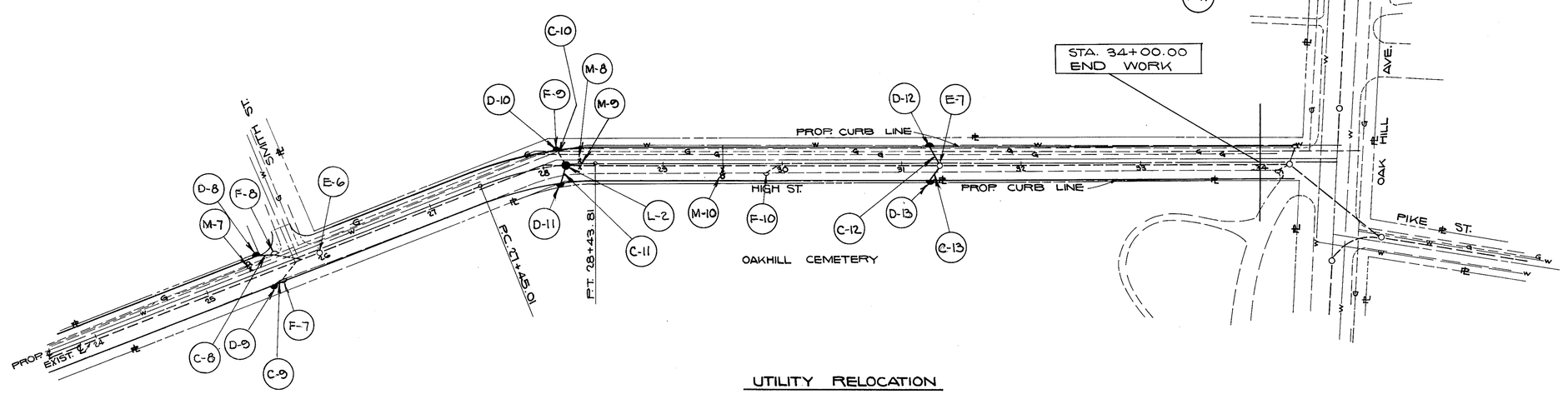
ITEM I-2 STORM SEWERS UNDER PAV'T. & APPROACH SEC. M-6.8(6)

CODE	FROM	TO	LOCA.	SIZE	LIN. FT.
C-1	D-1	E-1	RT	12"	20
C-2	D-2	E-1	LT	"	24
C-3	D-3	E-4	LT	"	34
C-4	D-4	E-4	RT	"	32
C-5	D-5	E-8	RT	"	36
C-6	D-6	L-1	LT	"	20
C-7	D-7	L-1	RT	"	18
C-8	D-8	F-8	LT	"	26
C-9	D-9	F-7	RT	"	4
C-10	D-10	F-9	LT	"	6
C-11	D-11	L-2	RT	"	22
C-12	D-12	E-7	LT	"	18
C-13	D-13	E-7	RT	"	18

INTERSECTION - HIGH ℄ CITYVIEW

INTERSECTION - HIGH ℄ SMITH





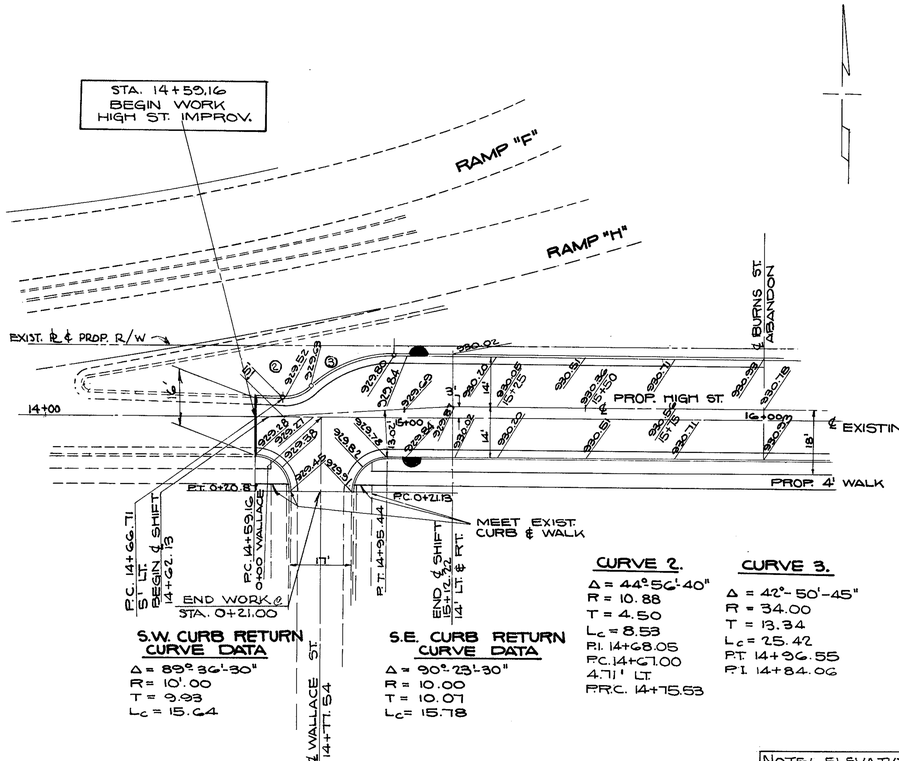
UTILITY RELOCATION

PAVEMENT DETAILS - HIGH ST.

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

276
492



S.W. CURB RETURN CURVE DATA

Δ = 89° 36'-30"
R = 10'.00
T = 9.93
L_c = 15.64

S.E. CURB RETURN CURVE DATA

Δ = 90°-23'-30"
R = 10.00
T = 10.07
L_c = 15.78

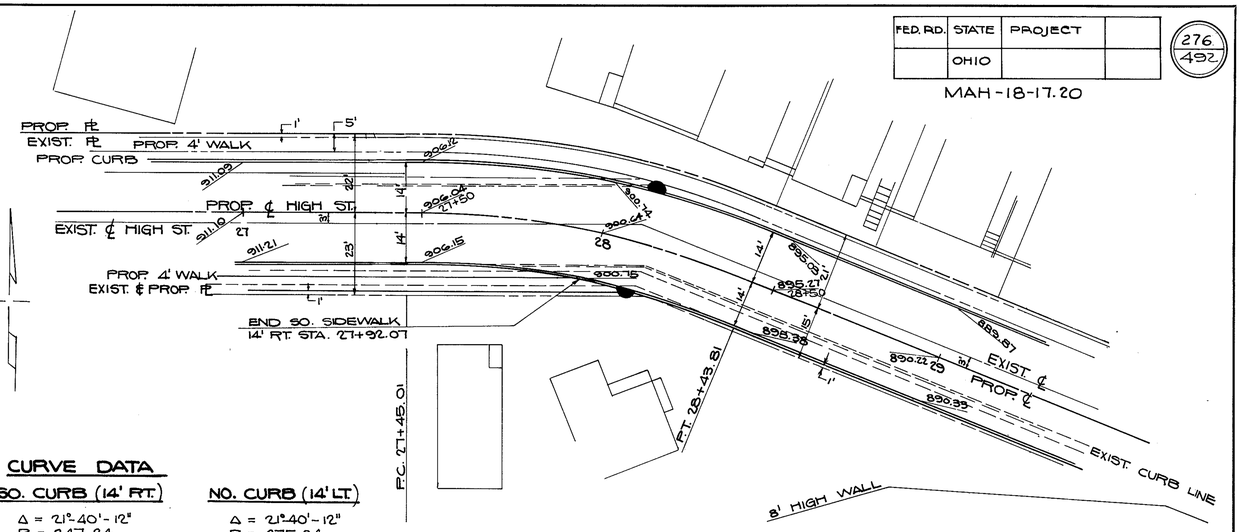
CURVE 2.

Δ = 44°56'-40"
R = 10.88
T = 4.50
L_c = 8.53
P.I. 14+68.05
P.C. 14+63.00
4.71' LT.
P.R.C. 14+75.53

CURVE 3.

Δ = 42°-50'-45"
R = 34.00
T = 13.34
L_c = 25.42
P.T. 14+96.55
P.I. 14+84.06

INTERSECTION - HIGH ST. AND WALLACE ST.



CURVE DATA

PROP. ℄

Δ = 21°-40'-12"
R = 261.24
T = 50.00
L_c = 98.80

SO. CURB (14' RT.)

Δ = 21°-40'-12"
R = 247.24
T = 47.32
L_c = 93.51

NO. CURB (14' LT.)

Δ = 21°-40'-12"
R = 275.24
T = 52.68
L_c = 104.10

NO. SIDEWALK (FRONT EDGE)

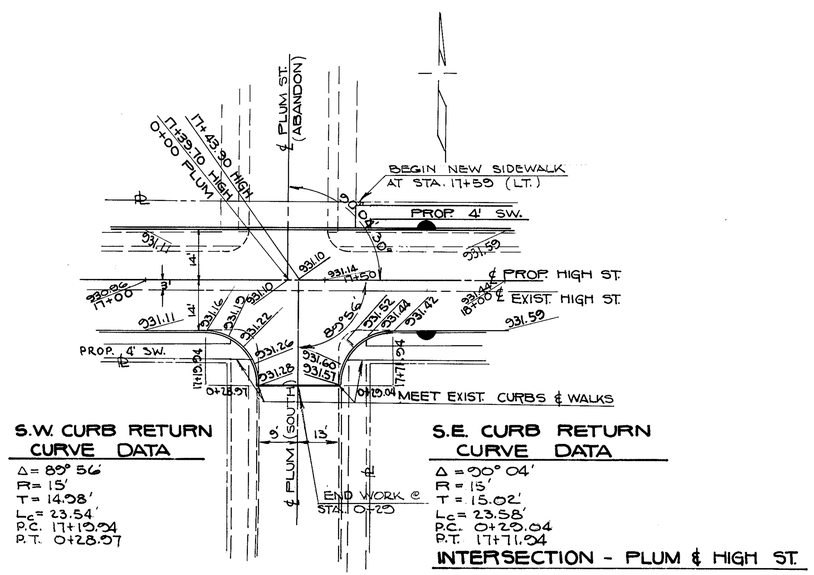
P.C. 17' LT. @ STA. 27+45.01
P.T. 16' LT @ STA. 28+38.59
Δ = 21°-40'-12"
R = 264.09
T = 50.55
L_c = 99.88

PROP. NO. ℄

P.C. 22' LT. @ STA. 27+45.01
P.T. 21' LT. @ STA. 28+38.59
Δ = 21°-40'-12"
R = 269.09
T = 51.50
L_c = 101.77

CENTERLINE TRANSITION
STA. 27+45.01 - STA. 28+43.81

NOTE: ELEVATIONS SHOWN ON CURBS & CURB RETURNS ARE TOP OF CURB ELEVATIONS.



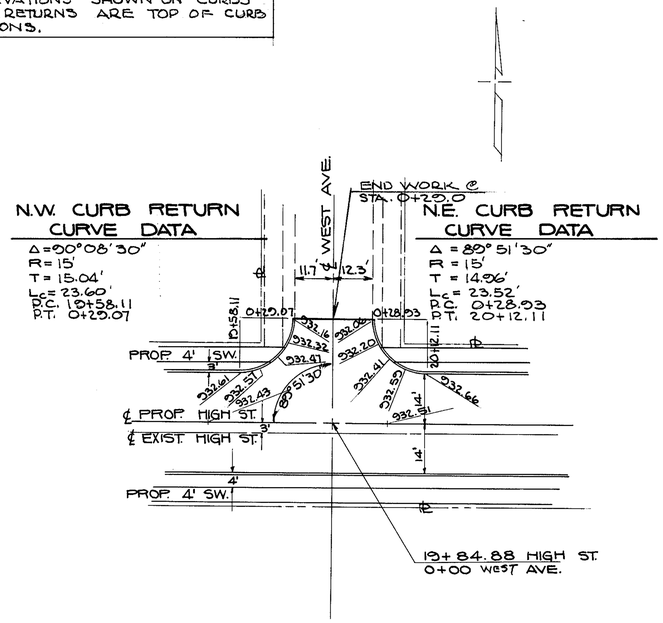
S.W. CURB RETURN CURVE DATA

Δ = 89° 56'
R = 15'
T = 14.98'
L_c = 23.54'
P.C. 17+19.94
P.T. 0+28.97

S.E. CURB RETURN CURVE DATA

Δ = 90° 04'
R = 15'
T = 15.02'
L_c = 23.58'
P.C. 0+29.04
P.T. 17+71.94

INTERSECTION - PLUM & HIGH ST.



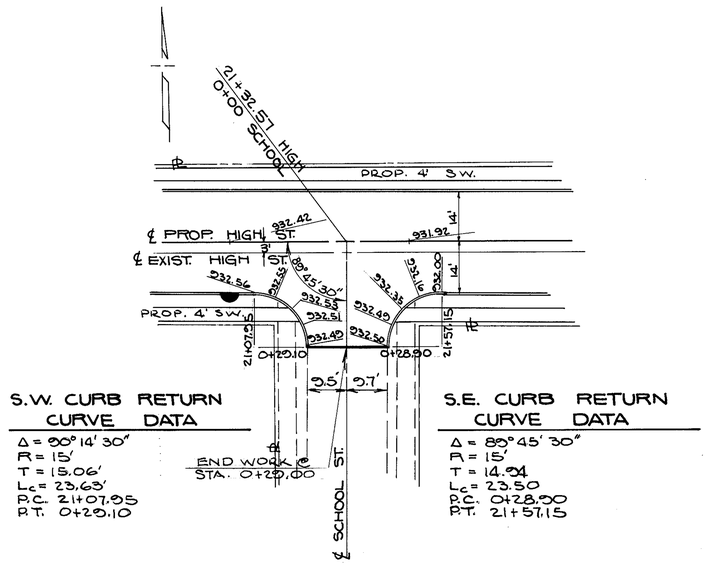
N.W. CURB RETURN CURVE DATA

Δ = 90°08'30"
R = 15'
T = 15.04'
L_c = 23.60'
P.C. 19+58.11
P.T. 0+29.07

N.E. CURB RETURN CURVE DATA

Δ = 89° 51'30"
R = 15'
T = 14.96'
L_c = 23.52'
P.C. 0+28.93
P.T. 20+12.11

INTERSECTION - HIGH & WEST ST.



S.W. CURB RETURN CURVE DATA

Δ = 90° 14' 30"
R = 15'
T = 15.06'
L_c = 23.63'
P.C. 21+07.95
P.T. 0+29.10

S.E. CURB RETURN CURVE DATA

Δ = 89° 45' 30"
R = 15'
T = 14.94
L_c = 23.50
P.C. 0+28.90
P.T. 21+57.15

INTERSECTION - HIGH & SCHOOL ST.

PAVEMENT DETAILS - HIGH ST.

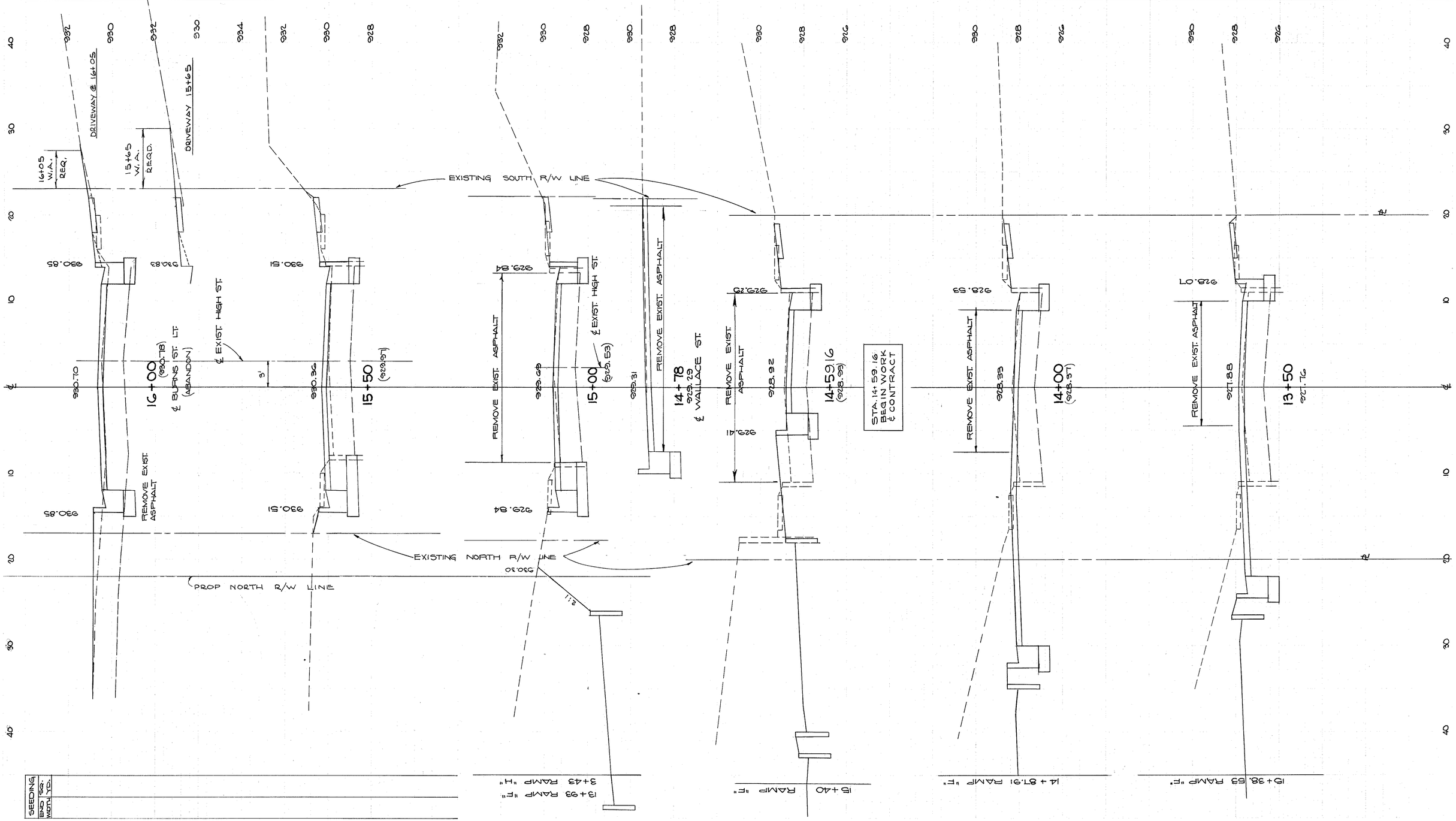
| | | |

FED. RD.	STATE	PROJECT	
2	OHIO		

278
492

MAH-18-17.20

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
2.1	4.0	13.7	3.7
		12.2	3.7
	0.0	20.4	
11.1		6.1	
10.9		1.4	
4.0			
0			



SEEDING END WDTH	SEEDING SQ. YD.

X- SECTIONS HIGH ST. STA. 13+50 - STA. 16+00

FED. RD.	STATE	PROJECT	
2	OHIO		

279
452

MAH -18-17.20

END AREA	CUT	12.1
	FILL	0.0
CU. YDS.	CUT	21.8
	FILL	0.4

22.2 | 19.7 | 17.7 | 32.8 | 25

11.8 | 15.4 | 30.0 | 14.3 | 12.7

932 930 931 934 932 930 934 932 930 934 932 930 934 932 930

40 30 20 10 0

DRIVEWAY 18+21 (No WA. REQ'D.)

EXISTING SOUTH R/W LINE

STA. 0+25.00 MEET EXIST. PAVT. ELEV. 931.15

ONE STORY BR. BLDG.

931.74

931.80 — 18+50 (931.10)

931.44 — 18+00 (931.44)

℄ EXISTING HIGH ST.

5'

931.20 — 17+61 (931.42) ℄ N-S. SIDEWALK

931.10 — 17+39.70 (931.40) ℄ PLUM ST. LT.

17+42.60 (931.40) ℄ PLUM ST. RT.

930.34 — 17+00 (931.09)

930.84 — 16+50 (930.86)

℄ EXIST.

EXISTING NORTH R/W LINE

PROPOSED NORTH R/W LINE

15'

932.60

HOUSE

BEGIN SIDEWALK THIS SIDE AT STA. 17+55

REMOVE EXIST. PAV'T. AND BASE

SEEDING	
END SEC.	
WIDTH	

X-SECTIONS HIGH ST. STA. 16+50 - STA. 18+50

| | | |

FED. RD.	STATE	PROJECT
	OHIO	

281
492

MAH -18 -17.20

END AREA	CU. YDS.
CUT	FILL
CUT	FILL

8.7 | 31.0 | 44.0 | 39.9 | 16.0 | 8.5 | 0.0

12.4 | 21.1 | 26.4 | 16.7 | 14.2 | 11.3

930 | 928 | 932 | 930 | 928 | 930 | 932 | 930 | 932 | 930 | 934 | 932 | 930 | 934 | 932

MEET EXIST. PAVT @ STA. 0+23 (S.) ELEV. 932.30

EXISTING SOUTH R/W LINE

23 + 15.26 (928.54)

22 + 65.26 (929.57)

EXIST. RETAINING WALL FROM STA. 21+86 TO 22+17 TO BE REMOVED (31 Lin.)

22 + 15.26 (930.66)

℄ EXIST. HIGH ST.

21 + 65.26 (931.66)

21 + 32.57 ℄ SCHOOL ST.

21 + 15.26 (932.28)

928.60 | 929.65 | 930.66 | 931.66 | 932.15 | 932.32

3' | 5'

EXISTING NORTH R/W LINE

PROPOSED NORTH R/W LINE

2:1

W.A. REQD.

DRIVEWAY @ 22+51

HOUSE

Note: STA. 22+77 TO STA. 22+05 STORE BLDG. @ 25' Lt. of EXIST ℄

DRIVEWAY @ 21+46 (NO W.A. REQD.)

931 | 929 | 932

SEEDING END REQ. WORTHYS.

X-SECTIONS HIGH ST. STA. 21+15.26 - STA. 23+15.26

END AREA	CU.YDS.
CUT	CUT
	FILL
FILL	FILL

| | | |

| | | |

END AREA	CU. YDS.
CUT	FILL
FILL	CUT
CUT	FILL

30.2 | 25.6 | 32.6 | 48.4 | 4.0

11.6 | 16.0 | 19.2 | 0.0 | 29.2 | 4.0

FED. RD.	STATE	PROJECT
	OHIO	

284
492

MAH-18-17.20

RET. WALL

EXISTING SOUTH R/W LINE

1:2

EXIST. HIGH ST.

29+64.06
(893.93)
883.97

29+14.06
(888.78)
888.85

28+64.06
(893.84)
893.82

28+10
(892.55)
892.55

3'

883.43

888.44

893.48

892.11

EXISTING NORTH R/W LINE

RET. WALL

SEEDING AND MULCHING

X-SECTIONS HIGH ST. STA. 28+10 - STA. 29+64.06

END AREA CU. YDS.	
CUT	FILL
95.4	
13.5	
	12.5
13.4	
	38.9
14.6	
	5.4
14.3	
	3.9
6.5	

FED. RD.	STATE	PROJECT	
2	OHIO		

285
482

MAH-18-17.20

FACE OF 8" WALL

EXISTING SOUTH R/W LINE

EXISTING NORTH R/W LINE

859.69 — 32+64.06 (859.84) — 859.52

EXIST. HIGH ST.

860.75 — 32+39.06 (860.03) — 860.58

864.98 — 31+64.06 (864.13) — 864.72

3'

874.26 — 30+64.06 (874.02) — 873.80

EXIST. HIGH ST.

875.23 — 30+54.06 (875.02) — 874.72

12" STONE RET. WALL BETWEEN HOUSES

SEEDING
END I SQ
WIDTH YD.

X- SECTIONS HIGH ST. STA. 30+54.06 - STA. 32+64.06

FED. RD.	STATE	PROJECT	
2	OHIO		

286
492

MAH-18-17.20

END AREA	CU. YDS.
CUT	FILL
FILL	CUT
CUT	FILL

45.3

30.0 30.0

856 854 852 858 856 854 858 856

49+25 OAKHILL AVE.
ELEV. 856.05

854.99

34+64.06 HIGH ST.
49+42.18 OAKHILL AVE.
(855.16) ℄ OAKHILL AVE.

34+15.70
(855.85)

STA. 34+00.00
END WORK

34+00.00
(856.17)

33+64.06
(854.92)

856.33

856.00

3'

855.83

856.41

EXISTING SOUTH R/W LINE

FACE OF WALL

EXISTING NORTH R/W LINE

49+75 OAKHILL
ELEV. 853.13

NOTE: FOR DETAILS OF NEW RETAINING WALL SEE SHT. No.

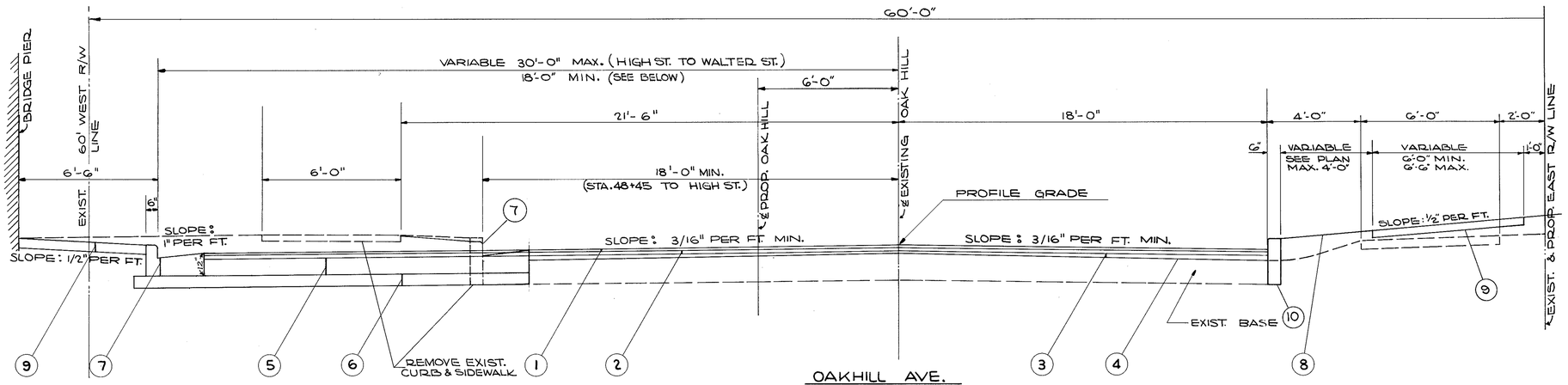
SEEDING	
END	SQ.
WIDTH	YD.

X - SECTION HIGH ST. STA. 33+65.38 - STA. 34+65.38

FED. RD.	STATE	PROJECT	
2	OHIO		

287
492

MAH-18-17.20



OAKHILL AVE.
LIMITING STATIONS
STA. 48+45 TO STA. 51+65.14

(1) 1" T-35 ASPHALTIC CONCRETE SURFACE COURSE - TYPE 'C' (70-85)

(2) 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE - (70-85)

(3) B-35 ASPHALTIC CONCRETE LEVELING COURSE - VARIABLE THICKNESS (70-85)

(4) T-30 BITUMINOUS TACK COAT 0.1 GAL. PER SQ. YD.

(5) 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE

(6) 6" I-22 SUBBASE

(7) I-12 COMBINED CURB & GUTTER - TYPE 2

(8) L-9 SEEDING & PROTECTING

(9) 5" I-13 CONCRETE SIDEWALK - INCLUDING 5" CINDER SUBBASE

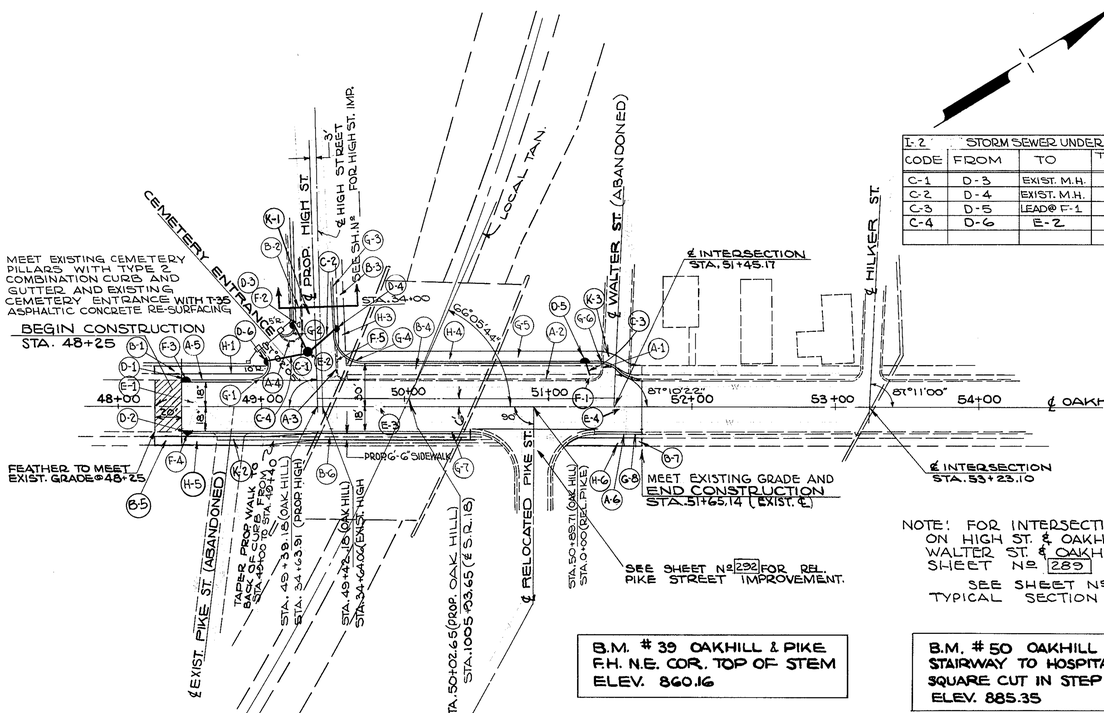
(10) I-12 TYPE G HEADER CURB

TYPICAL SECTIONS

FED.RD.	STATE	PROJECT	
2	OHIO		

288
492

MAH-18-17.20



I-2 STORM SEWER UNDER PAVEMENT & APPROACHES M-6.6

CODE	FROM	TO	TYPE & SIZE	LENGTH BID	LENGTH ℄ To ℄	% GRADE
C-1	D-3	EXIST. M.H.	12"	19'	21'	1%
C-2	D-4	EXIST. M.H.	12"	22'	24'	1%
C-3	D-5	LEAD® F-1	12"	10'	10'	SAME AS LEAD
C-4	D-6	E-2	12"	28'	30'	6%

E-8 REMOVAL & DISPOSAL OF EXISTING CURB (L.F.)

CODE	FROM	TO	QUANTITY
A-1	S. SIDE WALTER ST.		22
A-2	49+64	51+28	165
A-3	N. SIDE HIGH ST.		55
A-4	S. SIDE HIGH ST.		33
A-5	48+45	48+90	45
A-6	51+32	51+65	33

E-8 REMOVAL & DISPOSAL OF EXISTING SIDEWALK (S.F.)

CODE	FROM	TO	QUANTITY
B-1	48+25	49+07	492
B-2	S. SIDE HIGH ST.		56
B-3	N. SIDE HIGH ST.		184
B-4	49+53	51+36	1058
B-5	48+25	48+68	258
B-6	48+87	50+45	948
B-7	51+12	51+65	318

I-16 INLETS ABANDON (EACH)

CODE	STATION	LOCATION	REMARKS
F-1	51+30	19' LT.	
F-2	34+12	10' LT. HIGH ℄	
F-3	48+48	18' LT.	
F-4	48+48	18' RT.	
F-5	34+28	14' RT. HIGH ST. ℄	

E-8 REMOVAL & DISPOSAL OF EXIST. PAVEMENT (SQ.YDS.)

CODE	FROM	TO	QUANTITY
K-1	SEE SHADED AREA		194
K-2	AT EXISTING PIKE ST.		27
K-3	AT EXISTING WALTER ST.		37

I-8 MANHOLES ADJUSTED TO GRADE

CODE	STATION	LOCATION	TOP ELEV.	REMARKS
E-1	48+51	ON ℄	861.66	
E-2	49+38	38' LT.	855.48	
E-3	49+83	ON ℄	853.09	
E-4	51+50	ON ℄	846.59	

I-8 YOUNGSTOWN TYPE II INLETS

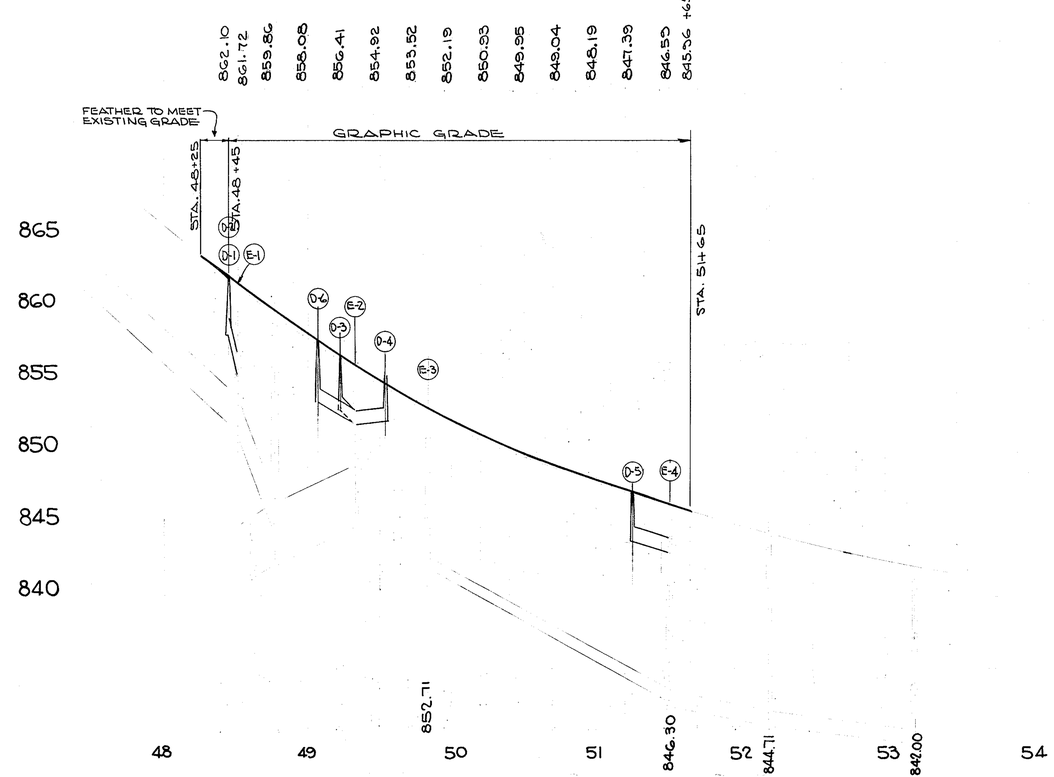
CODE	STATION	LOCATION	TOP ELEV.	FLOW LINE
D-1	48+48	18' LT.	861.55	USE EXISTING
D-2	48+48	18' RT.	862.09	USE EXISTING
D-3	34+06.66	14' RT. HIGH ℄	856.38	852.88
D-4	P.C. 34+15.60	14' LT. HIGH ℄	855.58	852.08
D-5	51+25	30' LT.	847.28	EXTEND FROM F-1
D-6	49+07.70	30' LT.	857.10	853.60

I-13 CONCRETE SIDEWALK REPLACEMENT (S.F.)

CODE	FROM	TO	LOCATION	QUANTITY
H-1	48+25	49+07	LEFT	492
H-3	N. SIDE HIGH ST.		—	104
H-4	49+64	51+65	LEFT	1224
H-5	48+25	50+45	RIGHT	1380
H-6	51+12	51+65	RIGHT	318

I-12 CONCRETE CURB (L.F.)

CODE	FROM	TO	LOCATION	TYPE 2 COMB. CURB	TYPE 6 HEADER CURB
G-1	48+45	CEMETERY	OAKHILL	82	
G-2	34+00	CEMETERY	HIGH ST.	22.81	
G-3	34+00	34+15.60	HIGH ST.	15.60	
G-4	N.W. RET. HIGH & OAK HILL		—	30.39	
G-5	48+70.64	51+33	OAKHILL (LT.)	162.36	
G-6	51+33	51+65.14	OAKHILL (LT.)	34.90	
G-7	48+45	50+47.71	OAKHILL (RT.)	—	202.71
G-8	51+32	51+65.14	OAKHILL (RT.)		33.14



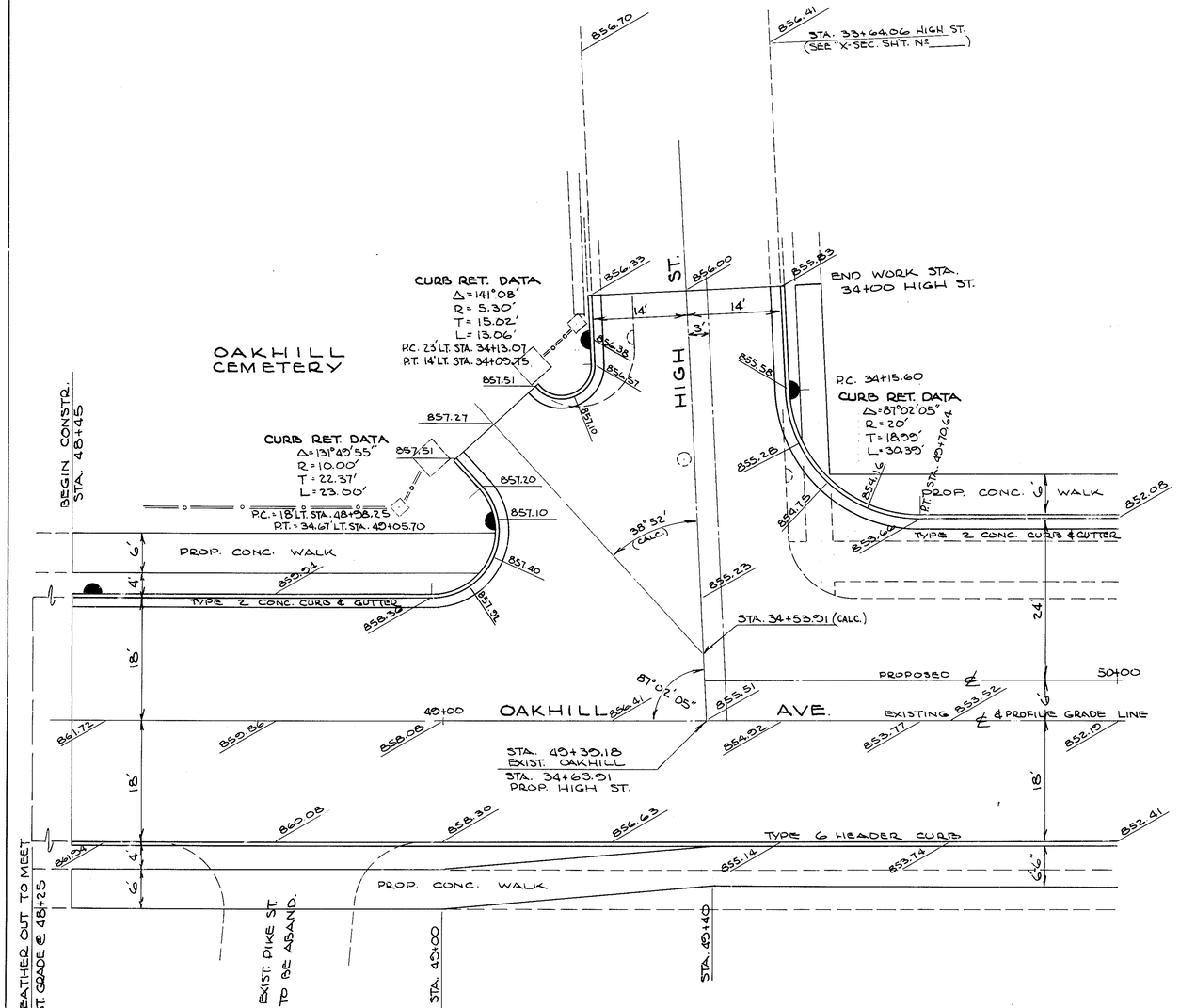
OAKHILL AVE. IMPROVEMENT

SCALES: HOR. 1" = 50'
VER. 1" = 5'

FED. R.D.	STATE	PROJECT	
2	OHIO		

289/492

MAH - 18 - 17.20



PAVEMENT DETAILS OAKHILL AVE.

END AREAS #

END AREAS #
FOR B-35

CU. YDS. OF B-35



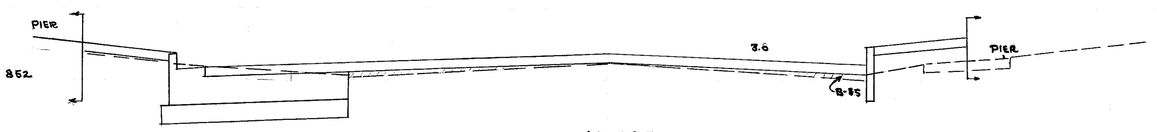
C = 15
F = 3

C = 18.7
F 4.1

50+09.71
851.44
PG. 851.72

3.8

C = 14
F = 3



C = 18.2
F 3.8

C = 18
F = 7

49+89.71
852.48
PG. 852.76

2.9



C = 18.6
F 10.4

C = 5
F = 10

49+64.71
853.83
PG. 854.12

2.4

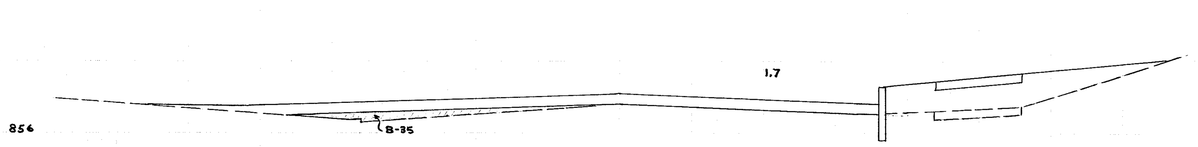


C = 0
F = 10.4

C = 0
F = 10

49+39.71
855.28
PG. 855.53

1.7

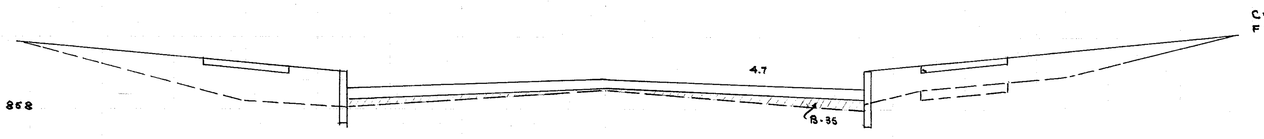


C = 0
F = 11.9

C = 0
F = 19

49+14.71
856.81
PG. 857.12

2.9

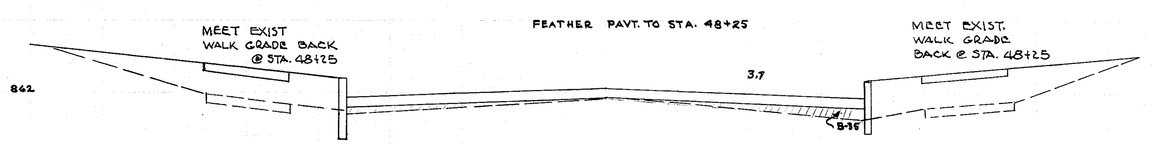


C = 0
F = 28.1

48+89.17
858.62
PG. 858.83

6.9

C = 0
F = 43



C = 0
F = 25.0

48+45

BEGIN CONSTRUCTION OF CURB & PAVT.

861.85

PG. 862.10

℄
OAK HILL

40 30 20 10 0 10 20 30 40

OAK HILL AVE STA. 48+45 to 50+97.1

MAH-18-17.20

	2	NO.	SHEET
	OHIO	STATE	
		PROJECT	
			290 492

END AREAS #

END AREA #
FOR B-35



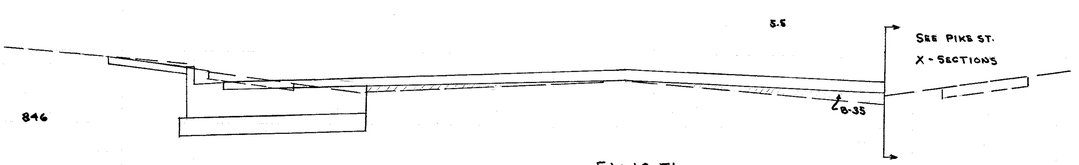
51+65.14
END CONSTRUCTION
AND WORK
846.05
PG. 846.11



51+33
846.87
PG 847.18

2.7

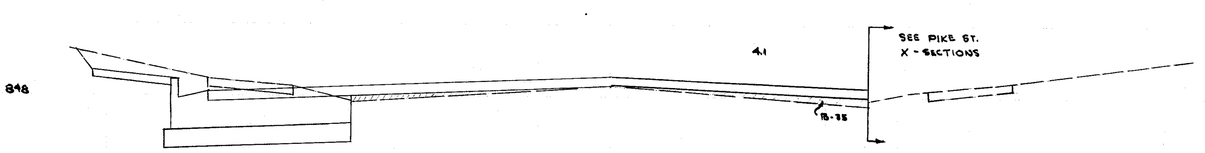
C=10
F=0



51+19.71
847.31
PG 847.58

3.5

C=16
F=0



50+89.71
848.28
PG. 848.55

3.1'

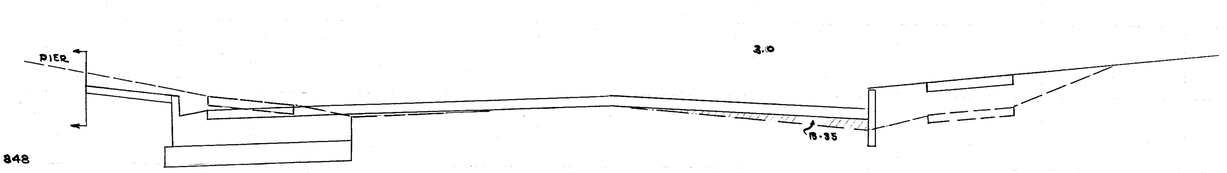
C=18
F=0



50+69.71
849.01
PG 849.25

2.7

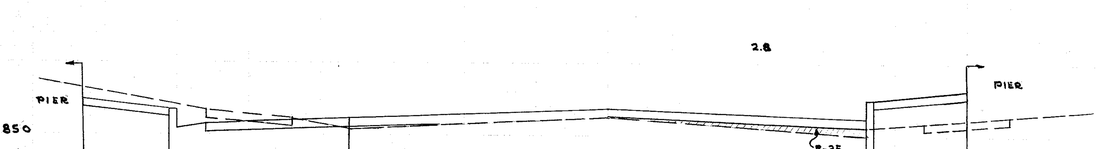
C=18
F=4



50+49.71
849.71
PG 849.96

2.9

C=18
F=5



50+29.71
850.48
PG 850.78

℄
OAKHILL

40 30 20 10 0 10 20 30 40

OAKHILL AVE STA 50+29.71 to 51+65.14

MAH-18-17.20

2	SHEET NO.	STATE
	OHIO	PROJECT

291
492

FED. RD.	STATE	PROJECT	
2	OHIO		

292
492

MAH-18-17.20

CURVE DATA
R = 200'
T = 49.81'
L = 97.74'
Δ = 28°00'00"
D = 28°38'52"

CURVE DATA
Δ = 8°02'44"
D = 4°
T = 100.73'
R = 1432.39'
L = 201.14'

CURVE DATA
Δ = 11°20'50"
D = 5°25'16"
T = 105'
R = 1056.89'
L = 209.31'

℄ OAK HILL

FOR INTERSECTION DETAILS SEE SHEET Nº 13

EXISTING 66" COMBINATION SEWER SEE SHEET N8

FOR REMOVAL OF EXISTING CONCRETE BINS SEE SHEET Nº 293

BEGIN WORK STA. 0+18

P.T. STA. 0+48

P.C. STA. 1+84.87

P.C. STA. 4+46.27

P.T. STA. 5+41.41

P.C. STA. 7+55.87

P.T. STA. 9+51.01

END WORK STA 9+50

54" COMBINATION SEWER SEE SHEET N8

℄ RELOCATED PIKE STA 0+00
℄ OAKHILL STA. 501+89.71

MEET EXISTING CURB & PAVEMENT GRADE

℄ EXISTING PIKE ST.

℄ MAH-18-17.20 STA. 1006+00.21
℄ OAKHILL STA. 50+00

NOTE:
FOR QUANTITIES AND CONSTRUCTION DETAILS OF ITEMS MARKED (A-70 M.L.) (A-78 M.L.) (A-76 M.L.) SEE SHEET Nº 44

5'-0" 18'-0" 5'-0"
BITUMINOUS WEARING SURFACE
BRICK
CONCRETE
EXISTING PIKE STREET

ESTIMATED QUANTITIES I-8 INLETS MANHOLES & CATCH-BASINS						
	CODE	LOCATION & STATION	#1 M.H. EACH	#2 YOUNGS C.B. EACH	#2-2A C.B. EACH	#2 M.H. EACH
	A-71	1+50 10.0' LT.				1
‡	A-75	9+70 ℄	1			
	A-79	0+54.83 12.0' LT.		1		
	A-80	0+54.83 12.0' RT.		1		
	A-81	9+25 10.0' RT.		1		
‡	A-82	9+25 10.0' LT.		1		
	A-83	9+08 34.0' RT.			1	
	SHEET TOTAL		1	4	1	1

EROSION CONTROL	
CODE	3½ PAVED GUTTER TYPE I (MOD.) L.F.
E-1	10

ESTIMATED QUANTITIES I-2 PIPES						
CODE	LOCATION		CLASS "B" STORM SEWERS UNDER PAV'T. OR APPR. L.F.			
	FROM	TO	36"	18"	12"	15"
P-72	A-70	A-71	141#			
P-73	A-71	B-1	286*			
P-82	A-75	B-1		526*		
P-78	A-80	A-70			47	
P-79	A-79	A-70			47	
P-80	A-82	A-75				42
P-81	A-81	A-75			42	
P-84	A-83	A-82				23
SHEET TOTAL						

I-12 TYPE 2A CON. CURB
1978 L.F.

†NOTE:-
The City of Youngstown proposes to construct a sewer system to replace these items - See Sheet 8, General Note.

M-6.6 b or M-6.8 b
* M-6.6 d

A-79
STA 0+54.83 (12.0' LT ℄)
I-8 TYPE II YNG ST. INLET
TOP OF CURB - 848.73
WINDOW EL - 847.98
℄ INLET - 842.98
℄ 12" I-2 - 844.67

A-71
℄ STA 1+50 10' LT.
I-8 Nº2 M.H.
COVER EL. 850.95
FL 36" I-2 833.93
℄ 12" I-2 845.00

A-80
I-8 YNG ST. TYPE II INLET
℄ STA 0+54.83 12' RT
TOP OF CURB - 848.73
WINDOW EL - 847.98
℄ INLET - 842.98
℄ 12" I-2 - 844.23
℄ 12" I-2 OUTLET 844.67

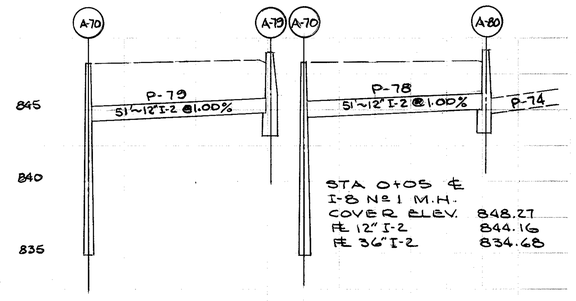
A-82
STA. 9+25 (10.0' RT ℄)
I-8 YNG ST. TYPE II INLET
TOP OF CURB - 847.36
WINDOW EL - 846.61
℄ INLET - 841.61
℄ 12" I-2 - 842.86
℄ 15" I-2 - 843.30

A-83
℄ STA 9+08 34' RT
I-8 Nº2-2A C.B.
WINDOW EL. 845.20
℄ 12" I-2 - 843.03

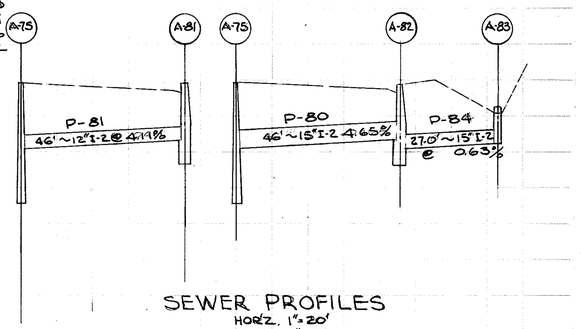
STA 9+25 (10.0' LT ℄)
I-8 YNG ST. TYPE II INLET
TOP OF CURB - 847.36
WINDOW EL - 846.61
℄ INLET 841.61
℄ 12" I-2 843.30

A-81
500' V.C.
P.V.C. STA. 2+00
EL. 853.41
P.V.T. STA. 7+00
EL. 854.66
P.V.C. 0+50
EL. 848.31
P.V.T. 1+50
EL. 851.16
P.V.C. 8+50
EL. 848.66
P.V.T. 9+50
EL. 847.14
P.V.I. STA. 4+50
EL. 864.60
P.V.I. STA. 9+00
EL. 846.66
STA. 9+64.63
EL. 844.28
+4.50%
-4.00%
0.00%
+0.92%
100' V.C.
100' V.C.
SEE SHEET NO. FOR INTERSECTION ELEVATIONS
STA. 0+00
EL. 848.31
P.V.I. STA. 1+00
EL. 848.31
P-72
145' 36"I-2 @ 0.517%
P-73
290' 36" I-2 @ 0.514%
P-82
530' 18"I-2 @ 1.00%
A-70
A-71
A-75
B-1
STA. 4+40 (7.0' LT. ℄)
I-8 YNG ST. TYPE Y-B M.H.
COVER ELEV. 859.11
℄ 12" I-2 833.58
℄ 36" I-2 832.44
℄ 54" I-2 830.77
℄ 68" I-2 (BIST) 829.60
0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00
865 860 855 850 845 840

A-75
℄ STA 9+70
I-8 Nº1 M.H.
COVER EL. 847.33
℄ 12" I-2 841.41
℄ 15" I-2 841.16
℄ 18" I-2 838.92



STA 0+05 ℄
I-8 Nº1 M.H.
COVER ELEV. 848.27
℄ 12" I-2 844.16
℄ 36" I-2 834.68



SEWER PROFILES
HORZ. 1"=20'
VERT. 1"=5'

PLAN - PROFILE RELOC. PIKE ST.

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

293
492

TOP OF RAIL

4'-2½"

2'-6"

TO BE REMOVED

2'-6"

3/4" RODS - 6" C.C.

PROP. PROFILE GRADE OF RELOC. PIKE ST.

GROUND LINE

EXISTING DRIVEWAY -1.00%

3/4" RODS 12" C.C.

3/4" RODS 6" C.C.

3/4" RODS 4" C.C.

3/4" RODS BENT

3/4" RODS BENT

THIS AREA TO BE REMOVED

-4.00%

EL. 848.00

30'-0"

30'-0"

30'-0"

30'-0"

BIN No 7

BIN No 6

BIN No 5

PROP. CURB

3'-0"

11'-0"

2'-6"

2" ANCHOR BOLTS 2'-9" LONG

3/4" RODS 10'-0" LONG PROJECT 3' FROM MASONRY.

7+30

7+40

PROP. PIKE STREET

7+50

7+60

7+63

7+70

7+80

7+80

7+92

P.C. 7+55.87

26.5'

CROSS-HATCHED WALL TO BE REMOVED

℄ OF GIRDERS

℄ OF TRACK & PIERS

℄ OF GIRDERS

3/4" RODS 13'-0" LONG PROJECT 5'-3" FROM PIERS ALL LONGITUDINAL RODS LAPPED 2'-0"

3/4" RODS 30'-0" LONG

1½" RODS 2'-0" C.C.

FOOT OF SLAG FILL

1¼" RODS

2" ANCHOR BOLTS 2'-0" LONG (SAME FOR ALL PIERS)

3/4" RODS

5'-6"

5'-0"

5'-6"

5'-0"

5'-0"

5'-0"

30°

3'-6"

3'-6"

MAHONING RIVER

L.E.&E.R.R.

B.&O.R.R.

WALL

COAL BINS

3'-6"

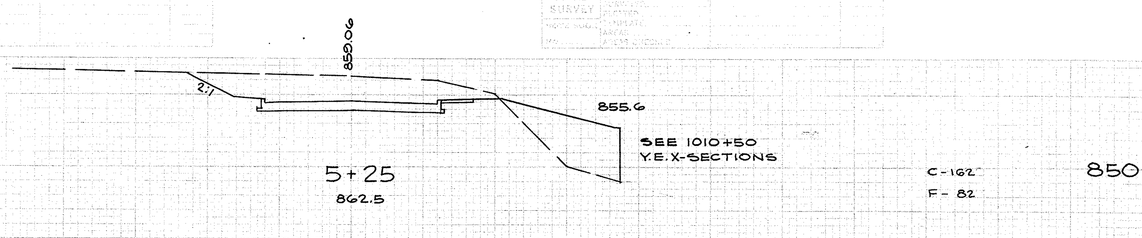
3'-6"

PIKE ST.

WALL

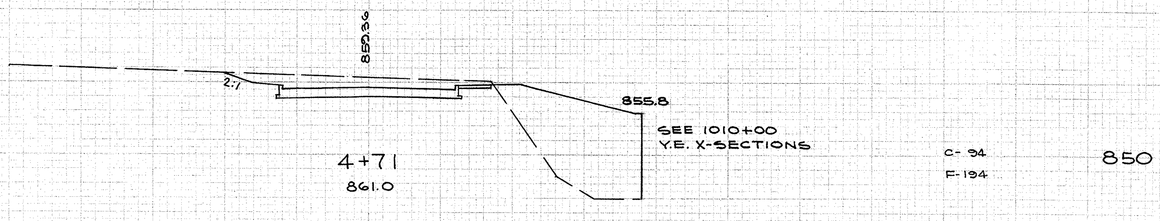
LOCATION PLAN
SCALE: 1" = 100'

REMOVAL OF EXISTING COAL BINS



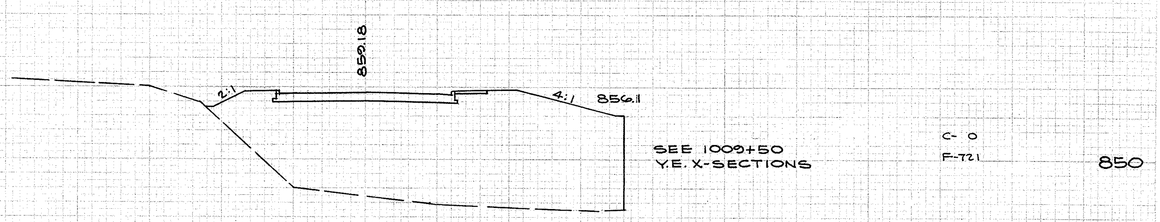
C-162
F-82

850



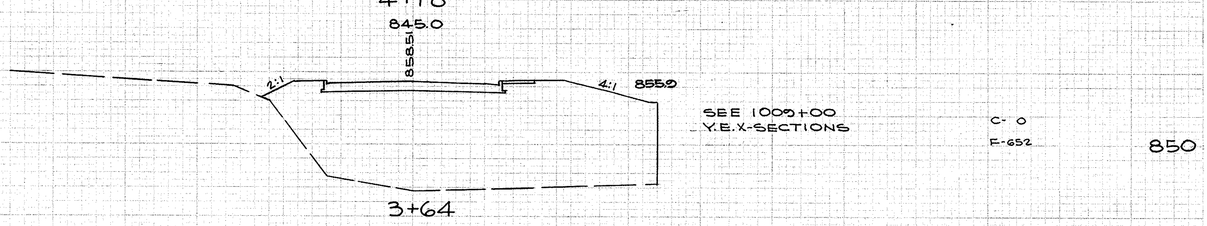
C-94
F-194

850



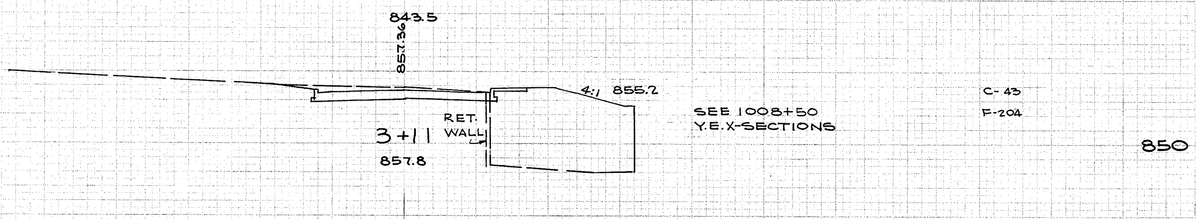
C-0
F-721

850



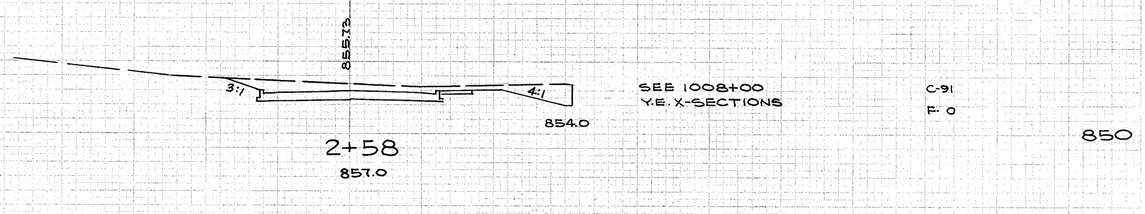
C-0
F-652

850



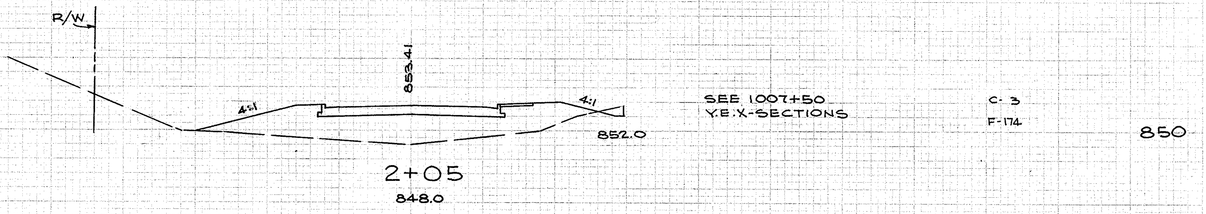
C-43
F-204

850



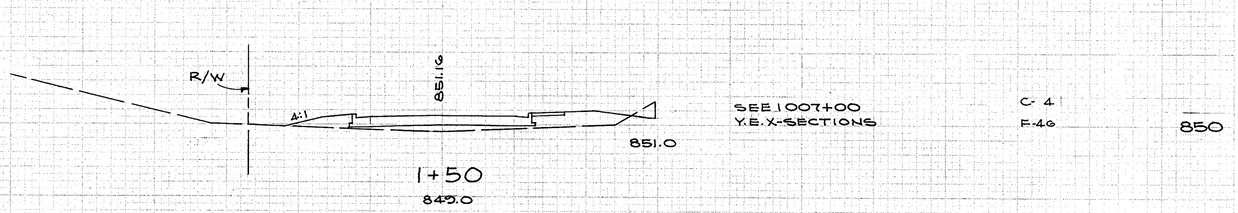
C-91
F-0

850



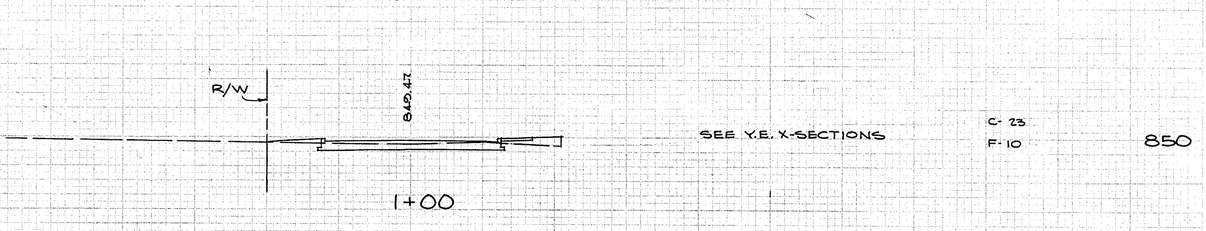
C-3
F-174

850



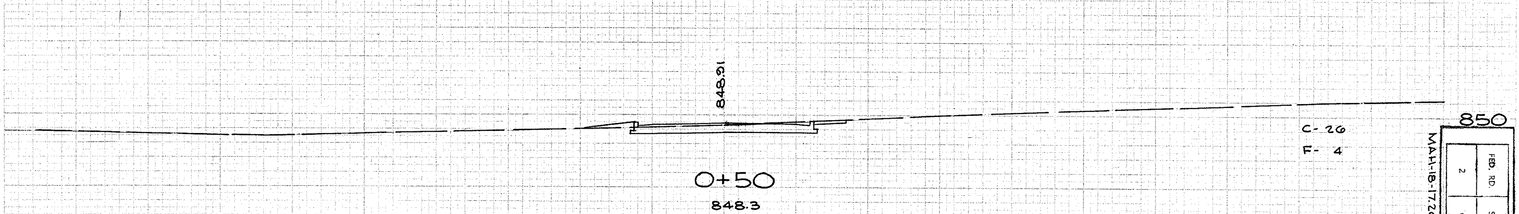
C-4
F-46

850



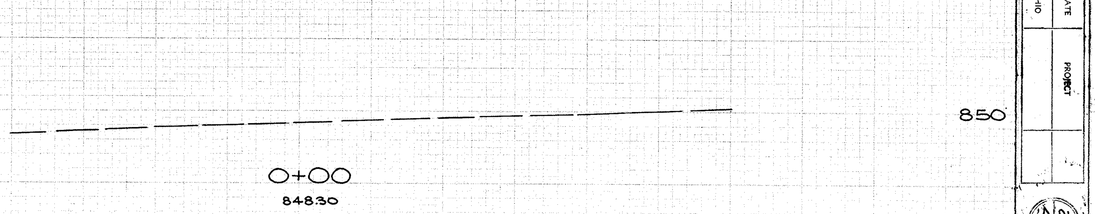
C-23
F-10

850



C-26
F-4

850



850

80 60 40 20 ℄ 20 40 60 80

PIKE ST. 0+00 TO 5+25

MAH-18-17.20

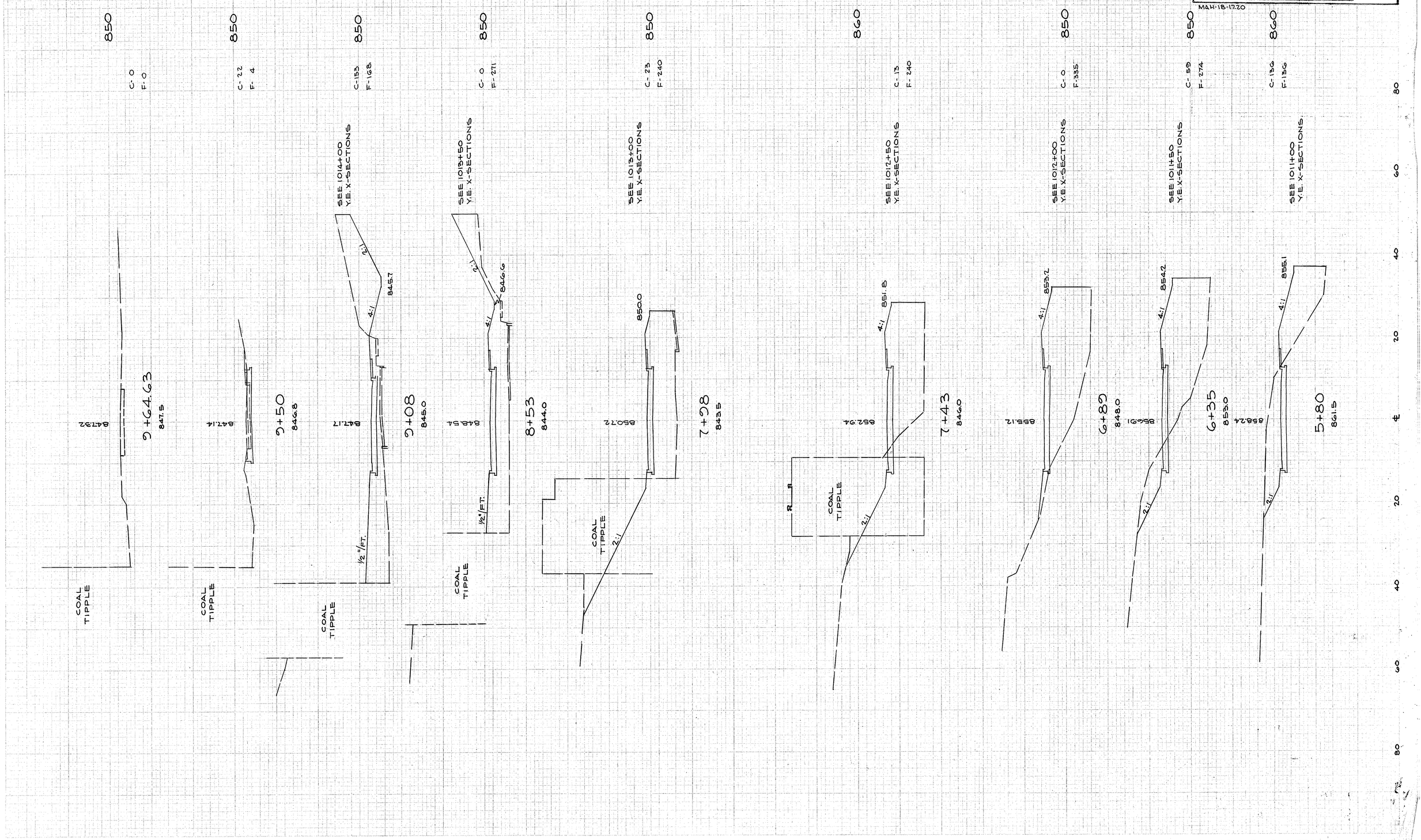
FED. RD.	STATE
2	OHIO
PROJECT	

294
492

FED. RD.	STATE	PROJECT	
2	OHIO		

295
492

MAH-18-17.20

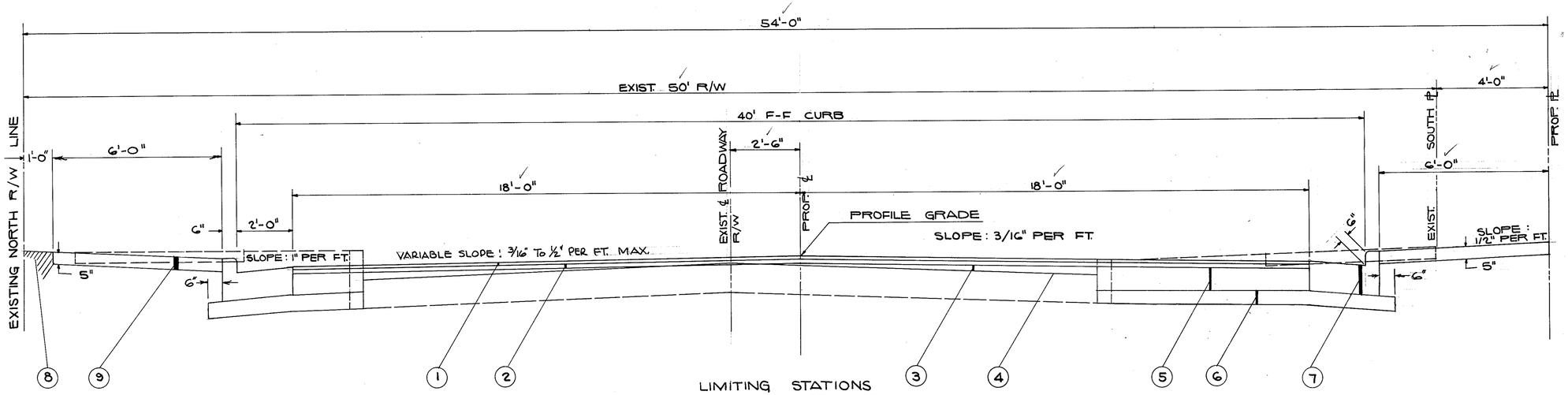


PIKE ST. 5+80 TO 9+64.63

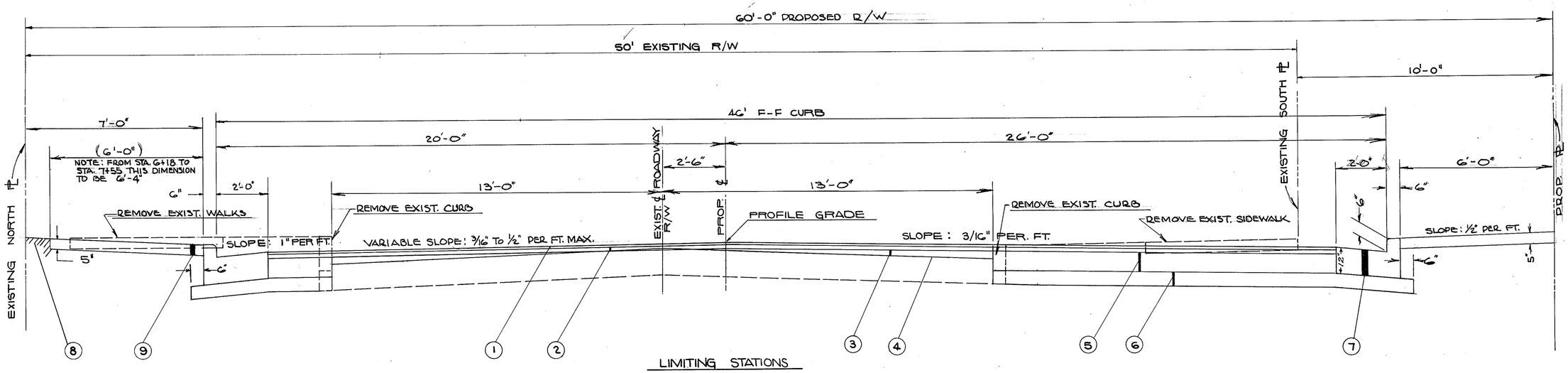
FED RD	STATE	PROJECT	
2	OHIO		

MAH -18-17.20

296
492



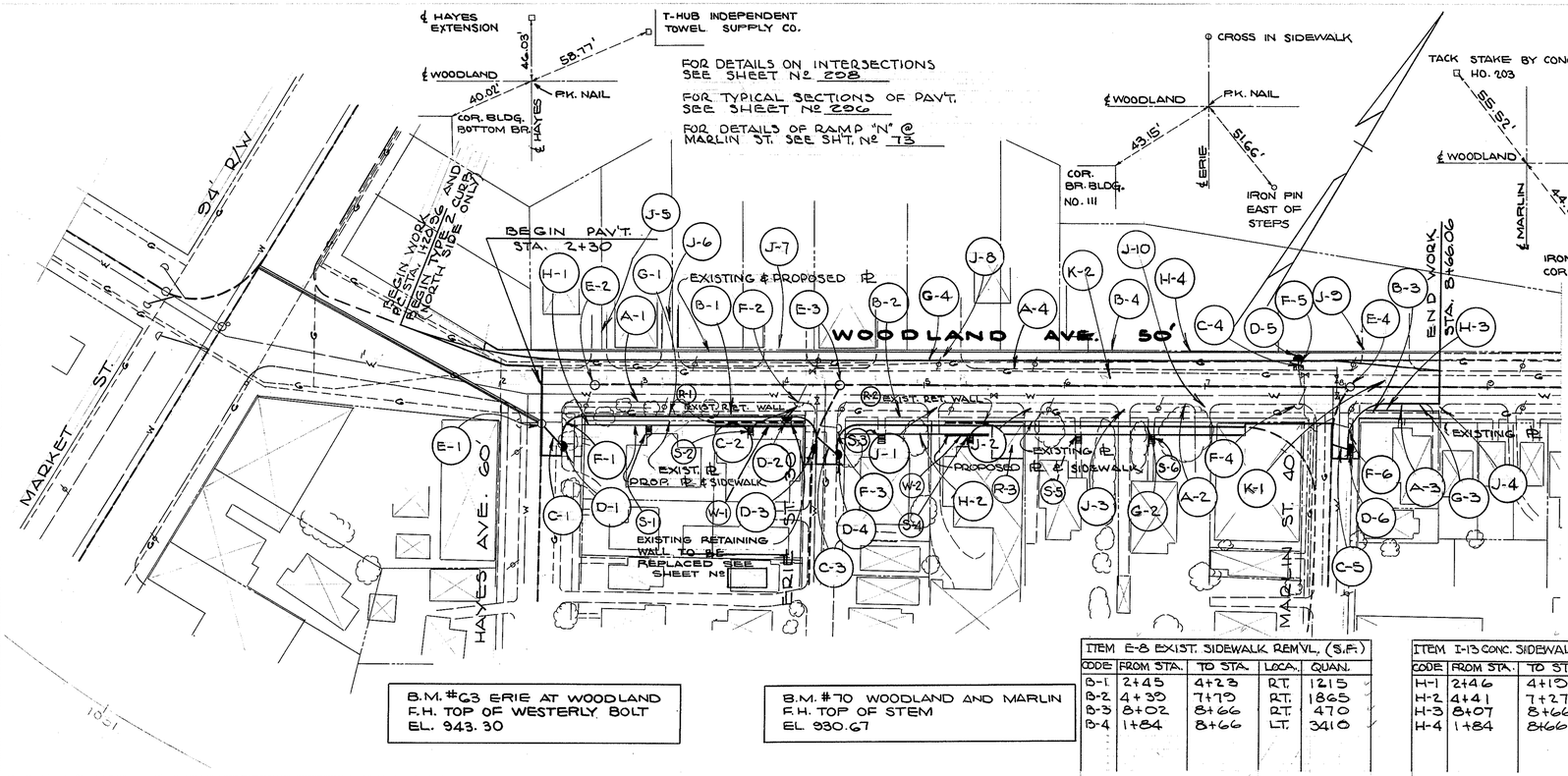
LIMITING STATIONS
STA. 2+30 TO STA. 4+29.90



LIMITING STATIONS
STA. 4+29.90 TO STA. 7+91.06

1. 1 T-35 ASPHALTIC CONCRETE SURFACE COURSE - TYPE "C" (70-85)
2. 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE - (70-85)
3. B-35 ASPHALTIC CONCRETE PRELEVELING COURSE - VARIABLE THICKNESS (70-85)
4. T-30 BITUMINOUS TACK COAT 0.10 GAL. PER SQ. YD.
5. 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE
6. 6" I-22 SUBBASE
7. I-12 COMBINED CURB & GUTTER -TYPE 2
8. L-9 SEEDING & PROTECTING
9. 5" I-13 CONCRETE SIDEWALK - INCLUDING 5" CINDER SUBBASE

TYPICAL SECTIONS - WOODLAND AVE. EAST



CODE	ITEM	REMARKS
R-1	S-24	REMOVAL OF EXISTING RETAINING WALL
R-2	S-24	REMOVAL OF EXISTING RETAINING WALL
R-3	S-22	REMOVAL OF PORTION EXISTING HOUSE

FED RD.	STATE	PROJECT	
2	OHIO		

297
492

MAH-18-17.20

ITEM E-8 EXIST. CURB REMOV. & DISPOSAL (L.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
A-1	2+45	4+23	RT.	247
A-2	4+39	7+79	RT.	379
A-3	8+02	8+66.06	RT.	57
A-4	1+20.96	8+66.06	LT.	746

ITEM I-12 CONC. CURB REPLACE. (LIN. FT.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
G-1	2+45.00	4+18.95	RT.	226.07
G-2	4+39.95	7+27.22	RT.	305.36
G-3	8+02.74	8+66.06	RT.	91.16
G-4	1+20.96	8+66.06	LT.	746

ITEM I-8 M.H. ADJUSTED TO GRADE (EA.)

CODE	STA.	LOCA.	TOP ELEV.	REMARKS
E-1	2+30	28' RT.	UNDISTURBED	
E-2	2+68	℄	943.25	
E-3	4+40.6	℄	940.59	
E-4	8+03.4	℄	927.60	

ITEM I-2 COMBINATION SEWER UNDER PAV'T & APPR. M-6.8(b)

CODE	FROM	TO	LOCA.	SIZE	LIN. FT.
C-1	D-1	E-1	HAYES	12"	22
C-2	D-2	F-2	RT. OF ℄	12"	12
C-3	D-4	MAIN	ERIE	12"	20
C-4	D-5	F-5	LT. OF ℄	12"	8
C-5	D-6	MAIN	MARLIN	12"	14

ITEM EXIST. DRIVEWAYS & APPROACHES (SQ. YDS.)

CODE	STA.	LOCA.	5"-7" P.C.C. DRIVEWAY APPROACH	DRIVEWAYS (SINGLE PRIVATE) 5" T.T.C.
J-1	5+10	RT.	7	
J-2	5+78	RT.	7	
J-3	6+44	RT.	7	19
J-4	8+62	RT.	9	
J-5	2+70	LT.	8	
J-6	3+20	LT.	8	
J-7	4+01	LT.	8	
J-8	4+84	LT.	8	
J-9	8+23	LT.	8	
J-10	6+08	RT.	7	

ITEM E-8 REMOV. & DISP. OF EXIST. WEARING COURSE

CODE	FROM STA.	TO STA.	SQ. YDS.	REMARKS
K-1	7+01	8+66	253	INCL. PART OF MARLIN
K-2	3+00	7+30	860	

ITEM E-8 EXIST. SIDEWALK REMVL. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
B-1	2+45	4+23	RT.	1215
B-2	4+39	7+79	RT.	1865
B-3	8+02	8+66	RT.	470
B-4	1+84	8+66	LT.	3410

ITEM I-13 CONC. SIDEWALK REPLACE. (S.F.)

CODE	FROM STA.	TO STA.	LOCA.	QUAN.
H-1	2+46	4+19	RT.	1288
H-2	4+41	7+27	RT.	1826
H-3	8+07	8+66	RT.	504
H-4	1+84	8+66	LT.	4052

ITEM I-16 INLETS ABAND. (EA.)

CODE	STATION	LOCA.	REMARKS
F-1	2+45	28' RT. OF ℄	PLUG LEAD
F-2	4+11	12.5' RT.	USE EX. L.D.
F-3	4+40	28' RT.	PLUG LEAD
F-4	7+67	12.5' RT.	PLUG LEAD
F-5	7+66	12.5' LT.	USE EX. L.D.
F-6	8+04	28' RT.	PLUG LEAD

ITEM I-8 INLETS YNGSTN TYPE II (EA.)

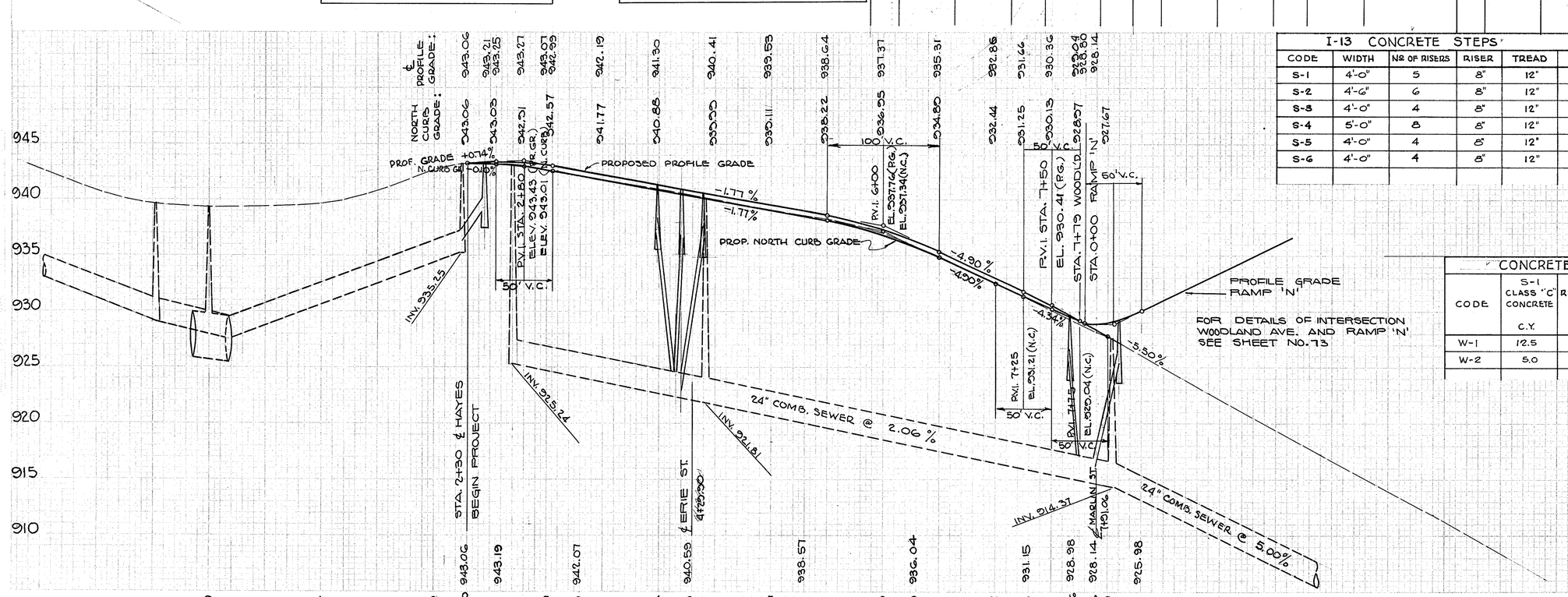
CODE	STATION	LOCA.	WIND PE.	C.B. INV.
D-1	0+44.08	HAYES	943.70	938.70
D-2	3+98.52	20' R.	940.60	935.60
D-3	0+41.58	ERIE	941.20	936.20
D-4	0+48.12	ERIE	941.34	936.34
D-5	7+66	20' L.	928.86	923.86
D-6	0+44.25	MARLIN	928.22	923.22

I-13 CONCRETE STEPS

CODE	WIDTH	Nº OF RISERS	RISER	TREAD	L.F
S-1	4'-0"	5	8"	12"	6'
S-2	4'-6"	6	8"	12"	7.2'
S-3	4'-0"	4	8"	12"	5'
S-4	5'-0"	8	8"	12"	9.7'
S-5	4'-0"	4	8"	12"	5'
S-6	4'-0"	4	8"	12"	5'

CONCRETE RETAINING WALL - SEE SHEET Nº

CODE	S-1 CLASS "C" CONCRETE C.Y.	S-4 REINFORCING STEEL lbs.	S-2 EXCAVATION FOR STRUCTURE C.Y.	S-29 PORUS BACKFILL C.Y.	HEIGHT	LENGTH
W-1	12.5	503	51	12	3.5	58'
W-2	5.0	208	21	4	3.	25'



WOODLAND AVE. EAST

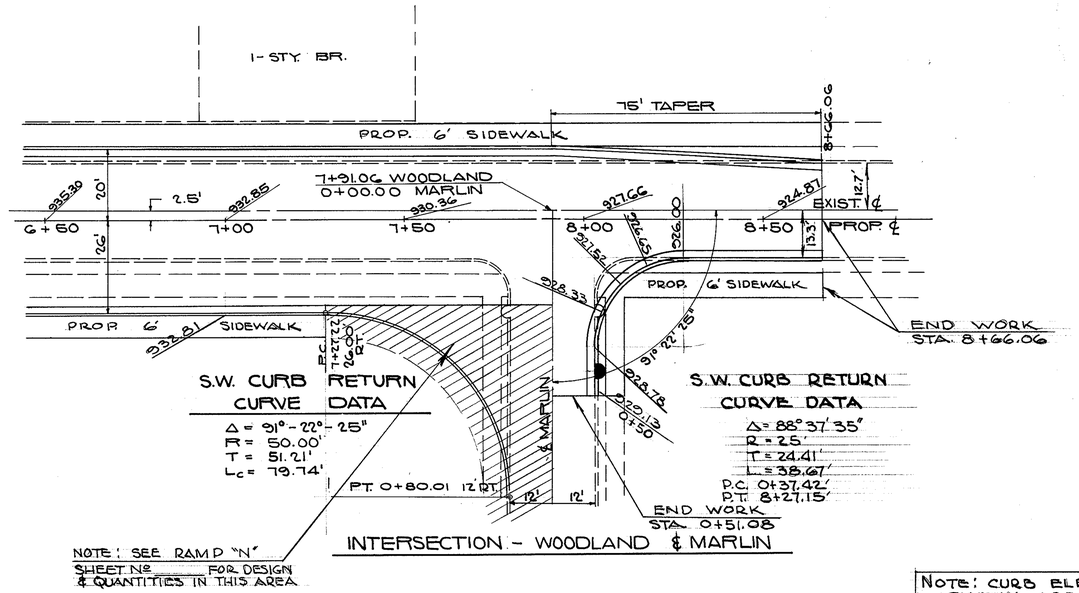
MARKET ST. TO EAST OF MARLIN ST.

SCALES: H-1" = 50'
V-1" = 5'

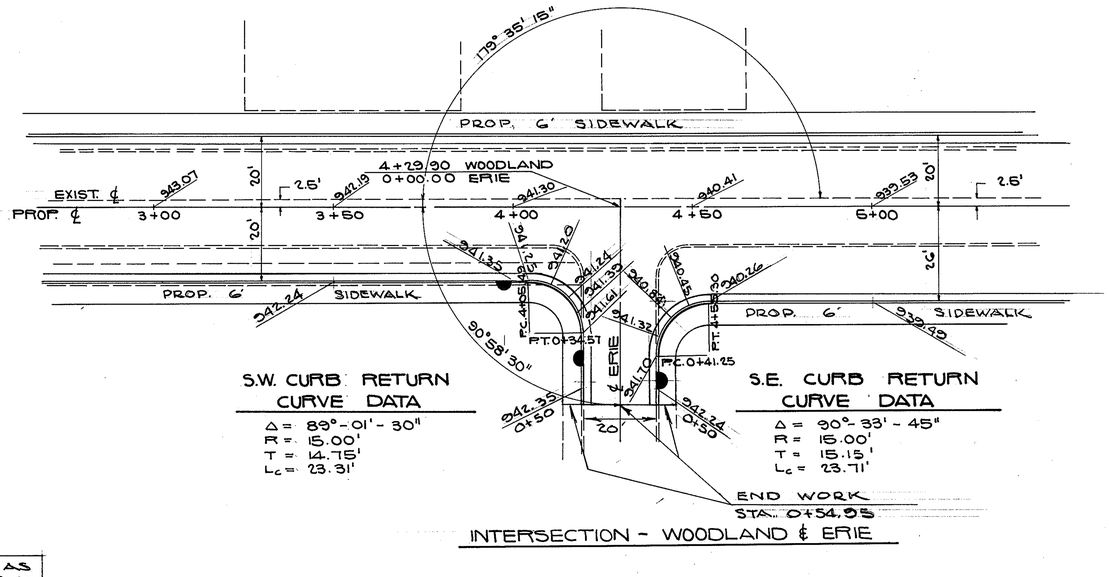
FED. RD.	STATE	PROJECT	
2	OHIO		

298
492

MAH -18-17.20

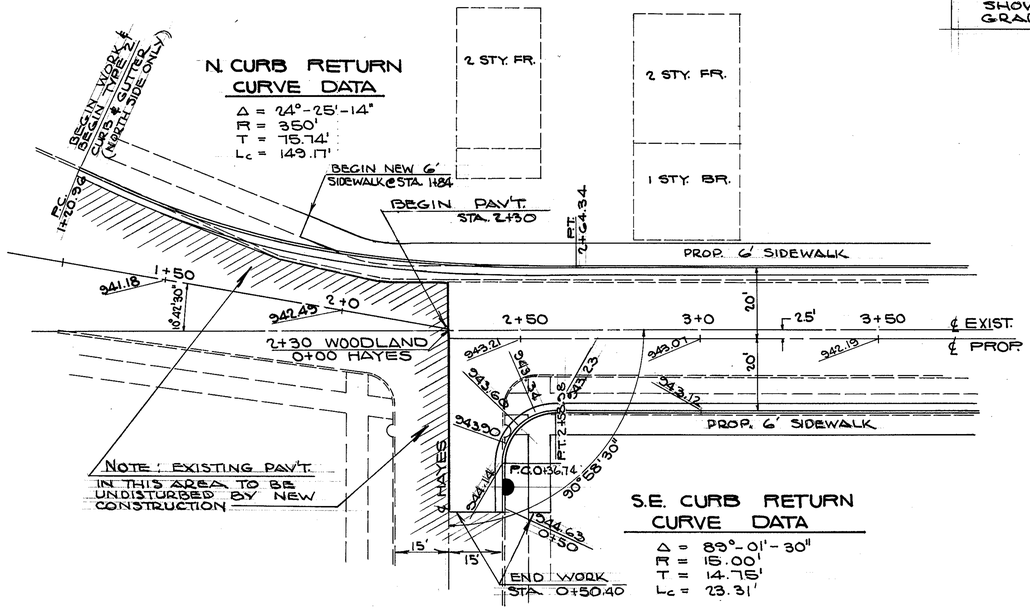


INTERSECTION - WOODLAND ℄ MARLIN



INTERSECTION - WOODLAND ℄ ERIE

NOTE: CURB ELEVATIONS AS SHOWN ARE TOP OF CURB GRADES.



INTERSECTION - WOODLAND ℄ HAYES

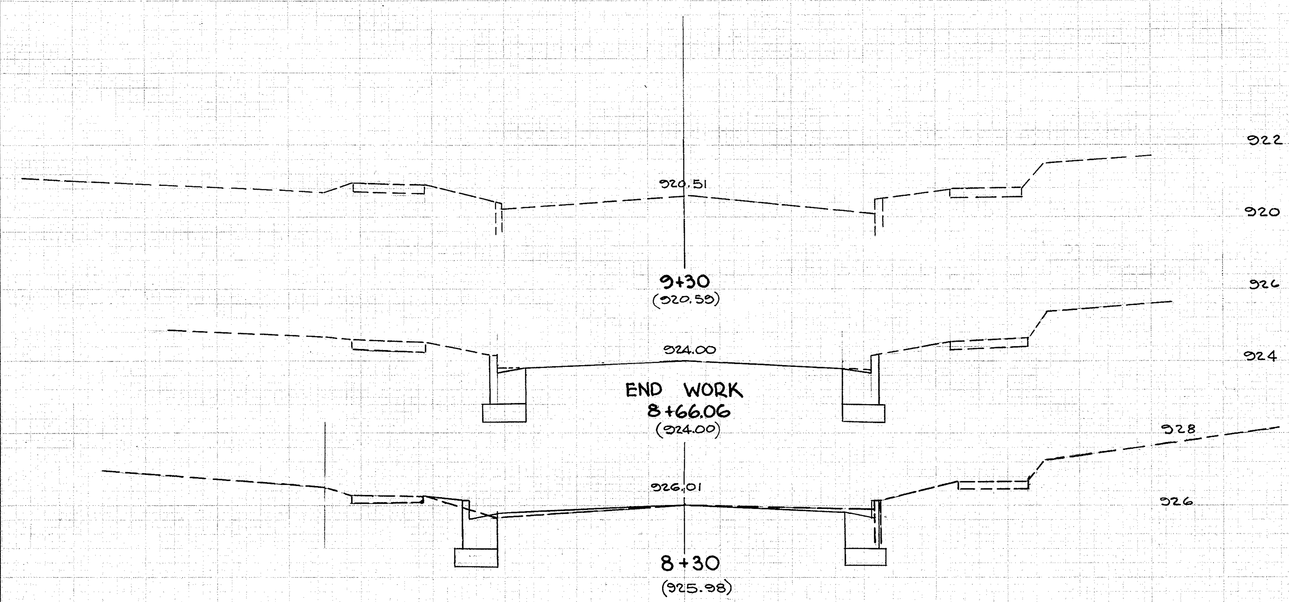
PAVEMENT DETAILS - WOODLAND AVE. EAS

END AREA	CU. YDS.
CUT	FILL
CUT	FILL

| | | |

SEEDING	
END WIDTH	SQ. YDS.

END AREA CU.YDS.			
CUT	FILL	CUT	FILL

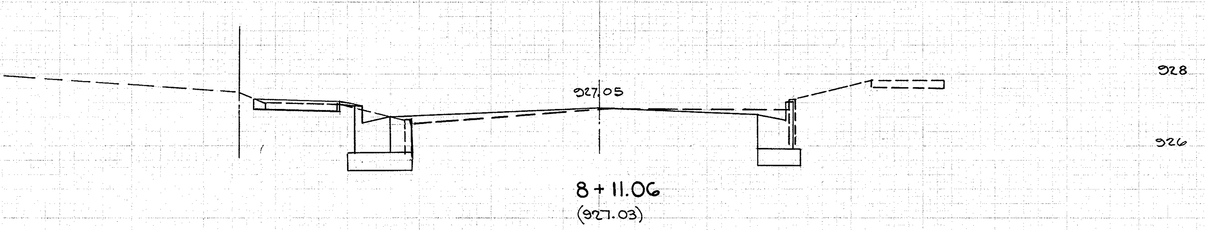


3.6

6.3

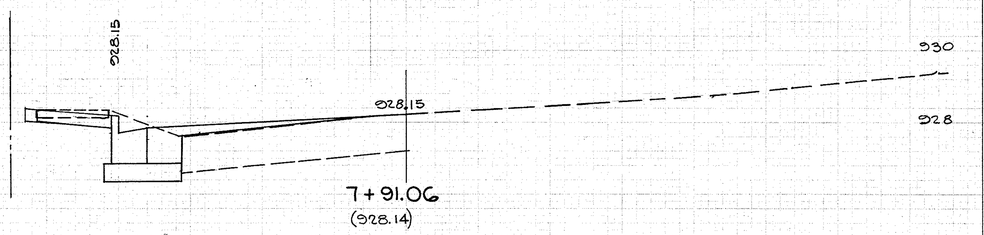
5.8

4.6



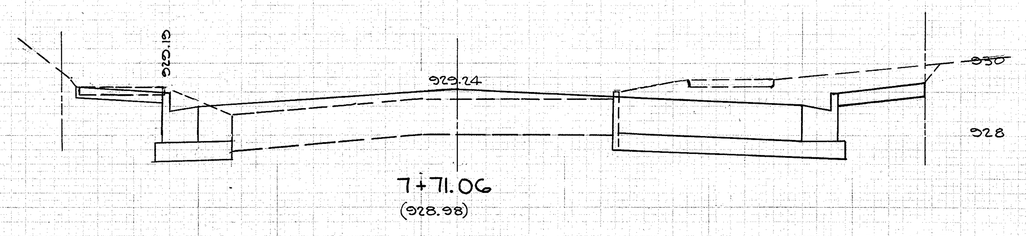
7.4

6.2



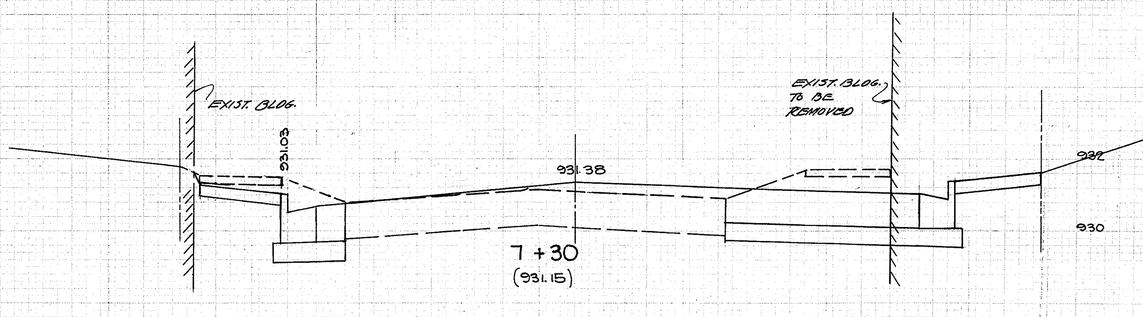
9.3

19.9



44.5

64.1



39.9

50 40 30 20 10 ℄ 10 20 30 40

X-SECTIONS WOODLAND AVE. STA. 7+30 – STA. 8+30

FED. RD.	STATE	PROJECT
2	OHIO	

MAY 18-17-20

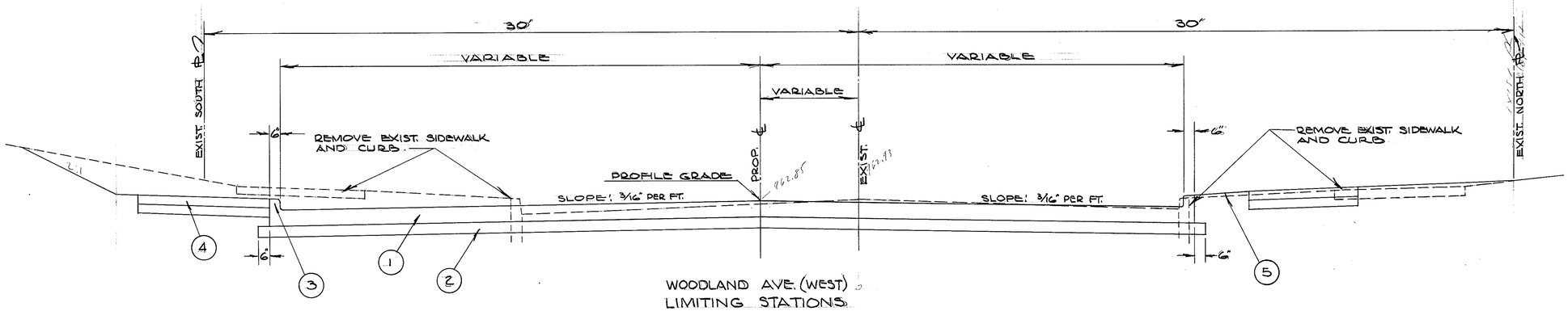
300

4492

FED. RD	STATE	PROJECT	
2	OHIO		

301
492

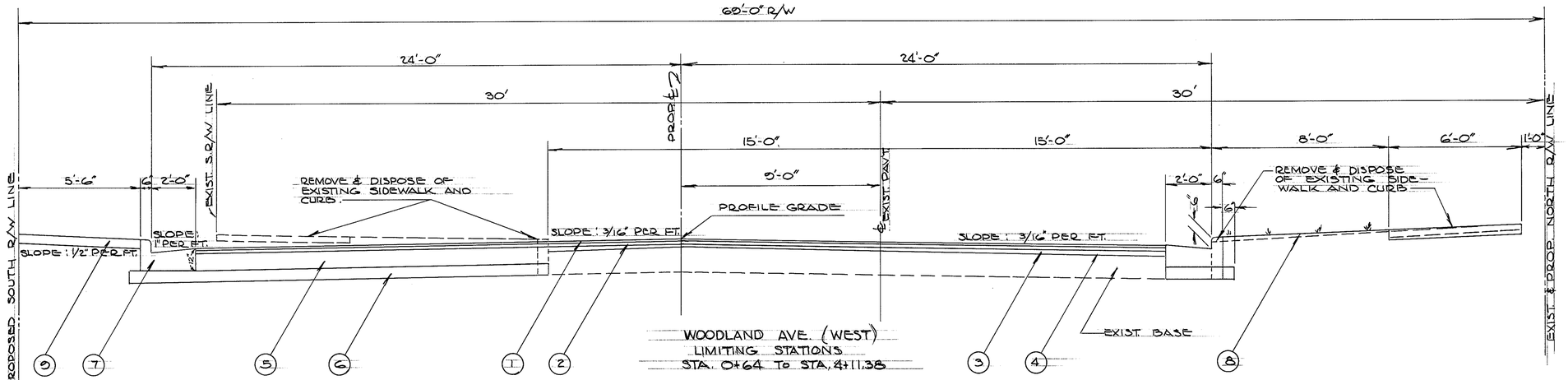
MAH -18-17.20



WOODLAND AVE. (WEST)
LIMITING STATIONS
STA. 6+18.46 - STA. 7+50

(1) ITEM T-71 9" REINFORCED PORTLAND CEMENT CONC. PAV'T.
(2) ITEM I-22 6" SUBBASE
(3) ITEM I-12 STANDARD TYPE 2A CONCRETE CURB

(4) ITEM I-13 5" CONC. SIDEWALK INCLUDING 5" CINDER SUBBASE
(5) ITEM L-9 SEEDING & PROTECTING



WOODLAND AVE. (WEST)
LIMITING STATIONS
STA. 0+64 To STA. 4+11.38

(1) 1" T-35 ASPHALTIC CONCRETE SURFACE COURSE - TYPE "C" (70-85)
(2) 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE - (70-85)
(3) B-35 ASPHALTIC CONCRETE PRELEVELING COURSE - VARIABLE THICKNESS (70-85)
(4) T-30 BITUMINOUS TACK COAT 0.1 GAL. PER SQ. YD.
(5) 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE

(6) 6" I-22 SUBBASE
(7) I-12 COMBINED CURB & GUTTER - TYPE 2
(8) L-9 SEEDING & PROTECTING
(9) 5" I-13 CONCRETE SIDEWALK - INCLUDING 5" CINDER SUBBASE

TYPICAL SECTIONS WOODLAND AVE. (WEST)

FED. RD	STATE	PROJECT
2	OHIO	

302
492

MAH-18-17.20

ITEM S-5 DRIVEWAYS & APPROACHES

CODE	STA.	LOCA.	8'-11' SGL. APPROACH (SY.)	5'-7' SINGLE PRIVATE DRIVES (SY.)
J-1	1+40	LT.	40 (DOUB. BUS)	
J-2	2+56	LT.	7	33
J-3	3+05	LT.	7	33

ITEM E-8 REMOV. & DISP. OF EXIST. S. WALK (S.F.)

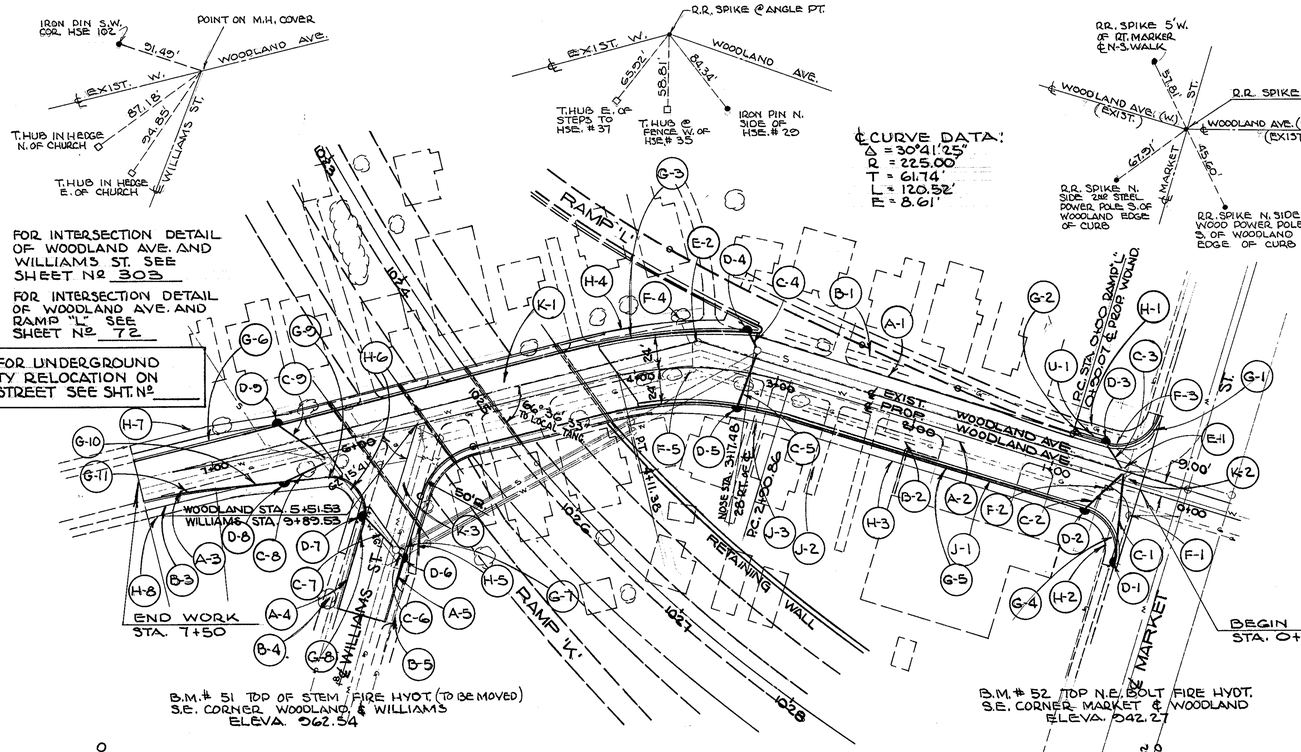
CODE	FROM	TO	LOCA.	QUAN.
B-1	MARKET ST.	7+50	N	4308
B-2	MARKET ST.	WILLIAMS	S	3030
B-3	WILLIAMS	7+50	S	1032
B-4	W. SIDE WMS.	8+88	W	498
B-5	E. SIDE WMS.	8+88	E.	642

ITEM E-8 REMOV. & DISP. OF EXIST. PAV'T. (S. YDS.)

CODE	FROM	TO		QUAN.
K-1	4+15.45	7+50		1115
K-2	0+32	0+47		50
K-3	ON WILLIAMS ST.			288.

ITEM E-8 REMOV. & DISP. OF EXIST. CURB (L.F.)

CODE	FROM	TO	LOCA.	QUAN.
A-1	0+32	7+50	N.	718
A-2	0+32	5+37	S.	505
A-3	6+77	7+50	S.	73
A-4	WILLIAMS ST.		W.	123
A-5	WILLIAMS ST.		E.	143



ITEM I-8 YOUNGSTOWN TYPE II INLETS (EA.)

CODE	STA.	LOCA.	TOP	FLOW LINE
D-1	PT. 52+07.66	34' LT. MARKET ℄	941.50	938.00
D-2	P.C. 0+63.99	24' LT. WOODL'D ℄	939.74	936.24
D-3	P.C. 0+64.01	24' RT. WOODL'D ℄	939.74	936.24
D-4	3+25	24' RT. WOODL'D ℄	949.49	946.50
D-5	3+25	24' LT. WOODL'D ℄	949.49	946.50
D-6	8+87	16' RT. WILLIAMS	962.02	958.52
D-7	1/8 PT OF S.W.	RET. @ WILLIAMS	961.50	958.00
D-8	6+50	21.2' LT. WOODL'D ℄	963.44	959.94
D-9	6+50	19' RT. WOODL'D ℄	963.47	959.97

ITEM I-16 INLETS ABANDONED (EA.)

CODE	STATION	LOCA.	REMARKS
F-1	0+38	19' LT. ℄	PLUG LEAD
F-2	0+57	4' LT. ℄	PLUG LEAD
F-3	0+60	24' RT. ℄	PLUG LEAD
F-4	3+66	30' RT. ℄	PLUG LEAD
F-5	3+50	ON ℄	PLUG LEAD

ITEM I-8 MANHOLES ADJUSTED TO GRADE

CODE	STATION	LOCATION	TOP ELEV.	REMARKS
E-1	0+50	5' RT. OF ℄	935.63	
E-2	3+54	18' RT. OF ℄	950.25	

ITEM I-2 M-686 COMB. SWR. UNDER PAV'T. & APPROACHES

CODE	FROM	TO	TYPE & SIZE	LENGTH BID	LENGTH GRADE	% GRADE
C-1	D-1	EXIST. M.H.	12"	62	65	3.40%
C-2	D-2	EXIST. M.H.	12"	34	36	1.0%
C-3	D-3	EXIST. M.H.	12"	19	21	1.71%
C-4	D-4	PROP. M.H.	12"	14	16	2.54%
C-5	D-5	PROP. M.H.	12"	38	41	1.0%
C-6	D-6	PROP. M.H.	12"	6	8	10.50%
C-7	D-7	PROP. M.H.	12"	30	32	1.0%
C-8	D-8	PROP. M.H.	12"	12	14	2.25%
C-9	D-9	PROP. M.H.	12"	33	35	1.0%

ITEM I-4 UNDERDRAIN (SHALLOW) L.F.

CODE	FROM	TO	6" PIPE	8" OUTLET PIPE M-6.4(4)
U-1	0+64.01	0+90.90	16	10

ITEM I-13 CONC. SIDEWALK REPLACE. (S.F.)

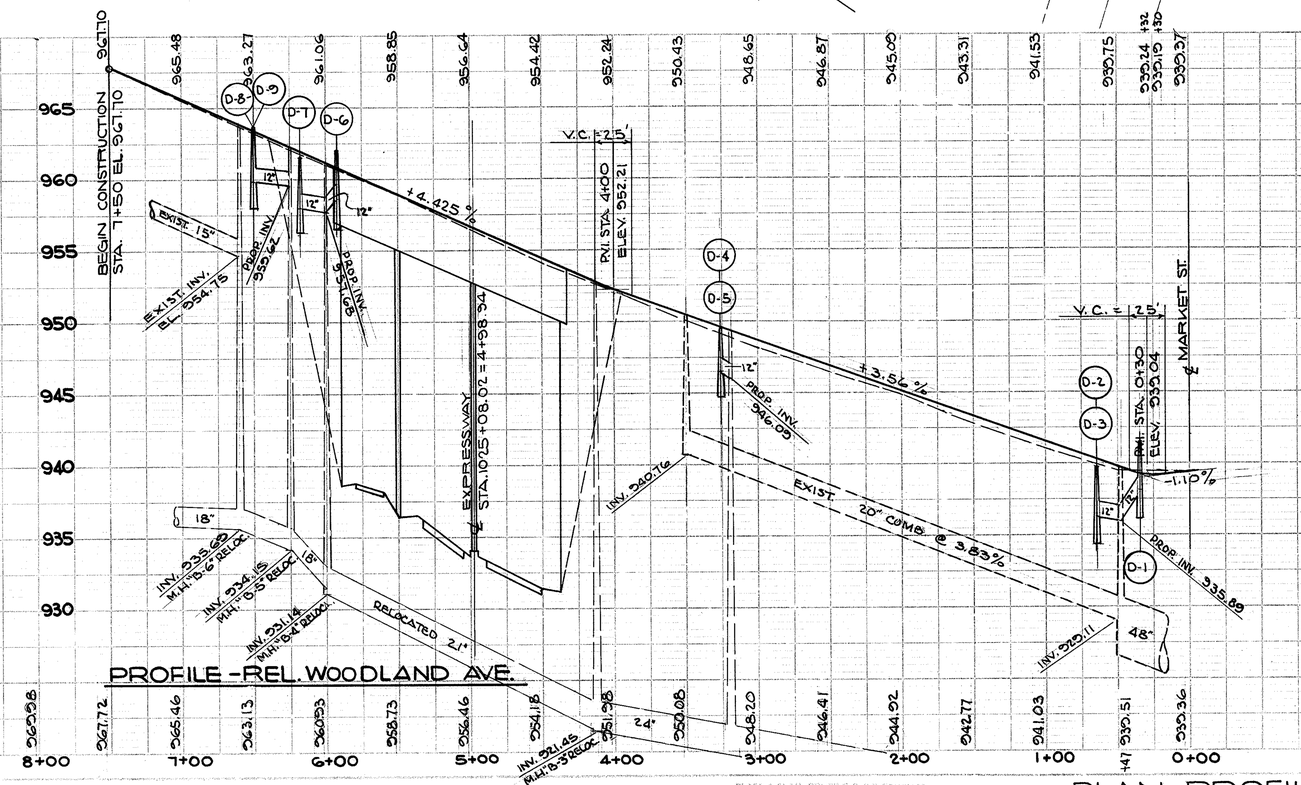
CODE	FROM	TO	LOCA.	QUAN.
H-1	N.W. CORNER ℄ MARKET ST.			150
H-2	S.W. CORNER ℄ MARKET ST.			258
H-3	0+64	4+24	S	1800
H-4	3+18	4+29	N	786
H-5	8+88	9+20	WILLIAMS	182
H-6	8+88	AND S.W. RETURN		366
H-7	6+21	7+50	N	762
H-8	6+08	7+50	S	858

ITEM I-12. CONCRETE CURB (L.F.)

CODE	FROM	TO	LOCA.	TYPE 2 CONC. CURB & GUTTER	TYPE 2A CURB
G-1	N.W. RETURN ℄ MARKET			33.45	
G-2	0+64.01	0+90.07	N.	26.06	
G-3	3+17.48	4+25.05	N.	93.90	
G-4	S.W. RETURN ℄ MARKET			40.30	
G-5	0+63.99	4+06.05	S.	314.72	
G-6	6+26.30	7+50	N.		110.03
G-7	8+50.00	9+04.20	WBS		40.53
G-8	8+50.00	8+13.34	WBS		63.34
G-9	S.W. RETURN ℄ WILLIAMS				12.3
G-10	6+21.24	6+90.31	S		64.66
G-11	6+28.31	7+50	S		40.93

GUTTER LINE ELEVATIONS

N.W. CURB RETURN @ WOODLAND AVE. & MARKET ST.				
P.C. STA. 0+64.01 ON WOODLAND AVE.	1/4	1/2	3/4	P.T. STA. 53+15.66 ON MARKET ST.
939.74	939.24	938.62	938.00	937.48
S.W. CURB RETURN @ WOODLAND AVE. & MARKET ST.				
P.C. STA. 0+63.99 ON WOODLAND AVE.	1/4	1/2	3/4	P.T. STA. 52+07.66 ON MARKET ST.
939.74	939.83	940.21	940.65	941.09



PROFILE - REL. WOODLAND AVE.

PLAN-PROFILE RELOCATED WOODLAND AVE. (WEST)

END AREAS ℄

C=104
F=0

END AREA ℄ FOR B-35

CU. YD. OF B-35

15.2

C=67.5
F=0

PROP ℄

EXIST ℄

8.2

948

C=103
F=0

SEE RAMP L X-SECTIONS

B-35

946

(946.41)

2+50

PG. 946.87

944

C=43.8
F=0

13.9

12.3

946

SEE RAMP L X-SECTIONS

C=77
F=0

B-35

944

(944.59)

2+00

PG. 945.09

21.5

C=38.7
F=0

18.9

944

SEE RAMP L X-SECTION

C = 85
F = 8

B-35

942

(942.77)

1+50

PG. 943.81

C=52.8
F=8.3

16.2

944

6.4

942

C = 129
F = 12

B-35

(941.03)

940

1+00

PG. 941.53

C= 77.3
F= 4.3

5.8

942

940

C=157
F=4

E-8

(939.51)

0+47

938

PG. 939.05

C=102.7
F=0

940

E-8

(939.04)

938

BEGIN CONSTRUCTION

PG. 939.24

0+32

940

50

40

PROP ℄

EXIST ℄

940

0+00

(939.36)

938

(INTERSECTION WOODLAND & MARKET)

936

40 30 20 10 0 10 20 30 40

CROSS - SECTIONS - WOODLAND AVE. (WEST)

MAH-18-17.20

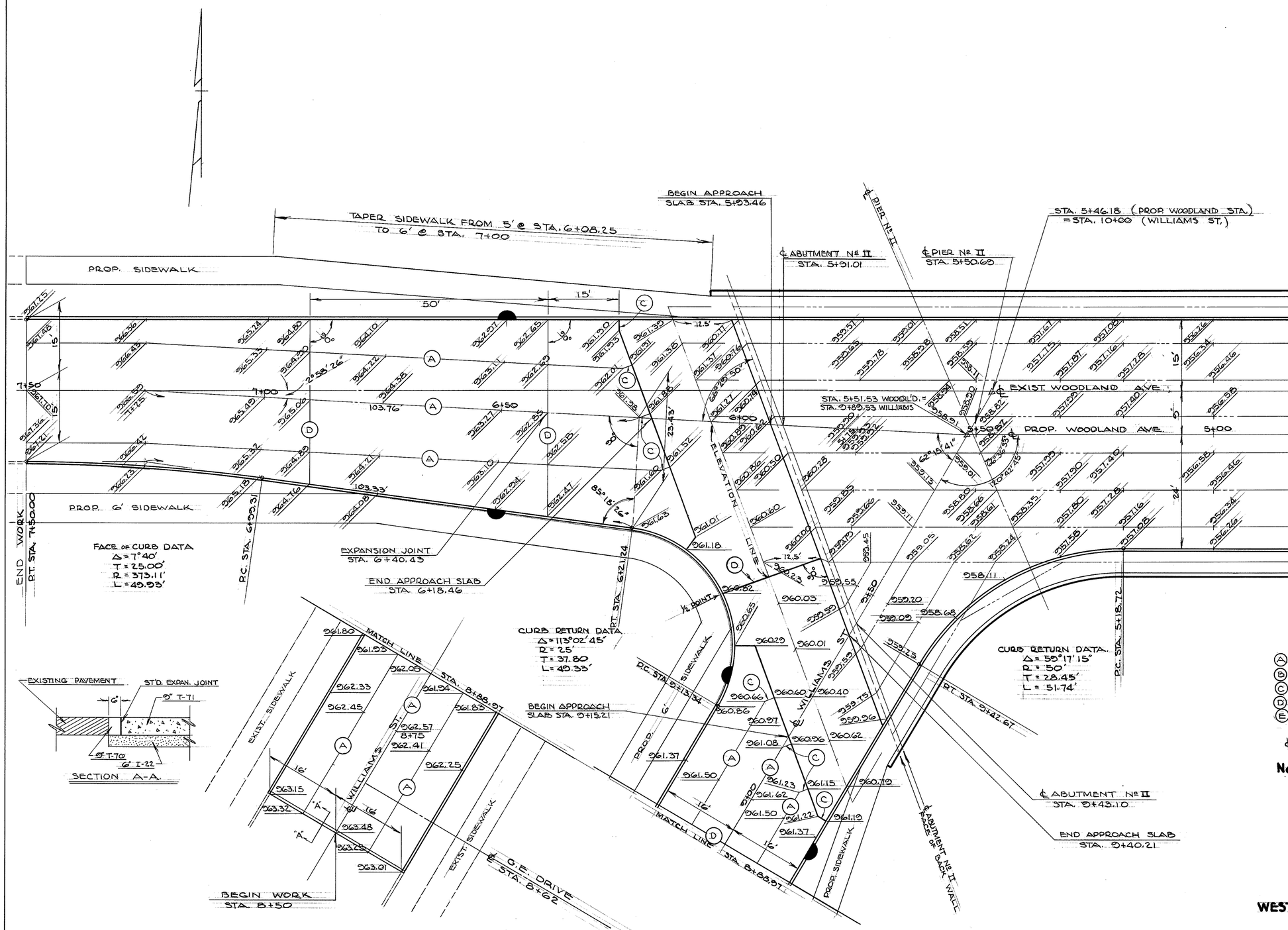
FED. RD.	STATE
2	OHIO
	PROJECT

304
492

FED. RD.	STATE	PROJECT	
2	OHIO		

303
492

MAH -18-17.20



LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS (LOCATED ON RAD. LINES)
- (D) STANDARD EXPANSION JOINTS
- (E) STANDARD CONTRACTION JOINTS (TO BE PLACED AT 60' INTERVALS OR LESS IN ALL T-71 PAVEMENT)
- ℄ BEAM LINES = ——————

NOTE: ALL ELEVATIONS ARE ON THE FINISHED SURFACE.

INTERSECTION DETAIL & JOINT PLAN

WEST WOODLAND AVE. & WILLIAMS ST.

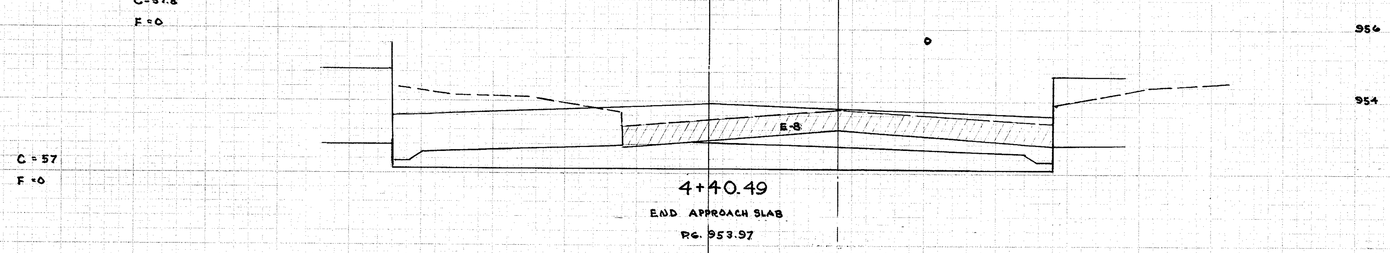
SCALE- 1" = 10'

END AREAS ∅

BRIDGE

END AREA ∅
for B-35

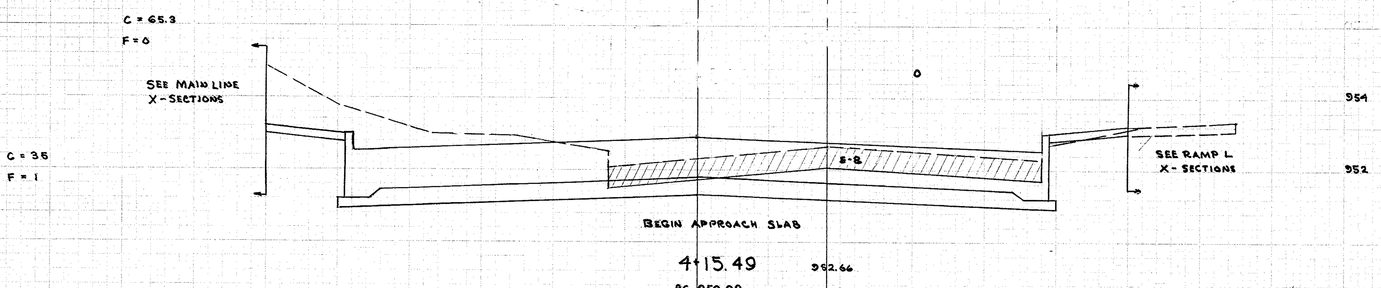
CU. YD of B-35



4+40.49

END APPROACH SLAB

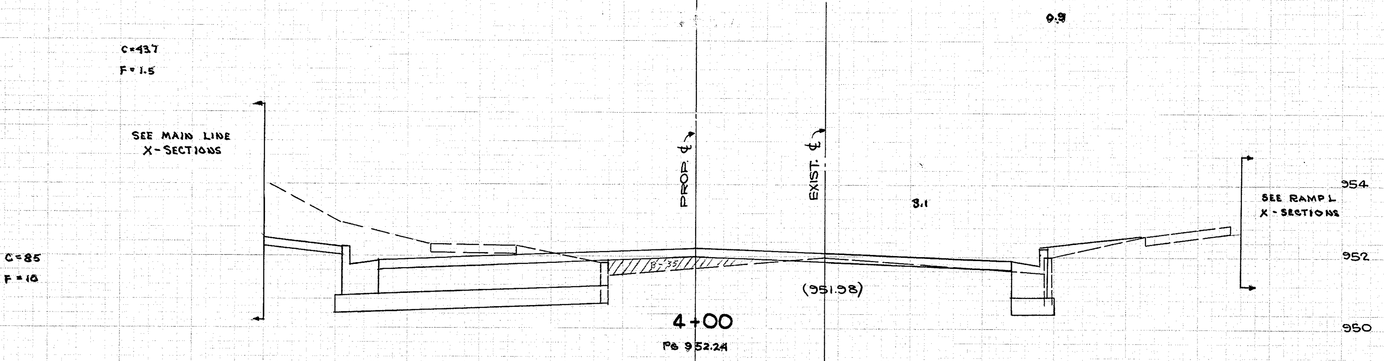
RG. 953.97



BEGIN APPROACH SLAB

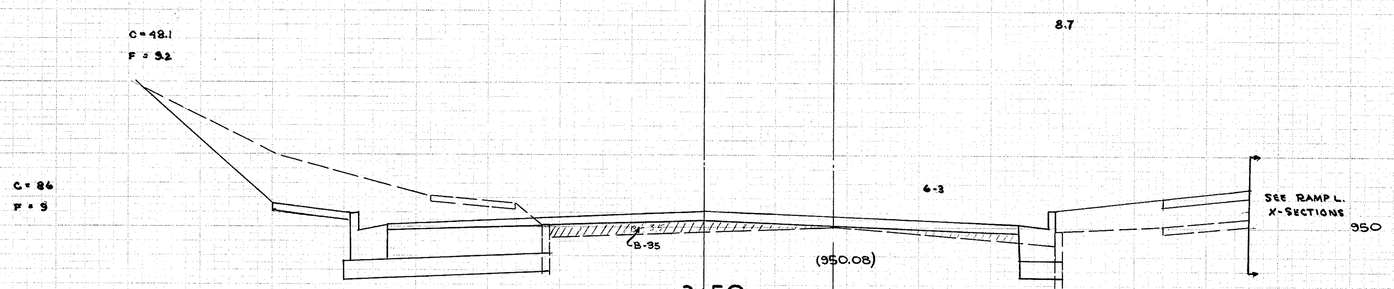
4+15.49 952.66

RG. 952.89



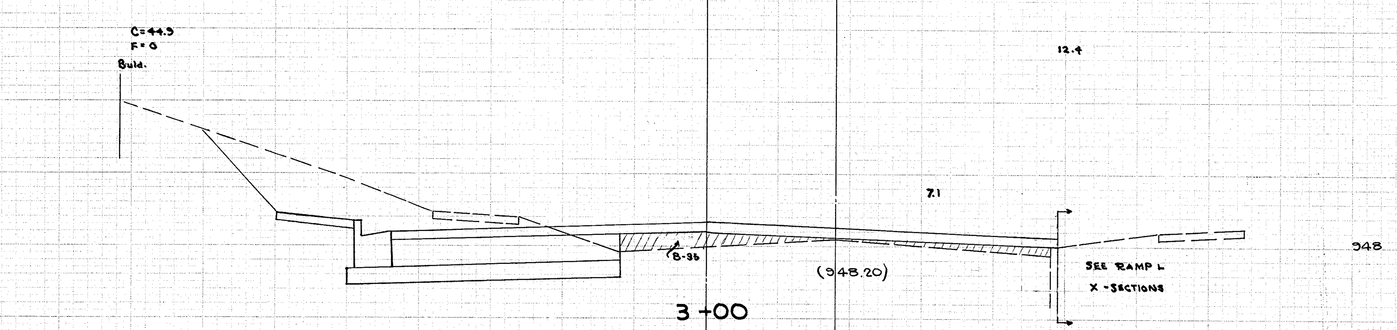
4+00

RG 952.24



3+50

RG. 950.43



3+00

RG. 948.65

CROSS - SECTIONS - WOODLAND AVE. (WEST)

MAR-18-17.20

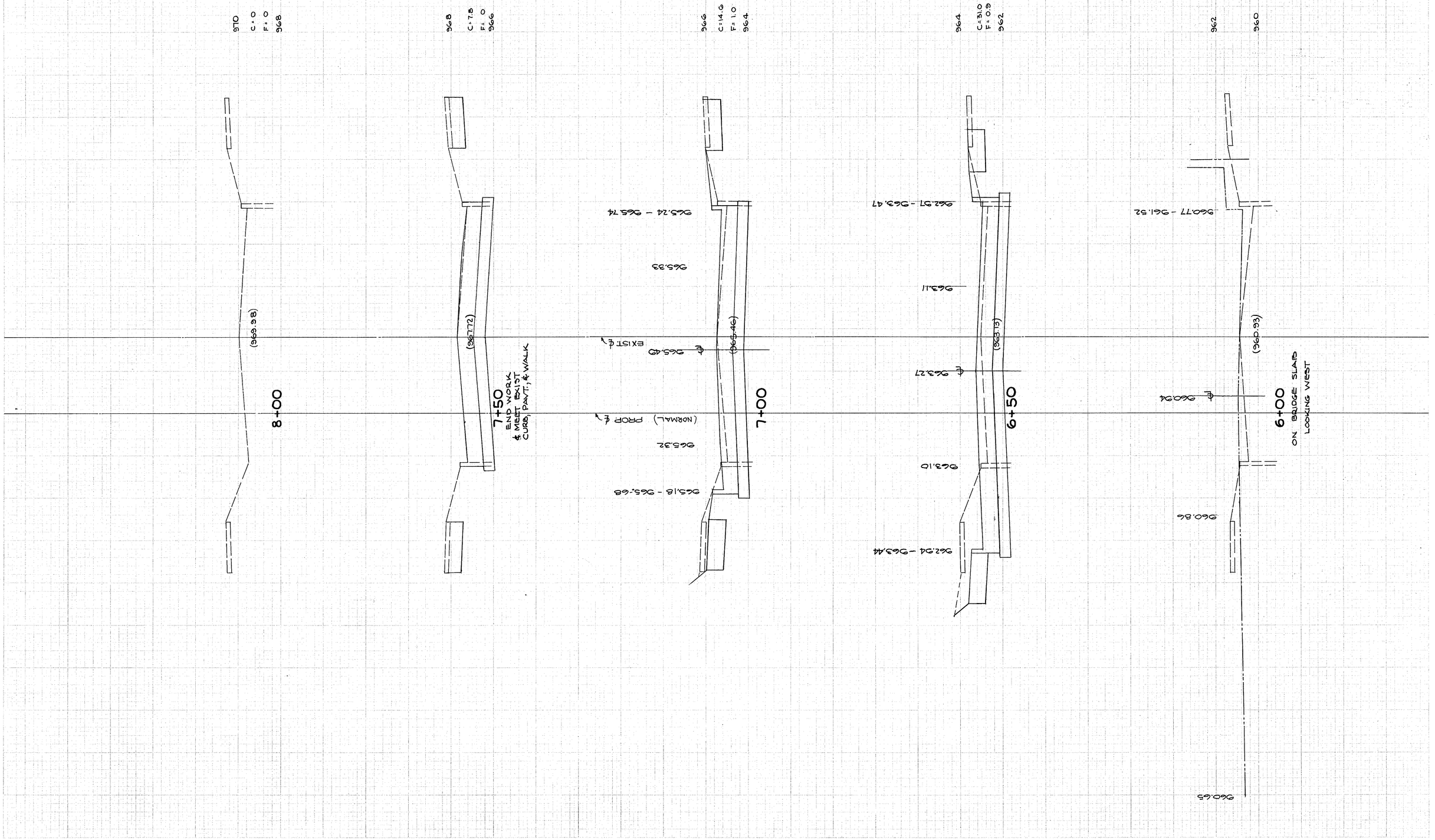
2	FED. RD	
OHIO	STATE	
	PROJECT	

305
492

FED. RD.	STATE	PROJECT	
2	OHIO		

306
492

MAH-18-17.20



CROSS - SECTIONS - WOODLAND AVE. (WEST)

FED. RD.	STATE	PROJECT	
2	OHIO		

307
492

MAH-18-17.20

GENERAL NOTES - LIGHTING

INSPECTION AND TESTING

COSTS OF ALL OF THE FOLLOWING INSPECTIONS AND TESTS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS ON THIS PROJECT.

THE INSTALLATION OF ALL STREET LIGHTING EQUIPMENT WILL BE INSPECTED BY A REPRESENTATIVE OF THE OHIO EDISON COMPANY WHILE BEING INSTALLED. THE COST OF SUCH INSPECTION SHALL BE BORNE BY THE CONTRACTOR.

UPON COMPLETION OF THE LIGHTING SYSTEM, THE FOLLOWING TESTS WILL BE CONDUCTED BY THE OHIO EDISON COMPANY, SUCH TESTS TO BE PAID FOR BY THE CONTRACTOR.

POTENTIAL TESTS:

THE POTENTIAL OF THE SYSTEM SHALL BE CONSIDERED SATISFACTORY WHEN THE TEST VOLTAGE OF TWICE THE OPERATING VOLTAGE PLUS 1,000 VOLTS IS HELD FOR ONE MINUTE.

BURNING TEST:

THE COMPLETED LIGHTING SYSTEM SHALL BE OPERATED FROM SUNSET TO SUNRISE EACH NIGHT FOR A PERIOD OF ONE WEEK PRIOR TO ACCEPTANCE. DURING THIS TRIAL OPERATION, THE CONTRACTOR SHALL CORRECT ANY DEFECT WHICH MAY DEVELOP, AT NO EXTRA COST TO THE STATE.

LIGHTING STANDARD FOUNDATIONS AND CONDUIT WIRE AND CABLE:

THE LAMP STANDARD FOUNDATIONS SHALL BE CLASS "C" CONCRETE WITH FOUR(4) 1"x3'-4" STEEL ANCHOR RODS, CADMIUM COATED OR GALVANIZED, 6" ON THREADED ENDS, EXTENDED 2 5/8" ABOVE THE TOP OF THE FOUNDATION. THE LIGHTING CABLES SHALL ENTER THE LIGHTING STANDARD BASE THRU A 2" GALVANIZED CONDUIT, FROM THE 24" SQUARE CONC. PULL BOX MOUNTED ADJACENT TO IT, AS INDICATED ON THE PLANS. THE STANDARDS ON BRIDGES ARE TO BE MOUNTED ON THE CONC. PARAPET WALL, WITH A GALVANIZED CAST IRON BOX ADJACENT TO IT, TO FACILITATE THE WIRING.

THE N°6 AWG CABLE, AS INDICATED ON THE PLANS, SHALL BE 5,000 VOLTS, STRANDED COPPER, SERIES CABLE WITH 10/64" RUBBER INSULATION, NON-SHIELDED, WITH 4/64" NEOPRENE JACKET, SUPER CORONAL-GEOPRENE OR EQUAL.

THE N°2 AWG CABLE, AS INDICATED ON THE PLANS, SHALL BE SEVEN STRANDED TINNED COPPER CABLE WITH 2/64" FLAMENOL INSULATION OR EQUAL.

THE N°8 AWG CABLE USED TO CONNECT BETWEEN THE SECONDARY OF THE 175 W. SERIES TRANSFORMERS AND THE LUMINAIRE SHALL BE 1,000 VOLTS T STRAND, COPPER WIRE WITH 5/64" VERSATOL GEOPRENE INSULATION OR EQUAL. DUPLEX CABLE MAY BE USED IN PLACE OF 2 SINGLE WIRES, AT THE OPTION OF THE CONTRACTOR.

STANDARDS:

THE STANDARDS SHALL BE OF SUCH DESIGN AS TO MAKE A COMPLETE WIRING RACEWAY AFTER THE STANDARDS HAVE BEEN ASSEMBLED AND ERECTED. THE BRACKET SHALL NOT BE LESS THAN 2" INSIDE DIAMETER. THE STANDARD SHALL BE EQUIPPED WITH A "J" HOOK PLACED INSIDE AND ABOVE THE BRACKET MOUNTING HEIGHT, TO ATTACH A CABLE GRIP IN SUCH A MANNER TO PREVENT THE CABLE FROM HANGING IN THE POLE AND BRACKET BUSHING AT THE POINT OF BRACKET ATTACHMENT TO THE POLE. THE LIGHT STANDARD SHALL BE SUPPLIED WITH A GROUNDING LUG INSIDE THE BASE, AND A 4"x6½" HAND HOLE.

LUMINAIRE:

THE LUMINAIRES SHALL BE AS FOLLOWS:

(A) EXPRESSWAY- G.E. FORM M-400 #C-704G022 OR WESTINGHOUSE OV-25 STYLES OV-25E II 20S AND AV-25E III 20S., *or approved equal.* THEY SHALL BE DESIGNED FOR 2" SLIPFITTER, ASA-IES TYPE II OR III DISTRIBUTION (AS INDICATED ON THE PLANS) AND A 21,500 LUMEN HI-LS 400 WATT. MERCURY LAMP (CLEAR).

(S) UNDERSTRUCTURE UNITS- G.E. FORM 101S (IF ADAPTED FOR 175 W. MERCURY LAMP), *or approved equal* OR WESTINGHOUSE AK-10, OR L.M. CO. CAT. #LM2541, THEY SHALL BE DESIGNED FOR 1¼" SIDE MOUNTING SLIPFITTER, ASA-IES TYPE V DISTRIBUTION, AND A 7,000 LUMEN H22KD 175 WATT MERCURY LAMP (CLEAR).

SERIES MERCURY TRANSFORMERS:

A SERIES MERCURY TRANSFORMER SHALL BE PROVIDED FOR EACH LUMINAIRE TO BE MOUNTED IN THE LUMINAIRE OF ALL ROADWAY AND RAMP STANDARDS, AND IN THE 24"x10"x10" CAST BOX OF THE UNDERSTRUCTURE UNITS. ALL SERIES TRANSFORMERS SHALL BE FOR SERIES CIRCUITS RATED AT 20 AMPERES, AND OF THE WATTS REQUIRED FOR THE LUMINAIRE WITH WHICH IT IS USED.

DIRECT BURIAL CABLE INSTALLATION:

THE N°6 5,000 VOLT LIGHTING CABLES, AND N°2 GROUND WIRE (ALSO USED TO COMPLETE THE SERIES LOOP), SHALL BE CONTINUOUS FROM BASE TO BASE OF STANDARDS, AND EXCEPT FOR THAT PART IN GALVANIZED STEEL CONDUIT ON BRIDGES AND IN CONCRETE ENCASED CEMENT-ASBESTOS CONDUIT WHERE CROSSING UNDER PAVED RAMPS AND SHOULDERS, SHALL BE DIRECT BURIAL, LAID NOT LESS THAN 18" BELOW GRADE. CONDUIT SHALL COMPLY WITH SPECIFICATION N°M-206.14 AND SHALL BE GRADED TO PREVENT WATER POCKETS.

EXCAVATION:

THE CONTRACTOR SHALL DO ALL EXCAVATION OF EVERY DESCRIPTION TO THE DIMENSIONS AND LEVELS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. EXCAVATION MAY BE ACCOMPLISHED WITH MECHANICAL TRENCHING EQUIPMENT. WALLS OF TRENCHES SHALL BE ESSENTIALLY VERTICAL, AND BOTTOMS SHALL BE SMOOTH AND FREE FROM AGGREGATE LARGER THAN ¼". PROVIDE SHORING WHEN REQUIRED.

WHEN ROCK IS ENCOUNTERED IN EXCAVATION FOR CABLE TRENCHES, THE ROCK SHALL BE REMOVED TO A DEPTH OF AT LEAST THREE INCHS(3") BELOW THE REQUIRED DEPTH OF EXCAVATION, AND A BED OF SAND OR EARTH CONTAINING NO MINERAL AGGREGATE PARTICLES THAT WOULD BE RETAINED ON A ¼" SIEVE, SHALL BE PLACED IN THE BOTTOM OF THE TRENCH AND COMPACTED AS SPECIFIED FOR SLOPES.

CABLE INSTALLATION:

CABLES SHALL BE UNREELED IN PLACE ALONGSIDE, OR IN CABLE TRENCH, AND SHALL BE CAREFULLY PLACED ALONG THE BOTTOM OF THE TRENCH. UNDER NO CIRCUMSTANCES SHALL THE CABLE BE UNREELED AND PULLED INTO THE TRENCH FROM ONE END.

NO SPLICES IN CABLES WILL BE PERMITTED IN TRENCHES BETWEEN STANDARDS OR PULL BOXES. 24" SQUARE CONCRETE PULL BOXES ARE TO BE PROVIDED AT EACH LIGHTING STANDARD, AND AT ENDS OF EACH RUN OF CEMENT-ASBESTOS CONDUIT, WHERE LIGHTING CIRCUITS CROSS UNDER PAVEMENTS. IN MOST CASES CROSSING UNDER PAVEMENT WILL BE AT A STANDARD, THEREBY UTILIZING THE PULL BOX AT THE STANDARD. PULL BOXES SHALL BE LOCATED OUTSIDE THE PAVED SHOULDER IN ALL CASES, AND CABLES SHALL BE ROUTED THROUGH THEM. AT THE PULL BOXES ADJACENT TO THE STANDARDS, SUFFICIENT CABLE SHALL BE LEFT, SO THAT IT MAY BE PULLED THROUGH THE 2" CONDUIT, AND UP THE STANDARD TO A CONNECTION MADE AT THE SERIES TRANSFORMER IN THE LUMINAIRE.

BACKFILLING:

BACKFILL FOR CABLE TRENCHES SHALL BE PLACED IN LAYERS. THE FIRST LAYER SHALL BE EITHER EARTH OR SAND, 3" THICK LOOSE MEASUREMENT, AND SHALL CONTAIN NO MINERAL AGGREGATE PARTICLES THAT WOULD BE RETAINED IN A 1/4" SIEVE. THE SECOND LAYER SHALL BE 4" THICK, AND SHALL CONTAIN NO PARTICALS THAT WOULD BE RETAINED IN A 1" SIEVE. THE THIRD LAYER AND SUBSEQUENT LAYERS SHALL CONTAIN NO AGGREGATE LARGER THAN 3". THE COMPACTION OF THE DIFFERENT LAYERS AND FINISH GRADING AROUND BACKFILL WORK SHALL BE IN ACCORDANCE WITH THAT OF THE ADJACENT AREAS, RAMPS, AND GRADES; ALL TO BE ACCOMPLISHED IN A MANNER SATISFACTORY TO THE ENGINEER.

CABLE TERMINATION AND SPLICING:

THE CABLE TERMINATION AND SPLICES SHALL BE MADE IN ACCORDANCE WITH THE LATEST CABLE MANUFACTURER'S RECOMMENDATIONS AND UNDER THE SUPERVISION OR DIRECTION OF THE OHIO EDISON COMPANY'S INSPECTOR.

GROUNDING:

A "GROUND ROD OR RODS SHALL BE DRIVEN UNDER THE BASE OF EACH LIGHT STANDARD, WITH A TINNED FLEXIBLE #6 BARE COPPER WIRE TAIL OF SUFFICIENT LENGTH TO REACH THE GROUNDING LUG ON THE STANDARD. STANDARD AND GROUND ROD MUST NOT MEASURE MORE THAN 15 OHMS. RESISTENCE.

THE #2 CABLE SHALL BE GROUNDED TO THE LIGHTING STANDARD GROUND LUG AT EACH STANDARD, AT THE MIDPOINT AND AT EACH END OF THE CIRCUIT, THE #2 GROUND CONDUCTER SHALL BE CONNECTED TO THE OHIO EDISON COMPANY NEUTRAL GROUND GRID. LOCATION OF THESE GROUND POINTS AND METHOD OF INSTALLATION SHALL BE OBTAINED FROM THE OHIO EDISON COMPANY.

IF ADDITIONAL GROUND RODS ARE REQUIRED TO OBTAIN 15 OHMS. RESISTENCE, THEY MAY BE DRIVEN 5'-0" OR MORE FROM THE BASE OF THE STANDARD AND TAILS FROM THE ADDITIONAL GROUND RODS SHALL BE EXTENDED FROM THESE RODS THROUGH A CABLE ENTRANCE CONDUIT TO THE GROUNDING LUG IN THE STANDARD, ALL GROUNDING RODS AND TAILS SHALL NOT BE EXPOSED ABOVE THE GRADE LINE. THE BRIDGE LIGHT STANDARDS SHALL BE GROUNDED AS INDICATED ON THE PLANS.

ELECTRICAL SYSTEM PRINTS:

THE CONTRACTOR SHALL FURNISH TO THE OHIO EDISON COMPANY AT LEAST THREE (3) PRINTS OF THE ELECTRICAL SYSTEM SHOWING THE EXACT LOCATION OF CABLE, CONNECTIONS AND OTHER PERTINENT INFORMATION.

PAINTING:

LIGHT STANDARDS SHALL BE GIVEN TWO FIELD COATS OF ALUMINUM PAINT CONFORMING TO SEC. M-912. THE FIRST COAT SHALL BE SUITABLY TINTED.

CONSTANT CURRENT SERVICES:

THE 20-AMPERE CONSTANT CURRENT STATIONS WILL BE PROVIDED BY THE OHIO EDISON COMPANY. THE CONTRACTOR SHALL EXTEND CIRCUIT LEADS UP SERVICE POLES IN 3" GALVANIZED RIGID CONDUITS AND TERMINATE WITH SUFFICIENT LEADS EXTENDING FROM SUITABLE ENTRANCE FITTINGS OR TERMINATORS FOR CONNECTIONS BY OHIO EDISON COMPANY. EXTEND RIGID CONDUIT TO 2'-0" BELOW GROUND AND HORIZONTALLY CONVERT TO CONCRETE ENCASED CEMENT-ASBESTOS CONDUIT. CONCRETE ENCASE THE TURN-UP AT POLE TO A MINIMUM OF 8" ABOVE THE GRADE.

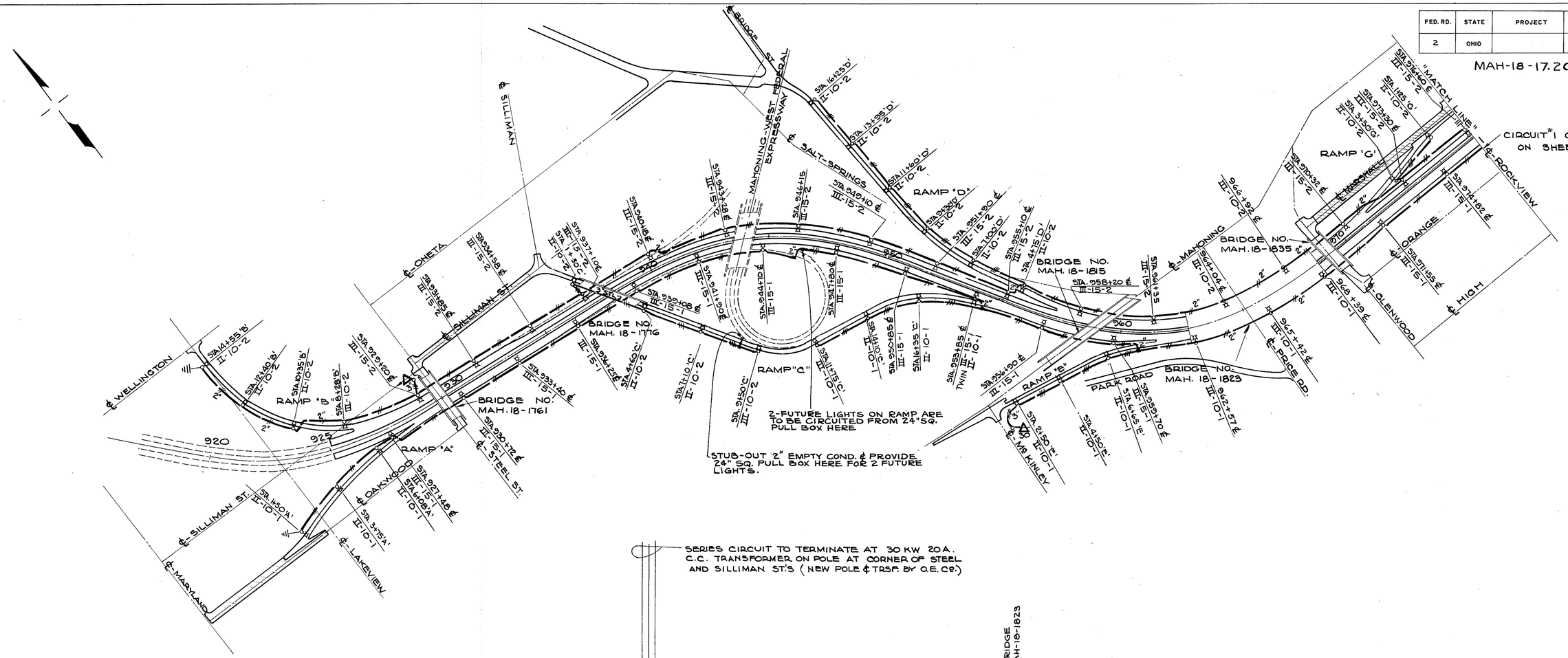
LIGHTING DESIGN:

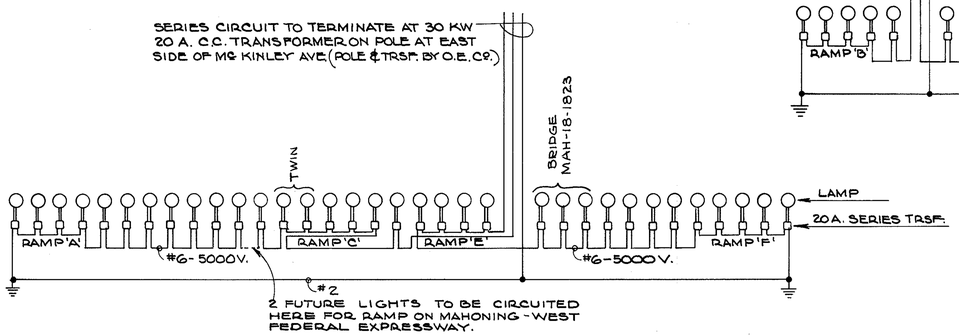
THE LIGHTING DESIGN IS BASED ON 0.6 TO 0.8 FOOTCANDLE AVERAGE MAINTAINED VALUE ON THE EXPRESSWAY, LANES AND RAMPS.

FED. RD.	STATE	PROJECT	
2	OHIO		

308
492

MAH-18-17.20





LIGHTING CIRCUIT Nº 1

TOTAL-34 400W. MERCURY LAMPS + 2 FUTURE

LIGHTING CIRCUIT Nº 2

TOTAL-33 400W. MERCURY LAMPS + 2 FUTURE

ALL LAMPS 400 W. MERCURY EXCEPT WHERE INDICATED. SYSTEM 20 A. SERIES

LEGEND

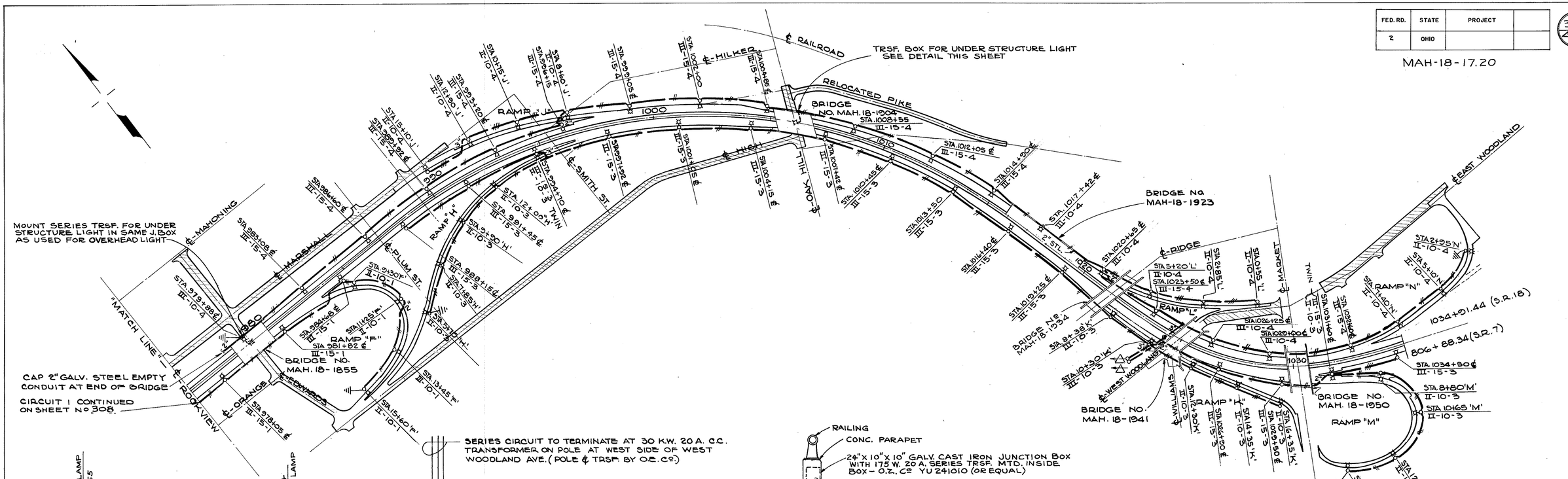
- ROADWAY LIGHT STANDARD SEE DWG. Nº 295 FOR DETAIL.
- #6-5000V. TYPE R.R. COPPER WIRE, DIRECT BURIAL OR CEMENT-ASBESTOS CONDUIT (2" OR 3") SLASH MARKS INDICATE NUMBER OF WIRES INCLUDING GROUND; NUMERAL INDICATES SIZE OF CONDUIT. GALV. STEEL CONDUIT SHALL BE USED IN BRIDGES.
- III-15-1 DESIGNATION OF LIGHT STANDARDS. III INDICATES I.E.S. TYPE III DISTRIBUTION THE NUMBER 15 INDICATES THE BRACKET ARM LENGTH, THE NUMERAL 1 INDICATES THE SERIES CIRCUIT NUMBER.
- STA. STATIONING - STATIONING SHOWN FOR LIGHT STANDARDS IS APPROXIMATE AND IN THE EVENT OF INTERFERENCE WITH OTHER PARTS OF THE WORK, LIGHT STANDARDS SHALL BE RELOCATED AS DIRECTED BY ENGINEER. SPACING OF LIGHTS DESIGNED FOR .6 TO .8 MAINTAINED FC.
- GROUND TO O.E. CO. NEUTRAL GRID.
- CONSTANT CURRENT TRANSFORMER 30KW-20AMP ON WOOD POLE BY O.E. CO.
- 175 W. MERCURY UNDER STRUCTURE LIGHT. FOR LOCATION SEE BRIDGE DWG'S _____ FOR DETAIL SEE DWG. 309

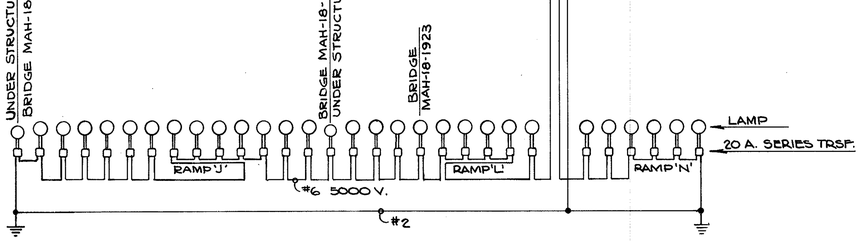
ROADWAY LIGHTING

FED. RD.	STATE	PROJECT	
2	OHIO		

303
492

MAH-18-17.20

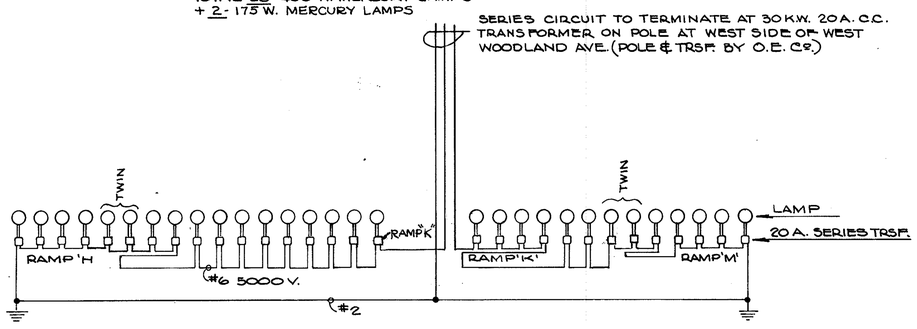




SERIES CIRCUIT TO TERMINATE AT 30 K.W. 20 A. C.C. TRANSFORMER ON POLE AT WEST SIDE OF WEST WOODLAND AVE. (POLE & TRSF. BY O.E. Co.)

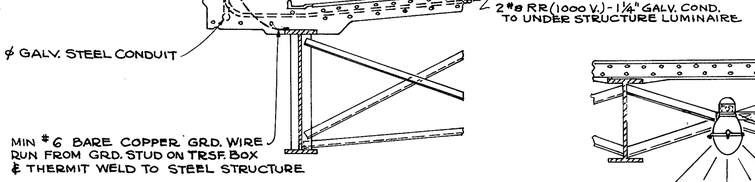
LIGHTING CIRCUIT Nº 4

TOTAL 28 - 400 W. MERCURY LAMPS + 2 - 175 W. MERCURY LAMPS

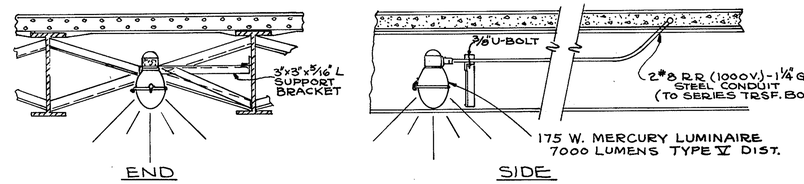


LIGHTING CIRCUIT Nº 3

TOTAL 30 - 400W. MERCURY LAMPS



DETAIL - MTG. OF TRSF. BOX & GROUNDING

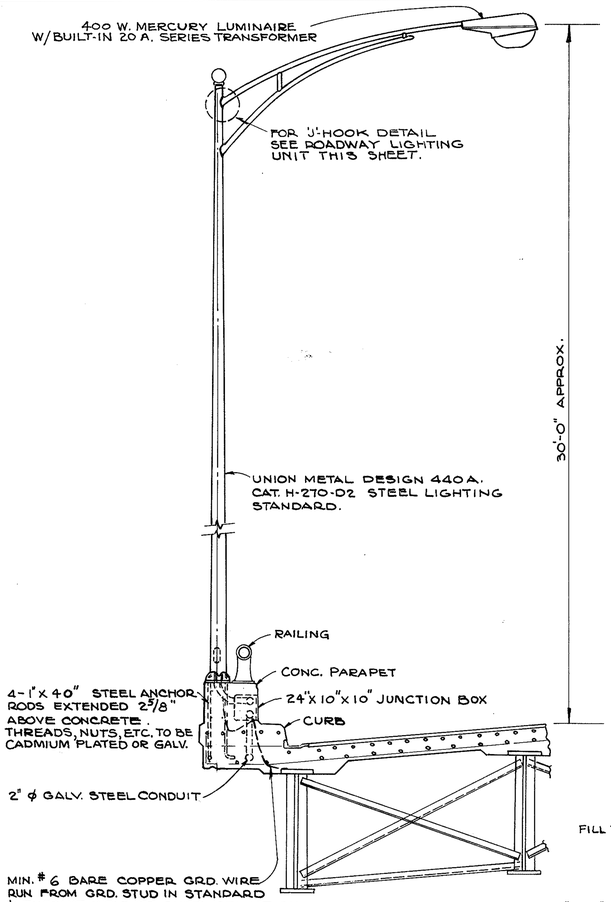


TYPICAL DETAIL
LUMINAIRE MTG UNDER STRUCTURE
SCALE 3/8"=1'-0"

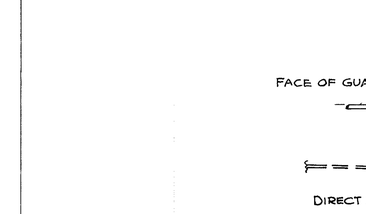
LIGHTING QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITIES
S-25	STANDARD 27'-0" POLE WITH 15' BRACKET	EACH	57
	STANDARD 27'-0" POLE WITH 10' BRACKET	EACH	55
	TWIN STANDARD 27-0" POLE WITH 1-15' BRACKET & 1-10' BRACKET.	EACH	3
	BRIDGE STANDARD 27'-0" POLE WITH 10' BRACKET	EACH	7
	POLE FOUNDATION - CONCRETE	EACH	115
	CONCRETE ENCASED 3" TRANSITE CONDUIT	LIN.FT.	900
	CONCRETE ENCASED 2" TRANSITE CONDUIT	LIN.FT.	1400
	LUMINAIRE - 21,500 LUMEN TYPE III	EACH	74
	LUMINAIRE - 21,500 LUMEN TYPE II	EACH	51
	#6-5000 VOLT LIGHTING SINGLE COND. CABLE	LIN.FT.	56,750
	#2-600 VOLT GRD. GRID SINGLE COND. CABLE	LIN.FT	35,500
	#8-1000 VOLT SEC. SINGLE COND. CABLE.	LIN.FT	250
	5/8" x 8'-0" GROUND RODS	EACH	115
	24" SQUARE CONCRETE PULL BOX	EACH	150
	LUMINAIRE - 7000 LUMEN TYPE V	EACH	2

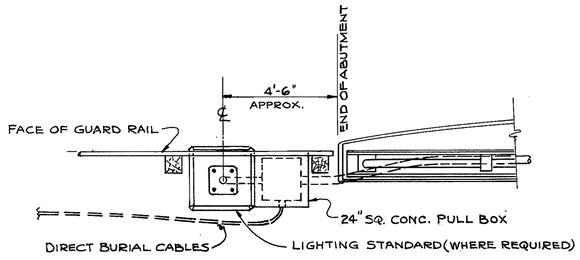
ROADWAY LIGHTING



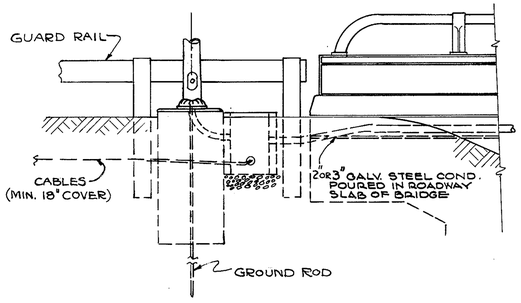
BRIDGE LIGHTING UNIT
SCALE 3/8" = 1'-0"



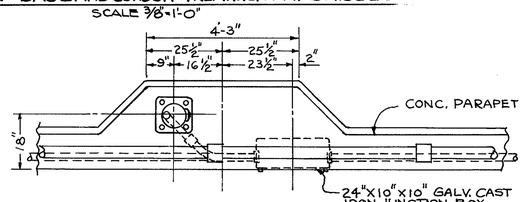
COND. SECTION UNDER PAVEMENT



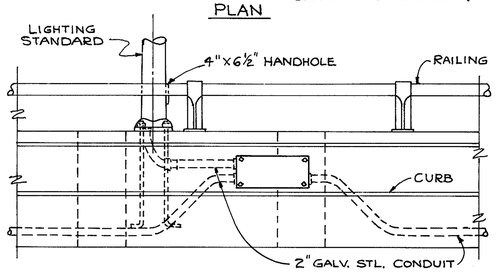
PLAN - BASE AND CONDUIT TREATMENT AT BRIDGES
SCALE 3/8" = 1'-0"



ELEVATION - BASE AND CONDUIT TREATMENT AT BRIDGES
SCALE 3/8" = 1'-0"

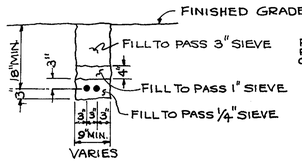


PLAN

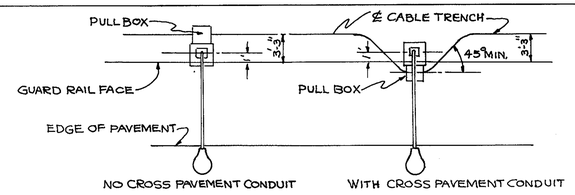


ELEVATION

DETAIL - BRIDGE LIGHTING UNIT
SCALE ½" = 1'-0"



TYPICAL - CABLE TRENCH



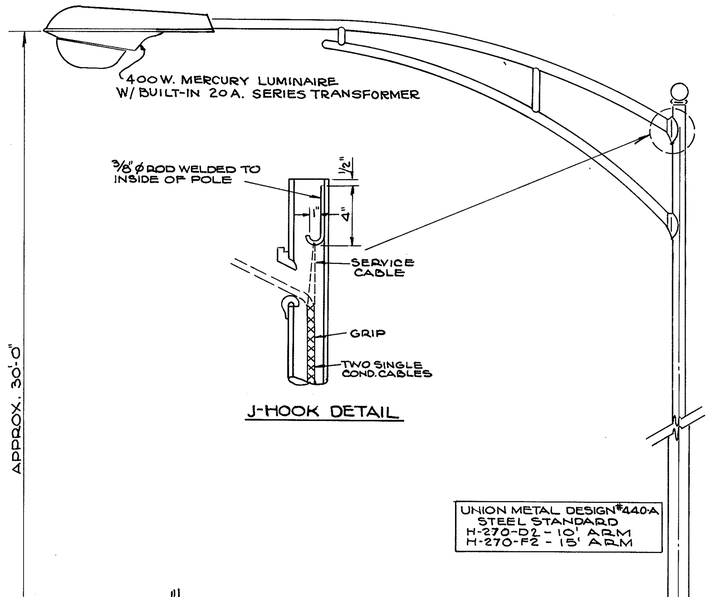
PLAN VIEW

CABLE AND PULL BOX LOCATION

FED. RD.	STATE	PROJECT	
2	OHIO		

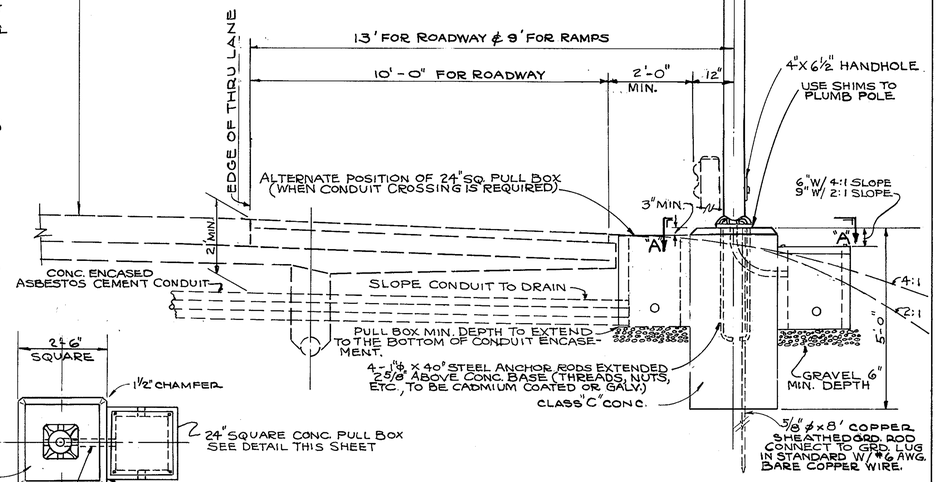
310
192

MAH-18 17.20



J-HOOK DETAIL

UNION METAL DESIGN #440-A
STEEL STANDARD
H-270-D2 - 10' ARM
H-270-F2 - 15' ARM



TYPICAL ROADWAY LIGHTING UNIT
SCALE ½" = 1'-0"

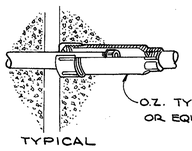
SECTION "A"-"A"
SCALE ½" = 1'-0"

PROVIDE ½" WASH FROM POLE BASE TO EDGE OF CHAMFER.

THIS IS A COMPOSITE ELEVATION VIEW, AND INDICATES THE TYPICAL NORMAL POSITION OF THE 24" SQUARE CONC. PULL BOX BEHIND STANDARD, AS WELL AS AN ALTERNATE POSITION OF PULL BOX USED WHERE CABLES ARE TO BE INSTALLED UNDER ROADWAY (RAMPS) DIRECTLY IN CONDUIT FROM A LAMP STANDARD. ONLY ONE PULL BOX IS REQUIRED AT EACH STANDARD LOCATION. STANDARD FOUNDATION SHALL BE FORMED 2'-6" SQUARE FOR AT LEAST THE TOP ONE FOOT, OR A MINIMUM OF SIX INCHES BELOW FINISHED GROUND LINE. THE LOWER PORTION OF THE FOUNDATION MAY BE CAST WITHOUT FORMS IN A 2'-6" DIAMETER ROUND, OR A 2'-6" SQUARE HOLE.

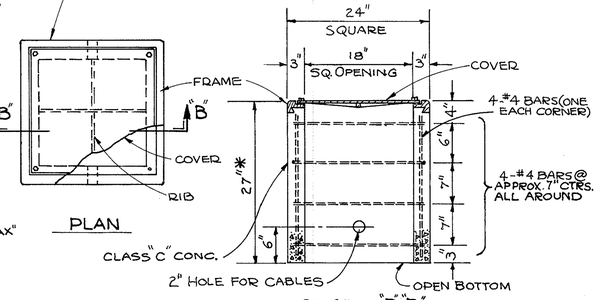
REQUIRED

5 UNITS ON BRIDGE MAH-18-1823
1 UNIT ON BRIDGE MAH-18-1855
1 UNIT ON BRIDGE MAH-18-1923



ELECTRICAL CONDUIT-EXPANSION FITTING IN BRIDGE CONC. SLAB

ONE AT EACH EXPANSION JOINT OF BRIDGE SLAB.



PLAN

SECTION "B-B"

24" SQUARE CONC. PULL BOX
SCALE 1" = 1'-0"

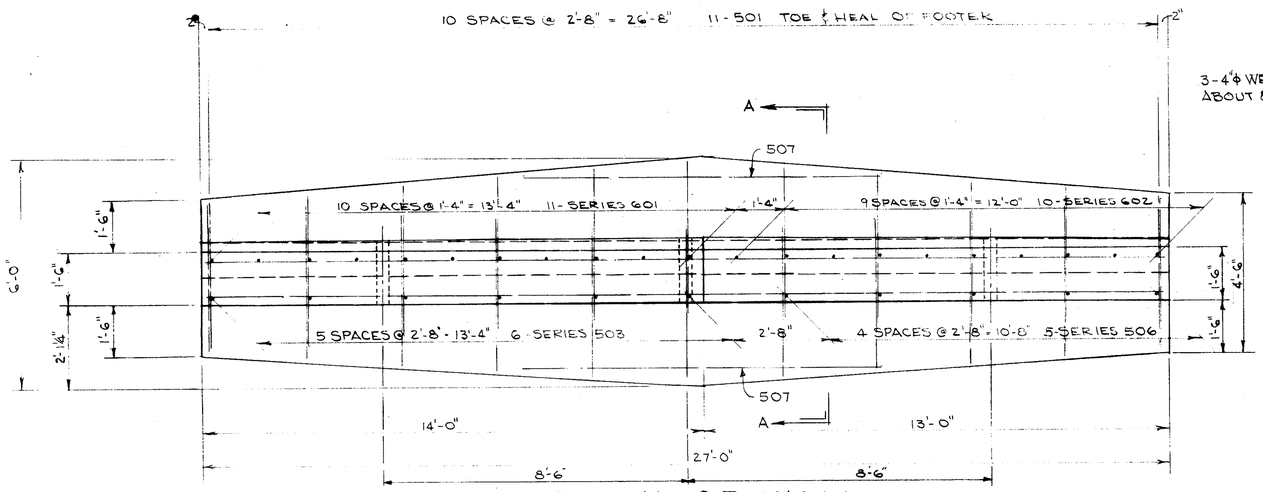
PULL BOX MAY BE PRECAST OR CAST IN PLACE.

* 27" MINIMUM DEPTH - DEPTH OF BOX SHALL BE INCREASED WHERE CONDUIT PASSES UNDER PAVEMENT, TO MAKE ITS BOTTOM NO LESS THAN UNDERSIDE OF CONC. ENCASEMENT.

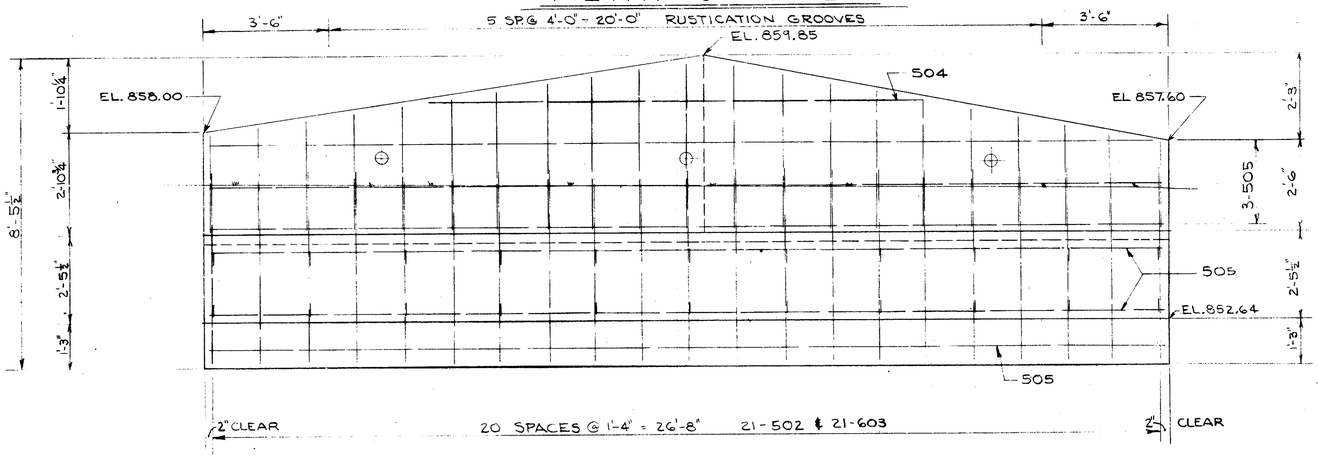
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

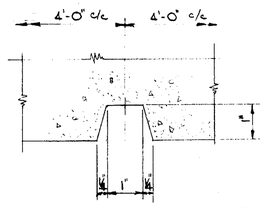
311
492



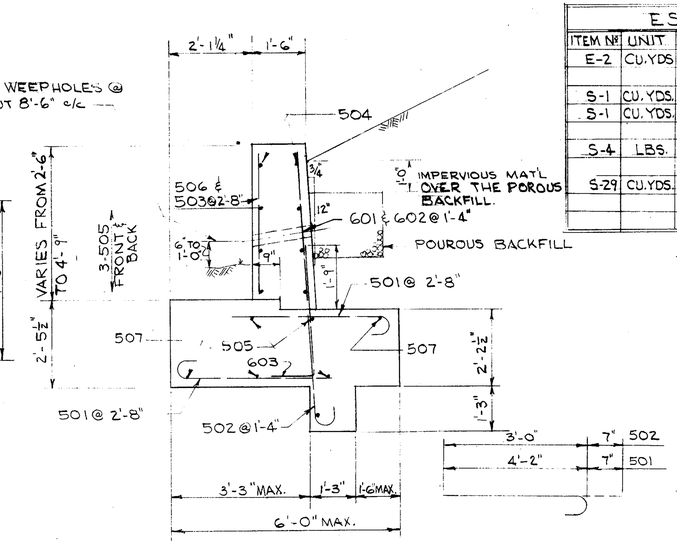
PLAN OF WALL



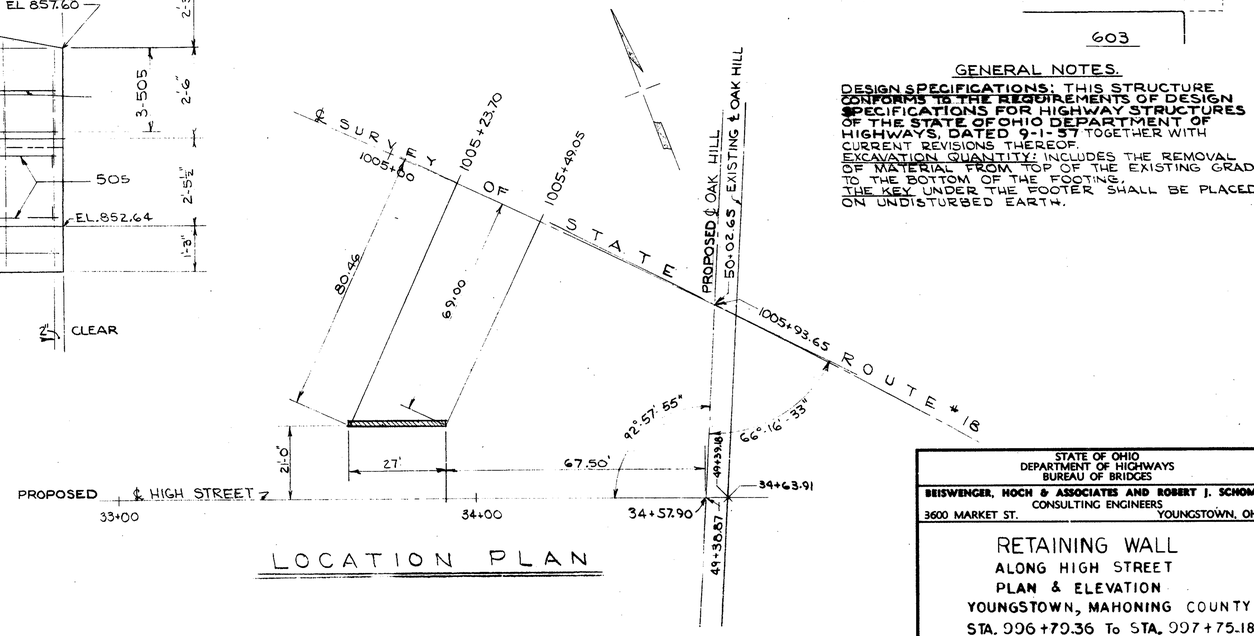
ELEVATION



DETAIL OF RUSTICATION GROOVES



SECTION A-A



LOCATION PLAN

ESTIMATED QUANTITIES

ITEM №	UNIT	DESCRIPTION	TOTAL
E-2	CU.YDS.	UNCLASSIFIED EXCAVATION	27
S-1	CU.YDS.	CLASS "E" CONCRETE - FOOTINGS	13.8
S-1	CU.YDS.	CLASS "E" " - ABOVE FOOTER	6.3
S-4	LBS.	REINFORCING STEEL	834
S-29	CU.YDS.	POUROUS BACKFILL	2.0

REINFORCING STEEL SCHEDULE

MARK	№ REQ'D	LENGTH	WEIGHT	SHAPE
501	22	4'-9"	109	BT.
502	21	3'-7"	78	BT.
503	6	VARIES FROM 2'-7" TO 4'-6" INCR. 4⅜"	22	ST.
504	2	13'-3"	28	ST.
505	11	26'-8"	306	ST.
506	5	VARIES FROM 2'-3" TO 4'-5" INCR. 6¼"	17	ST.
507	2	10'-0"	21	ST.
601	11	VARIES FROM 2'-10" TO 4'-9" INCR. 2¼"	63	ST.
602	10	VARIES FROM 2'-5" TO 4'-7" INCR. 2⅛"	53	ST.
603	21	4'-4"	137	BT
TOTAL			834	

— REPLACEMENT STEEL —

RE501	1	5'-6"		ST.
RE601	1	6'-0"		ST.

GENERAL NOTES.

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATED 9-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL FROM TOP OF THE EXISTING GRADE TO THE BOTTOM OF THE FOOTING.

THE KEY UNDER THE FOOTER SHALL BE PLACED ON UNDISTURBED EARTH.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

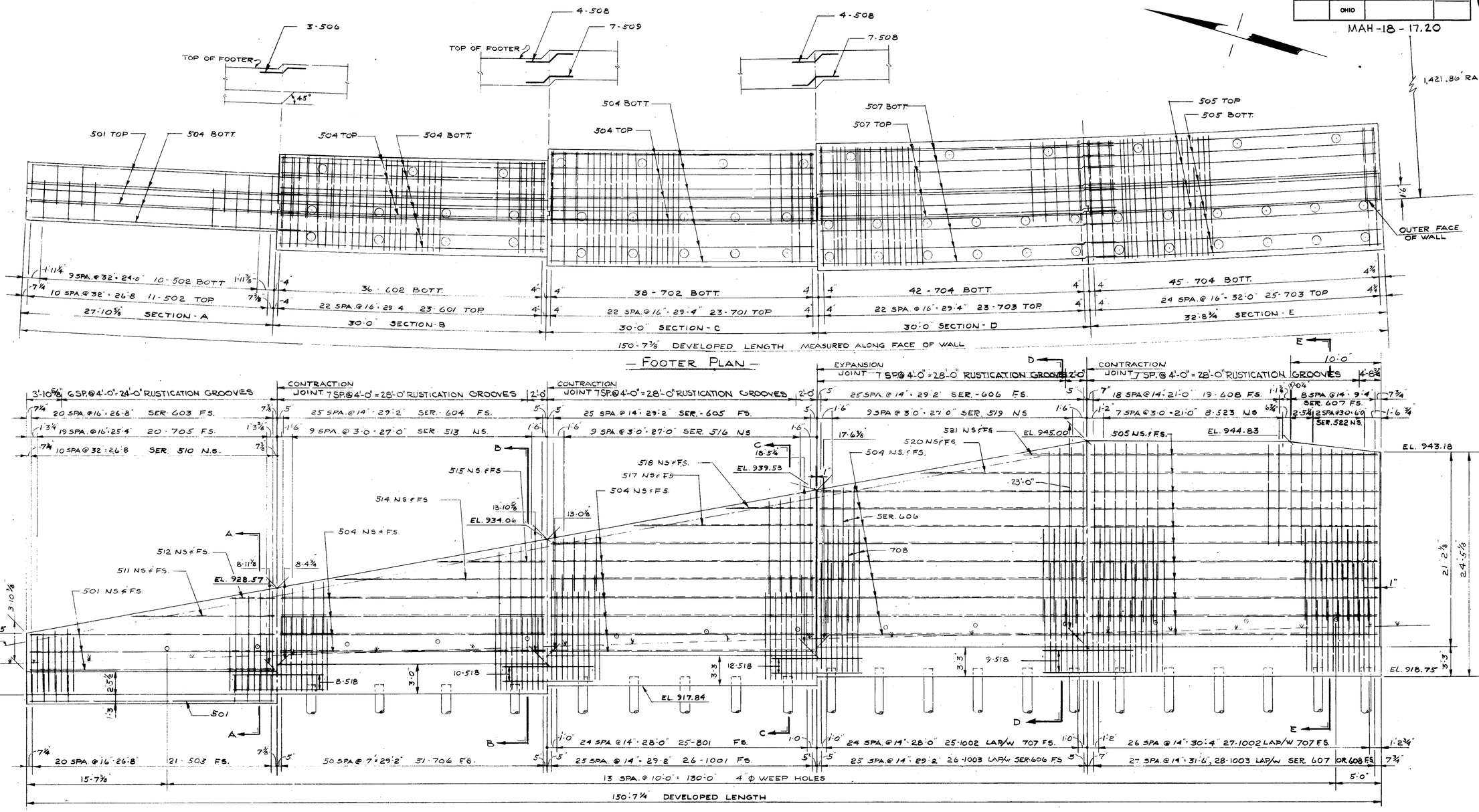
RETAINING WALL
ALONG HIGH STREET
PLAN & ELEVATION
YOUNGSTOWN, MAHONING COUNTY
STA. 996+79.36 To STA. 997+75.18

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	D.S.					

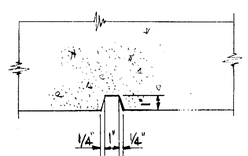
FED. RD.	STATE	PROJECT	
	OHIO		

312
492

MAH-18-17.20



— ELEVATION —



DETAIL OF RUSTICATION GROOVES

GENERAL NOTE:

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE SURFACE OF THE EXISTING GROUND LINE AND THE BOTTOM OF THE FOOTINGS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP 'L'

YOUNGSTOWN, MAHONING COUNTY

STA. 6+28.88 To STA. 7+08.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	L.N.P.		D.S.	D.H.C.		

REINFORCING STEEL LIST

CURVE IV - RAMP "L"	
Dc	4° 00' 00"
Δ.	11° 21' 36"
R.	1432.39'
T.	142.47'
E.	7.07'
L.	248.00'
PCC.	STA. 5+99.47
PT.	STA. 8+83.47

IDENT.	Nº REQ'D	LENGTH	WEIGHT	SHP.
501	10	27'-6"	287	ST.
502	21	5'-1"	111	BT.
503	21	3'-7"	78	BT.
504	48	29'-8"	1486	ST.
505	35	32'-4"	1180	ST.
506	8	4'-8"	15	BT.
507	11	32'-0"	73	ST.
508	15	5'-4"	37	BT.
509	7	4'-10"	35	BT.
SER. OF 510	1 SET OF 11 BARS	VARIES 3'-10"to 8'-7" @ 5 3/8" INC.	71	ST
511	2	16'-0"	33	ST.
512	2	4'-9"	10	ST.
SER. OF 513	1 SET OF 10 BARS	VARIES 8'-6" to 13'-5" @ 6 1/2" INC.	114	ST.
514	2	23'-0"	48	ST.
515	2	12'-0"	25	ST.
SER. OF 516	1 SET OF 10 BARS	VARIES 13'-0" to 18'-0" @ 6 3/8" INC.	162	ST.
517	2	20'-0"	42	ST.
518	41	10'-0"	428	ST.
SER. OF 519	1 SET OF 10 BARS	VARIES 17'-6" to 22'-6" @ 6 3/8" INC.	209	ST.
520	2	18'-0"	39	ST.
521	2	6'-6"	14	ST.
SER. OF 522	1 SET OF 3 BARS	VARIES 21'-6" to 26'-6" @ 6" INC.	69	ST.
523	8	22'-6"	188	ST.
601	23	7'-8"	265	BT.
602	36	11'-10"	640	BT.
SER. OF 603	1 SET OF 21 BARS	VARIES 6'-10" to 11'-7" @ 2 5/8" INC.	291	BT.
SER. OF 604	1 SET OF 26 BARS	VARIES 5'-6" to 11'-0" @ 2 5/8" INC.	322	ST.
SER. OF 605	1 SET OF 26 BARS	VARIES 6'-1" to 11'-6" @ 2 5/8" INC.	343	ST.
SER. OF 606	1 SET OF 26 BARS	VARIES 11'-7" to 17'-1" @ 2 5/8" INC.	560	ST.
SER. OF 607	1 SET OF 9 BARS	VARIES 15'-7" to 16'-10" @ 2 5/8" INC.	218	ST.
608	19	16'-10"	480	ST.
701	23	8'-10"	415	BT.
702	38	14'-2"	1101	BT.
703	48	9'-10"	965	BT.
704	87	15'-4"	2726	BT
705	20	6'-9"	276	BT
706	51	8'-5"	860	BT
707	52	11'-3"	1196	ST
801	25	9'-11"	662	BT.
1001	26	12'-10"	1435	BT
1002	52	7'-10"	1752	BT
1003	54	11'-10"	2749	BT
TOTAL WEIGHT			22,010 #	

IDENT	Nº REQ'D	REPLACEMENT BARS LENGTH	SHP.
501	1	5'-6"	ST.
601	1	6'-0"	ST.
701	1	6'-3"	ST.
801	1	6'-6"	ST.
1001	1	7'-2"	ST.

NOTE: BAR SIZE IS INDICATED IN THE BAR IDENT. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE 701 IS A Nº 7 BAR AND 1014 IS A Nº 10 SIZE BAR.

FED. RD.	STATE	PROJECT	
	OHIO		

313/492

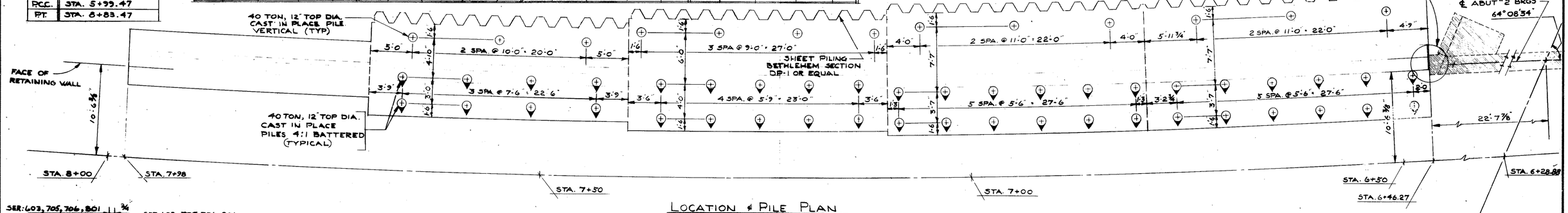
MAH.-18-17.20

WATERPROOFING TYPE "B" INCLUDED IN BRIDGE QUANTITIES

PREFORMED EXPANSION JOINT STRIP

FACE OF ABUTMENT

℄ ABUT Nº 2 BRG'S 64°08'34"



LOCATION & PILE PLAN

℄ RIDGE AVE.

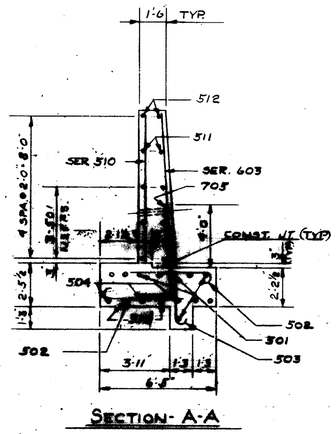
SER: 603, 705, 706, 801, 1001, 1002, 1003

5'-11 to 10'-8"	SER. 603
5'-10"	705
7'-4"	706
9'-0"	801
11'-7"	1001
6'-8"	1002
10'-8"	1003

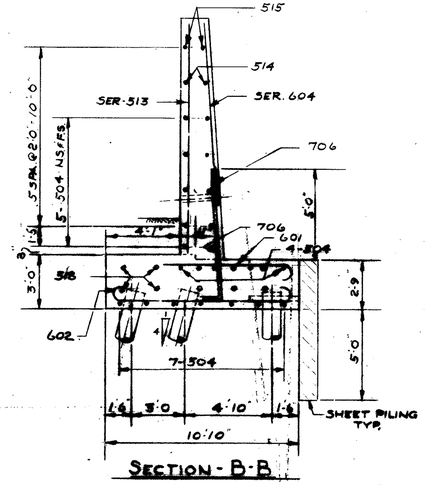
502	4'-6"	7"
503	3'-0"	7"
601	7'-0"	8"
701	8'-0"	10"
703	9'-0"	10"

2'-0"	6"	2'-0" 506
2'-1"	11"	2'-1" 508
2'-0"	8"	2'-0" 509

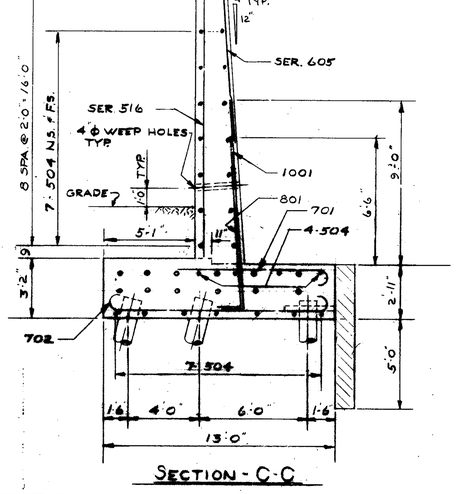
8"	10'-6"	8" 602
10"	12'-6"	10" 702
10"	13'-8"	10" 704



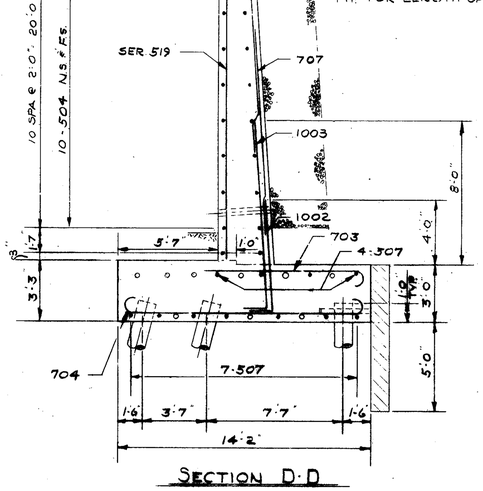
SECTION - A-A



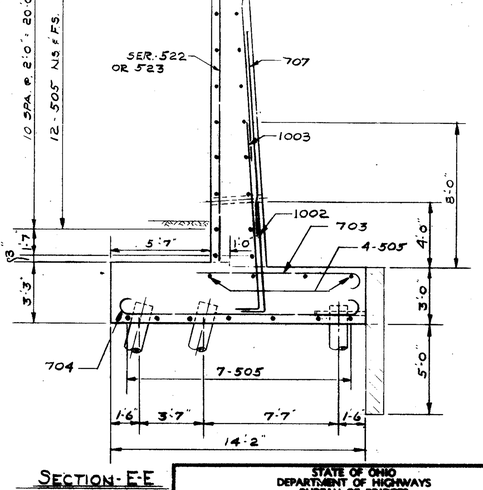
SECTION - B-B



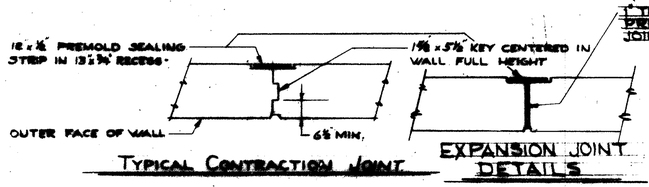
SECTION - C-C



SECTION D-D



SECTION - E-E



TYPICAL CONTRACTION JOINT

EXPANSION JOINT DETAILS

ESTIMATED PILE LENGTH = 20'

FOR SHEET PILING ANCHORAGE DETAIL SEE SHEET No. 316

~ ESTIMATED QUANTITES ~

ITEM	UNIT	DESCRIPTION	TOTAL
E-2	CU.YD.	UNCLASSIFIED EXCAVATION	475
E-7	SQ.FT.	STL. SHEET PILING, LEFT IN PLACE 32 lb/ft²	753
E-2	LUMP	COFFERDAMS, CRIBS & SHEETING	LUMP
S-1	CU.YD.	CLASS "E" CONCRETE FOOTINGS	198
S-1	CU.YD.	CLASS "E" CONCRETE WALL	179

ITEM	UNIT	DESCRIPTION	TOTAL
S-3	LIN.FT.	WATERPROOFING 12" PREMOLDED SEALING STRIP	65
S-4	LBS.	REINFORCING STEEL	22,010
S-9	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER	84
S-16	LUMP	FIRST TEST PILE	LUMP
S-18	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILE	1100
S-29	CU.YD.	POROUS BACKFILL	153

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "L"

YOUNGSTOWN, MAHONING COUNTY

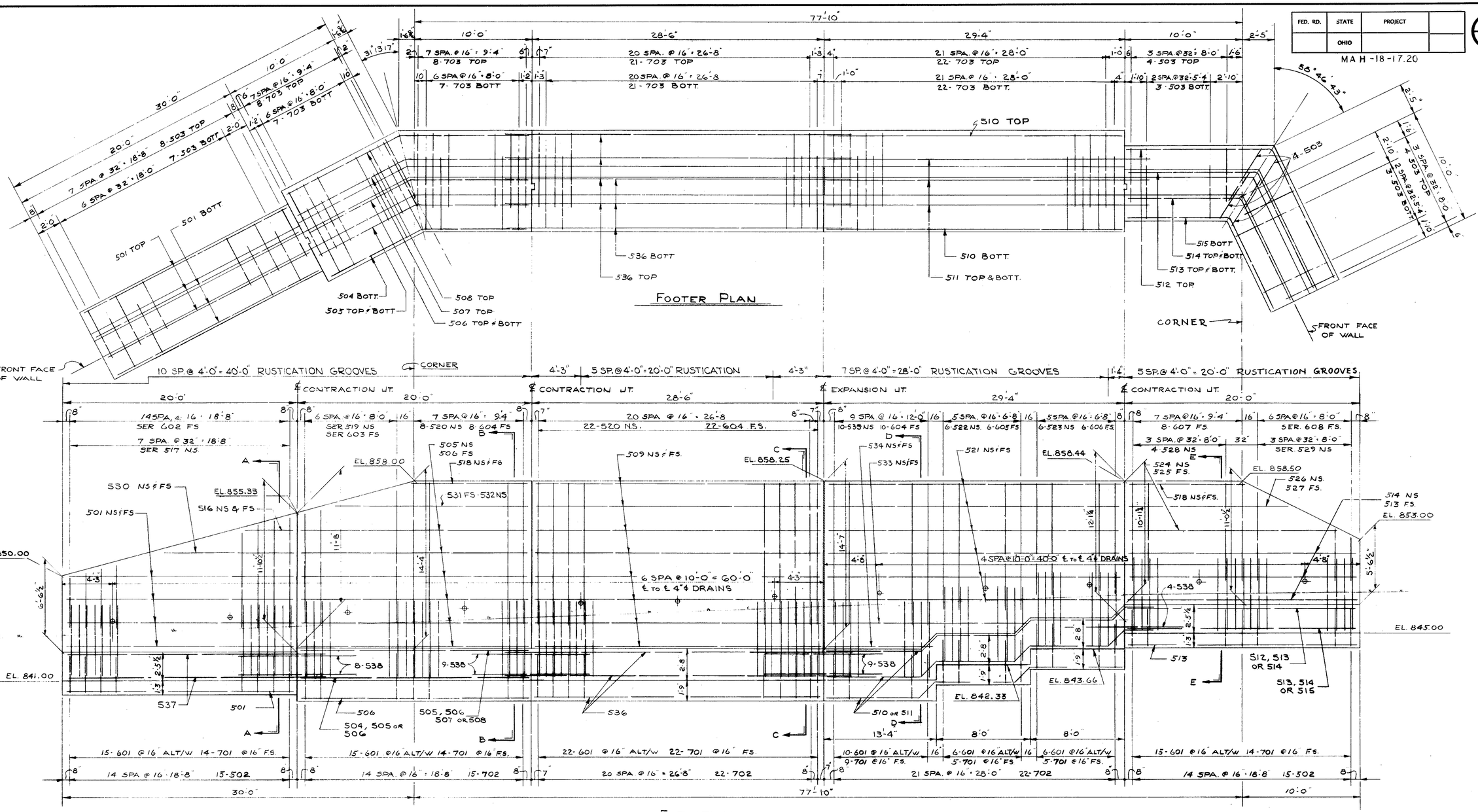
STA. 6+28.88 To STA. 7+98.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.S.H.	L.A.P.		D.S.	D.H.C		

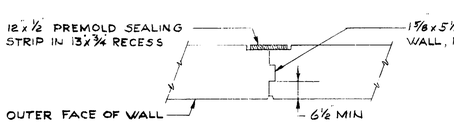
FED. RD.	STATE	PROJECT	
	OHIO		

MA H -18-17.20

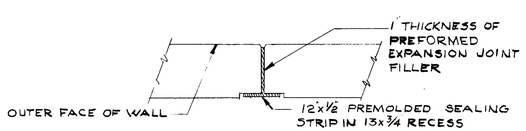
314
492



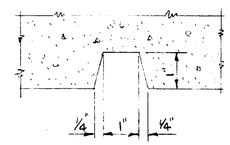
ELEVATION



TYPICAL CONTRACTION JOINT



EXPANSION JOINT DETAIL



DETAIL OF RUSTICATION GROOVE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

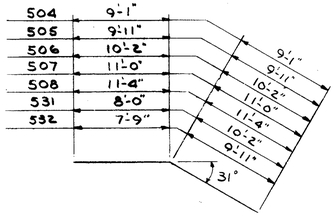
RETAINING WALL
ALONG HILKER ST.
PLAN & ELEVATION
YOUNGSTOWN, MAHONING COUNTY
STA. 996+79.36 To STA. 997+75.18

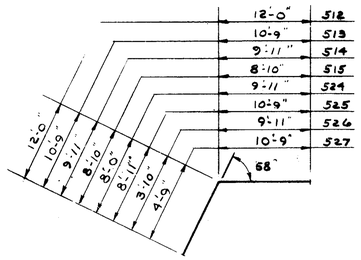
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S.	LNP		D.S.			

FED. RD.	STATE	PROJECT	
	OHIO		

315/492

MA H - 18 - 17.20



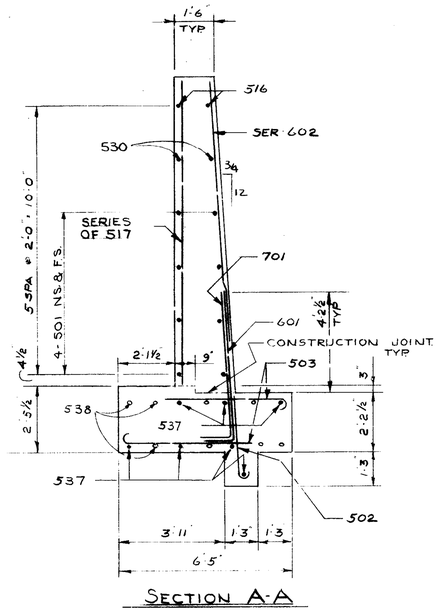


— REINFORCING STEEL SCHEDULE —

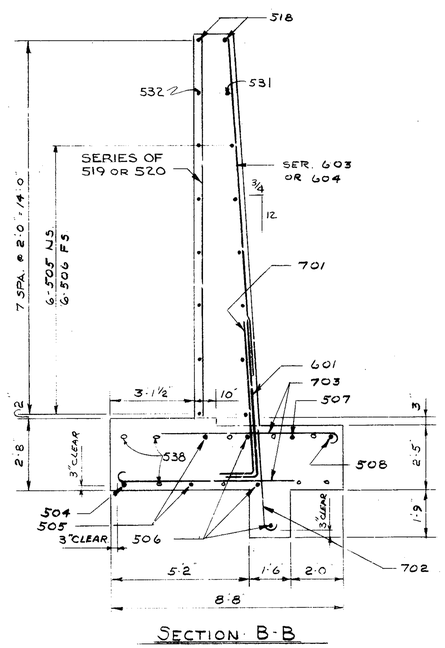
MARK	NO REQD.	LENGTH	WEIGHT	SHAPE
501	8	19'-8"	164	ST.
502	30	5'-7"	112	BT.
503	33	5'-1"	175	BT.
504	1	18'-2"	19	BT
505	8	19'-10"	166	BT.
506	9	20'-4"	191	BT.
507	1	22'-0"	23	BT.
508	1	22'-8"	24	BT.
509	16	26'-2"	470	ST.
510	3	29'-6"	92	BT.
511	5	32'-5"	169	BT.
512	1	24'-0"	25	BT.
513	6	21'-6"	135	BT.
514	5	19'-10"	103	BT.
515	1	17'-8"	18	BT.
516	2	4'-3"	9	ST.
SERIES OF 517	1 SET OF 8 BARS	VARIES 6'-6 TO 11'-6 @ 8 3/4" INC.	75	ST.
518	4	10'-0"	42	ST.
SERIES OF 519	1 SET OF 7 BARS	VARIES 11'-8 TO 15'-4 @ 4 INC.	92	ST.
520	30	14'-2"	443	ST.
521	12	29'-0"	363	ST.
522	6	12'-10"	80	ST.
523	6	11'-6"	72	ST.
524	1	17'-11"	19	BT.
525	1	19'-6"	21	BT.
526	1	13'-9"	14	BT.
527	1	15'-6"	16	BT.
528	4	10'-10"	45	ST.
SERIES OF 529	1 SET OF 4 BARS	VARIES 5'-8 TO 6'-1 @ 1 3/8" INC.	33	ST.
530	2	11'-0"	23	ST.
531	1	18'-2"	19	BT.
532	1	17'-8"	18	BT.
533	2	21'-0"	44	ST.
534	2	13'-0"	27	ST.
535	10	14'-5"	150	ST.
536	8	32'-10"	274	ST.
537	7	22'-4"	163	ST.
538	30	10'-0"	313	ST.
601	88	6'-11"	915	BT.
SERIES OF 602	1 SET OF 15 BARS	VARIES 4'-8 TO 9'-6 2 1/8" INC.	160	ST.
SERIES OF 603	1 SET OF 7 BARS	VARIES 9'-9 TO 11'-9 @ 4" INC.	113	ST.
604	40	12'-4"	741	ST.
605	6	10'-10"	98	ST.
606	6	9'-6"	86	ST.
607	8	8'-10"	106	ST.
SERIES OF 608	1 SET OF 7 BARS	VARIES 5'-9 TO 6'-5 @ 7/8" INC.	63	ST.
701	82	6'-11"	1160	BT.
702	59	4'-7"	552	BT.
703	116	7'-4"	1738	BT.
		TOTAL	9,973	

— REPLACEMENT STL. —

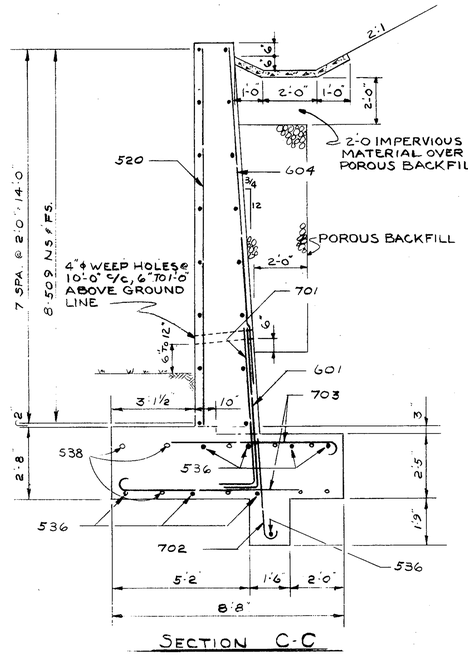
RE 501	1	5'-6"		ST.
RE 601	1	6'-0"		ST.
RE 701	1	6'-3"		ST.



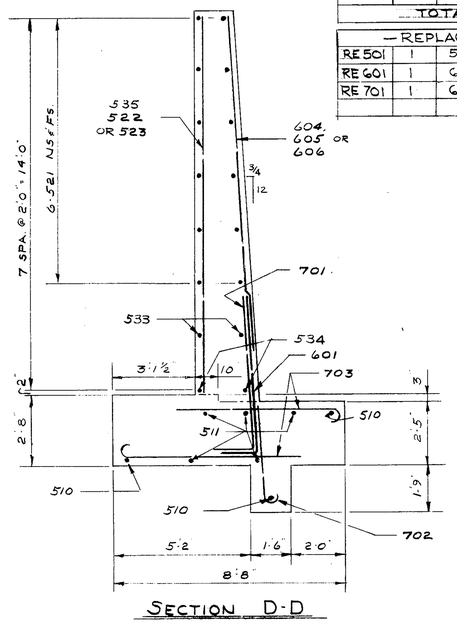
SECTION A-A



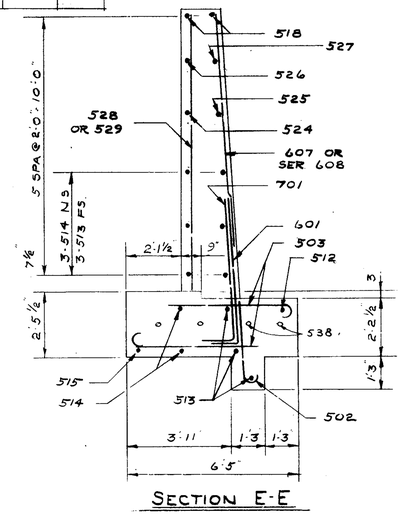
SECTION B-B



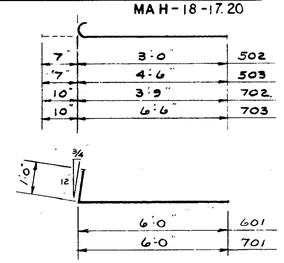
SECTION C-C



SECTION D-D

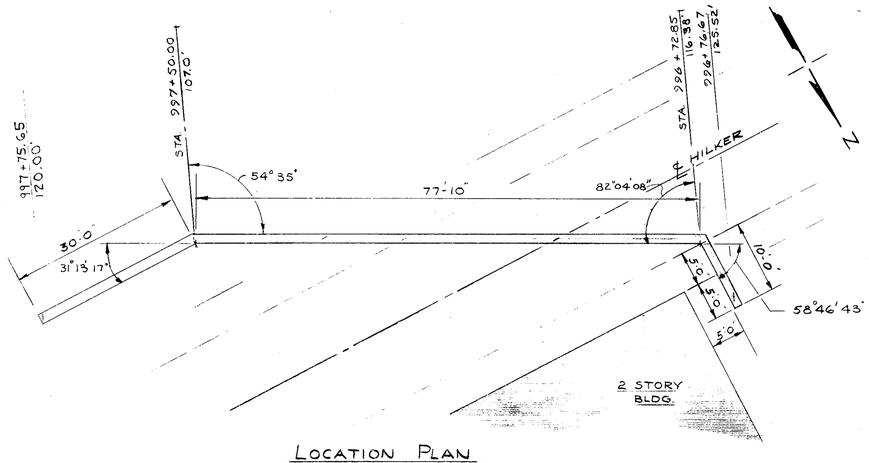


SECTION E-E

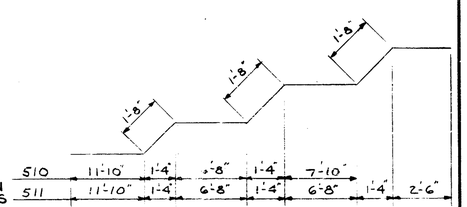


QUANTITIES TABLE

ITEM	UNIT	DESCRIPTION	TOTAL
E-2	CU. YDS	UNCLASSIFIED EXCAVATION	190
S-1	CU. YDS	CLASS "E" CONCRETE FOOTINGS	95
S-1	CU. YDS	CLASS "E" CONCRETE WALLS	117
S-3	LIN. FT	WATERPROOFING 12" × 1/2" PREMOLDED SEALING STRIPS	53
S-4	LBS	REINFORCING STEEL	9973
S-9	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	29
S-29	CU. YDS	POROUS BACKFILL	69



LOCATION PLAN



GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATED 9-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE EXISTING GROUND LINE AND THE BOTTOM OF THE FOOTING.

POROUS BACKFILL: 2 FT. THICK, FULL LENGTH OF RETAINING WALL SHALL EXTEND UP TO THE UNDERSIDE OF THE IMPERVIOUS MATERIAL.

THE KEY: UNDER THE FOOTER SHALL BE PLACED ON UNDISTURBED EARTH.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL
ALONG HILKER ST.
WALL SECTIONS
YOUNGSTOWN, MAHONING COUNTY
STA. 996+79.36 To STA. 997+75.18

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S.	J.F.					

FED. RD.	STATE	PROJECT	
	OHIO		

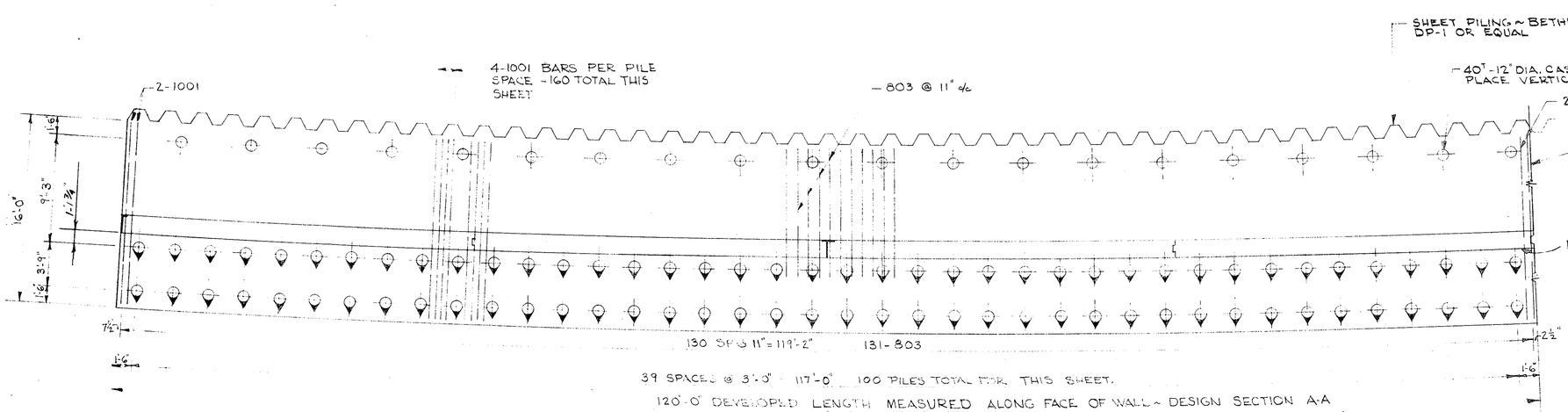
MAH-18-17.20

316
492

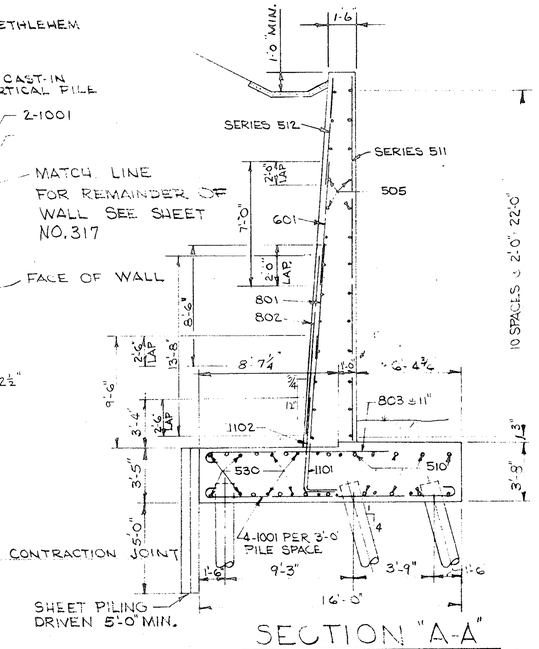
NOTES

DESIGN SPECIFICATIONS: THE WALL CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATION FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57. TOGETHER WITH CURRENT REVISIONS THEREOF

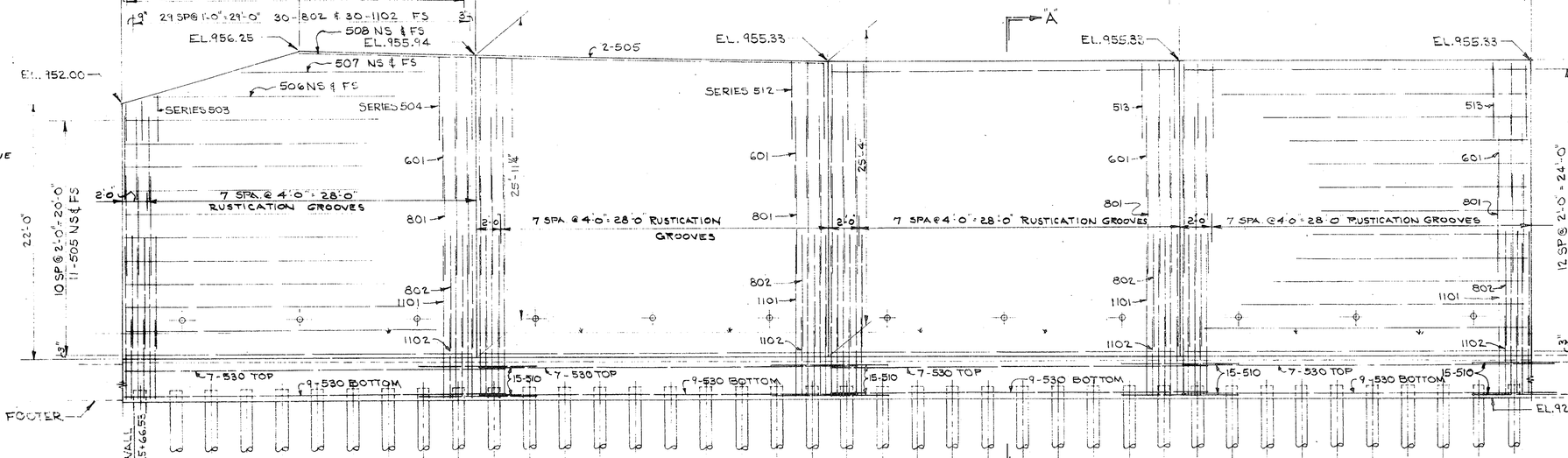
LOCATION AND GEOMETRIC PLAN IS ON SHEET NO.



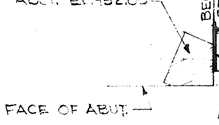
PARTIAL PLAN



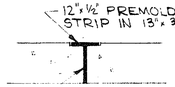
SECTION "A-A"

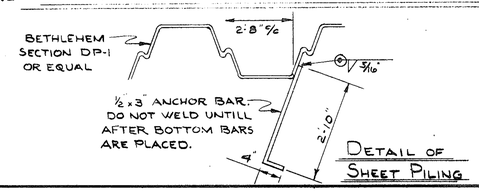


PARTIAL ELEVATION

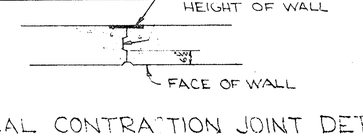


TYPICAL EXPANSION JOINT DETAILS





DETAIL OF SHEET PILING



TYPICAL CONTRACTION JOINT DETAILS

SCHEDULE OF QUANTITIES

ITEM NO.	UNIT	DESCRIPTION	QUANTITY
E-2	CU.YDS.	UNCLASSIFIED EXCAVATION	4,450
E-2	SQ.FT.	STL. SHEET PILING - LEFT-IN-PLACE 32 LBS PER SQ.FT. INCLUDES ANCHORS	3,186
E-2	LUMP	COFFERDAMS, CRIBS, & SHEETING	LUMP
S-1	CU.YDS.	CLASS 'E' CONCRETE - FOOTERS	748
S-1	CU.YDS.	CLASS 'E' CONCRETE - WALLS	804
S-3	LIN.FT.	WATERPROOFING 12" x ½" PREMOLDED SEALING STRIP	335
S-4	LBS	REINFORCING STEEL	135,171
S-9	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER	317
S-16	LUMP	FIRST TEST PILE	LUMP
S-18	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONC. PILES	7050
S-29	CU.YDS.	POROUS BACKFILL	598

ESTIMATED PILE LENGTH 25'-0"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "N"

PLAN AND ELEVATION

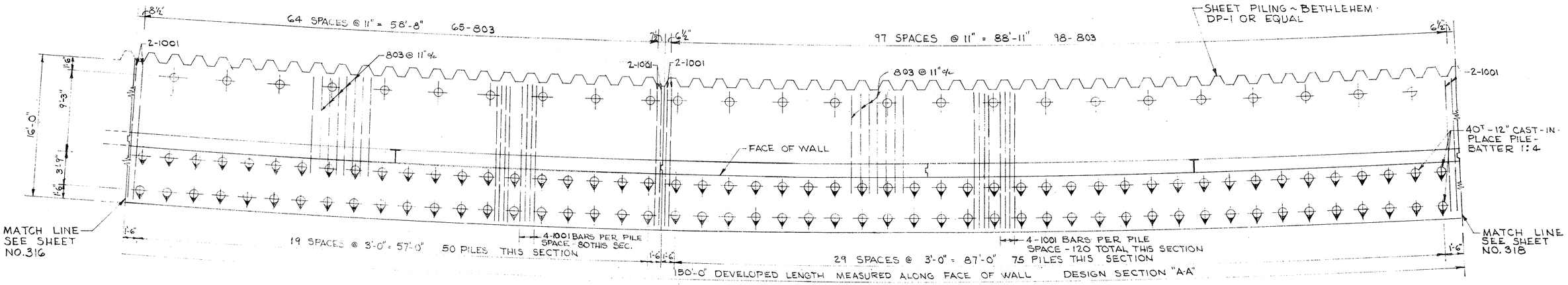
YOUNGSTOWN MAHONING COUNTY
STA. 1025+66.53 TO STA. 1029+72.77

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S.	D.S		DHC.			

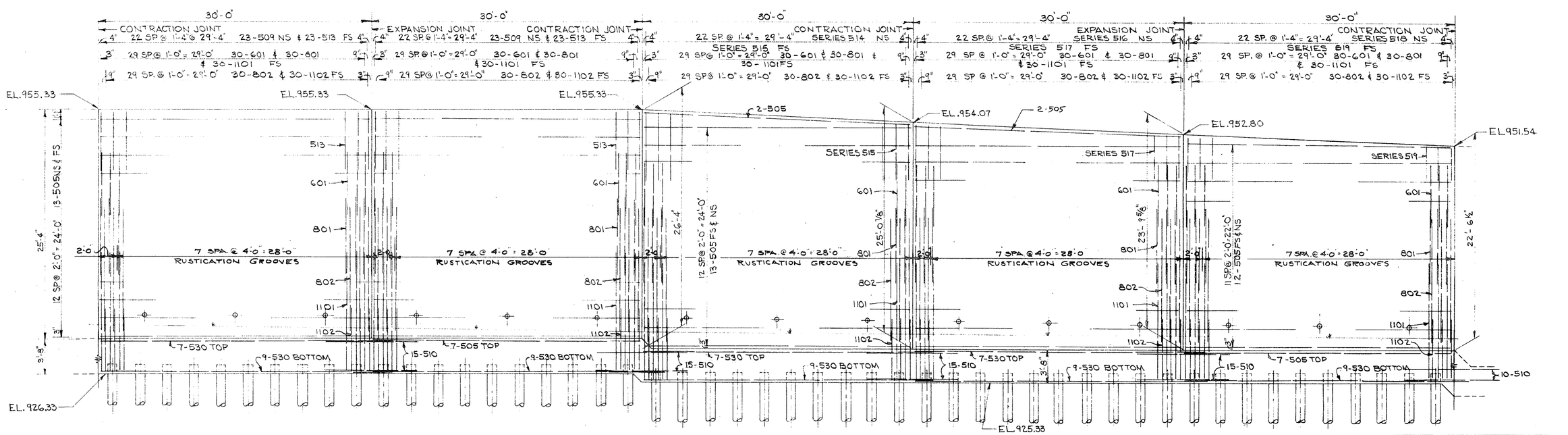
FED. RD.	STATE	PROJECT	
	OHIO		

MAH.-18-17.20

317
492



PARTIAL PLAN



PARTIAL ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "N" PLAN AND ELEVATION

YOUNGSTOWN MAHONING COUNTY
STA. 1025+66.53 TO STA. 1029+72.77

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DS	DS		DHC.			

FED. RD.	STATE	PROJECT	
	OHIO		

318
492

MAH.-18-17.20

DESIGN SECTION "BB"

DESIGN SECTION "CC"

6 SPACES @ 9'-6" = 57'-0"

59 SPACES @ 1'-0" = 59'-0"

60-701

5 SPACES @ 9'-0" = 45'-0"

53 SPACES @ 1'-0" = 53'-0"

54-702

MATCH LINE SHEET NO. 317

701 @ 1'-0"

702 @ 8"

DETAIL-A

FACE OF WALL

2-805

7-805 PER PILE SPACE

88-805 TOTAL BARS THIS SECTION

8-703

2-805

8-703 PER PILE SPACE

76-703 TOTAL THIS SECTION

4-703

12 SPACES @ 4'-9" = 57'-0"

33 PILES THIS SECTION

8 SPACES @ 5'-9" = 46'-0"

24 PILES THIS SECTION

STA 1029+72.77 END OF WALL

118'-11⅝" DEVELOPED LENGTH MEASURED ALONG FACE OF WALL

PARTIAL PLAN

CONTRACTION JOINT 30'-0" | CONTRACTION JOINT 30'-0" | EXPANSION JOINT 30'-0" | CONTRACTION JOINT 23'-11⅝" | EXPANSION JOINT

4" 22 SP. @ 1'-4" = 29'-4" SERIES 520 NS

¾" 23 SP. @ 1'-3" = 28'-9" SERIES 521 & 804 FS 11½"

& 1103 FS

11½" 23 SP. @ 1'-3" = 28'-9" 24-1104 FS ¾"

4" 22 SP. @ 1'-4" = 29'-4" SERIES 522 NS 4"

¾" 23 SP. @ 1'-3" = 28'-9" SERIES 523 & 804 FS 11½"

& 1103 FS

11½" 23 SP. @ 1'-3" = 28'-9" 24-1104 FS ¾"

4" 22 SP. @ 1'-4" = 29'-4" SERIES 524 NS 4"

22 SP @ 1'-4" = 29'-4" SERIES 602 & 1002 FS

1'-0" 21 SP. @ 1'-4" = 28'-0" 22-1003 FS 1'-0"

7¾" 6SP @ 1'-4" 8'-0" 3¾" 1'-0½" 10 SP. @ 1'-4" 13'-4" 7¾"

SERIES 526 NS SERIES 527 NS

6SP @ 1'-4" = 8'-0" 10 SP @ 1'-4" = 13'-4"

SERIES 528 FS SERIES 529 FS

17 SP @ 1'-4" = 22'-6" 18-1002 FS

1'-3¾" 16 SP @ 1'-4" 21'-4" 17-1003 FS 1'-3¾"

15'-0"

EL. 951.54 2-505 EL. 950.28 2-505 EL. 949.02 EL. 947.76 EL. 947.38 2-533 2-532 EL. 944.96 TOP OF CURTAIN WALL AT MARKET ST. ABUT.

SERIES 521 SERIES 523 SERIES 602 SERIES 528 SERIES 529

804 804

1104 1103 1104 1002 1002 1003 1003

24'-1¾" 11 SP. @ 2'-0" = 22'-0" 12-505 NS & FS

2'-0" 7 SPA. @ 4'-0" = 28'-0" RUSTICATION GROOVES

10⅞" 22'-0" 2'-0"

7 SPA. @ 4'-0" = 28'-0" RUSTICATION GROOVES

2'-0" 23'-0¾" 11 SP @ 2'-0" = 22'-0" 12-505 NS & FS

21'-7⅝" 21'-9⅛" 21'-4⅝"

7 SPA. @ 4'-0" = 28'-0" RUSTICATION GROOVES

5 SPA @ 4'-0" = 20'-0" RUSTICATION GROOVES

3'-11⅝" 9 SP @ 2'-0" = 18'-0" 10-525 NS & FS 18'-11½" 3'-2"

6-530 TOP 9-505 BOTTOM 12-510 6-530 TOP 9-530 BOTTOM 12-510 8-505 BOTTOM 5-530 TOP 11-510 5-531 TOP 8-531 BOTTOM

EL. 924.08

B B "C" "C"

TYPE B WATER-PROOFING-INCL. WITH BRIDGE QUANT. EL. 919.00 FOOTER FOR MARKET ST. ABUT. CURTAIN WALL OF ABUT. EL. 944.96 FACE OF ABUT.

EL. 922.83.

1" THICKNESS OF PREFORMED EXPANSION JOINT FILLER ½"

PARTIAL ELEVATION

DETAIL - "A"

7'-7" 13'-7" 11'-7" 13'-8" 6'-6" 12'-8" 12

1003 1002 1004 1003 1002 1001

¾" 1'-2"

10"	12'-6"	10" 703
11"	14'-2"	11" 805
1'-5"	15'-6"	1'-5" 1001

9'-10"		10" 701
8'-11"		10" 702
10'-8"		11" 803

SERIES 523 SERIES 522

505

804

1103

1104

24" LAP 6'-8" 24" LAP

7'-10" 1'-0" 5'-10"

701

530 510

10'-9" 8'-10" 5'-0" 3'-1" 3'-4"

7-805 PER 4'-9" PILE SPACE

12" CAST-IN-PLACE PILING DRIVEN TO 40T BEARING

7'-2" 4'-6" 1'-6" 14'-8"

11 SPACES @ 2'-0" = 22'-0"

SHEET PILING BETHLEHEM DP-1 OR EQUAL

1'-0" 2'-0" 1'-6" 1'-6"

SECTION "BB"

2'-0" OF IMPERVIOUS MAT'L OVER POROUS BACKFILL - TYPICAL

1'-0" MIN.

SERIES 602 SERIES 524

POROUS BACKFILL TYP. ¾"

TYP 12"

505

2'-0" LAP

1002

4"ϕ WEEP HOLES @ 10'-0"℄ SLOPE 3" FROM BACK TO FRONT.

11'-0" 5'-0" 2'-11" 5'-0"

1003

5'-1"

7'-0" 6"

2'-0"

11" 3" 3'-2"

702

530 505 510

8-703 PER 5'-9" PILE SPACE

12" CAST-IN-PLACE PILING DRIVEN TO 40T BEARING

1'-6" 6'-0" 4'-0" 1'-6"

13'-0"

SHEET PILING BETHLEHEM DP-1 OR EQUAL

SECTION "CC"

~ REINFORCING SCHEDULE ~

MARK	NO. REQ'D	LENGTH	WEIGHT	SHAPE
SERIES 501	1-SET OF 12	FROM 22'-0" TO 24'-0" INCR. OF 4⅜"	300	ST
SERIES 502	1-SET OF 11	FROM 25'-8" TO 26'-0" INCR. OF ⅜"	296	ST
SERIES 503	1-SET OF 12	FROM 3'-9" TO 7'-9" INCR. OF 4⅜"	72	ST
SERIES 504	1-SET OF 11	FROM 7'-5" TO 7'-9" INCR. OF ⅜"	87	ST
505	337	29'-8"	10,429	ST
506	2	27'-0"	56	ST
507	2	20'-0"	42	ST
508	2	14'-8"	30	ST
509	92	25'-1"	2407	ST
510	167	10'-0"	1742	ST
SERIES 511	1-SET OF 23	FROM 25'-1" TO 25'-8" INCR. OF ⅜"	609	ST
SERIES 512	1-SET OF 23	FROM 6'-6" TO 7'-2" INCR. OF ⅜"	164	ST
513	92	6'-7"	632	ST
SERIES 514	1-SET OF 23	FROM 24'-10" TO 26'-1" INCR. OF ⅝"	611	ST
SERIES 515	1-SET OF 23	FROM 6'-10" TO 8'-1" INCR. OF ⅝"	179	ST
SERIES 516	1-SET OF 23	FROM 23'-6" TO 24'-10" INCR. OF ¾"	580	ST
SERIES 517	1-SET OF 23	FROM 5'-6" TO 6'-10" INCR. OF ¾"	148	ST
SERIES 518	1-SET OF 23	FROM 2'-2" TO 23'-6" INCR. OF ¾"	546	ST
SERIES 519	1-SET OF 23	FROM 4'-2" TO 5'-6" INCR. OF ¾"	116	ST
SERIES 520	1-SET OF 23	FROM 22'-6" TO 23'-10" INCR. OF ⅜"	556	ST
SERIES 521	1-SET OF 24	FROM 10'-7" TO 11'-10" INCR. OF ⅝"	281	ST
SERIES 522	1-SET OF 23	FROM 21'-3" TO 22'-7" INCR. OF ¾"	526	ST
SERIES 523	1-SET OF 24	FROM 9'-4" TO 10'-7" INCR. OF ⅝"	250	ST
SERIES 524	1-SET OF 23	FROM 21'-6" TO 22'-10" INCR. OF ¾"	532	ST
525	20	23'-8"	495	ST
SERIES 526	1-SET OF 7	FROM 21'-1" TO 21'-6" INCR. OF ¾"	155	ST
SERIES 527	1-SET OF 11	FROM 16'-8" TO 21'-1" INCR. OF 2⅞"	228	ST
SERIES 528	1-SET OF 7	FROM 12'-7" TO 13'-0" INCR. OF ⅝"	94	ST
SERIES 529	1-SET OF 11	FROM 10'-2" TO 12'-7" INCR. OF 2⅞"	131	ST
530	156	32'-0"	5207	ST
531	13	26'-0"	353	ST
532	2	19'-0"	40	ST
533	2	9'-0"	19	ST
601	270	7'-0"	2840	ST
602	1-SET OF 23	FROM 13'-0" TO 14'-3" INCR. OF ⅝"	471	ST
701	60	10'-8"	1308	BT
702	54	9'-9"	1076	BT
703	76	14'-2"	2201	BT
801	270	8'-6"	6128	ST
802	270	13'-8"	9853	ST
803	294	11'-7"	9093	BT
804	48	6'-8"	801	ST
805	88	16'-0"	3760	BT
1001	360	18'-4"	28,400	BT
1002	41	14'-7"	2573	BT
1003	39	8'-7"	1441	BT
1101	270	13'-8	19605	BT
1102	270	7'-6"	10,759	BT
1103	48	14'-8"	3740	BT
1104	48	12'-7"	3209	BT
TOTAL REINFORCING STEEL			135171	

REPLACEMENT BARS

MARK	NO. REQ'D	LENGTH	SHAPE
RE501	2	5'-6"	ST
RE601	1	6'-0"	ST
RE701	1	6'-3"	ST
RE801	2	6'-6"	ST
RE1001	2	7'-2	ST
RE1101	2	7'-6"	ST

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "N"

PLAN AND ELEVATION

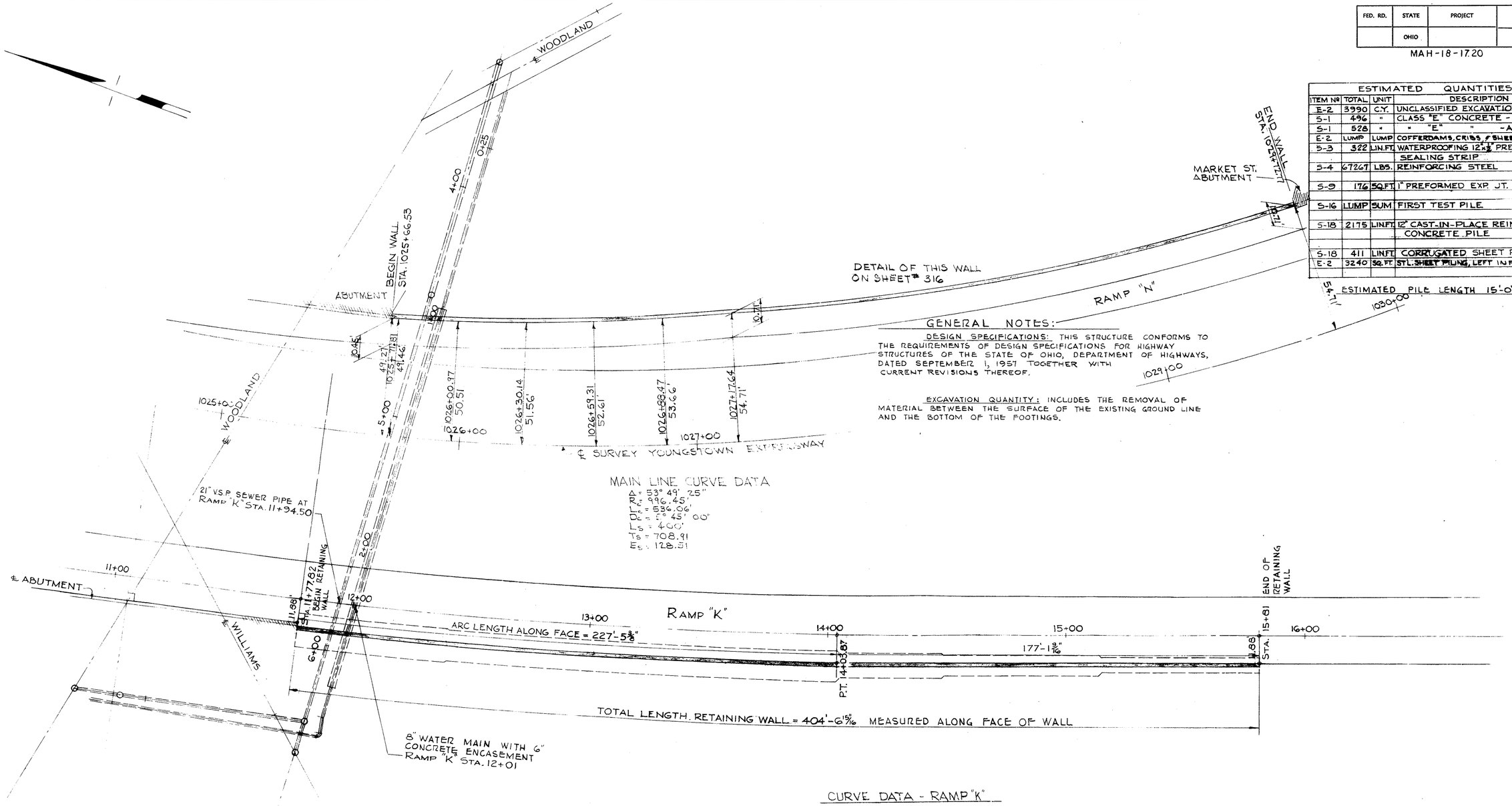
YOUNGSTOWN MAHONING COUNTY
STA. 1025+66.53 TO STA. 1029+72.77

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S.	D.S.		DHC.			

