STATE OF OHIO
DEPARTMENT OF HIGHWAYS

I-680-9(5) 224

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5) 224	

MAHONING COUNTY
MAH. 7-14.35

1/101

YOUNGSTOWN EXPRESSWAY SYSTEM

MAR 30 1964
GROUND PHOTOLAB

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

MAH-7-14.35
MAHONING COUNTY
CITY OF YOUNGSTOWN

1959 SPECIFICATIONS

LIMITED ACCESS

GRADE SEPARATION WITH THE YOUNGSTOWN AND SOUTHERN RAILWAY CO.

PART 3 - SOUTH AVENUE TO WILLIAMSON AVENUE

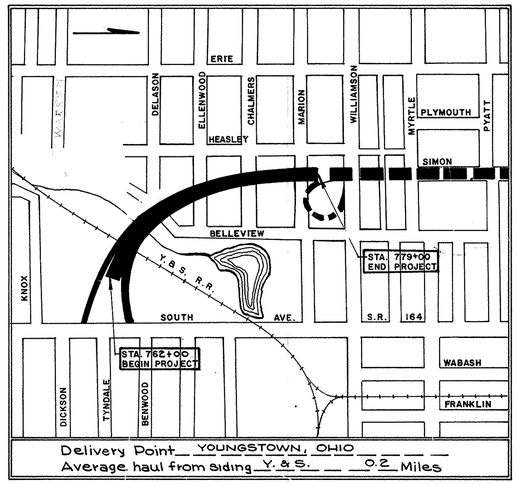
CONVENTIONAL SIGNS

Center line
Corporation line
Fence line
Guard rail (proposed)
Railroad
Power poles
Telephone poles
Trees & stumps (Existing)

INDEX OF SHEETS

	Sheet
Title Sheet	1
Location Map	2
Typical Sections	3 & 4
General Notes	5 - 7
Computations	8
Summary of Quantities	9 - 11, 11-A
Superelevation Tables	12
Plan & Profile MAH.-7-14.35	13 - 15
Plan & Profile of Ramps	16 - 17
Intersection Details of Ramps	18
Utility Relocations	19 - 27
Utility Details	22 - 25
Miscellaneous Details	26-28, 28-A, 28-B
Roadway Culverts	29-34, 34-A
Cross Sections	35-43
Delason Ave.	44-47, 47-A, 48-53
Lighting Plans	54-56
Structures over 20'	57 - 93
Right of Way	94-101

Sheets 58A thru 66A & 76A, 77A & 79A substituted for sheets 58 thru 66 & 76, 77 & 79. 5-24-61



Delivery Point YOUNGSTOWN, OHIO
Average haul from siding Y. & S. 0.2 Miles

LOCATION MAP

SCALE OF FEET
500 0 500 1000 1500

Portion to be improved
Future Construction

LINE DATA

Begin Project	762 + 00		
End Project	779 + 00		
Net Length of Project	1,700.00	Lin. Ft.	0.321 Miles
Add for Approaches (See Sheet No 6)	1,904.03	Lin. Ft.	
Total Length of Work	3,604.03	Lin. Ft.	0.682 Miles

SCALE

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

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 Earl L. Campbell
Date 12/19/60 Division Deputy Director

WW 2-28-61
Approved Guy E. Neiper
Date 3-13-61 Deputy Director of Planning & Programming

Approved W. H. Harrman
Date 2-17-61 Engineer of Bridges

Approved W. F. Sherman
Date 2-27-61 Engineer of Location & Design

Approved C. W. McCauley
Date 2-27-61 Deputy Director of Design & Construction

Approved W. M. Jr. Sam
Date 2-23-61 Deputy Director of Right of Way

Approved J. A. Berry
Date 3-13-61 First Assistant Director

Approved E. L. Poston
Date 3-14-61 Director of Highways

Approved Phillip Tilley
Date 12/5/60 Commissioner of Engineering, City of Youngstown, Ohio.

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

File No. MAHONING COUNTY- MAH-7-14.35
Date of Letting 19
Contract No.

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BT 50-70-71E No 1	10-1-47	I-12	7-1-54	TJ	5-12-60
BT 71 R	3-2-53	I-14 G	1-22-52	AS-1-54	12-1-54
F-1	9-1-59	I-15 No 1	5-21-59	CSD-2-56, SH 2 & 3	2-2-59
F-3	9-1-59	I-15 No 2A	8-17-60	RD-1-55	2-2-59
G-7.07	6-1-56	I-21-23	8-1-56	AR-1-57	12-2-58
I-1, 2, 3, & 5	4-24-58	L-1	4-1-50		
I-8, C.B. No 23 & 24	1-26-59	L-3	4-1-50	I-15 No 6	7-1-59
I-8 C.B. No 5	7-1-58	L-3A	4-1-50	I-8 M.H. No 1	1-26-59
I-8 I. No 1	3-2-59	LJ No 1	7-1-55	I-8 M.H. No 1-A	1-26-59
I-8 I. No 2	4-23-59	RH	7-15-58		
I-8 I. No 2-A	4-23-59	S-27 PC-4	1-4-54		
		T-35	1-2-56	I-8 M.H. No 2	1-26-59

SUPPLEMENTAL SPECIFICATIONS

B-218	R-5-12-59
I-124	1-11-56
18	R-6-15-59
M-206.14	7-15-49
S-101	12-2-59
I-129	7-9-59

MAR 30 1964
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

Division Engineer Date

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-D(5)	

2
101

MAH.-7-14.35

STA. 2+50 DELASON
BEGIN WORK

STA. 0+00 DELASON

℄ DELASON

℄ HEASELEY

℄ P.C. STA. 2+99.06

P.C.C. RAMP "B" STA. 0+00
44' LT. M.L. STA. 766+00

STA. 767+11.09
STRUCTURE Nº
MAH. 7-1452

℄ Y. & S. R.R.