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

319
492



MAIN LINE CURVE DATA
Δ = 53° 49' 25"
R_c = 996.45'
L_c = 536.06'
D_c = 5° 45' 00"
L_s = 400'
T_s = 708.91
E_s = 128.31

CURVE DATA - RAMP "K"
Δ = 20°-15'-30"
R = 1,909.86
L = 675.00
T = 341.06
E = 30.21
D = 3°-00'-00"

ESTIMATED QUANTITIES

ITEM Nº	TOTAL	UNIT	DESCRIPTION
E-2	3990	C.Y.	UNCLASSIFIED EXCAVATION
S-1	496	"	CLASS "E" CONCRETE - FOOTINGS
S-1	528	"	" "E" " - ABOVE FOOTER
E-2	LUMP	LUMP	COFFERDAMS, CRIBS, & SHEETING
S-3	322	LIN.FT.	WATERPROOFING 12" ½" PREMOLDED SEALING STRIP
S-4	67267	LBS.	REINFORCING STEEL
S-9	176	SQ.FT.	1" PREFORMED EXP. JT. FILLER
S-16	LUMP	SUM	FIRST TEST PILE
S-18	2175	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILE
S-18	411	LIN.FT.	CORRUGATED SHEET PILING
E-2	3240	SQ.FT.	STL. SHEET PILING, LEFT IN PLACE 32#/FT²

GENERAL NOTES:

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED SEPTEMBER 1, 1957 TOGETHER WITH CURRENT REVISIONS THEREOF.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE SURFACE OF THE EXISTING GROUND LINE AND THE BOTTOM OF THE FOOTINGS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL
ALONG RAMP "K"
LOCATION PLAN
YOUNGSTOWN, MAHONING COUNTY
STA. 11+77.82 To STA. 15+81.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S.A. R.H.	E.S.S.					

MAH-18-17.20

FED. RD.	STATE	PROJECT	
	OHIO		

320
492

BEGIN RETAINING WALL STA. 11+77.82

21" V.S.P. SEWER PIPE

8" WATER MAIN WITH 6" CONC. WALL

FRONT FACE OF WALL

227'-5⅜"- DIMENSION GIVEN AT FRONT FACE OF WALL

℄ PROFILE GRADE LINE OF RAMP "K"

END SECTION "C" & P.T. STA. 14+03.87

1" EXPANSION JT. SEE DETAIL THIS SHEET

9 SP. @ 5'-9" = 51'-9" FOR FRONT & MIDDLE ROW OF PILES

17 SP. @ 5'-9" = 97'-9" FRONT & MIDDLE ROW OF PILES

FOR CONTINUATION (STRAIGHT PORTION) OF WALL, SEE SH. #321

CONTRACTION JT.

SHEET PILING - BETHLEHEM SECTION DP-1 OR EQUAL. SEE DETAIL SH. 321

62'-6½"- SECTION "A"

60'-0"- SECTION "B"

104'-10⅞"- SECTION "C"

SPACING OF PILES AT REAR ROW

RUSTICATION GROOVE SPACING

BACK FACE OF WALL AT TOP OF FOOTER

LOCATION AND PILING PLAN OF RETAINING WALL

62'-6½"- SECTION A

22'-6½"	20'-0"	20'-0"
		22 SPACES @ APPROX. 10'-0" ℄ = 220'-0"
17 SP. @ 15" = 21'-3"	15 SP. @ 15" = 18'-9"	15 SP. @ 15" = 18'-9"
18-601 N.S.	16-602 N.S.	16-603 N.S.
16 SP. @ 16" = 21'-4"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
17-504 F.S.	15-506 F.S.	15-509 F.S.
17 SP. @ 15" = 21'-3"	15 SP. @ 15" = 18'-9"	15 SP. @ 15" = 18'-9"
18-1101 N.S.	16-1101 N.S.	16-1101 N.S.
17 SP. @ 15" = 21'-3"	15 SP. @ 15" = 18'-9"	15 SP. @ 15" = 18'-9"
18-1102 N.S.	16-1102 N.S.	16-1102 N.S.

60'-0"- SECTION B

20'-0"	20'-0"	20'-0"	20'-0"
4" ₵ WEEPHOLES (JOINTS TO BE LEFT CLEAR)			
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-604 N.S.	15-604 N.S.	15-604 N.S.	15-605 N.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-505 F.S.	15-505 F.S.	15-505 F.S.	15-510 F.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-1001 N.S.	15-1001 N.S.	15-1001 N.S.	15-1001 N.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-1002 N.S.	15-1002 N.S.	15-1002 N.S.	15-1002 N.S.

104'-10⅞"- SECTION C

20'-0"	20'-0"	24'-10⅞"	20'-0"	20'-0"
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	18 SP. @ 16" = 24'-0"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-606 N.S.	15-606 N.S.	19-607 N.S.	15-608 N.S.	15-609 N.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	18 SP. @ 16" = 24'-0"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-511 F.S.	15-511 F.S.	19-512 F.S.	15-513 F.S.	15-514 F.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	17 SP. @ 16" = 22'-8"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-1001 N.S.	15-1001 N.S.	18-1001 N.S.	15-1001 N.S.	15-1001 N.S.
14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"	18 SP. @ 16" = 24'-0"	14 SP. @ 16" = 18'-8"	14 SP. @ 16" = 18'-8"
15-1002 N.S.	15-1002 N.S.	19-1002 N.S.	15-1002 N.S.	15-1002 N.S.

EL. 961.62 — EL. 962.37 — EL. 965.12 — EL. 963.12 — EL. 962.51 — EL. 961.91 — EL. 961.16 — EL. 960.55 — EL. 959.94

TOP OF CURTAIN WALL EL. 959.03±

WOODLAND AVE. ABUT #2 - FOR PLAN, ELEVATION & DETAILS, SEE SH. #4 & 4

INV: EL. = 930.40

INV. ELEV. = 931.21

62'-6½" DEVELOPED LENGTH — EL. 935.92 — PILE CUT-OFF EL. 936.92

60'-0" DEVELOPED LENGTH — 227'-5⅜"- DEVELOPED LENGTH AT FACE OF WALL — EL. 937.42 — PILE CUT-OFF EL. 938.42

104'-10⅞"- DEVELOPED LENGTH — EL. 938.83 — PILE CUT-OFF EL. 939.83

FOR CONTINUATION = OF WALL, SEE SH. #321

REAR ELEVATION

SECTION C | SECTION D

4-532 TO LAP WITH 531

5-528 TOP

7-532 TO LAP WITH 531

EXPOSED FACE OR FRONT

12"x½" PREMOLDED SEALING STRIP IN 13"x¾" RECESS

1½"x5½" KEY-CENTERED IN WALL FULL HEIGHT

6" MIN.

DETAIL OF CONTRACTION JOINT

4-527 TOP LAP WITH 526

5-528 TOP

7-527 BOTTOM LAP WITH 526

5-530 TO LAP WITH 529 & 531

7-528 TOP

9-530 TO LAP WITH 529 & 531

EXPOSED FACE OR FRONT

1" THICKNESS OF PREFORMED EXPANSION JOINT FILLER

12"x½" PREMOLDED SEALING STRIP IN 13"x¾" RECESS. (TYP.)

WOODLAND AVE. ABUT. NO. 2

RETAINING WALL

6"x½" PREMOLDED SEALING STRIP IN 6"x¾" RECESS

EXPANSION JOINT DETAILS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "K" PLAN & ELEVATION

YOUNGSTOWN, MAHONING COUNTY
STA. 11+77.82 To STA. 15+81.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S. & R.H.	E.S.S.					

FED. RD.	STATE	PROJECT	
	OHIO		

321
492

MAH-18-17.20

BEGIN SECTION "D" &
P.T. STA. 14+03.87

FRONT FACE OF WALL

177'-1⅞"

PROFILE GRADE LINE OF RAMP "K"

14+00

3'-3"

5 SP. @ 7'-6" = 37'-6"
FOR FRONT & MIDDLE ROW OF PILES

4'-9"

9 SP. @ 7'-0" = 63'-0"
FRONT ROW PILES

15+00

1'-6"

END RETAINING WALL
STA. 15+81

1" EXPANSION JT.

1" EXPANSION JT.

1" EXPANSION JT.

CONTRACTION JT.

CONTRACTION JT.

CONTRACTION JT.

CONTRACTION JT.

CONTRACTION JT.

FOR CONTINUATION (RADIAL PORTION) OF WALL, SEE SH.#320

ANCHORS - SEE DETAIL THIS SHEET

SHEET PILING - BETHLEHEM SECTION DP-1 OR EQUAL SEE DETAIL THIS SHEET

BACK FACE OF WALL AT TOP OF FOOTER

4 SP. @ 10'-0" = 40'-0"

5 SP. @ 12'-0" = 60'-0"

3'-0" SPACING OF PILES AT REAR ROW

5 SPA @ 4'-0" 20'-0" 20

3½" SPACING FOR RUSTICATION GROOVES

44'-0" - SECTION "D"

66'-0" - SECTION "E"

67'-1⅞" - SECTION "F"

LOCATION AND PILING PLAN OF RETAINING WALL

4" × 3" × 3'-2" ANCHOR

2'-8" o.c.

BACK FACE OF FOOTER

VOID

BETHLEHEM SECTION DP-1 OR EQUAL

DETAIL OF SHEET PILING

(SEE DETAIL SHEET 316)

44'-0" - SECTION D | 66'-0" - SECTION E | 67'-1⅞" - SECTION F

17 SPACES @ APPROX. 10'-0"% = 170'-0" - 4"ϕ WEEPHOLES (JOINTS TO BE LEFT CLEAR)

17-610 N.S. 16 SP. @ 16" = 21'-4"	17-611 N.S. 16 SP. @ 16" = 21'-4"	17-612 N.S. 16 SP. @ 16" = 21'-4"
17-515 F.S. 16 SP. @ 16" = 21'-4"	17-516 F.S. 16 SP. @ 16" = 21'-4"	17-518 F.S. 32 SP. @ 8" = 21'-4"
17-802 N.S.	17-802 N.S.	17-701 & 16-613 N.S.

17-614 N.S. 16 SP. @ 16" = 21'-4"	17-615 N.S. 16 SP. @ 16" = 21'-4"	17-616 N.S. 16 SP. @ 16" = 21'-4"
17-519 F.S. 32 SP. @ 8" = 21'-4"	17-520 F.S. 32 SP. @ 8" = 21'-4"	9-521 F.S. 32 SP. @ 8" = 21'-4"
17-701 & 16-613 N.S.	17-701 & 16-613 N.S.	17-702 & 16-617 N.S.

17-618 N.S. 8 SP. @ 32" = 21'-4"	18-619 N.S. 17 SP. @ 16" = 22'-8"	
9-522 F.S. 32 SP. @ 8" = 21'-4"	18-702 & 17-617 N.S. 8 SP. @ 32" = 21'-4"	9-523 F.S. 34 SP. @ 8" = 22'-8"
17-702 & 16-617 N.S.	17-702 & 16-617 N.S.	

EL. 959.94 | EL. 959.28 | EL. 958.61 | EL. 957.95 | EL. 957.28 | EL. 956.61 | EL. 955.95 | EL. 955.28 | EL. 954.58

FOR CONTINUATION OF WALL, SEE SH.#320

SERIES 610 N.S. | SERIES 611 N.S. | SERIES 612 N.S. | SERIES 614 N.S. | SERIES 615 N.S. | SERIES 616 N.S. | SERIES 618 N.S. | SERIES 619 N.S.

802 N.S. | 16-901 @ 16" N.S. | 701 & 613 | 702 & 617 N.S.

50 SP @ 16" = 66'-8" 51-525

44'-0" | 66'-0" | 67'-1⅞"

177'-1⅝"

EL. 941.54 | EL. 943.00 | EL. 944.94 | EL. 943.69 BOTTOM OF KEY

PILE CUT-OFF EL. 942.54 | PILE CUT-OFF EL. 944.00

REAR ELEVATION

3-530 TO LAP WITH 533

4-528

5-530 TO LAP WITH 533

3-535 TO LAP WITH 534

4-528

4-535 TO LAP WITH 534

DETAIL OF RUSTICATION GROOVE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

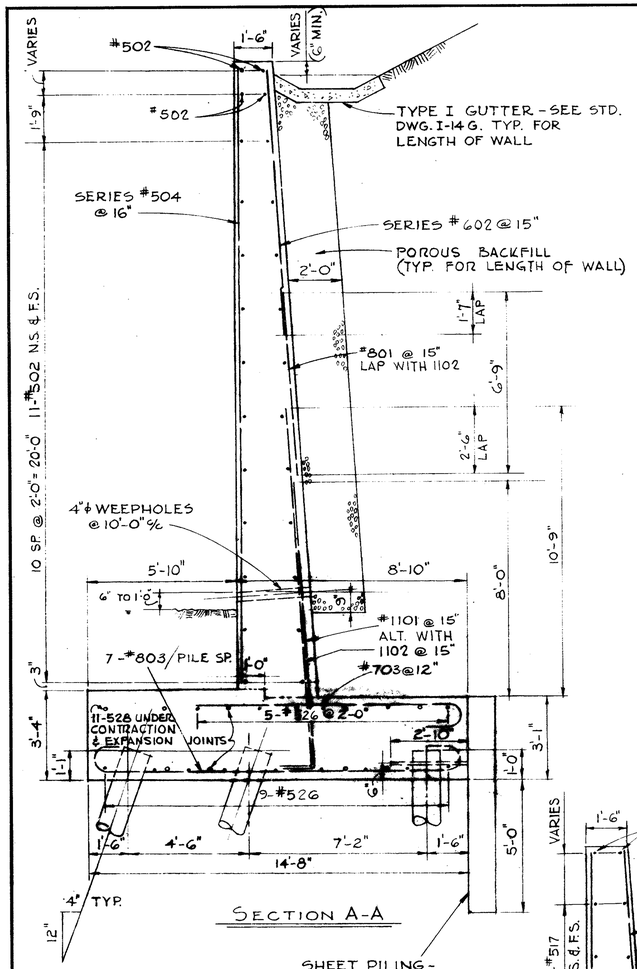
RETAINING WALL
ALONG RAMP "K"
PLAN & ELEVATION
YOUNGSTOWN, MAHONING COUNTY
STA. 11+77.82 To STA. 15+81.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	E.S.S.					

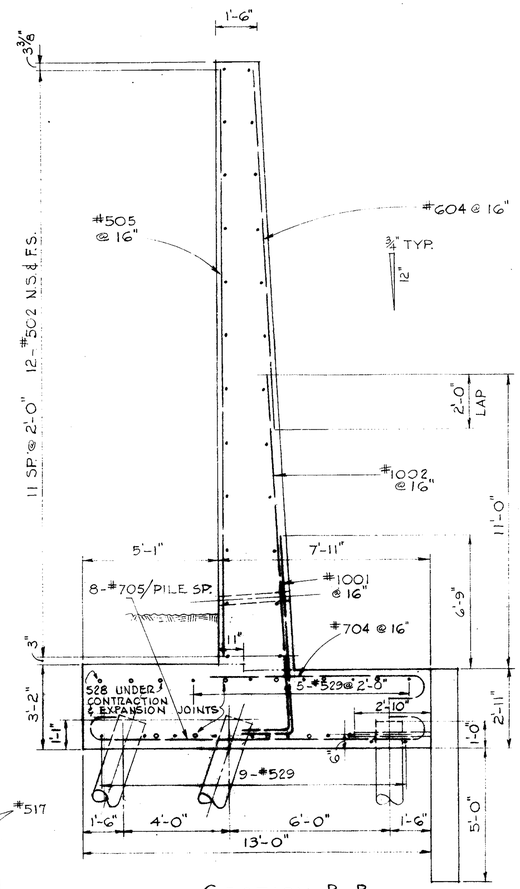
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

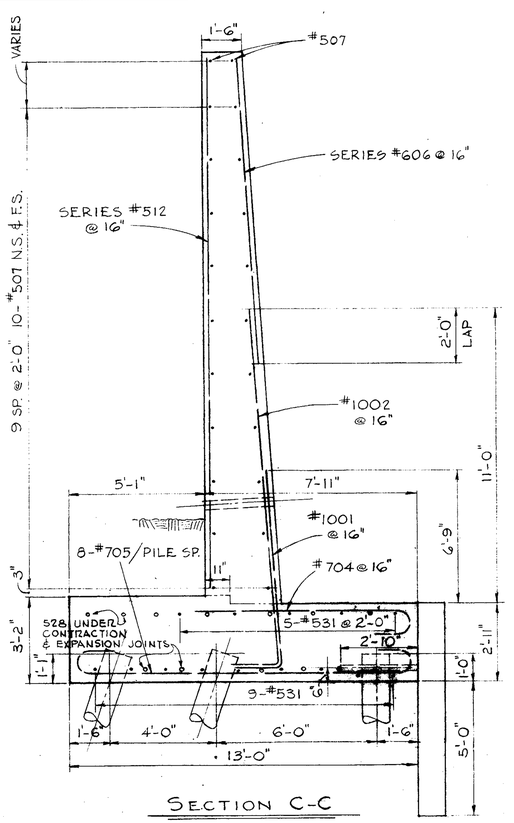
322
492



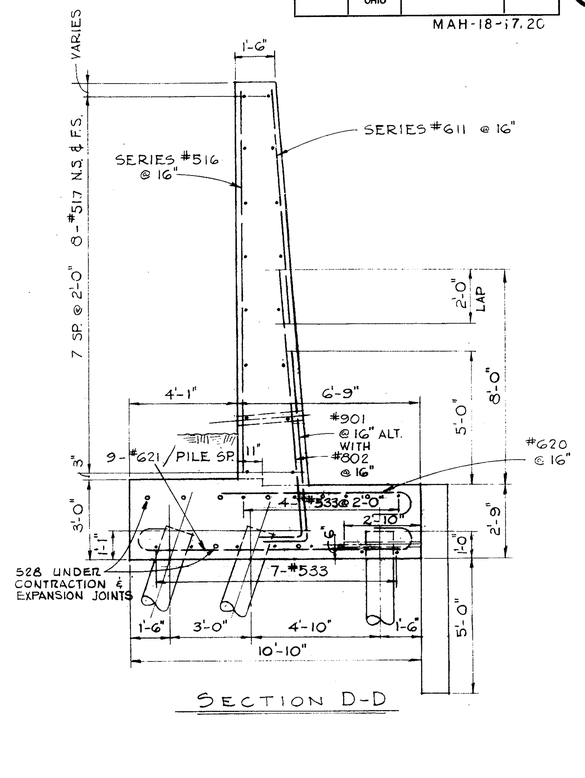
SECTION A-A



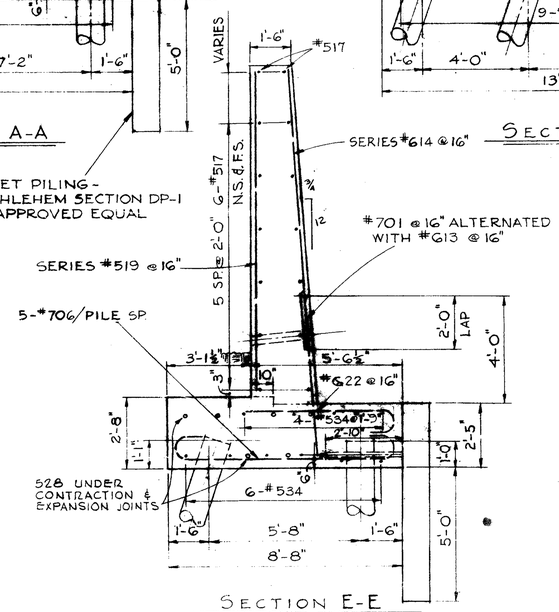
SECTION B-B



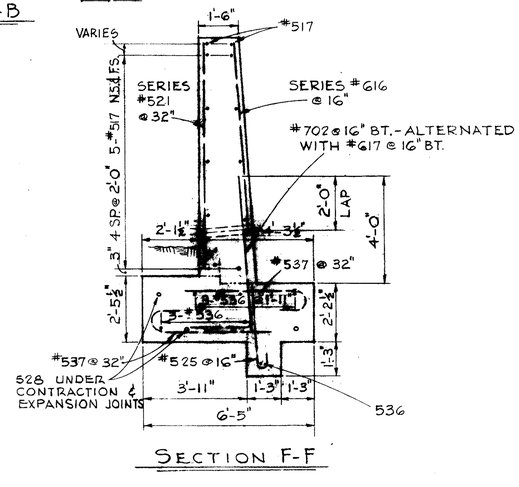
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

NOTE: ALL REINFORCING STEEL TO HAVE 2" MIN. COVER IN WALL & 3" MIN. COVER IN FOOTING UNLESS NOTED OTHERWISE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL

ALONG RAMP K

WALL SECTIONS

YOUNGSTOWN, MAHONING COUNTY

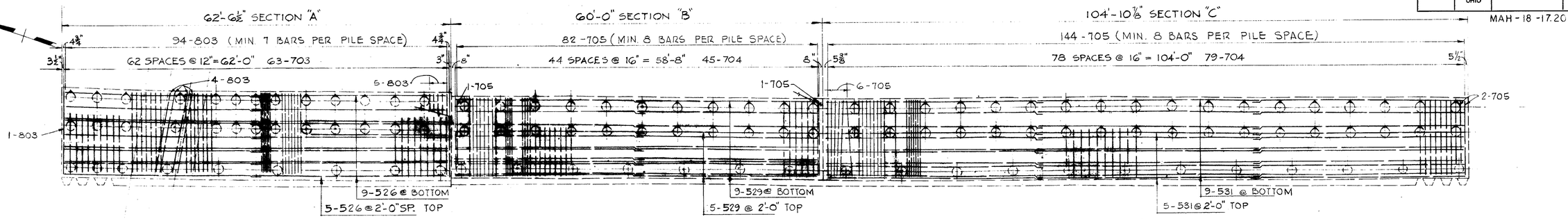
STA. 11+77.82 To STA. 15-81.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.S. & R.H.	E.S.S.		ϕ.K.L.			

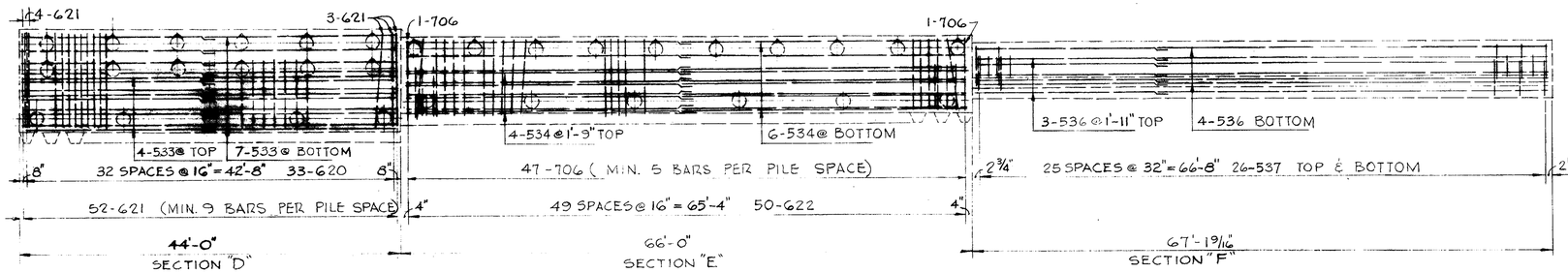
FED. RD.	STATE	PROJECT	
	OHIO		

MAH - 18 - 17.20

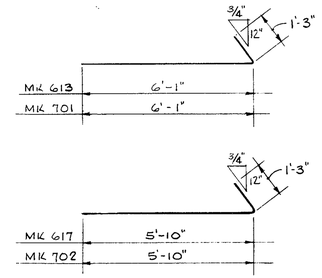
323
492



SECTION H-H



SECTION J-J



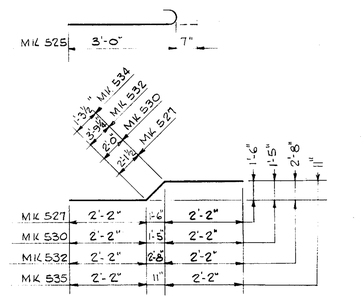
REINFORCING STEEL SCHEDULE

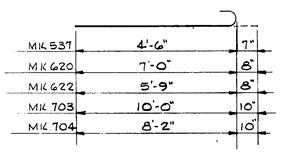
MARK	NO. OF BARS REQ'D	LENGTH	WEIGHT	SHAPE
501	2	22'-4"	48	ST.
502	212	19'-8"	4348	ST.
503	20	22'-2"	462	ST.
SERIES 504	1 SET OF 17 BARS	FROM 19'-1" TO 22'-2" INCR. OF 13/16"	370	ST
505	45	22'-4"	1048	ST
SERIES 506	1 SET OF 15 BARS	FROM 22'-2" TO 22'-11" INCR. OF 5/16"	353	ST
507	22	24'-6"	562	ST
508	2	15'-0"	81	ST
SERIES 509	1 SET OF 15 BARS	FROM 22'-11" TO 23'-8" INCR OF 5/16"	364	ST
SERIES 510	1 SET OF 15 BARS	FROM 20'-11" TO 20'-4" INCR OF 1/2"	323	ST
SERIES 511	1 SET OF 15 BARS	FROM 20'-4" TO 19'-9" INCR OF 1/2"	313	ST
SERIES 512	1 SET OF 19 BARS	FROM 19'-9" TO 19'-0" INCR OF 1/2"	383	ST
SERIES 513	1 SET OF 15 BARS	FROM 18'-11" TO 18'-4" INCR OF 1/2"	292	ST
SERIES 514	1 SET OF 15 BARS	FROM 18'-4" TO 17'-9" INCR OF 1/2"	282	ST.
SERIES 515	1 SET OF 17 BARS	FROM 15'-2" TO 14'-6" INCR OF 1/2"	263	ST
SERIES 516	1 SET OF 17 BARS	FROM 14'-6" TO 13'-10" INCR OF 1/2"	252	ST
517	98	21'-8"	2215	ST
SERIES 518	1 SET OF 17 BARS	FROM 12'-9" TO 12'-1" INCR OF 1/2"	220	ST
SERIES 519	1 SET OF 17 BARS	FROM 12'-1" TO 11'-5" INCR OF 1/2"	208	ST.
SERIES 520	1 SET OF 17 BARS	FROM 11'-5" TO 10'-9" INCR. OF 1/2"	196	ST.
SERIES 521	1 SET OF 9 BARS	FROM 9'-0" TO 8'-4" INCR OF 1"	81	ST
SERIES 522	1 SET OF 9 BARS	FROM 8'-4" TO 7'-8" INCR OF 1"	75	ST

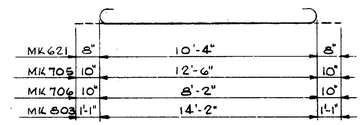
MARK	NO. OF BARS REQ'D	LENGTH	WEIGHT	SHAPE
SERIES 523	1 SET OF 9 BARS	FROM 7'-8" TO 7'-0" INCR. OF 1"	69	ST.
524	8	22'-9"	190	ST.
526	51	3'-7"	191	BT.
526	28	32'-4"	944	ST.
527	11	6'-5"	76	BT.
528	158	10'-0"	1648	ST.
529	28	31'-0"	905	ST.
530	22	6'-4"	145	BT.
531	42	36'-0"	1577	ST.
532	11	8'-1"	93	BT.
533	22	22'-8"	520	ST.
534	20	33'-8"	702	ST.
535	7	5'-7"	41	BT.
536	14	34'-2"	499	ST.
537	52	5'-1"	276	BT.
SERIES 601	1 SET OF 18 BARS	FROM 6'-5" TO 9'-0" INCR. OF 19/16	208	ST
SERIES 602	1 SET OF 16 BARS	FROM 9'-0" TO 9'-9" INCR OF 5/16"	225	ST.
SERIES 603	1 SET OF 16 BARS	FROM 9'-9" TO 10'-6" INCR OF 5/16"	248	ST.
604	45	13'-7"	918	ST.
SERIES 605	1 SET OF 15 BARS	FROM 12'-2" TO 11'-7" INCR OF 1/2"	268	ST.
SERIES 606	1 SET OF 15 BARS	FROM 11'-7" TO 11'-0" INCR OF 1/2"	254	ST
SERIES 607	1 SET OF 19 BARS	FROM 11'-0" TO 10'-3" INCR OF 1/2"	303	ST.
SERIES 608	1 SET OF 15 BARS	FROM 10'-3" TO 9'-8" INCR OF 1/2"	224	ST.
SERIES 609	1 SET OF 15 BARS	FROM 9'-7" TO 9'-0" INCR. OF 1/2"	210	ST.

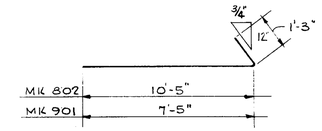
MARK	NO. OF BARS REQ'D	LENGTH	WEIGHT	SHAPE
SERIES 610	1 SET OF 17 BARS	FROM 9'-6" TO 8'-10" INCR OF 1/2"	234	ST
SERIES 611	1 SET OF 17 BARS	FROM 8'-10" TO 8'-2" INCR OF 1/2"	217	ST
SERIES 612	1 SET OF 17 BARS	FROM 11'-0" TO 10'-4" INCR OF 1/2"	272	ST.
613	48	7'-3"	523	BT
SERIES 614	1 SET OF 17 BARS	FROM 10'-4" TO 9'-8" INCR OF 1/2"	255	ST
SERIES 615	1 SET OF 17 BARS	FROM 9'-8" TO 9'-1" INCR OF 1/2"	238	ST
SERIES 616	1 SET OF 17 BARS	FROM 7'-3" TO 6'-7" INCR OF 1/2"	177	ST
617	49	7'-0"	515	BT
SERIES 618	1 SET OF 17 BARS	FROM 6'-7" TO 5'-11" INCR OF 1/2"	160	ST
SERIES 619	1 SET OF 18 BARS	FROM 5'-11" TO 5'-3" INCR OF 1/2"	151	ST.
620	33	7'-8"	380	BT
621	52	11'-8"	911	BT.
622	50	6'-5"	482	BT.
701	51	7'-3"	756	BT.
702	52	7'-0"	744	BT.
703	68	10'-10"	1395	BT.
704	124	9'-0"	2281	BT.
705	226	14'-2"	6645	BT.
706	47	9'-10"	944	BT.
801	50	6'-9"	901	ST.
802	34	11'-6"	1044	BT.

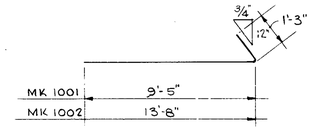
MARK	NO. OF BARS REQ'D	LENGTH	WEIGHT	SHAPE
803	94	16'-4"	4098	BT.
901	32	8'-6"	925	BT.
1001	123	10'-6"	5557	BT.
1002	124	14'-9"	7870	BT.
1101	50	11'-10"	3143	BT
1102	50	14'-7"	3873	BT.
			68,009	

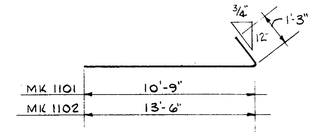












STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL
ALONG RAMP "K"
REINFORCING SCHEDULE
YOUNGSTOWN, MAHONING COUNTY
STA. 11+77.82 To STA. 15+81.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.R.L. R.M.J.	E.S.S.					

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

324
4.92

MATCH LINE II-II, SHEET #325

30'-0"

32 SPA. @ 11" = 29'-4" 33-805 TOP

90'-2¼"

97 SPA. @ 11" = 88'-11" 98-805 TOP

5¾" 2⅛" 7½" 7⅝"

511 BOTT — SHEET PILING — 511 TOP — 511 TOP — 511 BOTT — 511 TOP — 524 BOTT — 524 TOP

ROW #3 — 5'-3" — 3'-9" — ROW #2 — ROW #1

2-1001 — 2-1001 — 2-1001 — 2-1001

4-1001 PER PILE SPACE - (TYP)

2½" 2½" 2½"

40-1001 BOTT

4-1001 PER PILE SPACE - (TYP)

120-1001 BOTT

FACE OF WALL

2-1001

PARTIAL FOOTER PLAN

CONTRACTION JOINT 30'-0" — EXPANSION JOINT 30'-0" — CONTRACTION JOINT 30'-0" — CONTRACTION JOINT 20'-0" — 10'-2¼"

1'-6" 1'-6" 6" 2" 2'-6" 2½"

9 SPA. @ 3'-0" = 27'-0" SER. 523 NS. — 9 SPA. @ 3'-0" = 27'-0" SER. 526 NS. — 9 SPA. @ 3'-0" = 27'-0" 10-528 NS. — 6 SPA. @ 3'-0" = 18'-0" 7-528 NS.

22 SPA. @ 16" = 29'-4" 23-522 FS. — 22 SPA. @ 16" = 29'-4" 23-525 FS. — 22 SPA. @ 16" = 29'-4" 23-527 FS. — 14 SPA. @ 16" = 18'-8" 15-527 FS

3 SPA @ 3'-0" = 6'-0" SER 530 NS. — 6 SPA @ 16" = 8'-0" SER. 529 FS.

1'-8¼" 1'-10½" K

EL. 957.00 — H — EL. 956.50 — J — EL. 956.00 — EL. 956.00 — EL. 956.00

534 NS & FS — 533 NS & FS — 532 NS & FS

EL. 950.62 EL. OF CURTAIN WALL ON MARKET ST ABUT.

29 SPA @ 12" = 29'-0" FS 30-604 — 29 SPA @ 12" = 29'-0" FS 30-604 — 29 SPA @ 12" = 29'-0" FS 30-604 — 29 SPA @ 12" = 29'-0" FS 30-604

7 SPA @ 4'-0" = 28'-0" RUSTICATION GROOVES — 7 SPA @ 4'-0" = 28'-0" RUSTICATION GROOVES — 7 SPA @ 4'-0" = 28'-0" RUSTICATION GROOVES — 7 SPA @ 4'-0" = 28'-0" RUSTICATION GROOVES

58 SPA @ 6" = 29'-0" FS 30-806 @ 12" ALT/W 29-807 @ 12" — 58 SPA @ 6" = 29'-0" FS 30-806 @ 12" ALT/W 29-807 @ 12" — 58 SPA @ 6" = 29'-0" FS 30-806 @ 12" ALT/W 29-807 @ 12" — 59 SPA @ 6" = 29'-6" FS 30-806 @ 12" ALT/W 30-807 @ 12"

504 NS & FS — 504 NS & FS — 531 NS & FS

TYPICAL SPACING FOR ALL 30'-0" SECTIONS

5'-0" 10'-0" 10'-0" 5'-0"

4" ϕ WEEP HOLES

24'-5⅜" 23'-11⅜" 26'-1⅜" 25'-7⅜" 20'-2¾" 8¼" 2'-2¾" 4⅛"

EL. 928.90 — 3'-8" — 9-539 — 10-535 — 9-535 — 10-535 — 9-535 — 10-535 — 3'-8" — EL. 926.73

MATCH LINE II-II SHEET #325

H — H — J — J — 1'-8¼" — 4'-8¼" — K

9 SPA @ 3'-0" = 27'-0" ROW #1 & 2 - 20 PILES

4 SPA @ 6'-0" = 24'-0" ROW #3, 5 PILES

29 SPA @ 3'-0" = 87'-0" ROW #1 & 2 60 PILES

14 SPA @ 6'-0" = 84'-0" ROW #3 15 PILES

120'-2¼" DEVELOPED LENGTH. MEASURED ALONG FACE OF WALL

- PARTIAL ELEVATION -

ESTIMATED PILE LENGTH = 25'-0"

— QUANTITIES TABLE —

ITEM NO	UNIT	DESCRIPTION	QUANTITY	ITEM NO	UNIT	DESCRIPTION	QUANTITY
E-2	CU. YDS.	UNCLASSIFIED EXCAVATION	3,296	S-9	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	209
E-2	SQ. FT.	STL. SHEET PILING, LEFT-IN-PLACE 32# PER SQ. FT. INCLUDING ANCHORS.	2733				
E-2	LUMP	COFFERDAMS, CRIBS & SHEETING	LUMP	S-16	LUMP	FIRST TEST PILE	LUMP
S-1	CU. YDS.	CLASS "E" CONCRETE, FOOTERS	641				
S-1	CU. YDS.	CLASS "E" CONCRETE, WALLS	603	S-18	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILE	5525
S-3	LIN. FT.	WATERPROOFING PREMOLDED SEALING STRIP 12" x ½"	249				
S-4	LBS.	REINFORCING STEEL	99,271	S-29	CU. YDS.	POROUS BACKFILL	610

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RETAINING WALL ALONG RAMP "M"

PLAN & ELEVATION

YOUNGSTOWN, MAHONING COUNTY

STA. 5+83.03 To STA. 9+07.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH F D.S.	LNP		D.S.			

FED RD.	STATE	PROJECT	
	OHIO		

MAH - 18 - 17.20

325
492

MATCH LINE II-II SHEET #326

30'-0" | 29 SPA @ 1'-0" = 29'-0" | 30-701 TOP

60'-0" | 59 SPA @ 1'-0" = 59'-0" | 60-701 TOP

30'-0" | 32 SPA @ 11" = 29'-4" | 33-805 TOP

MATCH LINE II-II SHEET #324

SHEET PILING

511 BOTT

511 TOP

511 TOP

511 BOTT

511 BOTT

511 TOP

511 TOP

511 BOTT

ROW #3

ROW #2

ROW #1

7'-2"

4'-6"

1'-6"

FACE OF WALL

2-803

2-803

2-803

2-1001

2-1001

FRONT FACE OF WALL

7-803 PER PILE SPACE. (TYPICAL)

44-803 BOTT.

7-803 PER PILE SPACE - (TYP)

88-803 BOTT.

4-1001 PER PILE SPACE. (TYP)

40-1001 BOTT.

PARTIAL FOOTER PLAN

℄ CONTRACTION JT. 30'-0" | 9 SPA @ 3'-0" = 27'-0" SER-515 NS | 23 SPA @ 15" = 28'-9" 24-514 FS

℄ CONTRACTION JT. 30'-0" | 9 SPA @ 3'-0" = 27'-0" SER-517 NS | 23 SPA @ 15" = 28'-9" 24-516 FS

℄ EXPANSION JT. 30'-0" | 9 SPA @ 3'-0" = 27'-0" SER-519 NS | 23 SPA @ 15" = 28'-9" 24-518 FS

℄ CONTRACTION JT. 30'-0" | 9 SPA @ 3'-0" = 27'-0" SER-521 NS | 22 SPA @ 16" = 29'-4" 520 FS

℄ CONTR. JOINT

EL. 959.00

EL. 958.50

EL. 958.00

EL. 957.50

EL. 957.00

D

E

F

G

504 NS & FS

504 NS & FS

504 NS & FS

504 NS & FS

22-1 3/16"

21-7 3/16"

24-2 3/16"

23-8 3/16"

23-2 3/16"

24-5 3/16"

24-11 3/16"

7½"

23 SPA @ 15" = 28'-9" 24-804 FS

7 SPA @ 4'-0" = 28'-0" RUSTICATION GROOVES

2'-0"

46 SPA @ 7½" = 28'-9" FS
24-1101 @ 15" ALT/W 23-1102 @ 15"

29 SPA @ 12" = 29'-0" FS.
30'-604

58 SPA @ 6" = 29'-0" FS.
30-806 @ 12" ALT/W. 29-807 @ 12"

58 SPA @ 6" = 29'-0" FS
30-1103 @ 12" ALT/W 29-1104 @ 12"

EL. 933.50

EL. 931.02

EL. 928.90

10-537

6-535

10-535

6-535

10-538

6-535

9-535

10-535

3'-4"

3'-8"

6 SPA @ 4'-9" = 28'-6" ROW #1 & #2, 14 PILES
3 SPA @ 9'-6" = 28'-6" ROW #3, 4 PILES

12 SPA @ 4'-9" = 57'-0" ROW #1 & #2 26 PILES
6 SPA @ 9'-6" = 57'-0 ROW #3, 7 PILES

9 SPA @ 3'-0" = 27'-0" ROW #1 & #2 20 PILES
4 SPA @ 6'-0" = 24'-0" ROW #3, 5 PILES

120'-0" DEVELOPED LENGTH, MEASURED ALONG FACE OF WALL

MATCH LINE II-II SHEET #326

MATCH LINE II-II SHEET #324

PARTIAL ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

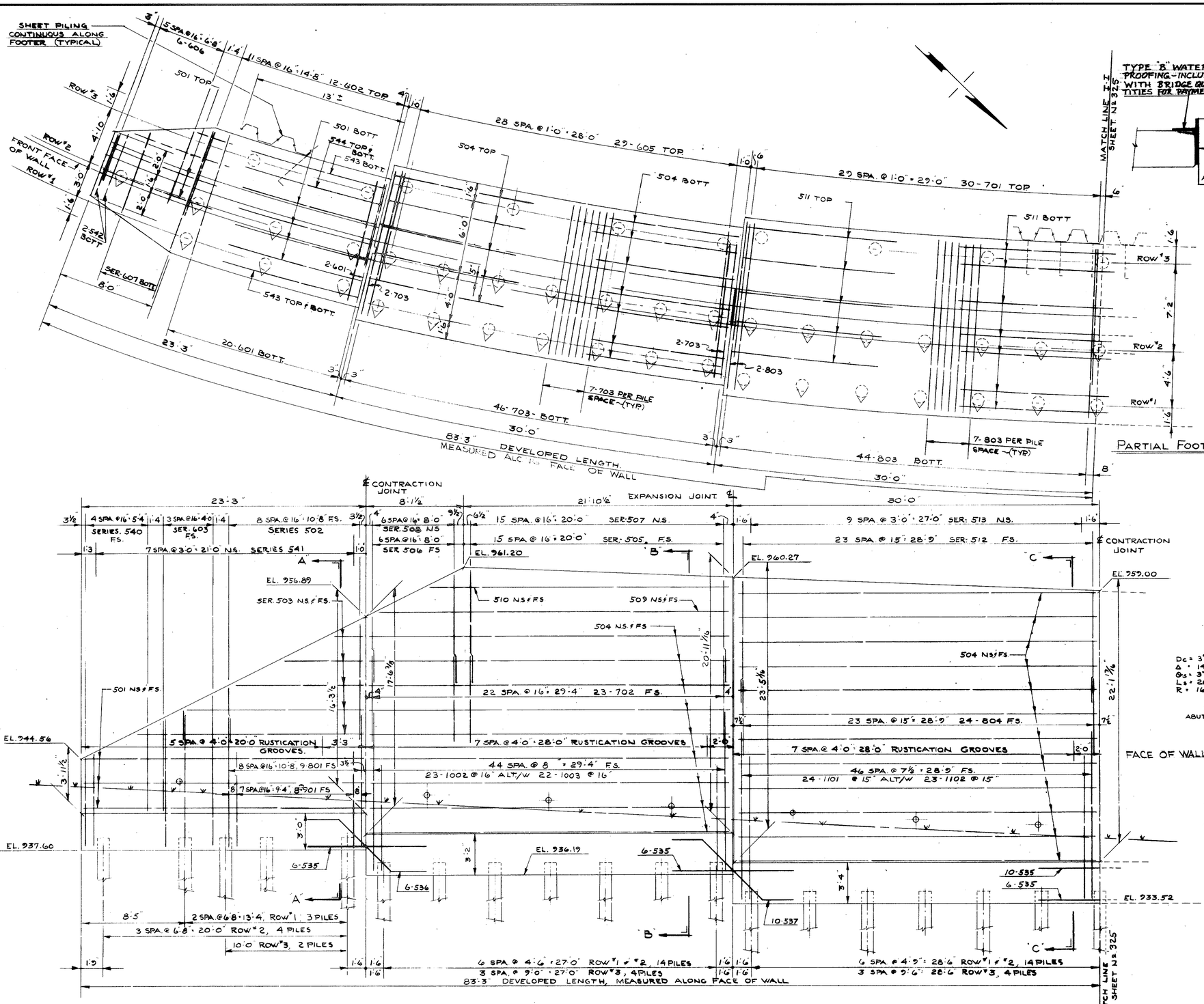
RETAINING WALL
ALONG RAMP "M"
PLAN & ELEVATION
YOUNGSTOWN, MAHONING COUNTY
STA. 5+83.03 To STA. 9+07.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH & DS	JNP		DS.			

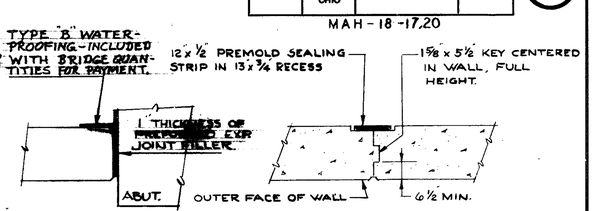
FED. RD.	STATE	PROJECT	
	OHIO		

326
492

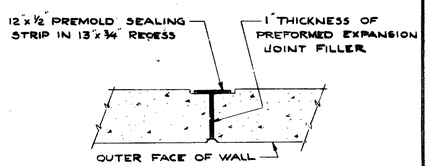
MAH-18-17.20



PARTIAL FOOTER PLAN



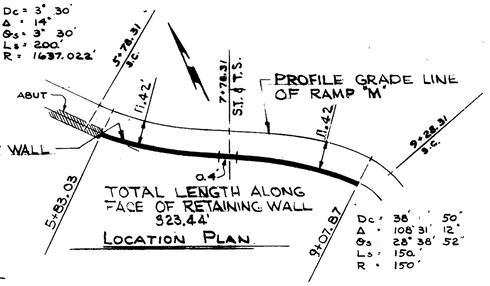
TYPICAL CONTRACTION JOINT



TYPICAL EXPANSION JOINT

PARTIAL ELEVATION

DETAIL OF SHEET PILING



LOCATION PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

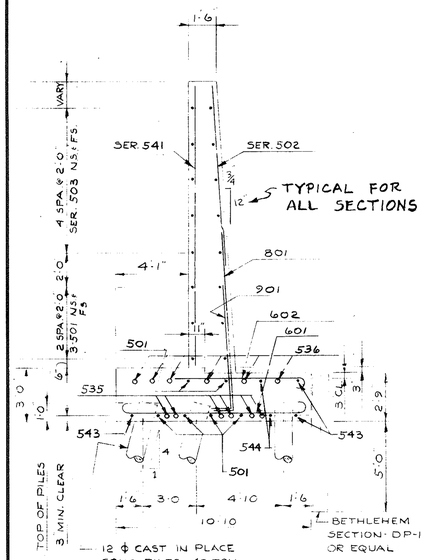
RETAINING WALL
ALONG RAMP "M"
PLAN & ELEVATION
YOUNGSTOWN, MAHONING COUNTY
STA. 5 + 83.03 To STA. 9 + 07.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH & D.S.	JNP		D.S.			

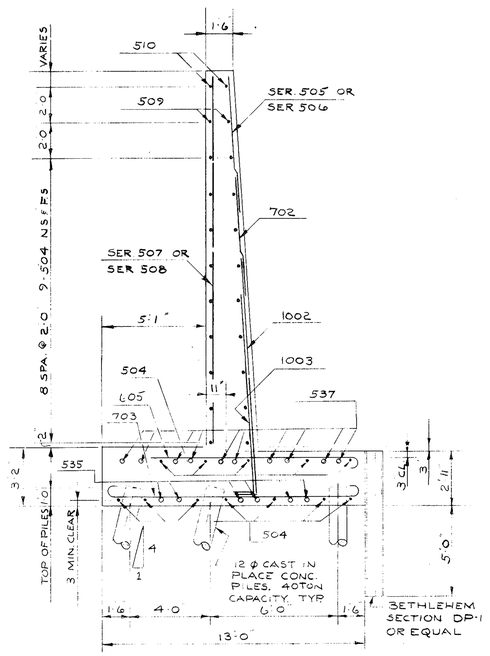
FED. RD.	STATE	PROJECT	
	OHIO		

327
492

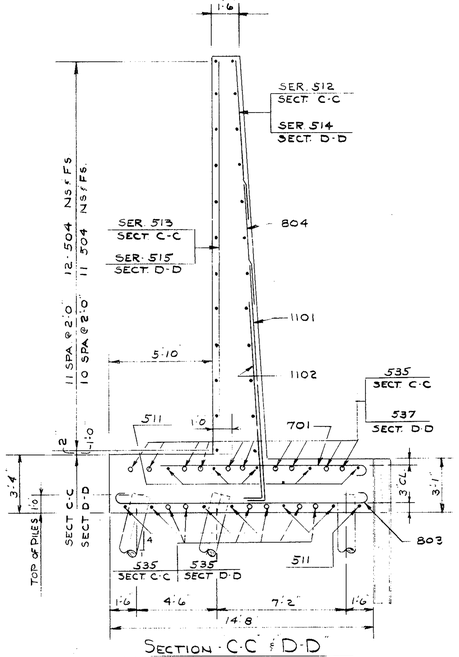
MAH -18-17.20



SECTION A-A

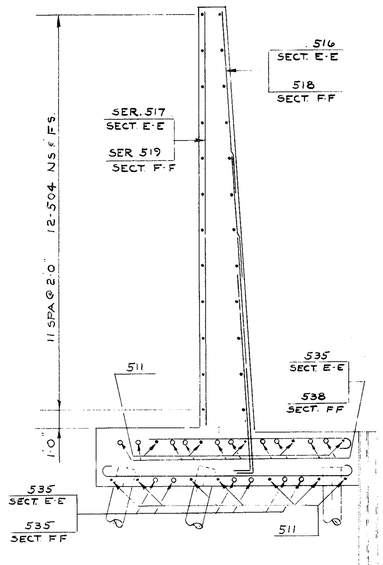


SECTION B-B



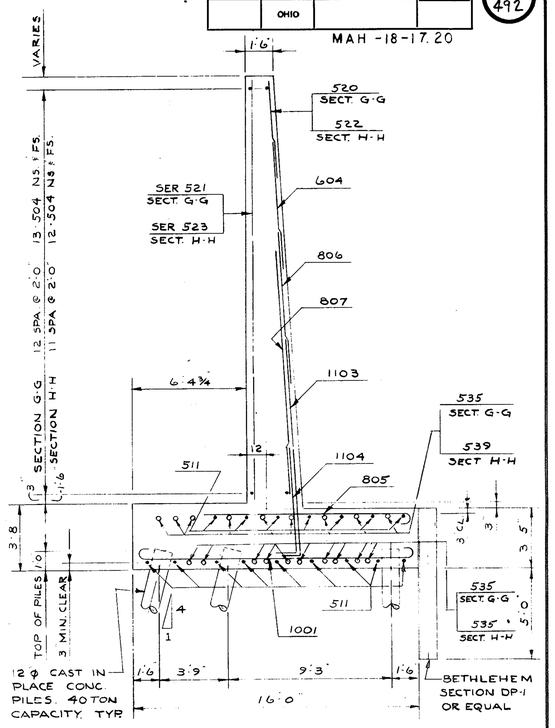
SECTION C-C & D-D

FOR BAR NOS., DIMENSIONS & NOTES NOT SHOWN, SEE SECTION B-B

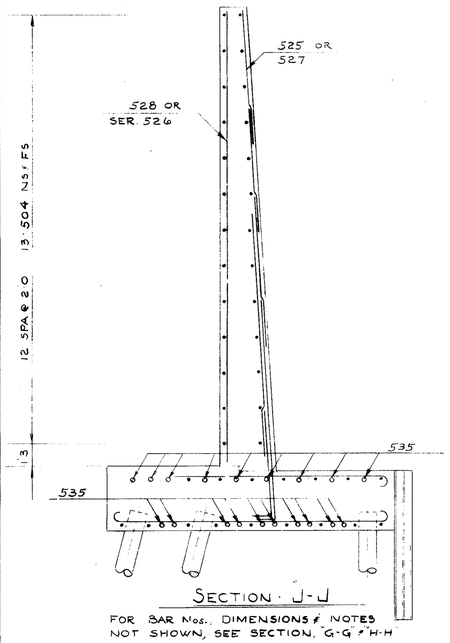


SECTION E-E & F-F

FOR BAR Nos., DIMENSIONS & NOTES NOT SHOWN, SEE SECTION C-C

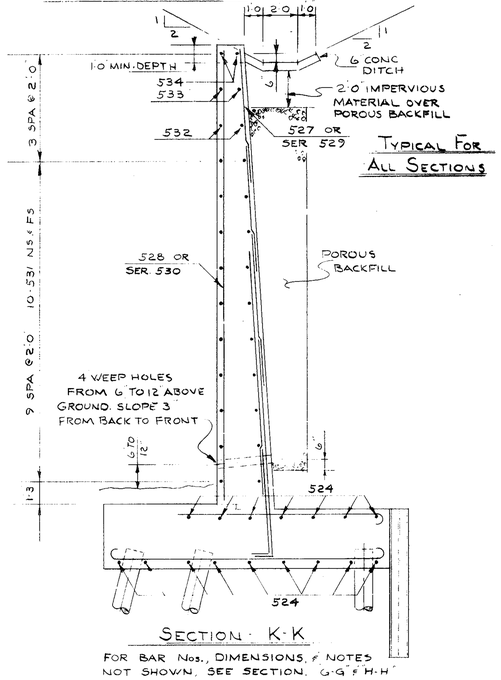


SECTION G-G & H-H



SECTION J-J

FOR BAR Nos., DIMENSIONS & NOTES NOT SHOWN, SEE SECTION, G-G & H-H

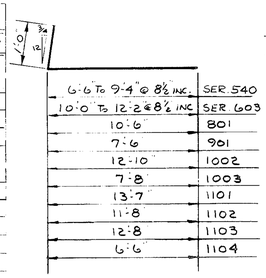


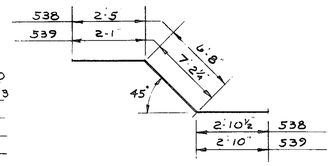
SECTION K-K

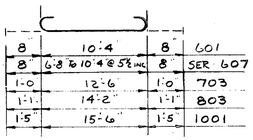
FOR BAR Nos., DIMENSIONS, & NOTES NOT SHOWN, SEE SECTION, G-G & H-H

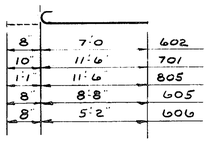
REINFORCING STEEL LIST

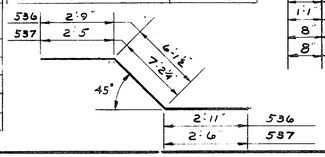
MARK	No REQD.	LENGTH	WT.	SHAPE
501	12	22'-11"	287	ST.
SER OF 502	1 SET OF 9 BARS	VARIES 2'-6 TO 8'-2 @ 8 INC.	50	ST
SER OF 503	2 SETS OF 5 + 10 BARS	VARIES 2'-6 TO 18'-6 @ 4'-0 INC	110	ST.
504	246	29'-8"	7613	ST
SER OF 505	1 SET OF 16 BARS	VARIES 8'-6 TO 9'-5 @ ¾ INC	150	ST
SER OF 506	1 SET OF 7 BARS	VARIES 5'-6 TO 9'-0 @ 6⅝ INC.	57	ST
SER OF 507	1 SET OF 16 BARS	VARIES 20'-8 TO 21'-6 @ ¾ INC.	352	ST
SER OF 508	1 SET OF 7 BARS	VARIES 17'-7 TO 21'-1 @ 7 INC.	141	ST
509	2	28'-9"	60	ST.
510	2	24'-6"	51	ST
511	112	30'-10"	3601	ST
SER OF 512	1 SET OF 24 BARS	VARIES 9'-8 TO 11'-0 @ 1⅛ INC.	259	ST
SER OF 513	1 SET OF 10 BARS	VARIES 21'-11" TO 22'-5 @ ⅝ INC	231	ST.
514	24	9'-8"	242	ST
SER OF 515	1 SET OF 10 BARS	VARIES 21'-5 TO 21'-11 @ ⅝ INC.	226	ST
516	24	11'-9"	294	ST.
SER OF 517	1 SET OF 10 BARS	VARIES 23'-5 TO 24'-0 @ ¾ INC.	247	ST.
518	24	11'-3"	282	ST
SER OF 519	1 SET OF 10 BARS	VARIES 22'-11 TO 23'-5 @ ⅝ INC.	242	ST
520	23	6'-9"	162	ST
SER OF 521	1 SET OF 10 BARS	VARIES 24'-2 TO 24'-8 @ ⅝ INC.	255	ST
522	23	6'-3"	150	ST.
SER OF 523	1 SET OF 10 BARS	VARIES 23'-8 TO 24'-2 @ ⅝ INC.	249	ST.
524	16	31'-3"	522	ST
525	23	7'-9"	186	ST.
SER OF 526	1 SET OF 10 BARS	VARIES 25'-4 TO 25'-10 @ ⅝ INC.	267	ST
527	38	7'-3"	287	ST
528	17	25'-4"	449	ST
SER OF 529	1 SET OF 7 BARS	VARIES 2'-9 TO 7'-0 @ 8½ INC.	35	ST
SER OF 530	1 SET OF 3 BARS	VARIES 20'-6 TO 23'-7 @ 18½ INC	69	ST
531	20	29'-10"	622	ST
532	2	27'-6"	57	ST
533	2	23'-6"	49	ST
534	2	19'-9"	41	ST
535	123	10'-0"	1283	ST
536	6	11'-9"	74	BT
537	20	12'-1"	252	BT
538	10	11'-11"	124	BT.
539	9	12'-1"	113	BT.
SER OF 540	1 SET OF 5 BARS	VARIES 7'-5 TO 10'-3 @ 8½ INC.	46	BT.
SER OF 541	1 SET OF 8 BARS	VARIES 3'-10 TO 15'-10 @ 1'-8⅜ INC.	82	ST.
542	2	5'-0"	14	ST.
543	3	16'-6"	52	ST.
544	2	20'-0"	42	ST.
601	20	11'-8"	351	BT
602	12	7'-8"	138	BT.
SER OF 603	1 SET OF 4 BARS	VARIES 10'-11 TO 13'-1 @ 8½ INC.	72	BT
604	150	7'-0"	1577	ST
605	29	9'-4"	406	BT.
606	6	5'-10"	53	BT.
SER OF 607	1 SET OF 9 BARS	VARIES 8'-0 TO 11'-8 @ 5⅛ INC.	133	BT.
701	120	12'-4"	3024	BT.
702	23	6'-9"	317	ST.
703	46	14'-6"	1363	BT.
801	9	11'-4"	272	BT.
802	OPEN			
803	176	16'-4"	7674	BT.
804	96	6'-3"	1602	ST
805	164	12'-7"	5509	BT.
806	150	8'-6"	3404	ST.
807	146	13'-8"	5329	ST.
901	8	8'-4"	227	BT.
1001	200	18'-4"	15,775	BT.
1002	23	13'-8"	1353	BT.
1003	22	8'-6"	805	BT.
1101	96	14'-5"	7355	BT
1102	92	12'-6"	6110	BT
1103	150	13'-6"	10759	BT.
1104	146	7'-4"	5686	BT.
TOTAL WEIGHT			99,271	











REPLACEMENT STEEL

MARK	No REQD.	LENGTH	WEIGHT	SHAPE
RE-501	2	5'-6"		ST.
RE-601	1	6'-0"		ST
RE-701	1	6'-3"		ST
RE-801	2	6'-6"		ST.
RE-901	1	6'-10"		ST
RE-1001	1	7'-2"		ST
RE-1101	2	7'-6"		ST.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

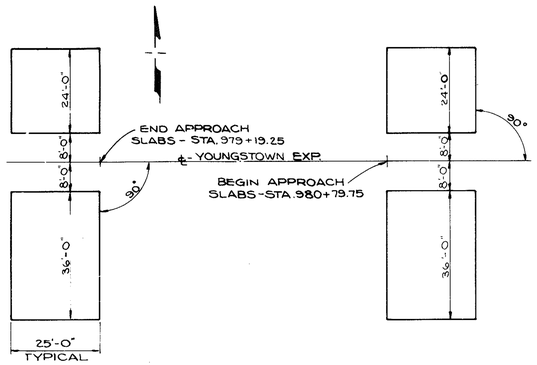
RETAINING WALL
ALONG RAMP 'M'
WALL SECTIONS & REINFORCING SCHEDULE
YOUNGSTOWN, MAHONING COUNTY
STA. 5+83.03 To STA. 9+07.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH & DS	JNF		DS.			

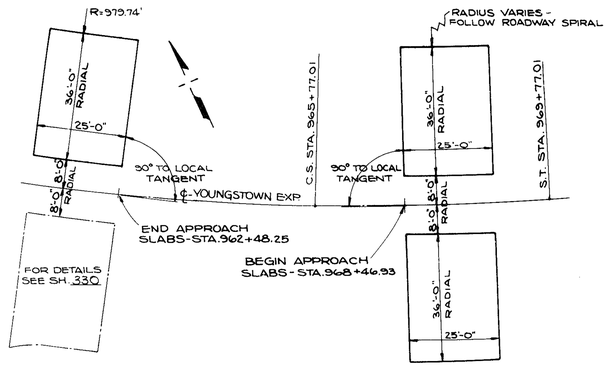
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

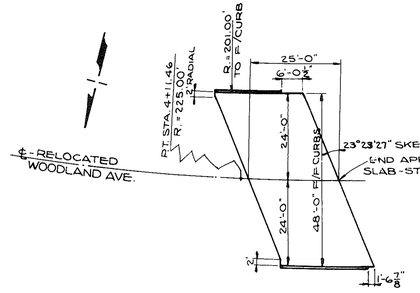
328
49



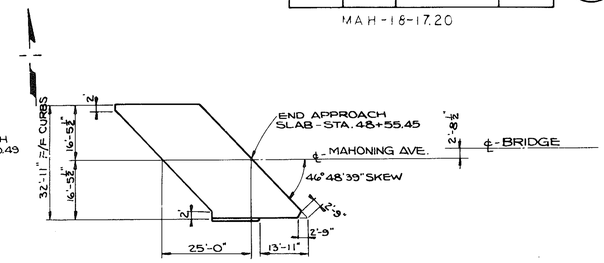
EDWARDS STREET



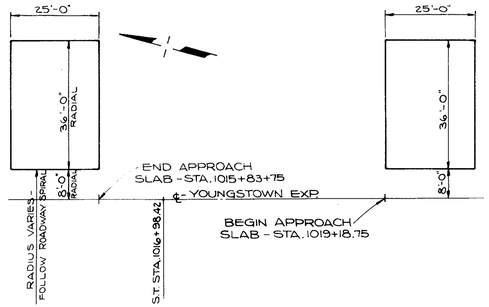
MILL CREEK POND



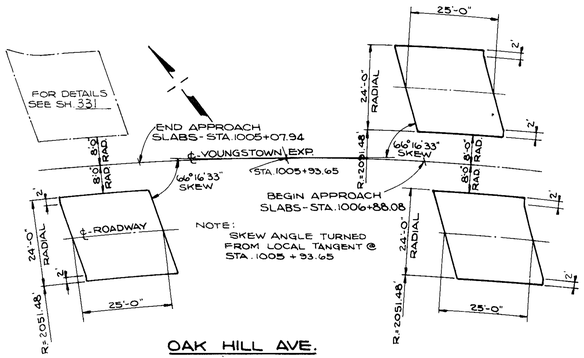
EAST APPROACH - WOODLAND AVE.



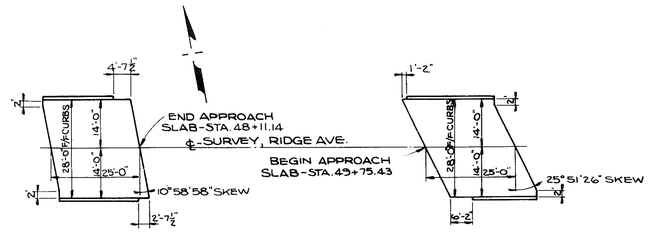
MAHONING AVE.



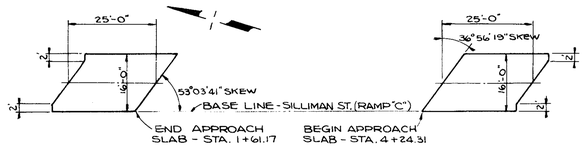
RENNER BREWERY BY-PASS



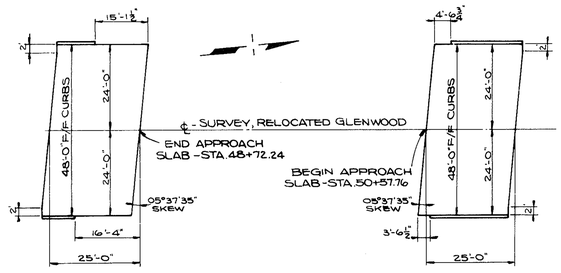
OAK HILL AVE.



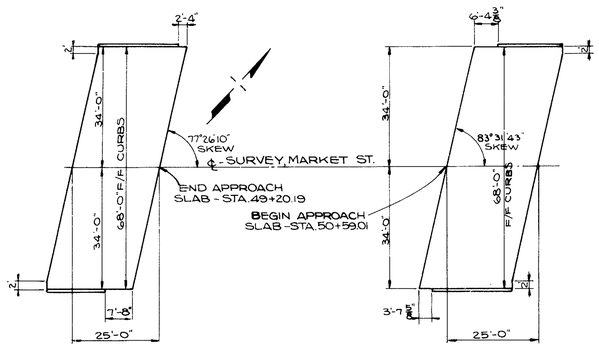
RIDGE AVE.



SILLIMAN ST. - (RAMP "C")



GLENWOOD AVE.



MARKET STREET

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

APPROACH SLAB DETAILS YOUNGSTOWN, MAHONING COUNTY

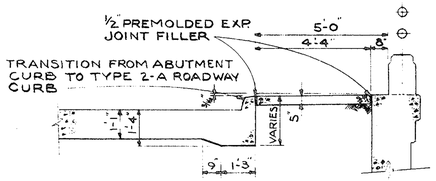
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

APPROACH SLAB DETAILS

FED. RD.	STATE	PROJECT	
	OHIO		

54
492

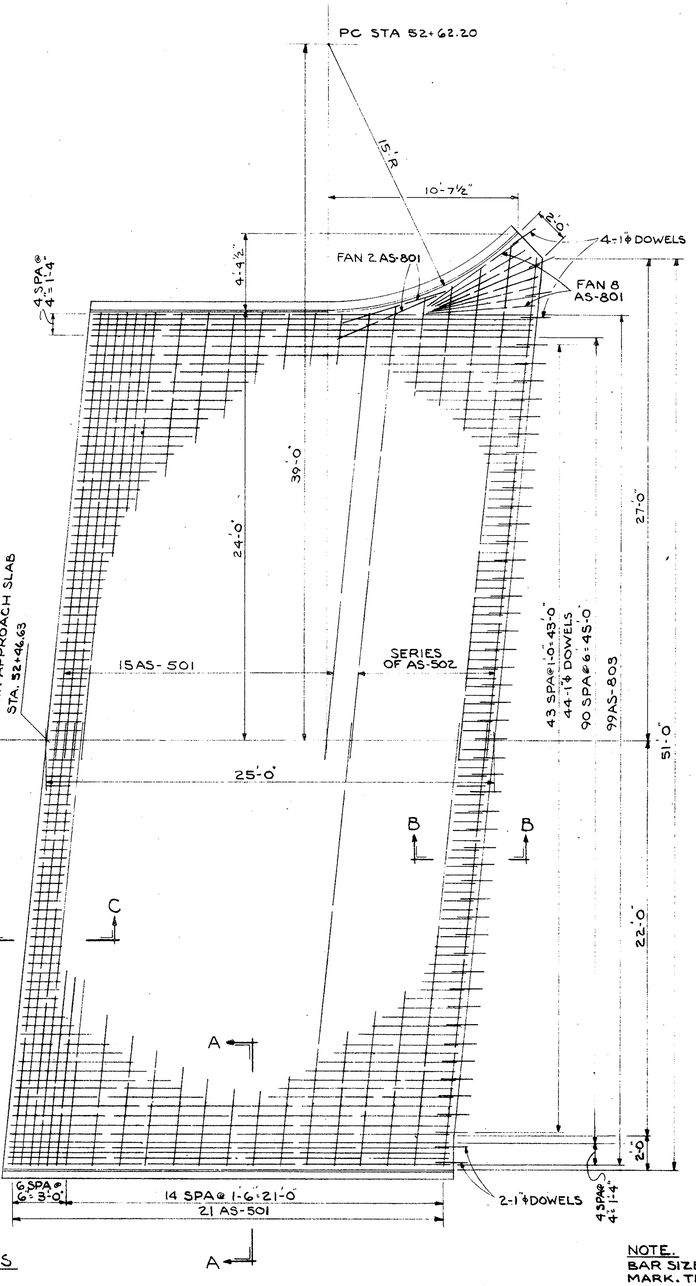
MAH-18-17.20

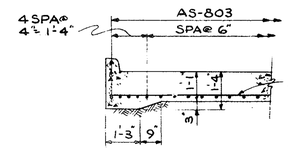


TYPICAL SIDEWALK SECTION AT ABUTMENTS

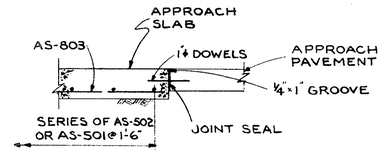
STEEL STREET APPROACH SLABS

N

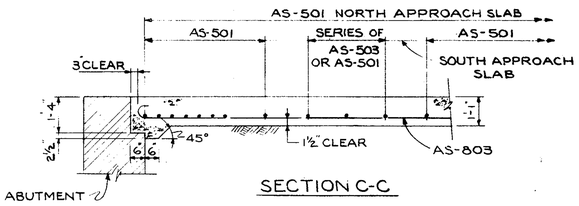




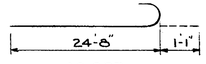
SECTION A-A



SECTION B-B



SECTION C-C



AS-803

270 SQ. YDS. GLASS "C" CONCRETE

98-1"ϕ x 1'-6" DOWELS = 392#

REINFORCING STEEL SCHEDULE

MARK	NO. REQD.	LENGTH	WEIGHT	SHP
AS-501	59	25'-0"	1534	ST
SERIES OF AS-502	1 SET OF 6 BARS	VARY FROM 25'-4" TO 28'-10" IN INC. OF 7"	169	ST
SERIES OF AS-503	1 SET OF 3 BARS	VARY FROM 25'-6" TO 26'-3" IN INC. OF 3"	81	ST
AS-801	10	6'-0"	160	ST
AS-802	3	4'-6"	36	ST
AS-803	198	25'-9"	13,693	ST
		TOTAL =	15,673#	

NOTE.
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE AS-801 IS A NO.8 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

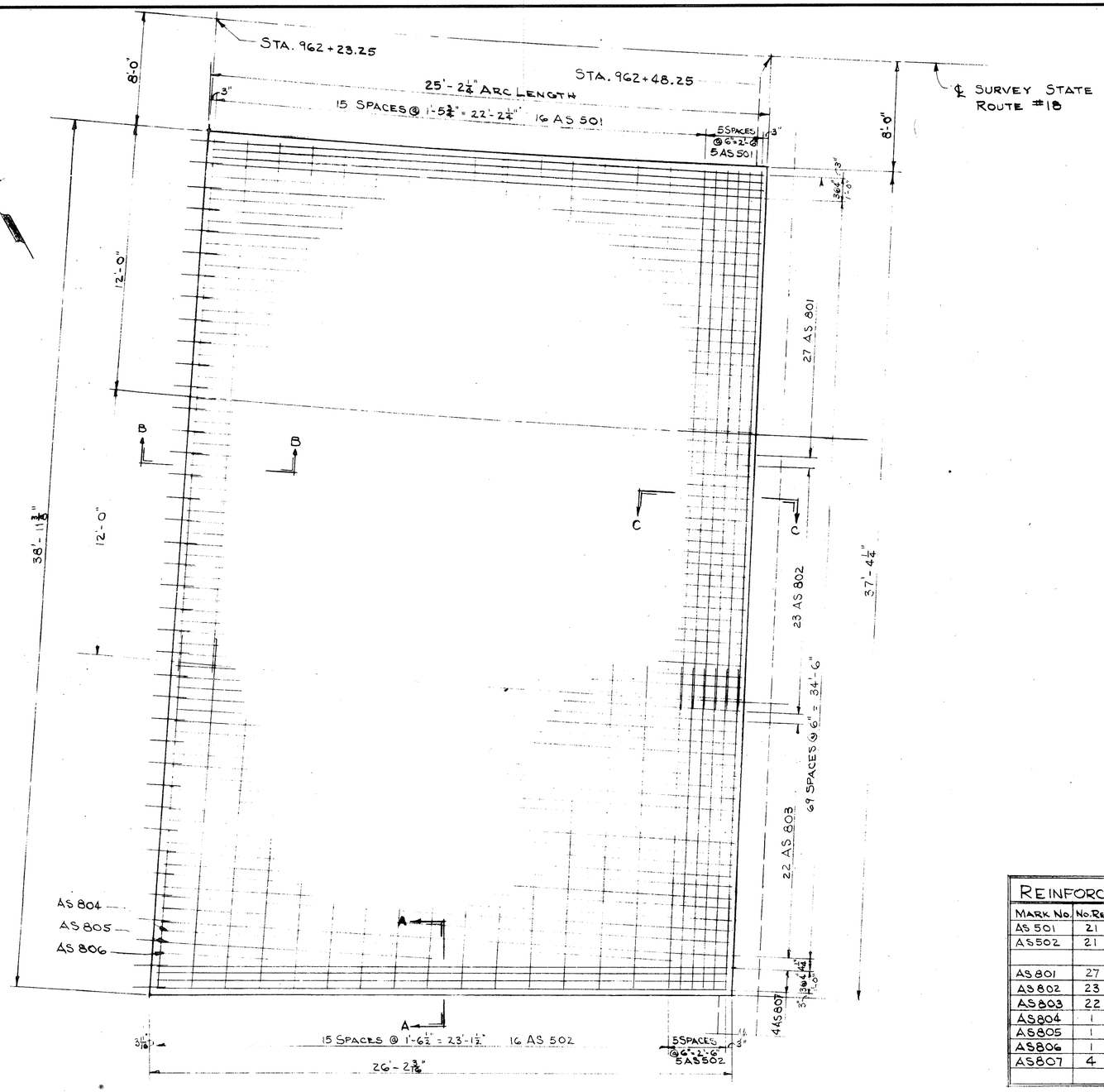
STEEL STREET APPROACH SLABS YOUNGSTOWN, MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH					

FED. RD.	STATE	PROJECT	
	OHIO		

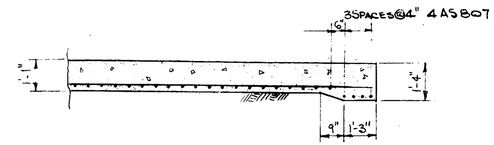
330
492

MAH-18-17.20

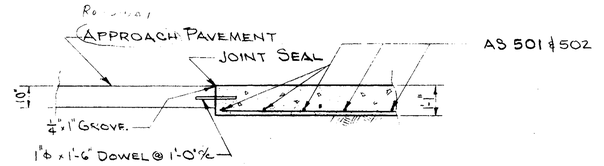


PLAN

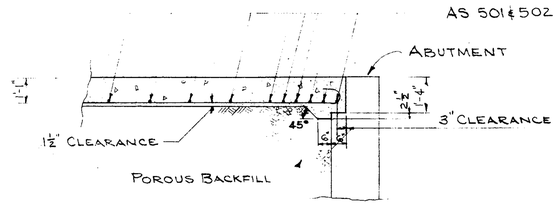
PLAN OF APPROACH SLAB FOR WEST ABUTMENT OF MILL CREEK POND STRUCTURE, SOUTH HALF ONLY IS SHOWN



SECTION A-A



SECTION B-B



SECTION C-C

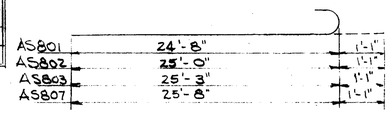
REINFORCING BAR SCHEDULE

MARK NO.	NO. REQD	LENGTH	WEIGHT	SHAPE
AS 501	21	24'-0"	526	ST.
AS 502	21	VARIES 15'-5" TO 16'-1" INC. OF 1"	334	ST.
AS 801	27	25'-9"	1856	BT.
AS 802	23	26'-1"	1602	BT.
AS 803	22	26'-4"	1547	BT.
AS 804	1	23'-0"	61	ST
AS 805	1	12'-6"	33	ST.
AS 806	1	5'-0"	14	ST.
AS 807	4	26'-9"	286	BT.

TOTAL WEIGHT 6259

109 SQ YDS CLASS "C" CONCRETE
39-1"ϕ x 1'-6" DOWELS = 156 #

NOTE:
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, AS 801 IS A NO. 8 SIZE BAR.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

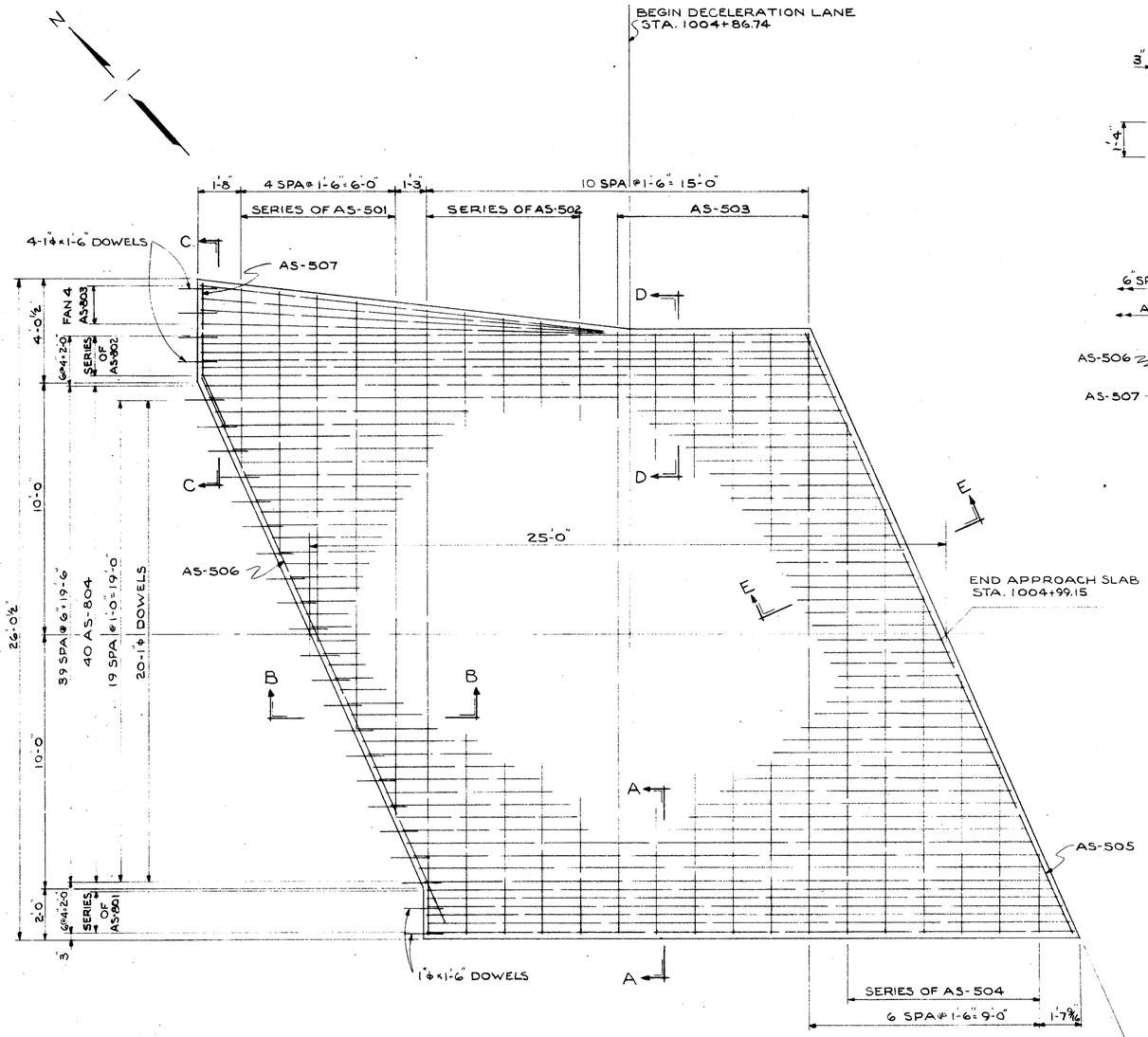
MILL-CREEK POND APPROACH SLAB
YOUNGSTOWN,
MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

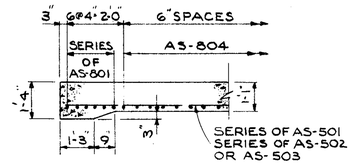
FED. RD.	STATE	PROJECT	
	OHIO		

MAH - 18 - 17.20

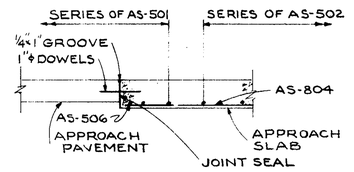
331
492



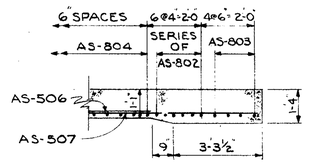
NORTH APPROACH SLAB
WESTBOUND LANES



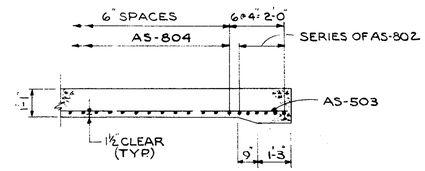
SECTION A-A



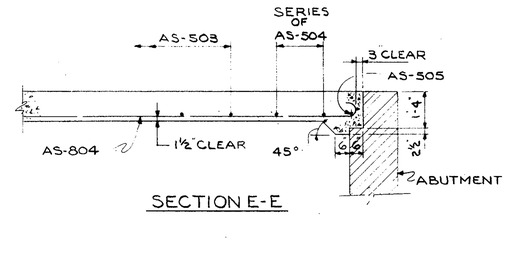
SECTION B-B



SECTION C-C



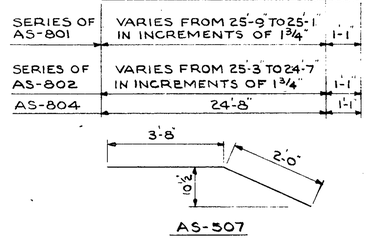
SECTION D-D



SECTION E-E

REINFORCING STEEL SCHEDULE				
MARK	NO. REQD.	LENGTH	WEIGHT	SHP
SERIES OF AS-501	1 SET OF 5 BARS	VARY FROM 19'-11" TO 7'-0" IN INC. 3-2¾	70	ST
SERIES OF AS-502	1 SET OF 5 BARS	VARY FROM 24'-6 TO 23'-11" IN INC. OF 1¾	126	ST
AS-503	6	23'-8"	149	ST
SERIES OF AS-504	1 SET OF 6 BARS	VARY FROM 20'-3 TO 3'-2" IN INC. OF 3'-5	73	ST
AS-505	1	25'-10"	27	ST
AS-506	1	23'-6"	24	ST
AS-507	1	5'-7	6	BT
SERIES OF AS-801	2 SETS OF 6 BARS	VARY FROM 26'-10 TO 24'-2" IN INC. OF 1¾	425	BT
SERIES OF AS-802	1 SET OF 6 BARS	VARY FROM 26'-4 TO 25'-8" IN INC. OF 1¾	417	BT
AS-803	4	15'-9"	168	ST
AS-804	40	25'-9"	2750	BT

TOTAL REINFORCING STEEL = 4,230#
TOTAL CLASS "C" CONCRETE = 80 SQ.YDS.
TOTAL 1¼ x 1'-6" DOWELS = 104#



AS-507

NOTE:
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE AS-803 IS A NUMBER 8 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

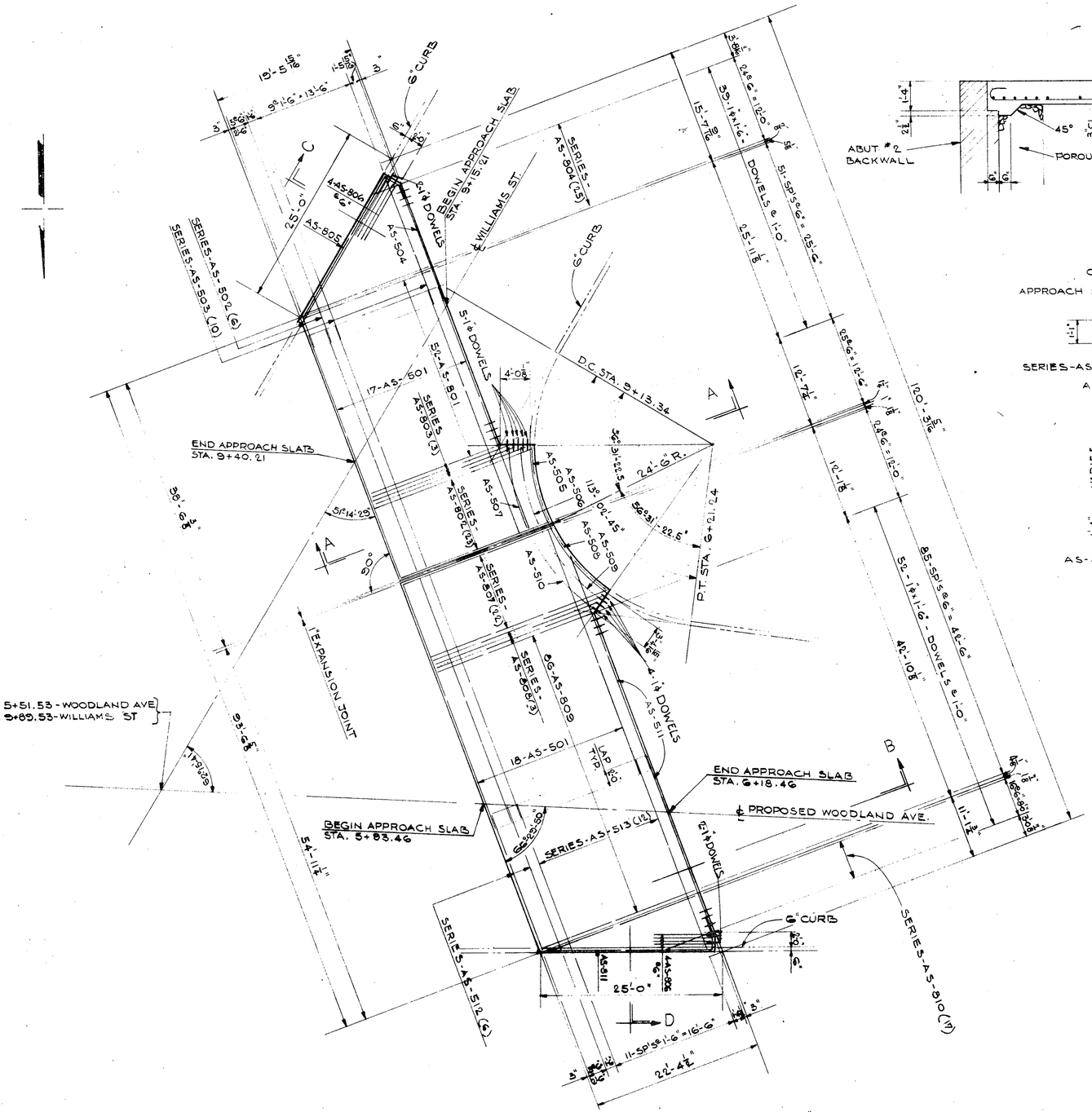
OAK-HILL AVENUE APPROACH SLABS YOUNGSTOWN, MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DC	JLH					

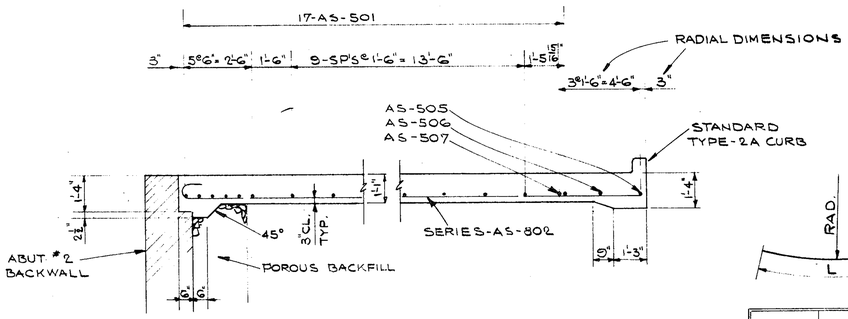
FED. RD.	STATE	PROJECT	
	OHIO		

331-A
492

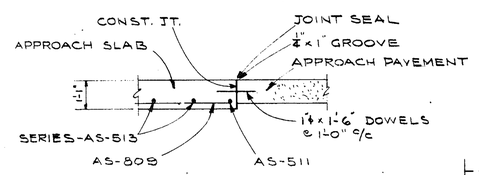
MAH-18-17.20



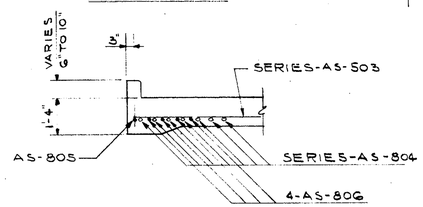
PLAN OF APPROACH SLAB AT ABUTMENT # 2



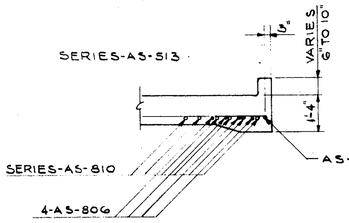
SECTION A-A



SECTION-B

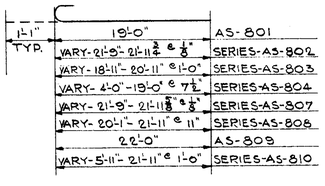


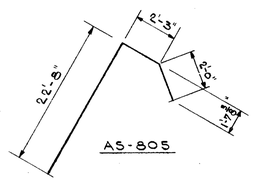
SECTION-C

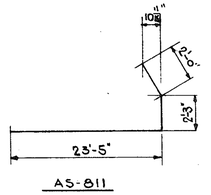


SECTION-D

MARK	RAD.	L.
AS-505	24'-9"	11'-0"
AS-506	26'-3"	11'-8"
AS-507	27'-9"	12'-4"
AS-508	24'-9"	11'-10"
AS-509	26'-3"	12'-7"
AS-510	27'-9"	13'-6"







263 SQ. YDS. CLASS "C" CONCRETE
104 - 1 1/4" x 1'-6" DOWELS = 417 #

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	WEIGHT	SHAPE
AS-501	35	36'-0"	1314	ST.
SERIES OF AS-502	1-SET OF 6	VARY FROM 4'-6" TO 6'-4 3/4" INCR. 4 3/4"	34	ST.
SERIES OF AS-503	1-SET OF 10	VARY FROM 17'-7" TO 20'-5 3/8" INCR. 1'-2 3/8"	148	ST.
AS-504	1	18'-9"	20	ST.
AS-505	1	11'-0"	11	BT.
AS-506	1	11'-8"	12	BT.
AS-507	1	12'-4"	13	BT.
AS-508	1	11'-10"	12	BT.
AS-509	1	12'-7"	13	BT.
AS-510	1	13'-6"	14	BT.
AS-511	2	27'-6"	57	ST.
SERIES OF AS-512	1-SET OF 6	VARY FROM 20'-6" TO 21'-9" INCR. 3"	132	ST.
SERIES OF AS-513	1-SET OF 12	VARY FROM 22'-6" TO 30'-9" INCR. 9"	334	ST.
AS-801	52	20'-1"	2788	BT.
SERIES OF AS-802	1-SET OF 23	VARY FROM 22'-10" TO 23'-0 3/4" INCR. 1/8"	1410	BT.
SERIES OF AS-803	1-SET OF 3	VARY FROM 20'-0" TO 23'-0" INCR. 1'-0"	168	BT.
SERIES OF AS-804	1-SET OF 25	VARY FROM 5'-1" TO 20'-1" INCR. 7 1/2"	840	BT.
AS-805	1	26'-9"	71	BT.
AS-806	8	8'-0"	171	ST.
SERIES OF AS-807	1-SET OF 22	VARY FROM 22'-10" TO 23'-0 3/8" INCR. 1/8"	1348	BT.
SERIES OF AS-808	1-SET OF 3	VARY FROM 21'-8" TO 23'-0" INCR. 11"	177	BT.
AS-809	86	23'-1"	5300	BT.
SERIES OF AS-810	1-SET OF 17	VARY FROM 7'-0" TO 23'-0" INCR 1'-0"	601	BT.
AS-811	1	27'-6"	73	BT.
TOTAL: 15,061 LBS				

NOTE BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE. FOR EXAMPLE AS-801 IS A NO 8 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

WOODLAND AVENUE APPROACH SLAB YOUNGSTOWN, MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

FED. RD.	STATE	PROJECT	
2	OHIO		

332
492

MAH-18-1761

RAMP 'A' CURVE DATA

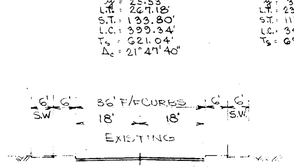
Δ_c = 6°21'00"
D_c = 1°00'00"
L_c = 635.00'
R_c = 5729.58'
T = 317.88

℄ CURVE DATA

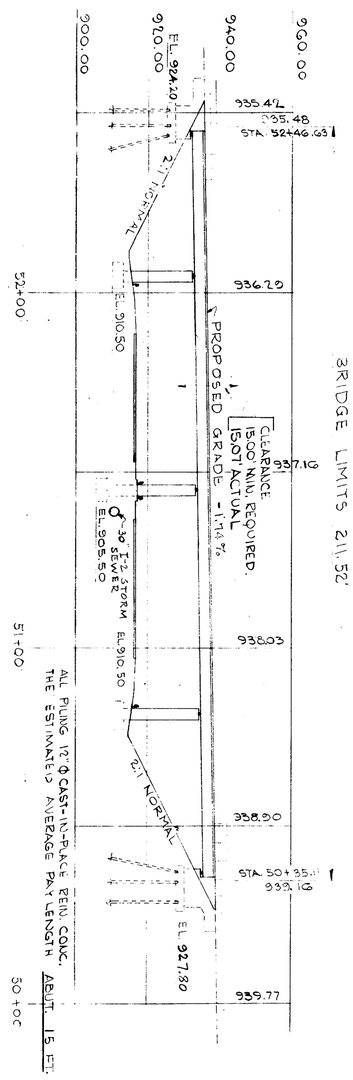
Δ = 43°47'40"
$L_{\frac{1}{2}c}$ = 5°30'00"
L_{s_1} = 400.00'
R_c = 1041.74'
θ_s = 11°00'00"
x = 398.53'
y = 25.53'
L_s = 267.18'
S.T. = 133.80'
L.C. = 399.34'
T_2 = 621.04'
Δ_c = 21°47'40"

RAMP 'B' CURVE DATA

Δ_c = 53°21'20"
D_c = 10°00'00"
L_c = 350.00'
R_c = 572.96'
θ_s = 17°30'00"
x = 346.75'
y = 85.40'
L_s = 234.48'
S.T. = 187.71'
L.C. = 338.55'
T_2 = 635.27'

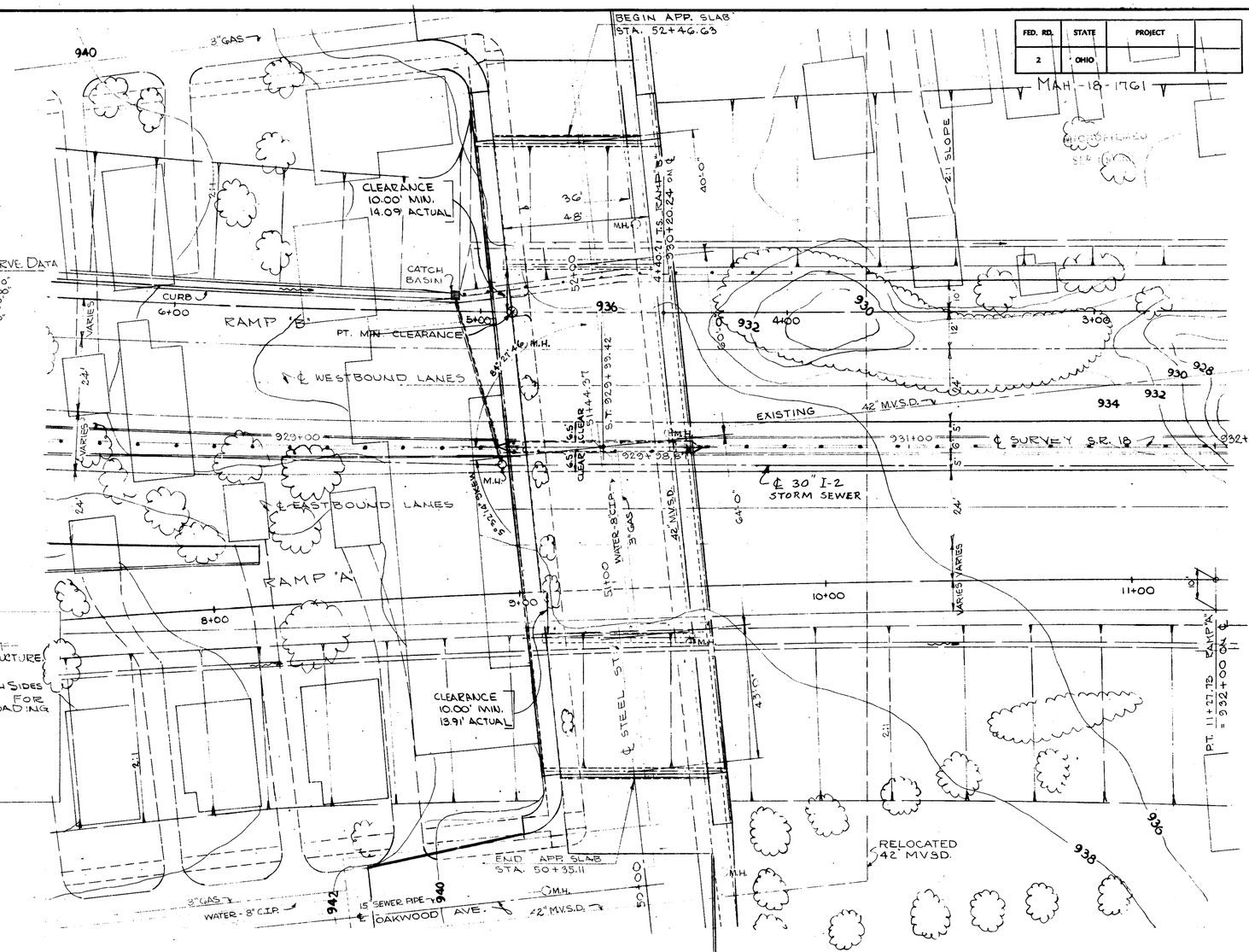


TYPICAL SECTION
STEEL STREET



PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 40'-60'-64'-43' ℄ BRGS.
ROADWAY: 48'-0" F/F CURBS 5'-0" SIDEWALK ON BOTH SIDES
LOAD FREQUENCY: CF 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SIDEWALK: 2-5'-0" WIDTHS
SKEW: 5°32'14" L.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: AS-1-54; 25' LONG
SUPERELEVATION: NONE
ALIGNMENT: TANGENT
TRAFFIC COUNT: 15,800 ADT 1977

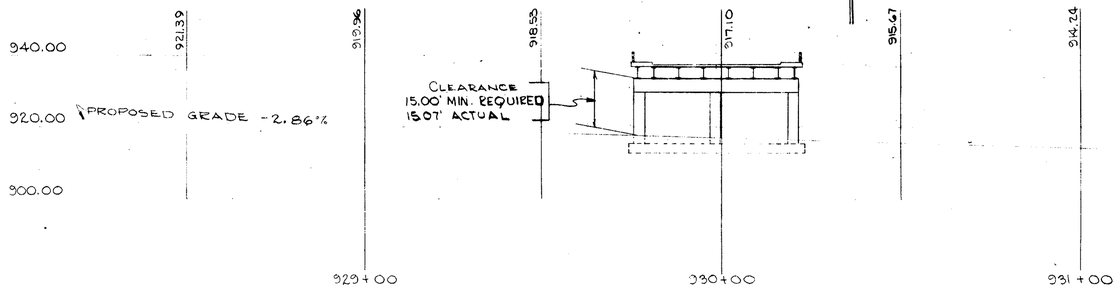


FOUNDATION SOUNDING

FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF SOIL-SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED AT THE OFFICE OF THE DISTRICT ENGINEER, COLUMBUS OR THE DIVISION OFFICE, BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF.

SLOPE PROTECTION

1:10 CRUSHED AGGREGATE SLOPE PROTECTION



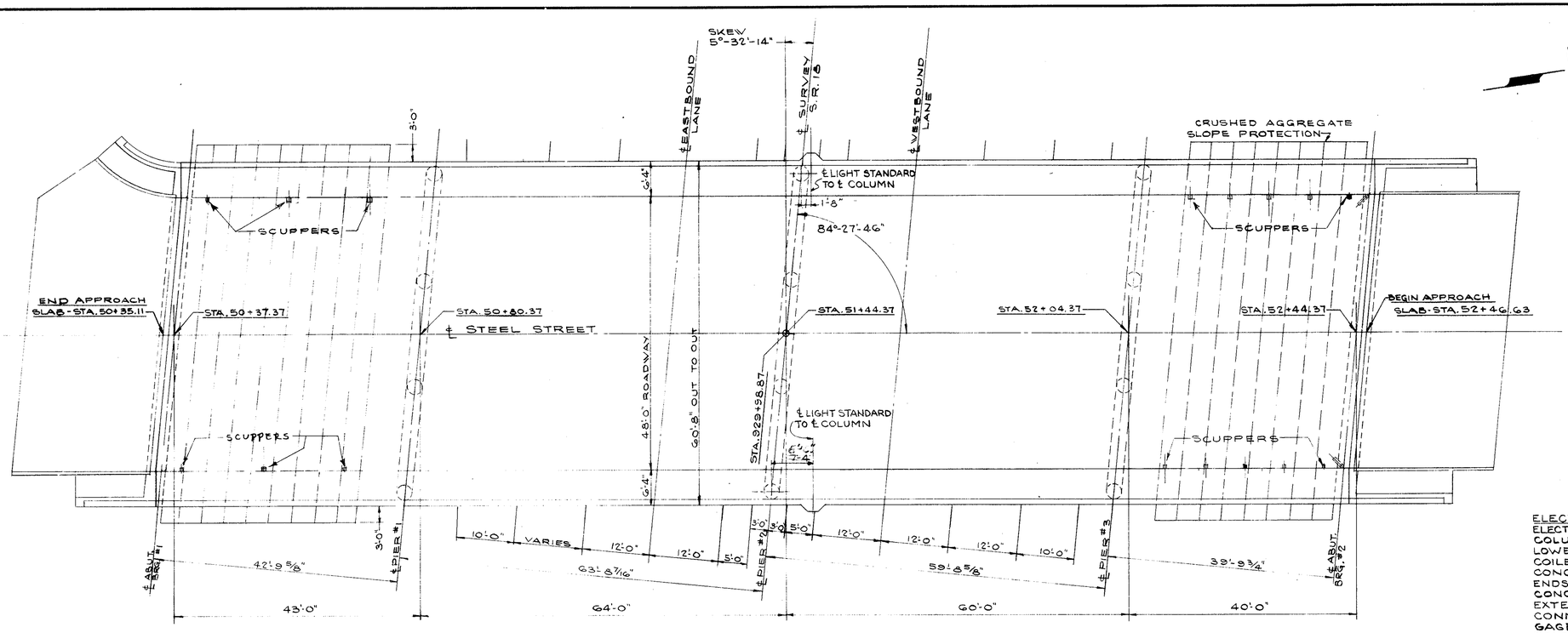
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN.
BRIDGE Nº MAH.-18-1761
UNDER STEEL ST.
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

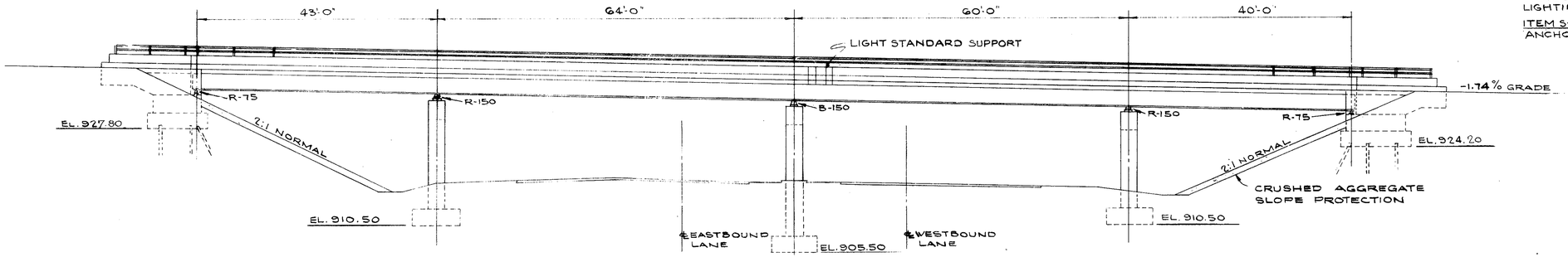
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K	R.E.		D.G.S.	D.G.S.	-	

FED. RD.	STATE	PROJECT	
	OHIO		

333
492



PLAN



ELEVATION

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS. DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

ALL PILES TO BE 12" Φ CAST-IN-PLACE CONCRETE, DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.

SLOPE PROTECTION:- CRUSHED AGGREGATE, ITEM I-10; EXTENDING FROM FACE OF ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT EACH ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE & PARALLEL WITH ℄ OF SUPERSTRUCTURE.

POROUS BACKFILL 2 FT. THICK FULL LENGTH OF ABUTMENT, SHALL EXTEND UP TO THE UNDERSIDE OF APPROACH SLAB, OR TO THE FINISHED GROUND SURFACE.

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS

RB-1-55 DATED 2-2-59
AR-1-57 DATED 2-2-59
CSB-2-56 SHEETS 2 & 3 DATED 2-2-59
SUPPLEMENTAL SPECIFICATION 5101 DATED 12-2-59

EXCAVATION AND BACKFILL: EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF PROPOSED EMBANKMENT AND THE BOTTOM OF FOOTINGS.

PAINTING: AFTER ERECTION & AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY, REPAINTED IN ACCORDANCE WITH SEC. 804, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER OUTSIDE FACE OF OUTSIDE STEEL BEAMS & ALL SIDES OF BOTTOM FLANGES.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

ELECTRICAL GROUNDS: A SOLID Nº 0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER Nº 2. THE LOWER ENDS OF WIRES SHALL TERMINATE IN A 25 FT. LENGTH COILED UNDER THE FOOTING AND SEPARATED FROM THE CONCRETE BY TWO LAYERS OF TAR PAPER, AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A Nº 6 GAGE BARE STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED Nº 6 GAGE COPPER WIRE BRAZED TO THE *ANCHOR BOLTS* OF THE LIGHT STANDARD AND THE OTHER END BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM-525 "ELECTRICAL LIGHTING SYSTEM."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES 8-1½"Φ×4'-1" ANCHOR BOLTS.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN.
E-2	LUMP	SUM	COFFERDAMS, CRIBS, AND SHEETING				LUMP
E-2	760	CU.YDS.	UNCLASSIFIED EXCAVATION		298	462	
S-1	434	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	434			
S-1	105	CU.YDS.	CLASS "B" CONC. ABUTMENTS ABOVE FOOTING		105		
S-1	126	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			126	
S-1	210	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS		95	115	
S-29	16	EA	SCUPPERS	16			
S-4	146,957	LBS.	REINFORCING STEEL	100,914	9949	36,094	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM				
S-7	338,500	LBS.	STRUCTURAL STEEL	338,500			
S-8	338,500	LBS.	FIELD PAINTING OF STRUC. STEEL, AS PER PLAN	338,500			
S-14	472	LIN.FT.	RAILING (ALUM. RAIL & SUPPORTS, CONC. PARAPETS, & REIN. STL.), *Type "C"*	418	54		
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	600	LIN.FT.	12" Φ CAST-IN-PLACE REIN. CONC. PILES		600		
S-29	40	CU.YDS.	POROUS BACKFILL		40		
I-10	592	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION				592

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

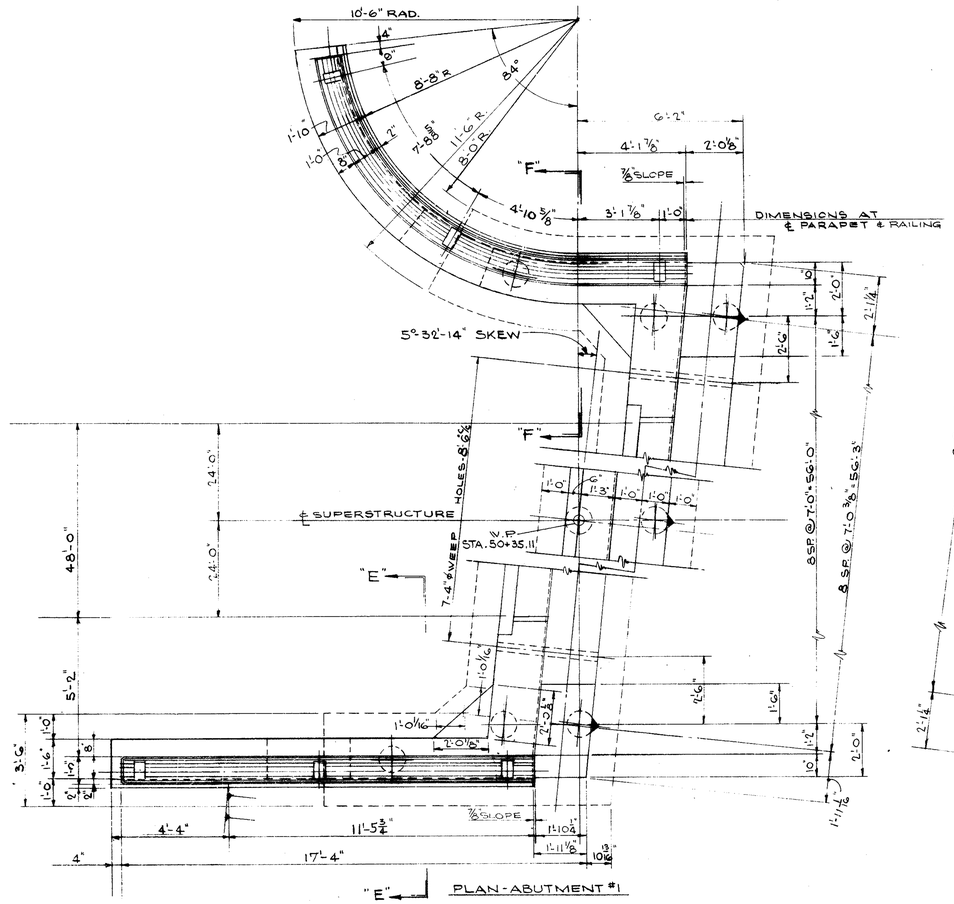
GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1761
UNDER STEEL ST.
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

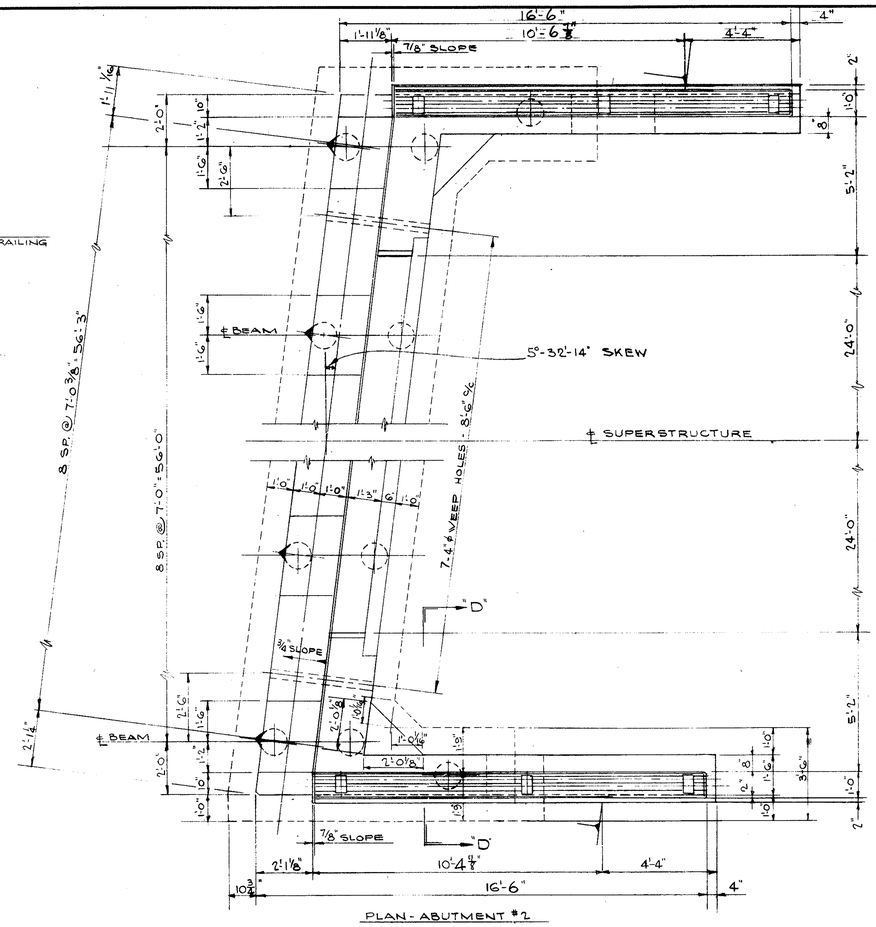
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	R.J.		D.H.C.	D.H.C.		1-22-60

FED. RD.	STATE	PROJECT	
	OHIO		

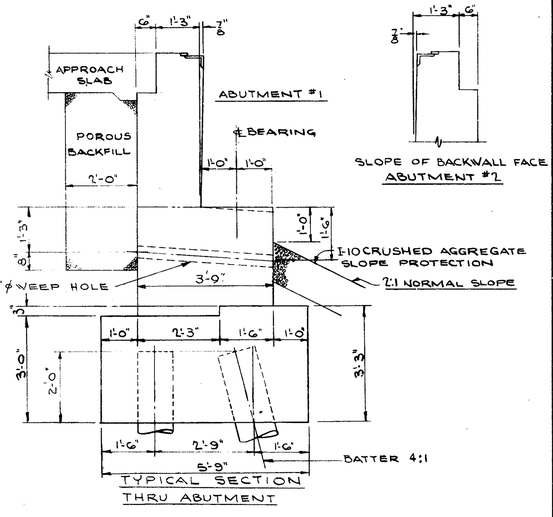
334
492

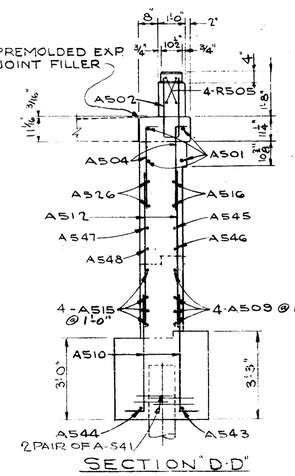


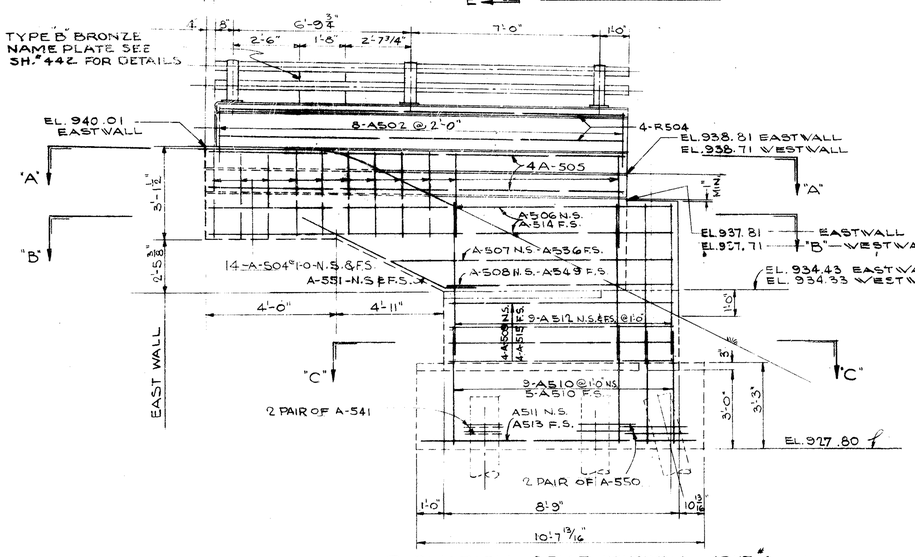
"E" PLAN - ABUTMENT #1



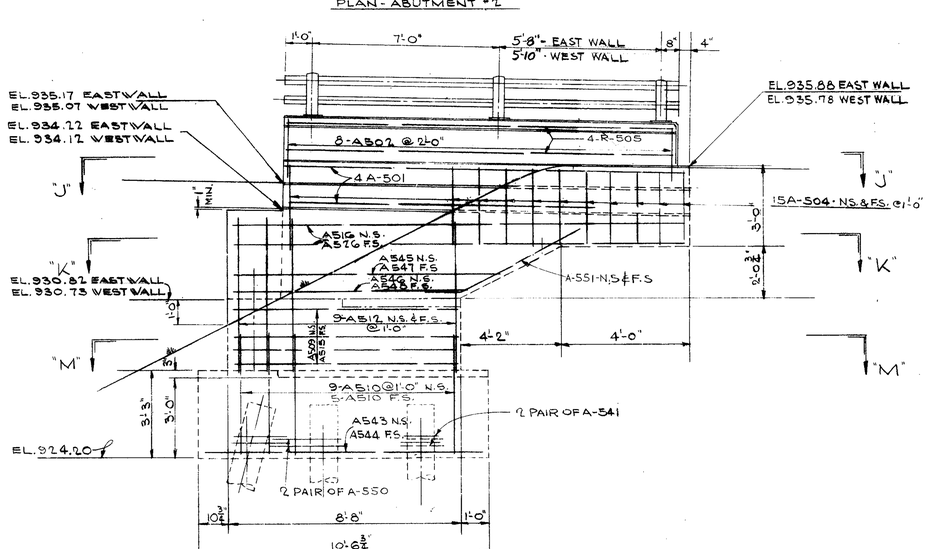
PLAN - ABUTMENT #2







ELEVATION of EAST WINGWALL ABUT #1



ELEVATION of EAST WINGWALL ABUT #2

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

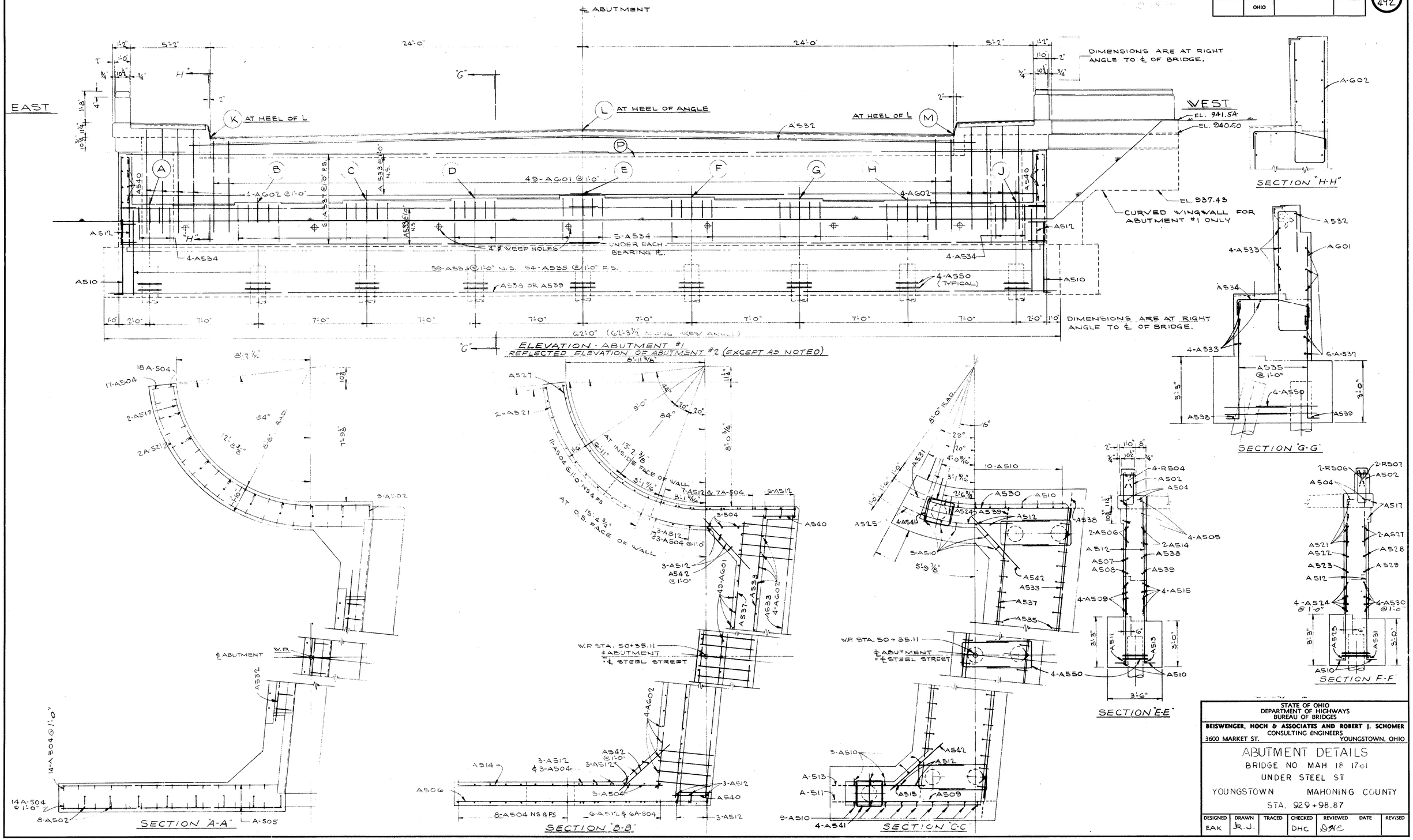
ABUTMENT PLAN & DETAILS

BRIDGE NO MAH-18-1761
UNDER STEEL ST.
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	J.R.J.		DHC	DJC		

FED. RD.	STATE	PROJECT	
	OHIO		

335
492



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

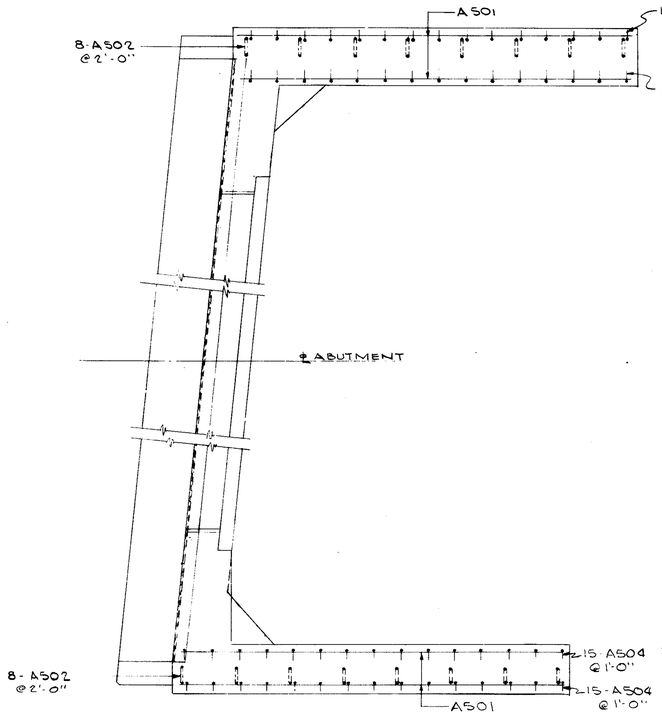
ABUTMENT DETAILS

BRIDGE NO MAH 18 1701
UNDER STEEL ST
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

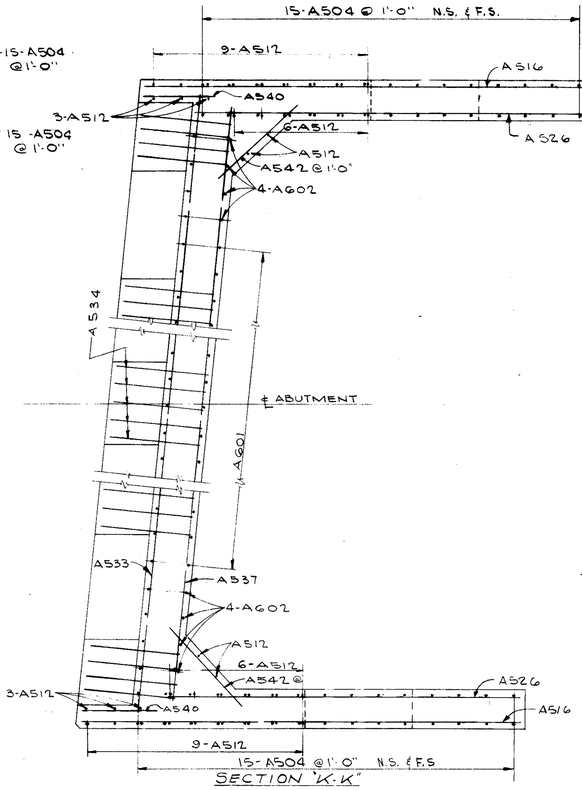
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	R.J.		DHC	DHC		

FED. RD.	STATE	PROJECT	
	OHIO		

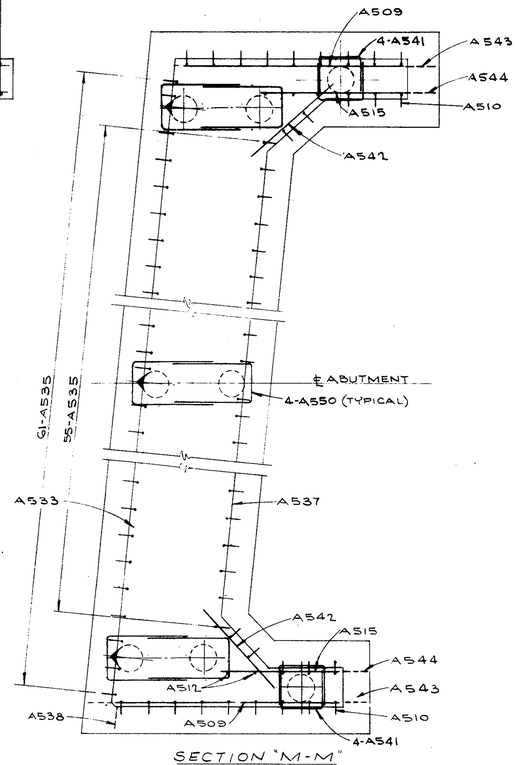
336
492



SECTION J-J

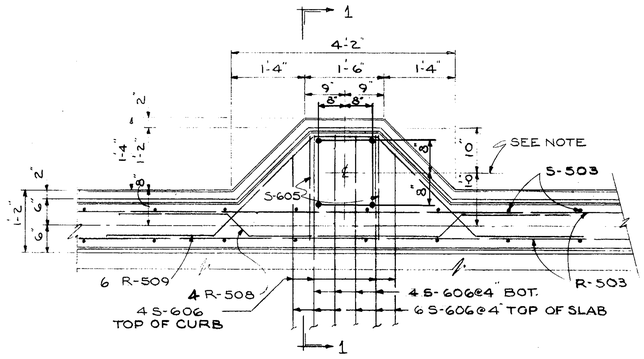


SECTION K-K

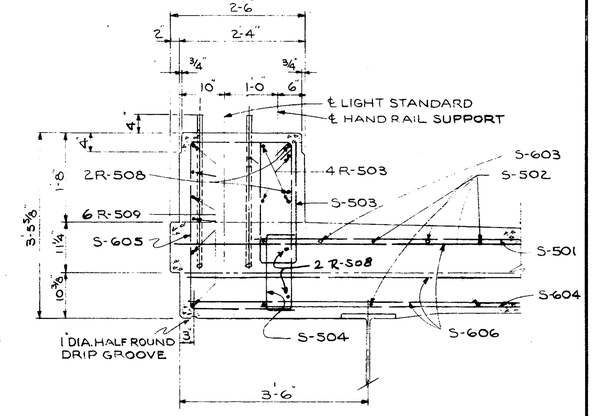


SECTION "M-M"

NOTE:
1-11 I.D. × ½" THK. × 3'-0" Lg. SOCKET EAST SIDE OF STRUCTURE, 1-9" I.D. × ½" THK. × 3'-0" Lg. SOCKET WEST SIDE OF STRUCTURE. ITEM S-25.

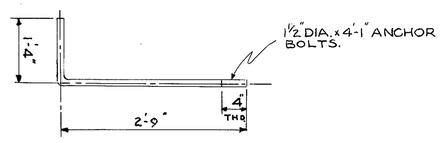


PLAN



SECTION 1-1

DETAIL OF LIGHT STANDARD SUPPORT
2 REQUIRED



ANCHOR BOLT DETAIL
(8 REQD)

ELEVATIONS													
	A	B	C	D	E	F	G	H	J	K	L	M	P
ABUTMENT #1	934.43	934.52	934.62	934.72	934.82	934.70	934.53	934.45	934.33	938.72	939.06	938.64	937.39
ABUTMENT #2	930.81	930.92	931.02	931.12	931.22	931.10	930.97	930.85	930.73	935.08	935.41	935.00	933.75

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

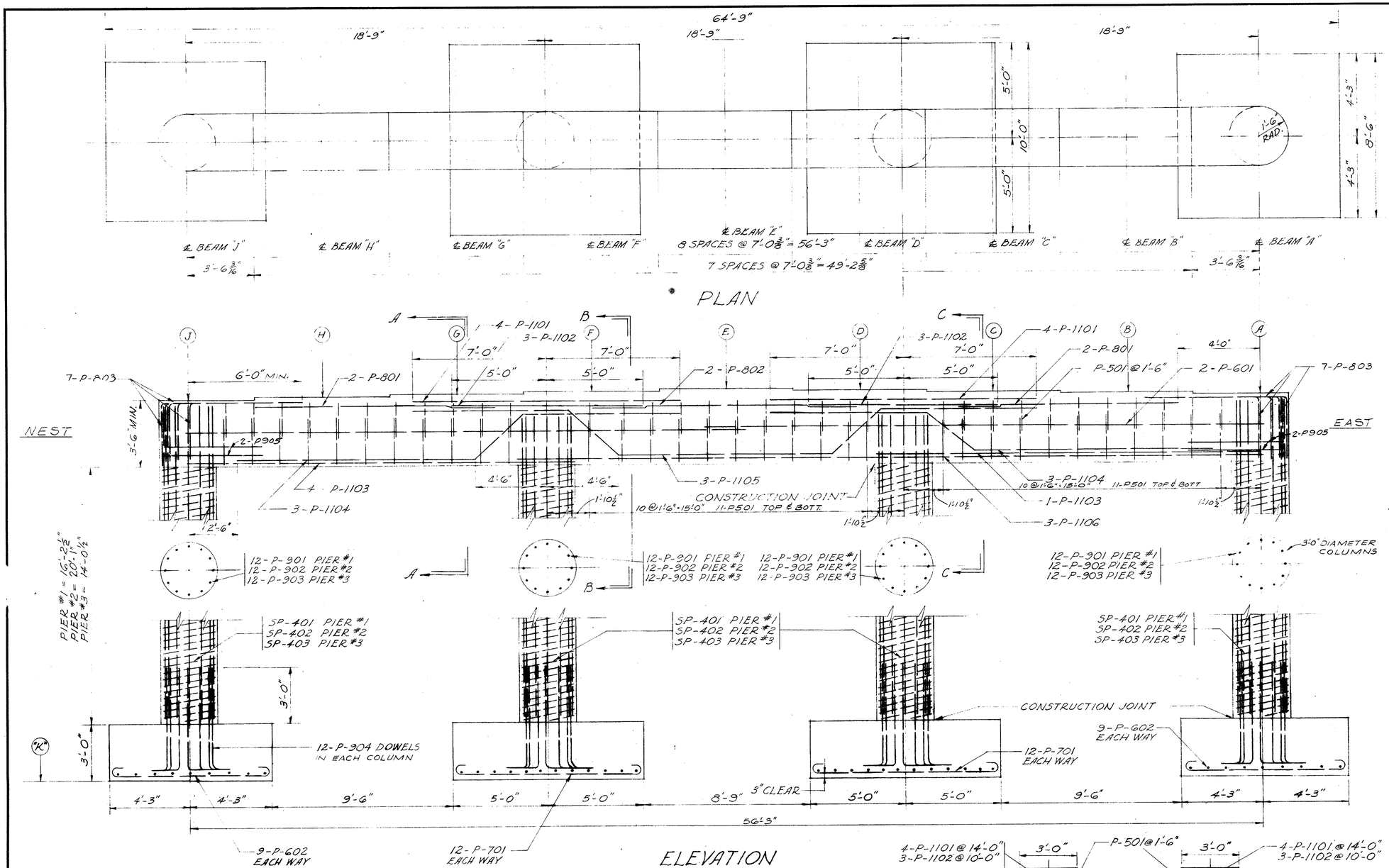
ABUTMENT DETAILS

BRIDGE NO MAH-18-1761
UNDER STEEL ST.
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	R.J.		D.H.C.	D.H.C.		

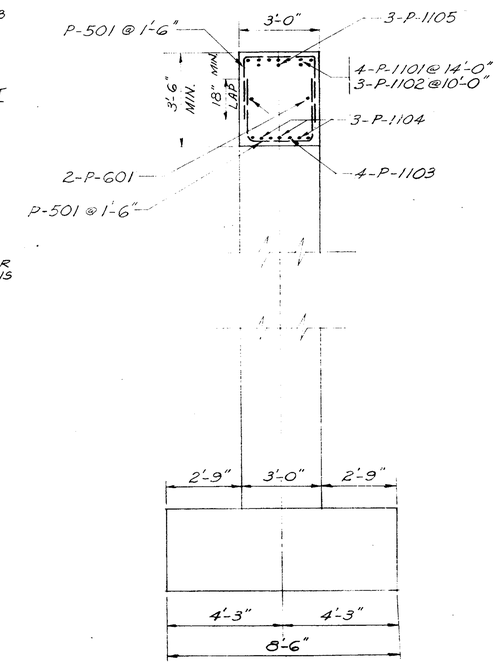
FED. RD.	STATE	PROJECT	
	OHIO		

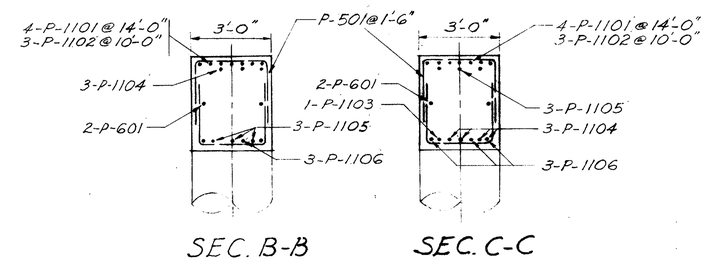
337
492



CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL SO AS TO AVOID INTERFERENCE WITH ANCHOR BOLTS.

MAXIMUM SOIL LOADING UNDER PIER FOOTINGS = 2.50 TONS PER SQ. FOOT





PIER ELEVATION TABLE

	A	B	C	D	E	F	G	H	J
PIER #1	933.29	933.39	933.49	933.59	933.69	933.57	933.45	933.32	933.20
PIER #2	932.18	932.28	932.37	932.47	932.57	932.45	932.33	932.21	932.09
PIER #3	931.13	931.22	931.32	931.42	931.52	931.40	931.28	931.16	931.04

"K"
BASE ELEVATIONS

LOC.	ELEV.
PIER #1	910.50
PIER #2	905.50
PIER #3	910.50

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

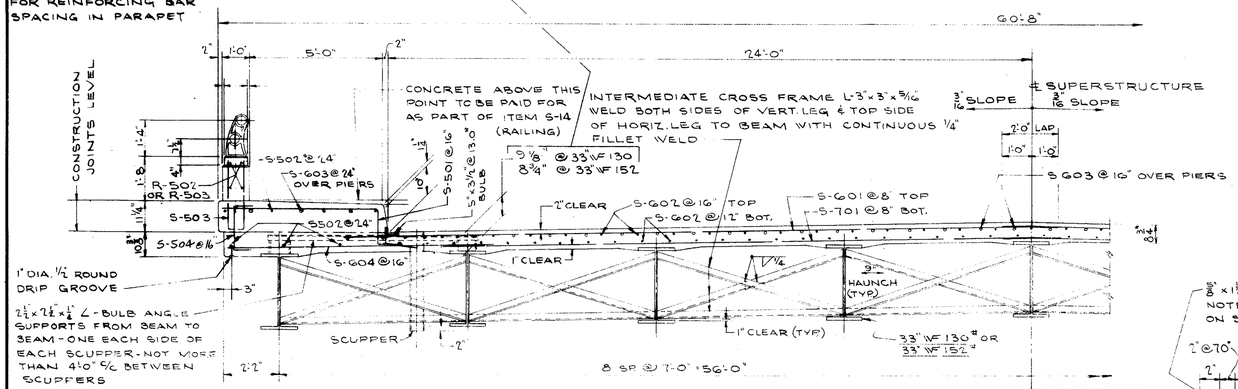
PIER DETAILS
BRIDGE NO. MAH-18-1761
UNDER STEEL ST
YOUNGSTOWN MAHONING COUNTY
STA. 929+96.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	E.S.S.		D.H.C.	DHC		

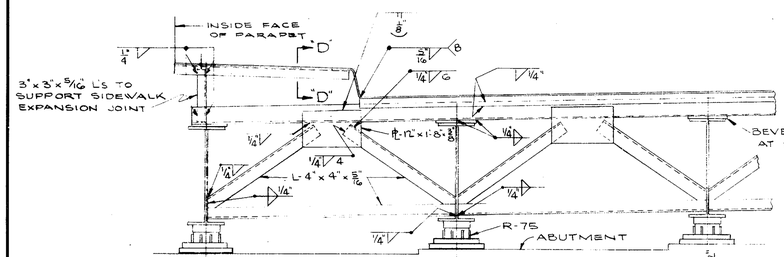
FED. RD.	STATE	PROJECT		338 / 492
	OHIO			

THESE DIMENSIONS ARE NOMINAL. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THESE DIMENSIONS EVEN THOUGH DEVIATION FROM THEM MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFIGURATION TO PLACE IT PARALLEL TO THE FINISHED GRADE.

NOTE: SEE RAILING DETAILS FOR REINFORCING BAR SPACING IN PARAPET

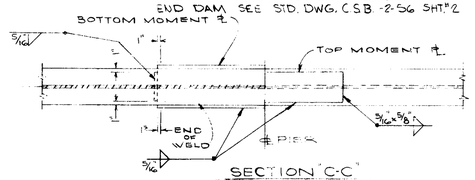


TRANSVERSE SECTION

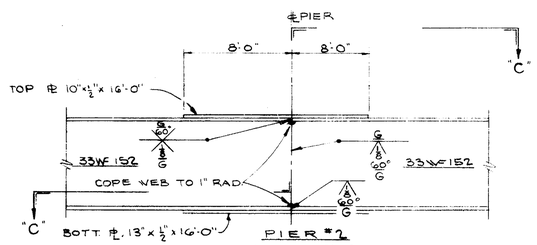


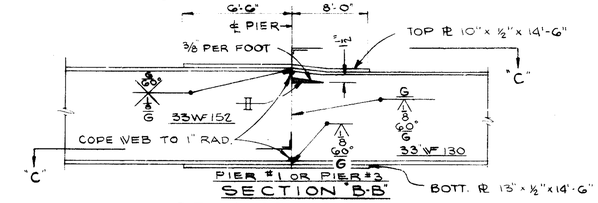
SECTION "A-A"

FOR SECTION THROUGH ROADWAY END DAM SEE STD. DWG. CSB-2-56 SHT. #2



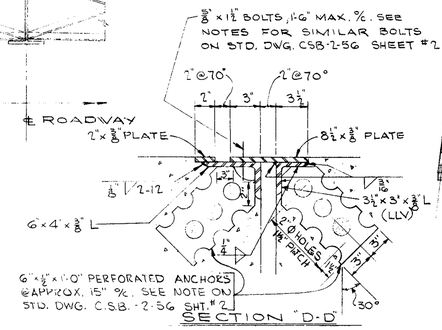
SECTION "C-C"



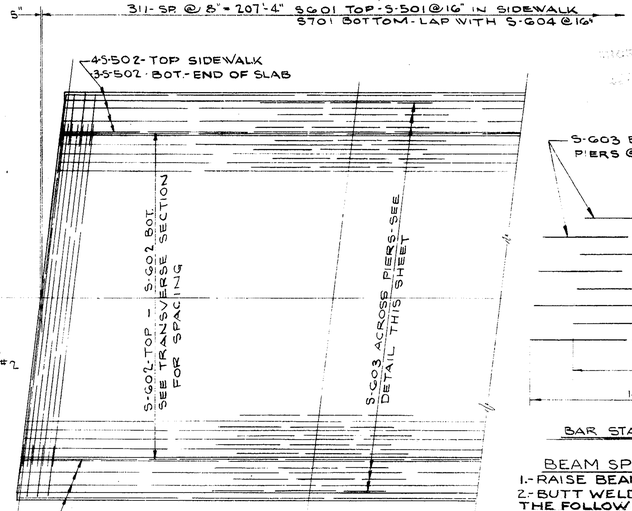


SECTION "B-B"

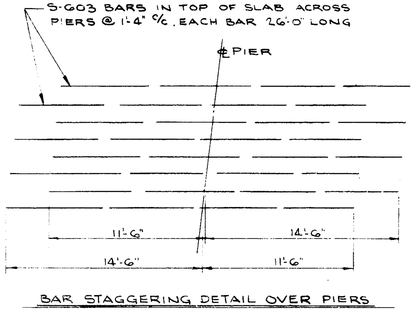
BEAM SPLICE DETAILS
G INDICATES GRINDING



SECTION "D-D"



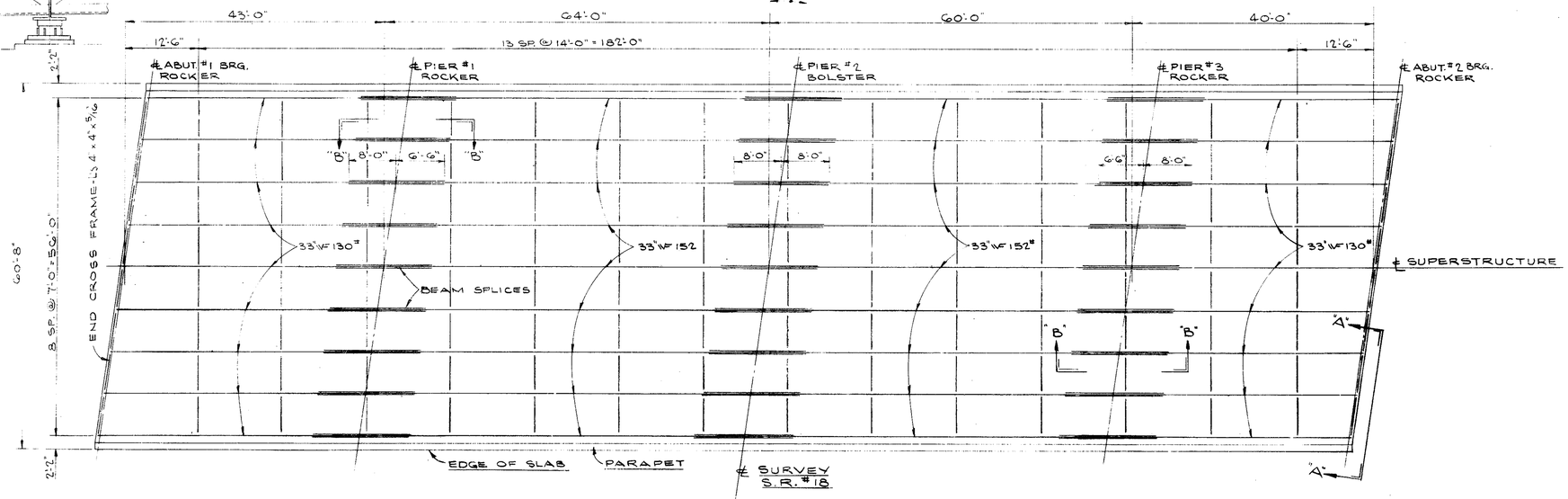
PARTIAL SLAB REINFORCING PLAN



BAR STAGGERING DETAIL OVER PIERS

BEAM SPLICE WELDING PROCEDURE

1. - RAISE BEAM ENDS AT PIER #3 - 2½"
2. - BUTT WELD BEAM FLANGES & WEB AT PIER #2 USING THE FOLLOWING SEQUENCE: MAKE TWO PASSES ON EACH FLANGE, THEN TWO ON WEB; REPEAT, USING ONE PASS AT EACH LOCATION, UNTIL WELD IS COMPLETED.
3. - WELD TOP & BOTTOM MOMENT PLATES AT PIER #2
4. - LOWER ENDS OF BEAMS INTO PLACE AT PIER #3
5. - RAISE BEAM ENDS AT ABUTMENTS ⅜"
6. - MAKE SPLICES AT FIRST AND THIRD PIERS IN SAME MANNER AS AT PIER #2.
7. - LOWER BEAM ENDS INTO PLACE AT ABUTMENTS



FRAMING PLAN

DEFLECTION & CAMBER				
LOCATION	OUTSIDE BEAMS		INSIDE BEAMS	
	END SPANS	MIDDLE SPANS	END SPANS	MIDDLE SPANS
DEFLECTION DUE TO WEIGHT OF STEEL	0.03	0.08	0.02	0.06
DEFLECTION DUE TO REMAINING DEAD LOAD	0.15	0.60	0.08	0.39
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.00	0.00	0.00	0.00
SUM OF DEFLECTION & CONVEXITY	0.18	0.68	0.10	0.45
REQUIRED CAMBER	0	0	0	0

NOTES:
1. SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.
2. WELDING OF STRUCTURAL STEEL SHALL BE CLASS 'A' EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

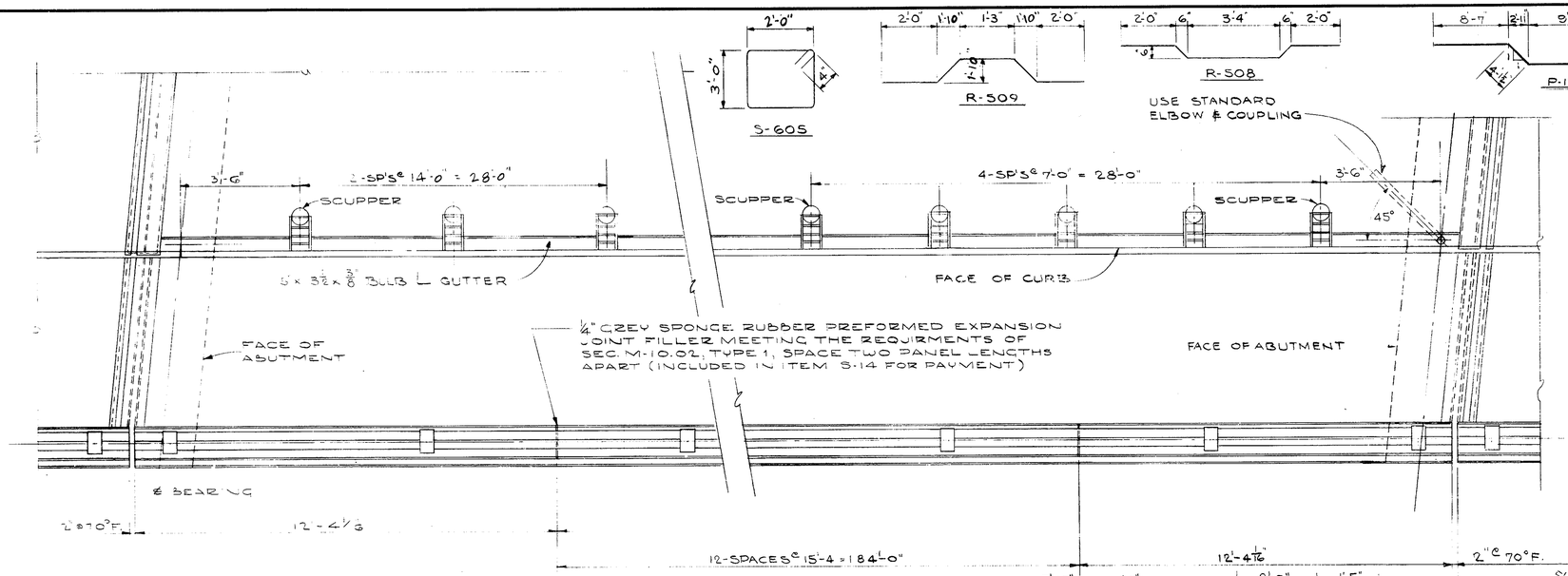
FRAMING PLAN

BRIDGE NO MAH-18-1761
UNDER STEEL ST
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	R.J.		D.M.C.	D.M.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

339
492



REINFORCING STEEL SCHEDULE

MARK	NO	L'TH	WEIGHT	SHIP
ABUTMENTS				
A-501	8	14'-2	118	ST
A-502	33	5'-4"	184	BT
A-503				
A-504	123	3'-6	449	BT
A-505	4	15'-4"	64	ST
A-506	2	17'-4"	36	ST
A-507	1	10'-6	11	ST
A-508	1	8'-9	9	ST
A-509	12	9'-6	115	BT
A-510	57	5'-0	297	BT
A-511	1	10'-4	11	ST
A-512	73	6'-0"	457	ST
A-513	1	7'-0	7	ST
A-514	2	14'-6	30	ST
A-515	12	6'-0	75	ST
A-516	4	16'-6	70	ST
A-517	2	16'-7	35	BT
A-518				BT
A-519				BT
A-520				BT
A-521	4	17-9	74	BT
A-522	1	8'-6	9	BT
A-523	1	6'-9	7	BT
A-524	4	6'-3	26	BT
A-525	1	7'-10	8	BT
A-526	4	14'-0"	58	ST
A-527	2	19'-0	40	BT
A-528	1	12'-3	13	BT
A-529	1	10'-11	11	BT
A-530	4	9'-8	40	BT
A-531	1	11'-2	12	BT
A-532	4	26'-8	111	ST
A-533	32	31'-0"	1035	ST
A-534	86	5'-9	516	BT
A-535	226	6'-4	1454	BT
A-536	1	7'-6	8	ST
A-537	24	29'-9	745	ST
A-538	4	31'-7	132	ST
A-539	4	30'-7	128	ST
A-540	16	3'-6"	58	ST
A-541	16	4'-10	81	BT
A-542	32	4'-0"	134	ST
A-543	2	10'-3"	22	ST
A-544	2	6'-0	13	ST

MARK	NO	L'TH	WEIGHT	SHIP
A-545	2	10'-2"	21	ST
A-546	2	8'-10"	10	ST
A-547	2	7'-2"	15	ST
A-548	2	5'-10"	12	ST
A-549	1	5'-6"	6	ST
A-550	92	7'-6"	563	BT
A-551	6	7'-7"	47	BT
A-601	98	15'-5"	2245	BT
A-602	16	13'-3"	318	BT
TOTAL ABUT'S			9,949 #	
PIERS				
P-501	198	7'-8"	1583	BT
P-601	12	29'-7"	533	ST
P-602	108	9'-6"	1541	BT
P-701	144	11'-4"	3336	BT
P-801	12	12'-3	394	ST
P-802	6	13'-10"	223	ST
P-803	42	10'-4"	1160	BT
P-901	48	19.5	3169	ST
P-902	48	23'-3"	3795	ST
P-903	48	17.3	2815	ST
P-904	144	6'-7"	3223	BT
P-905	12	9'-6	388	BT
P-1101	24	14-0	1785	ST
P-1102	18	10-0	956	ST
P-1103	15	20 3	1614	ST
P-1104	18	24'-5"	2335	BT
P-1105	9	35'-1"	1678	BT
P-1106	9	39'-0	1865	ST
TOTAL PIERS INCLUDING SPIRALS			36,094#	

SUPERSTRUCTURE				
S-501	312	8-0	2604	BT
S-502	84	3'-0	3154	ST
S-503	328	5'-4"	1824	BT
S-504	312	2'-4	760	BT
S-601	624	26-6	24,837	ST
S-602	522	36-3	28,422	ST
S-603	126	2'-0	4921	ST
S-604	312	10-0	4686	ST
S-605	4	10'-3"	62	BT
S-606	28	7'-4	308	ST
S-701	624	23-0	29,336	ST
TOTAL SUPERST. 100914 #				

RAILING #				
R-502	16	12'-0"		ST
R-503	96	15'-0		ST
R-504	4	15'-2"		ST
R-505	8	14'-0"		ST
R-506	2	17'-4		BT
R-507	2	16'-7"		BT
R-508	8	8'-8		BT
R-509	12	10'-4"		BT

REPLACEMENT BARS				
RE-401	1	5'-3	SPIRAL	BT
RE-501	2	5'-6		ST
RE 601	4	5'-11		ST
RE-701	2	6 3		ST
RE-801	1	6'-6"		ST
RE-901	1	6'-10"		ST
RE-1101	1	7'-6		ST

SPIRAL REINFORCING LIST

MARK	NO	CORE DIA OF SPIRAL	LENGTH	PITCH	NO OF TURNS	WEIGHT
SP-401	4	2'-8	16'-3	4½	46	1014
SP 402	4	2'-8	20'1"	4½	57	1257
SP-403	4	2'-8	14'-0	4½	40	882
SPACERS	48					548
TOTAL						3701

GRAND TOTAL 146,957#

SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF PIER CAPS. THE NUMBER OF TURNS SHOWN IN THE STEEL LIST FOR THE 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 5-4. 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. 0.68 LBS. PER LINEAL FT OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LBS PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE: IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-700 IS A NO 7 SIZE BAR AND A-1014 IS A NO 10 SIZE BAR.

REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABRITORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING, DRAINAGE DETAILS & REINFORCING SCHEDULE

BRIDGE NO MAH-18-1761
UNDER STEEL ST
YOUNGSTOWN MAHONING COUNTY
STA. 929+98.87

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	A.C.		D.H.C.			

FED. RD	STATE	PROJECT	
	OHIO		

340
492

MAH-18-17.20

CURVE DATA

$\Delta = 54°-44'-10"$ $\theta_s = 11°-00'-00"$
$D_c = 5°-30'-00"$ $T_s = 742.31'$
$L_s = 400'$ $E_s = 138.49'$
$R_c = 1041.74'$ $L_c = 598.20'$

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONC. DECK & SUBSTRUCTURE
SPANS: 60'-6", 74'-6", 75'-6", 47'-0" C/C BRGS.
ROADWAY: 28'-0" f/f PARAPETS
LOAD FREQUENCY: C.F. 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW: 36°-56'-19" L.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG AS-1-54
SUPERELEVATION: NONE
ALIGNMENT: TANGENT

TRAFFIC COUNT: NOT AVAILABLE

PROPOSED SILLIMAN STREET RAMP

FOUNDATION SOUNDINGS

FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF 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.

SLOPE PROTECTION

1-10 CRUSHED AGGREGATE SLOPE PROTECTION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

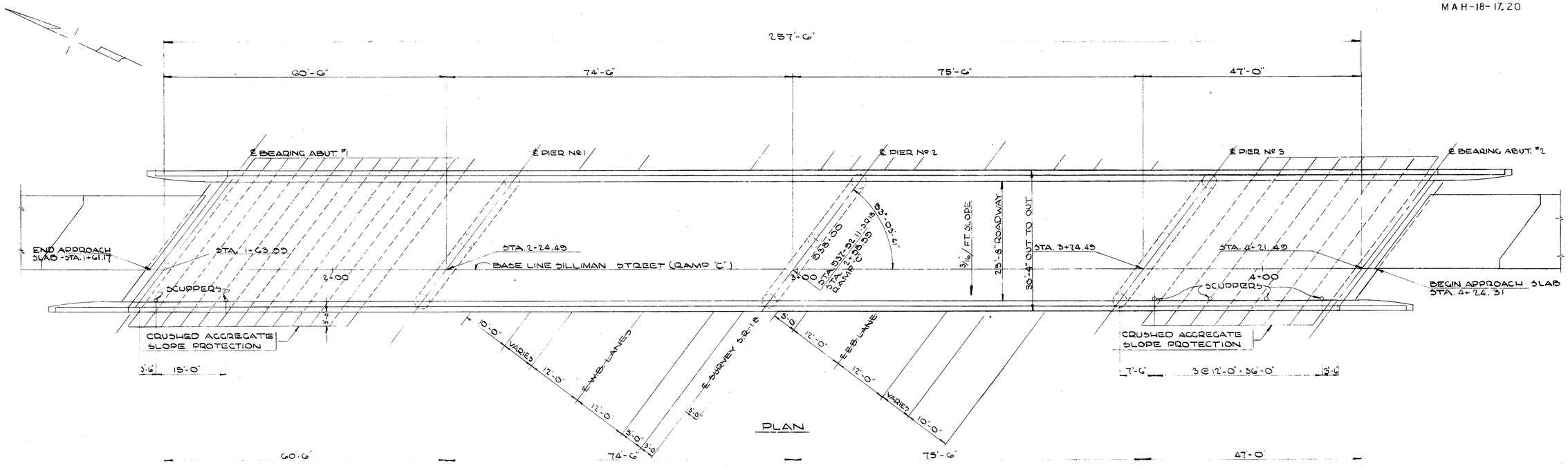
SITE PLAN
BRIDGE Nº MAH.-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN MAHONING COUNTY
STA. 937+92.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	W.B.H.		D.G.S.			

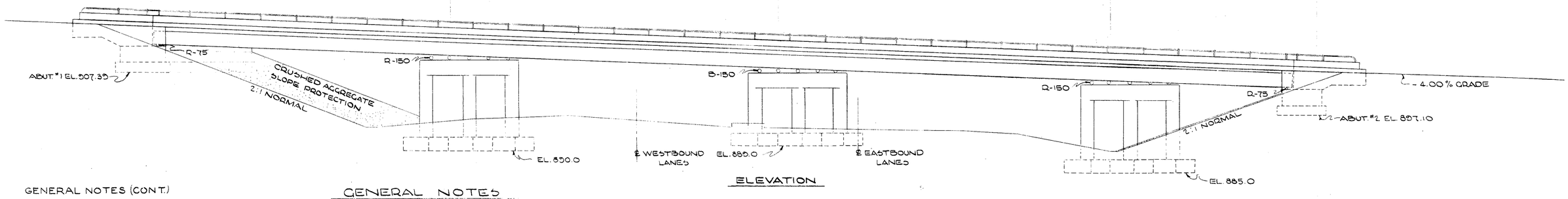
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

341
492



PLAN



ELEVATION

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS. DATE 8-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING 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.

SLOPE PROTECTION: CRUSHED AGGREGATE, ITEM 1-10, EXTENDING FROM FACE OF ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT EACH ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE & PARALLEL WITH ℄ OF SUPERSTRUCTURE.

EXCAVATION AND BACKFILL: EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF PROPOSED EMBANKMENT AND THE BOTTOM OF FOOTINGS.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Slabs."

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
RB-1-55 - REVISED-2-2-59, AR-1-57- REVISED-2-2-59.
CSB-2-56 SHEET Nº1 & Nº3 REVISED 2-2-59, & SUPPLEMENTAL SPECIFICATION S-101, DATED 12-2-59.

FOUNDATION BEARING PRESSURE: PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ.FT.
ABUTMENT FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 1.1 TON PER SQ.FT.

GENERAL NOTES (CONT.)

ELECTRICAL GROUNDS: A SOLID Nº6 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON BOTH SIDES OF THE STRUCTURE AT PIER "2. THE LOWER END OF THE WIRE SHALL TERMINATE IN A 25 FT. LENGTH COILED UNDER THE FOOTING AND SEPARATED FROM THE CONCRETE BY TWO LAYERS OF TAR PAPER AND THE UPPER END SHALL EXTEND SUFFICIENTLY ABOVE THE CONCRETE TO PROVIDE A SUITABLE SPLICE & EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A Nº6 GAGE BARE, STRANDED, TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE & TO THE SOLID COPPER WIRE IN THE PIER SHAFT. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM FOR ITEM S-25 ELECTRICAL LIGHTING SYSTEM.

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES EXPANSION FITTINGS AT ABUTMENTS.

LIGHTING DETAILS ARE SHOWN ON SHEET # 510

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN.
E-2	467	CU.YDS.	UNCLASSIFIED EXCAVATION		237	230	
S-1	239	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	239			
S-1	107	CU.YDS.	CLASS "E" CONC. ABUTS. ABOVE FOOTINGS		107		
S-1	76	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			76	
S-1	116	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS		43	73	
S-4	83,318	LBS.	REINFORCING STEEL	54,877	8301	20,140	
S-7	242,318	LBS.	STRUCTURAL STEEL	242,318			
S-8	242,318	LBS.	FIELD PAINTING OF STRUCT. STEEL, AS PER PLAN.	242,318			
S-14	584	LIN.FT.	RAILING (ALUM. RAIL & SUPPORTS, CONC. PARAPETS, END POSTS, REIN. STL.)	520	64		
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM				
S-25	284	LIN.FT.	3" ℄ ELECTRICAL CONDUIT (GALV.)				
S-29	6	EACH	SCUPPERS		6		
S-29	40	CU.YDS.	POUROUS BACKFILL		40		
I-10	400	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION			400	

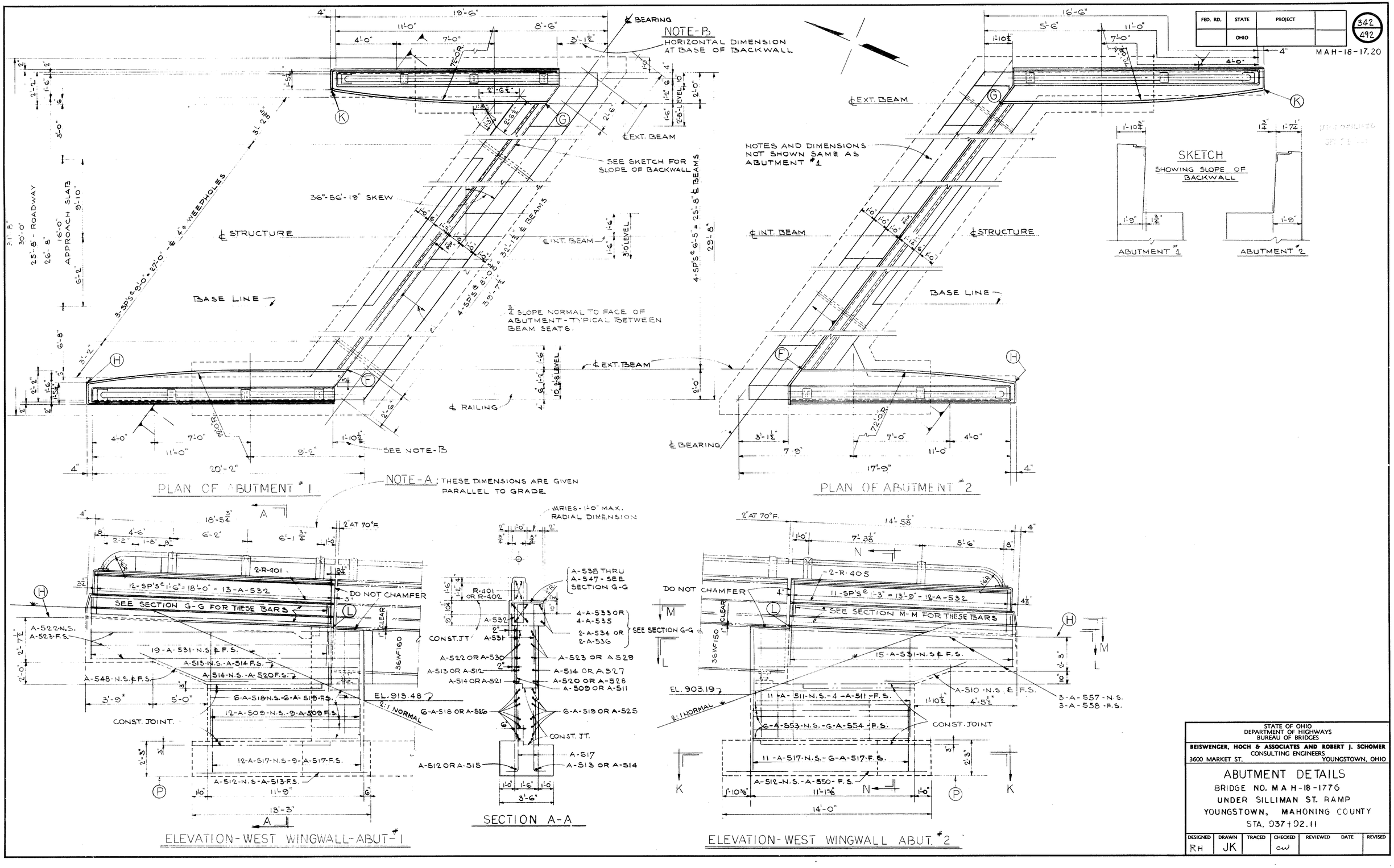
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937+02.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HAWKINS	STEFANOC					



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

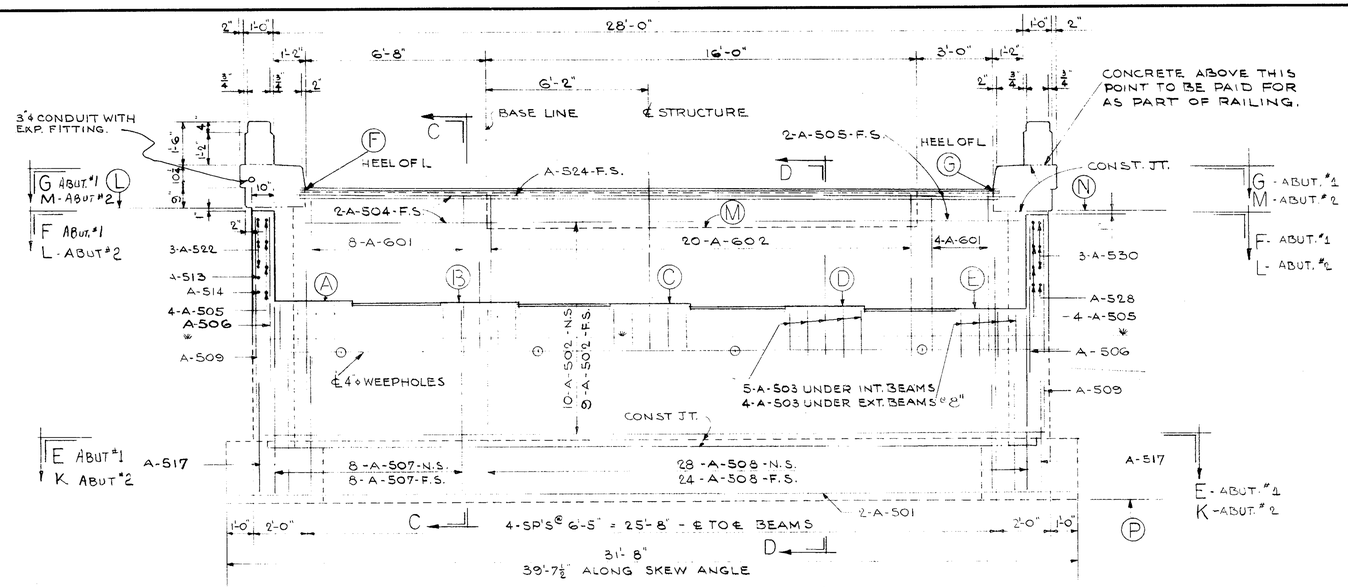
ABUTMENT DETAILS

BRIDGE NO. MAH-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937+92.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	JK		cw			

FED. RD.	STATE	PROJECT	
	OHIO		

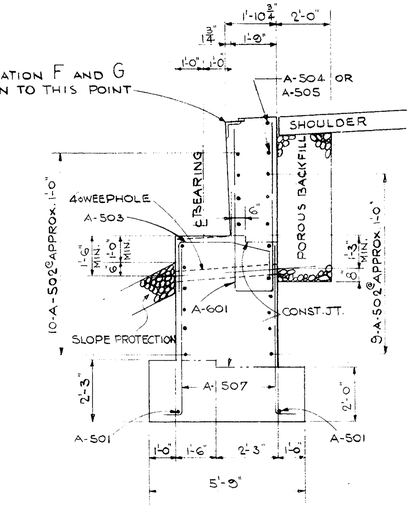
MA H-18-17.20



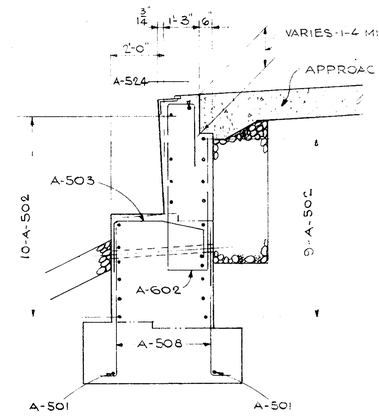
ELEVATION AS SHOWN FOR ABUTMENT #1

REFLECTED ELEVATION FOR ABUTMENT #2

ALL HORIZONTAL DIMENSIONS NORMAL TO ℄ OF STRUCTURE UNLESS OTHERWISE NOTED.



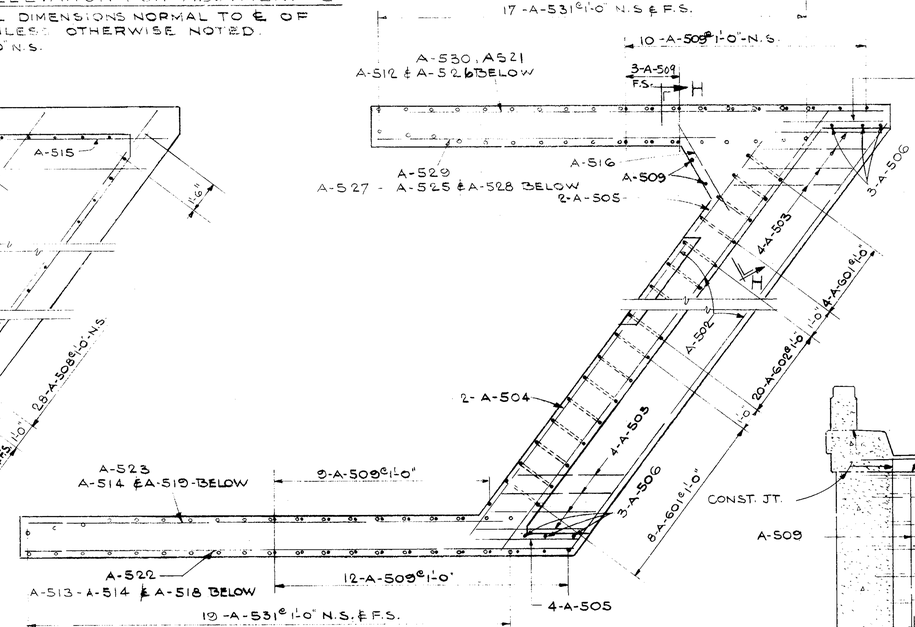
SECTION C-C



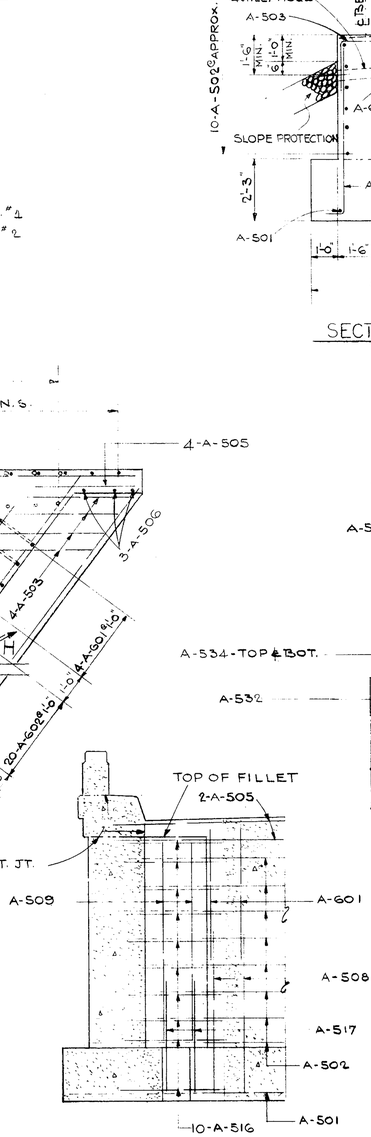
FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION C-C

SECTION D-D

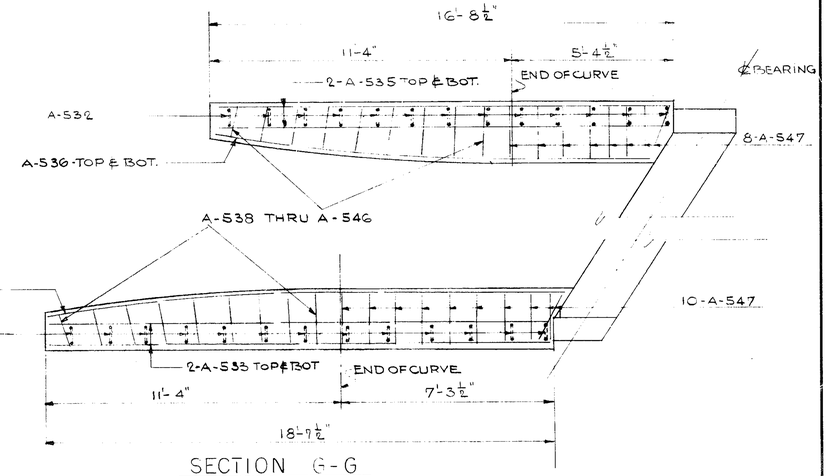
SECTION E-E



SECTION F-F



SECTION H-H



SECTION G-G

ELEVATION TABLE

	A	B	C	D	E	F*	G*	H	K	L	M	N	P
ABUTMENT #1	914.85	914.75	914.66	914.57	914.48	919.28	918.21	919.44	918.87	918.62	917.78	918.19	906.83
ABUTMENT #2	904.56	904.46	904.37	904.28	904.19	908.88	908.50	907.70	907.24	908.28	906.81	907.80	886.65

*ELEVATIONS GIVEN TO HEEL OF ANGLE

NOTE:

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

POROUS BACKFILL, 2-FT. THICK FULL LENGTH OF ABUTMENT AND WINGS SHALL EXTEND UP TO THE UNDER SIDE OF APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

THE RAILING SHALL BE CONTINUOUS FOR A MINIMUM OF TWO PANELS ON THE WINGWALLS.

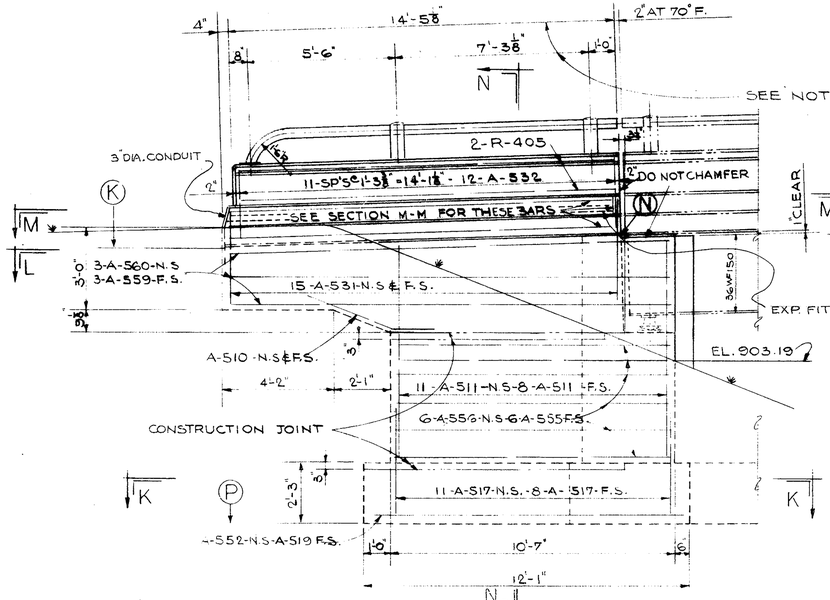
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MA H-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 963+02.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	JK		aw			



FED. RD.	STATE	PROJECT		344 / 492
	OHIO			

M A H-18-17,20

REINFORCING STEEL SCHEDULE

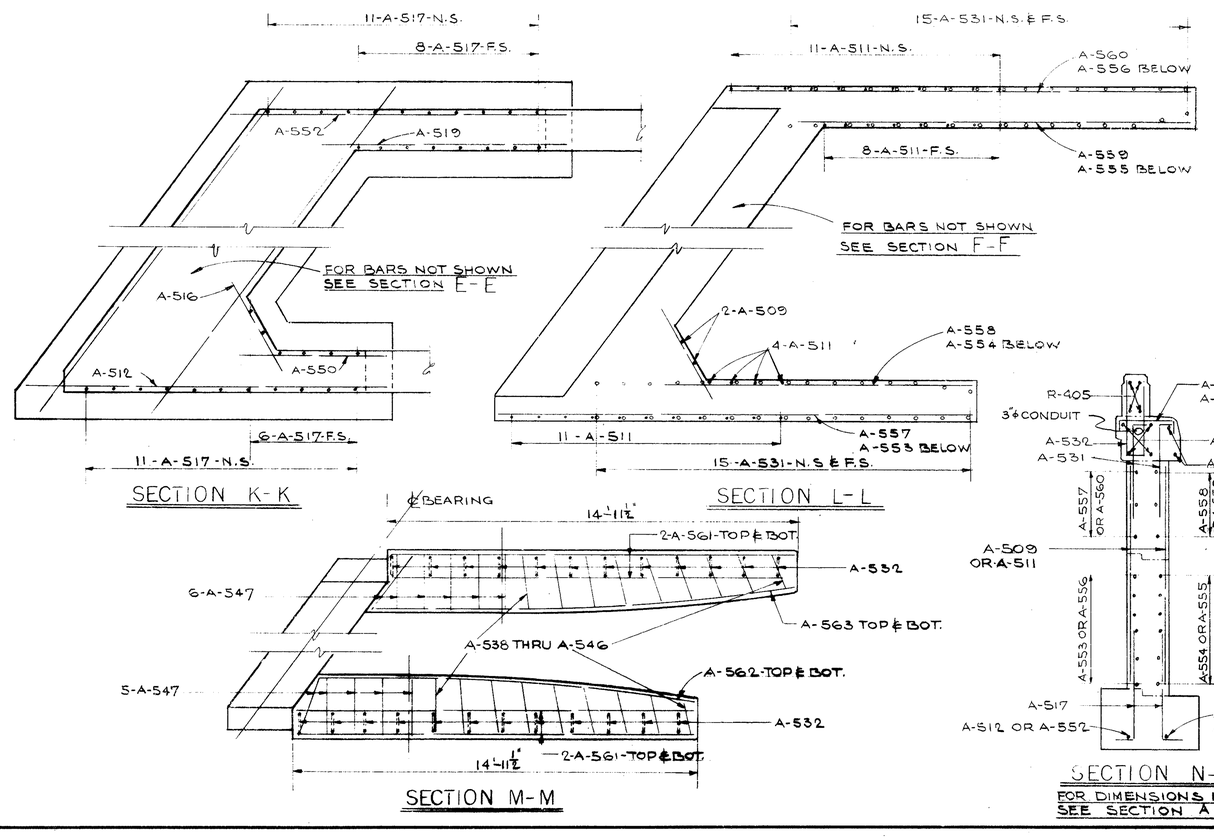
MARK	NO	L'TH	WEIGHT	SH'P
ABUTMENTS				
A-501	4	38-3"	164	ST.
A-502	38	36-9"	1457	ST.
A-503	46	6'-4"	304	BT.
A-504	4	10'-5"	43	ST.
A-505	20	4'-11"	103	ST.
A-506	12	6'-6"	81	ST.
A-507	32	7'-11"	264	BT.
A-508	107	7'-5"	828	BT.
A-509	38	9'-0"	357	ST.
A-510	4	3'-9"	16	BT.
A-511	34	8'-4"	296	ST.
A-512	3	12'-10"	40	ST.
A-513	2	14'-6"	30	ST.
A-514	3	11'-8"	37	ST.
A-515	1	12'-3"	13	ST.
A-516	20	3'-6"	73	ST.
A-517	72	4'-5"	333	BT.
A-518	6	12'-6"	78	BT.
A-519	7	8'-6"	62	ST.
A-520	1	8'-10"	9	ST.
A-521	1	11'-0"	11	ST.
A-522	3	20'-4"	64	ST.
A-523	3	17'-4"	54	ST.
A-524	2	23'-0"	48	ST.
A-525	6	3'-0"	19	ST.
A-526	6	11'-3"	70	BT.
A-527	1	6'-0"	6	ST.
A-528	1	3'-9"	4	ST.
A-529	3	14'-0"	44	ST.
A-530	3	18'-10"	59	ST.
A-531	132	3'-10"	527	BT.
A-532	50	5'-11"	308	BT.
A-533	4	18'-3"	76	ST.
A-534	2	19'-0"	40	BT.
A-535	4	16'-4"	68	ST.
A-536	2	15'-10"	33	BT.
A-537		OPEN		
A-538	4	1'-9"	7	BT.
A-539	4	1'-11"	8	BT.
A-540	4	2'-0"	8	BT.
A-541	4	2'-1"	9	BT.
A-542	4	2'-2"	9	BT.
A-543	4	2'-3"	9	BT.
A-544	4	2'-4"	10	BT.
A-545	4	2'-5"	10	BT.
A-546	4	2'-6"	10	BT.
A-547	29	2'-7"	78	BT.
A-548	4	8'-0"	33	BT.
A-549		OPEN		
A-550	1	5'-6"	6	ST.
A-551		OPEN		
A-552	1	12'-6"	13	ST.
A-553	6	12'-3"	77	BT.
A-554	6	5'-0"	31	ST.
A-555	6	7'-10"	49	ST.
A-556	6	11'-3"	70	BT.
A-557	3	17'-1"	53	ST.
A-558	3	10'-10"	34	ST.
A-559	3	14'-0"	44	ST.
A-560	3	16'-4"	51	ST.
A-561	8	17'-7"	123	ST.
A-562	2	14'-7"	30	BT.
A-563	2	15'-4"	32	BT.
A-601	24	14'-3"	514	BT.
A-602	40	16'-0"	961	BT.
TOTAL ABUT'S			8301	#
PIERS				
P-301	84	7'-8"	672	BT.
P-302	96	7'-8"	768	ST.
P-601	6	32'-4"	291	ST.
P-701	48	9'-2"	900	ST.
P-901	36	18'-2"	2224	ST.
P-902	36	16'-2"	1979	ST.
P-903	36	17'-2"	2102	ST.
P-904	12	9'-3"	377	BT.
P-905	42	10'-5"	1488	BT.
P-906	108	6'-7"	2416	BT.
P-907	9	32'-3"	987	ST.

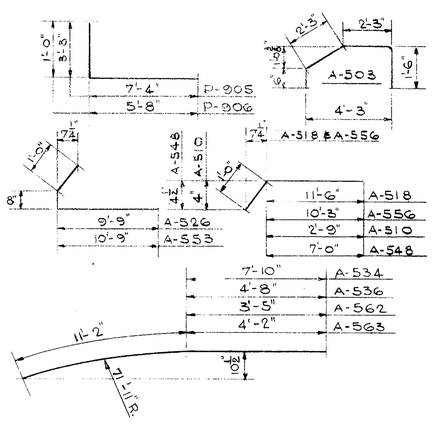
MARK	NO	L'TH	WEIGHT	SH'P
P-1001	21	25'-10"	2334	ST.
P-1002	24	12'-0"	1239	ST.
TOTAL PIERS			17,777	#
SUPERSTRUCTURE				
S-501	203	38'-4"	8116	ST.
S-502	376	5'-11"	2324	BT.
S-503	72	30'-0"	2253	ST.
S-504	296	4'-9"	1466	BT.
S-601	161	38'-8"	9351	ST.
S-602	273	29'-8"	12,166	ST.
SERIES OF S-603	2 SETS OF 20 BARS	VARY 27'-6" TO 34'-5" INC. 1'-6"	987	ST.
S-604	10	5'-0"	75	ST.
S-605	12	7'-8"	138	ST.
S-701	273	29'-8"	16,556	ST.
SERIES OF S-702	2 SETS OF 20 BARS	VARY 27'-6" TO 34'-5" INC. 1'-6"	1,343	ST.
S-703	10	5'-0"	102	ST
TOTAL SUPERST.			54,877	#
RAILING *				
R-401	4	18'-2"		ST.
R-402	4	16'-3"		ST.
R-403	16	12'-11"		ST.
R-404	112	16'-8"		ST.
R-405	8	14'-1"		ST.
REPLACEMENT BARS				
RE-401	1	5'-3" (SPIRAL)		BT
RE-402	1	5'-3"		ST.
RE-501	2	5'-6"		ST.
RE-601	2	5'-11"		ST.
RE-701	1	6'-3"		ST.
RE-901	1	7'-0"		ST.
RE-1001	1	7'-6"		ST.

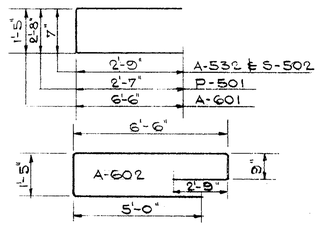
SPIRAL REINFORCING LIST

MARK	NO	CORE DIA OF SPIRAL	LENGTH	PITCH	NO. OF TURNS	WEIGHT
SP-401	3	2'-8"	15'-2"	4½"	43	711
SP-402	3	2'-8"	13'-2"	4½"	38	628
SP-403	3	2'-8"	14'-2"	4½"	41	677
SPACERS	36					347
TOTAL						2363

GRAND TOTAL-83318 LBS







SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF PIER CAPS.
THE NUMBER OF TURNS SHOWN IN THE STEEL LIST FOR THE 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. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-700 IS A NO. 7 SIZE BAR AND A-1014 IS A NO. 10 SIZE BAR.

REPLACEMENT BARS : IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

*RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAIL & REINFORCING SCHEDULE

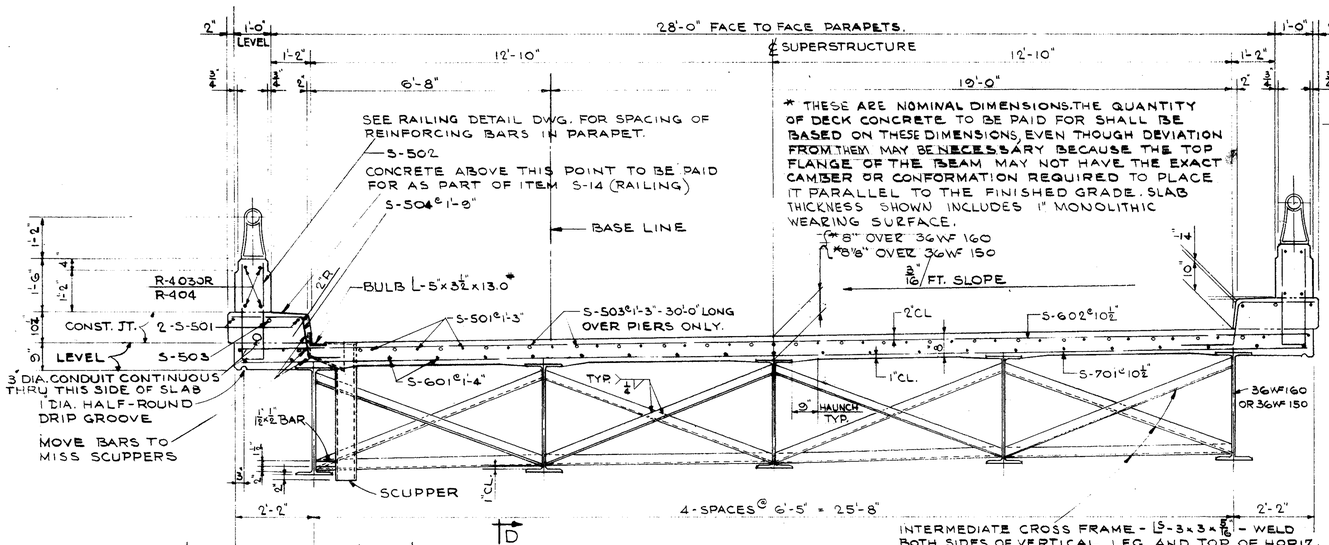
BRIDGE NO. M A H-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937+92.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	JK		cw			

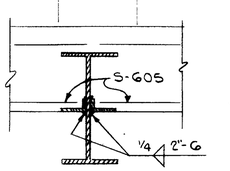
FED. RD.	STATE	PROJECT	
	OHIO		

346
492

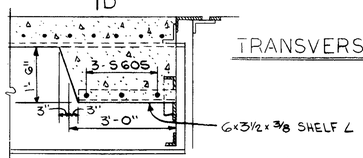
MA H-18-17.20



TRANSVERSE SECTION

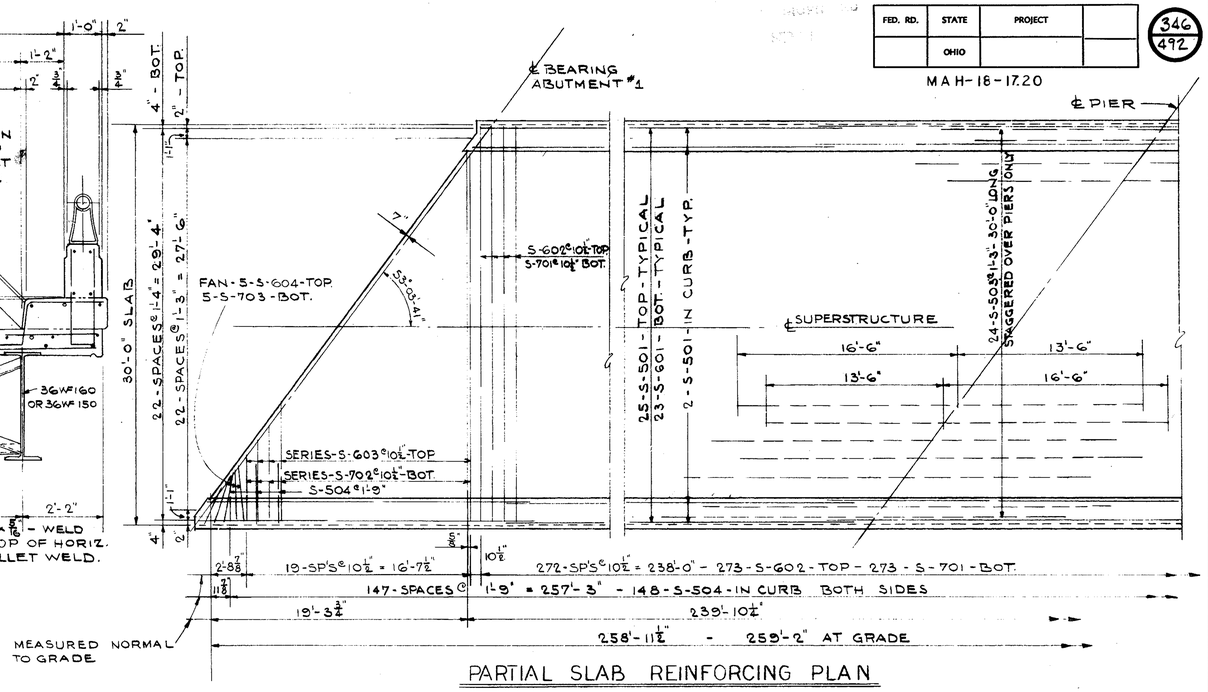


SECTION D-D

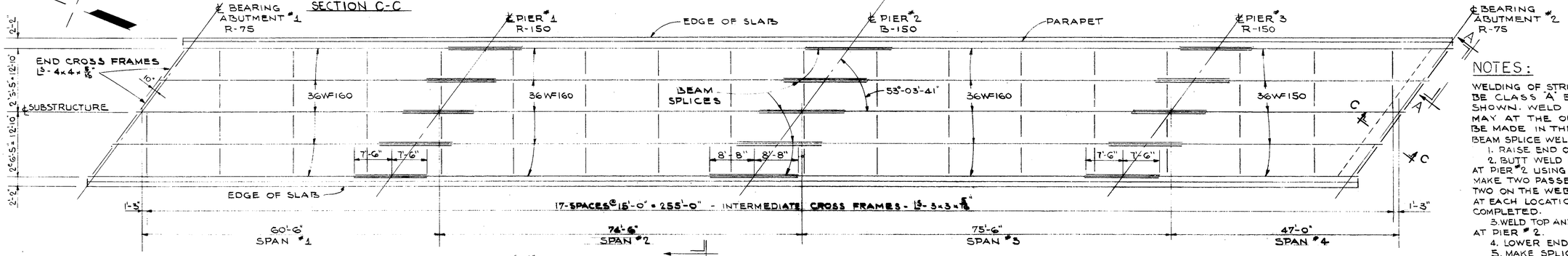


SECTION C-C

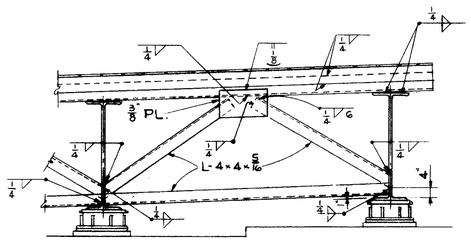
SEE TRANSVERSE SECTION



PARTIAL SLAB REINFORCING PLAN

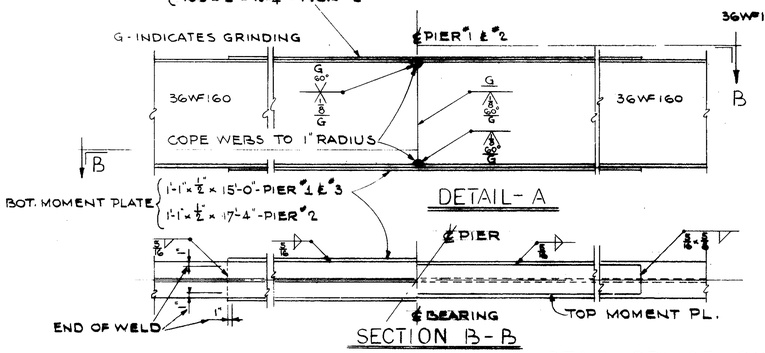


FRAMING PLAN



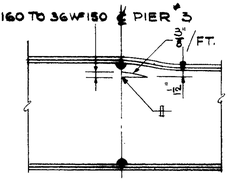
SECTION A-A

TOP MOMENT PLATE { 10½" x ½" x 15'-0" - PIER #1 & #3
10½" x ½" x 17'-4" - PIER #2



DETAIL - A

SECTION B-B



DETAIL - B

FOR DETAILS NOT SHOWN SEE DETAIL - A

BEAM SPLICE DETAILS

DEFLECTION & CAMBER

LOCATION	OUTSIDE BEAMS				INSIDE BEAMS			
SPAN	#1	#2	#3	#4	#1	#2	#3	#4
DEFLECTION DUE TO WT. OF STEEL	.03	.09	.13	.01	.03	.09	.13	.01
DEFLECTION DUE TO REMAINING DEAD LOAD	.13	.36	.54	.05	.11	.32	.47	.04
CONVEXITY REQUIRED FOR VERT. CURVE.	0	0	0	0	0	0	0	0
SUM OF DEFLECTION AND CONVEXITY	.16	.45	.67	.06	.14	.41	.60	.05
REQUIRED CAMBER	0"	0"	0"	0"	0"	0"	0"	0"

NOTES:

WELDING OF STRUCTURAL STEEL SHALL BE CLASS 'A' EXCEPT AS OTHERWISE SHOWN. WELD SHOWN AS FIELD WELDS MAY AT THE OPTION OF THE CONTRACTOR BE MADE IN THE SHOP.

BEAM SPLICE WELDING PROCEDURE:

1. RAISE END OF BEAM AT PIER #1 OR PIER #3 - 5/8"
2. BUTT WELD BEAM FLANGES AND WEB AT PIER #2 USING THE FOLLOWING SEQUENCE: MAKE TWO PASSES ON EACH FLANGE, THEN TWO ON THE WEB; REPEAT USING ONE PASS AT EACH LOCATION UNTIL WELDS ARE COMPLETED.
3. WELD TOP AND BOTTOM MOMENT PLATES AT PIER #2.
4. LOWER END OF BEAM AT PIER #1 OR PIER #3
5. MAKE SPLICE AT PIER #1 OR PIER #3 IN THE SAME MANNER RAISING THE END OF BEAMS - ⅜" AT THE ABUTMENTS.

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED, AND WHERE NECESSARY, REPAINTED IN ACCORDANCE WITH SEC. 8.04, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER THE OUTSIDE FACE OF THE OUTSIDE STEEL BEAMS AND ALL SIDES OF BOTTOM FLANGE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN SLAB DETAILS

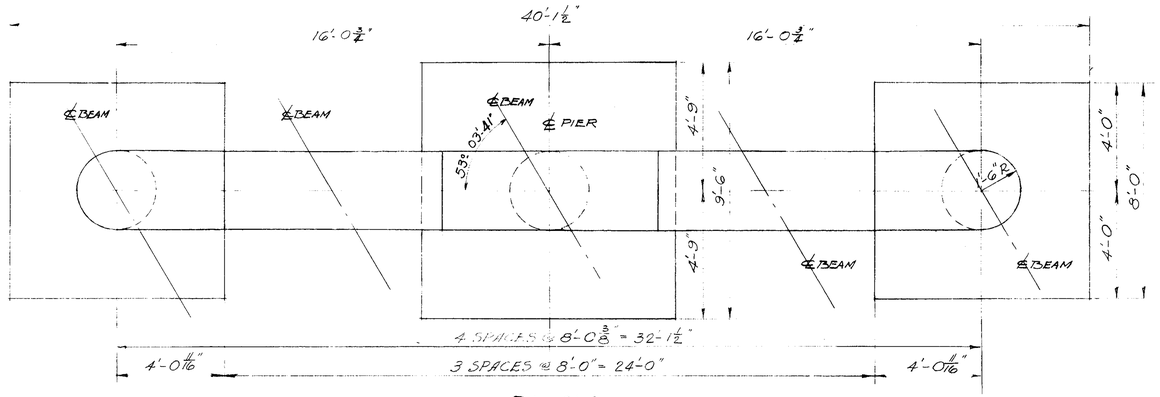
BRIDGE NO. MA H-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937 + 02.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	JK		aw			

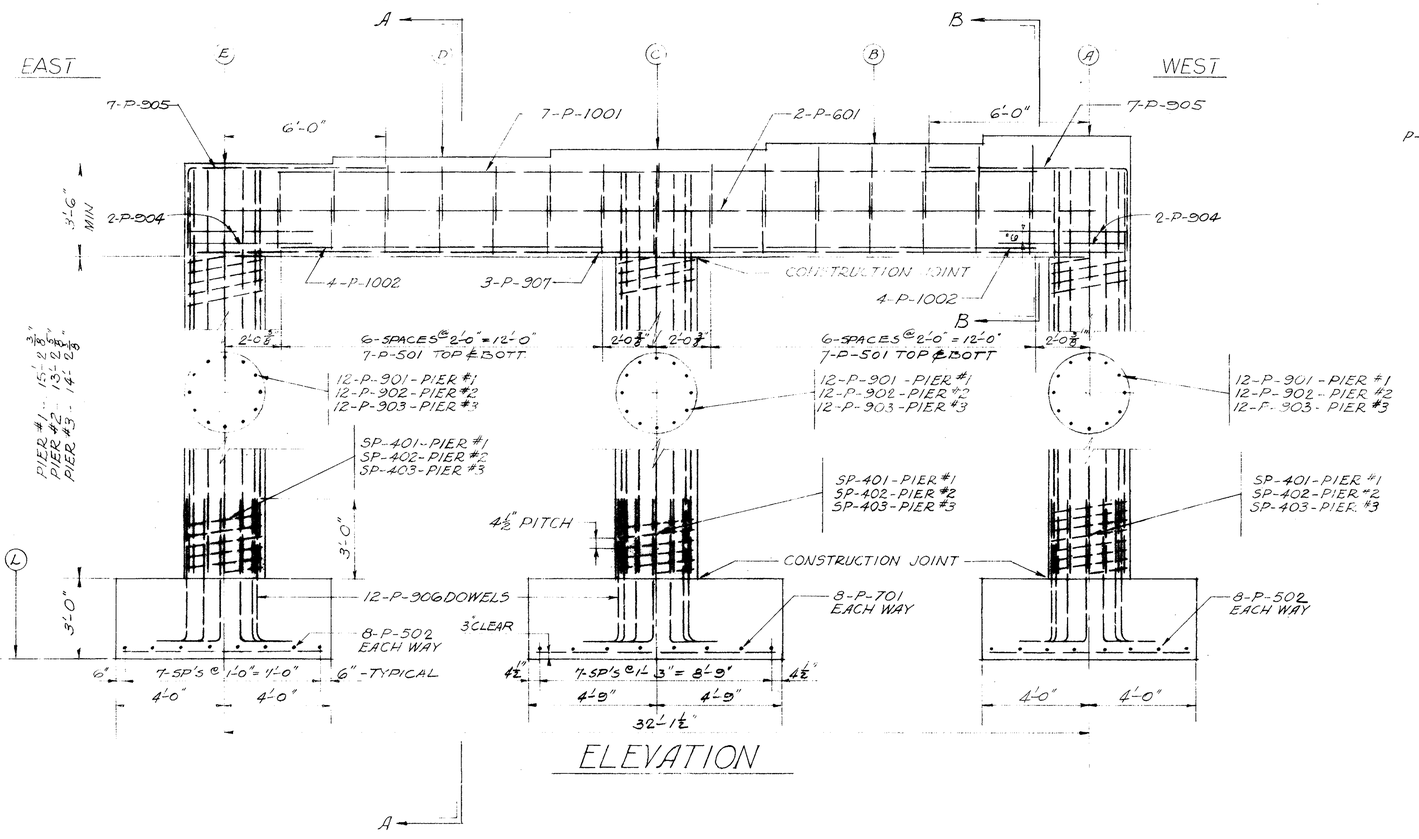
FED. RD.	STATE	PROJECT	
	OHIO		

345
492

MAH-18-17.20

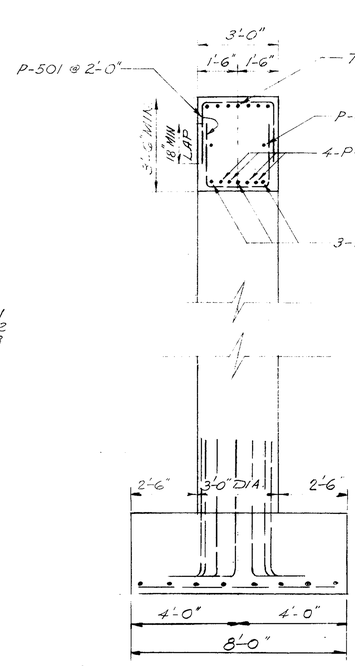


PLAN

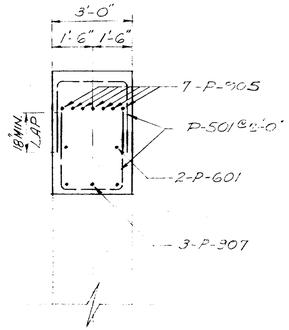


ELEVATION

A



SEC. A-A



SEC. B-B

PIER ELEVATION TABLE

	A	B	C	D	E	L
PIER #1	912.07	911.98	911.89	911.80	911.70	890.00
PIER #2	909.09	909.00	908.91	908.82	908.72	889.00
PIER #3	906.07	905.98	905.89	905.80	905.70	885.00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

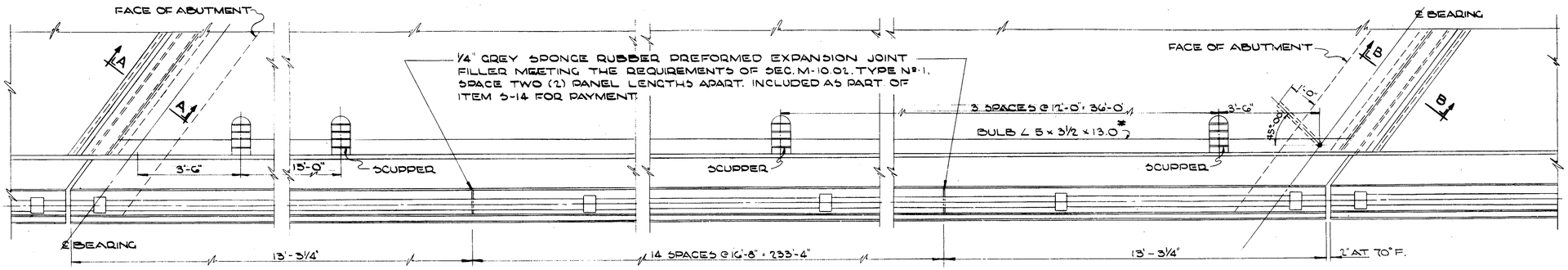
BRIDGE NO. MAH-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937+92.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH.	E.S.S.					

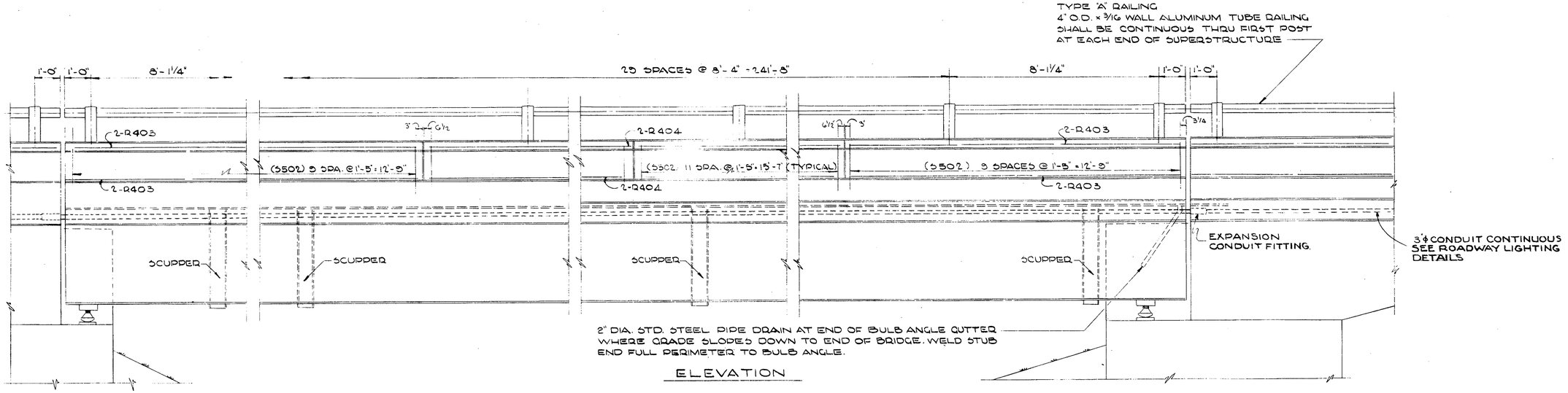
FED. RD.	STATE	PROJECT	
	OHIO		

347
492

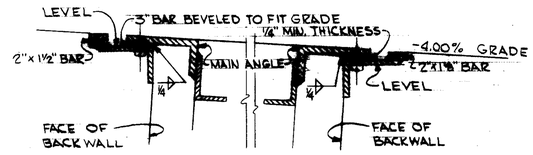
MA H-18-17.20



PART DECK PLAN



ELEVATION



SECTION A-A SECTION B-B

FOR DETAILS NOT SHOWN SEE STD. DRAWING CSB-2-56

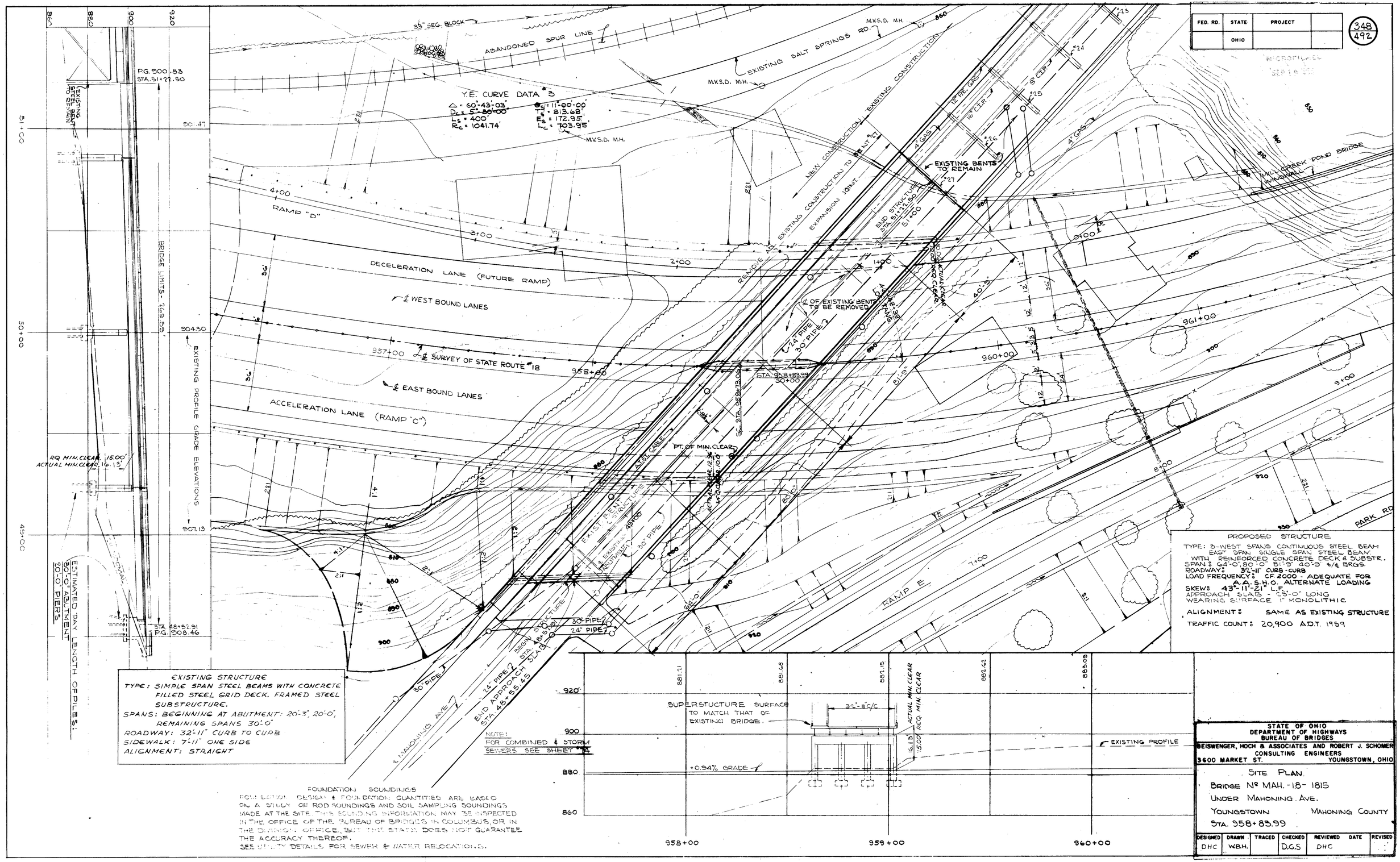
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DRAINAGE & RAILING DETAILS

BRIDGE NO. MA H-18-1776
UNDER SILLIMAN ST. RAMP
YOUNGSTOWN, MAHONING COUNTY
STA. 937+02.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	R.P.S.		CW			



PROPOSED STRUCTURE

TYPE: 3-WEST SPANS CONTINUOUS STEEL BEAM
EAST SPAN SINGLE SPAN STEEL BEAM
WITH REINFORCED CONCRETE DECK & SUBSTR.
SPAN: 64'-0", 80'-0" 81'-9" 40'-9" ℄/℄ BRGS.
ROADWAY: 32'-11" CURB-CURB
LOAD FREQUENCY: CF 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW: 43°-11'-21" L.F.
APPROACH SLAB - 25'-0" LONG
WEARING SURFACE 1" MONOLITHIC

ALIGNMENT: SAME AS EXISTING STRUCTURE

TRAFFIC COUNT: 20,900 A.D.T. 1959

EXISTING STRUCTURE

TYPE: SIMPLE SPAN STEEL BEAMS WITH CONCRETE FILLED STEEL GRID DECK. FRAMED STEEL SUBSTRUCTURE.
SPANS: BEGINNING AT ABUTMENT: 20'-3", 20'-0", REMAINING SPANS 30'-0"
ROADWAY: 32'-11" CURB TO CURB
SIDEWALK: 7'-11" ONE SIDE
ALIGNMENT: STRAIGHT

FOUNDATION SOUNDINGS

FOUNDATION DESIGN & 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.
SEE UTILITY DETAILS FOR SEWER & WATER RELOCATIONS.

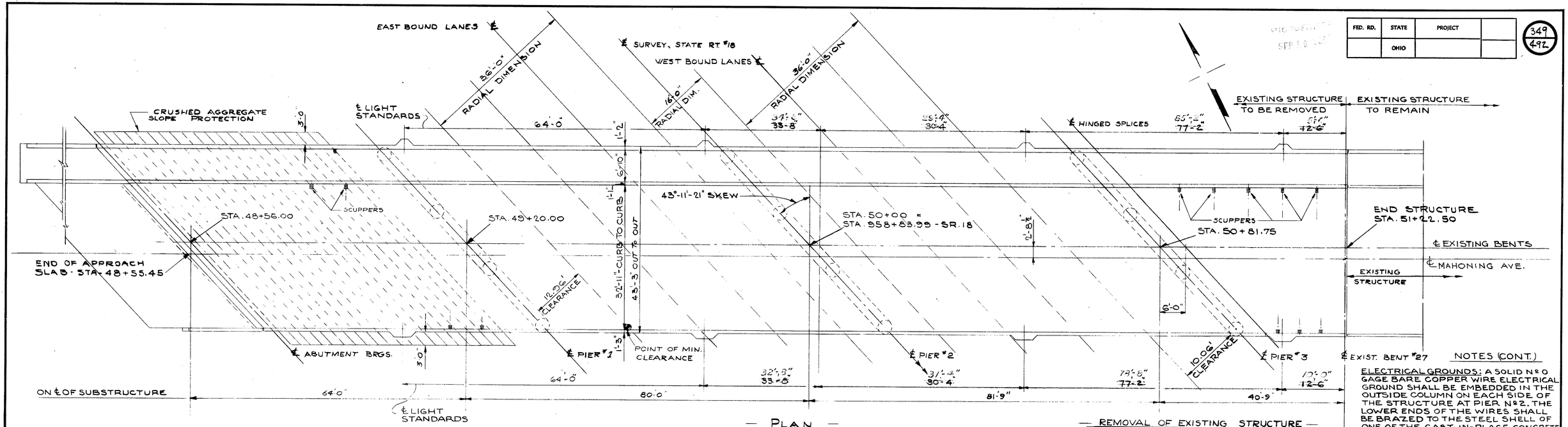
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE Nº MAH.-18-1815
UNDER MAHONING AVE.
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	W.B.H.		D.G.S	DHC		

FED. RD.	STATE	PROJECT	
	OHIO		

349
492

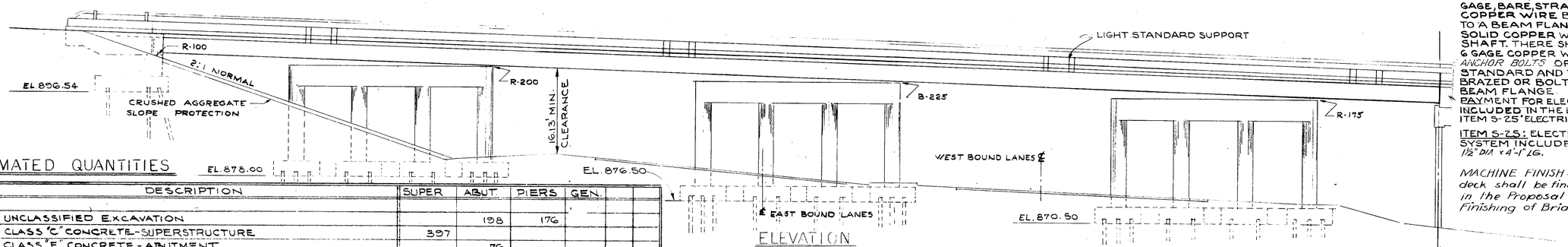


— PLAN —

ALL EXISTING STRUCTURAL STEEL, WHEN REMOVED, SHALL BECOME THE PROPERTY OF MAHONING COUNTY, AND SHALL BE STORED WITHIN THE RIGHT OF WAY LIMITS.

— REMOVAL OF EXISTING STRUCTURE —

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED TO THIS POINT.



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN.
E-2	374	CU.YDS.	UNCLASSIFIED EXCAVATION		198	176	
S-1	397	CU.YDS.	CLASS "C" CONCRETE-SUPERSTRUCTURE	397			
S-1	76	CU.YDS.	CLASS "E" CONCRETE-ABUTMENT		76		
S-1	139	CU.YDS.	CLASS "C" CONCRETE- PIERS ABOVE FOOTINGS			139	
S-1	136	CU.YDS.	CLASS "E" CONCRETE- PIER AND ABUT. FOOTINGS		52	84	
S-4	146,665	LBS	REINFORCING STEEL	100,797	8,090	37,778	
S-7	464,544	LBS.	STRUCTURAL STEEL	464,544			
S-8	464,544	LBS	FIELD PAINTING OF STRUCTURAL STEEL AS PER PLAN	464,544			
S-9	40	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER		40		
S-14	580	LIN.FT.	RAILING TYPE "A" (ALUMINUM RAIL-SUPPORTS AND CONC. PARAPET)	531	49		
S-14	313	LIN.FT.	RAILING TYPE "C" (ALUMINUM RAIL-SUPPORTS AND CONC. PARAPET)	289	24		
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	2280	LIN.FT.	12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.		300	1980	
S-22	LUMP	SUM	REMOVAL OF PORTIONS OF EXISTING STRUCTURE				LUMP
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM				
S-29	12	EACH	SCUPPERS	12			
S-29	43	CU.YDS.	POROUS BACKFILL		43		
I-10	281	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		281		

GENERAL NOTES

DESIGN SPECIFICATIONS : THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATED 9-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.
CONCRETE DECK PLACING : IN ORDER TO FACILITATE WATER CURING OF THE DECK SLAB THE PLACING OF CONCRETE SHALL PROGRESS UP GRADE. 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.

CRUSHED AGGREGATE SLOPE PROTECTION : ITEM I-10 EXTENDING FROM FACE OF ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT WEST ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE PARALLEL WITH ℄ OF SUPERSTRUCTURE.
REMOVAL OF EXISTING STRUCTURE : WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED AS INDICATED ON PLANS IN ACCORDANCE WITH SECTION S-22.

PILES : ALL PILES ARE 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.
EXCAVATION AND BACKFILL : FOR THE ABUTMENT IN ADDITION TO THAT OUTLINED IN SEC. E-2.09 INCLUDES THE REMOVAL OF MATERIAL BOUNDED BY THE FRONT VERTICAL PLANE DESCRIBED IN SEC. E-2.09 AND BY THE FINISHED SLOPE CUT.

ITEM S-7 INCLUDES ALTERATIONS TO EXISTING STRUCTURE.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS :
AR-1-57, REVISED 2-2-59.
C.S.B-2-56, SHEET #2 & #3 REVISED 2-2-59
RB-1-55, REVISED 2-2-59.
SUPPLEMENTARY SPECIFICATIONS S-101, DATED 12-2-59

NOTES (CONT.)

ELECTRICAL GROUNDS: A SOLID N° 0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER N° 2. THE LOWER ENDS OF THE WIRES SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE CAST-IN-PLACE CONCRETE PILES AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE & EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A N° 6 GAGE, BARE, STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED N° 6 GAGE COPPER WIRE BRAZED TO THE ANCHOR BOLTS OF EACH LIGHT STANDARD AND THE OTHER END BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE.
PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES 32 ANCHORBOLTS 1½" DIA. x 4'-1" LG.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note "Machine Finishing of Bridge Deck Slabs".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

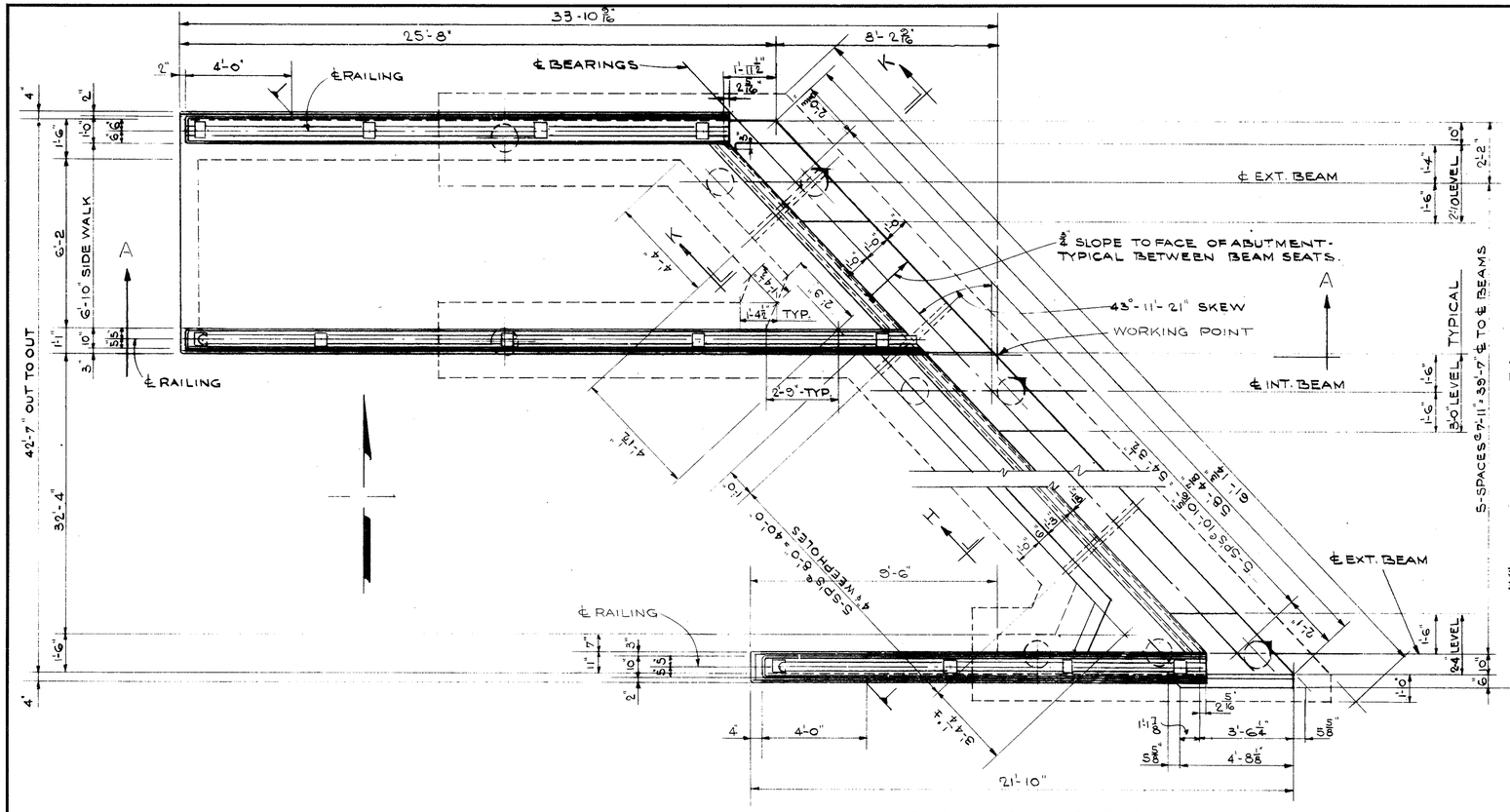
GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

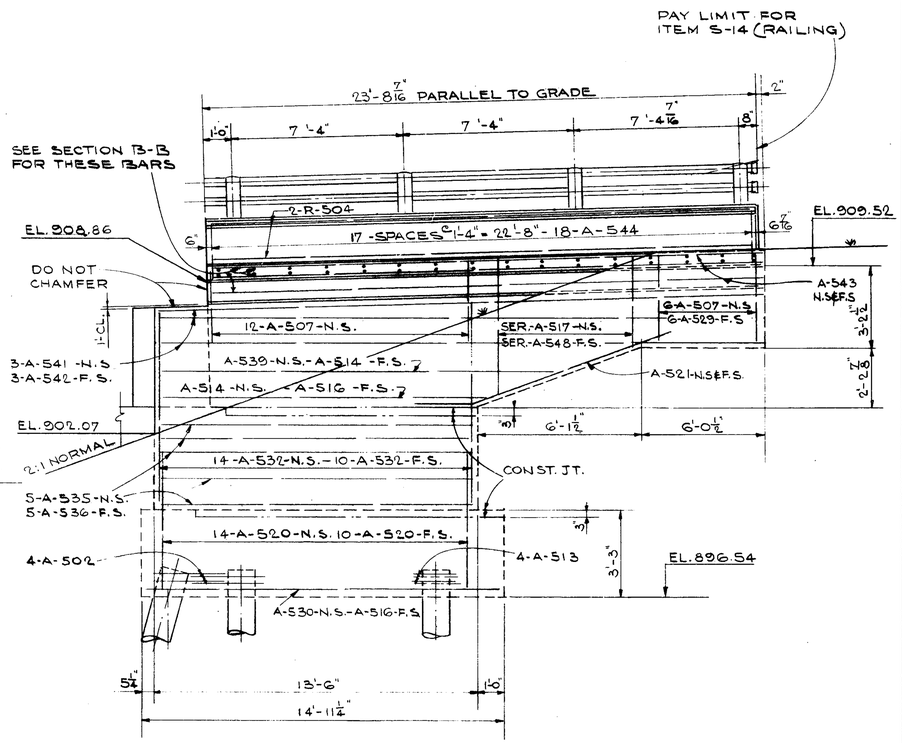
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	J.N.P.		ew	DHC		7-28-60

FED. RD.	STATE	PROJECT	
	OHIO		

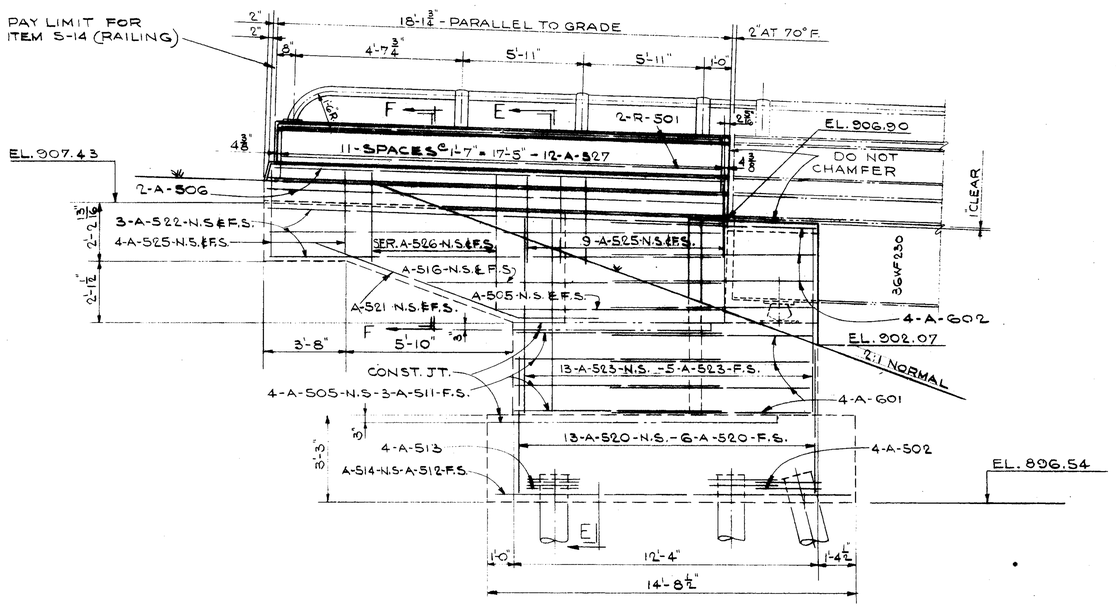
350
492



PLAN OF ABUTMENT



ELEVATION OF NORTH WINGWALL



ELEVATION OF SOUTH WINGWALL

NOTE: THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

POROUS BACKFILL, 2 FT. THICK FULL LENGTH OF ABUTMENT AND WING WALLS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB, OR TO THE UNDERSIDE OF THE SIDEWALK SLAB.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT PLAN & DETAILS

BRIDGE NO. MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JK		aw	DHC		

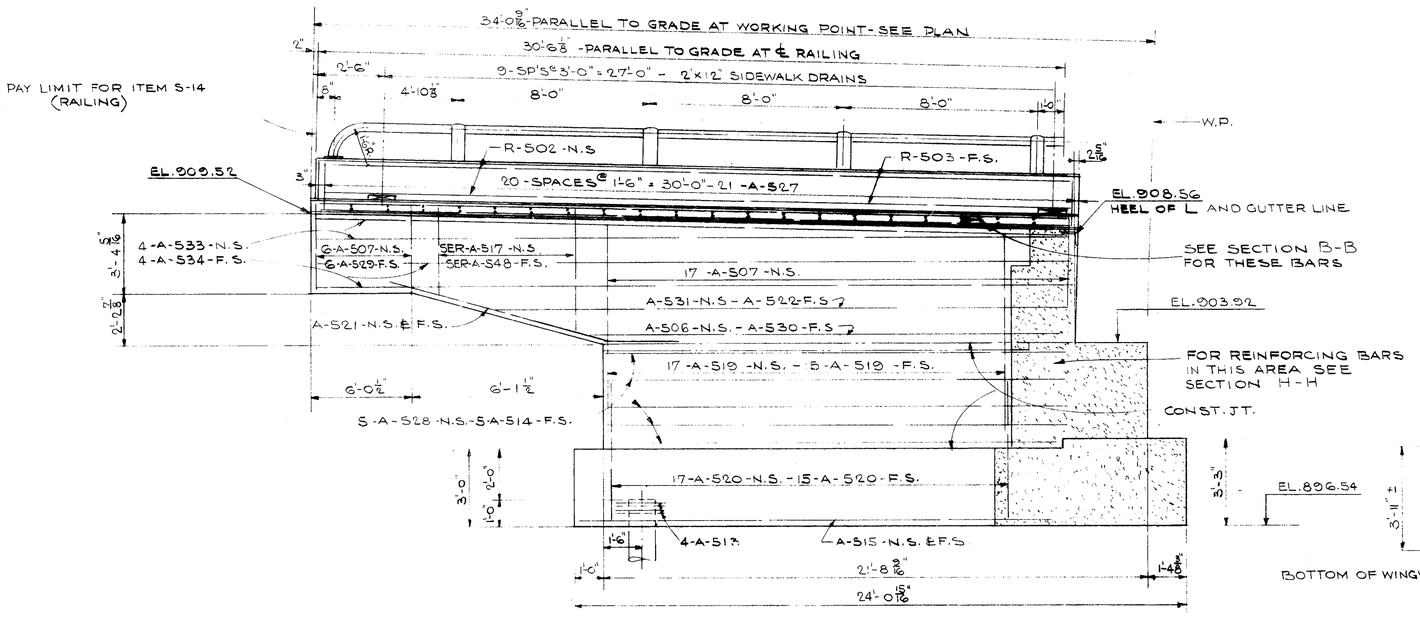
FED. RD.	STATE	PROJECT	
	OHIO		

351
492

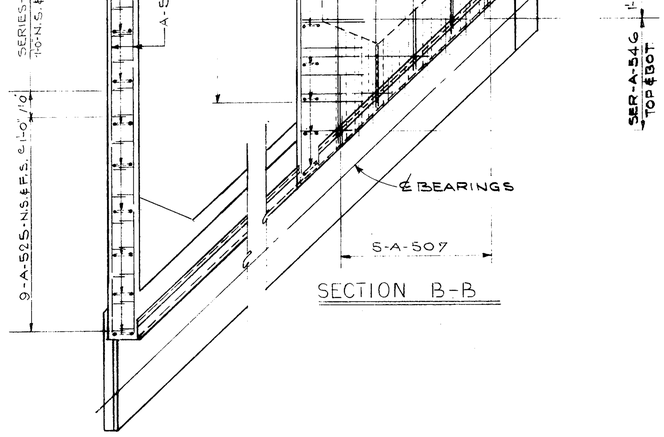
43'-3"
32'-11" - ROADWAY
7'-11"
1'-0"
2"
16'-5½"
16'-5½"
3"
10"
6'-10" SIDEWALK
3¼"
10½"
8½"
2'-8½"
℄ ROADWAY
1'-4"
⅜ PLATE - SEE DETAIL AT FRAMING PLAN.
1" TYP.
CONCRETE ABOVE THIS POINT TO BE PAID FOR AS PART OF ITEM S-14 (RAILING)
℄ EXISTING BENTS
EL. 907.96 AT FACE OF BACK WALL
EL. 908.56 HEEL OF L.
EL. 909.53 HEEL OF L.
EL. 906.90 AT FACE OF BACK WALL
EL. 908.25 HEEL OF L
A-504-F.S.
1'-4" TYP.
2-A-505-F.S. TELEPHONE CONDUITS
CONST. JT.
1'-4"
1'-8"
8½"
10½"
EL. 907.60 HEEL OF L
A-504-F.S.
1'-6"
17"
1'-6"
CONST. JT.
2"
10"
2"
1'-6"
2"
1"
44-A-604 ℄ 1'-0"
10-A-603 ℄ 1'-0"
3-A-541
A-539
4-A-603
1'-9"
EL. 903.07
EL. 903.34
EL. 903.61
EL. 903.75
EL. 903.92
EL. 904.07
A-514
5-A-511
5-A-509 ℄ 8" - TYPICAL UNDER EACH BEAM SEAT - UNLESS NOTED.
A-510
4-A-602 ℄ 1'-0"
4-A-601 ℄ 1'-0"
A-523
6"
8-A-503 N.S. ℄ 1'-0" F.S. ℄ 1'-0"
7-A-503
9-A-503-N.S.
8-A-503-F.S.
4-A-508 ℄ 8"
℄ 4" ϕ WEEPHOLES
A-532
33-A-520-N.S.25-A-520-F.S.
4-A-502 - TYPICAL
A-501-N.S. & F.S.
CONST. JT.
25-A-508-N.S.23-A-508-F.S.
A-520
1'-0"
3'-3"
EL. 896.54
5-SPACES ℄ 7'-11" = 39'-7" - ℄ TO ℄ BEAMS & PILES
44'-7" - 61'-1¾" ALONG SKEW ANGLE

ELEVATION OF ABUTMENT

ALL HORIZONTAL DIMENSIONS GIVEN NORMAL TO ℄ ROADWAY EXCEPT BAR SPACING AND DIMENSIONS AS NOTED.