C.S. STA. 5+45

S.C. STA. 7+45

P.R.C. 3° ℄
STA. 8+72.88

BEGIN PROJECT
STA. 762+00

BEGIN WORK
STA. 758+10

RAMP "B"

RAMP "A"

T.S. STA. 0+79.56

S.C. STA. 2+29.56

℄ RAMP "B" STA. 3+48.88
SOUTH AVE. STA. 48+66.00

℄ RAMP "A" STA. 0+00
SOUTH AVE. STA. 51+40.44

MAIN LINE STA. 757+81.28
SOUTH AVE. STA. 50+00.00

℄ SOUTH AVE.

℄ P.T. STA. 4+91.50

℄ P.C. STA. 5+22.14

STA. 764+03.01
STRUCTURE Nº
MAH. 7-1445

P.C.C. RAMP "A" STA. 5+29.56
44' LT. M.L. STA. 764+75

33°24'

247.76'

399.75'

T10+58.76

T7+80.23

T14+13.66

T76.38'

T78.25'

T80

T75

T75

STA. 045+16.66
END CONST. ELLENWOOD

STA. 04+51.68
END CONST. CHALMERS

END PROJECT
STA. 779+00

ELLENWOOD

CHALMERS

℄ BELLEVIEW

℄ MADISON

℄ WILLIAMSON PROP.
℄ WILLIAMSON EXT. ST.

STA. 0+00 CHALMERS
STA. 7+35.86 BELLEVIEW

EQ. ℄ P.T. STA. G+62.38 BACK
STA. 2+80.67 AHEAD
STA. 3+80.88 BELLEVIEW

STA. 11+63.32
END WORK

BELLEVIEW

Federal and State funds will not participate in the following items of work on this Project.
1. All items North of Station 6+62.38 Back = Station 2+80.67 Ahead on Delason and Belleview, as shaded above.
2. Luminaires and cable.
3. All work on Gibson Run Box Culvert and channel outside L.A. Right of Way lines as indicated on Sheet 29.

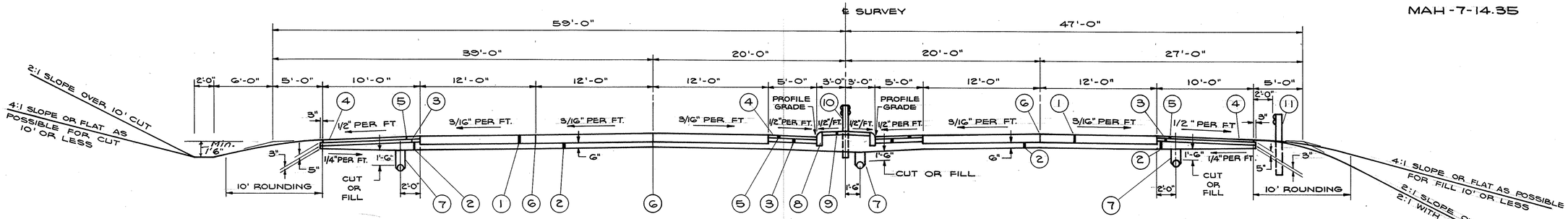
GENERAL PLAN

TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

3 / 101

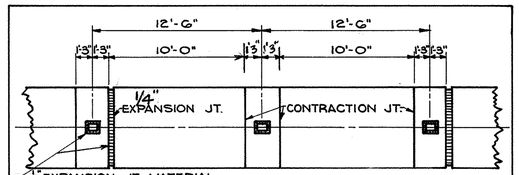
MAH-7-14.35



NORMAL SECTION
16' MEDIAN
SCALE : 3/16" = 1'-0"

LIMITING STATIONS

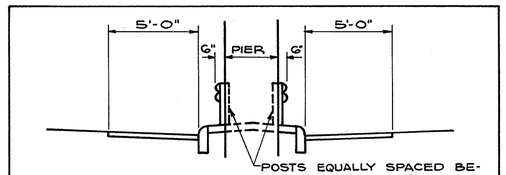
LEFT LANE 777+12.08 } TO 779+00.00
RIGHT LANE 777+96.15 }