SECTION A-A



SECTION B-B



SECTION Z-Z

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

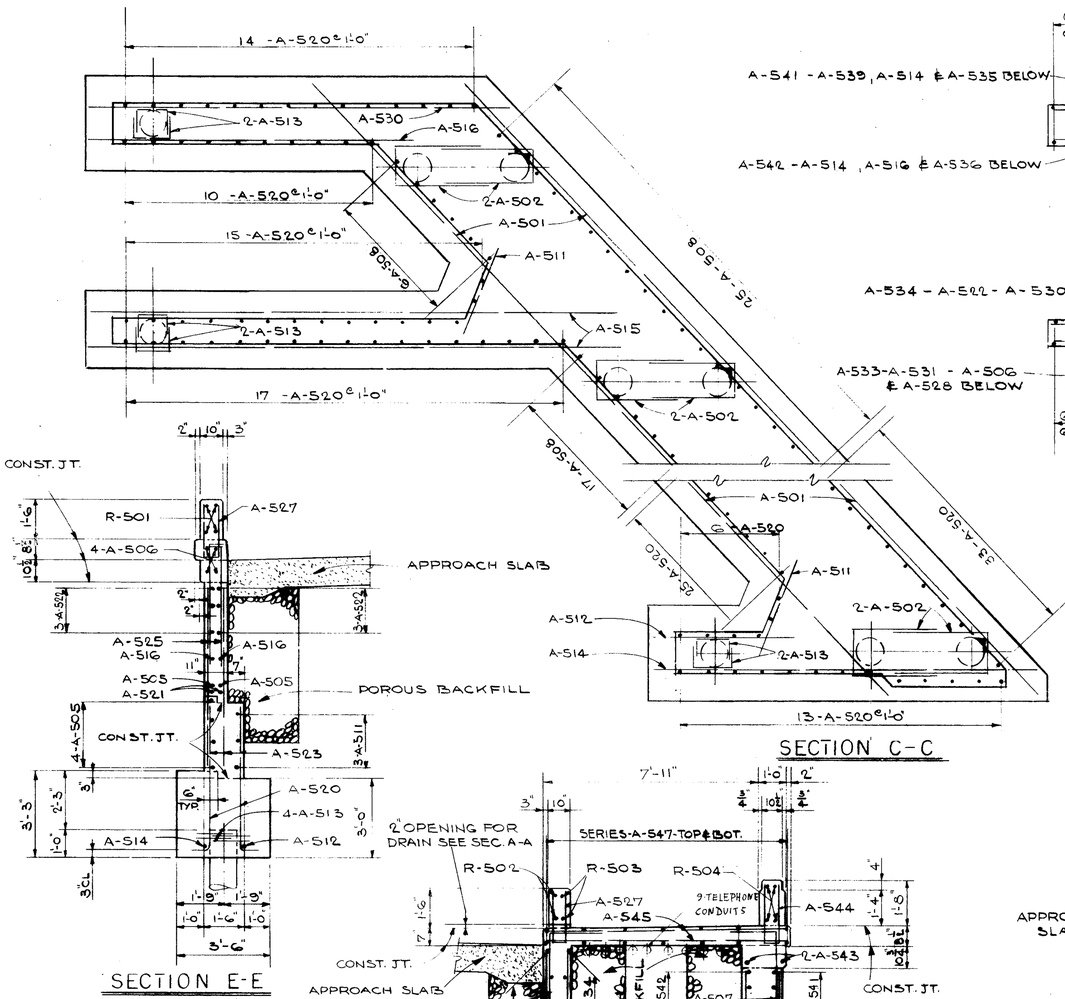
ABUTMENT DETAILS

BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JK		ew	DHC		

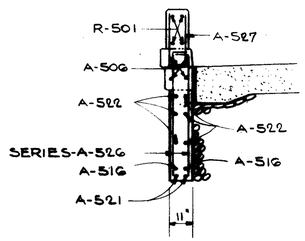
FED. RD.	STATE	PROJECT	
	OHIO		

352
492



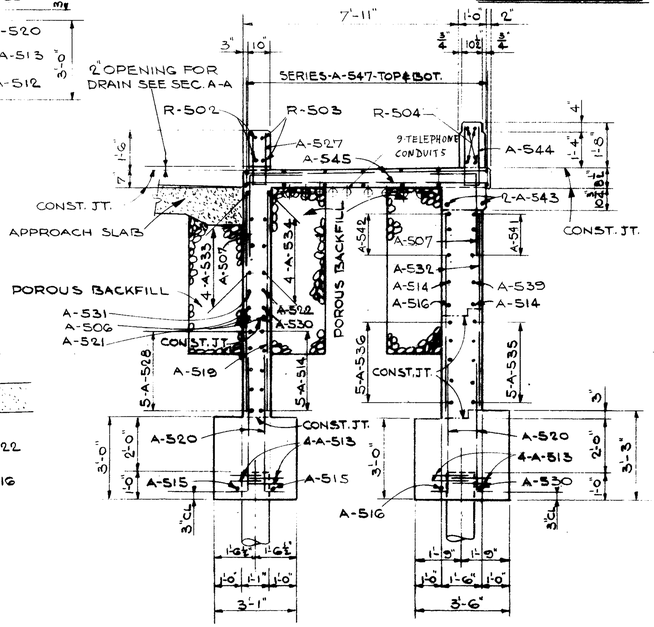
SECTION C-C

SECTION E-E

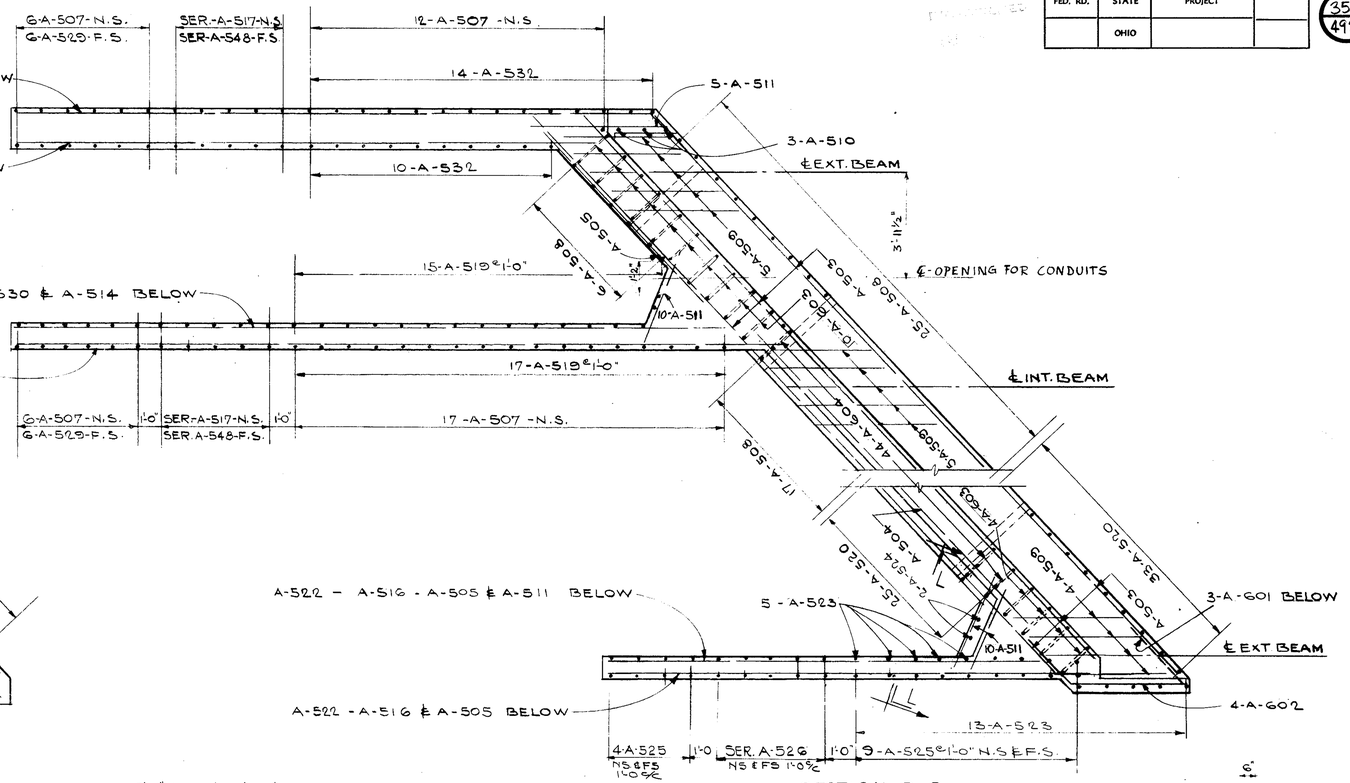


SECTION F-F

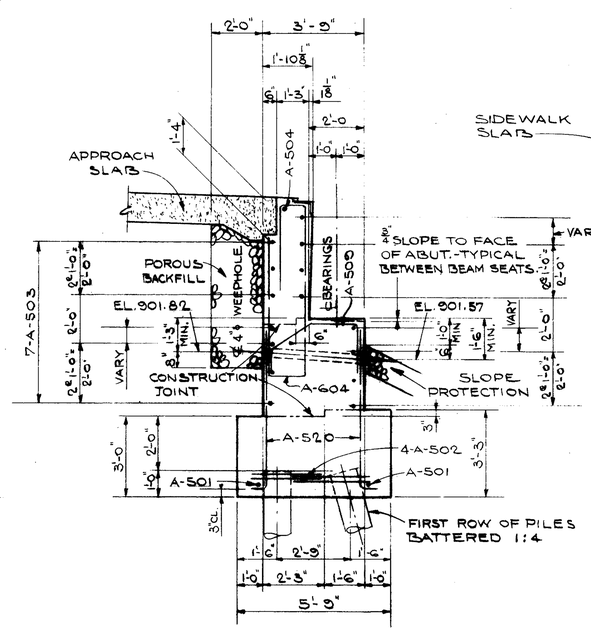
FOR DIMENSIONS NOT SHOWN SEE SECTION E-E



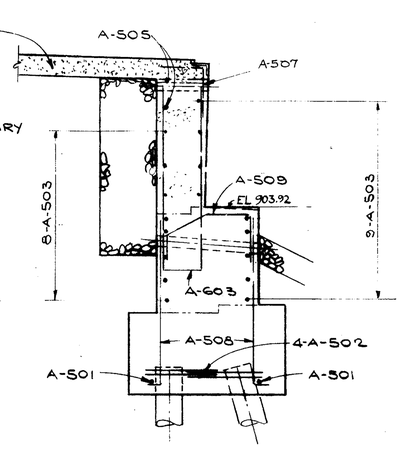
SECTION G-G



SECTION D-D

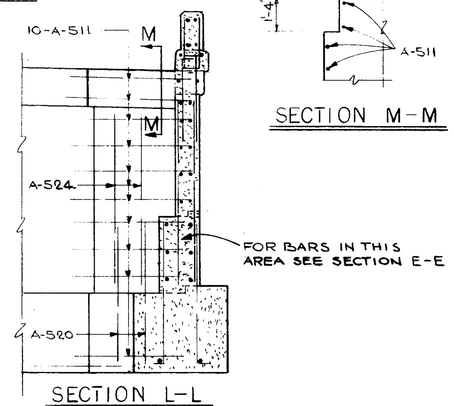


SECTION H-H



SECTION K-K

FOR DIMENSIONS NOT SHOWN SEE SECTION H-H



SECTION L-L

SECTION M-M

FOR BARS IN THIS AREA SEE SECTION E-E

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

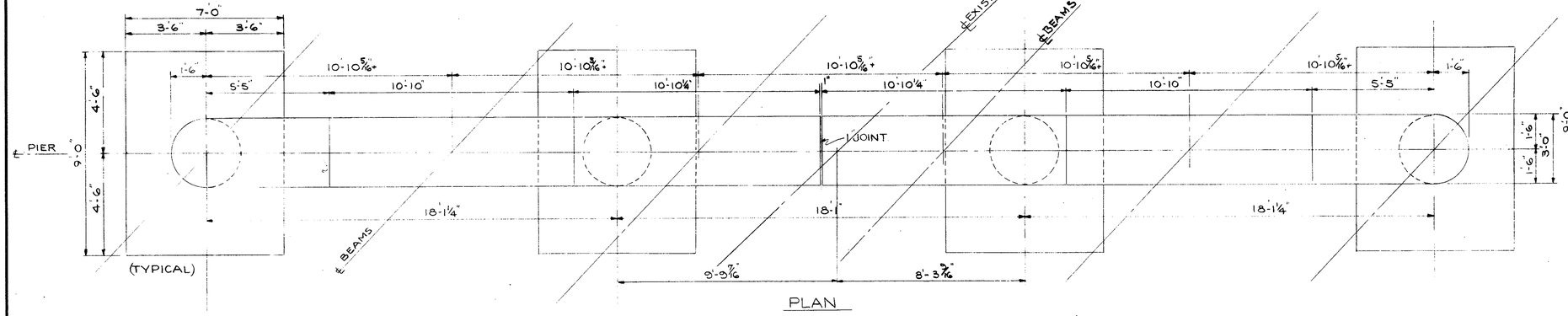
ABUTMENT DETAILS

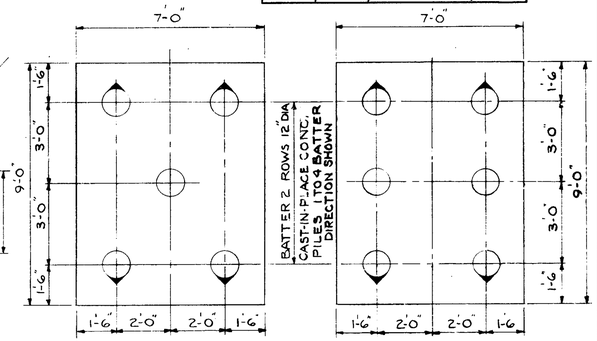
BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JK		ew.	DHC		

FED. RD.	STATE	PROJECT	
	OHIO		

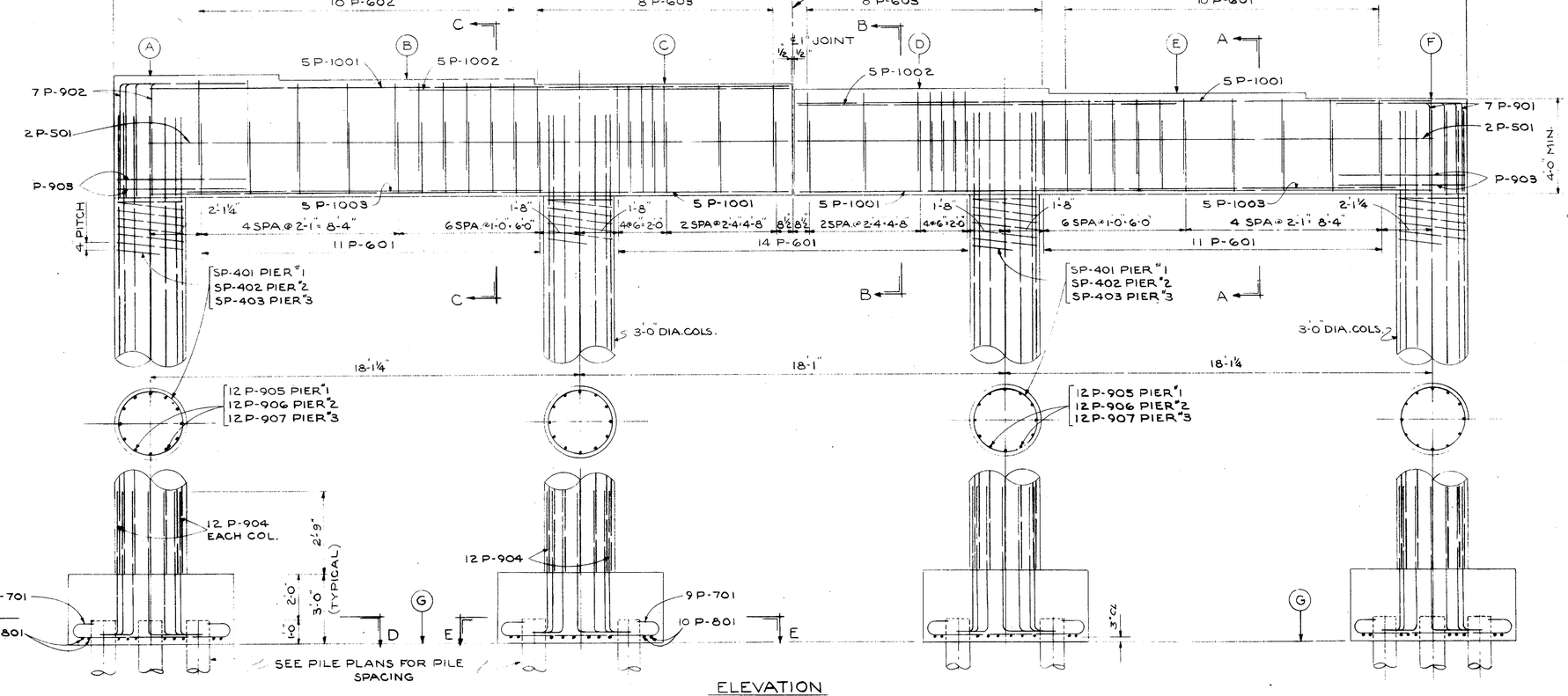
353
492



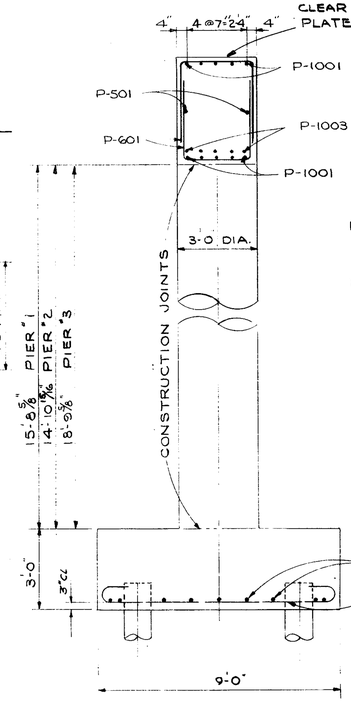


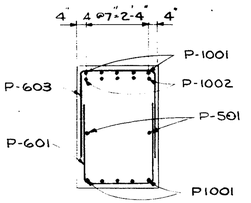
PILE PLANS

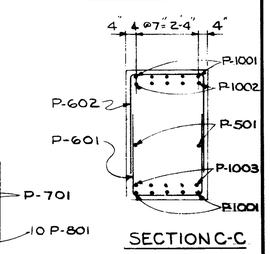
PIER ELEVATION TABLE								
PIER NO.	A	B	C	D	E	F		G
1	901.72	901.57	901.42	901.27	900.99	900.72		878.00
2	899.41	899.26	899.11	898.95	898.68	898.41		876.50
3	897.31	897.16	897.01	896.85	896.58	896.30		870.50



CARE MUST BE TAKEN IN PLACING THE BARS IN TOP OF PIER #2 TO CLEAR ANCHOR BOLTS FOR BOLSTER PLATE.







STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JLH		CW	DHC		

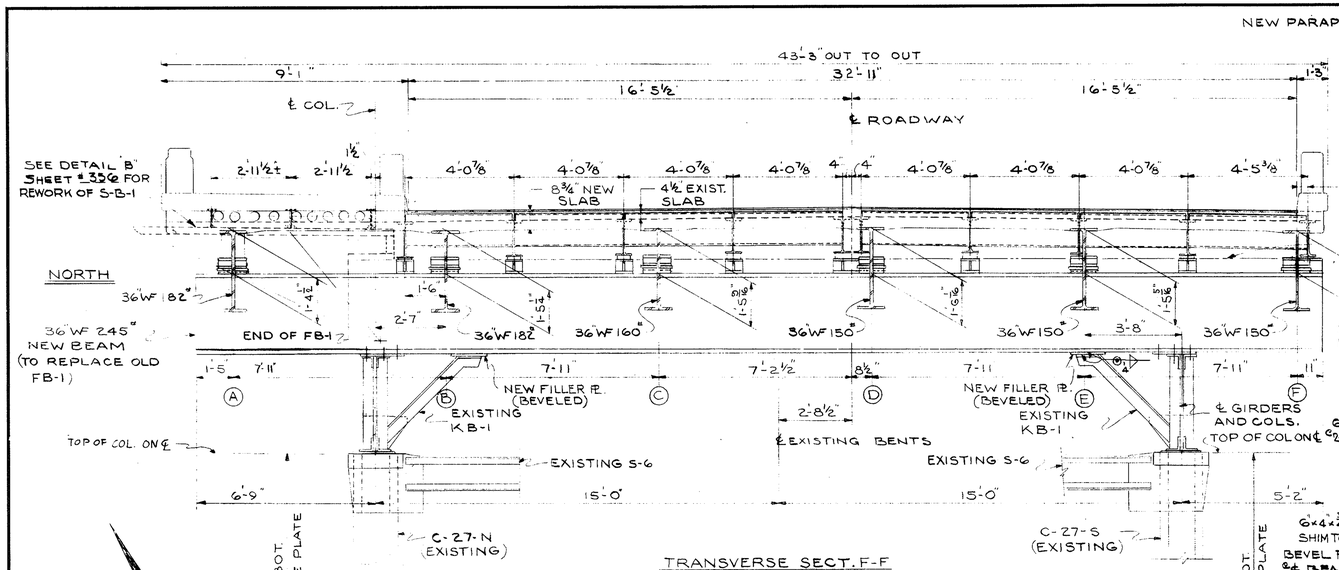
FED. RD.	STATE	PROJECT	
	OHIO		

354
492

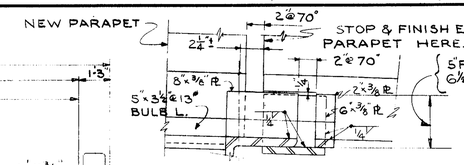
NOTE: CONTRACTOR TO REMOVE MIN. AMOUNT OF PAVING & GRID THAT IS NECESSARY AND REPLACE WITH SAME MATERIAL AFTER EXP. DAM IS IN PLACE.

NOTE (2): THIS CONTACT SURFACE SHALL NOT BE PAINTED AND SHALL BE LUBRICATED WITH FLAKE GRAPHITE PRIOR TO BOLTING TOGETHER

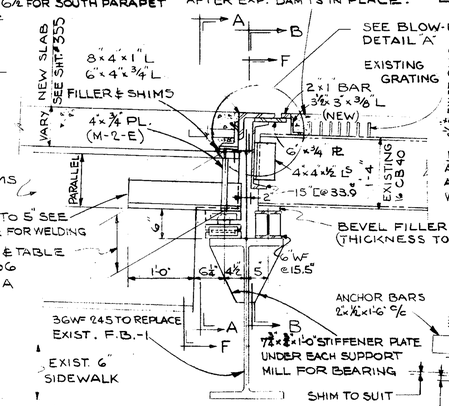
NOTE (1): 5/8 ϕ BOLTS AT APPROX. 2'-0" C/C - REMOVE AFTER STEEL WORK IS WELDED



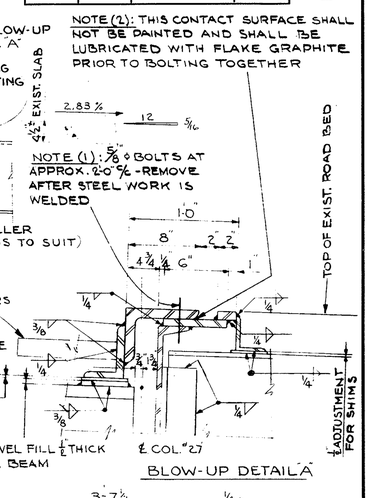
TRANSVERSE SECT. F-F
LOOKING EAST AT BENT NO. 27



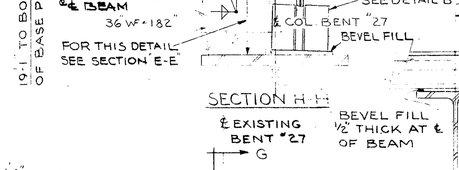
SECTION J-J
FOR PARAPETS AT BENT "27



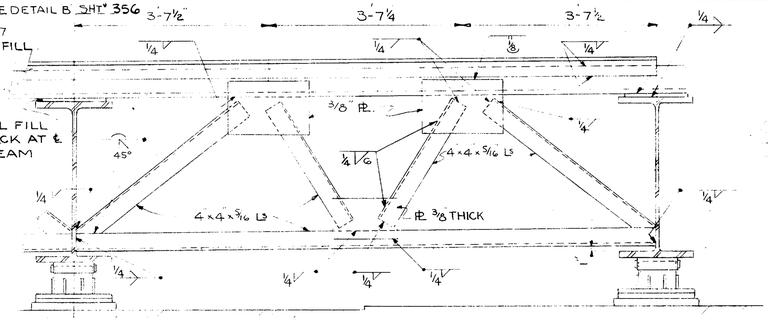
DETAIL OF CONNECTION
AT BENT "27



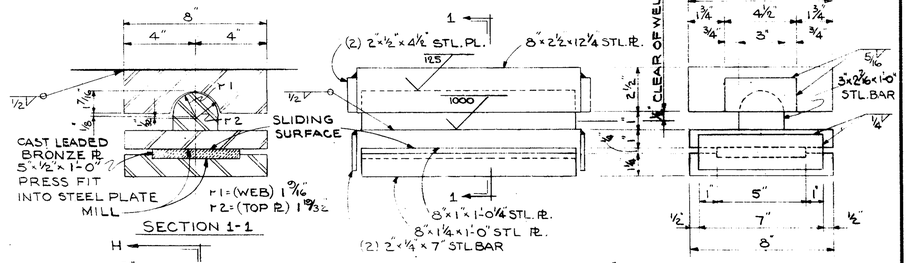
BLOW-UP DETAIL 'A'



SECTION H-H

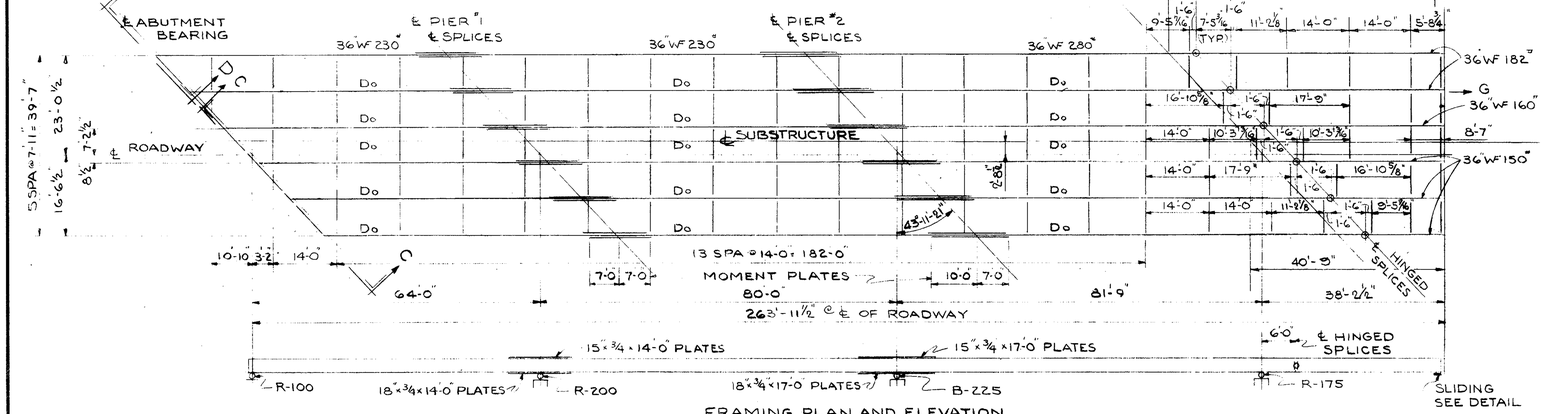


PARTIAL SECTION C-C

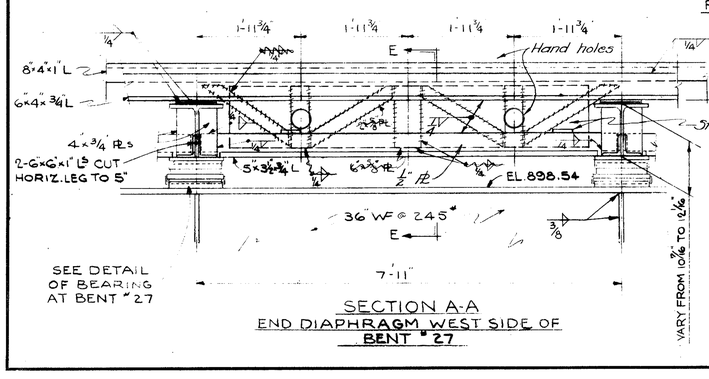


SECTION 1-1

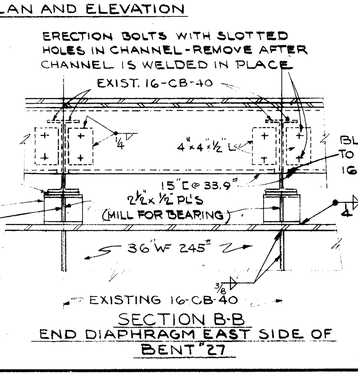
BEARING DETAIL AT BENT "27



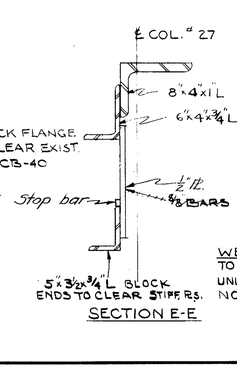
FRAMING PLAN AND ELEVATION



SECTION A-A
END DIAPHRAGM WEST SIDE OF BENT "27

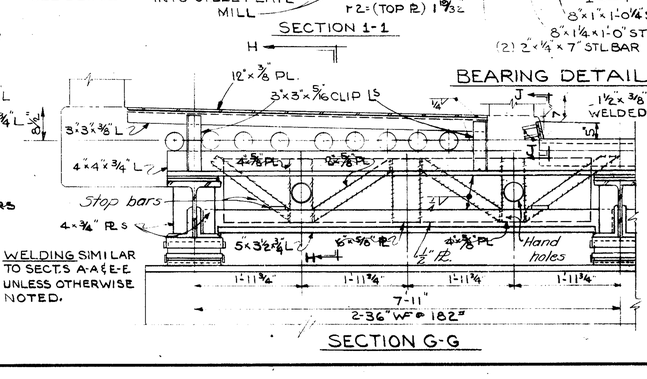


SECTION B-B
END DIAPHRAGM EAST SIDE OF BENT "27



SECTION E-E

WELDING SIMILAR TO SECTS A-A & E-E UNLESS OTHERWISE NOTED.



SECTION G-G

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

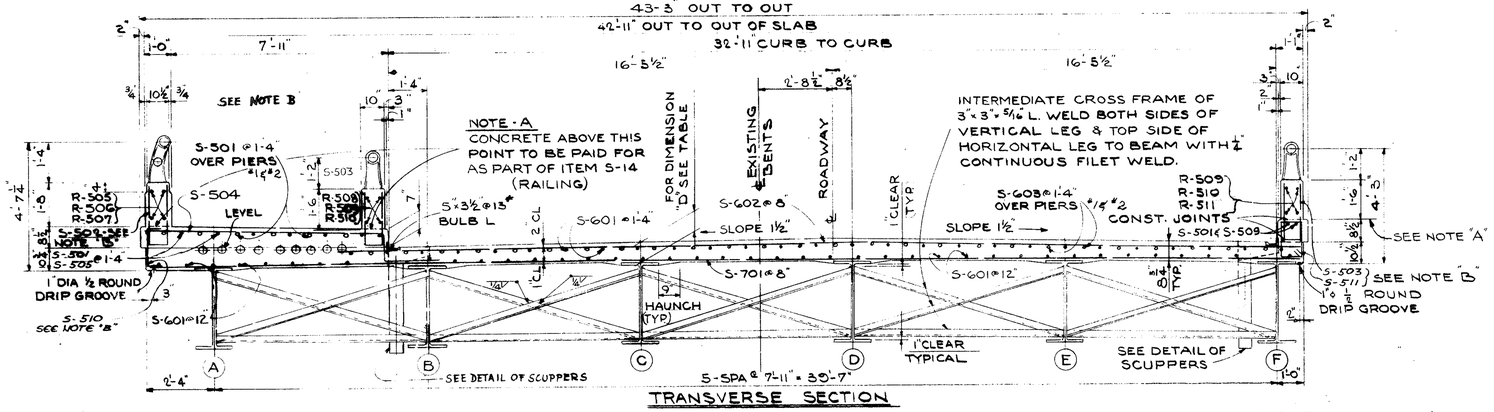
FRAMING PLAN & DETAILS

BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

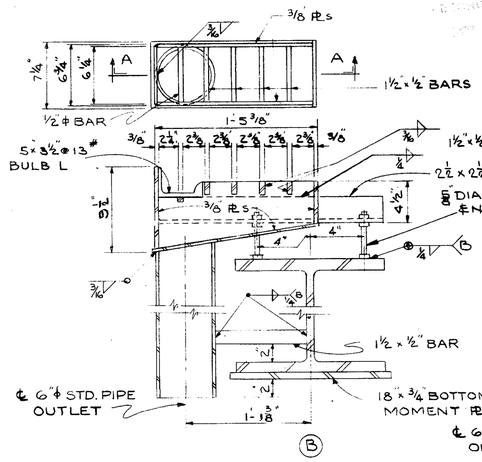
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JLH		aw	DHC		9-1-60

FED. RD.	STATE	PROJECT		355/492
	OHIO			

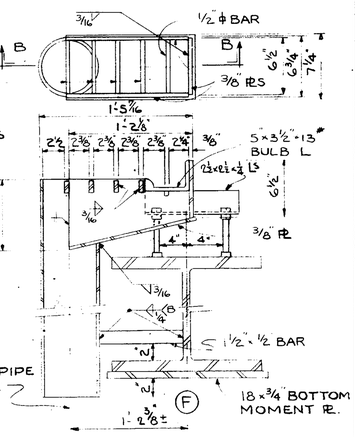
NOTE "B" - FOR SPACING OF RAILING BARS SEE RAILING DETAIL SHEET.



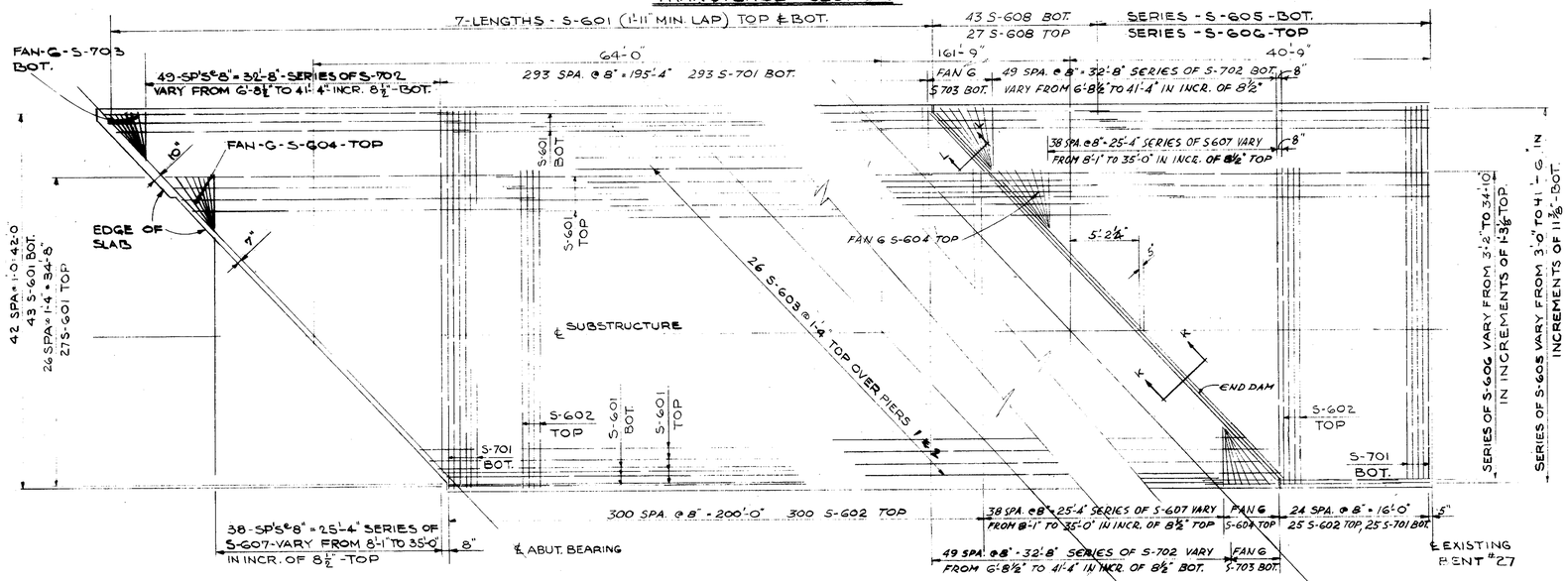
TRANSVERSE SECTION



SECTION A-A

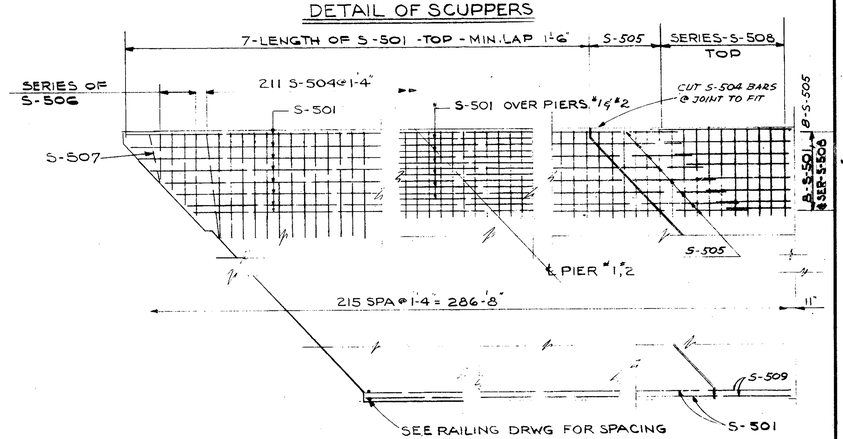


SECTION B-B

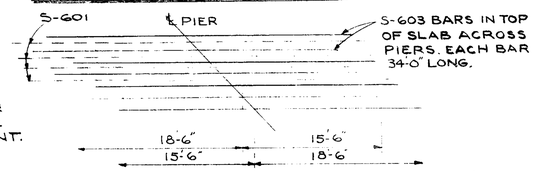


SLAB REINFORCING PLAN

DETAIL OF SCUPPERS



PLAN OF REINFORCING IN SIDEWALK AND SAFETY CURB



DETAIL OF BAR STAGGERING ACROSS PIERS #1 & #2

CAMBER DIAGRAM - CONTINUOUS SPANS

	64'-0" SPAN		80'-0" SPAN		81'-9" SPAN	
	North Bm	Other Bm	North Bm	Other Bm	North Bm	Other Bm
DEFLECTION DUE TO WEIGHT OF STEEL	0.10	0.10	0.08	0.08	0.25	0.25
DEFLECTION DUE TO REMAINING DEAD LOAD	0.60	0.40	0.50	0.30	1.25	0.80
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.00	0.00	0.00	0.00	0.00	0.00
SUM OF DEFLECTIONS AND CONVEXITY	0.70	0.50	0.58	0.38	1.50	1.05
REQUIRED CAMBER	0	0	0	0	1 1/2	1 1/4

CAMBER DIAGRAM - SIMPLE SPANS - EAST BAY

	53'-10 7/16" SPAN	46'-4 7/8" SPAN	38'-11 7/16" SPAN	31'-6 1/2" SPAN	24'-1 5/16" SPAN	16'-8 3/16" SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	0.15	0.10	0.07	0.05	0.02	0.01
DEFLECTION DUE TO REMAINING DEAD LOAD	1.20	0.50	0.28	0.20	0.08	0.02
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.00	0.00	0.00	0.00	0.00	0.00
SUM OF DEFLECTIONS AND CONVEXITY	1.35	0.60	0.35	0.25	0.10	0.03
REQUIRED CAMBER	1 3/8	0	0	0	0	0

DIMENSION "D" TABLE

BEAM	64'-0" SPAN		80'-0" SPAN		81'-9" SPAN		40'-8" SPAN	
	SIZE	"D"	SIZE	"D"	SIZE	"D"	SIZE	"D"
A	36"WF 230#	9 3/8"	36"WF 230#	9 3/8"	36"WF 280#	8 3/4"	36"WF 182#	8 7/8"
B	36"WF 230#	9 3/8"	36"WF 230#	9 3/8"	36"WF 280#	8 3/4"	36"WF 182#	8 7/8"
C	36"WF 230#	9 3/8"	36"WF 230#	9 3/8"	36"WF 280#	8 3/4"	36"WF 160#	9 1/4"
D	36"WF 230#	9 3/8"	36"WF 230#	9 3/8"	36"WF 280#	8 3/4"	36"WF 150#	9 3/8"
E	36"WF 230#	9 3/8"	36"WF 280#	9 3/8"	36"WF 280#	8 3/4"	36"WF 150#	9 3/8"
F	36"WF 230#	9 3/8"	36"WF 230#	9 3/8"	36"WF 280#	8 3/4"	36"WF 150#	9 3/8"

DIMENSION "D" = THICKNESS OF SLAB OVER BEAMS. THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION. EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.

NOTES

WELDING PROCEDURE: ① RAISE ENDS OF BEAMS 2 1/2" AT PIER "3. ② MAKE WELDED SPLICES AT PIER "2 USING THE FOLLOWING SEQUENCE, MAKE TWO PASSES ON EACH FLANGE, THEN TWO ON WEB, REPEAT USING ONE PASS AT EACH LOCATION UNTIL WELD IS COMPLETE. ③ - WELD TOP & BOTTOM MOMENT PLATES AT PIER "2. ④ - LOWER BEAM END INTO PLACE AT PIER "3. ⑤ RAISE BEAM ENDS 1/4" AT ABUTMENT. - ⑥ MAKE WELDED SPLICES AT PIER "1 USING SAME PROCEDURE AS AT PIER "2. ⑦ LOWER BEAM ENDS INTO PLACE AT ABUTMENT.

CONCRETE DECK PLACING. IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE PARALLEL TO THE TRANSVERSE REINFORCING STEEL AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

SLAB THICKNESS. SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.

WELDING STRUCTURAL STEEL. WELDING OF STRUCTURAL STEEL SHALL BE CLASS 'A' EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR MAY BE MADE IN THE SHOP.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING DETAILS

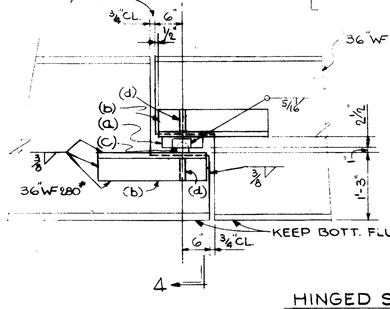
BRIDGE NO MAH-18 1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 956+83.99

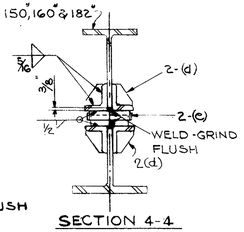
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JLH		cw	DHC		

FED. RD.	STATE	PROJECT		356 / 492
	OHIO			

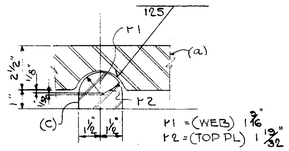
(a) = 9" x 2½" x 0'-9" PLATE
(b) = 2-L3-6x6x1" x 2'-0¼"
(c) = 2⅞" x 3" x 0'-8¾" BAR
(d) = 5" x 1" x 5" PLATE
(e) = 2" x ½ x 0'-4" PLATE

FOR DETAILS OF END-DAMS SEE SECT'S. K-K & L-L



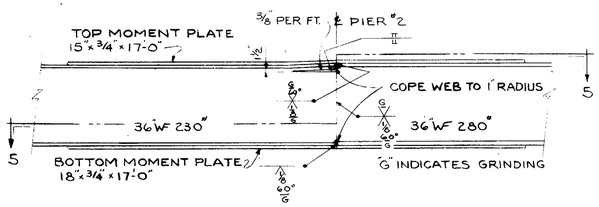


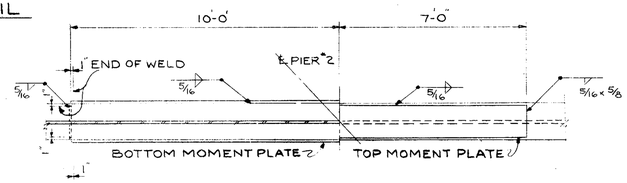
SECTION 4-4



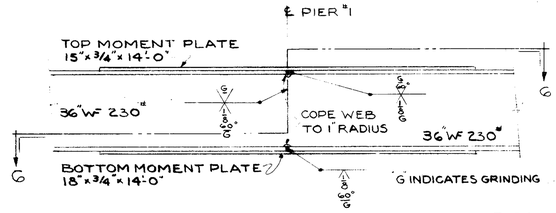
BEARING DETAIL

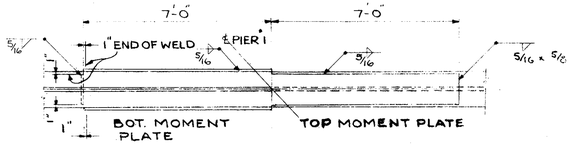
HINGED SPLICE DETAIL





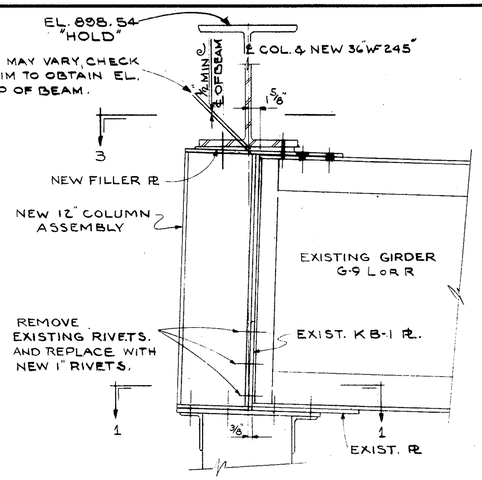
SECTION 5-5

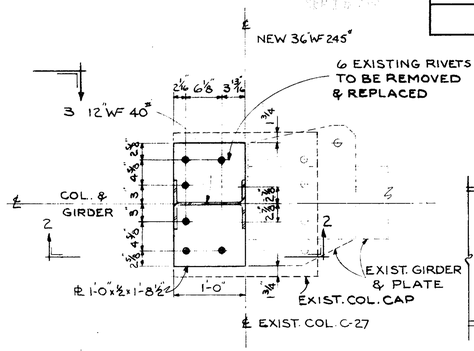




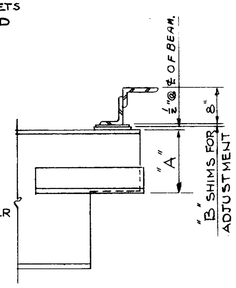
SECTION 6-6

BEAM SPLICE DETAILS

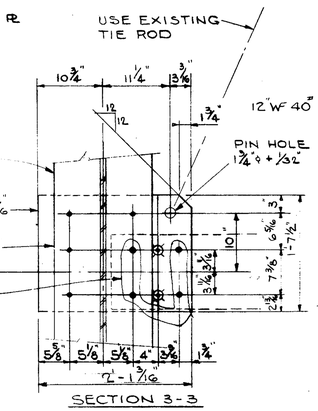




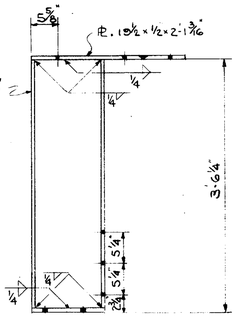
SECTION 1-1



BEAM	"A"	"B"±
A	10½"	⅜"
B	11¼"	⅜"
C	11⅞"	¾"
D	1'-0⅛"	⅞"
E	11⅞"	⅞"
F	10⅝"	⅞"

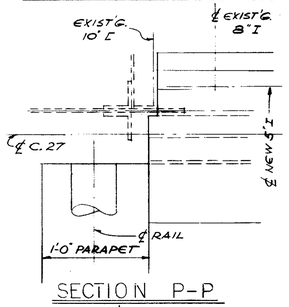


SECTION 3-3

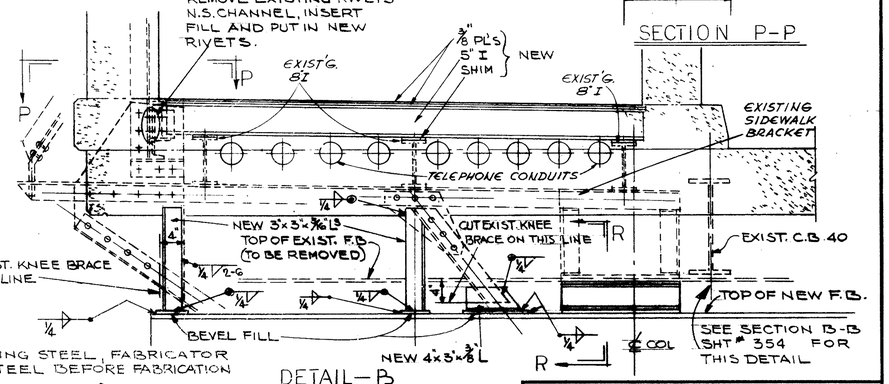


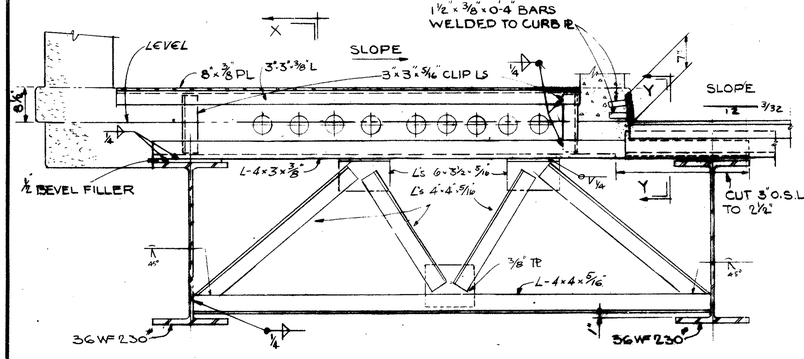
SECTION 2-2

DETAIL OF SUPPORT AT BENT #27

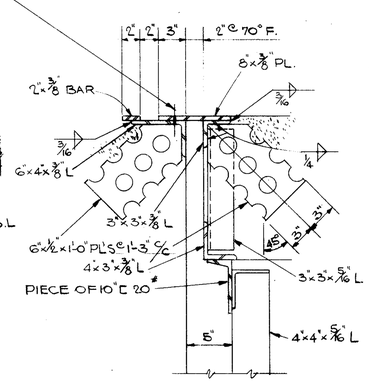


SECTION P-P

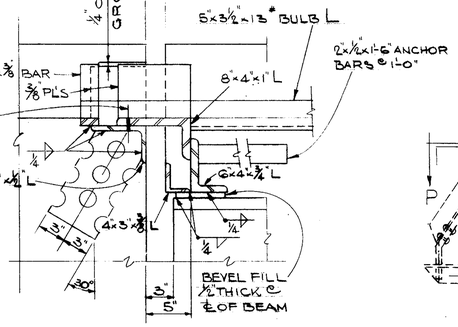




SECTION D-D



SECTION X-X



SECTION Y-Y

NOTES:

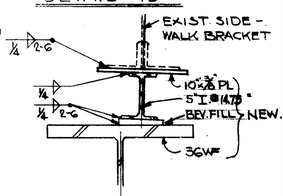
WHEREVER NEW STEEL CONNECTS TO EXISTING STEEL, FABRICATOR SHALL VERIFY DIMENSIONS OF EXISTING STEEL BEFORE FABRICATION OF NEW STEEL.

ALL RIVETS 1"ø UNLESS OTHERWISE NOTED. ALL HOLES IN EXISTING STEEL TO BE REAMED OUT TO TAKE 1"ø RIVETS.

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY REPAINTING IN ACCORDANCE WITH SEC. 8.04, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER THE OUTSIDE FACE OF OUTSIDE STEEL BEAMS AND ALL SIDES OF BOTTOM FLANGES.

SEE STATE OF OHIO STD. DWG # C.S.B.-2-56 SHEET # 2 FOR DETAILS AND NOTES NOT SHOWN.

DETAIL—B



SECTION R-R

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING DETAILS

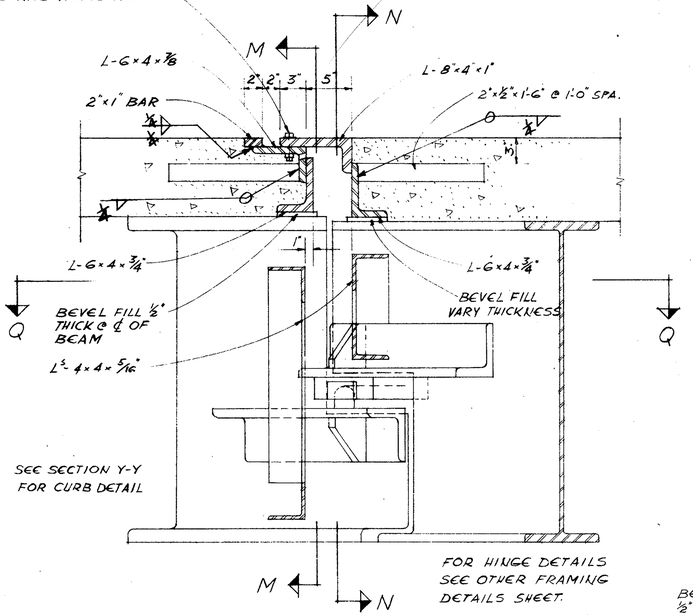
BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JLM		ewl	DHC		

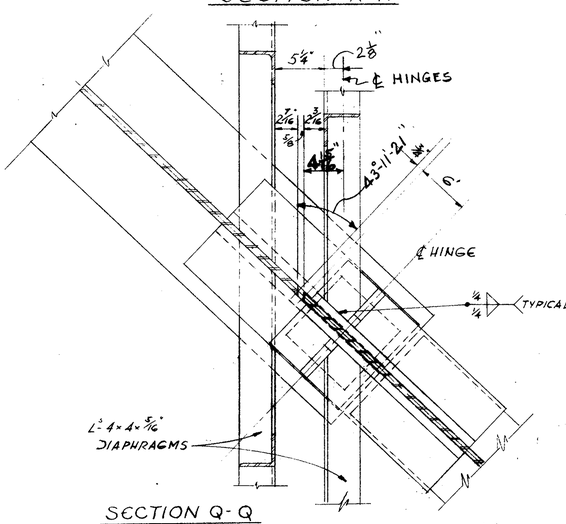
FED. RD.	STATE	PROJECT	
	OHIO		

357
492

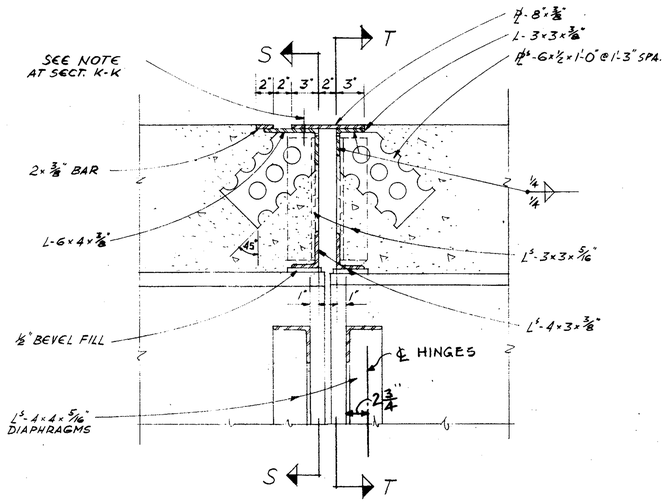
SEE STATE OF OHIO STD. DWG. "CSB-2-56 SHEET #2 FOR DETAILS AND NOTES NOT SHOWN.



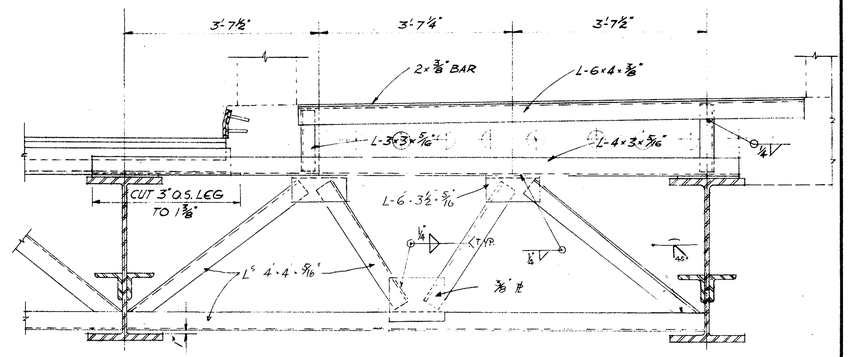
SECTION K-K



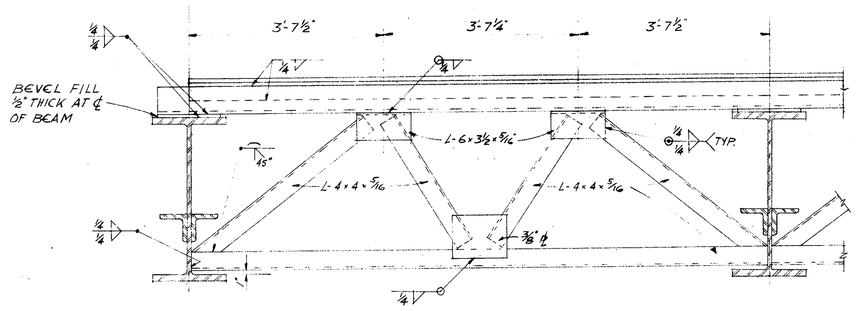
SECTION Q-Q



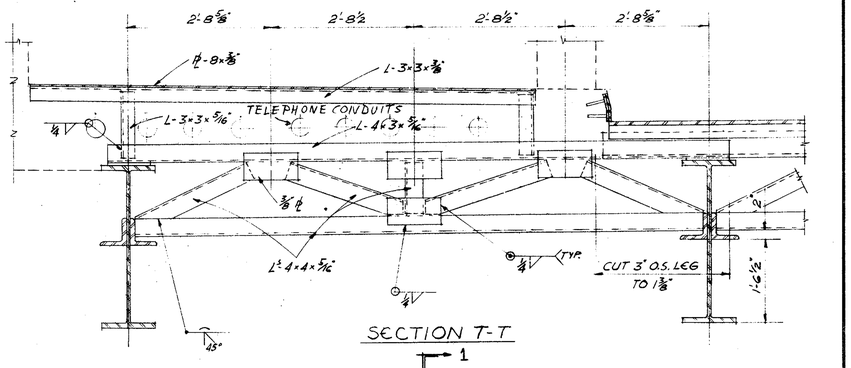
SECTION L-L



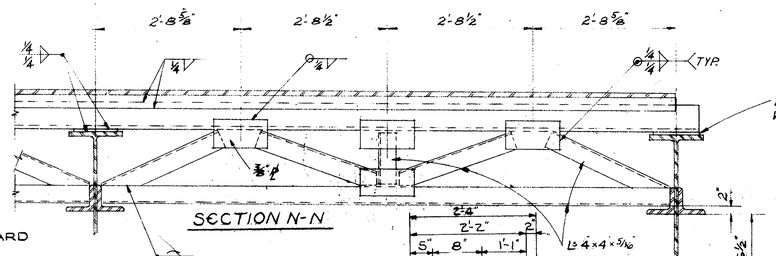
SECTION S-S



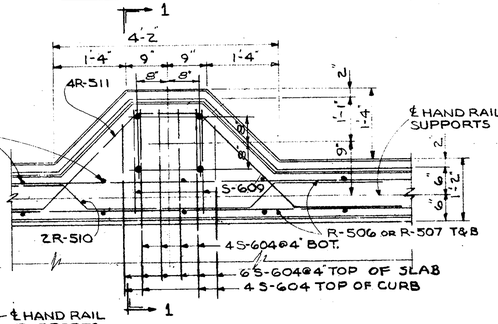
SECTION M-M



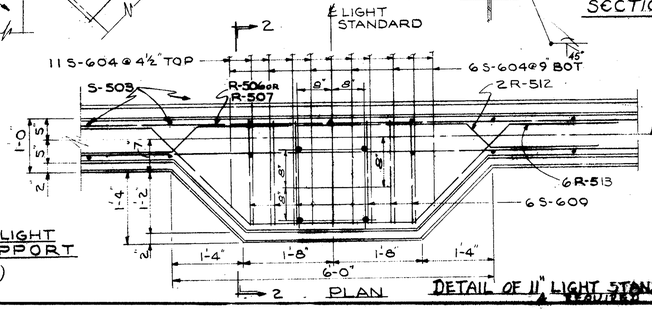
SECTION T-T



SECTION N-N

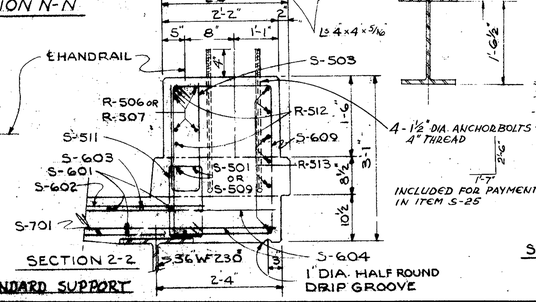


PLAN



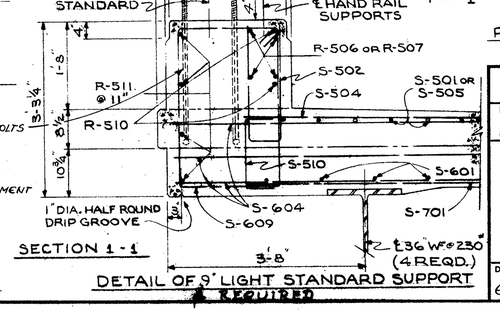
DETAIL OF 11" LIGHT STANDARD SUPPORT (4 REQ'D.)

PLAN



SECTION 2-2

DETAIL OF 11" LIGHT STANDARD SUPPORT REQUIRED



SECTION 1-1

DETAIL OF 9' LIGHT STANDARD SUPPORT REQUIRED

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING DETAILS

BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	EAK			DHC		

FED. RD.	STATE	PROJECT	
	OHIO		

358
492

℄ ABUTMENT BEARING — 11'-2⅝" — 2 @ 70° — 13 SPA. @ 16'-0" = 208'-0" — ℄ PIER #1 — ℄ PIER #2 — ℄ PIER #3 — 13'-0" — 2 @ 70° — 13'-0" — 2 SPA. @ 16'-0" = 32'-0" — 10'-8½" — 3½"±

A — A

2 @ 70° — 11'-1⅝" — FACE OF ABUTMENT — FACE OF BACKWALL AT ℄ OF RAIL — 5"×3½"@13.0 BULB L.

B — B

8'-0" — 14'-0" — 5"×3½"@13.0 BULB L. — FACE OF ABUTMENT — 8'-0" — 14'-0" — FACE OF CURB

5'-4¼" — 13'-0" — 13'-0" — 2 @ 70° — 2 SPA. @ 16'-0" = 32'-0" — 3'-11½"±

4 SPA. @ 8'-0" = 32'-0" — 3'-6" — ℄ EXISTING BENT #27

¼" GREY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF SEC. M-10.02. TYPE NO.1. SPACE TWO PANEL LENGTHS APART. (INCLUDED WITH ITEM S-14 FOR PAYMENT)

FACE OF CURB — 5'-2½" — USE WELDED BEND & COUPLING — 45° — 2" — B

USE STD. ELBOW & COUPLING — 45° — 2"

5'-0" — 5'-0" — 3'-6" — ¼"±

℄ PIER #1 — ℄ PIER #2 — ℄ PIER #3 — ℄ HINGED SPLICES — 17'-5½"±

C — C

TYPE "C" RAILING
4" O.D. × 3/16 WALL TOP & 3½" O.D. × 5/16 WALL BOT. ALUMINUM TUBE. RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF NEW SUPERSTRUCTURE.

2 @ 70° — 11'-1⅞" — 13 SPA. @ 16'-0" = 208'-0" — 13'-0" — 2 @ 70° — 6 SPA. @ 8'-0" = 48'-0" ℄ TO ℄ RAILPOSTS — REFINISH EXISTING RAILING HERE. SEE NOTE BELOW — 5'-8½"±

PARTIAL DECK PLAN

2 @ 70° — 1'-0" — 1'-0" — 6'-2⅝" — 28 SPA. @ 8'-0" = 224'-0" ℄ TO ℄ RAILPOSTS — 1'-0" — 1'-0" — 1'-0"

2 R-505 — 8 S-502 — 8 S-510 — 7 SPA @ 1'-6" 10'-6" — 2 R-505 — 2 R-506 — 10 S-502 — 9 SPA @ 1'-8" = 15'-0" — 10 S-502 @ 1'-8", 10 S-510 @ 1'-8" — 2 R-506 — CONSTRUCTION JOINT — 2 R-507 — 8 SPA. @ 1'-6" = 12'-0" — 9 S-502 — 9 S-510 — 2 R-507 — 9 S-502 & 9 S-510 @ 1'-6" = 12'-0" — 2 R-507 — 2 R-506 — 9 SPA. @ 1'-8" = 15'-0" — 10 S-502 — 10 S-510 — 2 R-506 — 7 SPA @ 1'-5"-9-11" — 2 R-505 — 8 S-502 — 8 S-510 — CONSTRUCTION JOINT — SIDEWALK BRACKET RAIL POST & DIAG. BRACE FOR POST TO REMAIN IN PLACE — END OF PARAPET WALL — 3/16 — C-27

SECTION A-A

TYPE "A" RAILING
4" O.D. 3/16 WALL ALUMINUM TUBE. RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF NEW SUPERSTRUCTURE

2 @ 70° — 1'-0" — 1'-0" — 6'-1⅝" — 2-SP'S @ 3'-2" = 6'-4" — 2'-0" — 1'-8" — 4 SPA. @ 3'-2" = 12'-8" SIDEWALK DRAINS — 1'-8" TYPICAL FOR EACH 16'-0" PANEL SECT. B-B ONLY — 28 SPA. @ 8'-0" = 224'-0" ℄ TO ℄ RAILPOSTS — 1'-9" — 3-SP'S @ 3'-2" = 9'-6" SIDEWALK DRAINS — 1'-10" — TYPICAL FOR EACH 13'-0" PANEL, SECT. B-B ONLY — 5 SPA. @ 8'-0" = 40'-0" ℄ TO ℄ RAILPOSTS — SW. DRAINS — 6'-11½" — 11½" — 1'-6" — 1'-0" — 1½" — 1'-2"

2 R-505 — 8 S-503 — 7 SPA @ 1'-6" 10'-6" — 2 R-505 — 2 R-506 — 10 S-503 @ 1'-8" — 2 R-506 — SCUPPERS — 2 R-506 — 10 S-503 @ 1'-8" — 2 R-506 — 1'-0" — 2 R-507 — 8 SPA. @ 1'-6" = 12'-0" — 9 S-503 — 2 R-507 — SCUPPERS — 2 R-507 — 2 R-507 — 9 S-503 @ 1'-6" = 12'-0" — 2 R-507 — 5"×3½"@13" BULB L — 2 R-506 — 9 SPA. @ 1'-8" = 15'-0" — 10 S-503 — 2 R-506 — 2 R-508 — 3 S-503 @ 1'-6" — 2 R-509 — 45° — 2'-6"

2" DIA. STD. STL. PIPE DRAIN. WELD STUB END FULL PERIMETER TO BULB ANGLE.

SECTION B-B

NOTE: THE EXISTING RAILINGS SHALL BE CUT & FINISHED AS SHOWN. THE EXISTING PARAPETS, WHERE APPLICABLE, SHALL BE CUT BACK NEATLY ABOUT 18" FROM THE JOINT WITHOUT DAMAGE TO THE REINFORCING. THE REINFORCING SHALL THEN BE CUT TO HAVE 2" CLEARANCE FROM THE FINISHED SURFACE. THE NEW ENDS OF THE PARAPETS SHALL BE FORMED AND POURED WITHOUT CHAMFER TO DIMENSIONS SHOWN AND PROVIDING ANCHORBOLTS FOR RAILING POSTS AS REQUIRED.
ALL THIS WORK SHALL BE INCLUDED IN ITEM S-14 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING & DRAINAGE DETAILS

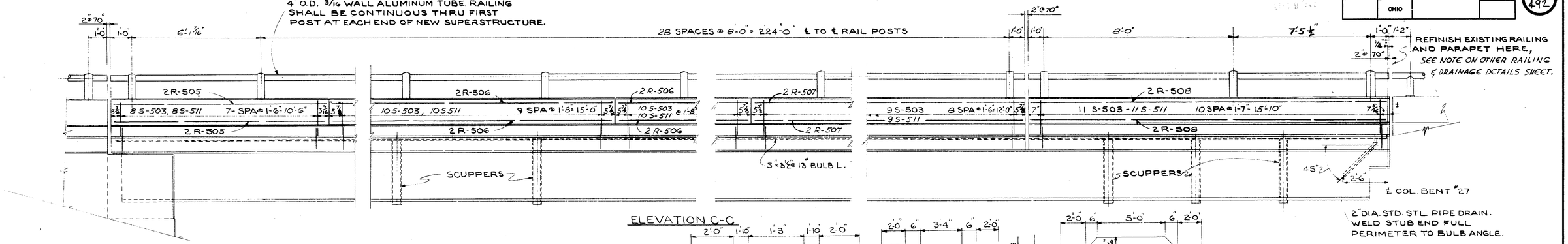
BRIDGE NO MAH-18-1815
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	J.L.H.		aw	DHC		

FED. RD.	STATE	PROJECT	
	OHIO		

359
497

TYPE "A" RAILING
4" O.D. 3/16" WALL ALUMINUM TUBE. RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF NEW SUPERSTRUCTURE.



2" DIA. STD. STL. PIPE DRAIN. WELD STUB END FULL PERIMETER TO BULB ANGLE.

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	WEIGHT	SHAPE	MARK	NO.	LENGTH	WEIGHT	SHAPE
	ABUTMENT								
A-501	4	31'-6"	131	ST.	A-601	3	10'-6"	47	BT.
A-502	24	8'-4"	209	BT.	A-602	4	7'-7"	46	BT.
A-503	32	30'-1"	1004	ST.	A-603	14	15'-3"	321	BT.
A-504	2	22'-10"	48	ST.	A-604	44	17'-4"	1146	BT.
A-505	8	8'-9"	73	ST.					
A-506	5	18'-0"	94	ST.	TOTAL ABUTMENT			8,090	
A-507	51	5'-6"	293	BT.	PIERS				
A-508	58	7'-2"	434	BT.	P-501	12	27'-0"	338	ST.
A-509	29	6'-8"	202	BT.					
A-510	3	6'-0"	19	ST.	P-601	138	8'-6"	1762	BT.
A-511	24	4'-0"	100	ST.	P-602	30	9'-10"	443	BT.
A-512	1	5'-0"	5	ST.	P-603	48	9'-2"	661	BT.
A-513	12	5'-4"	67	BT.					
A-514	3	13'-10"	43	ST.	P-701	108	8'-4"	1839	BT.
A-515	2	18'-6"	39	ST.					
A-516	4	11'-6"	48	ST.	P-801	120	10'-10"	3470	BT.
SERIES OF A-517	2 SETS OF 6 = 12	VARY 5'-7" TO 7'-3" INC. 4"	80	BT.					
A-518	32	8'-8"	289	ST.	P-901	21	7'-10"	559	BT
A-520	133	6'-3"	867	BT.	P-902	21	8'-10"	631	BT
A-521	6	9'-9"	61	BT.	P-903	12	9'-7"	391	BT.
A-522	7	17'-8"	129	ST.	P-904	144	6'-2"	3019	BT
A-523	18	6'-9"	127	ST.	P-905	48	19'-0"	3101	ST.
A-524	2	6'-5"	13	ST.	P-906	48	18'-3"	2978	ST
A-525	28	3'-9"	110	BT.	P-907	48	22'-1"	3604	ST.
SERIES OF A-526	2 - SETS OF 5 = 10	VARY- 4'-1 - 5'-5" INCR. 4"	50	BT.					
A-527	33	4'-4"	149	BT.	P-1001	60	27'-0"	6971	ST
A-528	5	17'-3"	90	ST	P-1002	30	16'-0"	2065	ST
A-529	12	3'-4"	42	ST	P-1003	30	15'-1"	1947	ST.
A-530	2	15'-1"	31	ST.					
A-531	1	21'-1"	22	ST.	TOTAL PIERS			33,779	
A-532	24	7'-10"	196	ST	SUPERSTRUCTURE				
A-533	4	29'-9"	124	ST.	S-501	82	34'-8"	2965	ST
A-534	4	26'-0"	108	ST	S-502	184	4'-9"	912	BT.
A-535	5	15'-2"	79	BT	S-503	337	4'-4"	1522	BT
A-536	5	10'-6"	55	ST.	S-504	211	10'-9"	2366	BT
A-539	1	16'-6"	17	ST	S-505	8	27'-4"	228	ST
A-541	3	25'-4"	79	ST	SERIES OF S-506	1 SET OF 4	VARY- 6'-7" - 10'-10" INC. 1'-5"	36	BT.
A-542	3	22'-9"	71	ST.	S-507	1	6'-0"	6	BT.
A-543	2	23'-6"	49	ST.	SERIES OF S-508	1 SET OF 8	VARY 22'-0" - 30'-2" INC. 14"	218	ST.
A-544	18	4'-9"	89	BT					
A-545	36	8'-8"	325	ST.					
SERIES OF A-546	2 SETS OF 4 = 8	VARY 1'-10" - 6'-1" INCR. 1'-5"	33	ST.					
SERIES OF A-547	2 SETS OF 7 = 14	VARY 22'-6 - 30'-0" INCR. 1'-5"	383	ST					
SERIES OF A-548	2 SETS OF 6 = 12	VARY 3'-5" - 5'-1" INCR. 4"	53	ST.					

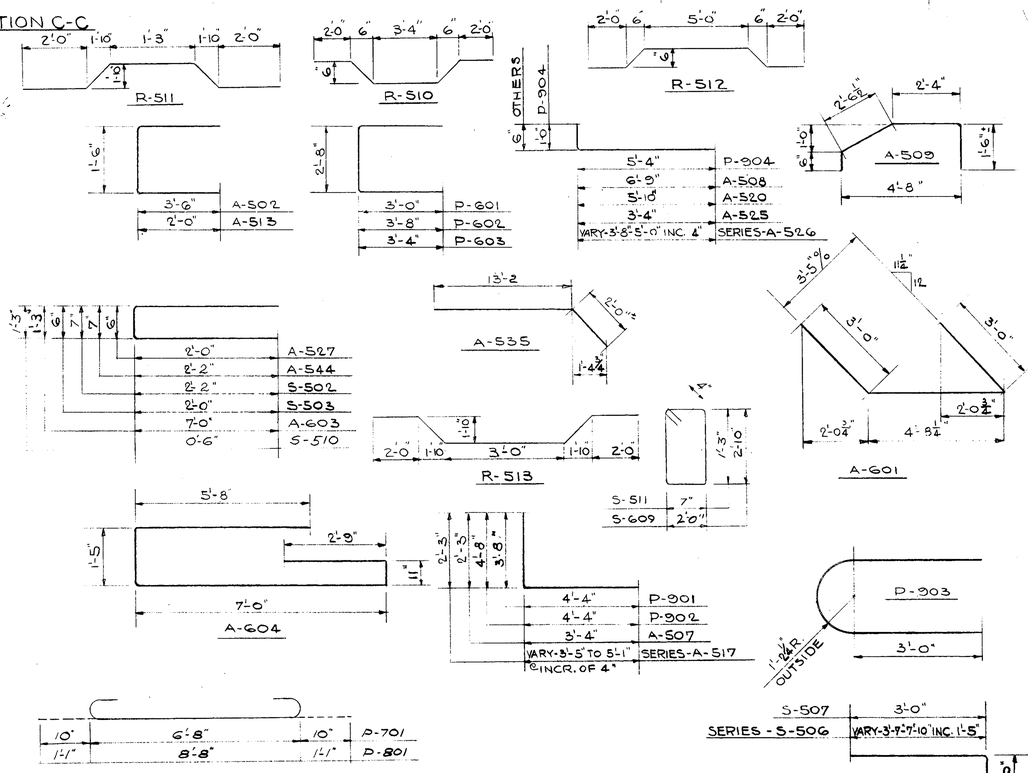
MARK	NO	LENGTH	WEIGHT	SHAPE
S-509	2	16'-10"	36	ST.
S-510	184	2'-1"	399	BT.
S-511	158	3'-11"	646	BT.
S-601	490	35'-1"	25,818	ST
S-602	325	36'-0"	17,573	ST
S-603	52	34'-0"	2656	ST
S-604	174	9'-0"	2321	ST
SERIES OF S-605	1-SET OF 43	VARY- 3'-0" - 41'-6" INC. 11"	1437	ST
SERIES OF S-606	1-SET OF 27	VARY- 3'-2" - 35'-8" INC. 1'-5"	789	ST
SERIES OF S-607	3 SETS OF 39	VARY- 8'-1" - 35'-0" INC. 8½"	3786	ST
S-608	70	16'-5"	1726	ST.
S-609	32	9'-11"	480	BT
S-701	318	42'-7"	27,677	ST.
SERIES OF S-702	3 SETS OF 50	VARY- 6'-8½" - 41'-5" INC. 8½"	7378	ST
S-703	18	6'-0"	222	ST
TOTAL SUPERSTRUCTURE			100,797	
RAILING * SEE NOTE-2				
R-501	4	17'-9"		ST.
R-502	2	30'-3"		ST.
R-503	2	29'-11"		ST.
R-504	4	23'-4"		ST.
R-505	16	10'-7"		ST.
R-506	172	15'-7"		ST.
R-507	20	12'-7"		ST.
R-508	4	16'-10"		ST.
R-509	4	3'-5"		ST.
R-510	8	8'-8"		BT
R-511	16	10'-4"		BT
R-512	8	10'-5		BT
R-513	24	12'-2"		BT
REPLACEMENT BARS - SEE NOTE-1				
RE-401	1	5'-3"	(SPIRAL)	BT
RE-501	1	5'-6"		ST
RE-601	4	6'-0		ST
RE-701	2	6'-3"		ST
RE-801	1	6'-6"		ST
RE-901	1	7'-0"		ST
RE-1001	1	7'-3"		ST

SPIRAL REINFORCING LIST

MARK	NO REQ'D	CORE DIA OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT
SP-401	4	2'-8"	15'-8⅜"	4"	50	1102
SP-402	4	2'-8"	14'-11"	4"	48	1058
SP-403	4	2'-8"	18'-9⅜"	4"	59	1300
SPACERS	48					539
					TOTAL:	3999

GRAND TOTAL 146665 LBS

ELEVATION C-C



SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF PIER CAPS. THE NUMBER OF TURNS SHOWN IN THE STEEL LIST FOR THE 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 HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROXIMATELY 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-700 IS A NO. 7 SIZE BAR AND A-1014 IS A NO. 10 SIZE BAR.

① REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

② *RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING, DRAINAGE DETAILS & REINFORCING SCHEDULE

BRIDGE NO. MAH-18-18.15
UNDER MAHONING AVE
YOUNGSTOWN MAHONING COUNTY
STA. 958+83.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	JLH		aw	DHC		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.

MAH-18-17.20

CURVE DATA NO. 3
Δ = 60° 43' 03" Lt. L_c = 703.95
D_c = 5° 30' 00" T_s = 813.68
L_s = 400.00' E_s = 172.95
R_c = 1041.74' C.S. STA. 965+77.01
θ_s = 11° 00' 00"

DRAINAGE DATA
HIGH WATER (50 YEAR): 841.5
Q=
DRAINAGE AREA: 68.4 SQ. MI.

PROPOSED STRUCTURE
TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 85' 106' 106' 106' 106' 85' 9/6 PIERS & ABUT.
ROADWAY: 94'-0" F/F 2'-3" SAFETY CURBS
SKEW: 00°-00'-00"
LOAD FREQUENCY: CF 2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
ALIGNMENT: SEE CURVE DATA
SUPERELEVATION: VARIABLE .083% MAXIMUM
TRAFFIC COUNT: PRICE ROAD 4300 ADT 1979

FOUNDATION SOUNDINGS
FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF SOIL SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR AT THE DIVISION OFFICE. BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF !!

PRICE ROAD PROFILE

DECELERATION LANE SAWTOOTH
RAMP "E"
END APPROACH & JAB STA. 962+48.25
P.C. STA. 963+96.94
S. PARK ROAD
BENCH EL. 875.7
PT. MIN. CLEARANCE
PRICE ROAD
42" SAN. SEWER
C.S. STA. 965+77.01
2.0' VARYING
16' CLEAR
SURVEY OF STATE ROUTE #7
TOP OF SPILLWAY EL. 838.34
DAM
MILL CREEK POND (LAKE GLACIER)
BENCH EL. 841.9
DECELERATION LANE (RAMP "D")
CURB
ACCELERATION LANE (RAMP "D")
BEGIN APPROACH SLAB STA. 968+46.25
MH
GENNETT AVE.
STA. 969+51.58
ACCELERATION LANE (RAMP "E")
BENCH EL. 884.5
106'-0"
85'-0"

BRIDGE LIMITS 598'-08

STA. 962+48.25 EL. 872.97 N.S
STA. 968+46.25 EL. 891.05
+0.94% GRADE
MIN. CLEARANCE
EL. 875.24 - F.S
EL. 876.62 - N.S
EL. 844.97
EL. 841.00
EL. 842.00
EXIST. WATER EL. 833.1
(50YR) HIGH WATER EL. 841.5
EL. 822.50
EL. 821.10
EL. 845.00 - N.S
EL. 842.00 - F.S
F.S EL. 844.00
AVERAGE ESTIMATED PAY LENGTH FOR PILES ARE 130

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE Nº MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN MAHONING COUNTY
STA. 962+48.25 TO STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	D.G.S.		D.G.S.			

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

361
492

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57. TOGETHER WITH CURRENT REVISIONS THEREOF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB THE PLACING OF CONCRETE SHALL UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS BETWEEN THE TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTER-LINE OF THE BRIDGE AND ARE LOCATED NEAR THE CENTERLINE OF ANY SPAN.

WELDING OF STRUCTURAL STEEL: SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY AT THE OPTION OF THE CONTRACTOR BE MADE AT THE SHOP. PAYMENT FOR BACKFILL SHALL BE INCLUDED WITH ITEM E-2 "UNCLASSIFIED EXCAVATION."

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE SURFACE OF THE PROPOSED EMBANKMENT AND THE BOTTOM OF ABUTMENT.

ALL PILES SHALL BE 12"-BP-53* STEEL "H" PILES AND SHALL BE DRIVEN TO FIRM CONTACT WITH ROCK USING A HAMMER OF NOT LESS THAN 11,000 FT. LBS. PER BLOW. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH TO ROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN SEC. S-18.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING: 50 TONS PER PILE USING A 11,000 FT.LB HAMMER
45 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER.
IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETEPMINED BY INTERPOLATION. THE DESIGN LOAD IS 25 TONS PER PILE.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57, DATED 4-9-57, REVISED 2-2-59.
CSB-2-56-SHEET 2&3, DATED 12-5-56, REVISED 2-2-59.
RB-1-55, DATED 3-1-55, REVISED 2-2-59.
SUPPLEMENTAL SPECIFICATIONS S-101
DATED 12-2-59

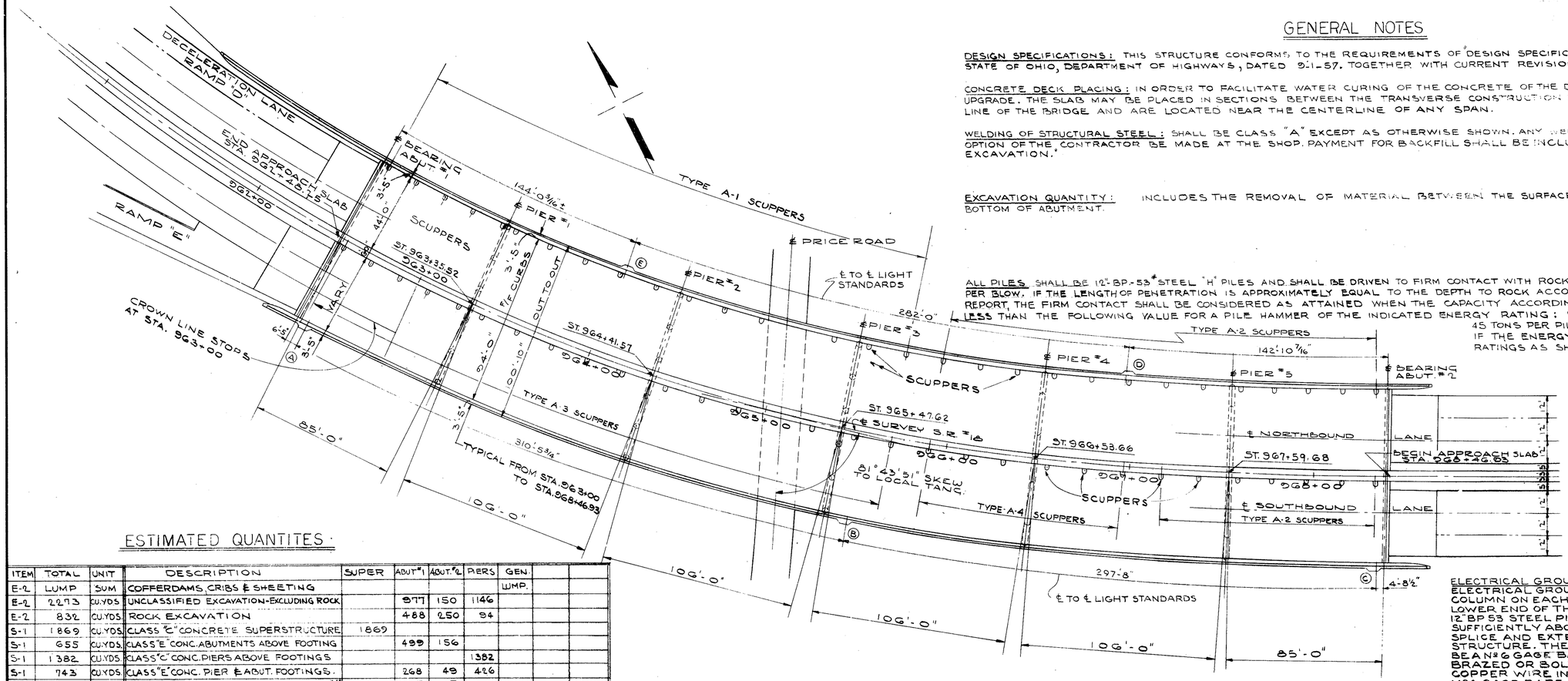
AS-1-54 DATED 7-1-54, REVISED 12-1-54
1-15 NO. 2-A REVISED 5-21-59.
SUPPLEMENTAL SPEC. S-207 DATED 4-28-55

UTILITY LINES: ALL LABOR AND EXPENSE INVOLVED IN RELOCATING THE EFFECTED UTILITY LINES SHALL BE BORN BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ELECTRICAL GROUNDS: A SOLID N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER N°3. THE LOWER END OF THE WIRE SHALL BE BRAZED TO ONE OF THE 12" BP 53 STEEL PILES AND THE UPPER END SHALL EXTEND SUFFICIENTLY ABOVE THE CONCRETE TO PROVIDE A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPER-STRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE AN N°6 GAGE BARE STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED N°6 GAGE BARE COPPER WIRE BRAZED TO A ANCHOR BOLT OF EACH LIGHT STANDARD AND THE OTHER END BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE.
PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES THE FOLLOWING ITEMS, 4 EXPANSION FITTINGS, 5 GALVANIZED CAST IRON BOXES AND 201 DIA. ANCHOR BOLTS.

LIGHTING DETAILS ARE SHOWN ON SHEET N° 310



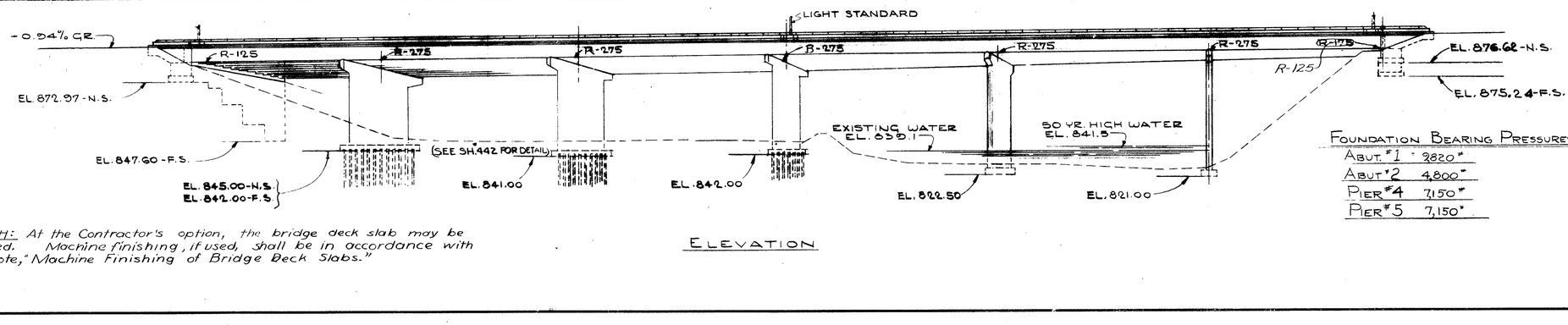
PLAN

ESTIMATED QUANTITES:

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.#1	ABUT.#2	PIERS	GEN.		
E-2	LUMP	SUM	COFFERDAMS, CRIBS & SHEETING					LUMP.		
E-2	2293	CU.YDS.	UNCLASSIFIED EXCAVATION-EXCLUDING ROCK		977	150	1146			
E-2	832	CU.YDS.	ROCK EXCAVATION		488	250	94			
S-1	1869	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	1869						
S-1	655	CU.YDS.	CLASS "E" CONC. ABUTMENTS ABOVE FOOTING		499	156				
S-1	1382	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS				1382			
S-1	743	CU.YDS.	CLASS "E" CONC. PIER & ABUT. FOOTINGS.		268	49	426			
S-3	90	LIN.FT.	WATER PROOFING PREMOLDED SEALING STRIP 6"		75	15				
S-4	722,078	LBS	REINFORCING STEEL	532,438	57,483	10,094	122,558			
S-7	1,999,446	LBS	STRUCTURAL STEEL	1,999,446						
S-8	1,999,446	LBS.	FIELD PAINTING OF STRUCT. STEEL AS PER PLAN	1,999,446						
S-9	302	SQ.FT.	1" PREFORMED EXP. JOINT FILLER		258	44				
S-14	1,337	LIN.FT.	RAILING (ALUM. RAIL & SUPPORTS, CONC PARAPETS,)	1,192	111	34				
S-16	LUMP	SUM	FIRST TEST PILE					LUMP		
S-18	3430	LIN.FT.	12 BP 53 STEEL PILES				3430			

ESTIMATED QUANTITIES CONTINUED

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.#1	ABUT.#2	PIERS	GEN.		
S-25	LUMP ❶	SUM	ELECTRICAL LIGHTING SYSTEM					LUMP		
S-25	1321	LIN. FT.	2" ELECTRICAL CONDUIT (GALV.)	1321						
S-29	251	CU.YDS.	POROUS BACKFILL		188	63				
S-29	54	EACH	SCUPPERS					LUMP		
S-14	556	LIN.FT	GUARD RAIL STL BEAM TYPE (DEEP) BARRIER DESIGN	556						



ELEVATION

MACHINE FINISH: *At the Contractor's option, the bridge deck slab may be machine finished. Machine finishing, if used, shall be in accordance with the Proposal Note," Machine Finishing of Bridge Deck Slabs."*

FOUNDATION BEARING PRESSURES (DESIGN)

ABUT. #1	3820#
ABUT. #2	4,800#
PIER #4	7150#
PIER #5	7,150#

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+45.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED 1-12-60
D.H.C.	A.C.		ww			

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

362
492

NOTE ALL DIMENSIONS MARKED THUS ⊗ MEASURED ALONG WORLINE "C"

RADIAL LINES

32'-7⅞" - SECTION-F-F ⊗

96'-0" ALONG WORKLINE "C"

53'-4½" - SECTION-E-E ⊗

9'-10½" ⊗ SECTION-D-D

10'-6"

4'-4" ±

1'-5⅝" @ TOP OF WALL

4"

1'-6½" TOP OF WALL

1'-6¾" TOP OF WALL

1" EXPANSION JOINT

RADIAL LINES

STA. 961+85

STA. 961+50.74

91.66' RAD. TO WORKLINE "C"

8 - SP's @ 9'-0" = 72'-0" - 4" ◊ WEEPHOLES ⊗

℄ BEARINGS - ABUTMENT #1 RADIAL LINE

1" EXPANSION JOINT

1'-6" TOP OF WALL

WORKLINE "C"

℄ RAILING

℄ EXT. GIRDER

℄ GIRDER

℄ INT. GIRDER

℄ GIRDER

STA. 962+50.50

℄ GIRDER

6'-0"

2'-0"

2'-6"

4'-0" LEVEL

3'-4"

5'-1½"

1'-6"

13'-6" SECTION-D-D

55'-11⅛"

54'-2"

53'-3¾"

52'-6⅝"

51'-10⅛"

51'-1⅝"

50'-10⅝"

50'-6⅜"

50'-3⅜" 4 ◊ WEEPHOLES

50'-1½"

50'-1"

10-SP's @ 5'-0" = 50'-0"

5-SP's @ 8'-5⅜" = 44'-0¼" ℄ TO ℄ BEAMS

5-SP's @ 9'-0" = 45'-0"

5-SP's @ 9'-0" = 45'-0"

℄ S.R. 18

LOCAL TANGENT AT STA. 962+50.50

10'-0" 10'-0" 10'-0" 10'-0" 10'-0" 10'-0" 10'-0" 10'-0" 10'-0" 10'-0"

2'-5" 6" MEDIAN CURB 1" EXPANSION JOINT 3'-0"

2'-8¾" 3'-0" LEVEL 2'-0" 3'-0" LEVEL 3'-0" 3'-0" LEVEL

101'-4½"

51'-3¾"

31'-6" SECTION-B-B

36'-10½" SECTION-A-A

NOTE-A: ¾" SLOPE TO FACE OF ABUTMENT - TYPICAL BETWEEN BEAM SEATS

1" THICKNESS OF PREFORMED EXPANSION JOINT FILLER

EXPOSED FACE OF WALL

12" x ¾" PREFORMED SEALING STRIP IN 13" x ¾" RECESS

TYPICAL DETAIL OF EXPANSION JOINT

¾" SLOPE OF BACKWALL

SEE NOTE-A

℄ EXT. GIRDER

℄ RAILING

1'-5⅝"

6"

10"

2'-0"

97°16'-39"

WP.

20'-0" R

12"

4"

4'-4" ±

10'-6"

STRAIGHT WALL

18'-8" - SECTION A-A

PLAN OF ABUTMENT #1

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 PLAN

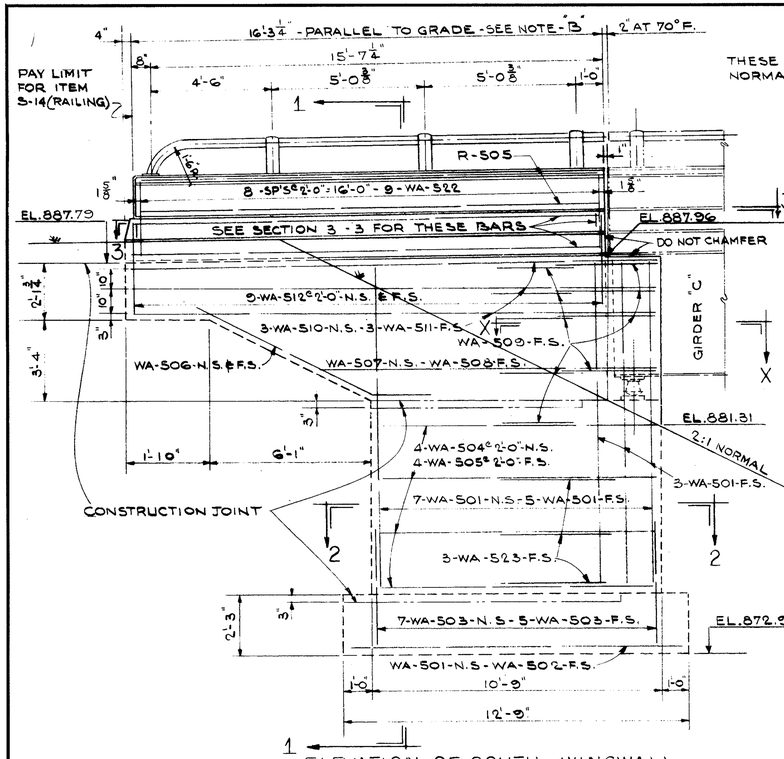
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 966+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C	JK		CW.			

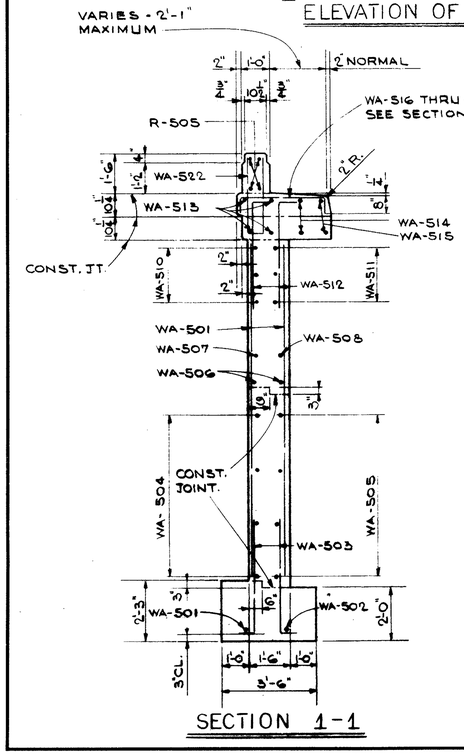
FED. RD.	STATE	PROJECT	
	OHIO		

MA H-18-17.20

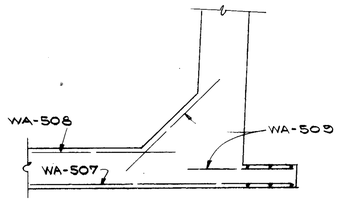
363
492



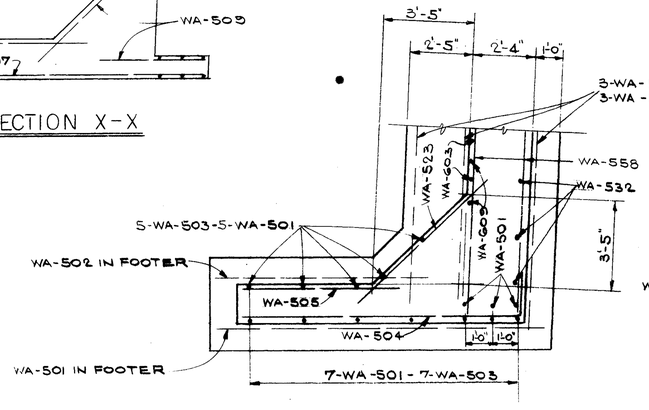
1 ELEVATION OF SOUTH WINGWALL



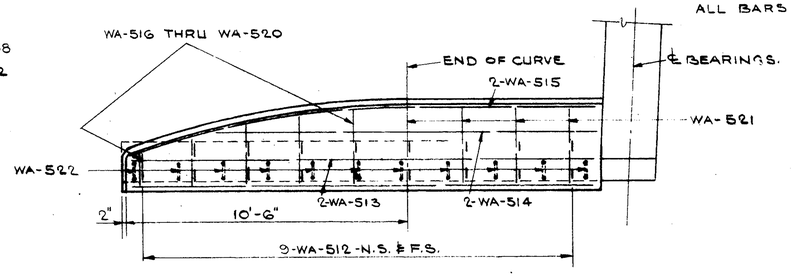
SECTION 1-1



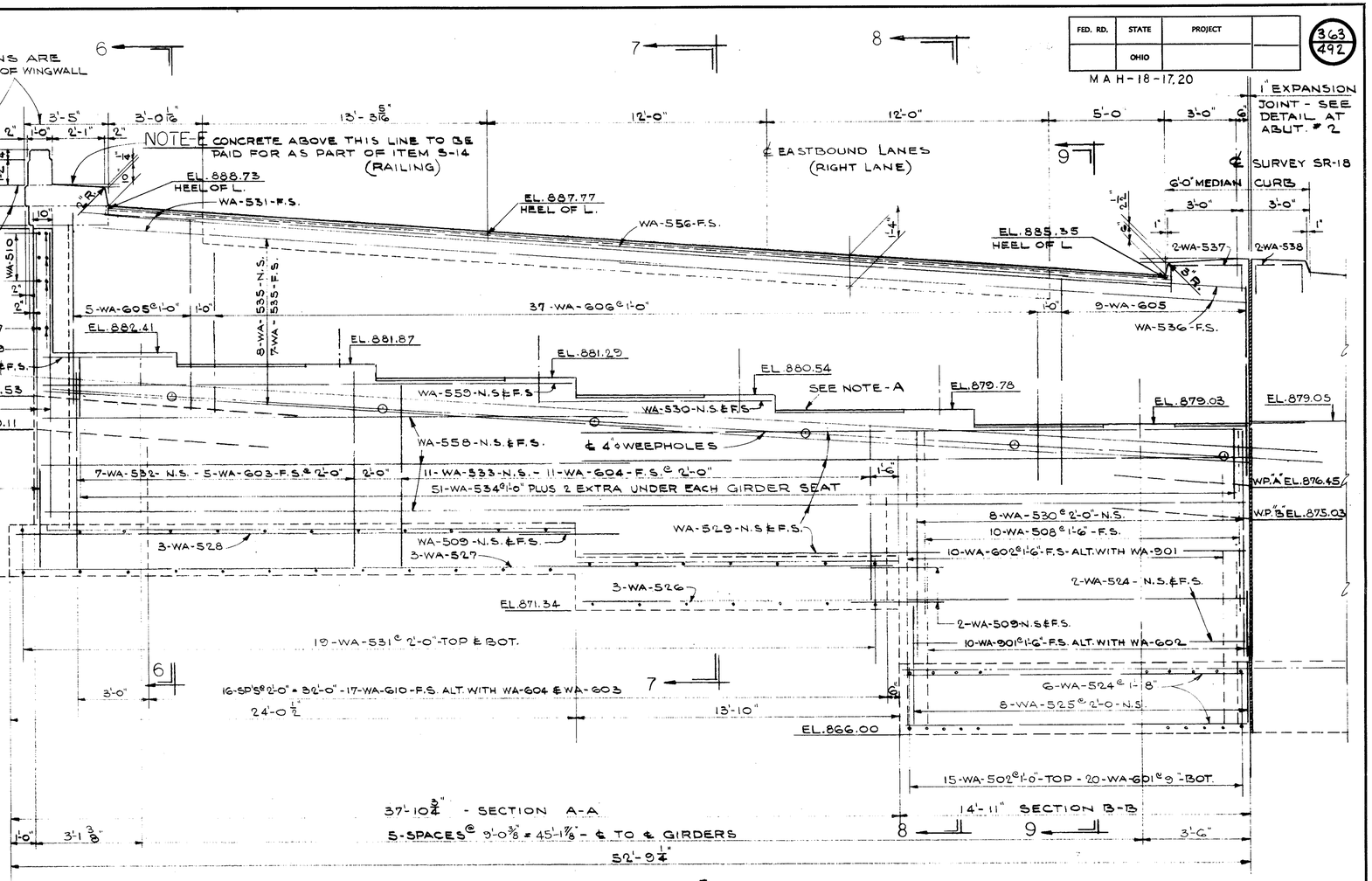
SECTION X-X



SECTION 2-2



SECTION 3-3



PART ELEVATION OF ABUTMENT #1

NOTE : THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

POROUS BACKFILL 2 FT. THICK FULL LENGTH OF ABUTMENT AND WINGWALLS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

ALL BARS SPACED @ 2'-0 ℄ UNLESS OTHERWISE NOTED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

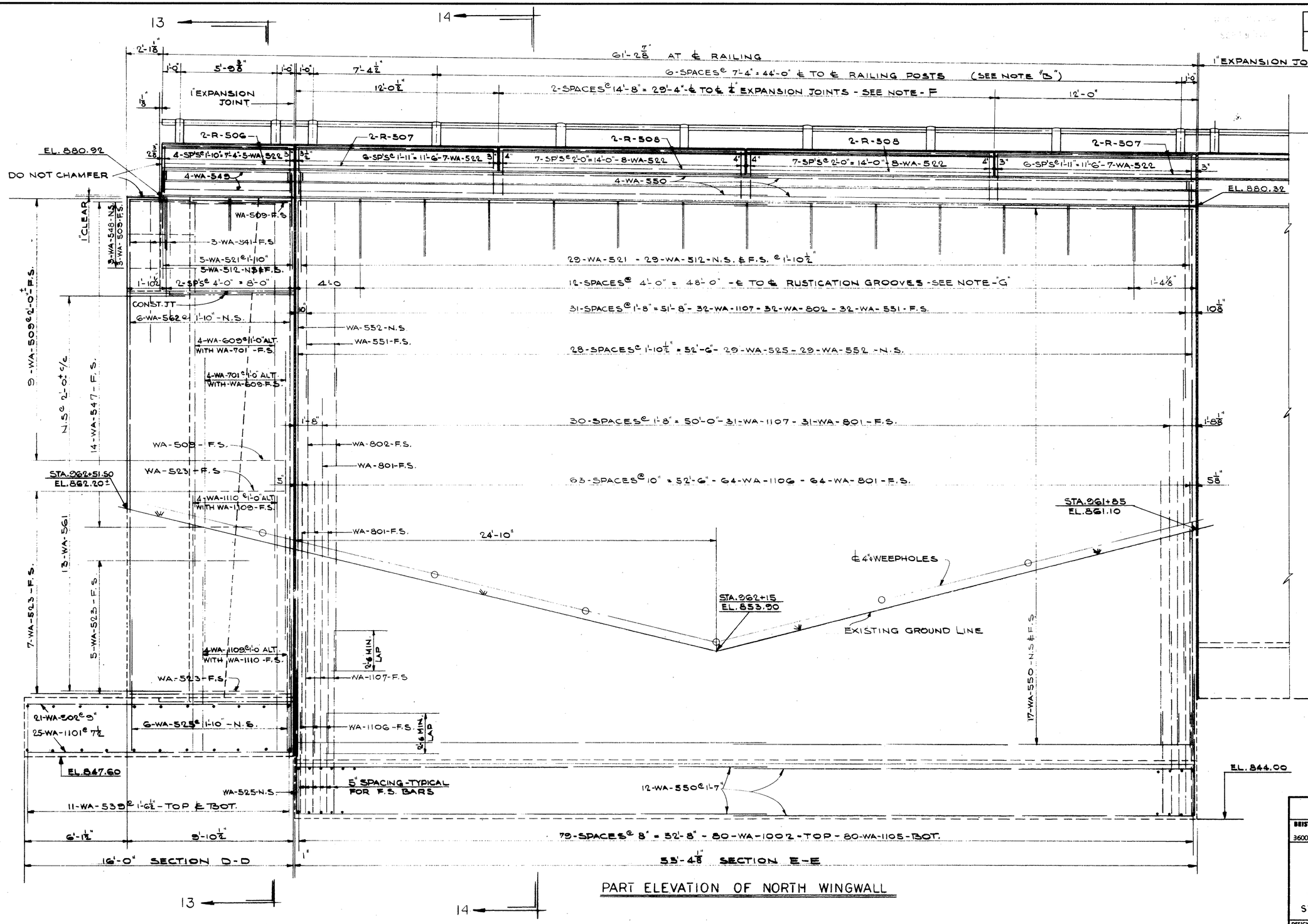
BRIDGE NO. MA H-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK		aw.			

FED. RD.	STATE	PROJECT	
	OHIO		

364
492

MA H-18-17.20



PART ELEVATION OF NORTH WINGWALL

NOTE-B

THE RAILING ON THE WINGWALLS SHALL BE CONTINUOUS FOR A MINIMUM OF TWO PANELS.

NOTE-F

1" GRAY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF SEC. M-10.02 TYPE NO. 1. SPACE TWO PANEL LENGTHS APART. INCLUDED WITH ITEM S-14 (RAILING) FOR PAYMENT.

NOTE-G

RUSTICATION GROOVES TO EXTEND A MIN. OF ONE FOOT BELOW GROUND LEVEL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

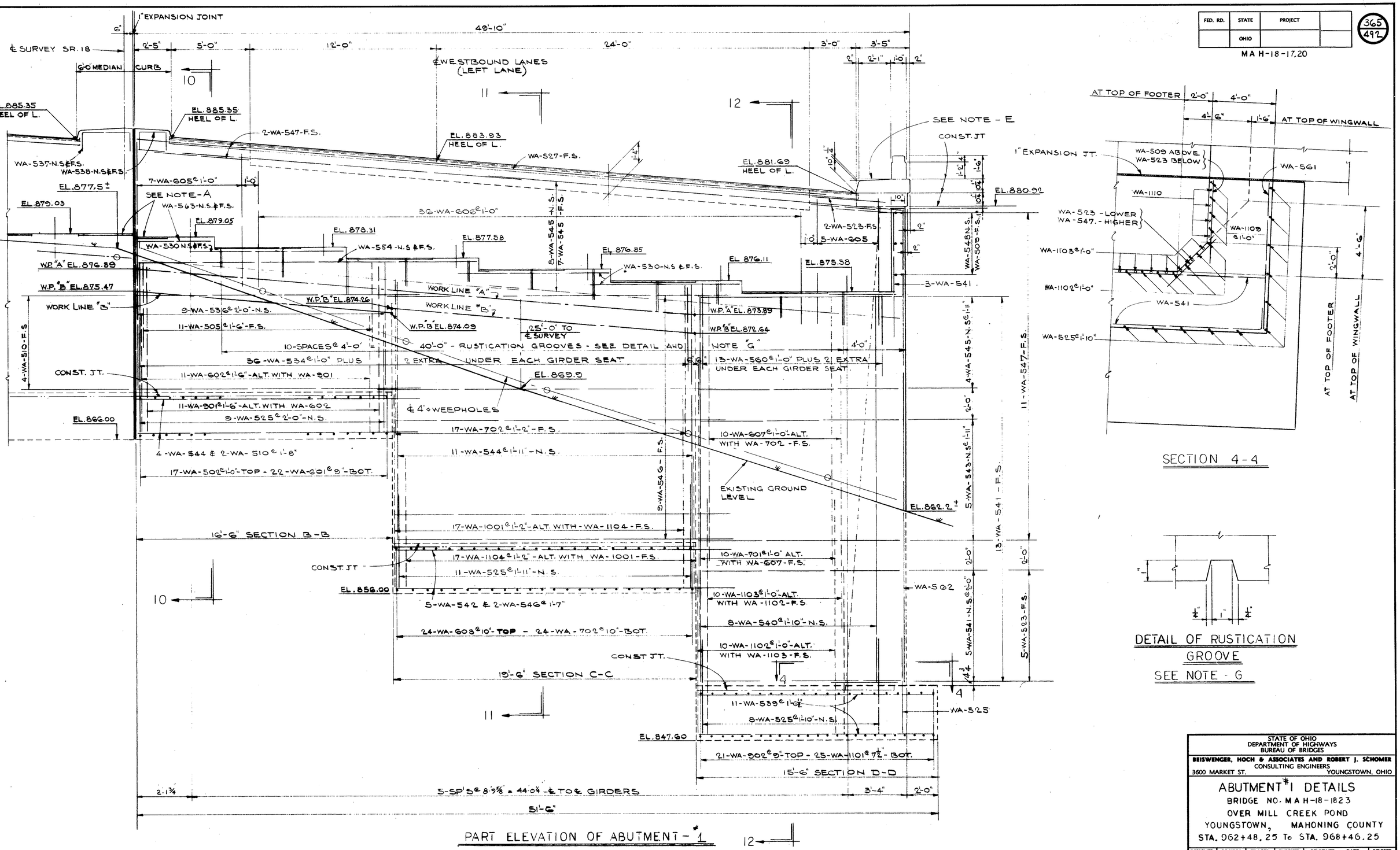
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK		C.J.W.			

FED. RD.	STATE	PROJECT	
	OHIO		

365/492

MA H-18-17,20



PART ELEVATION OF ABUTMENT - #1

SECTION 4-4

DETAIL OF RUSTICATION GROOVE
SEE NOTE - G

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

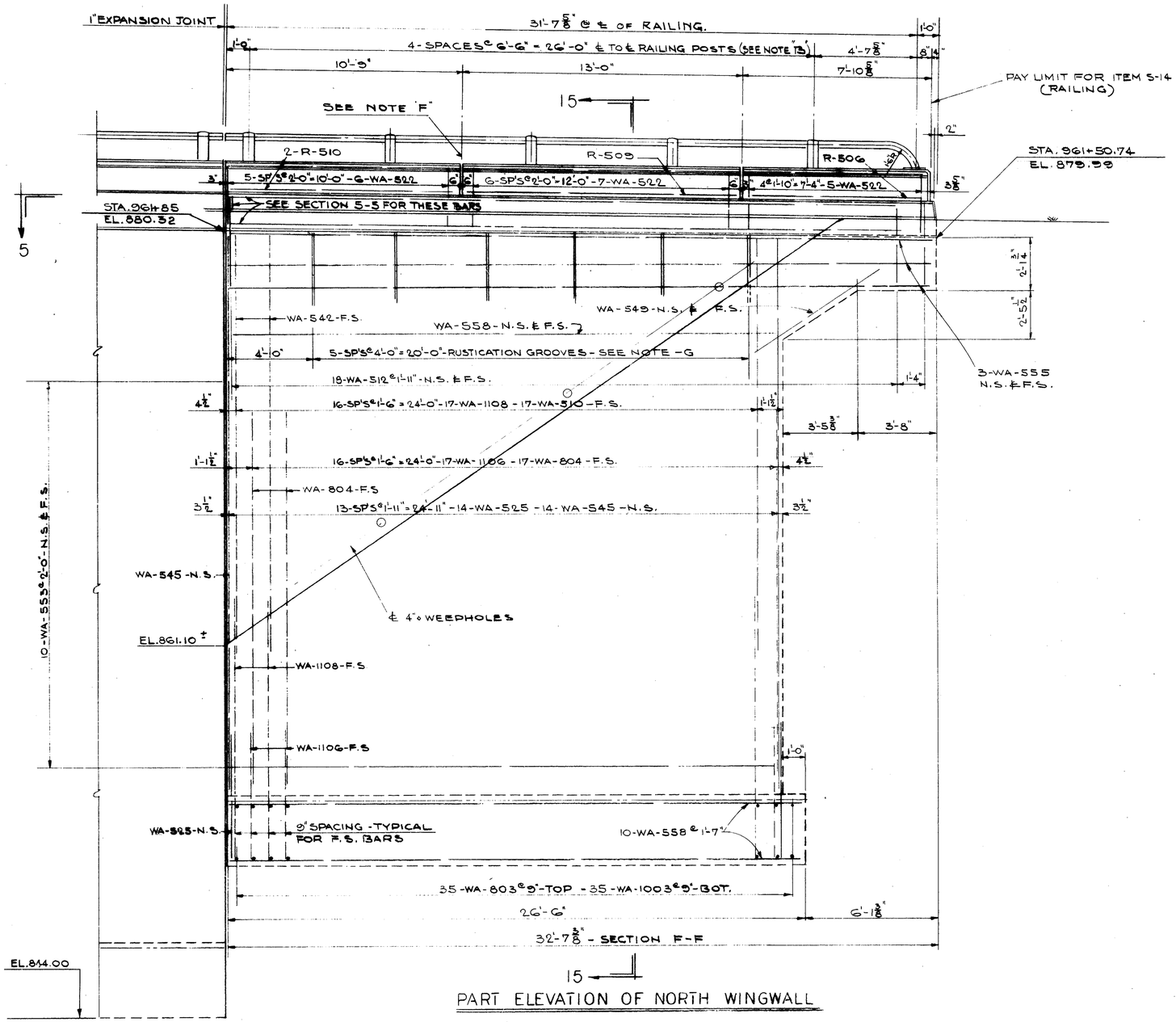
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C	JK		CW.			

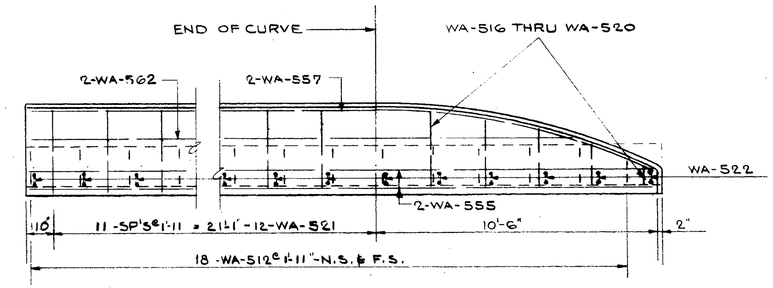
FED. RD.	STATE	PROJECT	
	OHIO		

M A H - 18 - 17, 20

366
492



PART ELEVATION OF NORTH WINGWALL



SECTION 5-5

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

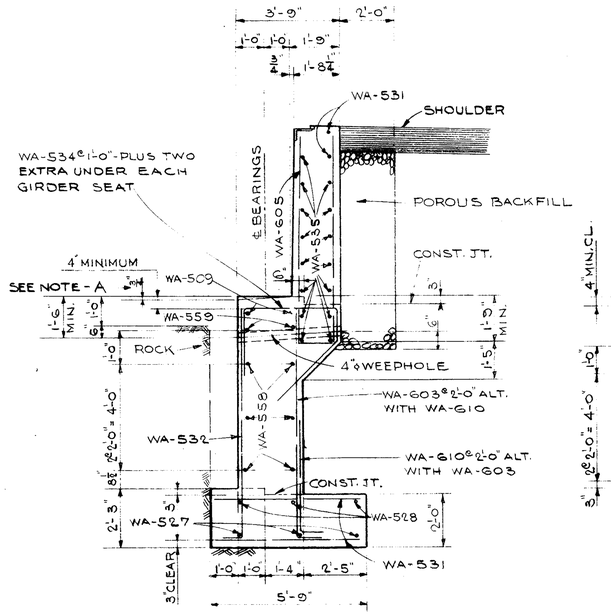
BRIDGE NO. M A H-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+45.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C	JK		C.D.W			

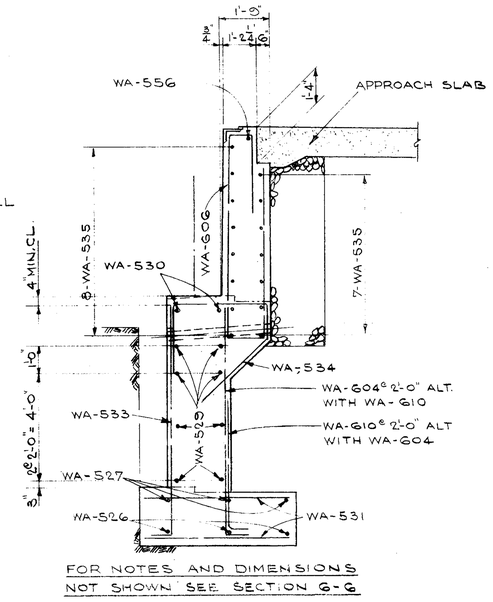
FED. RD.	STATE	PROJECT	
	OHIO		

M A H - 18 - 17.20

367
492

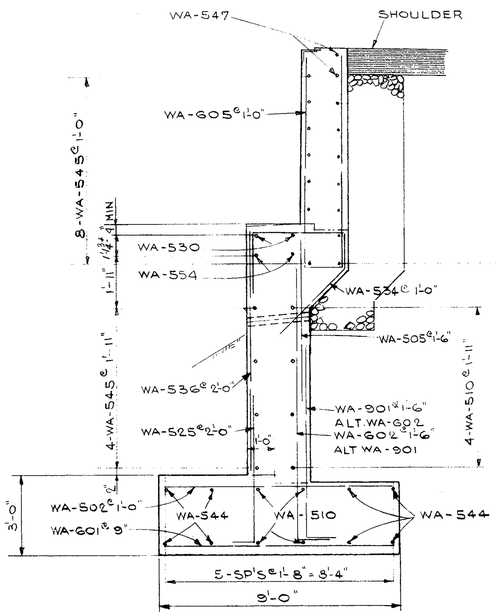


SECTION 6-6



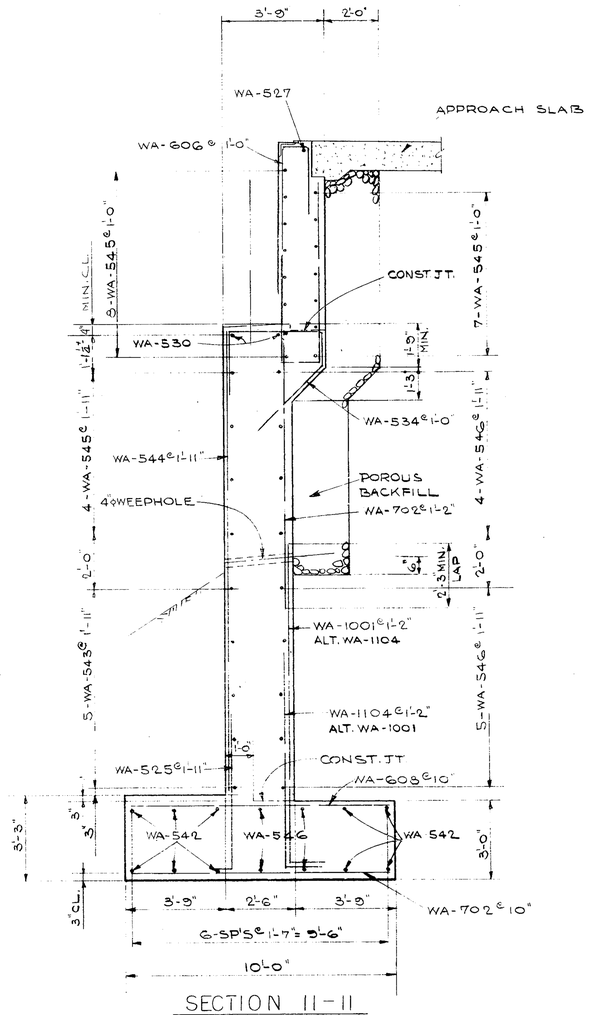
FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION 6-6

SECTION 7-7

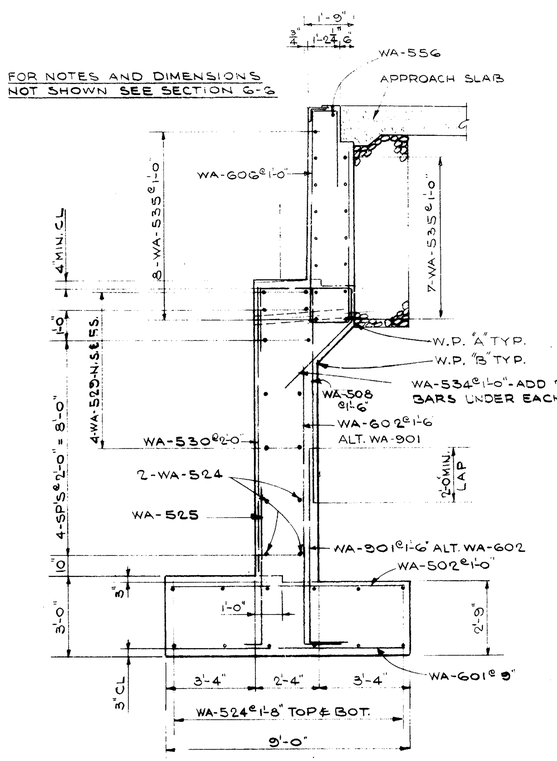


FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION 6-6 AND 8-8

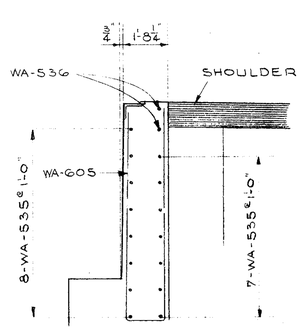
SECTION 10-10



SECTION 11-11



SECTION 8-8



THE REST OF THE SECTION SAME AS SECTION 8-8

SECTION 9-9

NOTE : FOOTINGS SHALL EXTEND A MINIMUM OF 3" INTO SOLID ROCK, OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

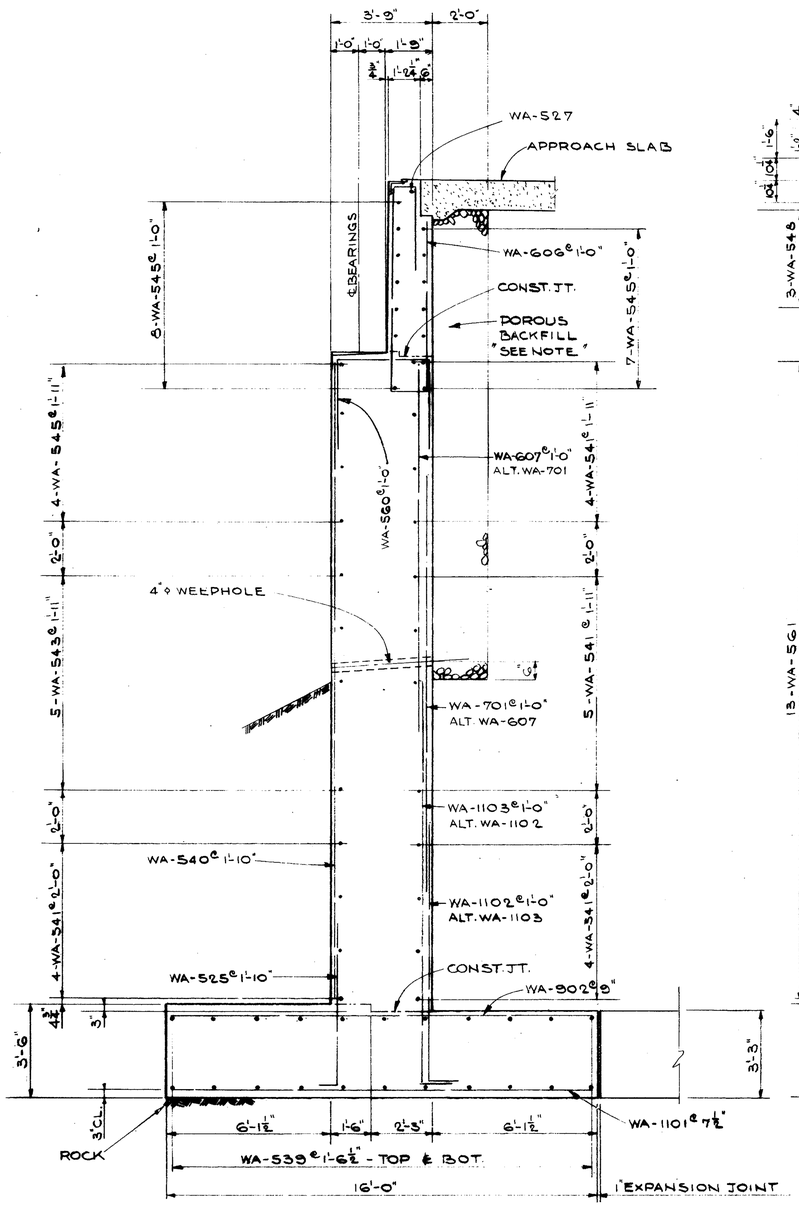
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK					

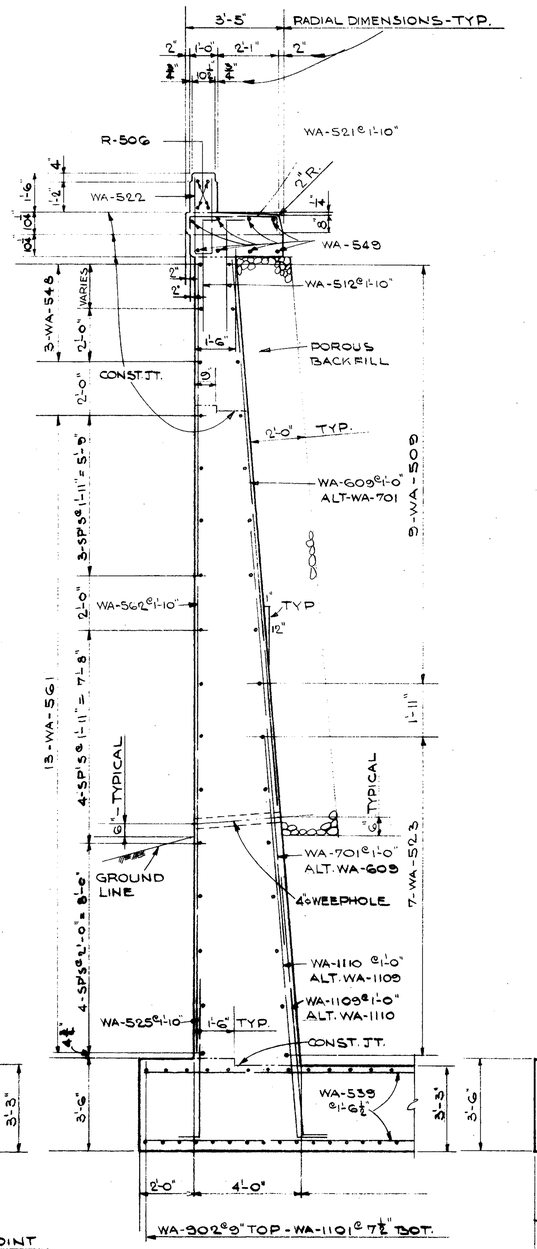
FED. RD.	STATE	PROJECT	
	OHIO		

368
492

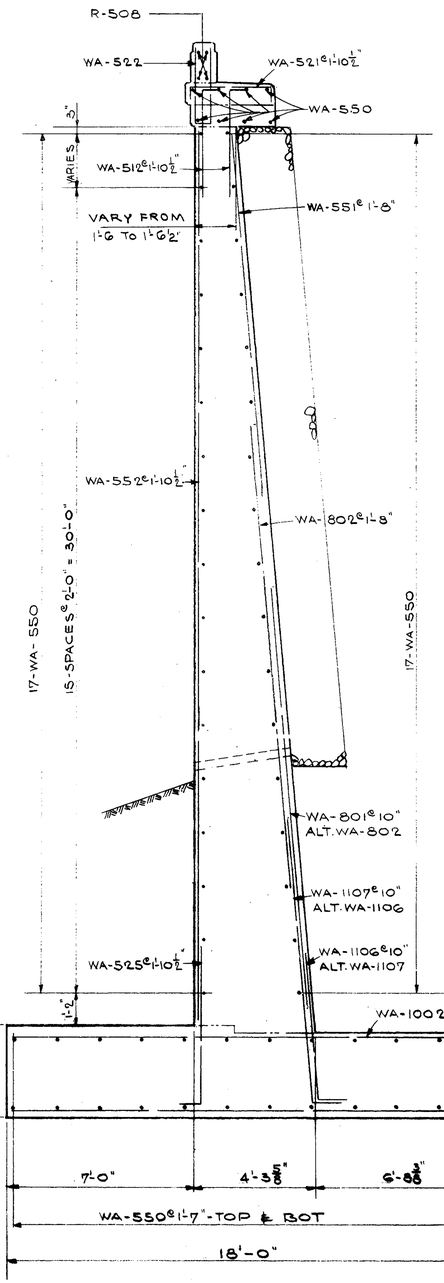
MAH-18-17.20



SECTION 12 – 12

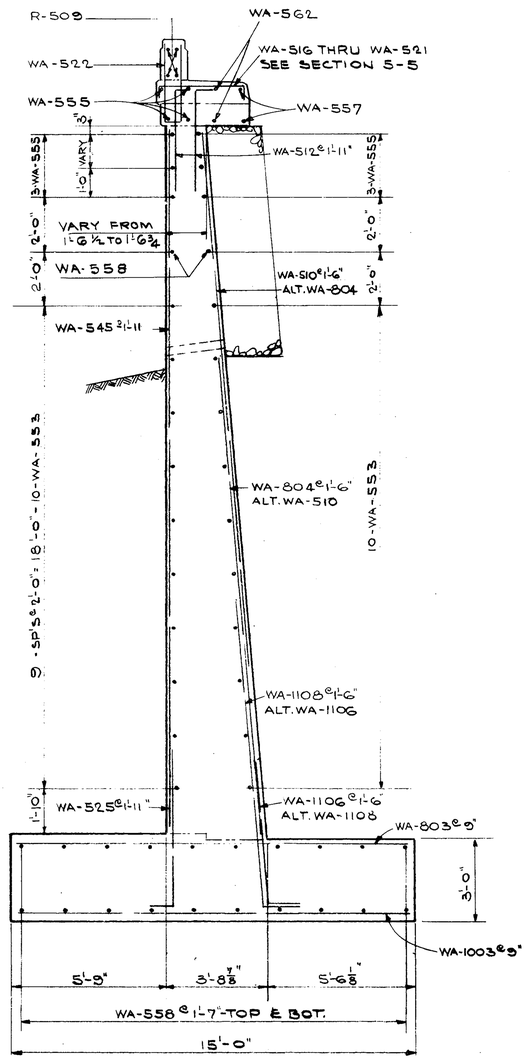


SECTION 13 – 13



SECTION 14 – 14

NOTE: MATERIAL BELOW THE POROUS BACKFILL SHALL BE AN IMPERVIOUS MATERIAL.



SECTION 15 – 15

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAIL

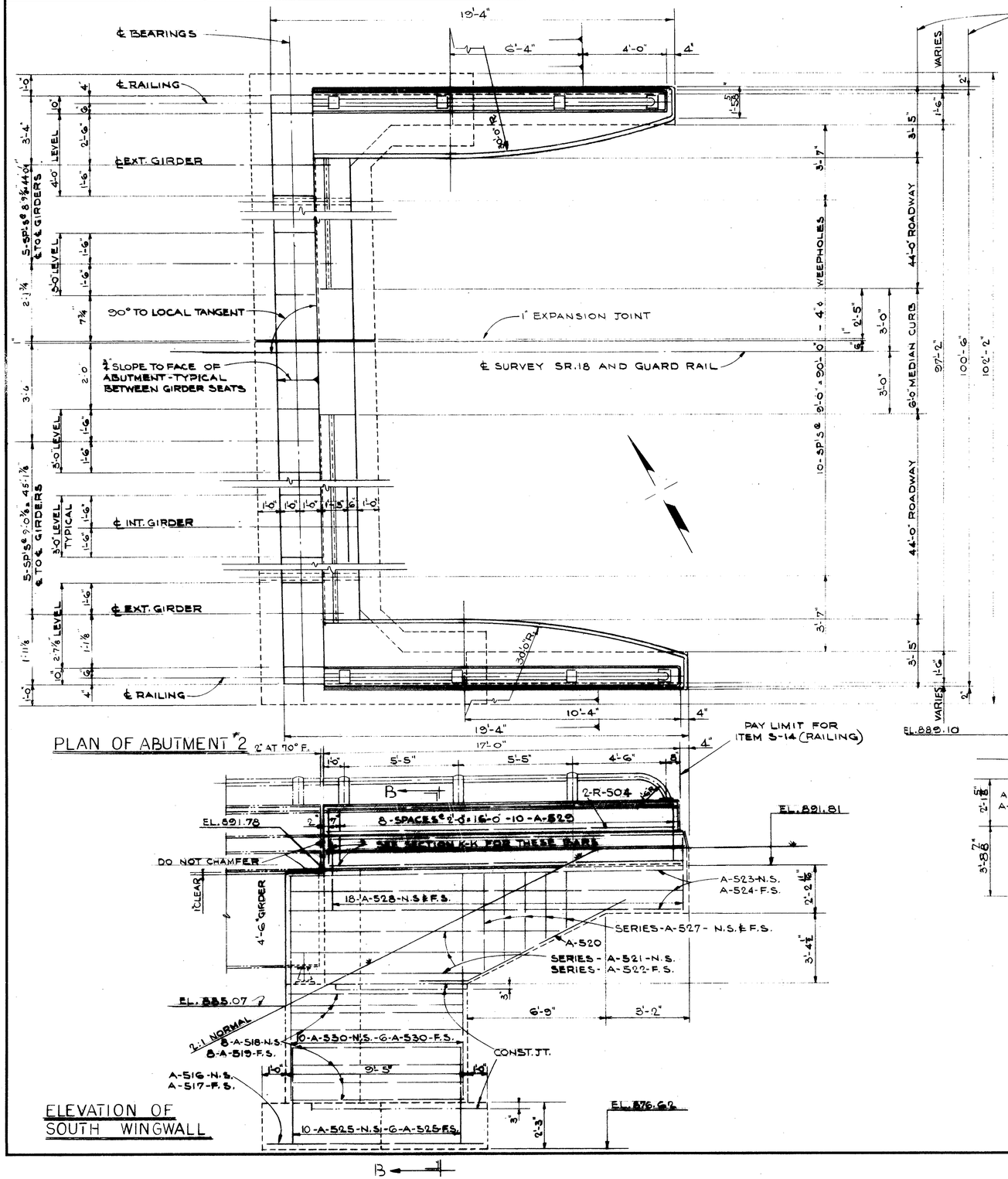
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

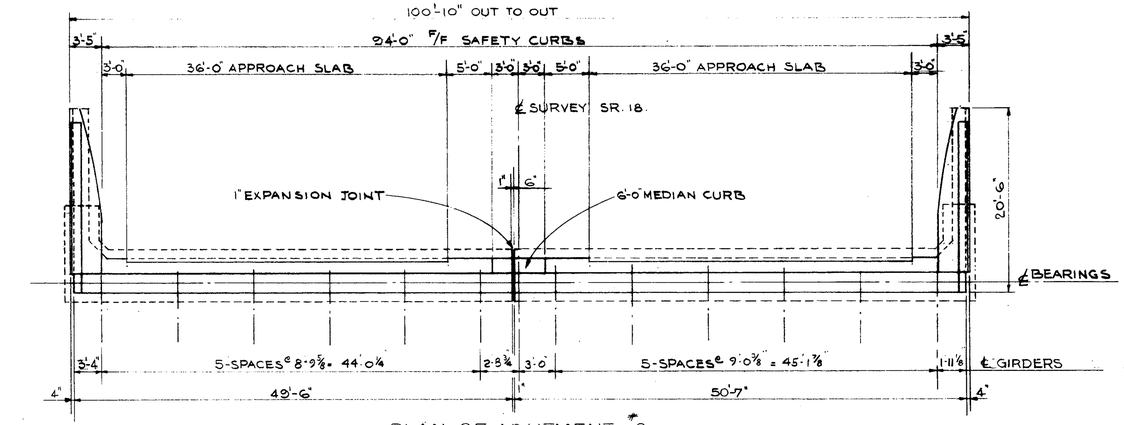
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK		G.O.W.			

FED. RD.	STATE	PROJECT	
	OHIO		

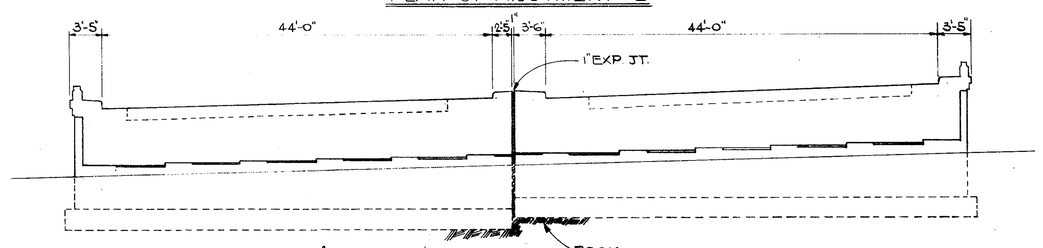
369
492

M A H-18-17.20

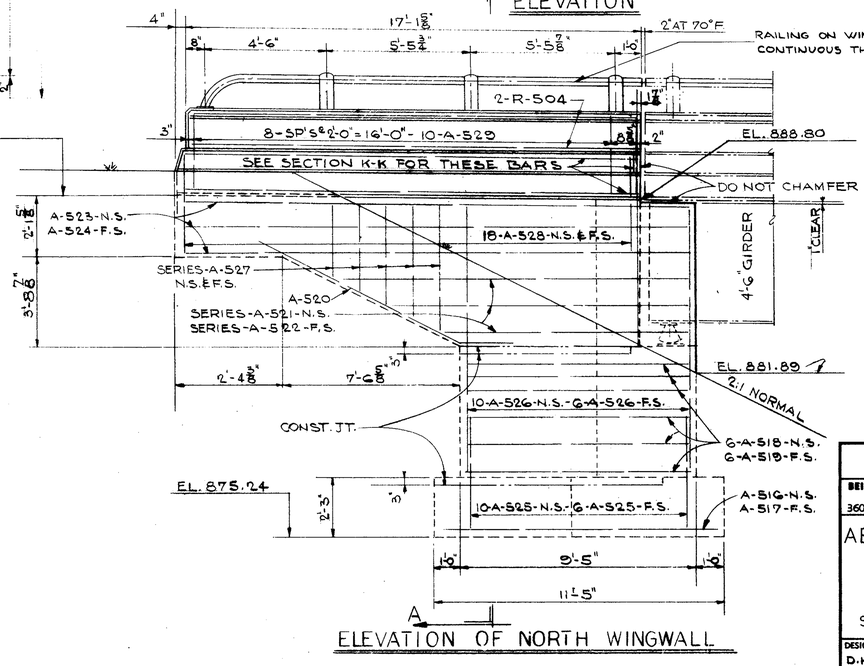




PLAN OF ABUTMENT #2



A ← ELEVATION



A ← ELEVATION OF NORTH WINGWALL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 PLAN & ELEVATION

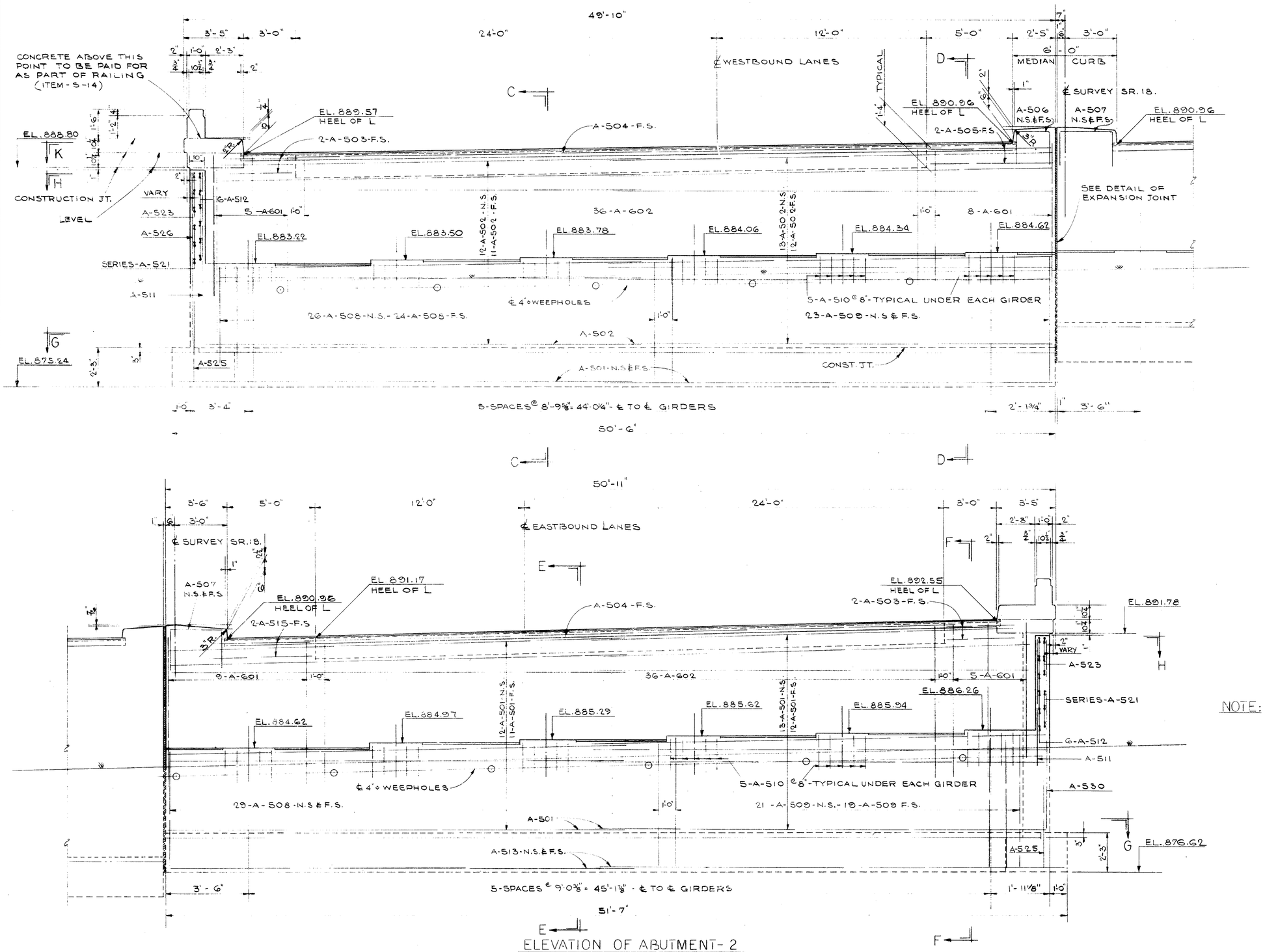
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C	JK		aw			

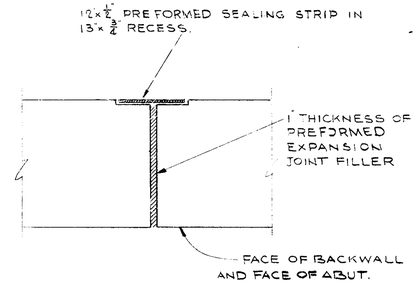
FED. RD.	STATE	PROJECT	
	OHIO		

370
492

M A H-18 -17.20



ELEVATION OF ABUTMENT-2



DETAIL OF EXPANSION JOINT

NOTE: THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WING WALLS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 DETAILS

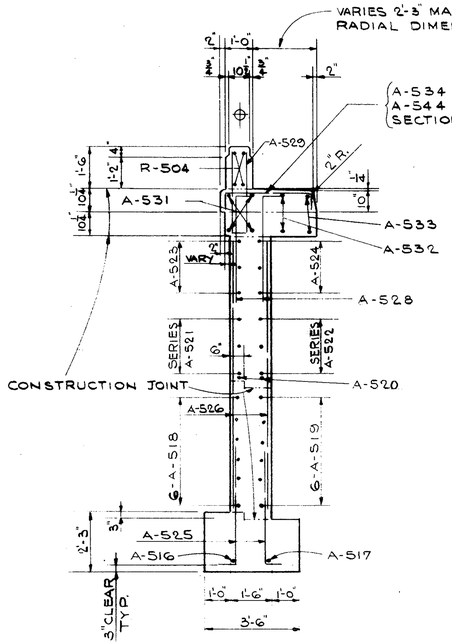
BRIDGE NO. MA H-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK					

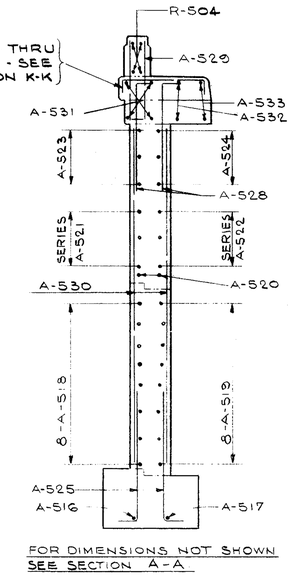
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

371
492

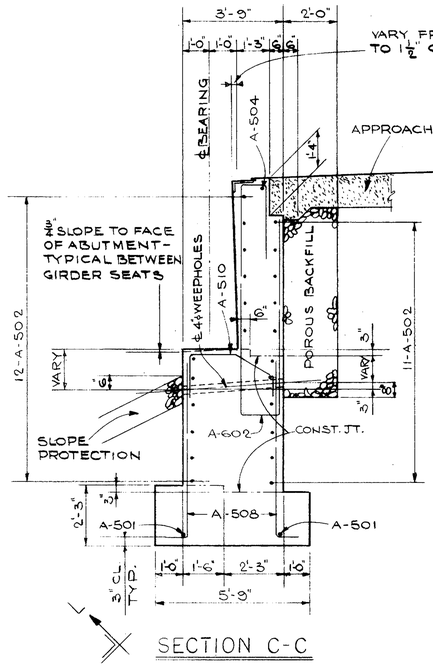


SECTION A-A

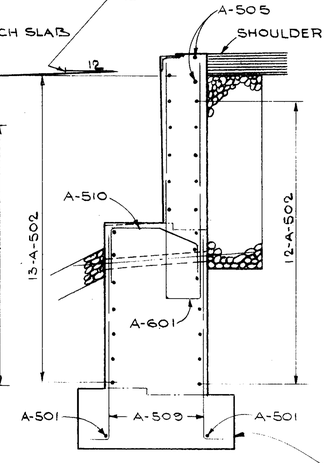


FOR DIMENSIONS NOT SHOWN SEE SECTION A-A

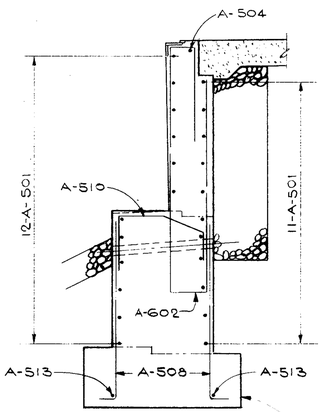
SECTION B-B



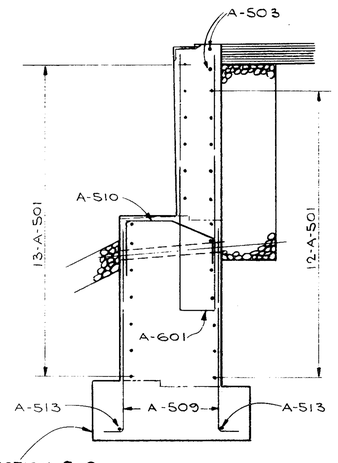
SECTION C-C



SECTION D-D

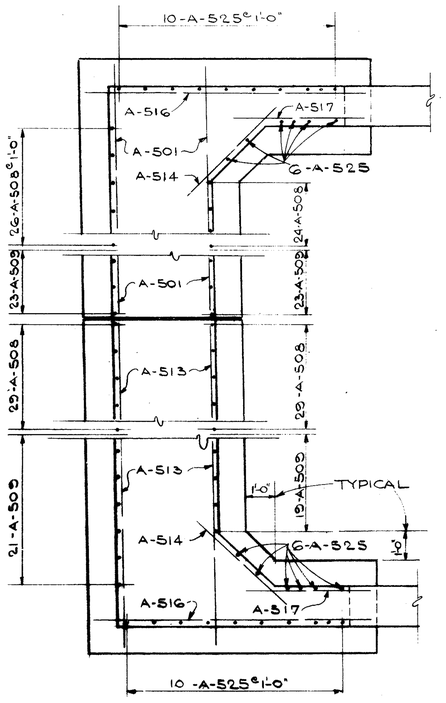


SECTION E-E

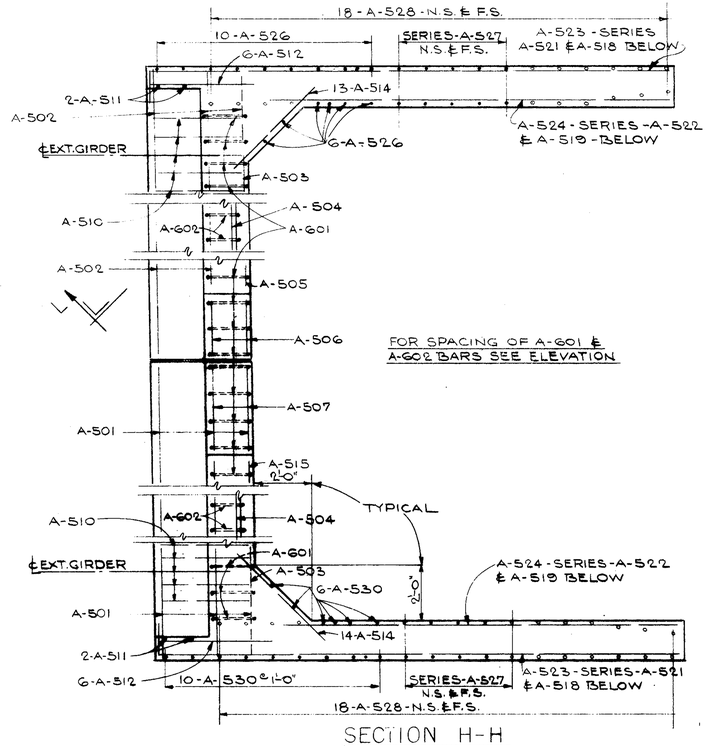


SECTION F-F

FOR DIMENSIONS NOT SHOWN SEE SECTION C-C

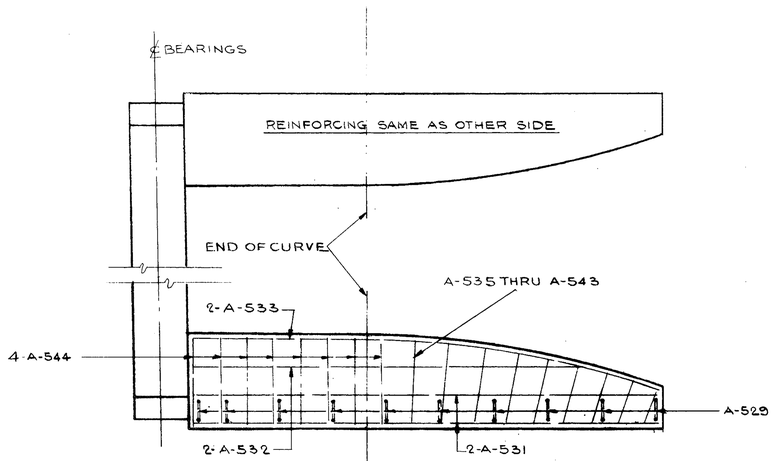


SECTION G-G

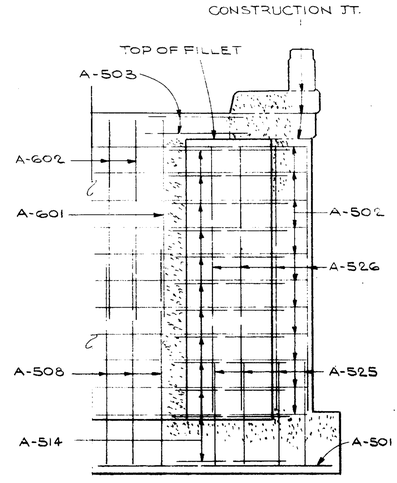


FOR SPACING OF A-601 & A-602 BARS SEE ELEVATION

SECTION H-H



SECTION K-K



SECTION L-L

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 DETAILS

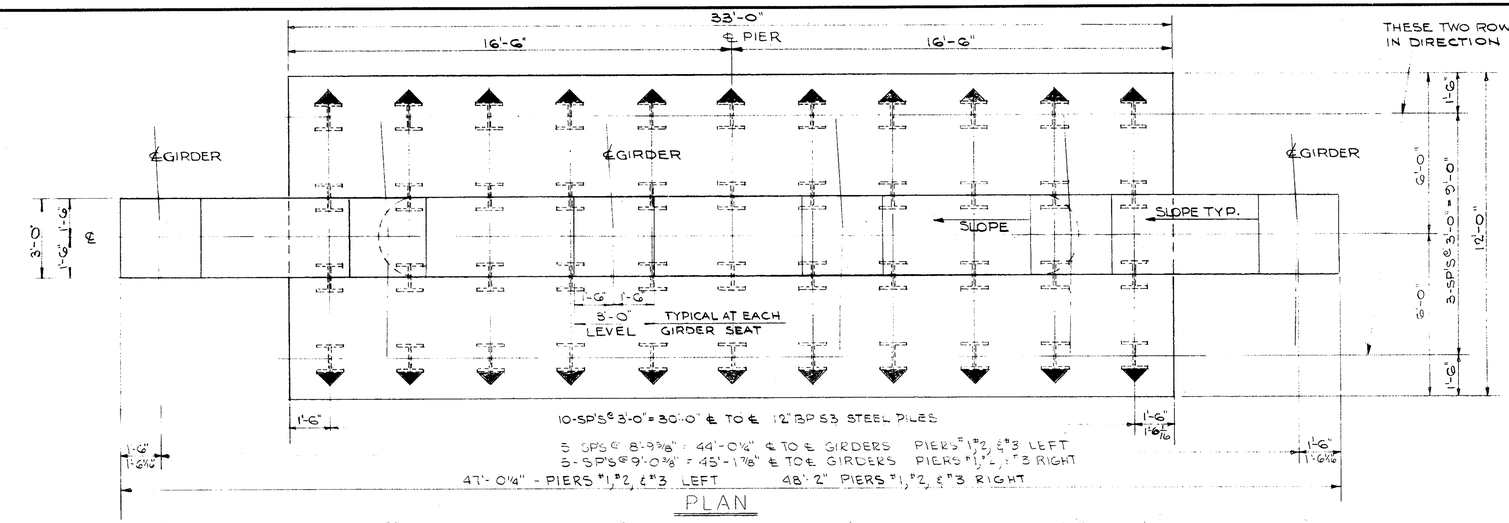
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK		gw.			

FED. RD.	STATE	PROJECT	
	OHIO		

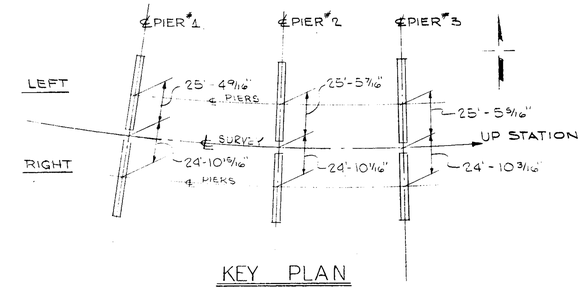
M A H-18-17.20

372
492

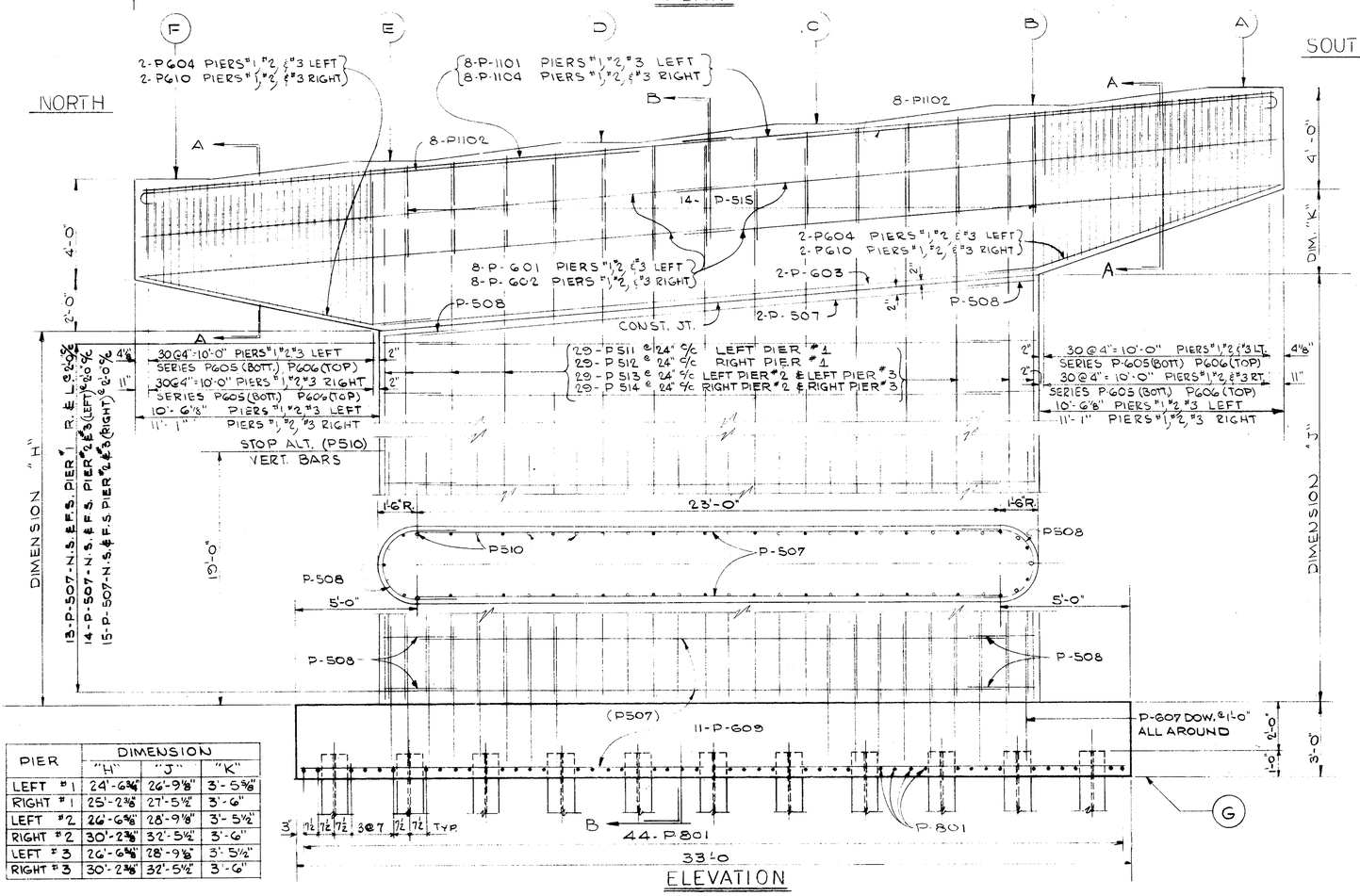


PLAN

THESE TWO ROW OF PILES BATTERED 1:4 IN DIRECTION INDICATED



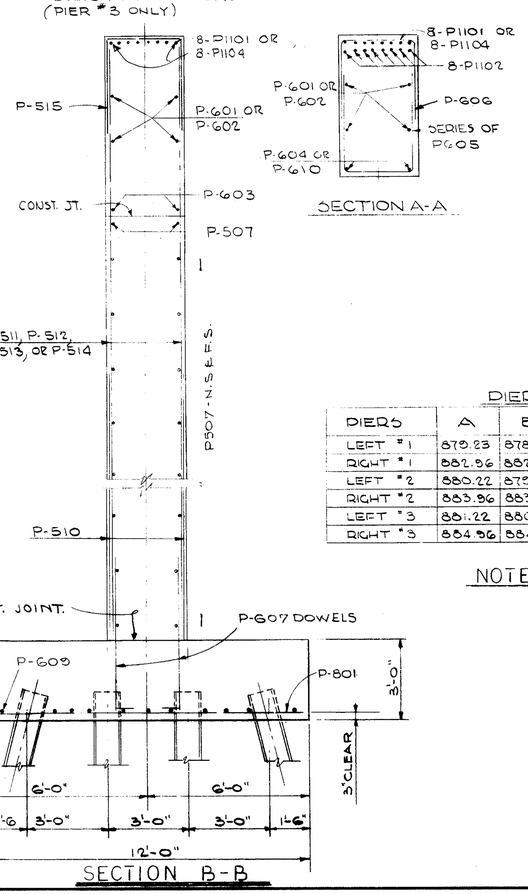
KEY PLAN



ELEVATION

PIER	DIMENSION "H"	DIMENSION "J"	DIMENSION "K"
LEFT #1	24'-6 3/4"	26'-9 1/8"	3'-5 5/8"
RIGHT #1	25'-2 3/8"	27'-5 1/2"	3'-6"
LEFT #2	26'-6 3/4"	28'-9 1/8"	3'-5 1/2"
RIGHT #2	30'-2 3/8"	32'-5 1/2"	3'-6"
LEFT #3	26'-6 3/4"	28'-9 1/8"	3'-5 1/2"
RIGHT #3	30'-2 3/8"	32'-5 1/2"	3'-6"

CARE MUST BE TAKEN IN PLACING TOP REINFORCING STEEL TO CLEAR ANCHOR BOLTS FOR BOLSTERS (PIER #3 ONLY)



SECTION B-B

SECTION A-A

DIER ELEVATIONS

DIERS	A	B	C	D	E	F	G
LEFT #1	879.23	878.49	877.76	877.02	876.29	875.56	842.00
RIGHT #1	882.96	882.21	881.46	880.71	879.95	879.20	845.00
LEFT #2	880.22	879.49	878.75	878.02	877.28	876.55	841.00
RIGHT #2	883.96	883.21	882.46	881.71	880.95	880.20	841.00
LEFT #3	881.22	880.49	879.75	879.02	878.28	877.55	842.00
RIGHT #3	884.96	884.21	883.46	882.71	881.95	881.20	842.00

NOTE: ALL PILES 12" BP 53

2" CLEARANCE ON REINFORCING STEEL UNLESS OTHERWISE NOTED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIERS #1 #2 & #3 DETAILS

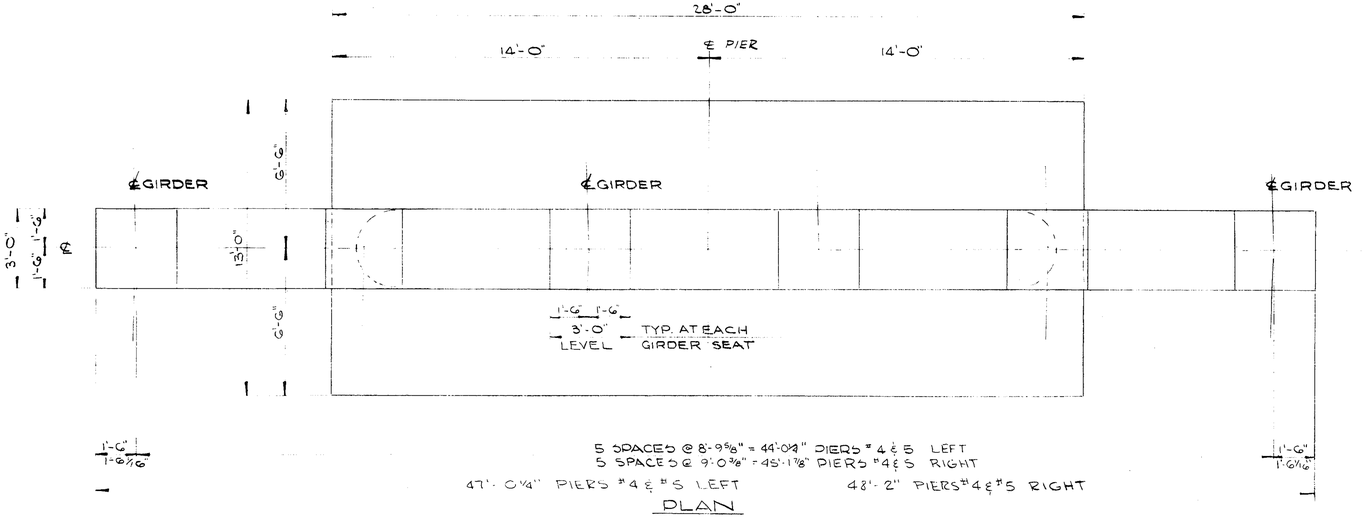
BRIDGE NO. M A H-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	R.P.S.		a.o.w.			

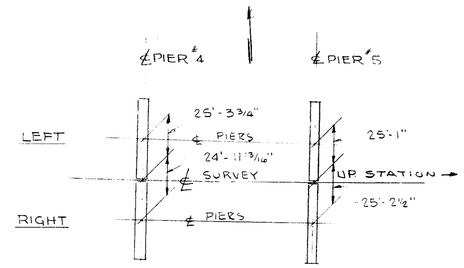
FED. RD.	STATE	PROJECT	
	OHIO		

373
492

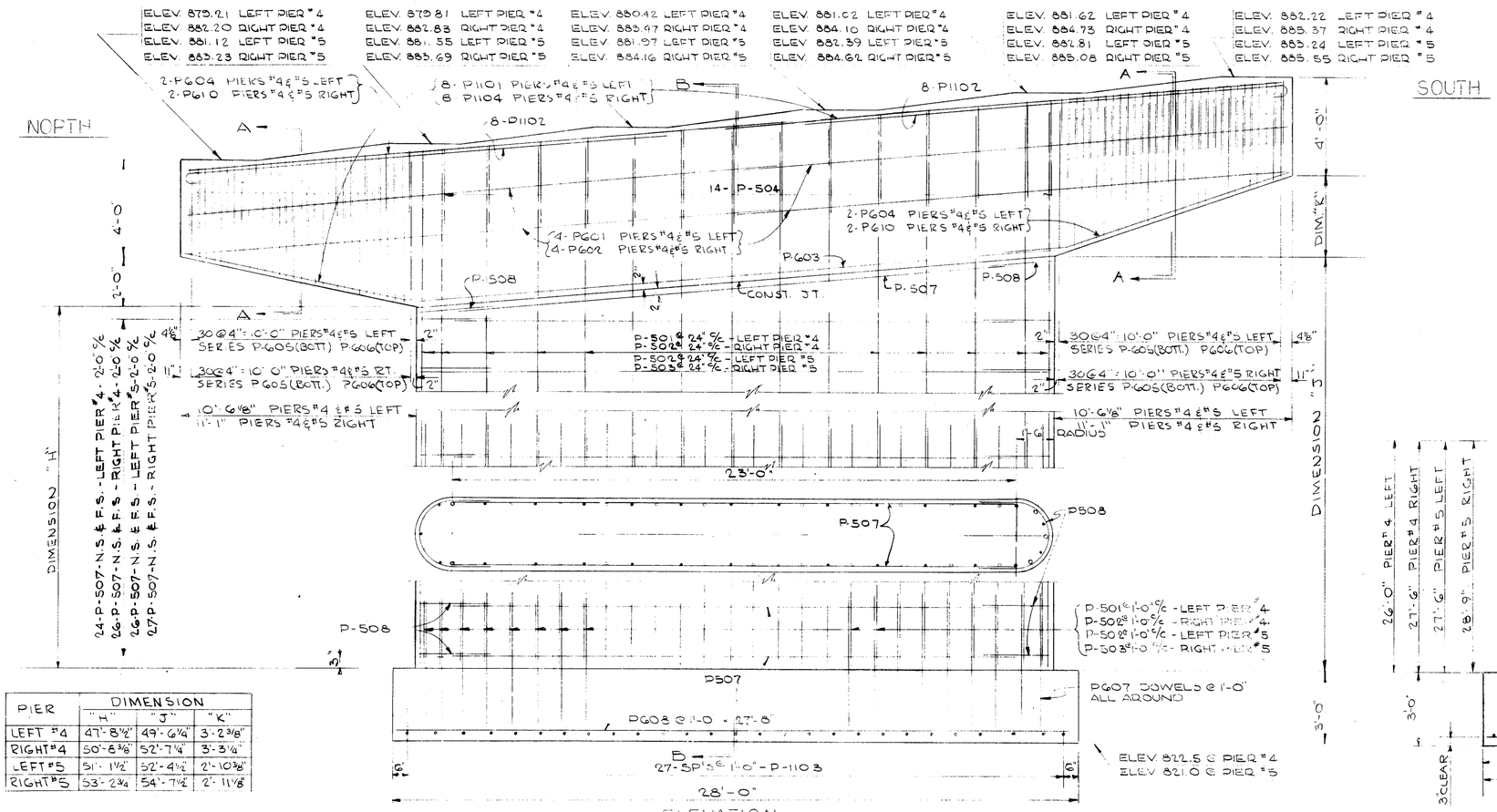
MAH-18-17.20



PLAN

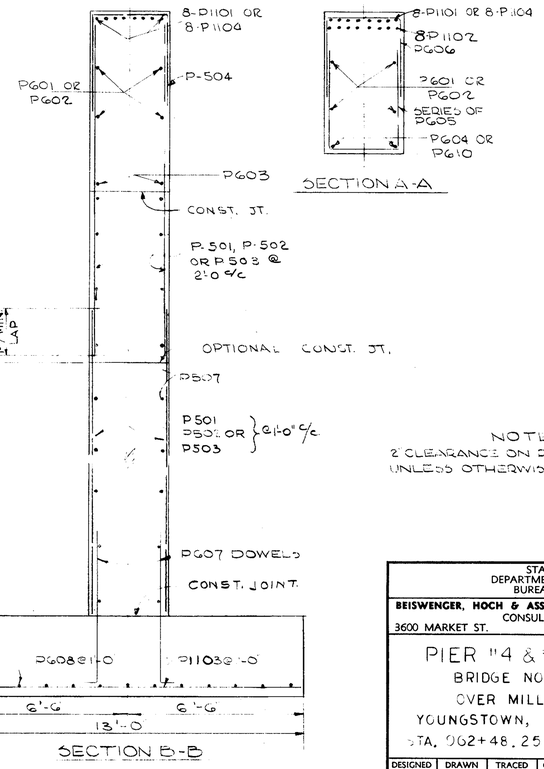


KEY PLAN



ELEVATION

PIER	DIMENSION		
	"H"	"J"	"K"
LEFT #4	47'-8 1/2"	49'-6 1/4"	3'-2 3/8"
RIGHT #4	50'-8 3/8"	52'-7 1/4"	3'-3 1/4"
LEFT #5	51'-1 1/2"	52'-4 1/2"	2'-10 3/8"
RIGHT #5	53'-2 3/4	54'-7 1/2"	2'-11 1/8"



SECTION B-B

SECTION A-A

NOTE
2" CLEARANCE ON REINFORCING STEEL UNLESS OTHERWISE NOTED

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER #4 & #5 DETAILS

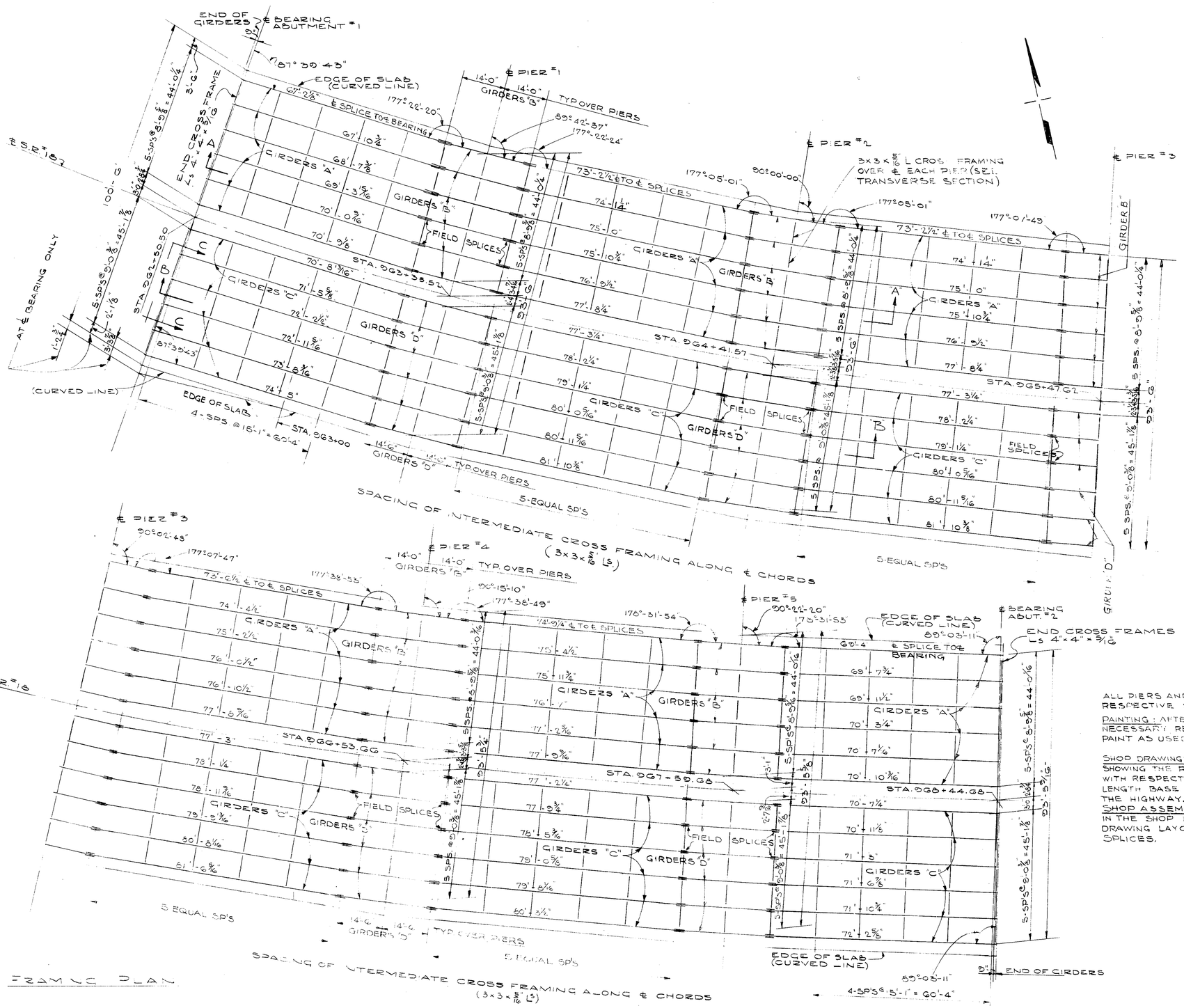
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+48.25

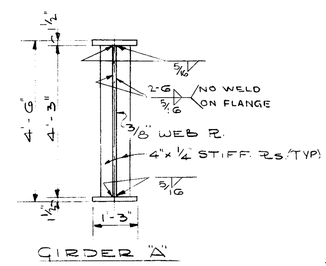
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	R.P.S.		E.W.			

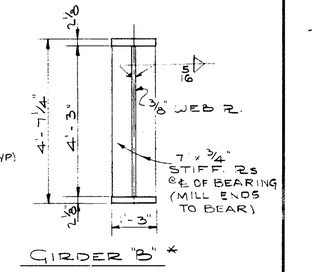
FED. RD.	STATE	PROJECT	
	OHIO		

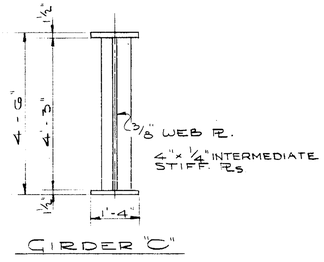
374
492

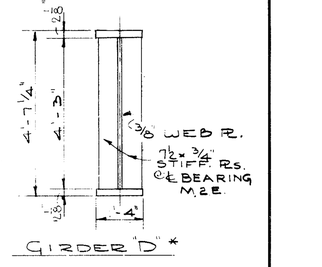
M A H - 18 - 17.20











*THE FLANGE SIZE IN THE FIRST 3'-0" FROM EACH END IS THAT OF GIRDER "A" OR "C" RESPECTIVELY SEE DETAIL OF GIRDER SPLICE

ALL PIERS AND ABUTMENTS ARE ON RADIAL ℄ S. ALL GIRDERS ARE PARALLEL IN THEIR RESPECTIVE SPANS

PAINTING : AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY REPAINTED IN ACCORDANCE WITH SEC 514 AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED TO THE ENTIRE STRUCTURE.

SHOP DRAWINGS FOR THE GIRDERS SHALL INCLUDE AN OVERALL LAYOUT WITH DIMENSIONS SHOWING THE RELATIVE UNLOADED VERTICAL POSITION OF EACH GIRDER OR GIRDER SEGMENT WITH RESPECT TO THE OTHERS IN THE SAME GIRDER LINE AND WITH RESPECT TO A FULL LENGTH BASE OR WORK LINE TAKING IN THE ACCOUNT (CAMBER AND) THE PROFILE OF THE HIGHWAY.

SHOP ASSEMBLY : AT LEAST THREE ADJACENT GIRDER SEGMENTS SHALL BE ASSEMBLED IN THE SHOP IN THEIR CORRECT UNLOADED POSITIONS AS SHOWN ON THE SHOP DRAWING LAYOUT REQUIRED IN THE ABOVE NOTE, FOR REAMING OF HOLES FOR THE GIRDER SPLICES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

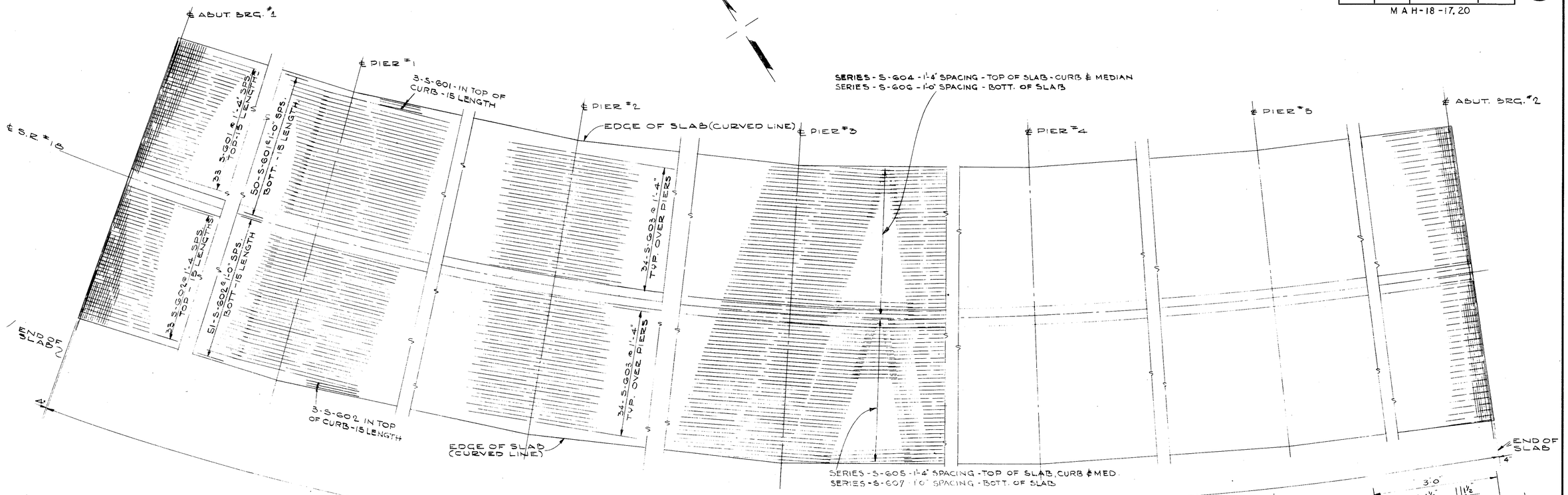
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+40.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	A.C.		C.W.			

FED. RD.	STATE	PROJECT	
	OHIO		

M A H-18-17, 20

375
492



CAMBER & DEFLECTION TABLE

	INTERIOR SPANS		END SPANS	
	INT. BEAMS	FACIA BEAMS	INT. BEAMS	FACIA BEAMS
DEFLECTION DUE TO WEIGHT OF STEEL	0.15	0.25	0.13	0.20
DEFLECTION DUE TO REMAINING DEAD LOAD	0.70	1.00	0.62	0.80
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.00	0.00	0.00	0.00
SUM OF DEFLECTIONS & CONVEXITY	0.85	1.25	0.75	1.00
REQUIRED CAMBER	1"	1¼"	1"	1"

GIRDER SPLICE DETAIL
(⅞" ϕ HIGH STRENGTH BOLTS)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB & FRAMING DETAILS

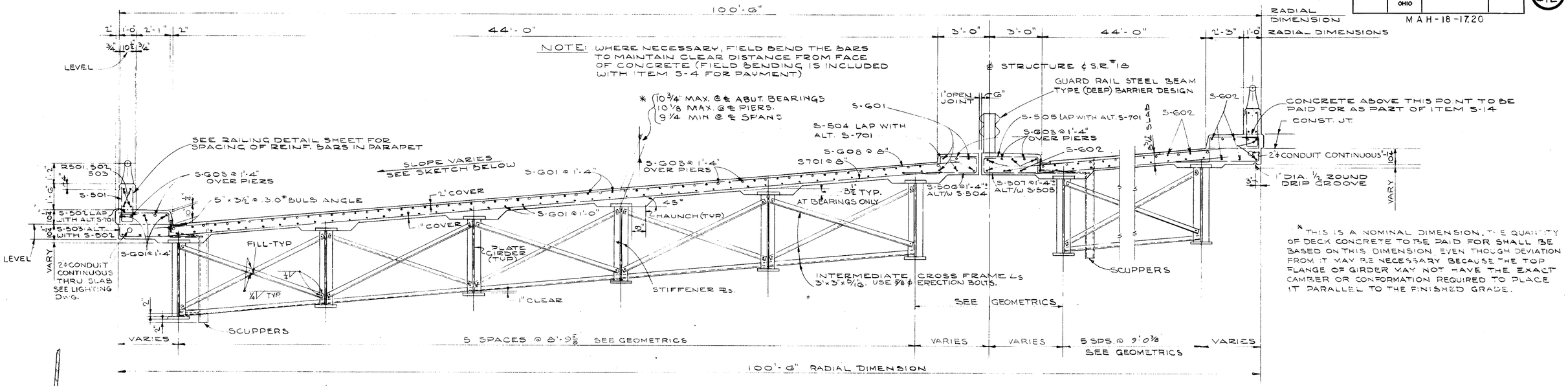
BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	AC		C.D.S.			

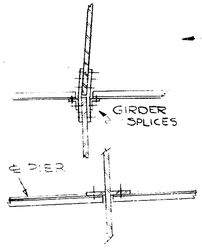
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

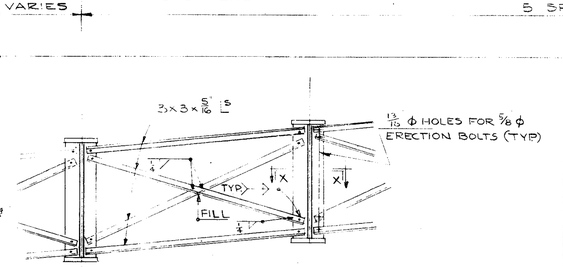
376
492



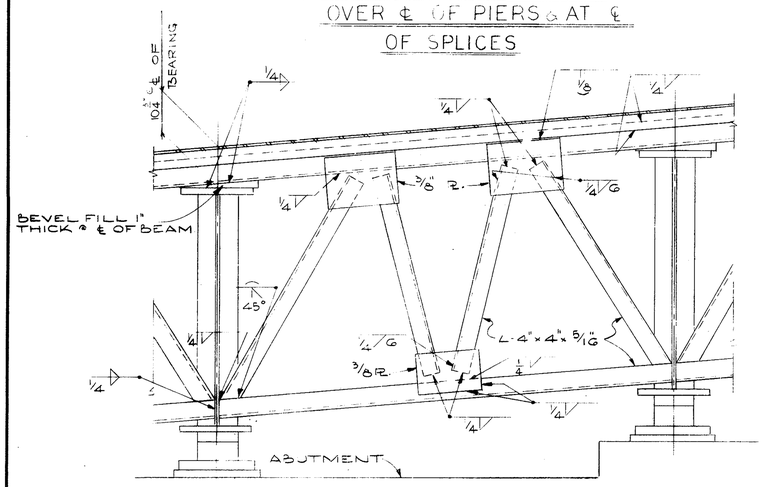
TRANSVERSE SECTION



SECTION X-X



SECTION SHOWING BRACING OVER ℄ OF PIERS & AT ℄ OF SPLICES

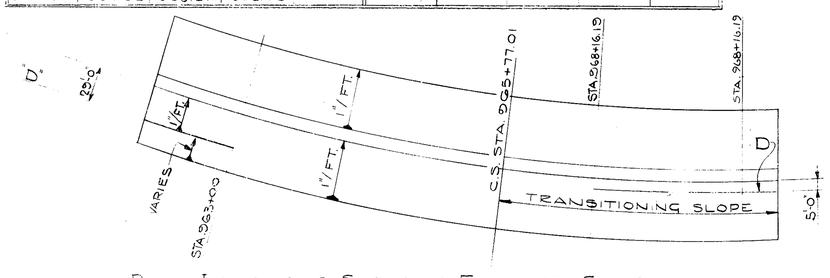


SECTION C-C

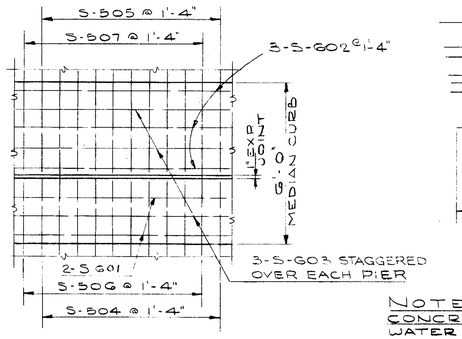
FINISHED GRADES

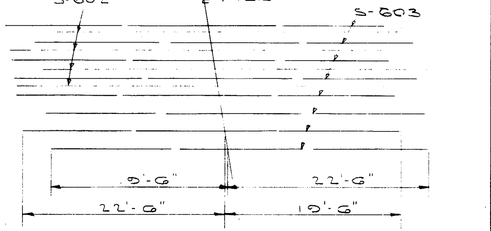
SEE PLAN INDICATING SLOPE OF FINISHED SLAB

STATION	A	B	C	D*	STATION	A	B	C	D*
962+50.00	881.78	885.44	888.82	887.86	966+00	885.28	888.73	891.17	
962+75	882.01	885.66	888.13	888.09	966+25	885.70	888.81	891.22	
963+00	882.24	885.91	889.56	888.36	966+50	886.15	889.20	891.31	
963+25	882.48	886.15	889.51		966+53.66	886.22	889.23	891.31	
963+35.52	882.58	886.24	889.92		966+75	886.60	889.44	891.35	
963+50	882.71	886.35	890.05		967+00	887.04	889.67	891.39	
963+75	882.95	886.61	890.29		967+25	887.50	889.91	891.44	
964+00	883.18	886.85	890.54		967+50	887.94	890.14	891.48	
964+25	883.42	887.09	890.75		967+59.68	888.11	890.23	891.50	
964+41.09	883.58	887.19	890.88		967+75	888.38	890.36	891.52	
964+50	883.65	887.32	890.99		968+00	888.83	890.61	891.57	
964+75	883.89	887.56	891.22		968+25	889.28	890.85	891.61	891.05
965+00	884.12	887.79	891.46		968+44.68	889.63	891.03	891.63	891.24
965+25	884.36	888.03	891.69						
965+47.62	884.57	888.22	891.88						
965+50	884.60	888.26	891.89						
965+75	884.82	888.50	892.05						



PLAN INDICATING SLOPE OF FINISHED SLAB



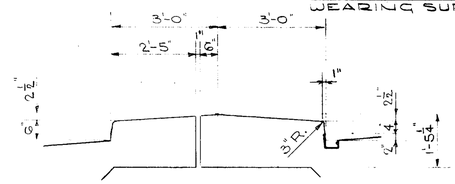


BAR STAGGERING DETAIL OVER PIERS

NOTES:

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 CONST. JOINTS WHICH ARE PARALLEL TO TRANSVERSE REINF. STEEL AND ARE LOCATED NEAR THE ℄ OF ANY SPAN.

SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.



MEDIAN STRIP DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB DETAILS

BRIDGE NO. MAH-18-1623
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+48.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	A C		ew			

FED. RD.	STATE	PROJECT	
	OHIO		

377
492

MAH-18-17.20

RADIOGRAPHIC EXAMINATION OF WELDS

THIS WORK SHALL CONSIST OF THE PERFORMANCE AND INTERPRETATION OF A RADIOGRAPHIC EXAMINATION OF BUTT WELDS AS REQUIRED BY THESE SPECIFICATIONS. IT SHALL INCLUDE THE PREPARATION AND POSITIONING OF WELDS FOR EXAMINATION, THE RADIOGRAPHING OF WELDS, THE PROCESSING AND EXAMINATION OF RADIOGRAPHS, THE INTERPRETATION OF RADIOGRAPHS FOR COMPLIANCE WITH THESE SPECIFICATIONS, AND THE PERFORMANCE AND INTERPRETATION OF ANY RETAKES OF RADIOGRAPHS REQUIRED FOR WELDS MADE TO REPLACE UNSATISFACTORY WELDS.

APPROVAL OF DIRECTOR

THE CONTRACTOR SHALL FURNISH EVIDENCE, ACCEPTABLE TO THE DIRECTOR, OF THE ADEQUACY OF THE EQUIPMENT TO BE USED AND THE COMPETENCE OF THE PERSONNEL.

THE INTERPRETATION OF RADIOGRAPHS AND THE CORRECTION OF DEFECTIVE WELDS SHALL BE SUBJECT TO THE APPROVAL OF THE DIRECTOR.

SCOPE OF EXAMINATION

BY MEANS OF RADIOGRAPHIC EXAMINATION, THE CONTRACTOR SHALL FURNISH EVIDENCE OF THE ACCEPTABLE QUALITY OF THE BUTT WELDS OF ALL GIRDERS. THE PARTS OF THESE MEMBERS TO BE RADIOGRAPHED ARE AS FOLLOWS:

1. THE COMPLETE BUTT WELDS IN THE FLANGES OF EACH GIRDER EXCEPT THE BOTTOM FLANGE OVER THE BEARING DEVICES.
2. ONE FOOT AT EACH END OF EACH OF THE WEB SPLICE WELDS.

THE SHOP EXAMINATION OF THE BUTT WELDS OF THE FLANGE PLATES AND OF THE WEB PLATES SHALL BE DETERMINED TO BE ACCEPTABLE BEFORE THESE FLANGE AND WEB PLATES ARE ASSEMBLED AND WELDED TO FORM THE GIRDERS. THE EXAMINATION OF FIELD WELDS SHALL BE MADE AS SOON AS PRACTICABLE AFTER WELDING AT EACH FIELD SPLICE IS COMPLETED.

WELD CONDITION

ALL WELDED JOINTS WHICH ARE TO BE RADIOGRAPHED SHALL BE FREE OF PAINT, SCALE AND GREASE AND SHALL BE GROUND FREE OF ALL WELD RIPPLES AND SURFACE IRREGULARITIES ON BOTH SIDES. THE DIRECTION OF GRINDING SHALL BE PERPENDICULAR TO THE LENGTH OF THE WELD. THE WELDS SHALL BE GROUND TO SUCH A DEGREE THAT THE RESULTING RADIOGRAPHIC CONTRAST, DUE TO REMAINING IRREGULARITIES, CANNOT MASK OR BE CONFUSED WITH THAT OF ANY OBJECTIONABLE DEFECT AND THAT THE WELD SURFACE WILL MERGE SMOOTHLY INTO THE PLATE SURFACE. UNLESS SPECIFIED TO BE GROUND FLUSH, THE FINISHED SURFACE OF THE REINFORCEMENT MAY HAVE A CROWN EQUAL TO ONE-EIGHTH THE THICKNESS OF THE METAL BUT NOT MORE THAN 1/8 INCH.

RADIOGRAPHIC TECHNIQUE

THE WELD SHALL BE RADIOGRAPHED WITH A TECHNIQUE WHICH WILL DETERMINE QUANTITATIVELY THE SIZE OF DEFECTS WITH THICKNESS EQUAL TO OR GREATER THAN 2 PER CENT OF THE THICKNESS OF THE BASE METAL. IN CASE IF A WELD JOINING PLATES OF UNEQUAL THICKNESS, BOTH PLATES MUST BE RADIOGRAPHED AT 2 PER CENT SENSITIVITY TOGETHER OR SINGLY, WITH THE WELD JUNCTION EVIDENT IN BOTH VIEWS.

TO DETERMINE WHETHER THE RADIOGRAPHIC TECHNIQUE EMPLOYED IS DETECTING DEFECTS OF A THICKNESS EQUAL TO OR GREATER THAN 2 PER CENT OF THE THICKNESS OF THE BASE MATERIAL, THICKNESS GAGES OR PENETRAMETERS OF THE TYPE HEREINAFTER SPECIFIED SHALL BE PLACED ON THE SIDE OF THE WELDED PLATE NEAREST THE SOURCE OF RADIATION AT AN EXTREME EDGE OF THE RADIOGRAPHIC PLATE OR FILM.

THE MATERIAL OF THE PENETRAMETER SHALL BE SUBSTANTIALLY THE SAME AS THAT OF THE WELDED PLATE.

THE THICKNESS OF THE PENETRAMETER SHALL BE NOT MORE THAN 2 PER CENT OF THE THICKNESS OF THE PLATE EXCLUSIVE OF ANY WELD REINFORCEMENT. PENETRAMETERS DESIGNED FOR INCREMENTS OF 1/8" OF PLATE THICKNESS ARE ACCEPTABLE.

IN EACH PENETRAMETER THERE SHALL BE THREE HOLES WITH DIAMETERS EQUAL RESPECTIVELY TO TWO, THREE AND FOUR TIMES THE PENETRAMETER THICKNESS, BUT IN NO CASE SHALL LESS THAN 1/16" DIAMETER BE USED.

EACH PENETRAMETER SHALL CARRY AN IDENTIFYING NUMBER REPRESENTING IN TWO SIGNIFICANT FIGURES THE MINIMUM THICKNESS IN INCHES OF THE PLATES FOR WHICH IT MAY BE USED. PENETRAMETERS MAY BE ESTABLISHED FOR DIFFERENCES IN THICKNESS NOT TO EXCEED 1/8" SO THAT A SET OF PENETRAMETERS VARYING FOR INCREMENTS OF PLATE THICKNESS OF 1/8" WILL BE ADEQUATE TO SERVE PLATES HAVING THICKNESSES BETWEEN THESE 1/8" DIMENSIONS.

THE IMAGES OF IDENTIFYING NUMBERS AND THE HOLES OF EACH PENETRAMETER MUST APPEAR CLEARLY ON THE RADIOGRAPH TO ESTABLISH THE 2 PER CENT SENSITIVITY.

FOR PLATES UP TO AND INCLUDING 2 1/2" IN THICKNESS, EACH PENETRAMETER SHALL BE 1 1/2" LONG AND 1/2" WIDE. FOR PLATES THICKER THAN 2 1/2" EACH PENETRAMETER SHALL BE 2 1/4" LONG AND 1" WIDE.

THE FILM DURING EXPOSURE SHALL BE AS CLOSE TO THE WELD AS PRACTICABLE. IF POSSIBLE, THIS DISTANCE SHALL BE NOT GREATER THAN 1 INCH. IN ANY EVENT, THE RATIO

DISTANCE FROM SOURCE OF RADIATION TO WELD SURFACE TOWARD RADIATION

DISTANCE FROM WELD SURFACE TOWARD RADIATION TO FILM

SHALL BE AT LEAST 7 TO 1.

ALL RADIOGRAPHS SHALL BE FREE FROM EXCESSIVE MECHANICAL PROCESSING DEFECTS WHICH WOULD INTERFERE WITH PROPER INTERPRETATION OF THE RADIOGRAPH.

IDENTIFICATION MARKERS, THE IMAGES OF WHICH WILL APPEAR ON THE FILM, SHALL BE PLACED ADJACENT TO THE WELD AND THEIR LOCATIONS SHALL BE ACCURATELY AND PERMANENTLY MARKED ON THE OUTSIDE SURFACE NEAR THE WELD SO THAT A DEFECT APPEARING ON THE RADIOGRAPH MAY BE ACCURATELY LOCATED.

THE SIZE OF FILM TO BE USED SHALL BE MIN. 4" WIDE X 15" LONG UNLESS PERMISSION TO USE A DIFFERENT SIZE IS OBTAINED IN WRITING FROM THE DIRECTOR.

STANDARDS OF ACCEPTABILITY

THE ACCEPTABILITY OF THE WELDS EXAMINED BY RADIOGRAPHY SHALL BE JUDGED BY THE FOLLOWING STANDARDS:

(1) CRACKS:

DEFINITION - A DISCONTINUITY RESULTING FROM A VERY NARROW SEPARATION OF METAL.

STANDARD --- NO WELD CONTAINING CRACKS REGARDLESS OF LENGTH, SIZE OR LOCATION SHALL BE CONSIDERED ACCEPTABLE.

(2) GAS POROSITY:

DEFINITION - GAS POCKETS OR VOIDS IN METAL.

STANDARD --- THE MAXIMUM DIMENSION OF ANY INDIVIDUAL GAS POCKET SHALL NOT EXCEED 1/8 INCH. THE MAXIMUM ACCUMULATION OF GAS POCKETS SHALL NOT EXCEED THAT SHOWN IN THE "POROSITY STANDARDS" OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

(3) SLAG INCLUSIONS:

DEFINITION - NON-METALIC, SOLID MATERIAL ENTRAPPED IN WELD OR BETWEEN WELD METAL AND BASE METAL.

STANDARD -A.-ELONGATED SLAG INCLUSION; NO ELONGATED SLAG INCLUSION SHALL EXCEED TWO-THIRDS OF THE THICKNESS OF THE THINNER PLATE OF THE JOINT IN LENGTH AND 1/16" IN WIDTH, EXCEPT THAT REGARDLESS OF THE PLATE THICKNESS NO SUCH INCLUSION SHALL BE LONGER THAN 3/4" AND EXCEPT THAT NO SUCH INCLUSION WHICH IS SHORTER THAN 1/4" SHALL BE CAUSE FOR REJECTION.

B.-ISOLATED SLAG INCLUSIONS; IN ANY 12 INCH LENGTH OF WELD THE MAXIMUM WIDTH OF ANY ISOLATED SLAG INCLUSION SHALL NOT EXCEED 1/8" INCH, THE SUMMATION OF LENGTHS OF ISOLATED SLAG INCLUSIONS SHALL NOT EXCEED 1 INCH, AND THERE SHALL BE NO MORE THAN FOUR ISOLATED INCLUSIONS OF THE MAXIMUM WIDTH OF 1/8 INCH. ANY TWO SUCH INCLUSIONS SHALL BE SEPARATED BY AT LEAST 2 INCHES OF SOUND WELD METAL.

(4) INCOMPLETE FUSION:

DEFINITION - FAILURE OF WELD METAL TO FUSE COMPLETELY WITH THE BASE METAL OR PRECEEDING BEADS.

STANDARD --- NO INDIVIDUAL LACK OF FUSION SHALL EXCEED 1/2 INCH IN LENGTH. IN ANY 12 INCH LENGTH OF WELD, THE SUMMATION OF LENGTHS OF LACK OF FUSION SHALL NOT EXCEED 3/4 INCH AND INDIVIDUAL DEFECTS SHALL BE SEPARATED BY AT LEAST 6 INCHES OF SOUND METAL.

(5) INCOMPLETE PENETRATION:

DEFINITION - ROOT PENETRATION WHICH IS LESS THAN COMPLETE OR FAILURE OF A ROOT PASS AND A BACKING PASS TO FUSE WITH EACH OTHER.

STANDARD --- NO INDIVIDUAL LACK OF PENETRATION SHALL EXCEED 1/2 INCH IN LENGTH. IN ANY 12 INCH LENGTH OF WELD, THE SUMMATION OF LENGTHS OF LACK OF PENETRATION SHALL NOT EXCEED 3/4 INCH AND INDIVIDUAL DEFECTS SHALL BE SEPARATED BY AT LEAST 6 INCHES OF SOUND METAL.

REPAIR OF DEFECTIVE WELDS

DEFECTIVE WELDS SHALL BE REPAIRED BY CHIPPING OR MELTING OUT SUCH DEFECTS FROM ONE OR BOTH SIDES OF THE JOINT AS REQUIRED, REMOVING ONLY SUFFICIENT WELD METAL TO CORRECT THE DEFECT. THE JOINT SHALL THEN BE REWELDED AND AGAIN RADIOGRAPHED.

ADDITIONAL RADIOGRAPHS

WHEREVER AN UNACCEPTABLE WELD OCCURS, A RADIOGRAPH SHALL BE MADE OF THE ADJOINING 12 INCH LENGTHS OF WELD TO DETERMINE IF THE FLAWS EXTEND BEYOND THE LIMITS OF THE ORIGINAL RADIOGRAPH. IF UNACCEPTABLE FLAWS OCCUR IN THESE ADJOINING LENGTHS OF WELD, THESE DEFECTIVE WELDS SHALL BE REPAIRED AND THIS ENTIRE PROCEEDURE REPEATED FOR THE NEXT ADJOINING 12 INCH LENGTH OF WELD.

CUSTODY OF RADIOGRAPHS

AS SOON AS THE RADIOGRAPHING OF THE WELDMANTS ON THE FULL LENGTH OF EACH FLANGE OR WEB PLATE BETWEEN FIELD SPLICES HAS BEEN COMPLETED, THE CONTRACTOR SHALL SEND TO THE STATE THE PROPOSED CONTACT FILM (THAT FILM CLOSEST TO THE SOURCE OF RADIATION) OF ALL ORIGINAL AND RETAKE RADIOGRAPHS. THESE RADIOGRAPHS SHALL BE ACCOMPANIED BY A CERTIFICATION FROM THE CONTRACTOR THAT THE RADIOGRAPHIC EXAMINATION WAS PERFORMED IN CONFORMANCE WITH THESE SPECIFICATIONS. THE RADIOGRAPHS SHALL BECOME THE PROPERTY OF THE STATE. EACH RADIOGRAPH SHALL BE CLEARLY IDENTIFIED TO SHOW THE LOCATION ON THE STRUCTURE AT WHICH IT WAS TAKEN. UNACCEPTABLE DEFECTS SHALL BE IDENTIFIED IN EACH RADIOGRAPH IN WHICH THEY OCCUR AND THE REPAIR OR REPLACEMENT OF EACH UNACCEPTABLE WELD DEFECT SHALL BE NOTED AND IDENTIFIED.

REPORT OF COST

AFTER THE COMPLETION OF THE RADIOGRAPHIC INSPECTION OF WELDS, THE CONTRACTOR SHALL FURNISH THE STATE A COMPLETE REPORT OF THE COST OF PERFORMING THIS WORK, SEPARATED INTO THE ITEMS MENTIONED IN THE FOLLOWING PARAGRAPH.

BASIS FOR PAYMENT

PAYMENT FOR THIS WORK, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR S-7, STRUCTURAL STEEL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RADIOGRAPHIC NOTES

BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 TO STA. 968+46.25

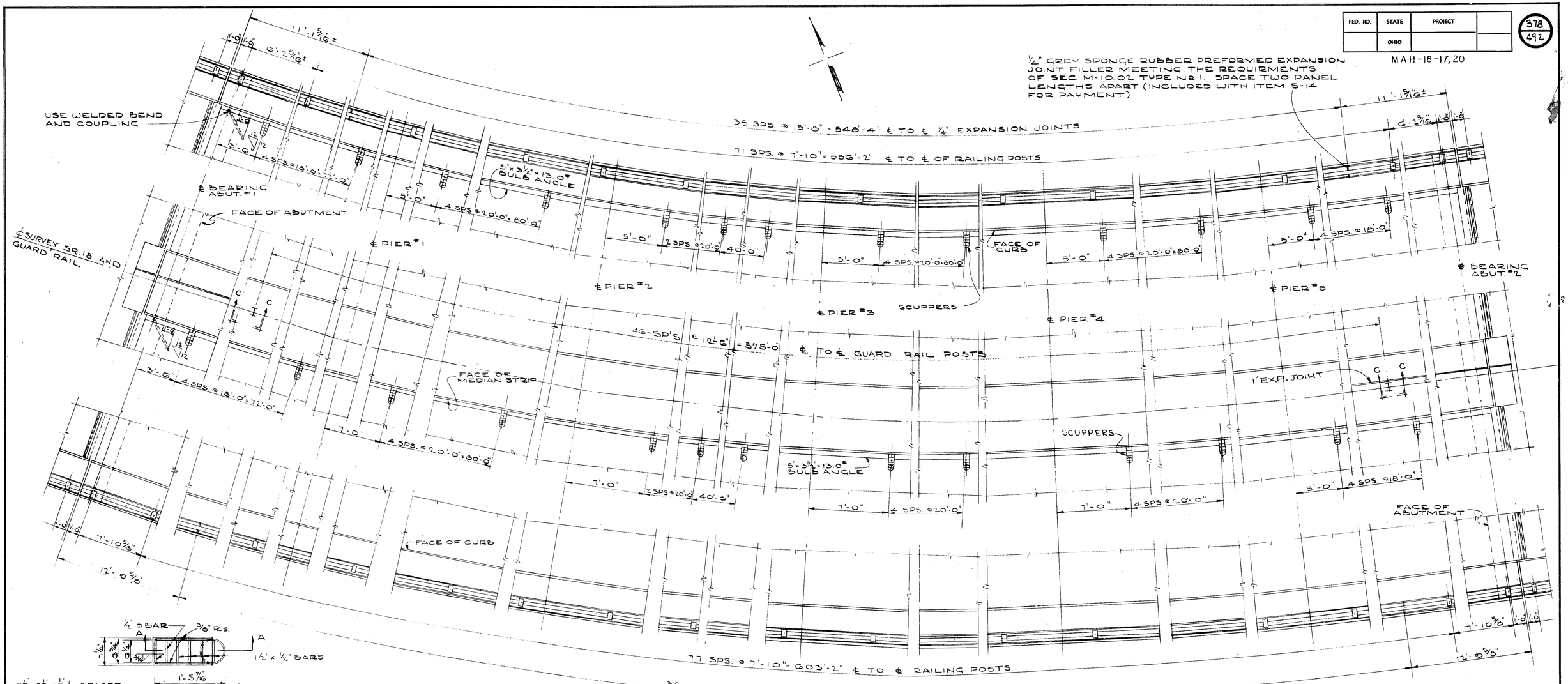
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	DV		DG,S,	DHC.		

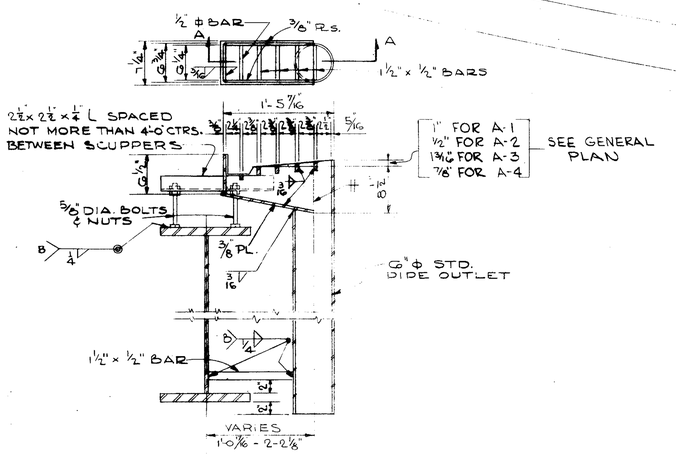
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17,20

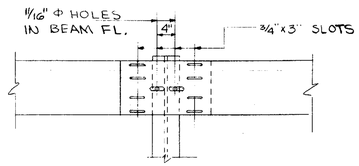
378
492

1/4" GREY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIRMENTS OF SEC. M-10.02 TYPE NO 1. SPACE TWO PANEL LENGTHS APART (INCLUDED WITH ITEM 5-14 FOR PAYMENT)



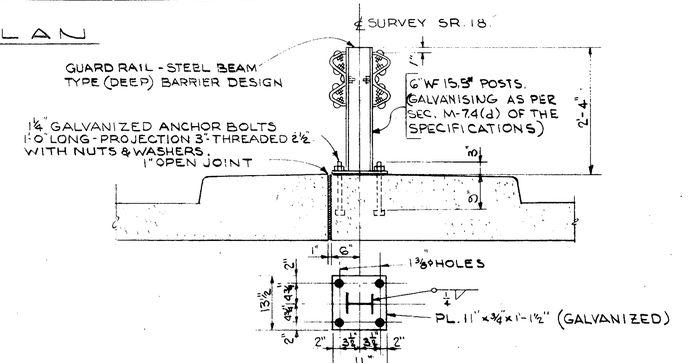


SECTION A-A
SCUPPER



SECTION C-C
DETAIL OF EXPANSION JOINT
(AT END POSTS ONLY)

PLAN



SECTION THRU GUARD RAIL
(SEE STANDARD DWG. I-15. NO. 2-A)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DRAINAGE & GUARD RAIL DETAILS

BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA 968+46.25

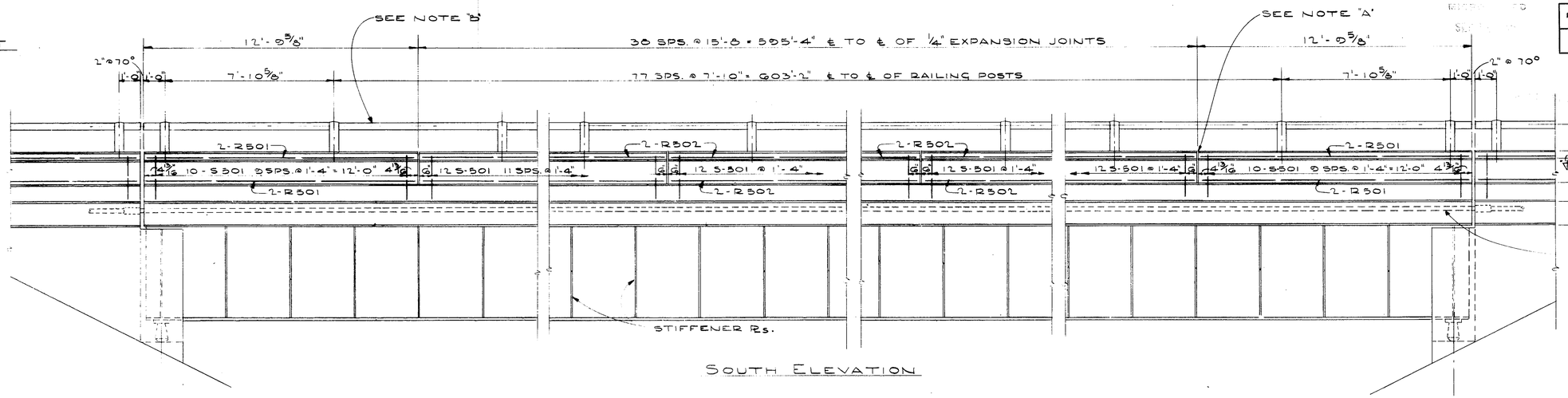
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHC	AC		C.J.W			

FED. RD.	STATE	PROJECT	
	OHIO		

379
492

MAH-18-17.20

WEST



SOUTH ELEVATION

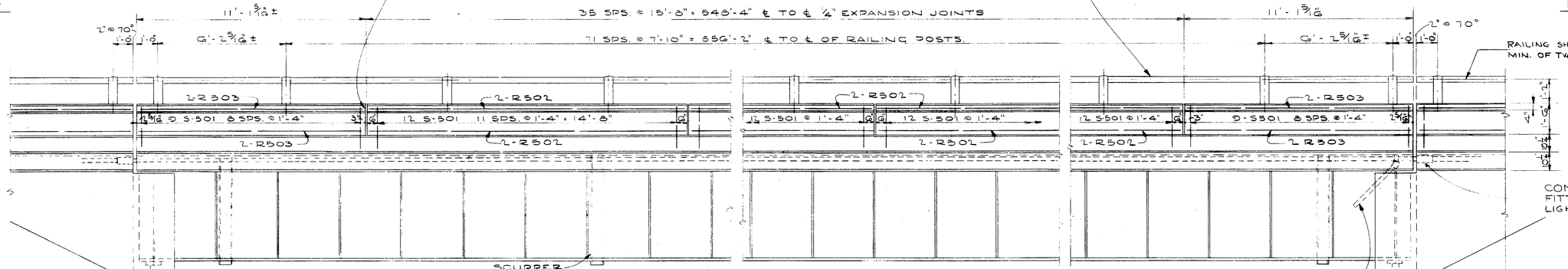
EAST

2" DIA. CONDUIT CONTINUOUS THRU. SLAB. SEE ROADWAY LIGHTING FOR DETAILS.

NOTE A:
¼" GREY SPONGE RUBBER PREFORMED EXPANSION JOINT FILLER MEETING THE REQUIRMENTS OF SECTION M-10.02, TYPE 1. TO BE PAID FOR AS PART OF ITEM S-14.

NOTE B:
TYPE "A" RAILING - 4" O.D. x 5/16 WALL ALUMINUM TUBE. RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF SUPERSTRUCTURE.

EAST



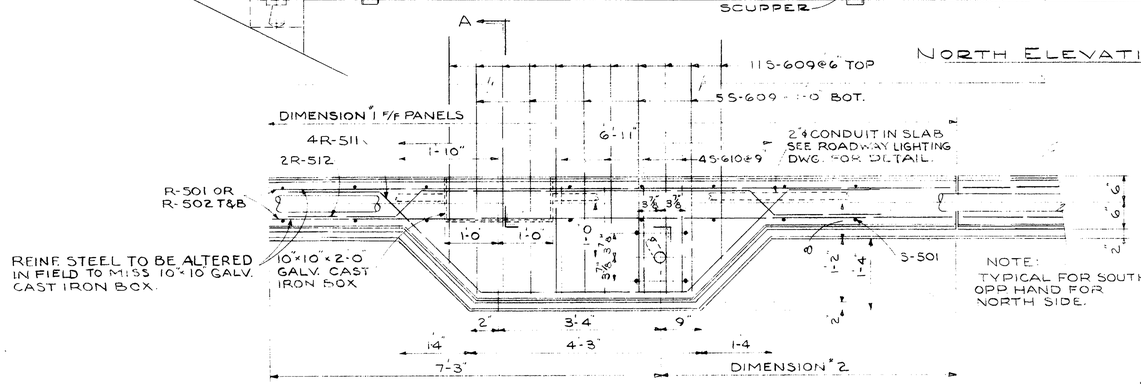
NORTH ELEVATION

WEST

RAILING SHALL BE CONTINUOUS FOR A MIN. OF TWO PANELS ON THE WINGWALLS

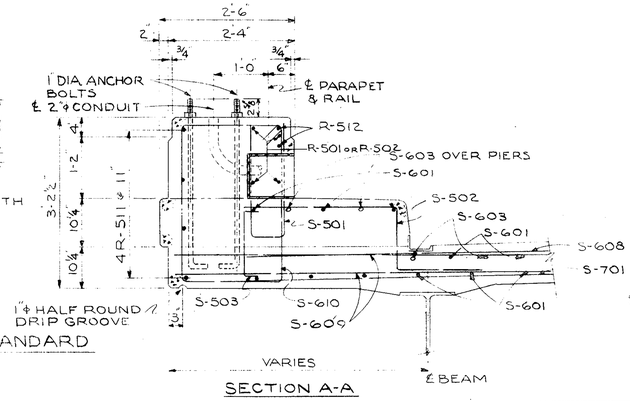
CONDUIT EXPANSION FITTING. SEE ROADWAY LIGHTING DETAILS.

2" DIA. STD. STEEL PIPE DRAIN AT THE ABUT. ENDS OF EACH BULB ANGLE AS INDICATED ON PLAN. WELD STUB END FULL PERIMETER TO BULB ANGLE



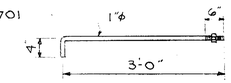
NOTE:
TYPICAL FOR SOUTH OPP HAND FOR NORTH SIDE.

DETAIL OF LIGHT STANDARD SUPPORT



SECTION A-A

LIGHT STANDARD	DIMENSION "1"	DIMENSION "2"
A	12'-9½"	5'-6½"
B	15'-7¾"	8'-4¾"
C	12'-9½"	5'-6½"
D	15'-7¾"	8'-4¾"
E	15'-7¾"	8'-4¾"



ANCHOR BOLT DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING DETAILS

BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	A.C.		cw.			

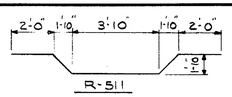
REINFORCING STEEL SCHEDULE

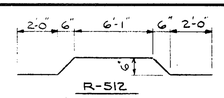
MARK	NO.	LENGTH	WEIGHT	SHAPE
WEST ABUTMENT.				
WA-501	15	12'-3"	186	ST.
WA-502	33	8'-6"	293	ST.
WA-503	15	4'-5"	68	BT.
WA-504	4	11'-10	49	BT.
WA-505	15	6'-0"	94	ST.
WA-506	2	9'-10"	21	BT.
WA-507	1	13'-1"	14	ST.
WA-508	11	8'-11	102	ST.
WA-509	29	4'-0"	121	ST.
WA-510	28	18'-4"	536	ST.
WA-511	3	14'-0"	44	ST
WA-512	122	3'-11"	497	BT.
WA-513	4	16'-1"	67	ST.
WA-514	2	13'-2"	27	ST.
WA-515	2	16-4	34	BT.
WA-516	2	2'-1"	4	BT.
WA-517	2	2'-9"	6	BT.
WA-518	2	3'-3"	7	BT.
WA-519	2	3'-7"	7	BT.
WA-520	2	3'-9"	8	BT.
WA-521	50	3'-10"	200	BT.
WA-522	62	6'-1"	394	BT.
WA-523	19	5'-0"	99	ST.
WA-524	12	14'-7"	182	ST.
WA-525	84	5'-5"	474	BT.
WA-526	3	13'-6"	42	ST.
WA-527	4	39'-6	156	ST.
WA-528	3	23'-8"	74	ST
WA-529	8	28'-5"	238	ST.
WA-530	16	9'-10"	164	ST.
WA-531	38	5'-4"	211	ST.
WA-532	7	8'-9	64	BT.
WA-533	11	8'-3	95	BT.
WA-534	109	10'-7"	1203	BT.
WA-535	30	26'-8	835	ST.
WA-536	11	8'-2"	94	ST.
WA-537	2	5'-11"	12	BT.
WA-538	2	4'-10"	10	BT.
WA-539	22	15'-2"	345	ST.
WA-540	5	24'-0"	200	ST.
WA-541	17	13'-2"	233	ST.
WA-542	10	19'-2"	200	ST.
WA-543	5	32'-8"	170	ST.
WA-544	19	16'-2"	321	ST.
WA-545	52	25'-6"	1383	ST.
WA-546	13	21'-6"	292	ST.
WA-547	16	7'-1"	118	ST.
WA-548	3	9'-6"	30	ST.
WA-549	10	7'-5"	77	ST.
WA-550	132	27'-4"	3763	ST.
WA-551	32	11'-6"	384	ST.
WA-552	29	32'-4"	978	ST.
WA-553	20	25'-2"	525	ST.
WA-554	2	21'-0"	44	ST.
WA-555	10	32'-3"	336	ST.
WA-556	1	38'-7"	40	ST
WA-557	2	32'-3"	67	BT.
WA-558	28	26'-0"	759	ST
WA-559	2	22'-4"	45	ST
WA-560	15	6'-3"	98	BT.
WA-561	13	10'-11"	148	BT.
WA-562	8	29'-3"	244	ST.
WA-563	2	3'-4"	7	ST
WA-601	42	8'-8"	548	ST
WA-602	21	11'-2"	352	BT
WA-603	5	9'-3"	68	BT
WA-604	11	8'-9"	145	BT
WA-605	26	16'-7"	648	BT
WA-606	73	18'-4"	2011	BT
WA-607	10	14'-6"	217	ST
WA-608	24	9'-8"	349	ST.
WA-609	4	20'-3"	122	ST.
WA-610	17	7'-5"	189	BT
WA-701	14	15'-3"	436	ST.
WA-702	41	9'-8"	810	ST.

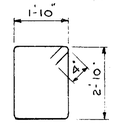
MARK	NO.	LENGTH	WEIGHT	SHAPE
WA-801	95	16'-3"	4124	ST.
WA-802	32	17'-9"	1517	ST
WA-803	53	14'-8"	2076	ST
WA-804	17	18'-0"	817	ST
WA-901	21	8'-7"	613	BT
WA-902	21	15'-8"	1119	ST
WA-1001	17	13'-4"	975	BT
WA-1002	80	17'-8"	6093	ST.
WA-1003	35	14'-5"	2209	ST.
WA-1101	25	15'-8"	2081	ST.
WA-1102	10	10'-10"	576	BT.
WA-1103	10	15'-10"	841	BT.
WA-1104	17	9'-4"	843	BT
WA-1105	80	17'-8"	1510	ST
WA-1106	81	6'-10"	2936	BT.
WA-1107	63	11'-10"	3960	BT.
WA-1108	17	12'-10"	1159	BT.
WA-1109	4	10'-10"	230	BT
WA-1110	4	15'-10"	336	BT.
TOTAL WEST ABUT.			57,423	
EAST ABUTMENT.				
A-501	52	26'-0"	1410	ST.
A-502	48	25'-5"	1272	ST.
A-503	4	5'-10"	24	ST.
A-504	2	38'0"	79	ST.
A-505	2	7'-1"	15	ST.
A-506	2	4'-10"	10	BT
A-507	2	5'-11"	12	BT
A-508	108	7'-8"	863	BT.
A-509	86	8'-9"	785	BT
A-510	60	5'-6"	344	BT.
A-511	4	7'-8"	32	ST.
A-512	12	3'-6"	44	ST
A-513	4	26'-7"	111	ST
A-514	27	4'-6"	117	ST.
A-515	2	8'-2"	17	ST
A-516	2	11'-1"	23	ST.
A-517	2	5'-0"	10	ST.
A-518	14	10'-0"	146	BT
A-519	14	4'-6"	66	ST.
A-520	4	10'-8"	45	BT.
SERIES OF	2 SETS, OF 3 =	VARY 9'-11"-13'-11" INCR. 2'-0"	75	ST.
A-521	6-BARS			
SERIES OF	2-SETS, OF 3 =	VARY 5'-6"-9'-6" INCR. 2'-0"	50	ST.
A-522	6-BARS			
A-523	6	19'-0"	119	ST
A-524	6	14'-4"	90	ST.
A-525	32	4'-5"	147	BT.
A-526	16	10'-11"	182	ST.
SERIES OF	4-SETS OF 5 =	VARY 2'-9"-4'-9" INCR. 6"	78	ST.
A-527	20-BARS			
A-528	72	3'-5"	257	BT.
A-529	20	6'-1"	127	BT.
A-530	16	12'-6"	209	ST.
A-531	8	17'-0"	142	ST.
A-532	4	14'-6"	60	ST
A-533	4	17'-0"	71	BT.
A-534			OPEN	
A-535	2	2'-2"	5	BT.
A-536	2	2'-6"	5	BT.
A-537	2	2'-10"	6	BT.
A-538	2	3'-1"	6	BT.
A-539	2	3'-3"	7	BT.
A-540	2	3'-5"	7	BT.
A-541	2	3'-7"	7	BT.
A-542	2	3'-8"	8	BT.
A-543	2	3'-9"	8	BT.
A-544	16	3'-10"	64	BT.

MARK	NO.	LENGTH	WEIGHT	SHAPE
A-601	27	18'-3"	740	BT.
A-602	72	20'-4"	2199	BT.
TOTAL EAST ABUT.			10,094	
TOTAL ABUTMENTS			67,517	
PIERS.				
P-501	87	27'-10"	2526	ST.
P-502	174	29'-4"	5323	ST
P-503	87	30'-6"	2768	ST.
P-504	56	9'-0"	526	BT.
P-505			OPEN	
P-506			OPEN	
P-507	394	23'-0"	9452	ST.
P-508	394	7'-4"	3014	BT.
P-509			OPEN	
P-510	174	19'-0"	3448	ST.
P-511	29	31'-0"	938	ST.
P-512	29	31'-9"	960	ST.
P-513	58	33'-0"	1996	ST.
P-514	58	36'-9"	2223	ST.
P-515	84	9'-10"	862	BT.
P-601	40	24'-6"	1472	ST.
P-602	40	25'-0"	1502	ST.
P-603	20	26'-0"	781	ST
P-604	20	12'-6"	376	BT.
SERIES OF P-605	20-SETS OF 31' = 620-BARS	VARY 9'-0"-14'-0" INCR. 2"	10,709	BT.
P-606	620	7'-6"	6,984	BT.
P-607	580	5'-11"	5154	BT.
P-608	52	27'-8"	2161	ST.
P-609	66	32'-8"	3238	ST.
P-610	20	13'-1"	394	BT.
P-801	264	11'-8"	8224	ST.
P-1101	80	25'2	10,697	ST
P-1102	160	21'-7"	18,348	BT
P-1103	112	12'-8"	7,537	ST
P-1104	80	25'-9"	10,945	ST
TOTAL PIERS			122,558	
SLAB				
S-501	314	4'-5"	4210	BT
S-502	1786	5'-7"	10,401	BT
S-503	1786	5'-7"	10,401	BT
S-504	893	4'-4"	4036	BT.
S-505	893	5'-5"	5045	BT.
S-506	893	4'-6"	4191	BT.
S-507	893	5'-7"	5200	BT.
S-601	1320	39'-8"	78645	ST.
S-602	1350	41'-4"	83,817	ST
S-603	375	42'-0"	23,657	ST.
SERIES OF S-604	SET OF 38-BARS	VARY 4'-0"-31'-9" INCR. 3"	1020	ST.
SERIES OF S-605	SET OF 39-BARS	VARY 4'-0"-32'-6" INCR. 3"	1069	ST.
SERIES OF S-606	SET OF 50-BARS	VARY 4'-0"-28'-6" INCR. 6"	1220	ST.
SERIES OF S-607	SET OF 51-BARS	VARY 4'-0"-29'-0" INCR. 6"	1264	ST.
S-608	1786	47'-8"	127,869	ST.
S-609	80	8'-0"	961	ST.

MARK	NO.	LENGTH	WEIGHT	SHAPE
S-610	20	9'-7"	288	BT.
S-701	1786	46'-4"	169,144	ST.
TOTAL SLAB			532,438	
RAILING *				
R-501	8	12'-5"		ST.
R-502	292	15'-4"		ST.
R-503	8	10'-9"		ST.
R-504	8	16'-8"		ST.
R-505	4	15'-11"		ST
R-506	8	7'-6"		ST
R-507	8	11'-8"		ST.
R-508	8	14'-4"		ST
R-509	4	12'-8"		ST.
R-510	4	10'-5"		ST.
R-511	20	12'-10"		BT.
R-512	10	11'-5"		BT.
REPLACEMENT BARS.				
RE-501	6	5'-7" *		ST.
RE-601	19	5'-11"		ST.
RE-701	9	6'-3"		ST
RE-801	1	6'-6"		ST.
RE-1001	1	7'-3"		ST.
RE-1101	4	7'-6"		ST.
GRAND TOTAL			722078	LBS



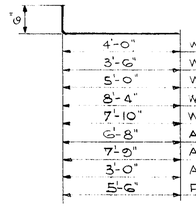


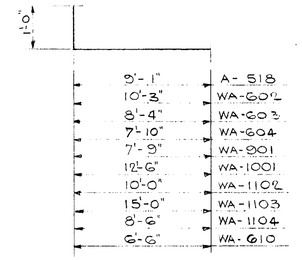


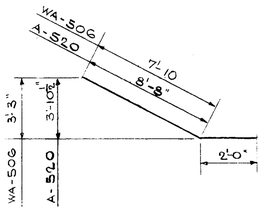
FED. RD.	STATE	PROJECT	
	OHIO		

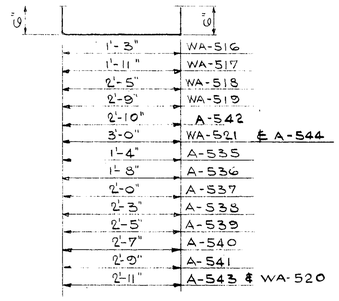
MAH-18-17.20

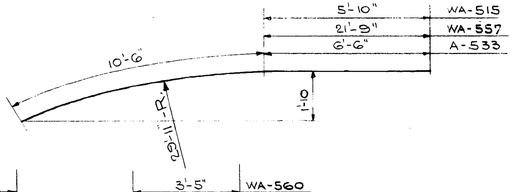
380
492

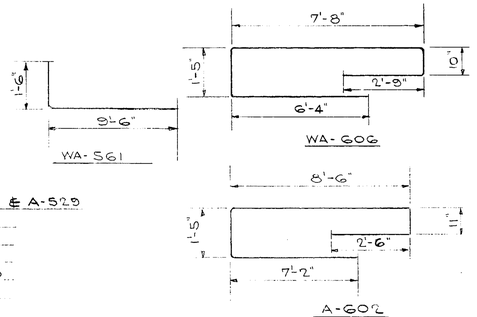


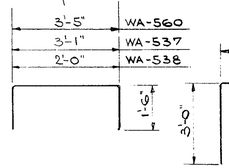


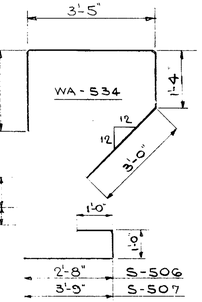


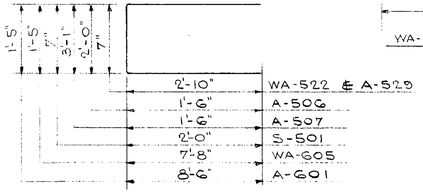


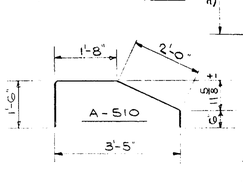


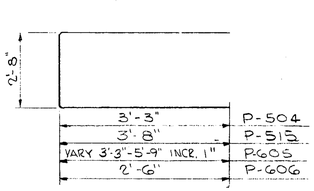


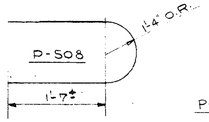


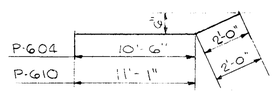




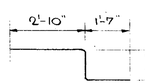


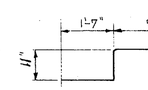


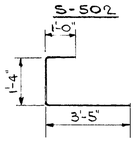


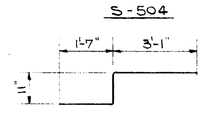


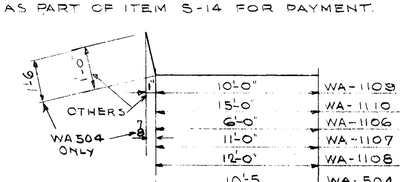












NOTES: BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-501 IS A NO. 5 SIZE BAR AND P-1101 IS A NO. 11 SIZE BAR.

REPLACEMENT BARS : IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.	JK		C.O.W.			

FED. RD.	STATE	PROJECT	
	OHIO		

M A H - 18 - 17.20

381
492



TABLE OF BEAM LENGTHS

MARK	LENGTH	MARK	LENGTH	MARK	LENGTH	MARK	LENGTH	MARK	LENGTH	MARK	LENGTH
A-1	81.185'	B-1	101.243'	C-1	101.243'	D-1	101.573'	E-1	102.786'	F-1	83.334'
A-2	81.905'	B-2	102.139'	C-2	102.139'	D-2	102.407'	E-2	103.391'	F-2	83.648'
A-3	82.622'	B-3	103.035'	C-3	103.035'	D-3	103.241'	E-3	103.997'	F-3	83.962'
A-4	83.340'	B-4	103.931'	C-4	103.931'	D-4	104.074'	E-4	104.602'	F-4	84.275'
A-5	84.057'	B-5	104.827'	C-5	104.827'	D-5	104.908'	E-5	105.207'	F-5	86.589'
A-6	84.775'	B-6	105.723'	C-6	105.723'	D-6	105.742'	E-6	105.813'	F-6	84.903'
A-7	85.245'	B-7	106.305'	C-7	106.305'	D-7	106.284'	E-7	106.206'	F-7	85.106'
A-8	85.982'	B-8	107.224'	C-8	107.224'	D-8	107.139'	E-8	106.827'	F-8	85.428'
A-9	86.719'	B-9	108.143'	C-9	108.143'	D-9	107.995'	E-9	107.448'	F-9	85.750'
A-10	87.456'	B-10	109.063'	C-10	109.063'	D-10	108.850'	E-10	108.069'	F-10	86.072'
A-11	88.193'	B-11	109.982'	C-11	109.982'	D-11	109.705'	E-11	108.690'	F-11	86.394'
A-12	88.930'	B-12	110.901'	C-12	110.900'	D-12	110.561'	E-12	109.311'	F-12	86.716'

GEOMETRIC LAYOUT

NOTE: ALL PIER AND ABUTMENT CENTERLINES ARE ON RADIAL LINES. ALL BEAMS ARE PARALLEL IN THEIR RESPECTIVE SPANS.

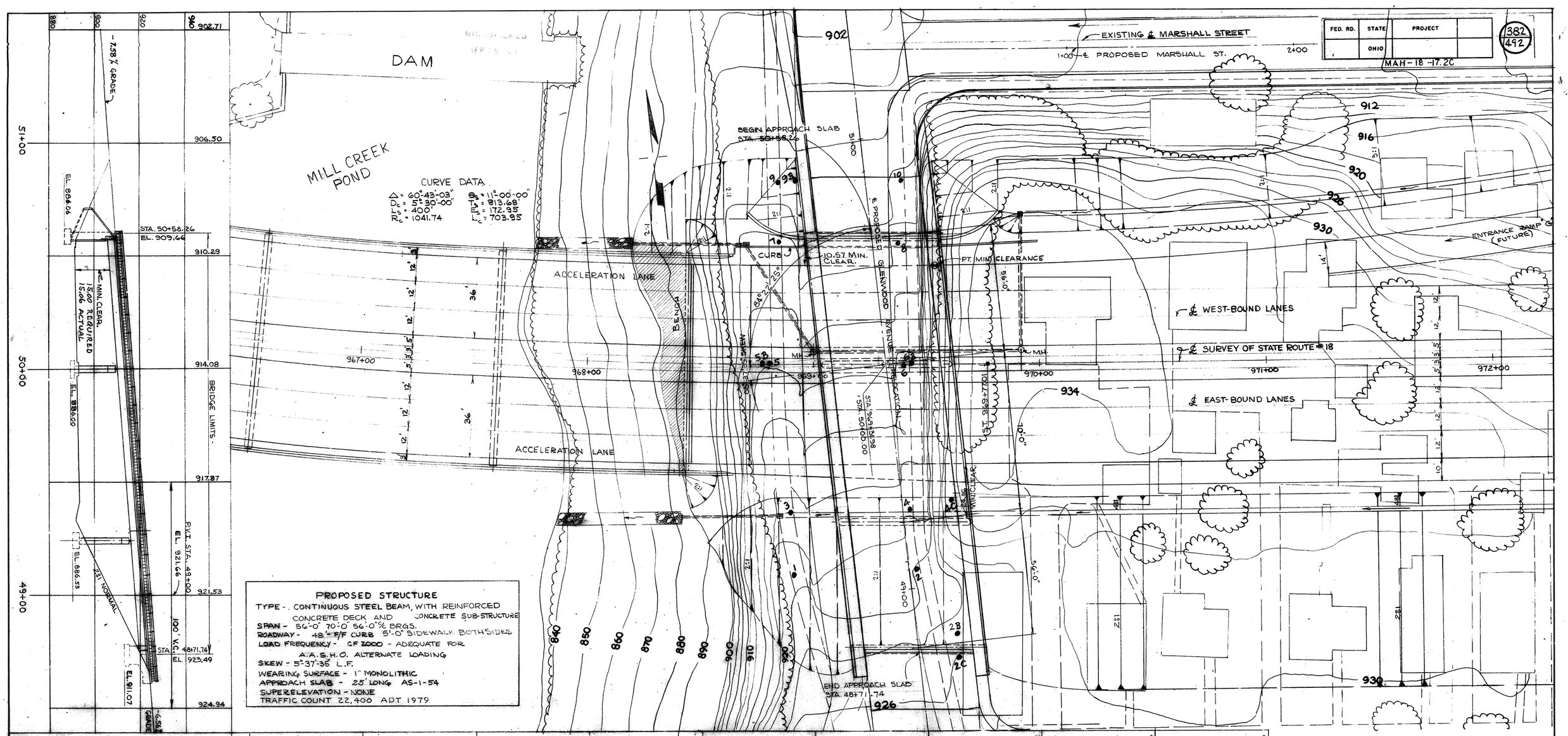
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GEOMETRIC LAYOUT

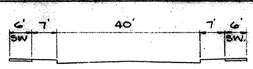
BRIDGE NO. MA H-18-1823
OVER MILL CREEK POND
YOUNGSTOWN, MAHONING COUNTY
STA. 962+48.25 To STA. 968+46.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.C.		JK	RAH			



PROPOSED STRUCTURE

TYPE - CONTINUOUS STEEL BEAM, WITH REINFORCED CONCRETE DECK AND CONCRETE SUB-STRUCTURE
SPAN - 56'-0" 70'-0" 56'-0" ℄ BRGS.
ROADWAY - 48' - F/F CURB 5'-0" SIDEWALK BOTH SIDES
LOAD FREQUENCY - CF 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW - 5°-37'-35" L.F.
WEARING SURFACE - 1" MONOLITHIC
APPROACH SLAB - 25' LONG AS-1-54
SUPERELEVATION - NONE
TRAFFIC COUNT 22,400 ADT 1979



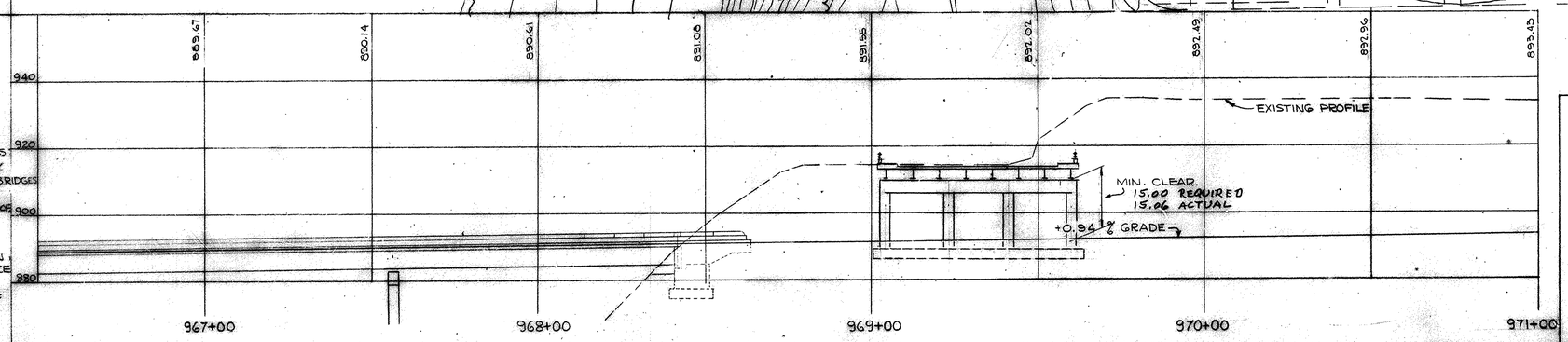
TYPICAL SECTION
EXISTING GLENWOOD AVE.