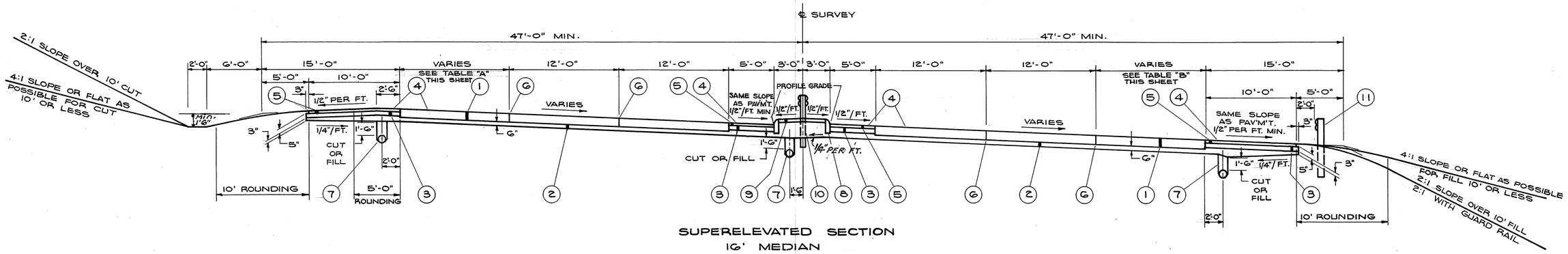
JOINT DETAIL AT GUARD RAIL POSTS IN CONCRETE MEDIAN

TABLE "A" LEFT PAVEMENT	
STATION LIMITS	VARIABLE WIDTH
762+00.00 TO 762+23.36	0'-0"
762+23.36 TO 763+23.36	10'-0"
763+23.36 TO 766+50.00	SEE DET. SHEET Nº 18
766+50.00 TO 779+00.00	12'-0"

TABLE "B" RIGHT PAVEMENT	
STATION LIMITS	VARIABLE WIDTH
762+00.00 TO 762+11.39	0'-0"
762+11.39 TO 763+75.00	SEE DET. SHEET Nº 18
763+75.00 TO 768+50.00	12'-0"
768+50.00 TO 772+00.00	12'-0" TO 0'-0"
772+00.00 TO 779+00.00	0'-0"



GUARD RAIL TREATMENT OF CENTER PIER



SUPERELEVATED SECTION
16' MEDIAN
SCALE : 3/16" = 1'-0"

LIMITING STATIONS

762+00.00 TO 763+30.74
764+71.95 TO 766+57.32
767+93.47 TO 777+12.08 LEFT LANE
777+96.15 RIGHT LANE

- (1) T-71 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (2) I-22 SUBBASE (VARIABLE DEPTH) - GRADING "A" OR "B", AS PER PLAN
- (3) I-18 5" STABILIZED CRUSHED AGGREGATE SHOULDERS AND APPROACHES
- (4) T-31 BITUMINOUS SURFACE TREATMENT { ONE APPLICATION - BITUMINOUS MATERIAL AT THE RATE OF 0.25 GALS./SQ.YD. ONE APPLICATION - #6 AGGREGATE AT THE RATE OF 0.008 CU.YDS./SQ.YD. SEE NOTE IN PROPOSAL
- ● (5) B-219 3" WATERPROOFED AGGREGATE BASE COURSE
- (6) STANDARD LONGITUDINAL JOINT
- (7) I-4 6" UNDERDRAIN
- (8) I-12 STANDARD TYPE 6 CONCRETE CURB
- (9) I-21 4" STANDARD TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT, AS PER PLAN
- (10) I-15 GUARD RAIL, STEEL BEAM BARRIER TYPE (DEEP) USING 6"x8" SQUARE SAWED WOOD POSTS
- (11) I-15 GUARD RAIL, STEEL BEAM STANDARD TYPE (DEEP)

● *Thickness shown is "designed" thickness as described in Section B-219.01.*

TYPICAL SECTIONS

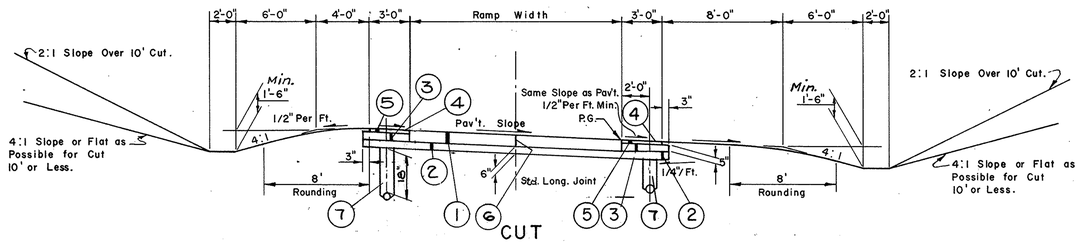
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

4/101

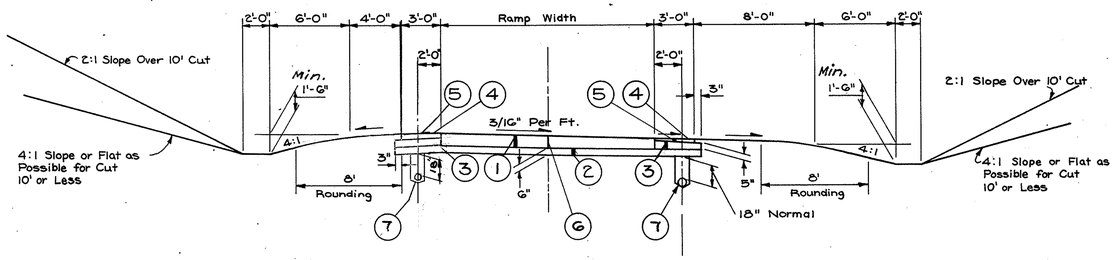
MAH-7-14.35

TYPICAL SECTIONS

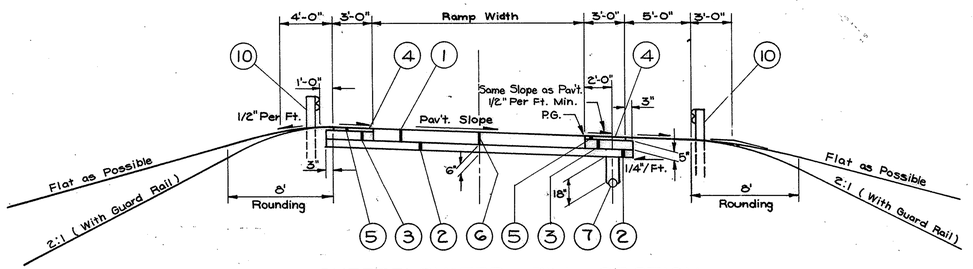
T-71



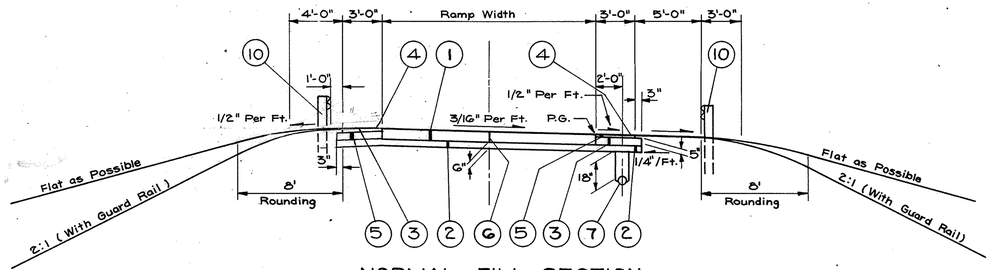
RAMP SUPERELEVATED SECTION



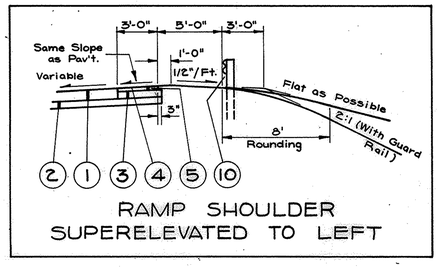
NORMAL CUT SECTION



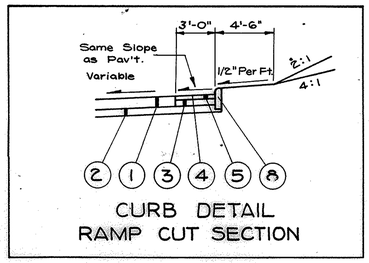
SUPERELEVATED FILL SECTION



NORMAL FILL SECTION



RAMP SHOULDER
SUPERELEVATED TO LEFT



CURB DETAIL
RAMP CUT SECTION

● *Thickness shown is "designed" thickness as described in Section B-219.01.*

(1) T-71 9" Reinforced Portland Cement Concrete Pavement

(2) I-22 Subbase (Variable Depth) Grading A or B, as Per Plan.

(3) I-18 5" Stabilized Crushed Aggregate Shoulders and Approaches.

(4) T-31 Bituminous Surface Treatment { One Application - Bituminous Material At The Rate Of 0.25 Gal./Sq. Yd. / One Application - #6 Aggregate At The Rate Of 0.008 Cu. Yds./Sq. Yd. } See Note In Proposal

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

(6) Standard Longitudinal Joint

(7) I-4 6" Underdrain

(8) I-12 Standard Type 6 Curb

(10) I-15 Guard Rail, Steel Beam Standard Type (Deep)

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

5
101

MAH-7-14.35

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 EXCLUSIVE 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 THIS 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

SALVAGE OF MANHOLES AND CATCH BASIN CASTINGS

THE CASTINGS FROM MANHOLES AND CATCH BASINS REMOVED UNDER ITEMS E-1 OR I-16 SHALL BE SALVAGED AND STORED WITHIN THE RIGHT-OF-WAY LIMITS. THE CASTINGS SHALL REMAIN THE PROPERTY OF THE CITY OF YOUNGSTOWN AND WILL BE REMOVED FROM THE STORAGE AREA BY THE CITY OF YOUNGSTOWN

UNDERGROUND UTILITIES

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

MODIFICATIONS I-8 NO. 5& NO. 2-4 CATCH BASINS

THE STANDARD I-8 NO. 5 CATCH BASIN SHALL BE MODIFIED AS FOLLOWS:

1. THE NUMBER OF BARS IN THE GRATE SHALL BE INCREASED TO PROVIDE A 2" CLEAR SPACE. THE MINIMUM WEIGHT OF THE GRATE SHALL BE 358 POUNDS.

THE STANDARD I-8 No. 2-4 CATCH BASIN SHALL BE MODIFIED AS FOLLOWS:

1. THE LENGTH OF THE WINDOWS SHALL BE INCREASED TO 2' - 0".
2. THE 1/2 - Ø BARS IN THE WINDOWS SHALL BE ELIMINATED.
3. THE DEPTH OF THE WINDOW OPENING SHALL BE 6 INCHES.