FOUNDATION SOUNDINGS

FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF 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.

SLOPE PROTECTION

I-10 CRUSHED AGGREGATE SLOPE PROTECTION AT SOUTH ABUTMENT TO EXTEND FROM FACE ABUTMENT TO TOE OF SLOPE FOR FULL WIDTH OF BRIDGE PLUS 3 FT. ON EACH SIDE AND PARALLEL WITH ℄ BRIDGE.



FED. RD.	STATE	PROJECT	
	OHIO		

382
492

MAH-18-17.20

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE Nº MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN MAHONING COUNTY
STA. 969+31.98

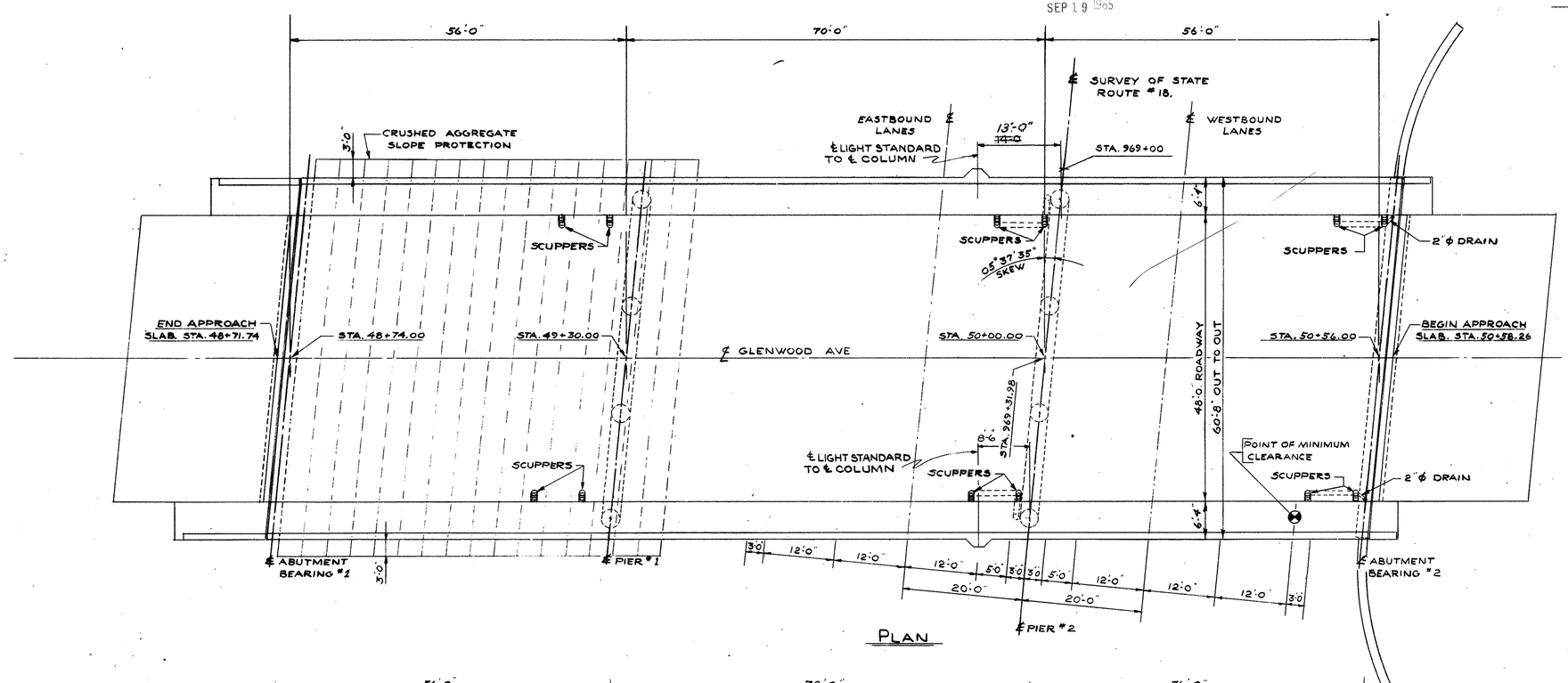
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	W.B.H.		D.G.S.	D.C.		

MICROFILMED
SEP 19 1965

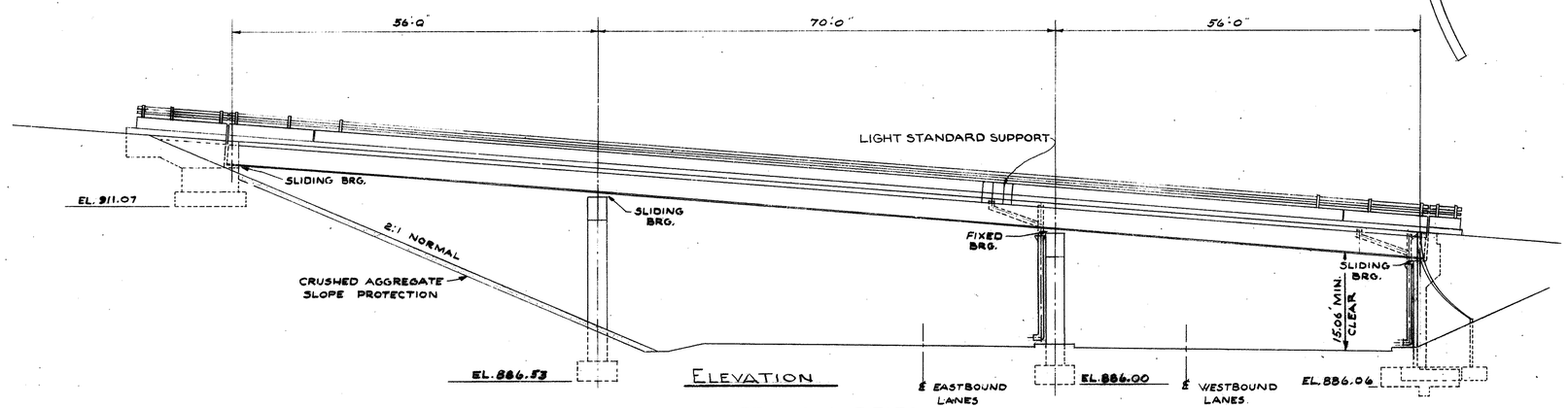
FED. RD.	STATE	PROJECT	
	OHIO		

383
492

MAH -18 -17.20



PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR	ABUT.	PIERS	GEN.		
E-2	656	CU.YDS.	UNCLASSIFIED EXCAVATION		540	116			
S-1	383	CU.YDS.	CLASS "C" CONCRETE, SUPERSTRUCTURE	383					
S-1	226	CU.YDS.	CLASS "E" CONCRETE ABUTMENTS ABOVE FOOTINGS.		226				
S-1	89	CU.YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS.			89			
S-1	200	CU.YDS.	CLASS "E" CONCRETE PIER AND ABUT. FOOTINGS.		168	32			
S-3	21	SQ.YDS.	TYPE "B" WATERPROOFING		21				
S-4	144,189	LBS.	REINFORCING STEEL	93,505	25,017	25667			
S-7	313,700	LBS.	STRUCTURAL STEEL	313,700					
S-8	313,700	LBS.	FIELD PAINTING OF STRUCT. STEEL AS PER PLAN	313,700					

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR	ABUT.	PIERS	GEN.		
S-14	220	LIN.FT.	RAILING (ALUM. RAIL AND SUPPORTS AND						
			CONCRETE PARAPETS), Type C"	183	37				
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM				LUMP		
S-29	155	CU.YDS.	POROUS BACKFILL		155				
S-29	70	LIN.FT.	6" STANDARD PIPE DOWNSPOUTS, GALVANIZED						
			STEEL OR WROUGHT IRON, INCLUDING SPECIALS.				70		
S-29	LUMP	SUM	SCUPPERS, INCLUDING SPECIALS.	LUMP					
S-29	36	LIN.FT.	8"ϕ PERFORATED BITUMINOUS COATED C.M.P.						
			INCLUDING SPECIALS.		36				
S-9	78	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		78				
I-10	540	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION				540		

—GENERAL NOTES—

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATE 9-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND, WHERE NECESSARY, REPAINTED IN ACCORDANCE WITH SEC. 804, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER OUTSIDE FACE OF OUTSIDE STEEL BEAMS, & ALL SIDES OF BOTTOM FLANGE

SLOPE PROTECTION: CRUSHED AGGREGATE, ITEM I-10, EXTENDING FROM FACE OF ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT SOUTH ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE ℄ PARALLEL WITH ℄ OF SUPERSTRUCTURE.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS
AR-1-57 DATED 2-2-59.
CSB-2-56 SHEETS #2 & 3 DATED 2-2-59
SUPPLEMENTAL SPECIFICATION S-101, DATED 12-2-59.

ELECTRICAL GROUNDS: A SOLID N°6 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER N°2. THE LOWER ENDS OF THE WIRES SHALL TERMINATE IN A 25 FT. LENGTH COILED UNDER THE FOOTING AND SEPARATED FROM THE CONCRETE BY TWO LAYERS OF TAR PAPER AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A N°6 GAGE BARE STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED N°6 GAGE BARE COPPER WIRE BRAZED TO THE ANCHOR BOLTS OF THE LIGHT STANDARDS AND THE OTHER END BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES 8 ANCHOR-BOLTS 1½"×4'-1" LG.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

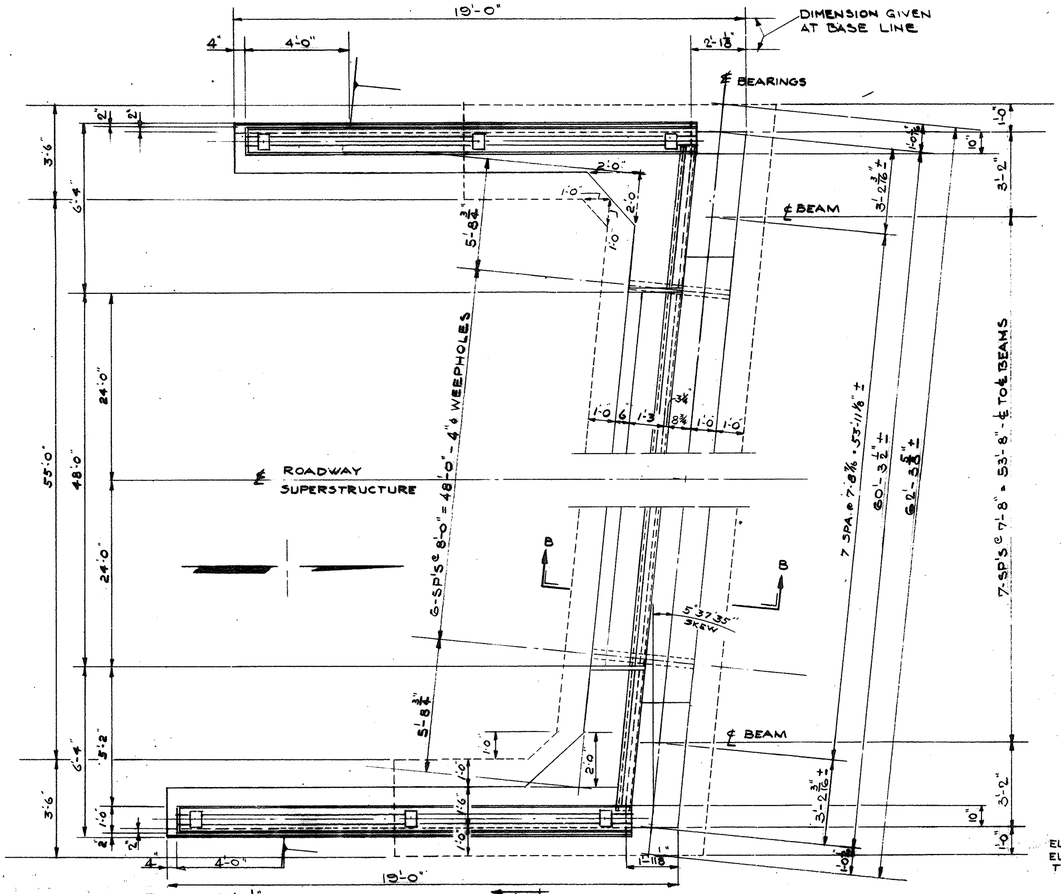
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	LWP					7-28-60

MICROFILMED
SEP 19 1955

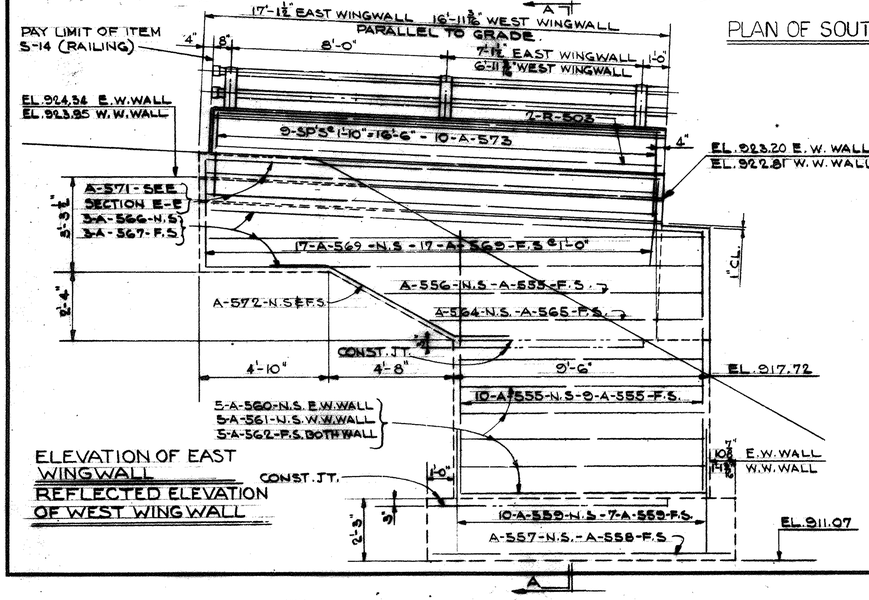
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

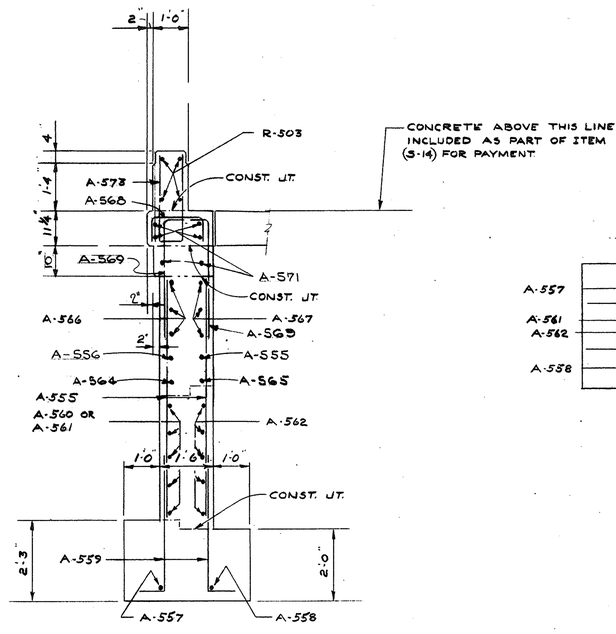
384
492



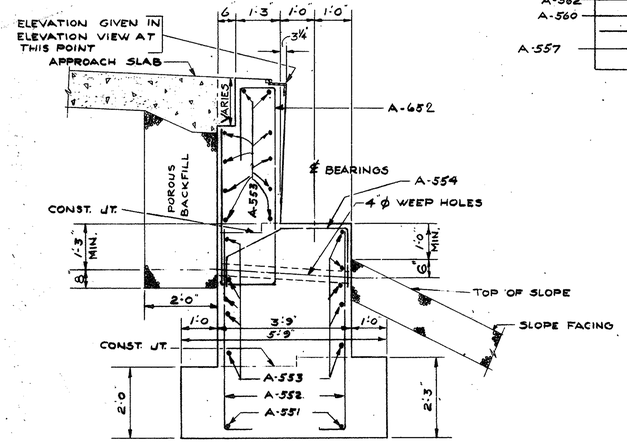
PLAN OF SOUTH ABUTMENT



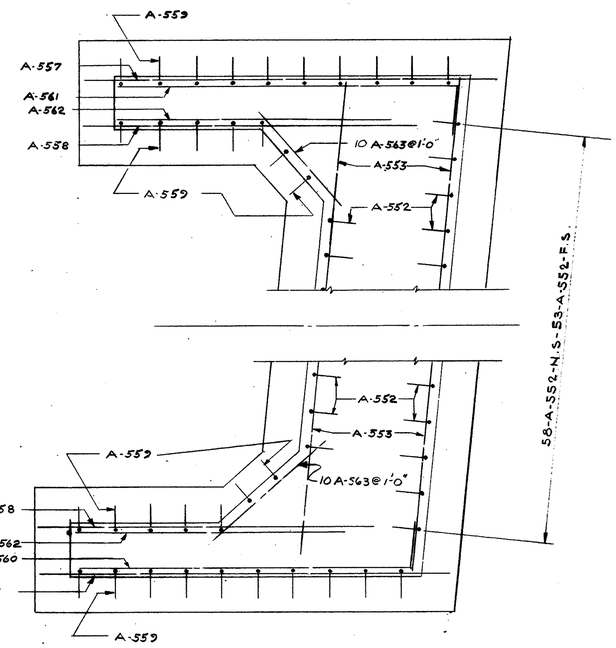
ELEVATION OF EAST WINGWALL
REFLECTED ELEVATION OF WEST WINGWALL



SECTION A-A



SECTION B-B



SECTION C-C

MAXIMUM DESIGN BEARING PRESSURE UNDER ABUTMENT #1 FOOTING = 2500 #/SQ.FT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

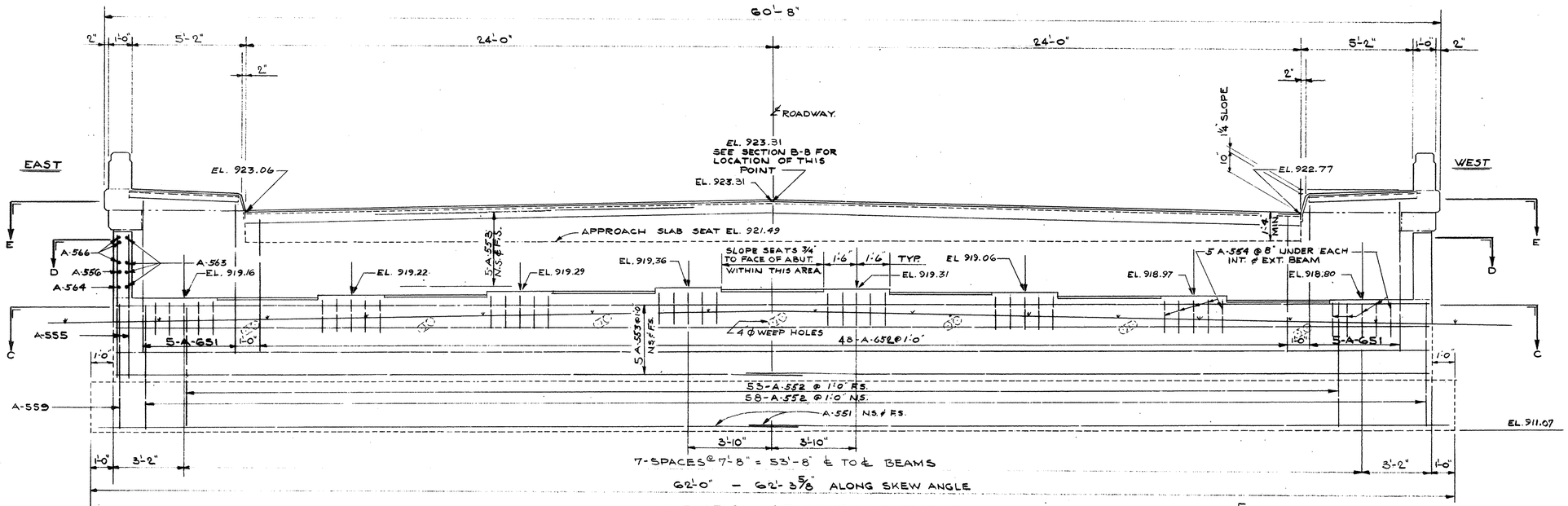
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C,		

FED. RD.	STATE	PROJECT	
	OHIO		

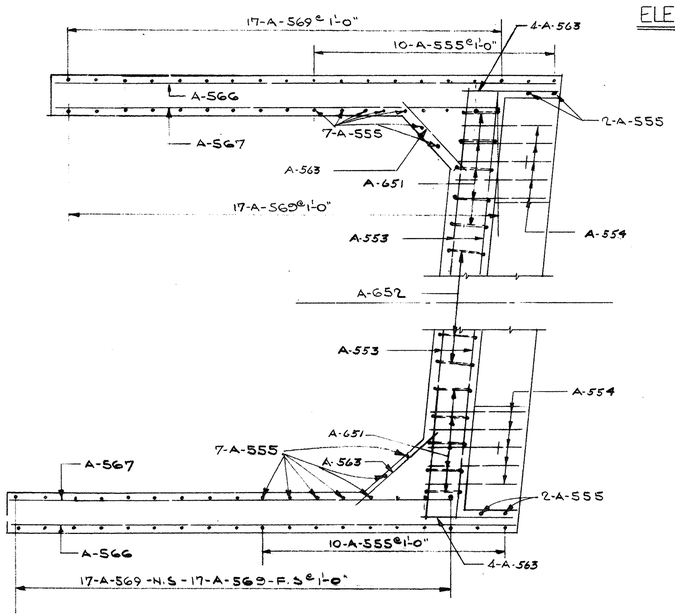
MA H-18-17.20

385
492

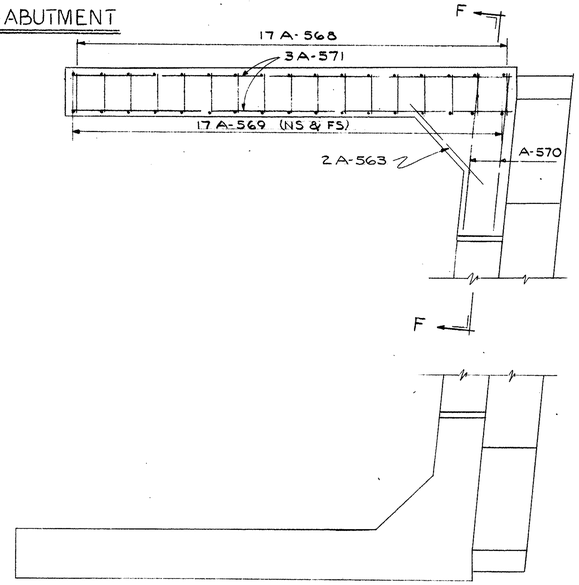
MICROFILMED
SEP 19 1985



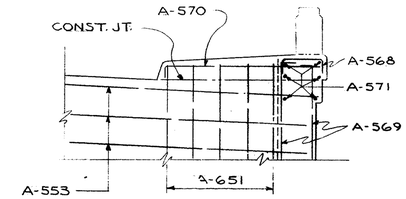
ELEVATION OF SOUTH ABUTMENT



SECTION D-D



SECTION E-E



SECTION F-F

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 960+31.98

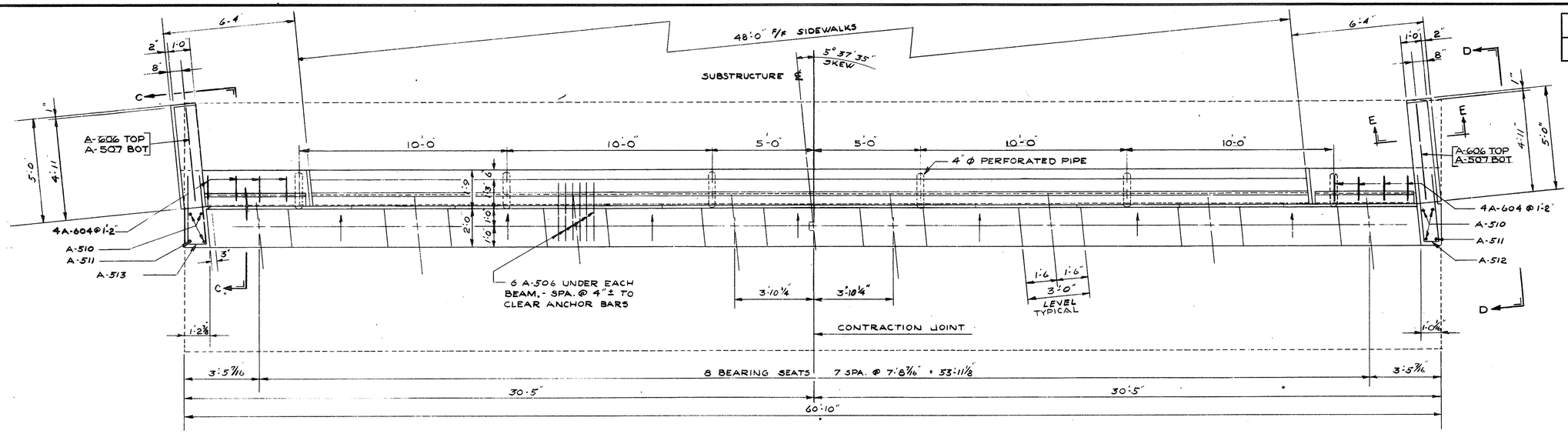
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

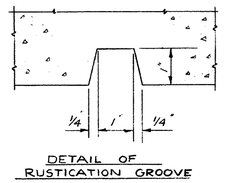
MA H-18-17.20

386/492

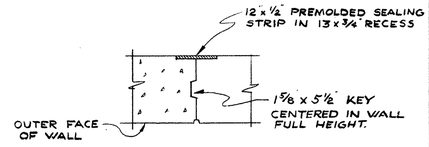
MICROFILMED
SEP 19 1985



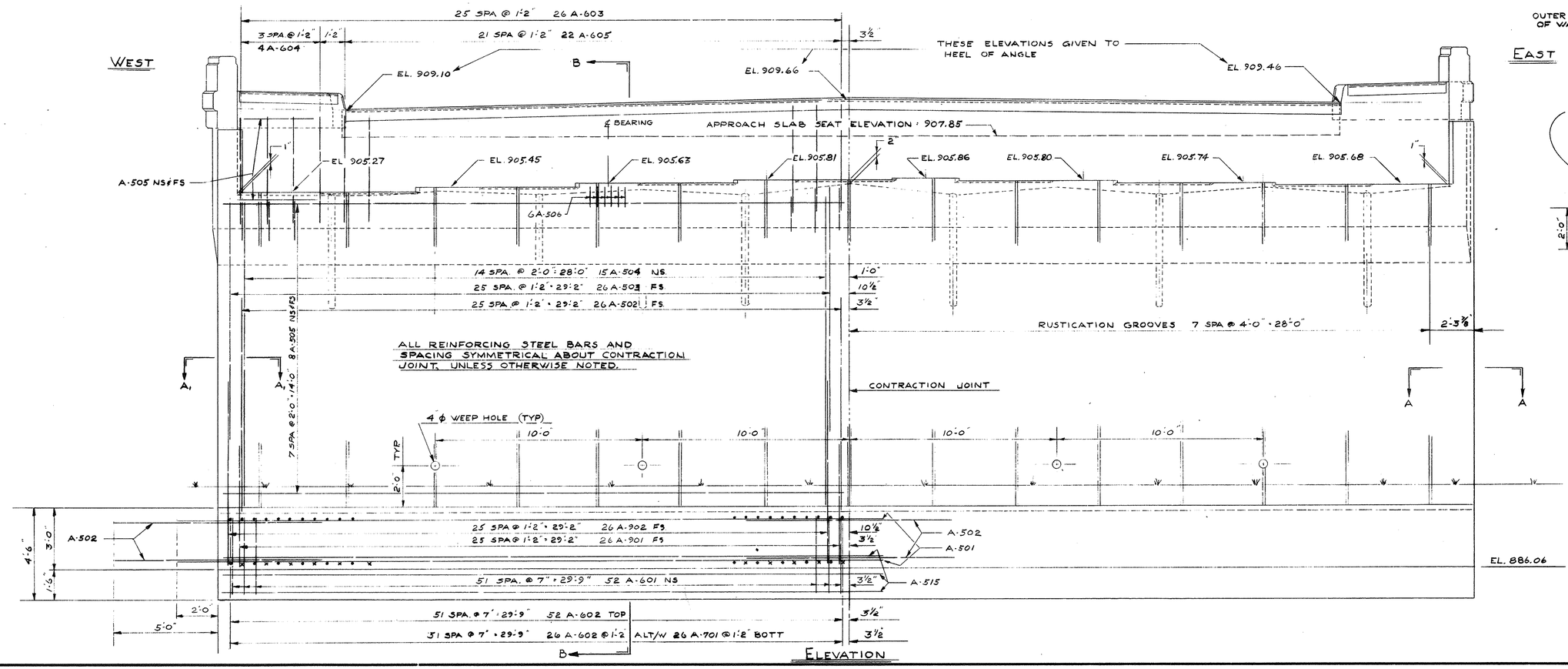
PLAN (NORTH ABUTMENT)



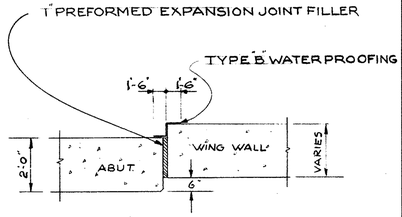
DETAIL OF RUSTICATION GROOVE



CONTRACTION JOINT DETAIL



ELEVATION



SECTION - A-A AS SHOWN

SECTION A, A, OPP HAND

EXPANSION JOINT DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT 2 DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

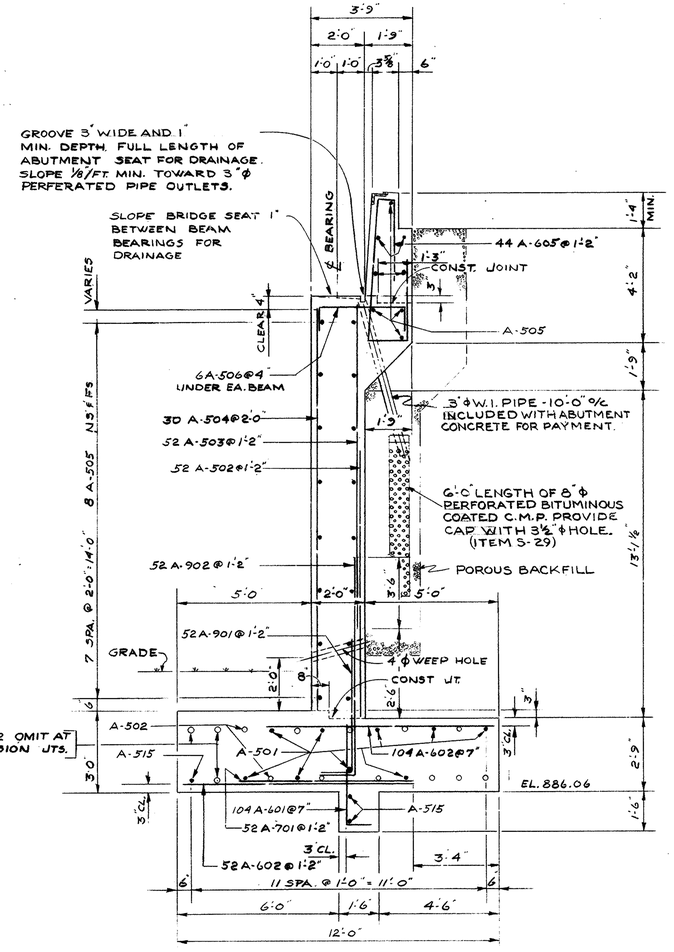
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

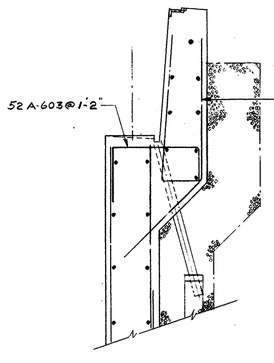
387
492

MAH-18 -17.20

MICROFILMED
SEP 19 1985

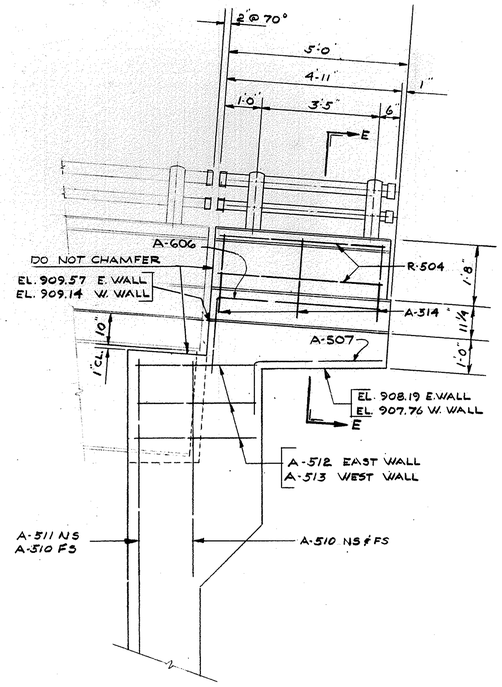


SECTION - B-B



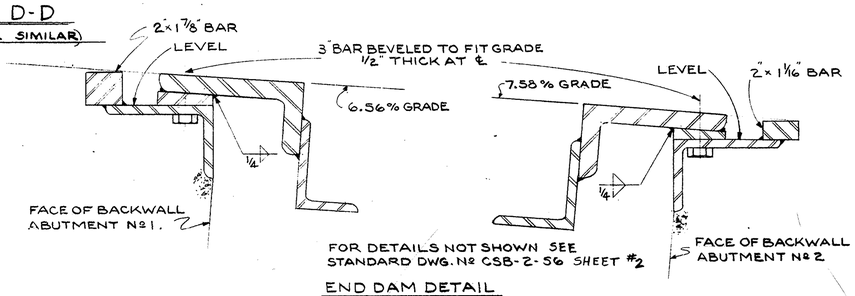
SECTION - C-C

DETAILS NOT SHOWN SAME AS SECTION B-B



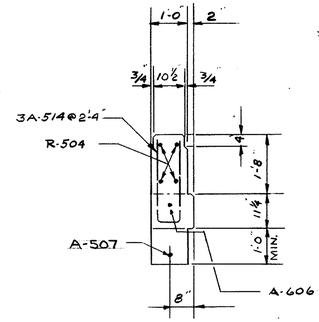
VIEW D-D

(WEST WINGWALL SIMILAR)



FOR DETAILS NOT SHOWN SEE STANDARD DWG. Nº CSB-2-56 SHEET #2

END DAM DETAIL



SECTION - E-E

MAXIMUM DESIGN BEARING PRESSURE UNDER ABUTMENT Nº 2 FOOTINGS = 4000 LBS. PER SQ. FT.

ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM COVER UNLESS OTHERWISE NOTED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT 2 DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.08

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

388
492

MAH-18 -17,20

MICROFILMED
SEP 19 1985

PLAN

ELEVATION

RUSTICATIONS 7 SPA @ 4:0" = 28:0"

RUSTICATIONS 8 SPA @ 4:0" = 32:0"

DIMENSIONS AT OUTER FACE OF WALL

DIMENSIONS ALL GIVEN AT OUTSIDE FACE OF WING WALL. REINFORCING BARS SHALL BE SET RADIALLY FROM THESE POINTS.

A-501 & A-502 PROJECT FROM ABUTMENT FOOTING INTO WING WALL FOOTINGS. SEE ABUTMENT DETAIL

SEE SHEET No 386 FOR SECTION "A-A", "A1-A1" & RUSTICATION GROOVE DETAIL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 WINGWALLS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

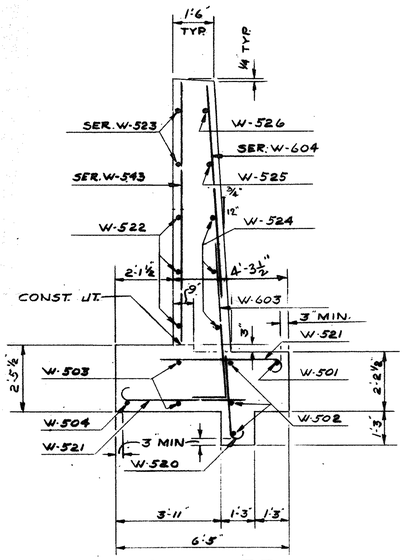
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

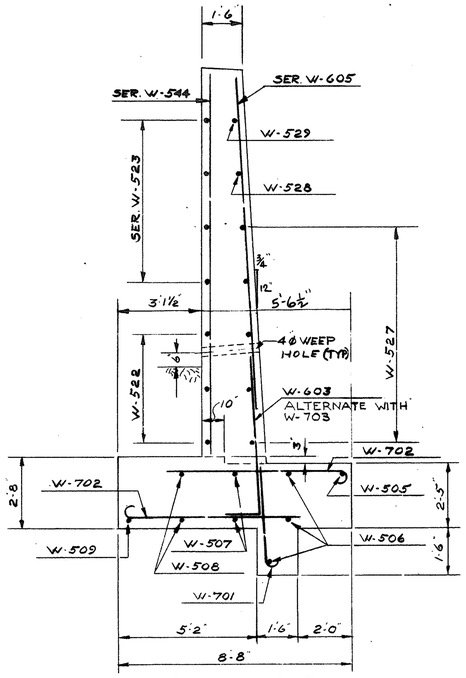
MAH-18 -17.20

389
492

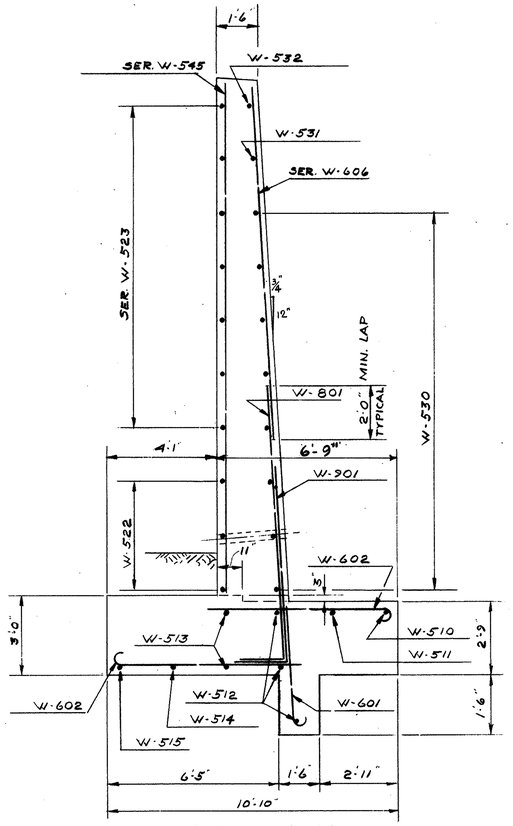
MICROFILMED
SEP 19 1985



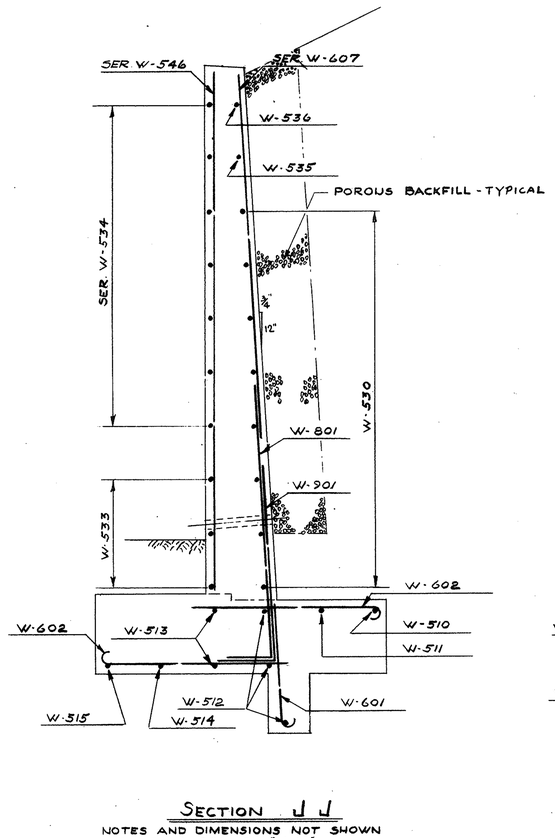
SECTION F F



SECTION G-G

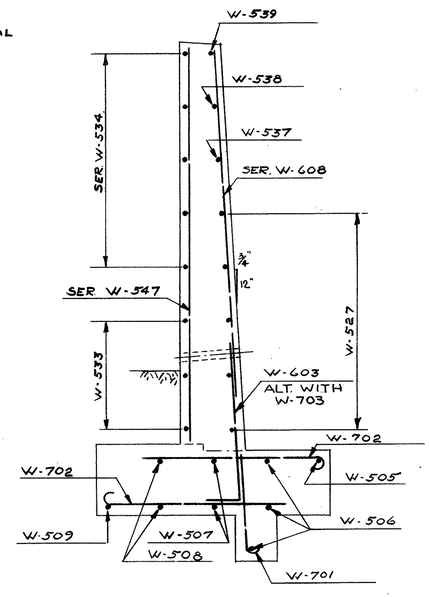


SECTION H-H



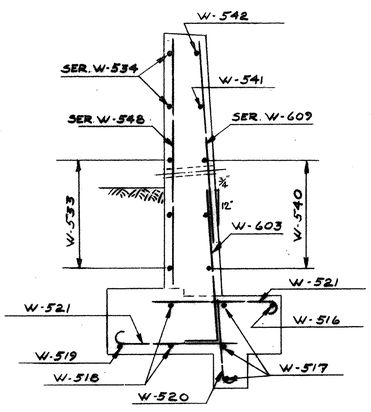
SECTION J J

NOTES AND DIMENSIONS NOT SHOWN
SAME AS SECTION "H-H"



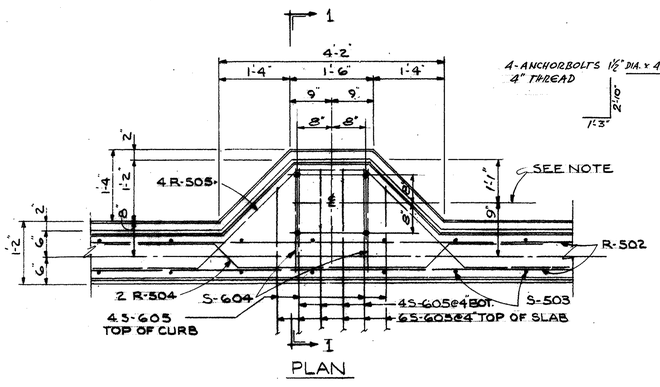
SECTION K-K

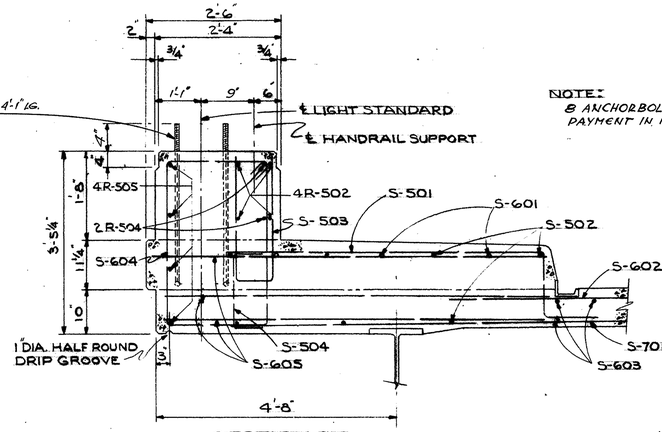
NOTES AND DIMENSIONS NOT SHOWN
SAME AS SECTION "G-G"



SECTION L-L

NOTES AND DIMENSIONS NOT SHOWN
SAME AS SECTION "F-F"





SECTION 1-1

NOTE:
8 ANCHOR BOLTS 1⅛" DIA. x 4'-1" LG. ARE INCLUDED FOR PAYMENT IN ITEM S-25

DETAIL OF LIGHT STANDARD SUPPORT

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 WINGWALLS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 960+31.98

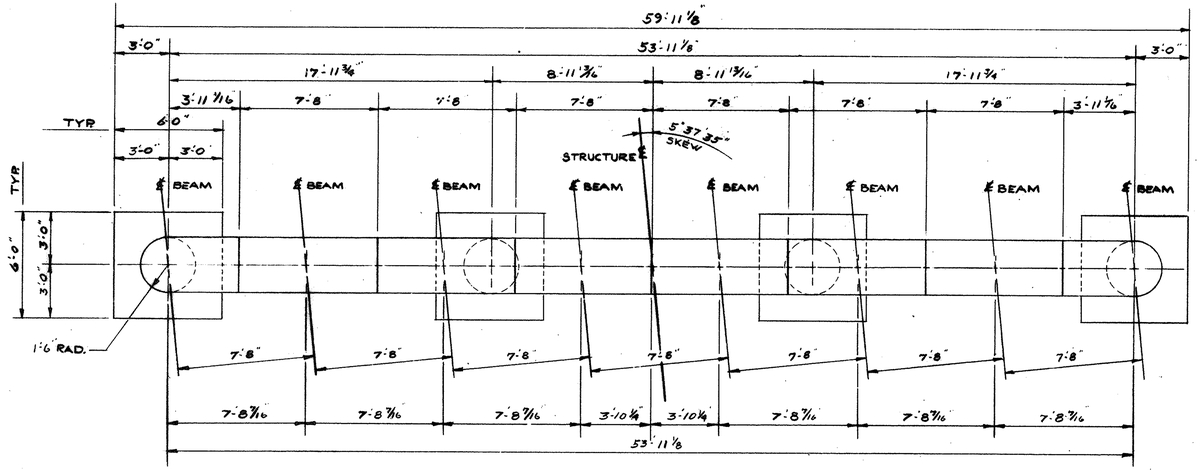
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

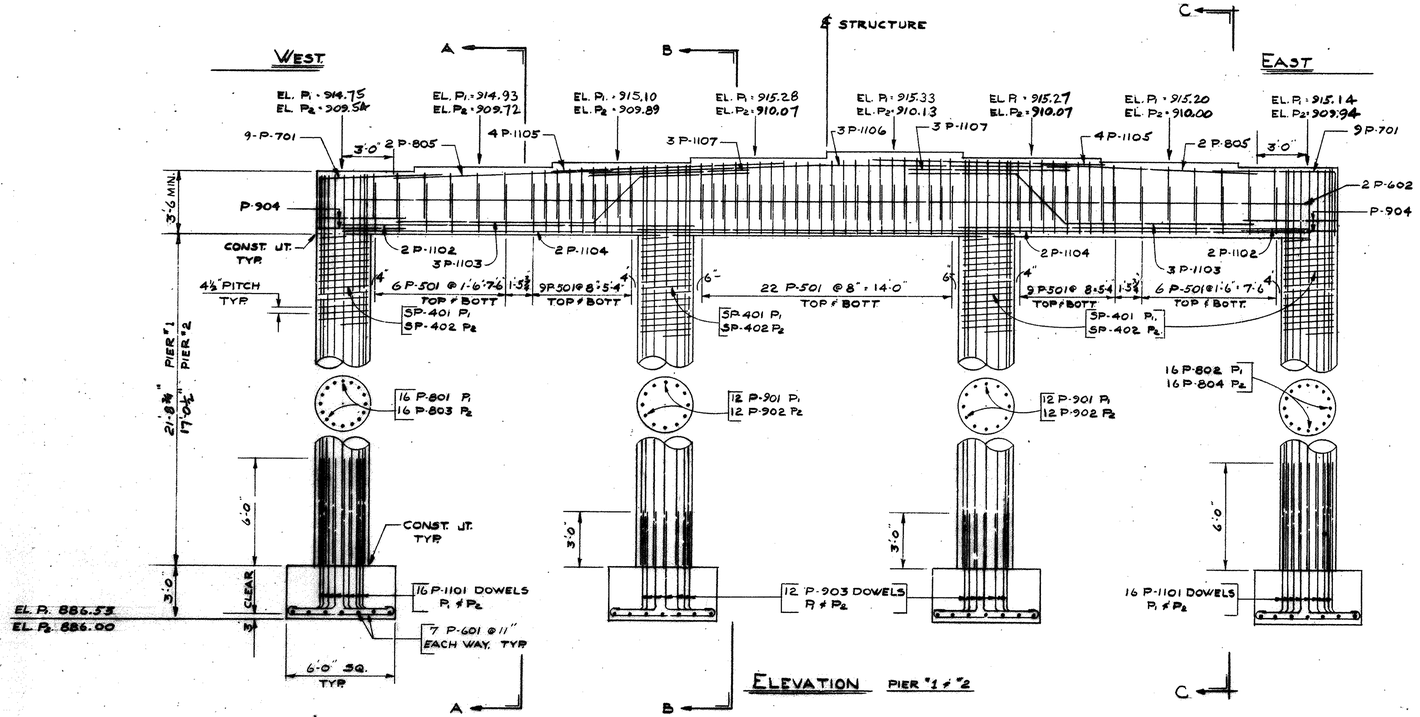
MAH-18-17.20

390
492

MICROFILMED
SEP 19 1965



PLAN PIER #1 & #2



ELEVATION PIER #1 & #2

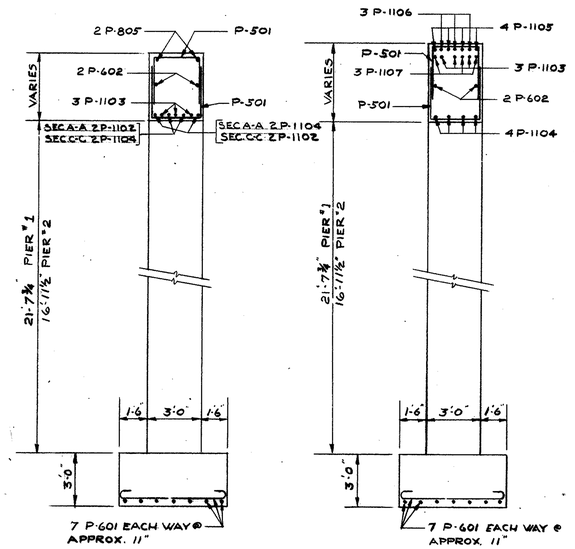
NOTE

ALL REINFORCING STEEL TO HAVE A 2" MINIMUM COVER EXCEPT WHERE OTHERWISE NOTED.

CARE MUST BE TAKEN IN PLACING REINFORCING STEEL IN THE PIER CAPS SO IT WILL NOT INTERFERE WITH THE BEARING PLATE ANCHOR BOLTS.

P_1 = PIER #1
P_2 = PIER #2.

MAXIMUM DESIGN BEARING PRESSURE UNDER PIER FOOTINGS = 10 TONS PER SQ. FT. (FOOTINGS ON ROCK)



SECTION A-A
SECTION C-C SAME EXCEPT AS NOTED

SECTION B-B

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.K.	J.N.P.		D.C.	D.C.		

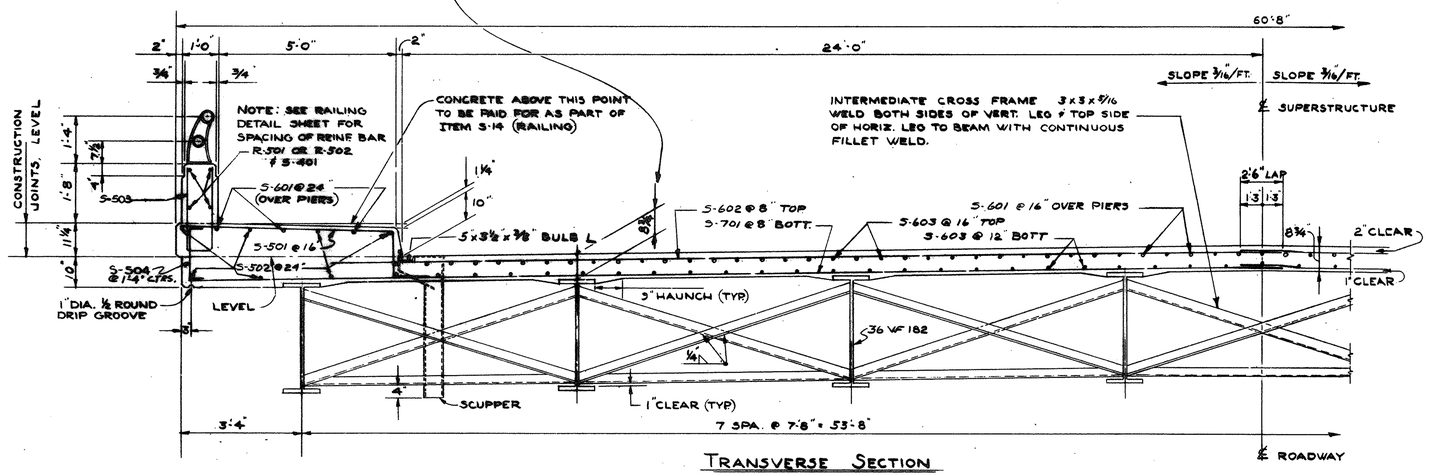
FED. RD.	STATE	PROJECT	
	OHIO		

391
492

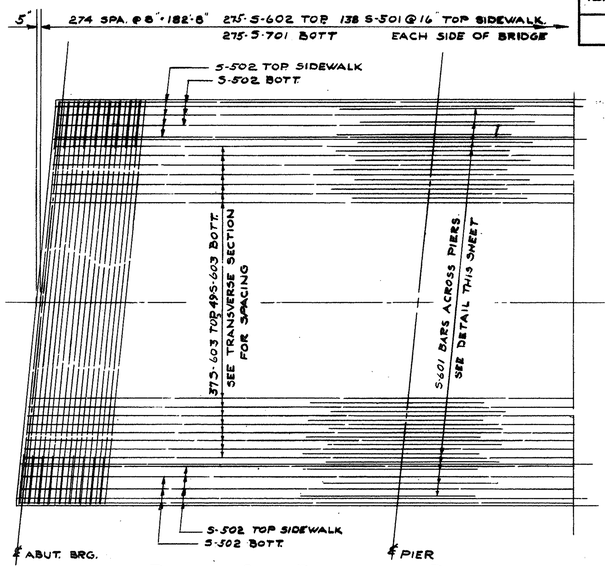
MAH-18-17.20

MICROFILMED
SEP 19 1985

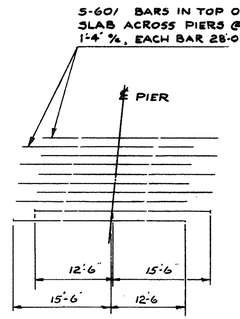
THIS IS A NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE



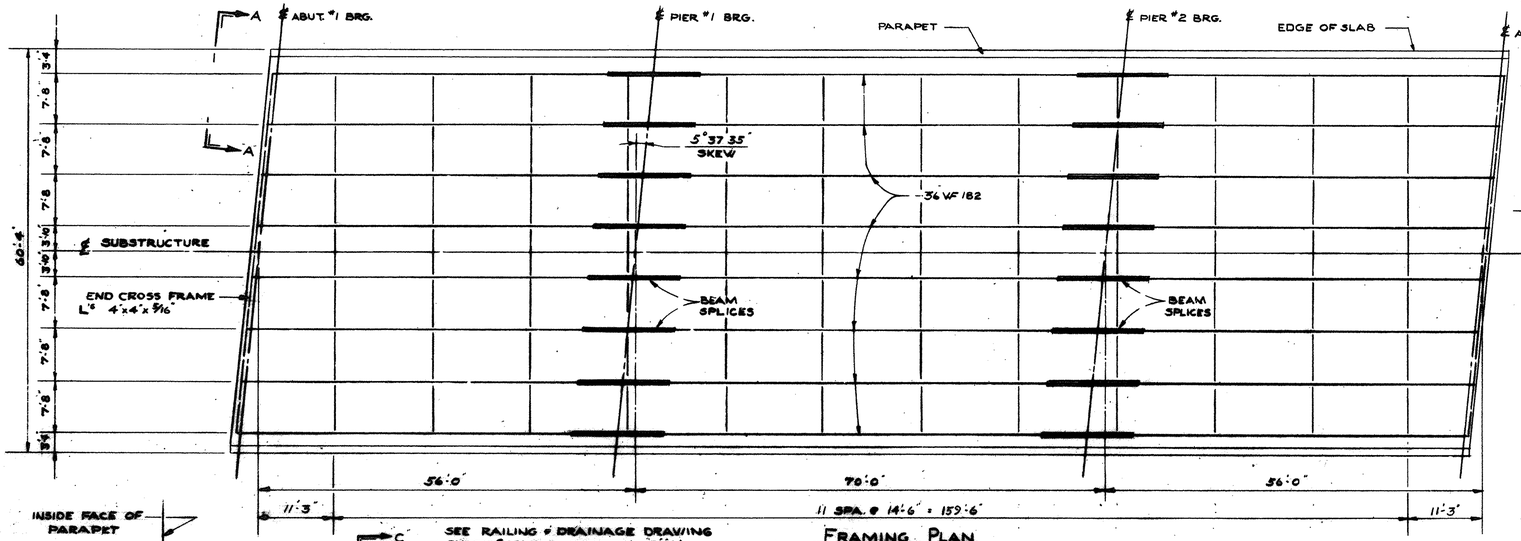
TRANSVERSE SECTION



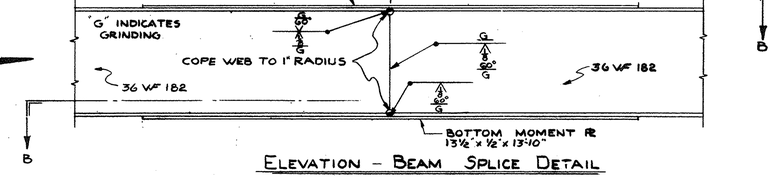
PARTIAL SLAB REINFORCING PLAN



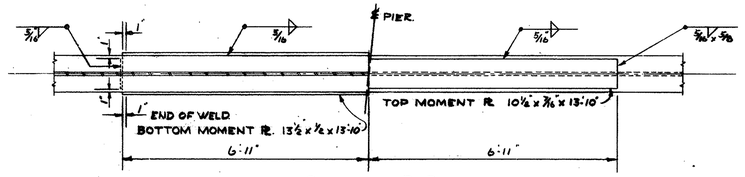
BAR STAGGERING DETAIL OVER PIERS



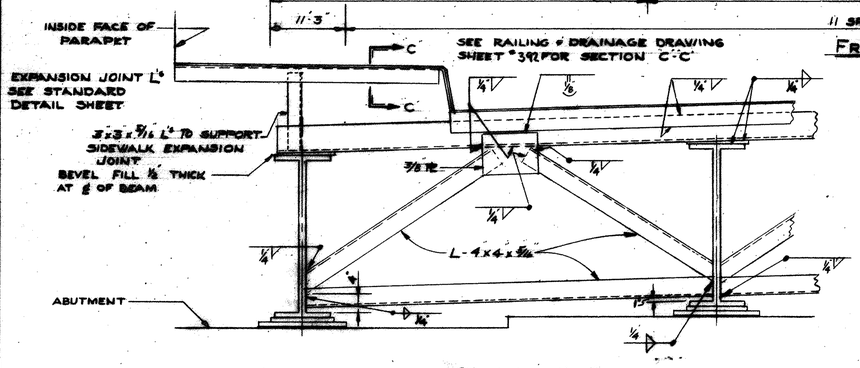
FRAMING PLAN



ELEVATION - BEAM SPLICE DETAIL



SECTION B-B



SECTION A-A

LOCATION	DEFLECTION & CAMBER — OUTSIDE BEAMS			INSIDE BEAMS		
	NORTH SPAN (South)	SOUTH SPAN (North)	MIDDLE SPAN	NORTH SPAN (South)	SOUTH SPAN (North)	MIDDLE SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	.05	.05	.10	.05	.05	.10
DEFLECTION DUE TO REMAINING DEAD LOAD	.55	.55	.70	.30	.30	.45
CONVEXITY REQUIRED FOR VERTICAL CURVE	.50	.00	.20	.50	.00	.20
SUM OF DEFLECTION & CONVEXITY	1.10	.60	1.00	.85	.35	.75
REQUIRED CAMBER	1 1/8"	0	1"	1"	0	1"

NOTES

1. SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.
2. WELDING PROCEDURE:
   a.) RAISE BEAM ENDS AT ABUTMENTS 7".
   b.) BUTT WELD BEAM FLANGES AND WEB AT PIERS USING THE FOLLOWING SEQUENCE: MAKE TWO PASSES ON FLANGE, THEN TWO ON WEB, REPEAT USING ONE PASS AT EACH LOCATION UNTIL WELD IS COMPLETED.
   c.) WELD TOP AND BOTTOM MOMENT PLATES.
   d.) LOWER BEAM ENDS INTO FINAL POSITION AT ABUTMENTS.
3. WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY AT THE OPTION OF THE CONTRACTOR BE MADE IN THE SHOP.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SEIBENBINGER, HOCH & ASSOCIATES AND BOBBY J. SCHRADER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

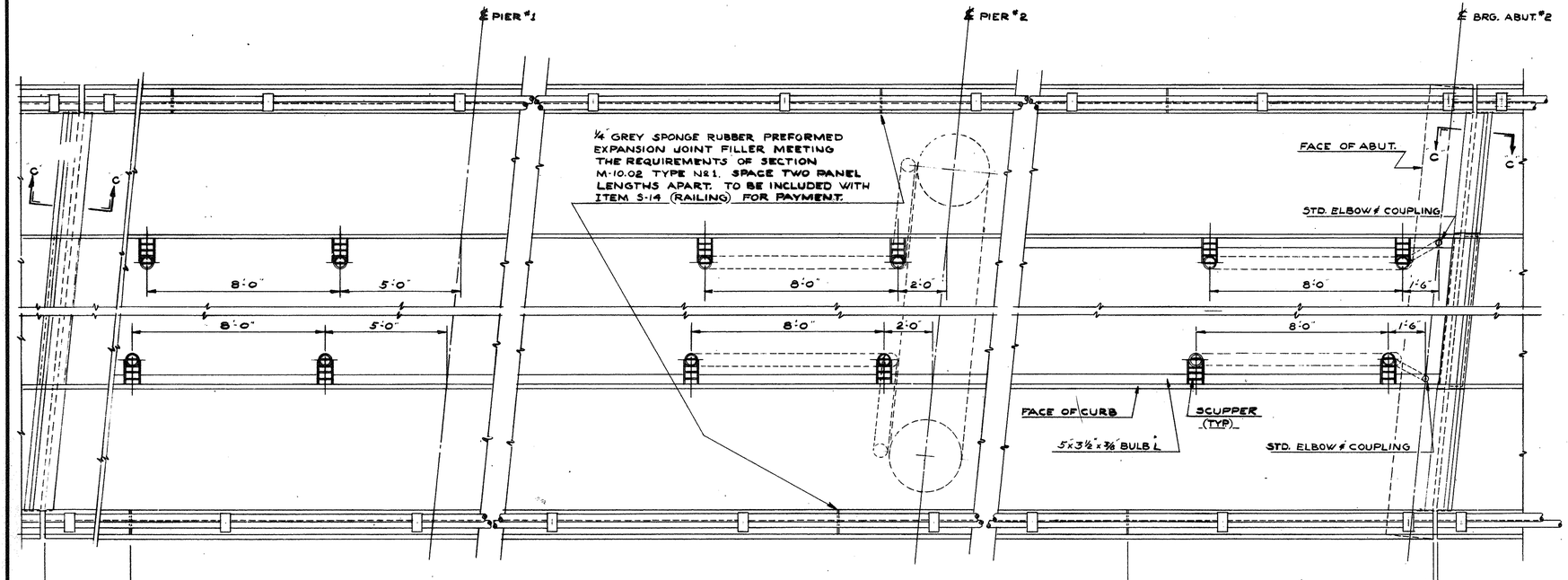
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	J.N.P.		D.C.	D.C.		1-12-87

FED. RD.	STATE	PROJECT	
	OHIO		

392
492

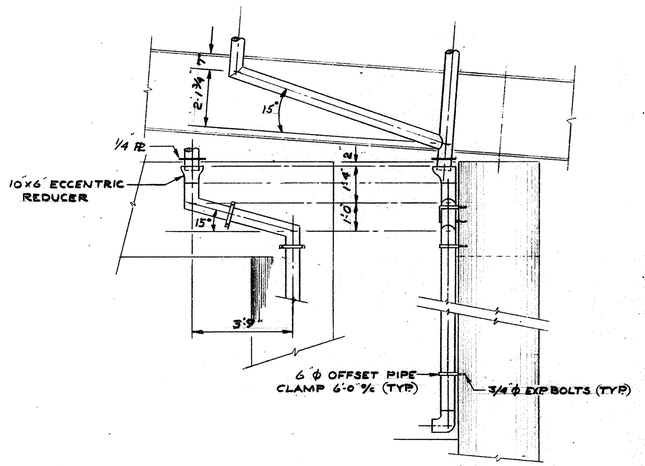
MAH-18-17.20

MICROFILMED
SEP 19 1965

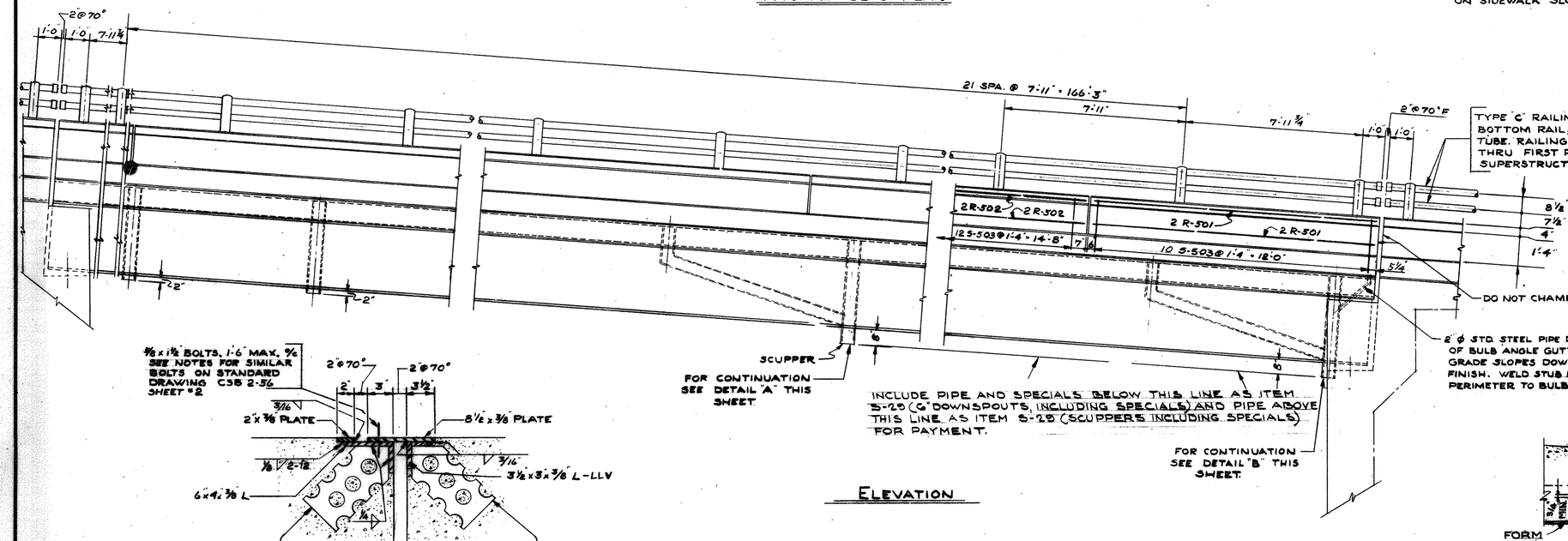


PARTIAL SLAB PLAN

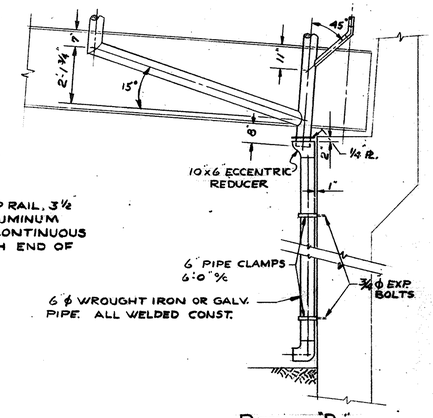
DIMENSIONS MEASURED ON SIDEWALK SLOPE



DETAIL "A"
PARTIAL ELEVATION AT PIER #2
EAST SIDE SHOWN. WEST SIDE SIMILAR EXCEPT AS NOTED

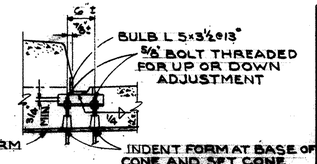


ELEVATION



DETAIL "B"
PARTIAL ELEVATION AT ABUT #2
EAST SIDE SHOWN. WEST SIDE SIMILAR

SECTION - C-C



GUTTER SUPPORT DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DRAINAGE & RAILING DETAILS

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

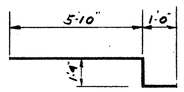
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK.	JNP		D.C.	D.C.		

MICROFILMED
SEP 19 1995

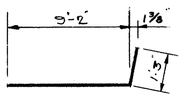
FED. RD.	STATE	PROJECT	
	OHIO		

393
492

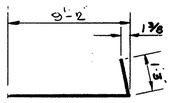
MAH-18-17.20



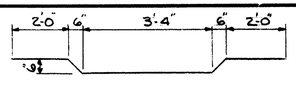
S-501



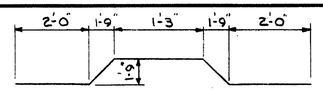
A-560



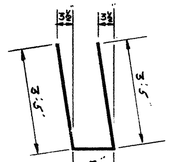
A-561



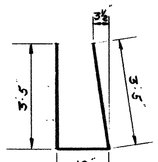
R-506



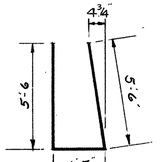
R-505



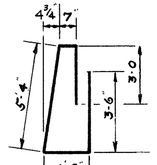
A-512



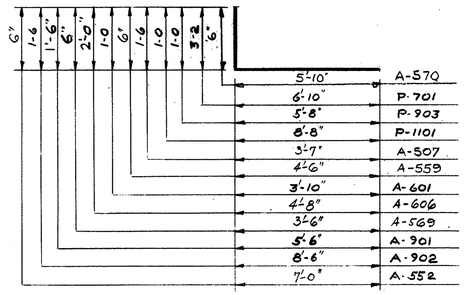
A-513

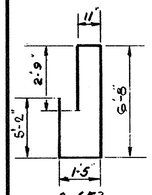


A-604

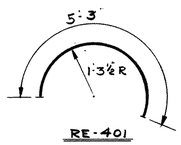


A-605

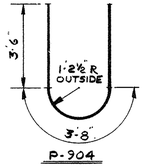




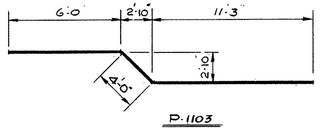
A-652



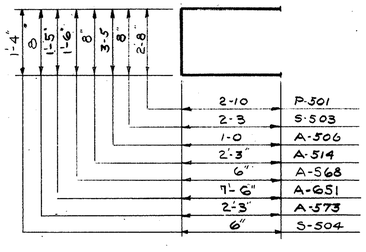
RE-401

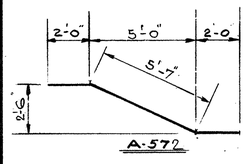


P-904

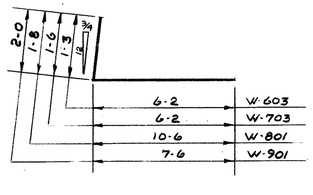


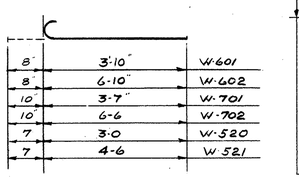
P-1103





A-572





REINFORCING STEEL SCHEDULE

MARK	Nº	L'TH.	WEIGHT	SH'P.
PIERS "1" "2"				
P-501	208	8-2	1772	BT.
P-601	112	6'-10"	1154	BT
P-602	8	28-0	336	ST.
P-701	36	9-11	730	BT.
P-801	16	24-8	1055	ST.
P-802	16	25-0	1068	ST.
P-803	16	20-0	855	ST.
P-804	16	20-4	869	ST.
P-805	8	12-0	256	ST.
P-901	24	25-0	2040	ST.
P-902	24	20-4	1659	ST.
P-903	48	6-6	1061	BT.
P-904	8	10-8	290	BT.
P-1101	64	9-6	3230	BT.
P-1102	8	21-0	893	ST.
P-1103	12	21-3	1355	BT.
P-1104	8	39-0	1658	ST.
P-1105	16	13-0	1105	ST.
P-1106	6	27-0	861	ST.
P-1107	12	9-0	574	ST.
TOTAL PIERS INCLUDING SPIRALS			25,667	
REPLACEMENT BARS				
RE-401	1	5-3	SPIRAL	BT.
RE-501	1	5-6		ST.
RE-601	4	5-11		ST.
RE-701	2	6-3		ST.
RE-801	1	6-6		ST.
RE-901	1	7-0		ST.
RE-1101	1	7-6		ST.

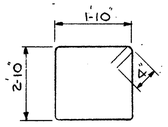
MARK	Nº	L'TH.	WEIGHT	SH'P.
NORTH ABUTMENT "2"				
A-501	18	33-4	626	ST.
A-502	88	10-0	918	ST.
A-503	52	13-6	732	ST.
A-504	30	16-0	501	ST.
A-505	48	30-0	1,502	ST.
A-506	48	5-3	263	BT.
A-507	2	5'-0	10	BT.
A-510	6	6-4	40	ST
A-511	2	19-0	40	ST.
A-512	3	7-3	23	BT.
A-513	3	7-6	24	BT.
A-514	6	5'-0	31	BT
A-515	6	31-2	195	ST.
A-601	104	4-9	742	BT.
A-602	156	8-6	1992	ST
A-603	52	11-0	859	BT
A-604	8	12-2	146	BT.
A-605	44	13-5	887	BT.
A-606	2	6'-7"	14	BT
A-701	52	6-6	691	ST.
A-901	52	6-10	1208	BT.
A-902	52	9-10	1738	BT.
N. ABUT. TOTAL 13,182				
RAILING *				
R-501	16	12'-7		ST.
R-502	80	15'-6		ST.
R-503	8	16'-7"		ST.
R-504	8	4-8		ST.
R-505	8	10'-0		BT
R-506	4	8-8		BT

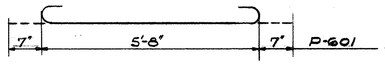
MARK	Nº	L'TH.	WEIGHT	SH'P.
SOUTH ABUTMENT "1"				
A-551	4	31'-10	133	ST.
A-552	111	7'-5"	859	BT.
A-553	40	30-10	1286	ST.
A-554	40	5'-10"	243	BT.
A-555	40	8'-2"	341	ST.
A-556	2	11'-6"	24	ST.
A-557	2	11'-0"	23	ST.
A-558	2	8'-6"	18	ST.
A-559	34	4'-11"	175	BT.
A-560	5	10'-4"	54	BT
A-561	5	10'-4	54	BT.
A-562	10	6'-6"	68	ST
A-563	32	4'-0"	134	ST.
A-564	2	10'-2"	21	ST.
A-565	2	8'-6"	18	ST.
A-566	6	18'-8"	117	ST.
A-567	6	16'-0"	100	ST.
A-568	34	3'-9"	118	BT.
A-569	68	3'-11	278	BT.
A-570	4	6'-3	26	BT
A-571	12	16'-6"	207	ST.
A-572	4	9'-7"	40	BT
A-573	20	5'-0	104	BT.
A-651	10	16'-3"	244	BT.
A-652	48	16'-6"	1190	BT
S. ABUT. TOTAL 5875				
SUPERSTRUCTURE				
S-501	276	8'-0"	2303	BT.
S-502	70	38'-0	2775	ST
S-503	280	5'-0	1460	BT
S-504	276	2'-2	624	BT
S-601	84	28'-0"	3533	ST.
S-602	550	27-0	22,305	ST.
S-603	430	38-6	24866	ST.
S-604	4	9'-7	58	BT
S-605	28	7'-4	308	ST.
S-701	550	31-3	35,132	ST
SUPERST. TOTAL. 93,505				

ABUTMENT TOTAL INCLUDING WING WALLS = 25,285

MARK	Nº	L'TH.	WEIGHT	SH'P.
N. ABUTMENT WINGWALLS				
W-501	1	9-4	10	BT
W-502	3	9-8	30	BT.
W-503	2	10-0	21	BT.
W-504	1	10-4	11	BT
W-505	2	11-0	23	BT.
W-506	6	11-4	71	BT.
W-507	4	11-9	49	BT.
W-508	4	12-2	51	BT.
W-509	2	12-7	26	BT.
W-510	2	8-4	17	BT.
W-511	2	8-9	18	BT.
W-512	6	9-2	57	BT.
W-513	4	9-6	40	BT.
W-514	2	10-0	21	BT.
W-515	2	10-5	22	BT.
W-516	1	13-0	14	BT.
W-517	3	13-6	42	BT.
W-518	2	14-0	29	BT.
W-519	1	14-6	15	BT.
W-520	17	3-7	64	BT.
W-521	18	5-1	96	BT.
W-522	3	27-7	87	BT.
SERIES OF W-523	1 SET OF 7 7 BARS	VARY 2-3 TO 26-9 4-3 INC.	106	BT.
W-524	3	9-9	30	BT
W-525	1	8-9	9	BT.
W-526	1	4-8	5	BT.
W-527	10	11-7	121	BT.
W-528	1	10-5	11	BT.
W-529	1	6'-4	7	BT
W-530	16	9-2	153	BT.
W-531	1	5-11	6	BT.
W-532	1	1-10	2	BT.
W-533	3	31-6	99	BT.
SERIES OF W-534	1 SET OF 7 7 BARS	VARY 2-3 TO 27-3 4-3 INC	110	BT.
W-535	1	6-8	7	BT.
W-536	1	2-7	3	BT.
W-537	1	11-0	11	BT.
W-538	1	6-11	7	BT.
W-539	1	2-10	3	BT.

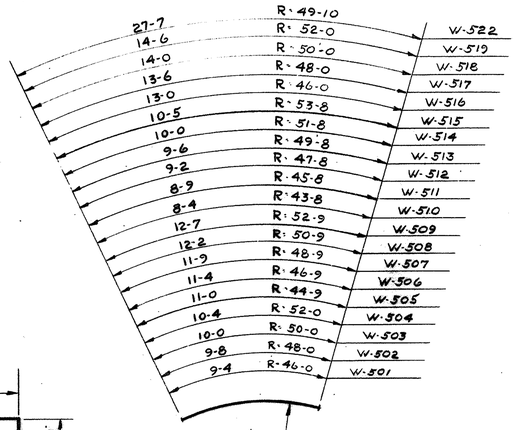
MARK	Nº	L'TH.	WEIGHT	SH'P.
SERIES OF W-540	3	13-9	43	BT.
W-541	1	10-0	10	BT.
W-542	1	5-11	6	BT.
SERIES OF W-543	1 SET OF 4 4 BARS	VARY 6-3 TO 3-9 1-2 INC	34	ST.
SERIES OF W-544	1 SET OF 7 7 BARS	VARY 10-3 TO 13-9 7 INC	88	ST.
SERIES OF W-545	1 SET OF 8 8 BARS	VARY 14-5 TO 18-5 7 INC	136	ST.
SERIES OF W-546	1 SET OF 8 8 BARS	VARY 14-9 TO 18-10 7 INC	140	ST.
SERIES OF W-547	1 SET OF 7 7 BARS	VARY 10-10 TO 14-4 7 INC	93	ST.
SERIES OF W-548	1 SET OF 5 5 BARS	VARY 5-7 TO 10-3 1-2 INC	42	ST
SERIES OF W-604	1 SET OF 7 7 BARS	VARY 5-0 TO 8-6 7 INC	71	ST.
SERIES OF W-605	1 SET OF 7 7 BARS	VARY 9-0 TO 12-6 7 INC	113	ST.
SERIES OF W-606	1 SET OF 8 8 BARS	VARY 8-7 TO 12-8 7 INC	128	ST.
SERIES OF W-607	1 SET OF 8 8 BARS	VARY 3-0 TO 13-1 7 INC	133	ST.
SERIES OF W-608	1 SET OF 7 7 BARS	VARY 7-1 TO 12-7 7 INC	114	ST.
SERIES OF W-609	1 SET OF 10 10 BARS	VARY 3-3 TO 8-5 7 INC	88	ST.
W-701	16	4-3	145	BT.
W-702	32	7-4	480	BT.
W-703	16	7-7	248	BT.
W-801	16	12-0	513	BT.
W-901	14	9-4	445	BT.
WINGWALL TOTAL			5960	

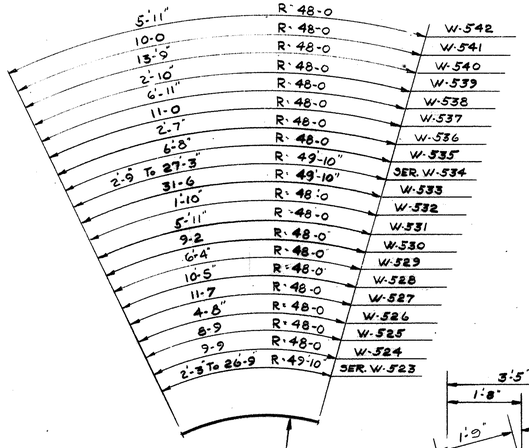


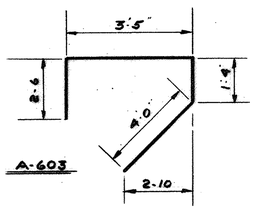


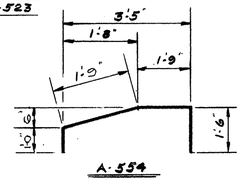
SPIRAL REINFORCING LIST

MARK	Nº	CORE DIA. OF SPIRAL	LENGTH	PITCH	Nº OF TURNS	WEIGHT
SP-401	4	2'-6"	21'-8"	4½	61	1345
SP-402	4	2'-8	17'-0"	4½	49	1080
SPACERS	32					421
SPIRAL TOTAL						2846
GRAND TOTAL						144,189









SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF THE PIER CAP.

THE NUMBER OF TURNS SHOWN IN THE STEEL LIST 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. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-700 IS A Nº 7 SIZE BAR AND A-1014 IS A Nº 10 SIZE BAR.

REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

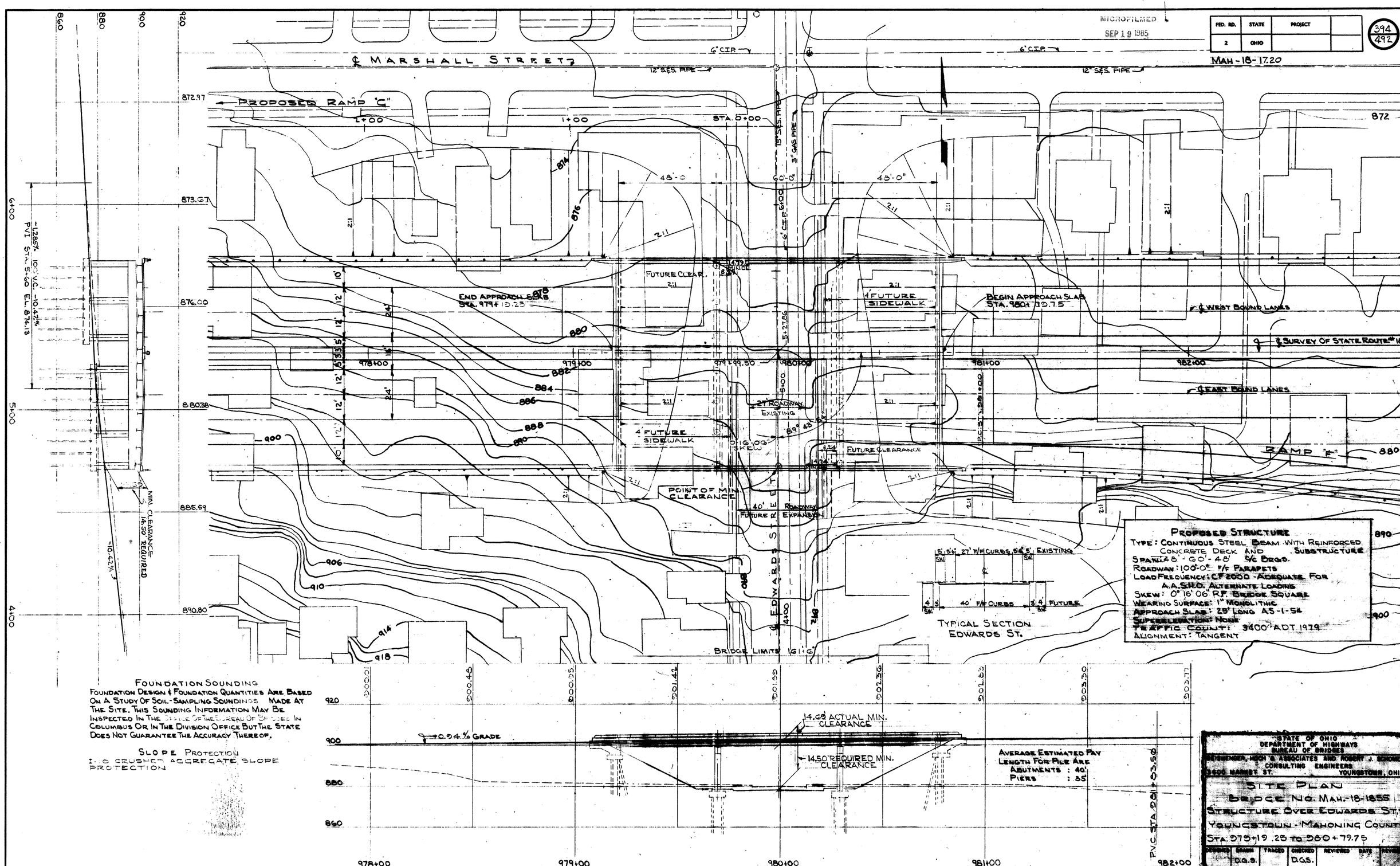
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1835
UNDER GLENWOOD AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 969+31.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		D.C.	D.C.		



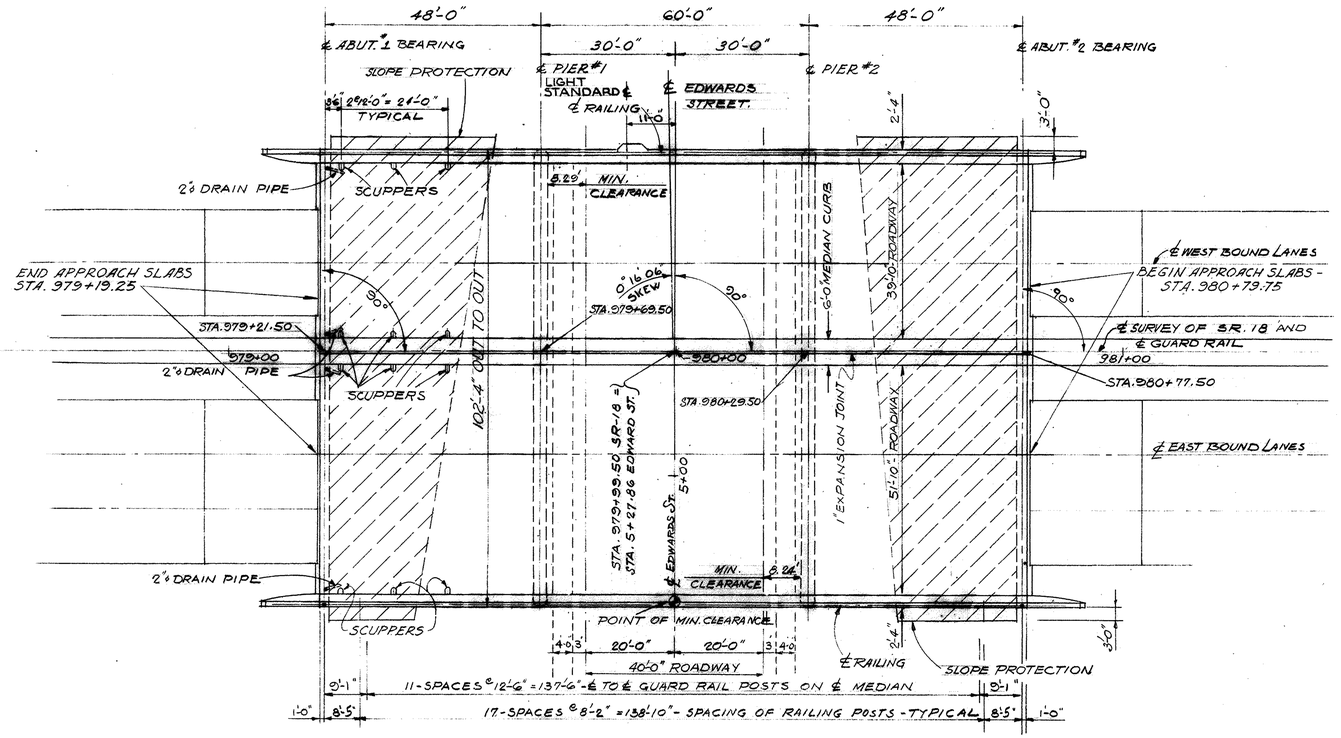
MICROFILMED
SEP 19 1985
FED. RD. 2
STATE OHIO
PROJECT
394
492
MAH-18-17.20
℄ MARSHALL STREET
PROPOSED RAMP "C"
6" C.I.P.
12" S.&S. PIPE
STA. 0+00
48'-0"
60'-0"
FUTURE CLEAR.
END APPROACH SLAB STA. 979+19.25
4' FUTURE SIDEWALK
BEGIN APPROACH SLAB STA. 980+79.75
℄ WEST BOUND LANES
℄ SURVEY OF STATE ROUTE #18
℄ EAST BOUND LANES
27' ROADWAY EXISTING
FUTURE CLEARANCE
RAMP "F"
POINT OF MIN. CLEARANCE
40' ROADWAY FUTURE EXPANSION
℄ EDWARDS STREET
BRIDGE LIMITS 161'-6"
PVI STA. 5+60 EL. 874.13
MIN. CLEARANCE 14.50' REQUIRED
-1.285% 100' V.C. -10.42%
-10.42%
PROPOSED STRUCTURE
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 48'-60'-48' C/C BRGS.
ROADWAY: 100'-0" F/F PARAPETS
LOAD FREQUENCY: CF 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW: 0° 16' 06" R.F. BRIDGE SQUARE
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
SUPERELEVATION: NONE
TRAFFIC COUNT: 3400 ADT 1979
ALIGNMENT: TANGENT
TYPICAL SECTION EDWARDS ST.
27' F/F CURBS
40' F/F CURBS
FUTURE
FOUNDATION SOUNDING
FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF 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.
SLOPE PROTECTION
I-O CRUSHED AGGREGATE SLOPE PROTECTION
+0.94% GRADE
14.69' ACTUAL MIN. CLEARANCE
14.50' REQUIRED MIN. CLEARANCE
AVERAGE ESTIMATED PAY LENGTH FOR PILE ARE
ABUTMENTS : 40'
PIERS : 35'
P.V.C. STA. 981+83.50
978+00
979+00
980+00
981+00
982+00
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO
SITE PLAN
BRIDGE NO. MAH-18-1855
STRUCTURE OVER EDWARDS ST.
YOUNGSTOWN - MAHONING COUNTY
STA. 979+19.25 TO 980+79.75
DESIGNED
DRAWN D.G.S.
TRACED
CHECKED D.G.S.
REVIEWED
DATE

MICROFILMED
SEP 19 1985

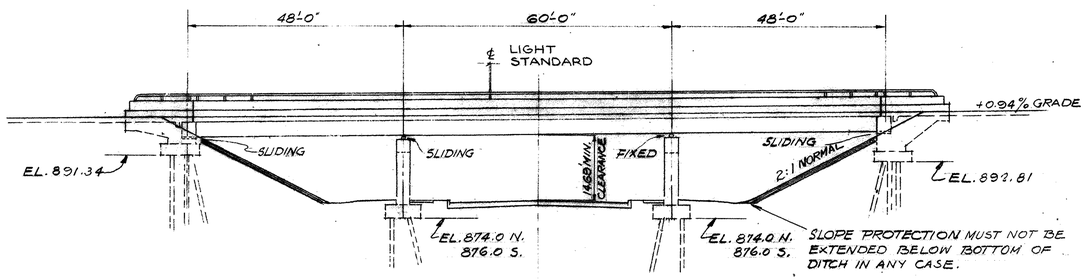
FED. RD.	STATE	PROJECT	
	OHIO		

M A H-18 -17.20

395/492



PLAN



ELEVATION

ITEM 5-25: ELECTRICAL LIGHTING SYSTEM INCLUDES THE FOLLOWING; 4 EXPANSION FITTINGS, ONE GALV. CAST IRON BOX & 4-1"ø ANCHOR BOLTS.

LIGHTING DETAILS ARE SHOWN ON SHEET Nº 310

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS DATED 9-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.

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 THE TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF THE BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND, WHERE NECESSARY, REPAINTED IN ACCORDANCE WITH SEC. 8.04, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER THE OUTSIDE FACE OF THE OUTSIDE STEEL BEAMS, ALL SIDES OF BOTTOM FLANGE.

CRUSHED AGGREGATE SLOPE PROTECTION: EXTENDING FROM FACE OF EACH ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT EACH ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE AND PARALLEL WITH ℄ OF SUPERSTRUCTURE.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF THE PROPOSED EMBANKMENT AND THE BOTTOM OF ABUTMENT.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note "Machine Finishing of Bridge Deck Slabs".

EMBANKMENT PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL THRU SLOPE AND TO THE LEVEL OF THE SUB-GRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS.

ALL PILES TO BE 12" CAST IN PLACE REINFORCED CONCRETE PILES, DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57, DATED 2-2-59 FOR ALUMINUM RAILING
CSB-2-56 SHEET 2 & 3, DATED 2-2-59
SUPPLEMENTAL SPECIFICATION S-101, DATED 12-2-59

ESTIMATED QUANTITIES

ITEM	TOTAL	SUM	DESCRIPTION	SUPERST.	ABUT'S	PIERS	GEN.
E-2	934	CU.YDS.	UNCLASSIFIED EXCAVATION.		440	494	
S-1	484	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE.	484			
S-1	158	CU.YDS.	CLASS "E" CONCRETE ABUT'S ABOVE FOOTINGS.		158		
S-1	145	CU.YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS.			145	
S-1	322	CU.YDS.	CLASS "E" CONCRETE ABUT. AND PIER FOOTINGS.		146	176	
S-4	217,718	LBS.	REINFORCING STEEL	146,343	14,346	57,029	
S-7	393,500	LBS.	STRUCTURAL STEEL	393,500			
S-8	393,500	LBS.	FIELD PAINTING OF STRUCTURAL STL. AS PER PLAN	393,500			
S-29	12	EACH	SCUPPERS	12			
I-10	825	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION				825
S-14	358	LIN.FT.	RAILING (ALUM. RAIL AND SUPPORTS-CONCRETE PARAPET & END POST'S - REINFORCING STEEL)	315	43		
S-16	LUMP	SUM	FIRST TEST PILES				LUMP
S-18	5,200	LIN.FT.	12"ø CAST-IN-PLACE REINFORCED CONCRETE PILES		2,400	2,800	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM				
S-25	348	LIN.FT.	2" ELECTRICAL CONDUIT (GALV.)	348			
S-29	68	CU.YDS.	POROUS BACKFILL		68		
S-14	158	LIN.FT.	GUARD RAIL - STEEL BEAM TYPE (DEEP) BARRIER DESIGN	158			

GENERAL NOTES (CONT.)

ELECTRICAL GROUNDS: A SOLID Nº 0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER Nº 2. THE LOWER END OF THE WIRE SHALL BE BRAZED TO THE STEEL CASING OF ONE OF THE 12" CAST-IN-PLACE CONCRETE PILES AND THE UPPER END SHALL EXTEND SUFFICIENTLY ABOVE THE CONCRETE TO PROVIDE A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A Nº 6 GAGE BARE, STRANDED, TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED Nº 6 GAGE COPPER WIRE BRAZED TO A GROUNDING LUG INSIDE THE LAMP STANDARD AND THE OTHER END BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE.

PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25, "ELECTRICAL LIGHTING SYSTEM"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

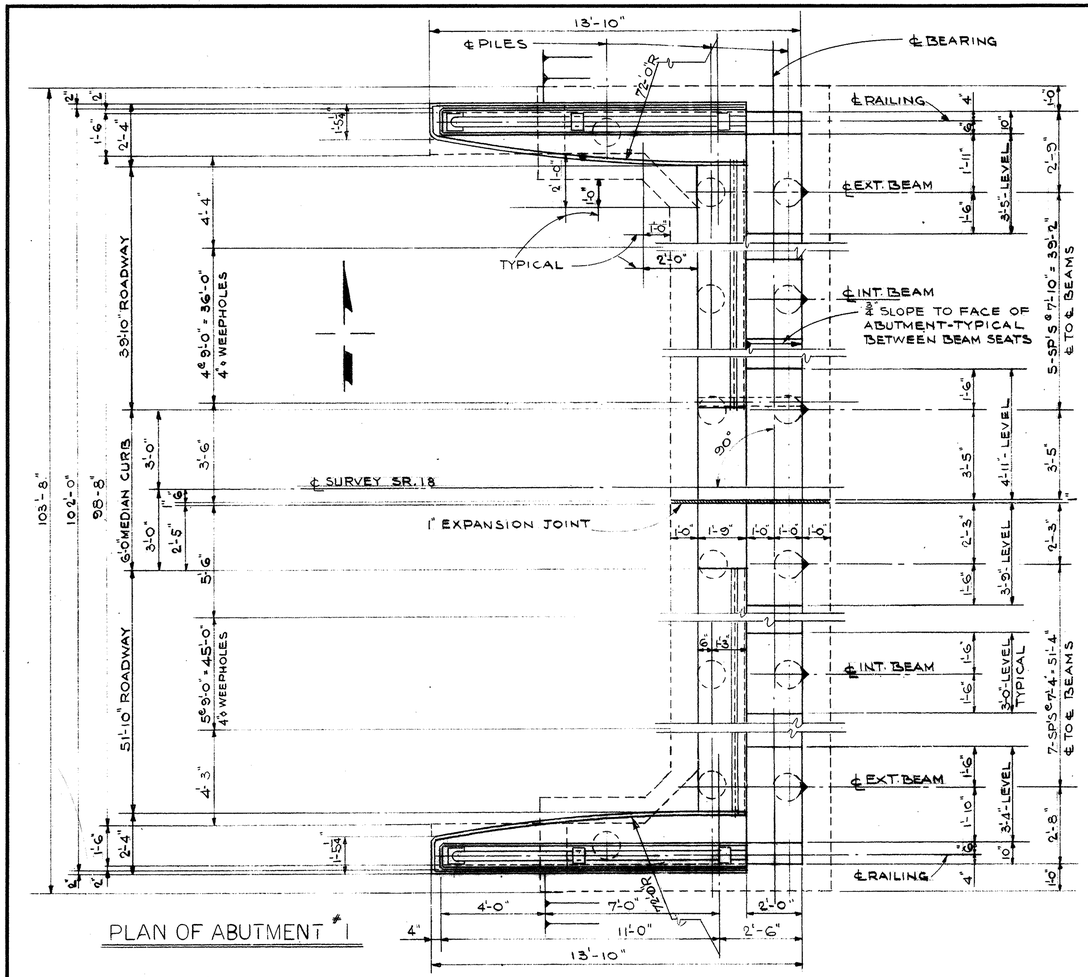
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	S.S.					

MICROFILMED
SEP 19 1985

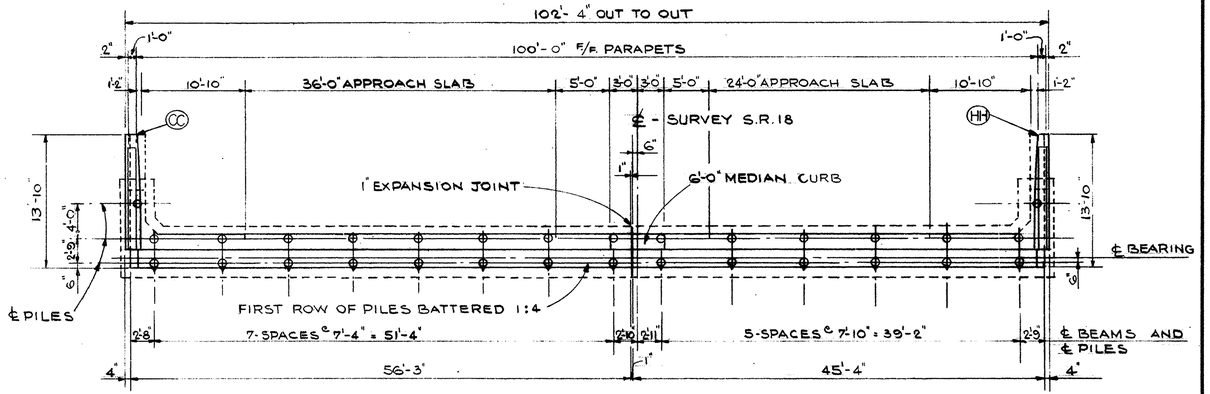
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

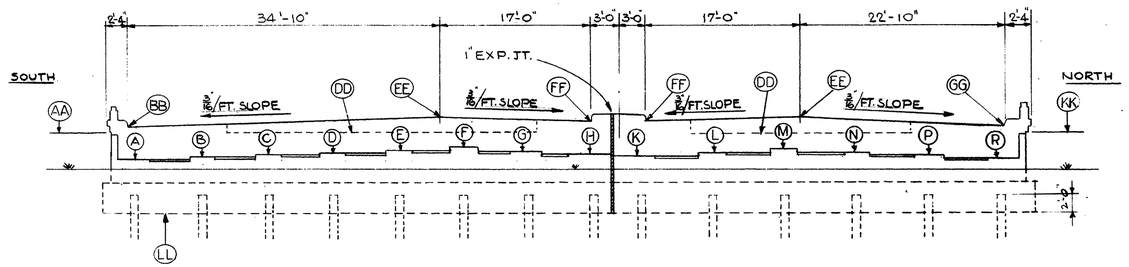
396
492



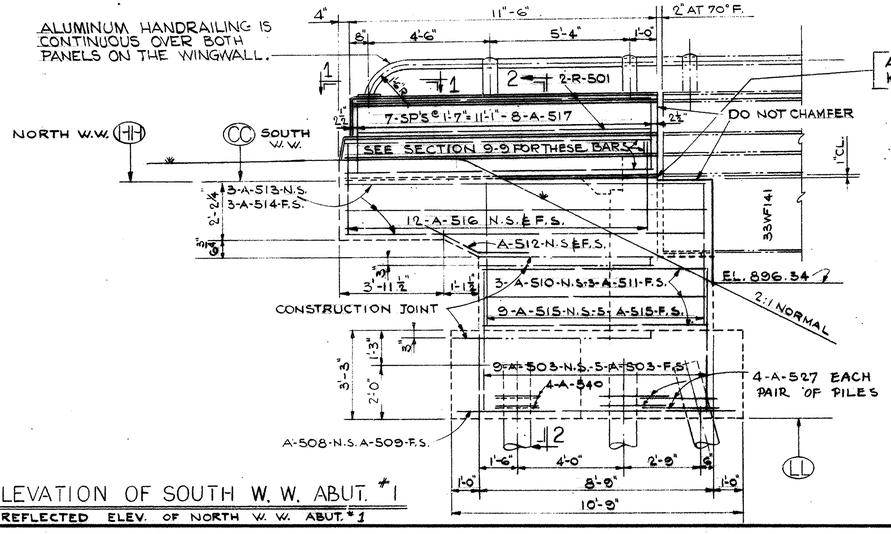
PLAN OF ABUTMENT #1



PLAN OF ABUTMENT #1

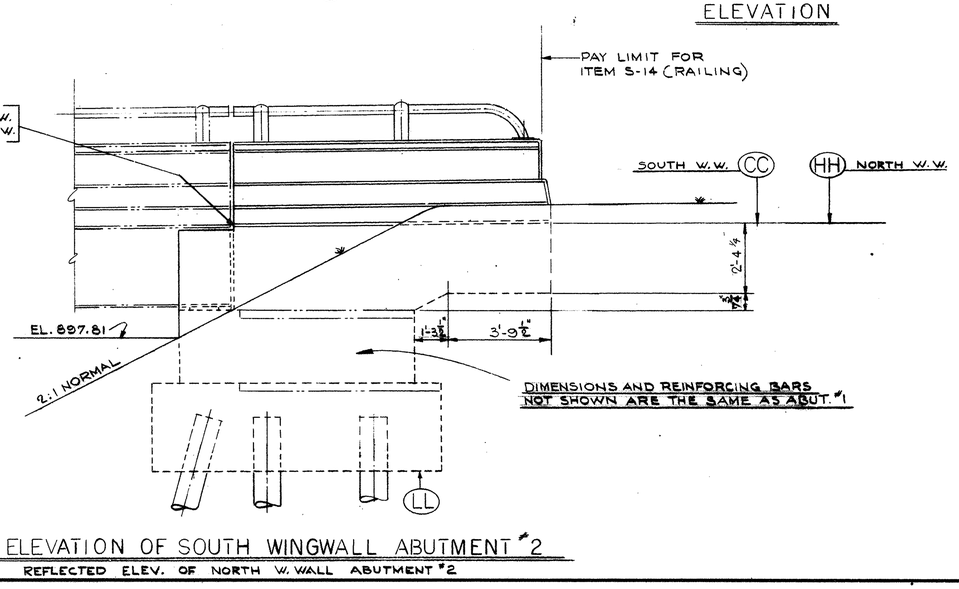


ELEVATION



ELEVATION OF SOUTH W. W. ABUT. #1

REFLECTED ELEV. OF NORTH W. W. ABUT. #1



ELEVATION OF SOUTH WINGWALL ABUTMENT #2

REFLECTED ELEV. OF NORTH W. WALL ABUTMENT #2

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

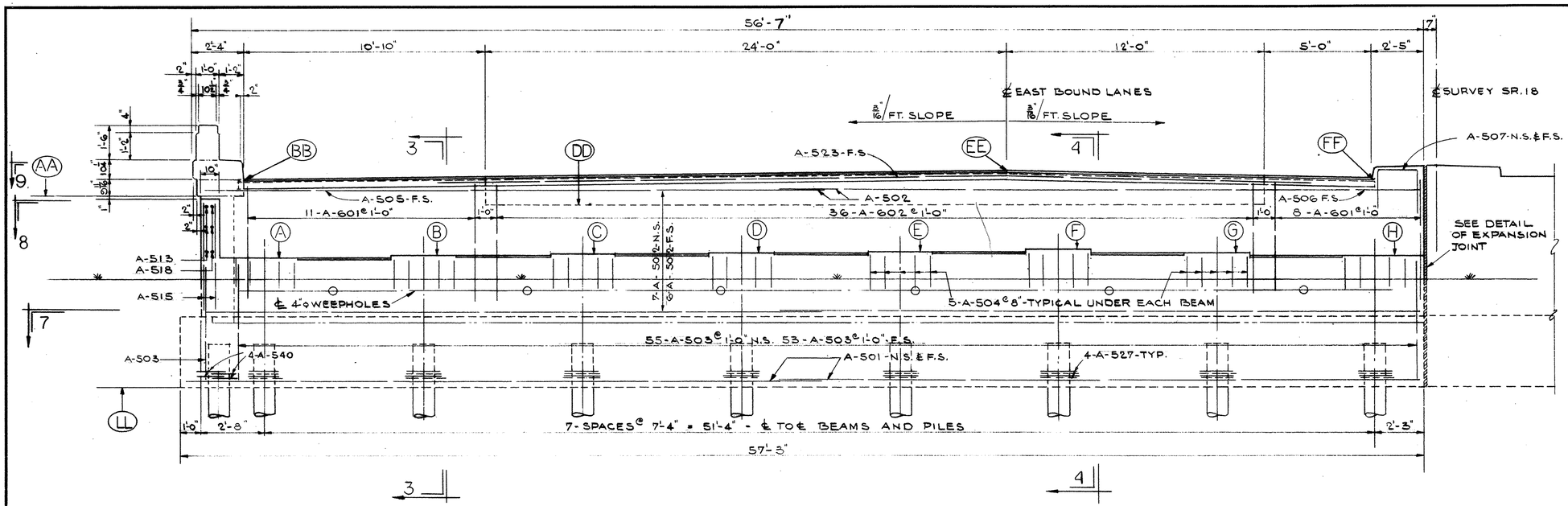
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

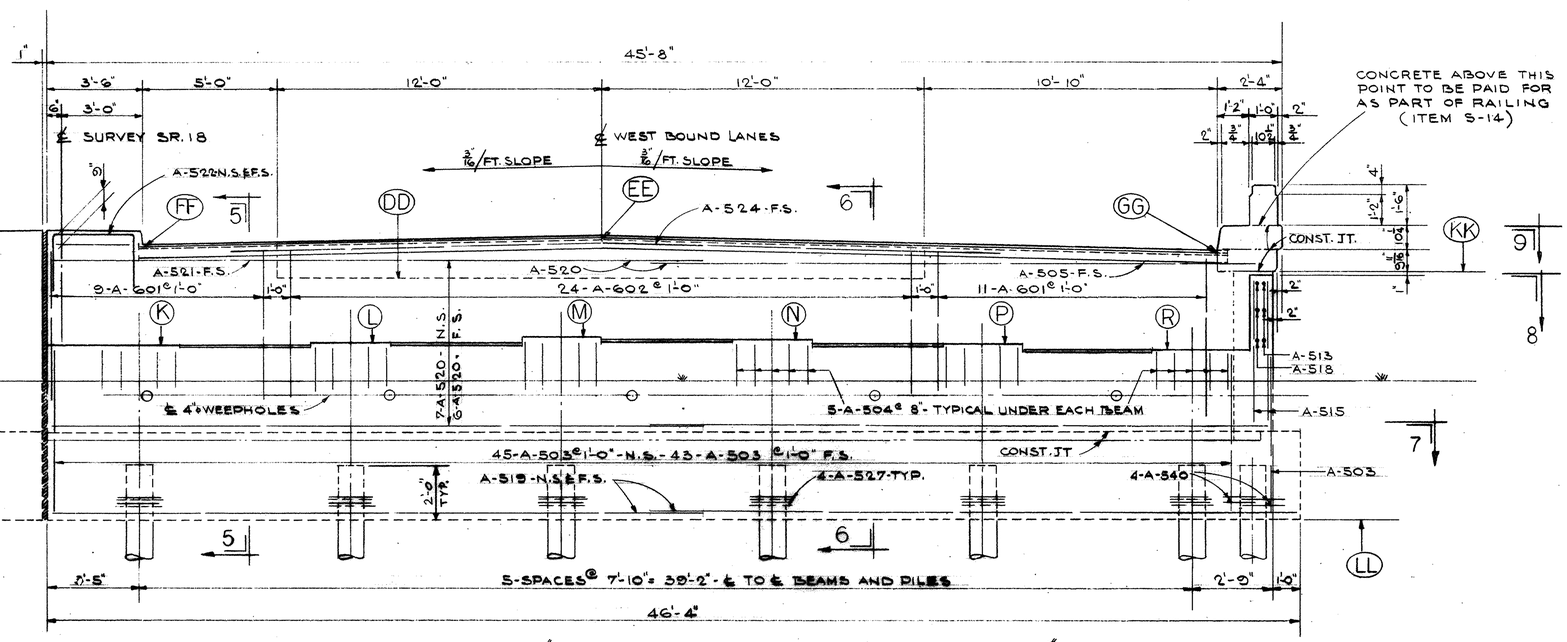
MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

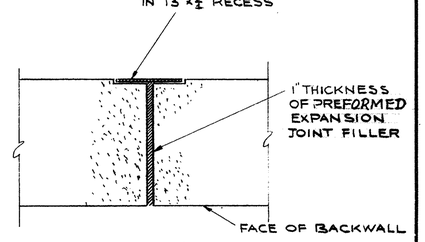
MAH-18 -17.20

397
492





ELEVATION OF ABUTMENT #1 — REFLECTED ELEVATION OF ABUTMENT #2



DETAIL OF EXPANSION JOINT

NOTE: THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

POROUS BACKFILL 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WING WALLS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

ELEVATION TABLE

	A	B	C	D	E	F	G	H	K	L	M	N	P	R	AA	BB×	CC	DD	EE×	FF×	GG×	HH	KK	LL
ABUTMENT #1	897.34	897.45	897.57	897.68	897.79	897.83	897.71	897.60	897.58	897.70	897.82	897.75	897.63	897.51	900.20	900.35	900.09	900.02	901.48	901.21	901.13	900.27	900.38	891.34
ABUTMENT #2	898.81	898.94	899.04	899.15	899.26	899.30	899.18	899.07	898.05	899.17	899.28	899.22	899.10	898.98	901.68	902.44	901.80	901.51	902.97	902.70	902.62	901.98	901.87	892.81

×ELEVATIONS GIVEN TO HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 989+79.75

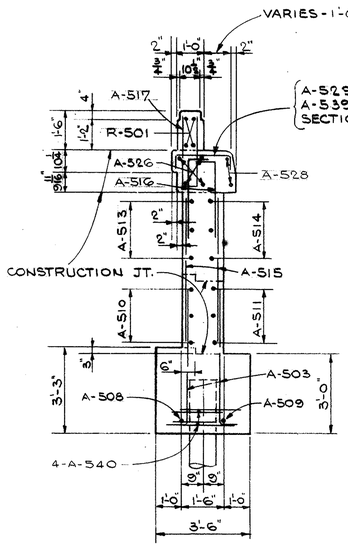
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

MICROFILMED
SEP 19 1995

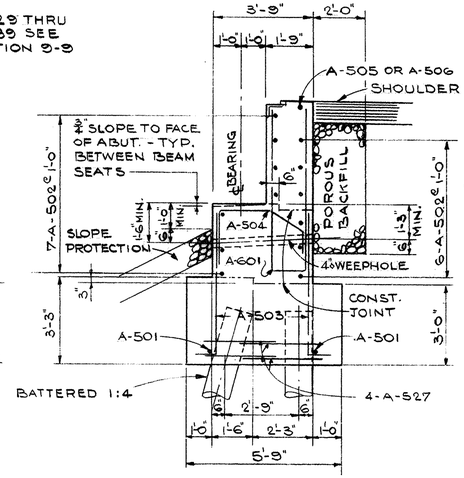
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

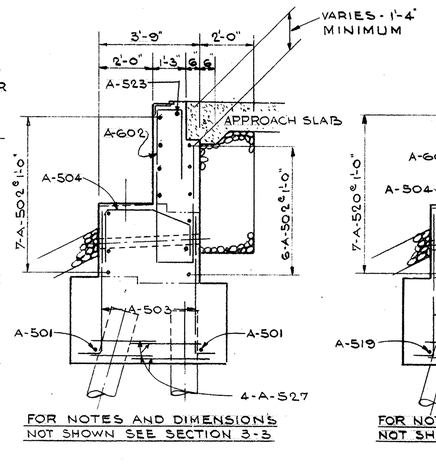
398
492



SECTION 2-2

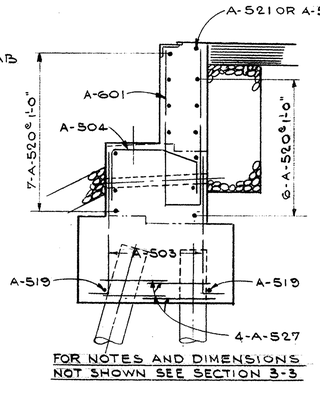


SECTION 3-3



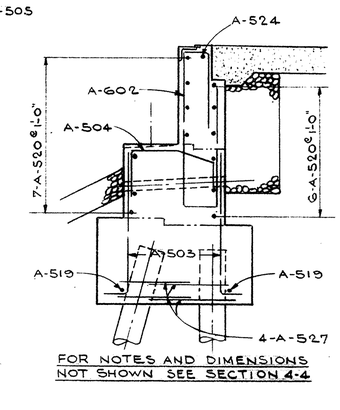
FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION 3-3

SECTION 4-4



FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION 3-3

SECTION 5-5



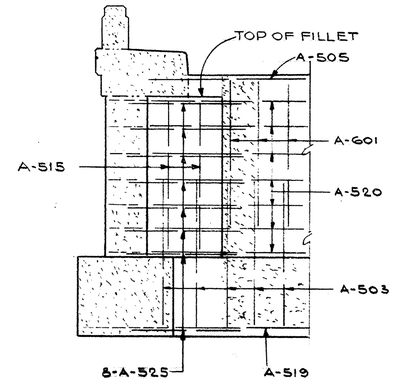
FOR NOTES AND DIMENSIONS NOT SHOWN SEE SECTION 4-4

SECTION 6-6

SECTION 7-7

SECTION 8-8

SECTION 9-9



SECTION 10-10

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

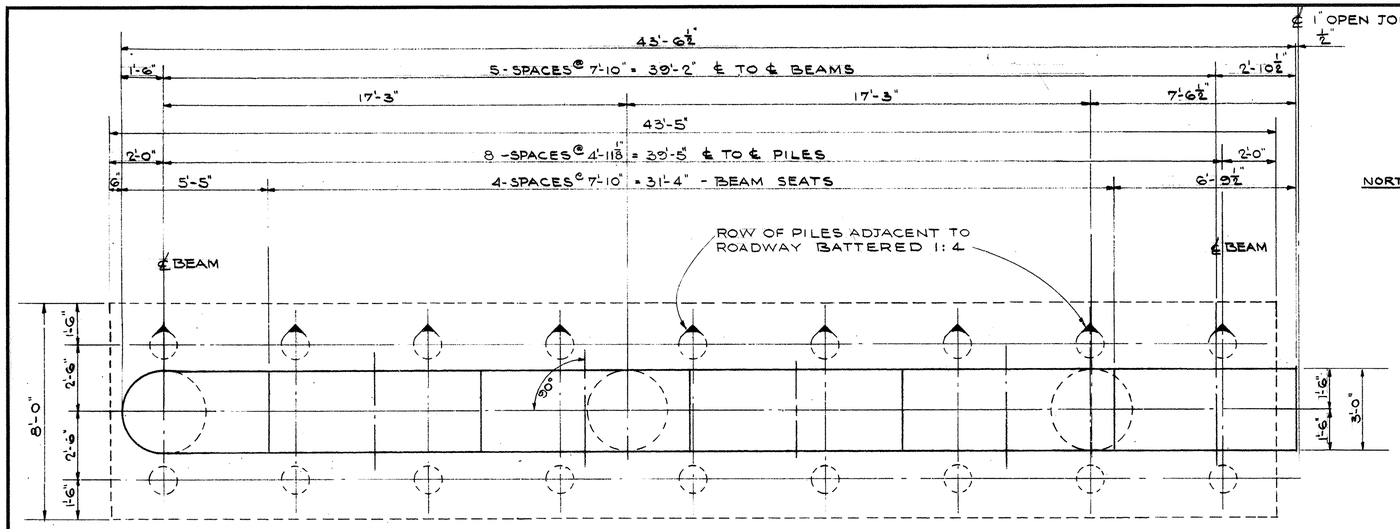
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

MICROFILMED
SEP 19 1985

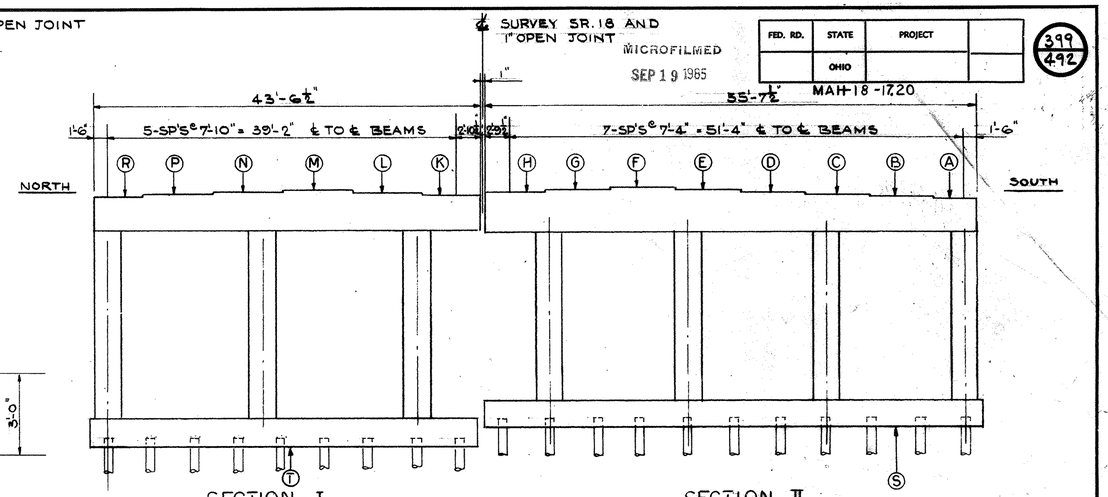
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

399
492



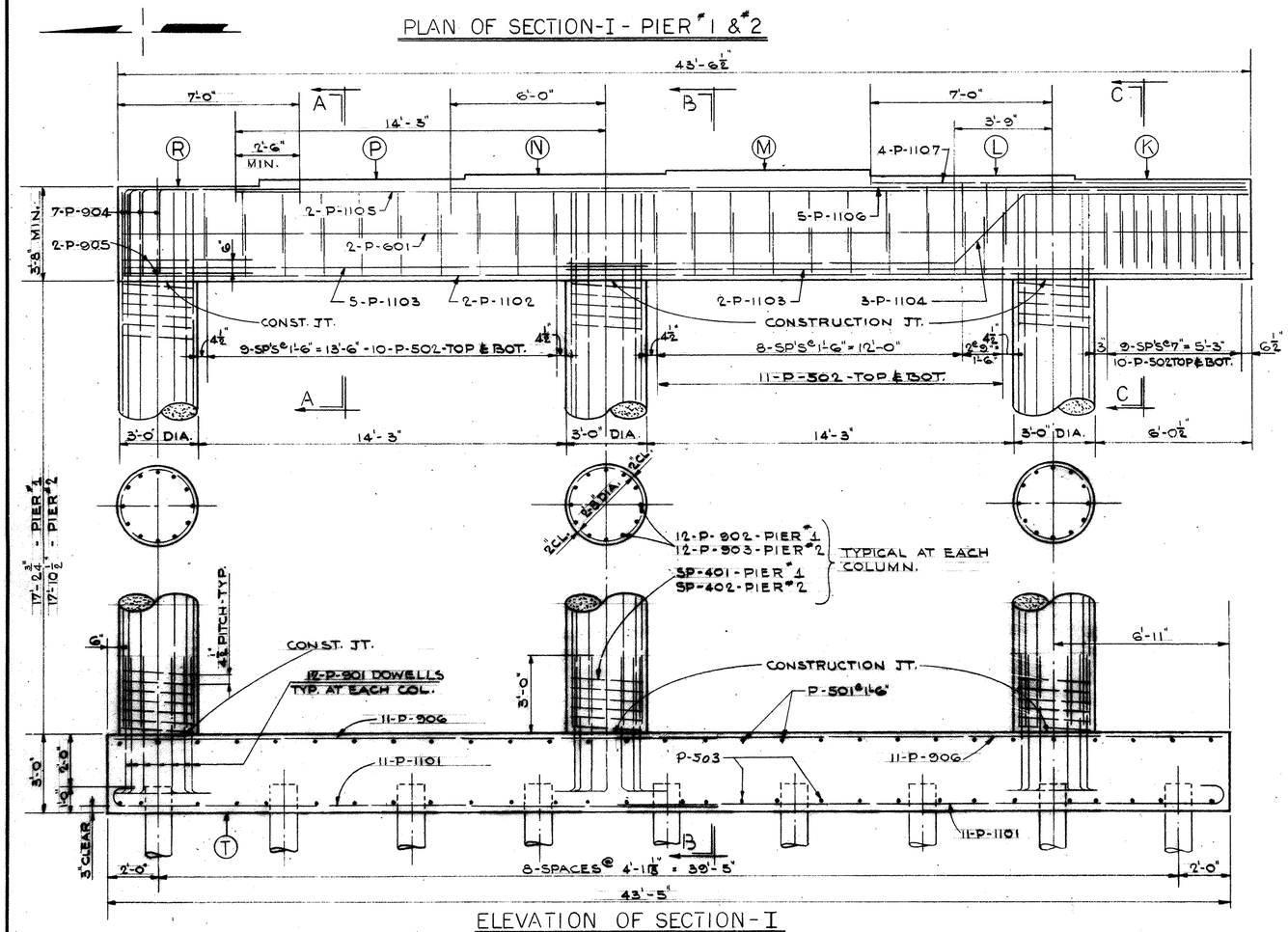
PLAN OF SECTION-I - PIER #1 & #2



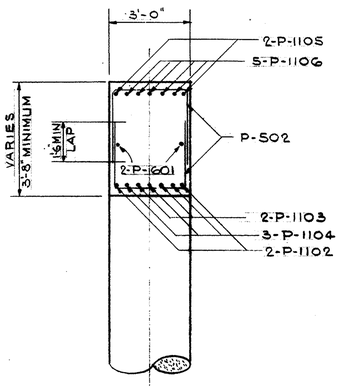
SECTION - I

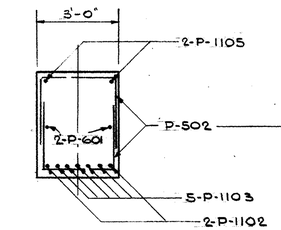
SECTION - II

ELEVATION OF PIER #1 & #2

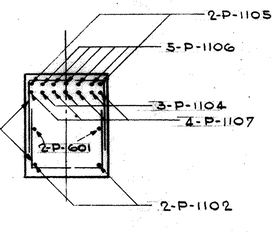


ELEVATION OF SECTION-I





SECTION A-A

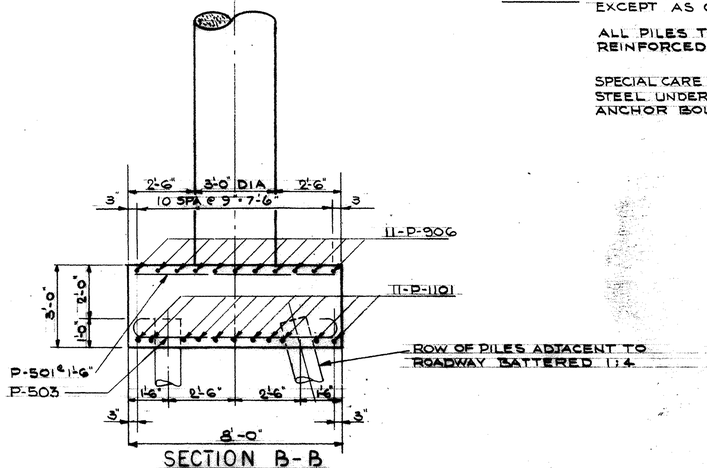


SECTION C-C

NOTES: REINFORCING STEEL TO HAVE A MINIMUM OF 2" COVER EXCEPT AS OTHERWISE NOTED.

ALL PILES TO BE 12" MINIMUM TOP DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL UNDER BEAM BEARINGS IN ORDER TO CLEAR ANCHOR BOLTS WHERE THEY OCCUR.



SECTION B-B

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

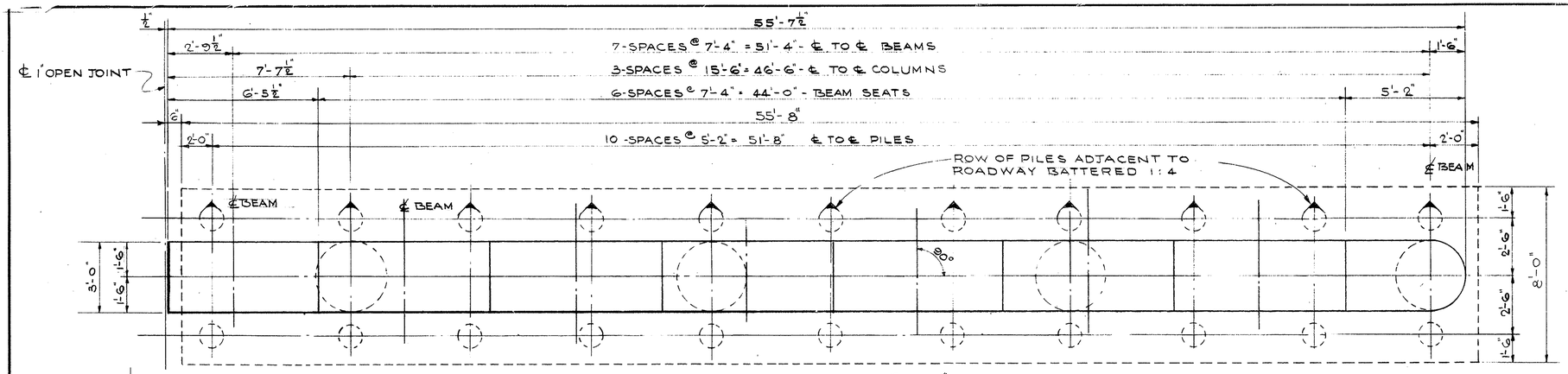
BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

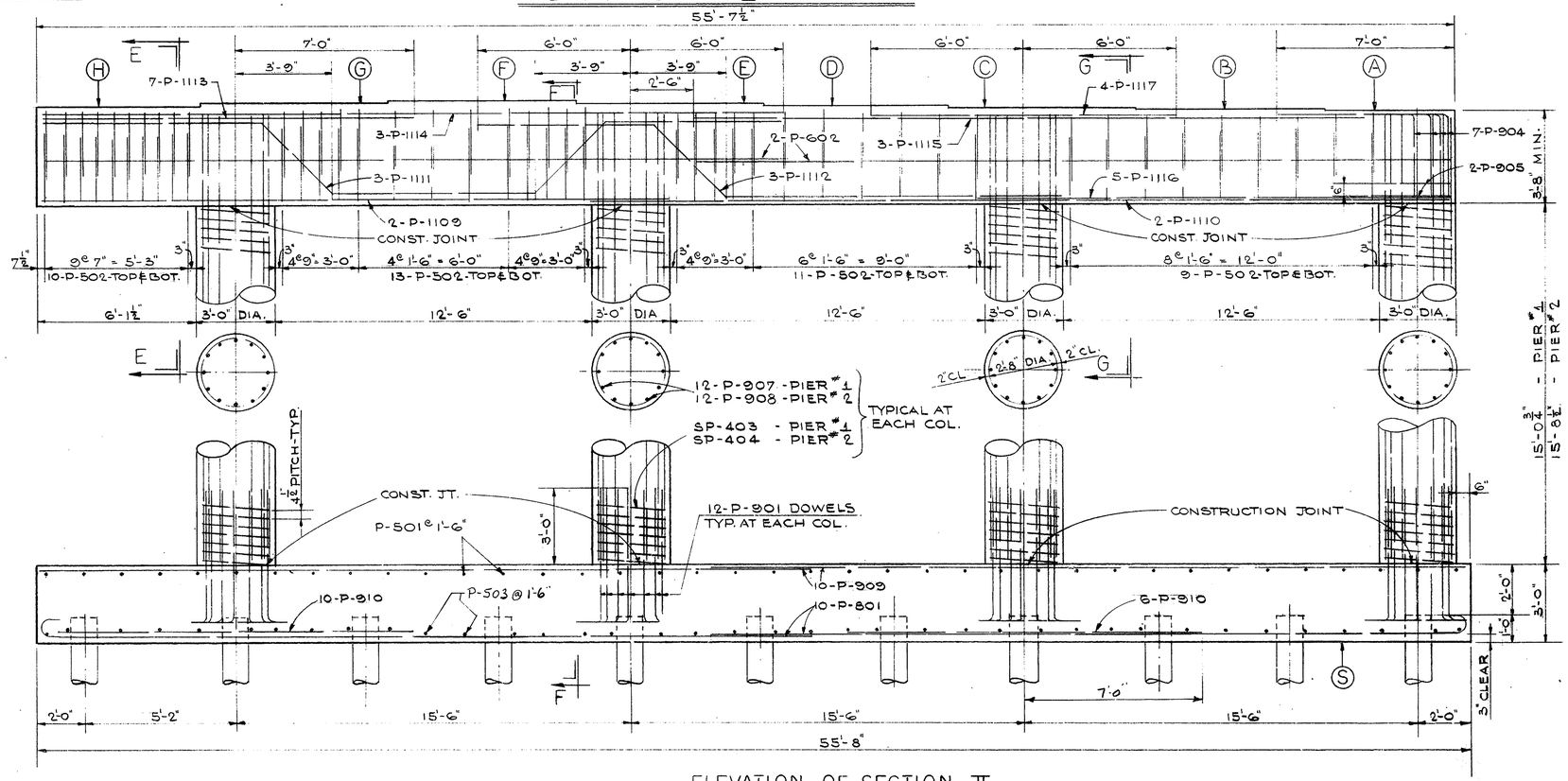
MICROFILMED
SEP 19 1995

FED. RD.	STATE	
	OHIO	(400)

MAH-18 -17.20

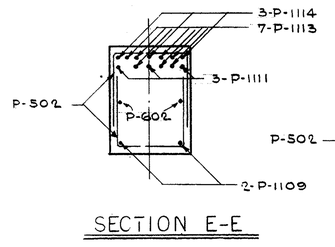


PLAN OF SECTION - II - PIER #1 & #2

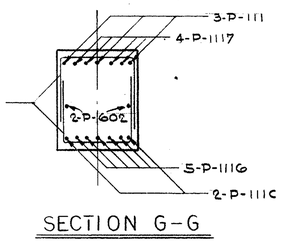


ELEVATION OF SECTION - II

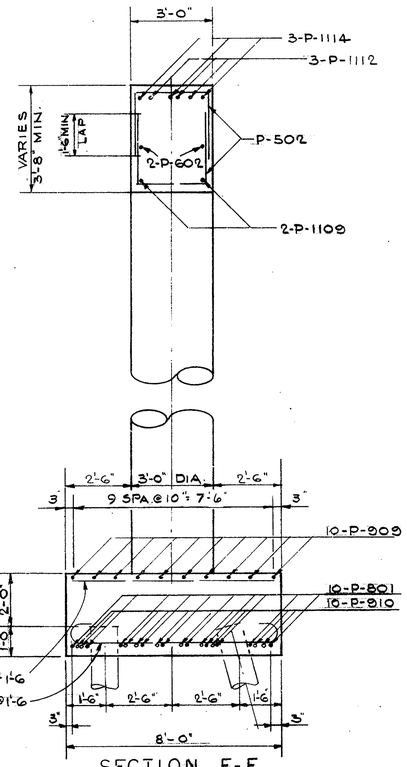
SEE NOTE AT SECTION - I



SECTION E-E



SECTION G-G



SECTION F-F

ELEVATION TABLE

	A	B	C	D	E	F	G	H	K	L	M	N	P	R	S	T
PIER # 1	897.73	897.84	897.96	898.07	898.18	898.22	898.10	897.99	897.97	898.09	898.21	898.14	898.02	897.90	876.00	874.00
PIER # 2	898.38	898.49	898.61	898.72	898.83	898.87	898.75	898.64	898.62	898.74	898.86	898.79	898.67	898.55	876.00	874.00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

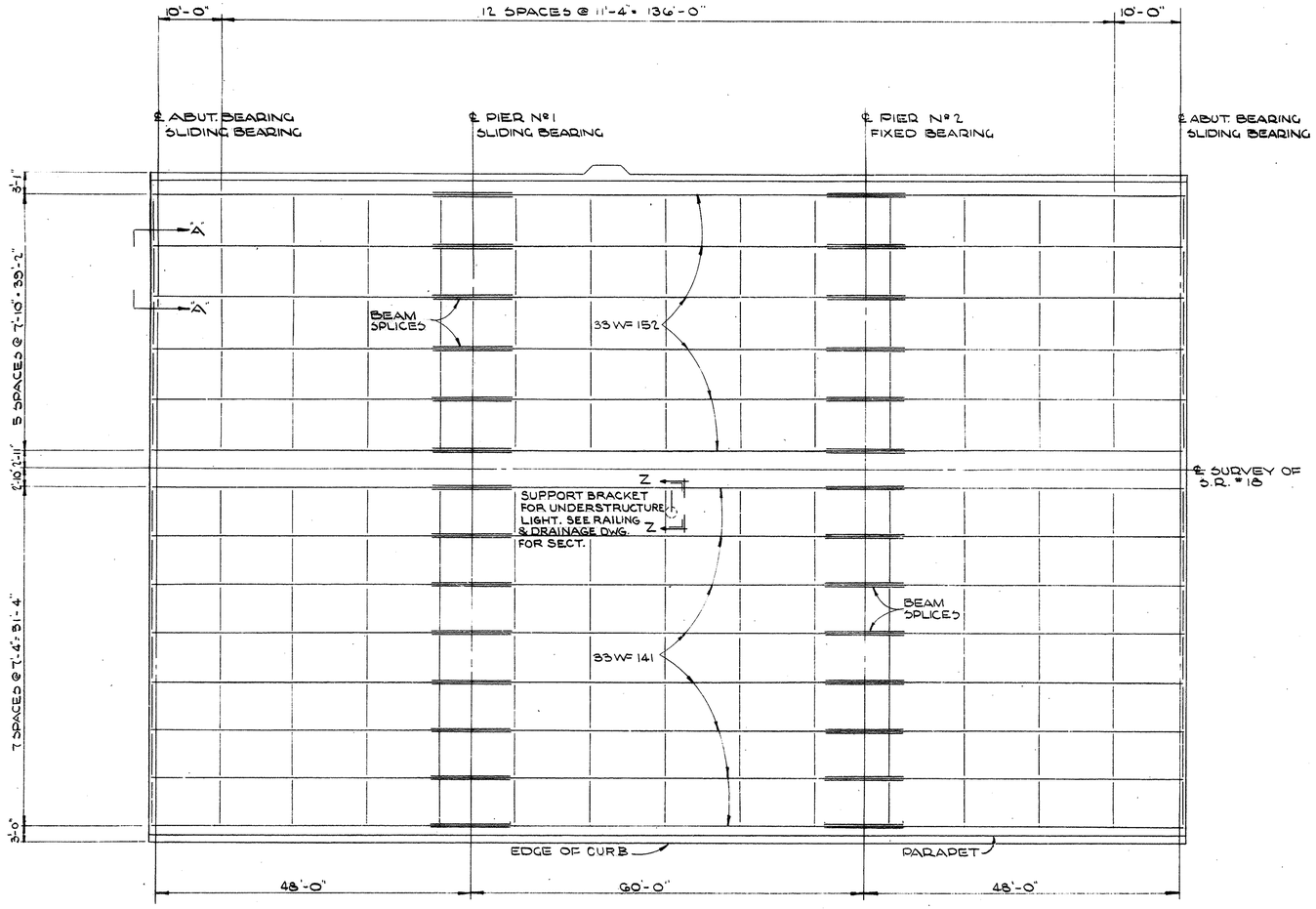
BRIDGE NO. MAH-18 -1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979 +19.25 To STA. 980+79.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

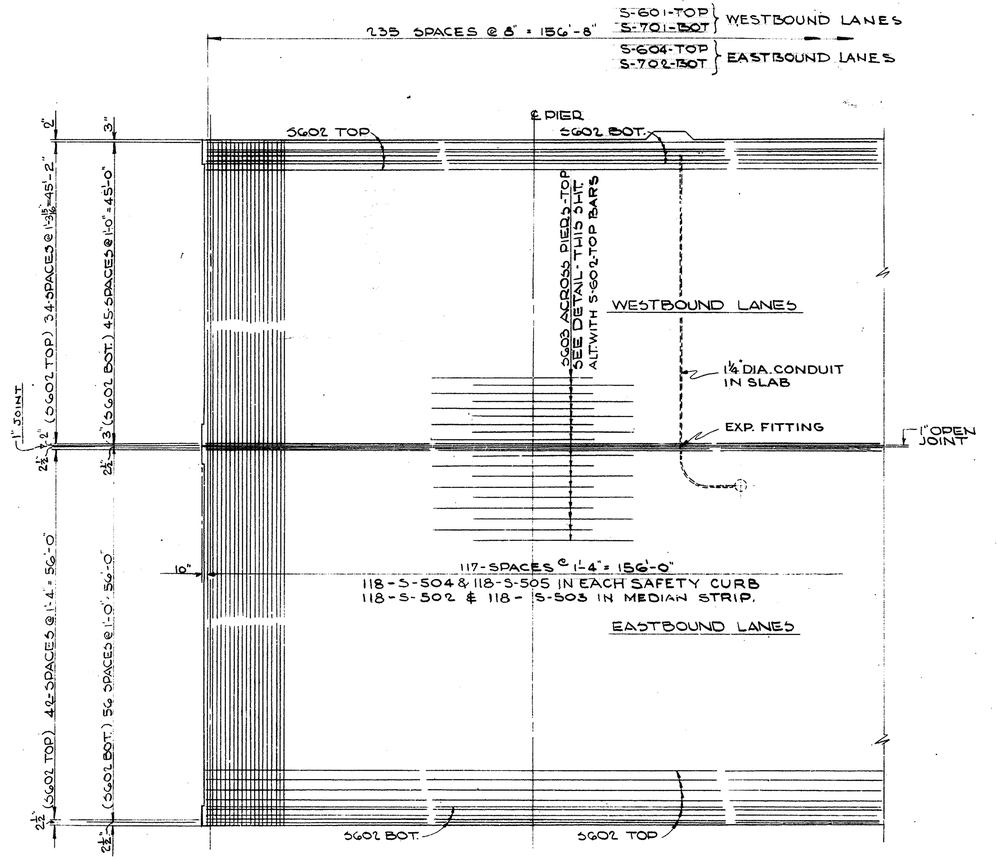
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

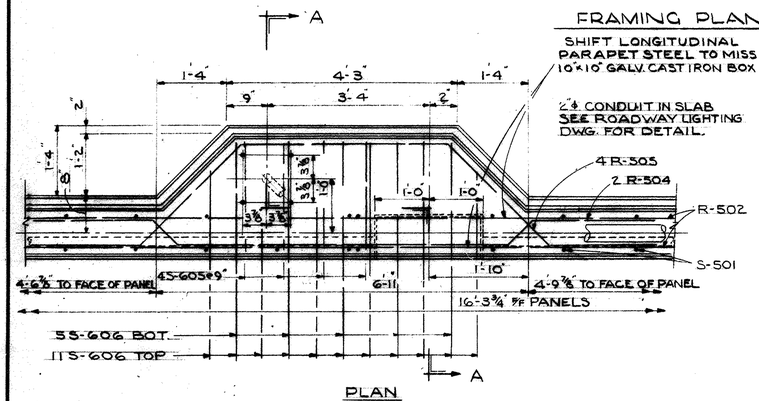
401/492



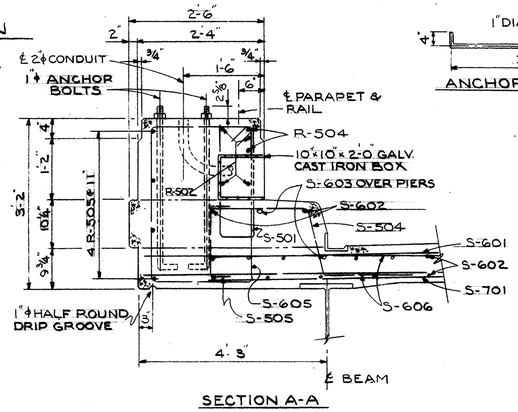
FRAMING PLAN



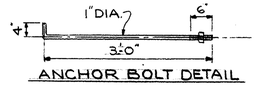
PARTIAL SLAB REINFORCING PLAN



PLAN



SECTION A-A

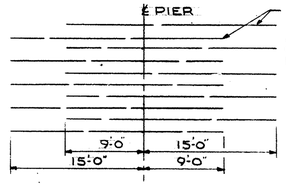


ANCHOR BOLT DETAIL

DETAIL OF LIGHT STANDARD SUPPORT

STATE ROUTE 18
DEFLECTION & CAMBER

LOCATION	OUTSIDE BEAMS		INSIDE BEAMS	
	END SPANS	MIDDLE SPANS	END SPANS	MIDDLE SPANS
DEFLECTION DUE TO WEIGHT OF STEEL	0.05	0.07	0.04	0.05
DEFLECTION DUE TO REMAINING DEAD LOAD	0.30	0.45	0.21	0.30
CONVEXITY REQUIRED FOR VERTICAL CURVE.	0.00	0.00	0.00	0.00
SUM OF DEFLECTION & CONVEXITY	0.35	0.50	0.25	0.35
REQUIRED CAMBER	0	0	0	0



BAR STAGGERING OVER PIERS
(S-603 BARS)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

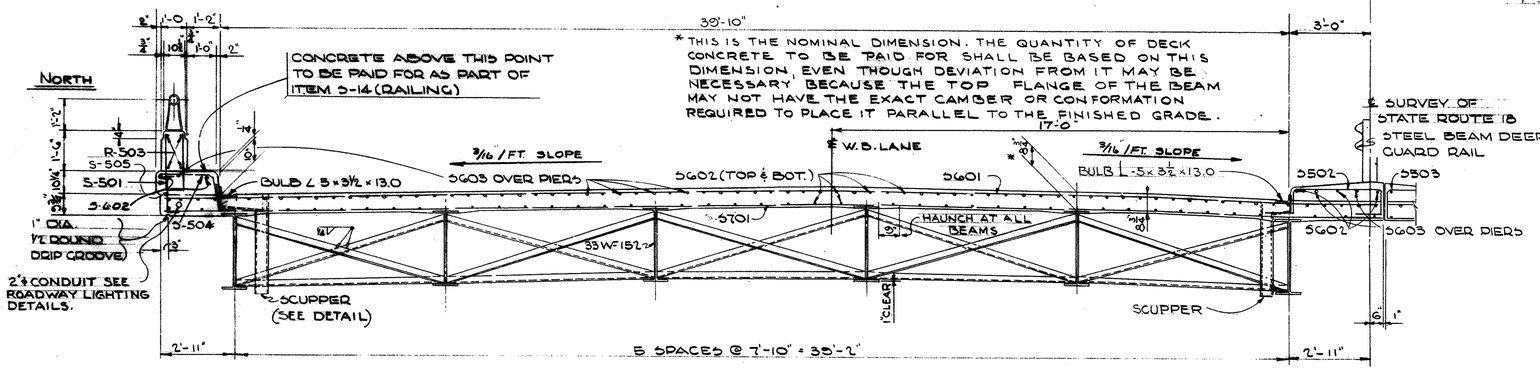
BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	R.P.S.					

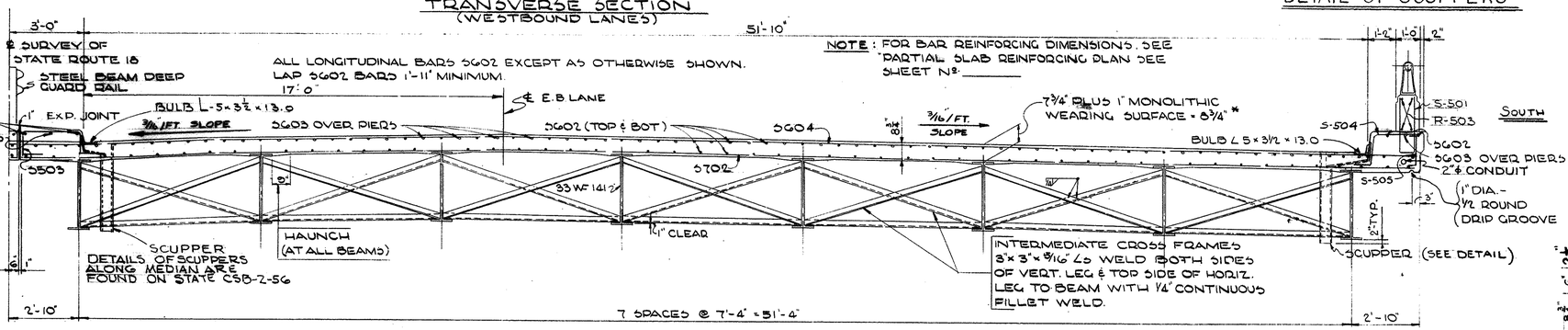
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

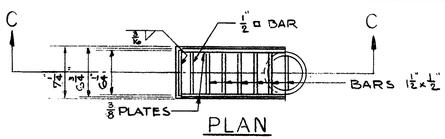
402
492



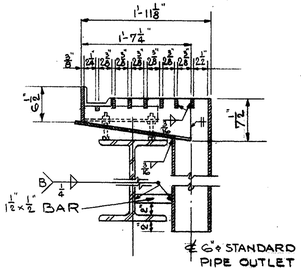
TRANSVERSE SECTION (WESTBOUND LANES)



TRANSVERSE SECTION (EASTBOUND LANES)



PLAN

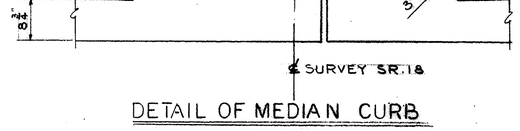


SECTION C-C

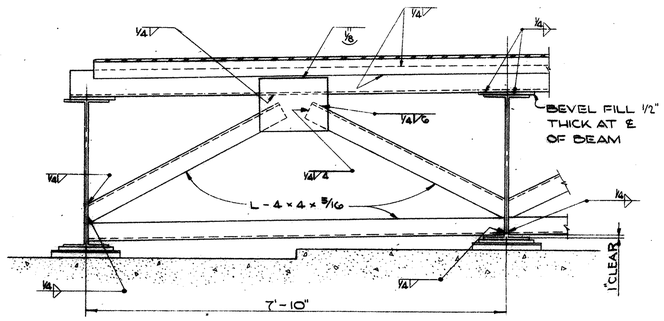
DETAIL OF SCUPPERS

NOTES

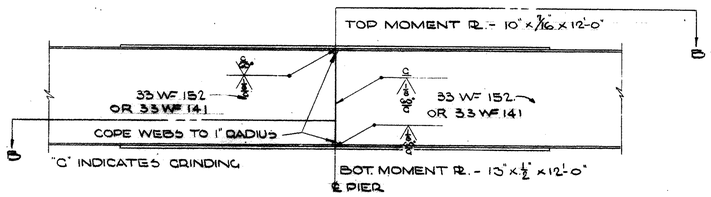
1- SLAB THICKNESS SHOWN INCLUDE 1" MONOLITHIC WEARING SURFACE.
2- WELDING PROCEDURE:
a- RAISE END OF BEAMS AT ABUTMENTS 3/4".
B- BUTT-WELD BEAM FLANGES AND WEB AT PIERS USING THE FOLLOWING SEQUENCE; MAKE TWO PASSES ON EACH FLANGE, THEN TWO ON THE WEB; REPEAT, USING ONE PASS AT EACH LOCATION, UNTILL WELDS ARE COMPLETE.
C- WELD TOP AND BOTTOM FLANGE MOMENT PLATES AT PIERS.
d- LOWER BEAMS ENDS INTO FINAL POSITION AT ABUTMENTS.

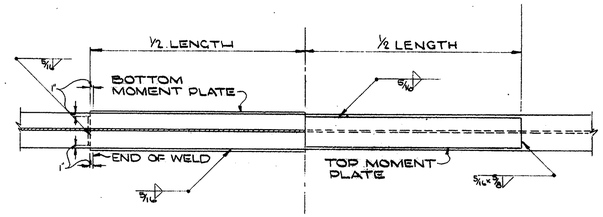


DETAIL OF MEDIAN CURB

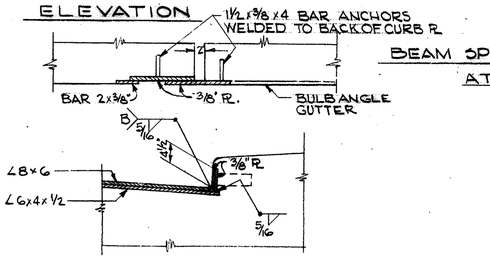


PARTIAL SECTION A-A





SECTION B-B



BEAM SPLICE DETAILS AT PIERS

CURB PLATE DETAILS FOR MEDIAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB DETAILS

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

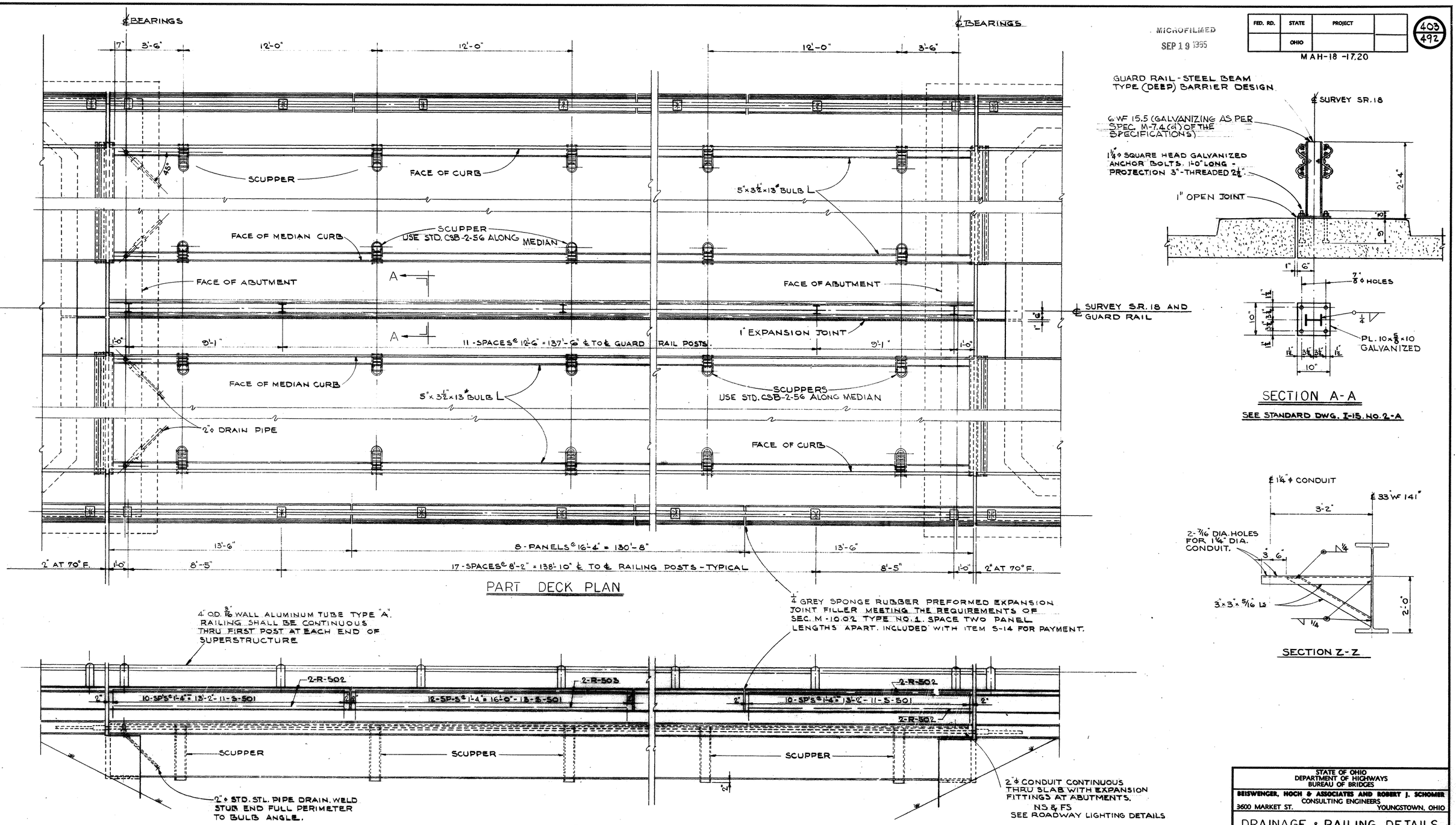
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	R.P.S.					

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

403
492



PART DECK PLAN

ELEVATION

SECTION A-A

SEE STANDARD DWG. I-15. NO. 2-A

SECTION Z-Z

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DRAINAGE & RAILING DETAILS
BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+19.25 To STA. 980+79.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	WEIGHT	SHAPE
ABUTMENTS				
A-501	8	29'-7"	247	ST.
A-502	32	29'-0"	1573	ST.
A-503	448	5'-11"	2766	BT.
A-504	140	5'-6"	803	BT.
A-505	4	12'-7	53	ST.
A-506	2	7'-1"	15	ST.
A-507	4	4'-11"	21	BT.
A-508	4	10'-5"	43	ST.
A-509	4	4'-6"	19	ST.
A-510	12	8'-5"	106	ST.
A-511	12	3'-6"	44	ST.
A-512	8	4'-2"	35	BT.
A-513	12	13'-6"	169	ST.
A-514	12	8'-10"	111	ST.
A-515	64	5'-4"	356	ST.
A-516	96	3'-10"	384	BT.
A-517	32	5'-11"	198	BT.
A-518	12	4'-0"	50	ST.
A-519	8	24'-3"	202	ST.
A-520	52	23'-6"	1275	ST.
A-521	2	8'-2"	17	ST.
A-522	4	6'-0"	25	BT.
A-523	2	40'-0"	83	ST.
A-524	2	28'-0"	59	ST.
A-525	32	3'-10"	128	ST.
A-526	16	11'-6"	192	ST.
A-527	112	8'-6"	983	BT.
A-528	8	11'-6	96	BT.
A-529	24	3'-11"	98	BT.
A-530	4	1'-8"	7	BT.
A-531	4	1'-10"	8	BT.
A-532	4	2'-0"	9	BT.
A-533	4	2'-2"	10	BT.
A-534	4	2'-4"	10	BT.
A-535	4	2'-6"	11	BT.
A-536	4	2'-7"	11	BT.
A-537	4	2'-8"	12	BT.
A-538	4	2'-9"	12	BT.
A-539	8	2'-10"	24	BT.
A-540	16	5'-6"	92	BT.
A-601	78	12'-5"	1435	BT.
A-602	120	14'-2"	2554	BT.
TOTAL ABUTMENTS			14,346	

MARK	NO.	LENGTH	WEIGHT	SHAPE
PIERS				
P-501	134	7'-8"	1072	ST.
P-502	296	7'-8"	2368	BT.
P-503	134	8'-10"	1234	BT
P-601	4	42'-2"	254	ST.
P-602	8	28'-4"	340	ST.
P-801	40	30'-8"	3276	BT.
P-901	168	5'-10"	3330	BT.
P-902	36	20'-6"	2509	ST.
P-903	36	21'-2"	2591	ST.
P-904	28	10'-0"	952	BT.
P-905	8	9'-6"	258	BT.
P-906	44	23'-5"	3,505	ST.
P-907	48	18'-4"	2992	ST.
P-908	48	19'-0"	3102	ST.
P-909	40	29'-7"	4023	ST.
P-910	32	14'-0"	1523	ST.
P-1101	44	25'-0"	5844	BT.
P-1102	4	40'-6	861	ST.
P-1103	14	20'-0"	1488	ST.
P-1104	6	27'-2"	866	BT
P-1105	4	38'-10"	825	ST.
P-1106	10	30'-7"	1626	ST.
P-1107	8	14'-4"	609	ST.
P-1108	0	P	E	N.
P-1109	4	24'-6"	521	ST.
P-1110	4	33'-10"	719	ST.
P-1111	6	31'-9"	1012	BT.
P-1112	6	24'-5"	778	BT.
P-1113	14	14'-5"	1084	ST.
P-1114	6	29'-0"	925	ST.
P-1115	6	26'-6"	845	ST.

MARK	NO	LENGTH	WEIGHT	SHAPE
P-1116	10	18'-4"	974	ST.
P-1117	8	12'-0"	510	ST.
	TOTAL		52,816	
	ADD SPIRALS		4213	
TOTAL PIERS			57,029	
SUPERSTRUCTURE				
S-501	252	4'-5"	1162	BT.
S-502	118	6'-6"	800	BT.
S-503	118	5'-5"	667	BT.
S-504	236	4'-10"	1190	BT.
S-505	236	1'-9"	512	BT.
S-601	472	23'-9"	16,838	ST.
S-602	950	33'-0"	47,088	ST.
S-603	162	24'-0"	5840	ST.
S-604	472	29'-4"	20,796	ST
S-605	4	9'-6"	57	BT
S-606	16	7'-6"	180	ST
S-701	472	23'-9"	22,913	ST.
S-702	472	29'-4"	28,300	ST
TOTAL SUPERSTRUCTURE = 146,343#				
RAILING *				
R-501	16	11'-2		ST
R-502	16	13'-2"		ST
R-503	64	16'-0"		ST
R-504	2	11'-5"		BT
R-505	4	12'-10		BT

SPIRAL REINFORCING LIST

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT
SP-401	3	2'-8"	17'-3"	4½"	45	810
SP-402	3	2'-8"	17'-10"	4½"	51	843
SP-403.	4	2'-8"	15'-0"	4½"	43	948
SP-404	4	2'-8"	15'-8"	4½"	45	992
SPACERS	56					620
					TOTAL	4213

GRAND TOTAL 217,718 LBS.

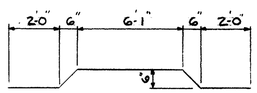
SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF PIER CAPS. THE NUMBER OF TURNS SHOWN IN THE STEEL LIST FOR THE 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 HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROXIMATELY 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

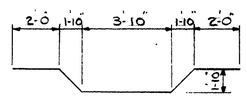
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-700 IS A NO. 7 SIZE BAR AND A-1014 IS A NO. 10 SIZE BAR.

REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

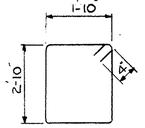
* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.



R-504



R-505



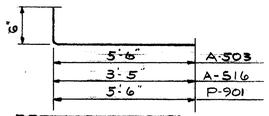
S-605

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

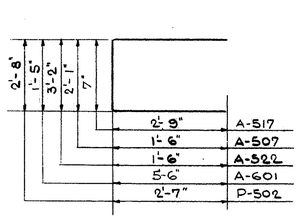
MA H-18-17.20

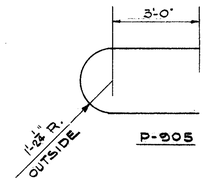
404
4.92



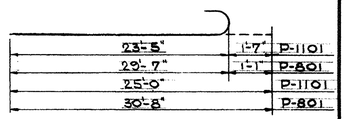
REPLACEMENT BARS

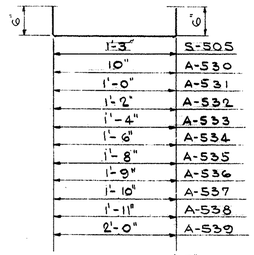
MARK	NO. REQD	LENGTH	SHAPE
RE-401	1	5'-3"	SPIRAL
RE-501	2	5'-6"	ST
RE-601	3	6'-0"	ST
RE-701	3	6'-3"	ST
RE-801	1	6'-6"	ST
RE-901	2	7'-0"	ST
RE-1101	1	7'-6"	ST

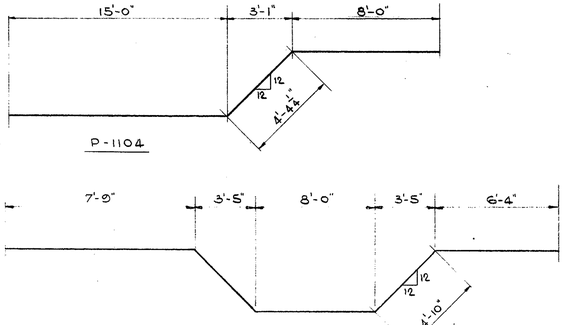


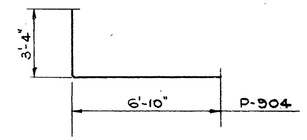


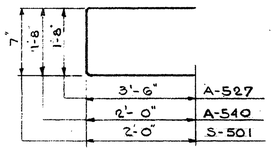
P-905

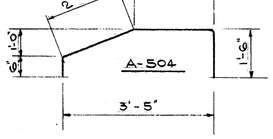


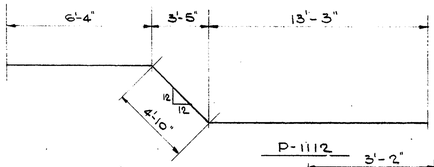


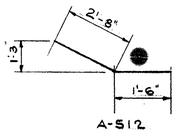




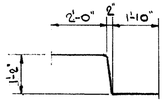




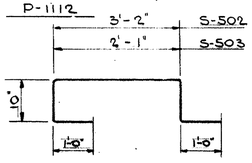


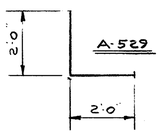


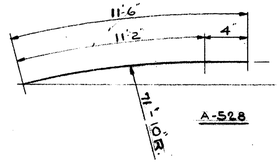
A-512

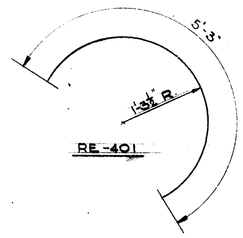


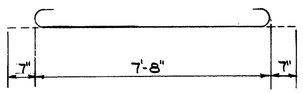
S-504

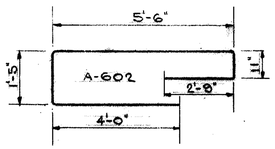












STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1855
OVER EDWARDS ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 979+[illegible].25 To STA. 980+79.75

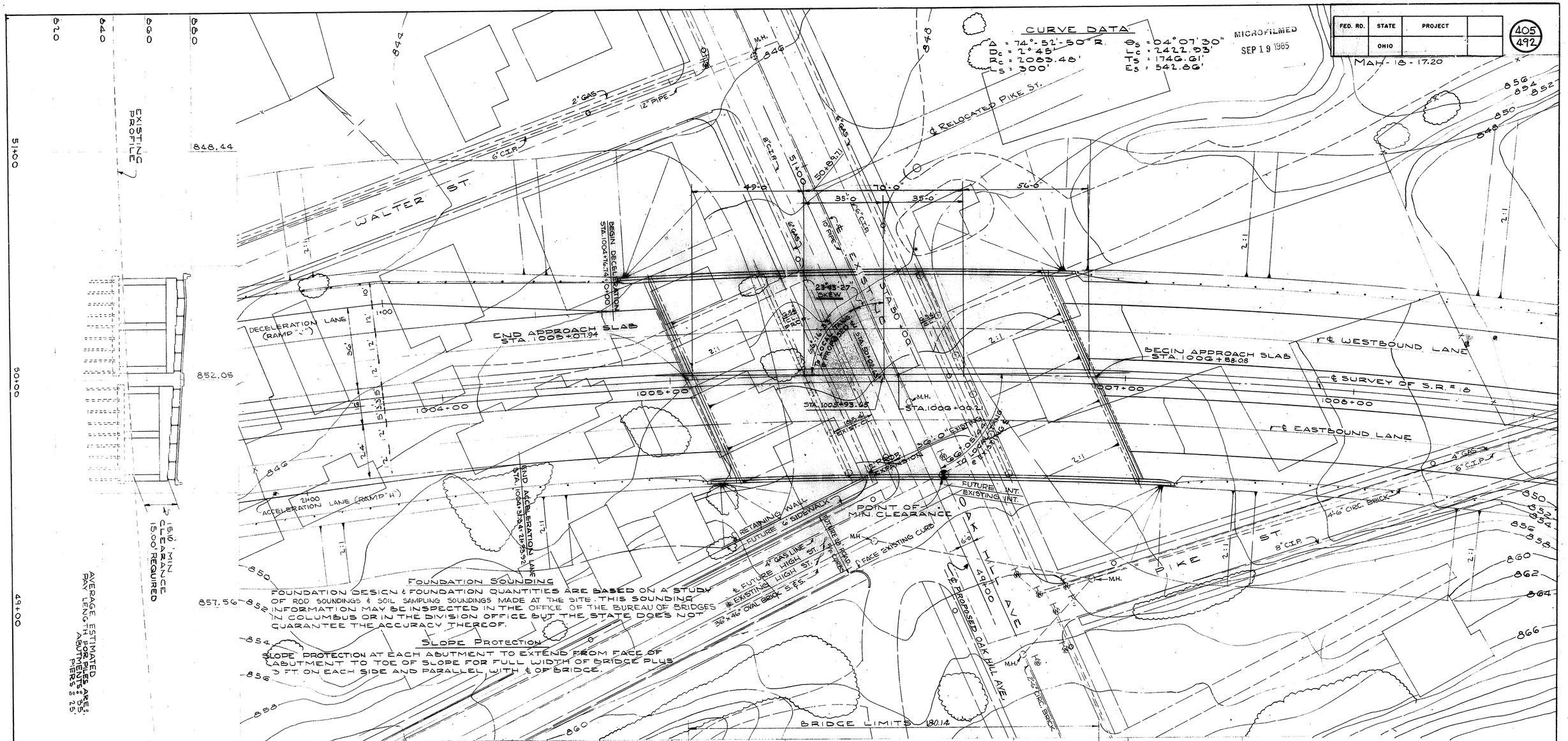
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

FED. RD.	STATE	PROJECT	
	OHIO		

405
492

MAH-18-17.20

MICROFILMED
SEP 19 1985



FOUNDATION SOUNDING

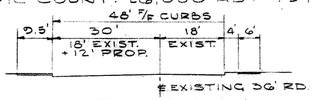
FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF ROD SOUNDINGS & SOIL SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN THE DIVISION OFFICE BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF.

SLOPE PROTECTION

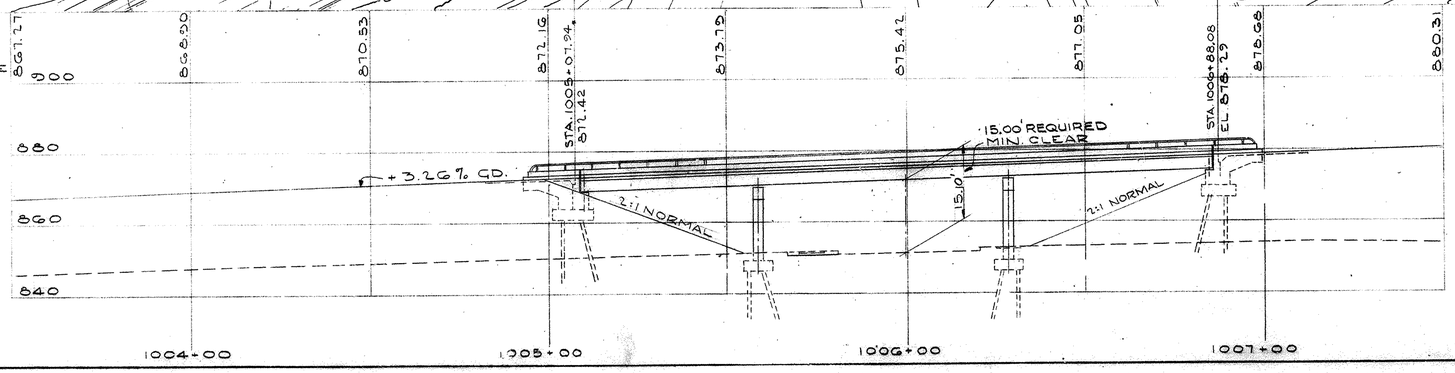
SLOPE PROTECTION AT EACH ABUTMENT TO EXTEND FROM FACE OF ABUTMENT TO TOE OF SLOPE FOR FULL WIDTH OF BRIDGE PLUS 3 FT. ON EACH SIDE AND PARALLEL WITH ℄ OF BRIDGE.

PROPOSED STRUCTURE

TYPE: STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 49'-0"-70'-0"-36'-0" c/c BRGS.
ROADWAY: 88'-0" F/F PARAPETS
LOAD FREQUENCY: CF 2000 - ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
SKEW: 23°-43'-27" R.F.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS-1-54
SUPERELEVATION: .065"
ALIGNMENT: 2°45' RT.
TRAFFIC COUNT: 26,000 ADT 1979



PROPOSED SECTION
OAK HILL AVE.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE Nº MAH.-18-1904
OVER OAK HILL AVE
YOUNGSTOWN MAHONING COUNTY
STA. 1005+07.94 TO STA. 1006+88.08

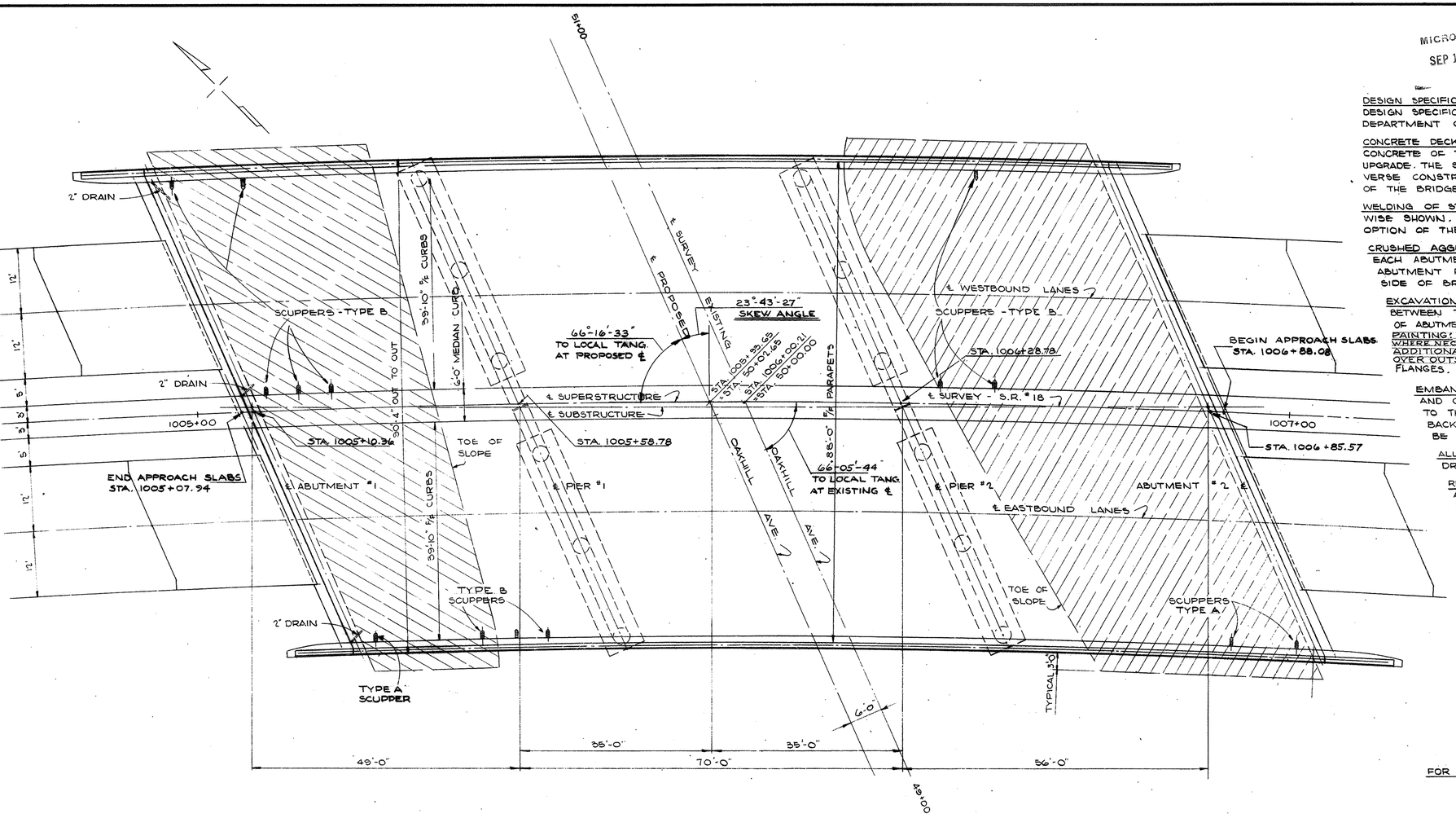
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS	A.C.		D.S.	DHC		

MICROFILMED
SEP 19 1985

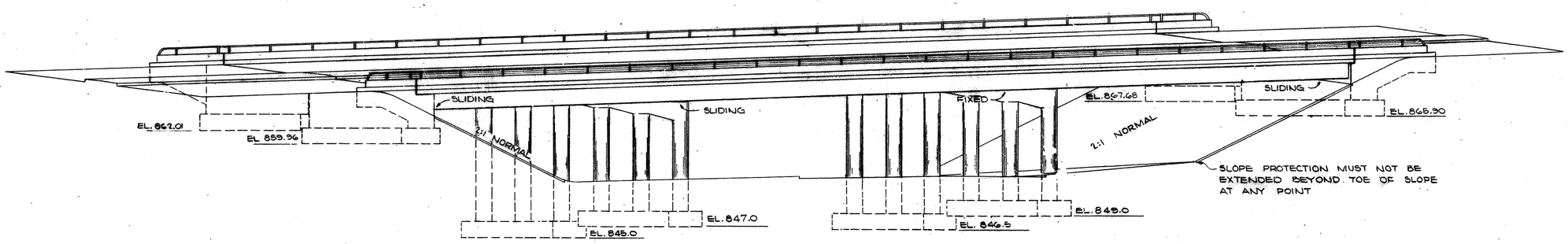
FED. RD.	STATE	PROJECT	
	OHIO		

406
492

MAH-18-17.20



GENERAL PLAN



ELEVATION

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS DATED 9-1-57. TOGETHER WITH REVISIONS THEREOF.

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 THE TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF THE BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

WELDING OF STRUCTURAL STEEL: SHALL BE CLASS 'A' EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY AT THE OPTION OF THE CONTRACTOR BE MADE IN THE SHOP.

CRUSHED AGGREGATE SLOPE PROTECTION: EXTENDING FROM FACE OF EACH ABUTMENT TO TOE OF SLOPE, SHALL BE PROVIDED AT EACH ABUTMENT FOR FULL WIDTH OF BRIDGE PLUS THREE FEET ON EACH SIDE OF BRIDGE AND PARALLEL WITH ℄ SUPERSTRUTURE.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF THE PROPOSED EMBANKMENT AND THE BOTTOM OF ABUTMENT.

PAINTING: AFTER ERECTION & AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY REPAINTED IN ACCORDANCE WITH SEC. 804, AN ADDITIONAL OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER OUTSIDE FACE OF OUTSIDE STEEL BEAMS & ALL SIDES OF BOTTOM FLANGES.

EMBANKMENT PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL THRU SLOPE AND TO THE LEVEL OF THE SUB-GRADE FOR A DISTANCE OF 200 FT. BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS.

ALL PILES TO BE 12" CAST-IN-PLACE REINFORCED CONCRETE PILES DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57, DATED 2-2-59 FOR ALUMINUM RAILING.
CSB-2-56, SHEET 2 & 3, DATE 2-2-59
SUPPLEMENTAL SPECIFICATIONS 8-101, DATED 12-2-55.

ELECTRICAL GROUNDS: A SOLID N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER N°2. THE LOWER ENDS OF THE WIRE SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE CAST-IN-PLACE REINFORCED CONCRETE PILES AND THE UPPER END SHALL EXTEND SUFFICIENTLY ABOVE THE CONCRETE TO PROVIDE A SUITABLE SPLICE & EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A N°6 GAGE BARE, STRANDED, TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES THE FOLLOWING: 4 EXPANSION FITTINGS, 1-TRSF. BOX & 40 FT. OF 1¼" CONDUIT.
LIGHTING DETAILS ARE SHOWN ON SHEET #309 & 310

FOR ESTIMATED QUANTITIES TABLE - SEE SHEET #413

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1004
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

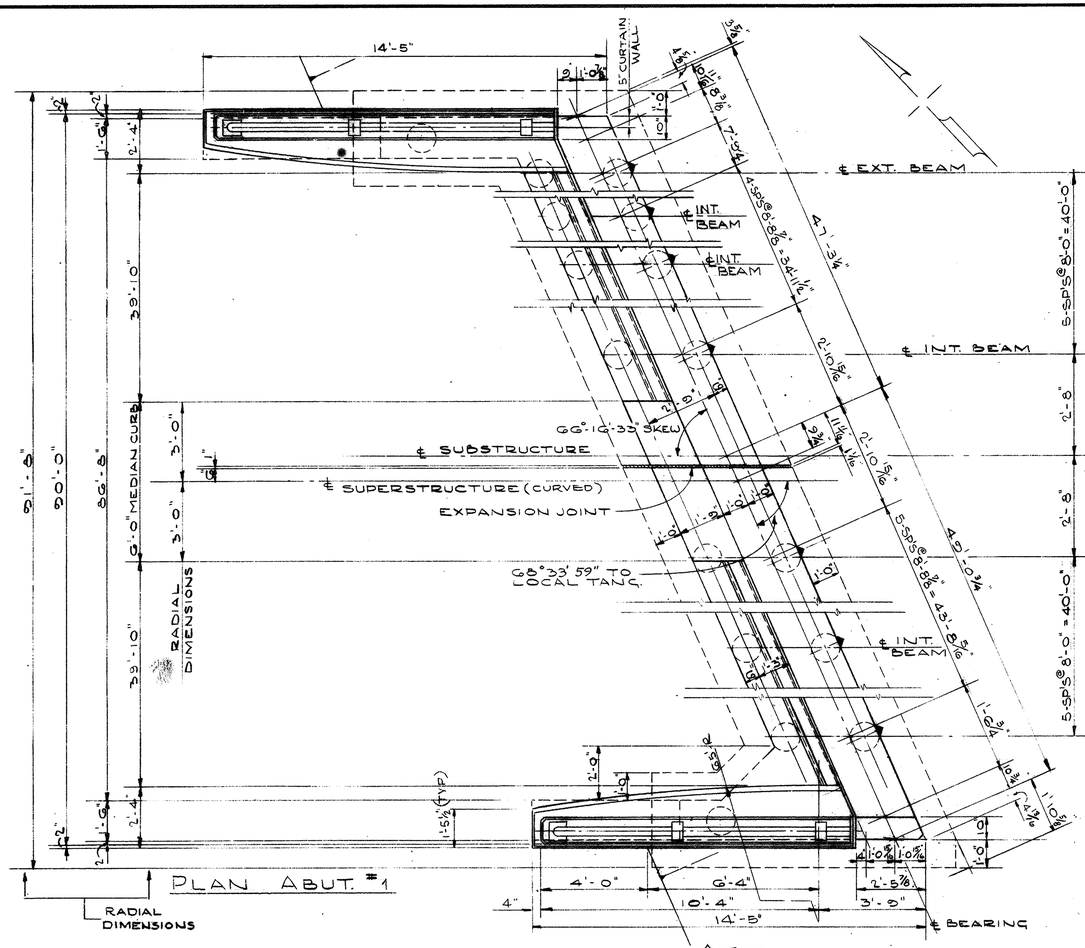
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.S.	GASKILL		HGH	DNC		

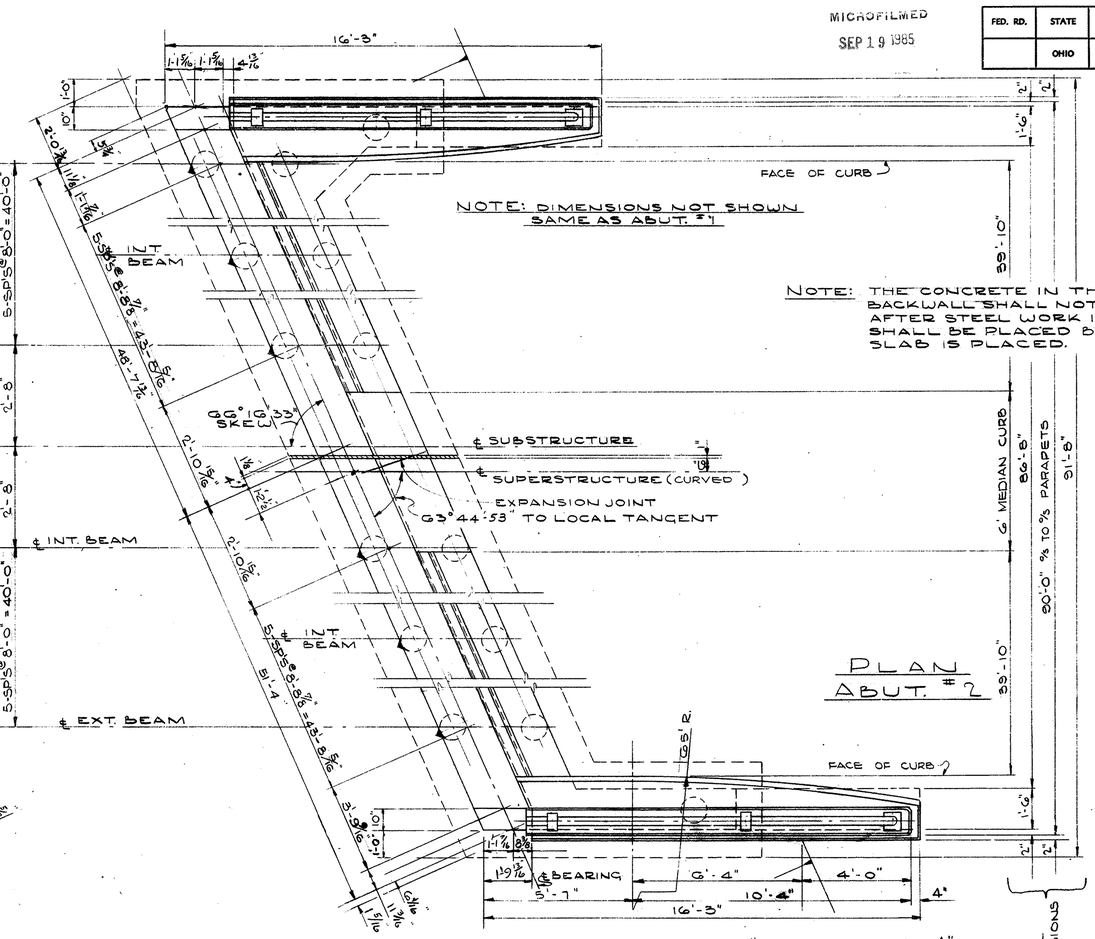
MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

407
492

MAH-18-17.20



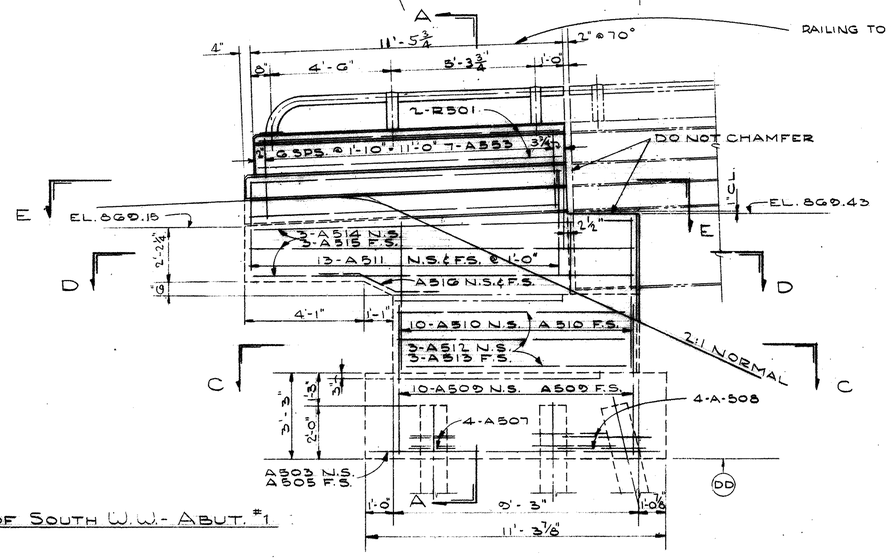


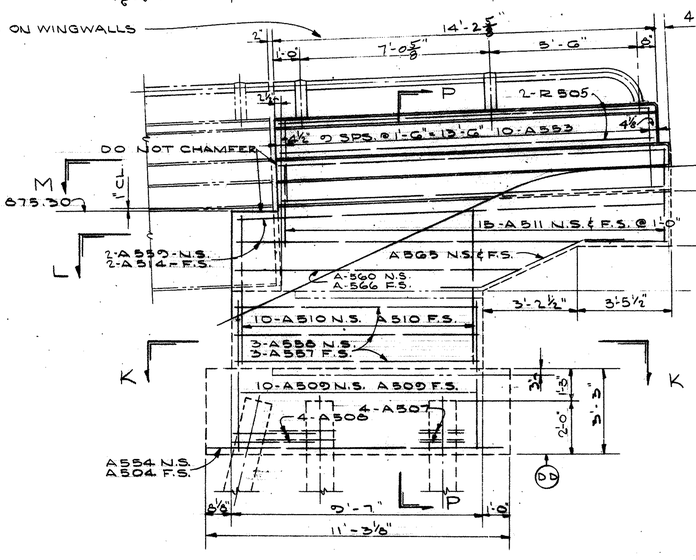
NOTE: DIMENSIONS NOT SHOWN SAME AS ABUT. #1

NOTE: THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL WORK IS ERECTED, SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

PLAN ABUT. #2

RAILING TO BE CONTINUOUS ON WINGWALLS





ELEVATION OF SOUTH W.W. - ABUT. #1

ELEVATION OF SOUTH W.W. ABUT. #2

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

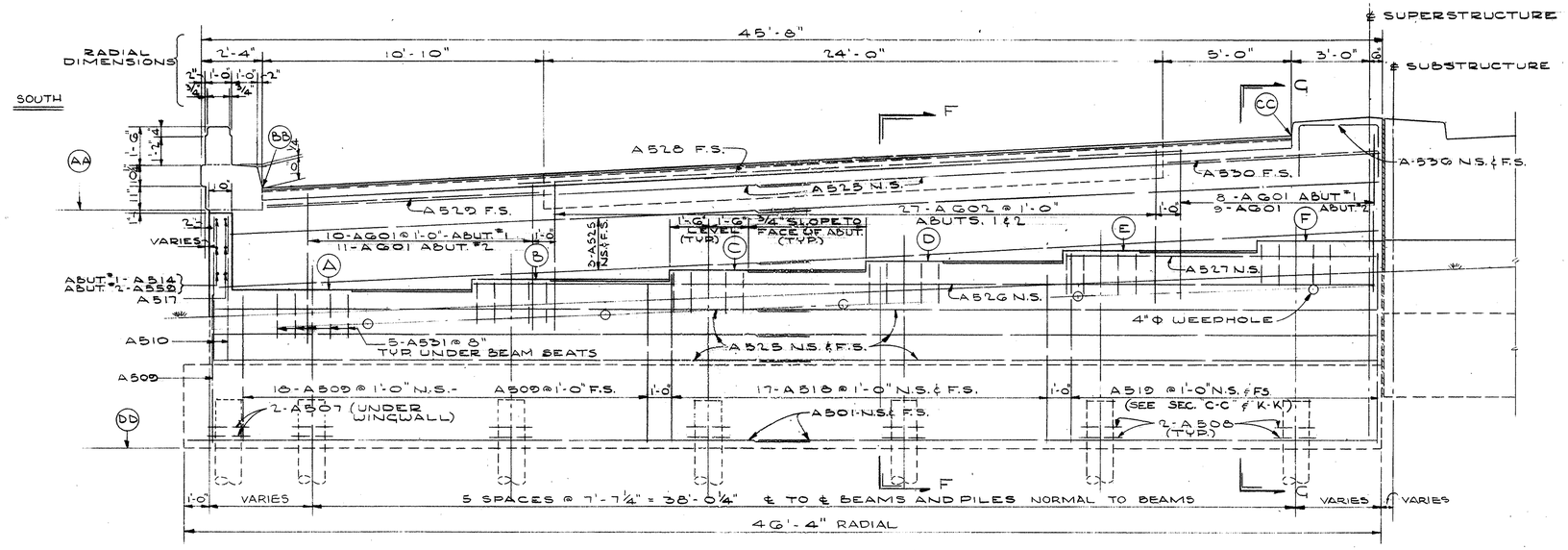
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS	AC		HGH	DHC		

MICROFILMED
SEP 19 1985

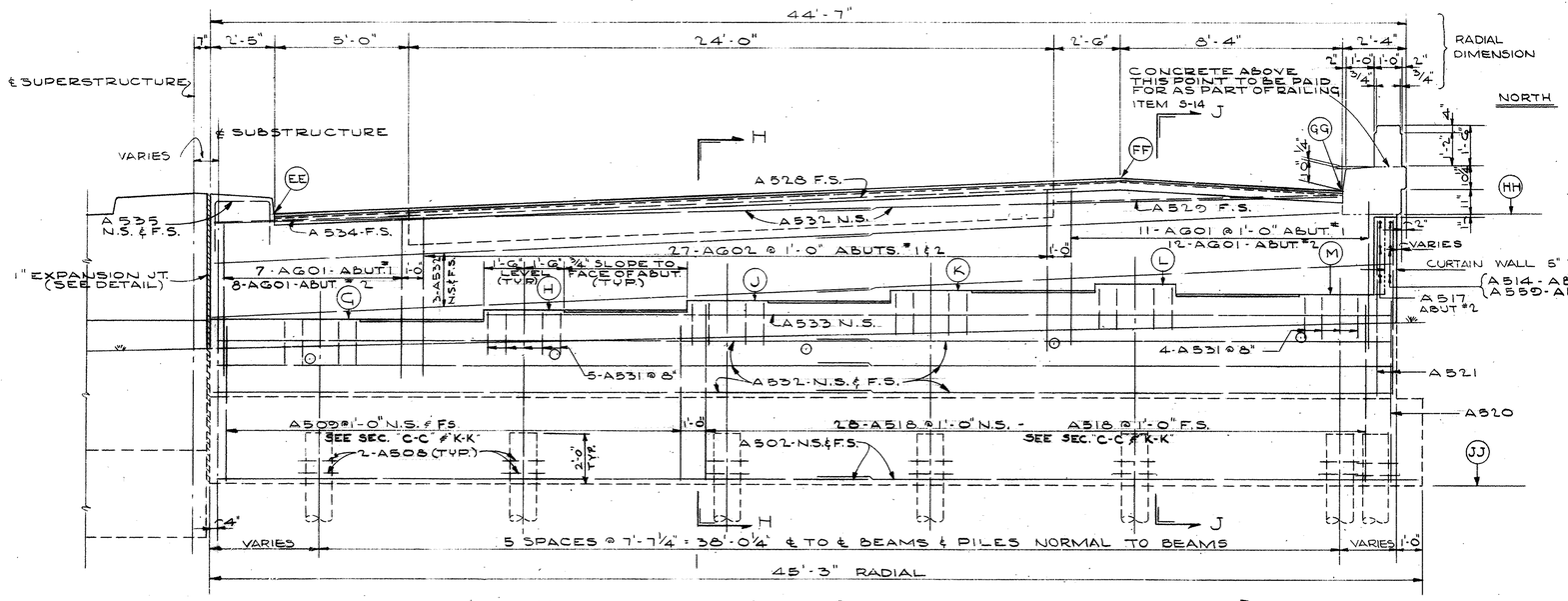
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

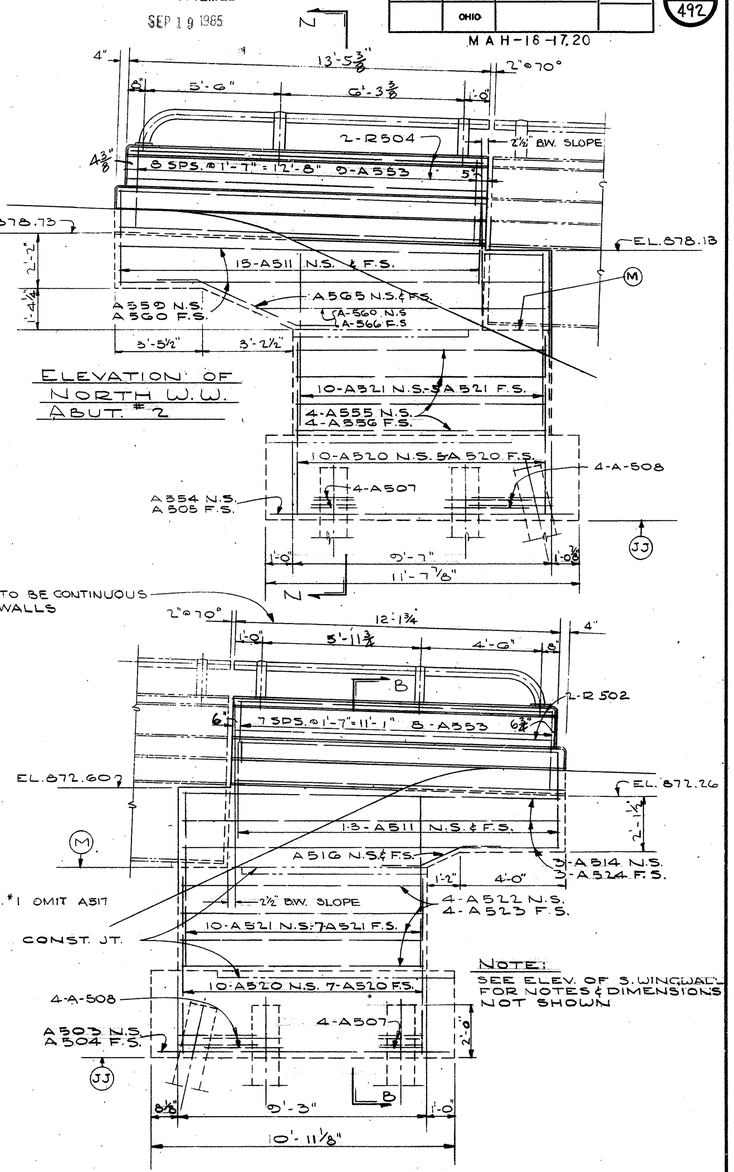
408
492



ALL LATERAL DIMENSIONS ARE NORMAL TO ℄ SUBSTRUCTURE UNLESS OTHERWISE NOTED.



ELEVATION OF ABUT. #1 - REFLECTED ELEV. OF ABUT. #2



ELEVATION OF NORTH W.W. ABUT. #1

NOTE: SEE ELEV. OF S. WINGWALL FOR NOTES & DIMENSIONS NOT SHOWN

ELEVATION TABLE

* ELEVATIONS GIVEN TO HEEL OF ANGLE

	A	B	C	D	E	F	G	H	J	K	L	M	AA	BB*	CC*	DD	EE*	FF*	GG*	HH	JJ
ABUT. #1	866.48	866.69	867.30	867.72	868.14	868.49	868.46	868.88	869.31	869.73	869.99	869.57	869.51	870.34	872.42	869.96	872.35	873.92	873.54	872.68	862.01
ABUT. #2	872.38	872.76	873.13	873.51	873.88	874.18	874.15	874.53	874.91	875.29	875.58	875.19	875.43	876.26	878.21	865.90	878.12	879.59	879.17	878.25	867.68

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

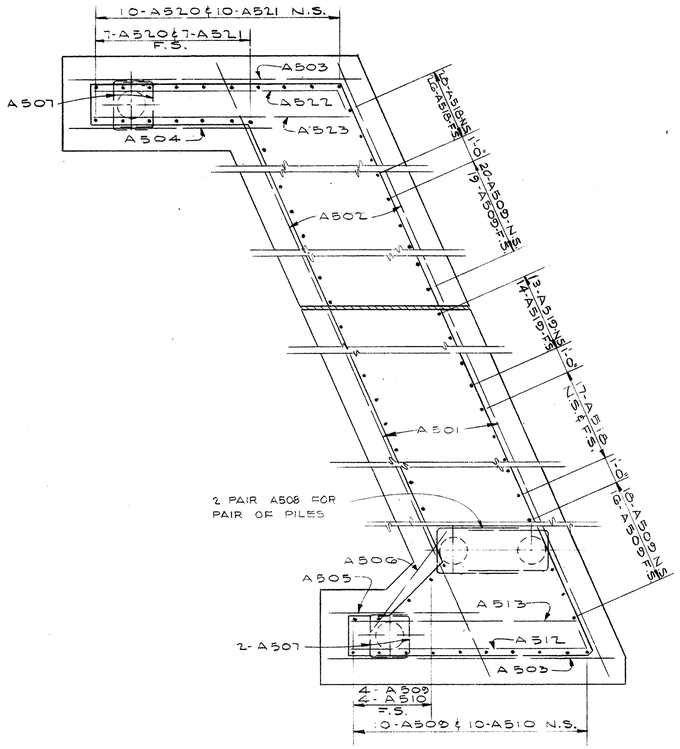
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS.	AC		H.G.H.	D.W.C.		

MICROFILMED
SEP 19 1995

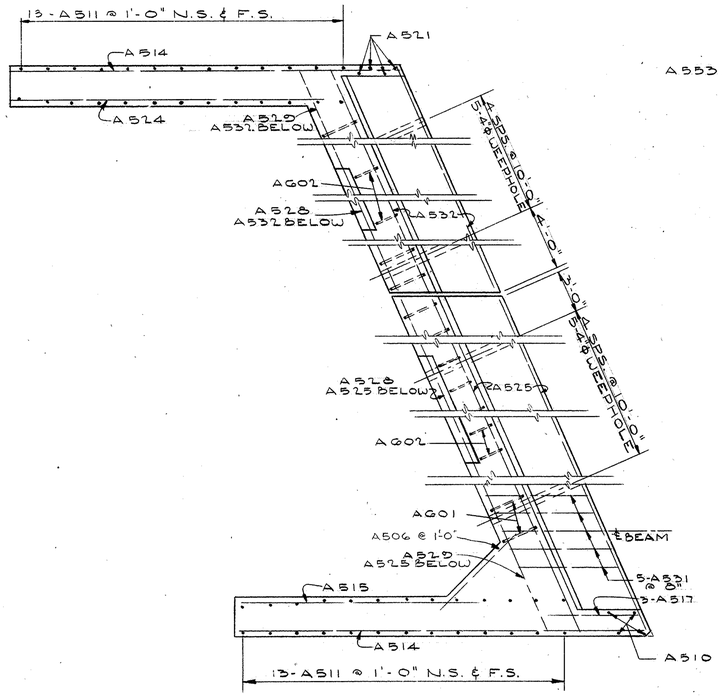
FED. RD.	STATE	PROJECT	
	OHIO		

MA H-18-17.20

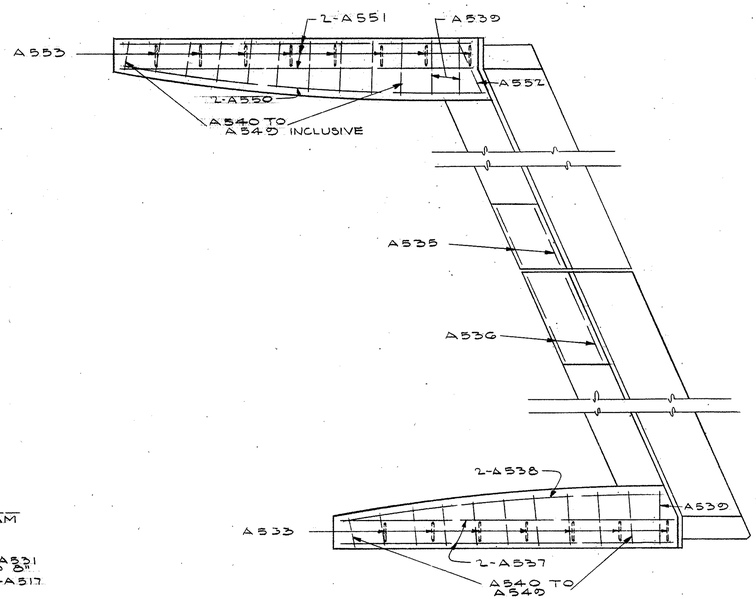
409
492



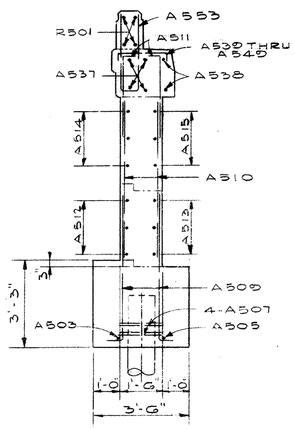
SECTION CC



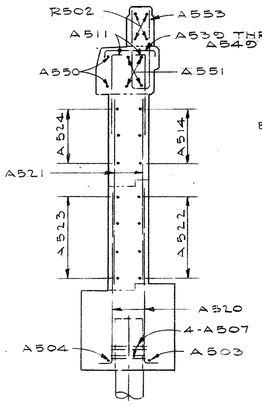
SECTION DD



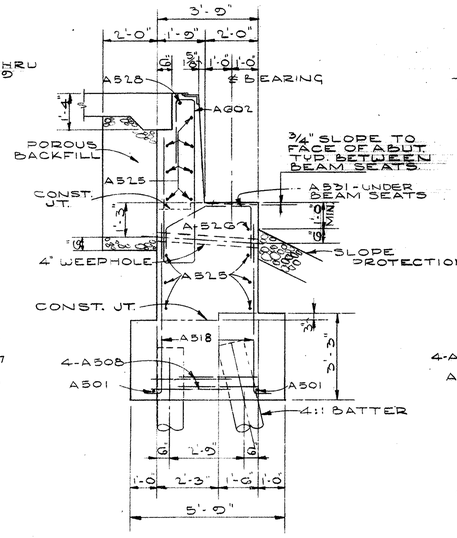
SECTION E-E



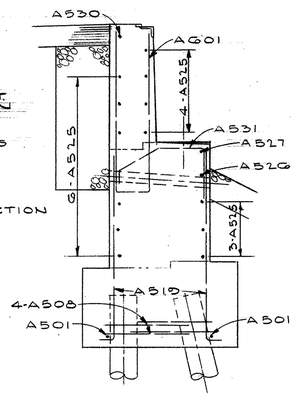
SECTION A-A



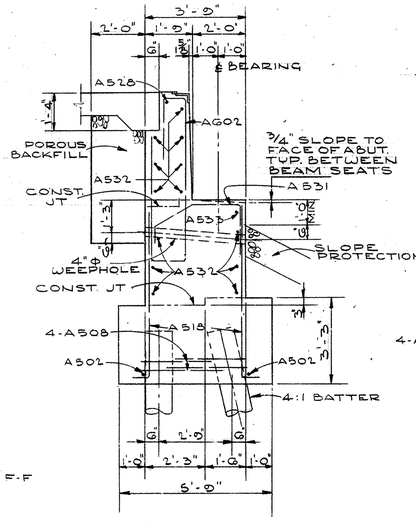
SECTION BB



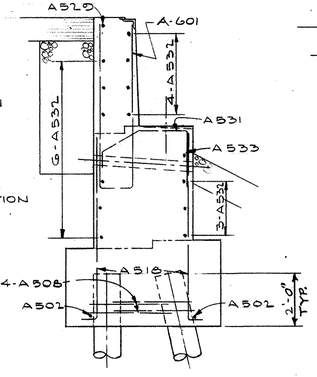
SECTION F-F



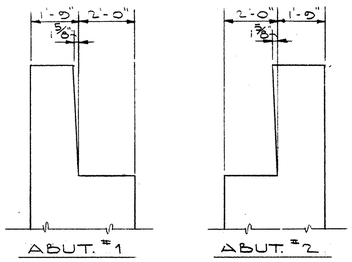
SECTION C-C
FOR NOTES & DIMENSIONS NOT SHOWN-SEE SECTION F-F



SECTION H-H



SECTION J-J
FOR NOTES & DIMENSIONS NOT SHOWN-SEE SECTION H-H



ABUT. #1 ABUT. #2

SLOPE OF BACKWALL FACES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

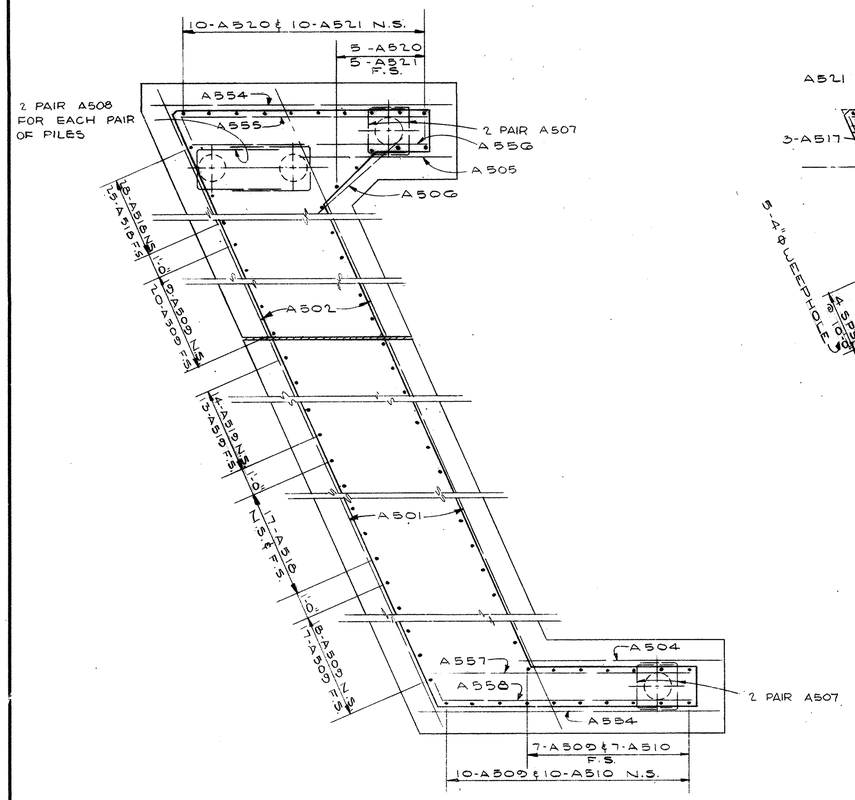
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS	AC		H.G.H	DHC.		

MICROFILMED
SEP 19 1985

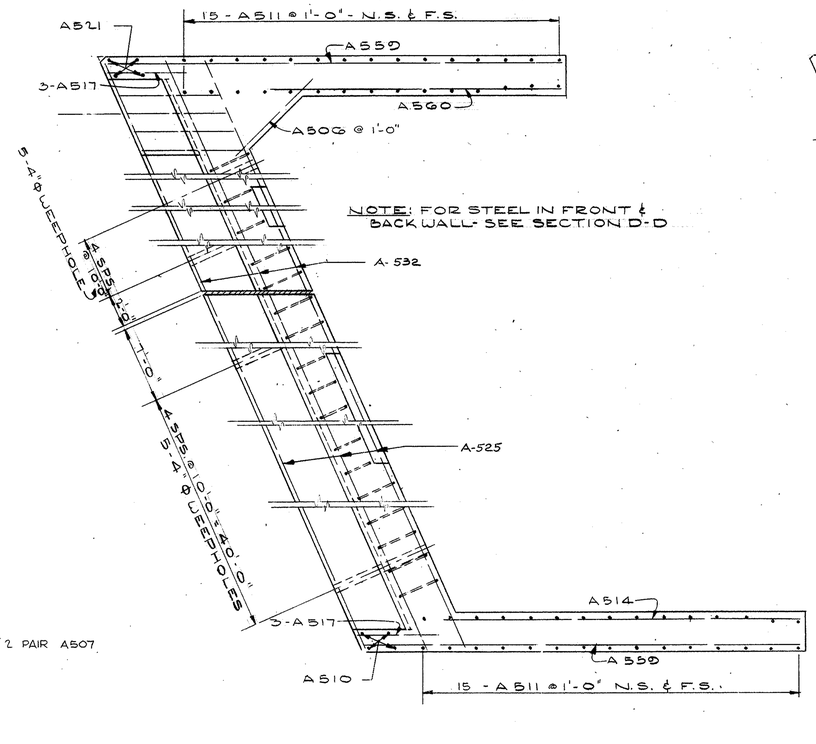
FED. RD.	STATE	PROJECT	
	OHIO		

MA H-18+17.20

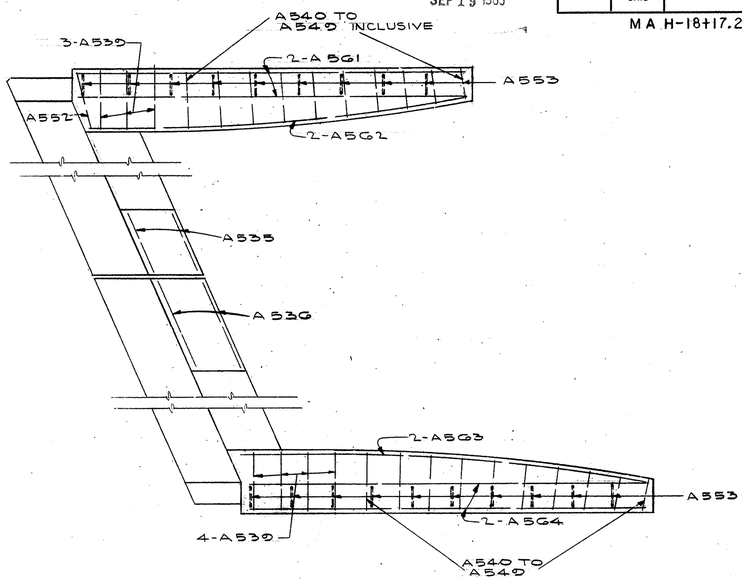
410
492



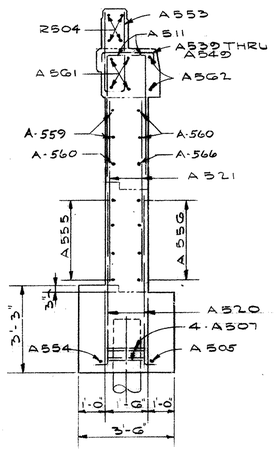
SECTION K-K



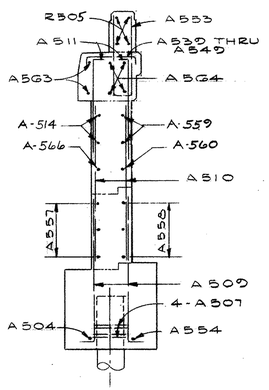
SECTION L-L



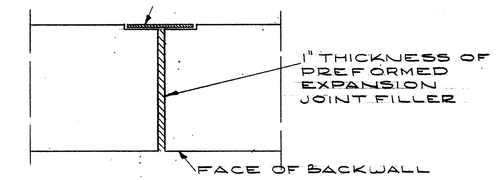
SECTION M-M



SECTION N-N



SECTION P-P



EXPANSION JOINT
DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE NO. MA H-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

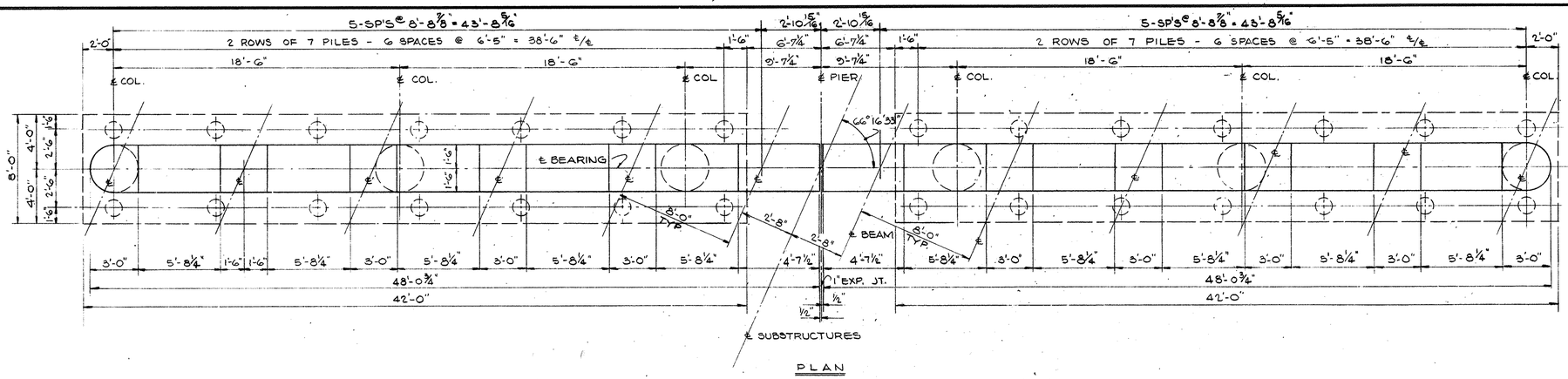
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS.	A C		HGH.	D.H.C.		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

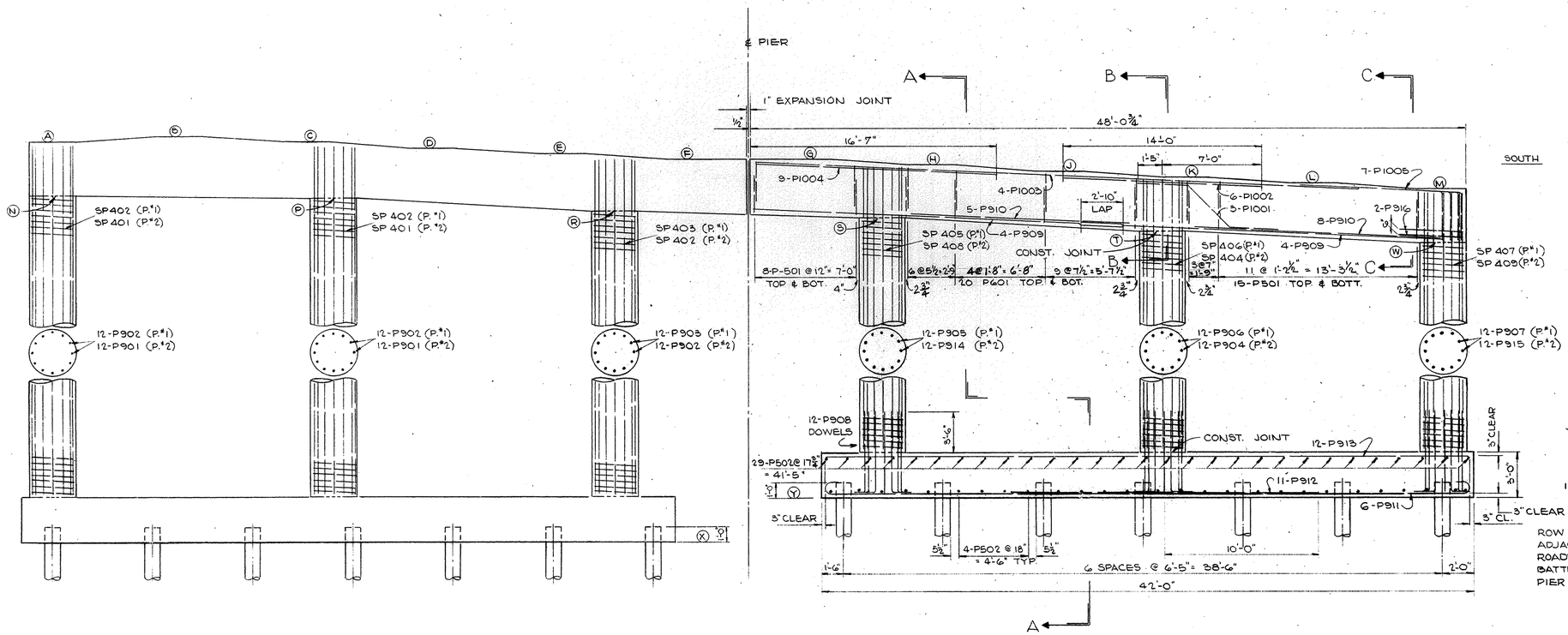
411
492



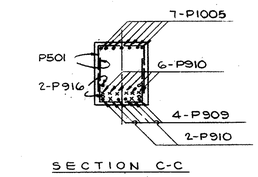
PLAN

ELEVATION SCHEDULE

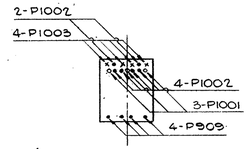
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	W	X	Y
PIER #1	871.25	871.60	871.23	870.82	870.41	870.00	870.10	869.70	869.29	868.88	868.48	868.07	867.60	867.50	866.60	866.10	865.30	864.55	845.0	847.0
PIER #2	873.60	873.91	873.54	873.15	872.75	872.36	872.47	872.08	871.70	871.31	870.91	870.53	869.80	869.80	868.90	868.50	867.75	867.00	846.5	848.0



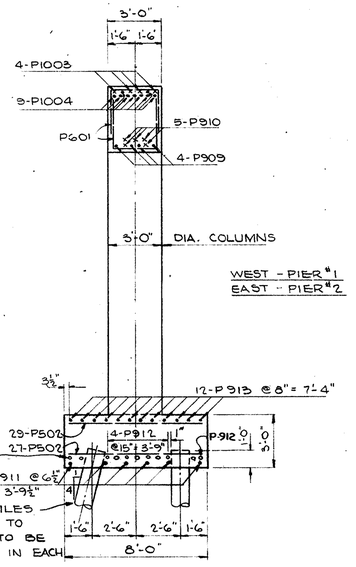
ELEVATION



SECTION C-C



SECTION B-B



SECTION A-A

NOTE :
1. ALL REINFORCING STEEL SYMMETRICAL ABOUT ℄ PIER UNLESS OTHERWISE SHOWN.
2. ALL REINFORCING STEEL TO HAVE A 2" MIN. COVER UNLESS OTHERWISE NOTED.
3. PILES ARE TO BE 12" CAST-IN-PLACE REINFORCED CONCRETE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

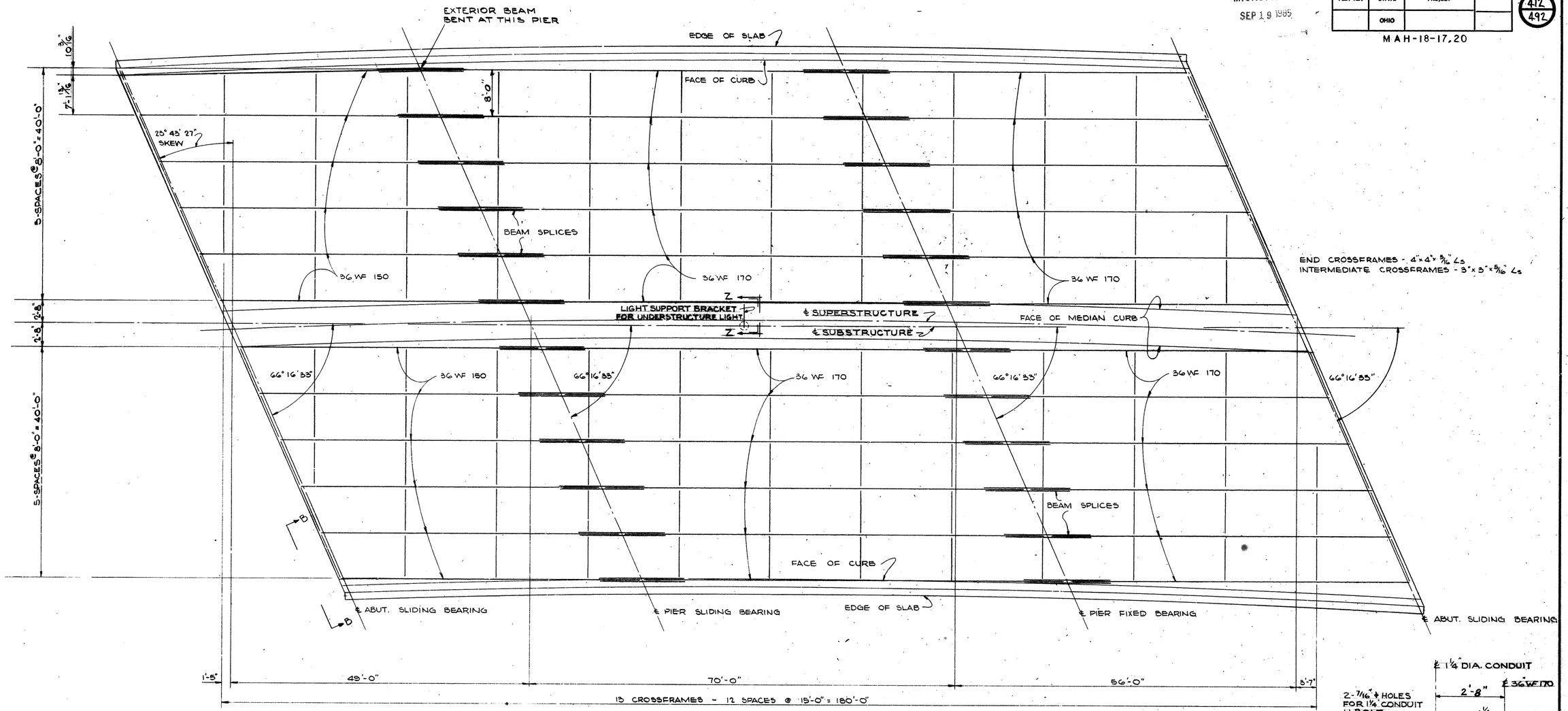
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.S.	GASKILL		H.G.H	D.H.C.		

MICROFILMED
SEP 19 1985

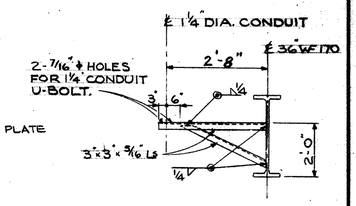
FED. RD.	STATE	PROJECT	
	OHIO		

412
492

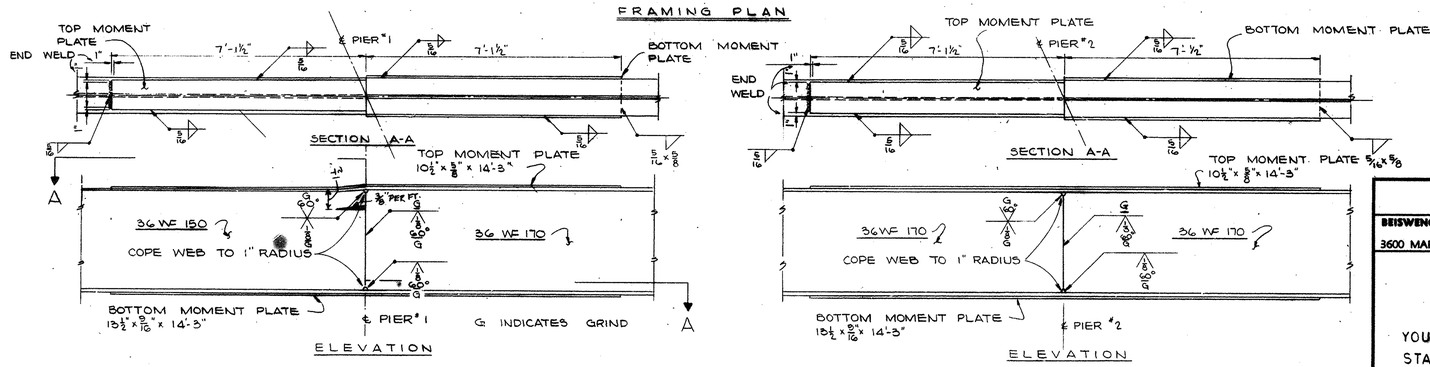
MAH-18-17,20



FRAMING PLAN



SECTION Z-Z



BEAM SPLICE DETAILS

DEFLECTION & CAMBER						
LOCATION	OUTSIDE BEAMS			INSIDE BEAMS		
	49' SPAN	70' SPAN	56' SPAN	49' SPAN	70' SPAN	56' SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	0.04	0.13	0.08	0.02	0.09	0.05
DEFLECTION DUE TO REMAINING DEAD LOAD	0.18	0.67	0.42	0.13	0.44	0.28
CONVEXITY REQ'D FOR VERTICAL CURVE	0.00	0.00	0.00	0.00	0.00	0.00
SUM OF DEFLECTION AND CONVEXITY	0.22	0.80	0.50	0.15	0.53	0.33
REQUIRED CAMBER	0	1"	0	0	1"	0

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS	GASKILL		H.G.H.	DHC.		

NOTE: WHERE NECESSARY, FIELD BEND BARS TO MAINTAIN CLEAR DISTANCE TO FACE OF CONCRETE. (FIELD BENDING INCLUDED WITH ITEM S-4 FOR PAYMENT.)

THESE DIMENSIONS ARE NOMINAL. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THESE DIMENSIONS, EVEN THOUGH DEVIATION FROM THEM 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.

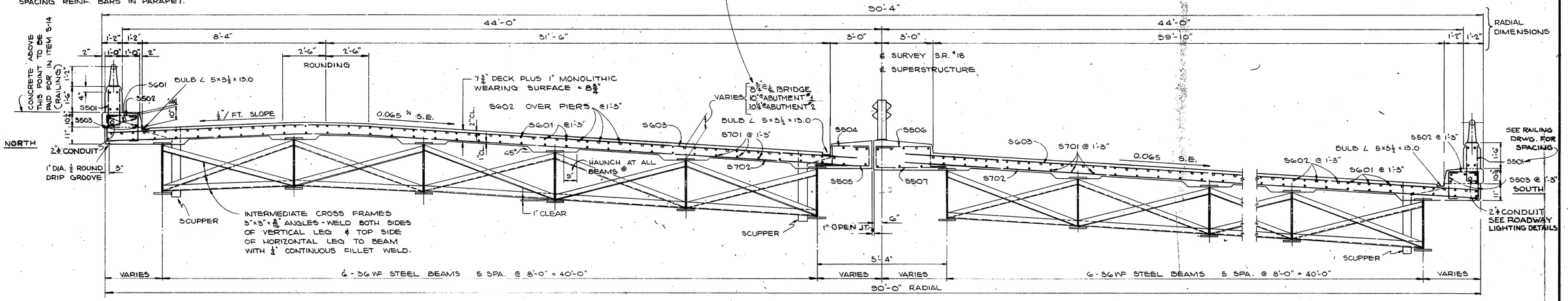
MICROFILMED SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

M A H-18-17.20

413 / 492

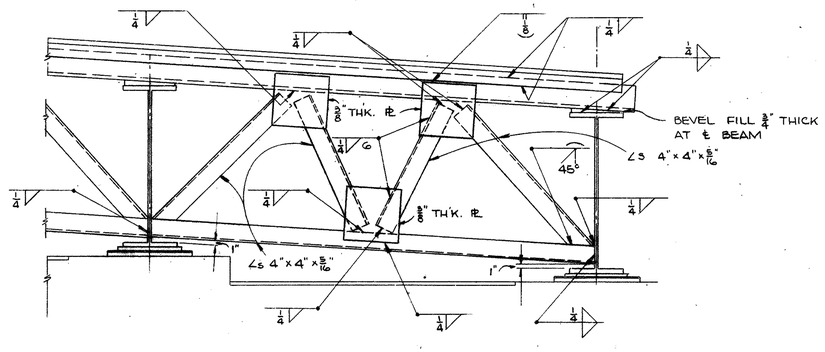
SEE RAILING DETAIL SHEET FOR SPACING REINF. BARS IN PARAPET.



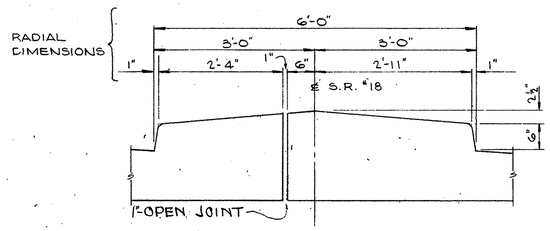
TRANSVERSE SECTION

ESTIMATED QUANTITIES

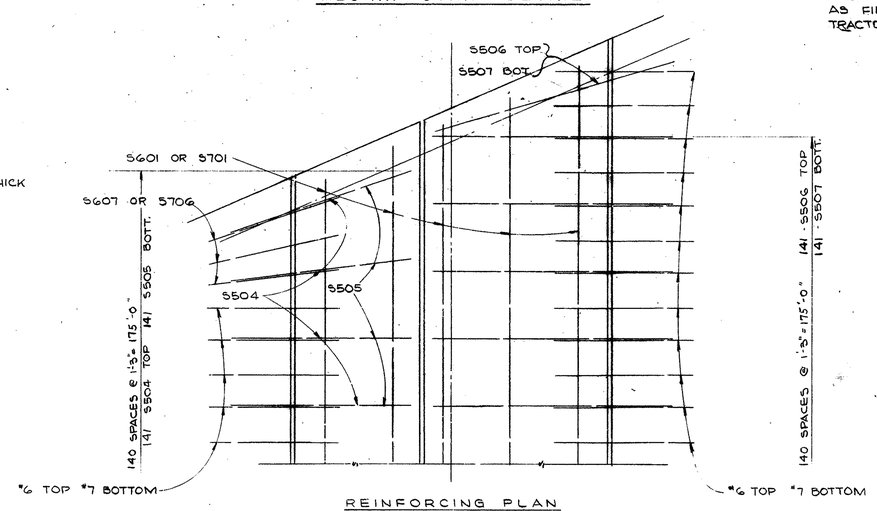
ITEM	TOTAL	SUM	DESCRIPTION	SUPERSTR.	ABUT'S	PIERS	GEN.		
E-2	815	CU. YD.	UNCLASSIFIED EXCAVATION		480	335			
S-1	494	CU. YD.	CLASS "C" CONCRETE SUPERSTRUCTURE	494					
S-1	187	CU. YD.	CLASS "E" CONCRETE ABUT'S. ABOVE FOOTINGS		187				
S-1	134	CU. YD.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS			134			
S-1	291	CU. YD.	CLASS "E" CONCRETE ABUT. & PIER FOOTINGS		142	149			
S-4	214,542	LBS	REINFORCING STEEL	149,279	14,918	50,345			
S-7	413,800	LBS	STRUCTURAL STEEL	413,800					
S-8	413,800	LBS	FIELD PAINTING OF STRUCTURAL STEEL (AS PER PLAN)	413,800					
I-10	945	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION				945		
S-14	404	LIN. FT.	RAILING (ALUM. RAIL & SUPPORTS.- CONCRETE PARAPET - REINFORCING STEEL)	352	52				
S-16	LUMP	SUM.	FIRST TEST PILE				LUMP		
S-18	3220	LIN. FT.	12" ⌀ CAST-IN-PLACE REINFORCED CONC. PILES		1820	1400			
S-25	LUMP	SUM.	ELECTRICAL LIGHTING SYSTEM						
S-25	350	LIN. FT.	2" DIA. ELECTRICAL CONDUIT (GALV.)	350					
S-29	80	CU. YDS.	POROUS BACKFILL		80				
S-14	176	LIN. FT.	GUARDRAIL-STEEL BEAM TYPE (DEEP) BARRIER	176					
S-25	14	EACH	SCUPPERS	14					



SECTION "B-B"



MEDIAN STRIP DETAIL



REINFORCING PLAN
MEDIAN STRIP

NOTES

1. CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROCEED UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTER LINE OF BRIDGE AND ARE LOCATED NEAR THE CENTER ANY SPAN.
2. WELDING PROCEDURE: a) RAISE BEAM ENDS 1" AT ABUTMENT #1 AND 1¼" AT ABUTMENT #2.
   b) BUTT WELD BEAM FLANGES AND WEB USING THE FOLLOWING SEQUENCE. MAKE TWO PASSES ON EACH FLANGE THEN TWO ON WEB, REPEAT; USING ONE PASS AT EACH LOCATION, UNTIL WELD IS COMPLETED.
   c) WELD TOP AND BOTTOM MOMENT PLATES.
   d) LOWER BEAM ENDS INTO PLACE AT ABUTMENTS.
3. WELDING OF STRUCTURAL STEEL SHALL BE CLASS 'A' EXCEPT AS OTHERWISE NOTED. ANY WELDS NOTED AS FIELD WELD MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB DETAILS

BRIDGE NO. MA H-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGS	GASKILL		H.G.H.	D.H.C.		

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17,20

414/492

MICROFILMED
SEP 19 1985

TOP SER. S604 @ 7½" = 15'-0"
BOTTOM SER. S703 @ 7½" = 15'-0"

251 - S603 250 SPACES @ 7½" = 156'-3" TOP
251 - S702 250 SPACES @ 7½" = 156'-3" BOTTOM
139 SPACES @ 1'-3" = 175'-3" 140 S502 & 280 S503 IN CURB

EDGE OF SLAB (CURVED LINE)

5 S601 IN CURB

FAN 4-S606 TOP
4-S705 BOT.

S601 OR S701

S603 OR S702

S602

35 - S602 OVER PIERS
SEE BAR STAGGERING DETAIL
36 - S601 @ 15" = 45'-9" TOP
36 - S701 @ 15" = 45'-9" BOT.

EDGE OF CONCRETE
℄ ABUTMENT #1 BEARING

S601 OR S701

FAN 4-S606 TOP
4-S705 BOT.

FAN 4-S606 TOP
4-S705 BOT

S602 @ 1'-3" ℄ OVER PIER 28'-0" LG.

S602

36 - S602 OVER PIERS
SEE BAR STAGGERING DETAIL
37 - S601 @ 15" = 45'-0"
37 - S701 @ 15" = 45'-0"

S601 OR S701

℄ PIER

5 S601 IN CURB

EDGE OF SLAB (CURVED LINE)

℄ PIER

℄ ABUTMENT #2 BEARING

EDGE OF CONCRETE

S602

S603 OR S702

FAN 7-S607 TOP 7-S706 BOT.