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 COVER SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.

FILLING BASEMENTS OUTSIDE NORMAL WORK LIMITS

IN ADDITION TO THE 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 THE SURROUNDING GROUND ELEVATION, AS DIRECTED BY THE ENGINEER. PRIOR TO FILLING WITHIN THIS AREA, THE BASEMENT FLOORS AND WALLS SHALL BE BROKEN OR REMOVED AS PROVIDED UNDER SEC. 1.03 (C) AND ALL HOUSE DRAINS, NOT REMOVED, SHALL BE PLUGGED.

WHERE BASEMENTS EXTEND BEYOND THE RIGHT-OF-WAY LINE, BUT ARE WITHIN THE 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 REMOVAL BELOW THE PROPOSED FINISHED SURFACE SHALL BE WAIVED FOR THE PORTIONS EXTENDING BEYOND THE RIGHT-OF-WAY. PAYMENT FOR ALL OF THE ABOVE, EXCEPT PLUGGING, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1.

DRAIN PIPES

EXISTING DOWNSPOUT DRAIN PIPES ENCOUNTERED DURING CONSTRUCTION ARE TO BE REPLACED, AS DIRECTED BY THE ENGINEER, PAYMENT FOR THE REPLACEMENT OF THE EXISTING PIPES WILL BE AS NOTED BELOW.

I-2 4"PIPE FOR STORM SEWERS M-6.8 (a)
200 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.

CONSTRUCTION LAYOUT STAKES

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

GRADING TOLERANCES

FOR AREAS IN FRONT OF RESIDENCES AND SIMILAR AREAS SPECIFICALLY INDICATED BELOW, THE SEED BED SHALL BE PREPARED TO PROVIDE A SMOOTH SURFACE. ALL STONES LARGER THAN ONE INCH IN DIAMETER SHALL BE REMOVED FROM THE SURFACE OF THE SEED BED. HAND RAKING WILL BE REQUIRED IN AREAS INACCESSIBLE TO MACHINES AND HAND RAKING MAY BE REQUIRED, IF DIRECTED BY THE ENGINEER, IN ALL THE AFOREMENTIONED AREAS IF THE MACHINES USED DO NOT PROVIDE SATISFACTORY RESULTS, COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT BID PRICE OF ITEM E-1 ROADWAY EXCAVATION. THE ABOVE NOTE SHALL BE CONSIDERED TO BE PARTICULARLY APPLICABLE IN THE FOLLOWING AREAS.

DELASON-BELLEVIEW

FROM STATION 2 + 50 to STATION 11 + 63.32

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) FEET APART. STAKES IN ADJACENT ROWS SHALL BE STAGGERED. THE STAKES SHALL BE WOOD FROM 1/2" x 3/4" x 12" TO 1" x 1" x 24" AS REQUIRED TO HOLD THE SOD AND SHALL BE DRIVEN FLUSH WITH THE TOP OF THE SOD

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.

HAND FINISHING OF T-71 PAVEMENT

ANY AREAS SUCH AS INTERSECTIONS, TURNOUTS, DRIVEWAYS AND APPROACH SLABS THAT ARE IMPRACTICAL TO BE CONSTRUCTED WITH A FINISHING MACHINE MAY BE FINISHED IN ACCORDANCE WITH SECTION T-71.2 11

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 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 FOR 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 COMPANY

OHIO EDISON COMPANY

OHIO BELL TELEPHONE COMPANY

CITY OF YOUNGSTOWN WATER DEPT.

CITY OF YOUNGSTOWN SEWER DEPT.

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 PER LINEAL FOOT OF PIPE UNDERDRAIN OUTLETS.

SUBGRADE COMPACTION FOR DRIVEWAYS

THE SUBGRADE FOR DRIVEWAYS PAVED 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.

NON-RIGID PAVEMENT REMOVAL

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

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

G 101

MAH-7-14.35

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 1-10 SHALL HAVE COMMERICAL 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% WHITEDUTCH 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 OTHER TREES AS MARKED BY THE ENGINEER SHALL BE REMOVED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE SIZE AND NUMBER OF TREES AND STUMPS ARE ESTIMATED BELOW.

TREES

18"-24"	24"-30"	30"-36"	36"-48"
31	9	2	0

STUMPS

24"-30"
1

BELLEVIEW AVE - TREE WELLS

THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT AN UNDETERMINED NUMBER OF TREE WELLS ON THE SOUTH SIDE OF BELLEVIEW AVE. IN THE AREA OF THE SOUTH SIDE PARK, PAYMENT FOR THE TREE WELLS SHALL BE MADE UNDER THE FOLLOWING ITEMS.

L-8	AGGREGATE FOR TREE ROOT AERATION 10 CU.YDS.
L-7	RIPRAP FOR TREE PROTECTION 200 SQ. YDS.
I-2	4" STORM SEWERS 100 LIN. FT. M-6.8(a)

THE ABOVE ESTIMATED QUANTITIES ARE PROVIDED FOR THE CONSTRUCTION OF THE TREE WELLS AT THE LOCATION DESIGNATED BY THE ENGINEER. IT SHALL INCLUDE THE FURNISHING AND PLACING OF THE STONE AND THE 4" PIPE AND ALL OTHER INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE PROPOSED TREE WELLS.