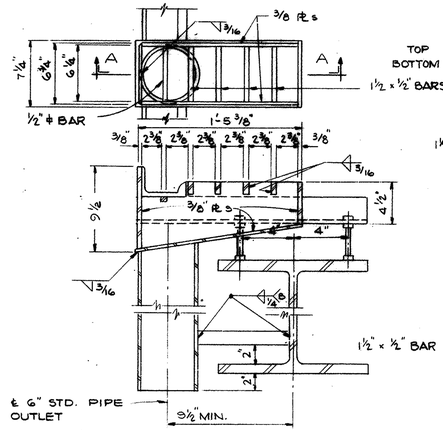
141 SPACES @ 1'-3" = 176'-3" 142 S502 & 284 S503 IN CURB

253 - S603 252 SPACES @ 7½" = 157'-6" TOP
253 - S702 252 SPACES @ 7½" = 157'-6" BOTTOM

SER. S605 @ 7½" = 14'-4½" TOP
SER. S704 @ 7½" = 14'-4½" BOTTOM

SLAB REINFORCING PLAN

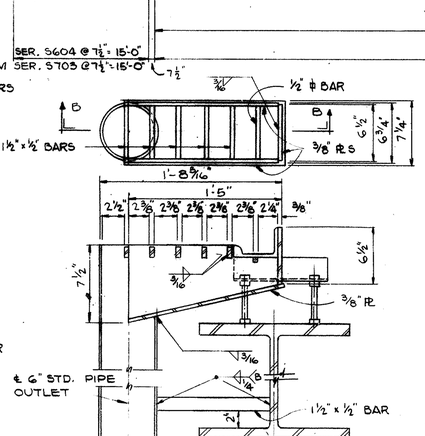
BAR STAGGERING DETAIL OVER PIERS



TYPE "A"

SECTION A-A

SCUPPER DETAILS



TYPE "B"

SECTION B-B

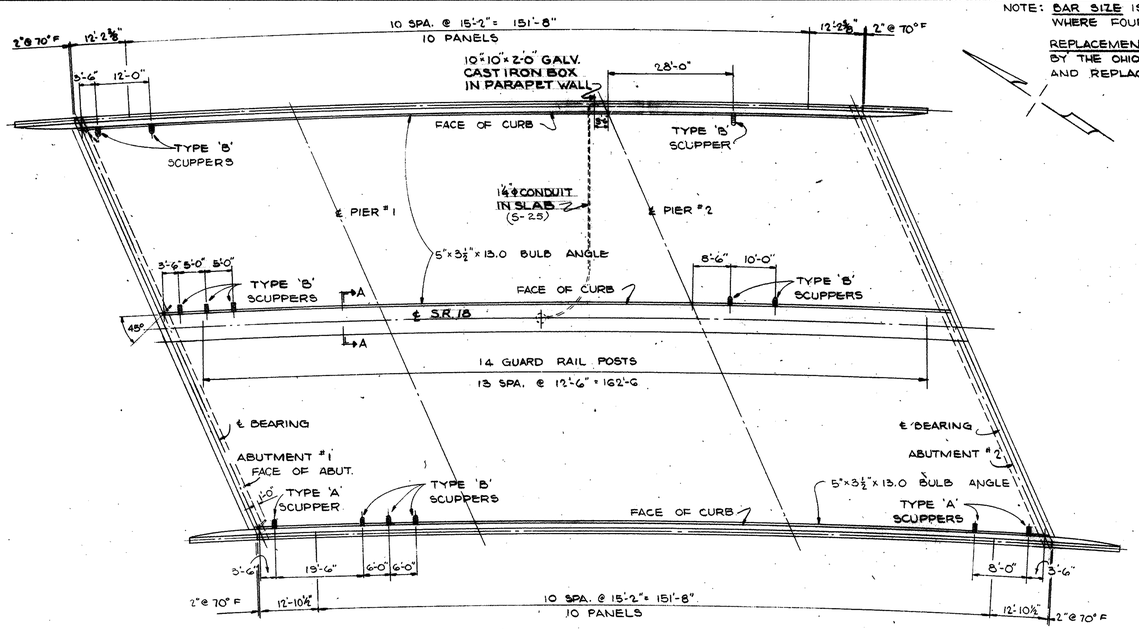
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

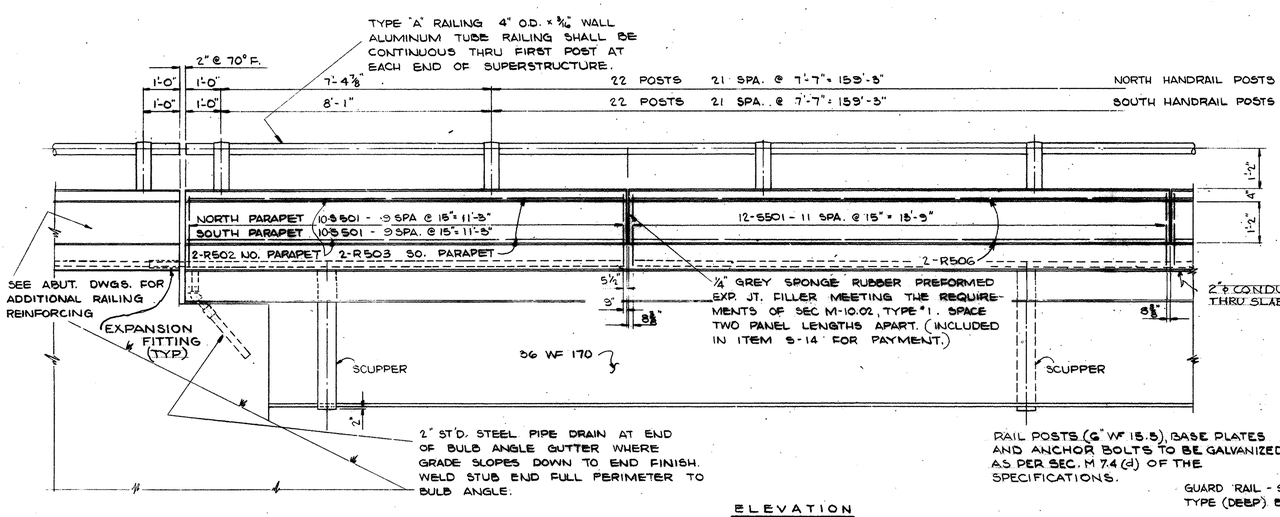
SLAB DETAILS

BRIDGE NO. MA H-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005 + 07.94 To STA. 1006 + 88.08

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D&S.	GASKILL		H&H.	DJC.		



DECK PLAN



ELEVATION

SPIRAL REINFORCEMENT FOR PIERS							
MARK	Nº REQD	CORE DIA.	LGTH. SPIR.	PITCH	Nº TURNS	WEIGHT
SP401	2	2'-8"	20'-3½"	4½"	57	628
SP402	3	2'-8"	19'-7"	4½"	56	924
SP403	1	2'-8"	18'-7"	4½"	53	296
SP404	1	2'-8"	15'-3"	4½"	45	252
SP405	1	2'-8"	16'-1"	4½"	46	254
SP406	1	2'-8"	15'-3½"	4½"	44	242
SP407	1	2'-8"	14'-6½"	4½"	42	232
SP408	1	2'-8"	16'-6"	4½"	47	259
SP409	1	2'-8"	15'-0"	4½"	43	237
SPACERS	48					572
					SPIRAL TOTAL =	3896

SPIRAL REINFORCING NOTES

FOUR STEEL CHANNEL, TEE, OR ANGLE SPACERS WEIGHING APPROXIMATELY 0.68 LB PER LIN. FT., SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COIL. THE NUMBER OF LBS. OF THESE SPACERS, BASED ON 0.68 LB PER LIN. FT., WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED QUANTITY OF SPIRAL BARS.

THE LENGTH SHOWN IN THE SCHEDULE FOR SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP.

THE Nº OF TURNS SHOWN IN THE SCHEDULE FOR SPIRAL BARS IS THE LGTH. 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 5-4 (REINFORCING STEEL).

1½ CLOSED COILS SHALL BE PROVIDED AT THE END OF EACH SPIRAL UNIT.

NOTE: 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, A700 IS A #7 SIZE BAR & A1014 IS #10 SIZE.

REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. 5-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

MAH-18-17.20

FED. RD.	STATE	PROJECT	
	OHIO		

415 / 492

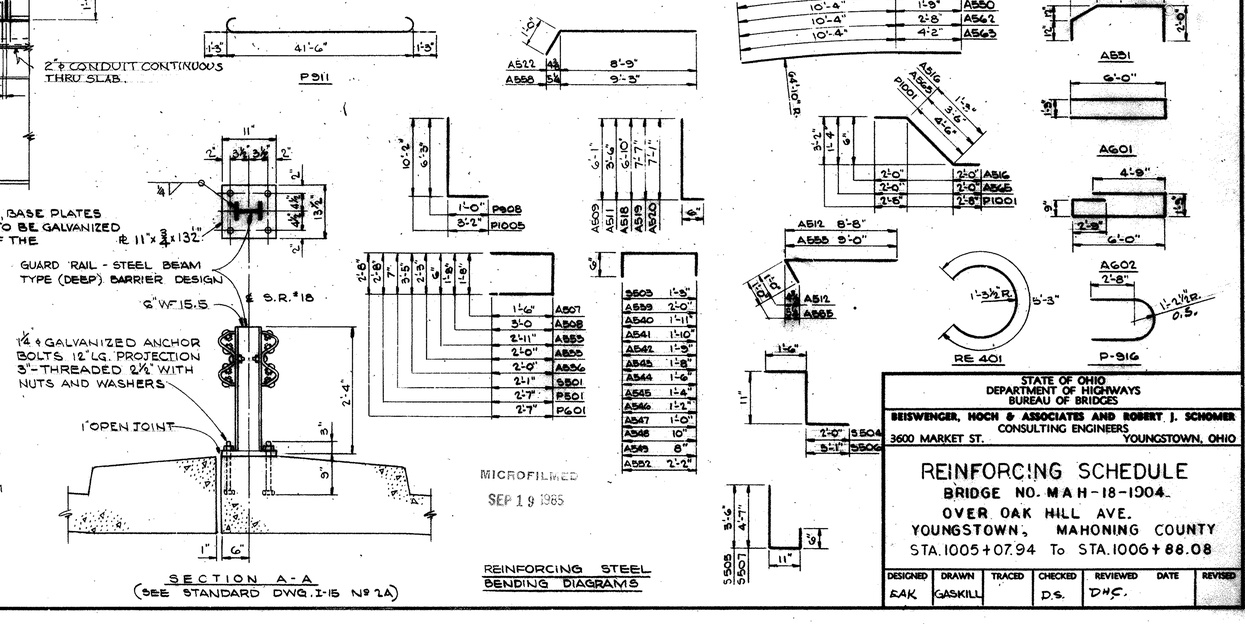
RAILING REINFORCEMENT BARS TO BE PAID FOR AS PART OF ITEM 5-14 (RAILING)

REINFORCING STEEL SCHEDULE

MARK	Nº REQ'D	LENGTH	WEIGHT	SHAPE
ABUTMENT				
A501	8	26'-6"	221	ST.
A502	8	25'-9"	215	ST.
A503	2	10'-11"	23	ST.
A504	2	7'-4"	15	ST.
A505	2	5'-8"	12	ST.
A506	14	4'-6"	66	ST.
A507	16	4'-6"	75	BT.
A508	96	7'-6"	751	BT.
A509	178	6'-6"	1207	BT.
A510	85	6'-0"	219	ST.
A511	112	3'-11"	458	BT.
A512	3	9'-7"	30	BT.
A513	3	8'-2"	26	ST.
A514	8	14'-0"	117	ST.
A515	3	9'-0"	28	ST.
A516	4	5'-9"	22	BT.
A517	9	4'-0"	38	ST.
A518	175	7'-3"	1324	BT.
A519	54	8'-0"	451	BT.
A520	32	7'-6"	250	BT.
A521	36	7'-0"	263	ST.
A522	4	9'-8"	41	BT.
A523	4	9'-5"	39	ST.
A524	3	12'-0"	39	ST.
A525	52	26'-0"	1410	ST.
A526	2	38'-4"	80	ST.
A527	2	13'-5"	28	ST.
A528	4	29'-6"	123	ST.
A529	4	11'-6"	48	ST.
A530	2	8'-11"	19	ST.
A531	118	6'-9"	831	BT.
A532	52	25'-0"	1356	ST.
A533	2	36'-3"	76	ST.
A534	2	7'-9"	16	ST.
A535	4	6'-1"	25	BT.
A536	4	7'-3"	31	BT.
A537	4	11'-4"	48	ST.
A538	2	10'-10"	23	BT.
A539	10	2'-10"	30	BT.
A540	4	2'-9"	11	BT.
A541	4	2'-8"	11	BT.
A542	4	2'-7"	11	BT.
A543	4	2'-6"	10	BT.
A544	4	2'-4"	10	BT.
A545	4	2'-2"	9	BT.
A546	4	2'-0"	8	BT.
A547	4	1'-10"	8	BT.
A548	4	1'-8"	7	BT.
A549	4	1'-6"	6	BT.

MARK	Nº REQ'D	LENGTH	WEIGHT	SHAPE
A550	2	17'-1"	25	BT.
A551	4	12'-2"	50	ST.
A552	2	3'-0"	6	BT.
A553	84	6'-2"	219	BT.
A554	2	11'-3"	23	ST.
A555	4	9'-11"	41	BT.
A556	4	8'-8"	36	ST.
A557	3	5'-10"	31	BT.
A558	3	10'-3"	57	BT.
A559	4	15'-10"	66	ST.
A560	4	10'-2"	43	ST.
A561	4	13'-6"	58	ST.
A562	2	13'-0"	27	BT.
A563	2	14'-6	30	BT.
A564	4	14'-2"	59	ST.
A565	4	7'-6"	32	BT.
A566	2	8'-0"	17	ST.
A601	76	13'-1"	1493	BT.
A602	108	15'-2"	2460	BT.
TOTAL FOR ABUTMENTS			14,918	
SLAB				
S501	280	4'-7"	1339	BT.
S502	282	1'-9"	515	ST.
S503	564	2'-1"	1225	BT.
S504	141	4'-3"	625	BT.
S505	141	4'-9"	699	BT.
S506	142	5'-4"	790	BT.
S507	142	5'-10"	864	BT.
S601	415	36'-11"	23015	ST.
S602	142	28'-0"	5972	ST.
S603	504	45'-4"	32804	ST.
SERIES	3 SETS 25 = 75	VARIES 6'-11" TO 40-11'@1'-5	2691	ST.
S604				
SERIES	24	VARIES 10'-0" TO 40-8'@1'-4	918	ST.
S605				
S606	12	6'-6"	117	ST.
S607	7	8'-6"	89	ST.
S701	365	37'-5"	27791	ST.
S702	504	45'-4"	44641	ST.
SERIES	3 SETS 25 = 75	VARIES 6'-11" TO 40-11'@1'-5	3666	ST.
S703				
SERIES	24	VARIES 10'-0" TO 40-8'@1'-4	1243	ST.
S704				
S705	12	6'-6"	160	ST.
S706	7	8'-6"	122	ST.
TOTAL FOR SLAB			148,279	

MARK	Nº REQ'D	LENGTH	WEIGHT	SHAPE
RAILINGS				
R501	4	11'-0"		ST.
R502	12	11'-9"		ST.
R505	18	12'-6"		ST.
R504	4	13'-0"		ST.
R505	4	13'-10"		ST.
R506	80	14'-10"		ST.
PIERS				
P501	184	7'-8"	1472	BT.
P502	224	7'-8"	1722	ST.
P601	160	7'-8"	1843	BT.
P901	24	23'-3"	1697	ST.
P902	36	22'-3"	2723	ST.
P903	12	21'-6"	877	ST.
P904	12	18'-8"	762	ST.
P905	12	19'-0"	775	ST.
P906	12	18'-2"	741	ST.
P907	12	17'-6"	714	ST.
P908	144	7'-11"	3468	BT.
P909	32	25'-0"	2720	ST.
P910	52	15'-0"	2652	ST.
P911	24	44'-0"	3550	BT.
P912	44	20'-0"	2992	ST.
P913	48	41'-6"	6773	ST.
P914	12	13'-4"	789	ST.
P915	12	17'-10"	725	ST.
P916	8	9'-0"	245	BT.
P1001	12	9'-10"	508	BT.
P1002	24	14'-0"	1446	ST.
P1003	16	41'-10"	2823	ST.
P1004	36	16'-5"	2543	ST.
P1005	28	13'-1"	1576	BT.
PIER TOTAL			46,449	
PIER TOTAL (INCL. SPIRALS)			50,345	
REPLACEMENT ST'L.				
RE401	1	5'-3"		BT.
RE501	2	5'-6"		ST.
RE601	4	6'-0"		ST.
RE701	4	6'-5"		ST.
RE901	2	6'-6"		ST.
RE1001	1	7'-2"		ST.
GRAND TOTAL FOR BRIDGE			214,542	



REINFORCING STEEL BENDING DIAGRAMS

SECTION A-A
(SEE STANDARD DWG. I-15 Nº 2A)

MICROFILMED
SEP 19 1985

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

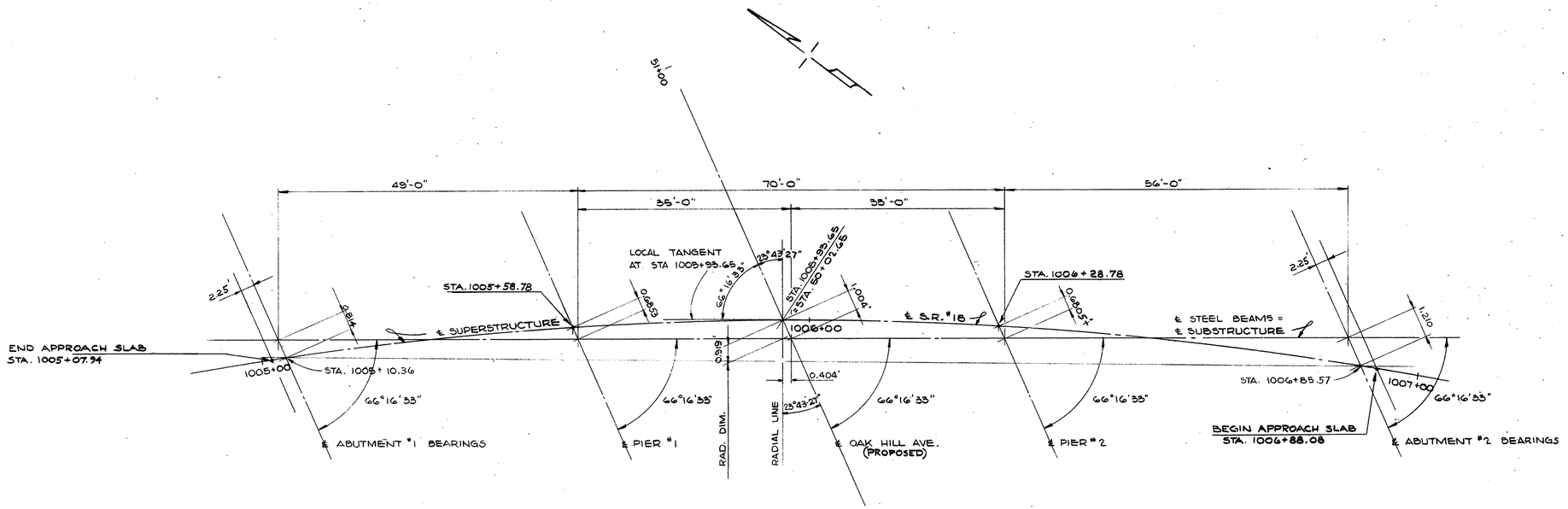
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	GASKILL		D.S.	DHC.		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

416
492



GEOMETRIC LAYOUT

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GEOMETRIC LAYOUT

BRIDGE NO. MA H-18-1904
OVER OAK HILL AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1005+07.94 To STA. 1006+88.08

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.S.	GASKILL		H.G.H.	D.H.C.		

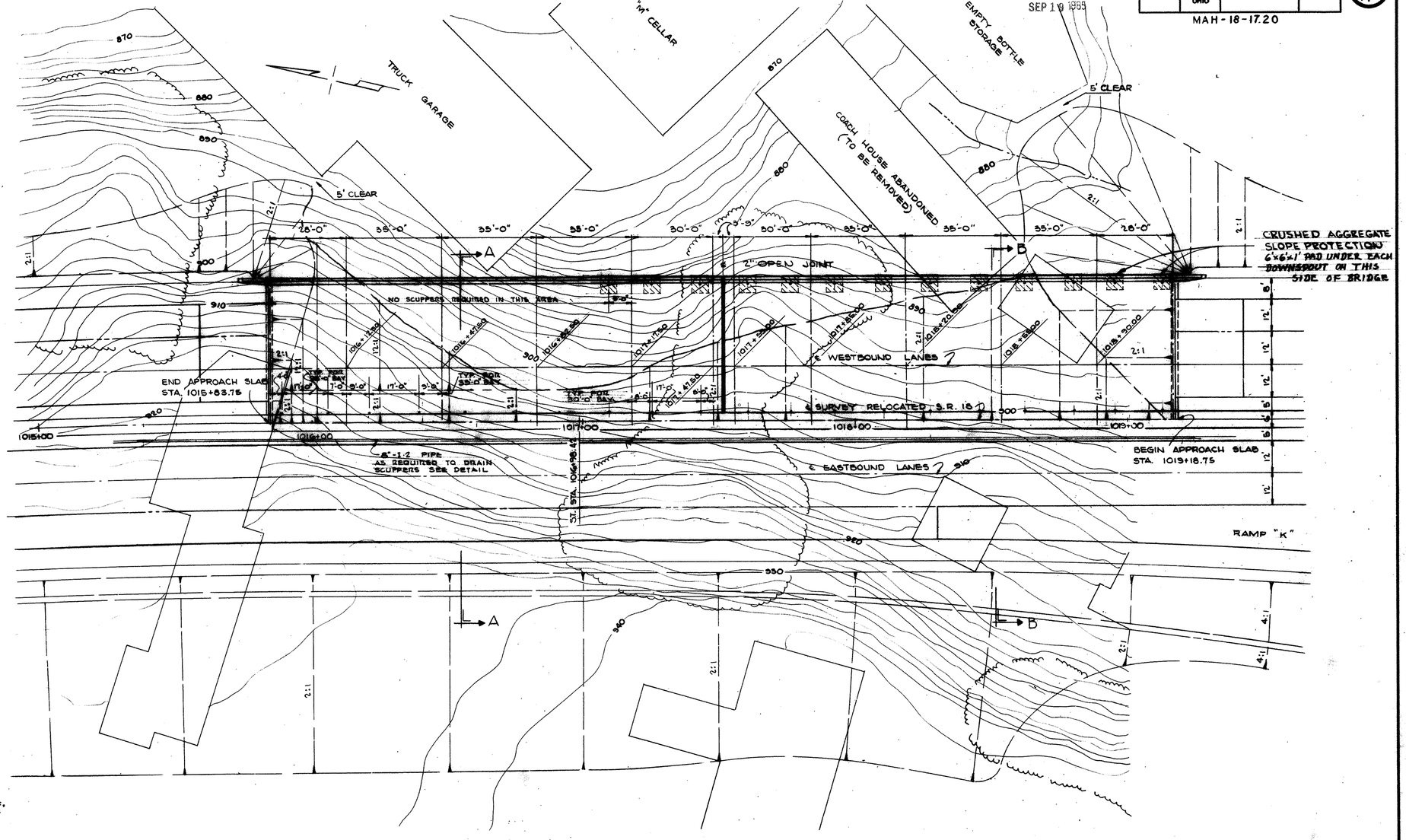
MICROFILMED
SEP 19 1985

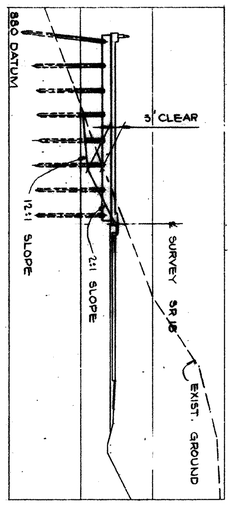
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

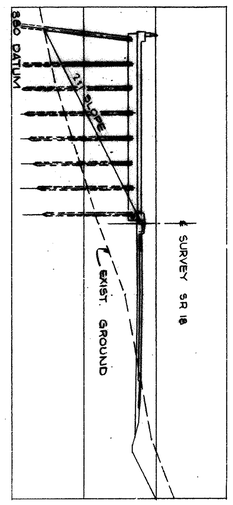
417/492

RENNER BREWERY





SECTION A-A



SECTION B-B

CURVE DATA

$\Delta = 74°52'50"$
$D_c = 2°45'$
$R_c = 2088.48'$
$L_s = 300'$
$\Theta_s = 4°07'30"$
$L_c = 2422.99'$
$T_s = 1746.41'$
$E_s = 541.86'$
X = 299.84'
Y = 17.197'

FOUNDATION SOUNDINGS

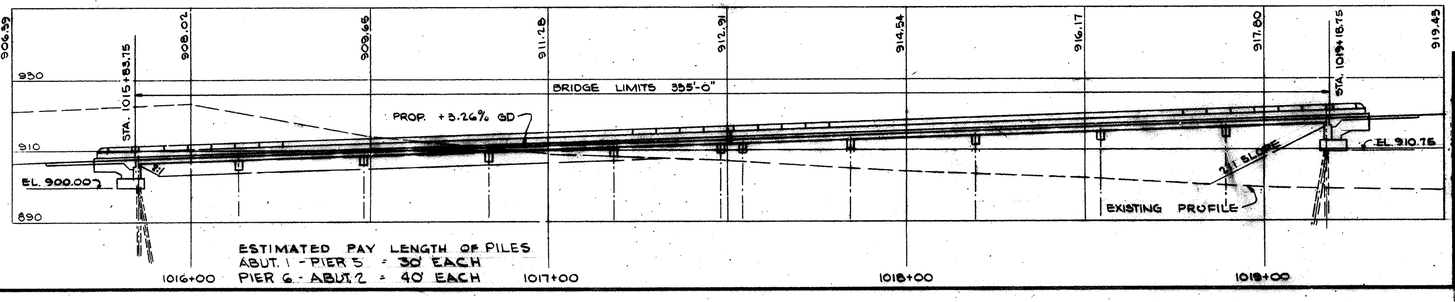
FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF ROD SOUNDINGS AND SOIL-SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED AT THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN THE DIVISION OFFICE, BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THERE OF.

PROPOSED STRUCTURE

TYPE: CONTINUOUS CONCRETE SLAB DECK WITH CAPPED PILE SUBSTRUCTURES
SKEW: 0°00'
SPANS: TWO UNITS OF 28'-35'-35'-35'-30'-3.75' ℄ BRGS & EXP. JT.
ROADWAY: 47'-10" F/F CURBS WESTBOUND LANE
LOAD FREQUENCY: CF 2000 (ADEQUATE FOR AASHO ALT. LOADING)
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG - AS-1-54
ALIGNMENT: SAME AS ROADWAY (SUBSTRUCTURE STRAIGHT)
SUPERELEVATION: VARIES

SLOPE PROTECTION

6'x6' PADS OF CRUSHED AGGREGATE SLOPE PROTECTION SHALL BE CENTERED UNDER EACH SCUPPER WHICH DRAINS ONTO SLOPE UNDER STRUCTURE.



ESTIMATED PAY LENGTH OF PILES
ABUT. 1 - PIER 5 = 30' EACH
PIER 6 - ABUT. 2 = 40' EACH

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN

BRIDGE Nº MAH-18-1923
RENNER BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 TO STA. 1019+18.75

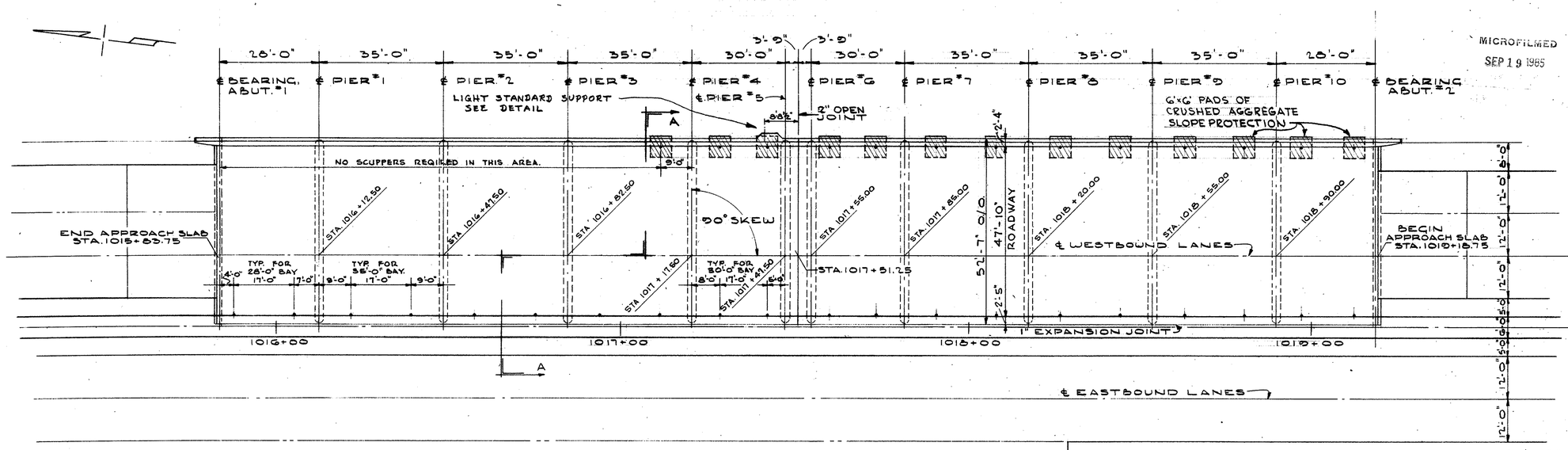
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	GASKILL		ew	DJC		

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

418
492

MICROFILMED
SEP 19 1985



PLAN

MACHINE FINISH: At the Contractor's option the top of the bridge deck slab maybe machine finished. Machane finishing, if used, shall be in accordance with the Proposal Note, "Machine Finishing of Bridge Deck Slabs".

GENERAL NOTES (CONT.)

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES THE FOLLOWING ITEMS; 1 EXPANSION FITTING, ONE GALV. CAST IRON BOX AND 4-1" DIA. ANCHOR BOLTS. LIGHTING DETAILS ARE SHOWN ON SHEET # 310

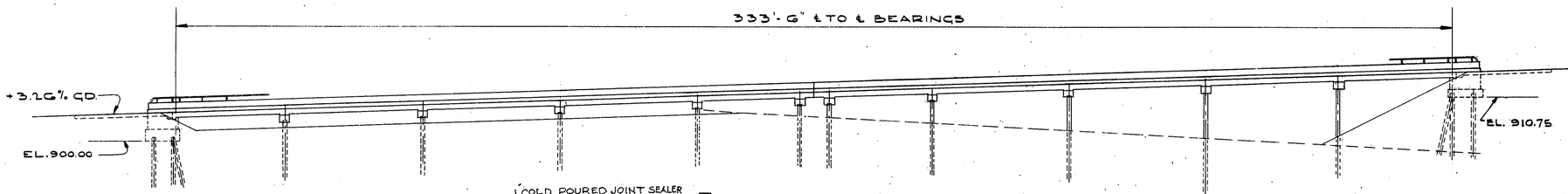
GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF.

PILING: ALL PILES ARE TO BE 14" MIN. TOP DIAMETER CAST-IN-PLACE REINFORCED CONCRETE-DRIVEN TO A MIN. BEARING CAPACITY OF 30 TONS.

EXCAVATION QUANTITY INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE SURFACE OF THE PROPOSED FINISHED GRADE AND THE BOTTOM OF THE ABUTMENT FOOTING FOR ABUT. #1 AND INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF THE PROPOSED EMBANKMENT AND THE BOTTOM OF FOOTINGS FOR ABUT. #2.

PILE PROCEDURE AT PIERS: THE EXCAVATION & FILL SHALL BE AT GRADE LEVEL BEFORE THE DRIVING OF PILES.



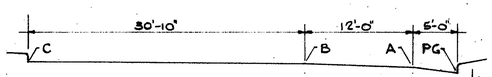
ELEVATION

WELDING: WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN.

REFERENCE SHALL BE MADE TO STANDARD DWGS. CS-2-54 SHEETS 1 & 2 DATED 12-1-54 REVISED 2-2-59, P-1-54 DATED 7-1-54 REVISED 2-2-59, & AR-1-57 DATED 4-9-57 REVISED 2-2-59 SUPPLEMENTAL SPECIFICATION S-101 DATED 12-2-59

CONSTRUCTION JOINTS: ONE CONSTRUCTION JOINT IN THE MIDDLE OF EACH 35 FT. SPAN OR 1'-0"± OFF THE CENTER-LINE IF NECESSARY TO MISS ANY TRANSVERSE REINFORCING BARS. ONE LONGITUDINAL JOINT ON THE ℄ OF THE WEST BOUND LANES WILL BE PERMITTED

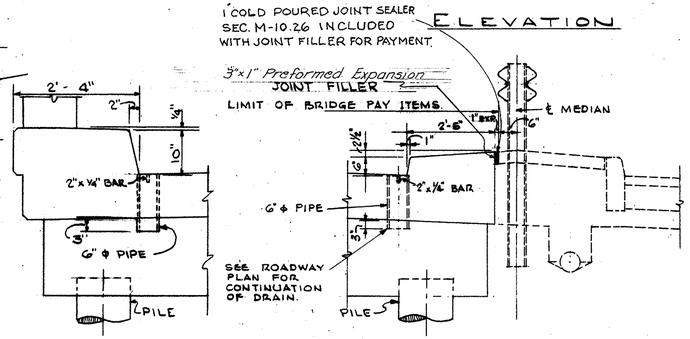
ELECTRICAL GROUNDS: A SOLID Nº 0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE IMBEDDED IN THE PIER CAP ON THE EAST SIDE OF THE STRUCTURE AT PIER Nº 5. THE LOWER END OF WIRE SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE 14" CAST-IN-PLACE CONCRETE PILES AND THE UPPER END SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE PIER CAP TO PROVIDE A SUITABLE SPLICE FOR CONNECTION TO A GROUNDING LUG INSIDE THE BASE OF THE LIGHT STANDARD. THE CONNECTION FROM THE LIGHT STANDARD TO THE SOLID COPPER WIRE IN THE PIER CAP SHALL BE A Nº 6 GAGE BARE TINNED COPPER WIRE. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM"



REFERENCE DIAGRAM FOR FINISHED GRADE ELEVATIONS.

FINISHED GRADE ELEVATIONS

	STA.	PG	A	B	C
ABUT. #1	1015+84.50	907.51	907.72	908.10	909.06
PIER #1	1016+12.50	908.45	908.68	908.94	909.73
PIER #2	41.50	908.57	908.76	910.00	910.56
PIER #3	82.50	910.71	910.92	911.11	911.31
PIER #4	1017+17.50	911.85	912.06	912.25	912.13
PIER #5	41.50	912.83	913.04	913.25	912.91
℄ EXP.	1017+51.25	912.95	913.16	913.36	913.01
PIER #6	55.00	913.07	913.28	913.47	913.10
PIER #7	85.00	914.05	914.26	914.45	913.97
PIER #8	1018+20.00	915.19	915.40	915.59	915.11
PIER #9	55.00	916.33	916.54	916.73	916.25
PIER #10	90.00	917.47	917.68	917.87	917.39
ABUT. #2	1019+18.00	918.39	918.60	918.79	918.31



SECTION A-A

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN'L
E-2	157	CU.YDS	UNCLASSIFIED EXCAVATION		157		
S-1	1217	CU.YDS	CLASS "C" CONC. SUPSTR. & PIER CAPS	1217			
S-1	36	CU.YDS	CLASS "E" CONCRETE, ABUTMENTS		36		
S-1	25	CU.YDS	CLASS "E" CONC., ABUT. FOOTINGS		25		
S-9	355'	LIN. FT.	3"x1" PREFORMED EXP. JT. FILLER	355'			
S-4	268,898	LB	REINFORCING STEEL	234,753	4819	29,326	
S-9	2,070	LB	STRUCTURAL STEEL EXP. JOINT INCL. PAINTING	2,070			
S-14	354	LIN. FT.	RAILING (ALUM. RAIL & SUPPORTS CONC. PARAPETS, & REIN. STEEL.)	335	19		
S-16		LUMP	FIRST TEST PILE				
S-18	4760	LIN. FT.	14" DIA. CAST-IN-PLACE REIN. CONC. PILES		560	4200	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM ●				
S-25	368	LIN. FT.	2" ϕ ELECTRICAL CONDUIT (GALV.)	368			
S-29	16	CU.YDS.	POROUS BACKFILL		16		
S-29	33	EACH	SCUPPERS (WROUGHT IRON OR CAST IRON PIPE & INCIDENTALS)	33			
I-10	16	SQ. YDS	CRUSHED AGG. SLOPE PROTECTION				16

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE Nº MAH-18-1923

RENNER BREWERY BYPASS BRIDGE

YOUNGSTOWN MAHONING COUNTY

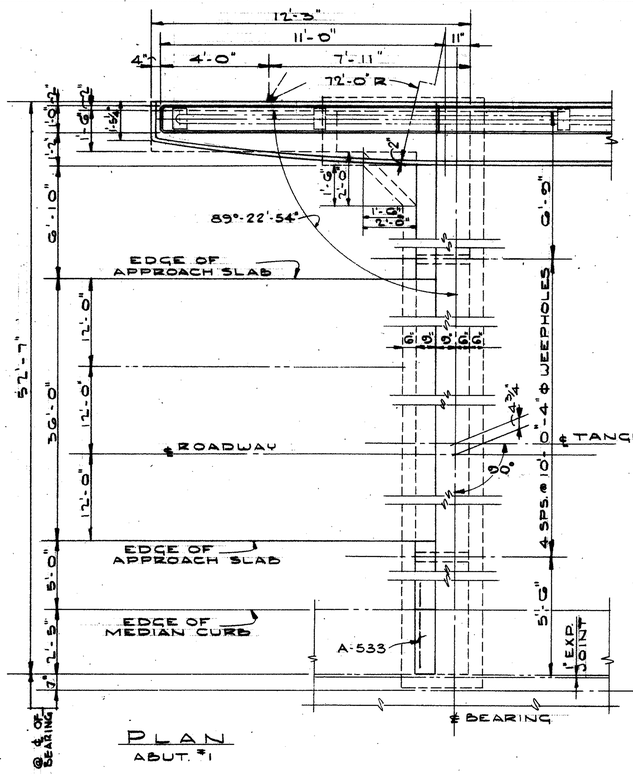
STA. 1015+83.75 TO STA. 1019+18.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	A C		cw.	DMC		

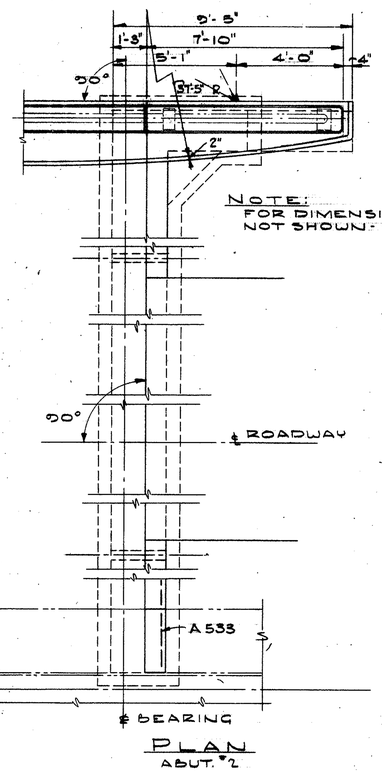
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

419
492

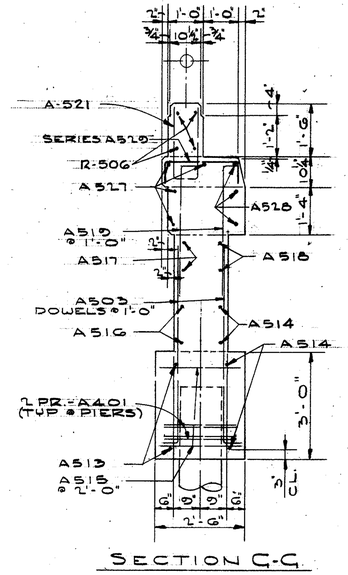


PLAN
ABUT. #1



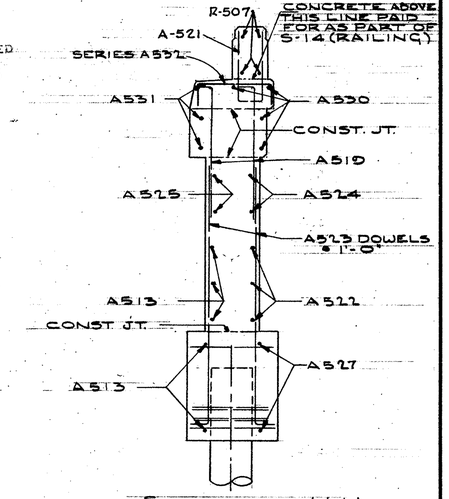
PLAN
ABUT. #2

NOTE:
FOR DIMENSIONS & DETAILS NOT SHOWN - SEE PLAN, ABUT. 1



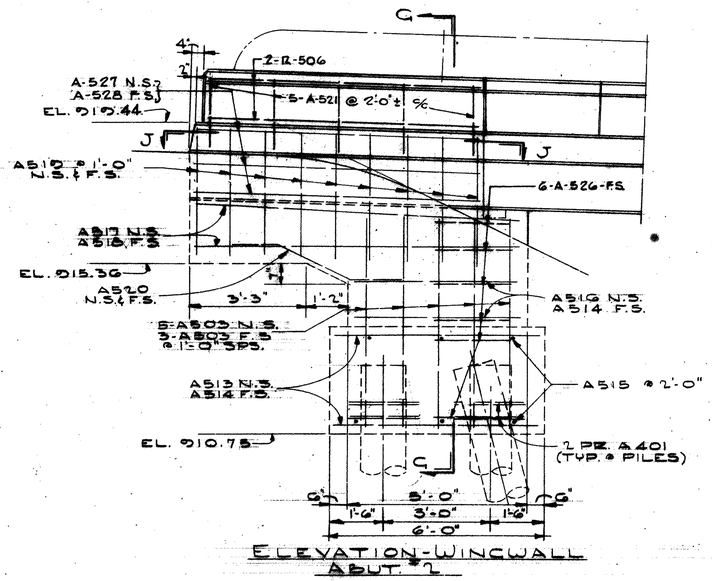
SECTION C-C

MICROFILMED
SEP 19 1985

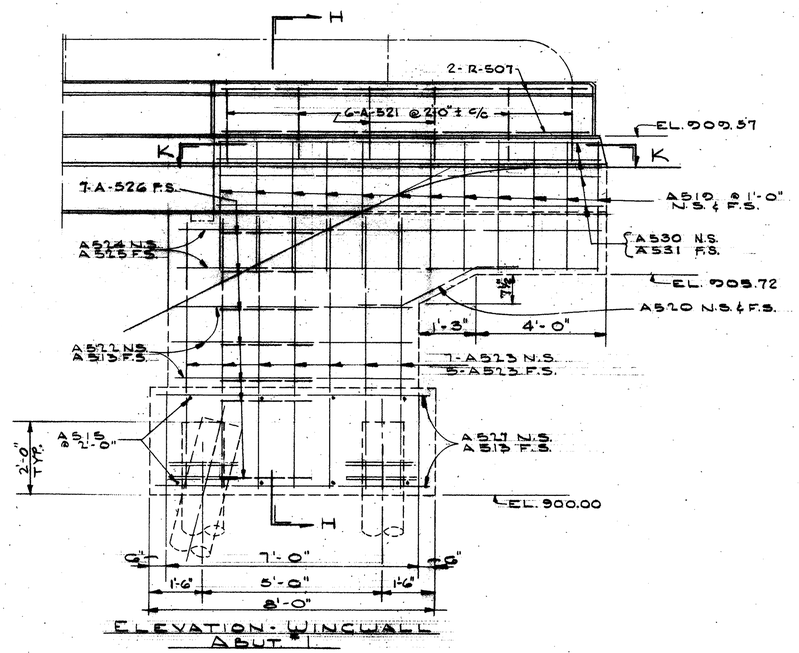


SECTION H-H
FOR DIMENSIONS & BAR NOS. NOT SHOWN - SEE SECTION C-C

NOTE: FOR SPACING OF RAILING POSTS, SEE DRAINAGE DWG. 423



ELEVATION - WINGWALL
ABUT. #2



ELEVATION - WINGWALL
ABUT. #1

NOTE:

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 FT BACK OF ABUTMENT #2, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 & #2 PLAN & ELEVATION

BRIDGE No. MAH-18-1923
RENNER BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 To STA. 1019+18.75

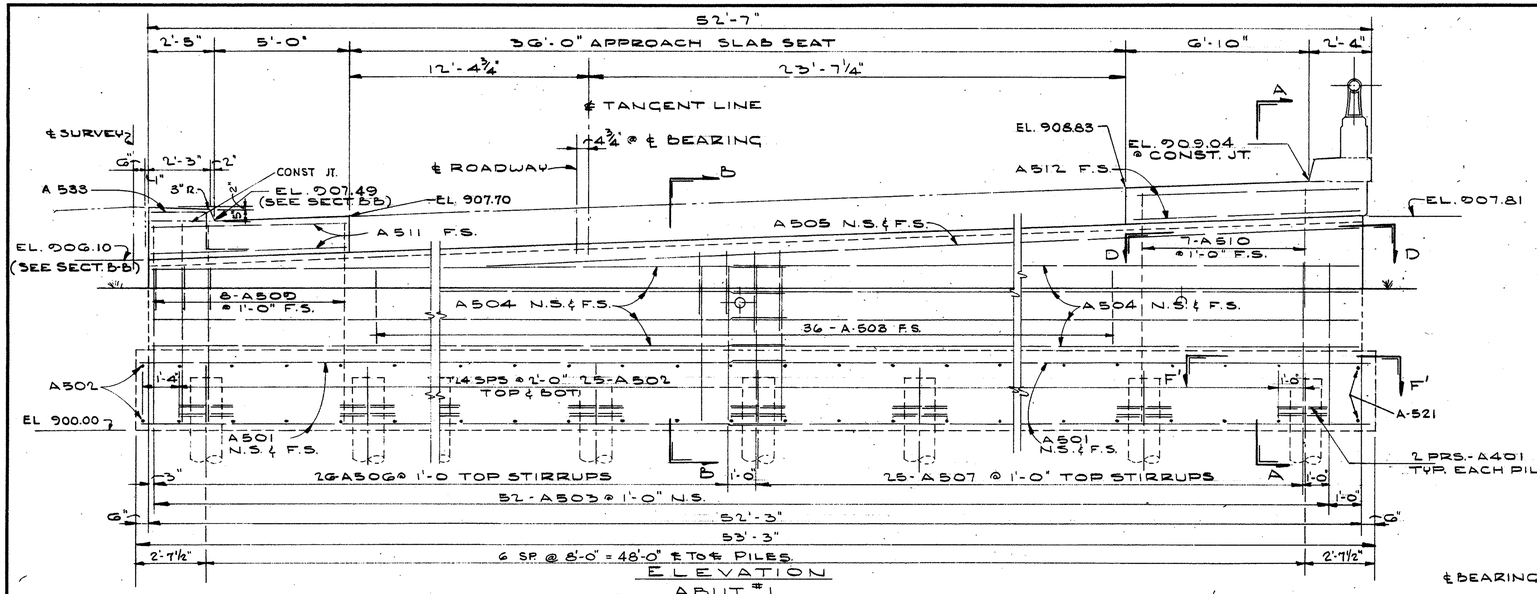
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	AC		aw	DJC		

FED. RD.	STATE	PROJECT	
	OHIO		

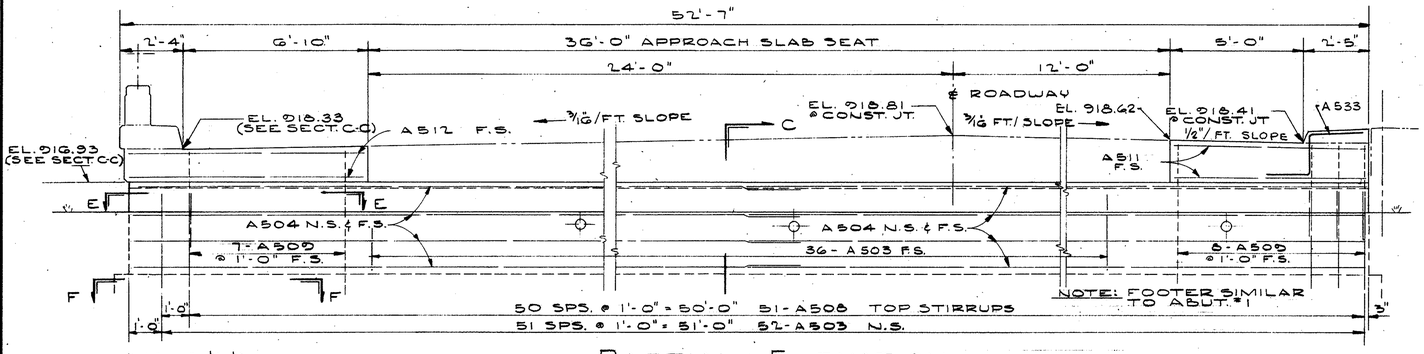
MAH-18-17.20

420
492

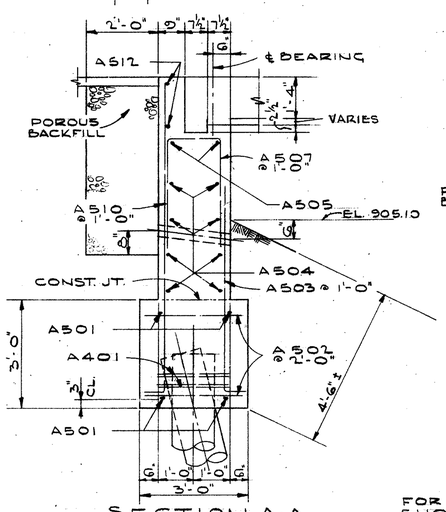
MICROFILMED
SEP 19 1965



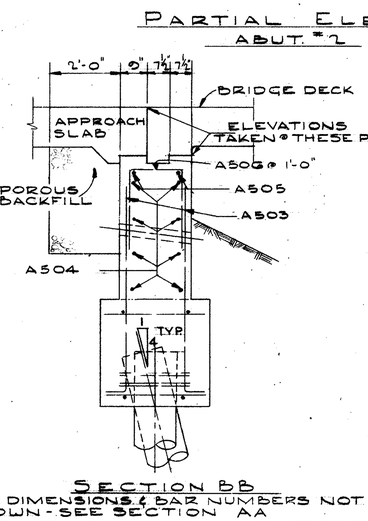
ELEVATION
ABUT. #1



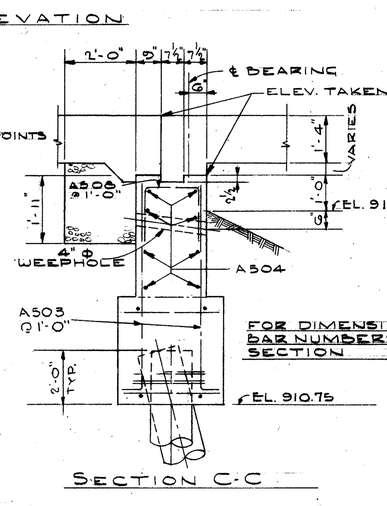
PARTIAL ELEVATION
ABUT. #2



SECTION A-A

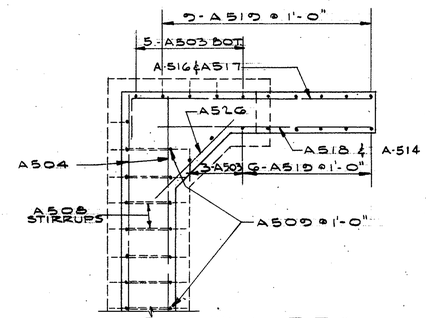


SECTION BB
FOR DIMENSIONS & BAR NUMBERS NOT SHOWN - SEE SECTION AA

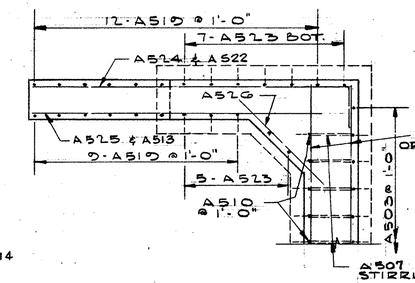


FOR DIMENSIONS & BAR NUMBERS - SEE SECTION

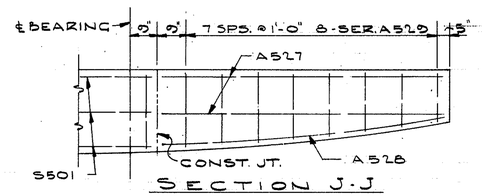
SECTION C-C



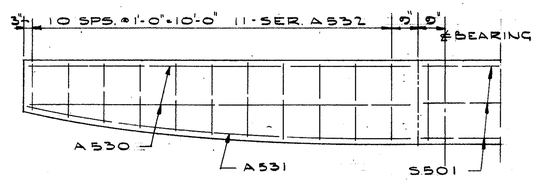
SECTION E-E



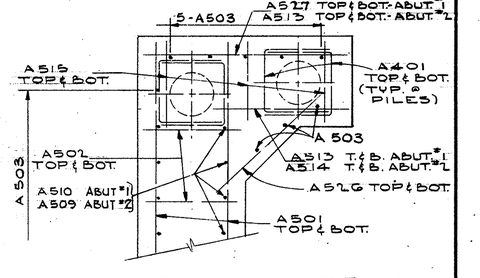
SECTION D-D



SECTION J-J



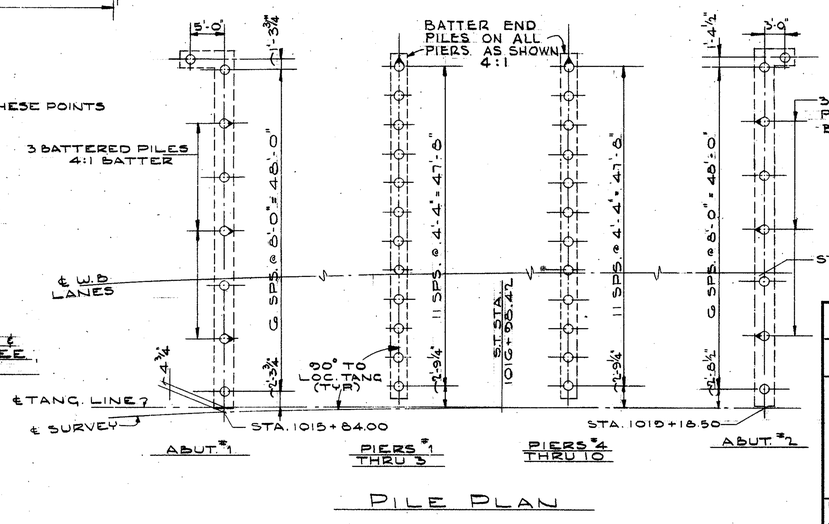
SECTION K-K



SECTION F-F AS SHOWN
SECTION F'-F' SIMILAR BUT OPP. HAND.

PILE CUT-OFF ELEVATIONS

ABUT. #1	902.00
PIER #1	905.42
PIER #2	906.56
PIER #3	907.70
PIER #4	908.84
PIER #5	909.82
PIER #6	910.06
PIER #7	911.11
PIER #8	912.25
PIER #9	913.39
PIER #10	914.53
ABUT. #2	912.75



PILE PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT DETAILS

BRIDGE Nº MAH-18-1923
RENNER BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 TO STA. 1019+18.75

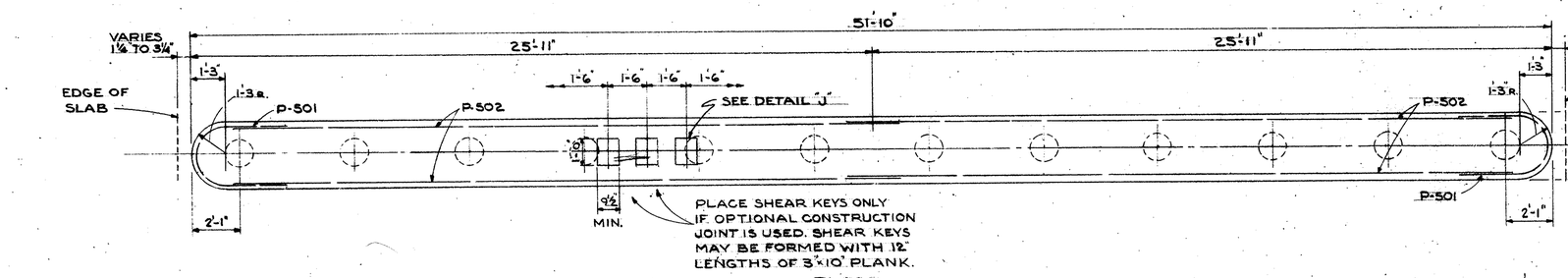
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	AC		CW	DJC		

FED. RD.	STATE	PROJECT	
	OHIO		

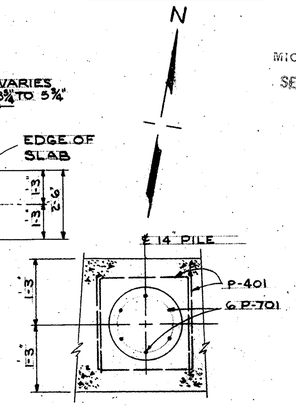
MAH-18-17.20

421
492

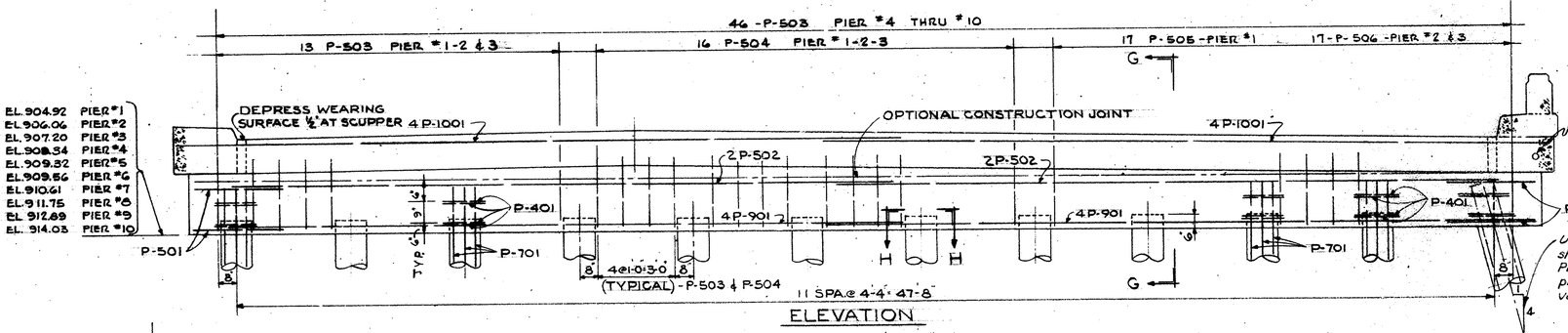
MICROFILMED
SEP 19 1965



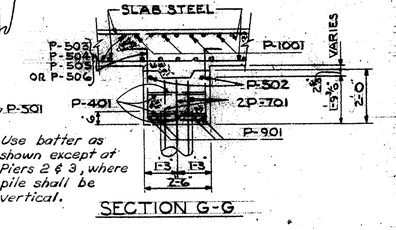
PLAN



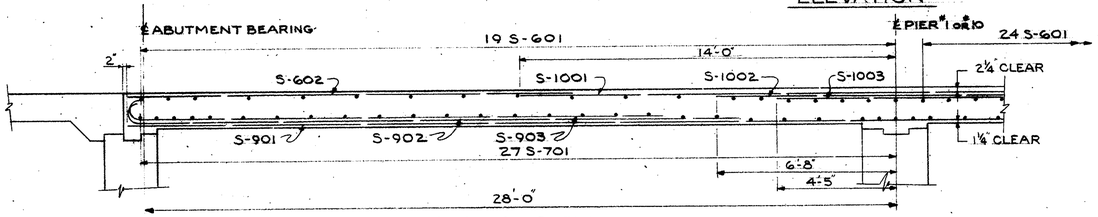
SECTION H-H



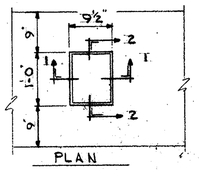
ELEVATION



SECTION G-G

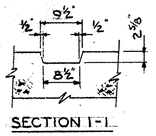


SECTION D-D

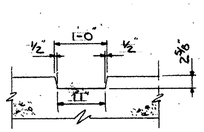


PLAN

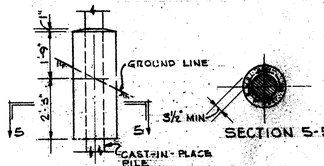
DETAIL "J"



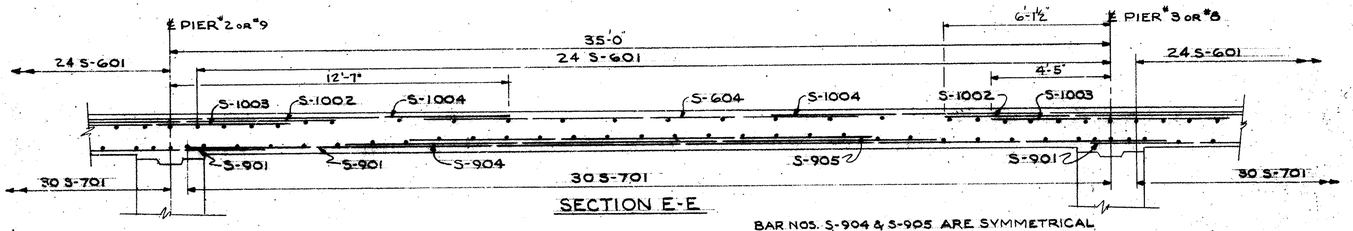
SECTION 1-1



SECTION 2-2

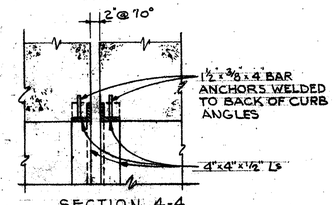


DETAIL OF PILE ENCASEMENT

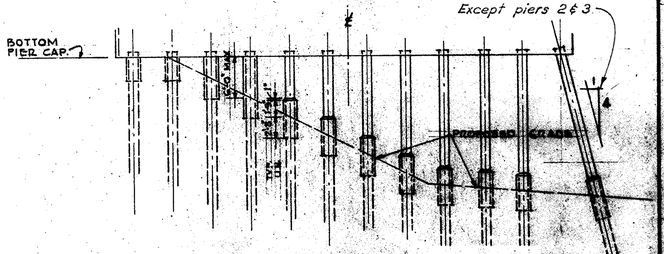


SECTION E-E

BAR NOS. S-904 & S-905 ARE SYMMETRICAL ABOUT ℄ OF SPAN.

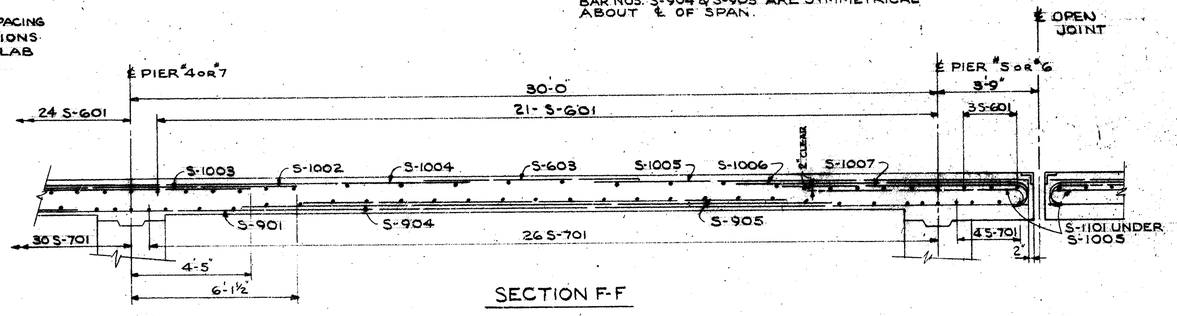


SECTION 4-4

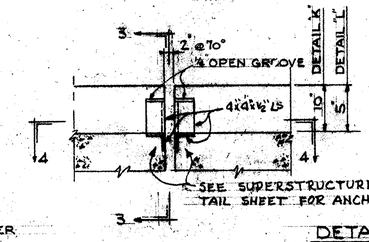


SKETCH SHOWING PILE ENCASEMENT

NOTE: FOR STEEL SPACING NOT SHOWN IN SECTIONS D-D, E-E OR F-F SEE SLAB PLAN & ELEVATION

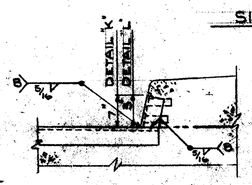


SECTION F-F



DETAIL "K"

DETAIL "L" - OPPOSITE HAND, SIMILAR EXCEPT AS SHOWN



SECTION 5-5

PILE CASINGS: THE CASINGS OF CAST-IN-PLACE CONCRETE PILES SHALL BE OF THE TYPE THAT IS LEFT IN PLACE AND IS DESIGNED TO RESIST BOTH DIRECT COMPRESSION AND BENDING. THE PORTION ABOVE THE CIRCULAR CONCRETE ENCASEMENT SHALL BE OF UNIFORM DIAMETER (NOT TAPERED) AND SHALL HAVE A THICKNESS OF METAL NOT LESS THAN No. 7 GAUGE.

PILE ENCASEMENT AS SHOWN IN SKETCH BELOW AND ON STD. DWG. NO. P-1-64, MAY BE OMITTED PROVIDED THAT THE TAPERED PORTION, IF ANY, OF ALL PIER PILES DOES NOT EXTEND ABOVE THE PROPOSED SURFACE OF THE GROUND. IF THE TAPERED PORTION OF ANY PILES EXTENDS ABOVE THESE LIMITATIONS, THE ENCASEMENT WILL BE REQUIRED FOR ALL PIER PILES. IF THE ENCASEMENT IS OMITTED THE PILE CASINGS SHALL HAVE A THICKNESS OF METAL NOT LESS THAN NO. 7 GUAGE AND THE PAINTING OF THE PILES SHALL EXTEND TO AT LEAST ONE FOOT BELOW THE PROPOSED SURFACE OF THE GROUND.

PILE PAINTING: THE EXPOSED PORTION OF THE PILES, ABOVE THE ENCASEMENT, SHALL BE PAINTED IN ACCORDANCE WITH ITEM 5-8 APPLYING TWO COATS AS PER SECS. M-9.5, M-9.10 OR M-9.21 AND TWO COATS AS PER SEC. M-9.12. METAL FORMS, LEFT IN PLACE ON THE ENCASEMENT, UNLESS GALVANIZED, SHALL BE SIMILARLY PAINTED.

PAYMENT FOR PILES, PER LIN. FT. INCLUDES PAYMENT FOR THE ENCASEMENT (CONCRETE, REINFORCEMENT, FORMS, PAINTING, GALVANIZING AND EXCAVATING) AND THE PILE PAINTING. THE ELEVATION DESIGNATED, AS PER SEC. E-18.13, SHALL BE CONSIDERED AS BEING ABOVE THE BOTTOM OF THE CONCRETE CAP FOR CAST-IN-PLACE CONCRETE PILES.

FALSEWORK SUPPORT: THE PIER CAP SHALL NOT BE USED TO SUPPORT FALSEWORK FOR THE DECK SLAB.

HORIZONTAL CONSTRUCTION JOINT BETWEEN THE TOP OF THE PIER CAP AND BOTTOM OF SLAB WILL BE PERMITTED IF KEYS, AS SHOWN, ARE PROVIDED AT THE TOP OF THE CAP IF SUCH A JOINT IS NOT PROVIDED, THE CONCRETE IN THE SLAB AND CAP SHALL BE PLACED IN A CONTINUOUS OPERATION.

PIER CAP CONCRETE QUANTITY IS INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BIENWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SUPERSTRUCTURE & PIER DETAILS

BRIDGE Nº MAH-18-1923
RENNER BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 TO STA. 1019+18.75

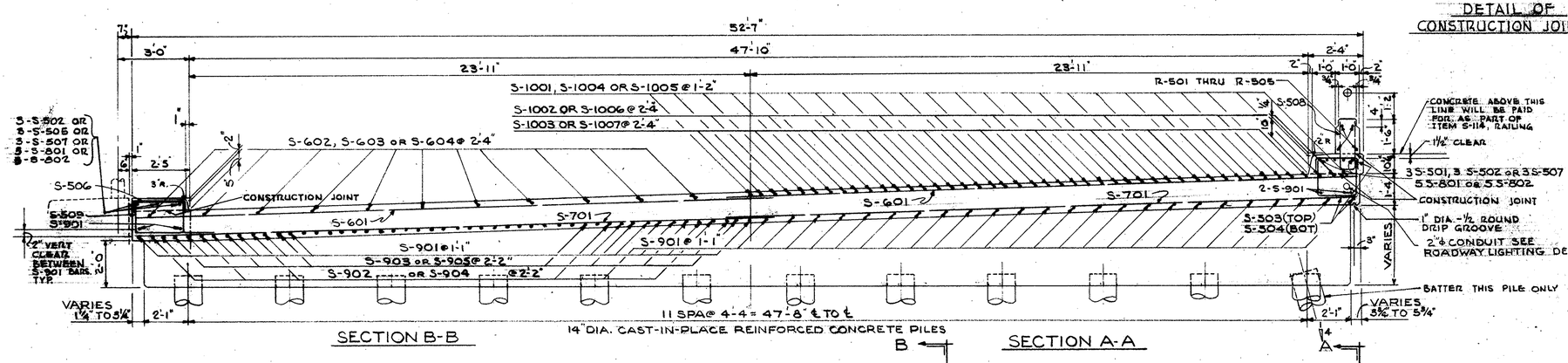
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	SHEET NO.
RDH	JLH		DWH	DJC		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

422
492

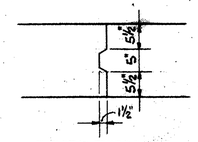


SECTION B-B

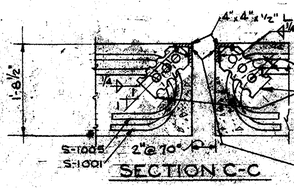
B

SECTION A-A

A

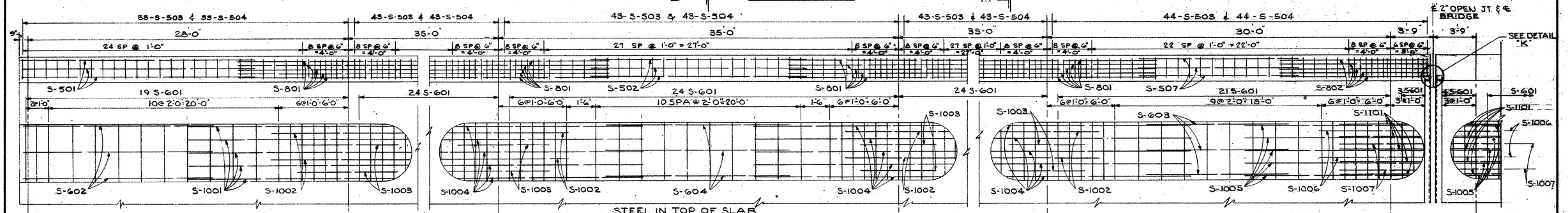


DETAIL OF CONSTRUCTION JOINT



PORTIONS OF 4"x4"x½" ∠'S IN CONTACT WITH STEEL OR WITH CONCRETE WILL NOT BE PAINTED. ALL OTHER PORTIONS SHALL BE CLEANED AND GIVEN THE SHOP COAT AS WELL AS THE FIELD COATS.

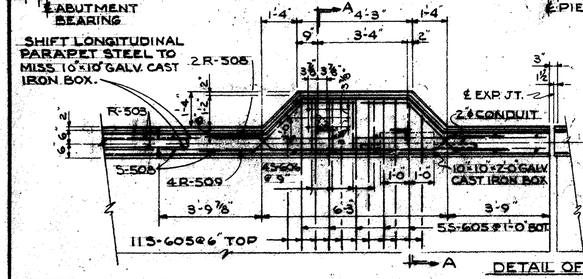
NOTE: BAR NOS & LENGTHS ARE SYMMETRICAL ABOUT ℄ OF EXPANSION JOINT.



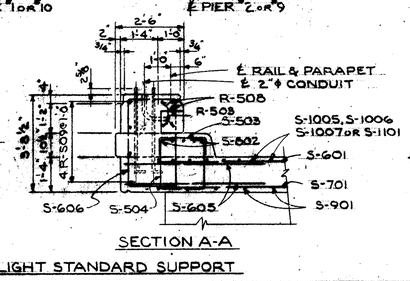
STEEL IN TOP OF SLAB

STEEL IN BOT. OF SLAB

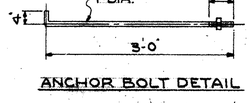
PARTIAL PLAN



DETAIL OF LIGHT STANDARD SUPPORT



SECTION A-A



ANCHOR BOLT DETAIL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE Nº MAH-18-1923
RENNER-BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 TO STA. 1019+16.75

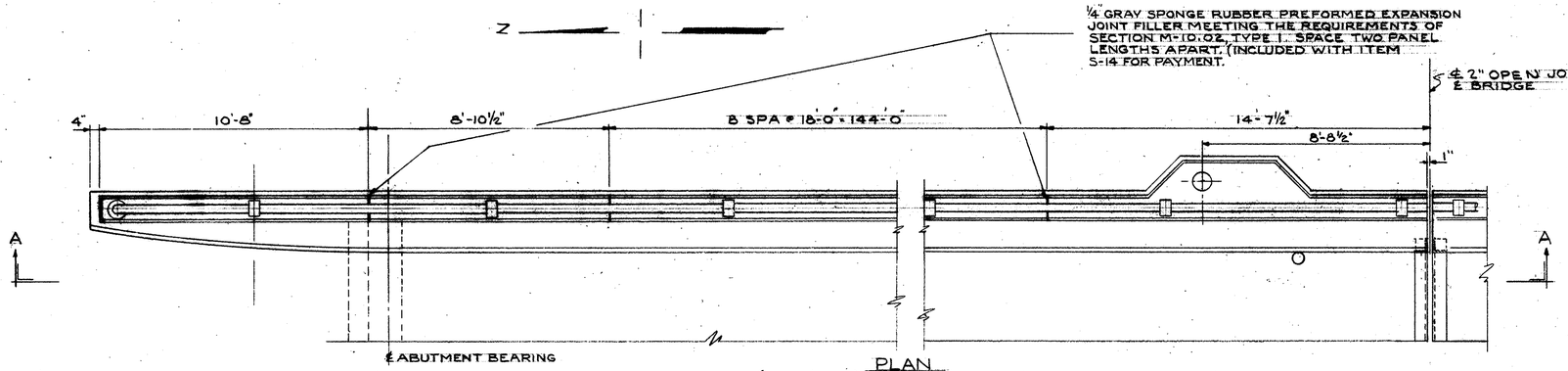
DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE	REVISED
RBH	JLH			DAC		

MICROFILMED
SEP 19 1965

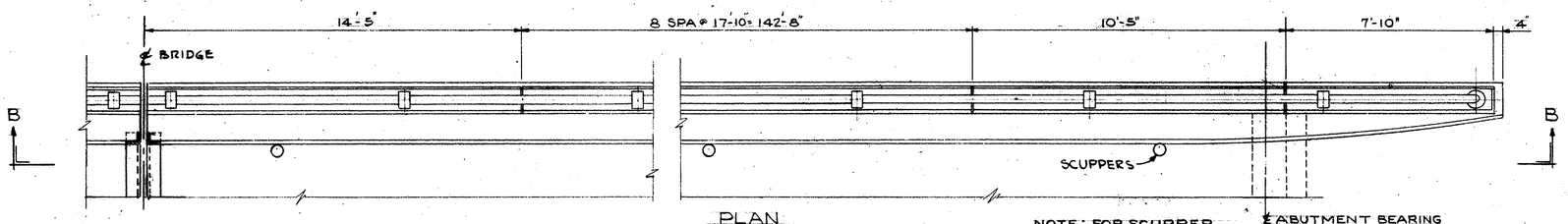
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

423
492



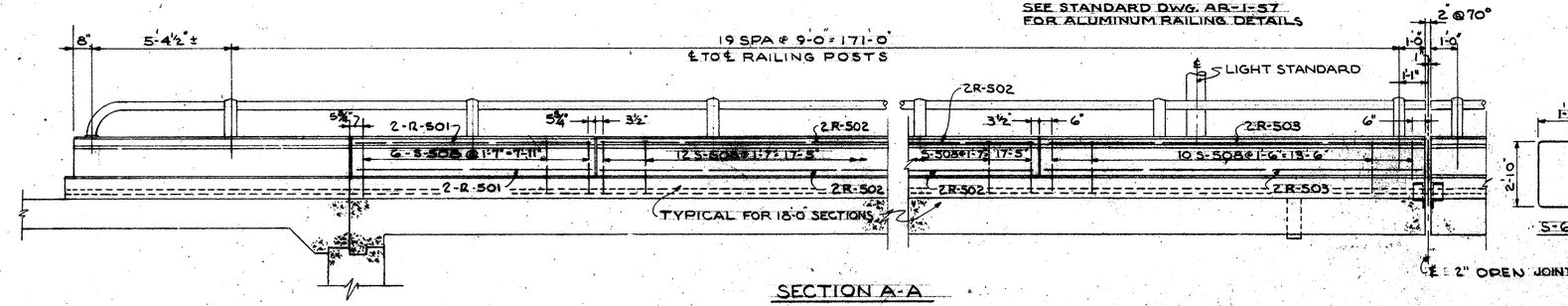
PLAN
(EAST SIDE) NORTH OF 2" OPEN JOINT



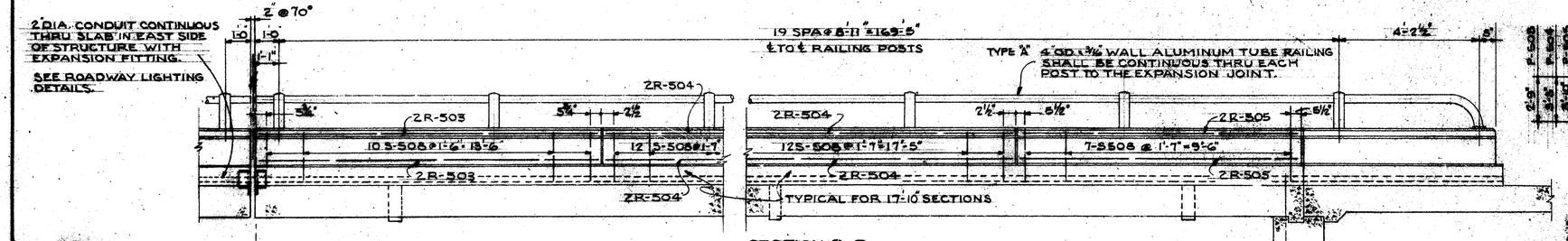
PLAN
(EAST SIDE) SOUTH OF EXPANSION JOINT

NOTE: FOR SCUPPER SPACING SEE GENERAL PLAN

SEE STANDARD DWG. AR-1-57 FOR ALUMINUM RAILING DETAILS



SECTION A-A



SECTION B-B

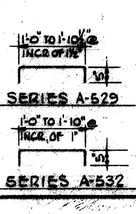
NOTES:

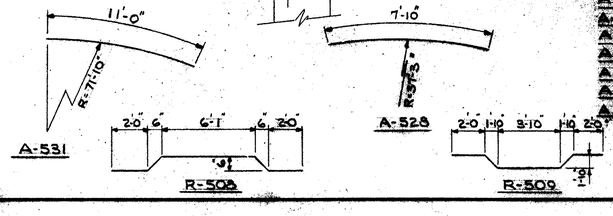
REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. 401.3 WILL NOT BE FURNISHED & REPLACEMENT BARS WILL NOT BE REQUIRED.

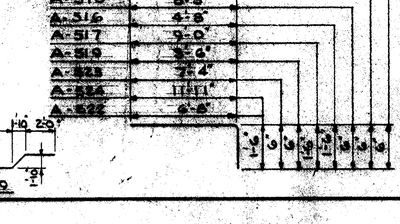
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST TWO NUMERALS, 3 DIGITS AND THE FIRST 2 DIGITS WHERE 4 DIGITS ARE USED INDICATES THE SIZE NUMBER. FOR EXAMPLE, S-701 IS A NUMBER 7 SIZE BAR & P-1101 IS A NUMBER 11 SIZE BAR.

RAILING BARS ARE INCLUDED WITH ITEM S-14 FOR PAYMENT

15'-0"	1'-1"	S-802
22'-9"	1'-1"	S-902
20'-0"	1'-1"	S-903
9'-6"	1'-3"	S-1006
7'-11"	1'-3"	S-1007
7'-11"	1'-5"	S-1101







REINFORCING STEEL SCHEDULE

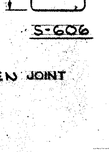
MARK	No. PCS.	LENGTH	WEIGHT	SHP.
PIERS				
P-401	480	5'-3	1683	BT
P-501	40	6'-4	204	BT
P-502	40	25'-6	1064	ST
P-503	561	7'-6	2824	BT
P-504	48	9'-6	476	BT
P-505	17	10'-5	189	BT
P-506	84	9'-10	349	BT
P-701	720	4'-0"	5881	ST
P-901	80	26'-1"	7095	ST
P-1001	80	27'-7"	9,495	ST
TOTAL =			29,826#	
SLAB				
S-501	6	20'-7"	129	ST
S-502	36	18'-11"	710	ST
S-503	412	2'-10"	1218	BT
S-504	412	5'-8"	2435	BT
S-505	6	21'-4"	134	ST
S-506	412	2'-4"	1003	BT
S-507	12	13'-11"	174	ST
S-508	229	4'-5"	1036	BT
S-509	412	5'-4"	2292	BT

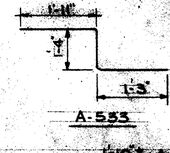
MARK	No. PCS.	LENGTH	WEIGHT	SHP.
S-601	460	26'-11"	18,597	ST
S-602	46	16'-6"	1,140	ST
S-603	46	8'-6"	587	ST
S-604	138	13'-8"	2,850	ST
S-605	16	5'-6"	132	ST
S-606	4	9'-7"	58	BT

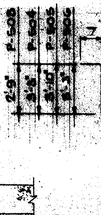
REPLACEMENT BAR SCHEDULE			
RE-401	1	5'-3"	ST.
RE-501	1	5'-7"	ST.
RE-601	2	5'-11"	ST.
RE-701	2	6'-3"	ST.
RE-801	1	6'-6"	ST.
RE-901	6	2'-10"	ST.
RE-1001	4	7'-2"	ST.
RE-1101	1	7'-6"	ST.

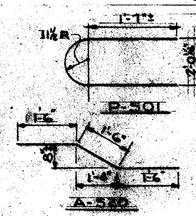
MARK	No. PCS.	LENGTH	WEIGHT	SHP.
SLABS (CONT')				
S-701	588	27'-2"	32,651	ST
S-801	80	10'-3"	4,112	ST
S-802	20	14'-1"	752	BT
S-901	510	35'-6"	61,546	ST
S-902	48	23'-10"	3,893	BT
S-903	48	21'-1"	3,440	BT
S-904	192	22'-0"	14,361	ST
S-905	192	17'-2"	11,206	ST
S-1001	90	26'-7"	10,295	ST
S-1002	176	12'-3"	9,271	ST
S-1003	176	8'-10"	6,690	ST
S-1004	270	25'-2"	29,299	ST
S-1005	90	16'-2"	6,261	ST
S-1006	44	10'-11"	2,067	BT
S-1007	44	9'-2"	1,736	BT
S-1101	90	9'-4"	4,461	BT
TOTAL =			234,763#	
RAILING				
R-501	4	8'-6"		ST
R-502	32	17'-5"		ST
R-503	8	14'-1"		ST
R-504	32	17'-6"		ST
R-505	4	10'-1"		ST
R-506	4	11'-6"		ST
R-507	4	9'-7"		ST
R-508	2	11'-5"		ST
R-509	4	13'-1"		ST

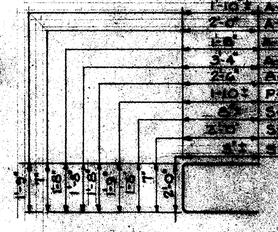
MARK	No. PCS.	LENGTH	WEIGHT	SHP.
ABUTMENTS				
A-401	64	5'-3"	239	BT.
A-501	16	27'-5"	455	ST
A-502	104	2'-8"	289	ST
A-503	184	6'-0"	1151	BT
A-504	32	26'-9"	893	ST
A-505	2	36'-6"	73	ST
A-506	26	6'-6"	176	BT
A-507	25	8'-2"	213	BT
A-508	51	4'-10"	257	BT
A-509	23	7'-5"	178	BT
A-510	7	8'-10"	64	BT
A-511	4	7'-1"	30	ST
A-512	4	8'-9"	36	ST
A-513	7	5'-8"	41	ST
A-514	4	3'-8"	15	ST
A-515	14	2'-2"	32	ST
A-516	2	6'-1"	13	BT
A-517	2	10'-5"	22	BT
A-518	2	8'-0"	17	ST
A-519	36	3'-11"	147	BT
A-520	4	4'-6"	27	BT
A-521	11	4'-8"	51	BT
A-522	3	8'-1"	25	BT
A-523	12	7'-9"	97	BT
A-524	2	13'-6"	28	BT
A-525	2	10'-9"	22	ST
A-526	13	4'-0"	25	ST
A-527	6	7'-8"	48	ST
A-528	3	11'-0"	25	BT
SERIES A-529 VARYING FROM 11'-0" TO 11'-10½" INCR. OF 1½"				
A-530	4	10'-3"	43	ST
A-531	3	11'-0"	34	BT
SERIES A-532 VARYING FROM 1'-0" TO 1'-10" INCR. OF 1"				
A-533	2	4'-4"	9	BT
TOTAL ABUTMENTS = 4819#				
GRAND TOTAL = 268,800#				











STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING DETAILS & REINFORCING SCHEDULE

BRIDGE No. MAH-18-1923
RENNER BREWERY BYPASS BRIDGE
YOUNGSTOWN MAHONING COUNTY
STA. 1015+83.75 To STA. 1019+18.75

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE	SHEET
ADH	JLH		ew	D&E		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

424
492

MAH-18-17.26

MEDICAL BUILDING

RETAINING WALL

STANDARD 6" CURB

7+00

10'-02" MIN. CLEAR

PROP MIN. CLEAR.

BEGIN APP SLAB STA. 49+75.43

℄ EXIST. STATE ROUTE 18

℄ ENTRANCE RAMP "L"

5+00

6+00

END RAMP "N" STA. 1023+13.50

18+00

ACCELERATION LANE (RAMP N)

℄ WEST-BOUND LANES

℄ SURVEY OF STATE ROUTE 18

1024+00

1023+00

℄ EAST-BOUND LANES

960

EXIT RAMP "K"

10+00

9+00

8+00

7+00

6+00

SR 18 CURVE DATA
Δ = 53°49'25"
D = 5°45'00"
R = 400'
L = 996.45'
e = 11°30-00" 956
Ts = 708.91
E = 128.51
Lc = 536.06

15°27'25" SKEW

81'-6"

78'-0"

25'-5"

25'-5"

2:1

2:1

2:1

2:1

℄ PT STA 48+82.43

℄ PE STA 49+03.45

943.13

STA 49+75.43
944.14

945.04

946.44

947.31

947.60

947.65

948

949

950

951

952

953

954

955

956

957

958

959

960

961

962

963

964

965

966

967

968

969

970

971

972

973

974

975

976

977

978

979

980

981

982

983

984

985

986

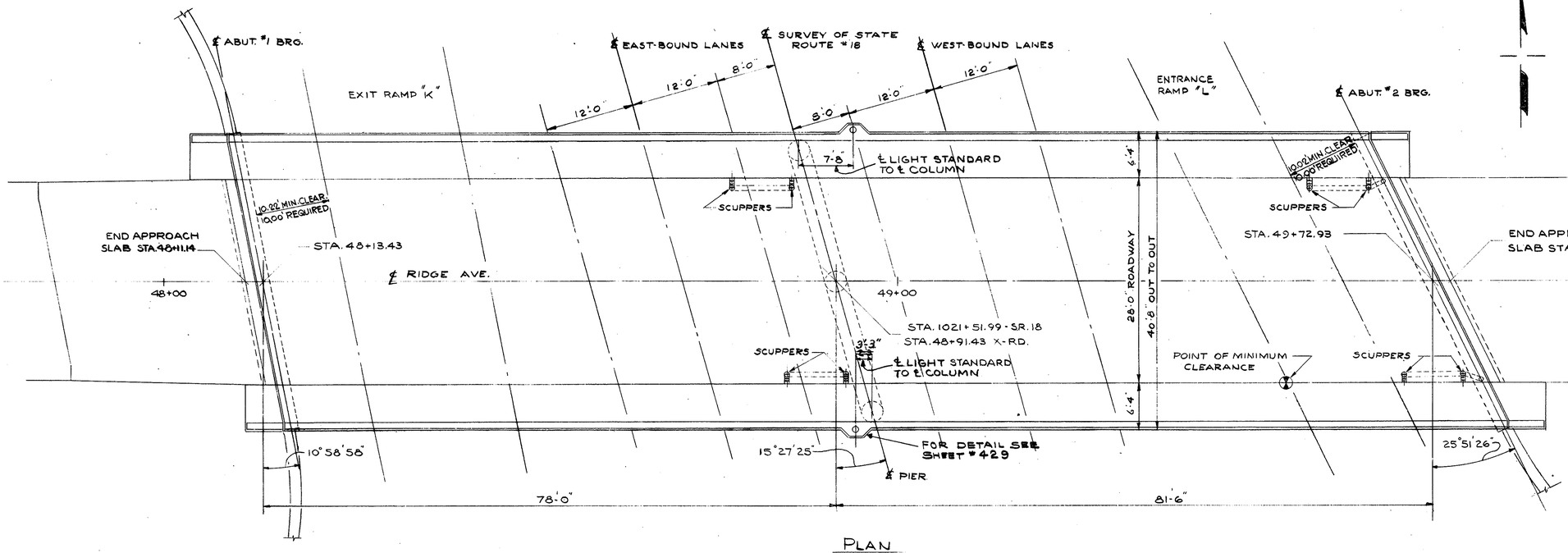
987

MICROFILMED
SEP 19 1985

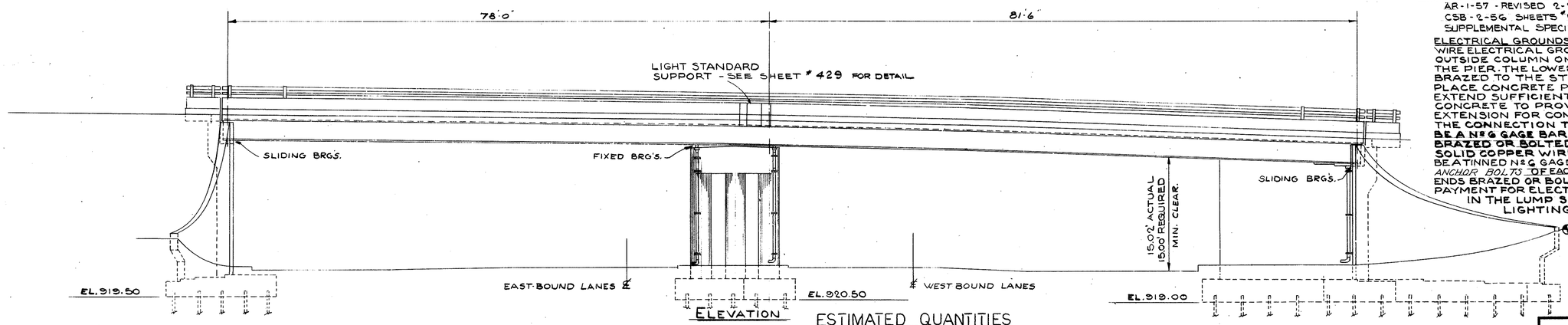
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

425/492



PLAN



ELEVATION

General Notes

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATE: 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THE SLAB MAY BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE PROPOSED GRADE AND THE BOTTOM OF ABUTMENT.

ALL PILES TO BE 12" MINIMUM TOP DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:
AR-1-57 - REVISED 2-2-59.
CSB-2-56 SHEETS 2 & 3 - REVISED 2-2-59 AND SUPPLEMENTAL SPECIFICATIONS S-101, DATED 12-2-59.

ELECTRICAL GROUNDS: A SOLID Nº 0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT THE PIER. THE LOWER ENDS OF THE WIRES SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE CAST-IN-PLACE CONCRETE PILES AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A Nº 6 GAGE BARE STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED Nº 6 GAGE BARE COPPER WIRE BRASED TO THE ANCHOR BOLTS OF EACH LIGHT STANDARD AND THE OTHER ENDS BRAZED OR BOLTED TO A OUTSIDE BEAM FLANGE. PAYMENT FOR ELECTRICAL GROUNDS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEMS."

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES 8 ANCHORBOLTS 1½" DIA. x 4'-1" LG.

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN.
E-2	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
E-2	780	SQ.FT.	STL. SHEET PILING, LEFT IN PLACE (35#/SQ.FT) INCLUDING ANCHORS		780		
E-2	1464	CU.YDS.	UNCLASSIFIED EXCAVATION		1380	84	
S-1	235	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	235			
S-1	320	CU.YDS.	CLASS "E" CONCRETE ABUTMENTS ABOVE FOOTINGS		320		
S-1	29	CU.YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS			29	
S-1	299	CU.YDS.	CLASS "E" CONCRETE PIER AND ABUT. FOOTINGS		265	34	
S-3	60	SQ.YDS	TYPE "B" WATERPROOFING		60		
S-3	17	LIN.FT.	WATERPROOFING 12" x ½" PREFORMED SEALING STRIP		17		
S-4	102,882	LBS	REINFORCING STEEL	48,453	41,414	13,015	
S-7	264,200	LBS.	STRUCTURAL STEEL				

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN.
S-8	264,200	LBS	FIELD PAINTING OF STRUCTURAL STEEL AS PER PLAN	264,200			
S-9	125	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER		125		
S-14	343	LIN.FT.	RAILING, ALUM. RAIL & SUPPORTS, CONCRETE PARAPETS	323	20		
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	2220	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES		1860	360	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM ◉				LUMP
S-29	260	CU.YDS.	POROUS BACKFILL		260		
S-29	60	LIN.FT.	6" STD. PIPE DOWNSPOUT, GALVANIZED STEEL OR WROUGHT IRON INCLUDING SPECIALS.	60			
S-29	LUMP	SUM	SCUPPERS INCLUDING SPECIALS				LUMP
S-29	48	LIN.FT.	8" ϕ PERFORATED BITUMINOUS COATED C.M.P. WITH SPECIALS		48		

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JNP					7-28-60

MICROFILMED
SEP 19 1985

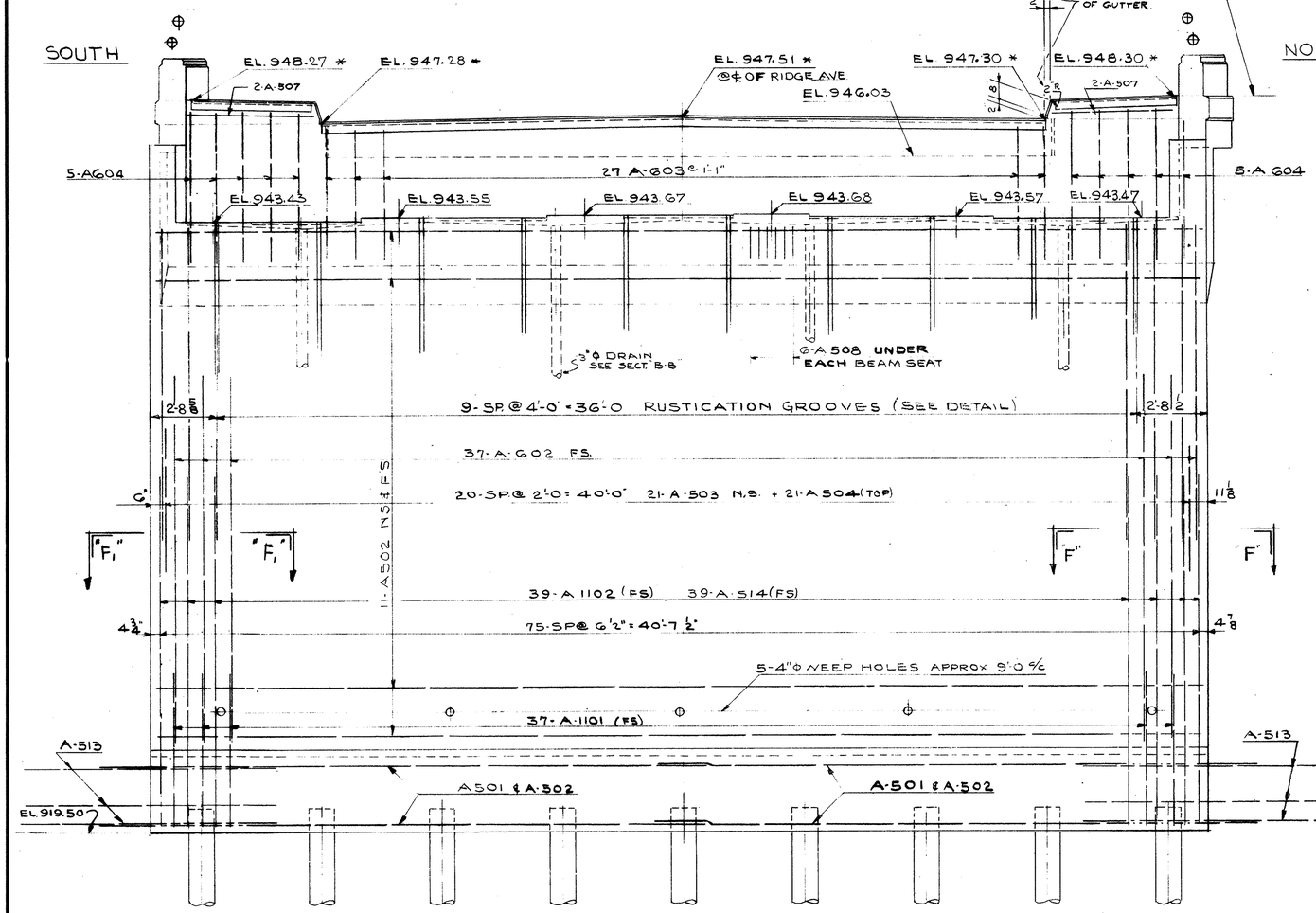
FED. RD.	STATE	PROJECT	
	OHIO		

MAH - 18 - 17.20

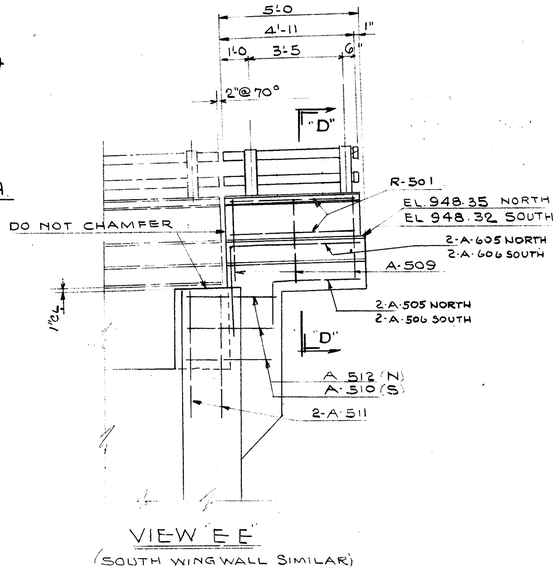
426/492

ELEVATIONS MARKED THUS * GIVEN TO HEEL OF ANGLE

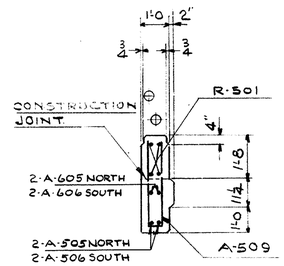
CONCRETE ABOVE THIS POINT TO BE INCLUDED WITH ITEM 511.4 FOR PAYMENT.



ELEVATION



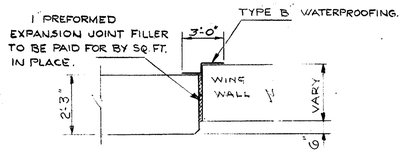
VIEW "E"
(SOUTH WING WALL SIMILAR)



SECTION "DD"



DETAIL OF RUSTICATION GROOVE



SECTION "F-F" AS SHOWN
SECTION "F1-F1" OPP. HAND

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.00

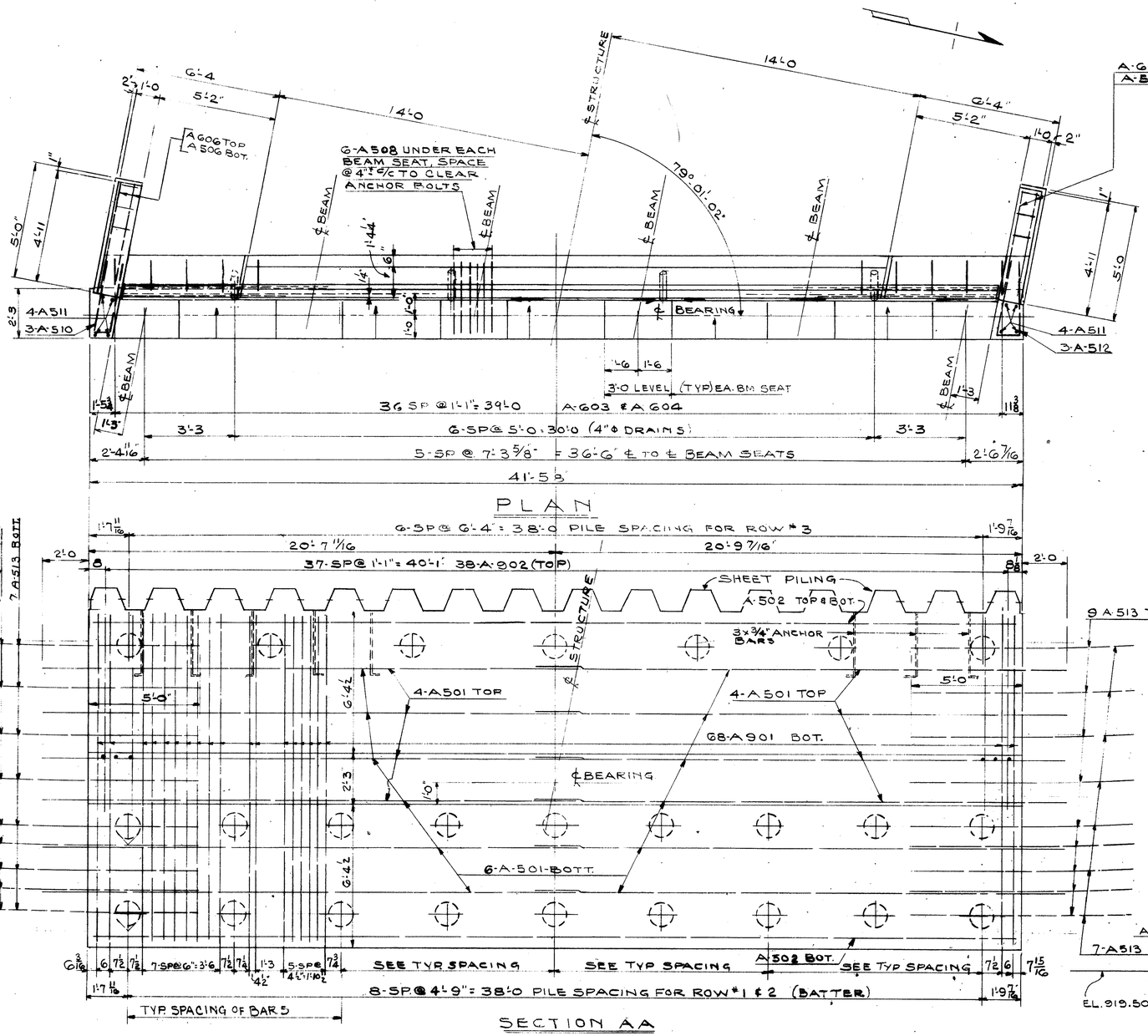
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	CW					

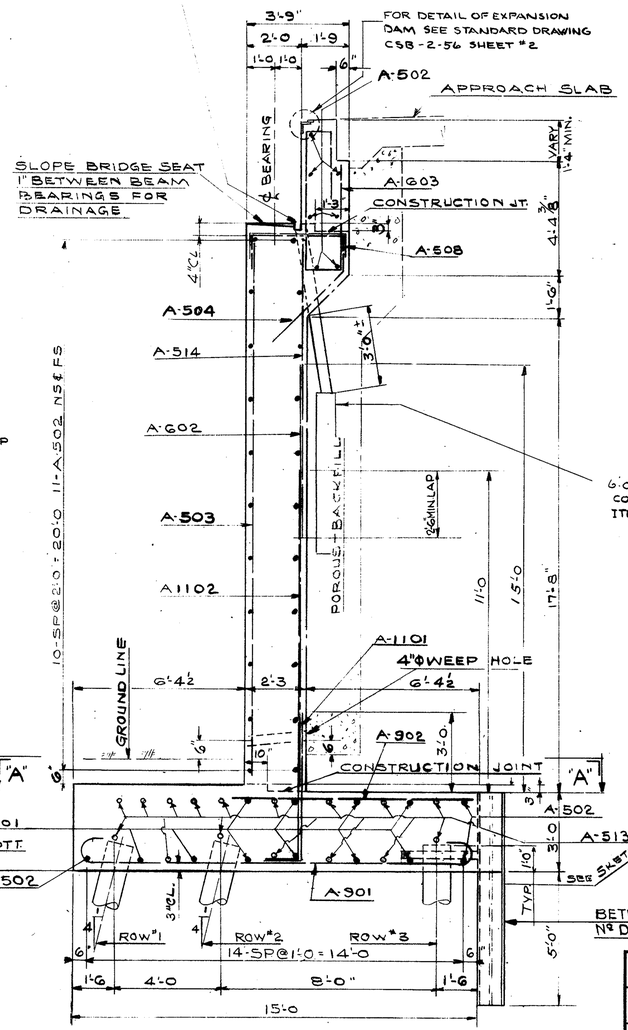
MICROFILMED
SEP 19 1985

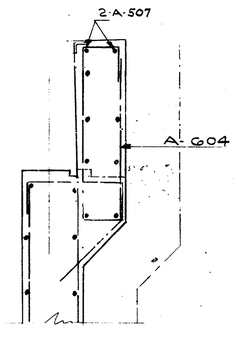
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

427
492

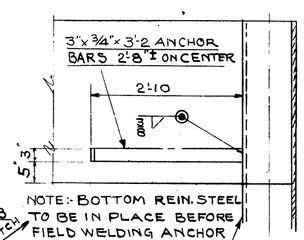






SECTION C-C
(DETAILS NOT SHOWN SAME AS SECTION B-B)

6'-0 LENGTH OF 8" ϕ PERFORATED BITUMINOUS COATED C.M.P., PROVIDE CAP WITH 3½" HOLE ITEM-S-29



NOTES:-

1. ALL REINFORCING STEEL SHALL HAVE A 2" MIN COVER UNLESS OTHERWISE NOTED.
2. POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WINGS SHALL EXTEND UP TO UNDERSIDE OF THE APPROACH SLAB OR TO FINISHED GROUND SURFACE.
3. ALL PILES TO BE 12"ϕ (MIN. TOP DIA) CAST IN PLACE REINFORCED CONCRETE PILES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

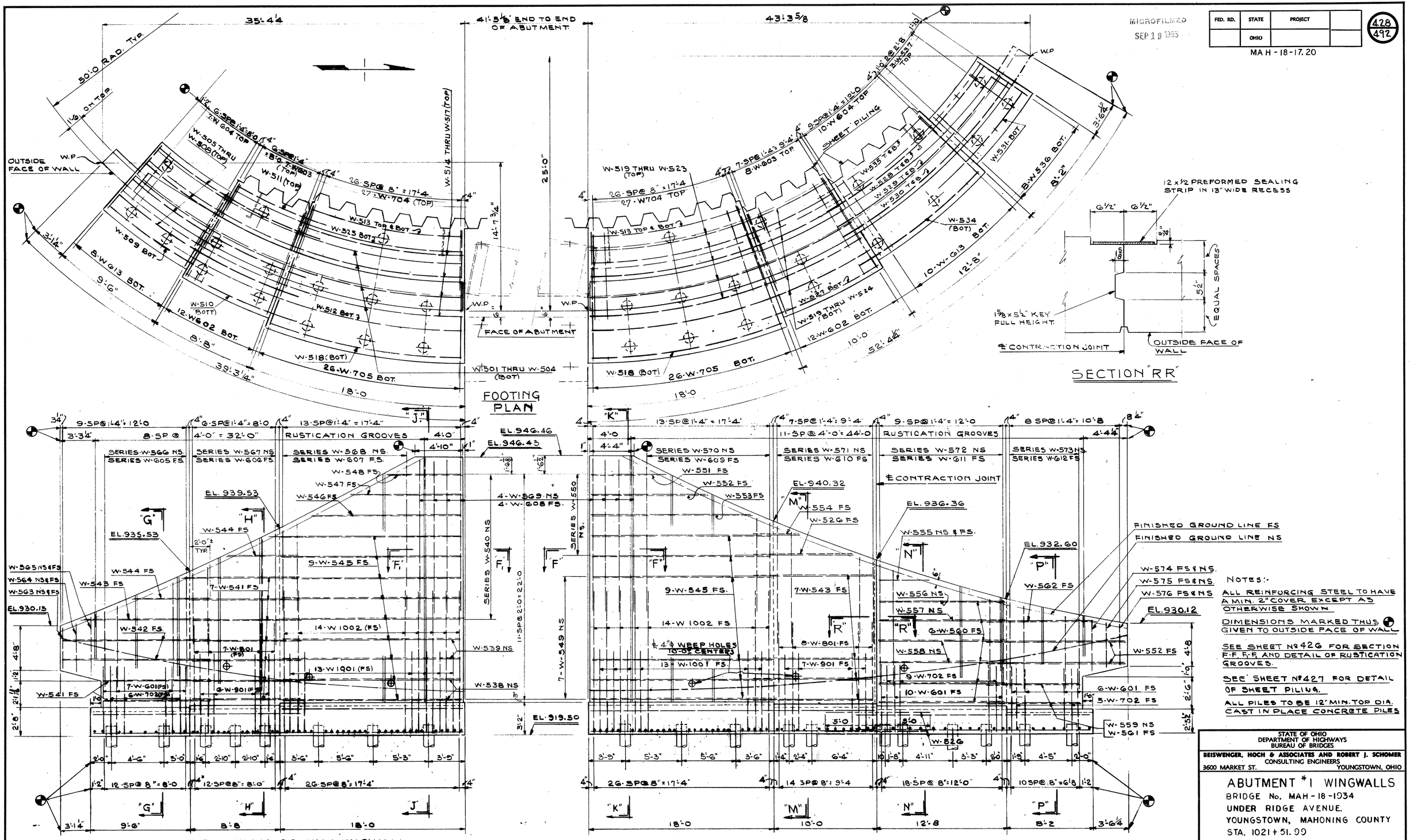
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	aw					

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MA H - 18 - 17.20

428
492



NOTES:-

ALL REINFORCING STEEL TO HAVE A MIN. 2" COVER EXCEPT AS OTHERWISE SHOWN

DIMENSIONS MARKED THUS ⊕ GIVEN TO OUTSIDE FACE OF WALL

SEE SHEET Nº426 FOR SECTION F-F, F1-F1 AND DETAIL OF RUSTICATION GROOVES.

SEE SHEET Nº427 FOR DETAIL OF SHEET PILING.

ALL PILES TO BE 12" MIN. TOP DIA. CAST IN PLACE CONCRETE PILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 WINGWALLS

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

429
492

SECTION G-G

SECTION HH

SECTION J-J

SECTION K-K
(NOTES AND DIMENSIONS NOT SHOWN SAME AS SECTION J-J)

SECTION M-M
(NOTES AND DIMENSIONS NOT SHOWN SAME AS SECTION H-H)

SECTION N-N
(NOTES AND DIMENSIONS NOT SHOWN SAME AS SECTION G-G)

SECTION P-P

DETAIL OF LIGHT STANDARD SUPPORT
FOR LOCATION SEE SHT. #425

SECTION 1-1

NOTE:
8 ANCHORBOLTS 1½" DIA. × 4'-1" LG. INCLUDED FOR PAYMENT IN ITEM S-25

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 WINGWALL SECTIONS

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

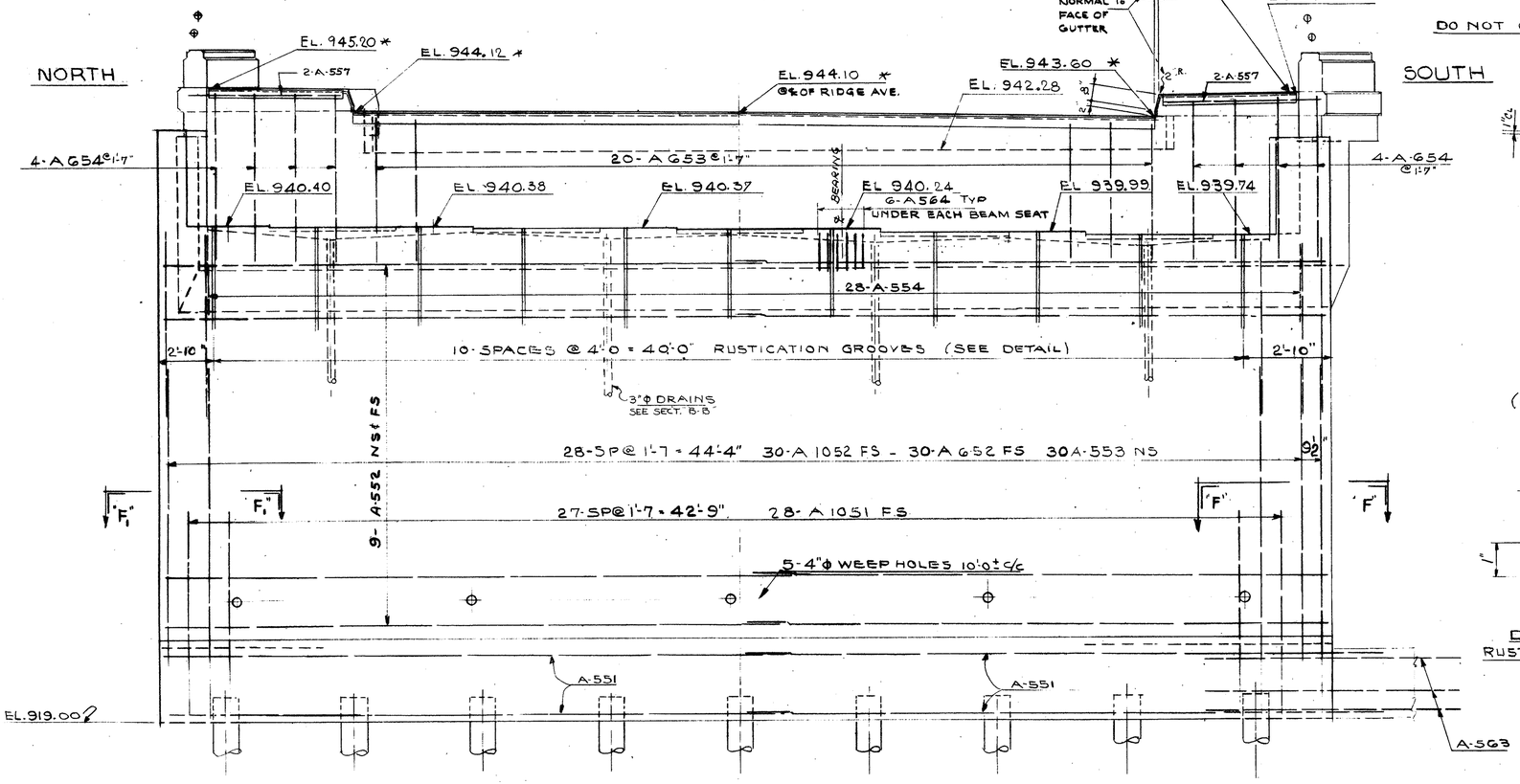
RECEIVED
SEP 29 1955

FED. RD.	STATE	PROJECT	
	OHIO		

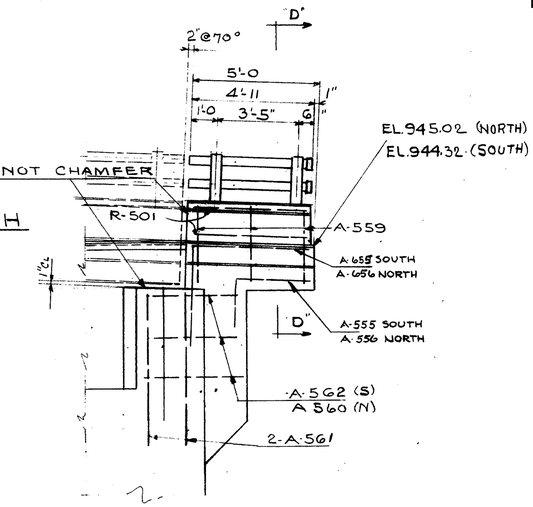
MAH - 18 - 17.20

430
492

ELEVATIONS MARKED THUS * GIVEN TO HEEL OF ANGLE.



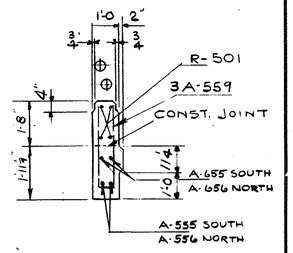
ELEVATION



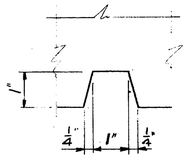
SOUTH

VIEW EE

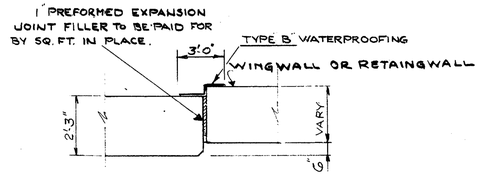
(NORTH WING WALL SIMILAR)



SECTION D-D



DETAIL OF RUSTICATION GROOVES



SECTION F-F AS SHOWN

SECTION F_1-F_1 OPP. HAND

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT # 2

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021 + 51.99

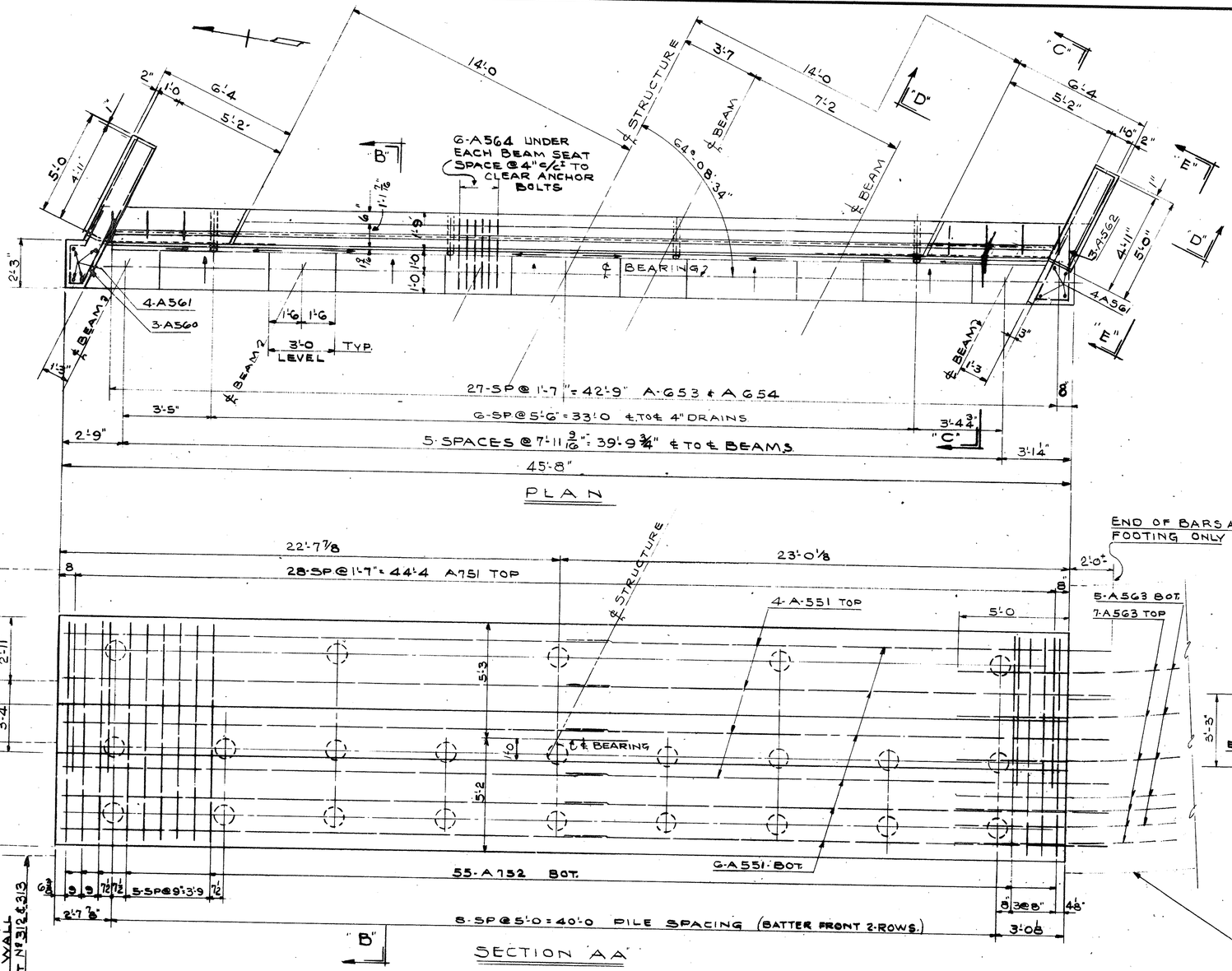
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	ew					

FED. RD.	STATE	PROJECT	
	OHIO		

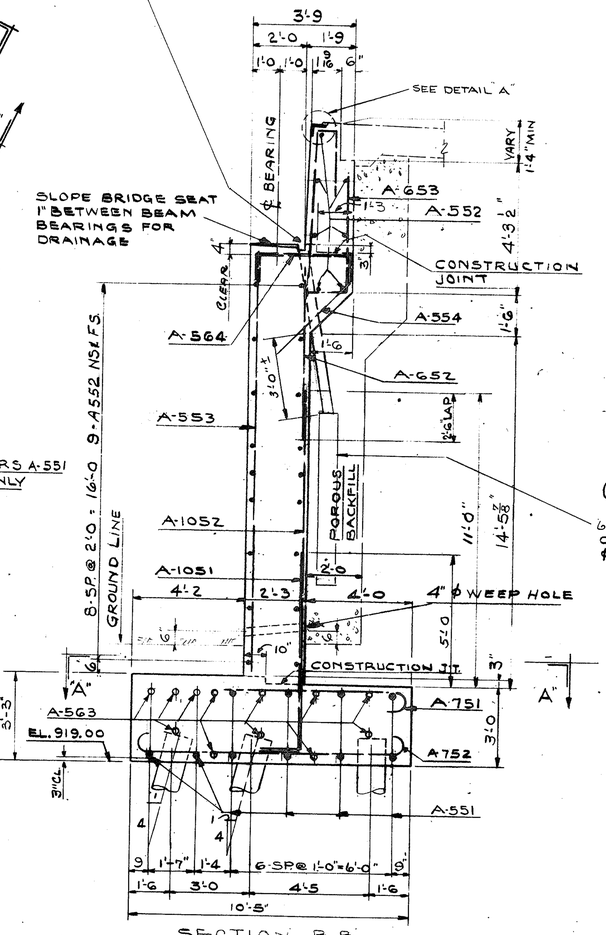
MAH-18-17.20

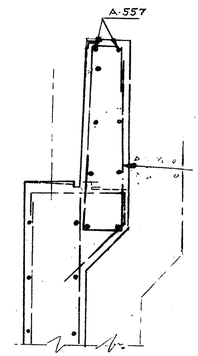
431/492

MICROFILMED SEP 19 1985



GROOVE APPROX. 3" WIDE AND 1" MIN DEPTH, FULL LENGTH OF ABUTMENT SEAT FOR DRAINAGE. SLOPE 1/8"/FT TOWARD 4"℄ PIPE OUTLETS





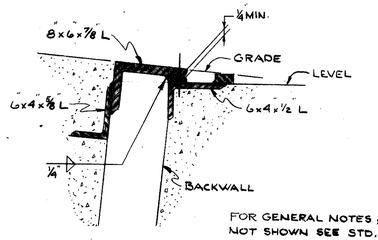
SECTION C-C

(DETAILS NOT SHOWN SAME AS SEC BB).

6'-0 LENGTH OF 8" ℄ PERFORATED BITUMINOUS COATED C.M.P. PROVIDE CAP WITH 3½ ℄ HOLE - ITEM 5-29

END OF BARS A-551 FOOTING ONLY

FOR DETAIL OF WINGWALL SEE SHEET Nº



FOR GENERAL NOTES & DETAILS NOT SHOWN SEE STD. DRAWING CSB-2-56 SHEET Nº 2

- DETAIL A -

NOTES:-

1. ALL REINFORCING STEEL SHALL HAVE A 2" MIN. COVER UNLESS OTHERWISE NOTED.
2. POROUS BACKFILL 2FT. THICK FULL LENGTH OF ABUTMENT AND WINGS SHALL EXTEND UP TO APPROACH SLAB OR TO FINISHED GROUND SURFACE.
3. ALL PILES TO BE 12"℄ MIN. TOP DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT Nº 2

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

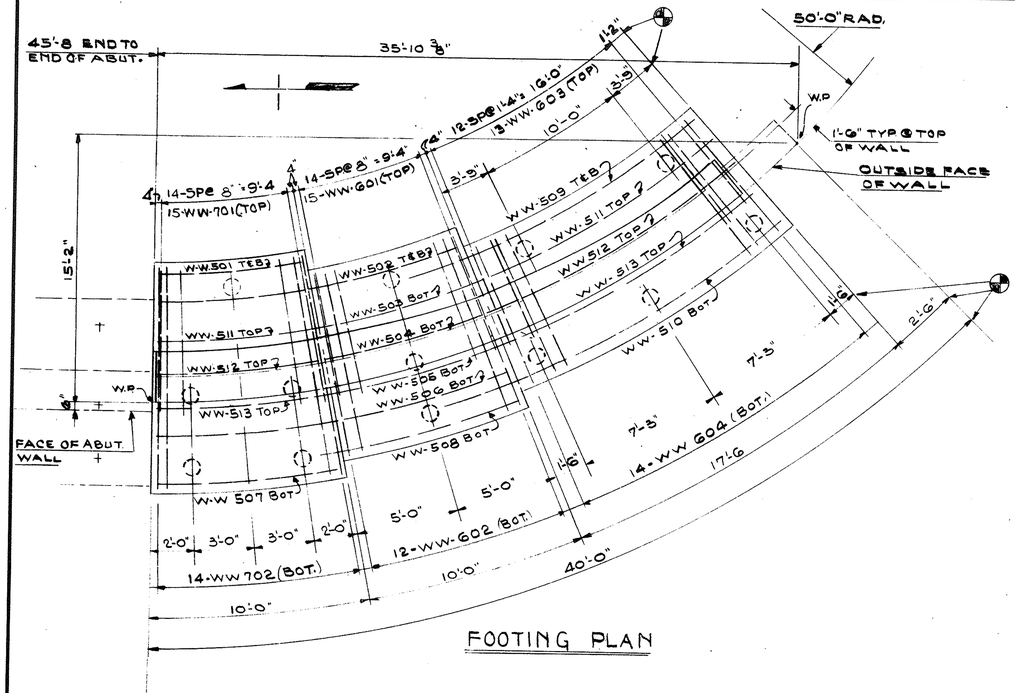
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.H.	C.W.					-

MICROFILMED
SEP 19 1985

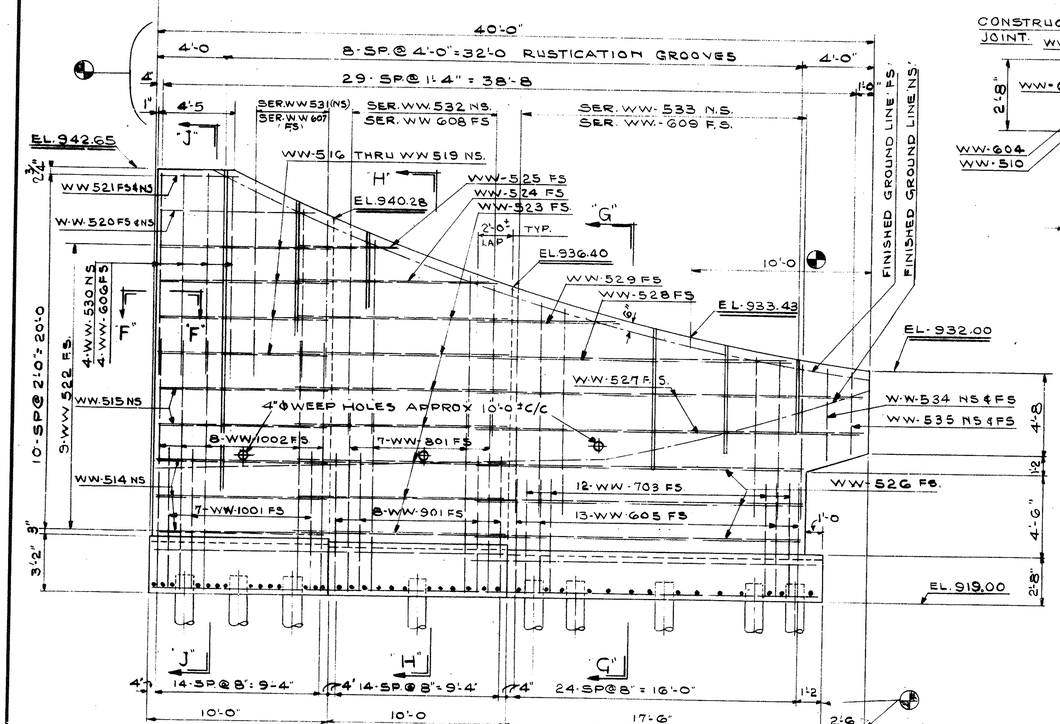
FED. RD.	STATE	PROJECT	
	OHIO		

MA H - 18-17.20

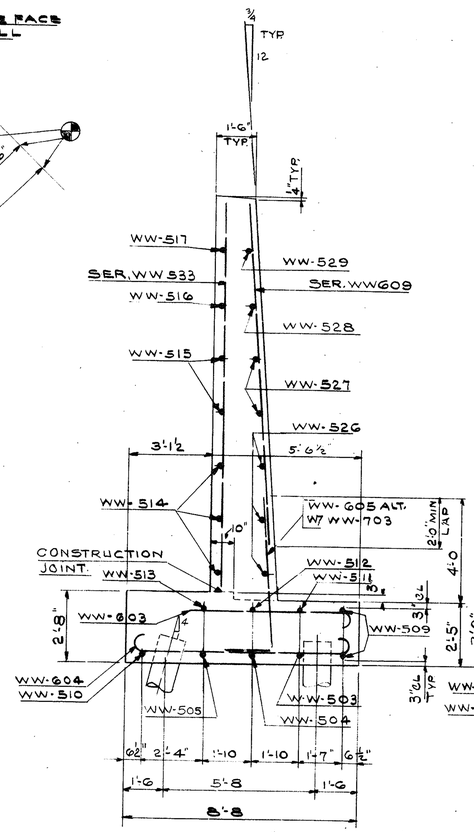
432
492



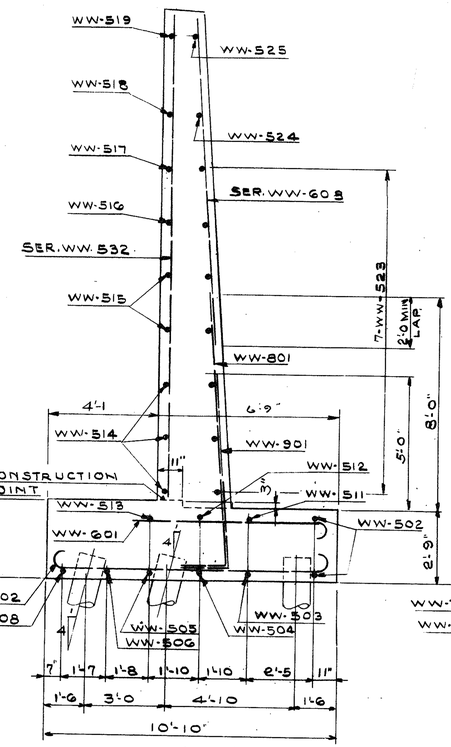
FOOTING PLAN



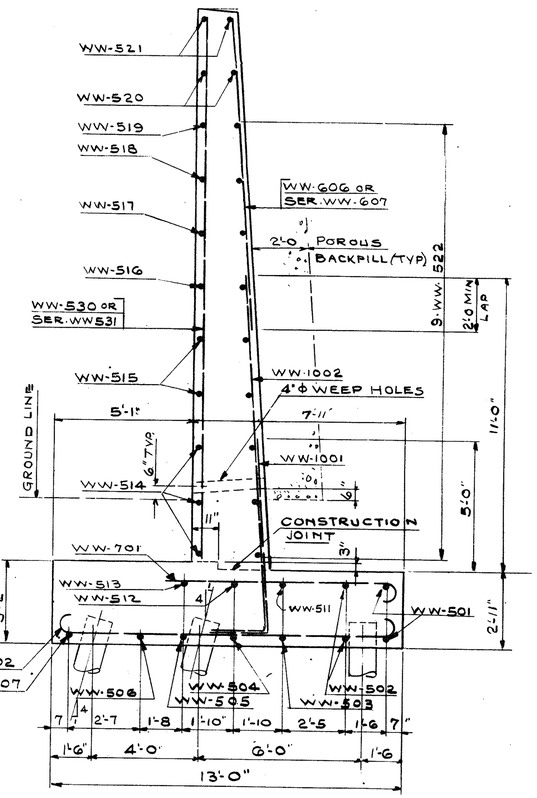
ELEVATION SOUTH WINGWALL
ABUTMENT Nº 2



SECTION "GG"



SECTION "HH"



SECTION "J-J"

NOTES:-

DIMENSIONS MARKED THUS ⊕ ARE CURVED DIMENSIONS MEASURED ON 50' RADIUS ON OUTSIDE FACE OF WALL.

SEE SHEET Nº430 FOR SECTION "FF" AND DETAIL OF RUSTICATION GROOVES.

ALL PILES SHALL BE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.

ALL REINFORCING STEEL TO HAVE A MIN. OF 2" COVER EXCEPT AS OTHERWISE SHOWN.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 WINGWALL

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

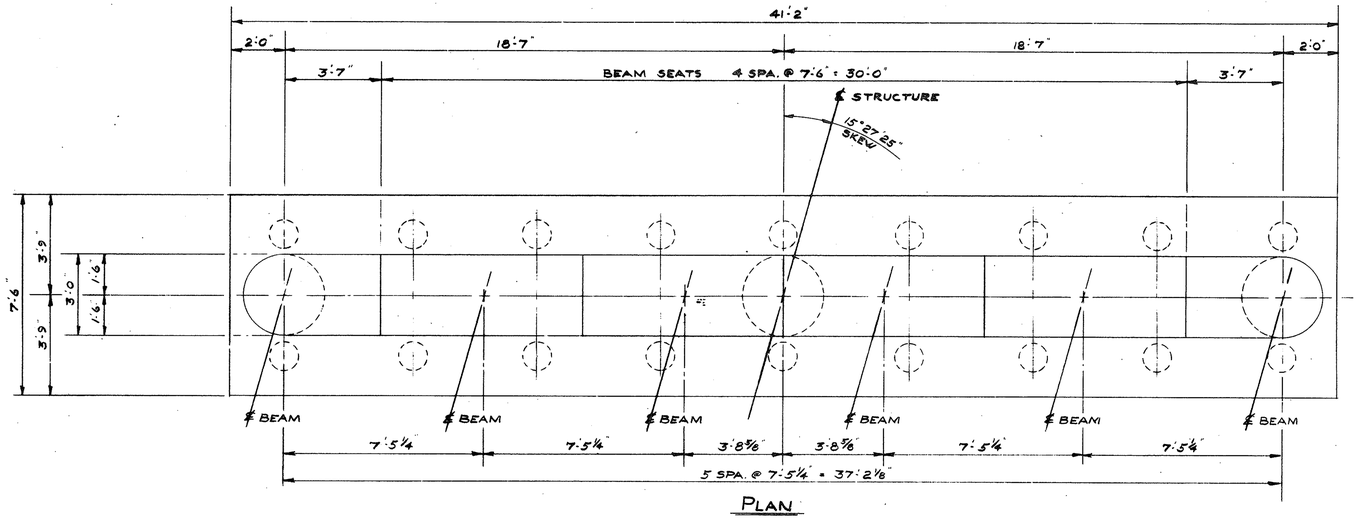
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

MICROFILMED
SEP 19 1965

FED. RD.	STATE	PROJECT	
	OHIO		

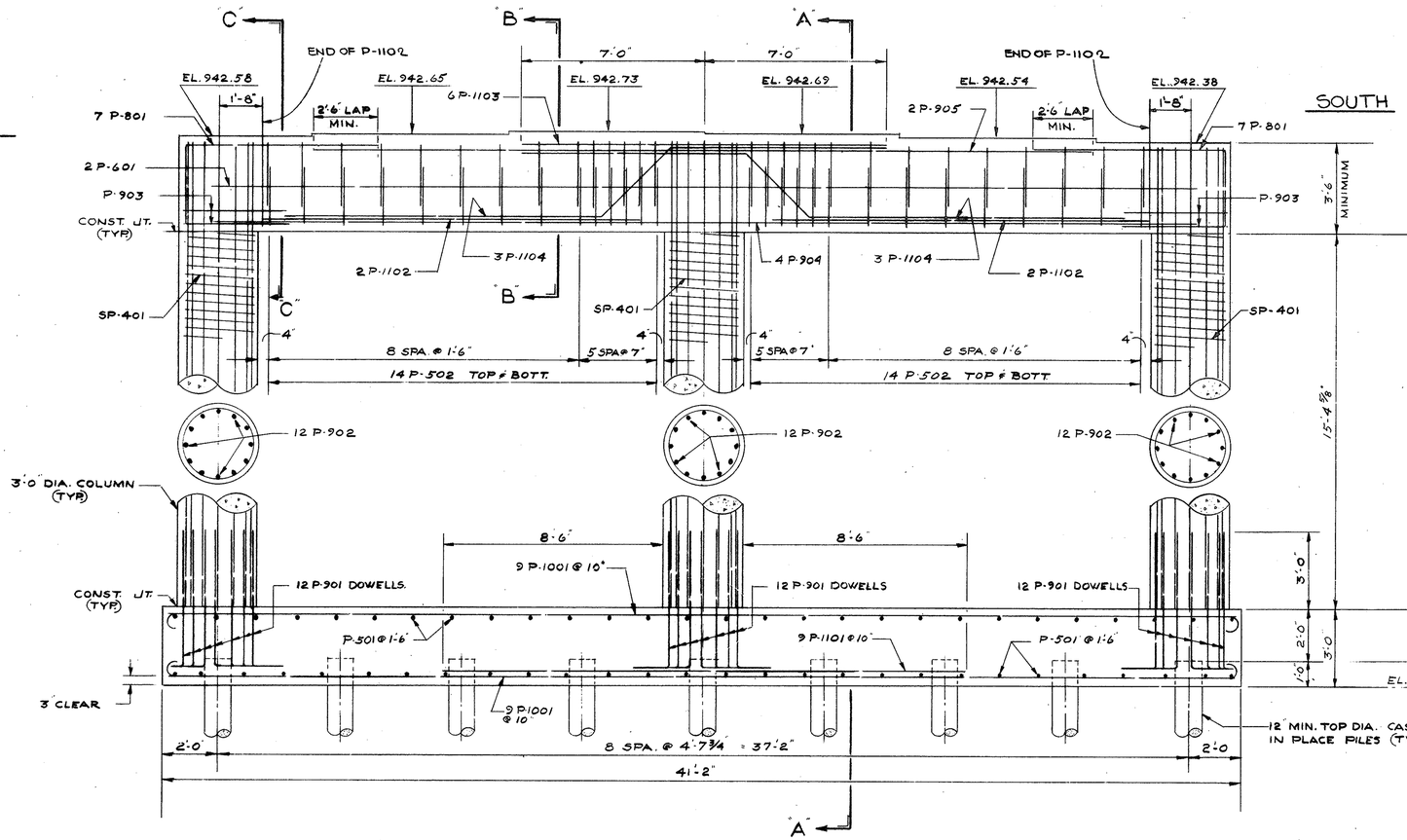
MAH - 18-17.20

433
492

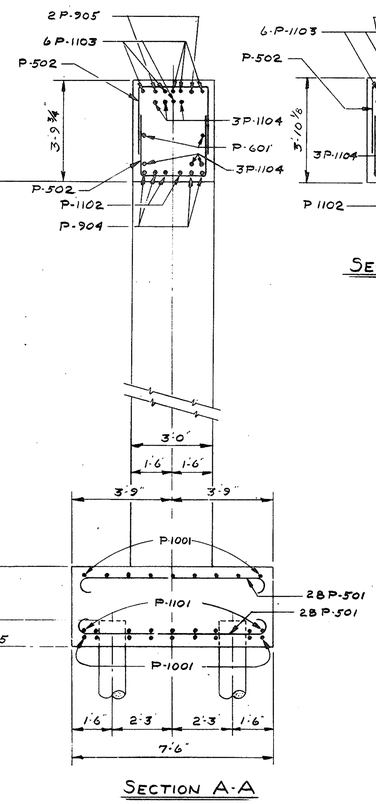


PLAN

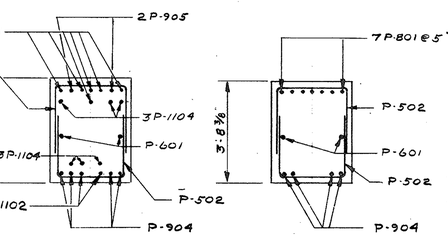
NORTH



ELEVATION



SECTION A-A



SECTION B-B

SECTION C-C

— NOTE —

ALL REINFORCING STEEL TO HAVE A 2" MINIMUM COVER, EXCEPT WHERE OTHERWISE NOTED. CARE MUST BE TAKEN IN PLACING REINFORCING STEEL IN THE PIER CAP SO IT WILL NOT INTERFERE WITH THE BEARING PLATE ANCHOR BOLTS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER

BRIDGE No. MAH-18-1034
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	UNP					

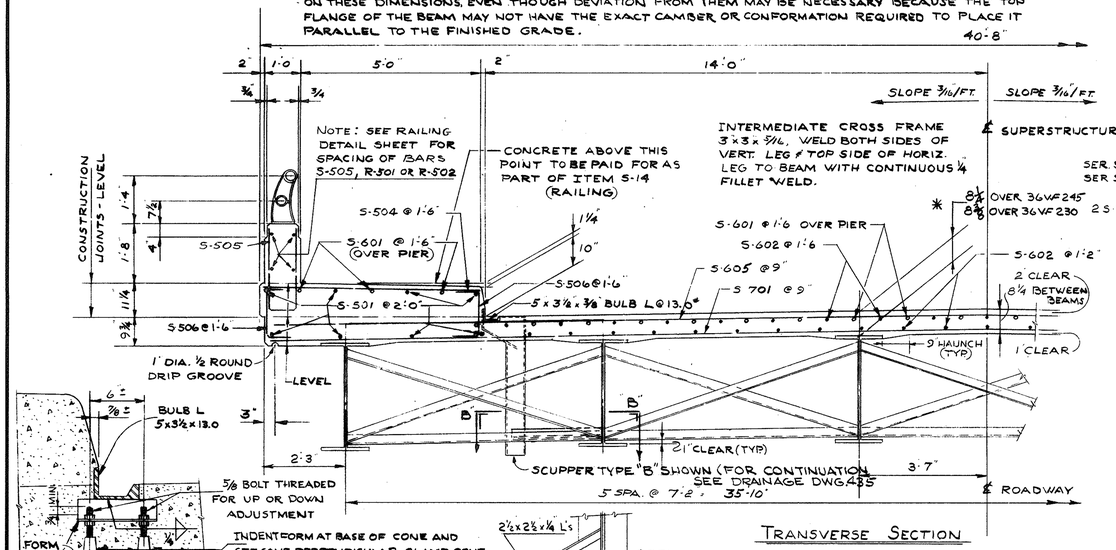
MICROFILMED SEP 19 1955

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

434
492

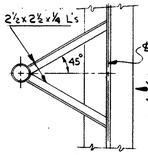
* - THESE ARE NOMINAL DIMENSIONS. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THESE DIMENSIONS, EVEN THOUGH DEVIATION FROM THEM MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.



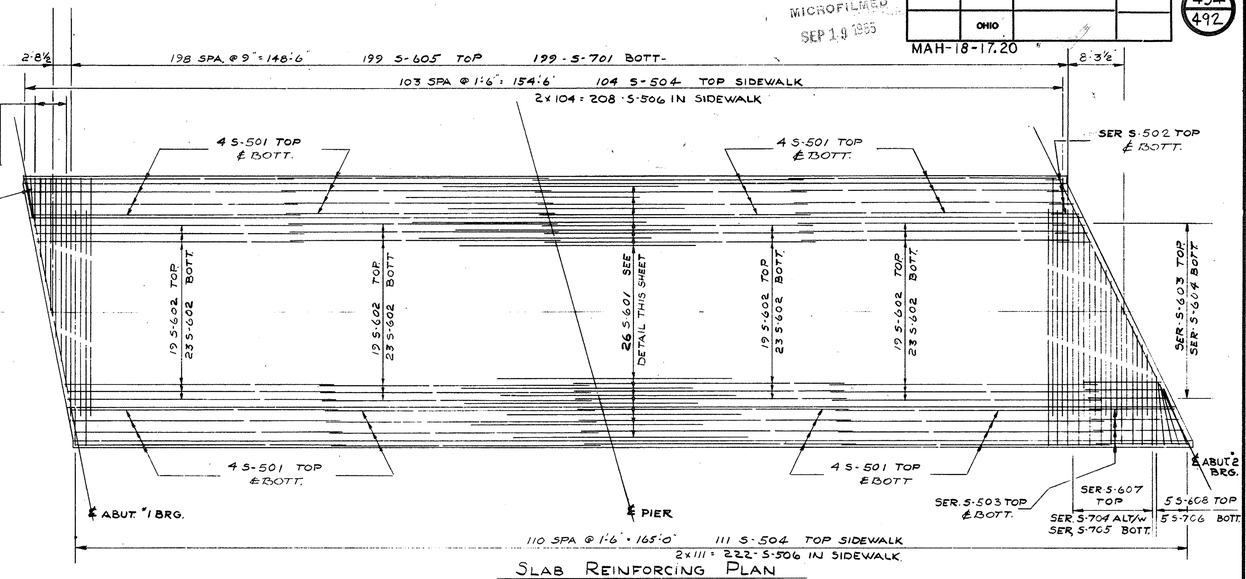
TRANSVERSE SECTION

2 1/2 x 2 1/2 x 5/16 L's - 2 AT EACH SCUPPER 4'-0" ± 9" BETWEEN SCUPPERS

- GUTTER SUPPORT DETAIL -

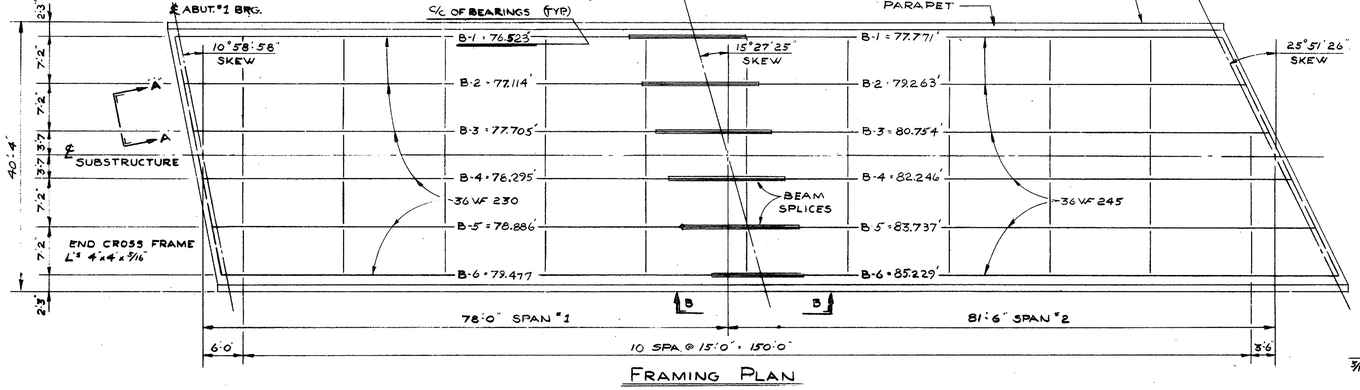


SECTION B-B
TYPE "B" SCUPPER ONLY

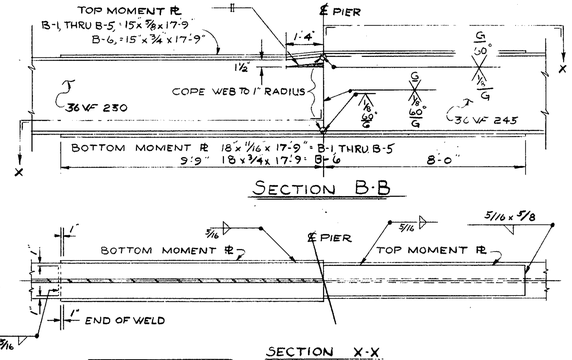


SLAB REINFORCING PLAN

SEE TRANSVERSE SECTION FOR SPACINGS NOT SHOWN

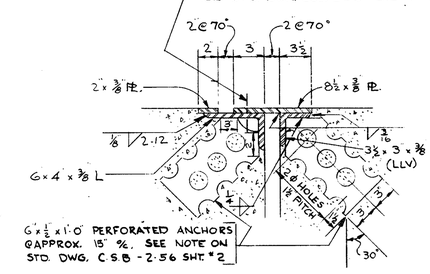


FRAMING PLAN

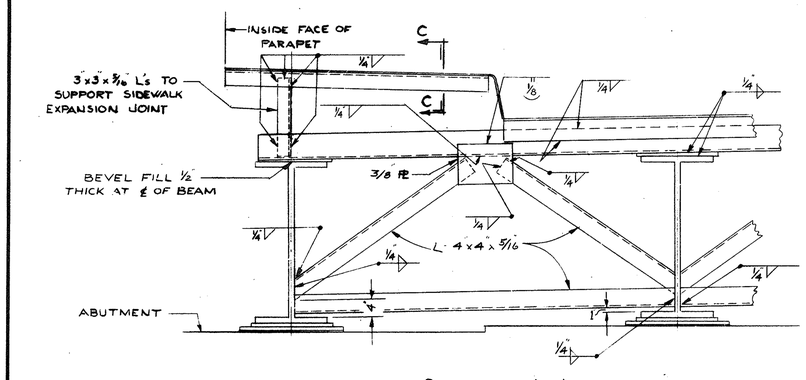


SECTION B-B

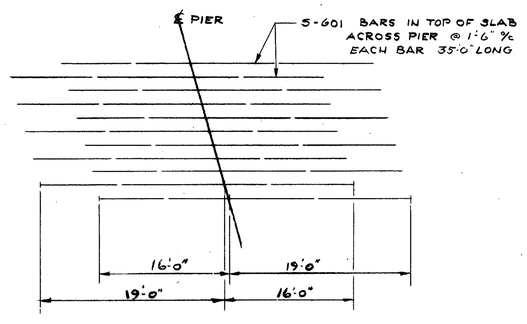
SECTION X-X



- SECTION C-C -



SECTION A-A



BEAM	R" *
B-1	7/8"
B-2	1"
B-3	1"
B-4	1"
B-5	1 1/8"
B-6	1 1/4"

DEFLECTION & CAMBER

LOCATION	B-1 LEFT FASCIA BEAM		B-2 TO B-5 INSIDE BEAMS		B-6 RIGHT FASCIA BEAM	
	SPAN 1	SPAN 2	SPAN 1	SPAN 2	SPAN 1	SPAN 2
DEFLECTION DUE TO WEIGHT OF STEEL	.15"	.20"	.15"	.20"	.20"	.25"
DEFLECTION DUE TO REMAINING DEAD LOAD	.50"	.60"	.50"	.60"	.60"	.75"
CONVEXITY REQUIRED FOR VERTICAL CURVE	1.85"	1.90"	1.90"	2.20"	1.95"	2.50"
SUM OF DEFLECTION & CONVEXITY	2.5"	2.70"	2.55"	3.00"	2.75"	3.50"
REQUIRED CAMBER	2 1/2"	2 3/4"	2 5/8"	3"	2 3/4"	3 1/2"

NOTES

SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.

* WELDING PROCEDURE: LIFT END OF BEAM R" (SEE TABLE THIS SHEET) AT ABUTMENT #1. BUTT-WELD THE BEAM FLANGES AND WEB AT PIERS, USING THE FOLLOWING SEQUENCE: MAKE 2 PASSES ON EACH FLANGE, THEN TWO ON THE WEB; REPEAT, USING ONE PASS AT EACH LOCATION UNTIL WELDS ARE COMPLETED, WELD THE BOTTOM & TOP MOMENT PLATES, LOWER THE BEAM ENDS TO FINAL POSITION.

WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN; ANY WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP.

REFERENCE SHALL BE MADE TO STD. DWG. CSB-2-56 SHT. #3 DATED 12-3-56, REVISED 2-2-59 FOR BEARING DETAILS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

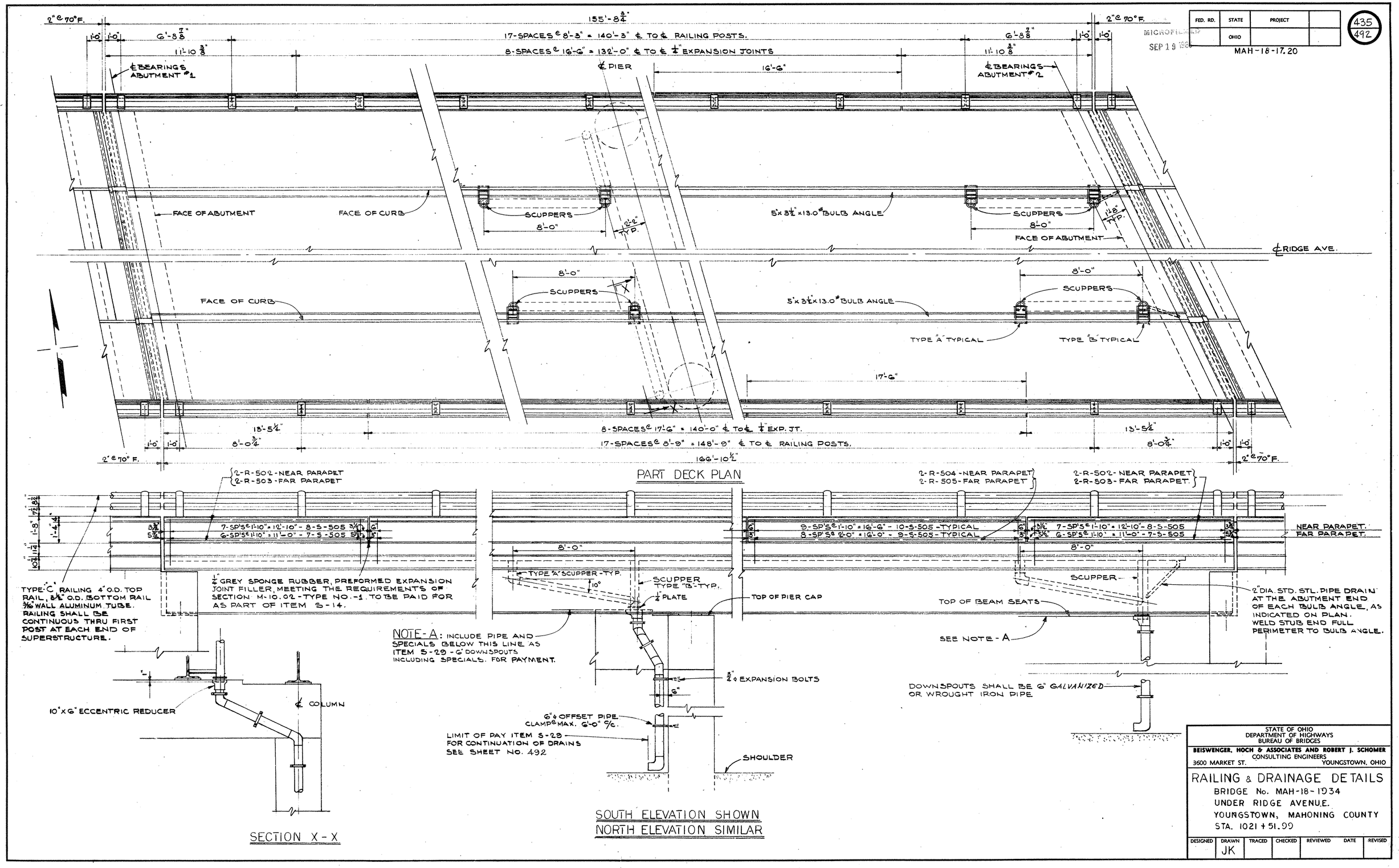
BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	JNP					

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

MICROFILMED
SEP 19 1986



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING & DRAINAGE DETAILS

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021 + 51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

FED. RD.	STATE	PROJECT	
	OHIO		

MAH - 18 - 17.20

436
492

MICROFILMED
SEP 19 1955

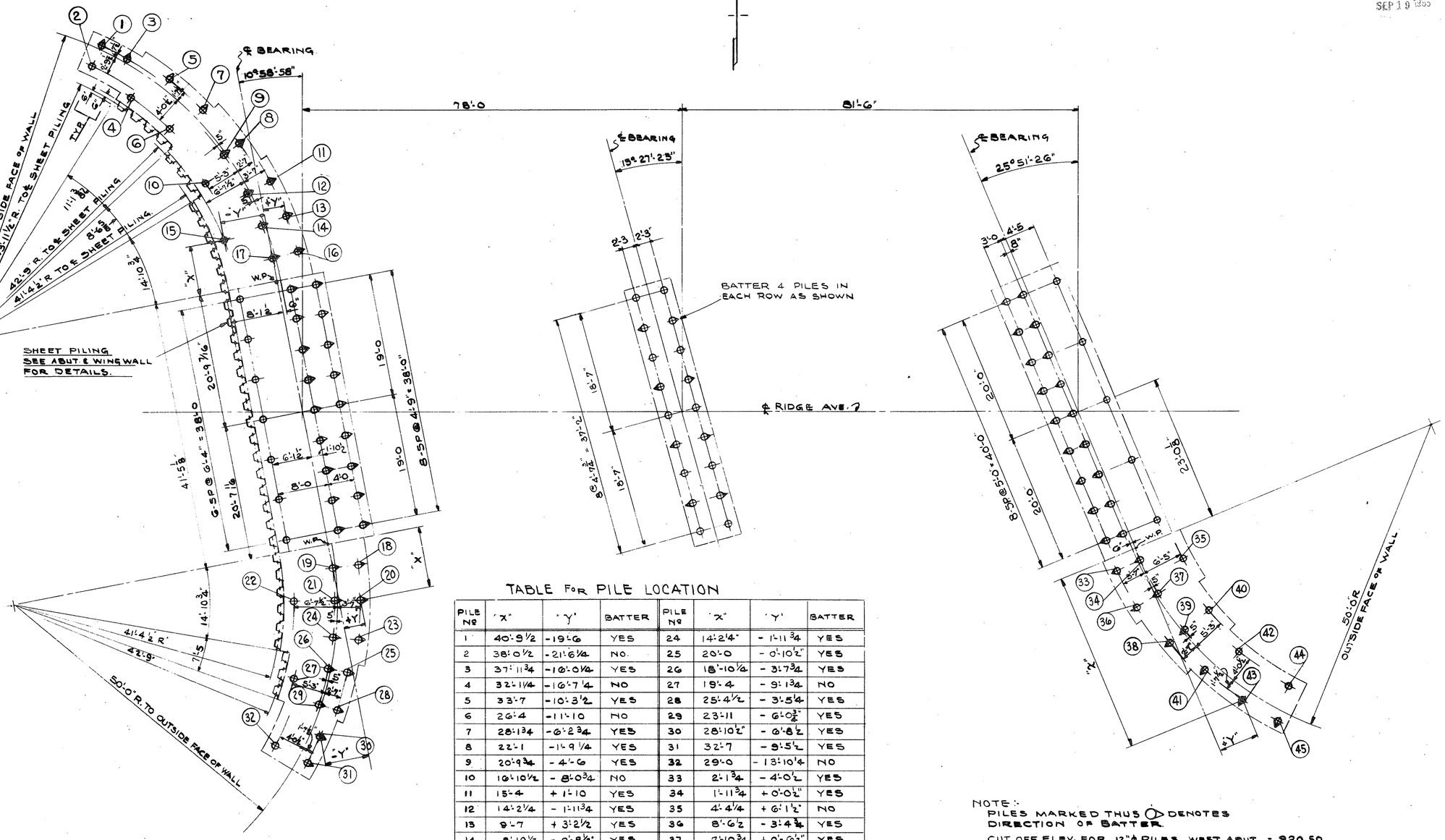


TABLE FOR PILE LOCATION

PILE Nº	"X"	"Y"	BATTER	PILE Nº	"X"	"Y"	BATTER
1	40'-9½	-19'-6	YES	24	14'-2¼"	- 1'-11¾	YES
2	38'-0½	-21'-6¼	NO	25	20'-0	- 0'-10½"	YES
3	37'-11¾	-16'-0½	YES	26	18'-10½	- 3'-7¾	YES
4	32'-11¼	-16'-7¼	NO	27	19'-4	- 9'-1¾	NO
5	33'-7	-10'-3½	YES	28	25'-4½	- 3'-5¼	YES
6	26'-4	-11'-10	NO	29	23'-11	- 6'-0¾"	YES
7	28'-1¾	-6'-2¾	YES	30	28'-10½"	- 6'-8½	YES
8	22'-1	-11'-9¼	YES	31	32'-7	- 9'-5½	YES
9	20'-9¾	- 4'-6	YES	32	29'-0	- 13'-10¼	NO
10	16'-10½	- 8'-0¾	NO	33	2'-1¾	- 4'-0½	YES
11	15'-4	+ 1'-10	YES	34	1'-11¾	+ 0'-0½"	YES
12	14'-2¼	- 1'-11¾	YES	35	4'-4¼	+ 6'-1½"	NO
13	9'-7	+ 3'-2½	YES	36	8'-6½	- 3'-4¾	YES
14	8'-10½	- 0'-8½"	YES	37	7'-10¾	+ 0'-6½"	YES
15	7'-9¼	- 6'-10	NO	38	15'-6½	- 0'-8¾"	YES
16	4'-0	+ 3'-11¼	YES	39	14'-7¾	+ 2'-1½"	YES
17	3'-8½	- 0'-0¾"	YES	40	13'-2¾	+ 6'-9"	NO
18	4'-0	+ 3'-11¼	YES	41	21'-6¼	+ 2'-7"	YES
19	3'-8½	- 0'-0¾"	YES	42	21'-0¼	+ 8'-7½	NO
20	9'-7	+ 3'-2½"	YES	43	28'-1	+ 6'-2	YES
21	8'-10½	- 0'-8½"	YES	44	28'-8¾	+ 13'-7½	NO
22	7'-9¼	- 6'-10	NO	45	34'-0½	+ 10'-8¼	YES
23	15'-4	+ 1'-10¼	YES				

NOTE:-
PILES MARKED THUS ◁ DENOTES DIRECTION OF BATTER.

CUT OFF ELEV. FOR 12"ϕ PILES WEST ABUT. = 920.50
CUT OFF ELEV. FOR 12"ϕ PILES PIER = 921.50
CUT OFF ELEV. FOR 12"ϕ PILES EAST ABUT. = 920.00.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PILE PLAN

BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021+51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	CW.					

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	WEIGHT	SH'P OR RAD.
ABUTMENT #1				
A-501	20	23'-6"	490	ST.
A-502	32	41'-1"	1371	ST.
A-503	21	20'-4"	445	ST.
A-504	21	9'-9"	214	BT.
A-505	2	4'-2"	9	BT.
A-506	2	4'-0"	8	BT.
A-507	4	6'-0"	25	ST.
A-508	36	5'-3"	197	BT.
A-509	6	6'-7"	41	BT.
A-510	3	7'-4"	23	BT.
A-511	8	4'-7"	38	ST.
A-512	3	7'-9"	24	BT.
A-513	32	10'-0"	334	BT.
A-514	39	12'-6"	508	ST.
A-602	37	15'-0"	834	ST.
A-603	27	13'-10"	561	BT.
A-604	10	15'-8"	235	BT.
A-605	2	7'-7"	23	BT.
A-606	2	7'-4"	22	BT.
A-901	68	17'-0"	3,930	BT.
A-902	33	9'-0"	1,163	ST.
A-1101	37	6'-7"	1294	BT.
A-1102	39	14'-7"	3022	BT.
TOTAL ABUTMENT #1			14,811	
WINGWALLS AT ABUTMENT #1				
W-501	1	36'-3"	38	50'-7"
W-502	1	34'-11	36	48'-9"
W-503	1	33'-6"	35	46'-9"
W-504	1	32'-5"	34	45'-4"
W-505	1	18'-2"	19	45'-0"
W-506	1	18'-11"	20	47'-0"
W-507	1	19'-8"	21	49'-0"
W-508	1	20'-4"	21	51'-0"
W-509	1	12'-0"	12	52'-6"
W-510	1	11'-1"	12	53'-6"
W-511	1	9'-5"	10	48'-10"
W-512	1	29'-0"	30	51'-9"
W-513	4	15'-0	62	42'-6"
W-514	1	15'-8"	16	44'-6"
W-515	1	16'-5"	17	46'-6"
W-516	1	17'-1"	18	48'-6"
W-517	1	17'-10"	19	50'-6"
W-518	2	19'-3"	40	54'-6"
W-519	2	24'-4"	51	44'-1"
W-520	2	25'-2"	52	45'-6"
W-521	2	26'-0"	54	47'-0"
W-522	2	26'-11"	57	48'-9"
W-523	2	28'-0"	58	50'-7"
W-524	1	28'-8"	30	51'-9"
W-525	1	23'-2"	24	44'-1"
W-526	11	10'-0"	115	48'-8"
W-527	1	13'-0"	14	53'-6"
W-528	2	21'-3"	44	46'-7"
W-529	2	21'-10"	46	48'-0"
W-530	2	22'-5"	47	49'-6"
W-531	1	13'-0"	14	51'-6"
W-534	1	15'-2"	16	52'-6"
W-535	2	13'-3"	28	45'-0"
W-536	8	7'-1"	59	BT.
W-537	3	5'-1"	16	BT.
W-538	2	34'-7"	72	49'-10"

MARK	NO.	LENGTH	WEIGHT	SH'P OR RAD.
W-539	2	38'-7"	80	49'-10"
SERIES OF W-540	1-SET OF 8	VARIES 7'-0"-36'-4 5/8" @INC. 4'-2 3/8"	181	49'-10"
W-541	9	10'-0"	94	47'-10"
W-542	2	14'-10"	31	48'-3"
W-543	8	12'-6"	104	48'-10"
W-544	2	7'-5"	15	48'-10"
W-545	18	16'-9"	314	48'-2"
W-546	1	14'-6"	15	48'-9"
W-547	1	10'-7"	11	48'-9"
W-548	1	7'-3"	8	48'-9"
W-549	7	27'-8"	202	49'-10"
SERIES OF W-550	1-SET OF 5	VARIES 6'-8"-25'-4" @INC. 4'-8"	83	49'-10"
W-551	1	6'-11"	7	48'-9"
W-552	3	12'-0"	38	48'-9"
W-553	1	15'-8"	16	48'-9"
W-554	1	5'-0"	5	48'-9"
W-555	2	5'-6"	11	49'-10"
W-556	1	12'-9"	13	49'-10"
W-557	1	21'-11"	23	49'-10"
W-558	2	23'-11"	50	49'-10"
W-559	2	19'-5"	41	49'-10"
W-560	6	11'-9"	74	47'-10"
W-561	2	9'-0"	19	48'-1"
W-562	1	11'-0"	11	48'-9"
W-563	2	4'-5"	9	ST.
W-564	2	5'-4"	11	ST.
W-565	2	6'-4"	13	ST.
SERIES OF W-566	1-SET OF 7	VARIES 9'-3"-12'-9" @INC. 7"	80	ST.
SERIES OF W-567	1-SET OF 7	VARIES 12'-10 1/2"-16'-6" @INC. 7 1/4"	107	ST.
SERIES OF W-568	1-SET OF 10	VARIES 16'-6"-22'-6" @INC. 8"	203	ST.
W-569	8	23'-6"	196	ST.
SERIES OF W-570	1-SET OF 10	VARIES 17'-2 3/4"-22'-8" @INC. 7 1/4"	208	ST.
SERIES OF W-571	1-SET OF 8	VARIES 13'-7"-17'-2 3/4" @INC. 6 1/4"	129	ST.
SERIES OF W-572	1-SET OF 10	VARIES 10'-1 1/4"-13'-8" @INC. 4 3/4"	124	ST.
SERIES OF W-573	1-SET OF 6	VARIES 8'-8 1/2"-10'-2" @INC. 3 1/2"	59	ST.
W-574	2	5'-8"	12	ST.
W-575	2	5'-2"	11	ST.
W-576	2	4'-8"	10	ST.
W-601	23	7'-3"	250	BT.
W-602	24	11'-8"	421	BT.
W-603	15	8'-5"	190	BT.
W-604	17	7'-2"	183	BT.
SERIES OF W-605	1-SET OF 7	VARIES 7'-9"-11'-3" @INC. 7"	100	ST.
SERIES OF W-606	1-SET OF 7	VARIES 7'-5"-10'-11" @INC. 7"	96	ST.
SERIES OF W-607	1-SET OF 10	VARIES 8'-1"-14'-1" @INC. 8"	166	ST.
W-608	8	15'-0"	180	ST.
SERIES OF W-609	1-SET OF 10	VARIES 9'-0"-14'-3" @INC. 7"	175	ST.
SERIES OF W-610	1-SET OF 8	VARIES 8'-3"-11'-9" @INC. 6"	120	ST.

MARK	NO	LENGTH	WEIGHT	SH'P OR RAD.
SERIES OF W-611	1-SET OF 10	VARIES 8'-8"-12'-2 3/4" @INC. 4 3/4"	157	ST.
SERIES OF W-612	1-SET OF 6	VARIES 7'-2"-8'-7 1/2" @INC. 3 1/2"	50	ST.
W-613	18	9'-6"	254	BT.
W-702	20	7'-6"	307	BT.
W-704	54	9'-6"	1049	BT.
W-705	52	14'-4"	1523	BT.
W-801	15	11'-11"	477	BT.
W-901	13	9'-2"	405	BT.
W-1001	26	9'-7"	1072	BT.
W-1002	28	15'-7"	1878	BT.
TOTAL WINGWALLS ABUT #1			12,928	
ABUTMENT #2				
A-551	20	24'-6"	511	ST.
A-552	50	23'-6"	1226	ST.
A-553	30	17'-0"	532	ST
A-554	28	10'-4"	302	BT.
A-555	2	4'-1"	9	BT.
A-556	2	3'-10"	8	BT.
A-557	4	6'-6"	27	ST.
A-559	6	6'-7"	41	BT.
A-560	3	8'-6"	27	BT.
A-561	8	4'-7"	38	ST.
A-562	3	8'-7"	27	BT.
A-563	12	10'-0"	125	BT.
A-564	36	5'-3"	197	BT.
A-652	30	8'-6"	383	ST.
A-653	20	13'-8"	411	BT.
A-654	8	14'-0"	168	BT.
A-655	2	7'-6"	23	BT.
A-656	2	7'-1"	21	BT.
A-751	29	7'-4"	434	BT.
A-752	55	11'-7"	1302	BT.
A-1051	28	8'-7"	1034	BT.
A-1052	30	14'-7"	1882	BT.
TOTAL ABUTMENT #2			8,728	
WINGWALL AT ABUTMENT #2				
WW-501	2	8'-2"	17	42'-8"
WW-502	2	17'-4"	36	44'-2"
WW-503	1	34'-7"	36	46'-7"
WW-504	1	35'-11"	37	48'-5"
WW-505	1	37'-4"	39	50'-3"
WW-506	1	21'-3"	22	51'-11"
WW-507	1	10'-7"	11	54'-6"
WW-508	1	12'-0"	13	53'-6"
WW-509	2	19'-5"	40	45'-0"
WW-510	1	22'-10"	24	52'-7"
WW-511	2	18'-3"	38	46'-7"
WW-512	2	19'-0"	40	48'-5"
WW-513	2	19'-9"	42	50'-3"

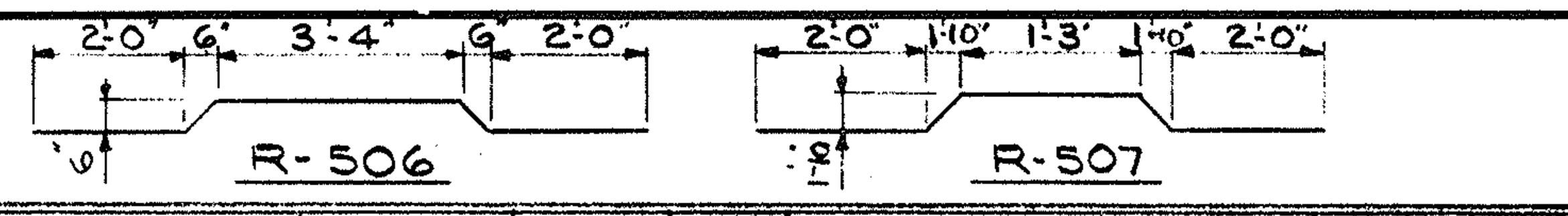
MARK	NO	LENGTH	WEIGHT	SH'P OR RAD.
WW-514	3	35'-11"	112	49'-10"
WW-515	2	39'-5"	82	49'-10"
WW-516	1	35'-0"	37	49'-10"
WW-517	1	25'-1"	26	49'-10"
WW-518	1	18'-8"	19	49'-10"
WW-519	1	13'-6"	14	49'-10"
WW-520	2	8'-7"	18	49'-10"
WW-521	2	3'-10"	8	49'-10"
WW-522	9	9'-2"	86	48'-0"
WW-523	7	11'-4"	83	48'-0"
WW-524	1	10'-7"	11	48'-9"
WW-525	1	5'-7"	6	48'-9"
WW-526	3	17'-8"	55	48'-0"
WW-527	2	21'-2"	44	48'-4"
WW-528	1	16'-9"	17	48'-9"
WW-529	1	7'-1"	7	48'-9"
WW-530	4	20'-3"	84	ST.
SERIES OF WW-531	1-SET OF 4	VARIES 17'-10"-19'-4" @INC. 6"	78	ST.
SERIES OF WW-532	1-SET OF 7	VARIES 14'-6"-17'-6" @INC. 6"	116	ST.
SERIES OF WW-533	1-SET OF 13	VARIES 10'-4"-14'-4" @INC. 4"	168	ST.
WW-534	2	5'-3"	7	ST.
WW-535	2	4'-8"	10	ST.
WW-601	15	7'-8"	173	BT.
WW-602	12	11'-8"	210	BT.
WW-603	13	6'-6"	127	BT.
WW-604	14	9'-6"	200	BT.
WW-605	13	7'-3"	142	BT.
WW-606	4	11'-11"	72	ST.
SERIES OF WW-607	1-SET OF 4	VARIES 9'-2"-11'-2" @INC. 4"	60	ST.
SERIES OF WW-608	1-SET OF 7	VARIES 8'-9"-11'-9" @INC. 6"	108	ST.
SERIES OF WW-609	1-SET OF 13	VARIES 8'-7"-12'-7" @INC. 4"	207	ST.
WW-701	15	9'-1"	279	BT.
WW-702	14	14'-2"	405	BT
WW-703	12	7'-6"	184	BT
WW-801	7	11'-11"	223	BT.
WW-901	8	9'-2"	249	BT.
WW-1001	7	9'-7"	289	BT.
WW-1002	8	15'-7"	536	BT.
TOTAL WINGWALL ABUT #2			4947	
PIER				
P-501	56	8'-4"	487	BT
P-502	56	7'-6"	438	BT.
P-601	2	37'-6"	113	ST.
P-801	14	10'-8"	399	BT.

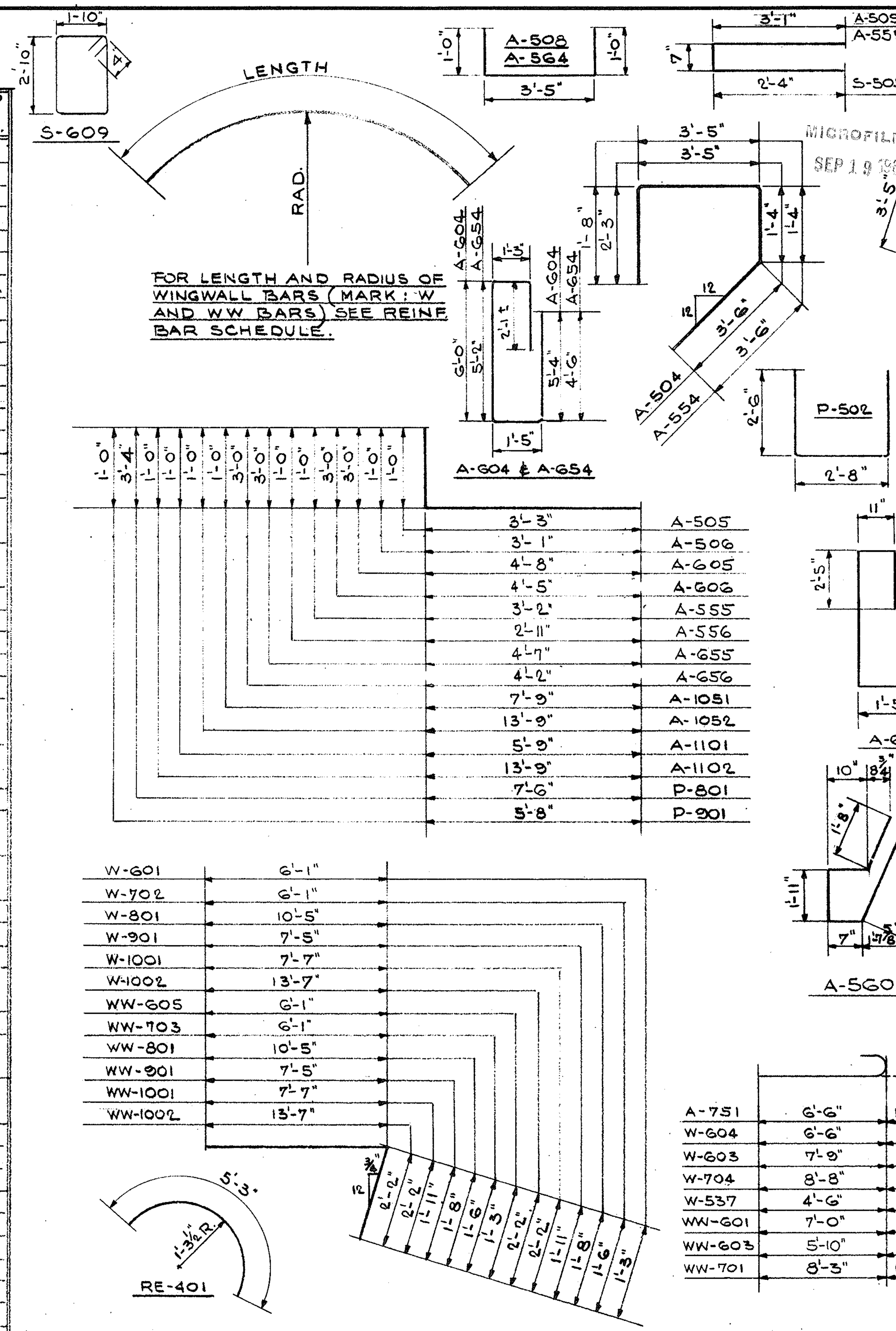
MARK	NO	LENGTH	WEIGHT	SH'P OR RAD.
P-901	36	6'-6"	796	BT.
P-902	36	18'-8"	2285	ST.
P-903	4	9'-8"	132	BT.
P-904	4	37'-6"	510	ST.
P-905	2	30'-2"	205	ST.
P-1001	18	43'-8"	3382	BT.
P-1101	9	20'-0"	956	ST.
P-1102	4	14'-6"	308	ST.
P-1103	6	14'-0"	446	ST.
P-1104	6	24'-0"	765	BT.
		SPIRALS	933	
TOTAL PIER			12082	
SUPERSTRUCTURE				
S-501	64	40'-0"	2670	ST.
SERIES OF S-502	2-SETS OF 4=8	VARIES 3'-0" TO 4'-0" @INC. 4"	30	ST.
SERIES OF S-503	2-SETS OF 4=8	VARIES 13'-0-14'-0" @INC. 4"	112	ST.
S-504	215	5'-10"	1368	ST.
S-505	182	5'-1"	965	BT.
S-506	430	2'-2"	972	BT.
S-601	26	35'-0"	1367	ST.
S-602	168	40'-0"	10,093	ST.
SERIES OF S-603	1-SET OF 19	VARIES 5'-3"-12'-3" @INC. 5"	250	ST.
SERIES OF S-604	1-SET OF 23	VARIES 5'-0"-12'-4" @INC. 4"	300	ST.
S-605	199	40'-0"	11,956	ST.
SERIES OF S-606	1-SET OF 7	VARIES 5'-0"-28'-0" @INC. 3'-10"	173	ST.
SERIES OF S-607	1-SET OF 16	VARIES 8'-0"-30'-6" @INC. 1'-6"	463	ST.
S-608	33	7'-4"	363	ST.
S-609	4	9'-7"	58	BT
S-701	199	40'-0"	16,270	ST.
SERIES OF S-702	1-SET OF 7	VARIES 9'-6"-32'-6" @INC. 3'-10"	301	ST.
S-703	2	6'-0"	25	ST.
SERIES OF S-704	1-SET OF 8	VARIES 8'-0"-29'-0" @INC. 3'-0"	302	ST.
SERIES OF S-705	1-SET OF 8	VARIES 12'-0"-33'-0" @INC. 3'-0"	368	ST.
S-706	5	10'-6"	107	ST.
TOTAL SUPERSTRUCTURE			48,453	
RAILING *				
R-501	16	4'-8"		ST.
R-502	8	13'-1"		ST.
R-503	8	11'-6"		ST.
R-504	32	17'-2"		ST.
R-505	32	16'-2"		ST.
R-506	4	8'-8"		BT.
R-507	8	10'-4"		BT
REPLACEMENT BARS				
RE-401	1	5'-3"	SPIRAL	BT.
RE-501		5'-6"		ST.
RE-601		6'-0"		ST.
RE-701		6'-3"		ST.
RE-801		6'-6"		ST.
RE-901		7'-0"		ST.
RE-1001		7'-3"		ST.
RE-1101		7'-6"		ST.

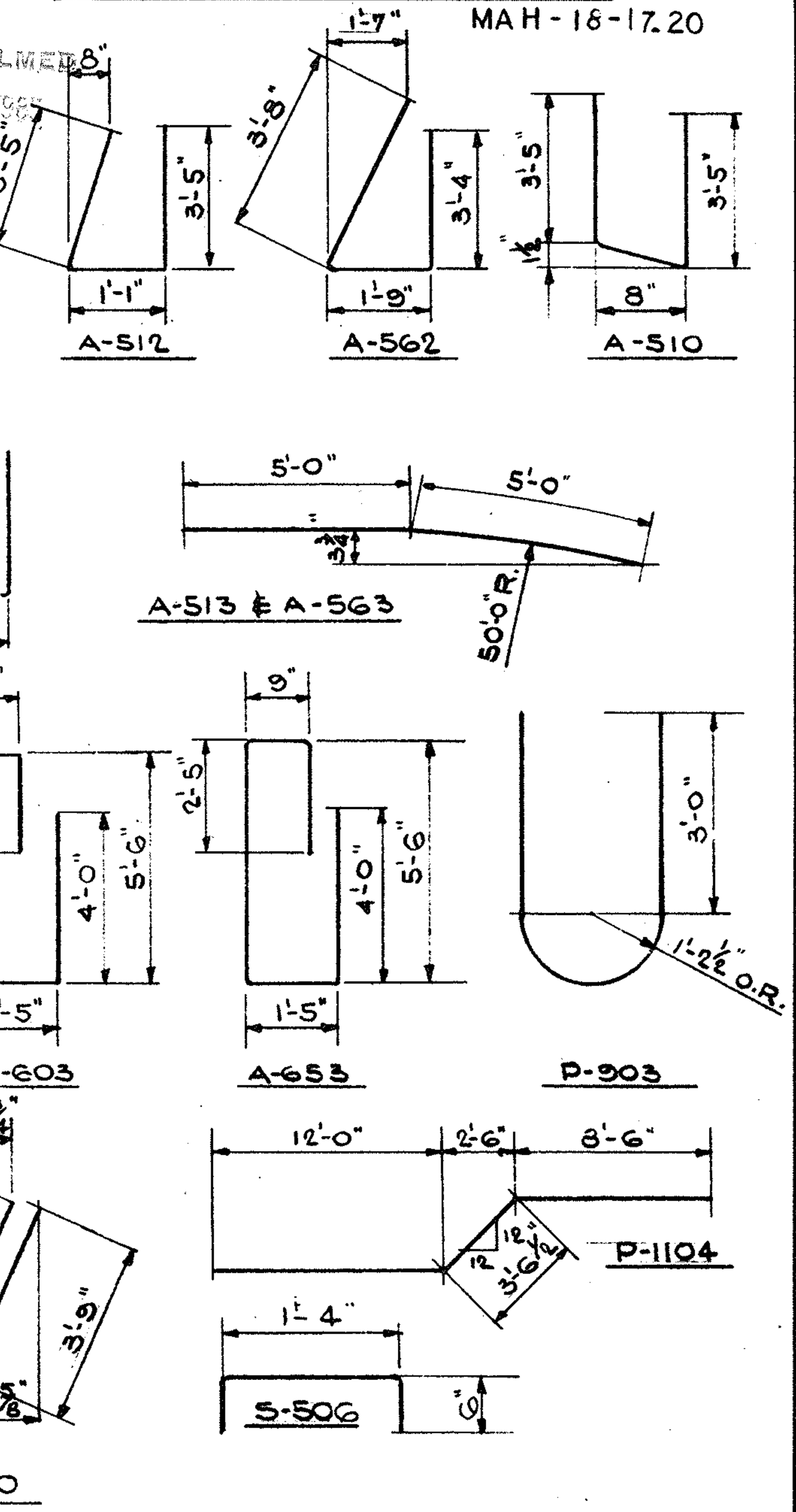
SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT
SP-401	3	2'-8"	15'-4 5/8"	4"	49	807
SPACERS	12					126
TOTAL						933

GRAND TOTAL: 102,882 LBS







MARK		
A-751	6'-6"	10"
W-604	6'-6"	8"
W-603	7'-9"	8"
W-704	8'-8"	10"
W-537	4'-6"	7"
WW-601	7'-0"	8"
WW-603	5'-10"	8"
WW-701	8'-3"	10"

MARK			
A-752	10"	9'-11"	10"
A-901	1'-3"	14'-6"	1'-3"
W-602	8"	10'-4"	8"
W-613	8"	8'-2"	8"
W-705	10"	12'-8"	10"
W-536	7"	5'-11"	7"
WW-602	8"	10'-4"	8"
WW-604	8"	8'-2"	8"
WW-702	10"	12'-6"	10"
P-501	7"	7'-2"	7"
P-1001	1'-5"	40'-10"	1'-5"

SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO 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. 0.68 LBS PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER FOR EXAMPLE A-701 IS A NO. 7 SIZE BAR AND A-1001 IS A NO 10 SIZE BAR.

REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL BE NOT REQUIRED.

* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

FED. RD.	STATE	PROJECT	
	OHIO		

437 / 492

MAH-18-17.20

MICROFILMED
SEP 19 1985

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE
BRIDGE No. MAH-18-1934
UNDER RIDGE AVENUE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1021 + 51.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK					

FED. RD.	STATE	PROJECT	
2	OHIO		

438
492

MAH-18-N.20

MICROFILMED
SEP 19 1985

CURVE DATA

Δ = 53°49'25"
Dc = 5°45'
Ls = 400'
Ts = 708.91
Es = 128.51
Xc = 398.39'
Yc = 210.68'

4+00

5+00 RAMP "L"

INLET

END TAPER STA. 1023+67.64

SLOPE WALLS

BEGIN APPROACH SLAB STA. 4+40.49

WOODLAND AVE.

WOODLAND & RELOCATED WOODLAND AVE.

BEGIN TAPER STA. 1027+17.64

RETAINING WALL

STA. 4+11.46

12' ACCELERATION LANE (RAMP "N")

℄ WESTBOUND LANE

℄ SURVEY OF S.R. #18

S.C. STA. 1025+55.38

1027+00

1028+00

℄ EASTBOUND LANE

PT STA. 13+24.72

STA. 1024+98.23

STA. 1025+08.02
℄ X-RD STA. 4+98.94

23°23'27"

M.H.

80' S&S PIPE

3" GAS LINE

18" S&S PIPE

CLEAR

WOODLAND & WILLIAMS STA. 9+99.56

50' E.

MIN. CLEARANCE

℄ RAMP "K"

12+00

13+00

14+00

FACE RETAINING WALL

℄ ORIGINAL WOODLAND

℄ RELOCATED WOODLAND

20°31'44" SKEW

55°17'15"

25' R.

℄ BROADWAY

WILLIAM ST.

FACE EXISTING CURB

APPROACH SLAB STA. 5+53.34

FACE EXISTING CURB

℄ OF STATIONING

10+00 935.04
10+50 936.34
11+00 937.64
11+50 938.94
12+00 940.24

15.75' ACTUAL MIN. CLEARANCE
15.00 REQUIRED MIN CLEAR.

P.C. RAMP "K" +2.60%

P.C. S.R. #18

800' V.C.

+3.12% P.V.I. STA. 1026+00 -2.72%
EL. 940.62

+4.35% 200' V.C. P.V.I. STA. 9+00 EL. 932.44 +2.60%
RAMP "K"

932.61
933.39
934.00
934.41
934.64

1024+00
1025+00
1026+00

960
940
920

STA. 4+40.49
EL. 954.00

954.42

956.64

STA. 5+53.34
EL. 960.77

961.00

963.27

EL. 926.60
EL. 926.65
EL. 933.00

+3.42% 100' V.C. EL. 950.00 +4.25%

+4.25% 938.89

15.00' REQ'D. MIN. CLEAR.

15.75' ACTUAL MIN. CLEAR.

320 340 360

4+00 5+00 6+00

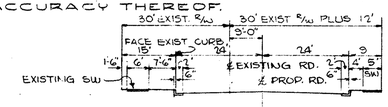
950 952 956 960 962

9+00 10+00 11+00

2:1

FOUNDATION SOUNDING

FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF 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.



TYPICAL SECTION
PROPOSED WOODLAND AVE.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINF. CONCRETE DECK & SUBSTRUCTURE
SPANS: 38'-6" 51'-9" 56'-0" c/c BRGS.
ROADWAY: 48'-0" F/F CURBS 5'-0" SIDEWALK EACH SIDE
LOAD FREQUENCY: CF 2000
SKEW 23°23'27" R.F. FOR PIERS & ABUT. #1 - 20°31'44" RF FOR ABUT. #2
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG AS-1-54
SUPERELEVATION: NONE
ALIGNMENT: TANGENT
TRAFFIC COUNT: 14,000 ADT 1979

AVERAGE ESTIMATED PAY LENGTH FOR PILES ARE:
ABUTMENTS @ 25
PIERS @ 25

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE Nº MAH.-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN MAHONING COUNTY
STA. 1024+98.23

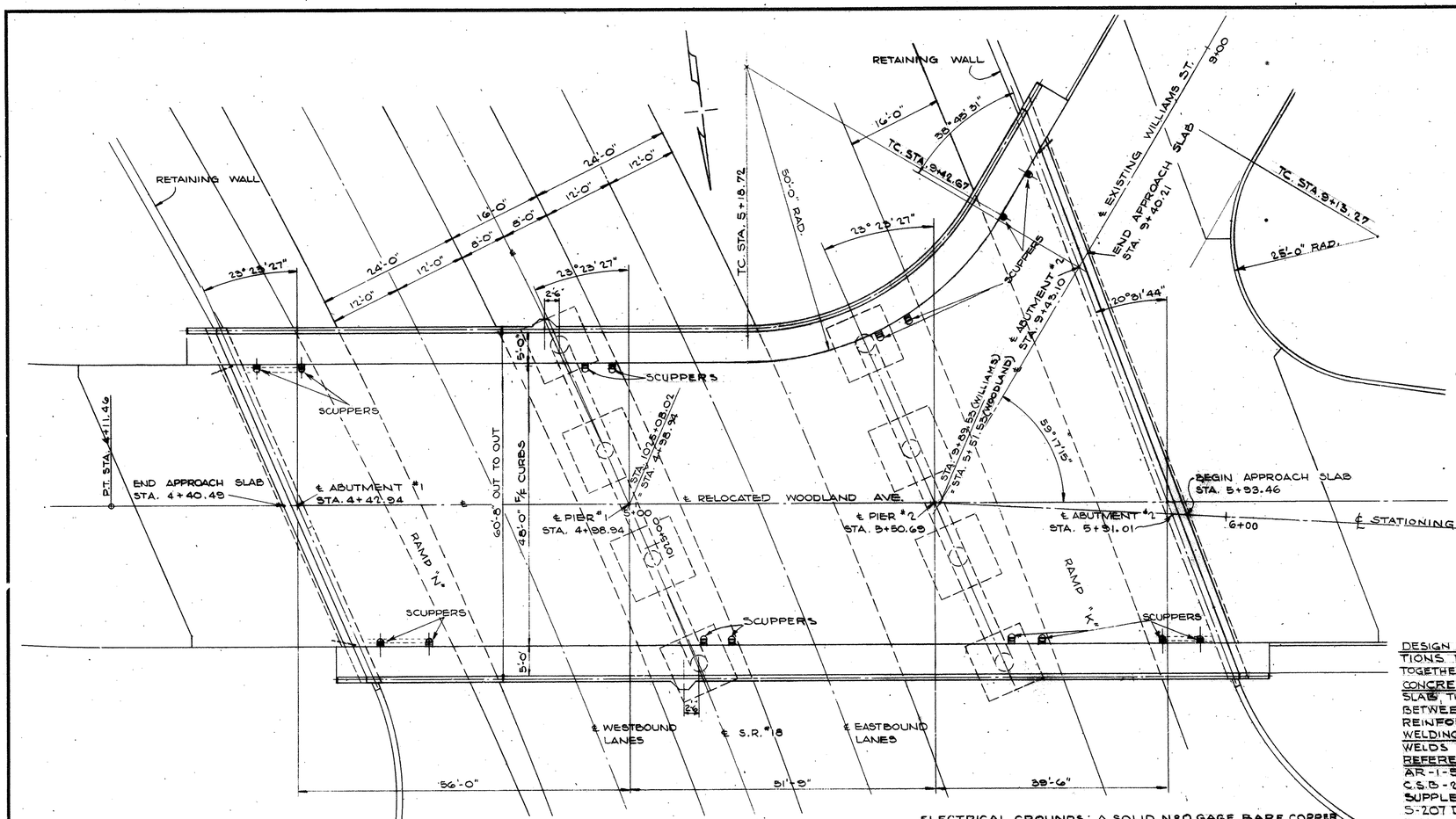
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	AC		D.S.	DHC		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

439
492

MAH-18-17.20



GENERAL PLAN

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GEN		
E-2	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP		
E-2	1898	SQ.FT.	STEEL SHEET PILING, LEFT IN PLACE						
			(32 # SQ.FT.) INCLUDING ANCHOR BARS*		1,898				
E-2	2,702	CU.YDS.	UNCLASSIFIED EXCAVATION		2,560	142			
S-1	349	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	349					
S-1	507	CU.YDS.	CLASS "E" CONCRETE ABUTMENT WALLS		507				
S-1	93	CU.YDS.	CLASS "C" CONCRETE PIER ABOVE FOOTINGS			93			
S-1	469	CU.YDS.	CLASS "E" CONCRETE PIER & ABUT. FOOTINGS		401	68			
S-3	16	SQ.YDS.	TYPE "B" WATERPROOFING		16				
S-3	126	LIN.FT.	WATER PROOFING PREMOLDED SEALING STRIP		126				
S-9	94	SQ.FT.	1" PREFORMED EXP. JOINT FILLER		94				
S-4	183,258	LBS.	REINFORCING STEEL	82,932	74,717	25609			
S-7	250,432	LBS.	STRUCTURAL STEEL	250,432					
S-8	250,432	LBS	FIELD PAINTING OF STRUCTURAL STEEL AS PER PLAN.	250,432					
S-14	321	LIN.FT.	RAILING (TYPE "C") (ALUM. RAIL & SUP'TS, CONCRETE PARAPET.)	301	20				
S-16	LUMP	SUM	FIRST TEST PILE				LUMP		
S-18	4925	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONC. PILES		3725	1200			
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM	LUMP					
S-29	LUMP	SUM	SCUPPERS	LUMP					
S-28	352	CU.YDS.	POROUS BACKFILL		352				
S-29	161	LIN.FT.	6" ϕ STD. WEIGHT PIPE GALV. OR W.I. (DOWN SPOUT) INCLUDING SPECIALS.				161		
S-29	126	LIN.FT.	8" ϕ PERFORATED BITUMINOUS COATED C.M.P. INCLUDING SPECIALS		126				

*WT. OF ANCHOR BARS = 203.0#

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 5-1-57 TOGETHER WITH CURRENT REVISIONS THEREOF.

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 PLACED IN SECTIONS BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE PARALLEL TO TRANSVERSE REINFORCING STEEL AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY AT THE OPTION OF THE CONTRACTOR BE MADE IN THE SHOP.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57, DATED 4-9-57, REVISED 12-2-59.
C.S.D.-2-56, SHEET 2 & 3, DATED 12-3-56, REVISED 2-2-59.
SUPPLEMENTAL SPECIFICATIONS S-101, DATED 12-2-59 AND S-207 DATED 5-28-55.

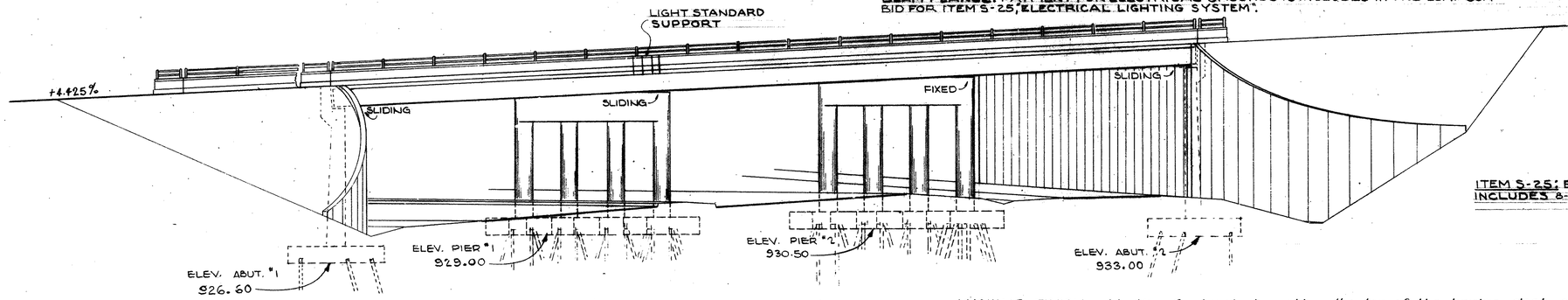
ELECTRICAL GROUNDS: A SOLID N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT PIER N°2. THE LOWER ENDS OF THE WIRES SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE CAST-IN-PLACE CONCRETE PILES AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE A N°6 GAGE BARE STRANDED TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT, THERE SHALL BE A TINNED N°6 GAGE BARE COPPER WIRE BRAZED TO THE ANCHOR BOLTS OF EACH LIGHT STANDARD AND THE OTHER ENDS BRAZED OR BOLTED TO THE OUTSIDE BEAM FLANGE. PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25, "ELECTRICAL LIGHTING SYSTEM".

PILES: ALL PILES TO BE 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN TO A MIN. BEARING CAPACITY OF 40 TONS.

SURFACE FINISH OF CONCRETE: ABUTMENT WALLS SHALL RECEIVE A RUBBED SURFACE FINISH. ALL OTHER EXPOSED SURFACES SHALL BE GOVERNED BY THE PROVISIONS OF ITEM S-1.

UTILITY LINES: ALL LABOR AND EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORN BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DOWN SPOUTS: SHALL BE 6" STANDARD WROUGHT IRON PIPE OR HOT DIPPED GALVANIZED STEEL PIPE. JOINTS SHALL BE MADE BY WELDING. ALL WELDING SHALL BE DONE BEFORE GALVANIZING. STRAPS OR CLAMPS SHALL BE WROUGHT IRON OR HOT DIPPED GALVANIZED STEEL. ON BOLTS GALVANIZING AS CALLED FOR IN SEC: M-10.30 WILL BE CONSIDERED SUFFICIENT.



ELEVATION

ITEM S-25: ELECTRICAL LIGHTING SYSTEM INCLUDES 8-1½ϕ x 4'-1" ANCHOR BOLTS.

MACHINE FINISH. At the Contractor's option the top of the bridge deck slab may be machine finished. Machine finishing, if used, shall be in accordance with the Proposed Note," Machine Finishing of Bridge Deck Slabs.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

WEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

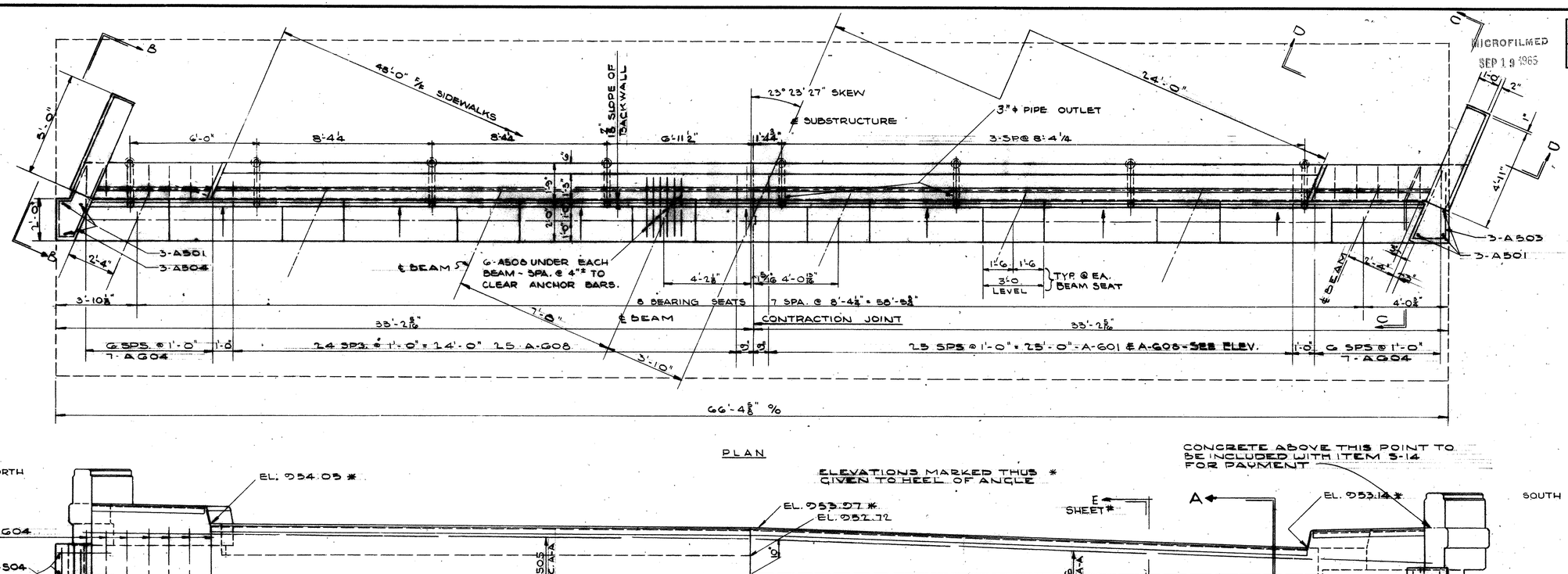
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH.	GASKILL		ew.	DHC.		

MICROFILMED
SEP 19 1965

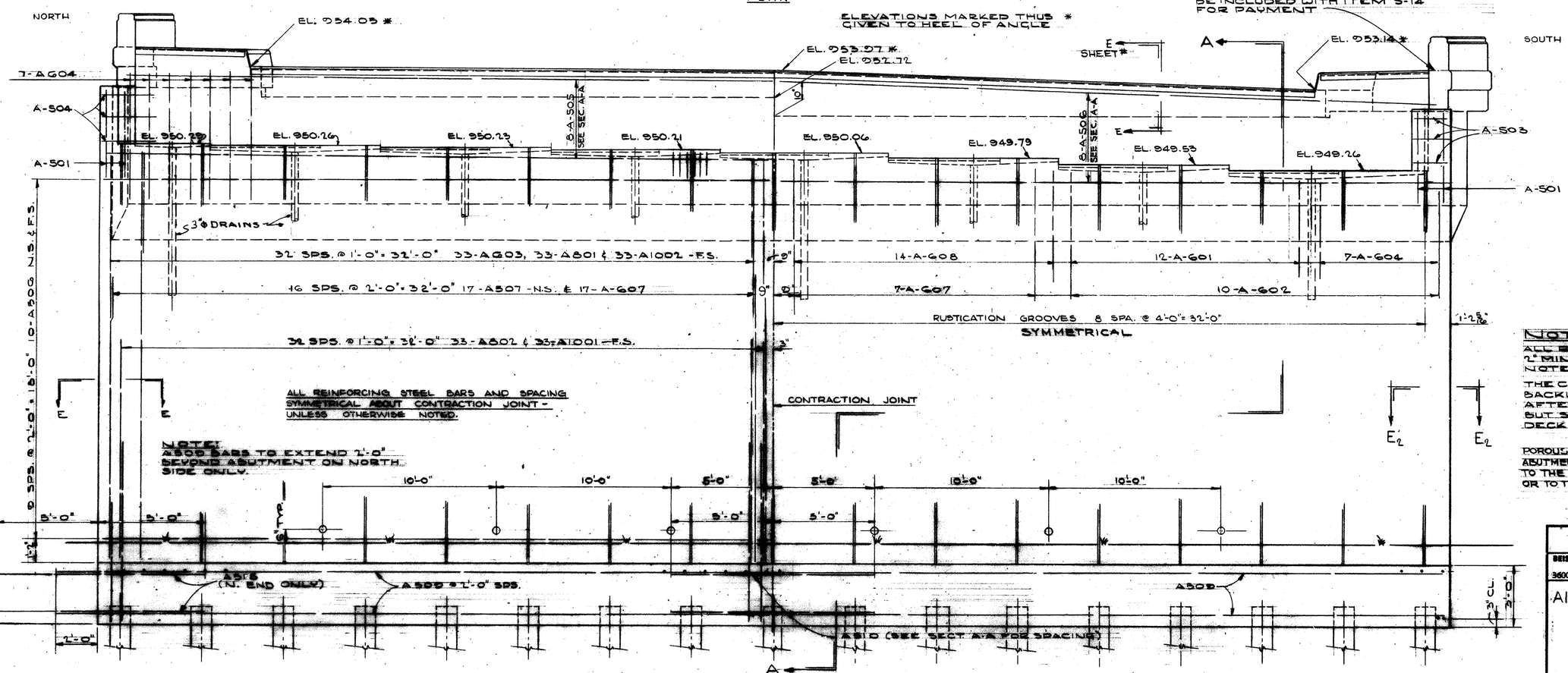
FED. RD.	STATE	PROJECT	
	OHIO		

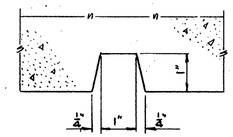
MAH-18-17.20

440
492



PLAN





DETAIL OF RUSTICATION GROOVES

ELEVATIONS MARKED THUS * GIVEN TO HEEL OF ANGLE

NOTES:

ALL REINFORCING STEEL TO HAVE A 2" MIN. COVER UNLESS OTHERWISE NOTED

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEELWORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB CONCRETE IS PLACED.

POROUS BACKFILL: 2 FT. THICK FULL LENGTH OF ABUTMENT AND WINGWALLS SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLABS OR TO THE FINISHED GROUND SURFACE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 PLAN & ELEVATION

BRIDGE NO. MAH-18-1041
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02

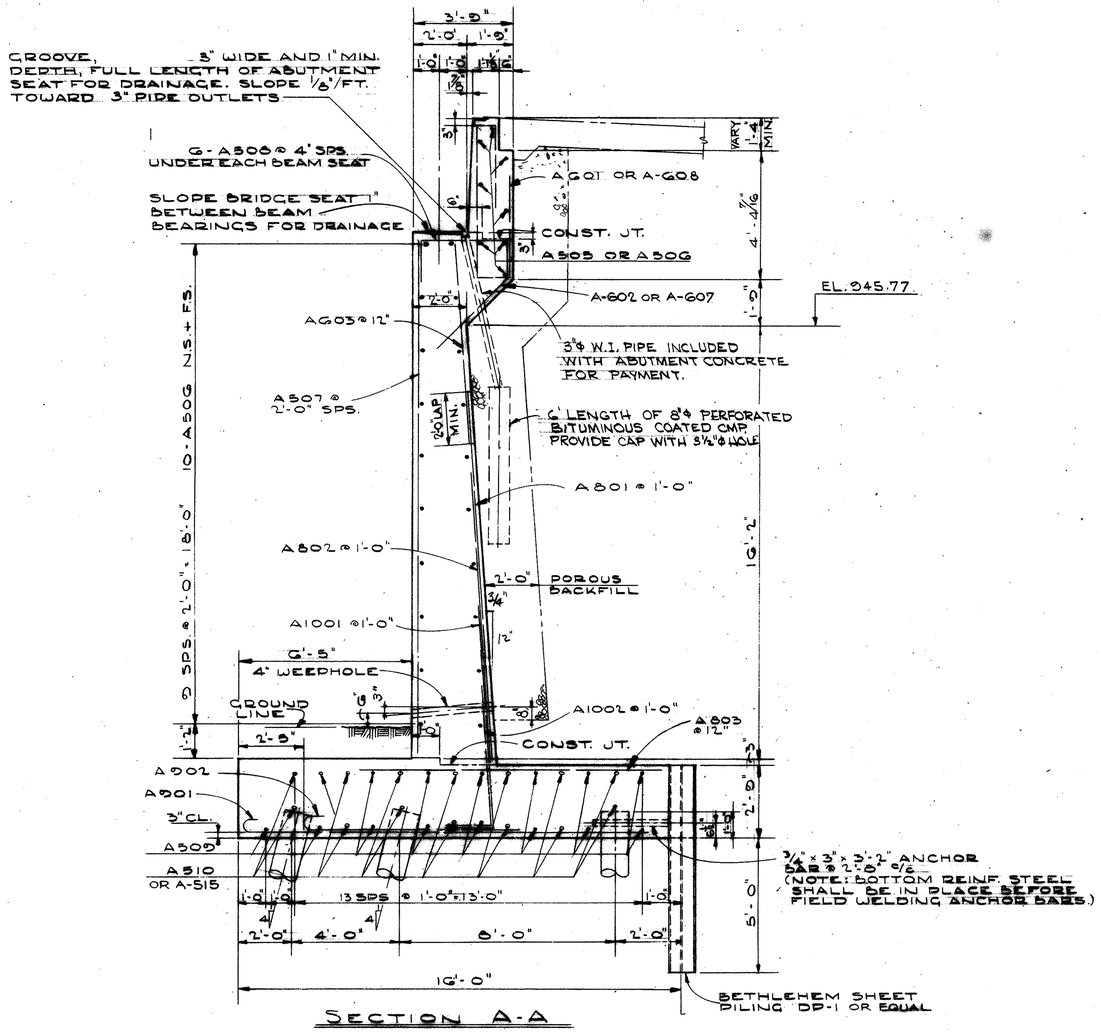
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	GASKILL AC		ew	DHC		

MICROFILMED
SEP 19 1985

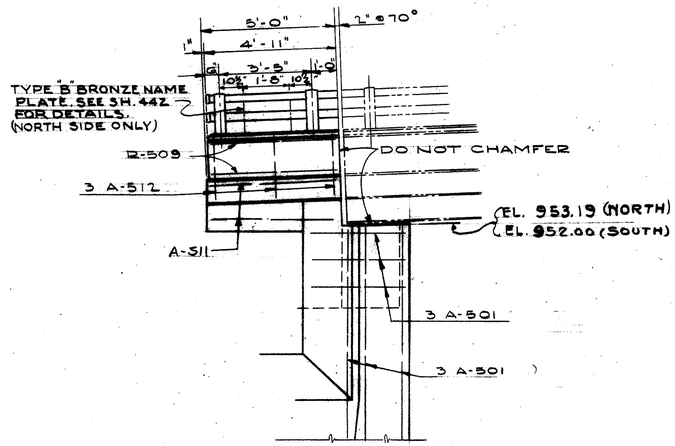
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

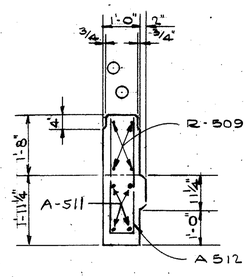
441
492



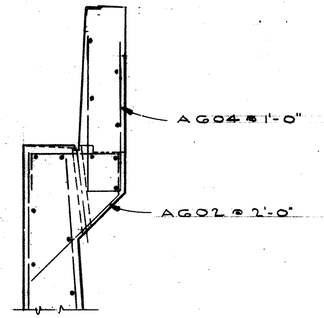
SECTION A-A



SECTION B-B
SOUTH WINGWALL SIMILAR

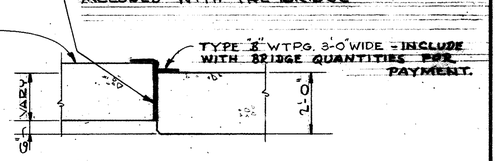


SECTION D-D

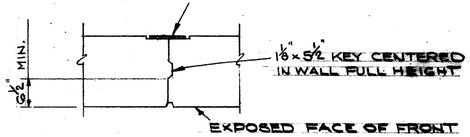


SECTION C-C
DETAILS NOT SHOWN SAME AS SECTION A-A

PREFORMED EXPANSION JOINT FILLER. WHERE RETAINING WALL JOINS ABUTMENT THE QUANTITY IS INCLUDED WITH THE WALL. IN CASE OF WINGWALLS THE QUANTITY IS INCLUDED WITH THE BRIDGE



SECTION E-E As Shown
SECTION E_2-E_2 Opp Hand



DETAIL OF CONTRACTION JOINT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

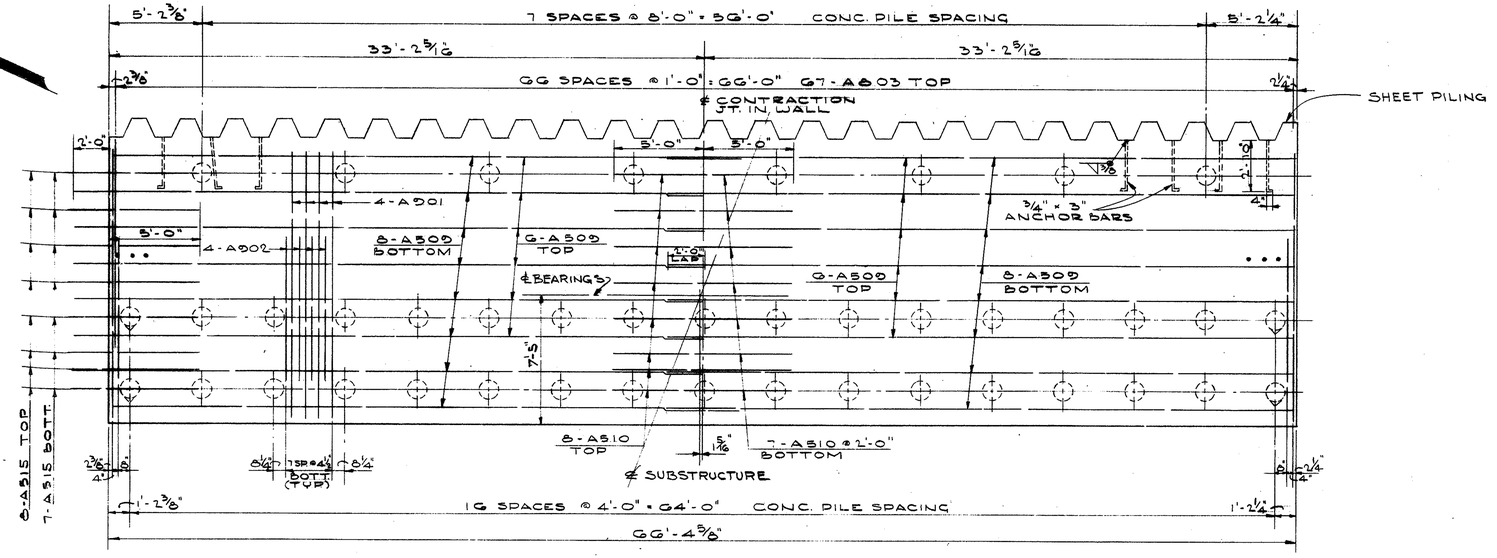
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	AC		ecw	DHC		

MICROFILMED
SEP 19 1985

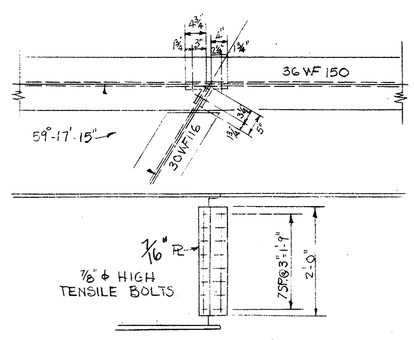
FED. RD.	STATE	PROJECT	
	OHIO		

MAH.-18-17.20

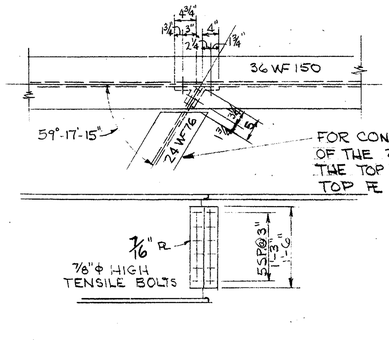
442
492



FOOTER PLAN



DETAIL - "C"



FOR CONNECTION AT DETAIL "D" - THE TOP FE. OF THE 24 WF 76 IS PLACED 1 1/8" LOWER THEN THE TOP FE OF THE 36 WF 150. DETAIL "E" THE TOP FE OF BOTH BEAMS ARE LEVEL.

DETAIL "D" & "E"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 DETAILS

BRIDGE NO. MAH-18-1041
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

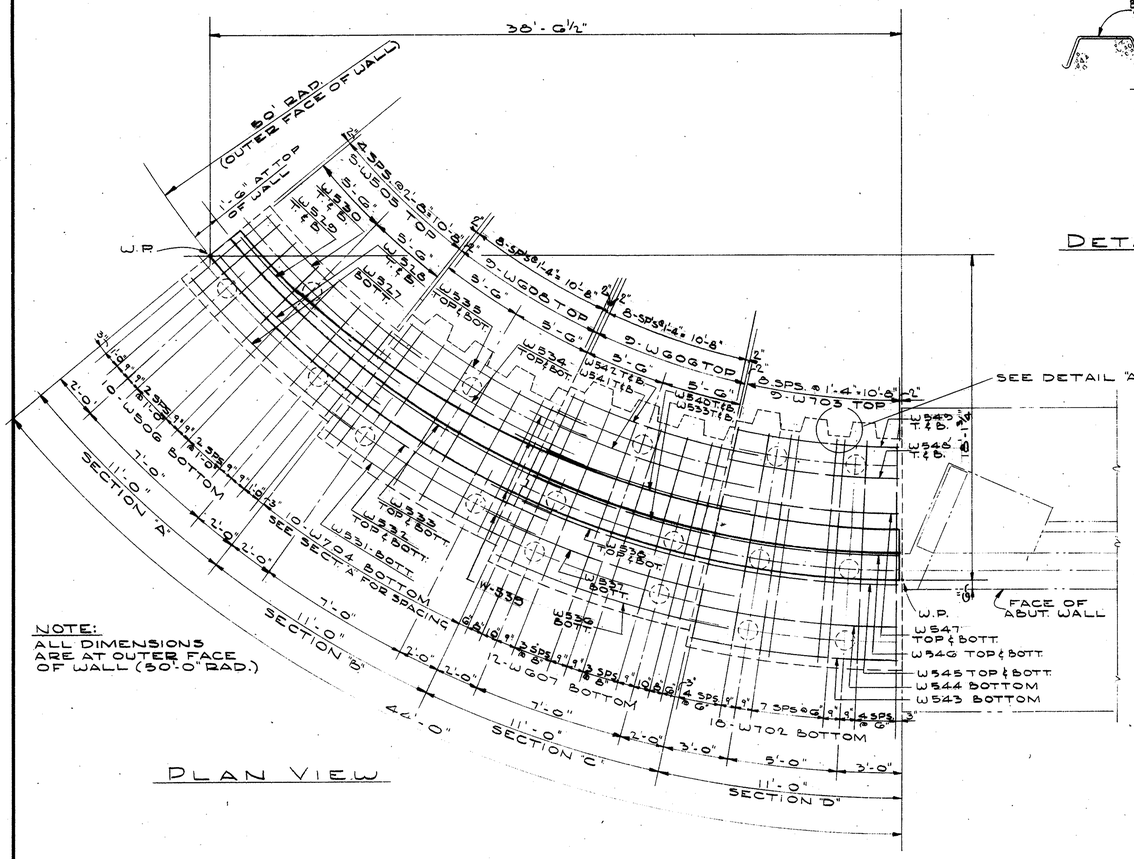
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	AC		EAK	DHC		

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

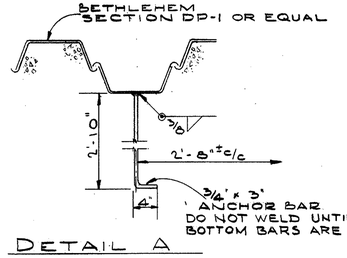
443
492

MAH-18-17.20



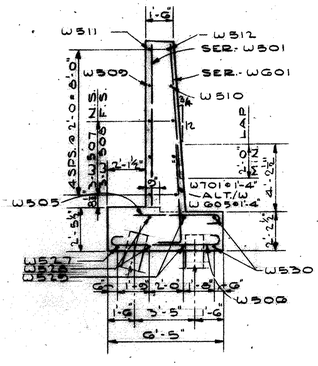
PLAN VIEW

NOTE:
ALL DIMENSIONS ARE AT OUTER FACE OF WALL (50'-0" RAD.)

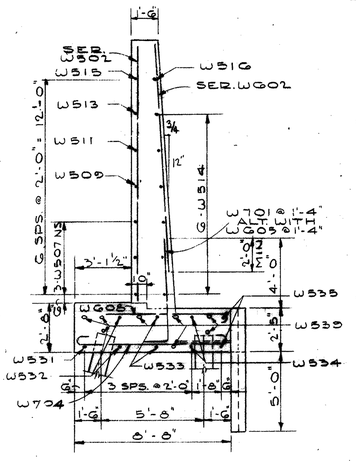


DETAIL A

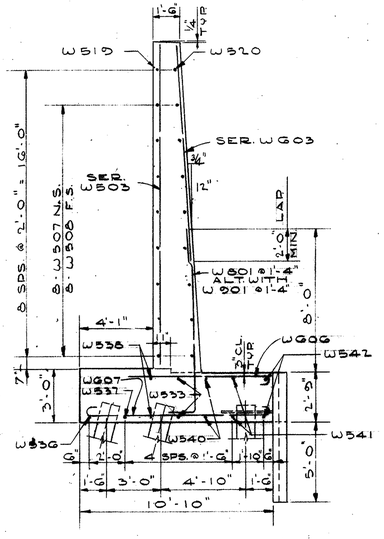
ELEVATION VIEW
DEVELOPED LENGTH OF OUTER FACE OF WALL (50'-0" RAD.)
ALL HORIZONTAL DIMENSIONS AT OUTER FACE



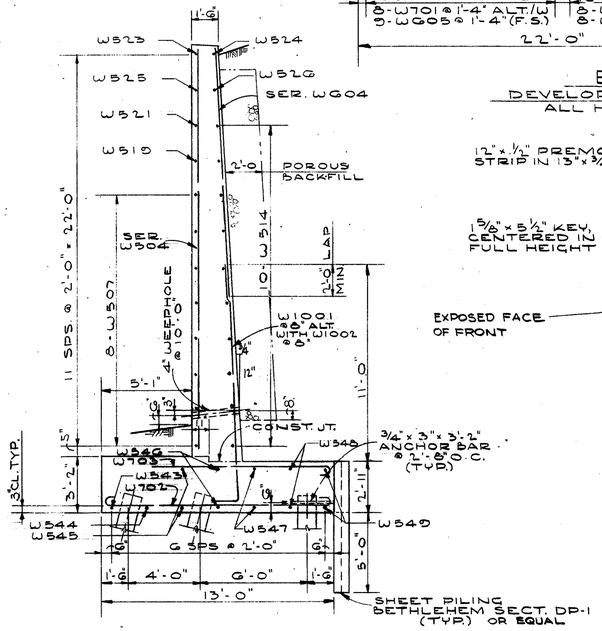
SECTION A-A



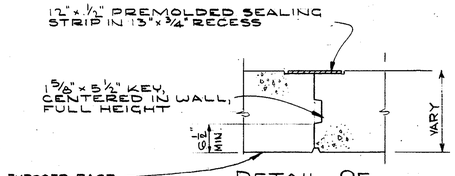
SECTION B-B



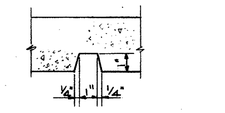
SECTION C-C



SECTION D-D



DETAIL OF CONTRACTION JOINT



DETAIL OF RUSTICATION GROOVES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 WINGWALL

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH	AC		EJW	DHC		

MICROFILMED SEP 19 1955

FED. RD.	STATE	PROJECT		444 / 492
	OHIO			

MAH-18-17.20

NOTE: ELEVATION SHOWN THUS 959.88 IS GIVEN TO HEEL OF EXPANSION DAM ANGLE.

PLAN

ELEVATION

SECTION "A-A"
(VIEW OPP. HAND AT WING WALL END.)

DETAIL OF CONTRACTION JOINT

DETAIL OF RUSTICATION GROOVES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT 2 PLAN & ELEVATION
BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

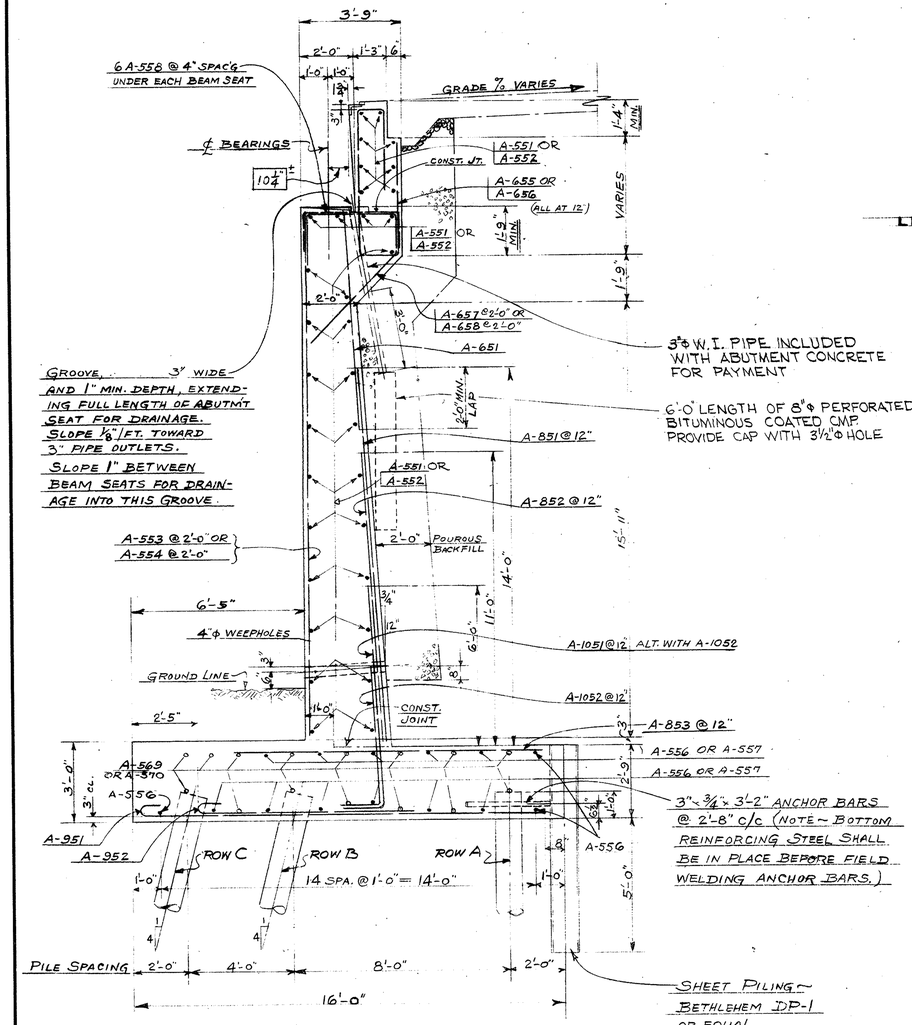
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAR	Hagen		aw	DHC		

MICROFILMED
SEP 19 1985

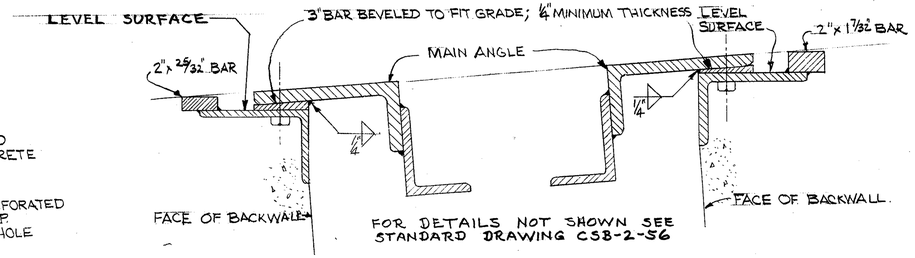
FED. RD.	STATE	PROJECT	
	OHIO		

MA H- 18-17.20

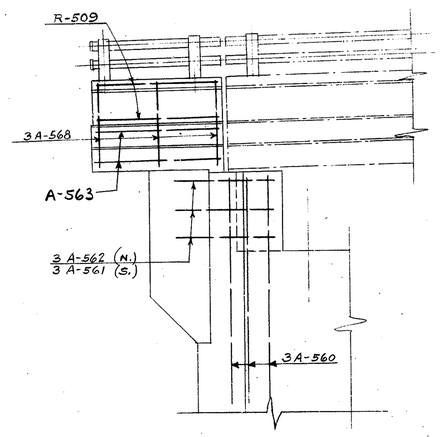
445
492



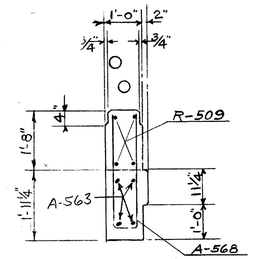
SECTION "B-B"



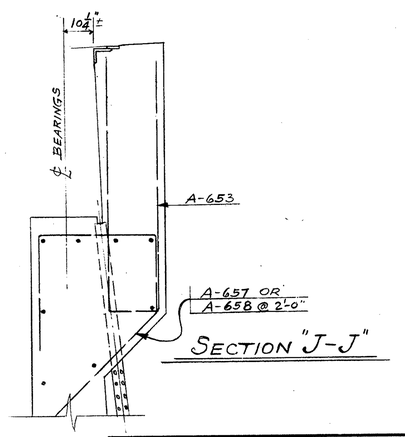
SECTION "E-E"



SECTION "G-G"
NORTH END OF ABUT. SIMILAR



SECTION "H-H"



SECTION "J-J"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT # 2 DETAILS

BRIDGE NO. MAH-18-1041
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02

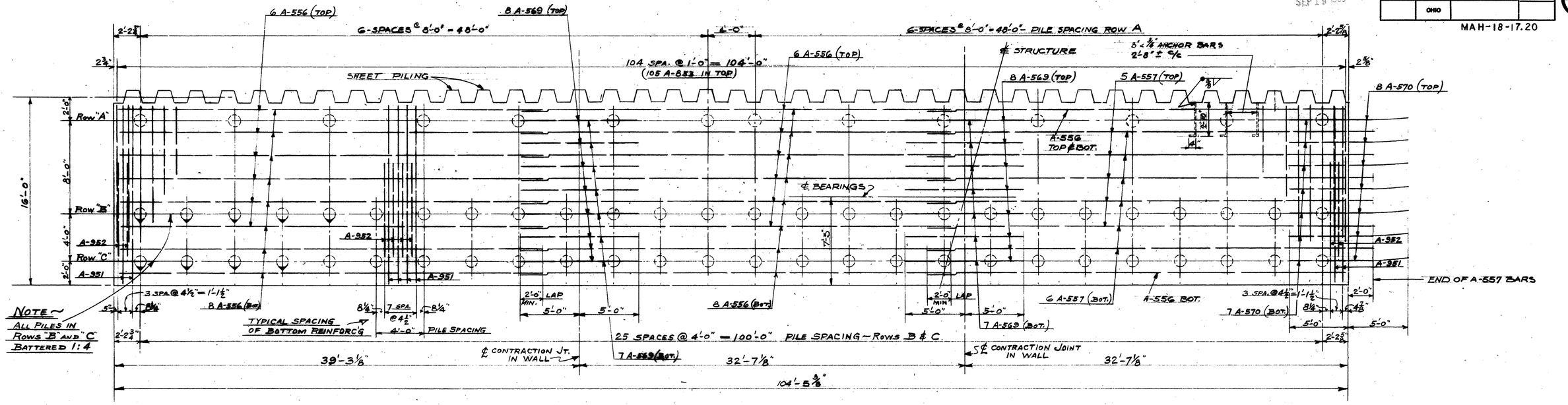
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FAK	HAGER		CW	DHC		

MICROFILMED
SEP 19 1955

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

446
492



FOOTER PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT # 2 DETAILS

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH				DHC		

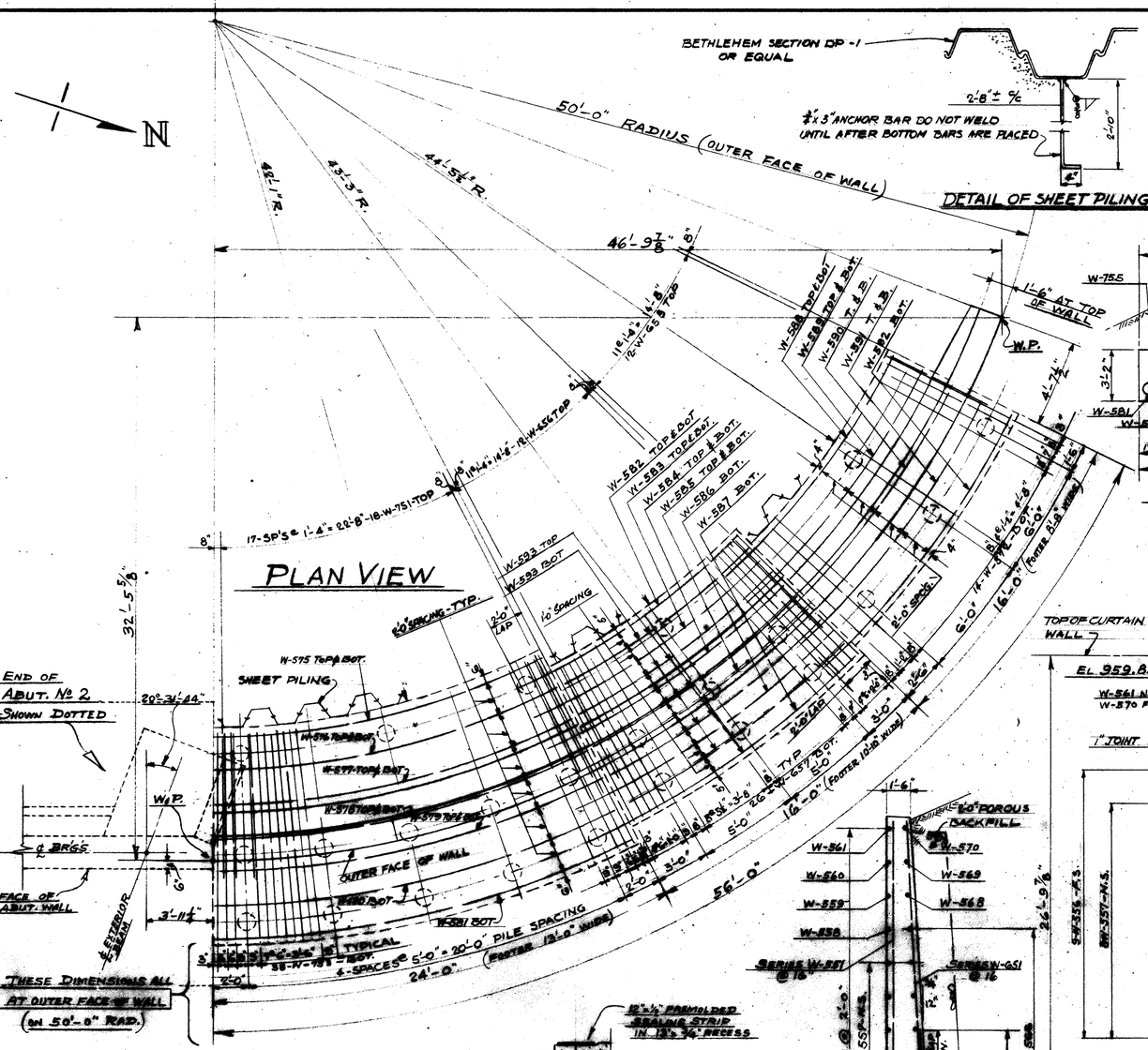
MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

447
492

PLAN VIEW


N
BETHLEHEM SECTION DP-1 OR EQUAL
2'-8" ± %
2'-0"
4"
7/8"x3" ANCHOR BAR DO NOT WELD UNTIL AFTER BOTTOM BARS ARE PLACED
DETAIL OF SHEET PILING
50'-0" RADIUS (OUTER FACE OF WALL)
46'-1" R.
43'-3" R.
44'-5½" R.
46'-9⅞"
11'-6" AT TOP OF WALL
W.P.
118'-14" = 14'-8" @ 8" + 13-14'-4" + 14'-8" @ 8"
17-5P'S @ 1'-4" = 22'-8"
W-581 TOP & BOT.
W-582 TOP & BOT.
W-583 TOP & BOT.
W-584 TOP & BOT.
W-585 TOP & BOT.
W-586 BOT.
W-587 BOT.
W-588 TOP & BOT.
W-589 TOP & BOT.
W-590 TOP & BOT.
W-591 TOP & BOT.
W-592 BOT.
W-593 TOP
W-593 BOT
2'-0" LAP
10" SPACING
6'-0" (FOOTER 21'-8" WIDE)
6'-0" (4'-4" CONC. + 1'-8" SAND)
2'-0" SPACE
4'-0" SPACING - TYP.
W-575 TOP & BOT.
SHEET PILING
END OF ABUT. № 2 SHOWN DOTTED
20°-31'-44"
32'-5⅝"
W.P.
℄ BRGS.
FACE OF ABUT. WALL
EXTERIOR SEAM
3'-11¾"
3'-0"
THESE DIMENSIONS ALL AT OUTER FACE OF WALL (on 50'-0" RAD.)
W-576 TOP & BOT.
W-577 TOP & BOT.
W-578 TOP & BOT.
W-581 BOT.
OUTER FACE OF WALL
38-N-19 TYP. 4-SPACES @ 5'-0" = 20'-0" PILE SPACING
24'-0"
(FOOTER 13'-0" WIDE)
56'-0"
16'-0" (FOOTER 10'-10" WIDE)
5'-0"
3'-0"
2'-0"
W-575
W-577
W-578
W-581
W-582
W-583
W-584
W-585
W-586
W-587
W-588
W-589
W-590
W-591
W-592
W-593
W-594
W-595
W-596
W-597
W-598
W-599
W-600
W-601
W-602
W-603
W-604
W-605
W-606
W-607
W-608
W-609
W-610
W-611
W-612
W-613
W-614
W-615
W-616
W-617
W-618
W-619
W-620

MICROFILMED
SEP 19 1995

FED. RD.	STATE	PROJECT	
	OHIO		

448
492

MAH.-18-17.20

ELEVATION TABLE

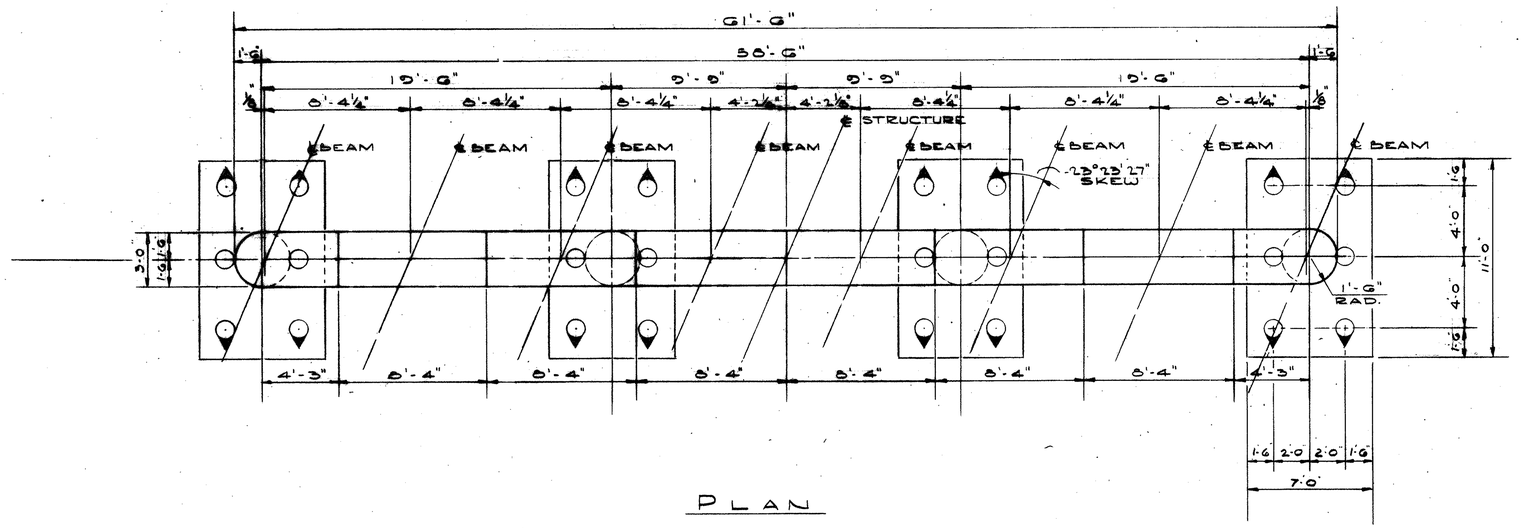
ELEV.	A	B	C	D	E	F	G	H	J
PIER 1	952.71	952.68	952.65	952.62	952.48	952.21	951.94	951.68	928.00
PIER 2	955.13	955.10	955.06	955.02	954.94	954.73	954.47	954.01	930.50

NOTES

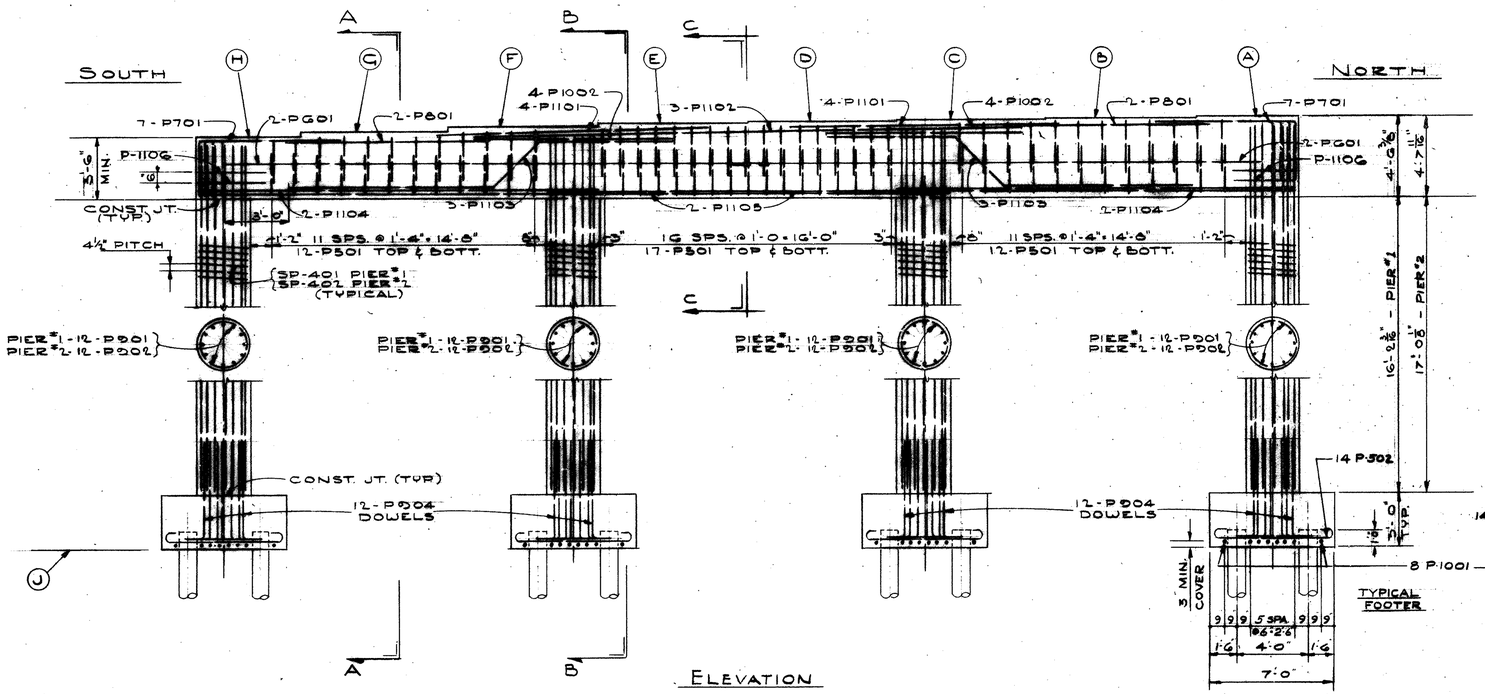
ALL REINFORCING STEEL TO HAVE A 2" MIN. COVER EXCEPT WHERE OTHERWISE NOTED.