THE CONSTRUCTION METHODS FOR THE PROPOSED TREE WELLS SHALL BE GOVERNED BY ITEM L-7" RIPRAP FOR TREE PROTECTION" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAY CONSTRUCTION AND MATERIAL SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWING L-1

GENERAL: UTILITIES

CONSTRUCTION PLANS INCLUDE RELOCATING CITY OWNED SEWER AND WATER LINES 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 CO-ORDINATED WITH EXPRESSWAY WORK AND WITH EACH OTHER.

THE 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.

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 AVAILABLE 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 SEPARATE 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.

WHERE CONCRETE ENCASED WATER PIPES ARE REQUIRED SUCH ENCASEMENT SHALL BE INCLUDED IN UNIT PRICE BID FOR FURNISHING AND LAYING PIPE, ITEM I-124 NEW WATER MAINS, CONCRETE ENCASED. SEE SHEET 23 FOR DETAILS.

THE CONSTRUCTION OF RELOCATED WATER MAINS OWNED BY THE CITY OF YOUNGSTOWN WILL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE CITY OF YOUNGSTOWN. THE CONTRACTOR SHALL NOTIFY CITY OF YOUNGSTOWN WATER DEPARTMENT 48 HOURS IN ADVANCE OF BREAKING GROUND ON EACH WATER MAIN RELOCATION. HE WILL OBTAIN PERMISSION 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 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 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 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".

WHERE ABANDONED WATER MAINS ARE ENCOUNTERED DURING CONSTRUCTION THE MAINS SHALL BE CUT AND PLUGGED IN ACCORDANCE WITH ITEM I-124 AS AMENDED HEREIN.

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.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON STANDARD DRAWING R-1-1, AS MODIFIED BY THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS, EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

ESTIMATED QUANTITIES

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

PROTECTION OF TRAFFIC

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

MAINTENANCE OF TRAFFIC

1. WHERE ANY WORK CALLED FOR UNDER THIS PROJECT INVOLVES THE CLOSING OF EXISTING STREETS, THE CONTRACTOR SHALL PROSECUTE TO THE FULLEST EXTENT THE WORK 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 RECEIPT OF APPROVAL OF CONSTRUCTION OPERATIONS FROM THE ENGINEER AND THE CITY OF YOUNGSTOWN THE STREET MAY BE CLOSED.

3. THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF SEC. G-7.07, PERFORM THE FOLLOWING.

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

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

4. EITHER CHALMERS AVE AND BELLEVIEW AVE., FROM HEASLEY TO MARION, OR DELASON STREET AND BELLEVIEW AVE., FROM HEASLEY TO MARION SHALL REMAIN OPEN TO TRAFFIC DURING THE PERIOD OF TIME WILLIAMSON AVE., IN PROJECT MAH-7-14.80, IS CLOSED TO TRAFFIC.

MAINTAINING LOCAL TRAFFIC

THE FOLLOWING QUANTITIES ARE INCLUDED FOR MAINTAINING TRAFFIC, TO BE USED AS DIRECTED BY THE ENGINEER.

200 C.Y. T-10 TRAFFIC COMPACTED SURFACE COURSE
4 TONS CALCIUM CHLORIDE, FURNISHED AND APPLIED
10 C.Y. T-35 ASPHALTIC CONCRETE SURFACE COURSE OR APPROVED BITUMINOUS PREMIXED SURFACE COURSE.

LINE CALCULATIONS STREETS AND APPROACHES

MAIN LINE APPROACH

BEGIN WORK ---------- STATION 758 + 10
END APPROACH ---------- STATION 762 + 00
APPROACH LENGTH ---------- 390.00 LIN. FT.
BEGIN APPROACH ---------- STATION 779 + 00
END WORK ---------- STATION 781 + 19
APPROACH LENGTH ---------- 219.00 LIN. FT.
NET APPROACH LENGTH ---------- 609.00 LIN. FT.

DELASON - BELLEVIEW IMPROVEMENT

BEGIN WORK STATION 2 + 50
END WORK STATION 11 + 63.32
EQUATION-STATION 6+62.38 BACK = STATION 2+80.67 AHEAD
NET APPROACH LENGTH ---------- 1,295.03 LIN FT.
TOTAL APPROACH LENGTH 1,904.03

ITEM I-22 SUBBASE, GRADING "A" OR "B", AS PER PLAN

THE MATERIAL FURNISHED FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF GRADING A OR B OF SEC. I-22.02 EXCEPT THAT, FOR EITHER GRADING, NO MORE THAN 10 PERCENT OF THE MATERIAL SHALL PASS A NO. 200 SIEVE.

GENERAL NOTES - UTILITY RELOCATIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

7/101

MAH-7-14.35

WATER MAIN SPECIFICATIONS:

ALL CONSTRUCTION ON WATER MAINS SHALL CONFORM TO STATE OF OHIO DEPARTMENT OF HIGHWAYS SUPPLEMENTAL SPECIFICATION I-124 AS AMENDED HEREIN.

NO SEPARATE 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 I-124 NEW WATER MAINS.

ITEM I-124 CUT AND PLUG EXISTING LINE

THIS ITEM SHALL CONSIST OF PLUGGING OR CAPPING EXISTING WATER MAINS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER INCLUDING THE FURNISHING OF ALL MATERIALS INCLUDING THE CAP OR PLUG, EXCAVATING AND BACKFILLING, CONSTRUCTING ALL NECESSARY JOINTS AND CONNECTIONS, HYDROSTATIC TESTING, DISINFECTION, AND DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL WHICH MAY BE REQUIRED TO COMPLETE THIS ITEM. THIS ITEM SHALL ALSO PROVIDE FOR REACTION BACKING AS OUTLINED UNDER SECTION I-124.03 NEW WATER MAIN AND AS AMENDED ABOVE.

(a) EXCAVATION. NO EXCAVATION SHALL BE MADE UNTIL THE VALVE ON THE BRANCH HAS BEEN CLOSED TO RELIEVE PRESSURE ON THE BRANCH TO BE CUT AND PLUGGED. EXCAVATION SHALL BE PERFORMED AS REQUIRED UNDER SEC. I-124.03 NEW WATER MAIN.

(b) INSTALLATION- THE PLUG OR CAP SHALL BE INSTALLED AND REACTION BACKING PROVIDING AS OUTLINED UNDER SECTION I-124.03 NEW WATER MAIN.

(c) TESTING- PRIOR TO BACKFILLING, TESTING SHALL BE PERFORMED BY SUBJECTING ALL JOINTS TO THE WORKING PRESSURE OF THE MAIN FOR A SUFFICIENT LENGTH OF TIME TO ALLOW FOR A THOROUGH EXAMINATION OF THE JOINTS WHICH HAVE BEEN EXPOSED AS WELL AS ALL NEW JOINTS. ANY JOINTS FOUND TO BE LEAKING SHALL BE MADE GOOD BY THE CONTRACTOR AT NO ADDITIONAL COST.

(d) BACKFILLING. BACKFILLING SHALL BE PERFORMED AS REQUIRED UNDER SECTION I-124.03 NEW WATER MAIN.

(e) DISINFECTION. DISINFECTION SHALL BE PERFORMED AS REQUIRED UNDER SECTION I-124.03 NEW WATER MAIN.

METHOD OF MEASUREMENT - THE QUANTITIES TO BE PAID FOR SHALL BE THE ACTUAL QUANTITY, MEASURED IN PLACE, COMPLETE AND ACCEPTED. THE QUANTITY SHALL BE MEASURED PER EACH FOR THE NUMBER OF EXISTING WATER MAINS CUT AND PLUGGED.

BASIS OF PAYMENT- THE QUANTITY MEASURED ABOVE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH FOR "ITEM 124 CUT AND PLUG EXISTING LINE. THIS PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR NECESSARY EXCAVATION AND BACKFILL , THE DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, THE FURNISHING, PREPARING AND PLACING OF ALL MATERIAL INCLUDING SEALING JOINTS AND REACTION BACKING, HYDROSTATIC TESTING, AND DISINFECTING, AND FOR ALL LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

REACTION BACKING- REACTION BACKING AS PROVIDED UNDER SECTION I-124.03 SHALL BE AMENDED AS FOLLOWS:

REACTION BACKING SHALL BE PROVIDED FOR ALL TEES AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE ON MAINS 8 INCHES IN DIAMETER AND LARGER AND FOR ALL PLUGS AND CAPS AND FOR THE BOWL OF EACH FIRE HYDRANT.

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 23. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL BE PAID FOR AT 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."

MATERIALS

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

IF SUBSTITUTIONS OFFERED ARE DEEMED NOT EQUAL, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE STANDARD OR ITS EQUAL AT NO CHANGE FROM BID PRICE.

CITY OF YOUNGSTOWN SEWER RELOCATIONS:

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO 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 UNIT PRICE BID FOR ITEM I-2 STORM SEWERS.

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED 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 PIPE.. 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 GRADES" 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 ITEMIZED FOR PAYMENT ON THE PLANS.

ITEM I-8, MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CAREFUL REMOVAL OF THE EXISTING MANHOLE DOWN TO THE SPRING LINE AND RECONSTRUCTION OF THE MANHOLE TO THE NEW GRADE, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSIONS AND TYPE OF CONSTRUCTION AND USING THE SALVAGED MANHOLE FRAME AND COVER.

CITY OF YOUNGSTOWN WATER MAIN RELOCATION

ALL CAST IRON PIPE AND APPURTENANCES 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.

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 2-1/2 INCH I.D. NAT. THD FIRE HOSE COUPLING SCREW THREAD AND 1 PUMPER NOZZLE 4-1/2 INCH I.D. YOUNGSTOWN STD. THD. SEE DETAIL AND MATCHING CAPS: HAVE BURY LENGTH 5-1/2 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 #23

VALVE BOXES WILL BE SIZE "B" WITH NO. 6 ROUND BASE, ADJUSTABLE SCREW TYPE, SHAFT NOT LESS THAN 5-1/4 INCH DIAMETER. DROP COVER TO HAVE "WATER" CAST THEREON AND RECESSED FOR EASE OF REMOVAL.

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.