REINFORCING STEEL MUST BE PLACED IN THE PIER CAP SO THAT IT WILL NOT INTERFERE WITH THE BEARING PLATE ANCHOR BARS.

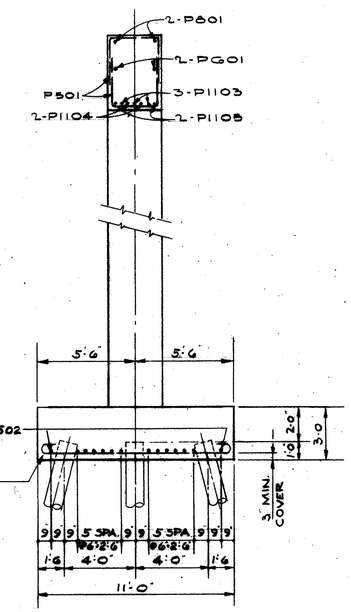
ALL PILES TO BE 12" DIA. CAST IN PLACE REINFORCED CONCRETE PILES.



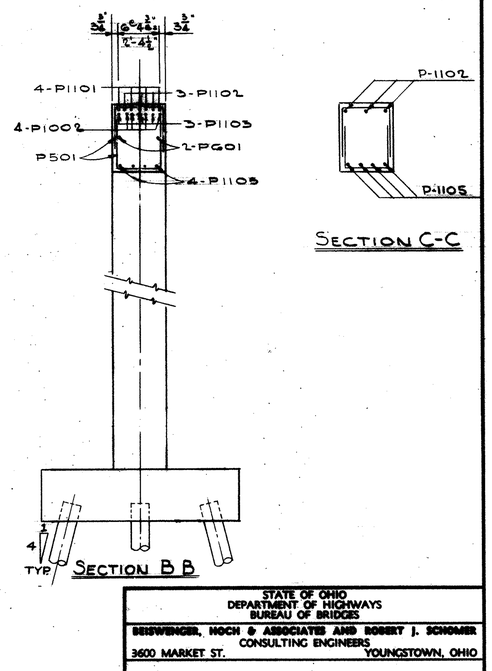
PLAN



ELEVATION



SECTION A-A



SECTION C-C

SECTION B-B

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FAK	AC		EW	DHC		

MICROFILMED
SEP 19 1985

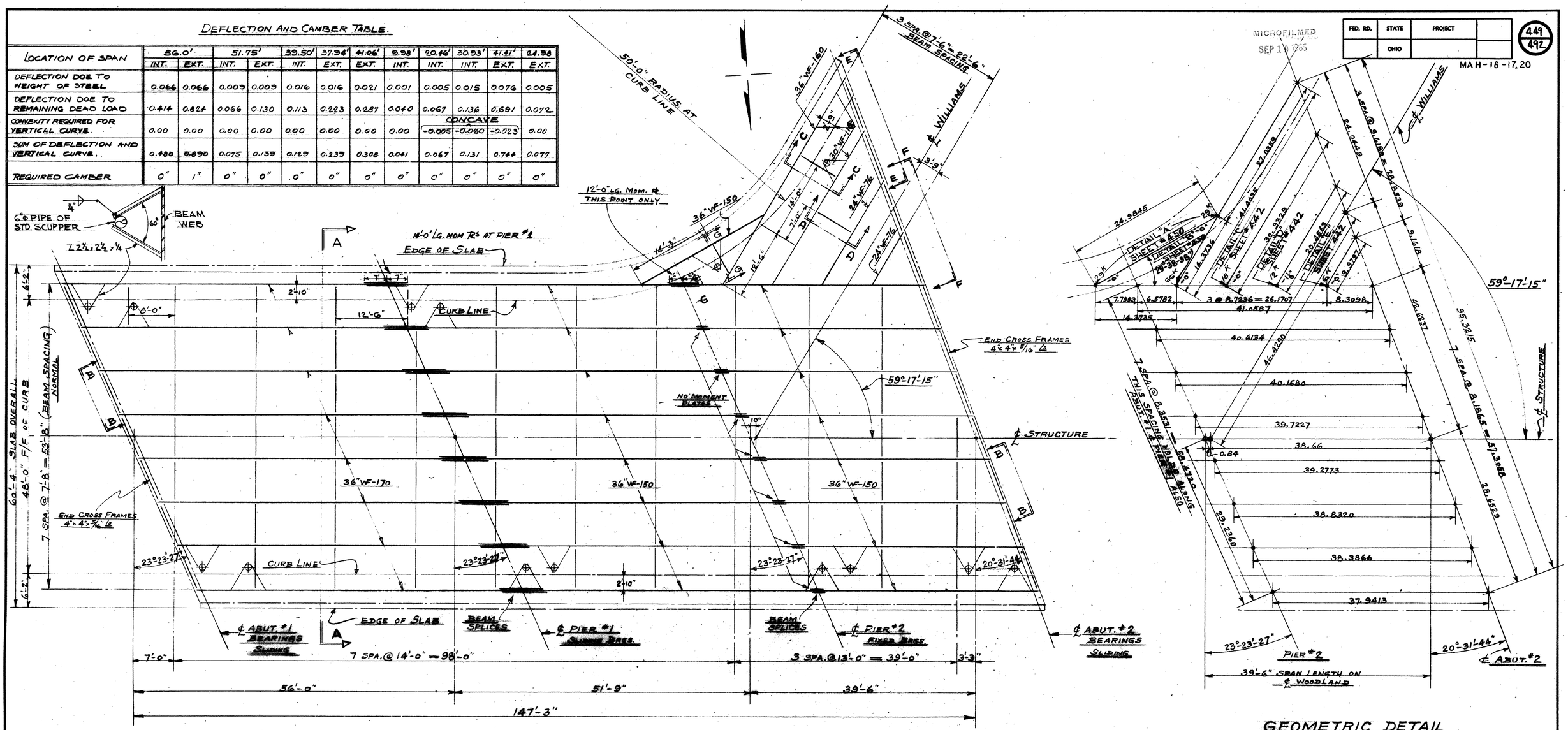
FED. RD.	STATE	PROJECT	
	OHIO		

449/492

MAH-18-17.20

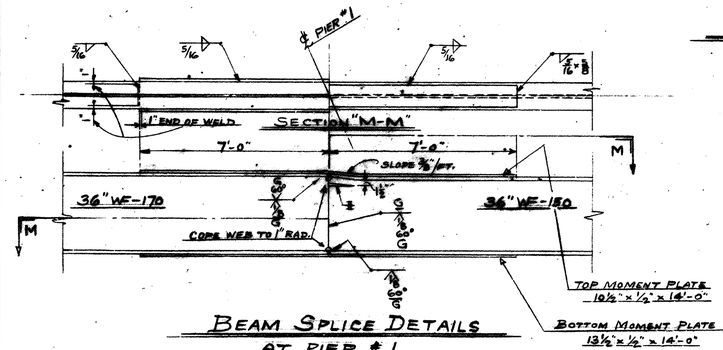
DEFLECTION AND CAMBER TABLE.

LOCATION OF SPAN	56.0' INT.	56.0' EXT.	51.75' INT.	51.75' EXT.	39.50' INT.	37.94' EXT.	41.06' EXT.	9.98' INT.	20.46' INT.	30.93' INT.	41.81' EXT.	24.98 EXT.
DEFLECTION DUE TO WEIGHT OF STEEL	0.066	0.066	0.009	0.009	0.016	0.016	0.021	0.001	0.005	0.015	0.076	0.005
DEFLECTION DUE TO REMAINING DEAD LOAD	0.414	0.824	0.066	0.130	0.113	0.223	0.287	0.040	0.067	0.136	0.691	0.072
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CONCAVE -0.005	-0.020	-0.023	0.00
SUM OF DEFLECTION AND VERTICAL CURVE.	0.480	0.890	0.075	0.139	0.129	0.239	0.308	0.041	0.067	0.131	0.744	0.077
REQUIRED CAMBER	0"	1"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"

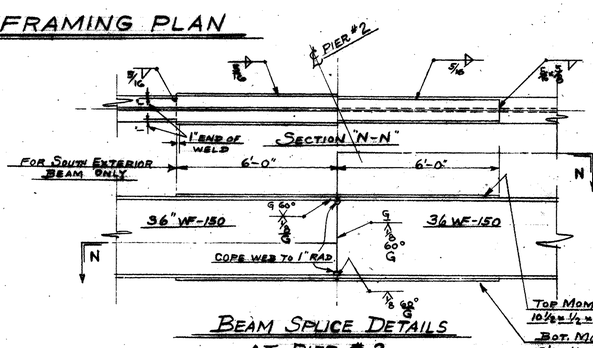


GEOMETRIC DETAIL
FOR 39'-6" SPAN
(DIMENSIONS IN DECIMALS OF FOOT.)

FRAMING PLAN



BEAM SPLICE DETAILS AT PIER #1



BEAM SPLICE DETAILS AT PIER # 2

BEAM SPLICE WELDING PROCEDURE:

1. RAISE END OF BEAM AT ABUTMENT #1 - 3/8". RAISE END OF BEAM AT ABUTMENT #2 - 3/8".
2. BUTT WELD THE BEAM FLANGES AND WEB USING THE FOLLOWING SEQUENCE: MAKE TWO PASSES ON EACH FLANGE, THAN TWO ON THE WEB; REPEAT USING ONE PASS AT EACH LOCATION UNTIL WELDS ARE COMPLETED.
3. WELD THE BOTTOM AND TOP MOMENT PLATES.
4. LOWER THE BEAM ENDS TO FINAL POSITION.

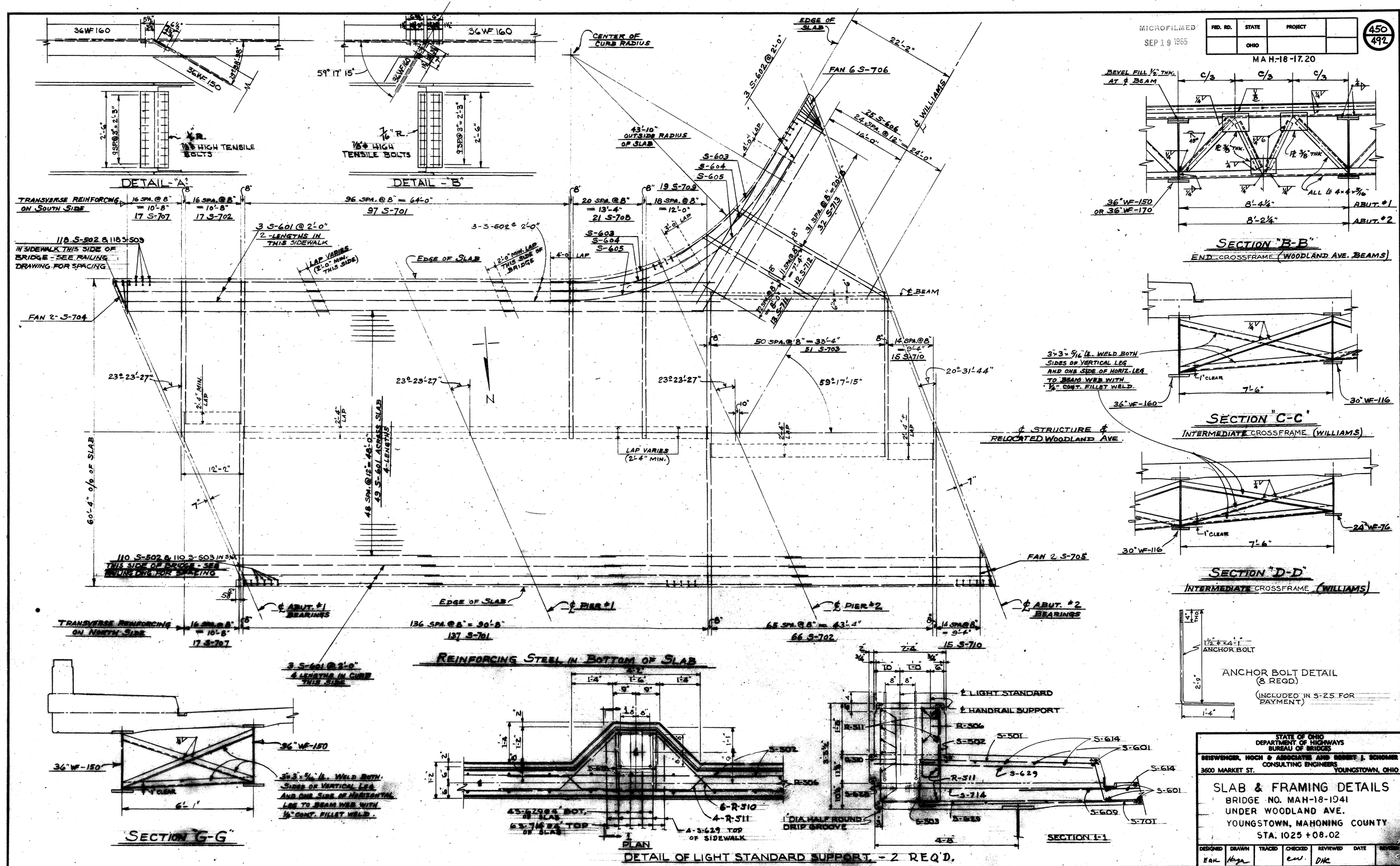
NOTE: PAINTING - AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY REPAINTED IN ACCORDANCE WITH SEC. 5.04, AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER THE OUTSIDE FACE OF THE OUTSIDE STEEL BEAMS AND ALL SIDES OF BOTTOM FLANGE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN
BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FAH	Hayes		CW	DHC		



MICROFILMED
SEP 19 1985
FED. RD.
STATE
PROJECT
OHIO
450
492
MAH-18-17.20
DETAIL "A"
DETAIL "B"
36WF160
36WF150
59° 17' 15"
CENTER OF CURB RADIUS
EDGE OF SLAB
FAN 6 S-706
22'-2"
3 S-602 @ 2'-0"
43'-10" OUTSIDE RADIUS OF SLAB
25 S-606
24 SPA. @ 12" = 24'-0"
16'-0"
℄ WILLIAMS
S-603
S-604
S-605
19 S-709
31 SPA. @ 8" = 20'-8"
32 S-713
TRANSVERSE REINFORCING ON SOUTH SIDE
16 SPA. @ 8" = 10'-8"
17 S-707
16 SPA. @ 8" = 10'-8"
17 S-702
96 SPA. @ 8" = 64'-0"
97 S-701
20 SPA. @ 8" = 13'-4"
21 S-708
18 SPA. @ 8" = 12'-0"
118 S-502 & 118 S-503 IN SIDEWALK THIS SIDE OF BRIDGE - SEE RAILING DRAWING FOR SPACING
3 S-601 @ 2'-0" 2-LENGTHS IN THIS SIDEWALK
LAP VARIES (2'-0" MIN. THIS SIDE)
EDGE OF SLAB
2'-0" MIN. LAP THIS SIDE OF BRIDGE
4'-0" LAP
℄ BEAM
FAN 2 S-704
50 SPA. @ 8" = 33'-4"
51 S-703
14 SPA. @ 8" = 9'-4"
15 S-710
23°-23'-27"
59°-17'-15"
20°-31'-44"
2'-4" MIN. LAP
2'-4" LAP
48 SPA. @ 12" = 48'-0"
49 S-601 ACROSS SLAB 4-LENGTHS
LAP VARIES (2'-4" MIN.)
℄ STRUCTURE & RELOCATED WOODLAND AVE.
60'-4" o/o OF SLAB
12'-2"
110 S-502 & 110 S-503 IN SIDEWALK THIS SIDE OF BRIDGE - SEE RAILING DWG. FOR SPACING
FAN 2 S-705
℄ ABUT. #1 BEARINGS
EDGE OF SLAB
℄ PIER #1
℄ PIER #2
℄ ABUT. #2 BEARINGS
TRANSVERSE REINFORCING ON NORTH SIDE
16 SPA. @ 8" = 10'-8"
17 S-707
136 SPA. @ 8" = 90'-8"
137 S-701
65 SPA. @ 8" = 43'-4"
66 S-702
14 SPA. @ 8" = 9'-4"
15 S-710
3 S-601 @ 2'-0" 4 LENGTHS IN CURB THIS SIDE
REINFORCING STEEL IN BOTTOM OF SLAB
BEVEL FILL 1/2" THK. AT ℄ BEAM
C/3
36" WF-150 OR 36" WF-170
8'-4 1/4"
8'-2 1/4"
ABUT. #1
ABUT. #2
SECTION "B-B"
END CROSSFRAME (WOODLAND AVE. BEAMS)
3"x3"x5/16" L. WELD BOTH SIDES OF VERTICAL LEG AND ONE SIDE OF HORIZ. LEG TO BEAM WEB WITH 1/4" CONT. FILLET WELD.
1" CLEAR
7'-6"
36" WF-160
30" WF-116
SECTION "C-C"
INTERMEDIATE CROSSFRAME (WILLIAMS)
24" WF-76
SECTION "D-D"
INTERMEDIATE CROSSFRAME (WILLIAMS)
1 1/2" ϕ x 4'-1" ANCHOR BOLT
ANCHOR BOLT DETAIL (8 REQD.)
(INCLUDED IN S-25 FOR PAYMENT)
36" WF-150
3"x3"x5/16" L. WELD BOTH SIDES OF VERTICAL LEG AND ONE SIDE OF HORIZONTAL LEG TO BEAM WEB WITH 1/4" CONT. FILLET WELD.
6'-1"
SECTION "G-G"
℄ LIGHT STANDARD
℄ HANDRAIL SUPPORT
R-506
S-502
S-501
S-614
S-601
S-629
R-511
S-714
S-609
S-701
S-503
1" DIA. HALF ROUND DRIP GROOVE
4-S-629 TOP OF SIDEWALK
6-R-510
4-R-511
PLAN
SECTION 1-1
DETAIL OF LIGHT STANDARD SUPPORT - 2 REQ'D.
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO
SLAB & FRAMING DETAILS
BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02
DESIGNED
DRAWN
TRACED
CHECKED
REVIEWED
DATE
REVISED

FED. RD.	STATE	PROJECT	
	OHIO		

451
492

MAH-18-17.20

MICROFILMED SEP 19 1955

60'-8" OVERALL

℄ STRUCTURE ℄ RELOCATED WOODLAND AVE.

SEE RAILING DETAIL DRAWING FOR SPACING OF REINFORCING BARS IN PARAPET.

CONCRETE ABOVE THIS POINT TO BE PAID FOR AS PART OF ITEM 5-16 (RAILING)

S-501 @ 1'-4"
S-614 @ 1'-11" OVER PIERS
S-601 @ 1'-11"
S-614 @ 1'-4" OVER PIERS
S-601 @ 1'-4"
S-701 @ 8"
S-609 @ 8"
S-601 @ 12"
S-503 @ 1'-4"
S-502
S-601 @ 2'-0"

SLOPE 3/16"/FT. SLOPE 3/16"/FT.

1" MONOLITHIC WEARING SURF.
7½" SLAB
2" CLEAR
1" CLEAR

24'-0"

THIS IS A NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE OF THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO GRADE.

1" ϕ ½ ROUND DRIP GROOVE 3"
2'-2½" x 1'-2" GUTTER & SCUPPER SUPPORT 13 SEE C.S.B. 2-56 SHT #3. TYP.
SCUPPER (FOR CONTINUATION OF DOWN SPOUT SEE RAILING AND DRAINAGE SHEET)
3'-4" 7'-8" 7'-8" 7'-8" 7'-8" 7'-8" 7'-8" 7'-8" 3'-4"
3" HAUNCH (TYP.).
2'-10"
36" WF-170 OR 36" WF-150
LEVEL
CONST. JTS. (LEVEL)
1" ϕ ½ ROUND DRIP GROOVE
INSIDE FACE OF PARAPET
SEE SECTION A-A ON RAILING DRAWING

INTERMEDIATE CROSSFRAME ⅄ 3"x3"x5/16". WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO WEB OF BEAM WITH ¼" CONTINUOUS FILLET WELD.

TRANSVERSE SECTION "A-A"
SHOWING SLAB & INTERMEDIATE CROSSFRAME
(SEE SEC. "C-C" AND "D-D" FOR WILLIAMS ST.)

CENTER OF CURB RADIUS
43'-10" OUTSIDE RADIUS OF SLAB
S-623 S-624 S-625 S-626
FAN 3 S-501
22'-2"
℄ WILLIAMS
17 SPA. @ 1'-4" = 22'-8" 18 S-619
10'-0"
FAN 5 S-627
8 SPA. @ 10'-5" = 83'-4" 9 S-501
S-615 S-616 S-617 S-618
S-620 S-621 S-622 S-623 S-624
CENTER OVER PIER
4'-0"
8 SPA. @ 1'-4" AT CURB LINE 9 S-501
37 SPA. @ APPROX. 1'-4" 38 S-501 LOCATE RADIALLY
25 SPA. @ 1'-4" = 33'-4" 26 S-619
4'-0"
6"
℄ BEAM
NOTE S-610 BARS TO EXTEND 2'-0" BEYOND ℄ BEAM
FAN 3 S-614 OVER PIER
13 S-608
8"
12 SP. @ 8" = 8'-8"
20°31'-44"
59°17'-15"
23°23'-27"
10"
2'-0" LAP
LAP
7"

4 S-601 @ 1'-11" IN TOP OF SIDEWALK (USE 2 LENGTHS AT THIS END OF BRIDGE)
3 S-614 OVER PIER ALT. WITH S-601
FAN 2 S-501
65 SPA. @ 1'-4" = 86'-8" 66 S-501
FAN 2 S-627
8"
14 SPACES @ 8" = 9'-4" 15 S-607
114 SPA. @ 8" = 76'-0" 115 S-609
8"
24 SPA. @ 8" = 16'-0" 25 S-611
8"
65 SPA. @ 8" = 43'-4" 66 S-610
23°23'-27"
2'-0" LAP
℄ RELOCATED WOODLAND
36 SPA. @ 1'-4" = 48'-0" 37 S-601 ACROSS SLAB 4 LENGTHS
60'-4" O/O OF SLAB
10'-8"
7"
4 S-601 @ 1'-11" IN TOP OF SIDEWALK (4 LENGTHS)
1 S-501
39 S-614 @ 1'-4" OVER EACH PIER (ALT. WITH S-601 & STAGGER AS SHOWN)
12'-6" 15'-6" 15'-6" 12'-6" 12'-6" 15'-6" 15'-6" 12'-6"
TRANSVERSE ST. THIS SIDE OF ℄
14 SP. @ 8" = 9'-4" 15 S-607
℄ ABUT. #1 BEARINGS
107 SPA. @ 1'-4" = 142'-8" 108 S-501
℄ PIER #1
189 SPA. @ 8" = 126'-0" ⅄ 190 S-609
℄ PIER #2
13 SP. @ 8" = 8'-8"
12 SP. @ 8" = 8'-0"
14 S-610 13 S-608
℄ ABUT. #2 BEARINGS
FAN 2 S-627
FAN 2 S-501

REINFORCING STEEL IN TOP OF SLAB

SECTION "E-E"
END CROSSFRAME (WILLIAMS ST. BEAMS)

BEVEL FILL ½" THK. AT ℄ BEAMS
C = 9'-7 7/16"
C/3
BEVEL FILL ½" THK. AT ℄ BEAMS
C = 9'-7 7/16"
C' = 9'-10 3/16"
C/3
ℓ 3/8" THK.
MATCH LINE "X"
24" WF-76
ALL ∠ 4"x4"x5/16"
C/2
30" WF-116
36" WF-160

SECTION "F-F"
END CROSSFRAME (WILLIAMS ST. BEAMS)

℄ STRUCTURE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DECK DETAILS
BRIDGE NO. MAH.-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025-08.02

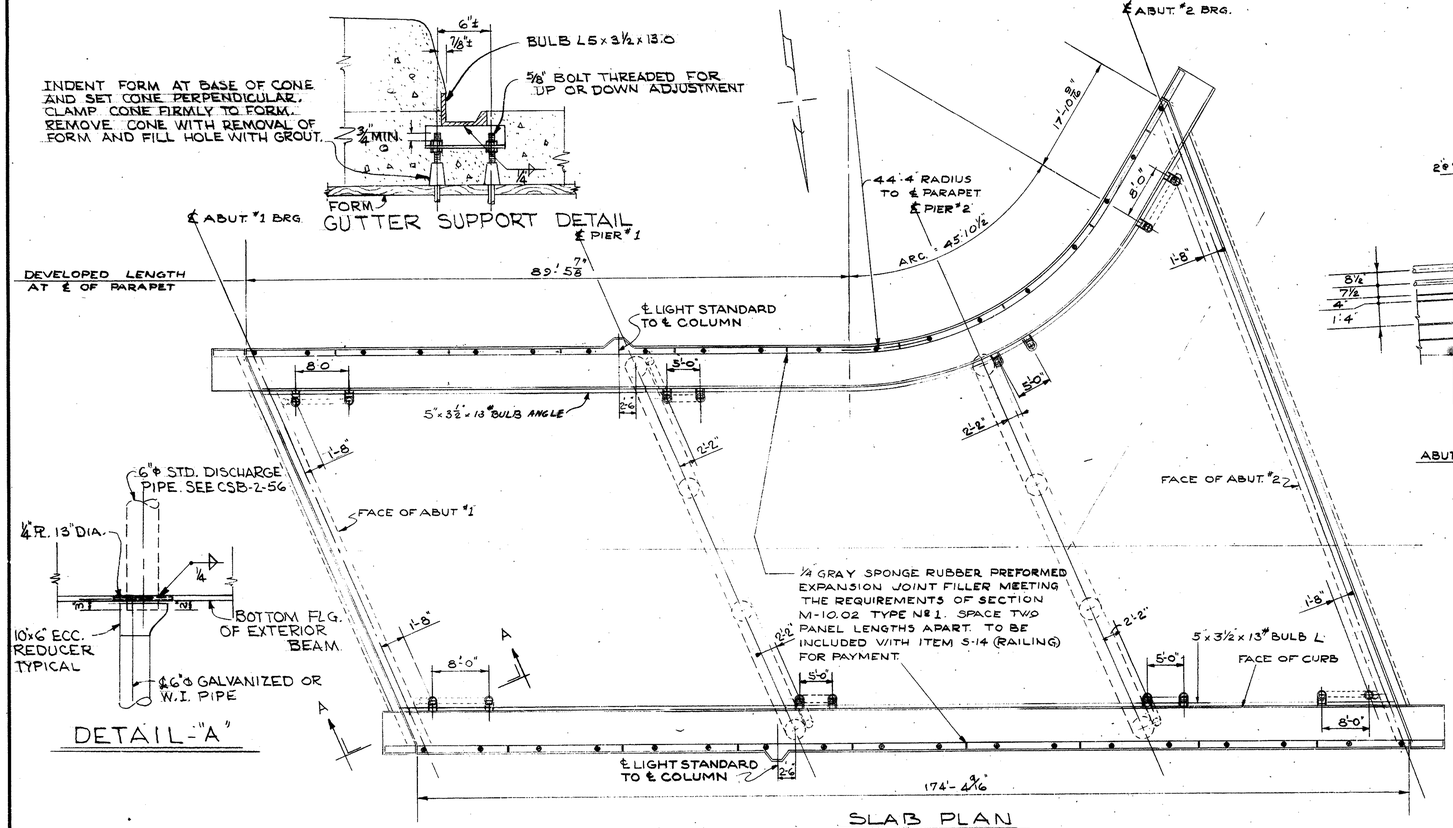
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FAIL	Hoyer		aw	JHC		

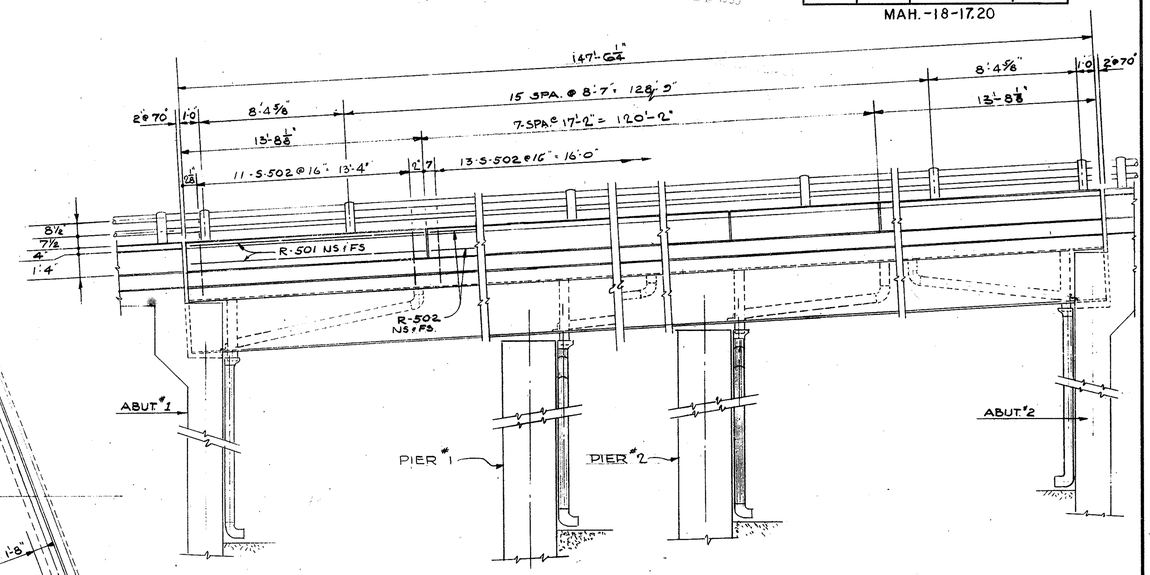
FED. RD.	STATE	PROJECT	
	OHIO		

452
492

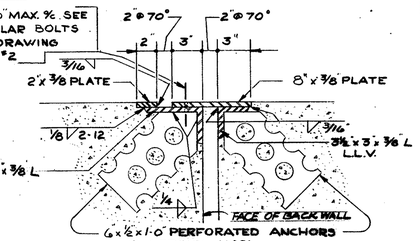
MAH.-18-17.20

MICROFILMED
SEP 19 1955

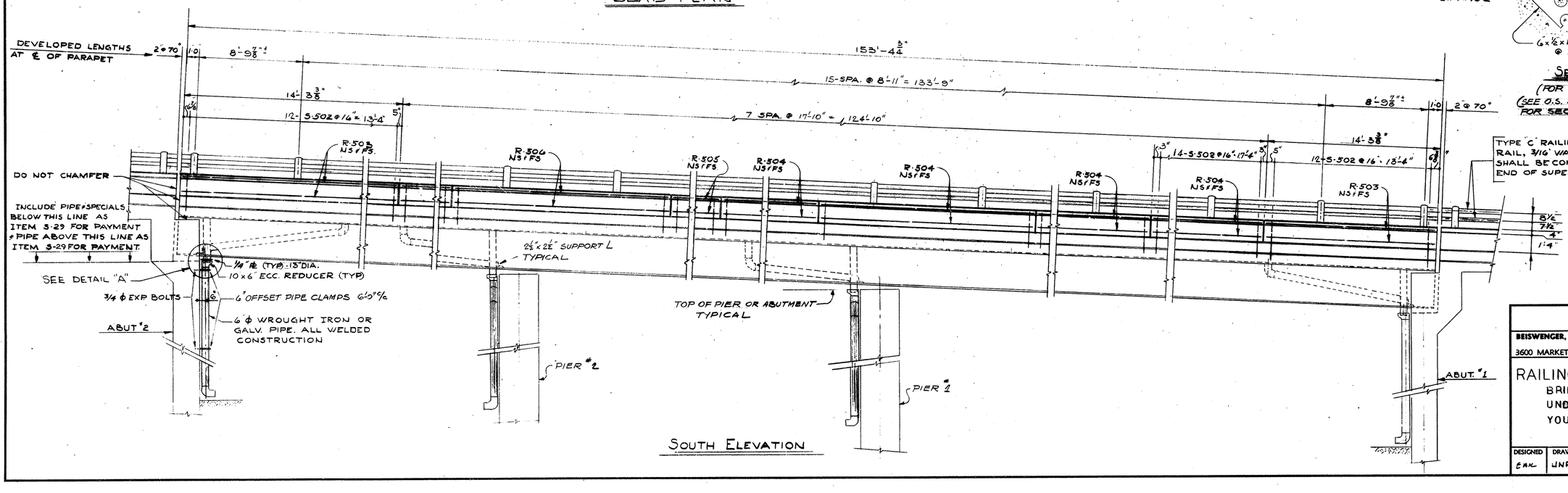




NORTH ELEVATION



SECTION-A-A
(FOR SIDEWALKS ONLY)
(SEE O.S. STD. DWG. # C.S.B.-2-56 SHT. #2 FOR SEC. THRU ROADWAY DAN)



SOUTH ELEVATION

TYPE "C" RAILING. 4" O.D. TOP RAIL, 3½" OD. BOTTOM RAIL, 3/16" WALL ALUMINUM TUBE. RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF SUPERSTRUCTURE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

RAILING & DRAINAGE DETAILS

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025 + 08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EMK	UNP		EW	DHC		

REINFORCING STEEL SCHEDULE

MARK	NO	LGTH.	WGT.	SHP
WING WALL #1				
SER W-501	1 SET OF 5 - 5 BARS	VARY 5'6 TO 10'2 @ 1'2 INC.	43	ST.
SER. W-502	1 SET OF 8 - 8 BARS	VARY 10'5 TO 14'6 7"	104	ST.
SER. W-503	1 SET OF 5 - 2 BARS	VARY 14'4 TO 19'0 7"	155	ST.
SER. W-504	1 SET OF 8 - 8 BARS	VARY 19'4 TO 23'5 7"	178	ST
W-505	5	5'-1"	27	BT.
W-506	10	7'-3"	76	BT.
W-507	11	21'-6"	247	BT.
W-508	11	12'-6"	143	BT.
W-509	1	19'-0"	20	BT.
W-510	1	10'-0"	10	BT.
W-511	1	14'-4"	15	BT.
W-512	1	5'-4"	6	BT.
W-513	1	9'-8"	10	BT.
W-514	16	10'-2"	270	BT.
W-515	1	5'-0"	5	BT.
W-516	1	4'-10"	5	BT.
W-517				
W-518				
W-519	1	16'-8"	17	BT.
W-520	1	7'-10"	8	BT.
W-521	1	12'-0"	13	BT.
W-522	1	3'-0"	3	BT.
W-523	1	2'-8"	3	BT.
W-524	1	2'-6"	3	BT.
W-525	1	7'-4"	8	BT.
W-526	1	7'-1"	7	BT.
W-527	1	12'-8"	13	BT.
W-528	2	12'-11"	27	BT.
W-529	2	12'-5"	26	BT.
W-530	2	12'-0"	25	BT.
W-531	1	12'-6"	13	BT.
W-532	2	13'-1"	27	BT.
W-533	4	12'-7"	52	BT.
W-534	2	12'-1"	25	BT.
W-535	2	11'-8"	24	BT.
W-536	1	13'-11"	15	BT.
W-537	1	13'-5"	14	BT.
W-538	2	13'-0"	27	BT.
W-539	8	10'-0"	83	BT.
W-540	2	12'-2"	25	BT.
W-541	2	11'-10"	25	BT.
W-542	2	11'-4"	24	BT.
W-543	1	11'-7"	12	BT.
W-544	1	11'-2"	12	BT.
W-545	2	10'-5"	22	BT.
W-546	2	10'-4"	22	BT.
W-547	2	9'-11"	21	BT.
W-548	2	9'-6"	20	BT.
W-549	2	9'-1"	19	BT.
SER W-601	1 SET OF 9 - 9 BARS	VARY 3'7 TO 8'5 @ 7"	81	ST
SER W-602	1 SET OF 8 - 8 BARS	VARY 8'-1 TO 13'-0 7"	132	ST.
SER W-603	1 SET OF 9 - 9 BARS	VARY 8'-3 TO 13'-5 7"	150	ST.
SER. W-604	1 SET OF 8 - 8 BARS	VARY 10'-1 TO 14'-6 7"	152	ST.
W-605	9	7'-4"	99	B.T.
W-606	9	8'-2"	110	B.T.
W-607	12	11'-10"	213	BT.
W-608	9	7'-2"	97	BT.
W-701	16	7'-7"	248	BT.
W-702	18	14'-4"	527	BT
W-703	9	5'-10"	181	BT.
W-704	10	10'-0"	204	BT.
W-801	9	12'-0"	221	B.T

MARK	NO	LGTH.	WGT.	SHP
W-901	8	9'-3"	252	BT.
W-1001	8	15'-6"	534	BT.
W-1002	8	9'-6"	327	BT.
W.W. #1 TOTAL = 5,477				
WING WALL #2				
SER. W-551	1 SET OF 9 - 9 BARS	VARY 21'-3 TO 23'-5	209	ST.
SER. W-552	1 SET OF 9 - 9 BARS	VARY 16'-10 TO 20'-6	173	ST.
SER. W-553	1 SET OF 12 - 12 BARS	VARY 13'-2 TO 16'-0	181	ST.
SER W-554	1 SET OF 11 - 11 BARS	VARY 11'-11 TO 13'-2	144	ST
W-555	1	11'-11"	12	ST.
SER. W-556	1 SET OF 4 - 4 BARS	VARY 5'-0 TO 7'-3	26	ST.
W-557	8	31'-6	253	BT.
W-558	1	23'-9"	25	BT.
W-559	1	17'-3"	18	BT.
W-560	1	12'-0"	13	BT.
W-561	1	3'-6"	4	BT.
W-562	2	22'-6"	47	BT.
W-563	1	25'-10"	27	BT.
W-564	3	28'-2"	88	BT.
W-565	1	5'-6"	6	BT.
W-566	9	22'-4"	210	BT.
W-567	8	9'-6"	79	BT.
W-568	1	17'-4"	18	BT.
W-569	1	12'-1"	13	BT.
W-570	1	3'-9"	4	BT.
W-571	2	16'-3"	34	BT.
W-572	1	18'-10"	20	BT.
W-573	3	21'-6"	67	BT.
W-574	1	5'-4"	6	BT.
W-575	2	20'-1"	42	BT.
W-576	2	21'-1"	44	BT.
W-577	2	22'-0"	46	BT.
W-578	2	23'-0"	48	BT.
W-579	2	23'-11"	50	BT.
W-580	1	24'-11"	26	BT.
W-581	1	25'-10"	27	BT.
W-582	2	14'-10"	31	BT.
W-583	2	16'-5"	34	BT.
W-584	2	17'-1"	36	BT.
W-585	2	17'-9"	37	BT.
W-586	1	18'-4"	19	BT.
W-587	1	18'-5"	19	BT.
W-588	2	16'-2"	34	BT.
W-589	2	16'-10"	35	BT.
W-590	2	17'-5"	36	BT.
W-591	2	18'-1"	38	BT.
W-592	1	18'-8"	19	BT.
W-593	12	10'-0"	130	BT.
W-594	6	7'-4"	46	BT.
SER. W-651	1 SET OF 9 - 9 BARS	VARY 12'-6 TO 14'-8 7/8	252	ST
SER W-652	1 SET OF 9 - 9 BARS	VARY 8'-3 TO 11'-11 @ 5"	136	ST
SER W-653	1 SET OF 12 - 12 BARS	VARY 7'-5 1/2 TO 10'-5 @ 3/8	161	ST
W-654	12	11'-7"	209	ST.
W-655	11	7'-4"	121	BT.
W-656	12	7'-8"	138	BT.
W-657	27	11'-10"	480	BT.
W-658	12	7'-2"	129	BT.
SER W-659	1 SET OF 4 - 4 BARS	VARY 5'-0 TO 7'-3 @ 7/8	37	ST

MARK	NO	LGTH.	WGT.	SHP
W-851	12	12'-0	384	BT
W-951	12	2'-3	377	BT.
W-1051	18	15'-6	1201	BT.
W-1052	18	5'-4	736	BT.
W.W. #2 TOTAL 8599				
ABUTMENT #1				
A-501	6	5'-2"	32	ST
A-502				
A-503	3	8'-5"	26	BT.
A-504	3	8'-2"	26	BT.
A-505	8	31'-5	263	ST.
A-506	48	32'-10	1644	ST.
A-507	34	19'-6"	692	ST.
A-508	48	6'-3"	313	BT.
A-509	28	35'-1"	941	ST
A-510	15	10'-0"	156	ST.
A-511	8	4'-8"	39	ST.
A-512	6	6'-10"	43	BT.
A513 ~ OPEN ~				
A514 ~ OPEN ~				
A-515	15	10'-0	156	BT.
A-601	12	13'-9"	248	BT
A-602	10	10'-6"	158	BT
A-603	66	7'-8"	960	ST
A-604	14	11'-9"	247	BT
A-605 ~ OPEN ~				
A-606 ~ OPEN ~				
A-701	66	16'-5"	3,684	BT.
A-702	66	5'-3"	2076	BT.
A-1001	66	5'-9"	2651	BT
A-1002	66	6'-4"	1799	BT.
ABUT. #1 TOTAL 23,580				
ABUTMENT #2				
A-551	33	38'-11"	1340	ST.
A-552	66	32'-3"	2220	ST.
A-553	31	19'-0"	614	ST.
A-554	22	20'-3"	464	ST
A-555				
A-556	31	36'-0	1164	ST.
A-557	11	38'-0"	436	ST.
A-558	72	6'-3"	469	BT.
A-559	6	5'-2"	32	ST.
A-560				
A-561	3	9'-3"	29	BT.
A-562	3	5'-2"	26	BT.
A563	8	4'-8"	39	ST.
A-564 ~ OPEN ~				
A-565 ~ OPEN ~				
A-566 ~ OPEN ~				
A567 ~ OPEN ~				
A-568	6	6'10"	43	BT
A-569	30	10'-0	313	ST
A-570	15	10'-0"	156	BT.

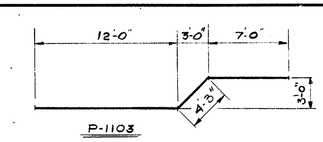
MARK	NO	LGTH.	WGT.	SHP
A-651	104	8'-0"	1250	ST
A-652				
A-653	13	13'-3"	259	BT.
A-654				
A-655	49	14'-2"	1042	BT.
A-656	43	15'-2"	978	BT.
A-657	31	10'-6"	489	BT
A-658	22	11'-0"	348	BT.
A-659	~ OPEN ~			
A-660	~ OPEN ~			
A-851	104	13'10"	3,481	ST.
A-852	104	10'10"	3,008	ST.
A-853	105	11'-6"	3224	ST.
A-951	104	16'-5"	5,005	BT
A-952	104	9'-3"	3,271	BT.
A-1051	104	9'-4"	4,179	BT.
A-1052	104	6'-4	2,834	BT.
ABUT. #2 TOTAL 37,061				
SUPERSTRUCTURE				
S-501	229	8'-2"	1950	BT.
S-502	235	5'-1"	1245	BT.
S-503	235	2'-2"	531	BT
S-601	386	38'-10"	22,514	ST
S-602	6	45'-0"	405	ST
S-603	2	28'-3"	84	BT
S-604	2	29'-3"	88	BT
S-605	2	30'-4"	91	BT
SER S-606	1 SET OF 25 - 25 BARS	VARY 5'-3 TO 38'-9 @ 1'-4 3/4	825	ST.
SER. S-607	2 SETS OF 15 - 30 BARS	VARY 5'-3 TO 26'-10 @ 1'-4 3/4	723	ST.
SER S-608	2 SETS OF 13 - 26 BARS	VARY 7'-2 TO 28'-5 @ 1'-4 3/4	695	
S-609	305	26'-6"	12,190	ST.
S-610	80	25'-10"	3,585	ST.
SER. S-611	1 SET OF 25 - 25 BARS	VARY 26'-6 TO 30'-6 @ 1'-6	1,061	ST.
SER. S-612	1 SET OF 27 - 27 BARS	VARY 7'-0" TO 29'-4 @ 1'-6	765	ST.
SER S-613	1 SET OF 26 - 26 BARS	VARY 8'-2" TO 30'-0 @ 1'-6	765	ST.
S-614	84	28'-0"	3,532	ST.
S-615	2	28'-3"	84	BT
S-616	2	29'-3"	88	BT
S-617	2	30'-3"	91	BT
S-618	2	31'-3"	94	BT
SER. S-619	1 SET OF 18 - 18 BARS	VARY 7'-12 TO 28'-0 @ 1'-6	624	ST
S-620	1	28'-0"	42	BT
S-621	1	28'-0"	42	BT
S-622	1	28'-0"	42	BT
S-623	2	15'-0"	45	ST.
S-624	2	14'-0"	42	ST
S-625	2	12'-6"	38	ST
S-626	2	11'-0"	33	ST
S-627	10	8'-0"	120	ST.
S-628	4	9'-9"	59	BT
S-629	16	7'-2"	172	ST.
S-701	234	31'-2"	14,907	ST.
S-702	83	29'-0"	4,920	ST.
S-703	51	36'-8"	3,134	ST.
S-704	2	5'-7"	23	ST.
S-705	2	6'-11"	28	ST
S-706	6	6'-0"	25	ST.
SER S-707	2 SETS OF 17 - 34 BARS	VARY 6'-9 TO 31'-5 @ 1'-6	663	ST.

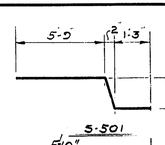
MARK	NO	LGTH.	WGT.	SHP
SER S-708	1 SET OF 21 - 21 BARS	VARY 31'-2 TO 33'-8	1391	ST.
SER S-709	1 SET OF 19 - 19 BARS	VARY 34'-1 TO 40'-5	1447	ST.
SER. S-710	2 SETS OF 15 - 30 BARS	VARY 5'-8 TO 36'-6	1110	ST.
SER. S-711	1 SET OF 13 - 13 BARS	VARY 21'-5 TO 23'-7	392	ST
SER S-712	1 SET OF 12 - 12 BARS	VARY 24'-11 TO 35'-0	735	ST.
SER S-713	1 SET OF 32 - 32 BARS	VARY 7'-0 TO 32'-6	1303	ST
S-714	12	8'-0	196	ST.
SUPER ST. TOTAL 82,932				
PIERS #1 & 2				
P-501	164	8'-4"	1,425	BT.
P-502	112	7'-10"	915	BT.
P-601	8	30'-4"	364	ST.
P-701	28	5'-7"	280	BT.
P-801	8	11-6	246	ST.
P-901	48	10'-2"	3,128	ST.
P-902	48	20'-0"	3,264	ST.
P-903				
P-904	96	6'-7"	2,189	BT
P-905				
P-906				
P-907				
P-1001	64	13'-6"	3718	BT.
P-1002	16	11'-0"	759	ST.
P-1101	16	15'-0"	1275	ST.
P-1102	6	30'-6"	972	ST.
P-1103	12	23'-3"	1482	BT.
P-1104	8	21'-6"	967	ST.
P-1105	8	41'-0"	1743	ST.
P-1106	8	11'-7"	492	ST.
PIERS #1 & 2 TOTAL 23,177				
* RAILING				
R-501	8	13'-4"		ST.
R-502	28	16'10"		ST.
R-503	8	13'-11"		ST.
R-504	16	17'-6"		ST.
R-505	4	17'-6"		BT.
R-506	4	17'-6"		BT.
R-507	4	17'-6"		BT.
R-508				
R-509	16	4'7"		ST.
R-510	12	10'-4"		BT.
R-511	8	8'-8"		BT
RAILING TOTAL				
REPLACEMENT BARS				
RE-401	1	5'-3"	SPIRAL	BT.
RE-501	2	5'7"		ST.
RE-601	3	5'-11"		ST.
RE-701	2	6'-3"		ST.
RE-801	1	6'-6"		ST.
RE-901	2	7'-0"		ST.
RE-1001	1	7'-3"		ST.
RE-1101	1	7'-6"		ST.

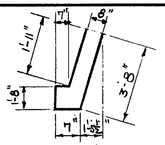
SPIRAL REINFORCING LIST.

MARK	NO.	CORE DIA OF SPIRAL	LGTH	PITCH	NO OF TURNS	WEIGHT
SP-401	4	2'-8"	16'-2	4½	46	1013
SP-402	4	2'-8"	17'-0"	4½	48	1058
SPACERS	32					361

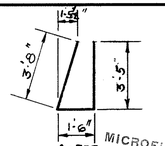
GRAND TOTAL 183,258 #



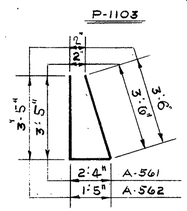


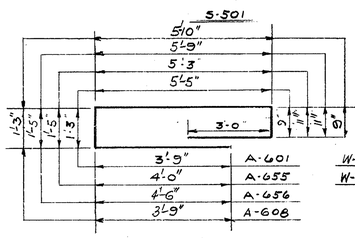


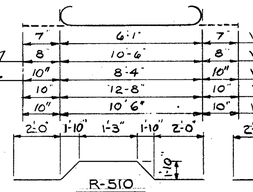
A-504

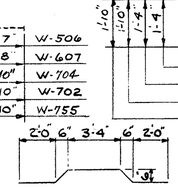


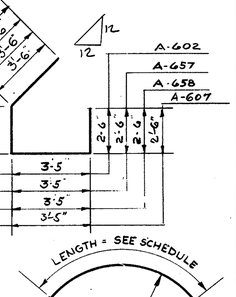
A-503

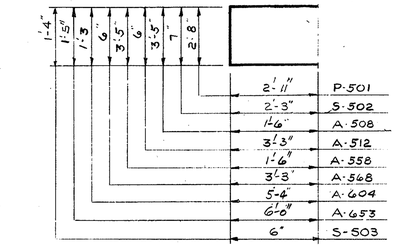


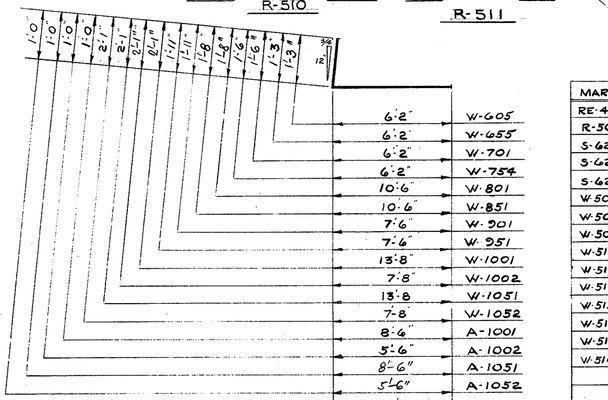


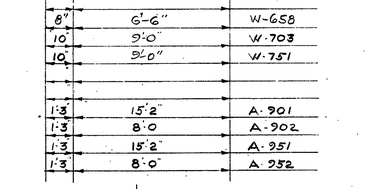


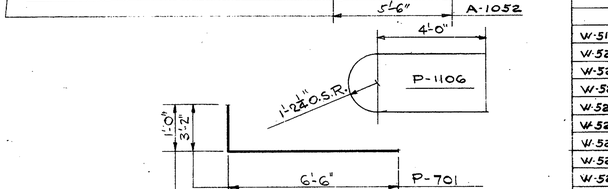


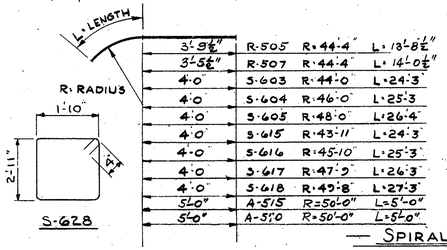


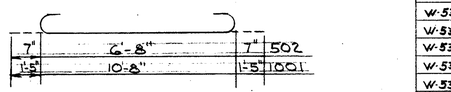












SPIRAL REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO BOTTOM OF THE PIER CAP.
THE NUMBER OF TURNS SHOWN IN THE STEEL LIST 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. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER FOR EXAMPLE A-700 IS A NO 7 SIZE BAR AND A-1014 IS A NO 10 SIZE BAR.
REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.
* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT

MARK	RADIUS	MARK	RADIUS
RE-401	1'-3½	W-544	52'-7
R-506	44'-4"	W-545	50'-7
S-620	44'-10½	W-546	48'-7
S-621	46'-9½	W-547	46'-7
S-622	48'-8½	W-548	44'-7"
W-507	49'-10	W-549	42'-7"
W-508	48'-5	W-557	49'-0"
W-509	49'10	W-558	49'-10"
W-510	48'-5	W-559	49'-10"
W-511	49'-10	W-560	49'-10"
W-512	48'-5	W-561	49'-10"
W-513	49'-10	W-562	49'-10"
W-514	48'-4	W-563	49'-10"
W-515	49'10	W-564	49'-10"
W-516	48'-4	W-565	49'-10"
		W-566	47'-11"
		W-567	48'-4"
W-519	49'-10	W-568	48'-9"
W-520	48'-2	W-569	48'-9"
W-521	49'-10	W-570	48'-9"
W-522	48'-2	W-571	48'-1"
W-523	49'-10	W-572	48'-3"
W-524	48'-1	W-573	48'-7"
W-525	49'-10	W-574	48'-9"
W-526	48'-1	W-575	48'-7"
W-527	51'-7	W-576	48'-7"
W-528	49'-10	W-577	46'-7"
W-529	47'-10	W-578	48'-7"
W-530	46'-2	W-579	50'-7"
W-531	52'-7	W-580	52'-7"
W-532	50'-7	W-581	52'-7"
W-533	48'-7	W-582	53'-8"
W-534	46'-7	W-583	45'-8"
W-535	44'-11	W-584	47'-8"
W-536	53'-7	W-585	49'-8"
W-537	51'-7	W-586	51'-8"
W-538	50'-1	W-587	53'-8"
W-539	OPEN	W-588	44'-9"
W-540	47'-1"	W-589	46'-9"
W-541	45'-7	W-590	48'-9"
W-542	43'-5	W-591	50'-9"
W-543	54'-7	W-592	52'-9"
		W-593	50'-0"
		W-594	48'-4"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1941
UNDER WOODLAND AVE.
YOUNGSTOWN, MAHONING COUNTY
STA. 1025+08.02

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	JNP		aw	DHL		

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

453
492

MICROFILMED
SEP 19 1985

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

454
492

MAH-18-17.20

FIRESTONE TIRE AND RUBBER CO. STORE

EXCEL AUTO GLASS STORE & WAREHOUSE

PARKING AREA

Y.E. CURVE DATA
Δ = 53°45'25" Lt
D_c = 5°45'
R_c = 996.45'
L_s = 400'
Θ_s = 11°30'
L_c = 536.06'
T_s = 706.91'
E_s = 128.51'

EL. 944.87

STA. 50+58.16
EL. 946.46

EL. 919.00

REQD. MIN. CLEAR. = 15.00'
ACTUAL MIN. CLEAR = 15.12'

EL. 923.00 RT. PIER
EL. 925.25 LT. PIER

BRIDGE LIMITS 138.82'

EL. 948.75

EL. 951.85

EL. 952.63

EL. 925.50

RETAINING WALL

MIN. CLEAR.

3'-6"

VARIES

3+00

1028+00

1029+00 ℄ MARKET ST.

D_c = 5°45'

82°38'50"

9°43'37"

4°51'37"

7°21'10"

1°14'36"

83°53'47"

℄ PIER

℄ PIER

LOCAL TANGENT AT ℄ MARKET ST.

STA. 1030+29.49 = SR-18 ST. 50+00 - MARKET ST.

DETAIL "A"

CURB

RAMP "K"

15+00

4:1

PROP. GD. -2.85%

STA. 49+20.19

STA. 15+82.30

℄ PIER

STA. 1030+50

P.C.C. STA. 1030+50

MAIN CONDUIT - 6' MTD.

BEGIN APPROACH SLAB STA. 50+59.01

8" CLAY BRICK

5+00

6" GAS

6" GAS

944

948

952

954

956

SEE DETAIL A

82°38'50"

50+00

1030+00

1030+29.49

7°21'-10"

85°53'47"

℄ PIER, MIN. CLEARANCE

6°06'13"

83°53'47"

EXPANSION JOINT

5+00

7°26'10"

47'-0"

10.2'

MIN. CLEAR

6+00

7+00

RAMP "M"

18'

CURB

RETAINING WALL

EXISTING PARKING AREA

958

960

30' MIN.

ECONOMY ELECTRIC COMPANY

2:1

DECELERATION LANE (RAMP "N")

CURB

10.17'

MIN. CLEAR

℄ WEST BOUND LANES

℄ SURVEY OF STATE ROUTE #18

1033+00

℄ EAST BOUND LANES

1032+00

1031+00

4°-51'-37"

1°-14'-36"

END APPROACH SLAB STA. 49+20.19

℄ MARKET STREET

49+00 M.H.

48" CONCRETE PIPE RELOCATED SEWER

30'-0"

68' EXIST. ROAD

FOUNDATION SOUNDINGS:

FOUNDATION DESIGN & FOUNDATION QUANTITIES ARE BASED ON A STUDY OF 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 PIER AREA = 25 FEET.

13' 34' 34' 13'

TYPICAL SECTION EXISTING MARKET ST.

970 / 950 / 930 / 910

932.09 | 931.01 | 929.74 | 928.50 | 927.50

PVT STA. 1030+00

REQD. MIN. CLEARANCE = 15.00'
ACTUAL MIN. CLEAR. 15.12'

-2.72 % PROPOSED GRADE

48" RELOCATED SEWER

+3.26% GRADE PVI STA. 1028+00 -2.72% GRADE
800' V.C. EL. 940.82

-2.72% GRADE PVI STA. 1033+00 +3.00% GRADE
600' V.C. EL. 921.58

1029+00 | 1030+00 | 1031+00

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE.
SPANS: 77'-6"-56'-9" c/c BRGS. ALONG ℄
ROADWAY: 68'-0" F/F 12' SIDEWALKS
LOAD FREQUENCY: 2000 C.F.(57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG AS I-54
ALIGNMENT: TANGENT.
SUPERELEVATION: NONE
SKEW: VARIES
TRAFFIC COUNT: 64,000 ADT 1979

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SITE PLAN

BRIDGE Nº MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN MAHONING COUNTY
STA. 1030+29.49

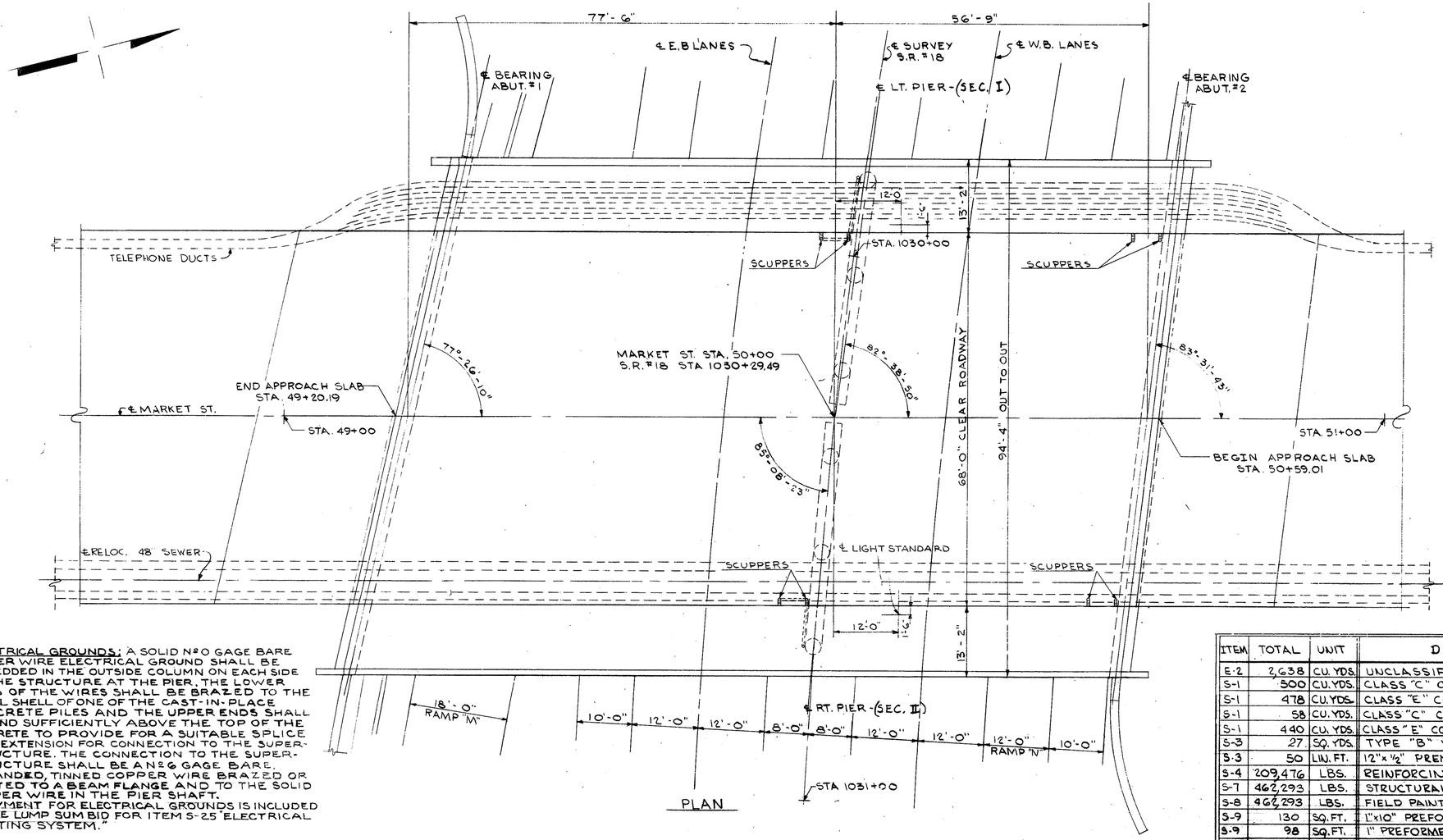
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.D.H.	D.G.S.		D.G.S.			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

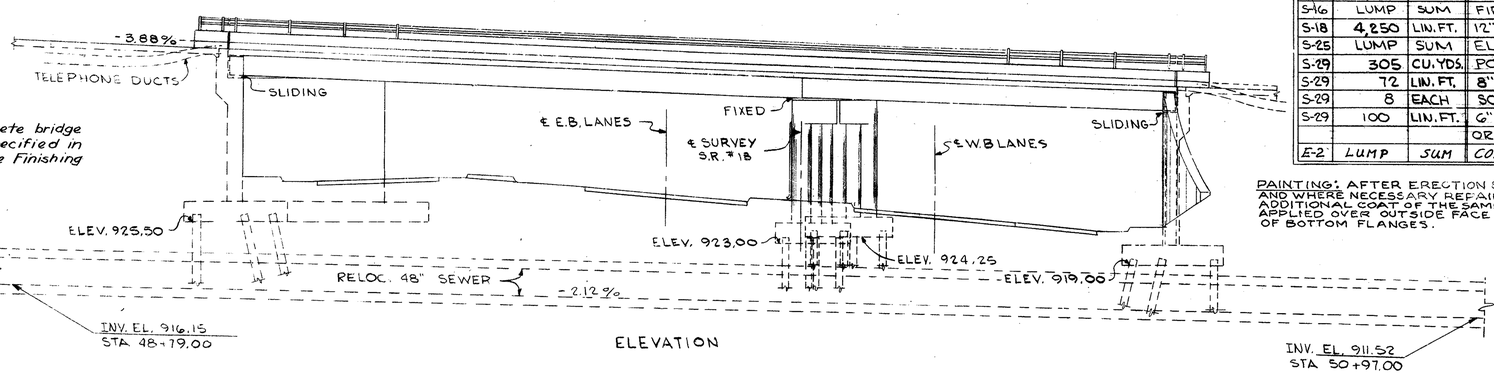
MA H-18-17.20

455/492



PLAN

ELECTRICAL GROUNDS: A SOLID N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON EACH SIDE OF THE STRUCTURE AT THE PIER. THE LOWER ENDS OF THE WIRES SHALL BE BRAZED TO THE STEEL SHELL OF ONE OF THE CAST-IN-PLACE CONCRETE PILES AND THE UPPER ENDS SHALL EXTEND SUFFICIENTLY ABOVE THE TOP OF THE CONCRETE TO PROVIDE FOR A SUITABLE SPLICE AND EXTENSION FOR CONNECTION TO THE SUPERSTRUCTURE. THE CONNECTION TO THE SUPERSTRUCTURE SHALL BE AN N°6 GAGE BARE, STRANDED, TINNED COPPER WIRE BRAZED OR BOLTED TO A BEAM FLANGE AND TO THE SOLID COPPER WIRE IN THE PIER SHAFT.
PAYMENT FOR ELECTRICAL GROUNDS IS INCLUDED IN THE LUMP SUM BID FOR ITEM S-25 "ELECTRICAL LIGHTING SYSTEM."



ELEVATION

MACHINE FINISH: The concrete bridge deck shall be finished as specified in the Proposal Note, "Machine Finishing of Bridge Deck Slabs."

GENERAL NOTES

DESIGN SPECIFICATONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57, AND CURRENT REVISIONS THERE OF.

WELDING OF STRUCTURAL STEEL: SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. ANY WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP.

DOWNSPOUTS: SHALL BE 6" Φ GALV. ST. OR W.I. PIPE. ITEM S-29 (DOWNSPOUTS INCLUDES PIPE & INCIDENTALS BELOW LIMITS SHOWN ON RAILING & DRAINAGE DETAILS.

SCUPPERS: ITEM S-29 SCUPPERS INCLUDES 6" Φ GALV. ST. OR W.I. PIPE & INCIDENTALS ABOVE LIMITS SHOWN ON RAILING & DRAINAGE DETAILS. METAL GUTTERS ARE INCLUDED IN ITEM S-7 FOR PAYMENT.

UTILITY LINES: ALL LABOR AND EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THIER WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

REFERENCE SHALL BE MADE TO STD. DRAWINGS; AR-1-57, DATED 2-2-59, CSB-2-56, REV. 2-2-59 SHTS. 2 & 3, & SUPPLEMENTAL SPECIFICATION S-101, DATED 12-2-59.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF MATERIAL BETWEEN THE SURFACE OF THE PROPOSED GRADE AND THE BOTTOM OF ABUTMENTS.

POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENTS AND WINGS SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

ALL PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCRETE PILES DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.
E-2	2,638	CU. YDS.	UNCLASSIFIED EXCAVATION		2,465	173	
S-1	500	CU. YDS.	CLASS "C" CONC. SUPERSTRUCTURE	500			
S-1	478	CU. YDS.	CLASS "E" CONC. ABUTS. & WINGWALLS ABOVE FTGS		478		
S-1	58	CU. YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			58	
S-1	440	CU. YDS.	CLASS "E" CONC. ABUT., WINGWALL, & PIER FTGS.		369	71	
S-3	27	SQ. YDS.	TYPE "B" WATERPROOFING		27		
S-3	50	LIN. FT.	12" x ½" PREMOLDED SEALING STRIP		50		
S-4	209,476	LBS.	REINFORCING STEEL	107,136	74,661	27,679	
S-7	462,293	LBS.	STRUCTURAL STEEL	462,293			
S-8	462,293	LBS.	FIELD PAINTING OF STR. ST., AS PER PLAN	462,293			
S-9	130	SQ. FT.	1" x 10" PREFORMED EXPANSION JOINT FILLER	130			
S-9	98	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		98		
S-9	136	LIN. FT.	FOLDED COPPER STRIP (12" WIDE, 16 OZ.)	136			
S-14	292	LIN. FT.	RAILING (ALUM. RAIL AND SUPPORTS - CONCRETE PARAPET - REINFORCING STEEL)	272	20		
S-16	LUMP	SUM	FIRST TEST PILE				
S-18	4,250	LIN. FT.	12" Φ CAST-IN-PLACE REINFORCED CONC. PILES		3200	1050	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM	LUMP			
S-29	305	CU. YDS.	POROUS BACKFILL		305		
S-29	72	LIN. FT.	8" C.M.P. INCLUDING SPECIALS		72		
S-29	8	EACH	SCUPPERS	8			
S-29	100	LIN. FT.	6" STANDARD PIPE DOWNSPOUTS, GALV. ST. OR W.I., INCLUDING SPECIALS.				100
E-2	LUMP	SUM	COFFERDAMS, CRIBS & SHEETING				LUMP

PAINTING: AFTER ERECTION & AFTER THE SHOP COAT HAS BEEN CLEANED AND WHERE NECESSARY REPAINTED IN ACCORDANCE WITH SEC. 604 AN ADDITIONAL COAT OF THE SAME PAINT AS USED IN THE SHOP SHALL BE APPLIED OVER OUTSIDE FACE OF OUTSIDE STEEL BEAMS AND ALL SIDES OF BOTTOM FLANGES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GENERAL PLAN ELEVATION

BRIDGE NO. MAH-18-1050
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+20.49

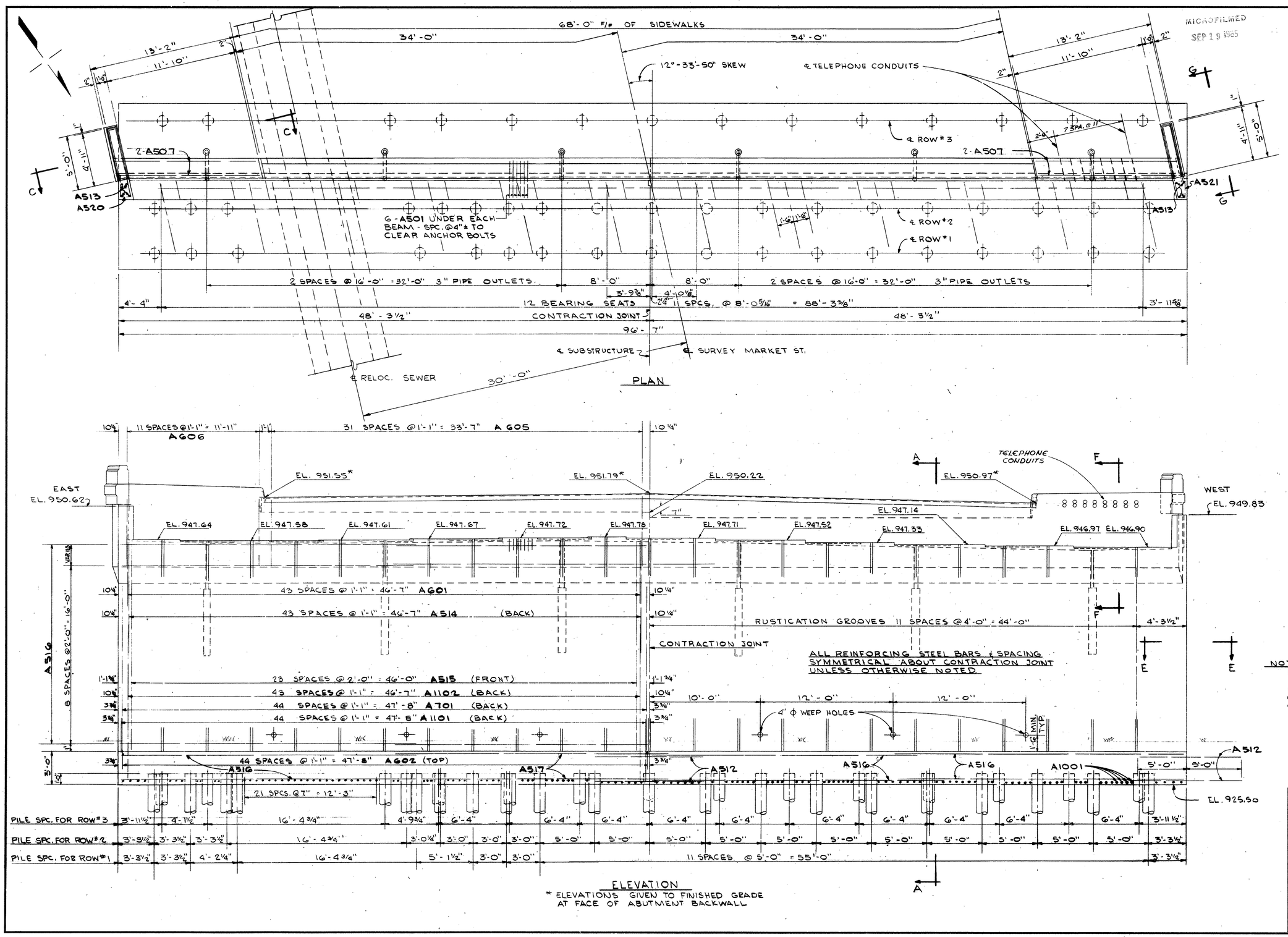
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H		D.H.C.			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

456
492



NOTES:
FOR DETAILS NOT SHOWN SEE SHT 458

ALL PILES SHALL BE 12" CAST-IN-PLACE CONCRETE WITH 40 TON BEARING CAPACITY.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 PLAN & ELEVATION

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

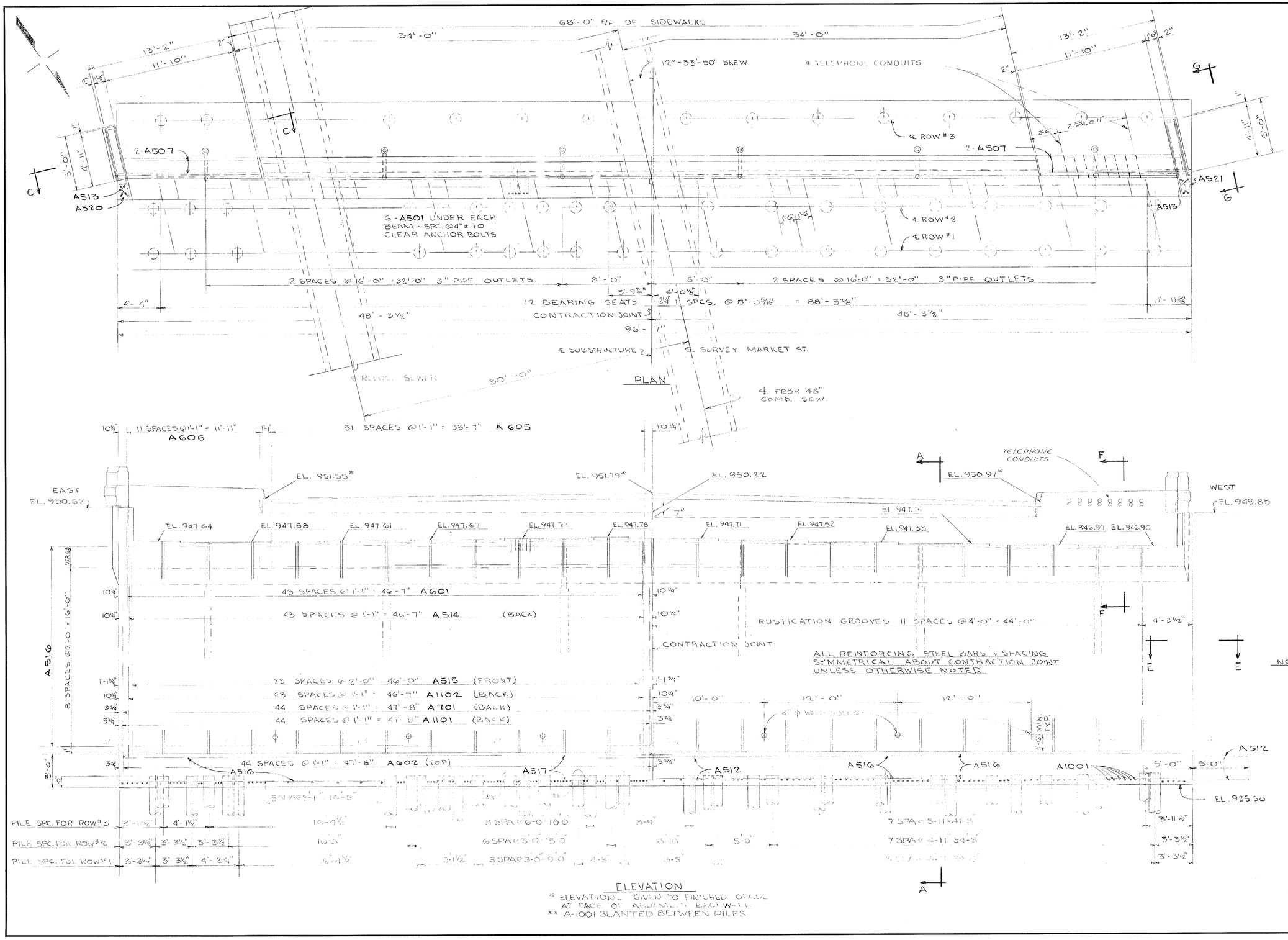
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

5/10

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

456A
492



ELEVATION

* ELEVATIONS GIVEN TO FINISHED GRADE AT FACE OF ABUTMENT BACKWALL

** A-1001 SLANTED BETWEEN PILES

NOTES:

FOR DETAILS NOT SHOWN SEE SHT 458

ALL PILES SHALL BE 12" CAST-IN-PLACE CONCRETE WITH 40 TON BEARING CAPACITY.

MINIMUM CLEAR DISTANCE BETWEEN REINFORCING STEEL BARS IN THE FOOTING IS 2 1/2".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 PLAN & ELEVATION
BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

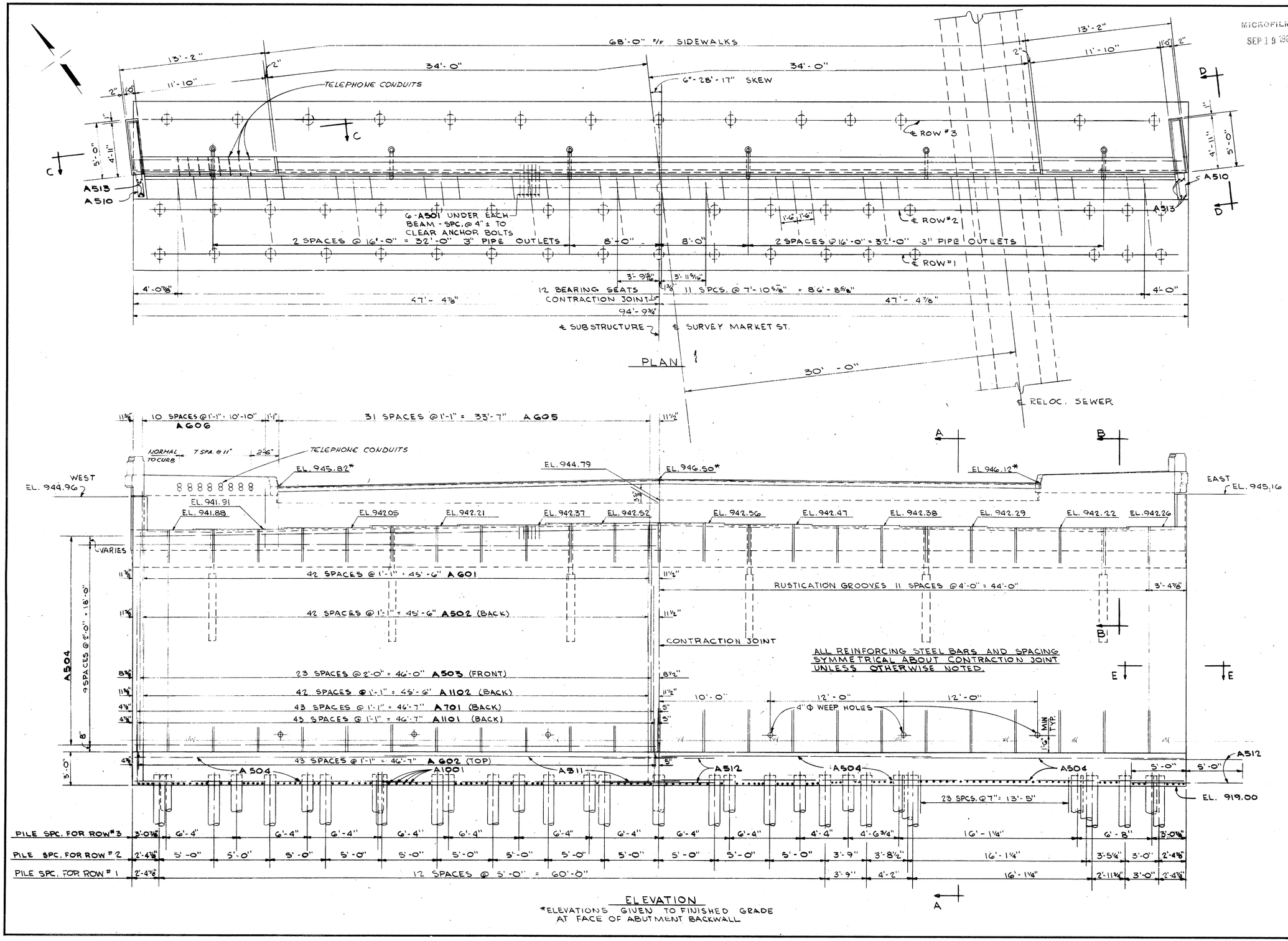
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

MICROFILMED
SEP 19 1965

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

457
492



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 PLAN & ELEVATION

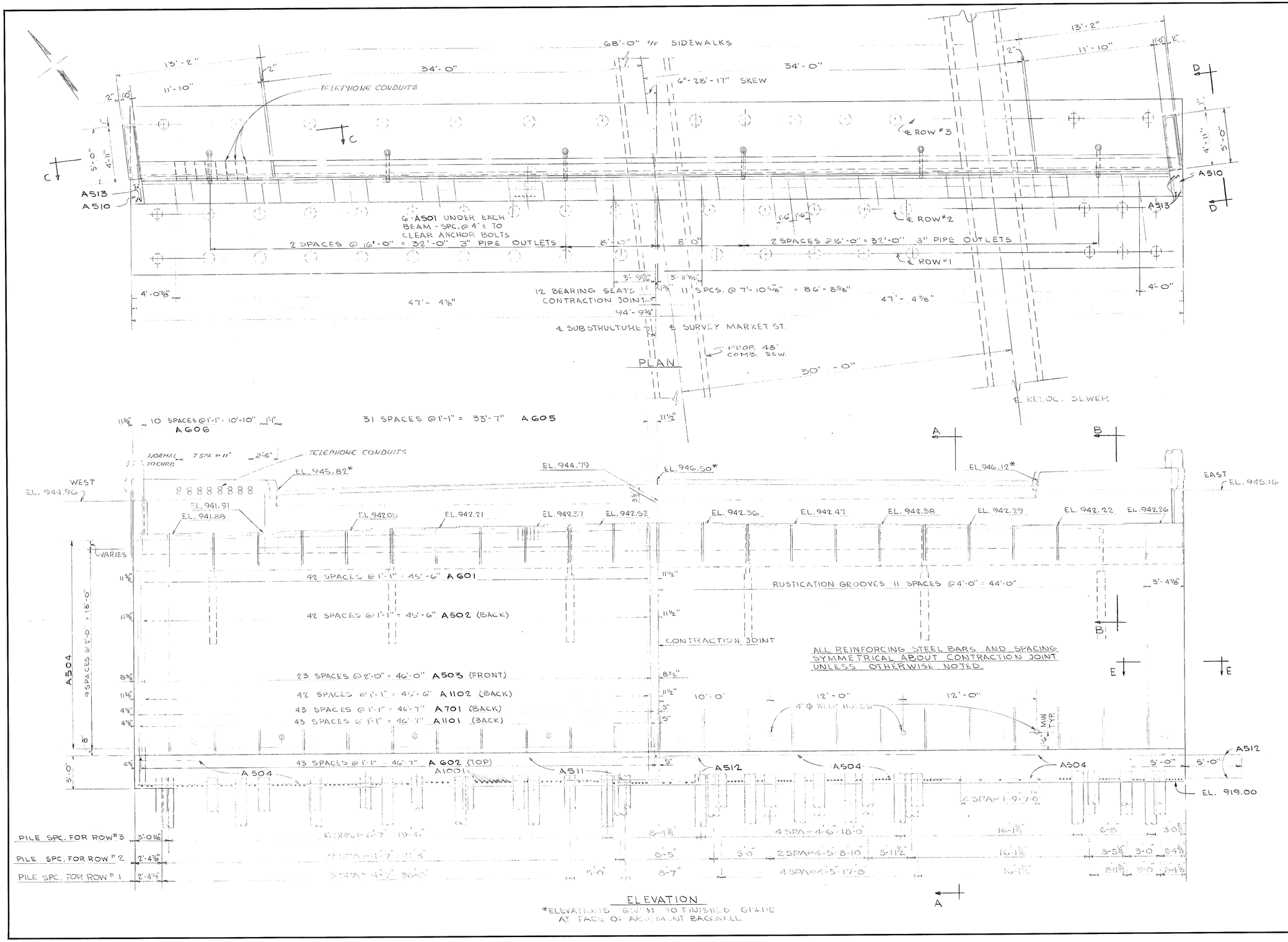
BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030 + 29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	RDH		D.H.C.			

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

457A
412



ELEVATION

*ELEVATIONS GIVEN TO FINISHED GRADE AT FACE OF ABUTMENT BACKWALL

NOTES:

MINIMUM CLEAR DISTANCE BETWEEN REINFORCING STEEL BARS IN THE FOOTING IS 2 1/2".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #2 PLAN & ELEVATION
BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030 + 29.49

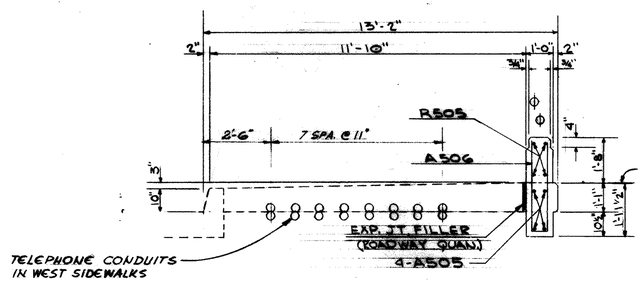
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	RDH		D.H.C.			

MICROFILMED
SEP 19 1965

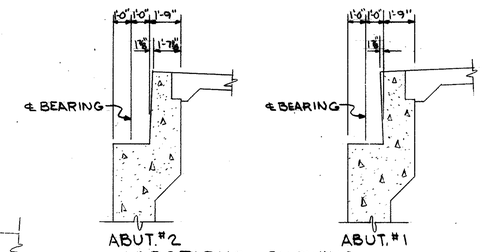
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18 -17.20

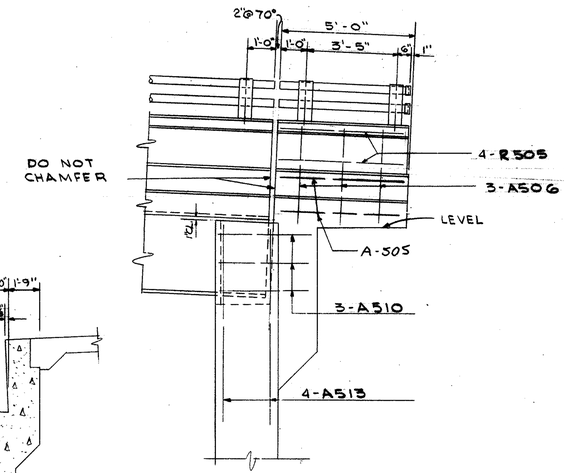
458
492



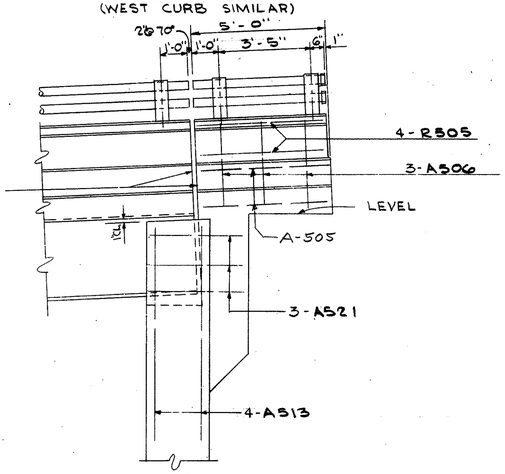
SECTION C-C



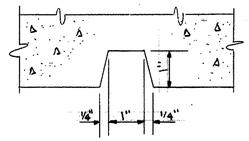
SECTIONS SHOWING SLOPE OF BACKWALLS



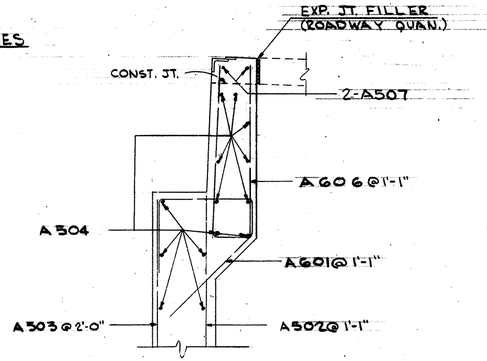
SECTION D-D
(WEST CURB SIMILAR)



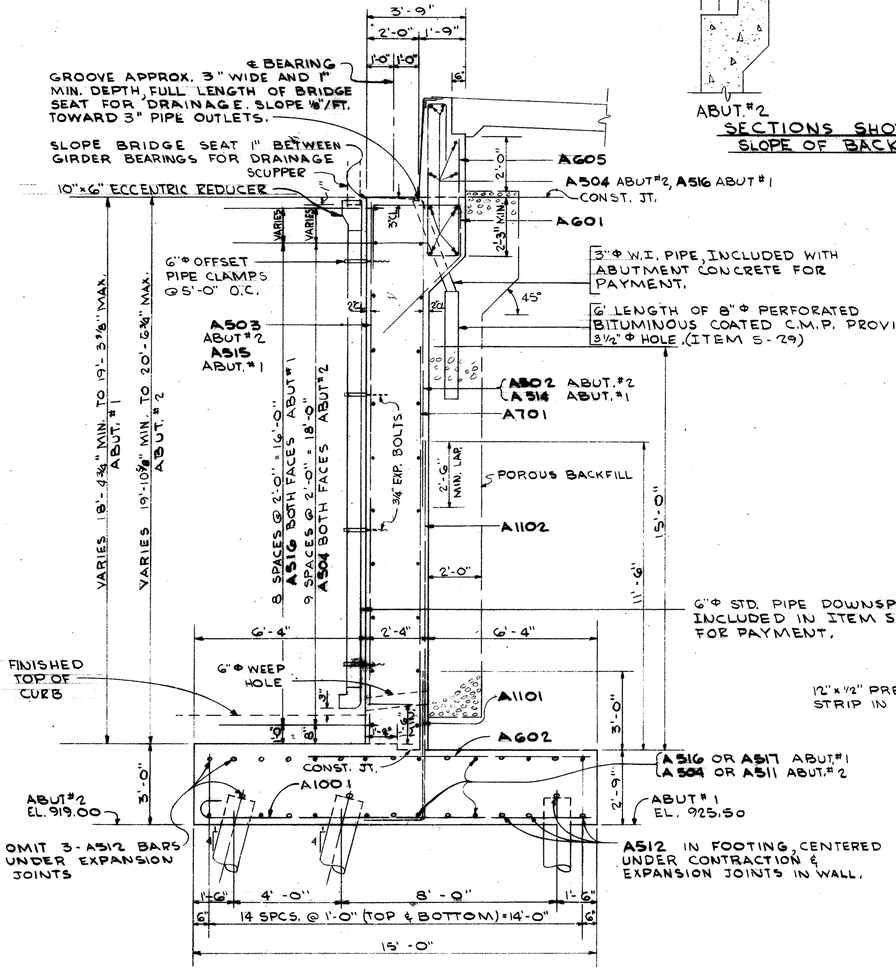
SECTION G-G
(EAST CURB SIMILAR)



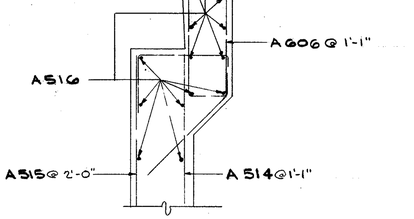
DETAIL OF RUSTICATION GROOVES



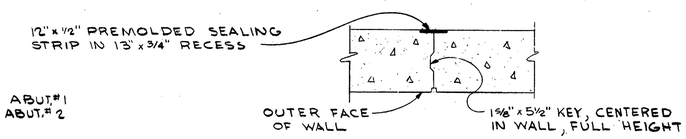
SECTION B-B



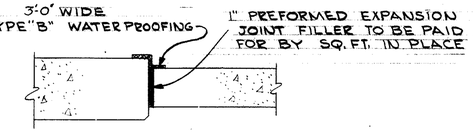
SECTION A-A



SECTION F-F



DETAIL OF CONTRACTION JOINT



SECTION E-E

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 & #2 DETAILS

BRIDGE NO. MAH-18-1050
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+20.49

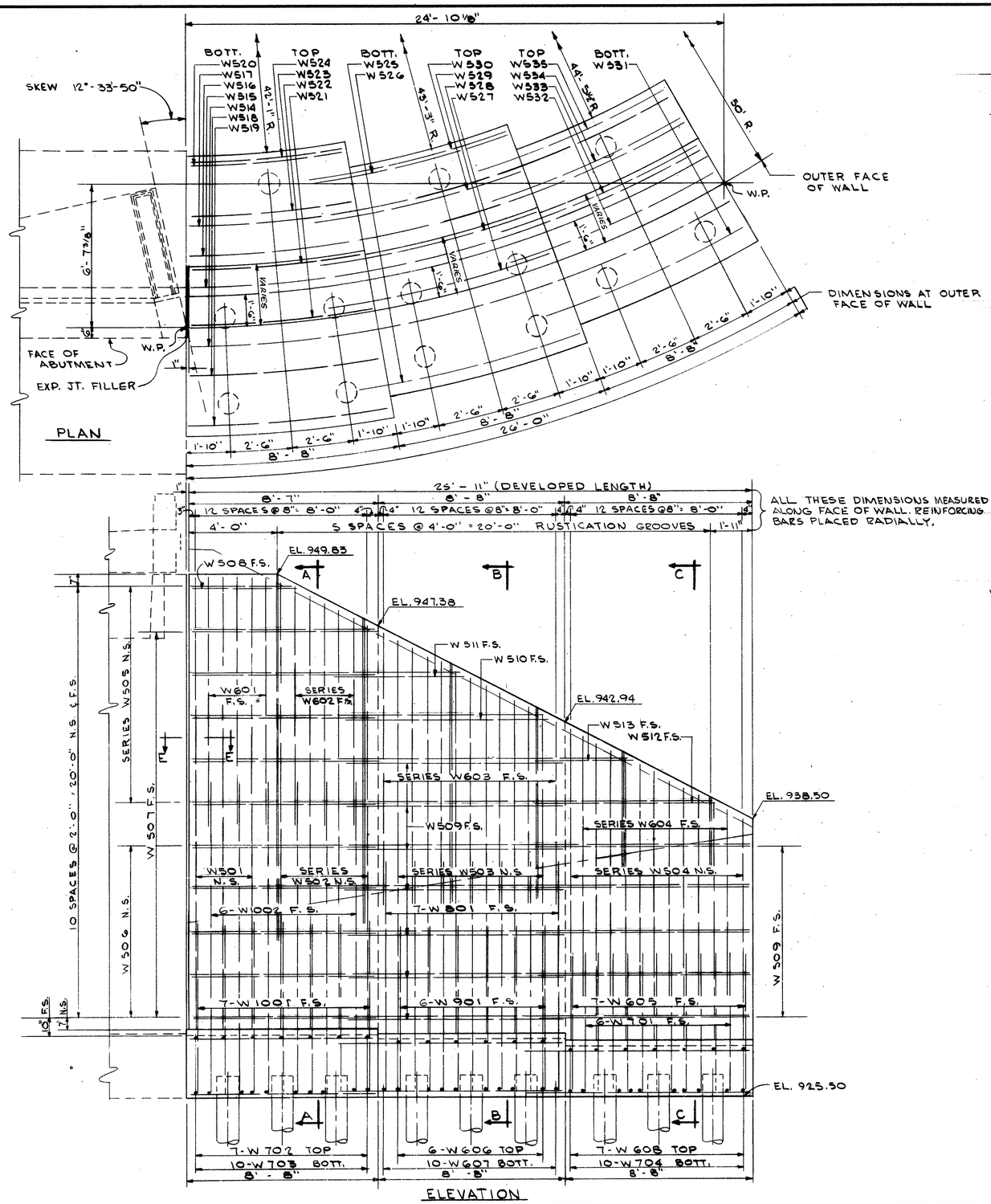
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	RDH		D.H.C.			

MICROFILMED SEP 19 1985

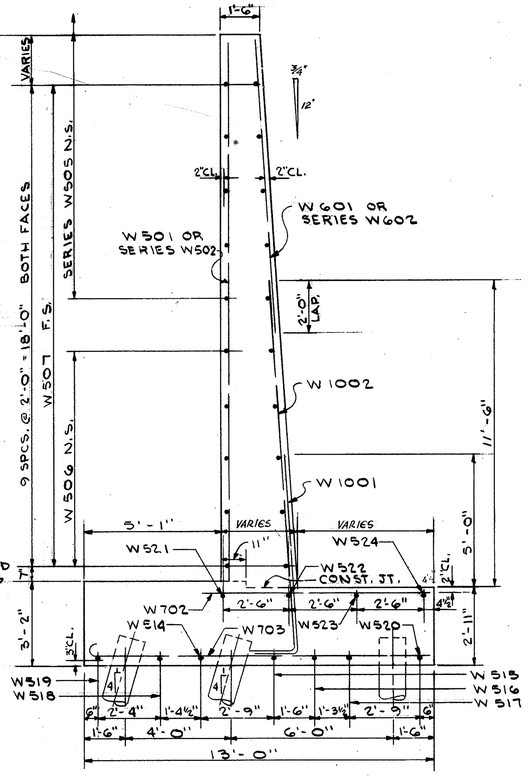
FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

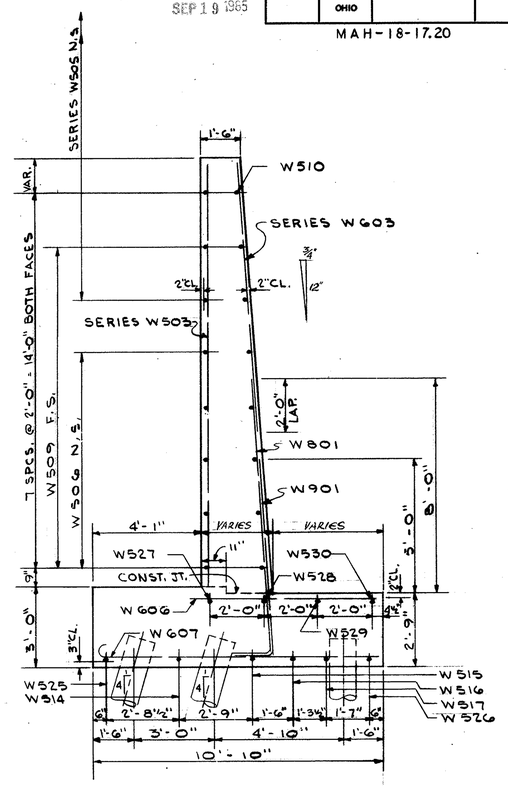
459
492



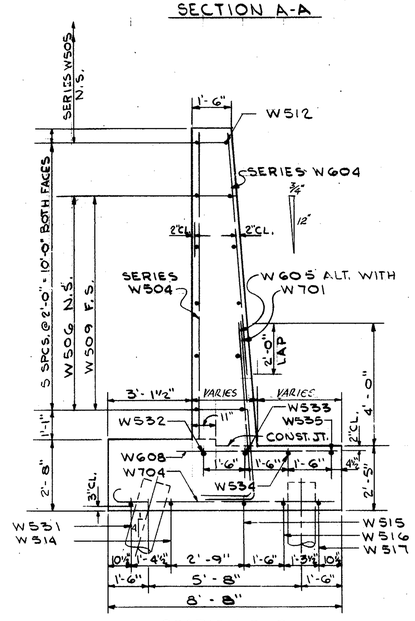
ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:
QUANTITIES ARE INCLUDED WITH ABUTMENT QUANTITIES FOR SECTION E-E AND RUSTICATION GROOVE DETAILS SEE SHT.
ALL PILES ARE 12" CAST IN PLACE CONCRETE WITH A BEARING CAPACITY OF 40 TON.
N.S. DENOTES NEAR SIDE
F.S. DENOTES FAR SIDE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT #1 WINGWALL

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+20.49

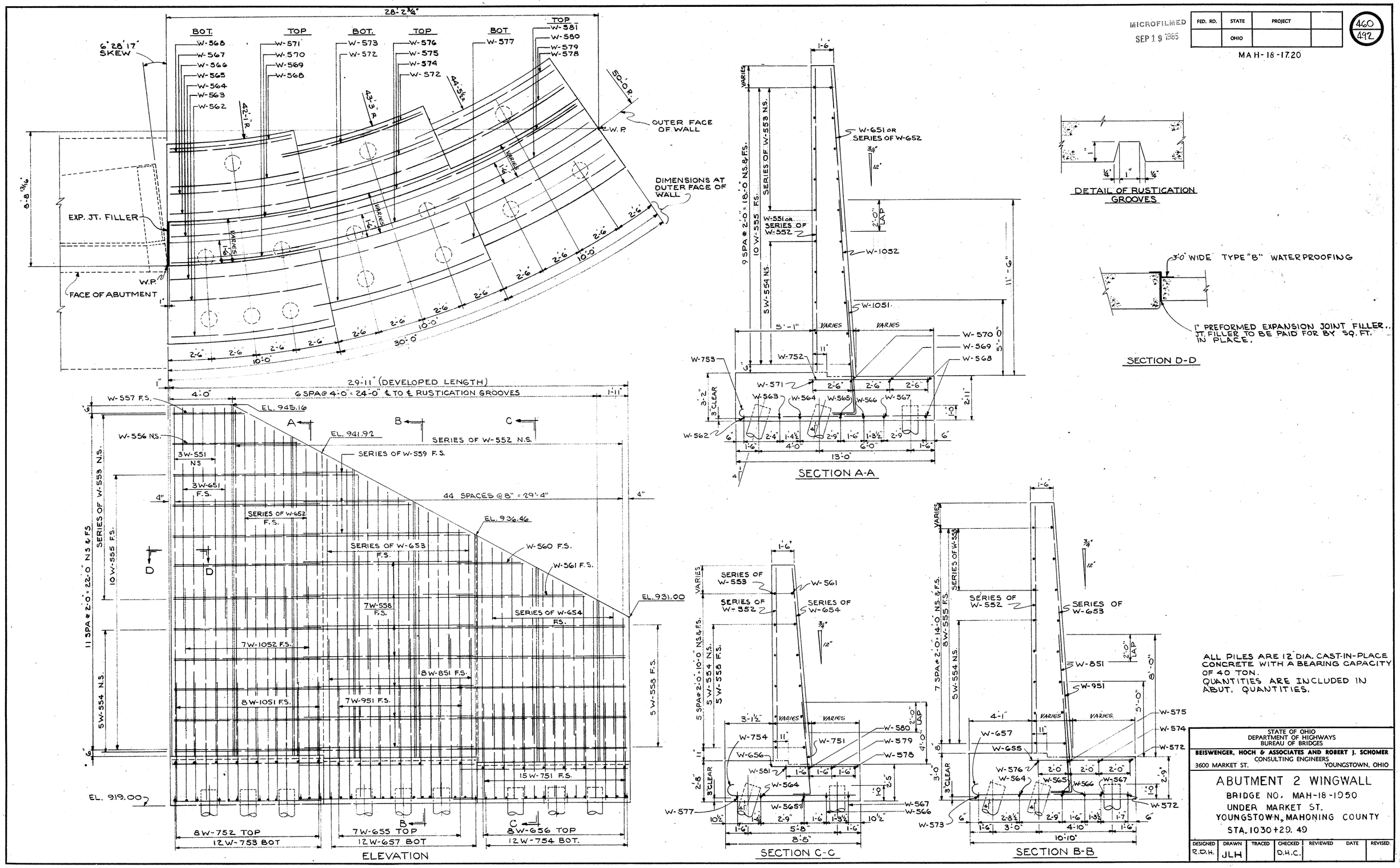
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

460
492

MAH-18-17.20



ALL PILES ARE 12" DIA. CAST-IN-PLACE CONCRETE WITH A BEARING CAPACITY OF 40 TON.
QUANTITIES ARE INCLUDED IN ABUT. QUANTITIES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

ABUTMENT 2 WINGWALL

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

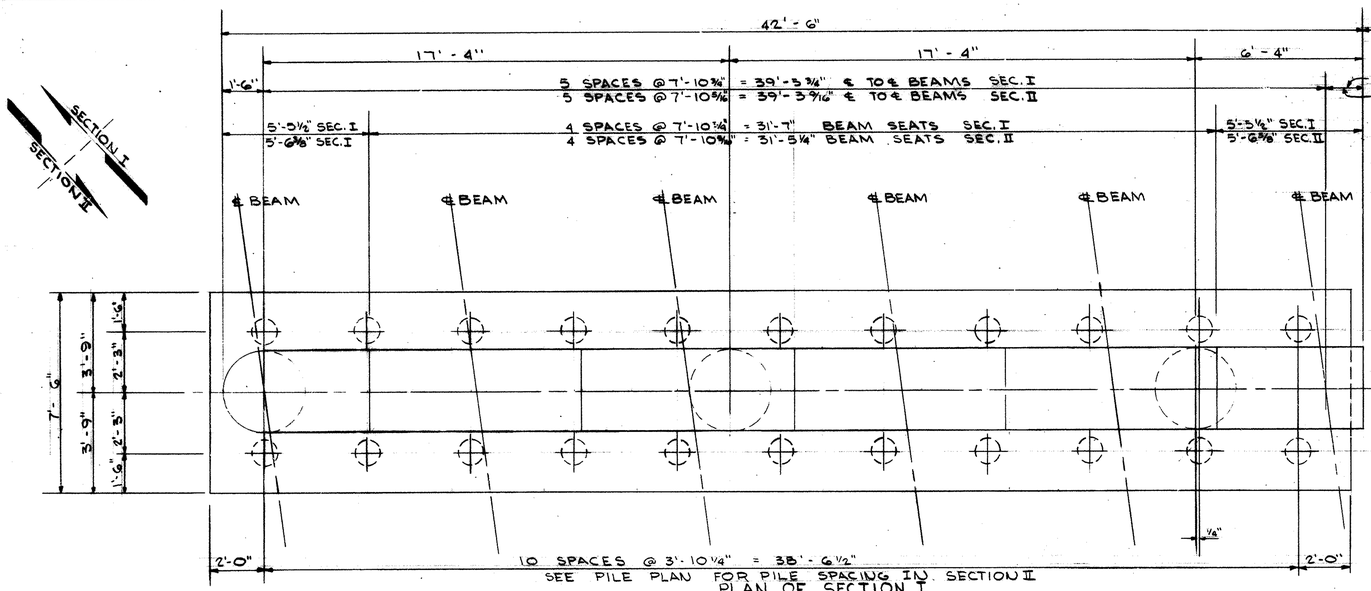
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	JLH		D.H.C.			

MICROFILMED
SEP 19 1985

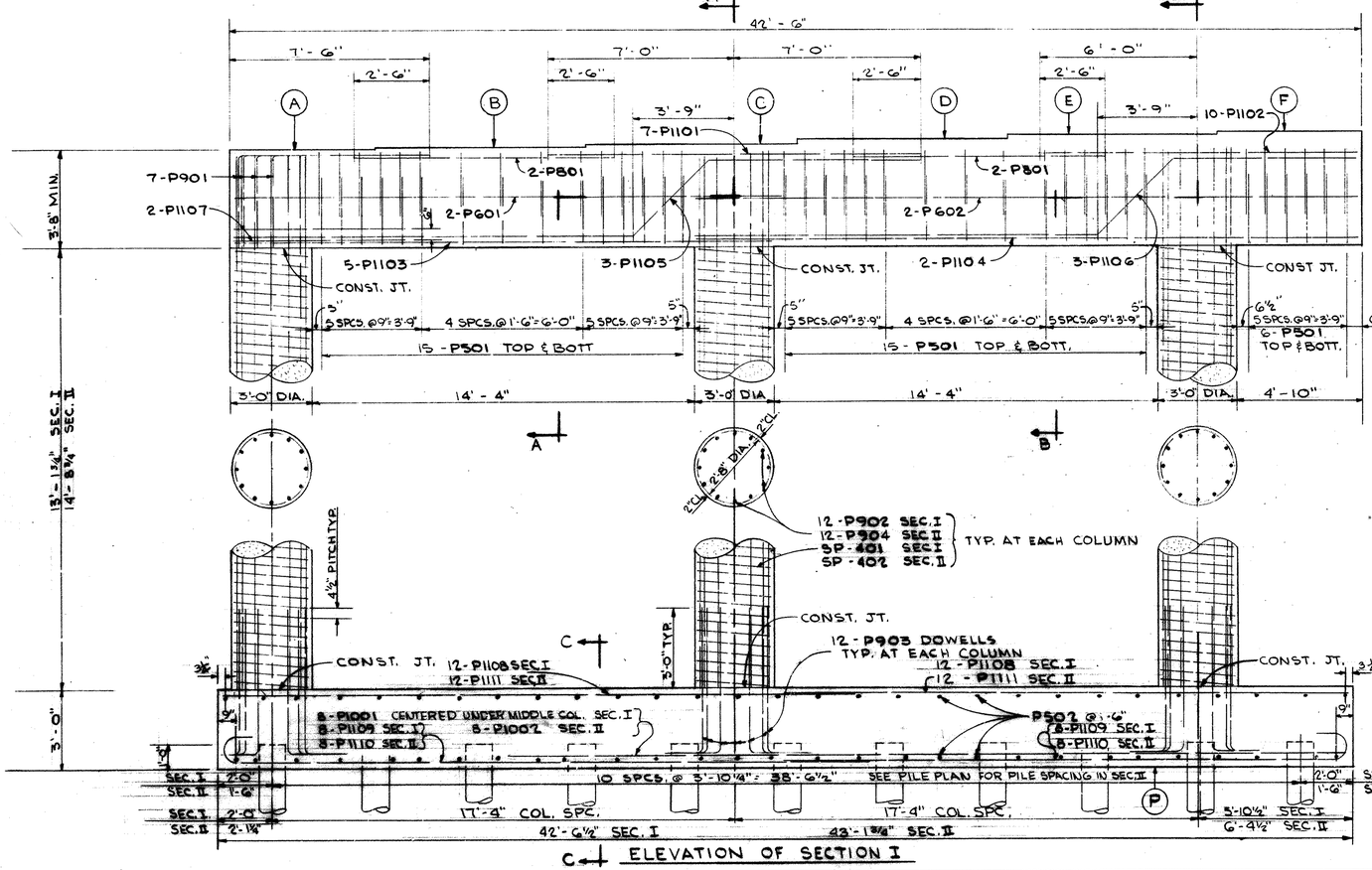
FED. RD.	STATE	PROJECT	
	OHIO		

461
492

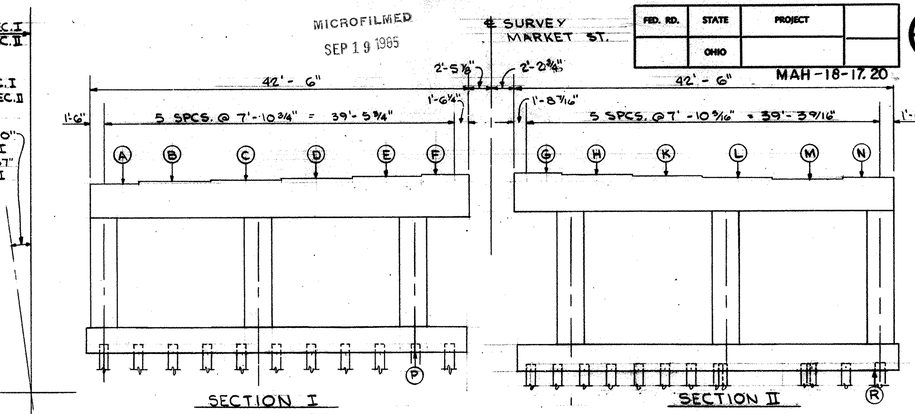
MAH-18-17.20



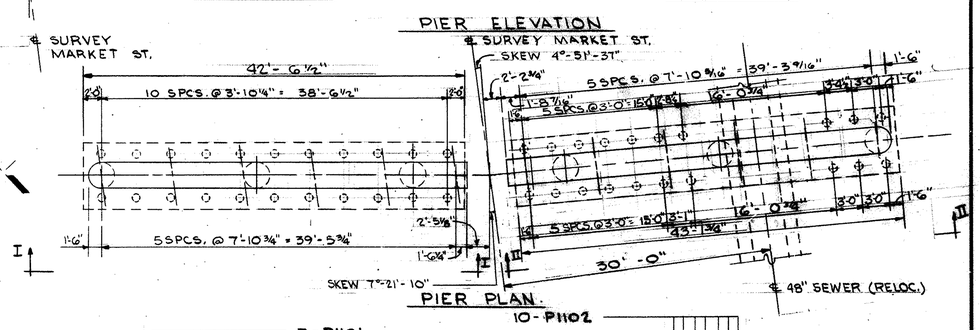
PLAN OF SECTION I



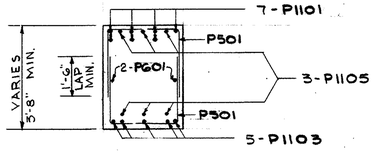
C ELEVATION OF SECTION I



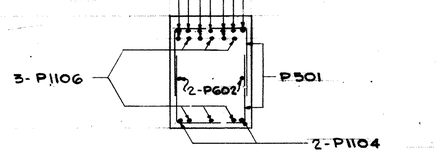
PIER ELEVATION



PIER PLAN.



SECTION A-A



SECTION B-B

TABLE OF ELEVATIONS

POINT	A	B	C	D	E	F	G	H	K	L	M	N	P	R
ELEV.	944.07	944.11	944.26	944.42	944.58	944.74	944.77	944.68	944.58	944.48	944.41	944.43	924.[illegible]	923.00

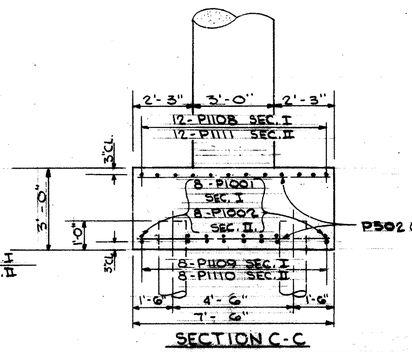
NOTES

REINFORCING STEEL TO HAVE A MINIMUM OF 2" COVER EXCEPT AS OTHERWISE NOTED.

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL UNDER BEAM BEARINGS IN ORDER TO CLEAR ANCHOR BOLTS WHERE THEY OCCUR.

SECTION I SHOWN, SECTION II SIMILAR EXCEPT AS NOTED OR SHOWN.

ALL PILES ARE 12" CAST IN PLACE CONCRETE WITH 40 TON BEARING CAPACITY.



SECTION C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT I. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

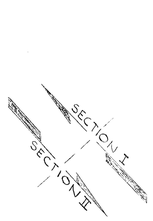
BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

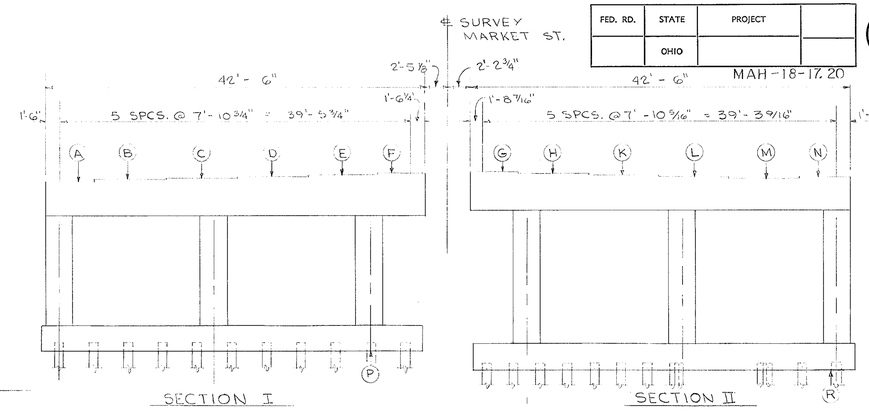
FED. RD.	STATE	PROJECT	
	OHIO		

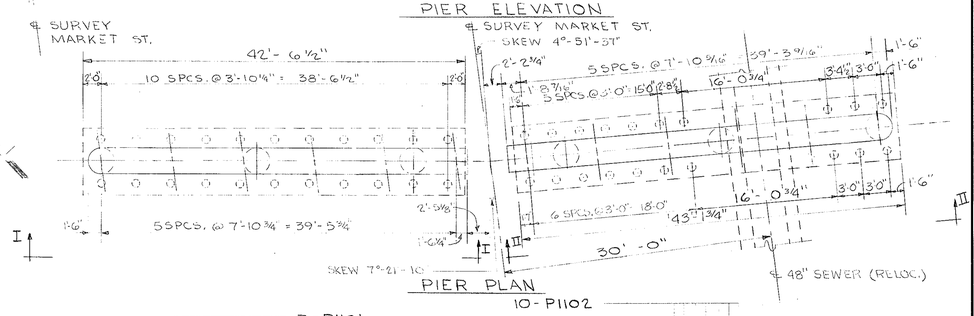
MAH-18-17.20

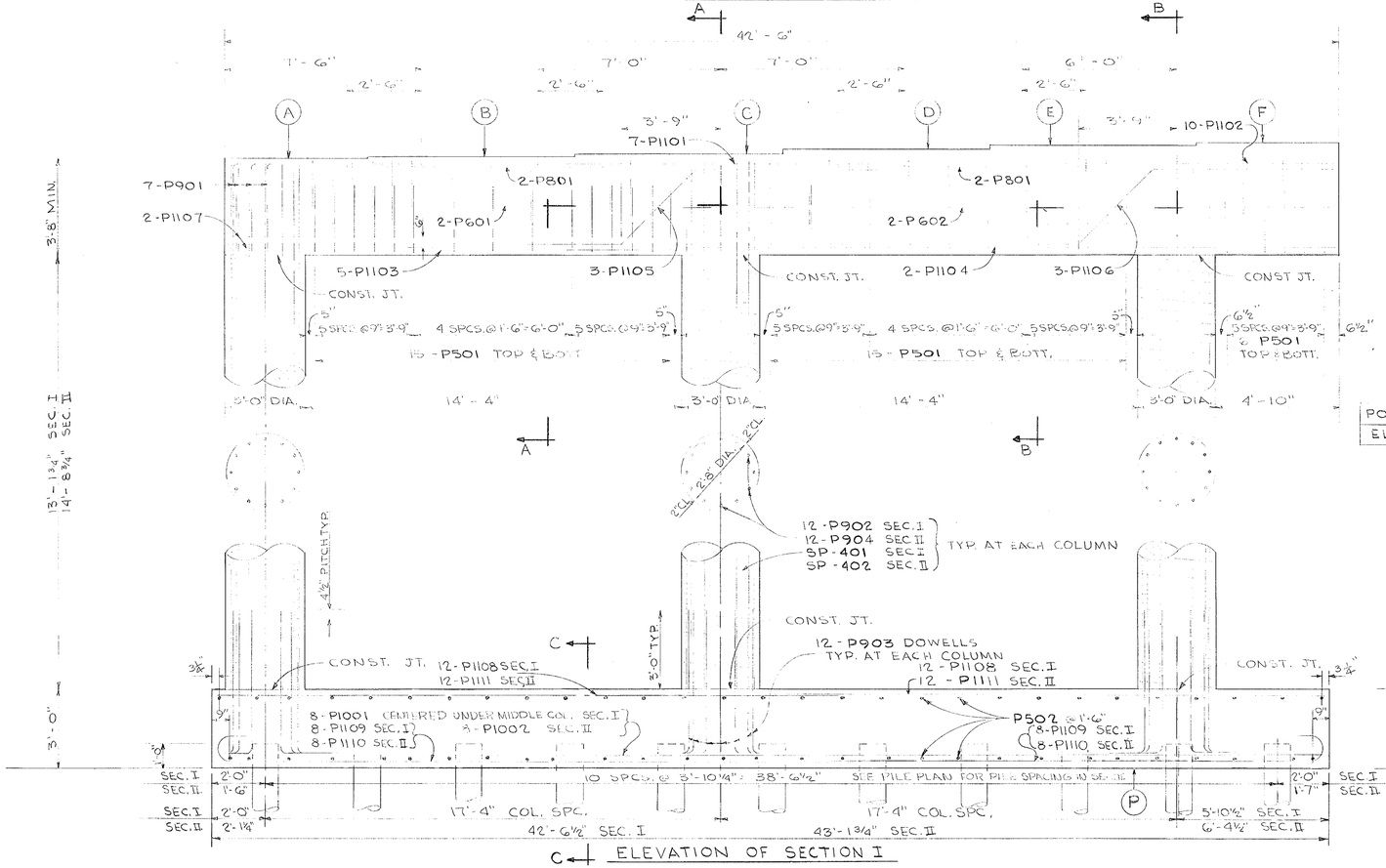
46(A)
412



PLAN OF SECTION I







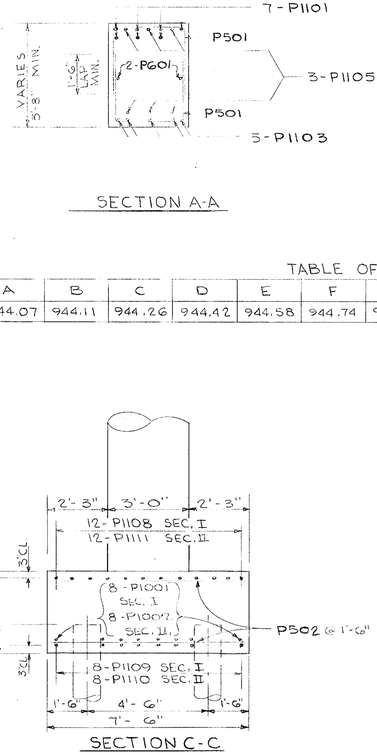


TABLE OF ELEVATIONS

POINT	A	B	C	D	E	F	G	H	K	L	M	N	P	R
ELEV.	944.07	944.11	944.26	944.42	944.58	944.74	944.77	944.68	944.58	944.48	944.41	944.43	924.25	923.00

NOTES

REINFORCING STEEL TO HAVE A MINIMUM OF 2" COVER EXCEPT AS OTHERWISE NOTED.

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL UNDER BEAM BEARINGS IN ORDER TO CLEAR ANCHOR BOLTS WHERE THEY OCCUR.

SECTION I SHOWN, SECTION II SIMILAR EXCEPT AS NOTED OR SHOWN.

ALL PILES ARE 12" CAST IN PLACE CONCRETE WITH 40 TON BEARING CAPACITY.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PIER DETAILS

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

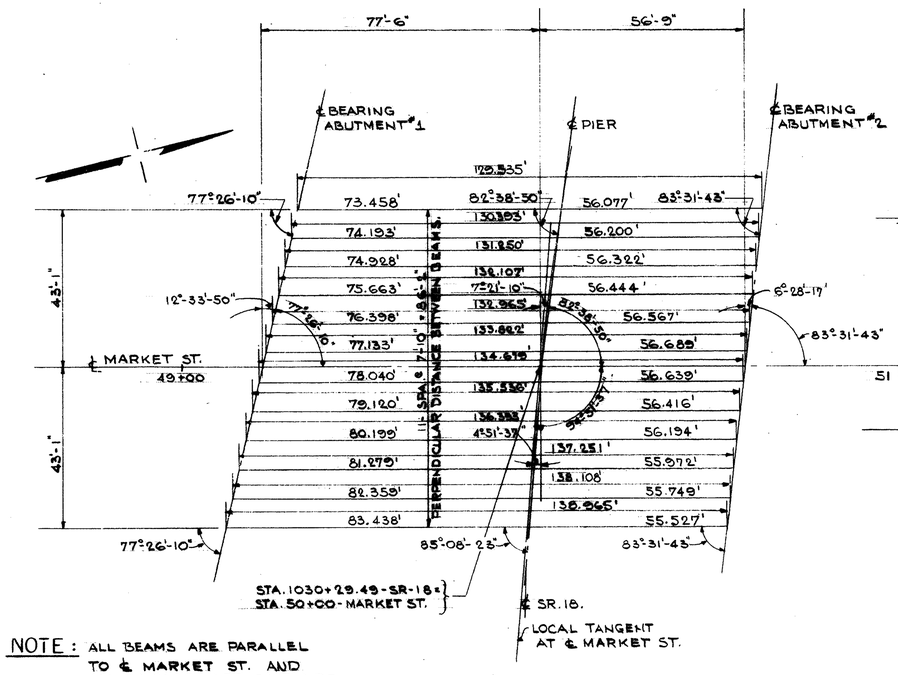
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

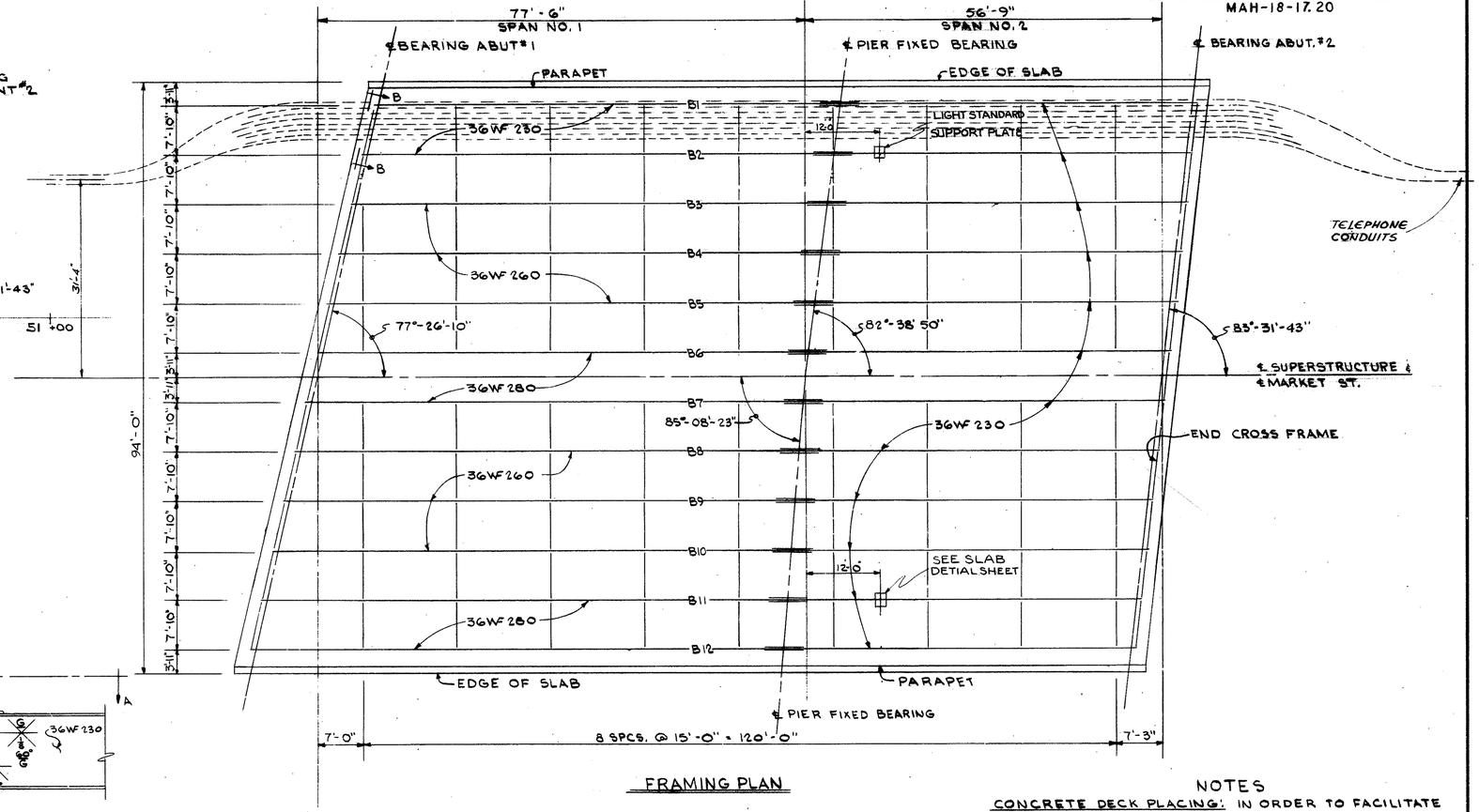
462/492

MAH-18-17.20

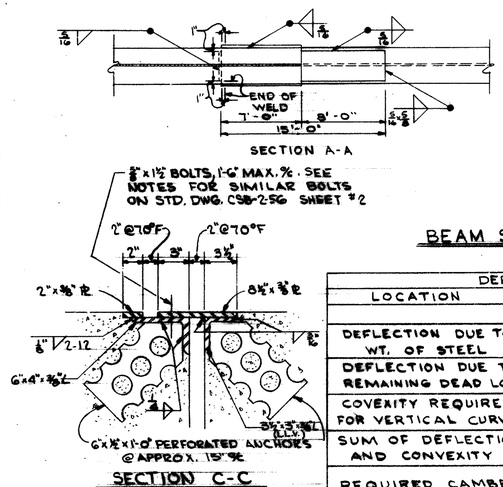


NOTE: ALL BEAMS ARE PARALLEL TO ℄ MARKET ST. AND ALL ANGLES ARE GIVEN TO ℄ PIER OR ℄ ABUTMENT BEARINGS.

GEOMETRIC LAYOUT



FRAMING PLAN



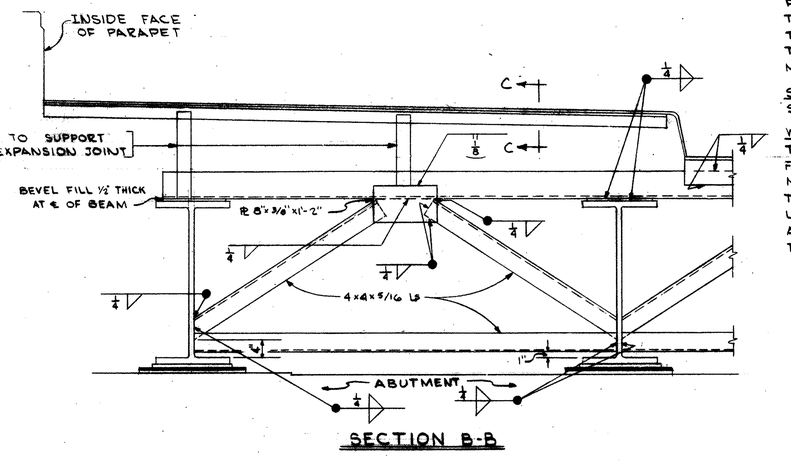
⅞"x1½" BOLTS, 1'-6" MAX. % - SEE NOTES FOR SIMILAR BOLTS ON STD. DWG. CSB-25G SHEET #2

SECTION C-C

BEAM SPLICE DETAILS

DEFLECTION & CAMBER				
LOCATION	B1 – B10		B11 & B12	
	SPAN NO.1	SPAN NO.2	SPAN NO.1	SPAN NO.2
DEFLECTION DUE TO WT. OF STEEL	0.17"	0.01"	0.18"	0.01"
DEFLECTION DUE TO REMAINING DEAD LOAD	0.68"	0.05"	1.15"	0.07"
COVEXITY REQUIRED FOR VERTICAL CURVE	0.00"	0.00"	0.00"	0.00"
SUM OF DEFLECTION AND CONVEXITY	0.85"	0.06"	1.33"	0.08"
REQUIRED CAMBER	1"	0	1⅜"	0

BEAM	R
B1, B2, B3	1½"
B4, B5, B6	1⅝"
B7, B8, B9	1⅞"
B10, B11, B12	2"



SECTION B-B

NOTES

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 THE TRANSVERSE CONSTRUCTION JOINTS WHICH ARE NORMAL TO THE CENTERLINE OF THE BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

SLAB THICKNESS INCLUDES 1" MONOLITHIC WEARING SURFACE.

WELDING PROCEDURE: LIFT END OF BEAM R" (SEE TABLE THIS SHEET) AT ABUTMENT #2, BUTT-WELD THE BEAM FLANGES AND WEB, USING THE FOLLOWING SEQUENCE: MAKE TWO PASSES ON EACH FLANGE, THEN TWO ON THE WEB; REPEAT, USING ONE PASS AT EACH LOCATION UNTIL WELDS ARE COMPLETED. WELD THE BOTTOM AND TOP MOMENT PLATES, LOWER THE BEAM END TO FINAL POSITION AT ABUTMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

FRAMING PLAN

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.D.H.	JK		D.H.C.			

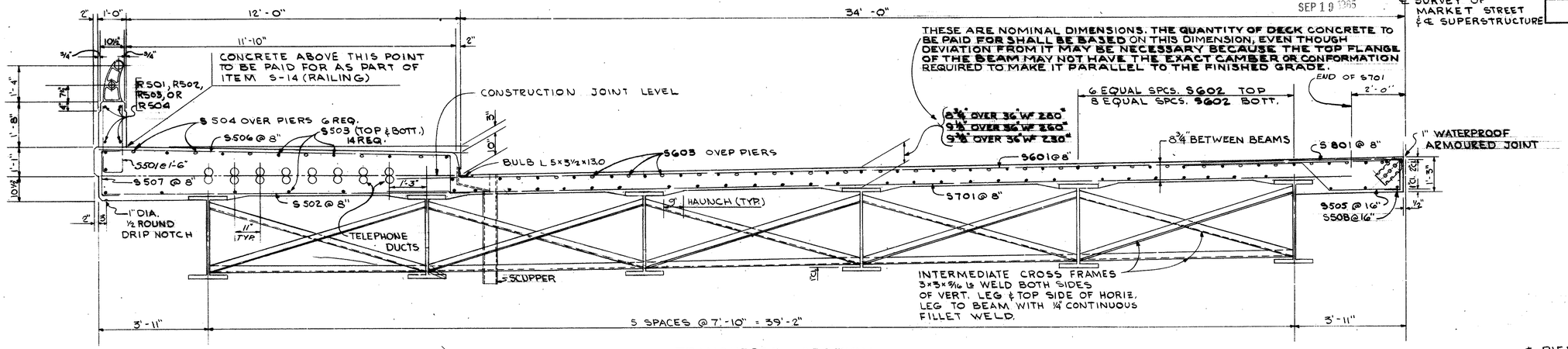
MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

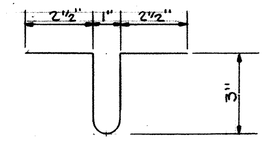
463
492

MAH-18-17.20

℄ SURVEY OF MARKET STREET ℄ SUPERSTRUCTURE

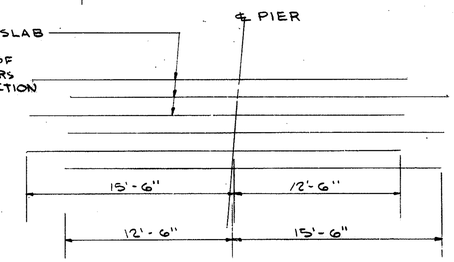


TRANSVERSE SECTION
SYMMETRICAL ABOUT ℄

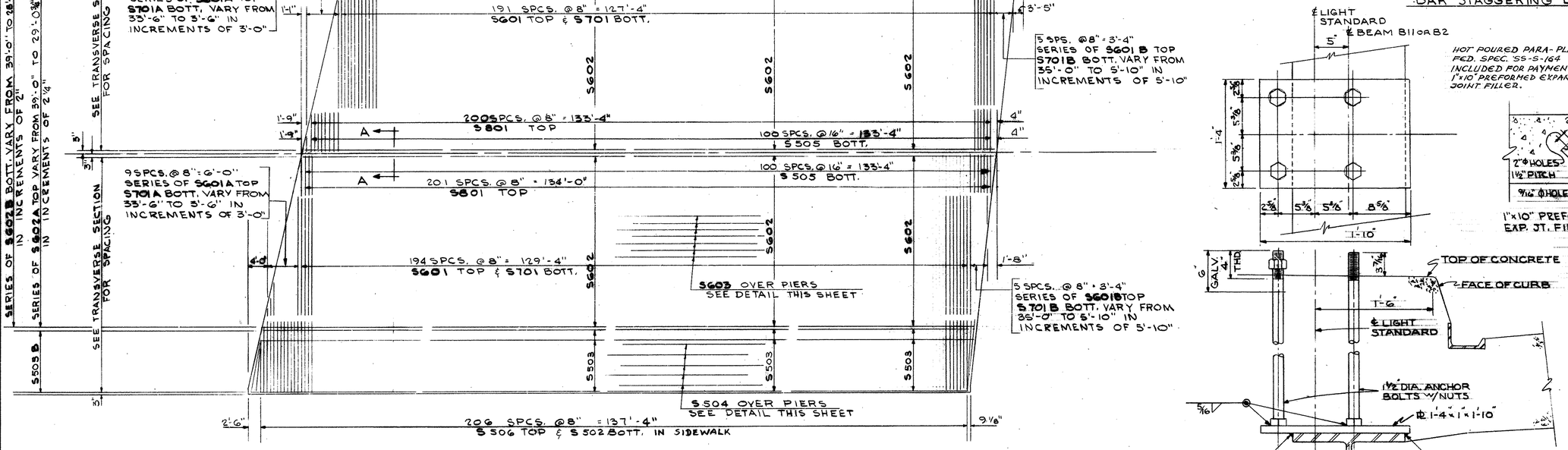


FOLDED COPPER DETAIL
12" WIDE 16 OZ.

S603 BARS IN TOP OF SLAB ACROSS PIERS
S504 BARS IN TOP OF SIDEWALK ACROSS PIERS
(SEE TRANSVERSE SECTION FOR SPACING)

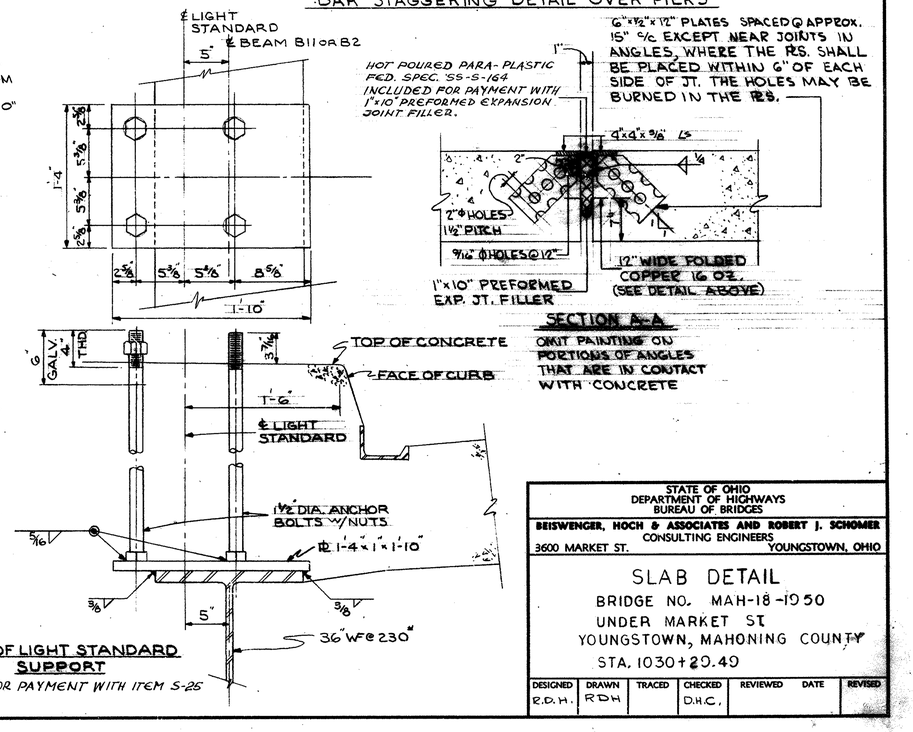


BAR STAGGERING DETAIL OVER PIERS



SLAB REINFORCING PLAN

LAP	S 503	1'-6" MIN.
LAP	S602	1'-11" MIN.



DETAIL OF LIGHT STANDARD SUPPORT
INCL. FOR PAYMENT WITH ITEM S-25

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB DETAIL

BRIDGE NO. MAH-18-1950
UNDER MARKET ST
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

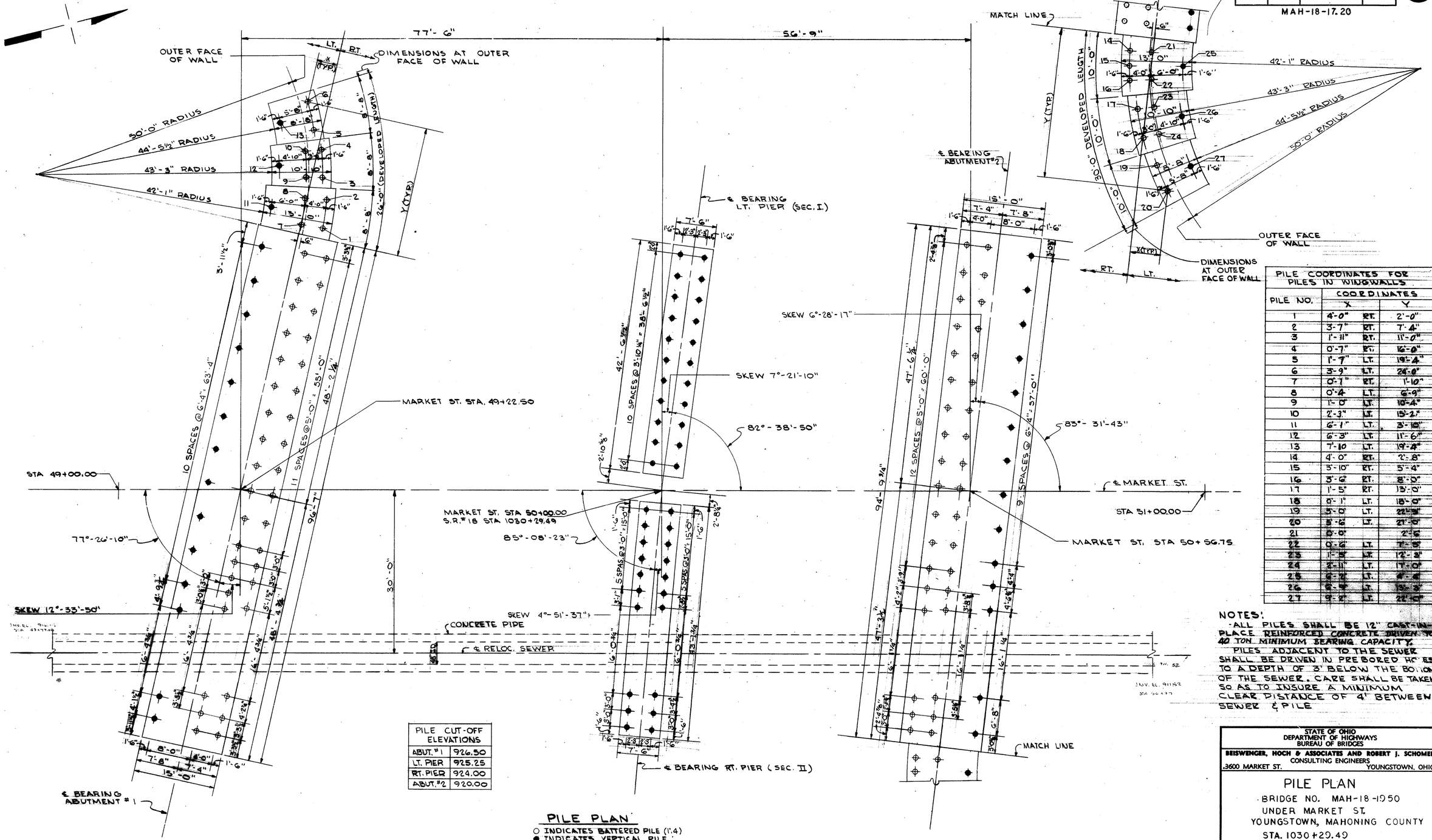
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.D.H.	RDH		D.H.C.			

MICROFILMED SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

464 / 492

MAH-18-17.20



PILE CUT-OFF ELEVATIONS	
ABUT. # 1	926.50
LT. PIER	925.25
RT. PIER	924.00
ABUT. # 2	920.00

PILE PLAN

○ INDICATES BATTERED PILE (1":4)

● INDICATES VERTICAL PILE

PILE COORDINATES FOR PILES IN WINGWALLS

PILE NO.	COORDINATES X	Y
1	4'-0" RT.	2'-0"
2	3'-7" RT.	7'-4"
3	1'-11" RT.	11'-0"
4	0'-7" RT.	16'-0"
5	1'-7" LT.	19'-4"
6	3'-9" LT.	24'-0"
7	0'-7" RT.	1'-10"
8	0'-4" LT.	6'-9"
9	1'-0" LT.	10'-4"
10	2'-3" LT.	15'-2"
11	6'-1" LT.	3'-10"
12	6'-3" LT.	11'-6"
13	7'-10" LT.	19'-4"
14	4'-0" RT.	2'-8"
15	3'-10" RT.	5'-4"
16	3'-6" RT.	8'-0"
17	1'-5" RT.	13'-0"
18	0'-1" LT.	18'-0"
19	3'-0" LT.	22'-8"
20	5'-8" LT.	21'-0"
21	0'-0"	2'-6"
22	0'-6" LT.	7'-8"
23	1'-8" LT.	12'-3"
24	2'-11" LT.	17'-0"
25	6'-2" LT.	4'-8"
26	6'-9" LT.	9'-3"
27	9'-2" LT.	22'-0"

NOTES:

-ALL PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCRETE DRIVEN TO 40 TON MINIMUM BEARING CAPACITY.

PILES ADJACENT TO THE SEWER SHALL BE DRIVEN IN PREBORED HOLES TO A DEPTH OF 3' BELOW THE BOTTOM OF THE SEWER. CARE SHALL BE TAKEN SO AS TO INSURE A MINIMUM CLEAR DISTANCE OF 4" BETWEEN SEWER & PILE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PILE PLAN

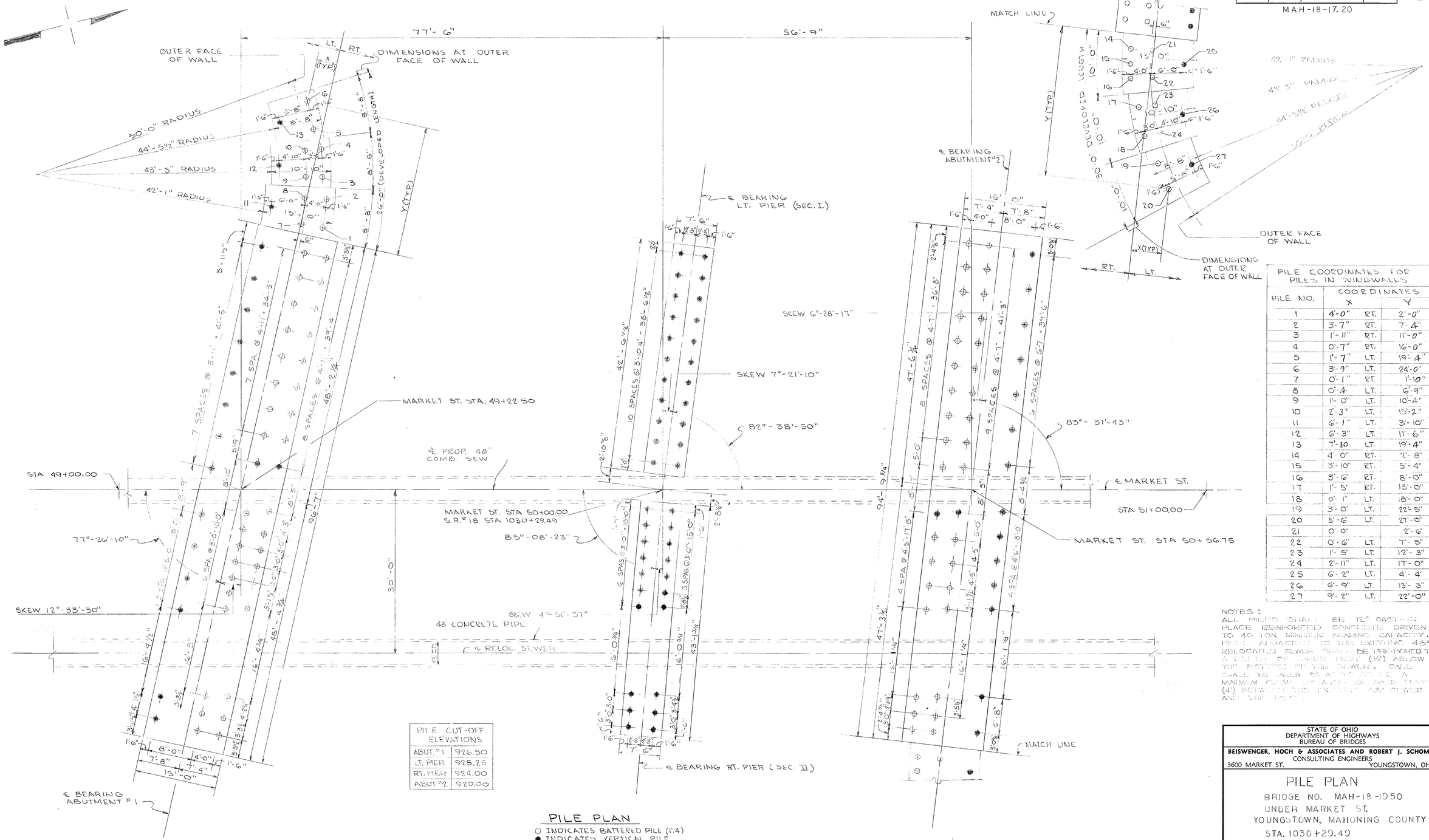
BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		O.H.C.			

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

404
492



PILE CUT-OFF ELEVATIONS	
ABUT. #1	926.50
LT. PIER	925.25
RT. PIER	924.00
ABUT #2	920.00

PILE PLAN

○ INDICATES BATTERED PILE (1:4)
● INDICATES VERTICAL PILE

PILE COORDINATES FOR PILES IN WINGWALLS

PILE NO.	COORDINATES X		Y
1	4'-0"	RT.	2'-0"
2	3'-7"	RT.	7'-4"
3	1'-11"	RT.	11'-0"
4	0'-7"	RT.	16'-0"
5	1'-7"	LT.	19'-4"
6	3'-9"	LT.	24'-0"
7	0'-1"	RT.	1'-10"
8	0'-4	LT.	6'-9"
9	1'-0"	LT.	10'-4"
10	2'-3"	LT.	15'-2"
11	6'-1"	LT.	3'-10"
12	6'-3"	LT.	11'-6"
13	7'-10	LT.	19'-4"
14	4'-0"	RT.	2'-8"
15	3'-10"	RT.	5'-4"
16	3'-6"	RT.	8'-0"
17	1'-5"	RT.	12'-0"
18	0'-1"	LT.	18'-0"
19	3'-0"	LT.	22'-5"
20	5'-6"	LT.	27'-0"
21	0'-0"		2'-6"
22	0'-6"	LT.	7'-5"
23	1'-5"	LT.	12'-3"
24	2'-11"	LT.	17'-0"
25	6'-2"	LT.	4'-4"
26	6'-9"	LT.	13'-3"
27	9'-2"	LT.	22'-0"

NOTES:
ALL PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCRETE DRIVEN TO 40 TON MINIMUM BEARING CAPACITY. PILES ADJACENT TO THE EXISTING 48" RELOCATED SEWER SHALL BE PRE-BORED TO A DEPTH OF THREE FEET (3') BELOW THE BOTTOM OF THE SEWER. CARE SHALL BE TAKEN SO AS TO PROVIDE A MINIMUM CLEAR DISTANCE OF FOUR FEET (4') BETWEEN THE EXISTING 48" SEWER AND THE PILES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

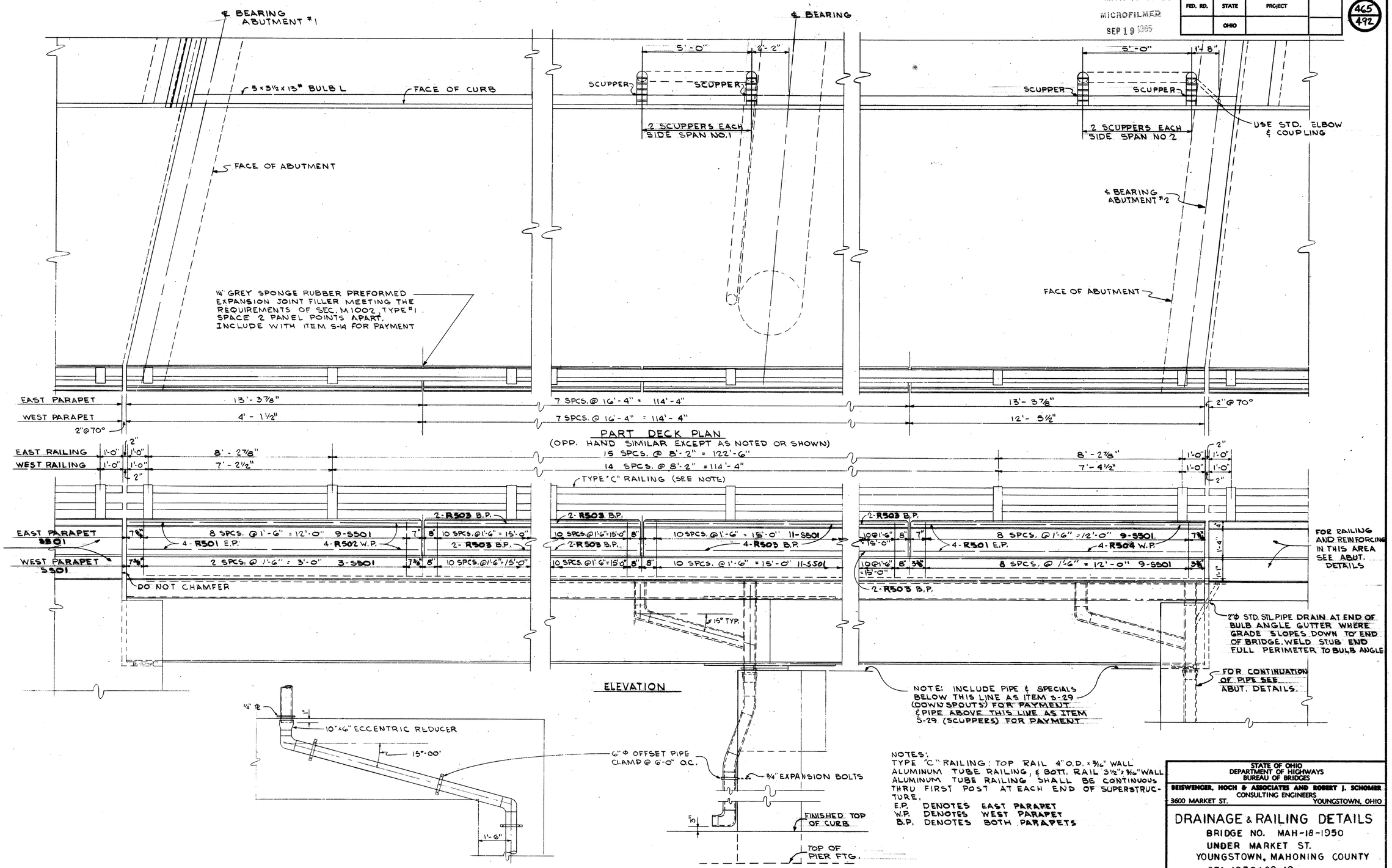
PILE PLAN

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.		D.H.C.			

MAH-18-17.20
MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		



PART DECK PLAN
(OPP. HAND SIMILAR EXCEPT AS NOTED OR SHOWN)

ELEVATION

PIPE ANCHORAGE DETAIL AT PIER

NOTES:
TYPE "C" RAILING: TOP RAIL 4" O.D. × ⅜" WALL ALUMINUM TUBE RAILING, ℄ BOTT. RAIL 3½" × ⅜" WALL ALUMINUM TUBE RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF SUPERSTRUCTURE.
E.P. DENOTES EAST PARAPET
W.P. DENOTES WEST PARAPET
B.P. DENOTES BOTH PARAPETS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

DRAINAGE & RAILING DETAILS

BRIDGE NO. MAH-18-1950
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	R.D.H.		D.H.C.			

MICROFILMED
SEP 19 1985

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

466
492

REINFORCING STEEL SCHEDULE

MARK	NO. REQD	LENGTH	WEIGHT	SHP
ABUTMENT #1				
A-501	72	5'-3"	394	BT
A-502				
A-503				
A-504				
A-505	8	4'-7"	38	ST
A-506	6	7'-0"	44	BT
A-507	4	12'-8"	53	ST
A-508		OPEN		
A-509		OPEN		
A-510				
A-511				
A-512	29	10'-0"	303	ST
A-513	8	8'-0"	67	ST
A-514	88	10'-3"	941	ST
A-515	48	18'-4"	918	ST
A-516	148	24'-10"	3833	ST
A-517	12	27'-0"	338	ST
A-518		OPEN		
A519		OPEN		
A-520	3	7'-7"	24	BT
A-521	3	8'-0"	25	BT
A-601	88	11'-1"	1465	BT
A-602	90	10'-6"	1420	ST
A-603		OPEN		
A-604		OPEN		
A-605	64	15'-1"	1450	BT
A-606	24	13'-1"	472	BT
A-701	90	15'-0"	2760	ST
A-1001	130	15'-11"	8905	BT
A-1101	90	6'-4"	3029	BT
A-1102	88	14'-10"	6935	BT
TOTAL ABUTMENT #1 = 33,414				
ABUTMENT #2				
A-501	72	5'-3"	394	BT
A-502	86	11'-6"	1032	ST
A-503	48	19'-9"	989	ST
A-504	156	24'-4"	3960	ST
A-505	8	4'-7"	38	ST
A-506	6	7'-0"	44	BT
A-507	4	12'-8"	53	ST

MARK	NO. REQD	LENGTH	WEIGHT	SHP
ABUTMENT #2 (CONT.)				
A-508		OPEN		
A-509		OPEN		
A-510	6	7'-5"	47	BT
A-511	12	26'-4"	330	ST
A-512	29	10'-0"	303	ST
A-513	8	8'-0"	67	ST
A-601	86	11'-1"	1432	BT
A-602	88	10'-6"	1388	ST
A-603		OPEN		
A-604		OPEN		
A-605	64	15'-1"	1450	BT
A-606	22	13'-1"	483	BT
A-701	88	15'-0"	2698	ST
A-1001	132	15'-11"	9042	BT
A-1101	88	6'-4"	2961	BT
A-1102	86	14'-10"	6778	BT
TOTAL ABUTMENT #2 = 33,439				
WING WALL NO. 1				
W-501	3	21'-0"	66	ST
SERIES OF W-502	1 SET OF 4 BARS	VARY FROM 20'-7 TO 18'-10 IN INC. OF 7"	82	ST
SERIES OF W-503	1 SET OF 6 BARS	VARY FROM 18'-2 TO 14'-10 IN INC. OF 8"	103	ST
SERIES OF W-504	1 SET OF 7 BARS	VARY FROM 14'-4 TO 10'-4 IN INC. OF 8"	90	ST
SERIES OF W-505	1 SET OF 6 BARS	VARY FROM 24'-1 TO 4'-6 IN INC. OF 3'-11	90	BT
W-506	5	25'-7"	133	BT
W-507	10	8'-0"	84	BT
W-508	1	4'-6"	5	BT
W-509	12	10'-4"	129	BT
W-510	1	9'-9"	10	BT
W-511	1	5'-10"	6	BT
W-512	1	8'-9"	9	BT
W-513	1	4'-10"	5	BT
W-514	1	26'-2"	27	BT
W-515	1	24'-8"	26	BT
W-516	1	24'-0"	25	BT
W-517	1	23'-3"	24	BT
W-518	1	8'-8"	9	BT
W-519	1	9'-1"	10	BT
W-520	1	7'-1"	8	BT
W-521	1	8'-4"	9	BT
W-522	1	7'-10"	8	BT
W-523	1	7'-6"	8	BT
W-524	1	7'-1"	8	BT

MARK	NO. REQD	LENGTH	WEIGHT	SHP
WING WALLS (CONT.)				
W-525	1	11'-5"	12	BT
W-526	1	9'-4"	10	BT
W-527	1	10'-7"	11	BT
W-528	1	10'-2"	11	BT
W-529	1	9'-9"	10	BT
W-530	1	9'-4"	10	BT
W-531	1	11'-2"	12	BT
W-532	1	10'-6"	11	BT
W-533	1	10'-2"	11	BT
W-534	1	9'-10"	10	BT
W-535	1	9'-3"	10	BT
W-601	3	11'-9"	53	ST
SERIES OF W-602	1 SET OF 3 BARS	VARY FROM 11'-2 TO 9'-10 IN INC. OF 8"	47	ST
SERIES OF W-603	1 SET OF 7 BARS	VARY FROM 12'-9 TO 8'-9 IN INC. OF 8"	113	ST
SERIES OF W-604	1 SET OF 6 BARS	VARY FROM 12'-10 TO 8'-8 IN INC. OF 10"	97	ST
W-605	7	7'-4"	77	BT
W-606	6	7'-4"	66	ST
W-607	10	11'-0"	165	BT
W-608	7	6'-0"	63	ST
W-701	6	7'-7"	95	BT
W-702	7	8'-6"	122	ST
W-703	10	13'-4"	273	BT
W-704	10	9'-0"	184	BT
W-801	7	12'-4"	230	BT
W-901	6	9'-4"	191	BT
W-1001	7	9'-8"	291	BT
W-1002	6	16'-2"	422	BT
TOTAL WING WALL NO. 1 = 3581				
PIERS				
P-501	144	7'-4"	1102	BT
P-502	116	7'-2"	867	ST
P-601	4	19'-7"	118	ST
P-602	4	24'-5"	146	ST
P-801	8	9'-4"	200	ST
S-701	387	34'-6"	27,291	ST
SERIES OF S-701A	2 SETS OF 10 BARS	VARY FROM 33'-6 TO 3'-6 IN INC. OF 3'-0	756	ST
SERIES OF S-701B	2 SETS OF 6 BARS	VARY FROM 35'-0 TO 3'-10 IN INC. OF 5'-10	501	ST
S-801	403	7'-6"	8070	ST
TOTAL SUPERSTRUCTURE = 107,136				
WING WALL NO. 2				
W-551	3	22'-10"	103	ST
SERIES OF W-552	1 SET OF 20 BARS	VARY FROM 22'-8 TO 9'-8 IN INC. OF 8"	333	ST
SERIES OF W-553	1 SET OF 7 BARS	VARY FROM 24'-5 TO 4'-6 IN INC. OF 3'-8	113	BT
W-554	5	29'-7"	154	BT
W-555	10	9'-0"	94	BT
W-556	1	7'-6"	8	BT

MARK	NO. REQD	LENGTH	WEIGHT	SHP
PIERS (CONT.)				
P-904	36	18'-1"	2213	ST
P-1001	8	17'-0"	585	ST
P-1002	8	31'-6"	1084	ST
P-1101	14	14'-0"	1041	ST
P-1102	20	12'-2"	1293	ST
P-1103	10	20'-2"	1072	ST
P-1104	4	25'-0"	532	ST
P-1105	6	25'-9"	821	BT
P-1106	6	26'-5"	842	BT
P-1107	4	8'-10"	188	BT
P-1108	24	22'-6"	2869	ST
P-1109	16	24'-1"	2048	BT
P-1110	16	24'-5"	2076	BT
P-1111	24	23'-1"	2943	ST
		TOTAL =	26,111	
		SPIRALS =	1568	
TOTAL PIERS = 27,679				
RAILINGS				
R-501	8	13'-0"		ST
R-502	4	3'-8"		ST
R-503	56	16'-0"		ST
R-504	4	12'-2"		ST
R-505	16	4'-7"		ST
SUPERSTRUCTURE				
S-501	184	5'-6"	1056	BT
S-502	410	12'-6"	5346	ST
S-503	84	36'-0"	3154	ST
S-503A	14	28'-3"	413	ST
S-503B	14	36'-6"	533	ST
S-504	12	28'-0"	351	ST
S-505	202	8'-1"	1703	BT
S-506	410	14'-11"	6879	BT
S-507	406	3'-4"	1412	BT
S-508	408	2'-10"	1191	BT
S-601	387	36'-6"	21217	ST
SERIES OF S-601A	2 SETS OF 10 BARS	VARY FROM 33'-6 TO 3'-6 IN INC. OF 3'-0	556	ST
SERIES OF S-601B	2 SETS OF 6 BARS	VARY FROM 35'-0 TO 5'-10 IN INC. OF 5'-10	368	ST
S-602	348	36'-0"	18,817	ST
SERIES OF S-602A	1 SET OF 54 BARS	VARY FROM 39'-0 TO 29'-0 IN INC. OF 2'-6	2760	ST
SERIES OF S-602B	1 SET OF 62 BARS	VARY FROM 39'-0 TO 20'-10 IN INC. OF 2"	3,159	ST
S-603	30	28'-0"	2,103	ST

FED. RD.	STATE	PROJECT	
	OHIO		

MAH-18-17.20

REINFORCING STEEL SCHEDULE

MARK	NO. REQD	LENGTH	WEIGHT	SHP
ABUTMENT "1				
A-501	72	5'-3"	394	BT
A-502				
A-503				
A-504				
A-505	8	4'-7"	38	ST
A-506	6	7'-0"	44	BT
A-507	4	12'-8	53	ST
A-508		OPEN		
A-509		OPEN		
A-510				
A-511				
A-512	29	10'-0	303	ST
A-513	8	8'-0	67	ST
A-514	88	10'-3"	941	ST
A-515	48	18'-4	918	ST
A-516	148	24-10	3858	ST
A-517	12	27'-0	338	ST
A-518		OPEN		
A-519		OPEN		
A-520	3	7'-7"	24	BT
A-521	3	8'-0"	25	BT
A-601	88	11'-1"	1462	BT
A-602	90	10'-6	1479	ST
A-603		OPEN		
A-604		OPEN		
A-605	64	15'-1	1450	BT
A-606	24	13'-1"	472	BT
A-1001	132	15'-11	9042	BT
A-1101	90	6'-4	3029	BT
A-1102	38	14-10	6935	BT
TOTAL ABUTMENT "1= 33,451				
ABUTMENT "2				
A-501	72	5'-3"	394	BT
A-502	86	11'-6"	1032	ST
A-505	48	19'-9"	989	ST
A-504	156	24'-4	3960	ST
A-505	8	4'-1"	38	ST
A-506	6	7'-0"	44	BT
A-507	4	12'-8	53	ST

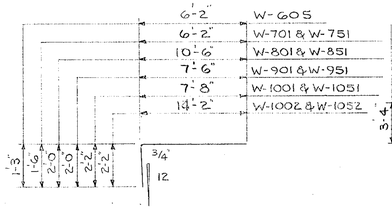
MARK	NO. REQD	LENGTH	WEIGHT	SHP
ABUTMENT "2 (CONT.)				
A-508		OPEN		
A-509		OPEN		
A-510	6	7'-5	47	BT
A-511	12	26'-4	330	ST
A-512	29	10'-0	303	ST
A-513	8	8'-0"	67	ST
A-601	86	11'-1"	1457	BT
A-602	88	10'-6"	1396	ST
A-603		OPEN		
A-604		OPEN		
A-605	64	15'-1"	1480	BT
A-606	22	13'-1"	482	BT
A-701	88	15'-0"	2644	ST
A-1001	130	15'-11	8905	BT
A-1101	83	6'-4	2901	BT
A-1102	86	14-10	6778	BT
TOTAL ABUTMENT "2= 38,402				
WING WALL NO. 1				
W-501	3	21'-0"	66	ST
SERIES OF W-502	1 SET OF 4 BARS	VARY FROM 20'-7 TO 18'-10 IN INC. OF 7	82	ST
SERIES OF W-503	1 SET OF 6 BARS	VARY FROM 13'-2 TO 11'-10 IN INC. OF 3"	103	ST
SERIES OF W-504	1 SET OF 7 BARS	VARY FROM 14'-4 TO 10'-1 IN INC. OF 8"	90	ST
SERIES OF A-701	1 SET OF 6 BARS	VARY FROM 24'-1 TO 4'-6 IN INC. OF 3'-11	93	BT
W-505	5	25'-7"	133	BT
W-506	10	8'-0	84	BT
W-508	1	4'-6	5	BT
W-509	12	10'-4"	129	BT
W-510	1	9'-9"	10	BT
W-511	1	5'-10	6	BT
W-512	1	8'-9	9	BT
W-513	1	4'-10	5	BT
W-514	1	26'-2	27	BT
W-515	1	24'-8"	26	BT
W-516	1	24'-0"	25	BT
W-517	1	23'-3"	24	BT
W-518	1	8'-8	9	BT
W-519	1	9'-1	10	BT
W-520	1	7'-1	8	BT
W-521	1	8'-4	9	BT
W-522	1	7'-10	8	BT
W-523	1	7'-6	8	BT
W-524	1	7'-1	8	BT

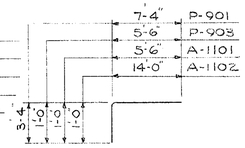
MARK	NO. REQD	LENGTH	WEIGHT	SHP
WING WALLS (CONT.)				
W-525	1	11'-5"	12	BT
W-526	1	9'-4"	10	BT
W-527	1	10'-7"	11	BT
W-528	1	10'-2	11	BT
W-529	1	9'-9	10	BT
W-530	1	9'-4	10	BT
W-531	1	11'-2"	12	BT
W-532	1	10'-6	11	BT
W-533	1	10'-2	11	BT
W-534	1	9'-10	10	BT
W-535	1	9'-5	10	BT
W-601	3	11'-9"	53	ST
SERIES OF W-602	1 SET OF 3 BARS	VARY FROM 11'-2 to 9'-10 IN INC. OF 8"	47	ST
SERIES OF W-603	1 SET OF 7 BARS	VARY FROM 12'-9 to 8'-9 IN INC. OF 5	113	ST
SERIES OF W-604	1 SET OF 6 BARS	VARY FROM 12'-10 to 8'-8 IN INC. OF 10	97	ST
W-605	7	7'-4	77	BT
W-606	6	7'-4"	66	ST
W-607	10	11'-0"	165	BT
W-608	7	6'-0	63	ST
W-701	6	7'-7	95	BT
W-702	7	8'-6"	124	ST
W-703	10	13-4	273	BT
W-704	10	9'-0	184	BT
W-801	7	12'-4	230	BT
W-901	6	9-4	191	BT
W-1001	7	2'-5	241	BT
W-1002	6	16'-2	402	BT
TOTAL WING WALL NO. 1 = 3581				
PIERS				
P-501	144	7'-4	1102	BT
P-502	116	7'-2	867	ST
P-601	4	19'-7	118	ST
P-602	4	24'-3	146	ST
P-801	8	9'-4	200	ST
P-901	14	10'-6	500	FT
P-902	36	16'-6"	2020	ST
P-903	72	6'-4"	1151	BT

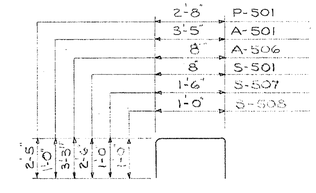
MARK	NO. REQD	LENGTH	WEIGHT	SHP
PIERS (CONT.)				
P-904	36	18'-1"	2213	ST
P-1001	8	17'-0"	585	ST
P-1002	8	21'-6"	1084	ST
P-1101	14	14'-0"	1041	ST
P-1102	20	12'-2"	1293	ST
P-1103	10	20'-2"	1072	ST
P-1104	4	25'-0"	534	ST
P-1105	6	25'-9"	841	BT
P-1106	6	26'-5"	842	BT
P-1107	4	8'-1"	188	BT
P-1108	24	22'-4"	2969	ST
P-1109	16	24'-1"	2048	BT
P-1110	16	24'-5"	2076	BT
P-1111	24	23'-1"	2943	ST
		TOTAL	26,111	
		SPIRALS	1568	
TOTAL PIERS = 27,679				
RAILINGS				
R-501	8	13'-0"		ST
R-502	4	3-8"		ST
R-503	56	16'-0		ST
R-504	4	12-2		ST
R-505	16	4'-7"		ST
SUPERSTRUCTURE				
S-501	184	5'-6"	1056	BT
S-502	410	12-6	5846	ST
S-503	84	36'-0	3154	ST
S-503A	14	28'-8	413	ST
S-503B	14	36'-6	535	ST
S-504	12	28'-0	351	ST
S-505	202	8'-1	1708	BT
S-506	410	14-11	6279	BT
S-507	406	3'-4	1412	BT
S-508	403	2-10	1191	BT
S-601	387	36-6	21217	ST
SERIES OF S-601A	2 SETS OF 10 BARS	VARY FROM 33'-6 to 5'-6 IN INC. OF 3'-0"	556	ST
SERIES OF S-601B	2 SETS OF 6 BARS	VARY FROM 35'-0 to 5'-10 IN INC. OF 5'-3	368	ST
S-602	348	36'-0	18,817	ST
SERIES OF S-602A	1 SET OF 54 BARS	VARY FROM 39'-0 to 29'-0 IN INC. OF 2'-6	2760	ST
SERIES OF S-602B	1 SET OF 62 BARS	VARY FROM 39'-0 to 20'-0 IN INC. OF 2'-6	3,159	ST
S-603	50	28'-0	2,103	ST
S-701	387	34'-6	27,291	ST
SERIES OF S-701A	2 SETS OF 10 BARS	VARY FROM 33'-6 to 5'-6 IN INC. OF 3'-0"	1560	ST
SERIES OF S-701B	2 SETS OF 6 BARS	VARY FROM 35'-0 to 5'-10 IN INC. OF 5'-3	1031	ST
S-801	403	7'-6	8070	ST
TOTAL SUPERSTRUCTURE = 107,136 #				
WING WALL NO. 2				
W-551	3	22'-10"	103	ST
SERIES OF W-552	1 SET OF 20 BARS	VARY FROM 22'-5 to 9'-2 IN INC. OF 8½	325	ST
SERIES OF W-553	1 SET OF 7 BARS	VARY FROM 26'-6 to 4'-6 IN INC. OF 3'-8"	113	BT
W-554	5	29-7"	154	BT
W-555	10	9'-0"	94	BT
W-556	1	7'-6"	8	BT

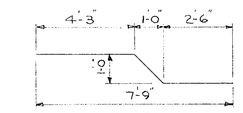
MARK	NO. REQD	LENGTH	WEIGHT	SHP
WING WALL NO. 2 (CONT.)				
W-557	1	4'-6	5	BT
W-558	12	11'-0	138	BT
SERIES OF W-559	1 SET OF 3 BARS	VARY FROM 10'-7 to 9'-5 IN INC. OF 3'-8	22	BT
W-560	1	4'-4"	5	BT
W-561	1	8'-0"	8	BT
W-562	1	10'-7"	11	BT
W-563	1	9'-11"	10	BT
W-564	1	30'-2	32	BT
W-565	1	28'-6	30	BT
W-566	1	27'-5	29	BT
W-567	1	26'-10"	28	BT
W-568	2	8'-2"	17	BT
W-569	1	8'-8"	9	BT
W-570	1	9'-2"	10	BT
W-571	1	9'-6"	10	BT
W-572	2	9'-9"	21	BT
W-573	1	11'-8"	12	BT
W-574	1	10'-2"	11	BT
W-575	1	10'-6"	11	BT
W-576	1	10'-11"	11	BT
W-577	1	11'-5"	12	BT
W-578	1	10'-0"	10	BT
W-579	1	10'-8	11	ST
W-580	1	10'-6"	11	ST
W-581	1	10'-10	12	BT
W-651	3	18'-8"	69	ST
SERIES OF W-652	1 SET OF 4 BARS	VARY FROM 12'-11 to 10'-5 IN INC. OF 9"	71	ST
SERIES OF W-653	1 SET OF 5 BARS	VARY FROM 13'-10 to 8'-7 IN INC. OF 9"	135	ST
SERIES OF W-654	1 SET OF 7 BARS	VARY FROM 12'-4 to 7'-10 IN INC. OF 9"	106	ST
W-655	7	7'-4	77	ST
W-656	8	6'-0	72	ST
W-657	12	11'-0	198	ST
W-751	15	7'-7	238	ST
W-752	8	7'-10	128	ST
W-753	12	13'-4	327	BT
W-754	12	9'-0	221	ST
W-851	8	12'-4	163	BT
W-951	7	9'-2	224	BT
W-1051	8	9'-9	323	BT
W-1052	7	16'-2	487	BT
TOTAL WINGWALL NO. 2 = 4227				

GRAND TOTAL 209,476 LBS.

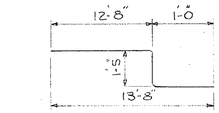




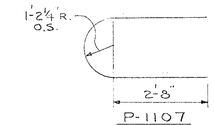




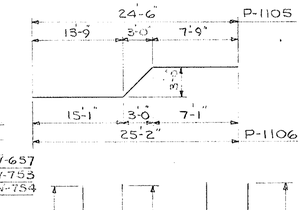
S-505



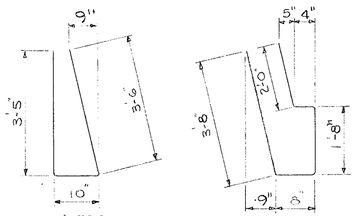
S-506

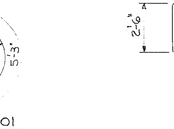


P-1107









RE-401

BENDING RADII			
MARK	RADIUS	MARK	RADIUS
SERIES OF W-505	49'-10	W-520	42'-7"
W-506	49'-10	W-521	49-11
W-507	48'-0	W-522	47'-5
W-508	48'-10	W-525	44'-11
W-509	48'-0	W-524	42'-6
W-510	48'-4"	W-525	53'-7
W-511	48'-6	W-526	43'-9"
W-512	48'-9	W-527	49'-8
W-513	48'-10	W-528	47'-8
W-514	50'-11	W-529	45'-8
W-515	48'-2	W-530	43'-8
W-516	46'-8	W-531	52'-3"
W-517	45'-4	W-532	49'-4
W-518	52'-3"	W-533	47'-10
W-519	54'-7"	W-534	46'-4
		W-535	44-10

BENDING RADII			
MARK	RADIUS	MARK	RADIUS
SERIES OF W-568	49'-10	W-567	45'-4"
W-554	49'-10	W-568	42'-7"
W-555	48'-0"	W-569	44'-11
W-556	49'-10	W-570	47'-5"
W-557	45'-9	W-571	49'-11"
W-558	48'-7	W-572	43'-9"
SERIES OF W-559	48'-4"	W-573	53'-7"
W-560	48'-3	W-574	45'-3
W-561	48'-3	W-575	47'-8"
W-562	54'-7"	W-576	49'-8"
W-563	52'-3	W-577	52'-3"
W-564	50'-11	W-578	47'-10
W-565	48'-2	W-581	49'-4"
W-566	46'-8"		

REPLACEMENT BARS			
MARK	NO. REQD	LENGTH	SHP
RE-401	1	5'-3	F
RE-501	3	5'-6	ST
RE-601	4	6-0	ST
RE-701	2	6'-3	ST
RE-801	1	6'-6	ST
RE-901	1	6'-10	ST
RE-1001	2	7'-2	ST
RE-1101	2	7'-6	ST

SPIRAL REINFORCING LIST						
MARK	NO REQD.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT
SP-401	5	2'-9	12'-2"	4½	38	628
SP-402	3	2'-8	14'-9"	4½	48	712
24 SPACERS						228
TOTAL SPIRALS						1568

NOTES

1. SPIRAL REINFORCING: 4 STEEL CHANNELS TEES OR ANGLE SPACERS WEIGHING APPROXIMATELY 0.68 LBS. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.
THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF FOOTING TO THE TOP OF THE COLUMN.
THE NUMBER OF TURNS SHOWN IN THE STEEL LIST FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF TURNS = COILS EXPRESSED AS THE NEAREST WHOLE NUMBER.
SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 3-4.
1½ CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT.
2. REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK LENGTHS THAT HAVE PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. 3-4.03, NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.
3. BAR SIZE: IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE 5 DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE 4 DIGITS ARE USED INDICATES THE BAR SIZE NUMBER; FOR EXAMPLE, S-701 IS A NUMBER 7 SIZE BAR & P-1101 IS A NUMBER 11 SIZE BAR.
4. REINFORCING BARS ARE DIMENSIONED FROM OUT TO OUT.
5. RAILING REINFORCING BARS ARE PAID FOR AS PART OF ITEM 3-14.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

REINFORCING SCHEDULE

BRIDGE NO. MAH-18-1050
UNDER MARKET ST.
YOUNGSTOWN, MAHONING COUNTY
STA. 1030+29.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H	J.L.H		D.H.C.			

R/W SHEET 1 OF 26 18-MAH-17.20

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

467
492

LOCATION PLAT

MAH 18-17.20 & MAH 7-14.80

MAHONING COUNTY

CITY OF YOUNGSTOWN

SCALE: 1"= 500'

CURVE DATA No. 1

P. I. Sta.
Δ = 43° 47' 40" Lt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 621.04'
P = 6.39' Es = 87.89'
K = 199.76' Lc = 396.26'
X = 398.53' Δc = 21° 47' 40"

CURVE DATA No. 2

P. I. Sta.
Δ = 54° 44' 10" Rt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 742.31'
P = 6.39' Es = 138.49'
K = 199.76' Lc = 595.20'
X = 398.53' Δc = 32° 44' 10"

CURVE DATA No. 3

P. I. Sta.
Δ = 60° 43' 03" Lt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 813.68'
P = 6.39' Es = 172.95'
K = 199.76' Lc = 703.95'
X = 398.53' Δc = 38° 43' 03"

CURVE DATA No. 4

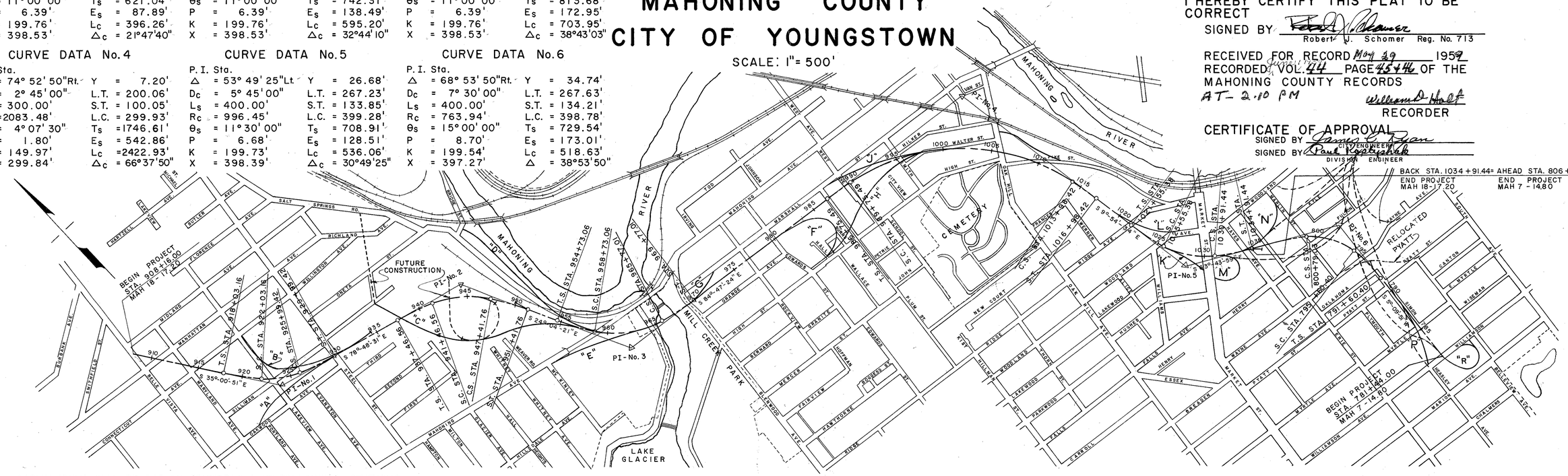
P. I. Sta.
Δ = 74° 52' 50" Rt. Y = 7.20'
Dc = 2° 45' 00" L.T. = 200.06'
Ls = 300.00' S.T. = 100.05'
Rc = 2083.48' L.C. = 299.93'
θs = 4° 07' 30" Ts = 1746.61'
P = 1.80' Es = 542.86'
K = 149.97' Lc = 2422.93'
X = 299.84' Δc = 66° 37' 50"

CURVE DATA No. 5

P. I. Sta.
Δ = 53° 49' 25" Lt. Y = 26.68'
Dc = 5° 45' 00" L.T. = 267.23'
Ls = 400.00' S.T. = 133.85'
Rc = 996.45' L.C. = 399.28'
θs = 11° 30' 00" Ts = 708.91'
P = 6.68' Es = 128.51'
K = 199.73' Lc = 536.06'
X = 398.39' Δc = 30° 49' 25"

CURVE DATA No. 6

P. I. Sta.
Δ = 68° 53' 50" Rt. Y = 34.74'
Dc = 7° 30' 00" L.T. = 267.63'
Ls = 400.00' S.T. = 134.21'
Rc = 763.94' L.C. = 398.78'
θs = 15° 00' 00" Ts = 729.54'
P = 8.70' Es = 173.01'
K = 199.54' Lc = 518.63'
X = 397.27' Δ = 38° 53' 50"



LIMITED ACCESS HIGHWAY

I HEREBY CERTIFY THIS PLAT TO BE CORRECT

SIGNED BY Robert J. Schomer

Robert J. Schomer Reg. No. 713

RECEIVED FOR RECORD May 29 1959

RECORDED, VOL. 44 PAGE 45&46 OF THE MAHONING COUNTY RECORDS

AT 2:10 PM

William D. Hoff
RECORDER

CERTIFICATE OF APPROVAL

SIGNED BY James C. Ryan
CITY ENGINEER

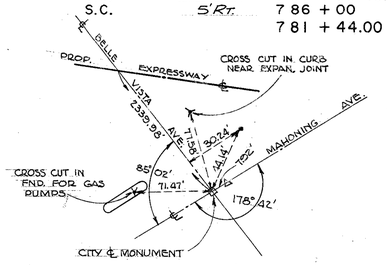
SIGNED BY Paul Rappaport
DIVISION ENGINEER

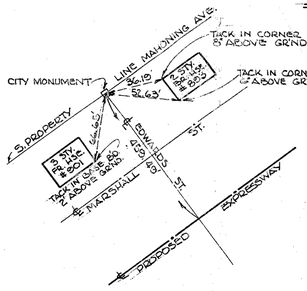
MONUMENTS WILL BE SET ON CENTERLINE AT FOLLOWING STATIONS

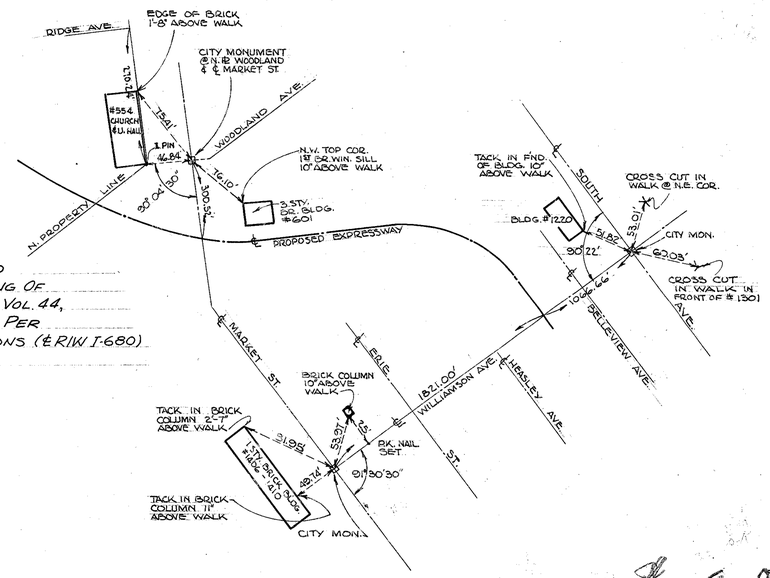
STATION	DESCRIPTION	OFFSET
908+16.00	P.O.T.	
918+03.16	T.S.	
922+03.16	S.C.	
925+99.42	C.S.	5'Rt.
929+99.42	S.T.	5'Rt.
937+46.56	T.S.	5'Rt.
941+46.56	S.C.	5'Rt.
947+41.76	C.S.	5'Rt.
951+41.76	S.T.	5'Rt.
954+73.06	T.S.	5'Rt.
958+73.06	S.C.	5'Rt.
965+77.01	C.S.	
969+77.01	S.T.	5'Rt.
975+00	P.O.T.	
980+00	P.O.T.	
986+75.49	T.S.	5'Rt.
989+75.49	S.C.	5'Rt.

STATION	DESCRIPTION	OFFSET
994+00	P.O.C.	5'Rt.
999+00	P.O.C.	5'Rt.
1005+50	P.O.C.	
1013+98.42	C.S.	5'Rt.
1016+98.42	S.T.	5'Rt.
1018+50	P.O.T.	
1021+55.38	T.S.	5'Rt.
1025+55.38	S.C.	5'Rt.
1030+91.44	C.S.	5'Rt.
1034+91.44 } (Equation) 806+88.34	S.T.	5'Rt.
800+79.03	C.S.	5'Lt.
795+60.40	S.C.	5'Lt.
791+60.40	T.S.	5'Lt.
781+44.00	P.O.T.	

STATION	DESC.	OFFSET
962+00	P.O.C.	5'Rt.
978+50	P.O.T.	5'Rt.
1005+00	P.O.C.	5'Rt.
1010+00	P.O.C.	5'Rt.
804+79.03	S.T.	5'Lt.
784+00	P.O.T.	5'Lt.







NOTE: THIS CENTERLINE PLAT VOIDS AND SUPERSEDES PREVIOUS RECORDING OF CENTERLINE PLAT IN PLAT BOOK VOL. 44, PAGES 45 & 46 ON JUNE 1, 1959 - PER MONUMENT ASSEMBLY RELOCATIONS (℄ R/W I-680)

APPROVED _____ 19____

DEPUTY DIRECTOR OF PUBLIC WORKS

APPROVED _____ 19____

DIVISION DEPUTY DIRECTOR

RECEIVED _____ 19____

RE-RECORDED _____ 19____

BOOK _____, PAGE _____

COUNTY RECORDER

R238

$118.00

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN

PROJECT MAH-18-17.20

PARCEL NO.	OWNER	EXIST. BLDGS.	LOT NUMBER	AREA SQ.FT.	SHEET NO.	REMARKS
1 LA	Luigi Fulciniti	NO	17998	5,778	6	
2 LA	Peter & Helen Mikita	Yes	17999	5,000	6	
3 LA	William Pupa	Yes	18000	4,090	6	
3 WA	William Pupa	—	18000	—	6	Fill Basement
4 LA	Steve Dolak, Mary Dolak	Yes	18001	2,120	6	Take Shed
4-A-LA	Elizabeth Pedak	NO	18002	261	6	
6-LA	Mollie Barta	Yes	18011	5,625	6	
7-LA	Franciska Ondash	Yes	18012	5,000	6	
8-LA	Mathew A. Stankish, Mary Lou Stankish	Yes	18013	5,000	6	
9-LA	John Iwaniuk, Wasylyna Iwaniuk	Yes	18014	6,250	6	
10-LA	Frank Deak, Elizabeth Deak	Yes	18015	4,770	6	
11-LA	Mary Garcar	Yes	18016	2,850	6	
12-LA	John Krupa, Mary Krupa	NO	18017	136	6	
13-LA	Albert Fuzy, William A. Ambrose Mrs. Julia Karaka, Paul Fuzy	Yes	18024, 18025	6,728	6	
13-WA	Albert Fuzy, William A. Ambrose Mrs. Julia Karaka, Paul Fuzy	Yes	18025	—	6	Remove Garage Foundation
15-LA	Anne Chabala Leson	Yes	18026	5,000	6	
16-LA	Anne Shuster	Yes	18027	7,500	6	
18-LA	Mike Seman, Mary Seman	Yes	30896	3,750	6	
19-LA	Peter Kantor Jr., Ethel Moszaros	Yes	18029	6,250	6	
20-LA	Helen Kravec	Yes	18030	5,000	6	
26-LA	Andrew Anthol, Ann Cizmar Paul Anthol, Helen Yash	Yes	18031, 18032	3,820	6	
26 WA	Andrew Anthol, Ann Cizmar Paul Anthol, Helen Yash	Yes	18032	—	6	Remove Shed
22-LA	Mitro Mica, Annie Mica	NO	18043, 18044	4,950	6	
24-LA	James K. Walters	Yes	18046, 18047	11,849	6	
25-LA	Helen M. Bugno	Yes	18048	7,406	6	
28-LA	Anna Gonda	Yes	18037	5,000	6	
29-LA	Mary L. Adams	Yes	18038	5,000	6	
30-LA	Paul Bednarik	Yes	18039	4,100	6	
30-WA	Paul Bednarik	Yes	18039	—	6	Remove Garage Foundation
31-LA	Veronica Bundash	Yes	18040	2,050	6	
31A-LA	Michael Behun, Mary Behun	Yes	18040	403	6	
31A-WA	Michael Behun, Mary Behun	Yes	18040	—	6	Fill Basement.
33-LA	Mickey Hanuschak, Flora J. Hanuschak	Yes	18142	3,400	6	
34-LA	John F. Tobin, Katherine Tobin	Yes	18142	1,438	6	
34-WA	John F. & Katherine Tobin	Yes	18142	—	6	Fill Basement
35-LA	Steve Matyl, Annie Matyl	Yes	18143	5,000	6	
36-LA	Sue K. Furden, Julia Kuni	Yes	18144	5,000	6	
37-LA	Joe Valush	Yes	18145	4,000	6	
38-LA	Anna Gaydos	Yes	18146	4,000	6	
39-LA	Andrew & Susie Lengyel	Yes	30200	4,125	6	
40-LA	Anna, John S., Joseph Yuhasz	Yes	18147	3,680	6	
41-LA	The Portland Land Co.	NO	43796, 18148	6,432	6	
43-LA	Annie Nelson	NO	18149	1,420	6	
46-LA	George Zahdrery, Elizabeth Zahdrery	Yes	33954	5,490	6	
46-WA	George Zahdrery, Elizabeth Zahdrery	Yes	33954	—	6	Fill Basement
47-LA	Anna Pavlik	No	33955	3,240	6	
48-LA	Mary Selenk	No	33956	689	6	
49-LA	Helen W. Cohn	NO	O.L. 421	68,711	6	
58-C-LA	Joseph S. Petrick, Maria Petrick	NO	33960	—	6	Loss of Access to Lakeview Ave.
58F-LA	Steven N. Bobovnych & Mary Bobovnych	NO	33961	3,808	6	
49A-LA	Joe Ince, Anna Ince	NO	18161	231	7	
51-LA	Betty Joe Yohman	NO	18162	1,203	7	
52-LA	Andrew Kosar, Helen Kosar	Yes	18163	2,080	7	
53-LA	Michael Nagy Jr.	Yes	28806	2,762	7	
53-A	Michael Nagy Jr.	Yes	28806	1,398	7	
54-LA	Margaret Bada	Yes	18164	3,672	7	
54-A	Margaret Bada	Yes	18164	488	7	
55-LA	Vincent F. Halko, Mary Ann Halko.	Yes	18165	5,000	7	
56-LA	Andy Lukac, Mary Lukac	Yes	18166	5,000	7	
57-LA	Alexander Barich, Mildred Barich	Yes	18167	13,720	7	
58E-LA	Mary Pauline Williams	NO	O.L. 422	20,690	7	
59-LA	Gino Lamarca 1/2, Louise Lamarca	Yes	O.L. 421, 19654	6,265	7	
59A-LA	Ugo Dibacco 1/2, Anna Dibacco	Yes	19654	2,774	7	
60-LA	Paul Semai, Joan Semai	Yes	19655	5,000	7	
61-LA	Paul Gloval, Mary Gloval	Yes	19656	5,000	7	
64-SL	Andrew Tarkanich, Susie Tarkanich	NO	28810	25	7	Slope
62-LA	Dafini Negroff	Yes	18179	64	7	
62-S	Dafini Negroff	Yes	18179	256	7	
62-WA	Dafini Negroff	Yes	18179	—	7	Fill Basement
63-LA	Barbala or Barbara Burcsak	Yes	18180	705	7	
63-WA	Barbala or Barbara Burcsak	Yes	18180	—	7	Fill Basement
63-S	Barbala or Barbara Burcsak	Yes	18180	335	7	
67-LA	Mary Macynski	Yes	19657	5,000	7	
71-LA	Andy L. & Anna C. Leskovec	NO	18188	360	7	
72-LA	Helen & Julianna Brogli	Yes	18189	980	7	
72-WA	Helen & Julianna Brogli	Yes	18189	—	7	Fill Basement
73-LA	Charles R. Kelly, Leona Code	Yes	18190	1,440	7	
73-WA	Charles R. Kelly, Leona Code	Yes	18190	—	7	Fill Basement
74-LA	Thomas A. & Bridget L. Denehy	Yes	18190, 18191	2,090	7	
75-LA	Andrew & Anna Bodnar	Yes	18191	1,950	7	
76 LA	Joseph Bankovitch	Yes	18192	3,040	7	
77-LA	John & Barbola Paul	Yes	18193	3,500	7	
79-LA	John & Anna Bobanich	Yes	19658, 19658	7,728	7	
80-LA	Anna Mozzy, Mary Bartell, Michael & Andrew Cycyk	Yes	19660	2,000	7	
80-WA	Anna Mozzy, Mary Bartell Michael & Andrew Cycyk	Yes	19660	—	7	Fill Basement
81-LA	John R., Charles E., Joseph T. Mary Ann, Catherine T. & Jennie S. March	Yes	19661	960	7	
81-WA	John, Charles, Joseph, Mary Ann, Catherine & Jennie March	Yes	19661	—	7	Fill Basement

PARCEL NO.	OWNER	EXIST. BLDGS.	LOT NUMBER	AREA SQ.FT.	SHEET NO.	REMARKS
83-LA	John Stun	Yes	38034	3,189	7	
84-LA	Aster Sklepko	Yes	19639	3,750	7	
85-LA	John & Anni Dzuroff	Yes	19640	5,000	7	
86-LA	Michael Sabol Jr., Martin Sabol, Mary Kavanaugh	Yes	19641	5,000	7	
87-LA	Mary Barolak Roman, Edward, Emil, Joseph T. Barolak.	Yes	19642	5,000	7	
88-LA	Theresa Tobis or Therisa Tobis	Yes	19643	5,000	7	
89-LA	John J. & Agnes Bacak	Yes	19644	5,000	7	
90-LA	Joseph, Joseph E., Bernard, & George C. Knapic, Frances K. Acri.	Yes	19645	5,000	7	
91-LA	Wallace & Hilda Marie Dorko	Yes	19646	5,000	7	
92-LA	Martin & Anna Harchar	Yes	19647	5,000	7	
93-LA	Mary D. Olsavsky	Yes	19648	5,000	7	
94-LA	Karol & Anna Burek	Yes	19649	5,000	7	
95-LA	Mari or Mary Majorsky	Yes	19650	5,000	7	
96-LA	Veronica Missik	Yes	19652	5,000	7	
97-LA	John & Elizabeth Kiss	Yes	19653	5,000	7	
98-LA	George Bodnar Jr., Helen Bodnar	Yes	18284, 18285	10,680	7	
100-LA	Mary Adams	Yes	18286	5,000	7	
101-LA	John M. & Agnes Sudzina	Yes	18287	5,250	7	
102-LA	Bridget L. Ruane	Yes	18288	5,250	7	
103-LA	John & Barta Fetzer	Yes	18289	5,250	7	
104-LA	Zvonimir Roy & Rose M. Vulyak	Yes	18290	5,250	7	
105-LA	Anna Kachmar or Kachmer	Yes	18291	5,250	7	
106-LA	Michael & Elizabeth Yacko	Yes	18292	5,250	7	
107-LA	Peter & Mary Zeman	Yes	18293	5,000	7	
108-LA	Valent Ledinko	Yes	18294	5,000	7	
109-LA	Gabor & Susie Toth	Yes	18295	5,000	7	
110-LA	Mathew & Anna G. Hamborsky	Yes	18296	5,000	7	
111-LA	Frank Barolak	Yes	18297	5,000	7	
112-LA	Joseph Andrews	Yes	18298	10,612	7	
113-LA	Michael Zuzan	Yes	6783	6,142	8	
113-SA	Michael Zuzan	Yes	6783	3,088	8	
114-LA	Julia Kun	Yes	6787	3,390	8	
114-SA	Julia Kun	Yes	6787	1,810	8	
115-LA	Mike & Mary Potocnak	Yes	6786	3,220	8	
115-SA	Mike & Mary Potocnak	Yes	6786	1,980	8	
116-LA	John & Catherine Smith	Yes	6785	3,106	8	
116-SA	John & Catherine Smith	Yes	6785	2,094	8	
117-LA	Frank Ferko	Yes	6782	2,964	8	
117-SA	Frank Ferko	Yes	6782	2,236	8	
118-LA	Paul & Anna Matuscak	Yes	6781	2,800	8	
118-SA	Paul & Anna Matuscak	Yes	6781	2,400	8	
119-LA	Bertha Hohos	Yes	6780	2,680	8	
119-SA	Bertha Hohos	Yes	6780	2,520	8	
121-LA	George A. & Catherine Bozick	Yes	6779	2,660	8	
121-SA	George A. & Catherine Bozick	Yes	6779	2,600	8	
122-LA	Joe & Mary Pisansky	Yes	6778	2,700	8	
122-SA	Joe & Mary Pisansky	Yes	6778	2,500	8	
123-LA	Andrew & Mary Zambori	Yes	6778	2,740	8	
123-LA	Andrew & Mary Zambori	Yes	6778	2,460	8	
124-LA	Frank & Helen Paliga	Yes	6777	2,660	8	
124-SA	Frank & Helen Paliga	Yes	6777	2,540	8	
125-LA	Katarina Giba	Yes	11782	3,209	8	
125-SA	Katarina Giba	Yes	11782	5,880	8	
127-LA	Paul & Irene Koval	Yes	42446	8,840	8	
128-LA	Susanna Kramer	Yes	42447	5,200	8	
129-LA	George Lutza Jr.	Yes	42448	5,200	8	
130-LA	Mathew & Anna Koval	Yes	42449	1,540	8	
130-SA	Mathew & Anna Koval	Yes	42449	720	8	
130-WA	Mathew & Anna Koval	Yes	42449	—	8	Fill Basement
131-LA	Stevan & Anna Hoffman	Yes	42450	3,180	8	
131-SA	Stevan & Anna Hoffman	Yes	42450	6,204	8	
131-WA	Stevan & Anna Hoffman	Yes	42450	—	8	Fill Basement
133-LA	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	48,376	8	
133	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	750	8	
133-WA	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	—	8	Remove Foundation
134-LA	Mahoning Valley Sanitary District	No	O.L. 415, 416, 420	50,220	8	
135-LA	John Sahlica	No	O.L. 415	[illegible]	8	
136-LA	Serbian Eastern Orth. Congregation	No	O.L. 416	130,633	8	
136-S	Serbian Eastern Orth. Congregation			715	8	
140-LA	Berkeley, Bertha, Irving & Bernice Fromkin	Yes	O.L. 420	307,525	8	
140-SA	Berkeley, Bertha, Irving & Bernice Fromkin	No	O.L. 420	9,080	8	
143-LA	Geisi & Christina Passarella	No	O.L. 419	362,635	9	
144-LA	Baltimore & Ohio R.R.	No	—		9	
144-S	Baltimore & Ohio R.R.	No	—		9	
145-LA	Angelo, Mark, John, & Joseph Passarelli	No	O.L. 419	39,920	9	
146-LA	Gorgie Realty Co.	Yes	O.L. 428	42,742	9	146—14,400□' Eligible for Federal Part.
146A-LA	Baltimore & Ohio R.R.	No	—		9	
147-LA	Joe Maskulka, Gemma Badino	Yes	O.L. 428	30,050	9	
148-LA	Sam Margolis	Yes	O.L. 428	71,000	9	148—9000□' Eligible for Federal Part.
149-LA	John & Andrew Fusco	Yes	O.L. 495	[illegible]	10	
150-LA	Joseph & Robert Jenkins	Yes	O.L. 410	50,701	10	
150-WA	Joseph & Robert Jenkins	Yes	O.L. 410	—	10	Fill Basement
150A-LA	Paul Pagac	No	O.L. 410	4,290	10	
150B-LA	Ella Louise Wick	No	O.L. 410	333	10	
151-LA	Theodore Saroka, Gino Parisi	Yes	O.L. 496	[illegible]	10	
154-LA	Margaret B. Sittinger	Yes	12149	2,350	10	
155-LA	The Youngstown Dunbrik Co.	Yes	O.L. 497	[illegible]	10	
154-A	[illegible] McGee	No	OL 447	377.5	10	
159-LA	Vince Minor	No	12150	8,118	10	
160-LA	Bernard Bruss	Yes	12152	4,590	10	
161-LA	Leo & Bernard Bruss	Yes	O.L. 408	33,350	10	
161-SA	Leo & Bernard Bruss	Yes	O.L. 408	65,080	10	

Pcl. 64-SL	Added	10-6-61
Pcl. 49-LA	Name Change	10-5-60
Parcel 133-S	To 133	7-6-60
Parcel 155-LA	Area Revised	7-6-60
Parcel 151-LA	Area Revised	7-6-60
Parcel 149-LA	Area Revised	7-6-60
Parcel [illegible]-S	Revised	6-30-60
Parcel 149-LA	Revised	6-27-60
Parcel 154-A	Revised	6-23-60
Parcel 155-LA	Area Revised	5-10-60
158-LA	Deleted	4-21-60
Sheet Reference No.s	Revised	4-20-60
Added Fed. Part. Pcls. 146LA & 148LA.		5-7-68

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

469 492

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	REMARKS
170-LA	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.483-489	113,590	11	CONSTRUCTION OF PARK ROAD
170-T	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.484	134,950	11	
170-AERIAL	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	55,167	11	
170	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.484	1,578	11	
170-B	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
170-C	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
170-D	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
171-LA	CALIXTE JOSEPH GAUDET, EDNA MAY GAUDET	YES	6826,6827	15,960	11	
173-LA	WILLIAM W. NEFF, ARMIDA NEFF	YES	6828	7,625	12	
174-LA	HAROLD AND ETHEL GASKINS	YES	6829	7,625	12	
175-LA	JOHN J. CIKA, DOROTHY A. CIKA	YES	14285	2,290	12	
176-LA	JAMES A. POTTER, PAULINE POTTER	YES	14285	2,290	12	
177-LA	ISALY DAIRY COMPANY	YES	6831	10,215	12	
178-LA	THE DOLLAR SAVINGS & TRUST COMPANY TRUSTEE	YES	2475	7,634	12	
179-LA	JOHN WILLIAMS, LOU GENIA WILLIAMS	YES	2476	6,940	12	
180-LA	DOUGLAS JONES, CHESTINA JONES	YES	2477	6,940	12	
181-LA	BESSIE AGRENOVITZ	YES	2478	6,940	12	
182-LA	JESSIE DOUGLAS, CHRISTINE DOUGLAS	YES	2360,2479	5,028	12	
183-LA	MARY G. REITZELL, FLORA A. REITZELL	YES	2480,2360	6,940	12	
184-LA	BENJAMIN VERNON, CLARA VERNON	YES	2481	3,960	12	
185-LA	GILSON T. GRAHAM	YES	2479	3,300	12	
186-LA	ANNIE K. HARPER ROBINSON, ALIAS ANNIE SIMMONS	YES	2481	1,560	12	
187-LA	S & G REALTY COMPANY	YES	6837	7,640	11	
188-LA	EULALIAM M. LUTHER	YES	6836	5,900	12	
189-LA	ROSINA SCHNEIDER	YES	6835	6,000	12	
190-LA	JAMES ARTHUR ROSS, ANNIE B. ROSS	YES	6834	6,250	12	
191-LA	ETHEL GILFILLAN	YES	6830	3,300	12	
192-LA	D.N. GARVER, MARTHA E. GARVER	YES	14285	7,695	12	
193-LA	CLYDE E. TRUITT, DOROTHY C. TRUITT	YES	6833	3,630	12	
194-LA	TUFIC SAADI	YES	6832	5,066	12	
195-LA	CHARLOTTE BYERS	YES	6832	5,066	12	
196-LA	MARTIN BOKESCH, CHRISTINA BOKESCH	YES	2488	3,924	12	
197-LA	IRENE H. VANMETER	YES	2488	3,252	12	
198-LA	JOSEPH STOKAN	YES	2487	~~6,940~~	12	
200-LA	KATHLEEN WATKINS	YES	2485	6,940	12	
201-LA	KATHERINE B. WILSON	YES	2484	6,940	12	
202-LA	JAMES ANDERSON	YES	2482,2483	4,500	12	
203-LA-204-LA	FLORENCE APPEL DORFF, HELEN APPEL LEWIS, CLARA APPEL CASSESE	YES	2482,2483	9,300	12	
205-LA	CLARENCE C. MCKELRY, ELIZABETH MCKELRY	YES	3411	9,000	12	
206-LA	THOMAS A. MUMFORD	YES	3412	7,500	12	
207-LA	LILLIAN B. JONES RAFE	YES	3413	6,000	12	
208-LA	JESUS HERNANDEZ, MARY E. HERNANDEZ	YES	O.L.374	3,108	12	
209-LA	LEONARD HALLEWELL, ESTELLA HALLEWELL	YES	O.L.374	3,009	12	
209-A-LA	JAMES BROWN	YES	O.L.374	2,549	12	
210-LA	FREDERICK LEROY TAYLOR, GRACE VERA TAYLOR	YES	O.L.374	6,425	12	
211-LA	JOSEPH ANDROSEK, WALSH AND ROBERTS INC.	YES	O.L.374	3,606	12	
211-A-LA	FREDA C. ANDERSON	YES	O.L.374	2,903	12	
211-B-LA	JAMES DOMINIC PRECURATO, MARY DELORES PRECURATO	YES	3659	4,902	12	
212-LA	T. SAADI	YES	3679	4,500	12	
213-LA	HOWARD JAMES, WILLIE MAY JAMES	YES	3409	2,910	12	
214-LA	ARTHUR I. WALDMAN	YES	3409	7,275	12	
215-LA	JAMES MONROE LONG	YES	3410	~~4,940~~	12	
216-LA	ROY F. MORT	YES	3414	9,675	12	
217-LA	WILLIAM J. AND MARY G. PETRANSKY	YES	3408	3,300	13	
217-A-LA	JOSEPH AND LOUISE C. PETRANSKY	YES	3408	1,700	13	
218-LA	FLORENCE POTOR	YES	5677	5,000	13	
219-LA	JOSEPH GIERCHAK, ANGELINE GIERCHAK	YES	5678	5,000	13	
220-LA	BESSIE AND HARRY WILLIAMS	YES	9507	6,000	13	
221-LA	GUS COHEN, RUTH D. COHEN	YES	9507	7,163	13	
222-LA	THOMAS J. MYERS	YES	3964	7,500	13	
223-LA	WM. F. AND HELEN MOSKOSKY	YES	3966	7,500	13	
224-LA	OTTO C. BROOKS	YES	3968	5,000	13	
225-LA	ARTHUR AND LESSIE MARTIN	YES	3968	8,920	13	
226-LA	WILLIAM AND SUSIE M. KIDD	YES	3970,10108	12,291	13	
227-LA	WILLIAM DUDLEY	YES	10371	11,449	13	
228-LA	MATTIE MCPETERS	YES	10370	11,734	13	
229-LA	WILLIAM VONKENNEN JR.	YES	3972,10369	11,000	13	
230-LA	MIKE AND BERTHA GLAVIES	YES	3973	7,500	13	
231-LA	MARY ELIZ. MCKLUSKY	YES	3974	6,825	13	
232-LA	MARGARET M. MAIN, MARGARET L. TRIGG	YES	3974,3975	8,325	13	
233-LA	HILDEGARD HUEBERGER COURT	YES	10369	9,672	13	
233-A-LA	GEORGE F. MAIN	NO	19766	25,160	13	
234-A	CAROLINE THRASH	YES	O.L.382	3,395	13	
170-A-LA	BOARD OF PARK COMMISSIONERS OF YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L. 489	7,735	11	
170-B-LA	UNION NATIONAL BANK OF YOUNGSTOWN ET-AL	YES	5747	3,210	10	
199-LA	JOSEPH STOKAN	YES	2486	6940	12	
236-LA	JACKSON STEWART, ANNE STEWART	NO	11226	110	13	
237-LA	WILLIAM H. WILLIAMS, EVELYN L. WILLIAMS	YES	11227	5,313	13	
238-LA	OTTO GEISHLER, EMMA GEISHLER	YES	19708	6,000	13	
239-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	2366	6,206	13	
240-LA	JULIA KICZ	YES	2365	5,029	13	
241-LA	DAVID SCOTT	YES	2364,872	5,776	13	
241-A-LA	CLARENCE DANIEL	NO	57185	1,608	13	
242-LA	CLARENCE DANIEL	YES	874	~~2,144~~	13	
242-A-LA	RUTH FRANKLIN	YES	873	6,420	13	
242-B-LA	MARGARET BIELER	NO	874	697	13	
243-A-LA	Alex JONES	YES	55603	5,242	13	
244-LA	BOSS JACKSON, OLLIE JACKSON	YES	11349	2,360	13	
245-LA	ZORA PRISBY	YES	11348	4,800	13	
245-A-LA	MARGARET M. MAIN, MARGARET L. TRIGG	NO	19771-2-3, 19770	12,978	13	
246-LA	MAMIE L. CODY	NO	4821	4,000	13	
249-LA	MILTON A ROEMISCH (TRUSTEE)	NO	4822,39292	8,565	13	
250-LA	MARY K. KING ET-AL	YES	39293	5,000	13	
251-LA	Y.Z. ADAMS, THELMA ADAMS	YES	39294	5,000	13	
251-A-LA	ELIGHA KING, ANITA KING	YES	39296	4,369	13	
252-LA	CARL H. HOLQUIST, MARY E. HOLQUIST	YES	2361	5,000	13	
252-A-LA	OZZIE CURRY	YES	2359	675	13	
252-WA	CARL H. HOLQUIST, MARY E. HOLQUIST	YES	2361		13	REMOVE GARAGE FOUNDATION
252-A-WA	OZZIE CURRY	YES	2359		13	REMOVE GARAGE FOUNDATION
253-LA	ELLA RODGERS	YES	2362	960	13	
253-A-LA	W.J. WADKINS, MAUDE S. WADKINS	YES	11222	5,450	13	
253-B-LA	ALEXANDER WILLIAMS, EDITH WILLIAMS	YES	11221	4,653	13	
253-C-LA	SAM D. CLARK, KATIE CLARK	YES	9436	1,299	13	
253-D-LA	JULIUS DICKENS, BERTHA DICKENS	YES	4754	3,690	13	
253-D-A	JULIUS DICKENS, BERTHA DICKENS					
253-F-LA	LOUIS E. CAPPELLO	YES	9436	1,148	13	
253-G-LA	LUCY BEVERLY	YES	9435	1,800	13	
253-H-LA	THE CENTRAL DISTRICT OF THE LUTH. CHURCH MO. SYNOD INC.	YES	30330	1,936	13	
253-I-LA	WALTER NORTH, LYDIA NORTH	NO	9437	510	13	
253-K-LA	RAYMOND WALLACE, LOUISE WALLACE	YES	55605	1,457	13	
253-L-LA	COURTLAND ALLEN, ROSE ALLEN	YES	9435	1,140	13	
253-M-LA	DR. NELSON INGRAM, THELMA INGRAM	YES	4755	3,780	13	
253-M-A	DR. NELSON INGRAM, THELMA INGRAM				13	
253-P-A	ROBERT H. AND EDNA KING				13	
253-A-A	W.J. WADKINS, MAUDE S. WADKINS	YES	11222		13	
253-B-A	ALEXANDER WILLIAMS, EDITH WILLIAMS	NO	11221		13	
253-H-A	THE CENTRAL DISTRICT OF THE LUTH. CHURCH MO. SYNOD INC.	YES	30330		13	
253-J-A	WALTER NORTH, LYDIA NORTH	YES	9437	5,440	13	
253-L-A	COURTLAND ALLEN, ROSE ALLEN	YES	9435		13	
253-WA	ELLA RODGERS	YES	2362		13	FILL BASEMENT
253-A-LA	BESSIE THOMAS	YES	55604	1,631	13	
255-LA	CLARENCE FRANKLIN	YES	3915	5,200	13	
256-LA	WILLIAM B. ROSS, MARY I. ROSS	YES	3918	4,600	13	
258-LA	FLORENCE LULA TAYLOR	NO	15906,15907	6,700	13	
259-LA	BESSIE E. MOORE	YES	15908	3,600	13	
260-LA	JOHN HAYMAN	YES	3919	3,600	13	
261-LA	CHARLES POLISKY ET AL	YES	3919	4,000	13	
262-LA	BESSIE WALKER	YES	877	15,000	13	
262-A-LA	UNION NATIONAL BANK OF YOUNGSTOWN	NO	39295	400	13	
262-C-LA	ALLEN J. STUMP, VIOLA V. STUMP	YES	877	5,427	14	
262-D-LA	LOUIS H. MAUSER	YES	5666	5,720	14	
262-E-LA	EDWARD VELAR	YES	2351	6,000	14	
262-F-LA	TUFIC SAADI	YES	876	6,889	14	
262-H-LA	LAURA GARDNER	YES	2352	3,580	14	
262-I-LA	GEORGE SUBER, PEARL SUBER	NO	2353	306	14	
262-C-WA	ALLEN J. STUMP, VIOLA V. STUMP	YES	877		14	REMOVE GARAGE FOUNDATION
262-F-WA	TUFIC SAADI	NO	876		14	FILL BASEMENT
262-H-WA	LAURA GARDNER	YES	2352		14	REMOVE GARAGE FOUNDATION
263-LA	UMBERTO TURSINI	YES	56002	2,530	14	
264-LA	WILLIAM MOSKOSKY, HELEN MOSKOSKY	NO	O.L.122	48,620	14	
265-LA	ALTON L. KEMP, ALICE L. KEMP	YES	56003	11,109	14	
265-A-LA	MARY LUNDY	YES	56004	7,511	14	
265-B-LA	FRANK J. COLLA	YES	56005	7,508	14	
266-LA	JAMES LADIGO	YES	56006	7,462	14	
266-B-LA	JOSEPH M. ALLISON, MARIAN A. ALLISON	YES	56007	7,459	14	
266-C-LA	THOMAS HOOD	YES	56008		14	
267-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	YES	O.L.125	68,502	14	
267-A-LA	ESTER MEYER	NO	55066	1,262	14	
267-B-LA	VANCE WAGNER	YES	5661	1,826	14	
267-C-LA		NO	55067	690	14	
267-D-LA	MINNIE MAUSER	YES	876	1,000	14	
267-E-LA		YES	55072	3,855	14	
267-D-WA	MINNIE MAUSER	YES	876		14	
268-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55070	5,202	14	FILL BASEMENT
268-A-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55069	278	14	
269-LA	INEZ PARKER	YES	10969	4,200	14	
271-LA	HARRY AND NELLIE MEYERS	YES	36391	2,400	14	
271-A-LA	GOLDEN AGE BEVERAGE CORPORATION	NO	36392	1,050	14	
271-B-LA		YES	55078		14	
271-WA	HARRY AND NELLIE MEYERS	NO	36391		14	
272-LA	MALACHI STOKES, THELMA STOKES	YES	10966	3,702	14	FILL BASEMENT
273-LA	JOHN G. SPATHOLT	YES	10965	1,800	14	
273-A-LA	JOHN G. SPATHOLT	YES	10966	2,080	14	
273-B-LA	JOHN G. SPATHOLT	YES	10966	1,870	14	
276-A-LA	FRED AND ROISE PERKINS ET-AL			767		
243-LA	CLARENCE DANIEL	YES	874	3,216	13	

Parcel 243-LA Added 12-15-60
Parcel 242-LA Revised 12-15-60
Parcel 199-LA Added 12-15-60
Parcel 198-LA Revised 12-15-60
Parcel 215-LA Revised 7-13-60
Parcels 253-1A & 253-K-LA Revised 7-13-60
Removed House Pcl. 253-J-LA Added House 253-I-A 7-8-60
Pcls. 268-LA & 268-A-LA Added Names & Area 7-6-60
Parcels 271-A-LA & 276-A-LA Names Changed & Area 7-6-60
Parcel 170-T Changed From Work Agree. To Temp. 7-6-60
Parcel 170-B-LA Revised 6-27-60
Parcel 170-B-1-LA Revised 6-27-60
Parcel 250-LA, 242-B-1-LA Revised 6-27-60
Parcels 253-LA & 253-K-LA Revised 6-15-60
Parcel 170-LA, 170-T Revised, 170-B, 170-B-1-A Added 4-21-60
Sheet Reference Nos Revised 4-20-60

I-680 R/W SHEET 4 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

470 / 492

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	
273-C-LA	JOHN G. SPATHOLT	YES	10967	3,150	14	
274-LA	JOHN H. LOGAN, LULA LOGAN	YES	10964	2,230	14	
275-LA	LEROY SMITH, NETTIE SMITH	YES	10964	1,625	14	
275-A-LA	JOHNNIE PEARL REED	YES	10965	1,587	14	
276-LA	FRED AND ROSIE PERKINS	YES	10963	1,932	14	
277-LA	THEODORE COTTON JR. AND CARRIE COTTON	YES	10962	1,613	14	
279-LA	ANN KAUFMAN, BETTY LABEL	YES	5619	4,950	14	
280-LA	GOLDEN AGE BEVERAGE CORP.	YES	846	19,557	14	
283-B-LA	HOWARD BURKES, MILLERNEE BURKES	YES	5619	2,600	14	
283-B-WA	HOWARD BURKES, MILLERNEE BURKES	YES	5619		14	FILL BASEMENT
284-LA	EUGENE ROBINSON, JR., LAURA B. ROBINSON	YES	8141	2,200	15	
284-A-LA	LILTON MORRIS	YES	8141	891	15	
284-A-WA	EUGENE ROBINSON, LAURA ROBINSON	NO	8141		15	FILL BASEMENT
285-LA	BOOKER T. AND MARY HELEN WRIGHT	YES	843	3,900	15	
285-A-LA	EDWARD AND SUSIE MCELROY	YES	843	1,200	15	
286-LA	ANAM ABDO	YES	5646	3,555	15	
286-B-LA	MATHILDA WIEDMAN	NO	5647	1,550	15	
287-LA	GOLDEN AGE BEVERAGE CORP.	NO	5645,842	9,025	15	
287-A-LA		NO	841		15	
287-B-LA	*ROBINA POWELL*	YES	840	300	15	
287-C-LA		YES	842		15	
287-B-WA		YES	940		15	FILL BASEMENT
289-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55071	3,600	14	
289-A-LA	WALDEMAR NISCHWITZ, EARL H. HARRIS	NO	10971	1,157	14	
290-LA	ETHEL MCDANIELS SPEAKS	YES	10970	2,948	14	
291-LA	ELIZABETH BUEHRLE	NO	55075	2,282	14	
292-LA	WALDEMAR NISCHWITZ, EARL H. HARRIS	YES	2249	5,939	14	
294-LA	WILLIAM AILEN, ANNIE ALLEN	YES	2248	3,943	14	
295-LA	MARY PEAY	YES	2247	4,180	14	
296-LA	ELIDA MOELLERING	YES	2246	4,350	14	
297-LA	WILLIAM E. AND PEARLE HERRING	YES	2245	4,750	15	
298-LA	CORA B. SCHEIBLE	YES	2244	5,200	15	
299-LA	LILLIE M. BUYCK	YES	2243	5,450	15	
299-A-LA	*JOHANNA SPRAGUE*	NO	850	476	15	
300-LA	MICHEAL F. AND BLOSSOM W. MEENACHAN	YES	2242	5,450	15	
300-A-LA	MILDRED D. PLANIN (PLANINA)	NO	1575	1,323	15	
301-LA	RICHARD L. AND LEO BENNETT	YES	2241	5,600	15	
302-LA	HENRY AND ARTHOLS BARNES	YES	2240	5,450	15	
303-LA	BEN H. CATLEY	NO	851	1,953	15	
304-LA	H.K. ZIEGLER	YES	2239	5,720	15	
305-LA	UNDEPENDENT INVESTMENT COMPANY	NO	852	2,320	15	
306-LA	ELLEN LEWIS	YES	2237	4,189	15	
307-LA	LAVERNE BOWENS	YES	2238	2,860	15	
308-LA	JULIA KICZ	YES	36651	1,824	15	
309-LA	MINNIE WILBURN	YES	853	3,884	15	
310-LA	THIRD BAPTIST CHURCH OF YOUNGSTOWN	YES	2237	9,360	15	
311-LA	CELIA BERNSTEIN	YES	854	11,925	15	
312-LA	WILLA MAE (RICE) AND HUGHES CAMPBELL	YES	2238	1,976	15	
313-LA	LAKE ERIE AND EASTERN RAILROAD	YES	1550	10,600	15	
313-A-LA	LAKE ERIE AND EASTERN RAILROAD	YES	1550	14,375	19	
313-A	LAKE ERIE AND EASTERN RAILROAD	YES	1550	40,511	19	
313-B- A	THE SPUR DISTRIBUTING COMPANY	YES	1549	*10,000*	19	
313-WA	LAKE ERIE AND EASTERN RAILROAD	YES			19	REMOVE CONCRETE SILO
314-LA	RUBE AND MARY F. SMITH	YES	1557	24,000	15	
315-LA	W.E. STANKIEWICZ	YES	1568	9,120	15	
315-WA	W.E. STANKIEWICZ				15	FILL BASEMENT
316-LA	HAROLD STEIN, SAM SIMON, MILTON H. SIMON	YES	1552	17,355	15	
316-A	HAROLD STEIN, SAM SIMON, MILTON H. SIMON	NO	1552	1,005	15	
318-LA	YOUNGSTOWN HOSP. ASSOC.	YES	1568	158,970	16	
318-WA	YOUNGSTOWN HOSP. ASSOC.	YES	11100,11101		16	FILL BASEMENT
319-LA	THE RENNER CO.	YES	1559,1560	32,670 or 0.75	16	
319-WA	THE RENNER CO.	YES	1559		16	REMOVE FOUNDATION
320-A-LA	ANNA M.PATTERSON	YES	11097	4,500 4/1/66	16	
321-LA	PHILIP GREIN	YES	11095,11096	9,140	16	
321-WA	PHILIP GREIN	YES	11094		16	REMOVE FOUNDATION
322-LA	JOHN BOGGANS, ET AL	YES	1561,5617	18,780	16	
323-LA	EUGENE AND ESTER RUSNAK	YES	11093,11094	2,600	16	
323-WA	EUGENE AND ESTER RUSNAK	YES	11094		16	REMOVE FOUNDATION
326-LA	RIDGE MEDICAL BLDG. CO.	YES	3211,5622	42,609	17	
326-WA	RIDGE MEDICAL BLDG. CO.	YES	3211		17	REVISE DRIVEWAY
327-LA	ELIZABETH GEORGE	YES	3335	8,956	17	
328-LA	LUCY S. MIKITA	YES	3336	6,350	17	
329-LA	LESLIE H. SABO, ELIZABETH H. SABO	YES	3337	3,409	17	
329-A-LA	M. VERA HERSCHEL	YES	3337		17	
330-LA	ANTHONY P. JULIUS	YES	3338	6,250	17	
331-LA	JOSEPH SARISKY	YES	3339	5,666	17	
332-LA	MYRTLE I. MILLER, VIRGINIA VIETS CRAMER, DOROTHY VIETS GLINES	YES	3340	6,600	17	
332-WA	MYRTLE I.MILLER,VIRGINIA VIETS CRAMER,DOROTHY VIETS GLINES	YES	3340,3341		17	FILL BASEMENT
333-A-LA	JOHN DORLOSAN, MARY DORLOSAN	YES	3327	1,250	17	
333-WA	JOHN DORLOSAN, MARY DORLOSAN	YES	3327		17	FILL BASEMENT
333-B-LA	GERALD CARROLL AND ALICE CARROLL	YES	3327		17	
334-LA	TUFIC SAADI	YES	3328	7,500	17	
335-LA	LALE GRAHOVAC	YES	3329	7,500	17	
336-LA	JOSEPH THURIK, MARY THURIK	YES	3330	7,500	17	
337-LA	THE INCORPORATED TRUSTEES OF THE GOSPEL WORKER SOC.	YES	3331,5628	7,500	17	
338-LA	MILDRED MCDONALD	YES	3332	7,000	17	
339-LA	RALPH A. KELLY, ISABELLA M. KELLY	YES	3333	7,344	17	
339-WA	RAL.H A. KELLY, ISABELLA M. KELLY	YES	3333,5176		17	REMOVE FOUNDATION
340-LA	CHARLOTTA FISLAK	YES	5176	5,436	17	
341-LA	JOHN W. TOMALKA SR., MARY HAZEL TOMALKA	YES	5179	2,675	17	
342-LA	ELIZABETH HILLOSKY,SR.	YES	5181	2,225	17	

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	
342-A-LA	FLORENCE L. EVANS	YES	5183	1,573	17	
342-WA	ELIZABETH HILLOSKY, SR.	YES	5181		17	FILL BASEMENT
342-A-WA	FLORENCE L. EVANS	YES	5183		17	FILL BASEMENT
344-LA	FRANK JAMES COLLA	YES	55466	3,724	17	
344-A	THE GREEK COMM. AGLOS LOANNIS ORTHODOX CHURCH	NO	O.L.363	336	17	
344-B-LA	FRANK JAMES COLLA	NO	55466	315	17	
345-LA	MARY DEVAN	YES	55467	5,366	17	
346-LA	CLARA ANDERSON	YES	55466	7,335	17	
347-LA	FRANK JAMES COLLA	YES	55469	3,525	17	
* 348-LA	JOHN PAUL	YES	2308	3,150	17	
* 350-LA	JOHN BUDAKER, ANN BUDAKER	YES	2309	4,100	17	
352-LA	LEROY E. BILLIG	YES	5185	1,025	17	
352-WA	LEROY E. BILLIG	YES	5185		17	FILL BASEMENT
352-A-WA		YES	5186		17	FILL BASEMENT
352-A-LA	MARY J. COMINOS	YES	5186	320	17	
353-LA	MORTON, RAYMOND D. AND BERNARD WHITE	YES	2899	5,000	17	
353-WA	RALPH A. KELLY, ISABELLE M. KELLY	YES	2899		17	REMOVE FOUNDATION
356-LA	THE GENERAL ELECTRIC COMPANY	NO	2314,2315,2296,2298	37,700	17	
356-TS	THE GENERAL ELECTRIC COMPANY	NO	2313,2314, 2296,2298	4960	17	CONST. EQUI.. ACCESS
358-LA	THE ROAD OF REMEMBRANCE POST #472 AM. LEGION DEPT. OF OHIO	YES	2314	10,750	17	
359-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	YES	2313	7,325	17	
359-A-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	NO	2313	1,050	17	
360-LA	HAROLD P. SMITH, EMILY E. SMITH	YES	2313	3,950	17	
360-WA	HAROLD P. SMITH, EMILY E. SMITH	NO	2313		17	FILL BASEMENT
361-C-LA	*NORTHERN INVESTMENT COMPANY*	NO	2311	125	17	
362-LA	TINCO DE CARPENTIER	YES	3346	31,857	19	
362-WA	TINCO DE CARPENTIER	YES	3346		19	FILL BASEMENT
363-LA	RALPH E. GOFF, AGNES E. GOFF	YES	3344	9,750	19	
364-LA	JOHN COMEK, MARY COMEK	YES	3369	4,430	19	
365-LA	SARAH KLATMAN, HANNAH KLATMAN	YES	3369	2,275	19	
366-LA	FAY KIRKORSKY	YES	3368	4,748	19	
367-LA	IDEALIA HOWELL, EUALEE HOWELL	YES	3368	5,080	19	
368-LA	JAMES DAVIS, EULA MAE DAVIS	YES	3367	5,420	19	
369-LA	CARRIE E. WATSON	YES	3366	5,840	19	
370-LA	THE ECONOMY ELECTRIC COMPANY	YES	3349	3,094	19	
370-WA	THE ECONOMY ELECTRIC COMPANY	YES	3349		19	REMOVE FOUNDATION AND GRADE AREA
371-LA	DOROTHY MOHN	YES	3365	6,200	19	
372-LA	DEMETRIOS AND MAVRIKIS	YES	3365	5,063	19	
373-LA	SOPHIA MARGOLIS	YES	3364	5,687	19	
374-LA	EDWARD PARKMAN, MYRTLE L. PARKMAN	YES	3363,3364	5,871	19	
375-LA	JOHN SPANOS, ALEXANDRA SPANOS	YES	3363	5,731	19	
376-LA	MARY H. MENEGAY, CLARA L. PAAR	YES	3362	6,000	19	
377-LA	NICHOLAS GLAROS, NIKI GLAROS	YES	3361	6,780	19	
378-LA	JOHN SERINO AND MARY MARZULLO	YES	3360	5,467	19	
378-WA	JOHN SERINO AND MARY MARZULLO	YES	3360		19	FILL BASEMENT
379-LA	ROSE KNABEL	YES	11061	2,650	19	
379-WA	ROSE KNOBEL	YES	11061		19	FILL BASEMENT
380-LA	MARY DEVAN	YES	3359	8,180	19	
381-LA	HENRY B. GESSAMAN, VIRGINIA GESSAMAN	YES	3358	3,518	19	
382-LA	NORQUIST LAND COMPANY	YES	3358	3,468	19	
383-LA	JOHN J. VERNELLO, EDNA M. VERNELLO	YES	3357	3,350	19	
383-B-LA	MARY C. CARTWRIGHT, MARGARET CONROY	YES	3357	3,252	19	
384-LA	WILMA V. GING	YES	3356	6,090	19	
384-WA	WILMA V. GING	YES	3356		19	FILL BASEMENT
387-LA	THE BOARD OF EDUCATION OF YOUNGSTOWN CITY SCHOOL DISTRICT	YES	3355	26,418	19	
390-LA	FREDRIKA H. BOGGS, MINTER B. BOGGS	YES	3375	3,750	19	
390-A-LA	JAMES WALSH JR.	YES	3375		19	
391-LA	ROSE EVELYN STRAWDERMAN	YES	3376	2,000	19	
391-A-LA	MILTON KIBBLE, MARY LOU KIBBLE	YES	3375		19	
392-LA	GIUSEPPE CHIRCHIGLIA, ROSE CHIRCHIGLIA	YES	3376	2,000	19	
393-LA	FAY KIRORSKY	YES	3377	1,875	19	
394-LA	MATTIE B. TERRELL	YES	3377	3,750	19	
395-LA	EVA WILLIAMS, ROBERT WILLIAMS	YES	3378	3,750	19	
397-LA	CHESTER V. LONG, MARGARET F. LONG	YES	3379	3,675	19	
406-LA	CLOYDE JAMES FRY, ROBERTA MARION FRY	YES	36130	4,600	19	
406-A-LA, 406-B-LA, 406-B-WA	UNCLAIMED	YES	1695		19	
407-LA	LOUIS HARRINGTON, JULIA HARRINGTON	YES	1696		19	
425-LA	SOPHIE COHEN	YES	1695,1696		19	FILL BASEMENT
426-LA	GEORGE BRADLEY, FRANCES JUNE BRADLEY	YES	1701	10,593	19	
427-LA	HELEN BUGNO	YES	1700	10,923	19	
428-LA	EDWARD WILLIAMS, J.B. WILLIAMS	YES	1700	5,958	19	
428-LA	GRANT BARNETT, JOSEPHINE BARNETT	YES	1697	4,377	19	
429-WA	GRANT BARNETT, JOSEPHINE BARNETT	YES	1694	2,160	19	
430-LA	JOHN MCCARTY SCHWARTZ	YES	1694	1,485	19	
430-WA	JOHN MCCARTY SCHWARTZ	YES	1694		19	FILL BASEMENT
431-LA	ARNOLD AND CATHERINE HOWELL	YES	5567	592	19	
431-WA	ARNOLD AND CATHERINE HOWELL	YES	5567		19	FILL BASEMENT
432-LA	JEAN WEISER, ANDREW ROSENFELD	YES	3497	543	19	
432-WA	JEAN WEISER, ANDREW ROSENFELD	YES	3497		19	FILL BASEMENT
433-LA	WILLIE JAMES TALLEY	YES	34916	464	19	
433-A-LA	RUTH B. ROBINS	YES	34916		19	FILL BASEMENT
433-WA	WILLIE JAMES TALLEY	YES	34915	342	19	
433-A-WA	RUTH B. ROBINS	YES	34914	3,321	19	
354-A-LA	*THE GENERAL ELECTRIC COMPANY*	YES	34915		19	FILL BASEMENT
393-A-LA	*F.KIRKORSKY AND C.& E. BENTLEY*	YES	34914		19	REMOVE FOUNDATION
		YES	2311,2312		17	
		YES	3377	1,875	19	

ELIGIBLE FOR FEDERAL PARTICIPATION
* 348-A — THE CITY OF YOUNGSTOWN (FORMERLY JOHN PAUL) — NO — 2308 (PART) — 450 — 17
* 350-A — THE CITY OF YOUNGSTOWN (FORMERLY JOHN BUDAKER) — NO — 2309 (PART) — 744 — 17

RECEIVED R/W NOV 29 1962 State Highway Dept. Dis. No. 4

Parcel 344 A Area Revised 11-19-62
ADDED PCL-356-TS DELETED 356-WA 2-22-61
Pcl. 393-LA Revised Deed 12-15-60
Pcl. 393-A-LA Added 12-15-60
Pcl. 318-LA Revised Area 10-18-60
Pcl. 285-A-LA Changed Area & Sta. 8-23-60
Parcels 356-LA & 356-A-LA Added Name & Areas 7-6-60
Parcel 320-A-LA Added Area 7-6-60
Parcel 287-LA Added Area 7-6-60
Parcel 361-C-LA Revised 6-30-60
Parcel 344-A Revised 6-30-60
Parcel 339-LA Revised 6-27-60
Parcel 299-A-LA Revised 6-27-60
Parcel 313-B-A Added Area 6-24-60
Parcel 287-B-LA Deed Information Added 6-24-60
Parcels 316-A & 316-LA Area Revised 6-16-60
Sheet Reference Nos. Revised 4-20-60
Parcel 330-LA Revised 4-18-60
Parcel 344B-LA Revised 4-12-60

ADDED PCLS. 348-A & 350-A PER GUZIAK 6-3-68. J.R.B.

Deleted Pcl. 347-LA, Combined with 347-LA 3-4-65.
12-16-63
Warranty Deed 1017 Pg 637 Case No 2168065
Pcl-319 Aerial Deleted, Area rev Pcl 319-LA 12/16/63

FED. RD.	STATE	PROJECT	
2	OHIO		

471 / 492

MAH-18-17.20

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL Nº	OWNER	LOT Nº	AREA SQ. FT.	SHEET Nº	REMARKS
C-1 WA	MARGARET C. BOWREY	18181		22	
C-2 WA	ELIZ. LESKO ZAVACAN	18182		22	
C-3 WA	JOHN & WASYLYNA IWANUIK	18183		22	
C-4 WA	THEO. & NANCY HASSAY	18184		22	
C-5 WA	KOLAR & KURTA	18185		22	
C-6 WA	GUSSIE L. HEYMAN	18186		22	
C-7 WA	CHARLES & FLO L. PALISEN	18187		22	
C-9 WA	CHAS. & JUSTINE SEREDNESKY	6788		22	
C-10 WA	MARY KNAPIK	15348		22	
C-11 WA	JOHN & SOPHIE TOPORCER	15350		22	
C-12 WA	JOHN LEJBA	15351		22	
C-13 WA	ALEX & ADA HODORY	15352		22	
C-14 WA	MARY & JOHN SKLEPKO	15353		22	
C-15 WA	PAUL & MARY KISSEL	15354		22	
C-16 WA	MARY PODRAEZKY	6789		22	
C-17 WA	JOHN & HELEN NESTERUK	6790		22	
C-18 WA	PAUL & JULIA ANTEL	6791		22	
C-19 WA	CHARLES F. SEMPLE	11781		22	
C-20 A	THE ISALY DAIRY CO.	9487		23	
C-20 WA	THE ISALY DAIRY CO.	"		23	
C-22 WA	T. SAADI	3921		25	
C-23 WA	T. SAADI	3920		25	
C-24 A	EXIE SCRUGGS	2363		25	
C-25 A	EMMA JANE McCORKLE	2357		25	
C-26 WA	CLIFTON DOUGLAS-LUCY ANN PARKER	2327		25	
C-27 WA	RUBY B. CHEIRS	2326		25	
C-28 WA	HATTIE BRADLEY	1929		25	
C-29 A	J. B. & H. COLLIER	2355		25	
C-30 A	LOWRENCE & BEATRICE SMITH	2356		25	
C-31 A	TOFFIC SAADI	876		25	
C-33 A	WALTER & WILLO LEE FLIPPING	5662		25	
C-33 WA	"	"		25	
C-34 A	IDA BELLE PEARSON	5663		25	
C-34 WA	"	"		25	
C-35 A	MARY CANNELL	5664		25	
C-35 B		5665		25	
C-35 WA	MARY CANNELL	5664		25	
C-36 A	ANNA CENTRIC	5724		25	
C-37 A	ALVIN & JOSEPHINE CLARK	5725		25	
C-38 A	ANDERSON & OLA MAE JOHNSON	55074		25	
C-39 A	MATTIE HART	55077		25	
C-39 WA	"	"		25	
C-40 A	CLARA WASHINGTON	848		25	
C-40 WA	"	"		25	
C-41 A	UNION NAT'L BANK TRUST	5650		25	
C-42 WA	DOZIER RENAH - JAMES JACKSON	1578		25	
C-43 WA	EMIL E. RESTLE	5668		25	
C-44 A	LINDSAY CARRIE	57454		25	
C-44 WA		57454		25	
C-45 WA		57455		25	
C-46 A	NAT'L CITY BANK OF CLEVE. TR.	2316		26	
C-46 WA		2316		26	
C-47 A	FIRESTONE TIRE & RUBBER CO., AKRON, O.	2900		26	
C-47 WA		2900		26	
C-49 A	FLORENCE MACE	3171		24	
C-50 A	MILITARY ORDER OF COOTIE, PUP TENT #5	3172		24	
C-50 BA	FRANK P. SANDERS	3172		24	
C-51 A	GEORGE A. GRIEN	3173		24	
C-52 A	ISALY DAIRY CO.	2653		24	
C-52 BA	MOFFET L. T. & B.	2653		24	
C-53 A	ISALY DAIRY CO.	3407		24	
C-53 BA	DOLLAR SAVINGS & TRUST CO.	3407		24	
C-54 A	BENJAMIN F. LEWIS	9508		24	
C-54 CA	RALPH M. Mc CRACKEN	9508		24	
C-55 A		5721		24	
C-55 WA		5721		24	

PARCEL Nº	OWNER	LOT Nº	AREA SQ. FT.	SHEET Nº	REMARKS
C-56 A	LEONA LOUISE CALER	5722		24	
C-56 BA	RALPH M. McCRACKEN	5722		24	
C-56 WA	LEONA LOUISE CALER	5722		24	
C-56 B-WA	RALPH M. McCRACKEN	5722		24	
C-57 A	CALVIN & MARTHA WESTON	O.L. 379		24	
C-57 BA	D.H. LEVY & S. DUNGER	"		24	
C-57 B-WA		"		24	
C-57 WA	CALVIN & MARTHA WESTON	O.L. 379		24	
C-58 A	NAPOLEAN & DOROTHY BURT	30332		24	
C-60 A	THEO. R. CLAPP	3371		26	
C-60 WA	"	"		26	
C-61 A	FRED SHUTRUMP	10101		26	
C-61 WA	"	"		26	
C-62 A	BEATRICE B. LOPEZ	1692		26	
C-62 WA	"	"		26	
C-63 A	NATHAM DARSKY	1691		26	
C-63 WA	"	"		26	
C-64 A	FRED WALLACE HUGHES	1690		26	
C-64 WA	"	"		26	
C-65 A	GEORGE & K. KONIESCKY	1689		26	
C-65 WA		"		26	
348 A	JOHN PAUL	2308		26	
348 WA	"	"		26	
350 A	JOHN & ANN BUDAKER	2309		26	
350 WA		"		26	

Sheet Reference Nos. Revised 4-20-60

I-680 R/W SHEET 6 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

472 / 492



PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
1-LA	LUIGI FULCINITI	—	—	—	5778
2-LA	PETER & HELEN MIKITA	2-ST.FR.	10×16 FR.	5×6 FR. SHED	5000
3-LA	WILLIAM PUPA	2-ST.FR.	10×16 FR. SHED	7×14 FR. SHED	4090
4-LA	STEVE DOLAK MARY DOLAK	2-ST.FR.	—	8×8 FR. SHED	2120
4-A-LA	ELIZABETH PEDAK	2-ST.FR.	—	—	261
6-LA	MOLLIE BARTA	2-ST.FR.	40×20 FR.	—	5625
7-LA	FRANCISKA ONDASH	2-ST.FR.	8×8 FR. SHED	7×12 BR. SHED	5000
8-LA	MATHEW A. STANKICH MARY LOU STANKICH	2-ST.FR.	12×16 FR.	9×12 FR. SHED	5000
9-LA	JOHN IWANIUK WASYLYNA IWANIUK	2-ST.FR.	—	6×8 FR. SHED	6250
10-LA	FRANK DEAK ELIZABETH DEAK	2-ST.FR.	—	9×6 FR. SHED	4770
11-LA	MARY GARCAR	2-ST.FR.	—	7×12 FR. SHED	2850
12-LA	JOHN KRUPA MARY KRUPA	2-ST.BR.	12×16 FR.	—	136
13-LA	ALBERT FUZY, WM. A. AMBROSE MRS. JULIA KARAKA, PAUL FUZY	2-ST. FR.	36×18 FR.	—	6728
15-LA	ANNE CHABALA LESON	2-ST.FR.	—	6×8 FR. SHED	5000
16-LA	ANNE SHUSTER	2-ST.FR.	10×18 FR.	—	7500
18-LA	MIKE SEMAN MARY SEMAN	2-ST.FR.	—	—	3750
19-LA	PETER KANTOR JR. ETHEL MASZAROS	2-ST.FR.	13×18 FR.	—	6250
20-LA	HELEN KRAVEC	—	16×22 FR.	—	5000
26-LA	ANDREW ANTHOL, ANN CIZMAR PAUL ANTHOL, HELEN YASH	2-ST.FR.	11×15 FR.	7×14 FR. SHED	3820
22-LA	MITRO MICA ANNIE MICA	1-ST.FR.	—	11×18 FR. SHED	4950
24-LA	JAMES K. WALTERS	2-ST.FR.	12×18 FR.	8×10 FR. SHED	11.849
25-LA	HELEN M. BUGNO	1-ST.BR.	11×15 FR.	6×6 FR. SHED	7406

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
28-LA	ANNA GONDA	2-ST.BR.	20×20 FR.	—	5000
29-LA	MARY L. ADAMS	2-ST.BR.	14×20 FR.	—	5000
30-LA	PAUL BEDNARIK	2-ST.FR.	12×18 FR.	6×8 FR. SHED	4100
31-LA	VERONICA BUNDASH	2-ST.FR.	14×20 FR.	—	2050
31-A-LA	MICHAEL BEHUN MARY BEHUN	2-ST.FR.	14×22 FR.	—	403
33-LA	MICKEY HANUSCHAK FLORA JEAN HANUSCHAK	1-ST.BR.	—	—	3400
34-LA	JOHN F. TOBIN KATHERINE TOBIN	1-ST.BR.	—	—	1438
35-LA	STEVE MATYL ANNIE MATYL	1-ST.FR.	—	7×9 FR. SHED	5000
36-LA	SUE K. FURDEN JULIA KUNI	1-ST.FR.	—	7×7 FR. SHED	5000
37-LA	JOE VALUSH	1-ST.FR.	—	5×8 FR. SHED	4000

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
38-LA	ANNA GAYDOS	1-ST.FR.	12×20 FR.	11×8 FR. SHED	4000
39-LA	ANDREW & SUSIE LENGYEL	1-ST.FR.	—	8×8 SHED	4125
40-LA	ANNA, JOHN S. & JOSEPH YUHASZ	1-ST.FR.	—	8×9 SHED	3680
46-LA	GEORGE ZAHDRERY ELIZABETH ZAHDRERY	2-ST.FR.	—	6×8 FR. SHED	5490
47-LA	ANNA PAVLIK	2-ST.FR.	—	8×8 FR. SHED	3240
48-LA	MARY SELENK	2-ST.FR.	—	9×10 FR. C.C.	689
58-C-LA	JOSEPH S. PETRICK MARIA PETRICK	LOSS OF ACCESS TO LAKEVIEW AVE.			
58-F-LA	STEVEN N. BOBOVNYCK MARY BOBOVNYCK	2-ST.FR.	—	—	3808

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
41-LA	THE PORTLAND LAND CO.	—	—	—	6432
43-LA	ANNIE NELSON	—	—	—	1420
49-LA	HELEN W. COHN	—	—	—	68,711

WORK AGREEMENT

PARCEL №	NAME	DESCRIPTION
26-WA	ANDREW ANTHAL, ANN CIZMAR PAUL ANTHAL, HELEN YASH	REMOVE SHED
3-WA	WILLIAM PUPA	FILL BASEMENT
13-WA	ALBERT FUZY, WM. A. AMBROSE JULIA KARAKA, PAUL FUZY	REMOVE GAR. FD'N.
30-WA	PAUL BEDNARIK	REMOVE GAR. FD'N.
31-A-WA	VERONICA BUNDISH	FILL BASEMENT
46-WA	GEORGE ZAHDRERY ELIZABETH ZAHDRERY	FILL BASEMENT
34-WA	JOHN F. TOBIN CATHERINE TOBIN	FILL BASEMENT

REV. NO.	NATURE OF REVISION	DATE	MADE BY
Pcl. 49-LA	Name Change	10-5-60	S.S.
Pcl. 1-A LA	Removed From Taking	12-30-59	J.E.P.
Pcl. 49-LA	Coordinates Added	6-7-60	T.A.B.
	Deleted Parcels 21A-LA	DATE COMP.	
	Added 26WA, 3WA, 13WA, 30WA, 31A-WA, 46WA, 34WA, 58ATS.		
Pcl. 34-LA	Revised Area of Taking	12-1-60	B.H.
Pcl. 49-LA	Revised Area of Taking	1-21-60	B.H.
	REVISED 58-ATS TO 58C-LA	3-25-60	J.D.P.

8-82

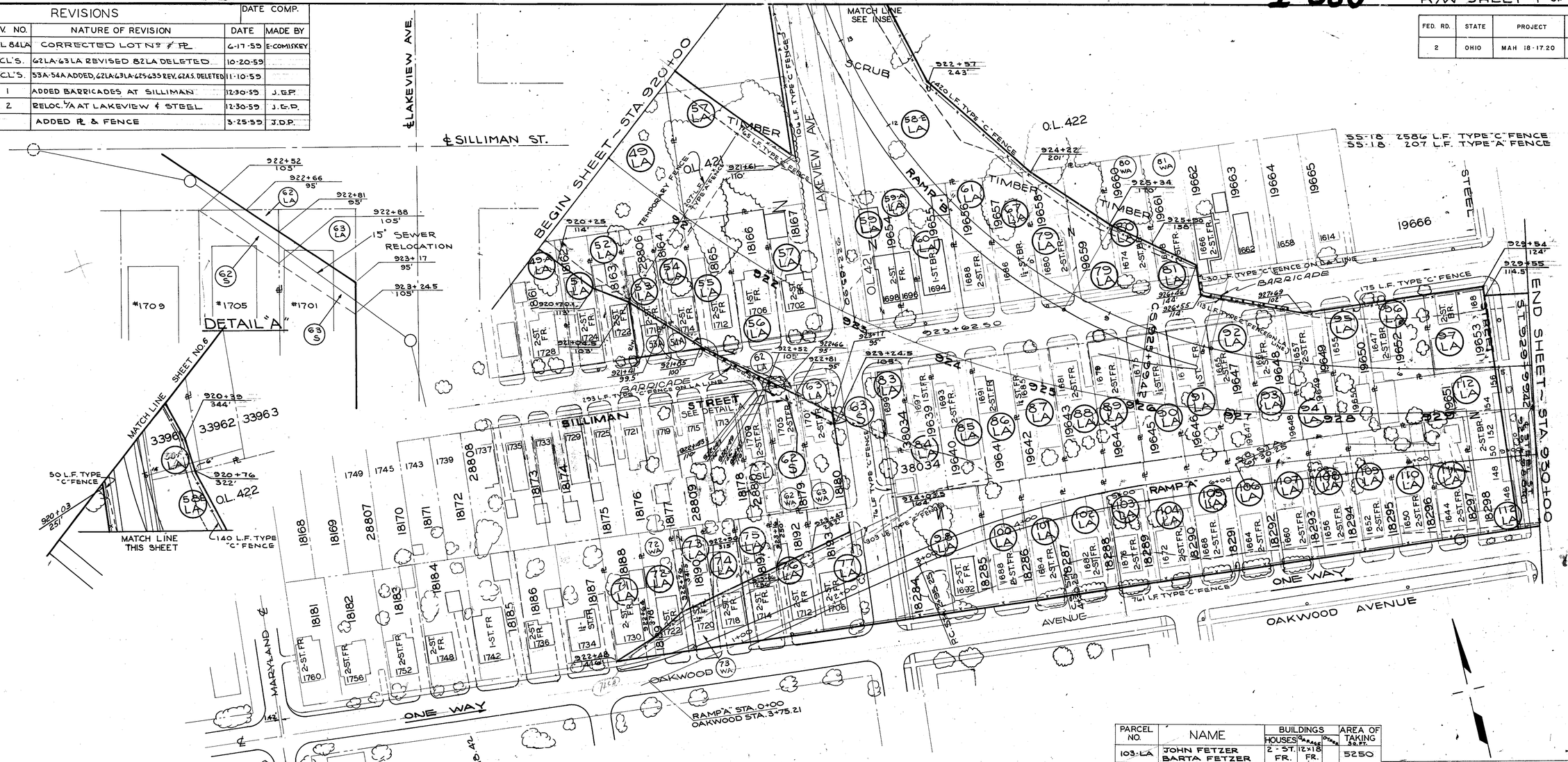
I-680

R/W SHEET 7 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

473
492

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
PCL 84LA	CORRECTED LOT Nos & PR	6-17-59	E.COMISKEY
PCL'S.	62LA-63LA REVISED 82LA DELETED	10-20-59	
PCL'S.	53A-54A ADDED, 62LA-63LA-62SA-63SA REV. 62AS. DELETED	11-10-59	
# 1	ADDED BARRICADES AT SILLIMAN	12-30-59	J.G.P.
# 2	RELOC. 1/A AT LAKEVIEW & STEEL	12-30-59	J.G.P.
	ADDED PR & FENCE	3-25-59	J.D.P.



PARCEL NO	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
49-A-LA	JOE INCE ANNA INCE	2-ST. FR.	10x18 FR.		231
51-LA	BETTY JOE YOHMAN	2-ST. FR.	10x16 FR.		1203
52-LA	ANDREW KOSAR HELEN KOSAR	2-ST. FR.	10x16 FR.		2080
53-LA	MICHAEL NAGY JR.	2-ST. FR.	12x20 FR.	8x10 FR. SHED	2762
54-LA	MARGARET BADA	2-ST. FR.	12x20 FR.		3672
55-LA	VINCENT F. HALKO MARY ANN HALKO	2-ST. FR.	12x12 FR.		5000
56-LA	ANDY LUKAC MARY LUKAC	1-ST. FR.			5000
57-LA	ALEXANDER BARICH MILDRED BARICH	2-ST. BR.	20x20 TILE		13720
58-LA	MARY PAULINE WILLIAMS				20,690
59-LA	GINO LAMARCA ½ LOUISE LAMARCA ½	2-ST. FR.	20x22 FR.		6265
59-A-LA	UGO DIBACCO ½ ANNA DIBACCO ½	2-ST. FR.			2774

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
60-LA	PAUL SEMAI JOAN SEMAI	1-ST. BR.	14x20 FR.	6x12 FR. SHED	5000
61-LA	PAUL GLOVA MARY GLOVA	2-ST. FR.		6x10 FR. SHED	5000
67-LA	MARY MACYNSKI	1½ ST. BR.		6x16 FR. SHED	5000
79-LA	JOHN BOBANICH ANNA BOBANICH	2-ST. BR.	12x20 FR.		7728
80-LA	ANNA MOZZY-MARY BARTELL-MICHAEL & ANDREW CYCYK	2-ST. BR.			2000
81-LA	JOHN R.-CHARLES E.-JOSEPH T.-MARY ANN-CATHERINE T. & JENNIE S. MARCH	2-ST. FR.	18x20 FR.	6x10 FR. SHED	960
62-LA	DAFINI NEGROFF	2-ST. FR.	12x20 FR.		64
63-LA	BARBALA OR BARBARA BURCSAK	2-ST. FR.		8x10 FR. SHED	705
83-LA	JOHN STUN	1-ST. FR.	14x18 FR.		3189
84-LA	ASTER SKLEPKO	1-ST. FR.	12x20 FR.		3750

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
85-LA	JOHN DZUROFF ANNI DZUROFF	2-ST. FR.	14x20 FR.		5000
86-LA	MICHAEL SABOL JR.-MARTIN SABOL & MARY B. KAVANAUGH	2-ST. FR.			5000
87-LA	MARY BAROLAK ROMAN-EDWARD-EMIL-JOSEPH T. BAROLAK	1½-ST. FR.	20x20 FR.		5000
88-LA	THERESA TOBIS OR THERISA TOBIAS	2-ST. FR.			5000
89-LA	JOHN J. BRCAK AGNES BACAK	2-ST. FR.	12x16 FR.		5000
90-LA	JOSEPH-JOSEPH S.-BERNARD R.-GEORGE C. KNAPIC-FRANCES K. ACRI	1½-ST. FR.	1 CAR		5000
91-LA	WALLACE DORKO HILDA MARIE DORKO	1½-ST. FR.	12x18 FR.		5000
92-LA	MARTIN HARCHAR ANNA HARCHAR	2-ST. FR.	12x18 FR.		5000
93-LA	MARY D. OLSAVSKY	2-ST. FR.	14x18 FR.		5000
94-LA	KAROL BUREK ANNA BUREK	2-ST. FR.	12x18 FR.		5000
95-LA	MARI OR MARY MAJOVSKY				5000
96-LA	VERONICA MISSIK	2-ST. BR.		6x10 FR. SHED	5000
97-LA	JOHN KISS ELIZABETH KISS	2-ST. BR.	28x20 FR.		5000
62-S	DAFINI NEROFF				750
63-S	BARBALA OR BARBARA BURCSAK				335

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
62-A-SA					80
64-SL	ANDREW TARKANICH SUSIE TARKANICH				25
71-LA	ANDY L. LESKOVEC ANNA C. LESKOVEC	2-ST. FR.	12x18 FR.		360
72-LA	HELEN BROGLI JULIANNA BROGLI	2-ST. FR.	10x18 FR.		980
73-LA	CHARLES R. KELLY LEONA CODE	1½-ST. FR.	10x18 FR.	14x18 FR. SHED	1440
74-LA	THOMAS A. DENEHY BRIDGET L. DENEHY	2-ST. FR.	12x18 FR.		2090
75-LA	ANDREW BODNAR ANNA BODNAR	2-ST. FR.	12x18 FR.		1950
76-LA	JOSEPH BANKOVITCH	2-ST. FR.	12x18 FR.		3040
77-LA	JOHN PAUL BARBOLA, PAUL	2-ST. FR.	22x24 FR.		3500
98-LA	GEORGE BODNAR JR. HELEN BODNAR	2-ST. FR.	18x22 FR.		10680
100-LA	MARY ADAMS	2-ST. FR.	15x18 FR.		5000
101-LA	JOHN M. SUDZINA AGNES SUDZINA	2-ST. FR.	18x20 FR.		5250
102-LA	BRIDGET L. RUANE	2-ST. FR.	18x18 FR.		5250

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
103-LA	JOHN FETZER BARTA FETZER	2-ST. FR.	12x18 FR.		5250
104-LA	ZVONIMIR ROY VULYAK ROSE M. VULYAK	2-ST. FR.	12x18 FR.		5250
105-LA	ANNA KACHMAR OR ANNA KACHMER	2-ST. FR.			5250
106-LA	MICHAEL YACKO ELIZABETH YACKO	2-ST. FR.	10x16 FR.		5250
107-LA	PETER ZEMAN MARY ZEMAN	2-ST. FR.	12x16 FR.		5000
108-LA	VALENT LEDINKO	2-ST. FR.	12x18 FR.		5000
109-LA	GABOR TOTH SUSIE TOTH	2-ST. FR.	12x17 FR.		5000
110-LA	MATHEW HAMBORSKY ANNA G. HAMBORSKY	2-ST. FR.	12x18 FR.		5000
111-LA	FRANK BAROLAK	2-ST. FR.	12x18 FR.		5000
112-LA	JOSEPH ANDREWS	2-ST. BR.			10612
53-A	MICHAEL NAGY, JR.				1398
54-A	MARGARET BADA				488

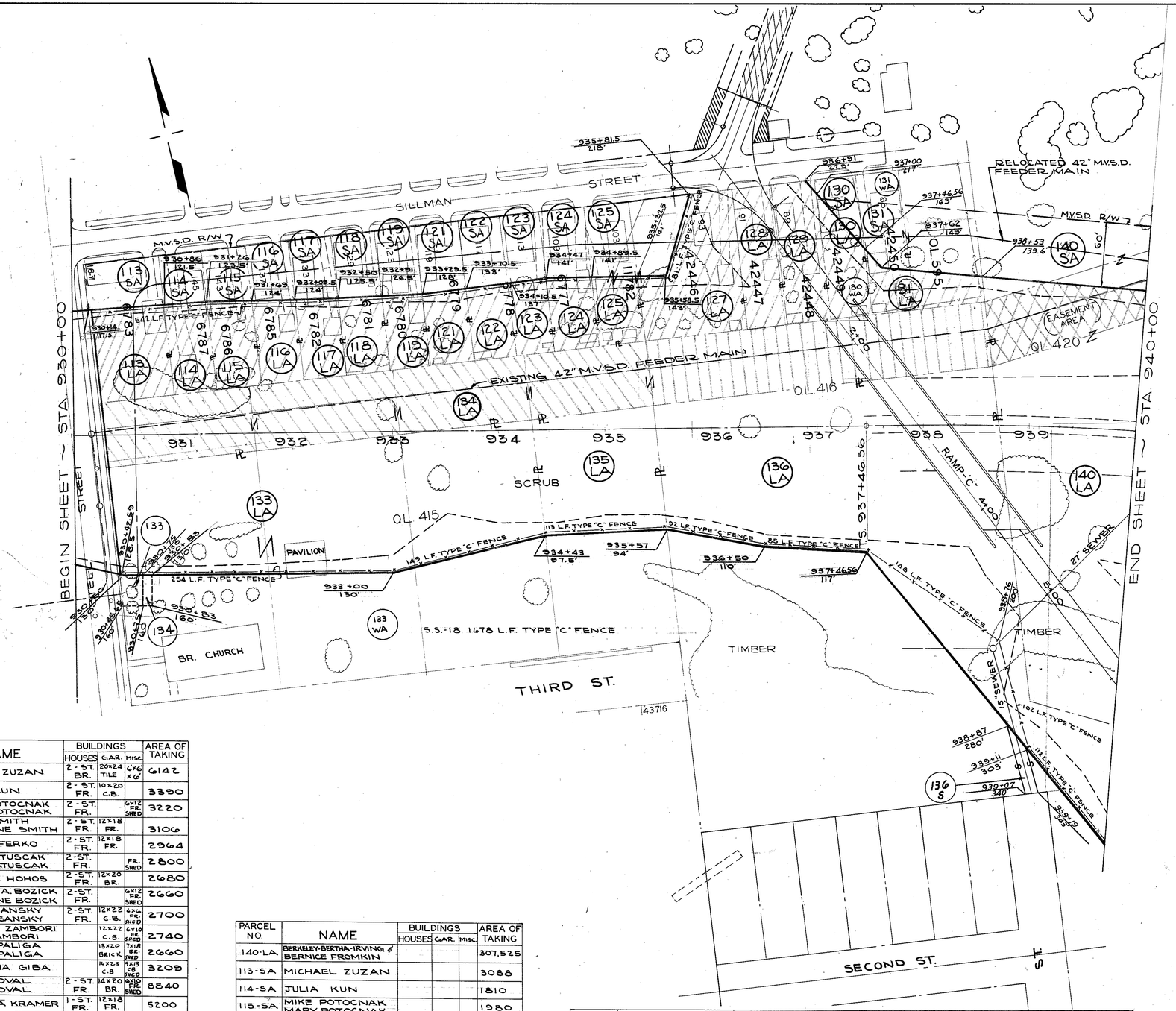
WORK AGREEMENTS

PARCEL Nos	NAME	DESCRIPTION
62-WA	DAFINI NEGROFF	FILL BASEMENT
63-WA	BARBALA OR BARBARA BURCSAK	FILL BASEMENT
80-WA	ANNA MOZZY - MARY BARTELL MICHAEL & ANDREW CYCYK	FILL BASEMENT
81-WA	JOHN-CHARLES-JOSEPH-MARY ANN-CATHERINE & JENNIE MARCH	FILL BASEMENT
72-WA	HELEN BROGLI JULIANNA BROGLI	FILL BASEMENT
73-WA	CHARLES R. KELLY LEONA CODE	FILL BASEMENT

Revised 64-SL 10-6-61
Revised 58-F&A 6-23-60

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

474
432



PARCEL NO.	NAME	BUILDINGS HOUSES	GAR.	MISC.	AREA OF TAKING
113-LA	MICHAEL ZUZAN	2-ST. BR.	20X24 TILE	6'6" x 6'	6142
114-LA	JULIA KUN	2-ST. FR.	10X20 C.B.		3390
115-LA	MIKE POTOCNAK MARY POTOCNAK	2-ST. FR.		6X12 FR. SHED	3220
116-LA	JOHN SMITH CATHERINE SMITH	2-ST. FR.	12X18 FR.		3106
117-LA	FRANK FERKO	2-ST. FR.	12X18 FR.		2964
118-LA	PAUL MATUSCAK ANNA MATUSCAK	2-ST. FR.		FR. SHED	2800
119-LA	BERTHA HOHOS	2-ST. FR.	12X20 BR.		2680
121-LA	GEORGEA. BOZICK CATHERINE BOZICK	2-ST. FR.		6X12 FR. SHED	2660
122-LA	JOE PISANSKY MARY PISANSKY	2-ST. FR.	12X22 C.B.	6'6" FR. SHED	2700
123-LA	ANDREW ZAMBORI MARY ZAMBORI		12X22 C.B.	6'10 FR. SHED	2740
124-LA	FRANK PALIGA HELEN PALIGA		13X20 BRICK	7'X18 FR. SHED	2660
125-LA	KATARINA GIBA		14'X23 C.B.	9'X13 C.B. SHED	3209
127-LA	PAUL KOVAL IRENE KOVAL	2-ST. FR.	14X20 BR.	6'X10 FR. SHED	8840
128-LA	SUSANNA KRAMER	1-ST. FR.	12X18 FR.		5200
129-LA	GEORGE LUTZA JR.	2-ST. FR.	14'X20 C.B.	8'X14 FR. SHED	5200
130-LA	MATTHEW KOVAL ANNA KOVAL	2-ST. FR.	10X16 FR.		1540
131-LA	STEVAN HOFFMAN ANNA HOFFMAN	2-ST. FR.	12'X20 BR.	8'X16 FR. BARN	3180
133-LA	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH			30'X7' BR. BLDG.	48,376
134-LA	MAHONING VALLEY SANITARY DISTRICT				50,220
135-LA	JOHN SAHLICA				12882
136-LA	SERBIAN EASTERN ORTH. CONGREGATION	1-ST. BR.			130,633

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BARN	AREA OF TAKING
140-LA	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN				307,525
113-SA	MICHAEL ZUZAN				3088
114-SA	JULIA KUN				1810
115-SA	MIKE POTOCNAK MARY POTOCNAK				1980
116-SA	JOHN SMITH CATHERINE SMITH				2094
117-SA	FRANK FERKO				2236
118-SA	PAUL MATUSCAK ANNA MATUSCAK				2400
119-SA	BERTHA HOHOS				2520
121-SA	GEORGE A. BOZICK CATHERINE BOZICK				2600
122-SA	JOE PISANSKY MARY PISANSKY				2500
123-SA	ANDREW ZAMBORI MARY ZAMBORI				2460

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BARN	AREA OF TAKING
124-SA	FRANK PALIGA HELEN PALIGA				2540
125-SA	KATARINA GIBA				5880
130-SA	MATTHEW KOVAL ANNA KOVAL				720
131-SA	STEVAN HOFFMAN ANNA HOFFMAN				6204
140-SA	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN	1-ST. FR. House			9080
133	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH				750

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
134	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH				240
136	SERBIAN EASTERN ORTH. CONGREGATION				715

WORK AGREEMENT

PARCEL Nº	NAME	DESCRIPTION
133-WA	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH	REMOVE FOUNDATION
130-WA	MATHEW KOVAL ANNA KOVAL	FILL BASEMENT
131-WA	STEVAN HOFFMAN ANNA HOFFMAN	FILL BASEMENT

REVISIONS

REV. Nº	NATURE OF REVISION	DATE	MADE BY
9	Added Pcl. 134 LA, ALA, BLA, & CLA	6-25-65	
6	Parcel 136-S Revised Sewer	7-7-60	S.S.
5	Parcel 133-S To 133	7-6-60	S.S.
4	Parcel 136-S Revised	6-30-60	S.S.
8	ADDED PARCEL 134	4-17-61	T.J.
7	Rev. Corr. Parcel 133	3-28-61	T.J.
#1	ADDED M.V.S.D. FEEDER MAIN	12-30-59	J.E.P.
	REVISED L/A LINE AT STEEL ST.		
	ADDED 131WA, 130WA, 133, 133WA		
	136 S		
#2	REVISED FENCE - ADD PL	3-28-60	J.D.P.
#3	Parcel 135-LA Area Revised	5-10-60	

1138767

THE MAHONING VALLEY SANITARY DISTRICT RIGHT-OF-WAY PLAT

Graphic Scale, (Original Tracing)

CITY OF YOUNGSTOWN
MAHONING COUNTY, STATE OF OHIO
MAH. 18-17.20 -YOUNGSTOWN EXPRESSWAY

APPROVED BY:
BOARD OF CONTROL
MAYOR _____ 3/18/64
SIGNATURE DATE
LAW DIRECTOR _____ 3/14/64
SIGNATURE DATE
FINANCE DIRECTOR _____ 3/18/64
SIGNATURE DATE

DEPT. OF PUBLIC WORKS
COMM. OF ENGINEERING _____ 3/18/64
SIGNATURE DATE

THE M.V.S.D. BOARD OF DIRECTORS

PRESIDENT _____ A. I. KIDSTON 12-5-63
SIGNATURE DATE
MEMBER _____ W. F. MacQUEEN 12-5-63
SIGNATURE DATE
SECRETARY _____ D. D. HEFFELFINGER 12-5-63
SIGNATURE DATE

RECEIVED FOR RECORD ON THE 11TH DAY OF FEB. 1965
AT 3:05 O'CLOCK P.M. RECORDED IN VOL. 55 PAGES 247 OF
THE MAHONING COUNTY RECORD OF DEEDS ON THE 15 DAY
OF February, 1964.
Horace G. Tetlow
MAHONING COUNTY RECORDER

Needs no transfer
2-11-65
F. D.

NOTE
ALL STATIONS AND BEARINGS SHOWN REFER TO EXPRESSWAY DATA EXCEPT WHERE MARKED M.V.S.D. OR EXISTING STATION.

DWG. No. D-6-X 140.1
Acc. No. 9194
File - V-11-85

REVISED: NOV. 6, 1963 - TRIPP
* - DENOTES REVISION OR ADDED INFORMATION
Added Pcls. 134 LA, 134 ALA, 134 BLA, 134 CLA. 8-17-65
Rev. Nov. 21, 1963 — * DENOTES ADDITIONAL DATA By M.V.S.D. REG. SURVEYOR, No. 3263, John T. Santagata

E.O.N.D.

I-680

R/W SHEET 9 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

475/492

SS-18 644 L.F. TYPE "C" FENCE

AREA OF FEDERAL PART. (LAND FEE TITLE)

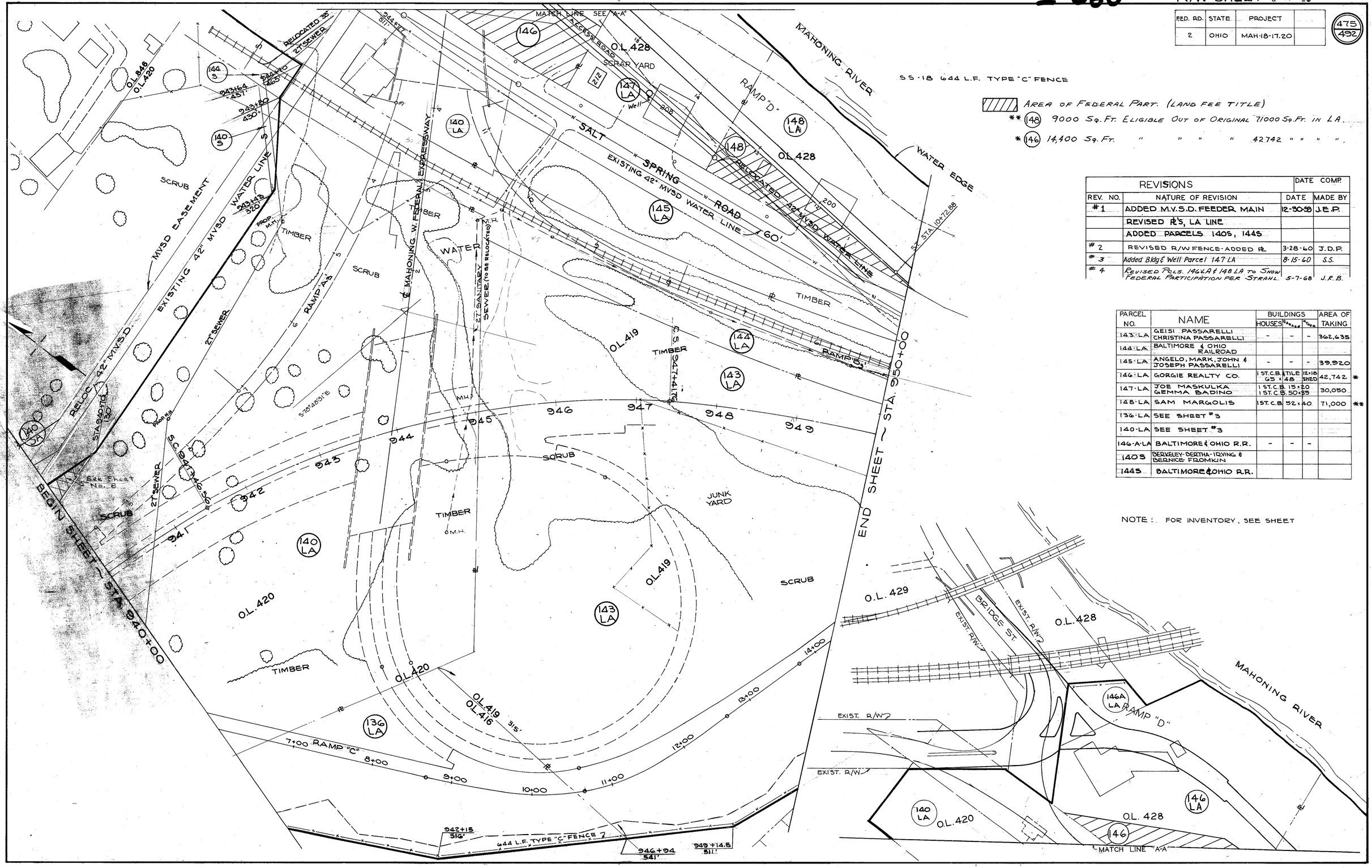
** (148) 9000 Sq. Ft. ELIGIBLE OUT OF ORIGINAL 71000 Sq. Ft. IN LA.

* (146) 14,400 Sq. Ft. " " " " 42,742 " " " ".

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
#1	ADDED M.V.S.D. FEEDER MAIN	12-30-59	J.E.P.
	REVISED R/S, LA LINE		
	ADDED PARCELS 1405, 1445		
#2	REVISED R/W FENCE-ADDED R/S	3-28-60	J.D.P.
#3	Added Bldg & Well Parcel 147 LA	8-15-60	S.S.
#4	Revised P.O.S. 146 LA & 148 LA to Show Federal Participation PER STRAHL.	5-7-68	J.R.B.

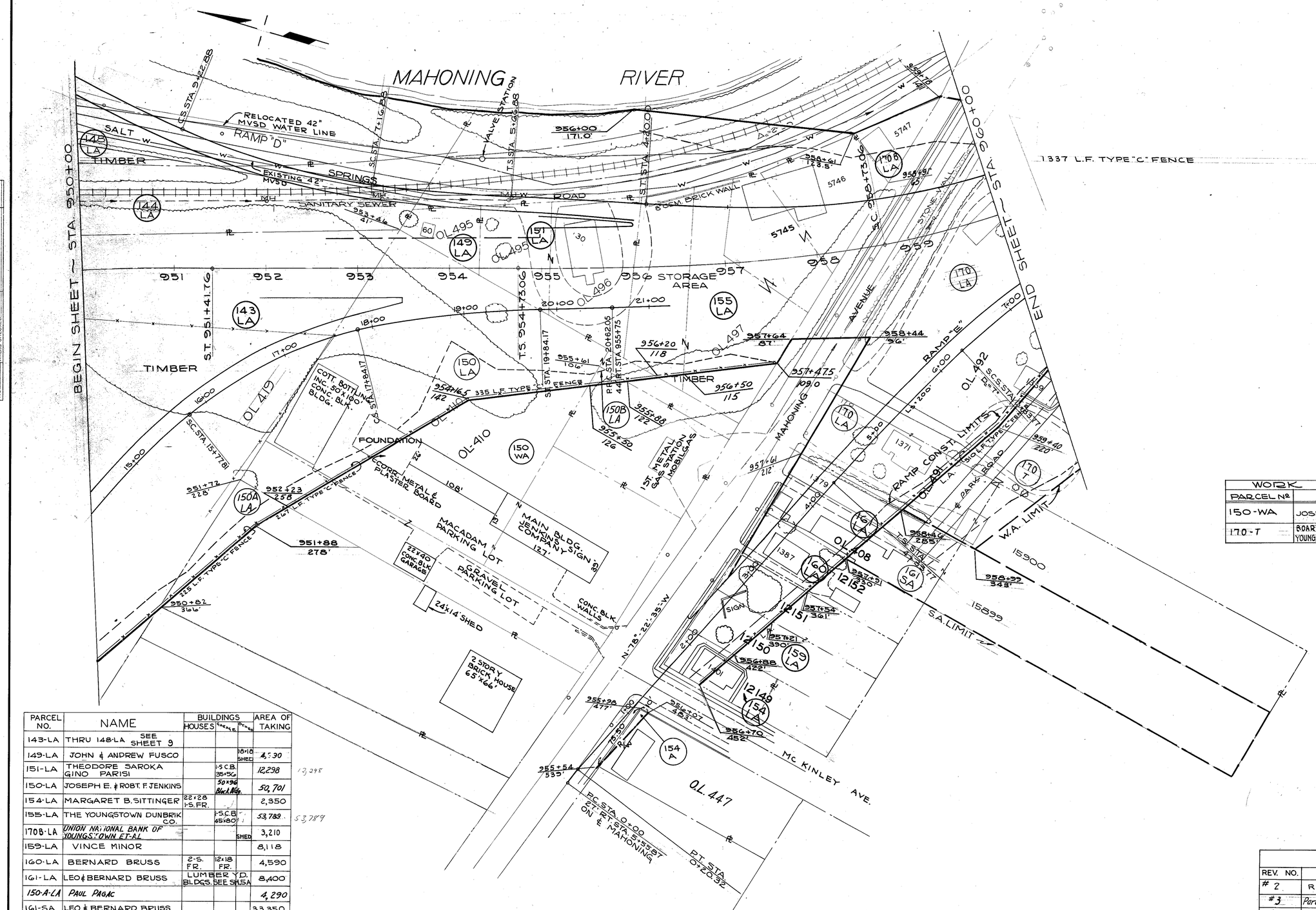
PARCEL NO.	NAME	BUILDINGS HOUSES	BUILDINGS OTHER		AREA OF TAKING	
143-LA	GEISI PASSARELLI CHRISTINA PASSARELLI	-	-	-	362,635	
144-LA	BALTIMORE & OHIO RAILROAD					
145-LA	ANGELO, MARK, JOHN & JOSEPH PASSARELLI	-	-	-	39,920	
146-LA	GORGIE REALTY CO.	1 ST.C.B. 65 x 48	TILE 12x16 SHED		42,742	*
147-LA	JOE MASKULKA GEMMA BADINO	1 ST.C.B. 15x20 1 ST.C.B. 50x35			30,050	
148-LA	SAM MARGOLIS	1ST.C.B. 52x40			71,000	**
136-LA	SEE SHEET #3					
140-LA	SEE SHEET #3					
146-A-LA	BALTIMORE & OHIO R.R.	-	-	-		
1405	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN					
1445	BALTIMORE & OHIO R.R.					

NOTE: FOR INVENTORY, SEE SHEET



FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

476/492



PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING	
143-LA	THRU 148-LA SEE SHEET 9					
149-LA	JOHN & ANDREW FUSCO			18x18 SHED	4,530	
151-LA	THEODORE SAROKA GINO PARISI		1-S C.B. 35x56		12,298	13,298
150-LA	JOSEPH E. & ROBT. F. JENKINS		50x96 Block Bldg.		50,701	
154-LA	MARGARET B. SITTINGER	22x28 1-S. FR.			2,350	
155-LA	THE YOUNGSTOWN DUNBRIK CO.		1-S.C.B. 45x80		53,789	53,789
170B-LA	UNION NATIONAL BANK OF YOUNGSTOWN ET-AL			SHED	3,210	
159-LA	VINCE MINOR				8,118	
160-LA	BERNARD BRUSS	2-S. FR.	12x18 FR.		4,590	
161-LA	LEO & BERNARD BRUSS	LUMBER YD. BLDGS. SEE SH. 5A			8,400	
150-A-LA	PAUL PAGAC				4,290	
161-SA	LEO & BERNARD BRUSS				33,350	
150-B-LA	ELLA LOUISE WICK				333	
170-LA	See sheet 11					
154-A	LORIETTA McGEE				377.5	

WORK AGREEMENT		
PARCEL No.	NAME	DESCRIPTION
150-WA	JOSEPH & ROBERT F. JENKINS	FILL BASEMENT
170-T	BOARD OF PARK COMMISSIONERS YOUNGSTOWN TWP. PARK DISTRICT	CONSTRUCTION OF PARK ROAD

REVISIONS			DATE COMP.
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 2	REVISED FENCE-ADDED PL	3-28-60	J.D.P.
#3	Parcels 170-LA, 170-T, 170B-LA	4-20-60	T.A.B.
#4	Revised Parcel 154-A	6-23-60	S.J.S.
	ADDED PARCEL 154 A	12-30-59	
#1	ADDED 42" MVSD WATER LINES Revised	12-30-59	J.E.P.
Parcels	150LA, 150A-LA, 150-B-LA, 155-LA Revised	7-27-59	

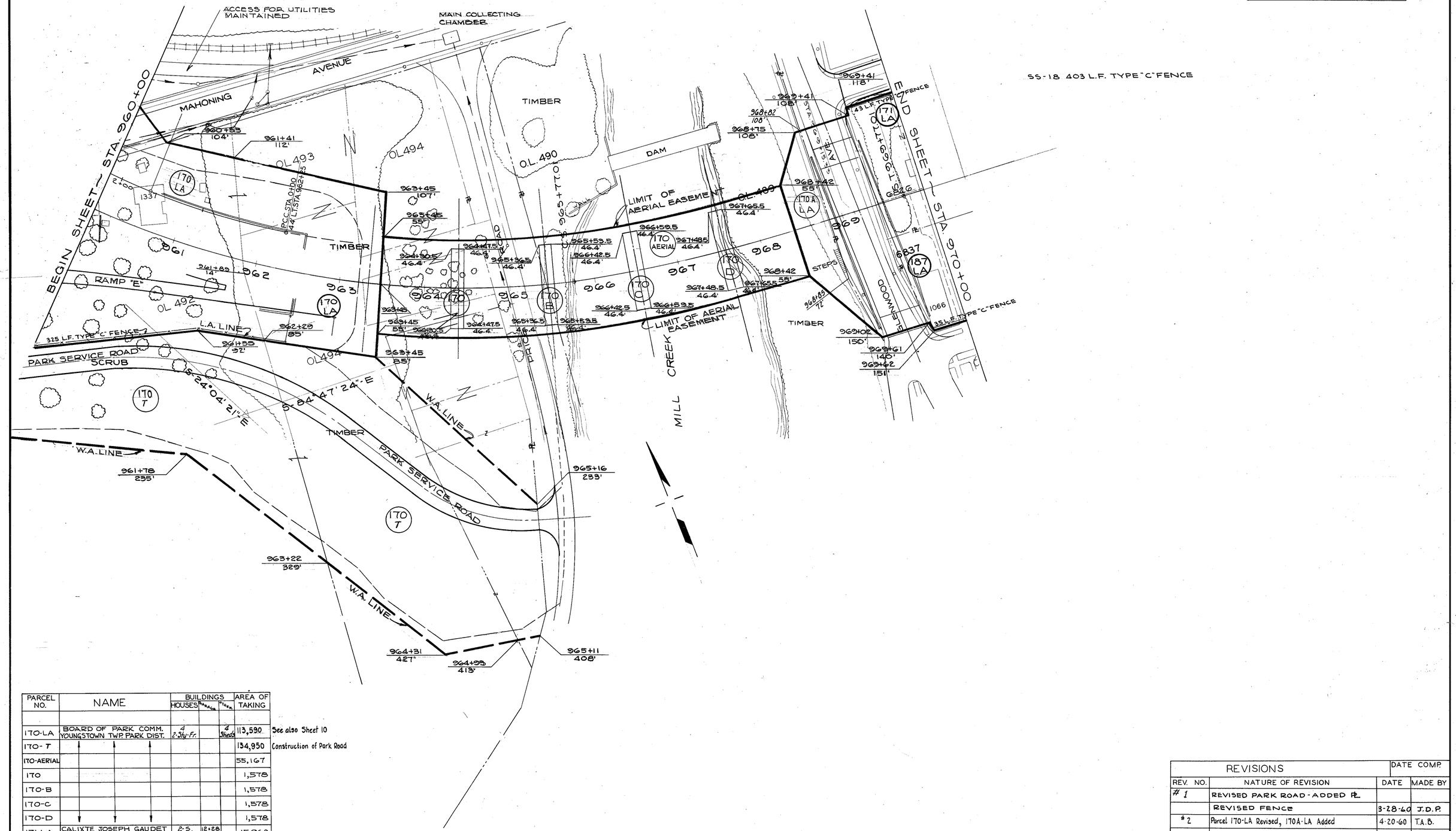
Parcel 170-T	Changed From Work Agreement To Temporary	7-6-60
Parcel 155-LA	Area Revised	7-6-60
Parcel 151-LA	Area Revised	7-6-60
Parcel 149-LA	Area Revised	7-6-60
Parcel 170B-LA	Revised	7-5-60
Parcel 149-LA	Revised	6-27-60
Parcel 170-B-LA	Revised	6-27-60

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

I-680

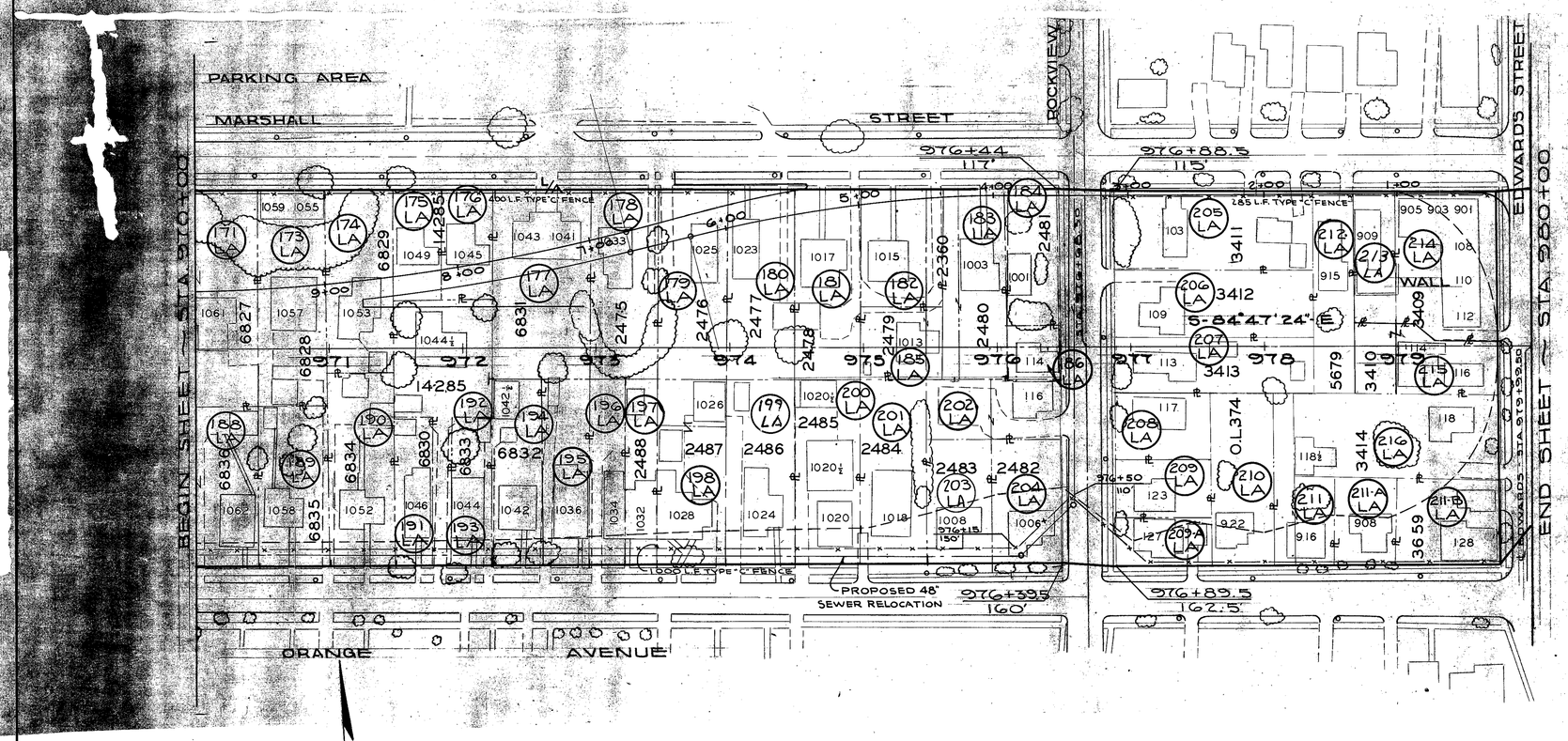
FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

477
492


ACCESS FOR UTILITIES MAINTAINED
MAIN COLLECTING CHAMBER
AVENUE
MAHONING
BEGIN SHEET — STA. 960+00
960+53
104'
961+41
112'
OL 493
OL 494
N
TIMBER
OL. 490
OL 495+00
DAM
963+45
107'
963+45
55'
963+45
85'
963+45
85'
963+45
85

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

478/492



1685 L.F. TYPE "C" FENCE

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
171-LA	SEE SHEET No 6				
173-LA	WILLIAM W. NEFF ARMIDA NEFF	2-ST. BR. 2-ST. FR.	18x18 FR.		7625
174-LA	HAROLD & ETHEL GASKINS	2-ST. FR.	12x18 FR.	18x18 FR. SHED	7625
175-LA	JOHN J. CIKA DOROTHY A. CIKA	2-ST. FR.			2920
176-LA	JAMES A. POTTER PAULINE POTTER	2-ST. FR.			2920
177-LA	I SALY DAIRY CO.	2-ST. FR.	IN BASM'T.		10215
178-LA	THE DOLLAR SAVINGS & TRUST CO. TRUSTEE	2-ST. FR.			7634
179-LA	JOHN WILLIAMS LOU GENIA WILLIAMS	2-ST. FR.			6940
180-LA	DOUGLAS JONES CHESTINA JONES	2-ST. FR.	12x18 FR.		6940
181-LA	BESSIE AGRENOVITZ	2-ST. FR.	20x16 BR. SHED	7x12 FR. SHED	6940
182-LA	JESSIE DOUGLAS CHRISTINE DOUGLAS	2-ST. FR.			5028
183-LA	MARY G. REITZELL FLORA A. REITZELL	2-ST. FR.			6940
184-LA	BENJAMIN VERNON CLARA VERNON	2-ST. FR.			3960
185-LA	GILSON T. GRAHAM				3300
186-LA	ANNIE K. HARPER ROBINSON ALIAS ANNIE SIMMONS	2-ST. FR.			1560
188-LA	EULALIA M. LUTHER	2-ST. FR.	20x20 FR.		5900
189-LA	ROSINA SCHNEIDER	2-ST. FR.		8x16 FR. SHED	6000
190-LA	JAMES ARTHUR ROSS ANNIE B. ROSS	2-ST. FR.	18x18 FR.		6250
191-LA	ETHEL GILFILLAN	2-ST. FR.	12x18 FR.		3300
192-LA	D. N. GARVER MARTHA E. GARVER	2-ST. FR.			7695
193-LA	CLYDE E. TRUITT DOROTHY C. TRUITT	2-ST. FR.	12x18 FR.		3630
194-LA	TUFIC SAADI	2-ST. FR.	10x12 FR.		5066
195-LA	CHARLOTTE BYERS	2-ST. FR.	12x18 FR.		5066

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
196-LA	MARTIN BOKESCH CHRISTINA BOKESCH	2-ST. FR.			3924
197-LA	IRENE H. VANMETER	2-ST. FR.		12x16 FR. SHED	3252
198-LA	JOSEPH STOKAN	2-ST. FR.			6940
200-LA	KATHLEEN WATKINS	2-ST. FR.	12x20 FR. 16x20 FR.		6940
201-LA	KATHERINE B. WILSON	2-ST. FR.	16x18 FR.		6940
202-LA	JAMES ANDERSON	2-ST. FR.			4500
203-LA & 204-LA	FLORENCE APPEL DORFF HELEN APPEL LEWIS CLARA APPEL CASSESE	2-ST. FR. 1-ST. FR.			9300
205-LA	CLARENCE C. McKELRY ELIZABETH McKELRY	2-ST. FR.	18x18 FR. 10x16 FR.	4x10 FR. SHED	18x20 FR. BARN 9000
206-LA	THOMAS A. MUMFORD	2-ST. FR.		8x20 FR. SHED	7500
207-LA	LILLIAN B. JONES RAFE	2-ST. FR.	12x20 C.B.	8x14 FR. SHED	6000
212-LA	T SAADI	2-ST. FR.			4500
213-LA	HOWARD JAMES WILLIE MAE JAMES	2-ST. FR.			2910
214-LA	ARTHUR I. WALDMAN	2-ST. BR.			7275
215-LA	JAMES MONROE LONG	2-ST. FR.			4340
208-LA	JESUS HERNANDEZ MARY E. HERNANDEZ	2-ST. FR.			3108
209-LA	LEONARD HALLEWELL ESTELLA HALLEWELL	2-ST. FR.			3009
209-A-LA	JAMES BROWN	2-ST. FR.	12'x16' FR.		2549
210-LA	FREDERICK LEROY TAYLOR GRACE VERA TAYLOR	2-ST. FR.			6425
211-LA	JOSEPH ANDROSEK 7/8 WALSH & ROBERTS INC. 2/8	2-ST. FR.			3806
211-A-LA	FREDA C. ANDERSON	2-ST. FR.			2903
211-B-LA	JAMES DOMINIC PRECURATO MARY DELORES PRECURATO	2-ST. FR.	14'x20' C.B.	6x12 FR. SHED	4902
216-LA	ROY F. MORT	2-ST. FR.	12'x16' FR.	5x12 FR. SHED	9675
199-LA	JOSEPH STOKAN	2-ST. FR.			6940

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING

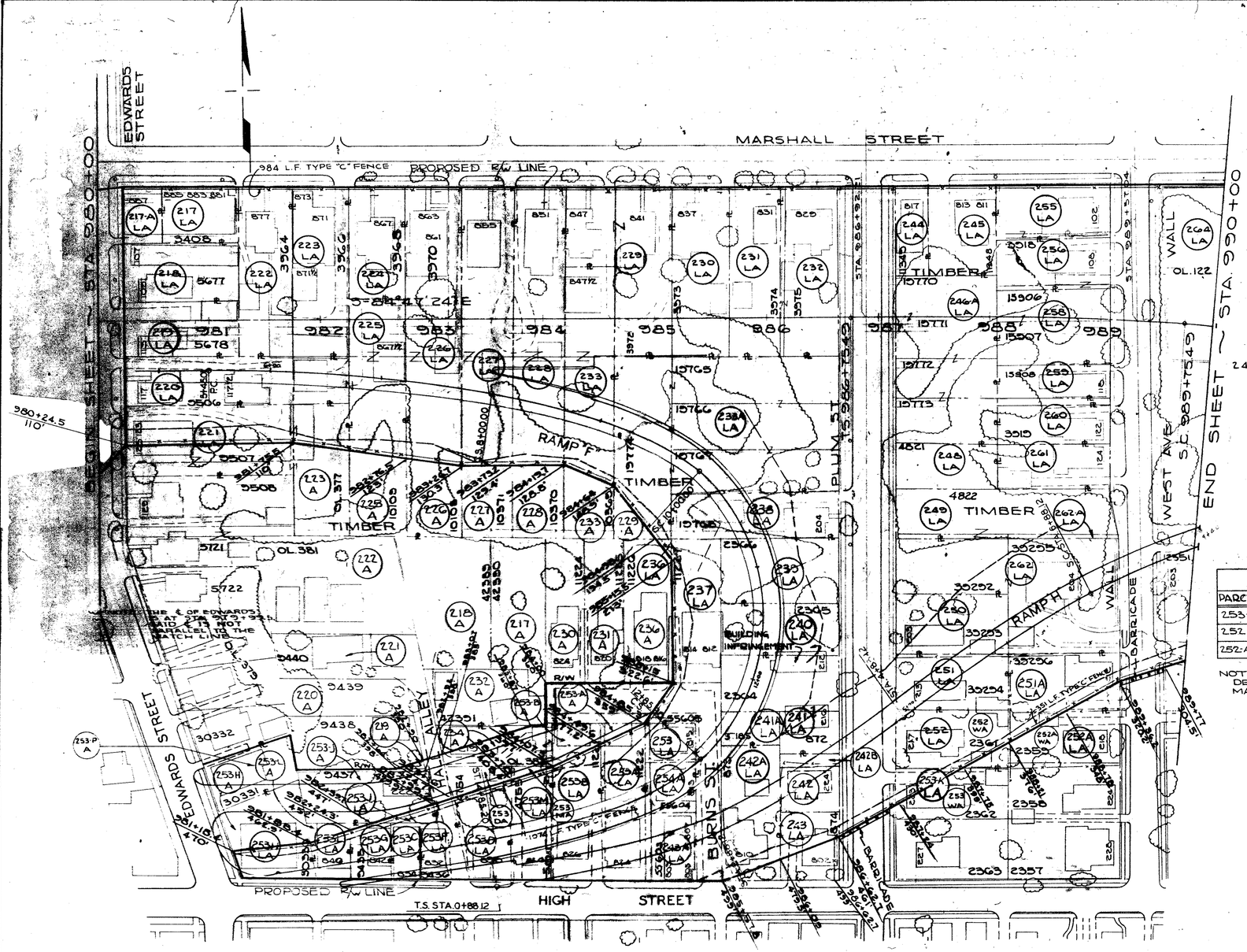
REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
#1	Parcels 203LA, 204LA Revised	6-25-59	E.J.C.
	ADDED SEWER	1-19-60	
#2	ADDED PL	3-28-60	J.D.P.
#3	Parcel 215-LA Revised	7-13-60	S.S.
#4	ADDED 199-LA	12-15-60	P.H.

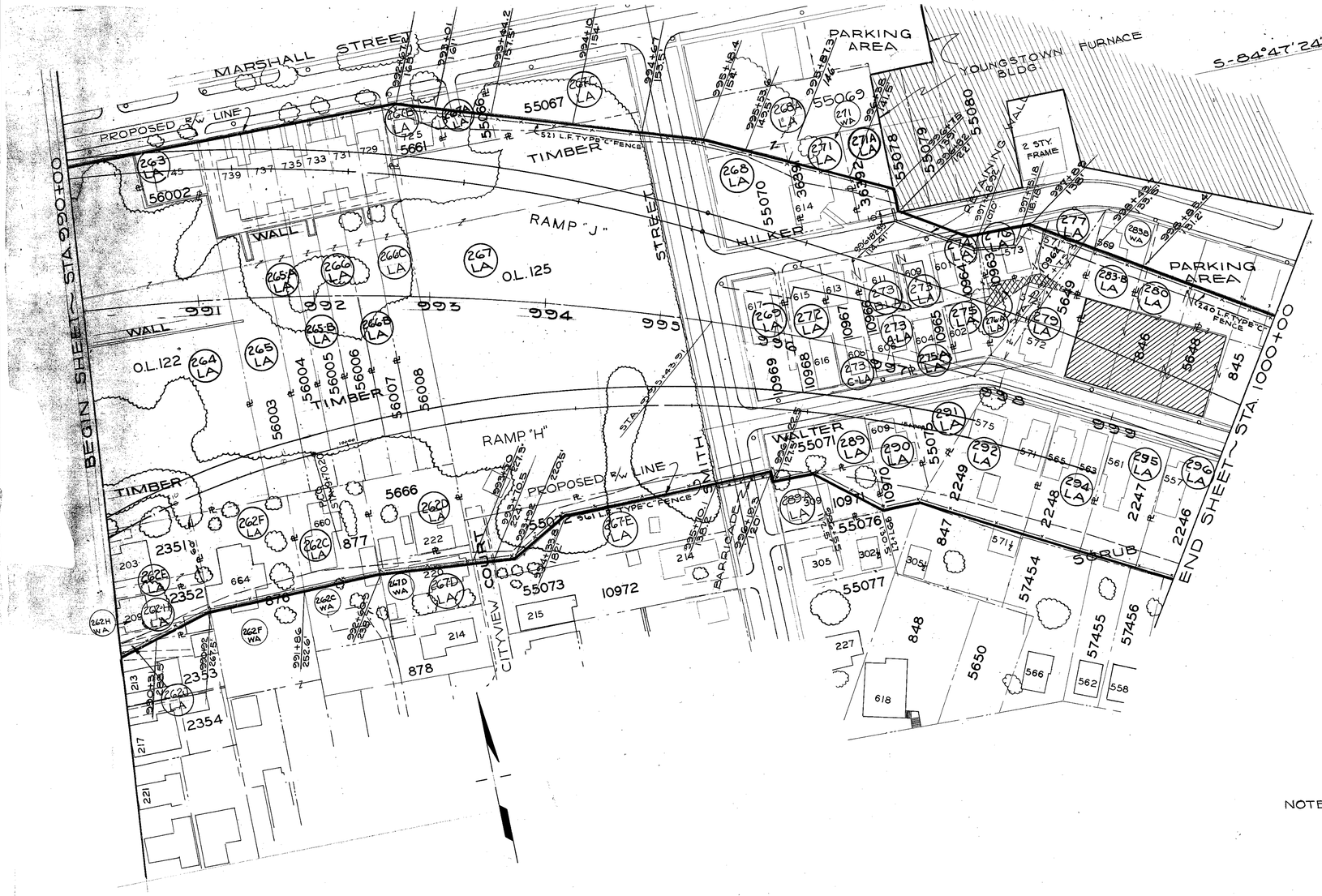
I-680 R/W SHEET 13 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

479 492

DIV. 4 R/W RECORD SECTION FEB 26 1963 RECD. ..... RWD.





NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
262-C-LA	ALLEN J. STUMP VIOLA V. STUMP	2-S. FR.	10×18 FR.		5,427
262-D-LA	LOUIS H. MAUSER	2-S. FR.	10×20 FR.	12×16 SHED	5,720
262-E-LA	EDWARD VELAR	2-S. FR.			6,000
262-F-LA	TUFIC SAADI	2-S. FR.	12×18 FR.		6,889
262-H-LA	LAURA GARDNER	2-S. FR.	12×20 FR.		3,580
262-J-LA	GEORGE SUBER PEARL SUBER	2-S. FR.	20×18 FR.		306
263-LA	UMBERTO TURSINI ANNA TURSINI	2-S. STUCCO			2,530
264-LA	WILLIAM MOSKOSKY HELEN MOSKOSKY				48,620
265-LA	ALTON L. KEMP ALICE L. KEMP	2-S. STUCCO			11,109
265-A-LA	MARY LUNDY	2-S. STUCCO			7,511
265-B-LA	FRANK J COLLA	2-S. STUCCO			7,508
266-LA	JAMES LADIGO	2-S. STUCCO			7,462
266-B-LA	JOSEPH M. ALLISON MARIAN A. ALLISON	2-S. STUCCO			7,459

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
266-C-LA	THOMAS HOOD	2-S. STUCCO			
267-LA	BESSIE P CONNELL THOMAS H. CONNELL			18×17 ST. HSE	68,502
267-A-LA	ESTHER MEYER				1,262
267-B-LA	VANCE WAGNER	2-S. FR.			1,826
* 267-C-LA					690
* 267-D-LA	MINNIE MAUSER	2-S. FR.	10×20 FR.	12×16 SHED	1,000
* 267-E-LA					3,855
268-LA	BESSIE P CONNELL THOMAS H. CONNELL				5,202
* 268-A-LA	*BESSIE P. CONNELL THOMAS H. CONNELL*				278
269-LA	INEZ PARKER	2-S. FR.	10×18 FR.		4,200
271-LA	HARRY & NELLIE MEYERS	2-S. FR.			2,400
271-A-LA	*GOLDEN AGE BEVERAGE CORP.*				1,050
* 271-B-LA	YOUNGSTOWN FURNACE CO.				

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
272-LA	MALACHI STOKES THELMA STOKES	2-S. FR.	12×18 BR.		3,702
273-LA	JOHN G. SPATHOLT	2-S. FR.			1,800
274-LA	JOHN H. LOGAN LULA LOGAN	2-S. FR.			2,230
275-LA	LEROY SMITH NETTIE SMITH	2-S. FR.			1,625
275-A-LA	JOHNNIE PEARL REED	2-S. FR.			1,587
276-LA	FRED & ROISE PERKINS	2-S. FR.			1,932
277-LA	THEODORE COTTON JR. CARRIE COTTON	2-2 ST. B.R.			1,813
279-LA	ANN KAUFMAN BETTY LABEL	2-2 ST. FR.			4,950
280-LA	GOLDEN AGE BEVERAGE CORP.			72×125 C.B.	19,657
283-B-LA	HOWARD BURKES MILLERNEE BURKES	1½-S. FR.			2,600
289-LA	BESSIE P. CONNELL THOMAS H. CONNELL				3,600
* 289-A-LA	WALDEMAR NISCHWITZ EARL H. HARRIS	2-S. FR.			1,157
290-LA	ETHEL McDANIELS SPEAKS	1-S. FR.		12×18 SHED	2,948

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
291-LA	ELIZABETH BUEHRLE				2,282
292-LA	WALDEMAR NISCHWITZ EARL H. HARRIS	2-S. FR. 1-S. FR.	14×22 C.B.		5,939
294-LA	WILLIAM ALLEN ANNIE ALLEN	2-S. FR. 2-S. FR.			3,943
295-LA	MARY PEAY	2-S. FR.		8×6 FR. SHED	4,180
296-LA	ELIDA MOELLERING	2-S. FR.			4,350
273-A-LA	JOHN G. SPATHOLT	2-S. FR.			2,080
273-B-LA	JOHN G. SPATHOLT	2-S. FR.			1,870
273-C-LA	JOHN G. SPATHOLT	2-S. FR.			3,150
276-A-LA	*FRED AND ROISE PERKINS ETAL*				767

WORK AGREEMENT

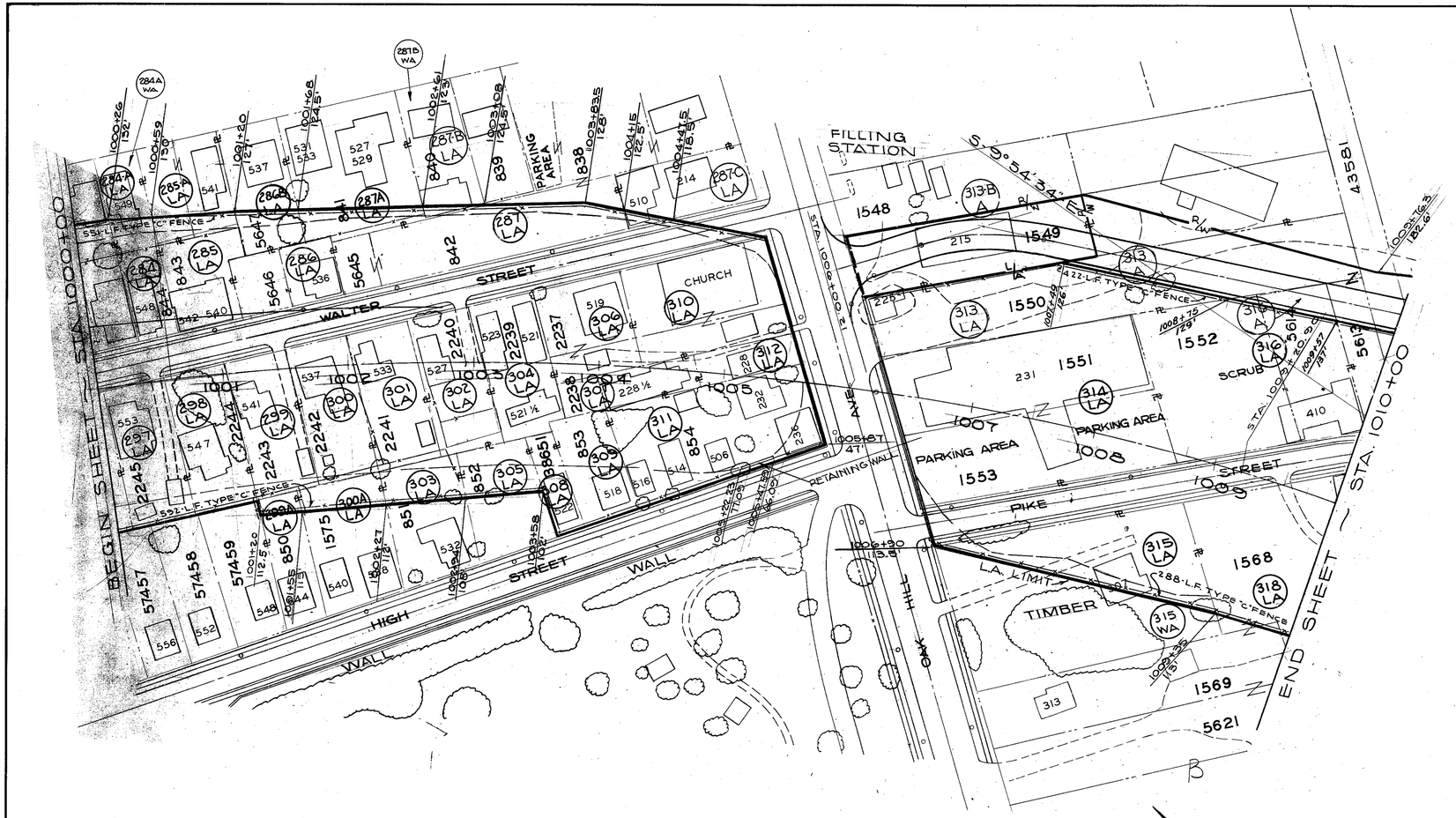
PARCEL NO.	NAME	DESCRIPTION
262-H-WA	LAURA GARDNER	REMOVE GAR. FD'N.
271-WA	HARRY & NELLIE MEYERS	FILL BASEMENT
283-B-WA	HOWARD BURKES MILLERNEE BURKES	FILL BASEMENT
267-D-WA	MINNIE MAUSER	FILL BASEMENT
262-F-WA	TUFIC SAADI	FILL BASEMENT
262-C-WA	ALLEN J. STUMP VIOLA V. STUMP	REMOVE GAR. FD'N.

REVISIONS

REV. NO.	NATURE OF REVISION	DATE COMP DATE	MADE BY
# 1	ADDED RET. WALL & BARRICADE	12-30-59	J.E.P.
	REVISED ℄ ALINE FOR RET. WALL		
# 2	ADDED R.	3-29-60	J.D.P.
	Added Names Pcls. 271-A-LA & 276-A-LA-Area	7-6-60	S.S.
	Pcls. 268-A-LA & 268-LA Added Name & Area	7-6-60	S.S.

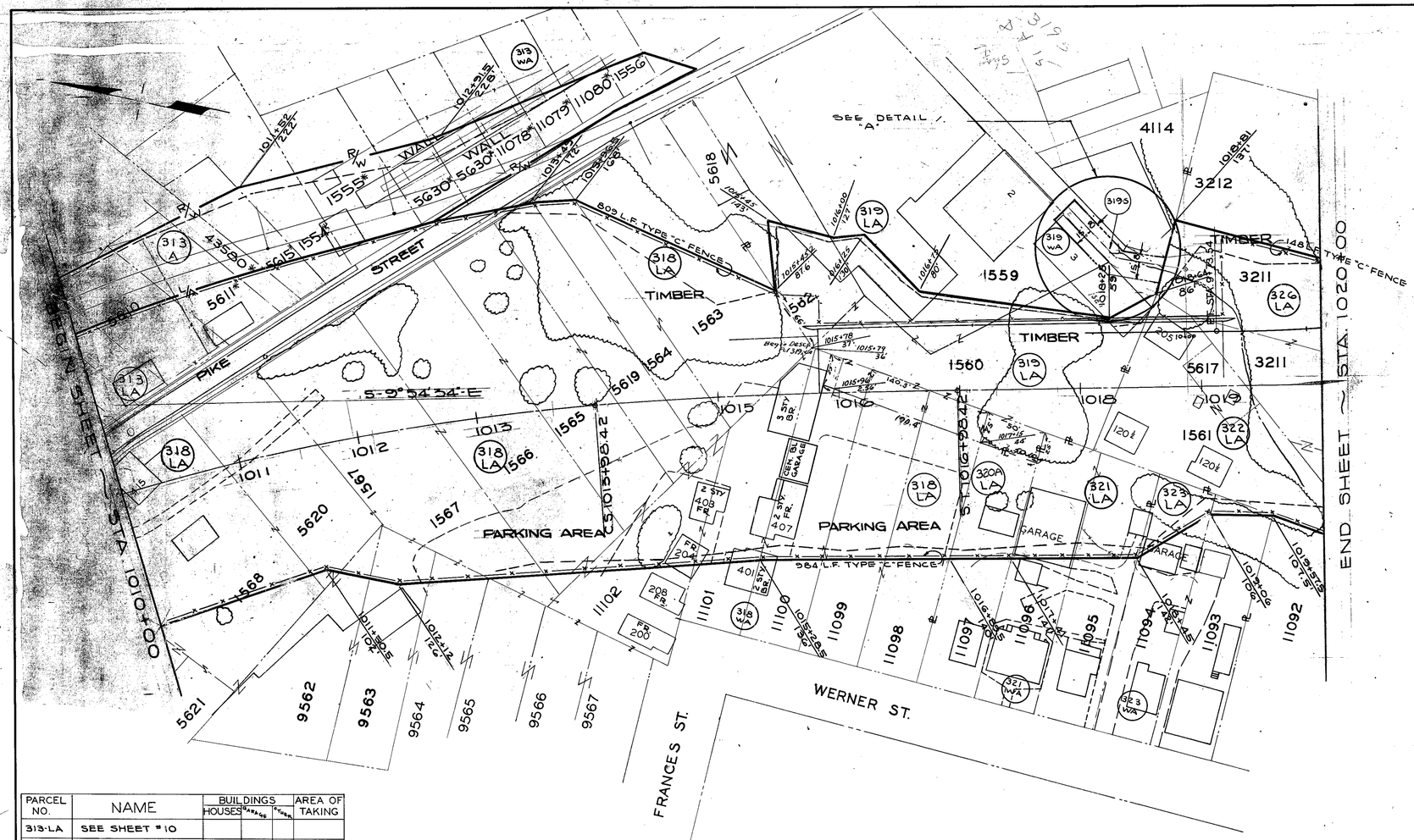
FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

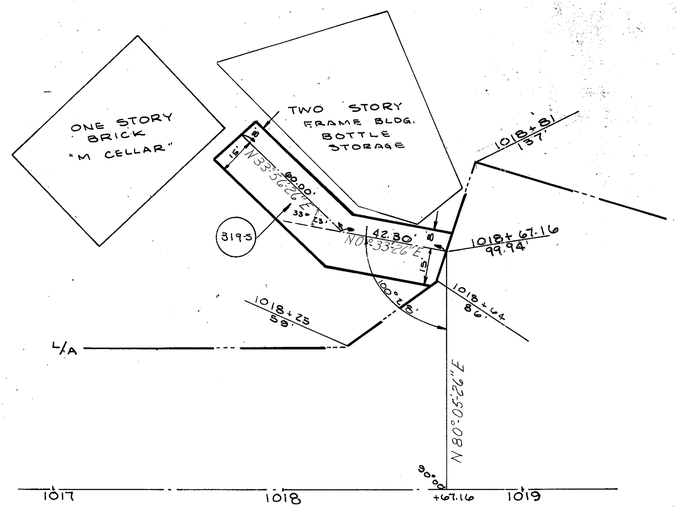
481
492



FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

482
492





DETAIL "A"

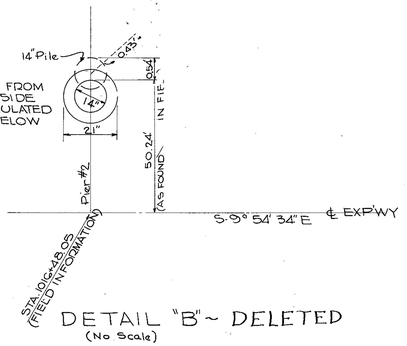
SS-18 - 1793 L.F. TYPE "C" FENCE

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
313-LA	SEE SHEET #10				
318-LA	YOUNGSTOWN HOSP. ASSOC	MISC. BLD'GS.	HOSPITAL BLD'GS.		158,970
319-LA	THE RENNER CO.	BREWERY BUILDINGS			0.754Ac
321-LA	PHILLIP GREIN	2 ST. BR.	18x18 FR.	12x62 C.B.	9,140
322-LA	JOHN BOGGANS, ET AL	1 ST. FR. 2 FR. ABANDONED		SHED	18,780
323-LA	EUGENE & ESTHER RUSNAK	2 ST. FR. 3 ST. BR.	20x18 20x30 18x18	STUCCO FR. BR.	2,600
326-LA	SEE SHEET #12				
320A-LA	ANNA M. PATTERSON	2-ST. FR.	29x16 FR.		4,500

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

NOTE: SEE SHEET FOR INVENTORY.

NOTE:
THE HORIZONTAL CLEARANCE FROM LIMITED ACCESS LINE TO THE OUTSIDE FACE OF THE DRIVEN PILE IS CALCULATED AT A DISTANCE OF 24.50 FEET BELOW GROUND ELEVATION.



DETAIL "B" ~ DELETED
(No Scale)

WORK AGREEMENT		
PARCEL Nº	NAME	DESCRIPTION
323-WA	EUGENE & ESTHER RUSNAK	REMOVE FD'N.
321-WA	PHILLIP GREIN	REMOVE FD'N.
318-WA	YOUNGSTOWN HOSP. ASSOC.	FILL BASEMENT
319-WA	THE RENNER CO.	REMOVE FD'N.
313-WA	SEE SHEET #15	REMOVE SILO'S

Rev. Nº 8, Deleted 319-Aerial, Revised L.A. Line and Area Pcl. 319-LA Per Warranty Deed Vol 1017 Pg 657 & Case Nº 168065 12/16/63

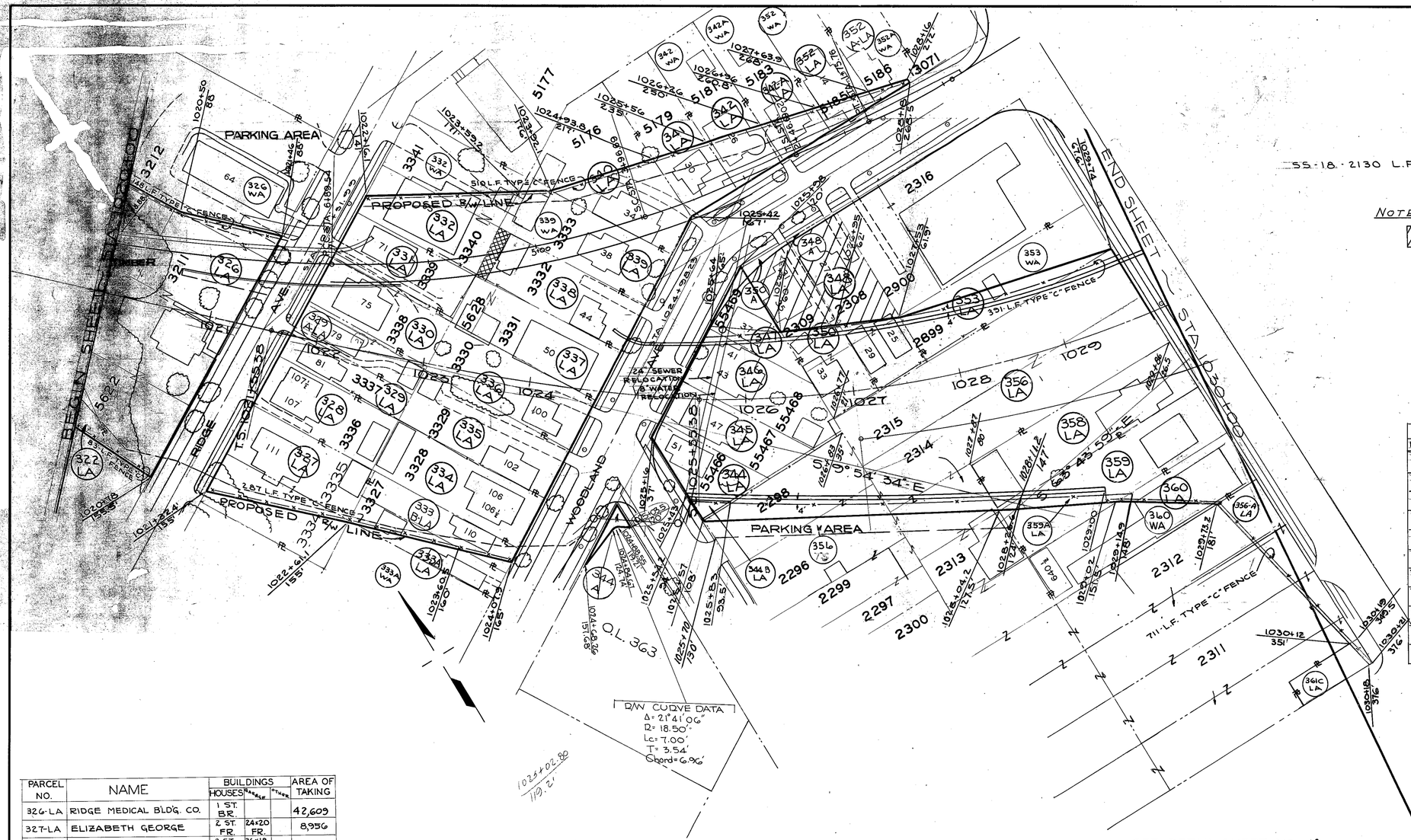
REVISIONS				REVISIONS			DATE COMP.
REV Nº	NATURE	DATE	MADE BY	REV. NO.	NATURE OF REVISION	DATE	MADE BY
#3	ADDED SEWER EASEM'T Pcl 3195	4-10-61	T.J.	#1	ADDED BRIDGE	2-30-59	J.E.P.
#4	ADDED DETAIL "A" Pcl 319 S	4-18-61	T.J.		REVISED PIKE ST.	1-20-60	
#5	ADDED PARCEL 319 AERIAL	11-6-61	T.J.		REVISED ℄ LINE PARCEL 319-LA	1-20-60	
	REVISE AREA OF TAKING PARCEL 319-LA	11-6-61	T.J.	#2	ADDED R - ADDED TOPO	3-29-60	J.D.P.
#6	REVISED PARCEL 319 AERIAL & REVISED AREA OF TAKING, PARCEL 319 LA & 319 AERIAL	12-11-61			Pcl. 320-A-LA ADDED AREA	7-6-60	S.S.
#7	ADDED BUILDING & CROSS HATCHED	4-5-62			Pcl 318-LA Revised Area & Added Tails	10-18-60	S.S.

I-680

R/W SHEET NO. 17 OF 29

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

483
492



SEE DETAIL SHEET No 16 FOR PARCEL 356-LA

WORK AGREEMENT		
PARCEL	NAME	DESCRIPTION
326-WA	RIDGE MEDICAL BLD'G. CO.	REVISE DRIVEWAY
333-WA	JOHN DORLOSAN MARY DORLOSAN	FILL BASEMENT
332-WA	MYRTLE I. MILLER VIRGINIA VIETS CRAMER DOROTHY VIETS GLINES	FILL BASEMENT
342-WA	ELIZABETH HILLOSKY, SR..	FILL BASEMENT
342-A-WA	FLORENCE L. EVANS	FILL BASEMENT
352-WA	LEROY E. BILLIG	FILL BASEMENT
352-A-WA		FILL BASEMENT
350-WA	RALPH A. KELLY ISABELLA M. KELLY	REMOVE FD'N.
353-WA	MORTON, RAYMOND D. & BERNARD WHITE	REMOVE FD'N.
340-WA	HAROLD P. SMITH EMILY E. SMITH	FILL BASEMENT

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
326-LA	RIDGE MEDICAL BLD'G. CO.	1 ST. BR.			42,609
327-LA	ELIZABETH GEORGE	2 ST. FR.	24×20 FR.		8,956
328-LA	LUCY S. MIKITA	2 ST. FR.	36×18 FR.		6,350
329-LA	LESLIE H. SABO ELIZABETH M. SABO	2 ST. FR.			3,409
329-A-LA	M. VERA HERSCHEL	2 ST. FR.	12×16 FR.	10×16 SHED	
330-LA	ANTHONY P. JULIUS	2 ST. FR.			6,250
331-LA	JOSEPH SARISKY	2 ST. FR.			5,686
332-LA	MYRTLE I. MILLER VIRGINIA VIETS CRAMER DOROTHY VIETS GLINES	2 ST. FR.	12×18 FR.	5×14 SHED	6,600
333-A-LA	JOHN DORLOSAN MARY DORLOSAN	2 ST. FR.	12×18 FR.	5×14 SHED	1,250
333-B-LA	GEARLD CARROLL & ALICE CARROLL	2 ST. FR.		8×8 SHED	
334-LA	TUFIC SAADI	1½ ST. FR.	26×16 FR.	22×16 SHED	7,500
335-LA	LALE GRAHOVAC	2 ST. FR.	20×18 FR.		7,500
336-LA	JOSEPH THURIK MARY THURIK	2 ST. FR.			7,500
337-LA	THE INCORPORATED TRUSTEES OF THE GOSPEL WORKER SOC.	2-1 ST. FR.			7,500
338-LA	MILDRED McDONALD	2 ST. FR.	24×20 FR.	10×16 SHED	7,000
339-LA	RALPH A. KELLY ISABELLA M. KELLY	2 ST. FR.	24×18 2 ST. FR.	16×16 SHED	7,344 *
340-LA	CHARLOTTA PISLAK	2 ST. FR.	26×18 2 ST. FR.		5,436
341-LA	JOHN W. TOMALKA, SR. MARY HAZEL TOMALKA	2 ST. FR.			2,875
342-LA	ELIZABETH HILLOSKY, SR.	2 ST. FR.	19×20 FR.		2,225
342-A-LA	FLORENCE L. EVANS	2 ST. FR.	14×18 FR.		1,575

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
344-LA	FRANK JAMES COLLA	2 ST. FR.			3,724
344-A	THE GREEK COMM. AGIOI IOANNIS ORTHODOX CHURCH		39/56		336
345-LA	MARY DEVAN	2 ST. FR.			5,366
346-LA	CLARA ANDERSON	2 ST. FR.	20×20 FR.		7,335
347-LA	FRANK JAMES COLLA	2 ST. FR.			3525
348-LA	JOHN PAUL	3-2 ST. FR.			3,150
350-LA	JOHN BUDAKER ANN BUDAKER	2-2 ST. FR.	12×20 FR.		4,100
352-LA	LEROY E. BILLIG	2 ST. FR.	28×20 20×16		1,025
353-LA	MORTON, RAYMOND D. & BERNARD WHITE	14×12 OFFICE			5,000
352-A-LA	MARY J. COMINOS	2 ST FR			320
356-LA	THE GENERAL ELECTRIC CO.				41,612
358-LA	THE ROAD OF REMEMBRANCE POST #472 AM. LEGION, DEPT. OF OHIO	2 ST. FR.	24×46 FR.		10,750
359-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	2 ST. FR.			7,325
360-LA	HAROLD P. SMITH EMILY E. SMITH	4 ST. FR.			3,950

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
359-A-LA	JAMES E. & WENDELL H. BENNETT IDA JOSEPHINE DAWSON				1050
344-D-LA	FRANK JAMES COLLA				315
361C LA	NORTHERN INVESTMENT COMPANY				SEE R/W SHEET 19
356-A-LA	THE GENERAL ELECTRIC CO.				SEE R/W SHEET 18
356-T5	" " " "				4,960
348-A	THE CITY OF YOUNGSTOWN (FORMERLY JOHN PAUL)				450
350-A	THE CITY OF YOUNGSTOWN (FORMERLY JOHN BUDAKER)				744

REVISIONS		DATE	COMP. BY
REV. NO.	NATURE OF REVISION		
#3	DELETED 322WA, ADDED 342-A-WA		
	& 360-WA, ADDED R, REVISED R/W		
	FENCE	3-29-60	J.D.P.
#4	Parcels 344B-LA, 359-LA Revised	4-12-60	T.A.B.
#5	Parcel 339-LA Revised	4-18-60	T.A.B.
#6	ADDED PCLS. 348A & 350-A & SHOWED FEDERAL PARTICIPATION PER GUZIAK 6-3-68	6-3-68	J.R.B.

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

REVISIONS		DATE	COMP. BY
REV. NO.	NATURE OF REVISION		
#1	ADDED RETAINING WALLS	12-30-59	J.E.P.
	REVISED ¼ AT PARCEL 326 LA	1-20-60	
	ADDED SEWER & PARCELS 355-A-LA & 341 LA.		
	REVISED 356-LA, 358-LA & 360-LA		
	DELETED 361-LA, ADDED W/AS.		
#2	ADDED 346A LA, 347ALA, REV. 352ALA		

Deleted Pcl. 347ALA, Combined with 347LA. 3-4-65
Revised Pcl. 344 A to include the area upon which the proposed sidewalk was constructed 11-19-62 @
ADDED PCL. 356-T5, DELETED 356-WA 2-22-60 S.S.
Parcel 344-A Revised 6-30-60 S.S.
Parcel 339-LA Revised 6-27-60 S.S.

RECEIVED NOV 23 1962 STATE HIGHWAY DEPT. DIV. NO. 1

FED. RD.	STATE	PROJECT	
2	OHIO		

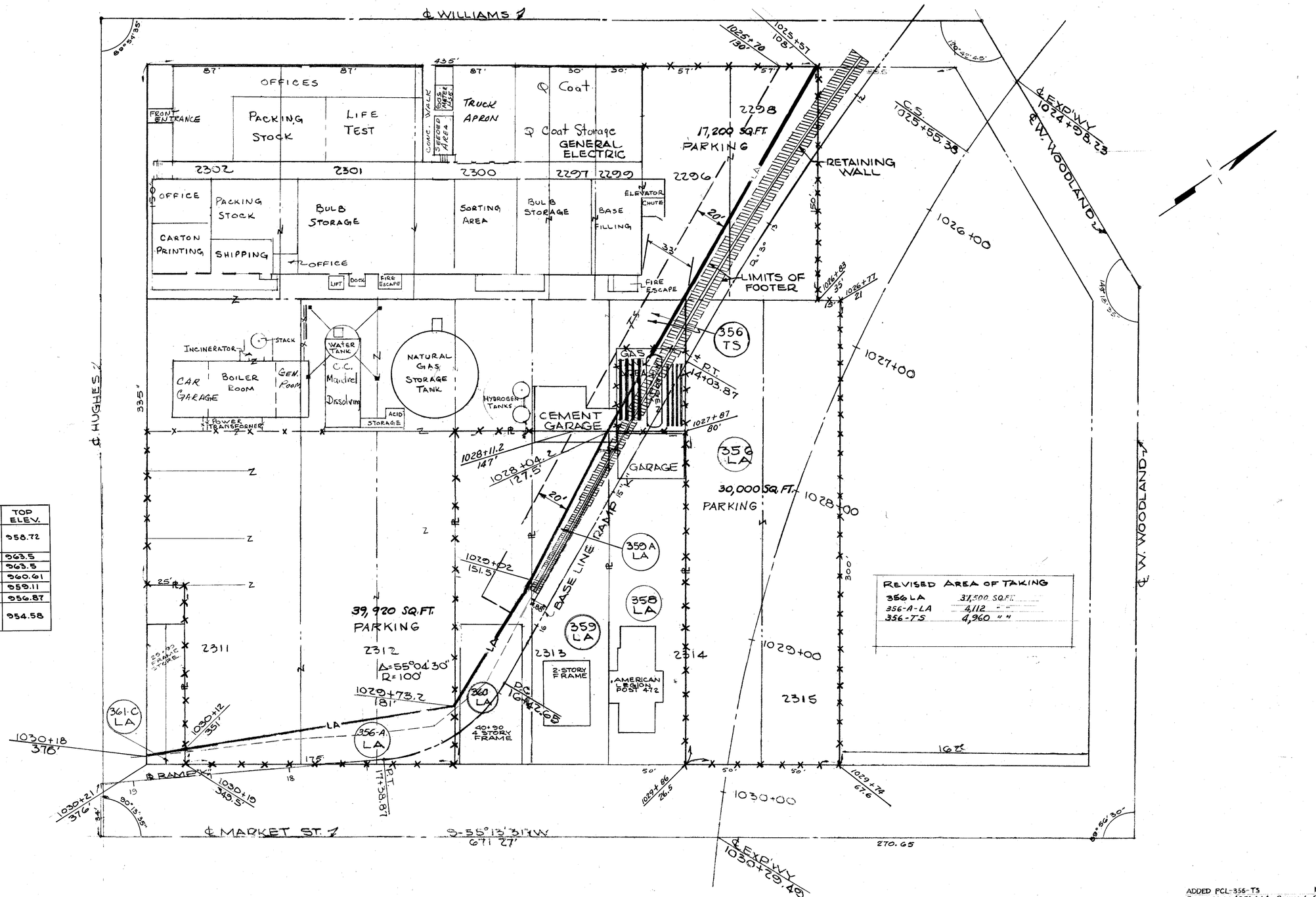
484/492

MAH-18-17.20

PARCEL 356 LA

GENERAL ELECTRIC CO.

SCALE: 1" = 30'



	STATION	GROUND ELEV.	TOP ELEV.
BEGIN RETAINING WALL	11+77.85	935.66	958.72
	12+40	941.28	963.5
	13+00	942.84	963.5
	14+03.87	945.54	960.61
	14+47	946.68	959.11
	15+13	948.40	956.87
END RETAINING WALL	15+81	950.27	954.58

ADDED PCL-356-TS 1-21-61

Rev. 356-LA & 356-A-LA Revised 7-6-60

I-680

R/W SHEET NO. 19 OF 20

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

485
492

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
356-A-LA	THE GENERAL ELECTRIC CO.				SEE R/W SHEET 18
361-C-LA	NORTHERN INVESTMENT COMPANY				125
362-LA	TINCO DE CARPENTIER	2 ST. BR. JOINING	APTS WITH GARAGES	(AD-	31,857
363-LA	RALPH E. GOFF AGNES E. GOFF	1 ST. C.B.			9,750
364-LA	JOHN COMEK MARY COMEK	2 ST. FR.			4,430
365-LA	SARAH KLATMAN HANNAH KLATMAN	2 ST. FR.			2,275
366-LA	FAY KIRKORSKY	2 ST. FR.	20×20 FR.		4,748
367-LA	IDEALIA HOWELL EUALEE HOWELL	2 ST. FR.	18×15 FR.	5×18 SHED	5,080
368-LA	JAMES DAVIS EULA MAE DAVIS	2 ST. FR.	12×18 FR.		5,420
369-LA	CARRIE E. WATSON	2 ST. FR.	18×16 FR.		5,840
370-LA	THE ECONOMY ELECTRIC CO.	3-2 ST. BR. 1 ST. TILE, 1 ST. BR.			3,094
371-LA	DOROTHY MOHN	2 ST. FR.			6,200
372-LA	DEMETRIOS G. MAVRIKIS	2 ST. FR.		5×8 SHED	5,053
373-LA	SOPHIA MARGOLIS	2 ST. FR.			6,507
374-LA	EDWARD PARKMAN MYRTLE L. PARKMAN	2 ST. FR.			5,871
375-LA	JOHN SPANOS ALEXANDRA SPANOS	2 ST. FR.	12×20 FR.	10×12 FR.	5,731
376-LA	MARY H. MENEGAY CLARA L. PAAR	2 ST. FR.	12×16 FR.		6,000
377-LA	NICHOLAS GLAROS NIKI GLAROS	2 ST. FR.	20×18 FR.		6,780
378-LA	JOHN SERINO & MARY MARZULLO	2 ST. FR.	20×16 FR.		5,467
379-LA	ROSE KNABEL	2 ST. FR.			2,650
380-LA	MARY DEVAN	2 ST. FR.	28×16 FR.		8,180
381-LA	HENRY B. GESSAMAN VIRGINIA GESSAMAN	2 ST. FR.	14×18 FR.		3,518
382-LA	NORQUIST LAND CO.				3,468
383-LA	JOHN J. VERNELLO EDNA M. VERNELLO	2 ST. FR.			3,350
383-B-LA	MARY C. CARTWRIGHT MARGARET CONROY	2 ST. FR.	13×21 C.B.		3,252
384-LA	WILMA V. GING	5-2 ST. FR.	10×16 FR.		6,090
387-LA	THE BOARD OF EDUCATION OF YOUNGSTOWN CITY SCHOOL DIST.	BRICK SCHOOL BLDG.			26,418

55-18 2438 L.F. TYPE "C" FENCE

BEGIN SHEET STA. 1030+00

END SHEET STA. 802+00

MARKET STREET

HAYES AVE

FULTON STREET

MARL Z STREET

PROJECT END MAH-18-17.80

PROJECT BEG. MAH-7-14.20

PARKING AREA

RAMP "N"

TEMPORARY CONSTRUCTION LIMITS

THIS RIGHT-OF-WAY ACQUIRED UNDER PROJECT MAH-7-14.80

4076 L.F. TYPE "C" FENCE

482 L.F. TYPE "C" FENCE

610 L.F. TYPE "C" FENCE

Temporary Easement Line

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

TEMPORARY EASEMENTS AREAS
370-T 5213 Sq Ft.
372-T 616 Sq Ft.

WORK AGREEMENT

PARCEL No.	NAME	DESCRIPTION
433-A-WA	RUTH . B. ROBINS	REMOVE FDT'N.
433-WA	WILLIE JAMES TALLEY	FILL BASEMENT
432-WA	JEAN WEISER ANDREW ROSENFELD	FILL BASEMENT
431-WA	ARNALD & CATHERINE HOWELL	FILL BASEMENT
430-WA	JOHN McCARTY SCHWARTZ	FILL BASEMENT
429-WA	GRANT BARNETT JOSEPHINE BARNETT	FILL BASEMENT
406-B-WA		FILL BASEMENT
378-WA	JOHN SERINO & MARY MARZULLO	FILL BASEMENT
379-WA	ROSE KNOBEL	FILL BASEMENT
362-WA	TINCO DE CARPENTIER	FILL BASEMENT
370-WA	THE ECONOMY ELECTRIC CO.	REMOVE FDT'N. & GRADE AREA
384-WA	WILMA V. GING	FILL BASEMENT

REVISIONS		DATE COMP.	
REV. NO	NATURE OF REVISION	DATE	MADE BY
8	REVISED AREA OF TAKING, FENCE CONSTRUCTION LIMITS & L/A LINE	9/18/61	T.J.
	PARCELS 373-LA, 374-LA, 375-LA, 380-LA 381-LA, 382-LA, 383-LA, 383-B-LA, 384-LA		
9	Added Parcels 370-T, 372-T & Areas	1-11-62	GF

REVISIONS		DATE COMP.	
NO.	NATURE OF REVISION	DATE	MADE BY
#1	ADDED PARCEL 393-A-LA (LAND CONTRACT SALE)	9-17-59	
#2	REVISED PARCELS 390-A-LA, 391-A-LA	11-27-59	
#3	REVISED PARCEL 363-LA	12-11-59	
#4	ADDED RETAINING WALL	12-30-59	J.E.P.
#5	REV. 372-LA, 373-LA, 374-LA, 375-LA, 376-LA, 380-LA		
	381-LA, 382-LA, 383-LA, 383-B-LA, 384-LA, 387-LA		
	ADDED WORK AGREEMENTS		
	PCL. 372-LA, 373-LA, ADDED WORK		
#6	ADDED 384-WA - INCLUDED GRADING		
	UNDER 370-WA - ADDED R.	3-30-60	J.D.P.
#7	ADDED PARCEL 393-A-LA	12-15-60	R.H.

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
390-LA	FREDRIKA I. BOGGS MINTER B. BOGGS	2 ST. FR.	12×18 FR.		3,750
* 390-A-LA	JAMES WALSH JR.				
391-LA	ROSE EVELYN STRAWDERMAN	2 ST. FR.			2,000
* 391-A-LA	MILTON KIBBLE MARY LOU KIBBLE				
392-LA	GIUSEPPE CHIRCHIGLIA ROSE CHIRCHIGLIA	2 ST. FR.			2,000
393-LA	FAY KIRKORSKY	2 ST. FR.			1,875
394-LA	MATTIE B. TERRELL	2 ST. FR.			3,750
395-LA	EVA WILLIAMS ROBERT WILLIAMS	2 ST. FR.	12×16 TILE		3,750
397-LA	CHESTER V. LONG MARGARET F. LONG	3 ST. FR. APT.			3,875
406-LA	CLOYDE JAMES FRY ROBERTA MARIAN FRY	2 ST. FR.	9×20 18×24		4,800
* 406-A-LA		2-2 ST. FR.	6-4×20		
* 406-B-LA		2 ST. FR.			

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
407-LA	LOUIS HARRINGTON JULIA HARRINGTON	3-2 ST. FR.			10,593
425-LA	SOPHIE COHEN	3 ST. BR. 2 ST. BR.	6-0×16 FR.		10,923
426-LA	GEORGE BRADLEY FRANCES JUNE BRADLEY	2 ST. FR.			5,958
427-LA	HELEN BUGNO	2 ST. FR.			4,377
428-LA	EDWARD WILLIAMS J. B. WILLIAMS	1 ST. FR.			2,160
429-LA	GRANT BARNETT JOSEPHINE BARNETT	1 ST. FR.			1,485
430-LA	JOHN McCARTY SCHWARTZ	2 ST. FR.			592
431-LA	ARNOLD & CATHERINE HOWELL	2 ST. FR.			543
432-LA	JEAN WEISER ANDREW ROSENFELD				464
433-LA	WILLIE JAMES TALLEY	2 ST. FR.			342
433-A-LA	RUTH B. ROBINS	2 ST. BR. WAREHOUSE			3,231
393-A-LA	F. KIRKORSKY & C. & E. BENTLEY	2 ST. FR.			1,875

FED. RD	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

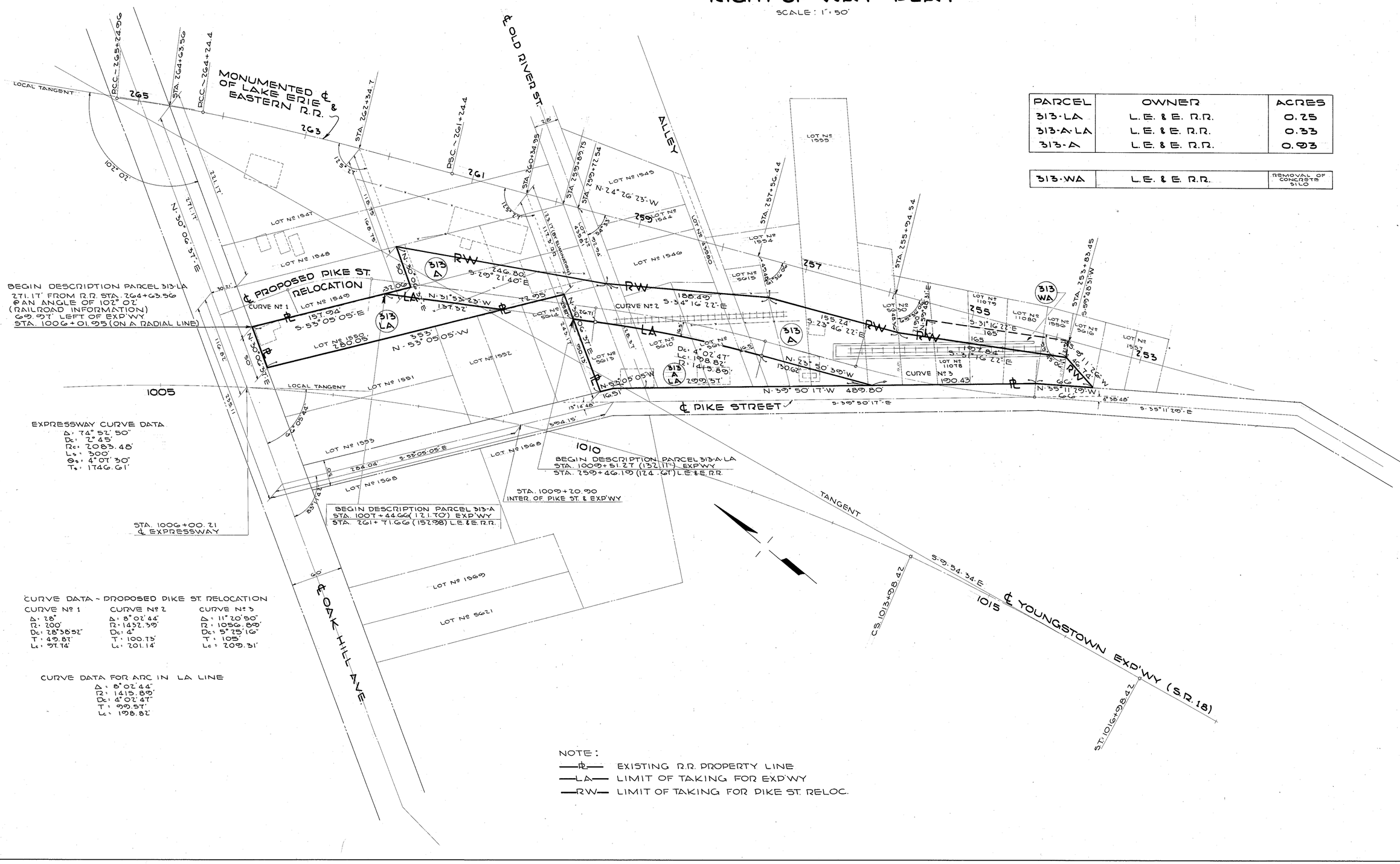
486
492

LAKE ERIE & EASTERN RAILROAD RIGHT-OF-WAY PLAT

SCALE: 1" = 50'

PARCEL	OWNER	ACRES
313-LA	L. E. & E. R.R.	0.25
313-A-LA	L. E. & E. R.R.	0.33
313-A	L. E. & E. R.R.	0.93

313-WA	L. E. & E. R.R.	REMOVAL OF CONCRETE SILO



BEGIN DESCRIPTION PARCEL 313-LA
271.17' FROM R.R. STA. 264+63.56
@ AN ANGLE OF 102° 02'
(RAILROAD INFORMATION)
69.97' LEFT OF EXP'WY
STA. 1006+01.95 (ON A RADIAL LINE)

CURVE DATA - PROPOSED PIKE ST. RELOCATION

CURVE Nº 1	CURVE Nº 2	CURVE Nº 3
Δ: 28°	Δ: 8° 02' 44"	Δ: 11° 20' 50"
R: 200'	R: 1432.39'	R: 1056.88'
Dc: 28° 38' 52"	Dc: 4°	Dc: 5° 25' 16"
T: 49.87'	T: 100.73'	T: 105'
Lc: 97.74'	Lc: 201.14'	Lc: 209.31'

CURVE DATA FOR ARC IN LA LINE
Δ: 8° 02' 44"
R: 1415.89'
Dc: 4° 02' 47"
T: 99.57'
Lc: 198.82'

NOTE:
—℄— EXISTING R.R. PROPERTY LINE
—LA— LIMIT OF TAKING FOR EXP'WY
—RW— LIMIT OF TAKING FOR PIKE ST. RELOC.

I-680 R/W SHEET 21 of 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

487
492

BALTIMORE & OHIO RAILROAD RIGHT-OF-WAY PLAT

SCALE: 1"=100'

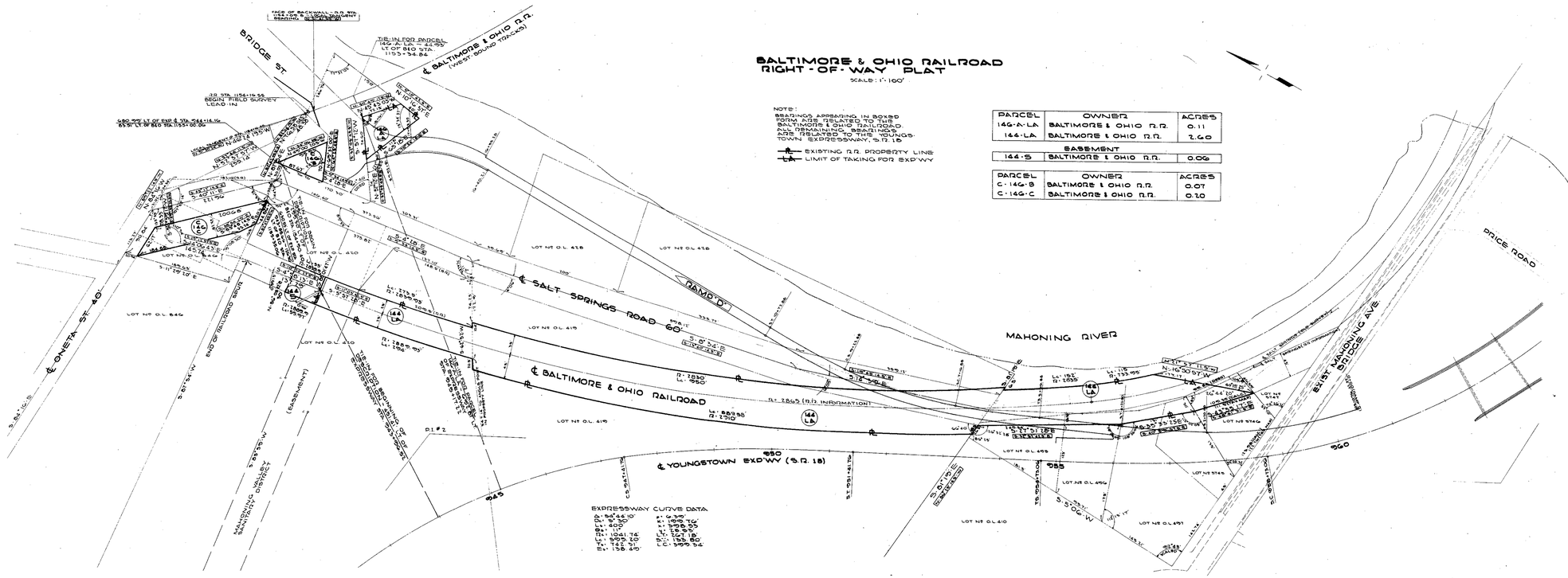
NOTE:
BEARINGS APPEARING IN BOXED PORTION ARE RELATED TO THE BALTIMORE & OHIO RAILROAD. ALL REMAINING BEARINGS ARE RELATED TO THE YOUNGSTOWN-TOWN EXPRESSWAY, S.R. 18.

EXISTING R.R. PROPERTY LINE
LIMIT OF TAKING FOR EXP'WY

PARCEL	OWNER	ACRES
146-A-LA	BALTIMORE & OHIO R.R.	0.11
164-LA	BALTIMORE & OHIO R.R.	2.60

EASEMENT		
144-S	BALTIMORE & OHIO R.R.	0.06

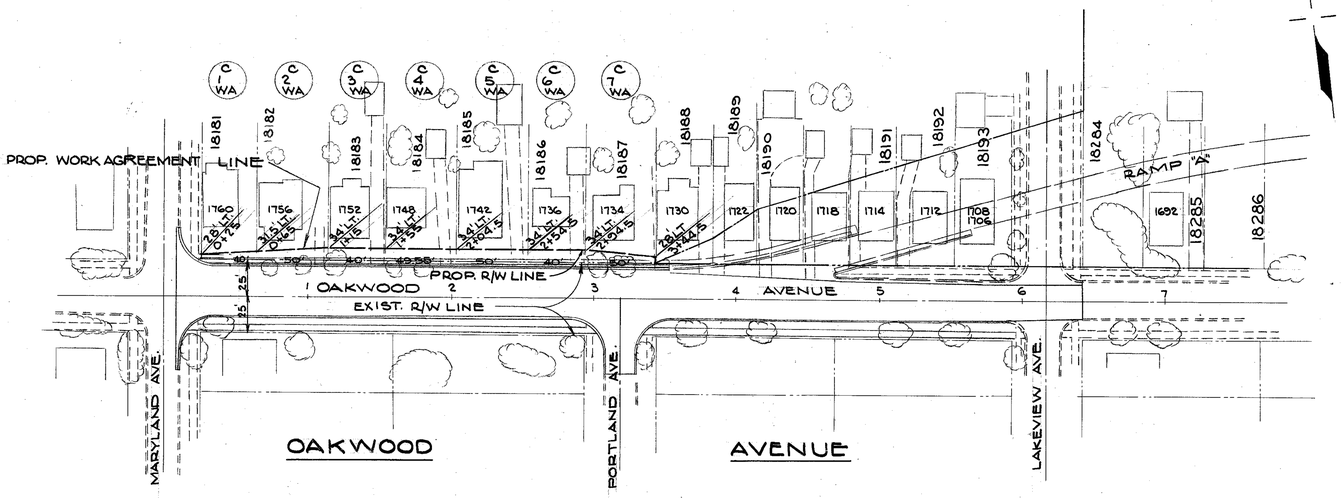
PARCEL	OWNER	ACRES
C-146-B	BALTIMORE & OHIO R.R.	0.07
C-146-C	BALTIMORE & OHIO R.R.	0.10



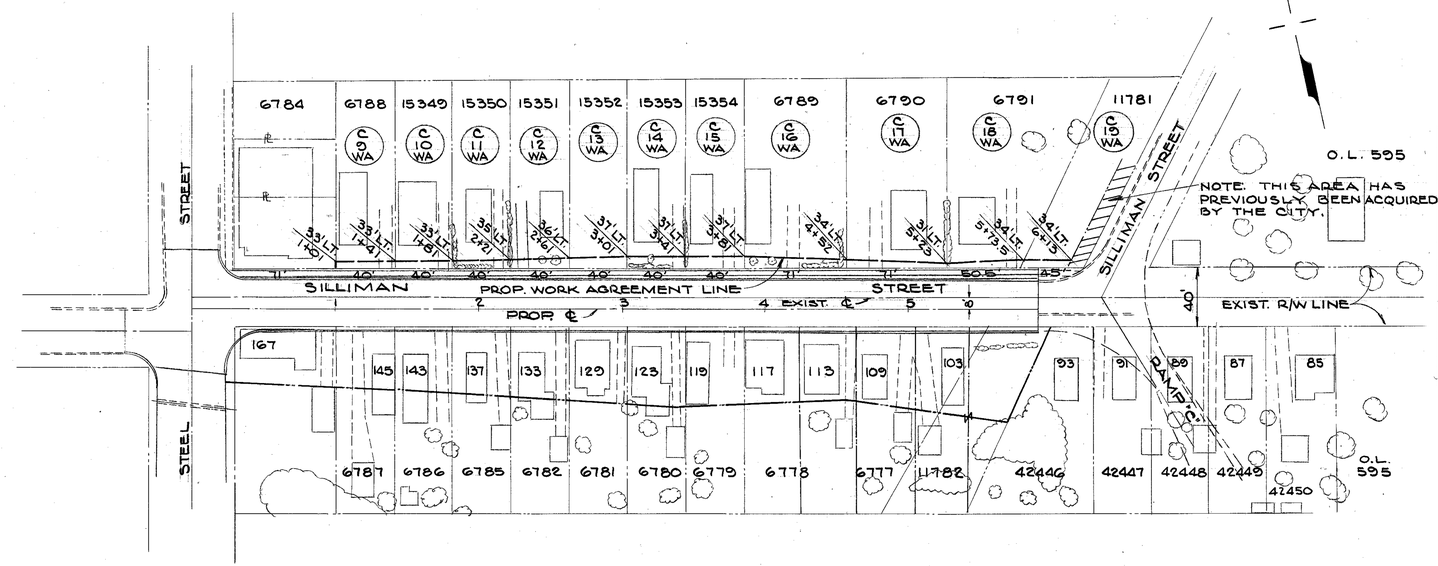
Revised 7/11/60 R.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

488
492



RIGHT-OF-WAY OAKWOOD AVENUE					
PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-1WA	18181	MARGARET C. BOWREY		YES		HEDGE
C-2WA	18182	ELIZ. LESKO ZAVACAN		YES	YES	CONC. STEPS
C-3WA	18183	JOHN & WASYLYNA IWANIUK		YES	YES	WALL
C-4WA	18184	THEO. & NANCY HASSAY		YES	YES	CONC. STEPS
C-5WA	18185	KOLAR & KURTA		YES	YES	CONC. STEPS
C-6WA	18186	GUSSIE L. HEYMAN		YES	YES	
C-7WA	18187	CHARLES & FLO L. PALISEN		YES	YES	



RIGHT-OF-WAY SILLIMAN STREET					
PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-9WA	6788	CHAS. & JUSTINE SEREDNESKY		YES	YES	
C-10WA	15349	MARY KNAPIK		YES	YES	
C-11WA	15350	JOHN & SOPHIE TOPORCER		YES	YES	
C-12WA	15351	JOHN LEJBA		YES	YES	
C-13WA	15352	ALEX & ADA HODORY		YES		
C-14WA	15353	MARY & JOHN SKLEPKO		YES	YES	
C-15WA	15354	PAUL & MARY KISSEL		YES	YES	
C-16WA	6789	MARY PODRAEZKY		YES	YES	
C-17WA	6790	JOHN & HELEN NESTERUK		YES	YES	
C-18WA	6791	PAUL & JULIA ANTEL		YES	YES	
C-19WA	11781	CHARLES F. SEMPLE		YES		
C-B	6784	CHARLES SR & CHRISTINA SEREDNESKY				

REVISIONS			DATE COMP.
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	DELETED PARCELS C-1A, C-2A, C-3A C-4A, C-5A, C-6A, C-7A	3-30-60	J.D.P.
# 2	REVISED R/W LINE ON OAKWOOD	4-4-60	J.D.P.

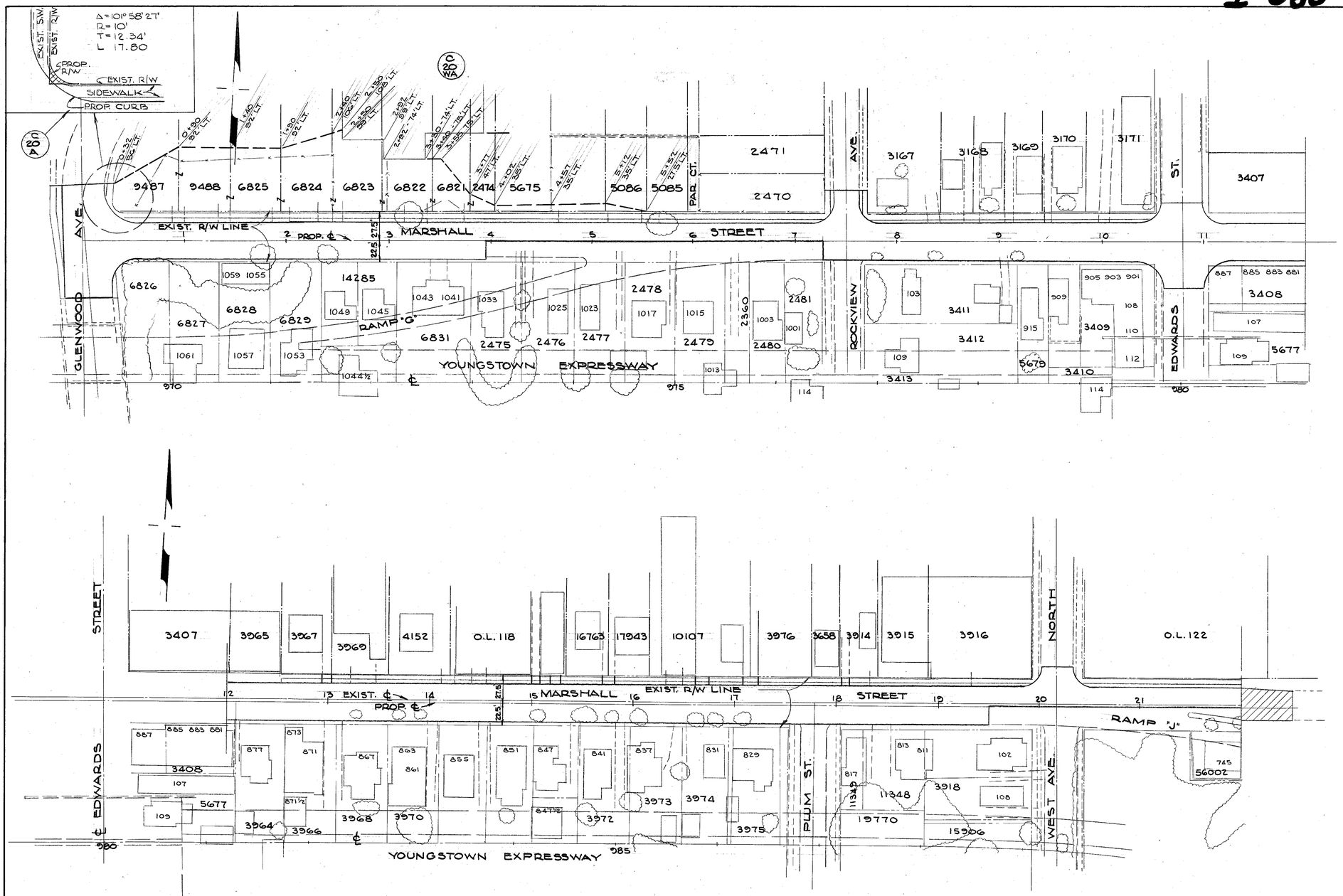
-LEGEND-
EXISTING R/W ———————
PROPOSED R/W ———————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — —

SILLIMAN STREET

R/W OAKWOOD AVE. & SILLIMAN ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

483
492



RIGHT-OF-WAY MARSHALL STREET

PARCEL No.	LOT No.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK SLOPE	AGREEMENT DRIVEWAY	OTHER	
C-20A	9487	THE ISALY DAIRY CO.	34.4 SQ. FT.	YES	YES		
C-20WA		" " " "		YES			

REVISIONS

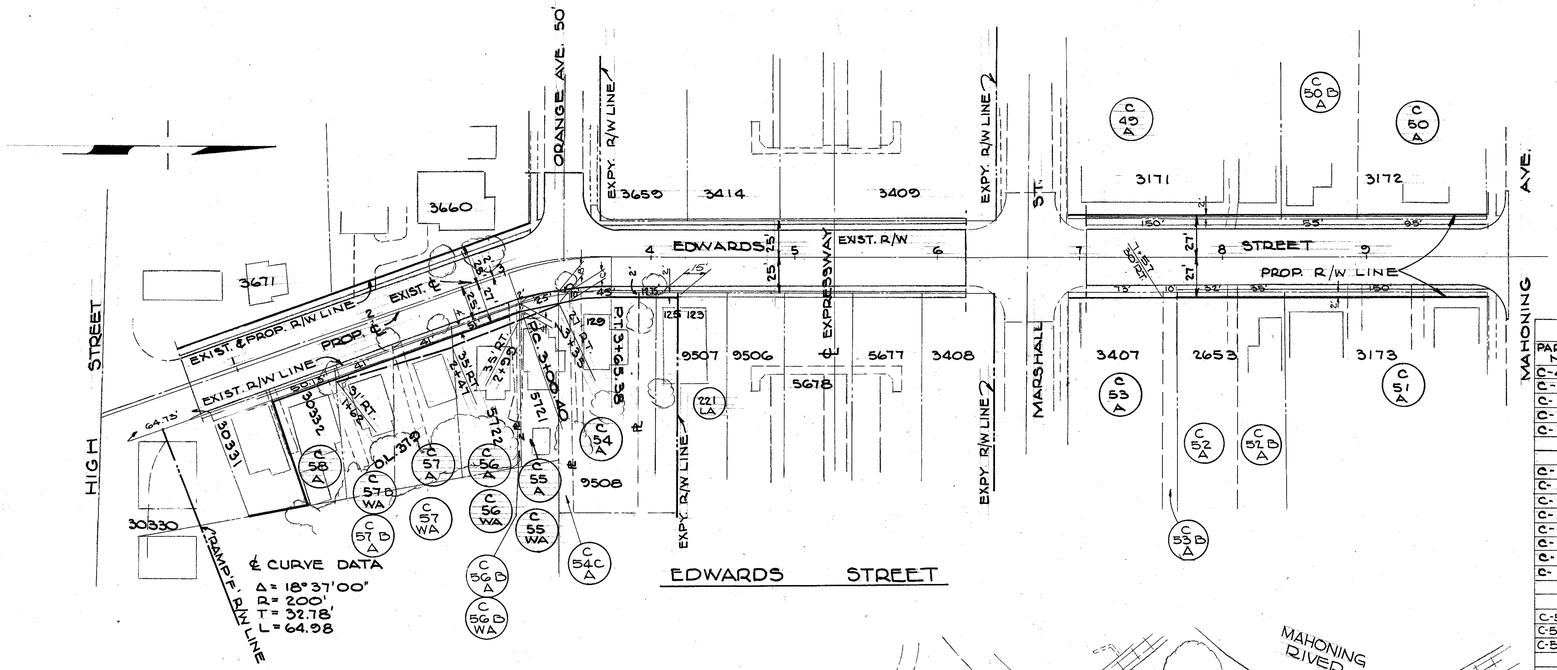
REV. NO.	NATURE OF REVISION	DATE	DATE COMP. MADE BY
#1	DELETED PARCEL C-21-WA		

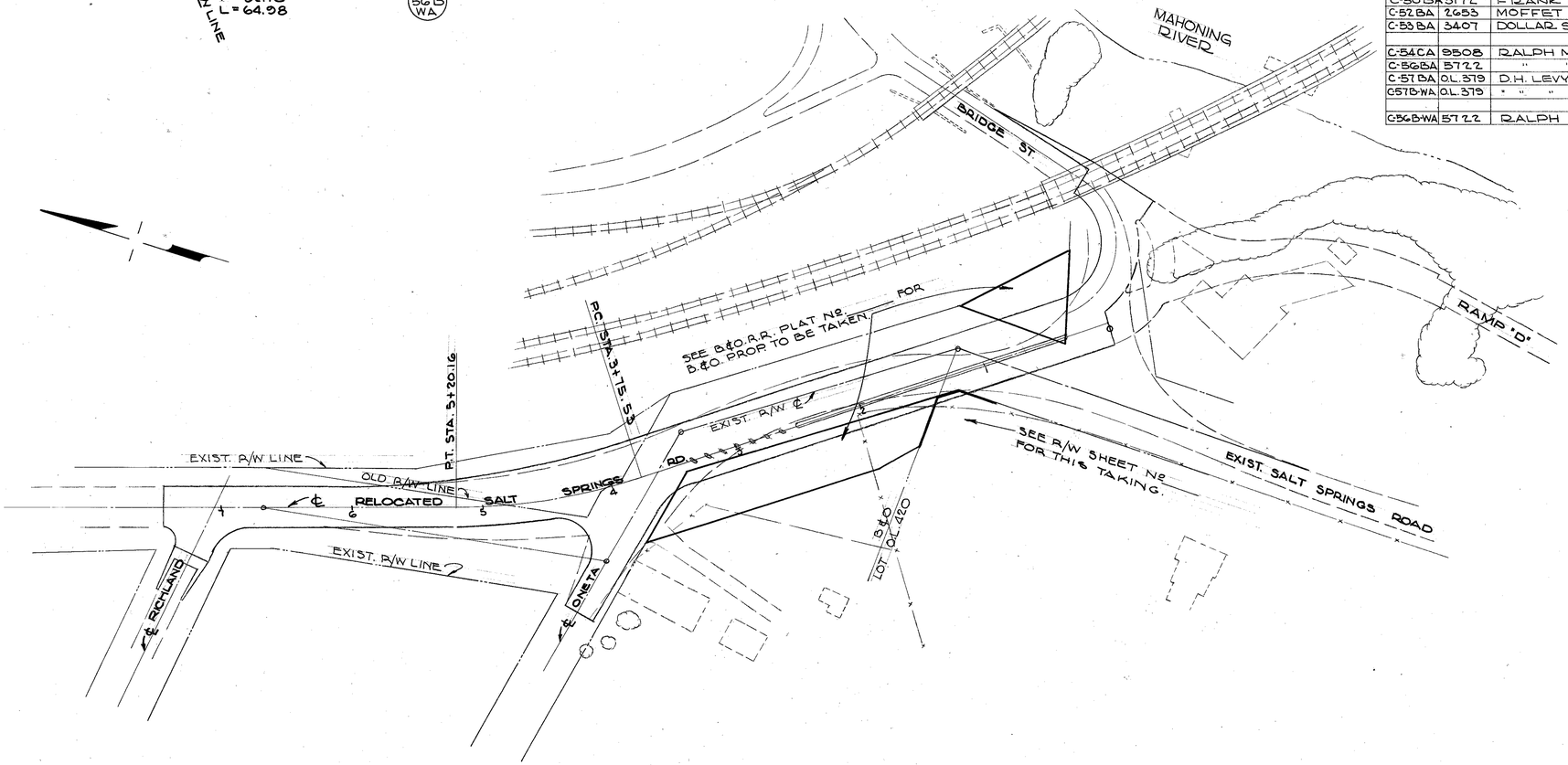
-LEGEND-
EXISTING R/W
PROPOSED R/W
SLOPE EASEMENT & WORK AGREEMENT LIMITS

R/W MARSHALL ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

490
492





RIGHT-OF-WAY EDWARDS STREET

PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-49A	3171	FLORENCE MACE	300 SQ. FT.			
C-50A	3172	MILITARY ORDER OF COOTIE, PUP TENT #5	100 SQ. FT.			
C-51A	3173	GEORGE A. GREIN	300 SQ. FT.			
C-52A	2653	ISALY DAIRY CO.	64 SQ. FT.			
C-53A	3407	ISALY DAIRY CO.	146 SQ. FT.			
C-54A	9508	BENJAMIN F. LEWIS	180 SQ. FT.			
C-55A	5721	RALPH M. McCRACKEN	150 SQ. FT.			
C-55WA	5721	" " "		YES		
C-56A	5722	LEONA LOUISE CALER	204 SQ. FT.			
C-56WA	5722	" " "		YES	YES	
C-57A	OL 379	CALVIN & MARTHA WESTON	164 SQ. FT.			
C-57WA	OL 379	" " "		YES	YES	
C-58A	30332	NAPOLEAN & DOROTHY BURT	200 SQ. FT.			
C-50BA	3172	FRANK P. SANDERS	110 SQ. FT.			
C-52BA	2653	MOFFET L.T. & B	70 SQ. FT.			
C-53BA	3407	DOLLAR SAVINGS & TRUST CO.	20 SQ. FT.			
C-54CA	9508	RALPH M. McCRACKEN	70 SQ. FT.			
C-56BA	5722	" " "	8 SQ. FT.			
C-57BA	OL 379	D.H. LEVY & S. DUNGER	164 SQ. FT.			
C57B-WA	OL 379	" " " "		YES	YES	
C56B-WA	5722	RALPH M. McCRACKEN		YES		

-LEGEND-
EXISTING R/W ————————
PROPOSED R/W ————————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — — —

RIGHT-OF-WAY SALT SPRINGS ROAD

PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT

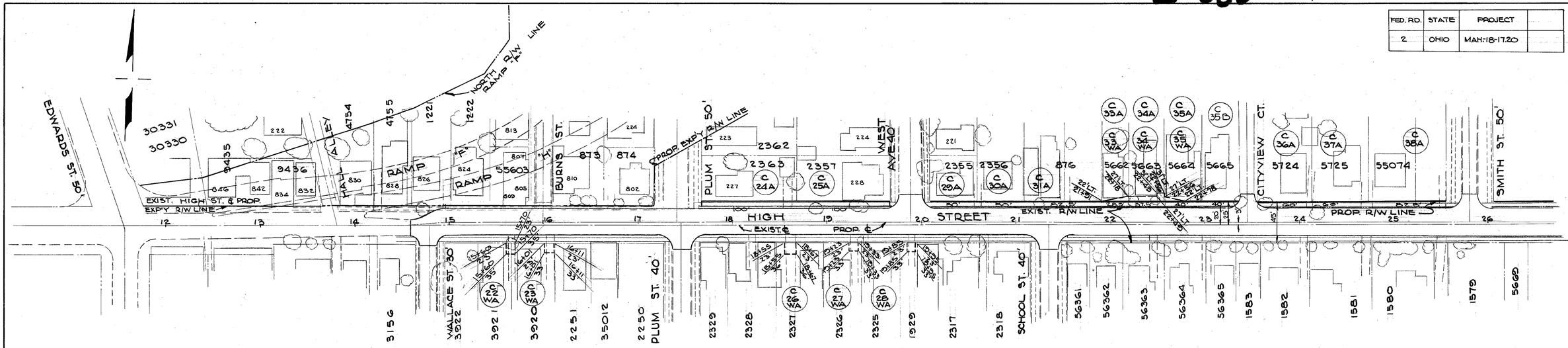
REVISIONS

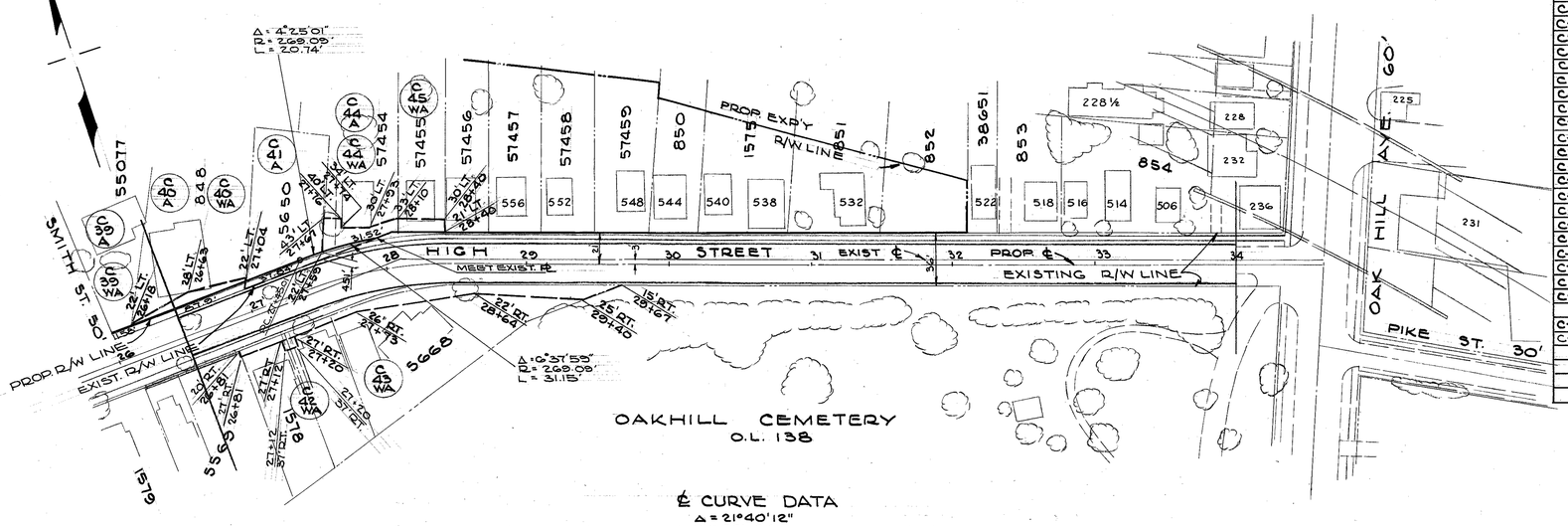
REV. NO.	NATURE OF REVISION	DATE	MADE BY	DATE COMP.
# 1	DELETED - C-55-A, C-53-B-WA, C-53-WA 221-A, C-54-BA	3-31-60	J.D.P.	

R/W EDWARDS ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

491
492





℄ CURVE DATA

Δ = 21°40'12"
R = 261.24'
T = 50.00'
L℄ = 98.80'

-LEGEND-

EXISTING R/W ————————
PROPOSED R/W ————————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — — —

RIGHT-OF-WAY HIGH STREET

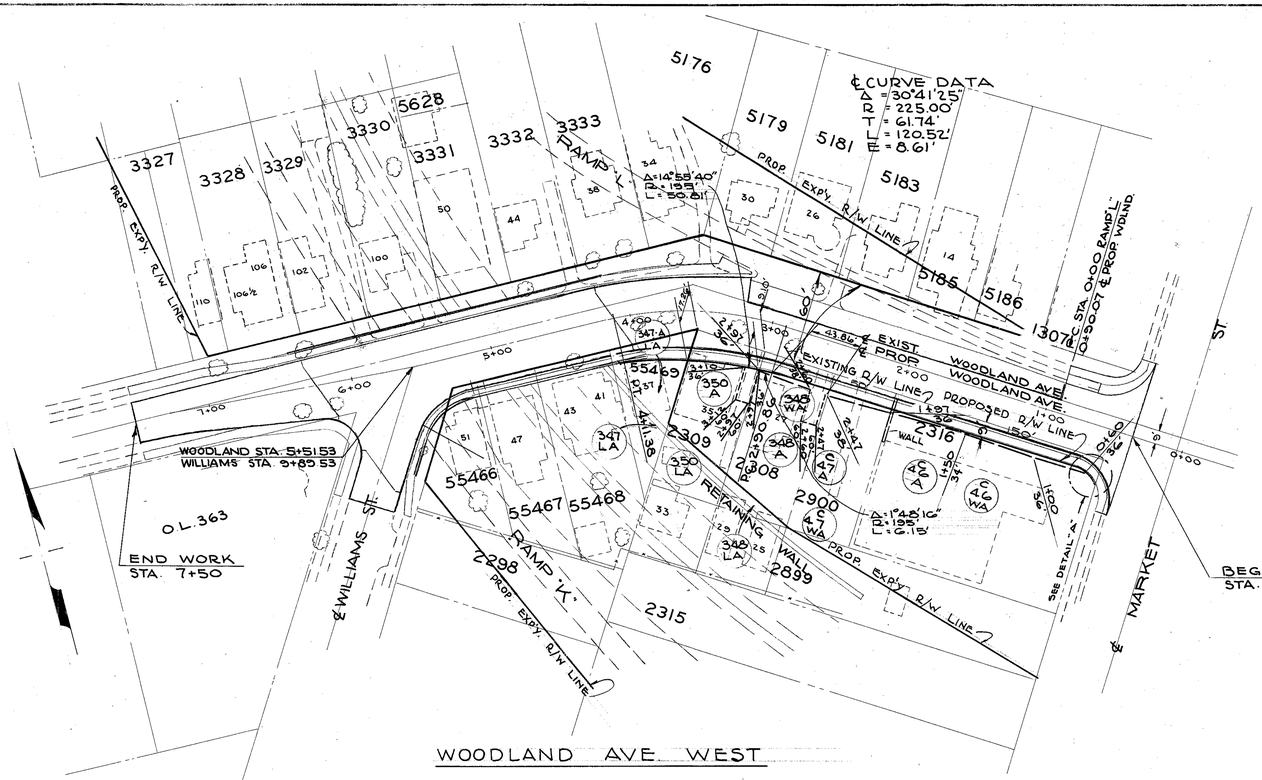
PARCEL NO	LOT NO	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	WORK AGREEMENT DRIVEWAY	WORK AGREEMENT OTHER
C-22WA	3921	T. SAADI			YES	
C-23WA	3920	T. SAADI			YES	
C-24A	2363	EXIE SCRUGGS	500 SQ. FT.			
C-25A	2357	EMMA JANE MCCORKLE	500 SQ. FT.			
C-26WA	2327	CLIFTON DOUGLAS-LUCY ANN PARKER			YES	
C-27WA	2326	RUBY B. CHEIRS			YES	
C-28WA	1929	HATTIE BRADLEY			YES	
C-29A	2355	J.B. & H. COLLIER	250 SQ. FT.			
C-30A	2356	LAWRENCE & BEATRICE SMITH	250 SQ. FT.			
C-31A	876	TOFFIC SAADI	415 SQ. FT.			
C-33A	5662	WALTER & WILLO LEE FLIPPING	143 SQ. FT.			
C-33WA	5662	" " " "		YES		RETAIN. WALL
C-34A	5663	IDA BELLE PEARSON	188 SQ. FT.			
C-34WA	5663	" " "		YES	YES	
C-35A	5664	MARY CANNELL	200 SQ. FT.			
C-35WA	5664	" "		YES		CONC. STEPS
C-36A	5724	ANNA CENTRIC	300 SQ. FT.			
C-37A	5725	ALVIN & JOSEPHINE CLARK	300 SQ. FT.			
C-38A	55074	ANDERSON & OLA MAE JOHNSON	415 SQ. FT.			
C-39A	55077	MATTIE HART	57 SQ. FT.			
C-39WA	55077	" "		YES		
C-40A	848	CLARA WASHINGTON	437 SQ. FT.			
C-40WA	848	" "		YES		
C-41A	5650	UNION NATIONAL BANK TRUST	256 SQ. FT.			
C-42WA	1578	DOZIER RENAH-JAMES JACKSON		YES		
C-43WA	5668	EMIL E. RESTLE		YES		
C-44A	57454	LINDSAY CARRIE	71 SQ. FT.			
C-44WA	57454	" "		YES	YES	
C-45WA	57455	" " "		YES		
C-35B	5665		200 SQ. FT.			

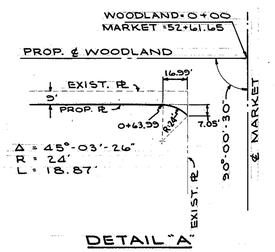
REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	REVISED AREA OF TAKING PC'LS. C-24-A C-25-A, C-34-A, C-41-A, C-44-A		

R/W HIGH ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

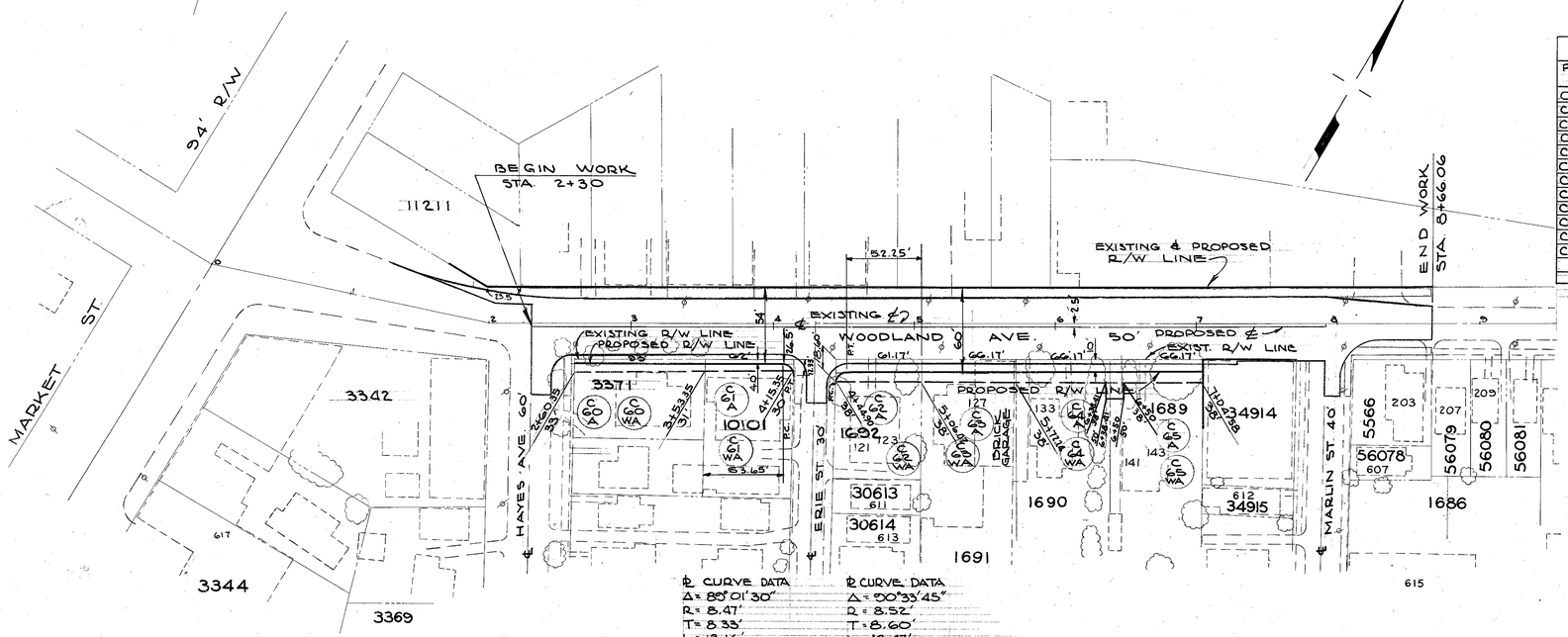
492/492





RIGHT OF WAY WOODLAND AVE. WEST

BUILDINGS	PARCEL NO.	LOT NO.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
	C-46A	2316	NATIONAL CITY BANK OF CLEVE., TR.	1370 SQ. FT.			
	C-46WA	2316	" " " " "		YES	YES	WALL
	C-47A	2000	FIRESTONE TIRE & RUBBER, AKRON, OHIO	450 SQ. FT.			
	348A	2308	JOHN PAUL	450 SQ. FT.			
	348WA	2308	" "		YES	YES	
PORCH	350A	2300	JOHN & ANN BUDAKER	744 SQ. FT.			
	350-WA	2305	"			YES	
	C-47WA	2000	FIRESTONE TIRE & RUBBER, AKRON, OHIO		YES		



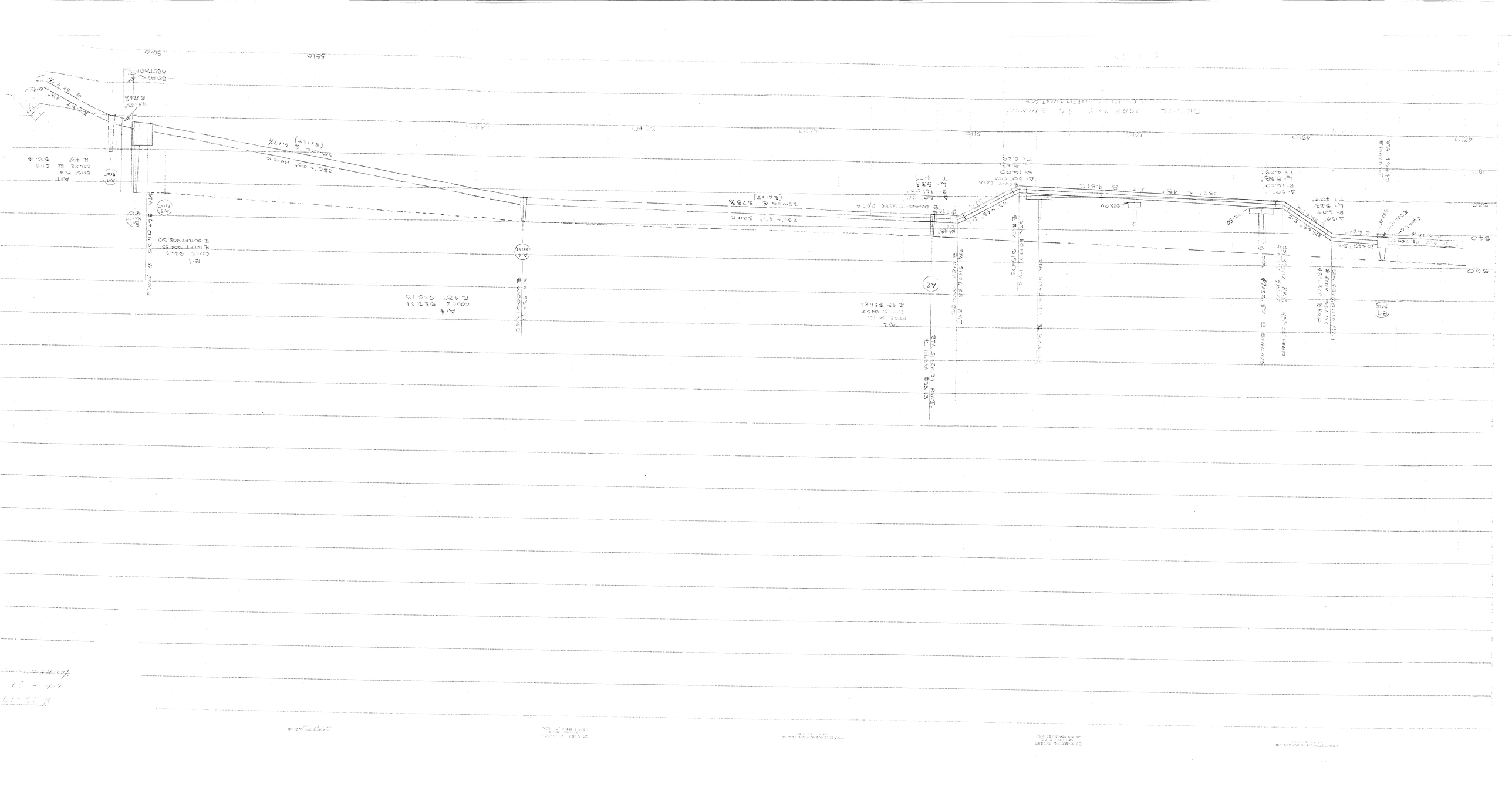
RIGHT OF WAY WOODLAND AVE. EAST

PARCEL NO.	LOT NO.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-60A	3371	THEO. R. CLAPP	372 SQ. FT.			
C-60WA	3371	" " "		YES		
C-61A	10101	FRED SHUTRUMP	268 SQ. FT.			
C-61WA	10101	" "		YES		
C-62A	1692	BEATRICE B. LOPEZ	630 SQ. FT.			
C-62WA	1692	" " "		YES		
C-63A	1691	NATHAM DARSKY	662 SQ. FT.			GARAGE
C-63WA	1691	" "		YES		
C-64A	1690	FRED WALLACE HUGHES	662 SQ. FT.			
C-64WA	1690	" " "		YES		
C-65A	1689	GEORGE & K. KONIESCKY	662 SQ. FT.			
C-65WA	1689	" " " "		YES	YES	

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	ADDED 350-WA; ADDED W/A FOR DRIVES FOR C-348-WA, C-65-WA. DELETED C-66-A	3-31-60	J.D.P.

-LEGEND-
EXISTING R/W ———
PROPOSED R/W ———
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — —

R/W WOODLAND AVE. WEST & EAST



R/W SHEET 1 OF 26 18-MAH-17.20

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-18-17.20

467
492

LOCATION PLAT

MAH 18-17.20 & MAH 7-14.80

MAHONING COUNTY

CITY OF YOUNGSTOWN

SCALE: 1"= 500'

CURVE DATA No. 1

P. I. Sta.
Δ = 43° 47' 40" Lt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 621.04'
P = 6.39' Es = 87.89'
K = 199.76' Lc = 396.26'
X = 398.53' Δc = 21° 47' 40"

CURVE DATA No. 2

P. I. Sta.
Δ = 54° 44' 10" Rt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 742.31'
P = 6.39' Es = 138.49'
K = 199.76' Lc = 595.20'
X = 398.53' Δc = 32° 44' 10"

CURVE DATA No. 3

P. I. Sta.
Δ = 60° 43' 03" Lt. Y = 25.53'
Dc = 5° 30' 00" L.T. = 267.18'
Ls = 400.00' S.T. = 133.80'
Rc = 1041.74' L.C. = 399.34'
θs = 11° 00' 00" Ts = 813.68'
P = 6.39' Es = 172.95'
K = 199.76' Lc = 703.95'
X = 398.53' Δc = 38° 43' 03"

CURVE DATA No. 4

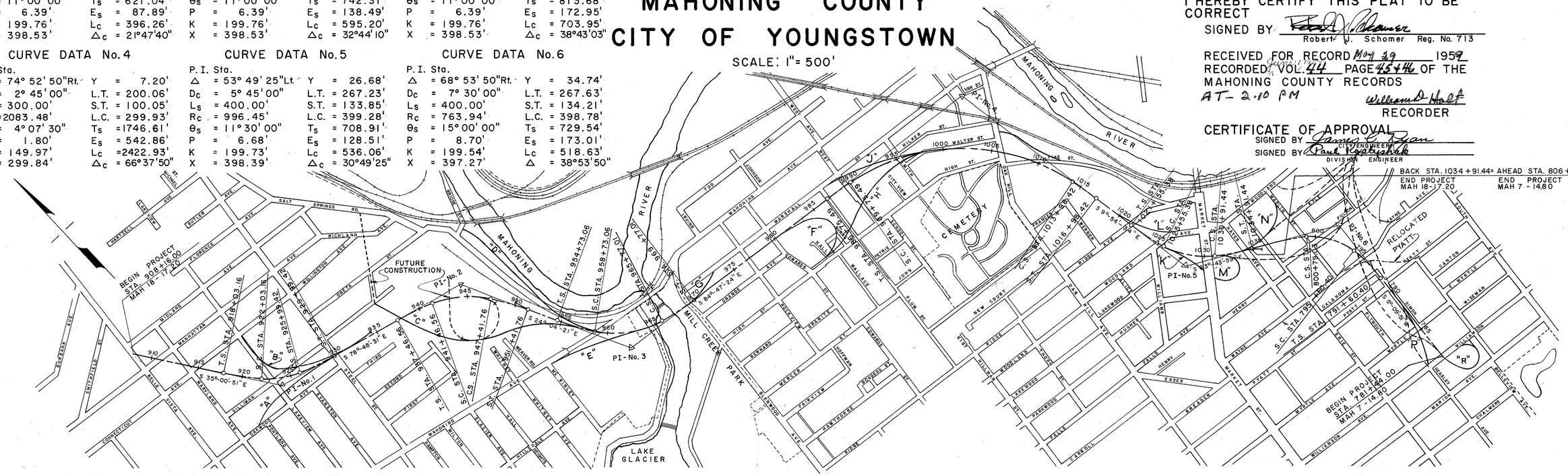
P. I. Sta.
Δ = 74° 52' 50" Rt. Y = 7.20'
Dc = 2° 45' 00" L.T. = 200.06'
Ls = 300.00' S.T. = 100.05'
Rc = 2083.48' L.C. = 299.93'
θs = 4° 07' 30" Ts = 1746.61'
P = 1.80' Es = 542.86'
K = 149.97' Lc = 2422.93'
X = 299.84' Δc = 66° 37' 50"

CURVE DATA No. 5

P. I. Sta.
Δ = 53° 49' 25" Lt. Y = 26.68'
Dc = 5° 45' 00" L.T. = 267.23'
Ls = 400.00' S.T. = 133.85'
Rc = 996.45' L.C. = 399.28'
θs = 11° 30' 00" Ts = 708.91'
P = 6.68' Es = 128.51'
K = 199.73' Lc = 536.06'
X = 398.39' Δc = 30° 49' 25"

CURVE DATA No. 6

P. I. Sta.
Δ = 68° 53' 50" Rt. Y = 34.74'
Dc = 7° 30' 00" L.T. = 267.63'
Ls = 400.00' S.T. = 134.21'
Rc = 763.94' L.C. = 398.78'
θs = 15° 00' 00" Ts = 729.54'
P = 8.70' Es = 173.01'
K = 199.54' Lc = 518.63'
X = 397.27' Δ = 38° 53' 50"



LIMITED ACCESS HIGHWAY

I HEREBY CERTIFY THIS PLAT TO BE CORRECT

SIGNED BY Robert J. Schomer

Robert J. Schomer Reg. No. 713

RECEIVED FOR RECORD May 29 1959

RECORDED, VOL. 44 PAGE 45&46 OF THE MAHONING COUNTY RECORDS

AT 2:10 PM

William D. Hoff
RECORDER

CERTIFICATE OF APPROVAL

SIGNED BY James C. Ryan
CITY ENGINEER

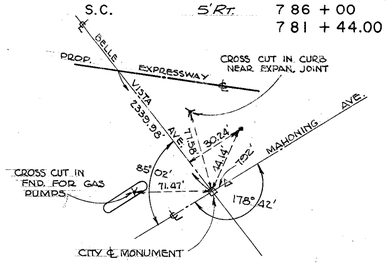
SIGNED BY Paul Rappaport
DIVISION ENGINEER

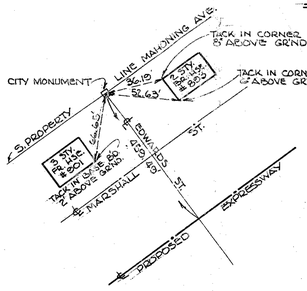
MONUMENTS WILL BE SET ON CENTERLINE AT FOLLOWING STATIONS

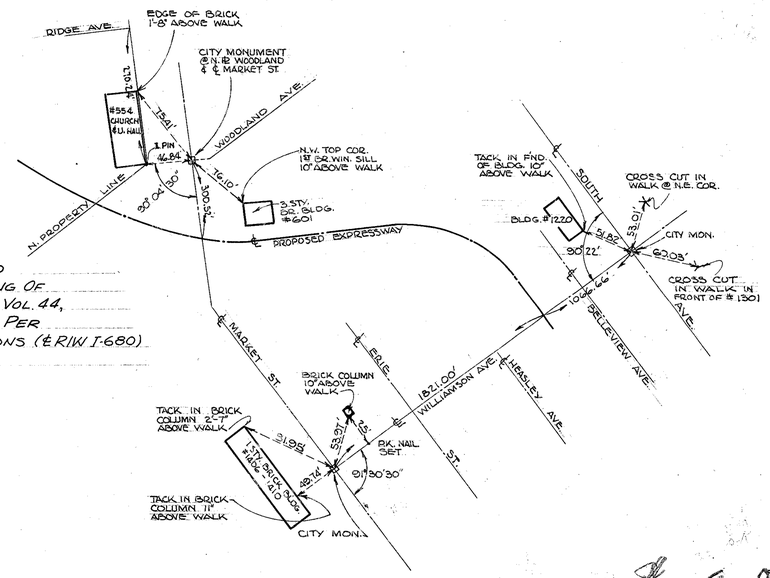
STATION	DESCRIPTION	OFFSET
908+16.00	P.O.T.	
918+03.16	T.S.	
922+03.16	S.C.	
925+99.42	C.S.	5'Rt.
929+99.42	S.T.	5'Rt.
937+46.56	T.S.	5'Rt.
941+46.56	S.C.	5'Rt.
947+41.76	C.S.	5'Rt.
951+41.76	S.T.	5'Rt.
954+73.06	T.S.	5'Rt.
958+73.06	S.C.	5'Rt.
965+77.01	C.S.	
969+77.01	S.T.	5'Rt.
975+00	P.O.T.	
980+00	P.O.T.	
986+75.49	T.S.	5'Rt.
989+75.49	S.C.	5'Rt.

STATION	DESCRIPTION	OFFSET
994+00	P.O.C.	5'Rt.
999+00	P.O.C.	5'Rt.
1005+50	P.O.C.	
1013+98.42	C.S.	5'Rt.
1016+98.42	S.T.	5'Rt.
1018+50	P.O.T.	
1021+55.38	T.S.	5'Rt.
1025+55.38	S.C.	5'Rt.
1030+91.44	C.S.	5'Rt.
1034+91.44 } (Equation) 806+88.34	S.T.	5'Rt.
800+79.03	C.S.	5'Lt.
795+60.40	S.C.	5'Lt.
791+60.40	T.S.	5'Lt.
781+44.00	P.O.T.	

STATION	DESC.	OFFSET
962+00	P.O.C.	5'Rt.
978+50	P.O.T.	5'Rt.
1005+00	P.O.C.	5'Rt.
1010+00	P.O.C.	5'Rt.
804+79.03	S.T.	5'Lt.
784+00	P.O.T.	5'Lt.







NOTE: THIS CENTERLINE PLAT VOIDS AND SUPERSEDES PREVIOUS RECORDING OF CENTERLINE PLAT IN PLAT BOOK VOL. 44, PAGES 45 & 46 ON JUNE 1, 1959 - PER MONUMENT ASSEMBLY RELOCATIONS (℄ R/W I-680)

APPROVED _____ 19____

DEPUTY DIRECTOR OF PUBLIC WORKS

APPROVED _____ 19____

DIVISION DEPUTY DIRECTOR

RECEIVED _____ 19____

RE-RECORDED _____ 19____

BOOK _____, PAGE _____

COUNTY RECORDER

R238

$118.00

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN

PROJECT MAH-18-17.20

PARCEL NO.	OWNER	EXIST. BLDGS.	LOT NUMBER	AREA SQ.FT.	SHEET NO.	REMARKS
1 LA	Luigi Fulciniti	NO	17998	5,778	6	
2 LA	Peter & Helen Mikita	Yes	17999	5,000	6	
3 LA	William Pupa	Yes	18000	4,090	6	
3 WA	William Pupa	—	18000	—	6	Fill Basement
4 LA	Steve Dolak, Mary Dolak	Yes	18001	2,120	6	Take Shed
4-A-LA	Elizobeth Pedak	NO	18002	261	6	
6-LA	Mollie Barta	Yes	18011	5,625	6	
7-LA	Franciska Ondash	Yes	18012	5,000	6	
8-LA	Mathew A. Stankish, Mary Lou Stankish	Yes	18013	5,000	6	
9-LA	John Iwaniuk, Wasylyna Iwaniuk	Yes	18014	6,250	6	
10-LA	Frank Deak, Elizabeth Deak	Yes	18015	4,770	6	
11-LA	Mary Garcar	Yes	18016	2,850	6	
12-LA	John Krupa, Mary Krupa	NO	18017	136	6	
13-LA	Albert Fuzy, William A. Ambrose Mrs. Julia Karaka, Paul Fuzy	Yes	18024, 18025	6,728	6	
13-WA	Albert Fuzy, William A. Ambrose Mrs. Julia Karaka, Paul Fuzy	Yes	18025	—	6	Remove Garage Foundation
15-LA	Anne Chabala Leson	Yes	18026	5,000	6	
16-LA	Anne Shuster	Yes	18027	7,500	6	
18-LA	Mike Seman, Mary Seman	Yes	30896	3,750	6	
19-LA	Peter Kantor Jr., Ethel Moszaros	Yes	18029	6,250	6	
20-LA	Helen Kravec	Yes	18030	5,000	6	
26-LA	Andrew Anthol, Ann Cizmar Paul Anthol, Helen Yash	Yes	18031, 18032	3,820	6	
26 WA	Andrew Anthol, Ann Cizmar Paul Anthol, Helen Yash	Yes	18032	—	6	Remove Shed
22-LA	Mitro Mica, Annie Mica	NO	18043, 18044	4,950	6	
24-LA	James K. Walters	Yes	18046, 18047	11,849	6	
25-LA	Helen M. Bugno	Yes	18048	7,406	6	
28-LA	Anna Gonda	Yes	18037	5,000	6	
29-LA	Mary L. Adams	Yes	18038	5,000	6	
30-LA	Paul Bednarik	Yes	18039	4,100	6	
30-WA	Paul Bednarik	Yes	18039	—	6	Remove Garage Foundation
31-LA	Veronica Bundash	Yes	18040	2,050	6	
31A-LA	Michael Behun, Mary Behun	Yes	18040	403	6	
31A-WA	Michael Behun, Mary Behun	Yes	18040	—	6	Fill Basement.
33-LA	Mickey Hanuschak, Flora J. Hanuschak	Yes	18142	3,400	6	
34-LA	John F. Tobin, Katherine Tobin	Yes	18142	1,438	6	
34-WA	John F. & Katherine Tobin	Yes	18142	—	6	Fill Basement
35-LA	Steve Matyl, Annie Matyl	Yes	18143	5,000	6	
36-LA	Sue K. Furden, Julia Kuni	Yes	18144	5,000	6	
37-LA	Joe Valush	Yes	18145	4,000	6	
38-LA	Anna Gaydos	Yes	18146	4,000	6	
39-LA	Andrew & Susie Lengyel	Yes	30200	4,125	6	
40-LA	Anna, John S., Joseph Yuhasz	Yes	18147	3,680	6	
41-LA	The Portland Land Co.	NO	43796, 18148	6,432	6	
43-LA	Annie Nelson	NO	18149	1,420	6	
46-LA	George Zahdrery, Elizabeth Zahdrery	Yes	33954	5,490	6	
46-WA	George Zahdrery, Elizabeth Zahdrery	Yes	33954	—	6	Fill Basement
47-LA	Anna Pavlik	NO	33955	3,240	6	
48-LA	Mary Selenk	NO	33956	689	6	
49-LA	*Helen W Cohn*	NO	O.L. 421	68,711	6	
58-C-LA	Joseph S. Petrick, Maria Petrick	NO	33960	—	6	Loss of Access to Lakeview Ave.
58F-LA	Steven N. Bobovnych & Mary Bobovnych	NO	33961	3,808	6	
49A-LA	Joe Ince, Anna Ince	NO	18161	231	7	
51-LA	Betty Joe Yohman	NO	18162	1,203	7	
52-LA	Andrew Kosar, Helen Kosar	Yes	18163	2,080	7	
53-LA	Michael Nagy Jr.	Yes	28806	2,762	7	
53-A	Michael Nagy Jr.	Yes	28806	1,398	7	
54-LA	Margaret Bada	Yes	18164	3,672	7	
54-A	Margaret Bada	Yes	18164	488	7	
55-LA	Vincent F. Halko, Mary Ann Halko.	Yes	18165	5,000	7	
56-LA	Andy Lukac, Mary Lukac	Yes	18166	5,000	7	
57-LA	Alexander Barich, Mildred Barich	Yes	18167	13,720	7	
58E-LA	Mary Pauline Williams	NO	O.L. 422	20,690	7	
59-LA	Gino Lamarca 1/2, Louise Lamarca	Yes	O.L. 421, 19654	6,265	7	
59A-LA	Ugo Dibacco 1/2, Anna Dibacco	Yes	19654	2,774	7	
60-LA	Paul Semai, Joan Semai	Yes	19655	5,000	7	
61-LA	Paul Gloval, Mary Gloval	Yes	19656	5,000	7	
64-[illegible]L	Andrew Tarkanich, Susie Tarkanich	NO	28810	25	7	Slope
62-LA	Dafini Negroff	Yes	18179	64	7	
62-S	Dafini Negroff	Yes	18179	256	7	
62-WA	Dafini Negroff	Yes	18179	—	7	Fill Basement
63-LA	Barbala or Barbara Burcsak	Yes	18180	705	7	
63-WA	Barbala or Barbara Burcsak	Yes	18180	—	7	Fill Basement
63-S	Barbala or Barbara Burcsak	Yes	18180	335	7	
67-LA	Mary Macynski	Yes	19657	5,000	7	
71-LA	Andy L. & Anna C. Leskovec	NO	18188	360	7	
72-LA	Helen & Julianna Brogli	Yes	18189	980	7	
72-WA	Helen & Julianna Brogli	Yes	18189	—	7	Fill Basement
73-LA	Charles R. Kelly, Leona Code	Yes	18190	1,440	7	
73-WA	Charles R. Kelly, Leona Code	Yes	18190	—	7	Fill Basement
74-LA	Thomas A. & Bridget L. Denehy	Yes	18190, 18191	2,090	7	
75-LA	Andrew & Anna Bodnar	Yes	18191	1,950	7	
76 LA	Joseph Bankovitch	Yes	18192	3,040	7	
77-LA	John & Barbola Paul	Yes	18193	3,500	7	
79-LA	John & Anna Bobanich	Yes	19658, 19658	7,728	7	
80-LA	Anna Mozzy, Mary Bartell, Michael & Andrew Cycyk	Yes	19660	2,000	7	
80-WA	Anna Mozzy, Mary Bartell Michael & Andrew Cycyk	Yes	19660	—	7	Fill Basement
81-LA	John R., Charles E., Joseph T. Mary Ann, Catherine T. & Jennie S. March	Yes	19661	960	7	
81-WA	John, Charles, Joseph, Mary Ann, Catherine & Jennie March	Yes	19661	—	7	Fill Basement

PARCEL NO.	OWNER	EXIST. BLDGS.	LOT NUMBER	AREA SQ.FT.	SHEET NO.	REMARKS
83-LA	John Stun	Yes	38034	3,189	7	
84-LA	Aster Sklepko	Yes	19639	3,750	7	
85-LA	John & Anni Dzuroff	Yes	19640	5,000	7	
86-LA	Michael Sabol Jr., Martin Sabol, Mary Kavanaugh	Yes	19641	5,000	7	
87-LA	Mary Barolak Roman, Edward, Emil, Joseph T. Barolak.	Yes	19642	5,000	7	
88-LA	Theresa Tobis or Therisa Tobis	Yes	19643	5,000	7	
89-LA	John J. & Agnes Bacak	Yes	19644	5,000	7	
90-LA	Joseph, Joseph E., Bernard, & George C. Knapic, Frances K. Acri.	Yes	19645	5,000	7	
91-LA	Wallace & Hilda Marie Dorko	Yes	19646	5,000	7	
92-LA	Martin & Anna Harchar	Yes	19647	5,000	7	
93-LA	Mary D. Olsavsky	Yes	19648	5,000	7	
94-LA	Karol & Anna Burek	Yes	19649	5,000	7	
95-LA	Mari or Mary Majorsky	Yes	19650	5,000	7	
96-LA	Veronica Missik	Yes	19652	5,000	7	
97-LA	John & Elizabeth Kiss	Yes	19653	5,000	7	
98-LA	George Bodnar Jr., Helen Bodnar	Yes	18284, 18285	10,680	7	
100-LA	Mary Adams	Yes	18286	5,000	7	
101-LA	John M. & Agnes Sudzina	Yes	18287	5,250	7	
102-LA	Bridget L. Ruane	Yes	18288	5,250	7	
103-LA	John & Barta Fetzer	Yes	18289	5,250	7	
104-LA	Zvonimir Roy & Rose M. Vulyak	Yes	18290	5,250	7	
105-LA	Anna Kachmar or Kachmer	Yes	18291	5,250	7	
106-LA	Michael & Elizabeth Yacko	Yes	18292	5,250	7	
107-LA	Peter & Mary Zeman	Yes	18293	5,000	7	
108-LA	Valent Ledinko	Yes	18294	5,000	7	
109-LA	Gabor & Susie Toth	Yes	18295	5,000	7	
110-LA	Mathew & Anna G. Hamborsky	Yes	18296	5,000	7	
111-LA	Frank Barolak	Yes	18297	5,000	7	
112-LA	Joseph Andrews	Yes	18298	10,612	7	
113-LA	Michael Zuzan	Yes	6783	6,142	8	
113-SA	Michael Zuzan	Yes	6783	3,088	8	
114-LA	Julia Kun	Yes	6787	3,390	8	
114-SA	Julia Kun	Yes	6787	1,810	8	
115-LA	Mike & Mary Potocnak	Yes	6786	3,220	8	
115-SA	Mike & Mary Potocnak	Yes	6786	1,980	8	
116-LA	John & Catherine Smith	Yes	6785	3,106	8	
116-SA	John & Catherine Smith	Yes	6785	2,094	8	
117-LA	Frank Ferko	Yes	6782	2,964	8	
117-SA	Frank Ferko	Yes	6782	2,236	8	
118-LA	Paul & Anna Matuscak	Yes	6781	2,800	8	
118-SA	Paul & Anna Matuscak	Yes	6781	2,400	8	
119-LA	Bertha Hohos	Yes	6780	2,680	8	
119-SA	Bertha Hohos	Yes	6780	2,520	8	
121-LA	George A. & Catherine Bozick	Yes	6779	2,660	8	
121-SA	George A. & Catherine Bozick	Yes	6779	2,600	8	
122-LA	Joe & Mary Pisansky	Yes	6778	2,700	8	
122-SA	Joe & Mary Pisansky	Yes	6778	2,500	8	
123-LA	Andrew & Mary Zambori	Yes	6778	2,740	8	
123-LA	Andrew & Mary Zambori	Yes	6778	2,460	8	
124-LA	Frank & Helen Paliga	Yes	6777	2,660	8	
124-SA	Frank & Helen Paliga	Yes	6777	2,540	8	
125-LA	Katarina Giba	Yes	11782	3,209	8	
125-SA	Katarina Giba	Yes	11782	5,880	8	
127-LA	Paul & Irene Koval	Yes	42446	8,840	8	
128-LA	Susanna Kramer	Yes	42447	5,200	8	
129-LA	George Lutza Jr.	Yes	42448	5,200	8	
130-LA	Mathew & Anna Koval	Yes	42449	1,540	8	
130-SA	Mathew & Anna Koval	Yes	42449	720	8	
130-WA	Mathew & Anna Koval	Yes	42449	—	8	Fill Basement
131-LA	Stevan & Anna Hoffman	Yes	42450	3,180	8	
131-SA	Stevan & Anna Hoffman	Yes	42450	6,204	8	
131-WA	Stevan & Anna Hoffman	Yes	42450	—	8	Fill Basement
133-LA	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	48,376	8	
133	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	750	8	
133-WA	St. Michaels Russ. Orth. Gr. Cath. Church	Yes	O.L. 145	—	8	Remove Foundation
134-LA	Mahoning Valley Sanitary District	No	O.L. 415, 416, 420	50,220	8	
135-LA	John Sahlica	No	O.L. 415	[illegible]	8	
136-LA	Serbian Eastern Orth. Congregation	No	O.L. 416	130,633	8	
136-S	Serbian Eastern Orth. Congregation			715	8	
140-LA	Berkeley, Bertha, Irving & Bernice Fromkin	Yes	O.L. 420	307,525	8	
140-SA	Berkeley, Bertha, Irving & Bernice Fromkin	No	O.L. 420	9,080	8	
143-LA	Geisi & Christina Passarella	No	O.L. 419	362,635	9	
144-LA	Baltimore & Ohio R.R.	No	—		9	
144-S	Baltimore & Ohio R.R.	No	—		9	
145-LA	Angelo, Mark, John, & Joseph Passarelli	No	O.L. 419	39,920	9	
146-LA	Gorgie Realty Co.	Yes	O.L. 428	42,742	9	*146–14,400□' Eligible for Federal Part.*
146A-LA	Baltimore & Ohio R.R.	No	—		9	
147-LA	Joe Maskulka, Gemma Badino	Yes	O.L. 428	30,050	9	
148-LA	Sam Margolis	Yes	O.L. 428	71,000	9	*148–9000□' Eligible for Federal Part.*
149-LA	John & Andrew Fusco	Yes	O.L. 495	[illegible]	10	
150-LA	Joseph & Robert Jenkins	Yes	O.L. 410	50,701	10	
150-WA	Joseph & Robert Jenkins	Yes	O.L. 410	—	10	Fill Basement
150A-LA	Paul Pagac	No	O.L. 410	4,290	10	
150B-LA	Ella Louise Wick	No	O.L. 410	333	10	
151-LA	Theodore Saroka, Gino Parisi	Yes	O.L. 496	[illegible]	10	
154-LA	Margaret B. Sittinger	Yes	12149	2,350	10	
155-LA	The Youngstown Dunbrik Co.	Yes	O.L. 497	[illegible]	10	
154-A	*[illegible] McGee*	*No*	*O.L. 447*	*377.5*	10	
159-LA	Vince Minor	No	12150	8,118	10	
160-LA	Bernard Bruss	Yes	12152	4,590	10	
161-LA	Leo & Bernard Bruss	Yes	O.L. 408	33,350	10	
161-SA	Leo & Bernard Bruss	Yes	O.L. 408	65,080	10	

Revision	Date
Pcl. 64-SL Added	*10-6-61*
Pcl. 49-LA Name Change	*10-5-60*
Parcel 133-S To 133	*7-6-60*
Parcel 155-LA Area Revised	*7-6-60*
Parcel 151-LA Area Revised	*7-6-60*
Parcel 149-LA Area Revised	*7-6-60*
Parcel [illegible] Revised	*6-30-60*
Parcel 149-LA Revised	*6-27-60*
Parcel 154-A Revised	*6-23-60*
Parcel 155-LA Area Revised	*5-10-60*
158-LA Deleted	*4-21-60*
Sheet Reference No.s Revised	*4-20-60*
Added Fed. Part. Pcls. 146LA & 148LA.	*5-7-68*

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

469 492

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	REMARKS
170-LA	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.483-489	113,590	11	CONSTRUCTION OF PARK ROAD
170-T	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.484	134,950	11	
170-AERIAL	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	55,167	11	
170	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.484	1,578	11	
170-B	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
170-C	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
170-D	BOARD OF PARK COMMISSION YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L.480	1,578	11	
171-LA	CALIXTE JOSEPH GAUDET, EDNA MAY GAUDET	YES	6826,6827	15,960	11	
173-LA	WILLIAM W. NEFF, ARMIDA NEFF	YES	6828	7,625	12	
174-LA	HAROLD AND ETHEL GASKINS	YES	6829	7,625	12	
175-LA	JOHN J. CIKA, DOROTHY A. CIKA	YES	14285	2,290	12	
176-LA	JAMES A. POTTER, PAULINE POTTER	YES	14285	2,290	12	
177-LA	ISALY DAIRY COMPANY	YES	6831	10,215	12	
178-LA	THE DOLLAR SAVINGS & TRUST COMPANY TRUSTEE	YES	2475	7,634	12	
179-LA	JOHN WILLIAMS, LOU GENIA WILLIAMS	YES	2476	6,940	12	
180-LA	DOUGLAS JONES, CHESTINA JONES	YES	2477	6,940	12	
181-LA	BESSIE AGRENOVITZ	YES	2478	6,940	12	
182-LA	JESSIE DOUGLAS, CHRISTINE DOUGLAS	YES	2360,2479	5,028	12	
183-LA	MARY G. REITZELL, FLORA A. REITZELL	YES	2480,2360	6,940	12	
184-LA	BENJAMIN VERNON, CLARA VERNON	YES	2481	3,960	12	
185-LA	GILSON T. GRAHAM	YES	2479	3,300	12	
186-LA	ANNIE K. HARPER ROBINSON, ALIAS ANNIE SIMMONS	YES	2481	1,560	12	
187-LA	S & G REALTY COMPANY	YES	6837	7,640	11	
188-LA	EULALIAM M. LUTHER	YES	6836	5,900	12	
189-LA	ROSINA SCHNEIDER	YES	6835	6,000	12	
190-LA	JAMES ARTHUR ROSS, ANNIE B. ROSS	YES	6834	6,250	12	
191-LA	ETHEL GILFILLAN	YES	6830	3,300	12	
192-LA	D.N. GARVER, MARTHA E. GARVER	YES	14285	7,695	12	
193-LA	CLYDE E. TRUITT, DOROTHY C. TRUITT	YES	6833	3,630	12	
194-LA	TUFIC SAADI	YES	6832	5,066	12	
195-LA	CHARLOTTE BYERS	YES	6832	5,066	12	
196-LA	MARTIN BOKESCH, CHRISTINA BOKESCH	YES	2488	3,924	12	
197-LA	IRENE H. VANMETER	YES	2488	3,252	12	
198-LA	JOSEPH STOKAN	YES	2487	~~6,940~~	12	
200-LA	KATHLEEN WATKINS	YES	2485	6,940	12	
201-LA	KATHERINE B. WILSON	YES	2484	6,940	12	
202-LA	JAMES ANDERSON	YES	2482,2483	4,500	12	
203-LA-204-LA	FLORENCE APPEL DORFF, HELEN APPEL LEWIS, CLARA APPEL CASSESE	YES	2482,2483	9,300	12	
205-LA	CLARENCE C. MCKELRY, ELIZABETH MCKELRY	YES	3411	9,000	12	
206-LA	THOMAS A. MUMFORD	YES	3412	7,500	12	
207-LA	LILLIAN B. JONES RAFE	YES	3413	6,000	12	
208-LA	JESUS HERNANDEZ, MARY E. HERNANDEZ	YES	O.L.374	3,108	12	
209-LA	LEONARD HALLEWELL, ESTELLA HALLEWELL	YES	O.L.374	3,009	12	
209-A-LA	JAMES BROWN	YES	O.L.374	2,549	12	
210-LA	FREDERICK LEROY TAYLOR, GRACE VERA TAYLOR	YES	O.L.374	6,425	12	
211-LA	JOSEPH ANDROSEK, WALSH AND ROBERTS INC.	YES	O.L.374	3,606	12	
211-A-LA	FREDA C. ANDERSON	YES	O.L.374	2,903	12	
211-B-LA	JAMES DOMINIC PRECURATO, MARY DELORES PRECURATO	YES	3659	4,902	12	
212-LA	T. SAADI	YES	3679	4,500	12	
213-LA	HOWARD JAMES, WILLIE MAY JAMES	YES	3409	2,910	12	
214-LA	ARTHUR I. WALDMAN	YES	3409	7,275	12	
215-LA	JAMES MONROE LONG	YES	3410	~~4,940~~	12	
216-LA	ROY F. MORT	YES	3414	9,675	12	
217-LA	WILLIAM J. AND MARY G. PETRANSKY	YES	3408	3,300	13	
217-A-LA	JOSEPH AND LOUISE C. PETRANSKY	YES	3408	1,700	13	
218-LA	FLORENCE POTOR	YES	5677	5,000	13	
219-LA	JOSEPH GIERCHAK, ANGELINE GIERCHAK	YES	5678	5,000	13	
220-LA	BESSIE AND HARRY WILLIAMS	YES	9507	6,000	13	
221-LA	GUS COHEN, RUTH D. COHEN	YES	9507	7,163	13	
222-LA	THOMAS J. MYERS	YES	3964	7,500	13	
223-LA	WM. F. AND HELEN MOSKOSKY	YES	3966	7,500	13	
224-LA	OTTO C. BROOKS	YES	3968	5,000	13	
225-LA	ARTHUR AND LESSIE MARTIN	YES	3968	8,920	13	
226-LA	WILLIAM AND SUSIE M. KIDD	YES	3970,10108	12,291	13	
227-LA	WILLIAM DUDLEY	YES	10371	11,449	13	
228-LA	MATTIE MCPETERS	YES	10370	11,734	13	
229-LA	WILLIAM VONKENNEN JR.	YES	3972,10369	11,000	13	
230-LA	MIKE AND BERTHA GLAVIES	YES	3973	7,500	13	
231-LA	MARY ELIZ. MCKLUSKY	YES	3974	6,825	13	
232-LA	MARGARET M. MAIN, MARGARET L. TRIGG	YES	3974,3975	8,325	13	
233-LA	HILDEGARD HUEBERGER COURT	YES	10369	9,672	13	
233-A-LA	GEORGE F. MAIN	NO	19766	25,160	13	
234-A	CAROLINE THRASH	YES	O.L.382	3,395	13	
170-A-LA	BOARD OF PARK COMMISSIONERS OF YOUNGSTOWN TWP. PARK DISTRICT	NO	O.L. 489	7,735	11	
170-B-LA	UNION NATIONAL BANK OF YOUNGSTOWN ET-AL	YES	5747	3,210	10	
199-LA	JOSEPH STOKAN	YES	2486	6940	12	
236-LA	JACKSON STEWART, ANNE STEWART	NO	11226	110	13	
237-LA	WILLIAM H. WILLIAMS, EVELYN L. WILLIAMS	YES	11227	5,313	13	
238-LA	OTTO GEISHLER, EMMA GEISHLER	YES	19708	6,000	13	
239-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	2366	6,206	13	
240-LA	JULIA KICZ	YES	2365	5,029	13	
241-LA	DAVID SCOTT	YES	2364,872	5,776	13	
241-A-LA	CLARENCE DANIEL	NO	57185	1,608	13	
242-LA	CLARENCE DANIEL	YES	874	~~2,144~~	13	
242-A-LA	RUTH FRANKLIN	YES	873	6,420	13	
242-B-LA	MARGARET BIELER	NO	874	697	13	
243-A-LA	Alex JONES	YES	55603	5,242	13	
244-LA	BOSS JACKSON, OLLIE JACKSON	YES	11349	2,360	13	
245-LA	ZORA PRISBY	YES	11348	4,800	13	
245-A-LA	MARGARET M. MAIN, MARGARET L. TRIGG	NO	19771-2-3, 19770	12,978	13	
246-LA	MAMIE L. CODY	NO	4821	4,000	13	
249-LA	MILTON A ROEMISCH (TRUSTEE)	NO	4822,39292	8,565	13	
250-LA	MARY K. KING ET-AL	YES	39293	5,000	13	
251-LA	Y.Z. ADAMS, THELMA ADAMS	YES	39294	5,000	13	
251-A-LA	ELIGHA KING, ANITA KING	YES	39296	4,369	13	
252-LA	CARL H. HOLQUIST, MARY E. HOLQUIST	YES	2361	5,000	13	
252-A-LA	OZZIE CURRY	YES	2359	675	13	
252-WA	CARL H. HOLQUIST, MARY E. HOLQUIST	YES	2361		13	REMOVE GARAGE FOUNDATION
252-A-WA	OZZIE CURRY	YES	2359		13	REMOVE GARAGE FOUNDATION
253-LA	ELLA RODGERS	YES	2362	960	13	
253-A-LA	W.J. WADKINS, MAUDE S. WADKINS	YES	11222	5,450	13	
253-B-LA	ALEXANDER WILLIAMS, EDITH WILLIAMS	YES	11221	4,653	13	
253-C-LA	SAM D. CLARK, KATIE CLARK	YES	9436	1,299	13	
253-D-LA	JULIUS DICKENS, BERTHA DICKENS	YES	4754	3,690	13	
253-D-A	JULIUS DICKENS, BERTHA DICKENS					
253-F-LA	LOUIS E. CAPPELLO	YES	9436	1,148	13	
253-G-LA	LUCY BEVERLY	YES	9435	1,800	13	
253-H-LA	THE CENTRAL DISTRICT OF THE LUTH. CHURCH MO. SYNOD INC.	YES	30330	1,936	13	
253-I-LA	WALTER NORTH, LYDIA NORTH	NO	9437	510	13	
253-K-LA	RAYMOND WALLACE, LOUISE WALLACE	YES	55605	1,457	13	
253-L-LA	COURTLAND ALLEN, ROSE ALLEN	YES	9435	1,140	13	
253-M-LA	DR. NELSON INGRAM, THELMA INGRAM	YES	4755	3,780	13	
253-M-A	DR. NELSON INGRAM, THELMA INGRAM				13	
253-P-A	ROBERT H. AND EDNA KING				13	
253-A-A	W.J. WADKINS, MAUDE S. WADKINS	YES	11222		13	
253-B-A	ALEXANDER WILLIAMS, EDITH WILLIAMS	NO	11221		13	
253-H-A	THE CENTRAL DISTRICT OF THE LUTH. CHURCH MO. SYNOD INC.	YES	30330		13	
253-J-A	WALTER NORTH, LYDIA NORTH	YES	9437	5,440	13	
253-L-A	COURTLAND ALLEN, ROSE ALLEN	YES	9435		13	
253-WA	ELLA RODGERS	YES	2362		13	FILL BASEMENT
253-A-LA	BESSIE THOMAS	YES	55604	1,631	13	
255-LA	CLARENCE FRANKLIN	YES	3915	5,200	13	
256-LA	WILLIAM B. ROSS, MARY I. ROSS	YES	3918	4,600	13	
258-LA	FLORENCE LULA TAYLOR	NO	15906,15907	6,700	13	
259-LA	BESSIE E. MOORE	YES	15908	3,600	13	
260-LA	JOHN HAYMAN	YES	3919	3,600	13	
261-LA	CHARLES POLISKY ET AL	YES	3919	4,000	13	
262-LA	BESSIE WALKER	YES	877	15,000	13	
262-A-LA	UNION NATIONAL BANK OF YOUNGSTOWN	NO	39295	400	13	
262-C-LA	ALLEN J. STUMP, VIOLA V. STUMP	YES	877	5,427	14	
262-D-LA	LOUIS H. MAUSER	YES	5666	5,720	14	
262-E-LA	EDWARD VELAR	YES	2351	6,000	14	
262-F-LA	TUFIC SAADI	YES	876	6,889	14	
262-H-LA	LAURA GARDNER	YES	2352	3,580	14	
262-I-LA	GEORGE SUBER, PEARL SUBER	NO	2353	306	14	
262-C-WA	ALLEN J. STUMP, VIOLA V. STUMP	YES	877		14	REMOVE GARAGE FOUNDATION
262-F-WA	TUFIC SAADI	NO	876		14	FILL BASEMENT
262-H-WA	LAURA GARDNER	YES	2352		14	REMOVE GARAGE FOUNDATION
263-LA	UMBERTO TURSINI	YES	56002	2,530	14	
264-LA	WILLIAM MOSKOSKY, HELEN MOSKOSKY	NO	O.L.122	48,620	14	
265-LA	ALTON L. KEMP, ALICE L. KEMP	YES	56003	11,109	14	
265-A-LA	MARY LUNDY	YES	56004	7,511	14	
265-B-LA	FRANK J. COLLA	YES	56005	7,508	14	
266-LA	JAMES LADIGO	YES	56006	7,462	14	
266-B-LA	JOSEPH M. ALLISON, MARIAN A. ALLISON	YES	56007	7,459	14	
266-C-LA	THOMAS HOOD	YES	56008		14	
267-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	YES	O.L.125	68,502	14	
267-A-LA	ESTER MEYER	NO	55066	1,262	14	
267-B-LA	VANCE WAGNER	YES	5661	1,826	14	
267-C-LA		NO	55067	690	14	
267-D-LA	MINNIE MAUSER	YES	876	1,000	14	
267-E-LA		YES	55072	3,855	14	
267-D-WA	MINNIE MAUSER	YES	876		14	
268-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55070	5,202	14	FILL BASEMENT
268-A-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55069	278	14	
269-LA	INEZ PARKER	YES	10969	4,200	14	
271-LA	HARRY AND NELLIE MEYERS	YES	36391	2,400	14	
271-A-LA	GOLDEN AGE BEVERAGE CORPORATION	NO	36392	1,050	14	
271-B-LA		YES	55078		14	
271-WA	HARRY AND NELLIE MEYERS	NO	36391		14	
272-LA	MALACHI STOKES, THELMA STOKES	YES	10966	3,702	14	FILL BASEMENT
273-LA	JOHN G. SPATHOLT	YES	10965	1,800	14	
273-A-LA	JOHN G. SPATHOLT	YES	10966	2,080	14	
273-B-LA	JOHN G. SPATHOLT	YES	10966	1,870	14	
276-A-LA	FRED AND ROISE PERKINS ET-AL			767		
243-LA	CLARENCE DANIEL	YES	874	3,216	13	

Parcel 243-LA Added 12-15-60
Parcel 242-LA Revised 12-15-60
Parcel 199-LA Added 12-15-60
Parcel 198-LA Revised 12-15-60
Parcel 215-LA Revised 7-13-60
Parcels 253-1A & 253-K-LA Revised 7-13-60
Removed House Pcl. 253-J-LA Added House 253-I-A 7-8-60
Pcls. 268-LA & 268-A-LA Added Names & Area 7-6-60
Parcels 271-A-LA & 276-A-LA Names Changed & Area 7-6-60
Parcel 170-T Changed From Work Agree. To Temp. 7-6-60
Parcel 170-B-LA Revised 6-27-60
Parcel 170-B-1-LA Revised 6-27-60
Parcel 250-LA, 242-B-1-LA Revised 6-27-60
Parcels 253-LA & 253-K-LA Revised 6-15-60
Parcel 170-LA, 170-T Revised, 170-B, 170-B-1-A Added 4-21-60
Sheet Reference Nos Revised 4-20-60

I-680 R/W SHEET 4 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

470 / 492

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	
273-C-LA	JOHN G. SPATHOLT	YES	10967	3,150	14	
274-LA	JOHN H. LOGAN, LULA LOGAN	YES	10964	2,230	14	
275-LA	LEROY SMITH, NETTIE SMITH	YES	10964	1,625	14	
275-A-LA	JOHNNIE PEARL REED	YES	10965	1,587	14	
276-LA	FRED AND ROSIE PERKINS	YES	10963	1,932	14	
277-LA	THEODORE COTTON JR. AND CARRIE COTTON	YES	10962	1,613	14	
279-LA	ANN KAUFMAN, BETTY LABEL	YES	5619	4,950	14	
280-LA	GOLDEN AGE BEVERAGE CORP.	YES	846	19,557	14	
283-B-LA	HOWARD BURKES, MILLERNEE BURKES	YES	5619	2,600	14	
283-B-WA	HOWARD BURKES, MILLERNEE BURKES	YES	5619		14	FILL BASEMENT
284-LA	EUGENE ROBINSON, JR., LAURA B. ROBINSON	YES	8141	2,200	15	
284-A-LA	LILTON MORRIS	YES	8141	891	15	
284-A-WA	EUGENE ROBINSON, LAURA ROBINSON	NO	8141		15	FILL BASEMENT
285-LA	BOOKER T. AND MARY HELEN WRIGHT	YES	843	3,900	15	
285-A-LA	EDWARD AND SUSIE MCELROY	YES	843	1,200	15	
286-LA	ANAM ABDO	YES	5646	3,555	15	
286-B-LA	MATHILDA WIEDMAN	NO	5647	1,550	15	
287-LA	GOLDEN AGE BEVERAGE CORP.	NO	5645,842	9,025	15	
287-A-LA		NO	841		15	
287-B-LA	*ROBINA POWELL*	YES	840	300	15	
287-C-LA		YES	842		15	
287-B-WA		YES	940		15	FILL BASEMENT
289-LA	BESSIE P. CONNELL, THOMAS H. CONNELL	NO	55071	3,600	14	
289-A-LA	WALDEMAR NISCHWITZ, EARL H. HARRIS	NO	10971	1,157	14	
290-LA	ETHEL MCDANIELS SPEAKS	YES	10970	2,948	14	
291-LA	ELIZABETH BUEHRLE	NO	55075	2,282	14	
292-LA	WALDEMAR NISCHWITZ, EARL H. HARRIS	YES	2249	5,939	14	
294-LA	WILLIAM AILEN, ANNIE ALLEN	YES	2248	3,943	14	
295-LA	MARY PEAY	YES	2247	4,180	14	
296-LA	ELIDA MOELLERING	YES	2246	4,350	14	
297-LA	WILLIAM E. AND PEARLE HERRING	YES	2245	4,750	15	
298-LA	CORA B. SCHEIBLE	YES	2244	5,200	15	
299-LA	LILLIE M. BUYCK	YES	2243	5,450	15	
299-A-LA	*JOHANNA SPRAGUE*	NO	850	476	15	
300-LA	MICHEAL F. AND BLOSSOM W. MEENACHAN	YES	2242	5,450	15	
300-A-LA	MILDRED D. PLANIN (PLANINA)	NO	1575	1,323	15	
301-LA	RICHARD L. AND LEO BENNETT	YES	2241	5,600	15	
302-LA	HENRY AND ARTHOLS BARNES	YES	2240	5,450	15	
303-LA	BEN H. CATLEY	NO	851	1,953	15	
304-LA	H.K. ZIEGLER	YES	2239	5,720	15	
305-LA	UNDEPENDENT INVESTMENT COMPANY	NO	852	2,320	15	
306-LA	ELLEN LEWIS	YES	2237	4,189	15	
307-LA	LAVERNE BOWENS	YES	2238	2,860	15	
308-LA	JULIA KICZ	YES	36651	1,824	15	
309-LA	MINNIE WILBURN	YES	853	3,884	15	
310-LA	THIRD BAPTIST CHURCH OF YOUNGSTOWN	YES	2237	9,360	15	
311-LA	CELIA BERNSTEIN	YES	854	11,925	15	
312-LA	WILLA MAE (RICE) AND HUGHES CAMPBELL	YES	2238	1,976	15	
313-LA	LAKE ERIE AND EASTERN RAILROAD	YES	1550	10,600	15	
313-A-LA	LAKE ERIE AND EASTERN RAILROAD	YES	1550	14,375	19	
313-A	LAKE ERIE AND EASTERN RAILROAD	YES	1550	40,511	19	
313-B- A	THE SPUR DISTRIBUTING COMPANY	YES	1549	*10,000*	19	
313-WA	LAKE ERIE AND EASTERN RAILROAD	YES			19	REMOVE CONCRETE SILO
314-LA	RUBE AND MARY F. SMITH	YES	1557	24,000	15	
315-LA	W.E. STANKIEWICZ	YES	1568	9,120	15	
315-WA	W.E. STANKIEWICZ				15	FILL BASEMENT
316-LA	HAROLD STEIN, SAM SIMON, MILTON H. SIMON	YES	1552	17,355	15	
316-A	HAROLD STEIN, SAM SIMON, MILTON H. SIMON	NO	1552	1,005	15	
318-LA	YOUNGSTOWN HOSP. ASSOC.	YES	1568	158,970	16	
318-WA	YOUNGSTOWN HOSP. ASSOC.	YES	11100,11101		16	FILL BASEMENT
319-LA	THE RENNER CO.	YES	1559,1560	32,670 or 0.75	16	
319-WA	THE RENNER CO.	YES	1559		16	REMOVE FOUNDATION
320-A-LA	ANNA M.PATTERSON	YES	11097	4,500 4/1/66	16	
321-LA	PHILIP GREIN	YES	11095,11096	9,140	16	
321-WA	PHILIP GREIN	YES	11094		16	REMOVE FOUNDATION
322-LA	JOHN BOGGANS, ET AL	YES	1561,5617	18,780	16	
323-LA	EUGENE AND ESTER RUSNAK	YES	11093,11094	2,600	16	
323-WA	EUGENE AND ESTER RUSNAK	YES	11094		16	REMOVE FOUNDATION
326-LA	RIDGE MEDICAL BLDG. CO.	YES	3211,5622	42,609	17	
326-WA	RIDGE MEDICAL BLDG. CO.	YES	3211		17	REVISE DRIVEWAY
327-LA	ELIZABETH GEORGE	YES	3335	8,956	17	
328-LA	LUCY S. MIKITA	YES	3336	6,350	17	
329-LA	LESLIE H. SABO, ELIZABETH H. SABO	YES	3337	3,409	17	
329-A-LA	M. VERA HERSCHEL	YES	3337		17	
330-LA	ANTHONY P. JULIUS	YES	3338	6,250	17	
331-LA	JOSEPH SARISKY	YES	3339	5,666	17	
332-LA	MYRTLE I. MILLER, VIRGINIA VIETS CRAMER, DOROTHY VIETS GLINES	YES	3340	6,600	17	
332-WA	MYRTLE I.MILLER,VIRGINIA VIETS CRAMER,DOROTHY VIETS GLINES	YES	3340,3341		17	FILL BASEMENT
333-A-LA	JOHN DORLOSAN, MARY DORLOSAN	YES	3327	1,250	17	
333-WA	JOHN DORLOSAN, MARY DORLOSAN	YES	3327		17	FILL BASEMENT
333-B-LA	GERALD CARROLL AND ALICE CARROLL	YES	3327		17	
334-LA	TUFIC SAADI	YES	3328	7,500	17	
335-LA	LALE GRAHOVAC	YES	3329	7,500	17	
336-LA	JOSEPH THURIK, MARY THURIK	YES	3330	7,500	17	
337-LA	THE INCORPORATED TRUSTEES OF THE GOSPEL WORKER SOC.	YES	3331,5628	7,500	17	
338-LA	MILDRED MCDONALD	YES	3332	7,000	17	
339-LA	RALPH A. KELLY, ISABELLA M. KELLY	YES	3333	7,344	17	
339-WA	RAL.H A. KELLY, ISABELLA M. KELLY	YES	3333,5176		17	REMOVE FOUNDATION
340-LA	CHARLOTTA FISLAK	YES	5176	5,436	17	
341-LA	JOHN W. TOMALKA SR., MARY HAZEL TOMALKA	YES	5179	2,675	17	
342-LA	ELIZABETH HILLOSKY,SR.	YES	5181	2,225	17	

PARCEL NO.	OWNER	EXIST. BLDG.	LOT NO.	AREA S.F.	SHEET NO.	
342-A-LA	FLORENCE L. EVANS	YES	5183	1,573	17	
342-WA	ELIZABETH HILLOSKY, SR.	YES	5181		17	FILL BASEMENT
342-A-WA	FLORENCE L. EVANS	YES	5183		17	FILL BASEMENT
344-LA	FRANK JAMES COLLA	YES	55466	3,724	17	
344-A	THE GREEK COMM. AGLOS LOANNIS ORTHODOX CHURCH	NO	O.L.363	336	17	
344-B-LA	FRANK JAMES COLLA	NO	55466	315	17	
345-LA	MARY DEVAN	YES	55467	5,366	17	
346-LA	CLARA ANDERSON	YES	55466	7,335	17	
347-LA	FRANK JAMES COLLA	YES	55469	3,525	17	
* 348-LA	JOHN PAUL	YES	2308	3,150	17	
* 350-LA	JOHN BUDAKER, ANN BUDAKER	YES	2309	4,100	17	
352-LA	LEROY E. BILLIG	YES	5185	1,025	17	
352-WA	LEROY E. BILLIG	YES	5185		17	FILL BASEMENT
352-A-WA		YES	5186		17	FILL BASEMENT
352-A-LA	MARY J. COMINOS	YES	5186	320	17	
353-LA	MORTON, RAYMOND D. AND BERNARD WHITE	YES	2899	5,000	17	
353-WA	RALPH A. KELLY, ISABELLE M. KELLY	YES	2899		17	REMOVE FOUNDATION
356-LA	THE GENERAL ELECTRIC COMPANY	NO	2314,2315,2296,2298	37,700	17	
356-TS	THE GENERAL ELECTRIC COMPANY	NO	2313,2314, 2296,2298	4960	17	CONST. EQUI.. ACCESS
358-LA	THE ROAD OF REMEMBRANCE POST #472 AM. LEGION DEPT. OF OHIO	YES	2314	10,750	17	
359-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	YES	2313	7,325	17	
359-A-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	NO	2313	1,050	17	
360-LA	HAROLD P. SMITH, EMILY E. SMITH	YES	2313	3,950	17	
360-WA	HAROLD P. SMITH, EMILY E. SMITH	NO	2313		17	FILL BASEMENT
361-C-LA	*NORTHERN INVESTMENT COMPANY*	NO	2311	125	17	
362-LA	TINCO DE CARPENTIER	YES	3346	31,857	19	
362-WA	TINCO DE CARPENTIER	YES	3346		19	FILL BASEMENT
363-LA	RALPH E. GOFF, AGNES E. GOFF	YES	3344	9,750	19	
364-LA	JOHN COMEK, MARY COMEK	YES	3369	4,430	19	
365-LA	SARAH KLATMAN, HANNAH KLATMAN	YES	3369	2,275	19	
366-LA	FAY KIRKORSKY	YES	3368	4,748	19	
367-LA	IDEALIA HOWELL, EUALEE HOWELL	YES	3368	5,080	19	
368-LA	JAMES DAVIS, EULA MAE DAVIS	YES	3367	5,420	19	
369-LA	CARRIE E. WATSON	YES	3366	5,840	19	
370-LA	THE ECONOMY ELECTRIC COMPANY	YES	3349	3,094	19	
370-WA	THE ECONOMY ELECTRIC COMPANY	YES	3349		19	REMOVE FOUNDATION AND GRADE AREA
371-LA	DOROTHY MOHN	YES	3365	6,200	19	
372-LA	DEMETRIOS AND MAVRIKIS	YES	3365	5,063	19	
373-LA	SOPHIA MARGOLIS	YES	3364	5,687	19	
374-LA	EDWARD PARKMAN, MYRTLE L. PARKMAN	YES	3363,3364	5,871	19	
375-LA	JOHN SPANOS, ALEXANDRA SPANOS	YES	3363	5,731	19	
376-LA	MARY H. MENEGAY, CLARA L. PAAR	YES	3362	6,000	19	
377-LA	NICHOLAS GLAROS, NIKI GLAROS	YES	3361	6,780	19	
378-LA	JOHN SERINO AND MARY MARZULLO	YES	3360	5,467	19	
378-WA	JOHN SERINO AND MARY MARZULLO	YES	3360		19	FILL BASEMENT
379-LA	ROSE KNABEL	YES	11061	2,650	19	
379-WA	ROSE KNOBEL	YES	11061		19	FILL BASEMENT
380-LA	MARY DEVAN	YES	3359	8,180	19	
381-LA	HENRY B. GESSAMAN, VIRGINIA GESSAMAN	YES	3358	3,518	19	
382-LA	NORQUIST LAND COMPANY	YES	3358	3,468	19	
383-LA	JOHN J. VERNELLO, EDNA M. VERNELLO	YES	3357	3,350	19	
383-B-LA	MARY C. CARTWRIGHT, MARGARET CONROY	YES	3357	3,252	19	
384-LA	WILMA V. GING	YES	3356	6,090	19	
384-WA	WILMA V. GING	YES	3356		19	FILL BASEMENT
387-LA	THE BOARD OF EDUCATION OF YOUNGSTOWN CITY SCHOOL DISTRICT	YES	3355	26,418	19	
390-LA	FREDRIKA H. BOGGS, MINTER B. BOGGS	YES	3375	3,750	19	
390-A-LA	JAMES WALSH JR.	YES	3375		19	
391-LA	ROSE EVELYN STRAWDERMAN	YES	3376	2,000	19	
391-A-LA	MILTON KIBBLE, MARY LOU KIBBLE	YES	3375		19	
392-LA	GIUSEPPE CHIRCHIGLIA, ROSE CHIRCHIGLIA	YES	3376	2,000	19	
393-LA	FAY KIRORSKY	YES	3377	1,875	19	
394-LA	MATTIE B. TERRELL	YES	3377	3,750	19	
395-LA	EVA WILLIAMS, ROBERT WILLIAMS	YES	3378	3,750	19	
397-LA	CHESTER V. LONG, MARGARET F. LONG	YES	3379	3,675	19	
406-LA	CLOYDE JAMES FRY, ROBERTA MARION FRY	YES	36130	4,600	19	
406-A-LA, 406-B-LA, 406-B-WA	UNCLAIMED	YES	1695		19	
407-LA	LOUIS HARRINGTON, JULIA HARRINGTON	YES	1696		19	
425-LA	SOPHIE COHEN	YES	1695,1696		19	FILL BASEMENT
426-LA	GEORGE BRADLEY, FRANCES JUNE BRADLEY	YES	1701	10,593	19	
427-LA	HELEN BUGNO	YES	1700	10,923	19	
428-LA	EDWARD WILLIAMS, J.B. WILLIAMS	YES	1700	5,958	19	
428-LA	GRANT BARNETT, JOSEPHINE BARNETT	YES	1697	4,377	19	
429-WA	GRANT BARNETT, JOSEPHINE BARNETT	YES	1694	2,160	19	
430-LA	JOHN MCCARTY SCHWARTZ	YES	1694	1,485	19	
430-WA	JOHN MCCARTY SCHWARTZ	YES	1694		19	FILL BASEMENT
431-LA	ARNOLD AND CATHERINE HOWELL	YES	5567	592	19	
431-WA	ARNOLD AND CATHERINE HOWELL	YES	5567		19	FILL BASEMENT
432-LA	JEAN WEISER, ANDREW ROSENFELD	YES	3497	543	19	
432-WA	JEAN WEISER, ANDREW ROSENFELD	YES	3497		19	FILL BASEMENT
433-LA	WILLIE JAMES TALLEY	YES	34916	464	19	
433-A-LA	RUTH B. ROBINS	YES	34916		19	FILL BASEMENT
433-WA	WILLIE JAMES TALLEY	YES	34915	342	19	
433-A-WA	RUTH B. ROBINS	YES	34914	3,321	19	
354-A-LA	*THE GENERAL ELECTRIC COMPANY*	YES	34915		19	FILL BASEMENT
393-A-LA	*F.KIRKORSKY AND C.& E. BENTLEY*	YES	34914		19	REMOVE FOUNDATION
		YES	2311,2312		17	
		YES	3377	1,875	19	

ELIGIBLE FOR FEDERAL PARTICIPATION
* 348-A — THE CITY OF YOUNGSTOWN (FORMERLY JOHN PAUL) — NO — 2308 (PART) — 450 — 17
* 350-A — THE CITY OF YOUNGSTOWN (FORMERLY JOHN BUDAKER) — NO — 2309 (PART) — 744 — 17

RECEIVED R/W NOV 29 1962 State Highway Dept. Dis. No. 4

Parcel 344 A Area Revised 11-19-62
ADDED PCL-356-TS DELETED 356-WA 2-22-61
Pcl. 393-LA Revised Deed 12-15-60
Pcl. 393-A-LA Added 12-15-60
Pcl. 318-LA Revised Area 10-18-60
Pcl. 285-A-LA Changed Area & Sta. 8-23-60
Parcels 356-LA & 356-A-LA Added Name & Areas 7-6-60
Parcel 320-A-LA Added Area 7-6-60
Parcel 287-LA Added Area 7-6-60
Parcel 361-C-LA Revised 6-30-60
Parcel 344-A Revised 6-30-60
Parcel 339-LA Revised 6-27-60
Parcel 299-A-LA Revised 6-27-60
Parcel 313-B-A Added Area 6-24-60
Parcel 287-B-LA Deed Information Added 6-24-60
Parcels 316-A & 316-LA Area Revised 6-16-60
Sheet Reference Nos. Revised 4-20-60
Parcel 330-LA Revised 4-18-60
Parcel 344B-LA Revised 4-12-60

ADDED PCLS. 348-A & 350-A PER GUZIAK 6-3-68. J.R.B.

Deleted Pcl. 347-LA, Combined with 347-LA 3-4-65.
12-16-63
Warranty Deed 1017 Pg 637 Case No 2168065
Pcl-319 Aerial Deleted, Area rev Pcl 319-LA 12/16/63

FED. RD.	STATE	PROJECT	
2	OHIO		

471 / 492

MAH-18-17.20

SUMMARY OF R/W REQUIRED

CITY OF YOUNGSTOWN
PROJECT MAH.-18-17.20

PARCEL Nº	OWNER	LOT Nº	AREA SQ. FT.	SHEET Nº	REMARKS
C-1 WA	MARGARET C. BOWREY	18181		22	
C-2 WA	ELIZ. LESKO ZAVACAN	18182		22	
C-3 WA	JOHN & WASYLYNA IWANUIK	18183		22	
C-4 WA	THEO. & NANCY HASSAY	18184		22	
C-5 WA	KOLAR & KURTA	18185		22	
C-6 WA	GUSSIE L. HEYMAN	18186		22	
C-7 WA	CHARLES & FLO L. PALISEN	18187		22	
C-9 WA	CHAS. & JUSTINE SEREDNESKY	6788		22	
C-10 WA	MARY KNAPIK	15348		22	
C-11 WA	JOHN & SOPHIE TOPORCER	15350		22	
C-12 WA	JOHN LEJBA	15351		22	
C-13 WA	ALEX & ADA HODORY	15352		22	
C-14 WA	MARY & JOHN SKLEPKO	15353		22	
C-15 WA	PAUL & MARY KISSEL	15354		22	
C-16 WA	MARY PODRAEZKY	6789		22	
C-17 WA	JOHN & HELEN NESTERUK	6790		22	
C-18 WA	PAUL & JULIA ANTEL	6791		22	
C-19 WA	CHARLES F. SEMPLE	11781		22	
C-20 A	THE ISALY DAIRY CO.	9487		23	
C-20 WA	THE ISALY DAIRY CO.	"		23	
C-22 WA	T. SAADI	3921		25	
C-23 WA	T. SAADI	3920		25	
C-24 A	EXIE SCRUGGS	2363		25	
C-25 A	EMMA JANE McCORKLE	2357		25	
C-26 WA	CLIFTON DOUGLAS-LUCY ANN PARKER	2327		25	
C-27 WA	RUBY B. CHEIRS	2326		25	
C-28 WA	HATTIE BRADLEY	1929		25	
C-29 A	J. B. & H. COLLIER	2355		25	
C-30 A	LOWRENCE & BEATRICE SMITH	2356		25	
C-31 A	TOFFIC SAADI	876		25	
C-33 A	WALTER & WILLO LEE FLIPPING	5662		25	
C-33 WA	"	"		25	
C-34 A	IDA BELLE PEARSON	5663		25	
C-34 WA	"	"		25	
C-35 A	MARY CANNELL	5664		25	
C-35 B		5665		25	
C-35 WA	MARY CANNELL	5664		25	
C-36 A	ANNA CENTRIC	5724		25	
C-37 A	ALVIN & JOSEPHINE CLARK	5725		25	
C-38 A	ANDERSON & OLA MAE JOHNSON	55074		25	
C-39 A	MATTIE HART	55077		25	
C-39 WA	"	"		25	
C-40 A	CLARA WASHINGTON	848		25	
C-40 WA	"	"		25	
C-41 A	UNION NAT'L BANK TRUST	5650		25	
C-42 WA	DOZIER RENAH - JAMES JACKSON	1578		25	
C-43 WA	EMIL E. RESTLE	5668		25	
C-44 A	LINDSAY CARRIE	57454		25	
C-44 WA		57454		25	
C-45 WA		57455		25	
C-46 A	NAT'L CITY BANK OF CLEVE. TR.	2316		26	
C-46 WA		2316		26	
C-47 A	FIRESTONE TIRE & RUBBER CO., AKRON, O.	2900		26	
C-47 WA		2900		26	
C-49 A	FLORENCE MACE	3171		24	
C-50 A	MILITARY ORDER OF COOTIE, PUP TENT #5	3172		24	
C-50 BA	FRANK P. SANDERS	3172		24	
C-51 A	GEORGE A. GRIEN	3173		24	
C-52 A	ISALY DAIRY CO.	2653		24	
C-52 BA	MOFFET L. T. & B.	2653		24	
C-53 A	ISALY DAIRY CO.	3407		24	
C-53 BA	DOLLAR SAVINGS & TRUST CO.	3407		24	
C-54 A	BENJAMIN F. LEWIS	9508		24	
C-54 CA	RALPH M. Mc CRACKEN	9508		24	
C-55 A		5721		24	
C-55 WA		5721		24	

PARCEL Nº	OWNER	LOT Nº	AREA SQ. FT.	SHEET Nº	REMARKS
C-56 A	LEONA LOUISE CALER	5722		24	
C-56 BA	RALPH M. McCRACKEN	5722		24	
C-56 WA	LEONA LOUISE CALER	5722		24	
C-56 B-WA	RALPH M. McCRACKEN	5722		24	
C-57 A	CALVIN & MARTHA WESTON	O.L. 379		24	
C-57 BA	D.H. LEVY & S. DUNGER	"		24	
C-57 B-WA		"		24	
C-57 WA	CALVIN & MARTHA WESTON	O.L. 379		24	
C-58 A	NAPOLEAN & DOROTHY BURT	30332		24	
C-60 A	THEO. R. CLAPP	3371		26	
C-60 WA	"	"		26	
C-61 A	FRED SHUTRUMP	10101		26	
C-61 WA	"	"		26	
C-62 A	BEATRICE B. LOPEZ	1692		26	
C-62 WA	"	"		26	
C-63 A	NATHAM DARSKY	1691		26	
C-63 WA	"	"		26	
C-64 A	FRED WALLACE HUGHES	1690		26	
C-64 WA	"	"		26	
C-65 A	GEORGE & K. KONIESCKY	1689		26	
C-65 WA		"		26	
348 A	JOHN PAUL	2308		26	
348 WA	"	"		26	
350 A	JOHN & ANN BUDAKER	2309		26	
350 WA		"		26	

Sheet Reference Nos. Revised 4-20-60

I-680 R/W SHEET 6 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

472 / 492



PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
1-LA	LUIGI FULCINITI	—	—	—	5778
2-LA	PETER & HELEN MIKITA	2-ST.FR.	10×16 FR.	5×6 FR. SHED	5000
3-LA	WILLIAM PUPA	2-ST.FR.	10×16 FR. SHED	7×14 FR. SHED	4090
4-LA	STEVE DOLAK MARY DOLAK	2-ST.FR.	—	8×8 FR. SHED	2120
4-A-LA	ELIZABETH PEDAK	2-ST.FR.	—	—	261
6-LA	MOLLIE BARTA	2-ST.FR.	40×20 FR.	—	5625
7-LA	FRANCISKA ONDASH	2-ST.FR.	8×8 FR. SHED	7×12 BR. SHED	5000
8-LA	MATHEW A. STANKICH MARY LOU STANKICH	2-ST.FR.	12×16 FR.	9×12 FR. SHED	5000
9-LA	JOHN IWANIUK WASYLYNA IWANIUK	2-ST.FR.	—	6×8 FR. SHED	6250
10-LA	FRANK DEAK ELIZABETH DEAK	2-ST.FR.	—	9×6 FR. SHED	4770
11-LA	MARY GARCAR	2-ST.FR.	—	7×12 FR. SHED	2850
12-LA	JOHN KRUPA MARY KRUPA	2-ST.BR.	12×16 FR.	—	136
13-LA	ALBERT FUZY, WM. A. AMBROSE MRS. JULIA KARAKA, PAUL FUZY	2-ST. FR.	36×18 FR.	—	6728
15-LA	ANNE CHABALA LESON	2-ST.FR.	—	6×8 FR. SHED	5000
16-LA	ANNE SHUSTER	2-ST.FR.	10×18 FR.	—	7500
18-LA	MIKE SEMAN MARY SEMAN	2-ST.FR.	—	—	3750
19-LA	PETER KANTOR JR. ETHEL MASZAROS	2-ST.FR.	13×18 FR.	—	6250
20-LA	HELEN KRAVEC	—	16×22 FR.	—	5000
26-LA	ANDREW ANTHOL, ANN CIZMAR PAUL ANTHOL, HELEN YASH	2-ST.FR.	11×15 FR.	7×14 FR. SHED	3820
22-LA	MITRO MICA ANNIE MICA	1-ST.FR.	—	11×18 FR. SHED	4950
24-LA	JAMES K. WALTERS	2-ST.FR.	12×18 FR.	8×10 FR. SHED	11.849
25-LA	HELEN M. BUGNO	1-ST.BR.	11×15 FR.	6×6 FR. SHED	7406

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
28-LA	ANNA GONDA	2-ST.BR.	20×20 FR.	—	5000
29-LA	MARY L. ADAMS	2-ST.BR.	14×20 FR.	—	5000
30-LA	PAUL BEDNARIK	2-ST.FR.	12×18 FR.	6×8 FR. SHED	4100
31-LA	VERONICA BUNDASH	2-ST.FR.	14×20 FR.	—	2050
31-A-LA	MICHAEL BEHUN MARY BEHUN	2-ST.FR.	14×22 FR.	—	403
33-LA	MICKEY HANUSCHAK FLORA JEAN HANUSCHAK	1-ST.BR.	—	—	3400
34-LA	JOHN F. TOBIN KATHERINE TOBIN	1-ST.BR.	—	—	1438
35-LA	STEVE MATYL ANNIE MATYL	1-ST.FR.	—	7×9 FR. SHED	5000
36-LA	SUE K. FURDEN JULIA KUNI	1-ST.FR.	—	7×7 FR. SHED	5000
37-LA	JOE VALUSH	1-ST.FR.	—	5×8 FR. SHED	4000

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
38-LA	ANNA GAYDOS	1-ST.FR.	12×20 FR.	11×8 FR. SHED	4000
39-LA	ANDREW & SUSIE LENGYEL	1-ST.FR.	—	8×8 SHED	4125
40-LA	ANNA, JOHN S. & JOSEPH YUHASZ	1-ST.FR.	—	8×9 SHED	3680
46-LA	GEORGE ZAHDRERY ELIZABETH ZAHDRERY	2-ST.FR.	—	6×8 FR. SHED	5490
47-LA	ANNA PAVLIK	2-ST.FR.	—	8×8 FR. SHED	3240
48-LA	MARY SELENK	2-ST.FR.	—	9×10 FR. C.C.	689
58-C-LA	JOSEPH S. PETRICK MARIA PETRICK	LOSS OF ACCESS TO LAKEVIEW AVE.			
58-F-LA	STEVEN N. BOBOVNYCK MARY BOBOVNYCK	2-ST.FR.	—	—	3808

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING SQ.FT.
41-LA	THE PORTLAND LAND CO.	—	—	—	6432
43-LA	ANNIE NELSON	—	—	—	1420
49-LA	HELEN W. COHN	—	—	—	68,711

WORK AGREEMENT

PARCEL №	NAME	DESCRIPTION
26-WA	ANDREW ANTHAL, ANN CIZMAR PAUL ANTHAL, HELEN YASH	REMOVE SHED
3-WA	WILLIAM PUPA	FILL BASEMENT
13-WA	ALBERT FUZY, WM. A. AMBROSE JULIA KARAKA, PAUL FUZY	REMOVE GAR. FD'N.
30-WA	PAUL BEDNARIK	REMOVE GAR. FD'N.
31-A-WA	VERONICA BUNDISH	FILL BASEMENT
46-WA	GEORGE ZAHDRERY ELIZABETH ZAHDRERY	FILL BASEMENT
34-WA	JOHN F. TOBIN CATHERINE TOBIN	FILL BASEMENT

REV. NO.	NATURE OF REVISION	DATE	MADE BY
Pcl. 49-LA	Name Change	10-5-60	S.S.
Pcl. 1-A LA	Removed From Taking	12-30-59	J.E.P.
Pcl. 49-LA	Coordinates Added	6-7-60	T.A.B.
	Deleted Parcels 21A-LA	DATE COMP.	
	Added 26WA, 3WA, 13WA, 30WA, 31A-WA, 46WA, 34WA, 58ATS.		
Pcl. 34-LA	Revised Area of Taking	12-1-60	B.H.
Pcl. 49-LA	Revised Area of Taking	1-21-60	B.H.
	REVISED 58-ATS TO 58C-LA	3-25-60	J.D.P.

8-82

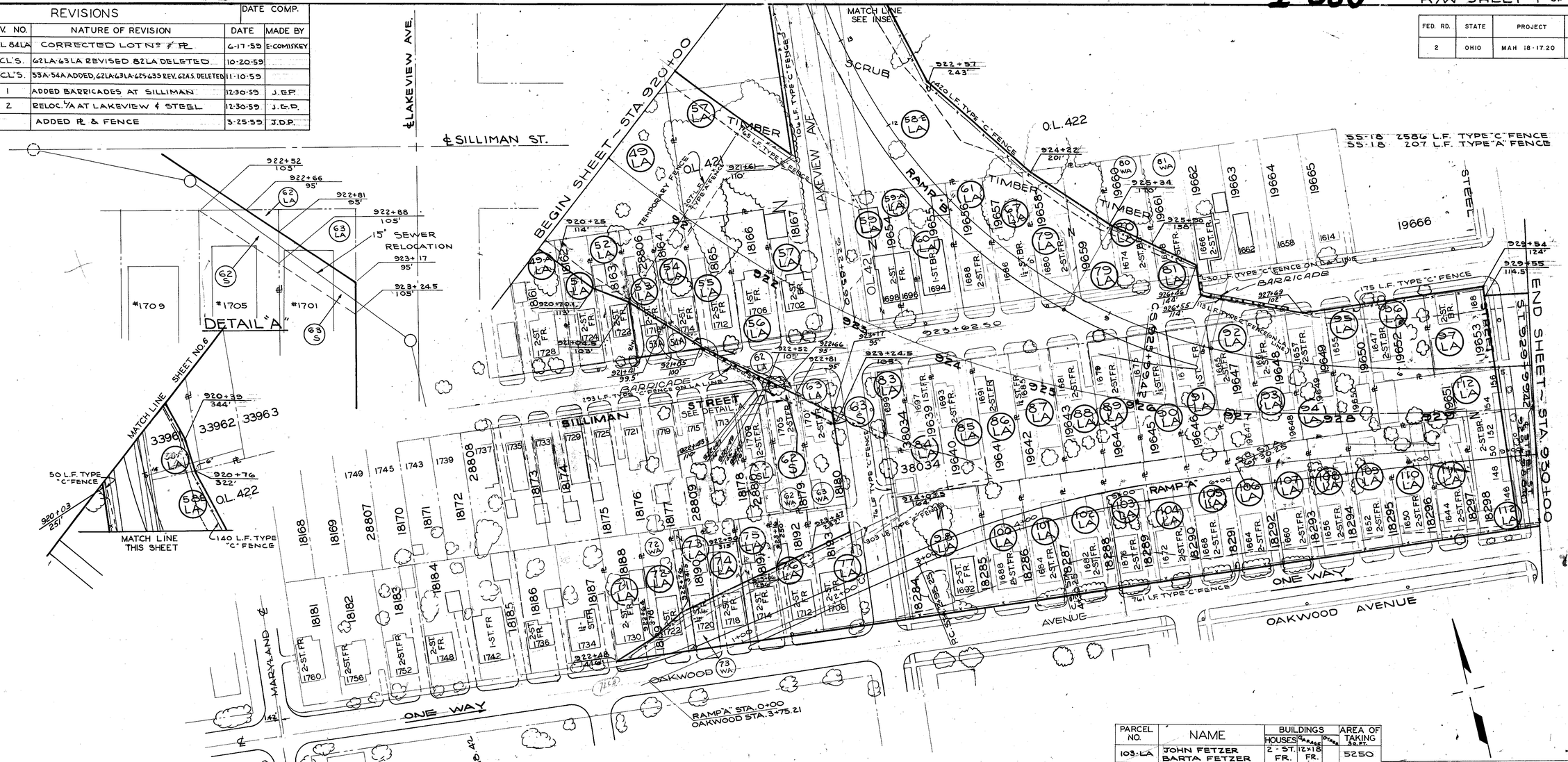
I-680

R/W SHEET 7 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

473
492

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
PCL 84LA	CORRECTED LOT Nos & PR	6-17-59	E.COMISKEY
PCL'S.	62LA-63LA REVISED 82LA DELETED	10-20-59	
PCL'S.	53A-54A ADDED, 62LA-63LA-62SA-63SA REV. 62AS. DELETED	11-10-59	
# 1	ADDED BARRICADES AT SILLIMAN	12-30-59	J.G.P.
# 2	RELOC. 1/A AT LAKEVIEW & STEEL	12-30-59	J.G.P.
	ADDED PR & FENCE	3-25-59	J.D.P.



PARCEL NO	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
49-A-LA	JOE INCE ANNA INCE	2-ST. FR.	10x18 FR.		231
51-LA	BETTY JOE YOHMAN	2-ST. FR.	10x16 FR.		1203
52-LA	ANDREW KOSAR HELEN KOSAR	2-ST. FR.	10x16 FR.		2080
53-LA	MICHAEL NAGY JR.	2-ST. FR.	12x20 FR.	8x10 FR. SHED	2762
54-LA	MARGARET BADA	2-ST. FR.	12x20 FR.		3672
55-LA	VINCENT F. HALKO MARY ANN HALKO	2-ST. FR.	12x12 FR.		5000
56-LA	ANDY LUKAC MARY LUKAC	1-ST. FR.			5000
57-LA	ALEXANDER BARICH MILDRED BARICH	2-ST. BR.	20x20 TILE		13720
58-LA	MARY PAULINE WILLIAMS				20,690
59-LA	GINO LAMARCA ½ LOUISE LAMARCA ½	2-ST. FR.	20x22 FR.		6265
59-A-LA	UGO DIBACCO ½ ANNA DIBACCO ½	2-ST. FR.			2774

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
60-LA	PAUL SEMAI JOAN SEMAI	1-ST. BR.	14x20 FR.	6x12 FR. SHED	5000
61-LA	PAUL GLOVA MARY GLOVA	2-ST. FR.		6x10 FR. SHED	5000
67-LA	MARY MACYNSKI	1½ ST. BR.		6x16 FR. SHED	5000
79-LA	JOHN BOBANICH ANNA BOBANICH	2-ST. BR.	12x20 FR.		7728
80-LA	ANNA MOZZY-MARY BARTELL-MICHAEL & ANDREW CYCYK	2-ST. BR.			2000
81-LA	JOHN R.-CHARLES E.-JOSEPH T.-MARY ANN-CATHERINE T. & JENNIE S. MARCH	2-ST. FR.	18x20 FR.	6x10 FR. SHED	960
62-LA	DAFINI NEGROFF	2-ST. FR.	12x20 FR.		64
63-LA	BARBALA OR BARBARA BURCSAK	2-ST. FR.		8x10 FR. SHED	705
83-LA	JOHN STUN	1-ST. FR.	14x18 FR.		3189
84-LA	ASTER SKLEPKO	1-ST. FR.	12x20 FR.		3750

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
85-LA	JOHN DZUROFF ANNI DZUROFF	2-ST. FR.	14x20 FR.		5000
86-LA	MICHAEL SABOL JR.-MARTIN SABOL & MARY B. KAVANAUGH	2-ST. FR.			5000
87-LA	MARY BAROLAK ROMAN-EDWARD-EMIL-JOSEPH T. BAROLAK	1½-ST. FR.	20x20 FR.		5000
88-LA	THERESA TOBIS OR THERISA TOBIAS	2-ST. FR.			5000
89-LA	JOHN J. BRCAK AGNES BACAK	2-ST. FR.	12x16 FR.		5000
90-LA	JOSEPH-JOSEPH S.-BERNARD R.-GEORGE C. KNAPIC-FRANCES K. ACRI	1½-ST. FR.	1 CAR		5000
91-LA	WALLACE DORKO HILDA MARIE DORKO	1½-ST. FR.	12x18 FR.		5000
92-LA	MARTIN HARCHAR ANNA HARCHAR	2-ST. FR.	12x18 FR.		5000
93-LA	MARY D. OLSAVSKY	2-ST. FR.	14x18 FR.		5000
94-LA	KAROL BUREK ANNA BUREK	2-ST. FR.	12x18 FR.		5000
95-LA	MARI OR MARY MAJOVSKY				5000
96-LA	VERONICA MISSIK	2-ST. BR.		6x10 FR. SHED	5000
97-LA	JOHN KISS ELIZABETH KISS	2-ST. BR.	28x20 FR.		5000
62-S	DAFINI NEROFF				750
63-S	BARBALA OR BARBARA BURCSAK				335

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
62-A-SA					80
64-SL	ANDREW TARKANICH SUSIE TARKANICH				25
71-LA	ANDY L. LESKOVEC ANNA C. LESKOVEC	2-ST. FR.	12x18 FR.		360
72-LA	HELEN BROGLI JULIANNA BROGLI	2-ST. FR.	10x18 FR.		980
73-LA	CHARLES R. KELLY LEONA CODE	1½-ST. FR.	10x18 FR.	14x18 FR. SHED	1440
74-LA	THOMAS A. DENEHY BRIDGET L. DENEHY	2-ST. FR.	12x18 FR.		2090
75-LA	ANDREW BODNAR ANNA BODNAR	2-ST. FR.	12x18 FR.		1950
76-LA	JOSEPH BANKOVITCH	2-ST. FR.	12x18 FR.		3040
77-LA	JOHN PAUL BARBOLA, PAUL	2-ST. FR.	22x24 FR.		3500
98-LA	GEORGE BODNAR JR. HELEN BODNAR	2-ST. FR.	18x22 FR.		10680
100-LA	MARY ADAMS	2-ST. FR.	15x18 FR.		5000
101-LA	JOHN M. SUDZINA AGNES SUDZINA	2-ST. FR.	18x20 FR.		5250
102-LA	BRIDGET L. RUANE	2-ST. FR.	18x18 FR.		5250

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING Sq.Ft.
103-LA	JOHN FETZER BARTA FETZER	2-ST. FR.	12x18 FR.		5250
104-LA	ZVONIMIR ROY VULYAK ROSE M. VULYAK	2-ST. FR.	12x18 FR.		5250
105-LA	ANNA KACHMAR OR ANNA KACHMER	2-ST. FR.			5250
106-LA	MICHAEL YACKO ELIZABETH YACKO	2-ST. FR.	10x16 FR.		5250
107-LA	PETER ZEMAN MARY ZEMAN	2-ST. FR.	12x16 FR.		5000
108-LA	VALENT LEDINKO	2-ST. FR.	12x18 FR.		5000
109-LA	GABOR TOTH SUSIE TOTH	2-ST. FR.	12x17 FR.		5000
110-LA	MATHEW HAMBORSKY ANNA G. HAMBORSKY	2-ST. FR.	12x18 FR.		5000
111-LA	FRANK BAROLAK	2-ST. FR.	12x18 FR.		5000
112-LA	JOSEPH ANDREWS	2-ST. BR.			10612
53-A	MICHAEL NAGY, JR.				1398
54-A	MARGARET BADA				488

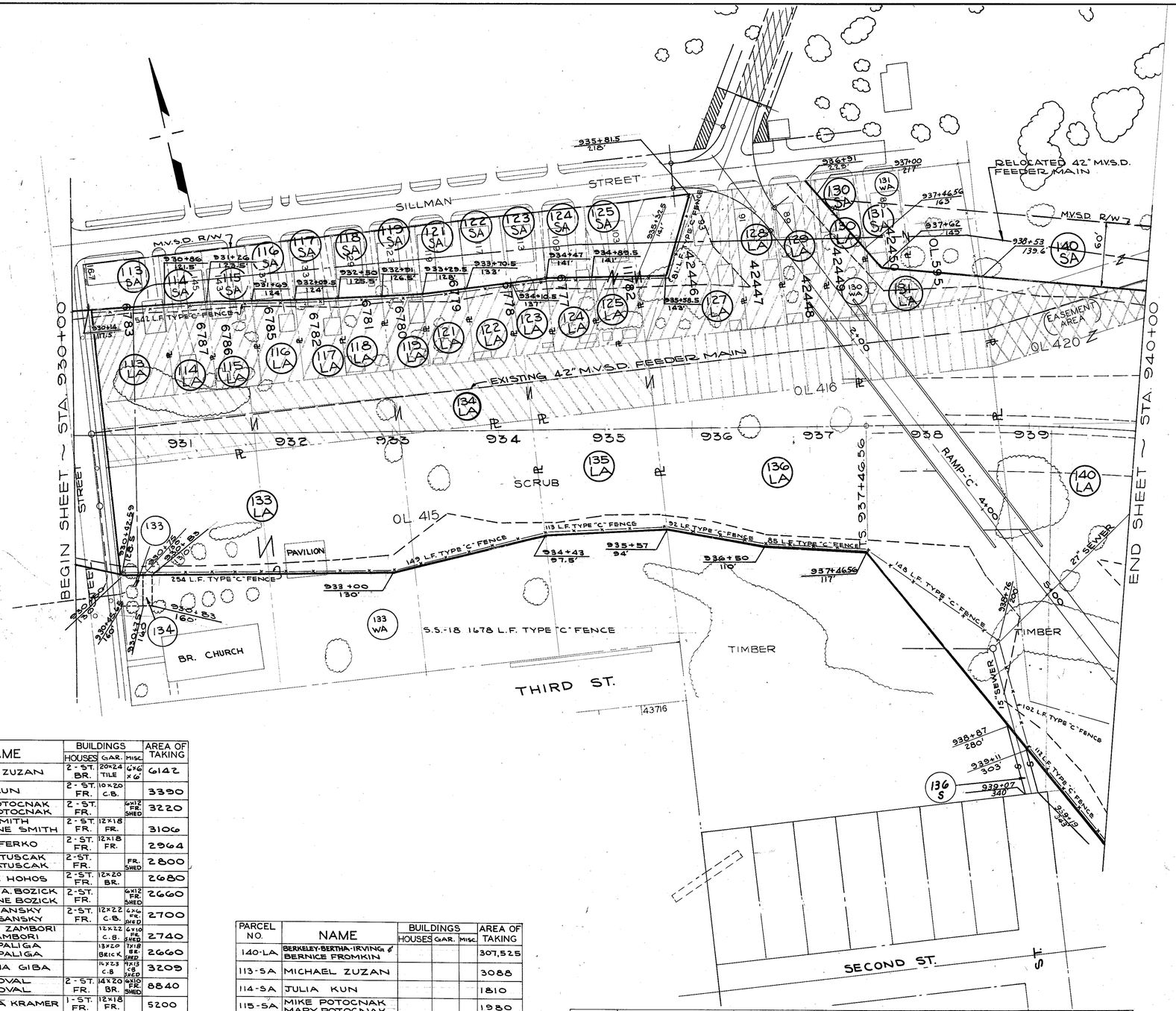
WORK AGREEMENTS

PARCEL Nos	NAME	DESCRIPTION
62-WA	DAFINI NEGROFF	FILL BASEMENT
63-WA	BARBALA OR BARBARA BURCSAK	FILL BASEMENT
80-WA	ANNA MOZZY - MARY BARTELL MICHAEL & ANDREW CYCYK	FILL BASEMENT
81-WA	JOHN-CHARLES-JOSEPH-MARY ANN-CATHERINE & JENNIE MARCH	FILL BASEMENT
72-WA	HELEN BROGLI JULIANNA BROGLI	FILL BASEMENT
73-WA	CHARLES R. KELLY LEONA CODE	FILL BASEMENT

Revised 64-SL 10-6-61
Revised 58-F&A 6-23-60

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

474
432



PARCEL NO.	NAME	BUILDINGS HOUSES	GAR.	MISC.	AREA OF TAKING
113-LA	MICHAEL ZUZAN	2-ST. BR.	20X24 TILE	6'6" x 6'	6142
114-LA	JULIA KUN	2-ST. FR.	10X20 C.B.		3390
115-LA	MIKE POTOCNAK MARY POTOCNAK	2-ST. FR.		6X12 FR. SHED	3220
116-LA	JOHN SMITH CATHERINE SMITH	2-ST. FR.	12X18 FR.		3106
117-LA	FRANK FERKO	2-ST. FR.	12X18 FR.		2964
118-LA	PAUL MATUSCAK ANNA MATUSCAK	2-ST. FR.		FR. SHED	2800
119-LA	BERTHA HOHOS	2-ST. FR.	12X20 BR.		2680
121-LA	GEORGEA. BOZICK CATHERINE BOZICK	2-ST. FR.		6X12 FR. SHED	2660
122-LA	JOE PISANSKY MARY PISANSKY	2-ST. FR.	12X22 C.B.	6'6" FR. SHED	2700
123-LA	ANDREW ZAMBORI MARY ZAMBORI		12X22 C.B.	6'10 FR. SHED	2740
124-LA	FRANK PALIGA HELEN PALIGA		13X20 BRICK	7'X18 FR. SHED	2660
125-LA	KATARINA GIBA		14'X23 C.B.	9'X13 C.B. SHED	3209
127-LA	PAUL KOVAL IRENE KOVAL	2-ST. FR.	14X20 BR.	6'X10 FR. SHED	8840
128-LA	SUSANNA KRAMER	1-ST. FR.	12X18 FR.		5200
129-LA	GEORGE LUTZA JR.	2-ST. FR.	14'X20 C.B.	8'X14 FR. SHED	5200
130-LA	MATTHEW KOVAL ANNA KOVAL	2-ST. FR.	10X16 FR.		1540
131-LA	STEVAN HOFFMAN ANNA HOFFMAN	2-ST. FR.	12'X20 BR.	8'X16 FR. BARN	3180
133-LA	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH			30'X7' BR. BLDG.	48,376
134-LA	MAHONING VALLEY SANITARY DISTRICT				50,220
135-LA	JOHN SAHLICA				12882
136-LA	SERBIAN EASTERN ORTH. CONGREGATION	1-ST. BR.			130,633

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BARN	AREA OF TAKING
140-LA	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN				307,525
113-SA	MICHAEL ZUZAN				3088
114-SA	JULIA KUN				1810
115-SA	MIKE POTOCNAK MARY POTOCNAK				1980
116-SA	JOHN SMITH CATHERINE SMITH				2094
117-SA	FRANK FERKO				2236
118-SA	PAUL MATUSCAK ANNA MATUSCAK				2400
119-SA	BERTHA HOHOS				2520
121-SA	GEORGE A. BOZICK CATHERINE BOZICK				2600
122-SA	JOE PISANSKY MARY PISANSKY				2500
123-SA	ANDREW ZAMBORI MARY ZAMBORI				2460

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BARN	AREA OF TAKING
124-SA	FRANK PALIGA HELEN PALIGA				2540
125-SA	KATARINA GIBA				5880
130-SA	MATTHEW KOVAL ANNA KOVAL				720
131-SA	STEVAN HOFFMAN ANNA HOFFMAN				6204
140-SA	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN	1-ST. FR. House			9080
133	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH				750

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
134	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH				240
136	SERBIAN EASTERN ORTH. CONGREGATION				715

WORK AGREEMENT

PARCEL Nº	NAME	DESCRIPTION
133-WA	ST. MICHAELS RUSS. ORTH. GR. CATH. CHURCH	REMOVE FOUNDATION
130-WA	MATHEW KOVAL ANNA KOVAL	FILL BASEMENT
131-WA	STEVAN HOFFMAN ANNA HOFFMAN	FILL BASEMENT

REVISIONS

REV. Nº	NATURE OF REVISION	DATE	MADE BY
9	Added Pcl. 134 LA, ALA, BLA, & CLA	6-25-65	
6	Parcel 136-S Revised Sewer	7-7-60	S.S.
5	Parcel 133-S To 133	7-6-60	S.S.
4	Parcel 136-S Revised	6-30-60	S.S.
8	ADDED PARCEL 134	4-17-61	T.J.
7	Rev. Corr. Parcel 133	3-28-61	T.J.
#1	ADDED M.V.S.D. FEEDER MAIN	12-30-59	J.E.P.
	REVISED L/A LINE AT STEEL ST.		
	ADDED 131WA, 130WA, 133, 133WA		
	136 S		
#2	REVISED FENCE - ADD PL	3-28-60	J.D.P.
#3	Parcel 135-LA Area Revised	5-10-60	

1138767

THE MAHONING VALLEY SANITARY DISTRICT RIGHT-OF-WAY PLAT

Graphic Scale, (Original Tracing)

CITY OF YOUNGSTOWN
MAHONING COUNTY, STATE OF OHIO
MAH. 18-17.20 -YOUNGSTOWN EXPRESSWAY

APPROVED BY:
BOARD OF CONTROL
MAYOR _____ 3/18/64
SIGNATURE DATE
LAW DIRECTOR _____ 3/14/64
SIGNATURE DATE
FINANCE DIRECTOR _____ 3/18/64
SIGNATURE DATE

DEPT. OF PUBLIC WORKS
COMM. OF ENGINEERING _____ 3/18/64
SIGNATURE DATE

THE M.V.S.D. BOARD OF DIRECTORS

PRESIDENT _____ A. I. KIDSTON 12-5-63
SIGNATURE DATE
MEMBER _____ W. F. MacQUEEN 12-5-63
SIGNATURE DATE
SECRETARY _____ D. D. HEFFELFINGER 12-5-63
SIGNATURE DATE

RECEIVED FOR RECORD ON THE 11TH DAY OF FEB. 1965
AT 3:05 O'CLOCK P.M. RECORDED IN VOL. 55 PAGES 247 OF
THE MAHONING COUNTY RECORD OF DEEDS ON THE 15 DAY
OF February, 1964.
Horace G. Tetlow
MAHONING COUNTY RECORDER

Needs no transfer
2-11-65
F. D.

NOTE
ALL STATIONS AND BEARINGS SHOWN REFER TO EXPRESSWAY DATA EXCEPT WHERE MARKED M.V.S.D. OR EXISTING STATION.

DWG. No. D-6-X 140.1
Acc. No. 9194
File - V-11-85

REVISED: NOV. 6, 1963 - TRIPP
* - DENOTES REVISION OR ADDED INFORMATION
Added Pcls. 134 LA, 134 ALA, 134 BLA, 134 CLA. 8-17-65
Rev. Nov. 21, 1963 — * DENOTES ADDITIONAL DATA By M.V.S.D. REG. SURVEYOR, No. 3263, John T. Santagata

E.O.N.D.

I-680

R/W SHEET 9 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

475/492

SS-18 644 L.F. TYPE "C" FENCE

AREA OF FEDERAL PART. (LAND FEE TITLE)

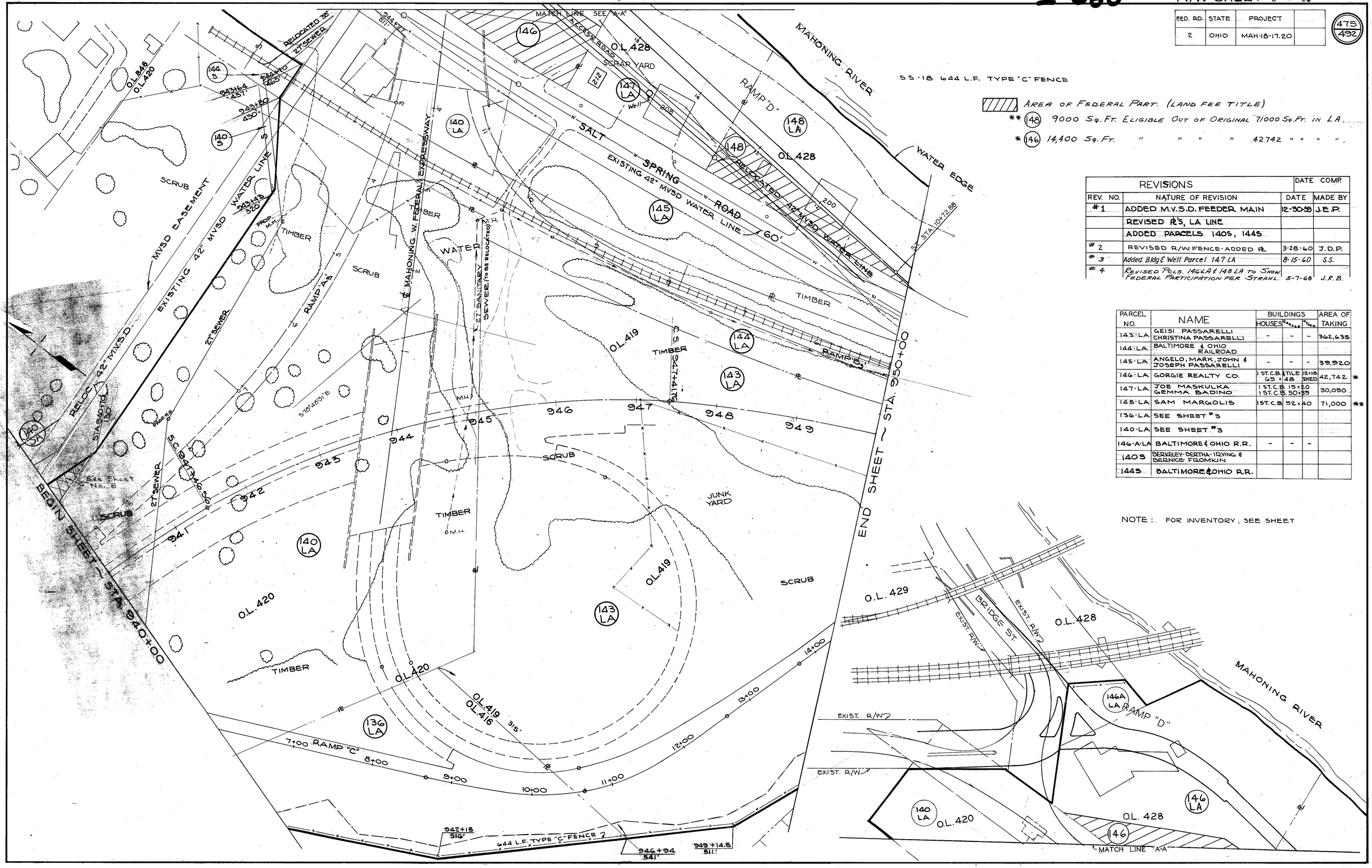
** (148) 9000 Sq. Ft. ELIGIBLE OUT OF ORIGINAL 71000 Sq. Ft. IN LA.

* (146) 14,400 Sq. Ft. " " " " 42,742 " " " ".

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
#1	ADDED M.V.S.D. FEEDER MAIN	12-30-59	J.E.P.
	REVISED R/S, LA LINE		
	ADDED PARCELS 1405, 1445		
#2	REVISED R/W FENCE-ADDED R/S	3-28-60	J.D.P.
#3	Added Bldg & Well Parcel 147 LA	8-15-60	S.S.
#4	Revised P.O.S. 146 LA & 148 LA to Show Federal Participation PER STRAHL.	5-7-68	J.R.B.

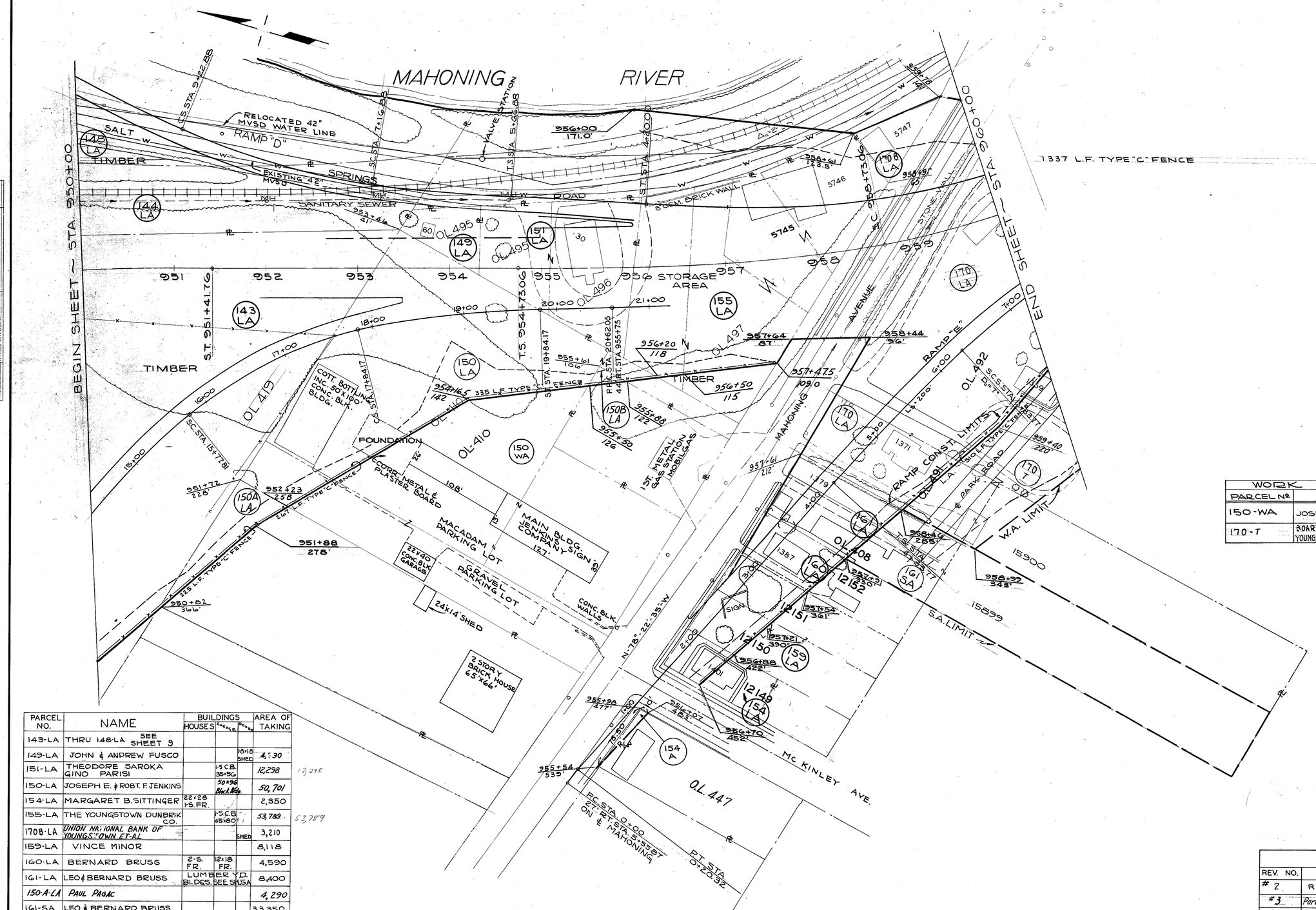
PARCEL NO.	NAME	BUILDINGS HOUSES	BUILDINGS OTHER		AREA OF TAKING	
143-LA	GEISI PASSARELLI CHRISTINA PASSARELLI	-	-	-	362,635	
144-LA	BALTIMORE & OHIO RAILROAD					
145-LA	ANGELO, MARK, JOHN & JOSEPH PASSARELLI	-	-	-	39,920	
146-LA	GORGIE REALTY CO.	1 ST.C.B. 65 x 48	TILE 12x16 SHED		42,742	*
147-LA	JOE MASKULKA GEMMA BADINO	1 ST.C.B. 15x20 1 ST.C.B. 50x35			30,050	
148-LA	SAM MARGOLIS	1ST.C.B. 52x40			71,000	**
136-LA	SEE SHEET #3					
140-LA	SEE SHEET #3					
146-A-LA	BALTIMORE & OHIO R.R.	-	-	-		
1405	BERKELEY-BERTHA-IRVING & BERNICE FROMKIN					
1445	BALTIMORE & OHIO R.R.					

NOTE: FOR INVENTORY, SEE SHEET



FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

476/492



PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING	
143-LA	THRU 148-LA SEE SHEET 9					
149-LA	JOHN & ANDREW FUSCO			18x18 SHED	4,530	
151-LA	THEODORE SAROKA GINO PARISI		1-S C.B. 35x56		12,298	13,298
150-LA	JOSEPH E. & ROBT. F. JENKINS		50x96 Block Bldg.		50,701	
154-LA	MARGARET B. SITTINGER	22x28 1-S. FR.			2,350	
155-LA	THE YOUNGSTOWN DUNBRIK CO.		1-S.C.B. 45x80		53,789	53,789
170B-LA	UNION NATIONAL BANK OF YOUNGSTOWN ET-AL			SHED	3,210	
159-LA	VINCE MINOR				8,118	
160-LA	BERNARD BRUSS	2-S. FR.	12x18 FR.		4,590	
161-LA	LEO & BERNARD BRUSS	LUMBER YD. BLDGS. SEE SH. 5A			8,400	
150-A-LA	PAUL PAGAC				4,290	
161-SA	LEO & BERNARD BRUSS				33,350	
150-B-LA	ELLA LOUISE WICK				333	
170-LA	See sheet 11					
154-A	LORIETTA McGEE				377.5	

WORK AGREEMENT		
PARCEL No.	NAME	DESCRIPTION
150-WA	JOSEPH & ROBERT F. JENKINS	FILL BASEMENT
170-T	BOARD OF PARK COMMISSIONERS YOUNGSTOWN TWP. PARK DISTRICT	CONSTRUCTION OF PARK ROAD

REVISIONS			DATE COMP.
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 2	REVISED FENCE-ADDED PL	3-28-60	J.D.P.
#3	Parcels 170-LA, 170-T, 170B-LA	4-20-60	T.A.B.
#4	Revised Parcel 154-A	6-23-60	S.J.S.
	ADDED PARCEL 154 A	12-30-59	
#1	ADDED 42" MVSD WATER LINES Revised	12-30-59	J.E.P.
Parcels	150LA, 150A-LA, 150-B-LA, 155-LA Revised	7-27-59	

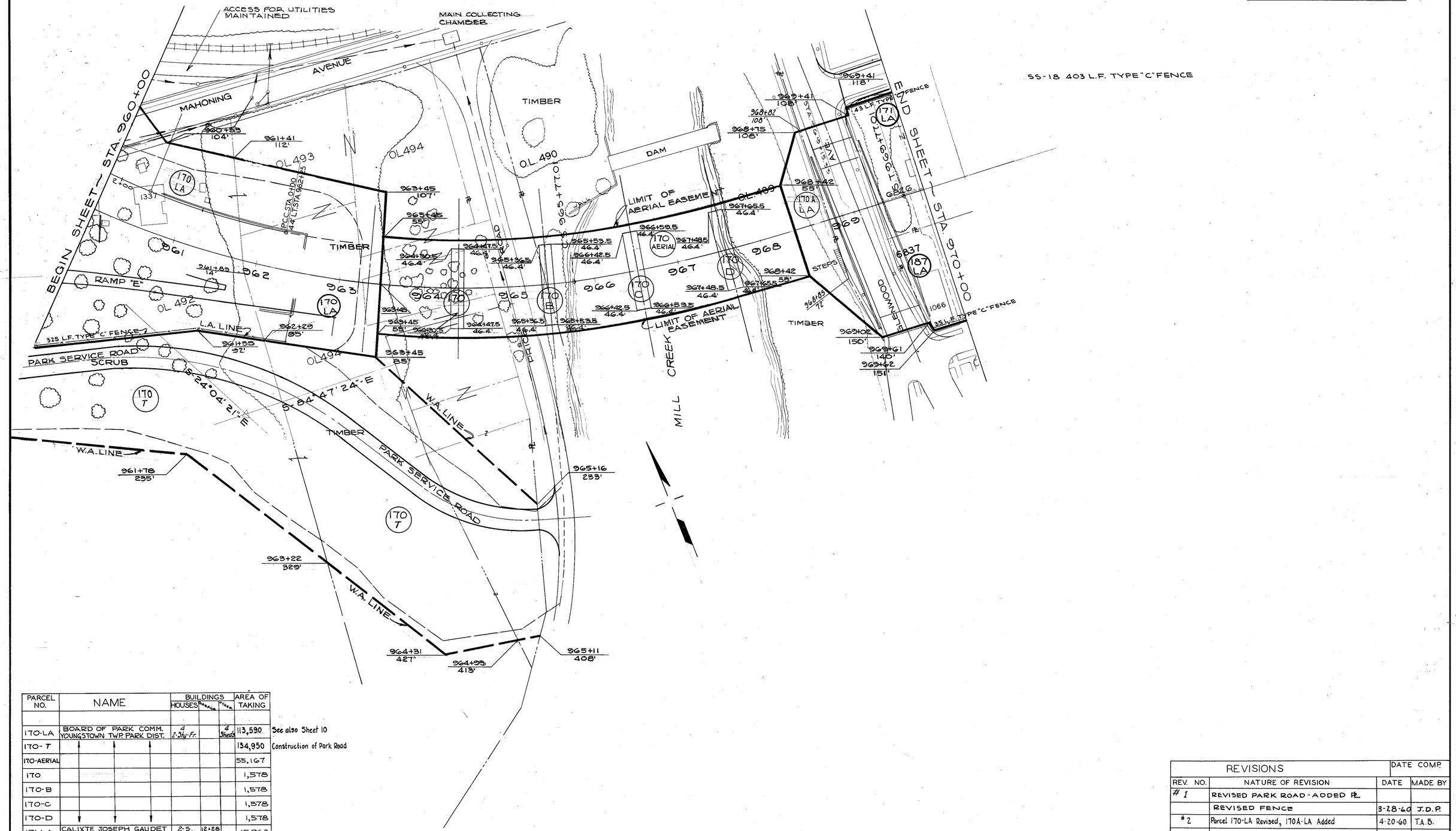
Parcel 170-T	Changed From Work Agreement To Temporary	7-6-60
Parcel 155-LA	Area Revised	7-6-60
Parcel 151-LA	Area Revised	7-6-60
Parcel 149-LA	Area Revised	7-6-60
Parcel 170B-LA	Revised	7-5-60
Parcel 149-LA	Revised	6-27-60
Parcel 170-B-LA	Revised	6-27-60

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

I-680

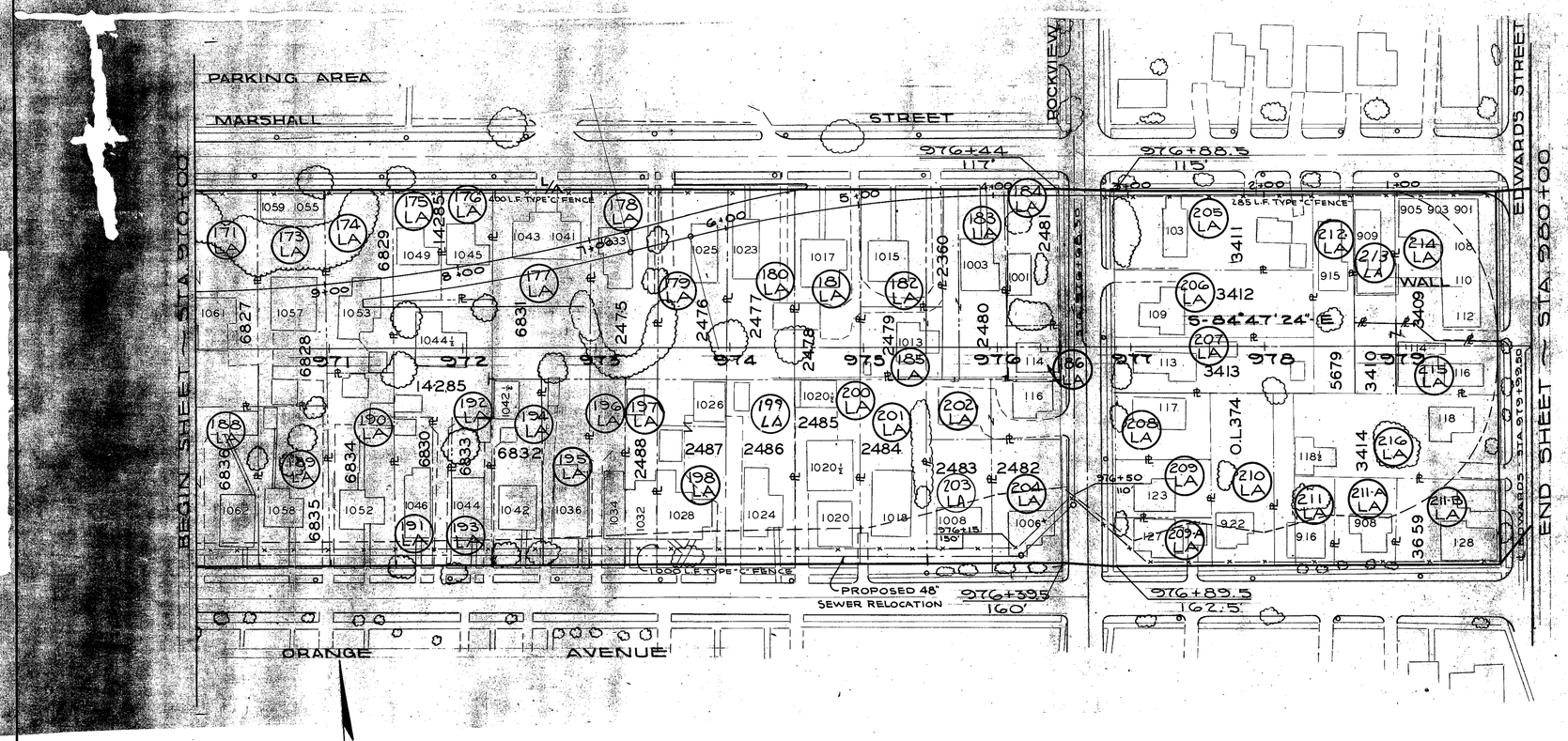
FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

477
492


ACCESS FOR UTILITIES MAINTAINED
MAIN COLLECTING CHAMBER
AVENUE
MAHONING
BEGIN SHEET — STA. 960+00
960+53
104'
961+41
112'
OL 493
OL 494
N
TIMBER
OL. 490
OL 495+00
DAM
963+45
107'
963+45
55'
963+45
85'
963+45
85'
963+45
85

FED. RD.	STATE	PROJECT	
2	OHIO	MAH. 18-17.20	

478/492



1685 L.F. TYPE "C" FENCE

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
171-LA	SEE SHEET No 6				
173-LA	WILLIAM W. NEFF ARMIDA NEFF	2-ST. BR. 2-ST. FR.	18x18 FR.		7625
174-LA	HAROLD & ETHEL GASKINS	2-ST. FR.	12x18 FR.	18x18 FR. SHED	7625
175-LA	JOHN J. CIKA DOROTHY A. CIKA	2-ST. FR.			2920
176-LA	JAMES A. POTTER PAULINE POTTER	2-ST. FR.			2920
177-LA	I SALY DAIRY CO.	2-ST. FR.	IN BASM'T.		10215
178-LA	THE DOLLAR SAVINGS & TRUST CO. TRUSTEE	2-ST. FR.			7634
179-LA	JOHN WILLIAMS LOU GENIA WILLIAMS	2-ST. FR.			6940
180-LA	DOUGLAS JONES CHESTINA JONES	2-ST. FR.	12x18 FR.		6940
181-LA	BESSIE AGRENOVITZ	2-ST. FR.	20x16 BR. SHED	7x12 FR. SHED	6940
182-LA	JESSIE DOUGLAS CHRISTINE DOUGLAS	2-ST. FR.			5028
183-LA	MARY G. REITZELL FLORA A. REITZELL	2-ST. FR.			6940
184-LA	BENJAMIN VERNON CLARA VERNON	2-ST. FR.			3960
185-LA	GILSON T. GRAHAM				3300
186-LA	ANNIE K. HARPER ROBINSON ALIAS ANNIE SIMMONS	2-ST. FR.			1560
188-LA	EULALIA M. LUTHER	2-ST. FR.	20x20 FR.		5900
189-LA	ROSINA SCHNEIDER	2-ST. FR.		8x16 FR. SHED	6000
190-LA	JAMES ARTHUR ROSS ANNIE B. ROSS	2-ST. FR.	18x18 FR.		6250
191-LA	ETHEL GILFILLAN	2-ST. FR.	12x18 FR.		3300
192-LA	D. N. GARVER MARTHA E. GARVER	2-ST. FR.			7695
193-LA	CLYDE E. TRUITT DOROTHY C. TRUITT	2-ST. FR.	12x18 FR.		3630
194-LA	TUFIC SAADI	2-ST. FR.	10x12 FR.		5066
195-LA	CHARLOTTE BYERS	2-ST. FR.	12x18 FR.		5066

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
196-LA	MARTIN BOKESCH CHRISTINA BOKESCH	2-ST. FR.			3924
197-LA	IRENE H. VANMETER	2-ST. FR.		12x16 FR. SHED	3252
198-LA	JOSEPH STOKAN	2-ST. FR.			6940
200-LA	KATHLEEN WATKINS	2-ST. FR.	12x20 FR. 16x20 FR.		6940
201-LA	KATHERINE B. WILSON	2-ST. FR.	16x18 FR.		6940
202-LA	JAMES ANDERSON	2-ST. FR.			4500
203-LA & 204-LA	FLORENCE APPEL DORFF HELEN APPEL LEWIS CLARA APPEL CASSESE	2-ST. FR. 1-ST. FR.			9300
205-LA	CLARENCE C. McKELRY ELIZABETH McKELRY	2-ST. FR.	18x18 FR. 10x16 FR.	4x10 FR. SHED	18x20 FR. BARN 9000
206-LA	THOMAS A. MUMFORD	2-ST. FR.		8x20 FR. SHED	7500
207-LA	LILLIAN B. JONES RAFE	2-ST. FR.	12x20 C.B.	8x14 FR. SHED	6000
212-LA	T SAADI	2-ST. FR.			4500
213-LA	HOWARD JAMES WILLIE MAE JAMES	2-ST. FR.			2910
214-LA	ARTHUR I. WALDMAN	2-ST. BR.			7275
215-LA	JAMES MONROE LONG	2-ST. FR.			4340
208-LA	JESUS HERNANDEZ MARY E. HERNANDEZ	2-ST. FR.			3108
209-LA	LEONARD HALLEWELL ESTELLA HALLEWELL	2-ST. FR.			3009
209-A-LA	JAMES BROWN	2-ST. FR.	12'x16' FR.		2549
210-LA	FREDERICK LEROY TAYLOR GRACE VERA TAYLOR	2-ST. FR.			6425
211-LA	JOSEPH ANDROSEK 7/8 WALSH & ROBERTS INC. 2/8	2-ST. FR.			3806
211-A-LA	FREDA C. ANDERSON	2-ST. FR.			2903
211-B-LA	JAMES DOMINIC PRECURATO MARY DELORES PRECURATO	2-ST. FR.	14'x20' C.B.	6x12 FR. SHED	4902
216-LA	ROY F. MORT	2-ST. FR.	12'x16' FR.	5x12 FR. SHED	9675
199-LA	JOSEPH STOKAN	2-ST. FR.			6940

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING

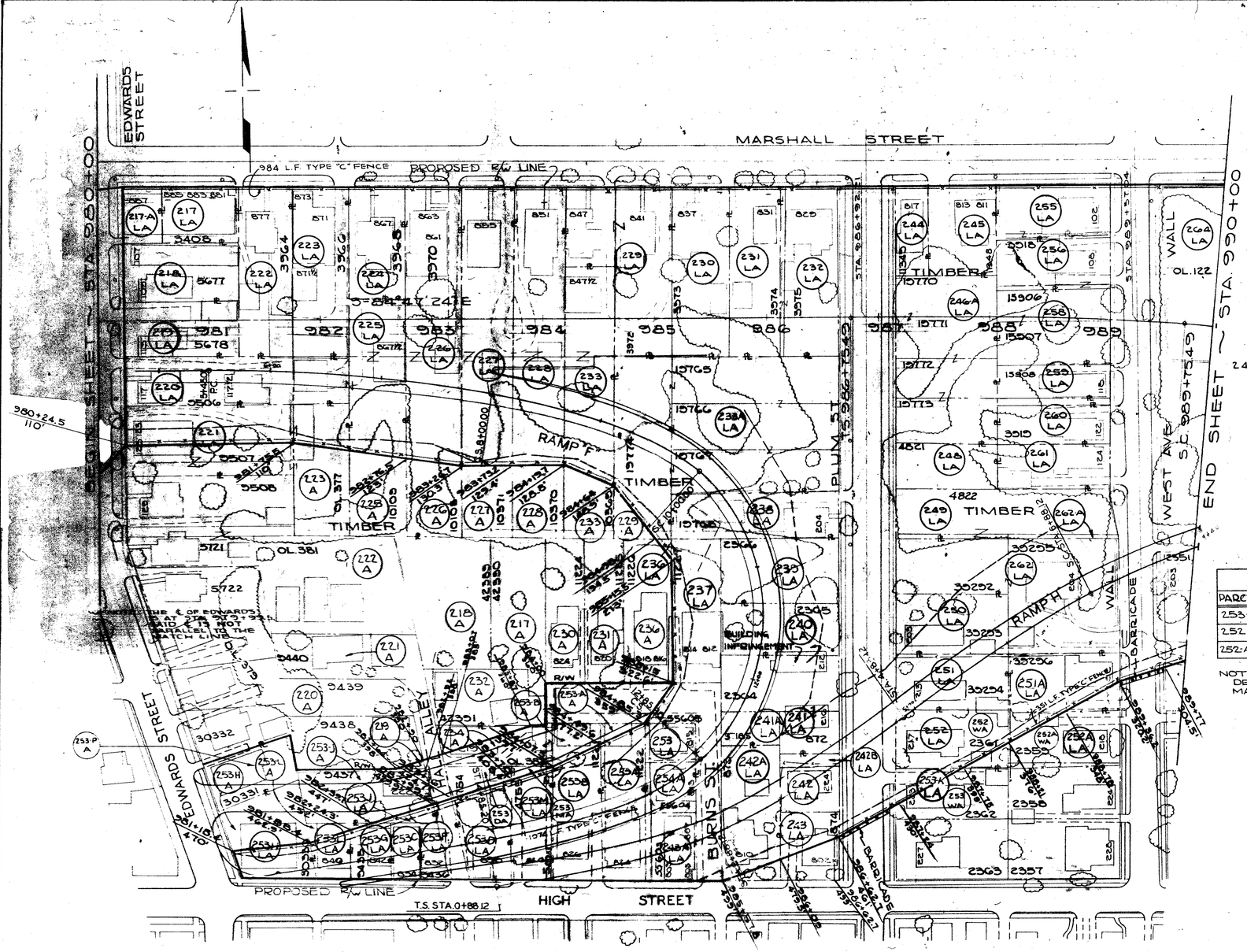
REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
#1	Parcels 203LA, 204LA Revised	6-25-59	E.J.C.
	ADDED SEWER	1-19-60	
#2	ADDED PL	3-28-60	J.D.P.
#3	Parcel 215-LA Revised	7-13-60	S.S.
#4	ADDED 199-LA	12-15-60	P.H.

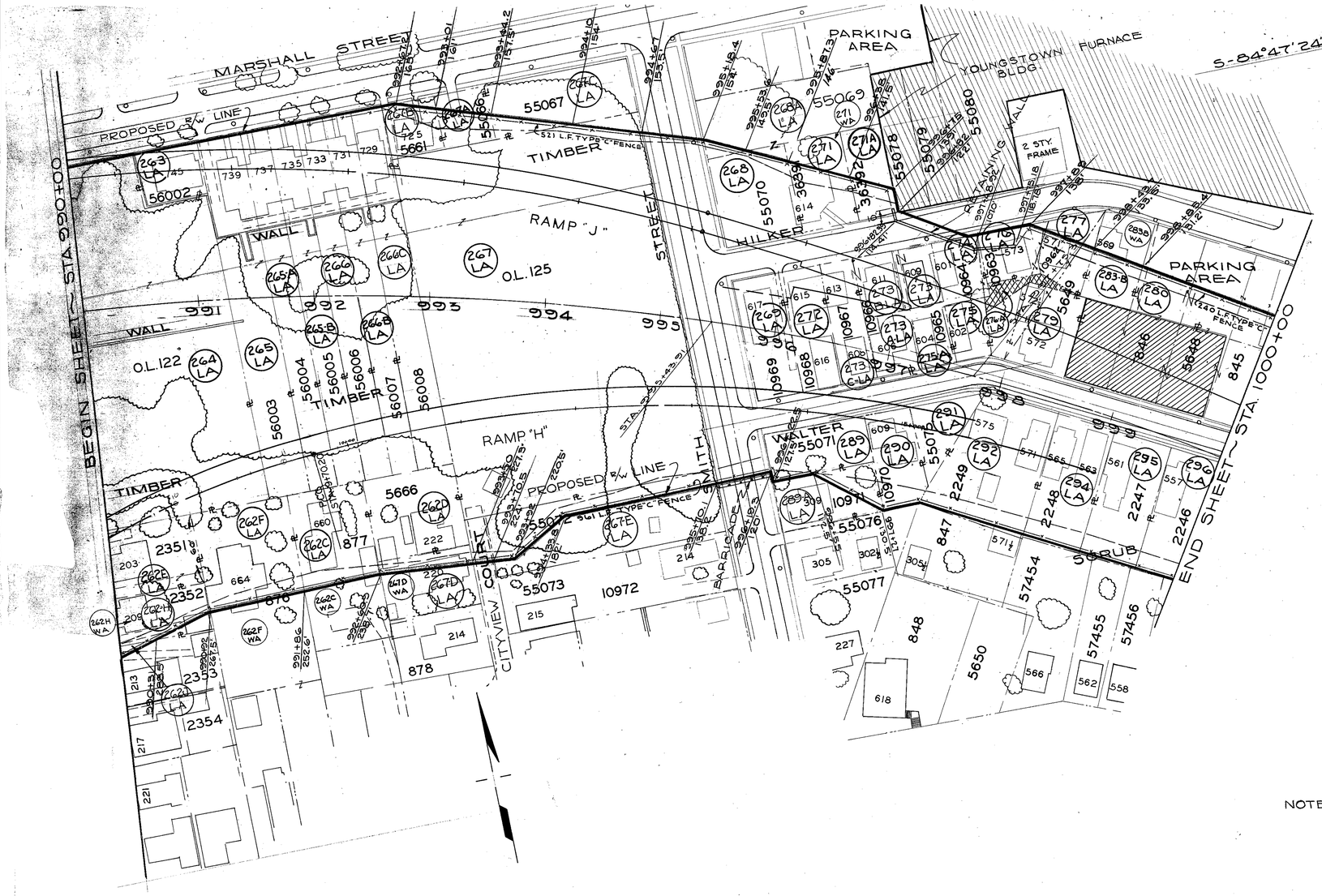
I-680 R/W SHEET 13 OF 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH 18-17.20	

479 492

DIV. 4 R/W RECORD SECTION FEB 26 1963 RECD. ..... RWD.





NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
262-C-LA	ALLEN J. STUMP VIOLA V. STUMP	2-S. FR.	10×18 FR.		5,427
262-D-LA	LOUIS H. MAUSER	2-S. FR.	10×20 FR.	12×16 SHED	5,720
262-E-LA	EDWARD VELAR	2-S. FR.			6,000
262-F-LA	TUFIC SAADI	2-S. FR.	12×18 FR.		6,889
262-H-LA	LAURA GARDNER	2-S. FR.	12×20 FR.		3,580
262-J-LA	GEORGE SUBER PEARL SUBER	2-S. FR.	20×18 FR.		306
263-LA	UMBERTO TURSINI ANNA TURSINI	2-S. STUCCO			2,530
264-LA	WILLIAM MOSKOSKY HELEN MOSKOSKY				48,620
265-LA	ALTON L. KEMP ALICE L. KEMP	2-S. STUCCO			11,109
265-A-LA	MARY LUNDY	2-S. STUCCO			7,511
265-B-LA	FRANK J COLLA	2-S. STUCCO			7,508
266-LA	JAMES LADIGO	2-S. STUCCO			7,462
266-B-LA	JOSEPH M. ALLISON MARIAN A. ALLISON	2-S. STUCCO			7,459

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
266-C-LA	THOMAS HOOD	2-S. STUCCO			
267-LA	BESSIE P CONNELL THOMAS H. CONNELL			18×17 ST. HSE	68,502
267-A-LA	ESTHER MEYER				1,262
267-B-LA	VANCE WAGNER	2-S. FR.			1,826
* 267-C-LA					690
* 267-D-LA	MINNIE MAUSER	2-S. FR.	10×20 FR.	12×16 SHED	1,000
* 267-E-LA					3,855
268-LA	BESSIE P CONNELL THOMAS H. CONNELL				5,202
* 268-A-LA	*BESSIE P. CONNELL* *THOMAS H. CONNELL*				278
269-LA	INEZ PARKER	2-S. FR.	10×18 FR.		4,200
271-LA	HARRY & NELLIE MEYERS	2-S. FR.			2,400
271-A-LA	*GOLDEN AGE BEVERAGE CORP.*				1,050
* 271-B-LA	YOUNGSTOWN FURNACE CO.				

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
272-LA	MALACHI STOKES THELMA STOKES	2-S. FR.	12×18 BR.		3,702
273-LA	JOHN G. SPATHOLT	2-S. FR.			1,800
274-LA	JOHN H. LOGAN LULA LOGAN	2-S. FR.			2,230
275-LA	LEROY SMITH NETTIE SMITH	2-S. FR.			1,625
275-A-LA	JOHNNIE PEARL REED	2-S. FR.			1,587
276-LA	FRED & ROISE PERKINS	2-S. FR.			1,932
277-LA	THEODORE COTTON JR. CARRIE COTTON	2-2 ST. B.R.			1,813
279-LA	ANN KAUFMAN BETTY LABEL	2-2 ST. FR.			4,950
280-LA	GOLDEN AGE BEVERAGE CORP.			72×125 C.B.	19,657
283-B-LA	HOWARD BURKES MILLERNEE BURKES	1½-S. FR.			2,600
289-LA	BESSIE P. CONNELL THOMAS H. CONNELL				3,600
* 289-A-LA	WALDEMAR NISCHWITZ EARL H. HARRIS	2-S. FR.			1,157
290-LA	ETHEL McDANIELS SPEAKS	1-S. FR.		12×18 SHED	2,948

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	BYRES	AREA OF TAKING
291-LA	ELIZABETH BUEHRLE				2,282
292-LA	WALDEMAR NISCHWITZ EARL H. HARRIS	2-S. FR. 1-S. FR.	14×22 C.B.		5,939
294-LA	WILLIAM ALLEN ANNIE ALLEN	2-S. FR. 2-S. FR.			3,943
295-LA	MARY PEAY	2-S. FR.		8×6 FR. SHED	4,180
296-LA	ELIDA MOELLERING	2-S. FR.			4,350
273-A-LA	JOHN G. SPATHOLT	2-S. FR.			2,080
273-B-LA	JOHN G. SPATHOLT	2-S. FR.			1,870
273-C-LA	JOHN G. SPATHOLT	2-S. FR.			3,150
276-A-LA	*FRED AND ROISE PERKINS ETAL*				767

WORK AGREEMENT

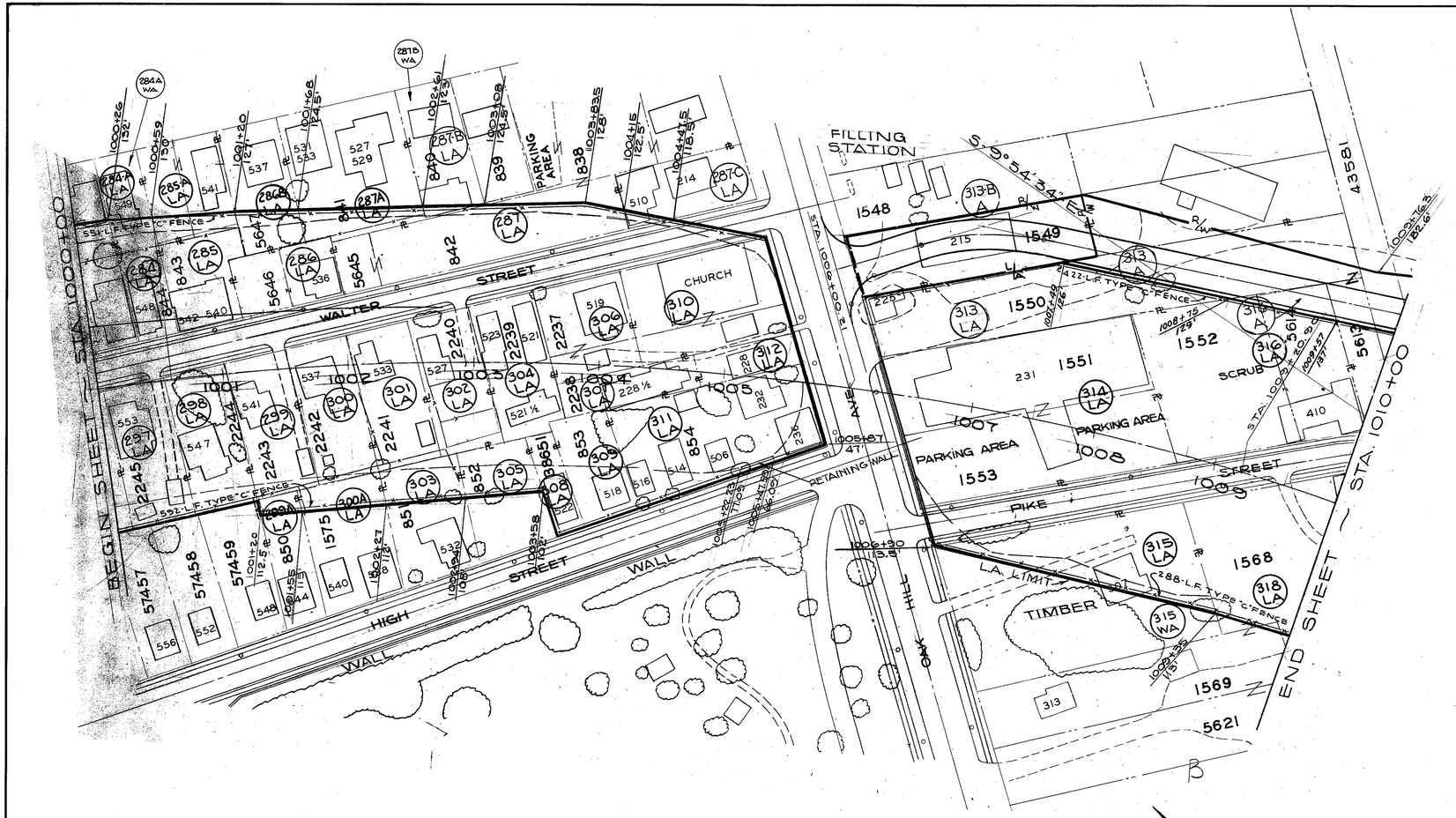
PARCEL NO.	NAME	DESCRIPTION
262-H-WA	LAURA GARDNER	REMOVE GAR. FD'N.
271-WA	HARRY & NELLIE MEYERS	FILL BASEMENT
283-B-WA	HOWARD BURKES MILLERNEE BURKES	FILL BASEMENT
267-D-WA	MINNIE MAUSER	FILL BASEMENT
262-F-WA	TUFIC SAADI	FILL BASEMENT
262-C-WA	ALLEN J. STUMP VIOLA V. STUMP	REMOVE GAR. FD'N.

REVISIONS

REV. NO.	NATURE OF REVISION	DATE COMP DATE	MADE BY
# 1	ADDED RET. WALL & BARRICADE	12-30-59	J.E.P.
	REVISED ℄ ALINE FOR RET. WALL		
# 2	ADDED R.	3-29-60	J.D.P.
	Added Names Pcls. 271-A-LA & 276-A-LA Area	7-6-60	S.S.
	Pcls. 268-A-LA & 268-LA Added Name & Area	7-6-60	S.S.

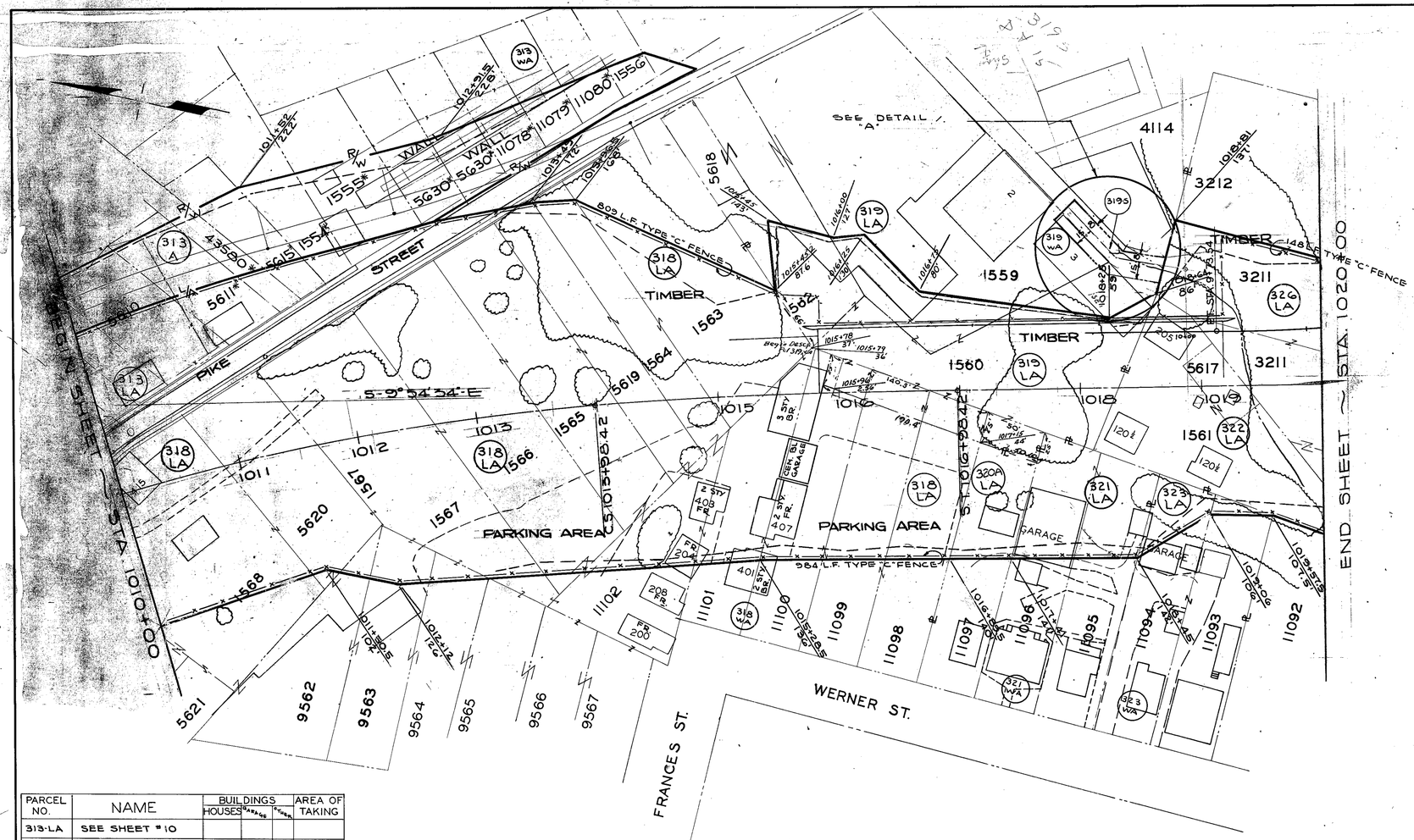
FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

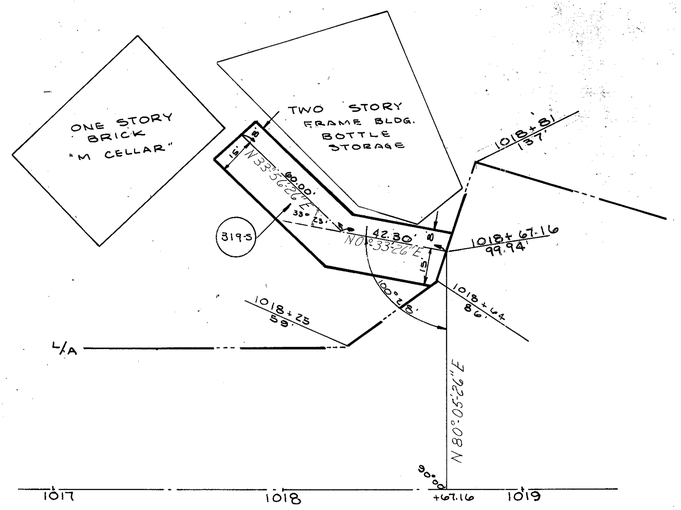
481
492



FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

482
492





DETAIL "A"

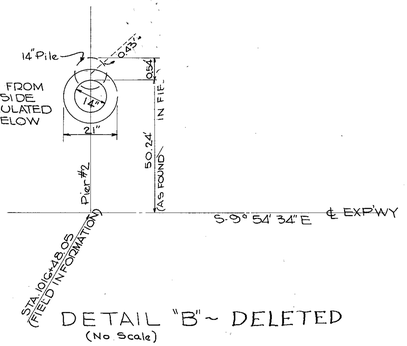
SS-18 - 1793 L.F. TYPE "C" FENCE

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
313-LA	SEE SHEET #10				
318-LA	YOUNGSTOWN HOSP. ASSOC	MISC. BLD'GS.	HOSPITAL BLD'GS.		158,970
319-LA	THE RENNER CO.	BREWERY BUILDINGS			0.754Ac
321-LA	PHILLIP GREIN	2 ST. BR.	18x18 FR.	12x62 C.B.	9,140
322-LA	JOHN BOGGANS, ET AL	1 ST. FR. 2 FR. ABANDONED		SHED	18,780
323-LA	EUGENE & ESTHER RUSNAK	2 ST. FR. 3 ST. BR.	20x18 20x30 18x18	STUCCO FR. BR.	2,600
326-LA	SEE SHEET #12				
320A-LA	ANNA M. PATTERSON	2-ST. FR.	29x16 FR.		4,500

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

NOTE: SEE SHEET FOR INVENTORY.

NOTE:
THE HORIZONTAL CLEARANCE FROM LIMITED ACCESS LINE TO THE OUTSIDE FACE OF THE DRIVEN PILE IS CALCULATED AT A DISTANCE OF 24.50 FEET BELOW GROUND ELEVATION.



DETAIL "B" ~ DELETED
(No Scale)

WORK AGREEMENT		
PARCEL Nº	NAME	DESCRIPTION
323-WA	EUGENE & ESTHER RUSNAK	REMOVE FD'N.
321-WA	PHILLIP GREIN	REMOVE FD'N.
318-WA	YOUNGSTOWN HOSP. ASSOC.	FILL BASEMENT
319-WA	THE RENNER CO.	REMOVE FD'N.
313-WA	SEE SHEET #15	REMOVE SILO'S

Rev. Nº 8, Deleted 319-Aerial, Revised L.A. Line and Area Pcl. 319-LA Per Warranty Deed Vol 1017 Pg 657 & Case Nº 168065 12/16/63

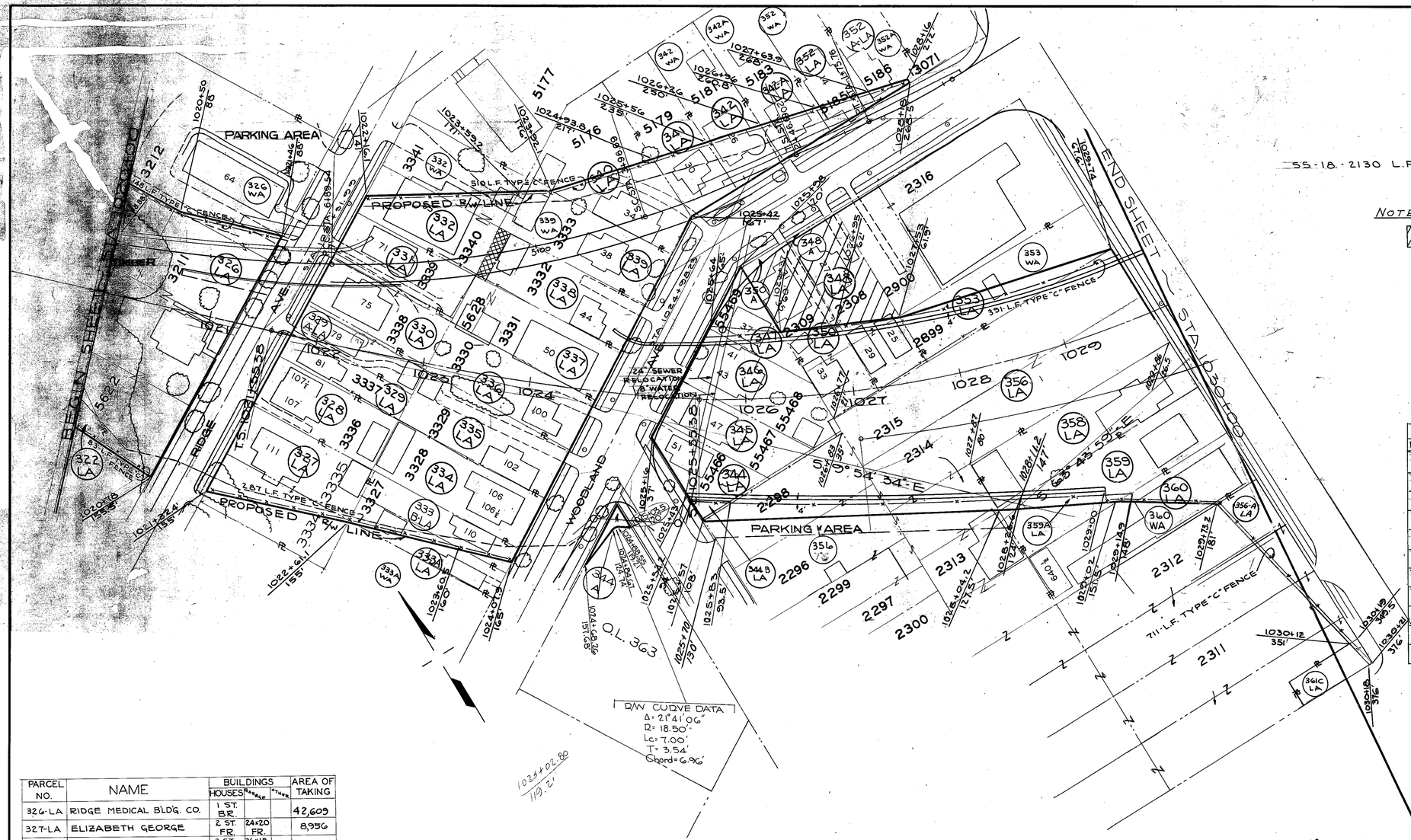
REVISIONS				REVISIONS			DATE COMP.
REV Nº	NATURE	DATE	MADE BY	REV. NO.	NATURE OF REVISION	DATE	MADE BY
#3	ADDED SEWER EASEM'T Pcl 3195	4-10-61	T.J.	#1	ADDED BRIDGE	2-30-59	J.E.P.
#4	ADDED DETAIL "A" Pcl 319 S	4-18-61	T.J.		REVISED PIKE ST.	1-20-60	
#5	ADDED PARCEL 319 AERIAL	11-6-61	T.J.		REVISED ℄ LINE PARCEL 319-LA	1-20-60	
	REVISE AREA OF TAKING PARCEL 319-LA	11-6-61	T.J.	#2	ADDED R - ADDED TOPO	3-29-60	J.D.P.
#6	REVISED PARCEL 319 AERIAL & REVISED AREA OF TAKING, PARCEL 319 LA & 319 AERIAL	12-11-61			Pcl. 320-A-LA ADDED AREA	7-6-60	S.S.
#7	ADDED BUILDING & CROSS HATCHED	4-5-62			Pcl 318-LA Revised Area & Added Tails	10-18-60	S.S.

I-680

R/W SHEET NO. 17 OF 29

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

483
492



SEE DETAIL SHEET No 16 FOR PARCEL 356-LA

WORK AGREEMENT		
PARCEL	NAME	DESCRIPTION
326-WA	RIDGE MEDICAL BLD'G. CO.	REVISE DRIVEWAY
333-WA	JOHN DORLOSAN MARY DORLOSAN	FILL BASEMENT
332-WA	MYRTLE I. MILLER VIRGINIA VIETS CRAMER DOROTHY VIETS GLINES	FILL BASEMENT
342-WA	ELIZABETH HILLOSKY, SR..	FILL BASEMENT
342-A-WA	FLORENCE L. EVANS	FILL BASEMENT
352-WA	LEROY E. BILLIG	FILL BASEMENT
352-A-WA		FILL BASEMENT
350-WA	RALPH A. KELLY ISABELLA M. KELLY	REMOVE FD'N.
353-WA	MORTON, RAYMOND D. & BERNARD WHITE	REMOVE FD'N.
340-WA	HAROLD P. SMITH EMILY E. SMITH	FILL BASEMENT

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
326-LA	RIDGE MEDICAL BLD'G. CO.	1 ST. BR.			42,609
327-LA	ELIZABETH GEORGE	2 ST. FR.	24×20 FR.		8,956
328-LA	LUCY S. MIKITA	2 ST. FR.	36×18 FR.		6,350
329-LA	LESLIE H. SABO ELIZABETH M. SABO	2 ST. FR.			3,409
329-A-LA	M. VERA HERSCHEL	2 ST. FR.	12×16 FR.	10×16 SHED	
330-LA	ANTHONY P. JULIUS	2 ST. FR.			6,250
331-LA	JOSEPH SARISKY	2 ST. FR.			5,686
332-LA	MYRTLE I. MILLER VIRGINIA VIETS CRAMER DOROTHY VIETS GLINES	2 ST. FR.	12×18 FR.	5×14 SHED	6,600
333-A-LA	JOHN DORLOSAN MARY DORLOSAN	2 ST. FR.	12×18 FR.	5×14 SHED	1,250
333-B-LA	GEARLD CARROLL & ALICE CARROLL	2 ST. FR.		8×8 SHED	
334-LA	TUFIC SAADI	1½ ST. FR.	26×16 FR.	22×16 SHED	7,500
335-LA	LALE GRAHOVAC	2 ST. FR.	20×18 FR.		7,500
336-LA	JOSEPH THURIK MARY THURIK	2 ST. FR.			7,500
337-LA	THE INCORPORATED TRUSTEES OF THE GOSPEL WORKER SOC.	2-1 ST. FR.			7,500
338-LA	MILDRED McDONALD	2 ST. FR.	24×20 FR.	10×16 SHED	7,000
339-LA	RALPH A. KELLY ISABELLA M. KELLY	2 ST. FR.	24×18 2 ST. FR.	16×16 SHED	7,344 *
340-LA	CHARLOTTA PISLAK	2 ST. FR.	26×18 2 ST. FR.		5,436
341-LA	JOHN W. TOMALKA, SR. MARY HAZEL TOMALKA	2 ST. FR.			2,875
342-LA	ELIZABETH HILLOSKY, SR.	2 ST. FR.	19×20 FR.		2,225
342-A-LA	FLORENCE L. EVANS	2 ST. FR.	14×18 FR.		1,575

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
344-LA	FRANK JAMES COLLA	2 ST. FR.			3,724
344-A	THE GREEK COMM. AGIOI IOANNIS ORTHODOX CHURCH		39/56		336
345-LA	MARY DEVAN	2 ST. FR.			5,366
346-LA	CLARA ANDERSON	2 ST. FR.	20×20 FR.		7,335
347-LA	FRANK JAMES COLLA	2 ST. FR.			3525
348-LA	JOHN PAUL	3-2 ST. FR.			3,150
350-LA	JOHN BUDAKER ANN BUDAKER	2-2 ST. FR.	12×20 FR.		4,100
352-LA	LEROY E. BILLIG	2 ST. FR.	28×20 20×16		1,025
353-LA	MORTON, RAYMOND D. & BERNARD WHITE	14×12 OFFICE			5,000
352-A-LA	MARY J. COMINOS	2 ST FR			320
356-LA	THE GENERAL ELECTRIC CO.				41,612
358-LA	THE ROAD OF REMEMBRANCE POST #472 AM. LEGION, DEPT. OF OHIO	2 ST. FR.	24×46 FR.		10,750
359-LA	JAMES E. & WENDELL H. BENNETT, IDA JOSEPHINE DATSON	2 ST. FR.			7,325
360-LA	HAROLD P. SMITH EMILY E. SMITH	4 ST. FR.			3,950

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
359-A-LA	JAMES E. & WENDELL H. BENNETT IDA JOSEPHINE DAWSON				1050
344-D-LA	FRANK JAMES COLLA				315
361C LA	NORTHERN INVESTMENT COMPANY				SEE R/W SHEET 19
356-A-LA	THE GENERAL ELECTRIC CO.				SEE R/W SHEET 18
356-T5	" " " "				4,960
348-A	THE CITY OF YOUNGSTOWN (FORMERLY JOHN PAUL)				450
350-A	THE CITY OF YOUNGSTOWN (FORMERLY JOHN BUDAKER)				744

REVISIONS		DATE	COMP. BY
REV. NO.	NATURE OF REVISION		
#3	DELETED 322WA, ADDED 342-A-WA		
	& 360-WA, ADDED R, REVISED R/W		
	FENCE	3-29-60	J.D.P.
#4	Parcels 344B-LA, 359-LA Revised	4-12-60	T.A.B.
#5	Parcel 339-LA Revised	4-18-60	T.A.B.
#6	ADDED PCLS. 348A & 350-A & SHOWED FEDERAL PARTICIPATION PER GUZIAK 6-3-68	6-3-68	J.R.B.

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

REVISIONS		DATE	COMP. BY
REV. NO.	NATURE OF REVISION		
#1	ADDED RETAINING WALLS	12-30-59	J.E.P.
	REVISED ¼ AT PARCEL 326 LA	1-20-60	
	ADDED SEWER & PARCELS 355-A-LA & 341 LA.		
	REVISED 356-LA, 358-LA & 360-LA		
	DELETED 361-LA, ADDED W/AS.		
#2	ADDED 346A LA, 347ALA, REV. 352ALA		

Deleted Pcl. 347ALA, Combined with 347LA. 3-4-65
Revised Pcl. 344 A to include the area upon which the proposed sidewalk was constructed 11-19-62 @
ADDED PCL. 356-T5, DELETED 356-WA 2-22-60 S.S.
Parcel 344-A Revised 6-30-60 S.S.
Parcel 339-LA Revised 6-27-60 S.S.

RECEIVED NOV 23 1962 STATE HIGHWAY DEPT. DIV. NO. 1

FED. RD.	STATE	PROJECT	
2	OHIO		

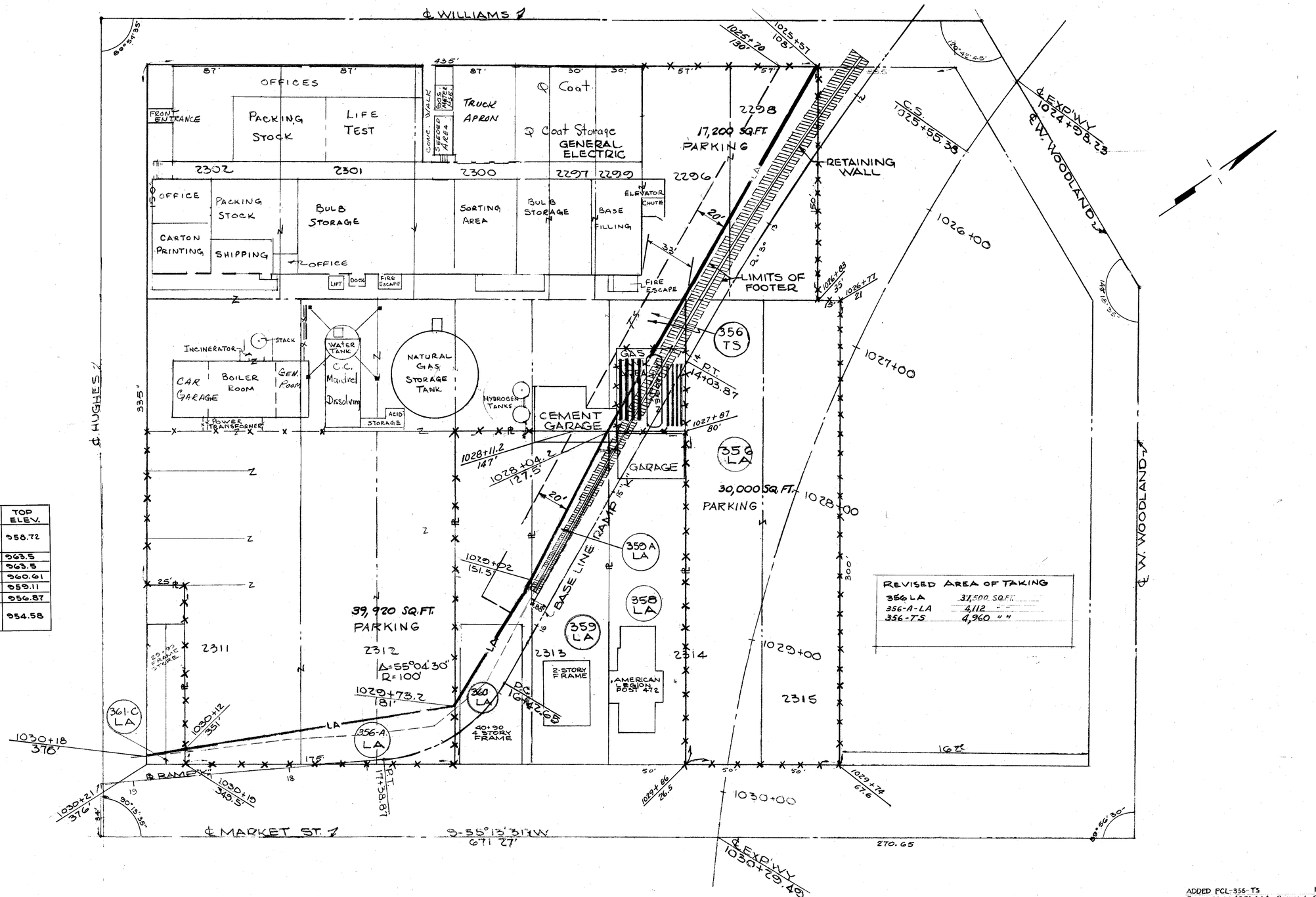
484/492

MAH-18-17.20

PARCEL 356 LA

GENERAL ELECTRIC CO.

SCALE: 1" = 30'



	STATION	GROUND ELEV.	TOP ELEV.
BEGIN RETAINING WALL	11+77.85	935.66	958.72
	12+40	941.28	963.5
	13+00	942.84	963.5
	14+03.87	945.54	960.61
	14+47	946.68	959.11
	15+13	948.40	956.87
END RETAINING WALL	15+81	950.27	954.58

REVISED AREA OF TAKING

356 LA	37,500 SQ.FT.
356-A-LA	4,112 " "
356-TS	4,960 " "

ADDED PCL-356-TS 1-21-61

Rts. 356-LA & 356-A-LA Revised 7-6-60

I-680

R/W SHEET NO. 19 OF 20

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

485
492

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
356-A-LA	THE GENERAL ELECTRIC CO.				SEE R/W SHEET 18
361-C-LA	NORTHERN INVESTMENT COMPANY				125
362-LA	TINCO DE CARPENTIER	2 ST. BR. JOINING	APTS WITH GARAGES	(AD-	31,857
363-LA	RALPH E. GOFF AGNES E. GOFF	1 ST. C.B.			9,750
364-LA	JOHN COMEK MARY COMEK	2 ST. FR.			4,430
365-LA	SARAH KLATMAN HANNAH KLATMAN	2 ST. FR.			2,275
366-LA	FAY KIRKORSKY	2 ST. FR.	20×20 FR.		4,748
367-LA	IDEALIA HOWELL EUALEE HOWELL	2 ST. FR.	18×15 FR.	5×18 SHED	5,080
368-LA	JAMES DAVIS EULA MAE DAVIS	2 ST. FR.	12×18 FR.		5,420
369-LA	CARRIE E. WATSON	2 ST. FR.	18×16 FR.		5,840
370-LA	THE ECONOMY ELECTRIC CO.	3-2 ST. BR. 1 ST. TILE, 1 ST. BR.			3,094
371-LA	DOROTHY MOHN	2 ST. FR.			6,200
372-LA	DEMETRIOS G. MAVRIKIS	2 ST. FR.		5×8 SHED	5,053
373-LA	SOPHIA MARGOLIS	2 ST. FR.			6,507
374-LA	EDWARD PARKMAN MYRTLE L. PARKMAN	2 ST. FR.			5,871
375-LA	JOHN SPANOS ALEXANDRA SPANOS	2 ST. FR.	12×20 FR.	10×12 FR.	5,731
376-LA	MARY H. MENEGAY CLARA L. PAAR	2 ST. FR.	12×16 FR.		6,000
377-LA	NICHOLAS GLAROS NIKI GLAROS	2 ST. FR.	20×18 FR.		6,780
378-LA	JOHN SERINO & MARY MARZULLO	2 ST. FR.	20×16 FR.		5,467
379-LA	ROSE KNABEL	2 ST. FR.			2,650
380-LA	MARY DEVAN	2 ST. FR.	28×16 FR.		8,180
381-LA	HENRY B. GESSAMAN VIRGINIA GESSAMAN	2 ST. FR.	14×18 FR.		3,518
382-LA	NORQUIST LAND CO.				3,468
383-LA	JOHN J. VERNELLO EDNA M. VERNELLO	2 ST. FR.			3,350
383-B-LA	MARY C. CARTWRIGHT MARGARET CONROY	2 ST. FR.	13×21 C.B.		3,252
384-LA	WILMA V. GING	5-2 ST. FR.	10×16 FR.		6,090
387-LA	THE BOARD OF EDUCATION OF YOUNGSTOWN CITY SCHOOL DIST.	BRICK SCHOOL BLDG.			26,418

55-18 2438 L.F. TYPE "C" FENCE

BEGIN SHEET STA. 1030+00

END SHEET STA. 802+00

MARKET STREET

HAYES AVE

FULTON STREET

MARL Z STREET

PROJECT END MAH-18-17.80

PROJECT BEGIN MAH-7-14.20

THIS RIGHT-OF-WAY ACQUIRED UNDER PROJECT MAH-7-14.80

TEMPORARY CONSTRUCTION LIMITS

RAMP "N"

PARKING AREA

Temporary Easement Line

SEE R/W SHEET 18

NOTE: DEED INFORMATION MISSING ON PARCELS MARKED WITH ASTERISKS.

TEMPORARY EASEMENTS AREAS
370-T 5213 Sq Ft.
372-T 616 Sq Ft.

WORK AGREEMENT

PARCEL No.	NAME	DESCRIPTION
433-A-WA	RUTH. B. ROBINS	REMOVE FDT'N.
433-WA	WILLIE JAMES TALLEY	FILL BASEMENT
432-WA	JEAN WEISER ANDREW ROSENFELD	FILL BASEMENT
431-WA	ARNALD & CATHERINE HOWELL	FILL BASEMENT
430-WA	JOHN McCARTY SCHWARTZ	FILL BASEMENT
429-WA	GRANT BARNETT JOSEPHINE BARNETT	FILL BASEMENT
406-B-WA		FILL BASEMENT
378-WA	JOHN SERINO & MARY MARZULLO	FILL BASEMENT
379-WA	ROSE KNOBEL	FILL BASEMENT
362-WA	TINCO DE CARPENTIER	FILL BASEMENT
370-WA	THE ECONOMY ELECTRIC CO.	REMOVE FDT'N. & GRADE AREA
384-WA	WILMA V. GING	FILL BASEMENT

REVISIONS		DATE COMP.	
REV. NO	NATURE OF REVISION	DATE	MADE BY
8	REVISED AREA OF TAKING, FENCE CONSTRUCTION LIMITS & L/A LINE	9/18/61	T.J.
	PARCELS 373-LA, 374-LA, 375-LA, 380-LA 381-LA, 382-LA, 383-LA, 383-B-LA, 384-LA		
9	Added Parcels 370-T, 372-T & Areas	1-11-62	GF

REVISIONS		DATE COMP.	
NO.	NATURE OF REVISION	DATE	MADE BY
#1	ADDED PARCEL 393-A-LA (LAND CONTRACT SALE)	9-17-59	
#2	REVISED PARCELS 390-A-LA, 391-A-LA	11-27-59	
#3	REVISED PARCEL 363-LA	12-11-59	
#4	ADDED RETAINING WALL	12-30-59	J.E.P.
#5	REV. 372-LA, 373-LA, 374-LA, 375-LA, 376-LA, 380-LA		
	381-LA, 382-LA, 383-LA, 383-B-LA, 384-LA, 387-LA		
	ADDED WORK AGREEMENTS		
	PCL. 372-LA, 373-LA, ADDED WORK		
#6	ADDED 384-WA - INCLUDED GRADING		
	UNDER 370-WA - ADDED R.	3-30-60	J.D.P.
#7	ADDED PARCEL 393-A-LA	12-15-60	R.H.

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
390-LA	FREDRIKA I. BOGGS MINTER B. BOGGS	2 ST. FR.	12×18 FR.		3,750
* 390-A-LA	JAMES WALSH JR.				
391-LA	ROSE EVELYN STRAWDERMAN	2 ST. FR.			2,000
* 391-A-LA	MILTON KIBBLE MARY LOU KIBBLE				
392-LA	GIUSEPPE CHIRCHIGLIA ROSE CHIRCHIGLIA	2 ST. FR.			2,000
393-LA	FAY KIRKORSKY	2 ST. FR.			1,875
394-LA	MATTIE B. TERRELL	2 ST. FR.			3,750
395-LA	EVA WILLIAMS ROBERT WILLIAMS	2 ST. FR.	12×16 TILE		3,750
397-LA	CHESTER V. LONG MARGARET F. LONG	3 ST. FR. APT.			3,875
406-LA	CLOYDE JAMES FRY ROBERTA MARIAN FRY	2 ST. FR.	9×20 18×24		4,800
* 406-A-LA		2-2 ST. FR.	6-4×20		
* 406-B-LA		2 ST. FR.			

PARCEL NO.	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
407-LA	LOUIS HARRINGTON JULIA HARRINGTON	3-2 ST. FR.			10,593
425-LA	SOPHIE COHEN	3 ST. BR. 2 ST. BR.	6-0×16 FR.		10,923
426-LA	GEORGE BRADLEY FRANCES JUNE BRADLEY	2 ST. FR.			5,958
427-LA	HELEN BUGNO	2 ST. FR.			4,377
428-LA	EDWARD WILLIAMS J. B. WILLIAMS	1 ST. FR.			2,160
429-LA	GRANT BARNETT JOSEPHINE BARNETT	1 ST. FR.			1,485
430-LA	JOHN McCARTY SCHWARTZ	2 ST. FR.			592
431-LA	ARNOLD & CATHERINE HOWELL	2 ST. FR.			543
432-LA	JEAN WEISER ANDREW ROSENFELD				464
433-LA	WILLIE JAMES TALLEY	2 ST. FR.			342
433-A-LA	RUTH B. ROBINS	2 ST. BR. WAREHOUSE			3,231
393-A-LA	F. KIRKORSKY & C. & E. BENTLEY	2 ST. FR.			1,875

FED. RD	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

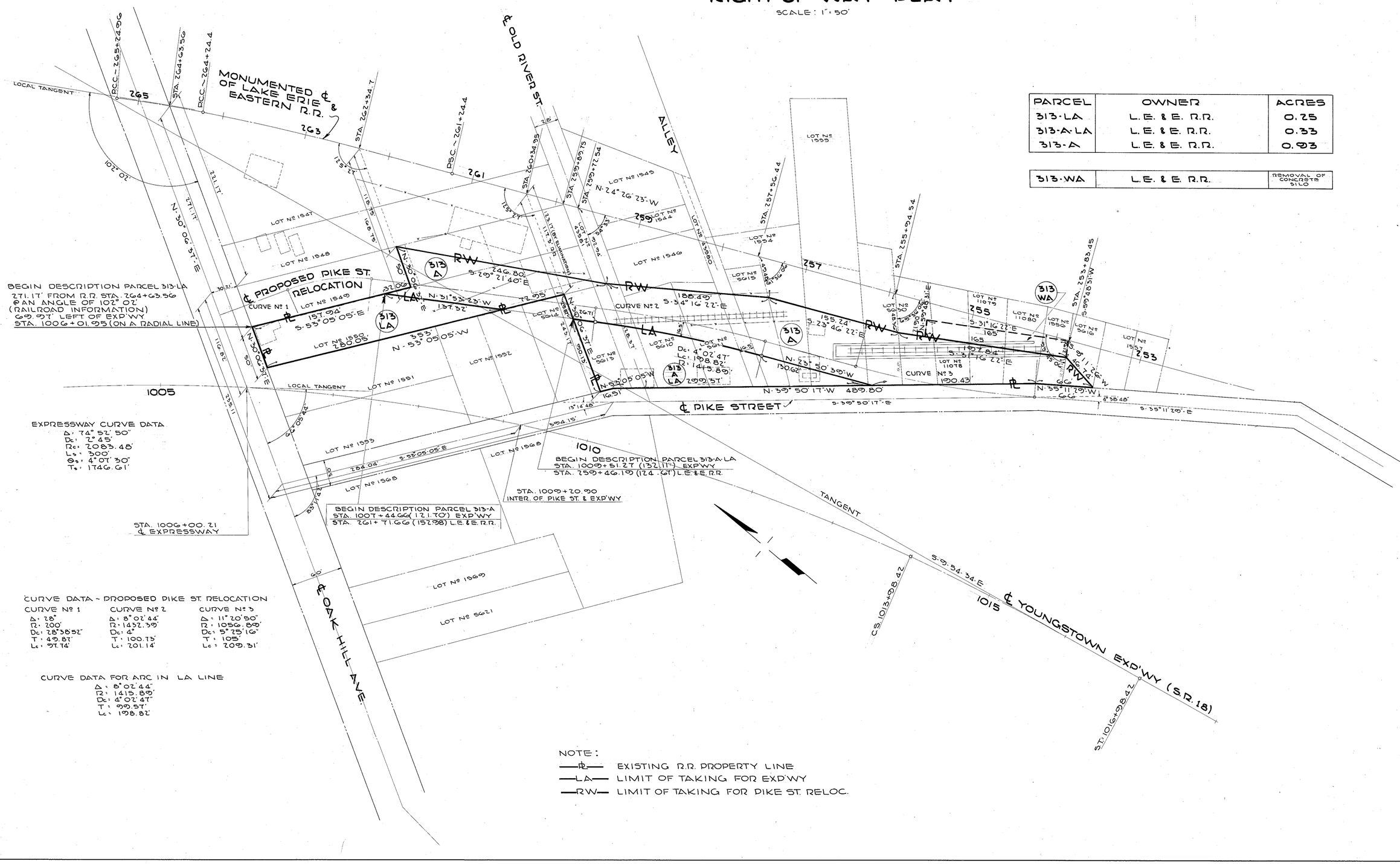
486
492

LAKE ERIE & EASTERN RAILROAD RIGHT-OF-WAY PLAT

SCALE: 1" = 50'

PARCEL	OWNER	ACRES
313-LA	L. E. & E. R.R.	0.25
313-A-LA	L. E. & E. R.R.	0.33
313-A	L. E. & E. R.R.	0.93

313-WA	L. E. & E. R.R.	REMOVAL OF CONCRETE SILO



BEGIN DESCRIPTION PARCEL 313-LA
271.17' FROM R.R. STA. 264+63.56
@ AN ANGLE OF 102° 02'
(RAILROAD INFORMATION)
69.97' LEFT OF EXP'WY
STA. 1006+01.95 (ON A RADIAL LINE)

CURVE DATA - PROPOSED PIKE ST. RELOCATION

CURVE Nº 1	CURVE Nº 2	CURVE Nº 3
Δ: 28°	Δ: 8° 02' 44"	Δ: 11° 20' 50"
R: 200'	R: 1432.39'	R: 1056.88'
Dc: 28° 38' 52"	Dc: 4°	Dc: 5° 25' 16"
T: 49.87'	T: 100.73'	T: 105'
Lc: 97.74'	Lc: 201.14'	Lc: 209.31'

CURVE DATA FOR ARC IN LA LINE
Δ: 8° 02' 44"
R: 1415.89'
Dc: 4° 02' 47"
T: 99.57'
Lc: 198.82'

NOTE:
—℄— EXISTING R.R. PROPERTY LINE
—LA— LIMIT OF TAKING FOR EXP'WY
—RW— LIMIT OF TAKING FOR PIKE ST. RELOC.

I-680 R/W SHEET 21 of 26

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

487
492

BALTIMORE & OHIO RAILROAD RIGHT-OF-WAY PLAT

SCALE: 1"=100'

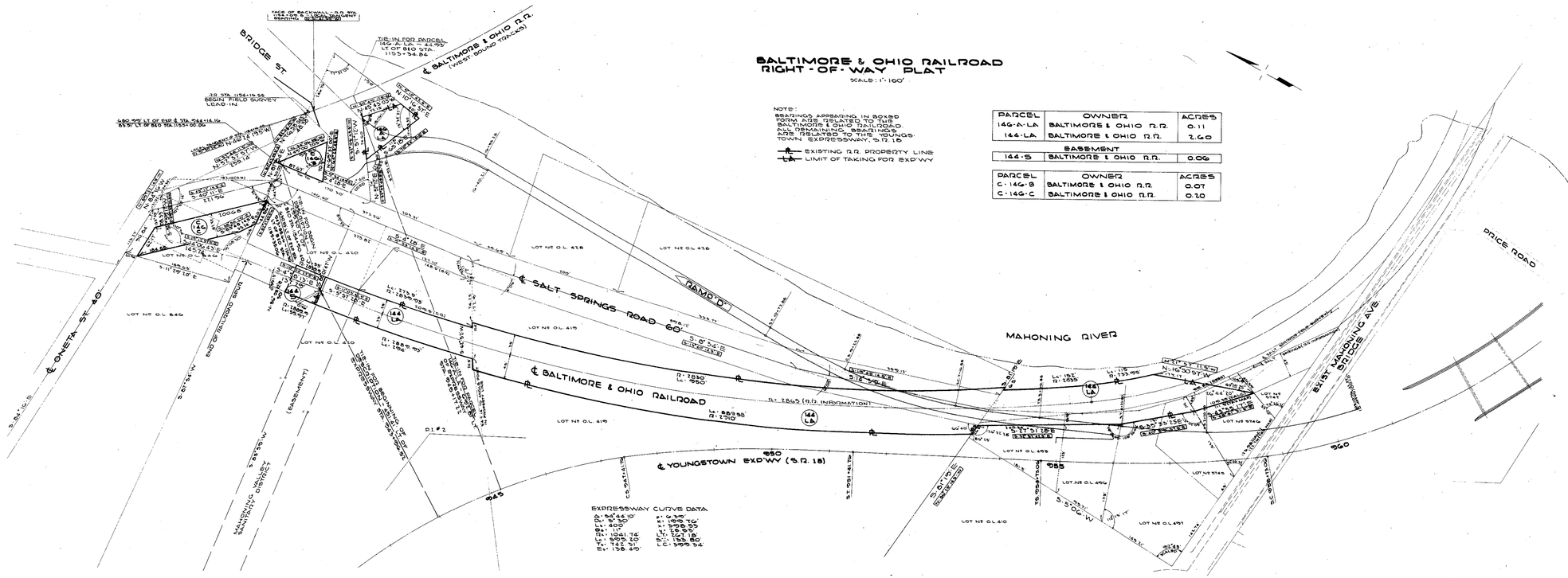
NOTE:
BEARINGS APPEARING IN BOXED PORTION ARE RELATED TO THE BALTIMORE & OHIO RAILROAD. ALL REMAINING BEARINGS ARE RELATED TO THE YOUNGSTOWN-TOWN EXPRESSWAY, S.R. 18.

EXISTING R.R. PROPERTY LINE
LIMIT OF TAKING FOR EXP'WY

PARCEL	OWNER	ACRES
146-A-LA	BALTIMORE & OHIO R.R.	0.11
164-LA	BALTIMORE & OHIO R.R.	2.60

EASEMENT		
144-S	BALTIMORE & OHIO R.R.	0.06

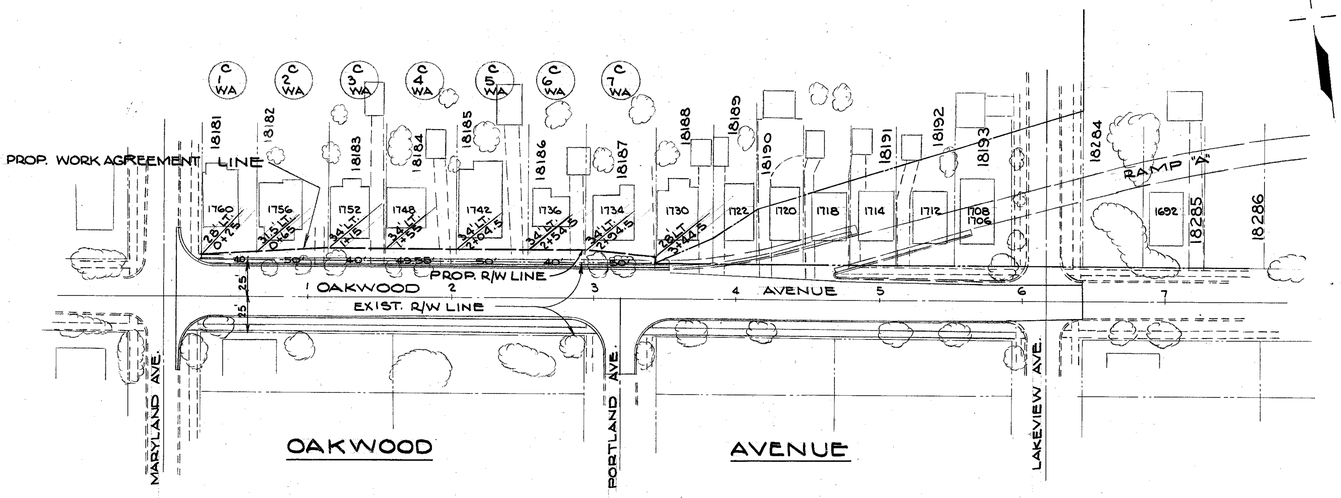
PARCEL	OWNER	ACRES
C-146-B	BALTIMORE & OHIO R.R.	0.07
C-146-C	BALTIMORE & OHIO R.R.	0.10



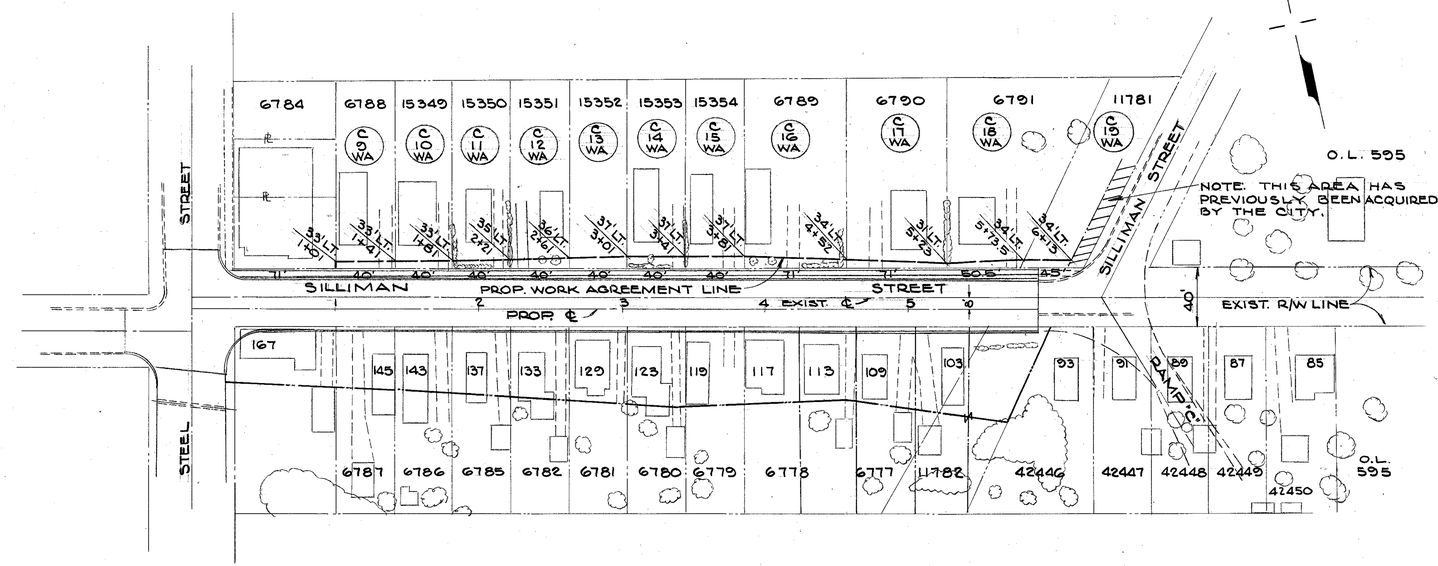
Revised 7/11/60 R.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

488
492



RIGHT-OF-WAY OAKWOOD AVENUE					
PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-1WA	18181	MARGARET C. BOWREY		YES		HEDGE
C-2WA	18182	ELIZ. LESKO ZAVACAN		YES	YES	CONC. STEPS
C-3WA	18183	JOHN & WASYLYNA IWANIUK		YES	YES	WALL
C-4WA	18184	THEO. & NANCY HASSAY		YES	YES	CONC. STEPS
C-5WA	18185	KOLAR & KURTA		YES	YES	CONC. STEPS
C-6WA	18186	GUSSIE L. HEYMAN		YES	YES	
C-7WA	18187	CHARLES & FLO L. PALISEN		YES	YES	



RIGHT-OF-WAY SILLIMAN STREET					
PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-9WA	6788	CHAS. & JUSTINE SEREDNESKY		YES	YES	
C-10WA	15349	MARY KNAPIK		YES	YES	
C-11WA	15350	JOHN & SOPHIE TOPORCER		YES	YES	
C-12WA	15351	JOHN LEJBA		YES	YES	
C-13WA	15352	ALEX & ADA HODORY		YES		
C-14WA	15353	MARY & JOHN SKLEPKO		YES	YES	
C-15WA	15354	PAUL & MARY KISSEL		YES	YES	
C-16WA	6789	MARY PODRAEZKY		YES	YES	
C-17WA	6790	JOHN & HELEN NESTERUK		YES	YES	
C-18WA	6791	PAUL & JULIA ANTEL		YES	YES	
C-19WA	11781	CHARLES F. SEMPLE		YES		
C-B	6784	CHARLES SR & CHRISTINA SEREDNESKY				

REVISIONS			DATE COMP.
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	DELETED PARCELS C-1A, C-2A, C-3A C-4A, C-5A, C-6A, C-7A	3-30-60	J.D.P.
# 2	REVISED R/W LINE ON OAKWOOD	4-4-60	J.D.P.

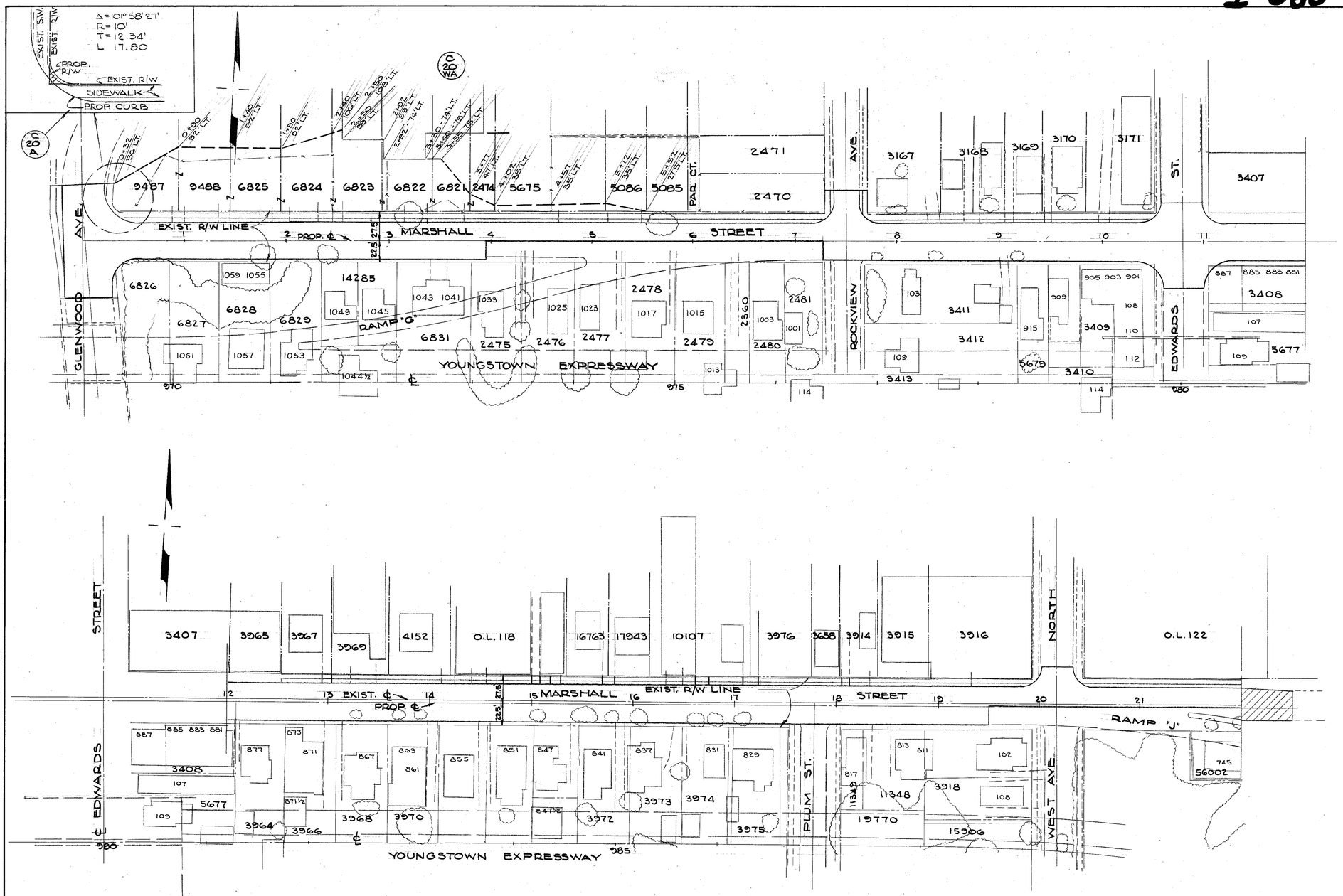
-LEGEND-
EXISTING R/W ———————
PROPOSED R/W ———————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — —

SILLIMAN STREET

R/W OAKWOOD AVE. & SILLIMAN ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH.-18-17.20	

483
492



RIGHT-OF-WAY MARSHALL STREET

PARCEL No.	LOT No.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK SLOPE	AGREEMENT DRIVEWAY	OTHER	
C-20A	9487	THE ISALY DAIRY CO.	34.4 SQ. FT.	YES	YES		
C-20WA		" " " "		YES			

REVISIONS

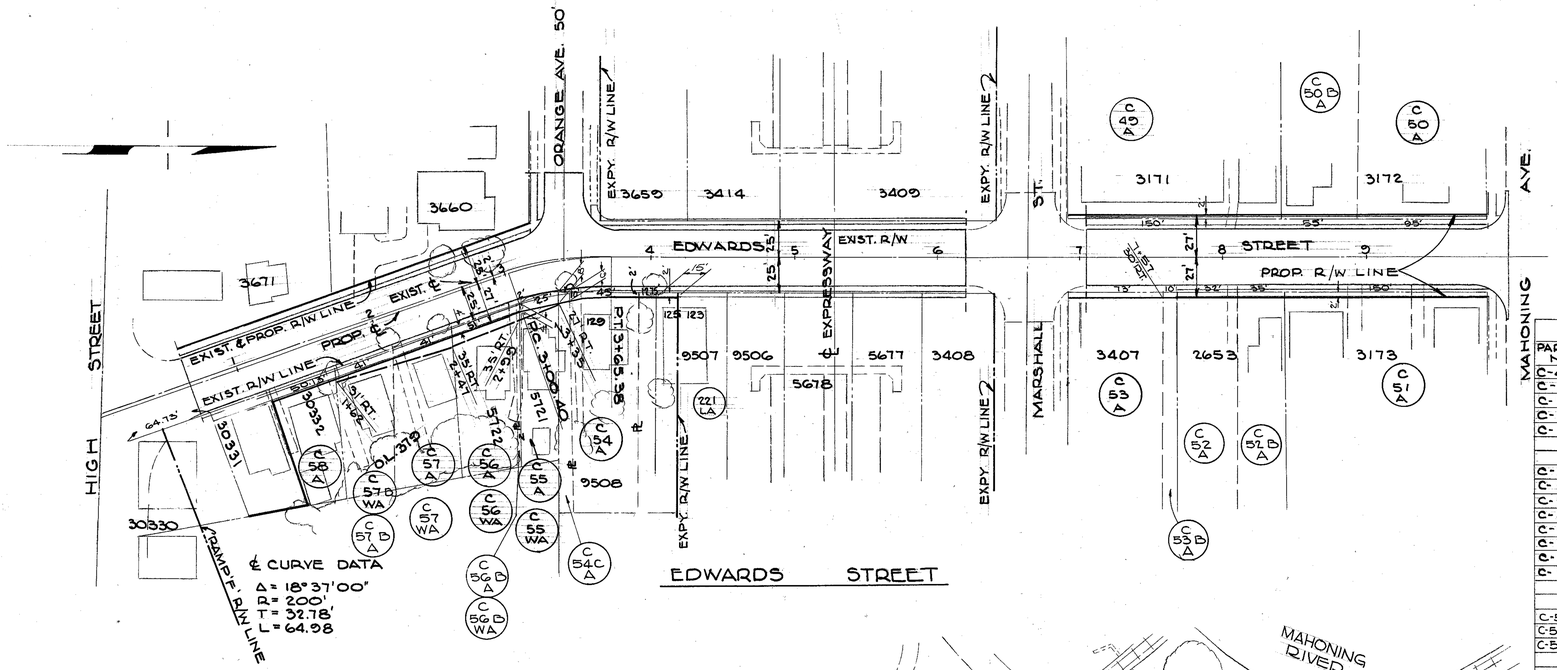
REV. NO.	NATURE OF REVISION	DATE	DATE COMP. MADE BY
#1	DELETED PARCEL C-21-WA		

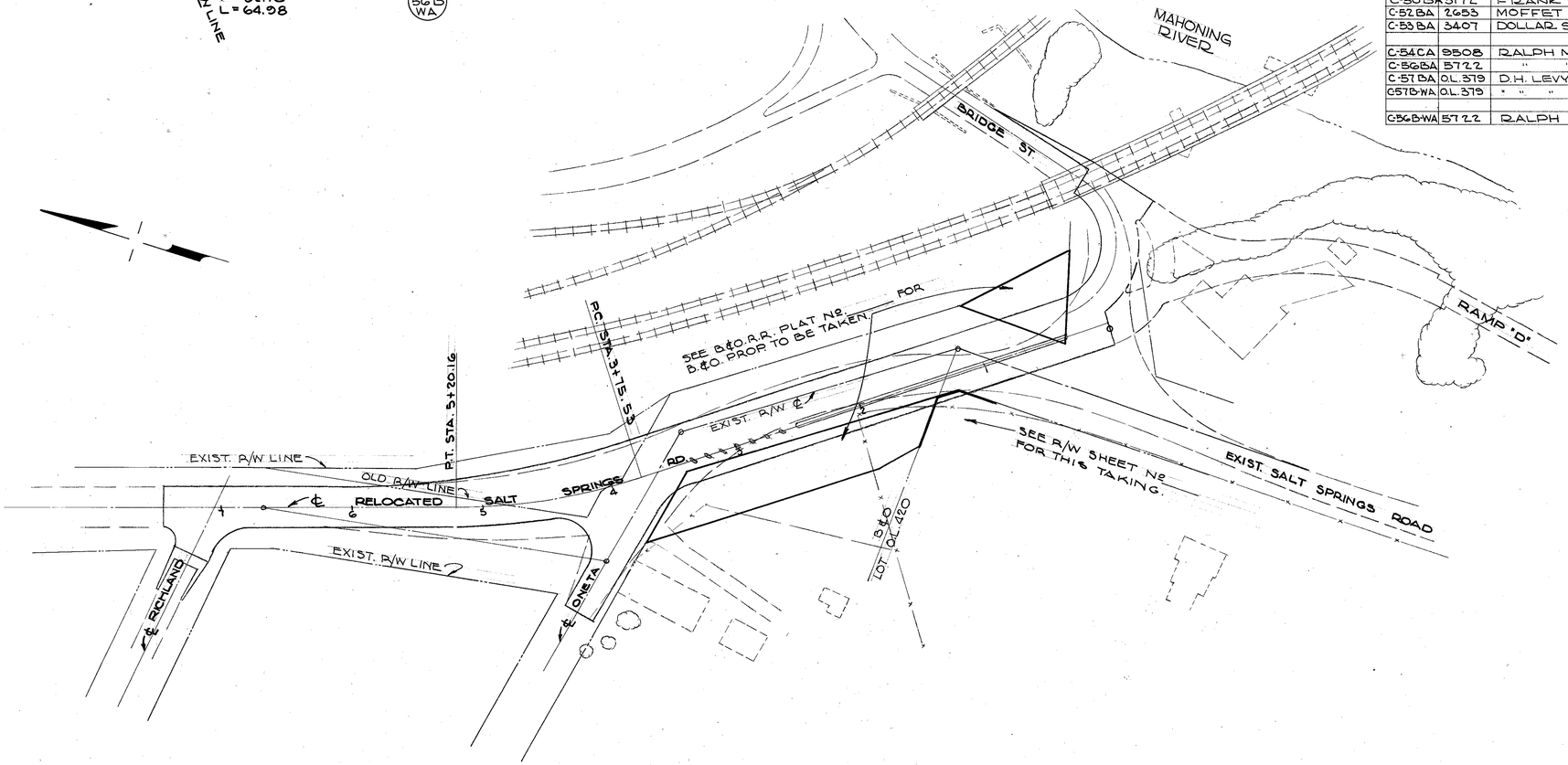
-LEGEND-
EXISTING R/W
PROPOSED R/W
SLOPE EASEMENT & WORK AGREEMENT LIMITS

R/W MARSHALL ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

490
492





RIGHT-OF-WAY EDWARDS STREET

PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-49A	3171	FLORENCE MACE	300 SQ. FT.			
C-50A	3172	MILITARY ORDER OF COOTIE, PUP TENT #5	150 SQ. FT.			
C-51A	3173	GEORGE A. GREIN	300 SQ. FT.			
C-52A	2653	ISALY DAIRY CO.	64 SQ. FT.			
C-53A	3407	ISALY DAIRY CO.	146 SQ. FT.			
C-54A	9508	BENJAMIN F. LEWIS	180 SQ. FT.			
C-55A	5721	RALPH M. McCRACKEN	150 SQ. FT.			
C-55WA	5721	" " "		YES		
C-56A	5722	LEONA LOUISE CALER	204 SQ. FT.			
C-56WA	5722	" " "		YES	YES	
C-57A	OL 379	CALVIN & MARTHA WESTON	164 SQ. FT.			
C-57WA	OL 379	" " "		YES	YES	
C-58A	30332	NAPOLEAN & DOROTHY BURT	200 SQ. FT.			
C-50BA	3172	FRANK P. SANDERS	110 SQ. FT.			
C-52BA	2653	MOFFET L.T. & B	70 SQ. FT.			
C-53BA	3407	DOLLAR SAVINGS & TRUST CO.	20 SQ. FT.			
C-54CA	9508	RALPH M. McCRACKEN	70 SQ. FT.			
C-56BA	5722	" " "	8 SQ. FT.			
C-57BA	OL 379	D.H. LEVY & S. DUNGER	164 SQ. FT.			
C57B-WA	OL 379	" " " "		YES	YES	
C56B-WA	5722	RALPH M. McCRACKEN		YES		

-LEGEND-
EXISTING R/W ————————
PROPOSED R/W ————————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — — —

RIGHT-OF-WAY SALT SPRINGS ROAD

PARCEL Nº	LOT Nº	NAME	AREA OF TAKING HIGHWAY EASEMENT

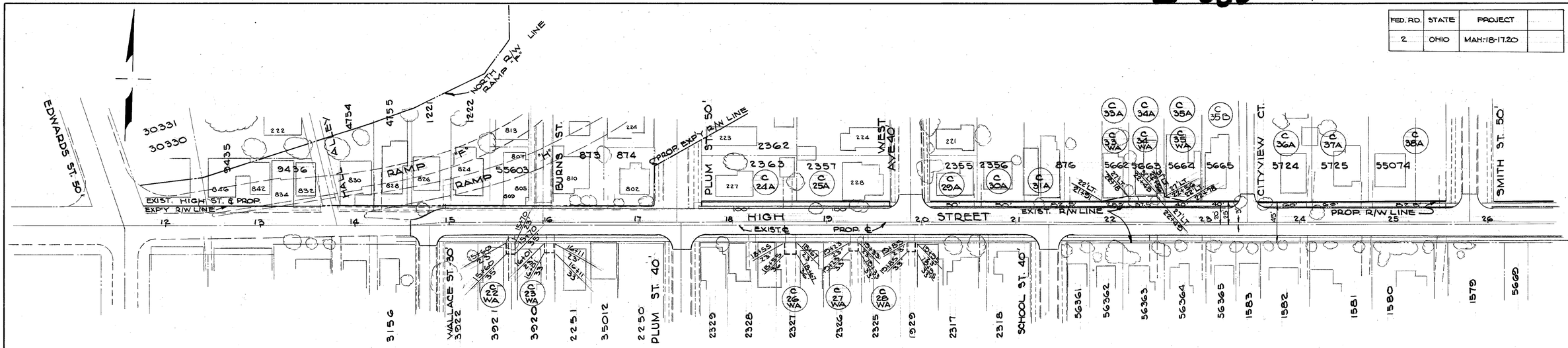
REVISIONS

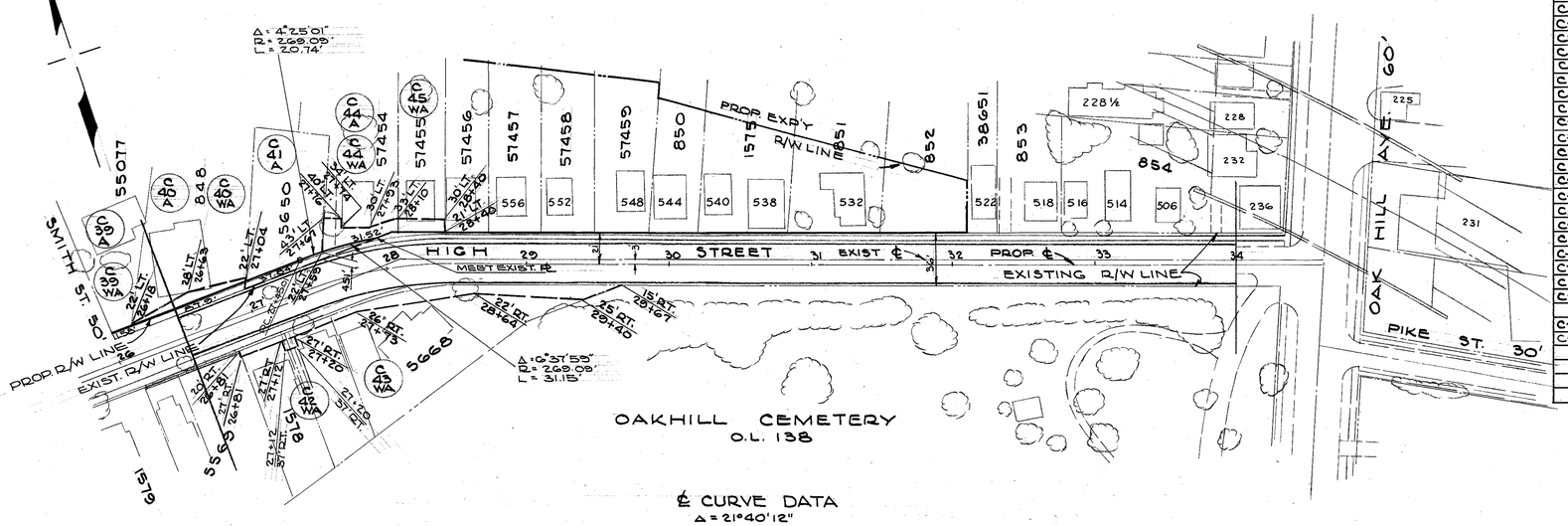
REV. NO.	NATURE OF REVISION	DATE	MADE BY	DATE COMP.
# 1	DELETED - C-55-A, C-53-B-WA, C-53-WA 221-A, C-54-BA	3-31-60	J.D.P.	

R/W EDWARDS ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

491
492





℄ CURVE DATA

Δ = 21°40'12"
R = 261.24'
T = 50.00'
L℄ = 98.80'

-LEGEND-

EXISTING R/W ————————
PROPOSED R/W ————————
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — — —

RIGHT-OF-WAY HIGH STREET

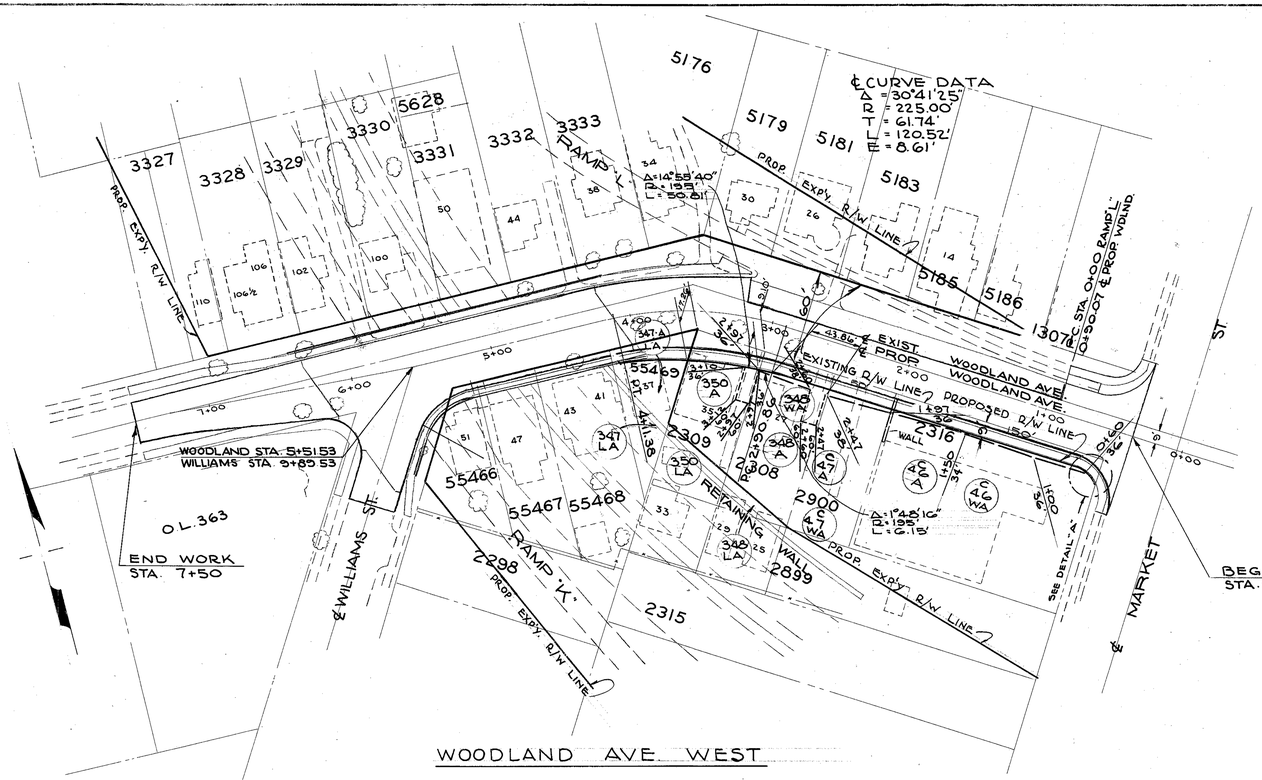
PARCEL NO	LOT NO	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	WORK AGREEMENT DRIVEWAY	WORK AGREEMENT OTHER
C-22WA	3921	T. SAADI			YES	
C-23WA	3920	T. SAADI			YES	
C-24A	2363	EXIE SCRUGGS	500 SQ. FT.			
C-25A	2357	EMMA JANE MCCORKLE	500 SQ. FT.			
C-26WA	2327	CLIFTON DOUGLAS-LUCY ANN PARKER			YES	
C-27WA	2326	RUBY B. CHEIRS			YES	
C-28WA	1929	HATTIE BRADLEY			YES	
C-29A	2355	J.B. & H. COLLIER	250 SQ. FT.			
C-30A	2356	LAWRENCE & BEATRICE SMITH	250 SQ. FT.			
C-31A	876	TOFFIC SAADI	415 SQ. FT.			
C-33A	5662	WALTER & WILLO LEE FLIPPING	143 SQ. FT.			
C-33WA	5662	" " " "		YES		RETAIN. WALL
C-34A	5663	IDA BELLE PEARSON	188 SQ. FT.			
C-34WA	5663	" " "		YES	YES	
C-35A	5664	MARY CANNELL	200 SQ. FT.			
C-35WA	5664	" "		YES		CONC. STEPS
C-36A	5724	ANNA CENTRIC	300 SQ. FT.			
C-37A	5725	ALVIN & JOSEPHINE CLARK	300 SQ. FT.			
C-38A	55074	ANDERSON & OLA MAE JOHNSON	415 SQ. FT.			
C-39A	55077	MATTIE HART	57 SQ. FT.			
C-39WA	55077	" "		YES		
C-40A	848	CLARA WASHINGTON	437 SQ. FT.			
C-40WA	848	" "		YES		
C-41A	5650	UNION NATIONAL BANK TRUST	256 SQ. FT.			
C-42WA	1578	DOZIER RENAH-JAMES JACKSON		YES		
C-43WA	5668	EMIL E. RESTLE		YES		
C-44A	57454	LINDSAY CARRIE	71 SQ. FT.			
C-44WA	57454	" "		YES	YES	
C-45WA	57455	" " "		YES		
C-35B	5665		200 SQ. FT.			

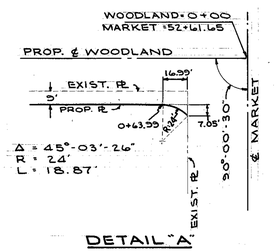
REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	REVISED AREA OF TAKING PC'LS. C-24-A C-25-A, C-34-A, C-41-A, C-44-A		

R/W HIGH ST.

FED. RD.	STATE	PROJECT	
2	OHIO	MAH-18-17.20	

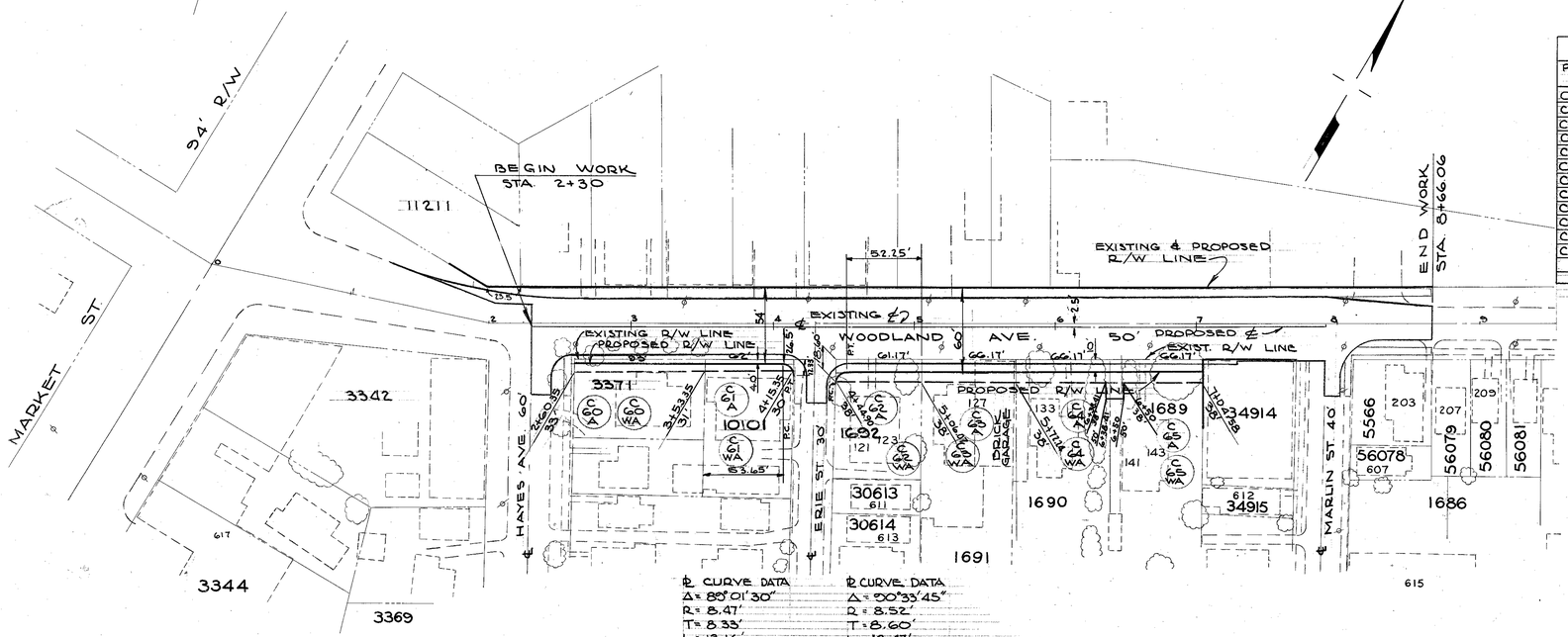
492/492





RIGHT OF WAY WOODLAND AVE. WEST

BUILDINGS	PARCEL NO.	LOT NO.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
	C-46A	2316	NATIONAL CITY BANK OF CLEVE., TR.	1370 SQ. FT.			
	C-46WA	2316	" " " " "		YES	YES	WALL
	C-47A	2000	FIRESTONE TIRE & RUBBER, AKRON, OHIO	450 SQ. FT.			
	348A	2308	JOHN PAUL	450 SQ. FT.			
	348WA	2308	" "		YES	YES	
PORCH	350A	2300	JOHN & ANN BUDAKER	744 SQ. FT.			
	350-WA	2305	"			YES	
	C-47WA	2000	FIRESTONE TIRE & RUBBER, AKRON, OHIO		YES		



RIGHT OF WAY WOODLAND AVE. EAST

PARCEL NO.	LOT NO.	NAME	AREA OF TAKING HIGHWAY EASEMENT	WORK AGREEMENT SLOPE	DRIVEWAY	OTHER
C-60A	3371	THEO. R. CLAPP	372 SQ. FT.			
C-60WA	3371	" " "		YES		
C-61A	10101	FRED SHUTRUMP	268 SQ. FT.			
C-61WA	10101	" "		YES		
C-62A	1692	BEATRICE B. LOPEZ	630 SQ. FT.			
C-62WA	1692	" " "		YES		
C-63A	1691	NATHAM DARSKY	662 SQ. FT.			GARAGE
C-63WA	1691	" "		YES		
C-64A	1690	FRED WALLACE HUGHES	662 SQ. FT.			
C-64WA	1690	" " "		YES		
C-65A	1689	GEORGE & K. KONIESCKY	662 SQ. FT.			
C-65WA	1689	" " " "		YES	YES	

REVISIONS		DATE COMP.	
REV. NO.	NATURE OF REVISION	DATE	MADE BY
# 1	ADDED 350-WA; ADDED W/A FOR DRIVES FOR C-348-WA, C-65-WA. DELETED C-66-A	3-31-60	J.D.P.

-LEGEND-
EXISTING R/W ———
PROPOSED R/W ———
SLOPE EASEMENT & WORK AGREEMENT LIMITS — — — —

R/W WOODLAND AVE. WEST & EAST

TE-54-A
200-8-57

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 111 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel or stone fragments	A-1-a (0)	A-1-a	68	13	10	6	3	NP	NP	13	30
Gravel or stone fragments with sand	A-1-b (0)	A-1-b	48	18	17	11	6	NP	NP	13	54
Fine sand	A-3 (0)	A-3	4	16	70	8	2	NP	NP	26	1
Coarse and fine sand	----	A-3a	11	22	49	13	5	NP	NP	16	24
Gravel or stone fragments with sand and silt	A-2-4 (0)	A-2-4	42	13	18	17	10	22	4	14	44
Gravel or stone fragments with sand, silt, and clay	A-2-6 (0)	A-2-6	54	15	10	11	10	29	13	15	8
Sandy silt	A-4 (4)	A-4a	19	8	20	34	19	23	5	15	155
Silt	A-4 (8)	A-4b	3	2	7	63	25	15	4	23	54
Elastic silt and clay with organic material	A-5 (9)	A-5	0	2	13	59	26	47	10	38	1
Silt and clay	A-6 (8)	A-6a	14	4	10	36	36	30	12	19	31
Silty clay	A-6 (10)	A-6b	6	3	9	42	40	35	16	22	5
Elastic clay	A-7-5 (17)	A-7-5	0	2	3	17	78	61	23	25	1
Clay	A-7-6 (11)	A-7-6	8	1	2	35	54	43	17	25	8
Slag or Cinders - fill material				CLASSIFIED BY VISUAL INSPECTION							1
Random fill (Glass, Bricks, Slag, Cinders & Ashes)				CLASSIFIED BY VISUAL INSPECTION							20
Sandstone				CLASSIFIED BY VISUAL INSPECTION							
Shale				CLASSIFIED BY VISUAL INSPECTION							4

Auger boring-plan view.

Drive sample-core boring-plan view.

Auger boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

Number of blows for "Standard Penetration" test.
X=number of blows for the first 6 inches.
Y=number of blows for the second 6 inches.

NOTE: Figures beside borings indicate water content in percent as %

Sod and/or Topsoil=X'=Approximate depth.

Berm material

W——Free water

Small vertical figures beside borings indicate loss on ignition in percent, as 15 %

Moisture Density Samples
Lab. Nos. So.
11243 - 11244 incl.

Samples Tested
Lab. Nos. So.
11183- 11248 incl | 11581- 11594 incl.
11646- 11648 incl | 11694- 11785 incl.
12146- 12164 incl | 12219- 12241 incl.
12284- 12302 incl | 12419- 12422 incl.
12609- 12644 incl, 1 | 13172- 13180 incl.
14478- 14527 incl, 3 | 15133- 15740 incl.
16191- 16201 incl, 3 | 16354- 16377 incl.
16386- 16429 incl | 19466- 19480 incl.
19566- 19599 incl, 1 | 20097- 20103 incl.
[illegible] 20251 incl.
14478 - [illegible] 1.
[illegible] - [illegible] 1.
[illegible] - [illegible] 1.
[illegible] - [illegible] incl.
[illegible] - [illegible] 1.

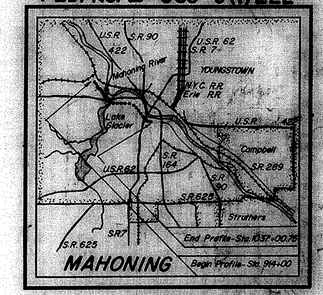
MICROFILMED
SEP 19 1985

SOIL PROFILE
MAHONING COUNTY
MAH-18- 17.20
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

I / 19

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT; THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

I-1108 (1) old
FED. NO. I-680-9(1)222



LOCATION MAP

Recon- P.A.H.- Jan. 6, 1959
Core- W.A.M., K.D.E., W.L.T.- February 25, 1959
Auger- D.J.H., C.A.S., A.R.S., M.H.- February 26, March 2, April 1, May 12, 13, 1959
Drafting- J.H.W. June 15, 1959

REVISION

Drilling- W.L.T., H.E.H.- 4/22/59 to 5/13/59
Drafting- M.H.- 9/11/59

INDEX

ITEM	DRAWING SHEET NUMBER
LEGEND	1
SUMMARY OF SOIL TEST DATA	2-N
SUPPLEMENTARY SOIL TEST DATA	4A
PLAN VIEW	
Sta. 914+00 to 946+00	5
Sta. 946+00 to 978+00	6
Sta. 978+00 to 1010+00	7
Sta. 1010+00 to 1037+00, 804+79 to 800+00	111
Ramp A	5
Ramp B	5
Ramp C	5-A?
Ramp D	5-A?
Ramp E	7
Ramp F	9
Ramp G	9
Ramp H	9
Ramp J	9
Ramp K	9
Ramp L	9
Ramp M	9
Ramp N	9
Relocated Sullivan St.	9
Test Borings Road Sewer Line	9
Central Parking Lot	9
LOGS OF BORINGS	
Test Borings Road Sewer Line	9
Test Borings Parking Lot	9

ITEM	DRAWING SHEET NUMBER
PROFILE	
Sta. 914+00 to 946+00	6
Sta. 946+00 to 978+00	8
Sta. 978+00 to 1010+00	10
Sta. 1010+00 to 1037+00, 804+79 to 800+00	12
Ramp A	13
Ramp B	14
Ramp C	15
Ramp D	16
Ramp E	17
Ramp F	17
Ramp G	17
Ramp H	17
Ramp J	18
Ramp K	18
Ramp L	19
Ramp M	19
Ramp N	19
Relocated Sullivan St.	19
CROSS SECTIONS	
Sta. [illegible]	10
Sta. 100+00	10
Sta. 101+00	11
Sta. [illegible]	12
Sta. 102+00	12
Sta. [illegible]	12
Sta. [illegible] Ramp K	15
Sta. [illegible] Ramp D	15

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

2/19

SUMMARY OF SOIL TEST DATA

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

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
918+20	CL	0.3-16.0	Random Fill							37	Visual
		10.0-13.0	13	7	19	39	22	24	8	18	A-4a
		13.0-16.0	48	7	17	21	7	NP	NP	11	A-2-4
919+00	CL	20.0-25.0	11	9	22	44	14	NP	NP	15	A-4a
920+75	CL	0.4-2.0	4	3	9	40	44	36	16	27	A-6b
		2.0-8.0	16	7	25	33	19	20	6	16	A-4a
		8.0-13.0	17	9	19	40	15	20	6	13	A-4a
		13.0-21.0	8	8	21	45	18	19	4	14	A-4a*
		21.0-26.0	7	6	19	42	16	NP	NP	14	A-4a
922+10	120'Lt	0.3-4.0	15	8	16	35	26	24	9	13	A-4a
		4.0-10.0	19	7	13	46	15	19	2	12	A-4a
		10.0-20.0	11	7	31	41	10	NP	NP	11	A-4a*
924+00	CL	0.3-3.0	4	5	11	37	43	34	6	24	A-4a
		3.0-8.0	15	7	18	37	23	25	11	14	A-6a
		8.0-13.0	17	9	27	34	13	NP	NP	12	A-4a
		13.0-17.0	8	5	22	51	14	NP	NP	14	A-4b
927+00	15'Lt	0.3-5.0	7	6	17	44	26	26	11	26	A-6a
		5.0-11.0	17	10	20	38	15	22	7	16	A-4a
		11.0-22.0	8	7	26	39	20	20	4	13	A-4a*
930+40	15'Lt	0.4-6.0	6	8	15	43	28	28	12	15	A-6a
		6.0-10.0	Random Fill							15	Visual
		10.0-16.0	12	6	16	37	29	27	9	18	A-4a
		16.0-25.0	37	12	16	21	14	22	6	19	A-2-4*
		25.0-30.0	38	22	19	15	6	NP	NP	11	A-1-b
933+60	CL	0.4-8.0	13	10	22	31	24	24	7	13	A-4a
		8.0-13.0	21	13	19	34	13	NP	NP	14	A-4a
		13.0-14.0	14	8	10	45	23	20	4	12	A-4a
		14.0-22.0	9	8	24	40	19	NP	NP	13	A-4a*
		22.0-27.0	58	8	10	16	8	22	5	12	A-1-b
		27.0-30.0	3	32	42	14	9	NP	NP	5	A-3a
936+00	CL	12.0-14.0	10	7	16	39	28	24	8	11	A-4a
		20.0-30.0	13	8	20	42	17	19	1	13	A-4a*
938+00	CL	0.3-6.0	7	11	18	40	24	24	7	12	A-4a
		6.0-13.0	14	6	14	38	28	28	8	14	A-4a
		13.0-19.0	9	7	14	42	28	27	10	14	A-4a*
		19.0-22.0	17	8	16	37	22	22	7	12	A-4a
		22.0-25.0	12	7	14	39	28	23	6	14	A-4a*
941+00	CL	11.0-17.0	2	11	61	20	6	NP	NP	13	A-3a
		17.0-20.0	0	1	15	75	9	NP	NP	25	A-4b
944+75	CL	0.3-2.0	30	18	23	15	14	20	3	14	A-2-4
		2.0-8.0	40	13	24	16	7	NP	NP	17	A-1-b
		8.0-9.0	8	10	31	36	15	25	5	29	A-4a
		9.0-13.0	44	13	21	13	9	NP	NP	20	A-1-b
		13.0-17.0	13	14	53	14	6	NP	NP	23	A-3a
		17.0-25.0	39	25	26	7	3	NP	NP	13	A-1-b
947+20	15'Rt	0.4-6.0	15	9	16	36	24	27	10	13	A-4a
		6.0-9.0	5	4	14	61	16	NP	NP	16	A-4b
		9.0-25.0	30	17	20	25	8	NP	NP	11	A-2-4
951+00	90'Rt	0.0-6.0	10	8	18	38	26	26	8	18	A-4a
954+00	CL	0.5-8.0	31	10	19	28	12	22	3	17	A-4a
		8.0-20.0	70	20	4	6	0	NP	NP	6	A-1-a
957+25	15'Lt	0.3-5.0	41	28	17	7	7	NP	NP	10	A-1-b
		5.0-15.0	57	30	9	2	2	NP	NP	5	A-1-a
959+50	CL	0.4-5.0	0	0	1	74	25	29	2	26	A-4b
		7.0-8.0	12	2	5	51	30	27	9	21	A-4b
		8.0-25.0	38	34	18	7	3	NP	NP	6	A-1-b*
961+80	CL	6.0-20.0	48	3	16	20	13	23	7	8	A-2-4*
		20.0-25.0	25	4	5	36	30	37	14	14	A-6a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
964+00	15'Rt	6.0-10.0	65	14	10	7	4	23	7	16	A-2-4
		10.0-12.0	40	10	12	20	18	26	6	17	A-4a
		12.0-13.0	42	3	5	34	16	29	11	12	A-6a
965+45	CL	0.4-5.0	27	12	22	29	10	NP	NP	15	A-4a
		5.0-8.0	27	11	24	24	14	NP	NP	15	A-4a
		8.0-10.0	0	2	13	59	26	47	10	38	A-5*
		10.0-16.0	0	0	22	54	24	NP	NP	25	A-4b
		16.0-17.0	35	10	10	21	24	31	12	17	A-6a
968+70	100'Lt	0.3-5.0	18	7	21	37	17	25	3	13	A 4a
		5.0-10.0	17	2	6	33	42	44	17	13	A-7-6
969+60	125'Rt	0.3-6.0	63	9	11	11	6	25	5	13	A-1-b
971+00	CL	0.4-3.0	17	9	21	33	20	24	6	16	A-4a
		3.0-9.0	53	19	14	9	5	NP	NP	12	A-1-a
		9.0-13.0	76	8	7	6	3	NP	NP	8	A-1-a
974+00	50'Rt	2.0-4.0	16	28	38	12	6	NP	NP	12	A-3a
		13.0-23.0	56	23	6	9	6	31	14	17	A-2-6
		23.0-30.0	16	8	19	31	26	29	9	19	A-4a
975+00	25'Lt	0.5-1.0	47	12	11	17	13	29	5	18	A-2-4
		1.0-2.5	4	1	1	62	32	29	1	6	A-4b
		2.5-12.0	0	0	0	66	34	30	8	25	A-4b*
		12.0-14.0	11	6	30	28	25	24	8	19	A-4a*
		14.0-17.0	6	1	3	24	66	43	16	23	A-7-6
		17.0-19.0	0	1	10	40	49	30	11	20	A-6a
976+00	10'Rt	0.4-5.0	73	3	3	11	10	35	16	13	A-2-6*
		5.0-10.0	6	1	1	53	39	34	9	26	A-4b
979+85	20'Rt	3.0-7.0	17	8	14	37	24	29	9	18	A-4a
983+50	CL	0.4-5.0	3	2	6	49	40	36	11	29	A-6a
		5.0-9.0	9	1	3	51	36	42	19	26	A-7-6
		9.0-17.0	55	19	9	11	6	28	11	16	A-6a
		17.0-20.0	12	10	64	13	1	NP	NP	9	A-3a
		20.0-30.0	58	25	4	11	2	NP	NP	11	A-1-a
987+20	CL	0.6-5.0	21	11	13	36	19	21	7	17	A-4a
		5.0-12.0	27	11	22	27	13	20	6	17	A-4a
		12.0-17.0	22	10	27	25	16	NP	NP	16	A-4a
		17.0-20.0	47	9	19	19	6	NP	NP	14	A-1-a
		20.0-24.0	33	11	20	27	9	NP	NP	13	A-4a
989+05	CL	0.6-3.0	37	10	11	25	15	23	6	15	A-4a*
		3.0-7.0	0	1	1	61	37	28	8	26	A-4b
		7.0-10.0	0	1	0	43	56	26	11	26	A-6a
		10.0-15.0	49	20	20	6	5	NP	NP	6	A-1-b
992+50	CL	0.4-3.0	35	36	19	8	2	NP	NP	11	A-1-b
		3.0-4.0	60	8	10	15	7	NP	NP	16	A-1-b
995+20	CL	0.6-5.0	28	10	28	23	11	NP	NP	13	A-2-4
		5.0-12.0	14	7	18	40	21	22	6	19	A-4a
		12.0-14.0	48	10	16	14	12	20	7	19	A-2-4
		14.0-23.0	8	6	18	60	8	NP	NP	25	A-4b
996+15	CL	0.5-3.0	30	10	23	21	16	20	3	14	A-4a
		3.0-7.5	0	1	8	50	40	33	15	21	A-6a
		7.5-11.0	40	13	21	16	10	19	4	9	A-2-4
		11.0-17.0	58	24	6	7	5	27	10	13	A-2-4
		17.0-20.0	38	38	18	5	1	NP	NP	8	A-1-b
997+50	24'Rt	0.6-5.0	33	9	23	22	13	20	6	15	A-2-4
		5.0-7.0	69	7	9	9	6	21	8	12	A-2-4
1001+00	20'Rt	0.4-7.0	10	19	18	33	20	23	8	22	A-4a
		7.0-9.0	65	10	9	9	7	25	10	9	A-2-4
1005+45	45'Lt	0.6-7.0	15	8	22	35	20	22	7	18	A-4a
		7.0-12.0	0	0	9	62	29	25	9	27	A-4b
		12.0-18.0	30	24	32	7	7	NP	NP	16	A-1-b
		18.0-30.0	45	14	20	13	8	19	4	18	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1009+55	72'Rt	0.4-2.0	Random Fill							13	Visual
		2.0-7.5	49	14	20	13	4	NP	NP	10	A-1-b
1010+50	15'Rt	0.4-6.0	48	6	14	21	11	25	8	15	A-2-4
		6.0-11.0	Random Fill							14	Visual
		11.0-15.0	Random Fill							18	Visual
		15.0-20.0	74	8	9	6	3	NP	NP	8	A-1-a
		20.0-25.0	34	38	20	8	0	NP	NP	16	A-1-b
		25.0-30.0	67	20	8	4	1	NP	NP	10	A-1-a
1011+00	CL	0.4-13.0	Random Fill							15	Visual
1012+50	90'Rt	0.0-3.0	Random Fill							26	Visual
		3.0-13.0	Random Fill							18	Visual
		13.0-21.0	Random Fill							5	Visual
Moisture Density		0.0-13.0	Random Fill							17	Visual
1013+00	135'Lt	0.6-7.0	54	13	16	10	7	NP	NP	16	A-1-b
		7.0-12.0	48	18	18	10	6	NP	NP	16	A-1-b
		12.0-25.0	50	20	17	7	6	NP	NP	12	A-1-a
1016+50	40'Rt	0.4-10.0	Slag							4	Visual
1017+00	80'Lt	0.0-4.0	60	26	9	5	0	NP	NP	6	A-1-a
		4.0-10.0	38	17	13	16	16	28	11	16	A-2-6
		10.0-13.0	13	23	53	9	2	NP	NP	23	A-3a
		13.0-17.0	4	6	37	37	16	NP	NP	16	A-4a
		17.0-18.0	10	14	38	26	12	18	3	12	A-4a
1019+00	CL	0.4-4.0	0	0	2	36	62	43	14	28	A-7-6
		4.0-6.0	0	1	2	40	57	41	12	22	A-7-6
		6.0-18.0	0	1	1	51	47	28	6	22	A-4b
1020+40	55'Lt	0.4-3.0	37	9	22	20	12	19	6	17	A-2-4
		3.0-6.0	23	10	35	22	10	NP	NP	15	A-2-4
		6.0-10.0	46	13	19	12	10	21	5	15	A-1-b
		10.0-15.0	9	19	37	26	9	NP	NP	21	A-3a
		15.0-18.0	17	10	23	26	14	NP	NP	14	A-4a
		18.0-21.0	10	10	65	10	5	NP	NP	20	A-3a
		21.0-27.0	39	18	34	8	1	NP	NP	16	A-1-b
		27.0-31.0	33	6	20	29	12	17	5	12	A-4a
1020+40	CL	0.4-7.0	Random Fill							18	Visual
		7.0-13.0	19	10	25	33	13	18	1	14	A-4a
		13.0-18.0	4	8	45	33	10	NP	NP	18	A-4a*
		18.0-22.0	7	2	14	38	39	24	11	18	A-6a*
		22.0-24.0	75	2	10	12	1	NP	NP	15	A-1-a
		24.0-27.0	8	5	9	31	47	32	15	20	A-6a
		27.0-30.0	25	13	16	20	26	27	13	17	A-6a
		30.0-32.0	6	3	12	31	48	30	11	20	A-6a
1020+40	58'Rt	0.4-2.0	Random Fill							14	Visual
		2.0-7.0	13	13	39	25	10	NP	NP	13	A-3a
		7.0-14.0	77	5	11	4	3	NP	NP	9	A-1-a
		14.0-17.0	11	35	42	9	3	NP	NP	16	A-3a
		17.0-21.0	4	16	70	8	22	NP	NP	26	A-3
		21.0-23.0	2	4	23	33	38	23	11	24	A-6a
1023+25	CL	0.6-9.0	16	9	18	30	27	27	9	16	A-4a
		9.0-12.0	14	8	33	27	18	21	3	19	A-4a
		13.0-17.0	35	24	17	16	8	21	4	9	A-1-b
		17.0-24.0	44	29	11	9	7	28	11	14	A-2-6
		24.0-32.0	9	41	37	6	7	NP	NP	21	A-3a*
		32.0-38.0	55	15	21	7	2	NP	NP	15	A-1-a
1026+55	10'Lt	0.6-9.0	27	5	21	31	16	19	4	15	A-4a
		9.0-15.0	45	8	11	23	13	24	7	14	A-4a
		15.0-21.0	72	10	8	4	6	23	6	11	A-1-a*
1027+10	20'Rt	0.6-8.0	10	6	22	38	24	27	10	24	A-4a
		8.0-14.0	14	9	23	35	19	21	5	13	A-4a
		14.0-19.0	38	9	23	19	11	NP	NP	13	A-2-4*
		19.0-28.0	20	4	3	50	23	23	4	19	A-4b*
		28.0-32.0	0	1	2	56	47	27	8	18	A-4b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1030+87	CL	0.6-4.0	6	7	28	34	25	23	7	14	A-4a
		4.0-12.0	19	7	26	30	18	21	2	10	A-4a
		12.0-20.0	55	4	15	17	9	19	6	7	A-4a
		20.0-23.0	24	8	26	26	16	NP	NP	13	A-4a
		23.0-27.0	0	0	2	41	57	33	13	25	A-6a
		27.0-32.0	0	0	1	50	49	30	7	23	A-4b
		32.0-34.0	83	2	5	6	4	NP	NP	18	A-1-a
1034+60	CL	0.6-7.0	18	9	23	33	17	23	10	11	A-4a
		7.0-11.0	27	7	22	26	18	22	6	9	A-4a
		11.0-16.0	18	8	25	32	17	18	4	8	A-4a
		16.0-25.0	14	1	2	50	33	28	10	9	A-4b
		25.0-26.0	Gray Shale							7	Visual
1036+30	CL	0.5-8.0	33	7	20	29	11	21	4	14	A-4a
		8.0-11.0	13	8	26	34	19	21	6	8	A-4a
		11.0-19.0	16	10	24	31	19	18	4	8	A-4a
		19.0-23.0	15	2	4	48	31	27	11	7	A-6a
		23.0-25.0	Gray Shale							5	Visual

RAMP A

0+30	12'Lt	0.3-4.0	9	8	21	44	18	22	6	19	A-4a*
		4.0-10.0	20	7	19	39	15	NP	NP	11	A-4a
4+00	35'Rt	0.4-4.0	42	10	17	19	12	29	14	21	A-2-6*
		4.0-7.0	16	9	20	40	15	21	7	13	A-4a*
		7.0-14.0	35	9	17	27	12	22	8	9	A-4a
8+00	10'Rt	0.3-4.0	18	10	16	37	19	29	8	25	A-4a
		17.0-23.0	0	7	17	69	5	NP	NP	24	A-4b
		23.0-25.0	12	8	18	46	16	19	2	15	A-4a

RAMP B (West Exit)

13+60	118'Rt	2.0-17.0	Random Fill							20	Visual
Moisture Density		2.0-17.0	Random Fill							14	Visual
14+00	50'Rt	0.5-5.0	11	4	11	38	36	29	15	18	A-6a
		5.0-12.0	11	9	23	40	17	NP	NP	14	A-4a
17+80	BL	0.4-3.0	23	9	19	26	23	31	14	18	A-6a*
		3.0-8.0	19	8	18	34	21	24	7	13	A-4a*

RAMP B (North Exit)

12+00	BL	0.5-1.0	Dark Gray, Slag, Cinders, and Soil							34	Visual
		1.0-5.0	15	6	13	40	26	27	7	22	A-4a
		5.0-13.0	28	9	18	28	17	21	6	13	A-4a
		13.0-23.0	31	19	18	20	12	20	5	11	A-2-4*
15+80	25'Lt	0.3-3.0	12	5	12	41	30	31	13	17	A-6a*
		3.0-10.0	17	7	15	40	21	23	7	14	A-4a

RAMP C

0+30	25'Lt	0.0-4.0	0	1	3	48	48	47	22	28	A-7-6
		4.0-10.0	42	4	10	24	20	29	11	16	A-6a
9+00	BL	0.4-6.0	15	7	19	42	17	26	5	16	A-4a*
10+80	25'Lt	0.4-5.0	28	18	28	16	10	NP	NP	26	A-2-4
		5.0-10.0	0	24	64	12	9	NP	NP	25	A-3a
		10.0-12.0	44	15	18	16	7	NP	NP	10	A-1-b
		12.0-25.0	73	13	7	4	3	NP	NP	11	A-1-a

RAMP D

9+00	15'Lt	0.4-4.0	34	17	19	21	9	20	2	11	A-2-4
		4.0-10.0	41	16	19	14	10	NP	NP	13	A-1-b
		10.0-25.0	42	27	14	10	7	22	7	14	A-2-4

Continued on next sheet

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

3
19

SUMMARY OF SOIL TEST DATA (Continued)

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

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
					RAMP D (Continued)						
18+00	BL	6.0-13.0	18	10	13	41	18	27	6	26	A-4a
		13.0-15.0	0	1	20	55	24	NP	NP	33	A-4b
		15.0-18.0	0	1	17	66	16	NP	NP	29	A-4b
		18.0-24.0	1	2	28	56	13	NP	NP	26	A-4b
20+40	25'Lt	7.0-12.0	57	6	12	22	3	NP	NP	30	A-1-b
		12.0-13.0	10	4	9	51	26	35	3	41	A-4b
		13.0-17.0	1	1	8	70	20	30	7	23	A-4b
		17.0-23.0	0	0	18	60	22	NP	NP	26	A-4b
					RAMP F						
0+50	BL	1.0-7.0	21	9	14	39	17	26	5	15	A-4a*
		7.0-9.0	27	19	28	19	7	NP	NP	13	A-2-4
3+00	BL	0.4-3.0	28	11	17	30	14	26	3	17	A-4a
		3.0-8.0	7	4	34	44	11	NP	NP	17	A-4a
		8.0-13.0	69	17	4	7	3	27	2	18	A-1-a*
		13.0-14.0	29	8	14	29	20	21	7	18	A-4a*
		14.0-21.0	1	0	1	82	16	NP	NP	24	A-4b*
		21.0-25.0	0	0	0	77	23	NP	NP	22	A-4b
					RAMP F						
5+10	15'Lt.	0.6-7.0	33	8	19	24	16	26	5	20	A-4a
		7.0-9.0	55	6	11	16	12	27	12	20	A-2-6
		9.0-16.0	0	2	10	50	38	30	9	23	A-4b
		16.0-23.0	0	1	3	36	60	32	14	24	A-6a
8+10	BL	0.6-4.0	16	7	17	42	18	27	8	16	A-4a
		4.0-8.0	60	18	9	7	6	26	7	11	A-2-4*
		8.0-20.0	54	19	15	8	4	NP	NP	8	A-1-b
11+00	BL	0.4-2.0	Random Fill							41	Visual*
		2.0-10.0	40	18	13	18	11	NP	NP	16	A-2-4
		10.0-13.0	19	16	20	29	16	NP	NP	16	A-4a
		13.0-15.0	10	10	13	48	19	29	2	21	A-4a
					RAMP G						
0+00	BL	0.4-5.0	0	1	2	53	44	33	7	27	A-4b*
		5.0-10.0	0	4	68	21	7	NP	NP	16	A-3a
		10.0-13.0	45	4	26	15	10	NP	NP	12	A-2-4
1+00	BL	0.4-4.0	50	13	8	15	14	31	9	13	A-2-4
		4.0-6.5	11	3	17	42	27	25	6	22	A-4a
1+00	25'Rt	0.4-3.0	16	3	36	33	12	NP	NP	17	A-4a
		3.0-6.3	20	4	26	28	22	22	8	15	A-4a
2+50	30'Lt	0.4-6.0	61	14	12	7	6	NP	NP	12	A-1-a
		6.0-15.0	48	25	7	13	7	21	7	12	A-2-4
					RAMP H						
4+75	10'Rt	0.4-4.0	59	17	11	8	5	NP	NP	14	A-1-a
		4.0-12.0	8	9	711	8	4	NP	NP	7	A-3a
		12.0-17.0	27	31	39	6	7	NP	NP	23	A-3a*
		17.0-19.0	18	9	14	33	26	28	8	19	A-4a
		19.0-20.5	21	18	26	20	15	22	7	19	A-2-4
9+40	40'Rt	0.6-4.0	9	5	17	50	19	NP	NP	20	A-4b
		4.0-7.0	57	14	12	11	6	25	5	13	A-1-b
		7.0-13.0	68	4	10	11	7	22	3	12	A-1-b
		13.0-15.0	60	6	13	12	9	18	2	9	A-1-b
11+25	105'Rt	0.5-3.0	0	2	10	48	40	33	15	21	A-6a
		3.0-8.0	56	15	10	11	8	30	12	12	A-2-6
		8.0-14.5	32	9	16	28	15	25	5	16	A-4a
		14.5-22.0	42	13	15	17	13	26	10	9	A-2-4
		22.0-30.0	40	25	15	12	8	20	3	13	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
					RAMP J						
11+00	BL	0.6-4.0	57	18	9	10	6	22	6	9	A-1-b
		4.0-9.0	0	2	8	43	47	35	16	23	A-6b
		9.0-15.0	64	18	6	5	7	24	8	15	A-2-4
15+00	45'Rt	0.6-4.0	36	10	8	28	18	24	7	17	A-4a
		4.0-9.0	0	2	8	63	27	27	10	21	A-4b
		9.0-15.0	67	19	6	3	5	26	15	11	A-2-6
					RAMP K						
15+40	25'Lt	0.4-4.0	9	3	13	44	33	26	3	21	A-4a
		4.0-11.0	8	2	8	50	32	34	18	23	A-6b
		11.0-15.0	68	5	11	10	6	23	6	25	A-1-b
					RAMP L						
0+00	20'Rt	0.4-4.0	12	10	20	36	22	23	4	12	A-4a*
		4.0-9.0	35	9	18	25	13	22	6	7	A-4a
		9.0-15.0	9	7	16	42	26	22	7	14	A-4a
4+00	BL	0.4-4.0	7	6	16	43	28	29	8	20	A-4a
		4.0-8.0	42	5	14	24	15	25	7	17	A-4a
		8.0-12.0	12	9	48	23	8	NP	NP	16	A-3a*
		12.0-23.0	47	21	19	8	5	NP	NP	10	A-1-b*
					RAMP M						
9+00	BL	0.4-17.0	19	6	14	34	27	29	8	23	A-4a
		17.0-25.0	9	5	12	53	21	19	3	21	A-4b
		25.0-30.0	51	9	15	16	9	NP	NP	16	A-1-b*
		30.0-32.0	0	2	3	17	78	61	23	25	A-7-5
11+65	BL	0.4-6.0	21	5	17	43	23	26	9	19	A-4a
		6.0-13.0	8	6	25	37	24	24	9	14	A-4a
		13.0-25.0	15	8	25	34	18	19	5	11	A-4a
		25.0-30.0	29	10	22	24	15	18	4	9	A-4a*
16+25	BL	0.4-10.0	10	7	29	29	25	22	4	20	A-4a*
		10.0-13.0	16	8	28	30	18	22	8	13	A-4a*
		13.0-15.0	19	6	23	30	22	21	5	12	A-4a
		15.0-19.0	9	8	14	34	35	24	7	18	A-4a
		19.0-24.0	0	0	0	64	36	NP	NP	21	A-4b
		24.0-31.0	9	2	5	45	39	32	16	18	A-6b
					RAMP N						
0+30	50'Lt	0.6-3.0	9	10	24	38	19	20	5	20	A-4a
		3.0-10.0	29	7	38	15	11	NP	NP	16	A-2-4
		10.0-15.0	23	8	30	26	13	20	6	14	A-4a
4+00	20'Lt	0.6-8.0	11	6	14	40	29	27	9	18	A-4a
		8.0-11.0	17	20	20	28	15	20	4	15	A-4a
		11.0-14.0	19	11	19	31	20	20	2	15	A-4a
					SILLIMAN ST. RELOCATED						
9+90	25'Lt	7.0-10.0	23	7	21	31	18	22	5	14	A-4a
10+35	CL	3.0-7.0	10	6	13	34	37	31	16	20	A-6b
		7.0-10.0	11	10	20	28	21	NP	NP	16	A-4a
13+00	CL	6.0-10.0	17	8	17	40	18	24	4	15	A-4a
		10.0-15.0	23	10	21	36	10	NP	NP	15	A-4a
15+50	CL	0.5-4.0	24	9	19	36	12	NP	NP	16	A-4a*
					RELOCATED WATER AND SEWER LINES						
943+60	575'Lt	6.0-17.0	0	0	0	26	74	43	19	24	A-7-6
		17.0-25.0	47	33	7	7	6	NP	NP	10	A-1-b

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
					RELOCATED WATER AND SEWER LINES (Continued)						
945+05	355'Lt	3.0-5.0	14	11	32	28	15	NP	NP	26	A-4a
		5.0-10.0	73	8	11	5	3	NP	NP	19	A-1-a
		10.0-20.0	56	15	21	6	2	NP	NP	18	A-1-a
947+10	205'Lt	0.4-5.0	24	15	28	20	13	NP	NP	12	A-2-4
949+85	110'Lt	0.4-7.0	3	34	49	11	3	NP	NP	15	A-3a
		7.0-13.0	29	37	21	6	7	NP	NP	20	A-1-b
		13.0-20.0	63	17	12	4	4	NP	NP	16	A-1-a
					MAH-7-14.80						
801+45	45'Rt	0.4-5.0	14	7	18	38	23	23	4	13	A-4a
		5.0-11.0	15	7	24	35	19	19	3	7	A-4a
		11.0-18.0	55	4	3	16	22	34	15	7	A-6a*
		18.0-19.5	Gray Shale							4	Visual
					SALT SPRINGS ROAD						
951+00	120'Lt	3.0-10.0	25	12	20	29	14	NP	NP	26	A-4a
		10.0-18.0	0	1	19	58	22	NP	NP	21	A-4b
		18.0-21.0	0	1	23	61	15	NP	NP	25	A-4b
		21.0-25.0	15	2	14	50	19	NP	NP	20	A-4b
		25.0-30.0	46	16	15	15	8	NP	NP	15	A-1-b
951+00	170'Lt	0.4-2.0	19	34	36	8	3	NP	NP	25	A-1-b
		2.0-10.0	46	18	15	13	8	NP	NP	18	A-1-b
		10.0-20.0	14	10	19	39	18	NP	NP	35	A-4a
		20.0-22.0	33	12	14	24	17	NP	NP	18	A-4a
		22.0-30.0	38	29	33	-10-	NP	NP		15	A-1-b
953+00	135'Lt	0.5-15.5	32	16	14	22	16	25	4	25	A-4a
		15.5-18.0	18	10	18	33	21	23	4	17	A-4a
		18.0-20.0	0	2	20	50	28	26	4	32	A-4b
		20.0-24.0	29	14	14	29	14	20	3	23	A-4a
		24.0-30.0	29	12	17	28	14	NP	NP	21	A-4a
954+90	120'Lt	1.0-6.0	27	24	24	15	10	NP	NP	14	A-1-b
		6.0-12.0	26	11	19	29	15	22	7	14	A-4a
		12.0-16.0	12	12	38	27	11	NP	NP	21	A-4a
		16.0-19.0	67	15	9	6	3	NP	NP	14	A-1-a
		19.0-30.0	54	24	15	-7-		NP	NP	13	A-1-a
					HOSPTIAL PARKING LOT						
1013+95	165'Rt	1.5-9.0	26	14	19	26	15	17	NP	11	A-4a
		9.0-14.0	42	11	15	18	14	NP	NP	15	A-2-4
		14.0-25.0	19	12	18	31	20	NP	NP	17	A-4a
		25.0-30.0	11	11	17	36	25	20	4	20	A-4a
1014+00	95'Rt	1.5-9.5	38	19	18	14	11	NP	NP	13	A-1-b
		9.5-17.0	20	9	47	15	9	NP	NP	9	A-3a
1014+95	102'Rt	1.0-7.0	24	14	17	26	19	NP	NP	12	A-4a
		7.0-14.0	20	6	14	43	17	NP	NP	20	A-4a
		14.0-20.0	6	2	8	53	31	NP	NP	21	A-4b
		20.0-22.5	21	12	22	29	16	NP	NP	19	A-4a
		22.5-27.5	39	19	30	8	4	NP	NP	9	A-1-b
1015+00	141'Rt	1.0-9.5	43	32	11	8	6	NP	NP	10	A-1-b
		9.5-20.0	39	12	23	17	9	NP	NP	15	A-2-4
1018+00	135'Rt	0.6-7.0	47	8	11	21	13	21	4	10	A-2-4
		7.0-16.0	20	11	22	29	18	NP	NP	14	A-4a
		16.0-18.0	24	24	24	17	11	NP	NP	14	A-2-4
		21.0-27.0	19	10	58	-13-		NP	NP	7	A-3a

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

4 / 19

DRIVE SAMPLE SOIL TEST DATA

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

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
929+73 58'Lt	5.0-6.0	5	2	9	54	30	21	4	23	A-4b
	10.0-11.0	10	6	13	53	18	NP	NP	24	A-4b
	15.0-16.0	45	16	10	23	6	NP	NP	11	A 2-4 *
	25.0-26.0	47	14	22	14	3	NP	NP	11	A-1-b *
	30.0-31.0	14	11	22	41	12	NP	NP	20	A-4a
	35.0-36.0	42	21	16	12	9	NP	NP	12	A-1-b
	40.0-41.0	49	15	15	18	3	NP	NP	11	A-1-b
	45.0-46.0	73	10	6	9	2	NP	NP	12	A-1-a
	50.0-51.0	66	9	9	4	12	NP	NP	11	A-1-b
	55.0-56.0	68	10	8	11	3	NP	NP	8	A-1-a
936+99 95'Lt	5.0-6.0	16	7	17	35	25	32	18	15	A-6b
	10.0-11.0	12	6	13	45	24	25	3	14	A-4a
	15.0-16.0	34	7	16	31	12	NP	NP	17	A-4a
	20.0-21.0	20	8	19	38	15	NP	NP	11	A-4a
	25.0-26.0	16	8	21	40	15	NP	NP	11	A-4a
	30.0-31.0	9	6	19	53	13	NP	NP	10	A-4b *
	35.0-36.0	17	11	23	37	12	NP	NP	11	A-4a
	40.0-40.6	20	11	19	36	14	NP	NP	13	A-4a
	45.0-45.6	70	11	14	5	0	NP	NP	17	A-1-a
	50.0-50.6	42	22	25	9	2	NP	NP	12	A-1-b
959+42 CL	5.0-6.0	31	9	14	32	14	NP	NP	18	A-4a
	10.0-11.0	33	25	27	13	2	NP	NP	12	A-1-b
	15.0-16.0	14	9	63	12	2	NP	NP	23	A-3a *
	20.0-21.0	24	42	20	13	1	NP	NP	15	A-1-b
	25.0-26.0	26	17	43	12	2	NP	NP	18	A-3a
	30.0-31.0	27	34	28	9	2	NP	NP	16	A-1-b
	35.0-36.0	59	14	16	9	2	NP	NP	10	A-1-a
	40.0-41.0	67	15	8	10	0	NP	NP	14	A-1-a
	45.0-46.0	0	52	31	17	0	NP	NP	28	A-3a
	51.0-52.0	56	19	10	12	3	NP	NP	9	A-1-a
968+80 CL	5.0-6.0	54	8	9	18	11	24	E	13	A-2-4
	10.0-11.0	30	4	17	31	18	23	8	15	A-4a
	15.0-16.0	Dark Gray Carbonaceous Shale							10	Visual
969+41 CL	5.0-6.0	38	6	16	20	20	25	7	20	A-4a
	10.0-11.0	7	9	16	49	19	NP	NP	11	A-4a
971+00 CL	15.0-16.0	60	5	19	16	0	NP	NP	14	A-1-b
	20.0-21.0	18	7	21	32	22	17	2	8	A-4a
	25.0-26.0	17	8	21	40	14	17	4	10	A-4a
1006+07 43'Lt	10.0-11.0	80	7	4	8	1	NP	NP	18	A-1-a
	15.0-16.0	56	14	10	14	6	NP	NP	10	A-1-b
	24.0-25.0	10	62	27	17	2	NP	NP	17	A-3a
	30.0-31.0	15	41	30	11	3	NP	NP	19	A-3a
	35.0-36.0	48	33	5	10	1	NP	NP	17	A-1-b
	40.0-41.0	67	24	16	3	10	NP	NP	18	A-1-a
	46.0-46.1	33	10	10	35	12	-	10	13	A-4a
1006+55 46'Rt	5.0-6.0	0	4	16	56	24	25	7	21	A-4b
	10.0-11.0	56	13	13	10	8	26	7	14	A-2-4
	15.0-16.0	83	5	5	6	1	NP	NP	16	A-1-a
	25.0-26.0	42	23	21	13	1	NP	NP	14	A-1-b
	30.0-30.4	48	19	13	17	3	NP	NP	12	A-1-b
1009+90 105'Rt	10.0-11.0	Random Fill							9	Visual *
	20.0-21.0	58	18	14	9	1	NP	NP	11	A-1-a
	30.0-31.0	46	41	8	5	0	NP	NP	17	A-1-b
1011+52 10'Rt	10.0-11.0	42	8	15	21	14	23	4	20	A-2-4
	15.0-16.0	51	8	18	17	6	NP	NP	16	A-1-b
	20.0-21.0	52	10	16	16	6	NP	NP	14	A-1-b
	25.0-26.0	19	35	35	10	1	NP	NP	16	A-3a

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1012+50 80'Rt	10.0-11.0	Random Fill							18	Visual
	30.0-31.0	Random Fill							24	Visual *
	40.0-41.0	Random Fill							17	Visual
	45.0-46.0	33	5	2	22	38	43	19	35	A-7-6
	50.0-51.0	38	1	3	21	37	32	11	34	A-6a
	55.0-56.0	0	1	1	40	58	37	14	36	A-6a
	60.0-61.0	3	24	44	16	13	NP	NP	19	A-3a
1013+90 65' Rt	10.0-11.0	Random Fill							11	Visual
	20.0-21.0	28	12	14	28	18	29	2	22	A-4a
	30.0-31.0	42	19	24	3	12	NP	NP	21	A-1-b *
	40.0-41.0	35	5	13	33	14	NP	NP	13	A-4a
	45.0-46.0	13	0	1	56	30	24	5	25	A-4b
	50.0-51.0	0	0	0	61	39	29	5	23	A-4b
	55.0-56.0	29	15	45	7	4	NP	NP	15	A-3a
1016+20 47'Rt	10.0-11.0	0	3	14	66	17	NP	NP	36	A-4b
	15.0-16.0	46	8	17	23	6	NP	NP	25	A-2-4
	20.0-21.0	21	4	11	32	32	29	11	15	A-6a
	25.0-26.0	11	1	3	57	28	26	6	19	A-4b
	30.0-31.0	0	0	1	66	33	25	6	21	A-4b *
	35.0-36.0	48	6	7	29	10	NP	NP	22	A-4a
	40.0-41.0	38	4	7	36	15	NP	NP	18	A-4a
	45.0-46.0	0	1	4	73	22	NP	NP	16	A-4b
	50.0-51.0	0	1	1	56	42	37	12	21	A-6a
1016+51 CL	10.0-11.0	73	8	12	4	3	NP	NP	12	A-1-a
	15.0-16.0	0	1	2	72	25	NP	NP	18	A-4b
	20.0-21.0	0	0	7	71	22	20	1	17	A-4b
	25.0-26.0	0	0	5	65	30	24	8	18	A-4b
	30.0-31.0	0	0	0	71	29	27	5	26	A-4b
	35.0-36.0	15	37	31	15	2	NP	NP	17	A-3a
1021+49 80'Rt	5.0-6.0	54	10	14	13	9	23	8	13	A-2-4
	10.0-11.0	80	5	9	4	2	NP	NP	14	A-1-a
	15.0-16.0	68	20	8	4	0	NP	NP	21	A-1-a
	20.0-21.0	6	31	51	10	2	NP	NP	21	A-3a
	25.0-26.0	15	23	54	7	1	NP	NP	14	A-3 *
	30.0-31.0	35	19	37	7	2	NP	NP	22	A-1-b
	40.0-41.0	22	23	46	8	1	NP	NP	18	A-3
1024+40 83'Rt	5.0-6.0	15	12	25	32	16	24	10	15	A-4a
	10.0-11.0	11	3	17	59	10	NP	NP	23	A-4b
	15.0-16.0	0	2	4	59	35	31	10	19	A-4b
	20.0-21.0	6	4	7	50	33	24	5	15	A-4b
	25.0-25.8	35	10	18	23	14	18	1	14	A-4a
	30.0-30.1	10	15	24	47	4	NP	NP	20	A-4a *
	35.0-36.0	0	1	3	46	50	29	11	20	A-6a
	40.0-41.0	0	1	5	50	44	25	6	27	A-4b
	45.0-45.1	0	0	14	77	9	NP	NP	24	A-4b
	50.0-51.0	0	4	43	36	17	NP	NP	11	A-4a
	55.0-56.0	0	0	2	62	36	25	7	19	A-4b
	60.0-61.0	0	1	1	30	68	42	17	20	A-7-6
1032+52 60'Lt	5.0-6.0	3	6	22	34	35	40	13	22	A-6a
	10.0-11.0	20	7	26	35	12	23	4	14	A-4a
	15.0-16.0	Brown Sandstone Fragments							10	Visual
	20.0-21.0	33	4	11	32	20	NP	NP	16	A-4a
	25.0-26.0	0	0	0	54	46	33	10	20	A-4b
	30.0-31.0	0	0	0	36	64	41	16	23	A-7-6 *
	35.0-36.0	0	0	0	42	58	40	11	25	A-6a
	40.0-41.0	0	0	0	35	65	48	22	30	A-7-6
	45.0-45.5	28	3	11	41	17	NP	NP	13	A-4a

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
1034+00 15'Rt	5.0-6.0	34	7	13	24	22	25	13	18	A-6a
	10.0-11.0	34	19	21	16	10	NP	NP	13	A-2-4
	15.0-16.0	18	9	23	30	20	NP	NP	17	A-4a
	20.0-21.0	29	18	27	12	14	NP	NP	14	A-2-4
	25.0-26.0	93	1	4	0	2	NP	NP	12	A-1-a
RAMP A										
13+22 10'Rt	5.0-6.0	21	6	14	33	26	20	9	16	A-4a
	10.0-11.0	44	8	6	22	25	27	11	26	A-6a
	15.0-16.0	37	9	18	28	8	16	5	14	A-4a
	20.0-21.0	23	24	33	18	2	NP	NP	16	A-3a *
	25.0-26.0	41	15	11	27	6	NP	NP	12	A-2-4 *
	30.0-31.0	59	9	9	16	7	20	5	12	A-1-b
	35.0-36.0	60	9	7	20	4	NP	NP	12	A-1-b
	40.0-41.0	6	24	46	19	5	NP	NP	16	A-3a
	45.0-46.0	16	49	26	8	1	NP	NP	22	A-3a
	50.0-51.0	67	7	10	12	4	NP	NP	9	A-1-b
	55.0-56.0	37	24	17	19	3	NP	NP	12	A-1-b
RAMP C										
15+00 75'Lt	5.0-6.0	10	6	14	40	30	28	8	14	A-4a
	10.0-11.0	12	9	16	41	22	21	6	14	A-4a
	15.0-16.0	0	0	2	61	37	26	7	21	A-4b
	20.0-21.0	17	6	12	39	26	22	5	12	A-4a
	25.0-26.0	16	11	21	38	14	20	4	12	A-4a
	30.0-31.0	43	23	16	15	3	NP	NP	12	A-1-b
	40.0-41.0	83	9	3	4	1	NP	NP	14	A-1-a *
	45.0-45.9	39	17	18	24	2	NP	NP	13	A-2-4 *
	50.0-51.0	36	31	12	16	5	NP	NP	11	A-1-b
RAMP E										
6+00 70'Rt	5.0-6.0	18	6	17	35	24	25	4	14	A-4a
	10.0-11.0	27	7	12	37	17	23	5	15	A-4a
	15.0-16.0	64	12	11	11	2	NP	NP	16	A-1-a
	20.0-21.0	74	11	12	3	0	NP	NP	18	A-1-a
	25.0-26.0	21	8	18	32	21	26	7	17	A-4a
	30.0-31.0	0	1	0	87	12	NP	NP	27	A-4b
	35.0-36.0	0	1	0	83	16	NP	NP	30	A-4b
	40.0-41.0	0	0	0	83	17	NP	NP	25	A-4b *
	45.0-46.0	0	0	0	78	22	26	4	20	A-4b
	50.0-51.0	35	17	34	10	4	NP	NP	18	A-1-b
	55.0-56.0	17	15	56	11	5	NP	NP	14	A-3a
RAMP H										
7+60 25'Rt	5.0-6.0	63	16	8	12	1	NP	NP	10	A-1-a
	10.0-11.0	62	8	11	12	7	NP	NP	15	A-1-b
	16.0-17.0	80	7	6	6	1	NP	NP	17	A-1-a
	20.0-21.0	15	8	17	46	14	NP	NP	12	A-4a *
	25.0-26.0	0	0	1	48	51	35	11	16	A-6a *
	30.0-31.0	0	1	0	83	16	NP	NP	21	A-4b
	40.0-41.0	14	3	4	57	22	NP	NP	24	A-4b

TE-54.B
900-5-59

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

4A
19

REVISION SEPT. 11, 1959

DRIVE SAMPLE SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicate that the material is non-plastic.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
952+00 205'Lt	0.0-1.0	0	1	23	57	19	37	2	56	A-4b
	5.0-6.0	0	1	7	60	32	61	26	113	A-7-5
	10.0-10.6	75	7	11	-7-		NP	NP	18	A-1-a
	15.0-16.0	77	14	6	-3-		NP	NP	11	A-1-a
	20.0-20.6	38	13	25	16	8	NP	NP	13	A-1-b
	25.0-25.6	69	12	11	-8-		NP	NP	3	A-1-a
1009+90 70'Rt	5.0-6.0	43	7	12	23	15	25	5	18	A-4a
	10.0-11.0	30	12	17	25	16	28	10	15	A-4a
	15.0-16.0	62	16	13	-9-		NP	NP	13	A-1-a
	20.0-21.0	69	13	12	-6-		NP	NP	13	A-1-a
	25.0-26.0	36	31	24	-15-		NP	NP	15	A-1-b
	30.0-31.0	36	35	19	-10-		NP	NP	11	A-1-b
	35.0-36.0	47	16	30	-7-		NP	NP	10	A-1-b
1010+00 160'Rt	5.0-6.0	76	19	4	-1-		NP	NP	21	A-1-a
	10.0-11.0	35	28	26	-11-		NP	NP	14	A-1-b
	15.0-16.0	14	16	60	-10-		NP	NP	19	A-3
	20.0-21.0	44	29	18	-9-		NP	NP	10	A-1-b
	25.0-25.8	71	15	8	-6-		NP	NP	13	A-1-a
	30.0-31.0	68	17	10	-5-		NP	NP	13	A-1-a
	35.0-36.0	62	13	14	-11-		NP	NP	8	A-1-a
	40.0-41.0	54	17	12	9	8	NP	NP	10	A-1-b
1010+50 80'Rt	5.0-6.0	42	13	10	22	13	NP	NP	20	A-2-4
	10.0-11.0	Fill Material							21	Visual
	20.0-21.0	Fill Material							-	Visual
	25.0-26.0	Fill Material							16	Visual
	30.0-31.0	30	20	37	6	7	NP	NP	27	A-1-b
	35.0-36.0	55	11	25	-9-		NP	NP	18	A-1-b
	40.0-41.0	70	12	12	-6-		NP	NP	8	A-1-a
	45.0-46.0	55	23	10	-12-		NP	NP	6	A-1-a
1010+50 157'Rt	5.0-6.0	55	23	6	-16-		NP	NP	23	A-1-b
	10.0-11.0	71	13	8	-8-		NP	NP	14	A-1-a
	15.0-16.0	25	2	3	37	33	28	11	17	A-6a
	20.0-21.0	60	15	13	7	5	NP	NP	15	A-1-a
	25.0-26.0	42	19	32	-7-		NP	NP	13	A-1-b
	30.0-31.0	54	22	14	-10-		NP	NP	10	A-1-a
	35.0-36.0	52	22	11	-15-		NP	NP	9	A-1-a
	40.0-41.0	67	10	11	10	2	NP	NP	11	A-1-a
1012+00 60'Rt	5.0-6.0	72	22	4	-2-		NP	NP	5	A-1-a
	10.0-11.0	84	12	3	-1-		NP	NP	7	A-1-a
	15.0-16.0	Fill material							6	Visual
	20.0-21.0	50	15	15	12	18	NP	NP	11	A-1-b
	25.0-26.0	36	13	14	25	12	NP	NP	17	A-4a
	30.0-31.0	0	1	4	57	38	NP	NP	23	A-4b
	35.0-36.0	23	23	47	-7-		NP	NP	16	A-3
	40.0-41.0	63	18	8	-11-		NP	NP	9	A-1-a
	45.0-46.0	61	17	11	-11-		NP	NP	9	A-1-a
1012+17 125'Rt	5.0-6.0	64	8	12	6	10	NP	NP	12	A-1-b
	10.0-11.0	44	8	13	21	14	28	6	24	A-2-4
	15.0-16.0	63	5	5	15	12	31	10	25	A-2-4
	20.0-21.0	28	6	30	27	9	NP	NP	15	A-4a
	25.0-26.0	51	8	16	15	10	NP	NP	25	A-1-b
	30.0-31.0	Random Fill							27	Visual
	35.0-36.0	0	2	4	52	42	39	10	26	A-4b
	40.0-41.0	0	0	1	52	46	34	10	23	A-4b
	45.0-46.0	0	0	2	56	42	27	6	31	A-4b
	50.0-51.0	0	1	2	47	50	32	13	22	A-6a
1012+50 78'Lt	5.0-6.0	70	11	6	-4-		NP	NP	20	A-1-a
	10.0-11.0	73	11	12	-4-		NP	NP	13	A-1-a
	15.0-16.0	23	28	41	-8-		NP	NP	17	A-1-b
	20.0-21.0	28	31	19	4	8	NP	NP	14	A-1-b
	25.0-26.0	35	21	36	-8-		NP	NP	17	A-1-b
	30.0-31.0	47	8	17	20	8	NP	NP	20	A-2-4
	35.0-36.0	71	10	10	3	6	NP	NP	12	A-1-a
	40.0-41.0	62	18	13	-7-		NP	NP	14	A-1-a
1012+65 135'Rt	5.0-6.0	20	13	22	28	17	NP	NP	14	A-4a
	10.0-11.0	73	14	9	-4-		NP	NP	17	A-1-a
	15.0-16.0	Fill Material								Visual
	20.0-21.0	Random Fill							13	Visual
	25.0-26.0	23	6	26	32	13	NP	NP	18	A-4a
	30.0-31.0	0	0	1	80	19	NP	NP	22	A-4b
	35.0-36.0	0	1	0	37	62	39	14	24	A-6a
	40.0-41.0	49	14	23	2	12	NP	NP	13	A-1-b
	45.0-46.0	13	1	10	58	18	NP	NP	9	A-4b
1016+20 125'Rt	5.0-6.0	52	29	14	-5-		NP	NP	25	A-1-a
	10.0-11.0	15	31	44	-10-		NP	NP	10	A-3a
	15.0-16.0	43	16	31	-10-		NP	NP	12	A-1-b
	20.0-21.0	16	12	16	28	28	16	5	12	A-4a
	25.0-26.0	12	7	23	34	24	26	7	11	A-4a
1018+00 40'Lt	5.0-6.0	55	6	10	16	13	25	9	14	A-2-4
	10.0-11.0	0	1	0	65	34	NP	NP	33	A-4b
	15.0-16.0	38	26	21	8	7	NP	NP	16	A-1-b
	20.0-21.0	49	22	20	-9-		NP	NP	11	A-1-b
	25.0-26.0	53	28	13	-6-		NP	NP	12	A-1-a
	30.0-31.0	80	12	5	-3-		NP	NP	16	A-1-a
	35.0-36.0	62	16	9	10	3	NP	NP	9	A-1-a
1018+04 53'Rt	5.0-6.0	80	6	7	-7-		NP	NP	15	A-1-a
	10.0-11.0	57	10	8	9	16	26	5	15	A-1-b
	15.0-16.0	71	5	4	6	14	31	18	20	A-2-5
	20.0-21.0	0	1	22	60	17	NP	NP	27	A-4b
	25.0-26.0	5	2	50	34	9	NP	NP	21	A-4a
	30.0-31.0	0	0	28	62	10	NP	NP	29	A-4b
	35.0-36.0	0	1	45	46	8	NP	NP	22	A-4a
	40.0-41.0	8	1	4	45	42	28	11	24	A-6a
	45.0-46.0	8	1	3	43	45	28	11	19	A-6a
	50.0-51.0	4	5	6	44	41	33	11	21	A-6a

TE-54-B
600-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

5/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

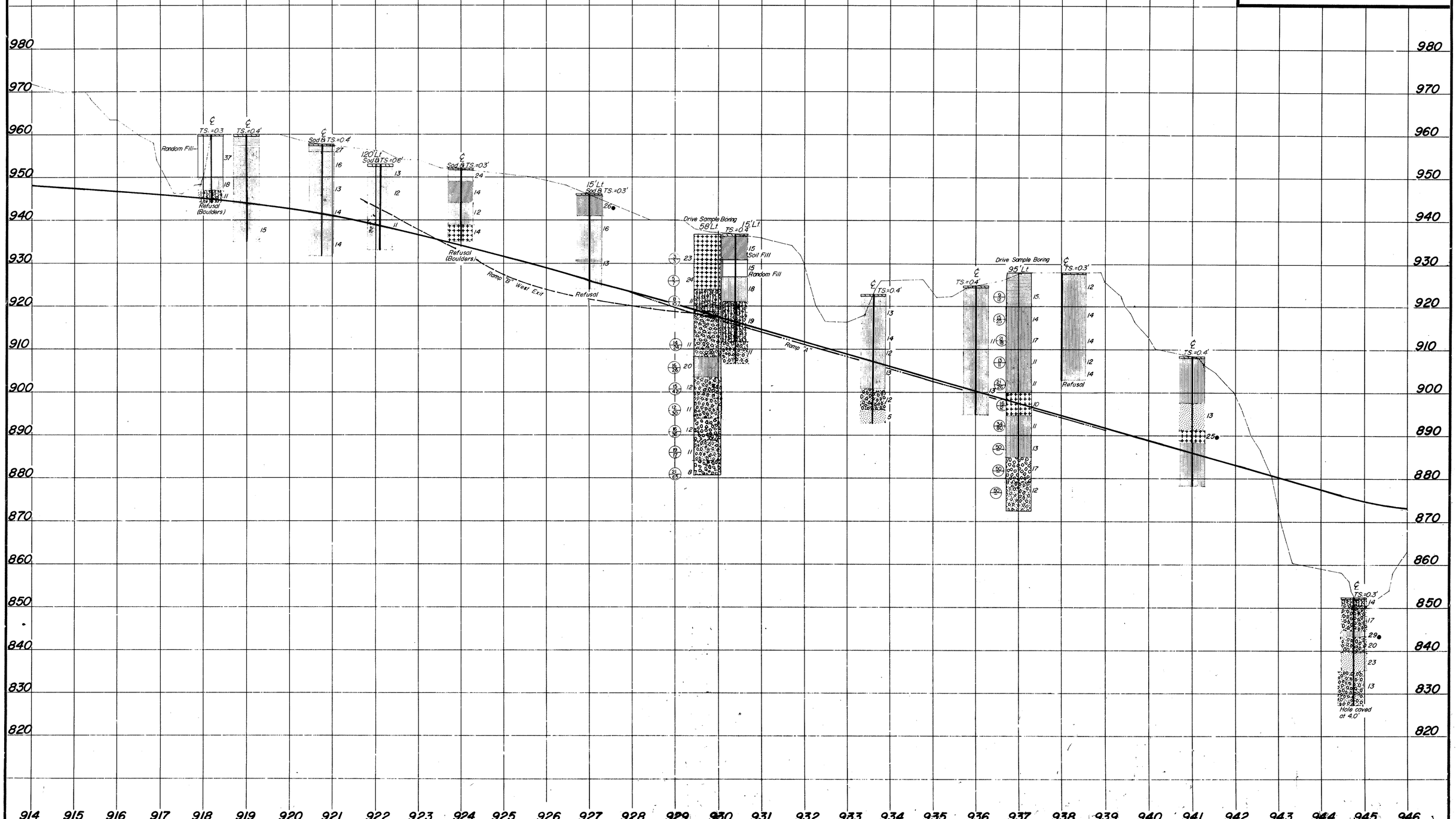


TE-54-B
600-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

6/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

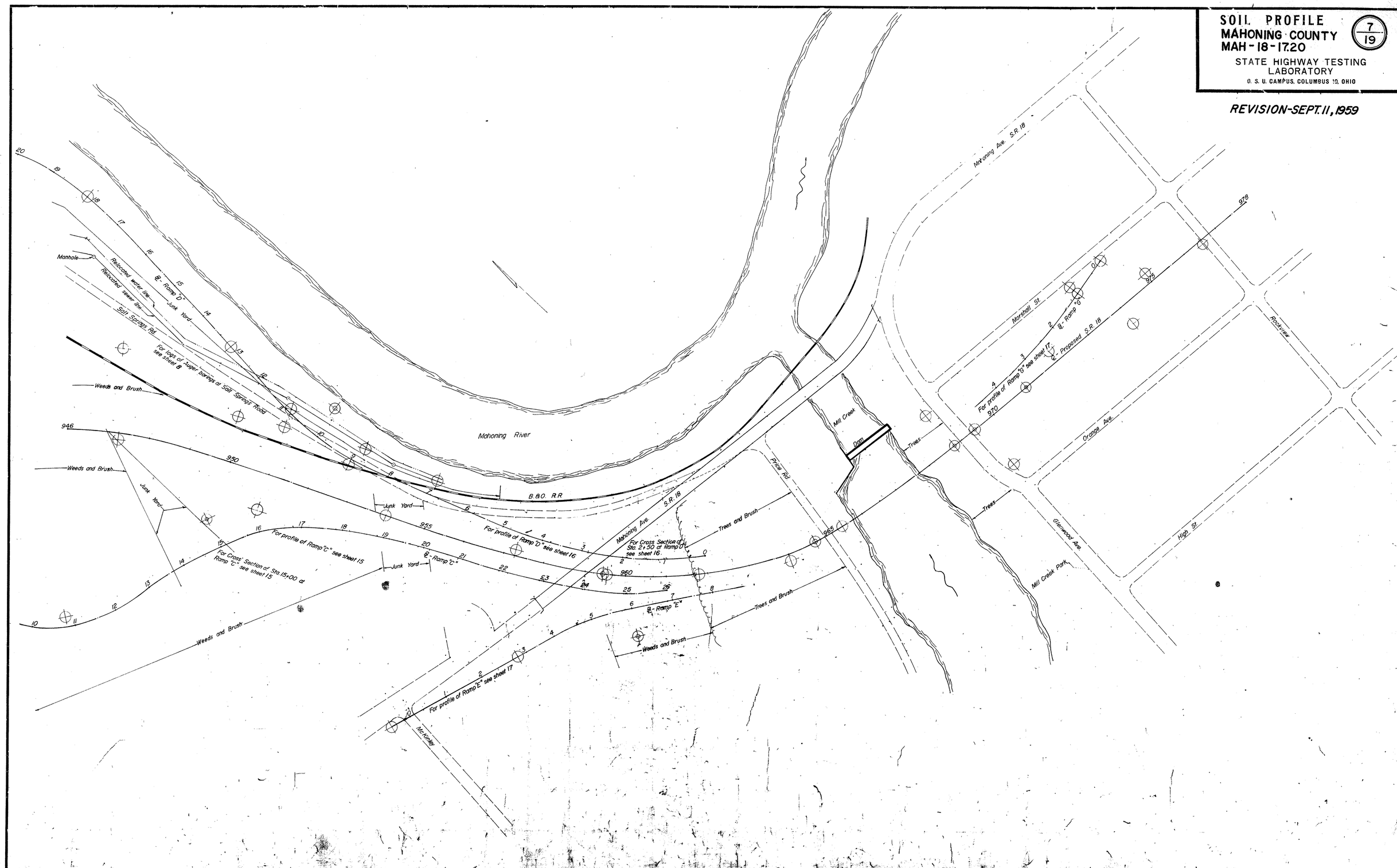


SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

7/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

REVISION-SEPT. 11, 1959



TE-54-9
600-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

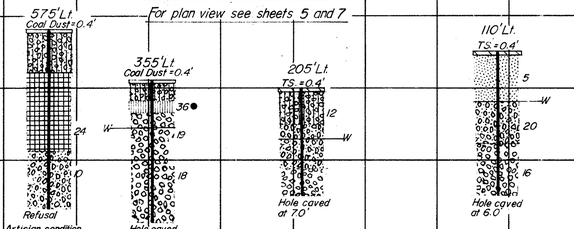
8/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

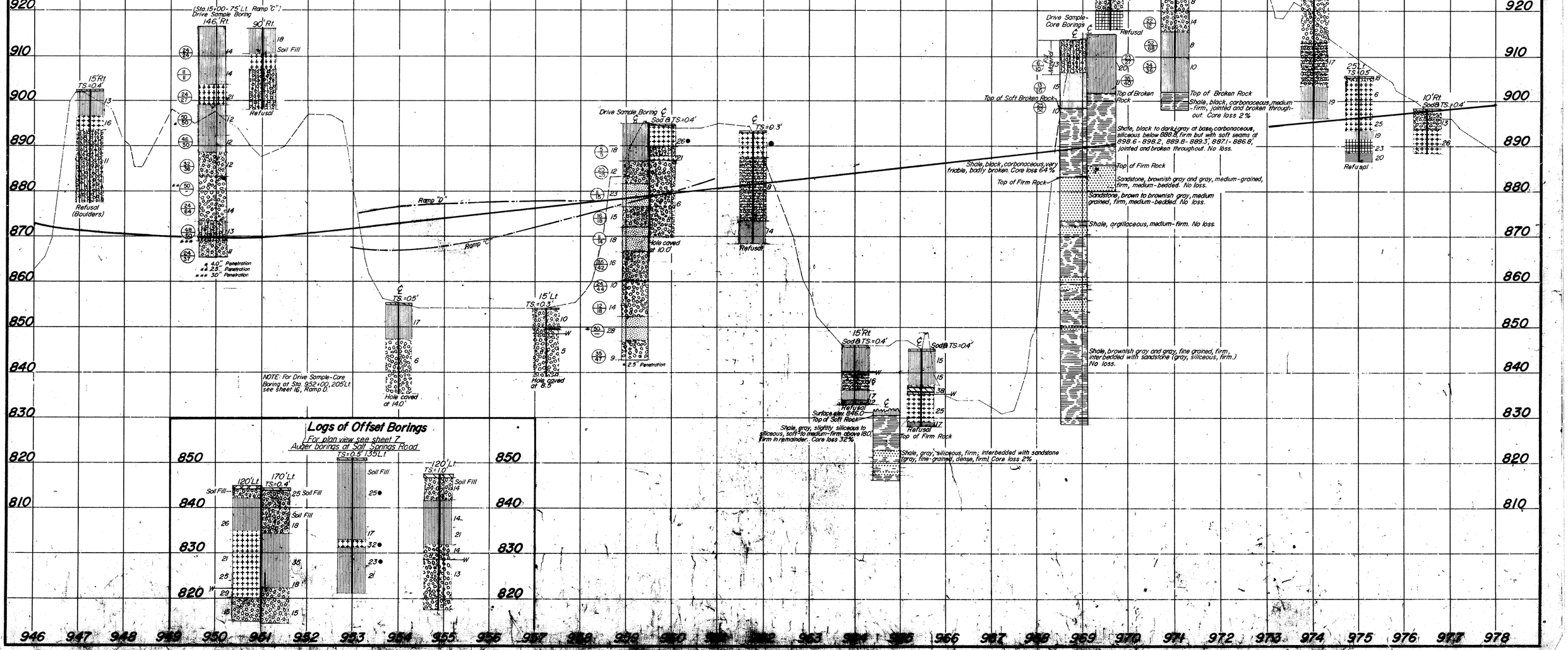
REVISION-SEPT. 11, 1959

Logs of Offset Borings

For plan view see sheets 5 and 7



Auger borings for relocation of sewer and water lines



Logs of Offset Borings

For plan view see sheet 7
Auger borings at Salt Springs Road

TE-54-B
300-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

9/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

REVISION-SEPT. 11, 1959

Mahoning Ave. S.R. 18
Edwards St.
Marshall St.
℄ - Ramp "J"
990 ℄ - Proposed S.R. 18
978
985
995
1000
1005
1010
℄ - Ramp "F" For profile of Ramp "F" see sheet 17
For profile of Ramp "H" see sheet 17
℄ - Ramp "H"
For profile of Ramp "J" see sheet 18
West Ave.
Plum St.
City View
Smith
Hilker St.
Walter St.
Orange Ave.
Burns
Hall
Wallace
High St.
School St.
For Cross Section of Sta. 1006+07 see sheet 10
Cemetery
Coal Yard
Pike St.
Oak Hill Ave.
Dump
For Cross Section of Sta. 1009+90 see sheet 10

MICROFILMED
SEP 29 1959

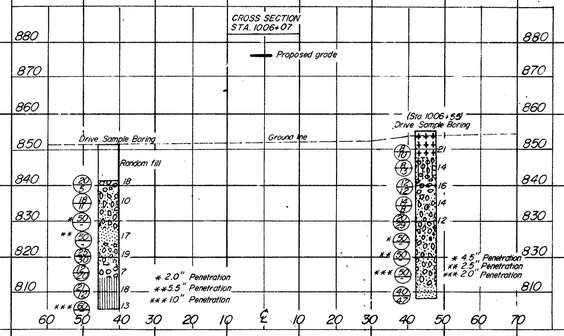
TE-54-B
6OD-1-58

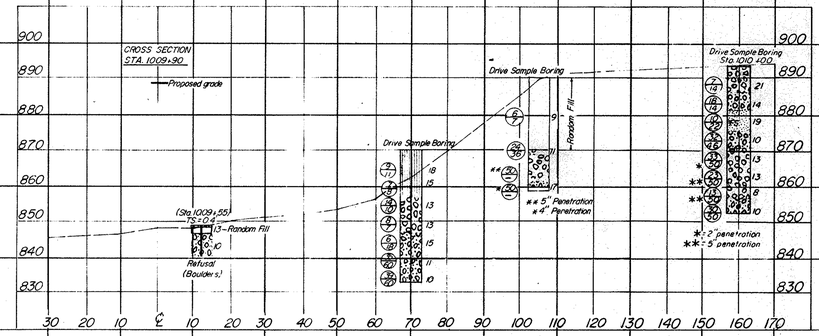
SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

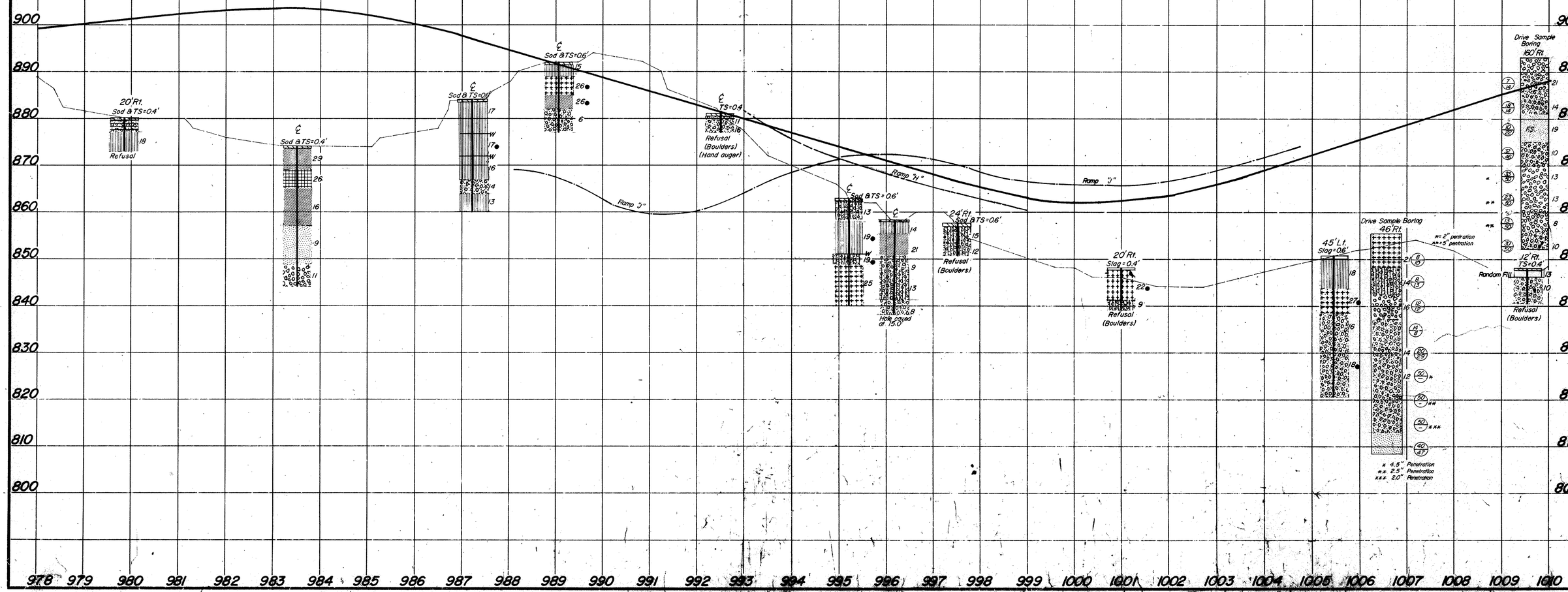
10
19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

REVISION-SEPT.11,1959







TE-54-B
600-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

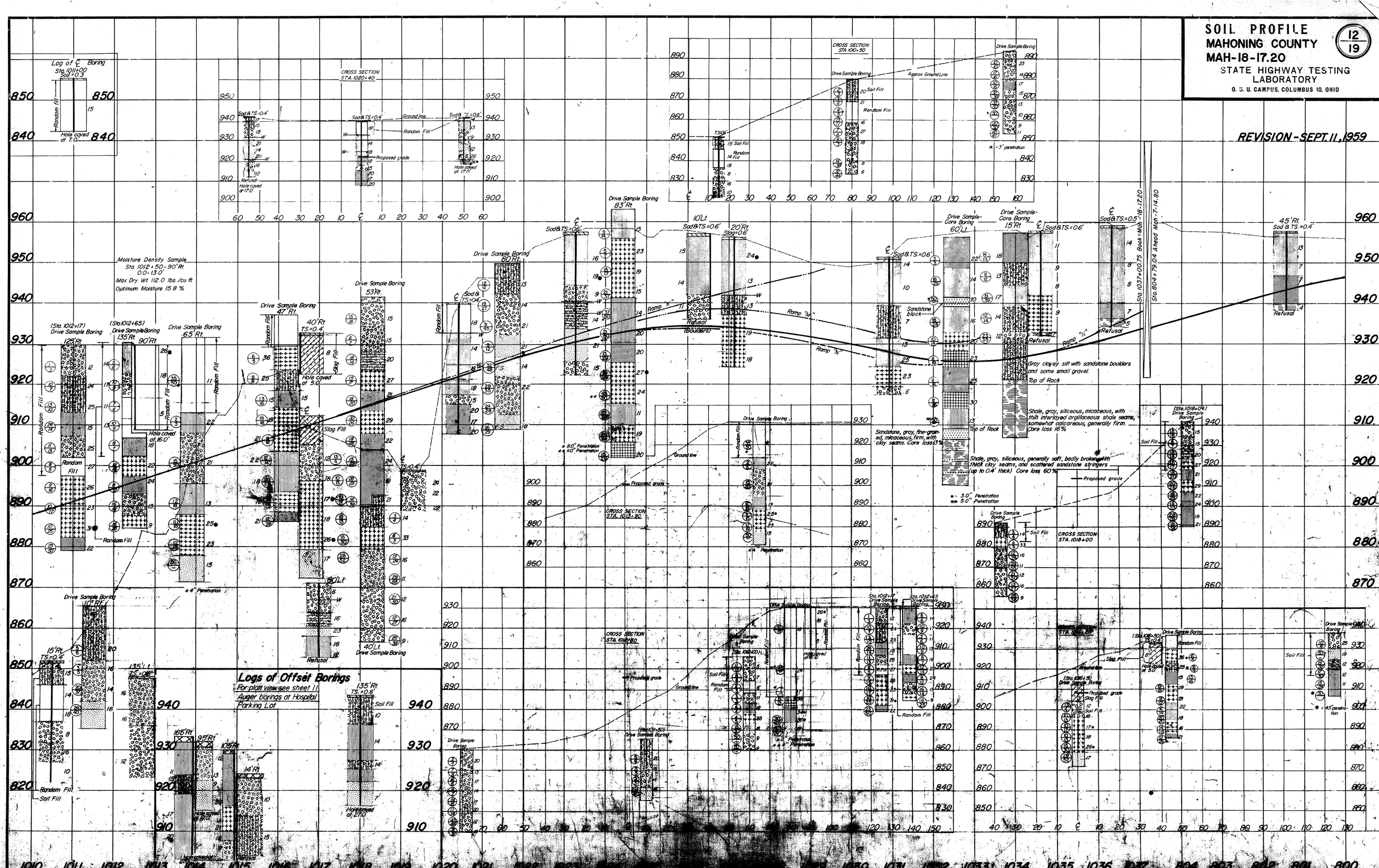
STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

11/19

REVISION-SEPT. 11, 1959

Coal Yard
Pike St.
Dump
1010
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1015
1020
For profile of Ramp "L" see sheet 18.
For logs of Auger borings of Proposed Parking Lot see sheet 12
For cross sections of Sta's 1010+50, 1012+50, 1013+90, 1016+20, and 1020+40 see sheet 12
Dump
℄ - Ramp "L"
Market St.
U.S.R. 62
S.R. 7
Woodland Ave. S.R. 90-164
Kyle
Marlin St.
800
804
1037
Sta Equation
Mah-18-17.20
Sta 804+00.75 Back =
Sta 804+79.04 Ahead
Mah-7-14.80
1035
Erie St.
Fulton St.
℄ - Ramp "N"
℄ - Proposed S.R. 18
Hayes Ave.
1030
℄ - Ramp "M"
For profile of Ramp "N" see sheet 19
For profile of Ramp "M" see sheet 19
1025
℄ - Ramp "K"
For profile of Ramp "K" see sheet 18
Williams
Ridge Ave.
Oak Hill Ave.
Woodland Ave.
Alley
Lakewood
Hughes
Hughes
Falls Ave.
Henry St.

MICROFILMED
SEP 19

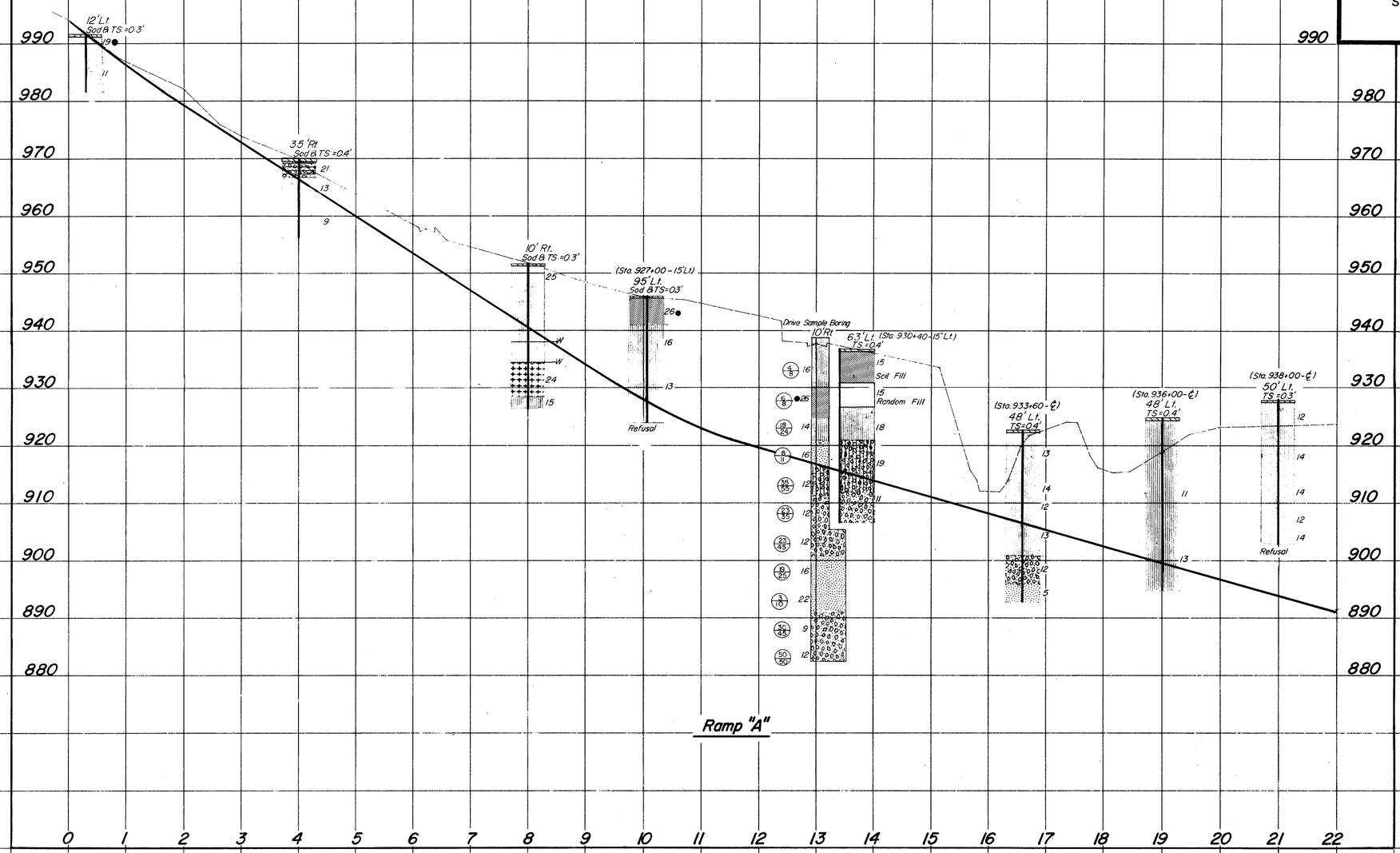

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20
STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO
12
19
REVISION-SEPT. 11, 1959
Log of ℄ Boring
Moisture Density Sample
Sta. 1012+50-90' Rt.
0.0-13.0'
Max. Dry. Wt. 112.0 lbs./cu. ft.
Optimum Moisture 15.8 %
Logs of Offset Borings
For plan view see sheet 11
Auger borings at Hospital Parking Lot
CROSS SECTION STA. 1020+40
CROSS SECTION STA. 1010+50
CROSS SECTION STA. 1013+90
CROSS SECTION STA. 1018+00
Drive Sample Boring
Random Fill
Soil Fill
Slag Fill
Refusal
Top of Rock
Gray clayey silt with sandstone boulders and some small gravel.
Shale, gray, siliceous, micaceous, with thin interlayed argillaceous shale seams, somewhat calcareous, generally firm. Core loss 16%
Shale, gray, siliceous, generally soft, badly broken with thick clay seams, and scattered sandstone stringers (up to 0.4' thick) Core loss 60%
Sandstone, gray, fine-grained, micaceous, firm, with clay seams. Core loss 13%
Sandstone block
Ramp "K"
Ramp "M"
Ramp "N"
Proposed grade
Ground line
Approx. Ground Line
Sta. 1037+00.75 Back = Mah-18-17.20
Sta. 804+79.04 Ahead Mah-7-14.80

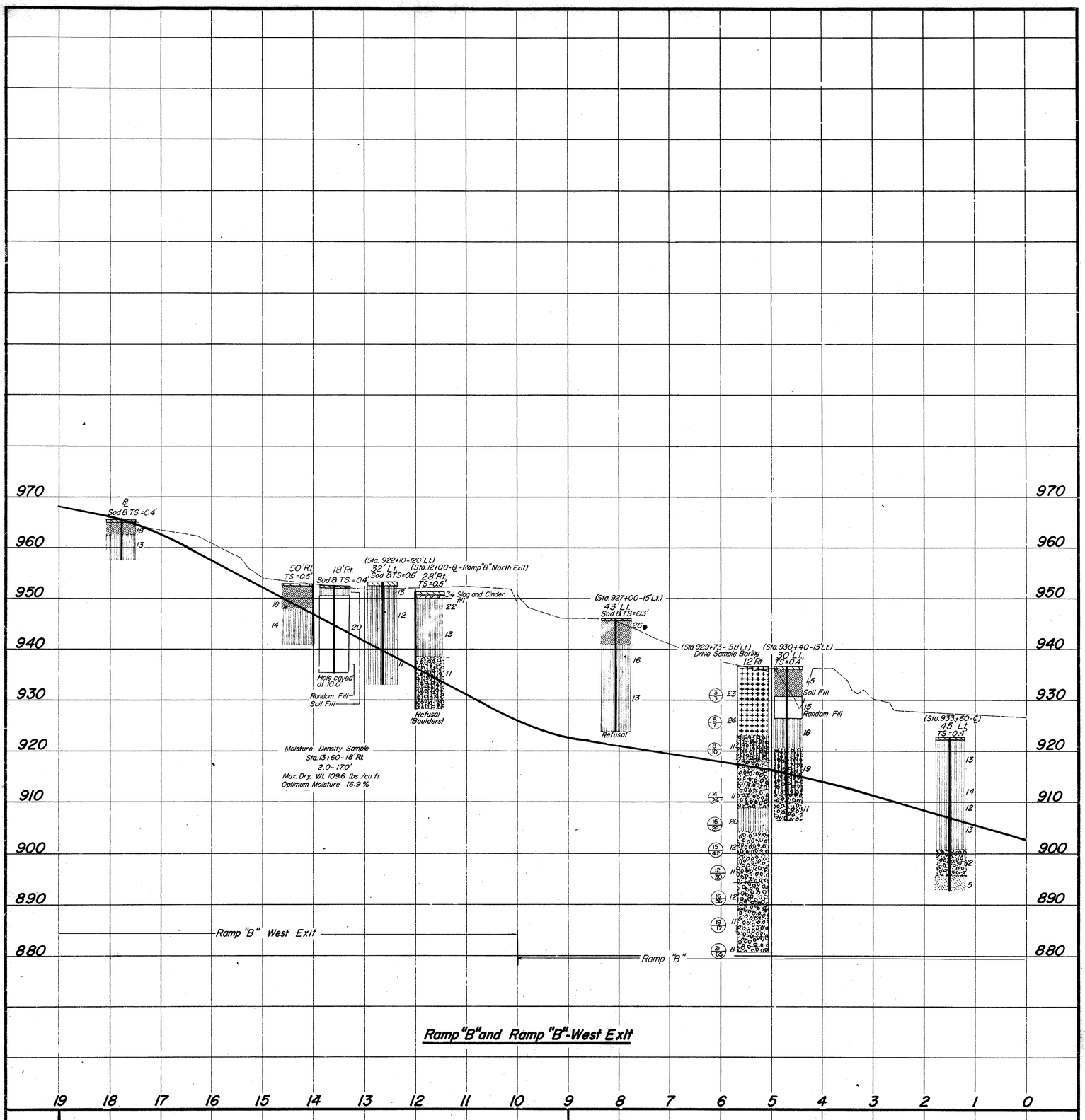
TE 54-B
800-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

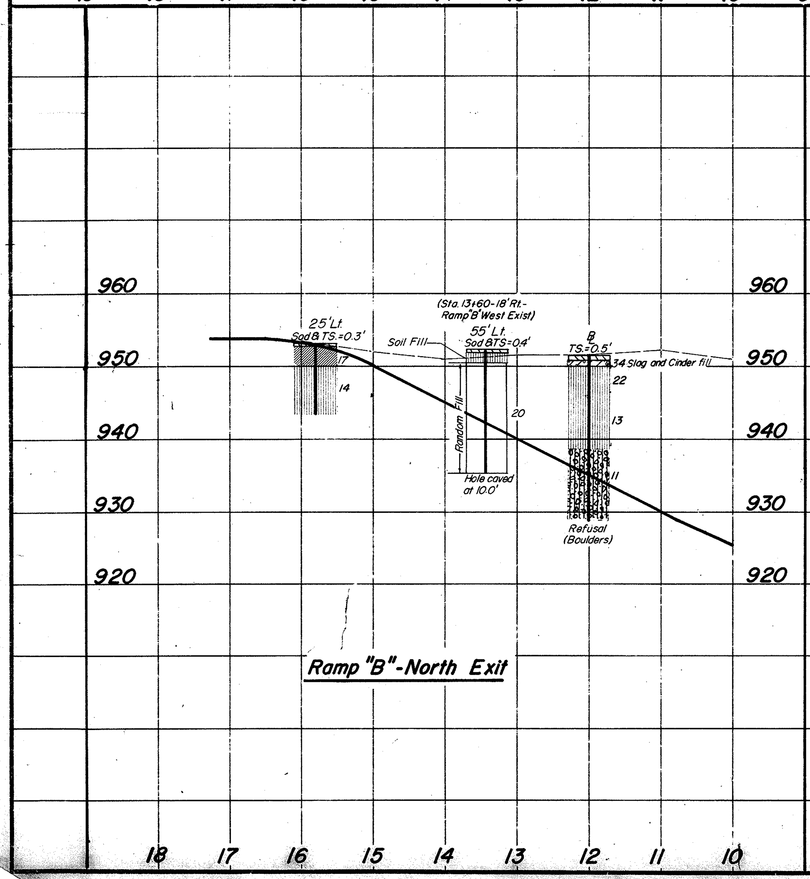
13/19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO





Ramp "B" and Ramp "B"-West Exit



Ramp "B"-North Exit

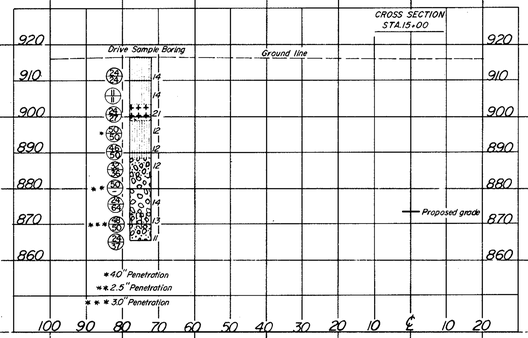
SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20
STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

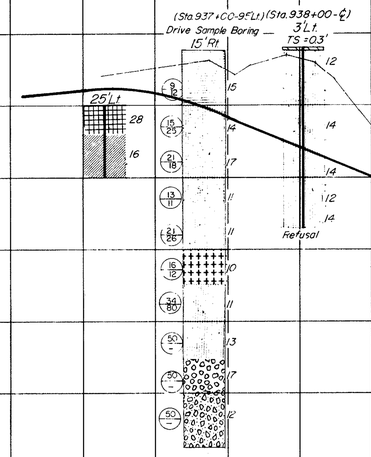
14/19

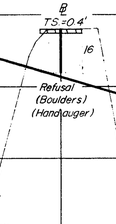
TE-54-B
60R-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20
STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

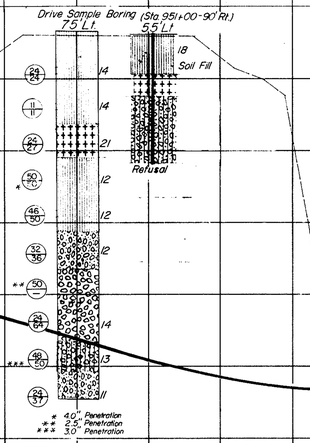
15/19

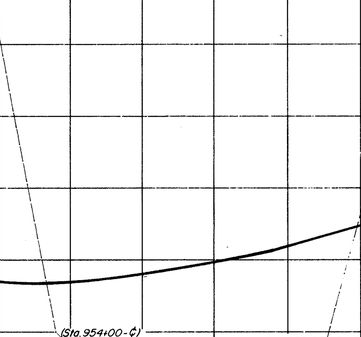


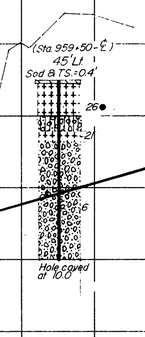












Ramp "C"

930
920
910
900
890
880
870
860
850
840
830

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

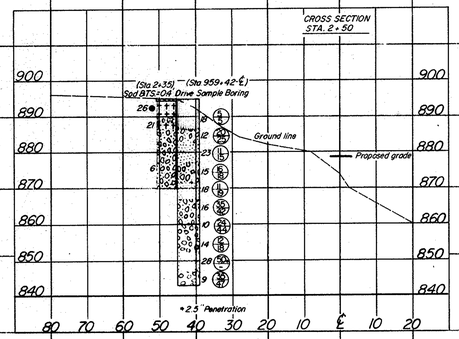
TE-54-B
600-1-58

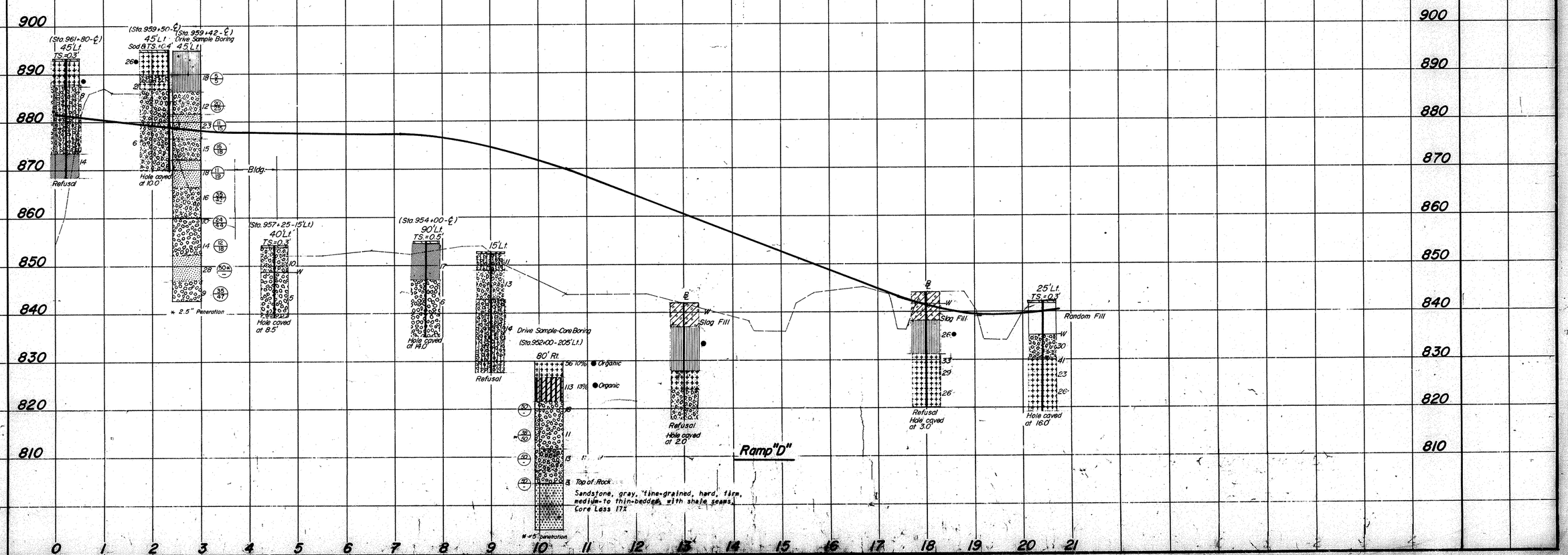
SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

16
19

REVISION-SEPT. 11, 1959

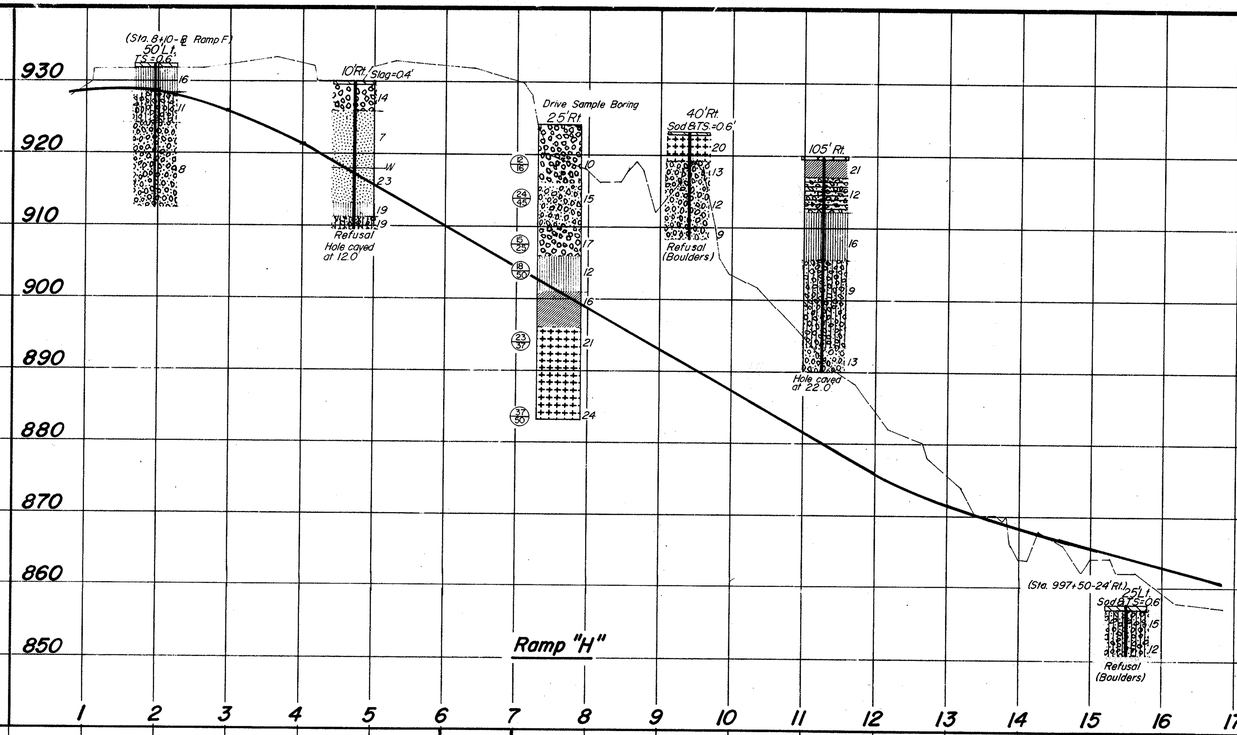


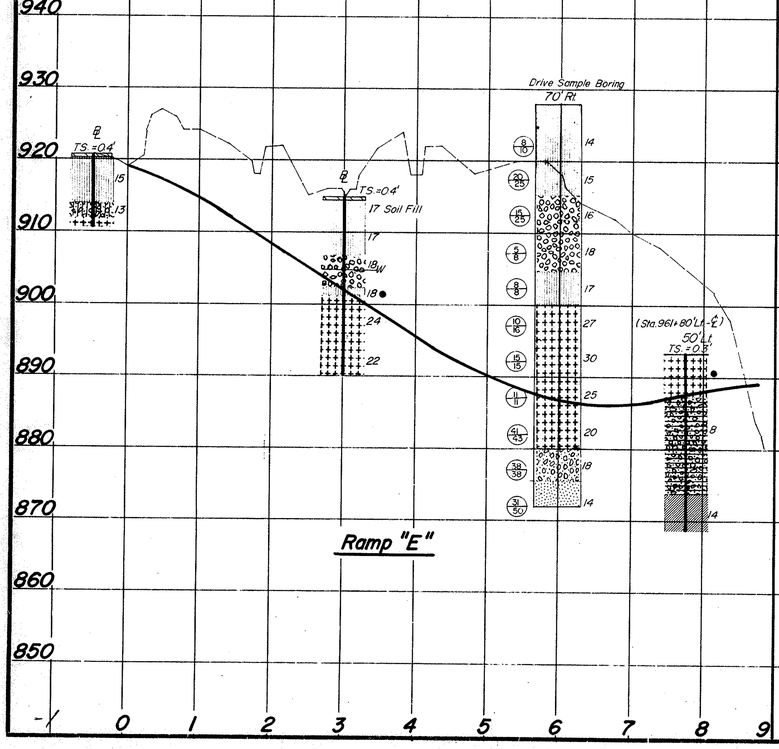


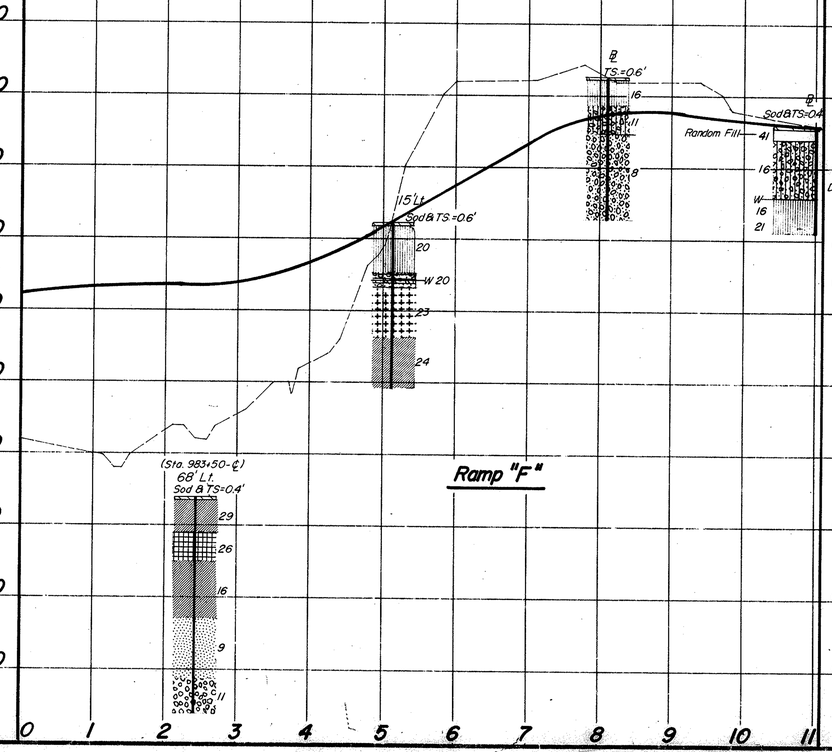
TE-54-B
600-1-58

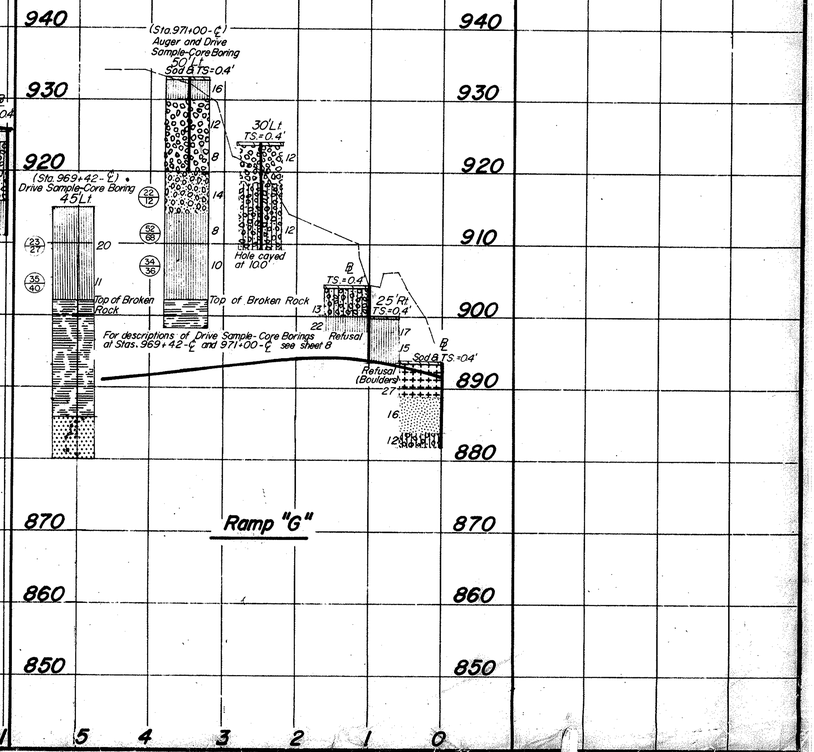
SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20
STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

SHEET 19









TE-54-B
600-1-58

SOIL PROFILE
MAHONING COUNTY
MAH-18-17.20

18
19

STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS 10, OHIO

REVISION-SEPT. 11, 1959

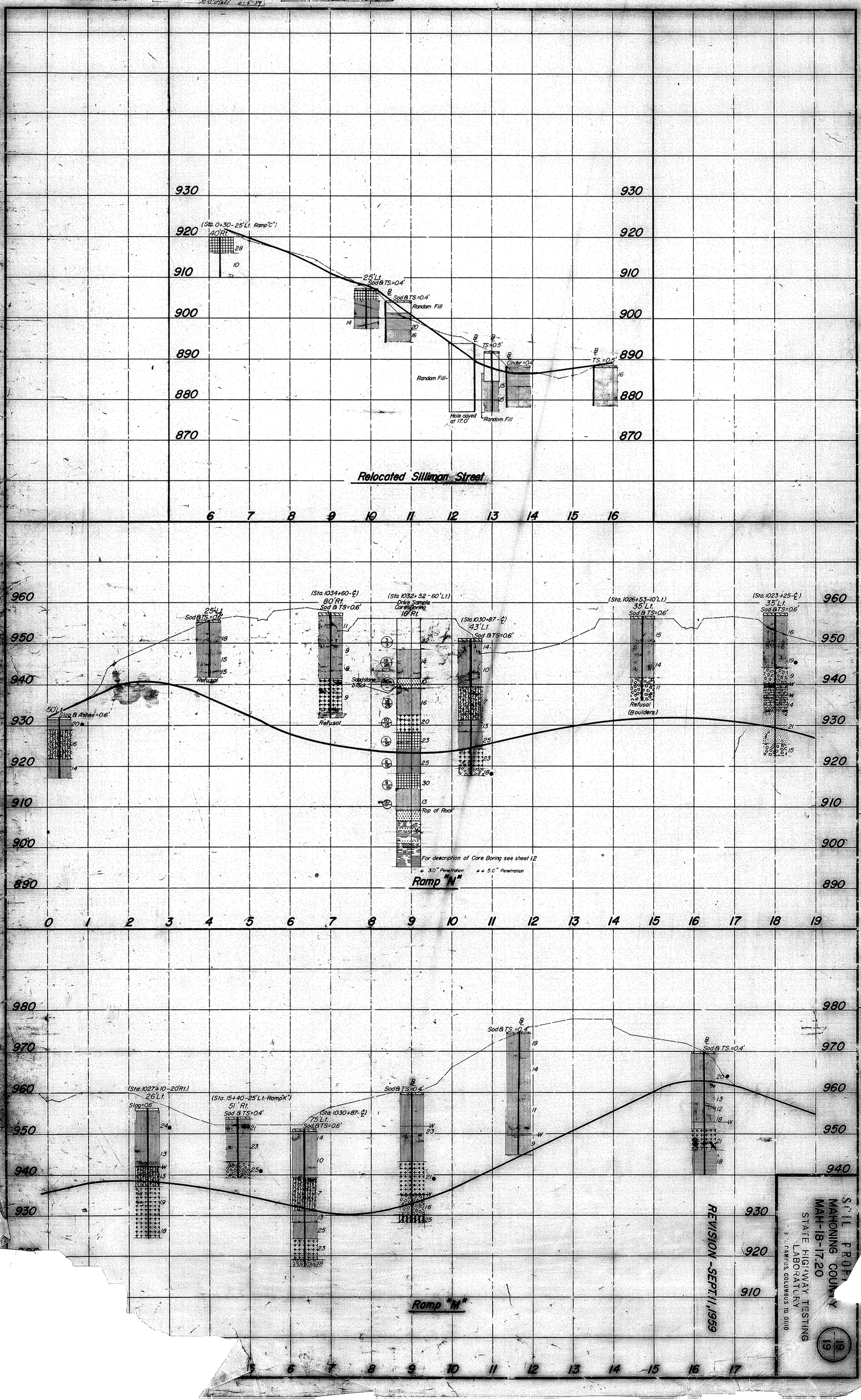
Ramp "L"

Ramp "K"

Ramp "J"

PRELIMINARY | FINAL | REVISION

	Signature	Date
Drawn by	[illegible]	[illegible] 57
Checked by	R. V. Seymour	Aug. 8-59
Recon checked by		
Reviewed by	[illegible]	Aug. 17, 1959



SOIL PROF[illegible]
MAHONING COUNTY
MAH-18-17.20
STATE HIGHWAY TESTING LABORATORY
[illegible] CAMPUS, COLUMBUS 10, OHIO

19/19