EXISTING WATER MAIN CUT AND PLUGGED OUTSIDE ROADWAY CONSTRUCTION LIMITS SHALL BE PAID FOR UNDER ITEM I-124 NEW WATER MAIN AT CONTRACT UNIT PRICE BID PER EACH "CUT AND PLUG."

REMOVAL OF EXISTING WATER LINE APPURTENANCES

THE REMOVAL OF EXISTING FIRE HYDRANTS, VALVES AND BOXES, AND ALL OTHER APPURTENANCES SHALL BE PREFORMED BY THE CITY OF YOUNGSTOWN IF THEY SO DESIRE. THE CONTRACTOR SHALL NOTIFY THE CITY OF YOUNGSTOWN WATER DEPARTMENT 48 HOURS PRIOR TO THE REMOVAL OF ANY WATER LINE OR APPURTENANCES.

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

8
101

MAH-7-14.35

E-8 REMOVAL & DISPOSAL - PARTICIPATING FUNDS

LOCATION	STATION FROM	STATION TO	EXIST. RIGID PAV'M'T SQ. YDS.		EXIST. CURB & GUTTER OR HEADER LIN. FT.	EXIST. CONC. SIDEWALK SQ. FT.		
SOUTH AVE.	48+13	49+10	22		97	728		
SOUTH AVE.	50+90.78	51+78.96	19		88	660		
CHALMERS	85' E. ℄	92' W. ℄	649		351	1,770		
ELLENWOOD	109' E. ℄	113' W. ℄	666		443	2,222		
PRIVATE ALLEY			75					
MARION	W. R/W MAH-7-14.35 TO E. R/W HEASELEY	E. R/W MAH-7-14.35 W. R/W BELLEVIEW	1,265		690	3,450		
DELASON BELLEVIEW	2+50.00	G+62.38 BACK, 2+80.67 AHEAD	1,089		844	2,225		
TOTAL PARTICIPATING QUANTITIES			3,785		2,518	11,055 ✓		

E-8 REMOVAL & DISPOSAL - NON-PARTICIPATING FUNDS

DELASON BELLEVIEW	2+80.67 AHD.	11+63.32	1,937		1,745	5,315		
TOTAL NON-PARTICIPATING QUANTITIES			1,937		1,745	5,315		
TOTAL BID QUANTITIES			5,722		4,258	16,370		

PAVEMENT & BASE - PARTICIPATING FUNDS

SHEET Nº	STATION FROM	STATION TO	T-71 10" REINF. P.C.C. PAV'T. SQ. YDS.	T-71 9" REINF. P.C.C. PAV'T. SQ. YDS.	I-18 CRUSHED AGGR. SH'LD & APPR. CU. YDS.	B-219 WATERPROOF AGGR. BASE COURSE CU. YDS.	T-31 BITUMINOUS SURFACE TREAT. # 6 AGGREGATE CU. YDS.	T-31 BITUMINOUS SURFACE TREAT. BITUMINOUS MATERIAL GALS.	I-22 SUBBASE CU. YDS. A OR B	I-22 SUBBASE CU. YDS. C OR D	T-35 1" ASPH. CONC. SURFACE COURSE CU. YDS.	B-35 2" ASPH. CONC. LEVELING COURSE CU. YDS.	B-70 9" P.C.C. BASE COURSE SQ. YDS.	T-30 BITUMINOUS TACK COAT GALS.	I-12 CONC. CURB TYPE 2-B MODIFIED LIN. FT.	I-13 5" CONC. SIDEWALK & 5" BASE SQ. FT.
14	762+00	772+00	4,763		318	183	16	514	1,539							
15	772+00	779+00	4,667		332	194	19	583	1,399							
16	RAMP "A" STA. 0+25.31 TO STA. 4+04.58			785	31	19	2	54	159							262
17	RAMP "B" STA. 3+40.91 TO STA. 9+24.78			1,169	63	35	3	91	233							265
45	DELASON - BELLEVIEW STREET IMPROVEMENT STA. 2+50.00 TO EQUATION STA. G+62.38 BACK, 2+80.67 AHEAD									239	36	72	1,389	139	769	2,208
TOTAL PARTICIPATING			9,430	1,954	744	431	40	1,242	3,330	239	36	72	1,389	139	769	2,735

PAVEMENT & BASE - NON-PARTICIPATING FUNDS

45	DELASON - BELLEVIEW STREET IMPROVEMENT EQUATION STA. G+62.38 BACK, 2+80.67 AHEAD TO STA. 10+99.00									492	74	147	3,137	314	1,695	4,170
TOTAL NON-PARTICIPATING			—	—	—	—	—	—	—	492	74	147	3,137	314	1,695	4,170
TOTAL BID QUANTITIES			9,430	1,954	744	431	40	1,242	3,330	731	110	219	4,526	453	2,464	6,905

ROADWAY ITEMS - PARTICIPATING FUNDS

SHEET Nº	LOCATIONS FROM	LOCATIONS TO	L-9 SEEDING SQ. YD.	L-9 FERTILIZER 20#/1000 S. TONS	E-1 COMPACTED SUBGRADE SQUARE YARDS	
13	759+85	762+00	10,393	0.94	10" T-71	9,430
14	762+00	772+00	9,650	0.87	9" T-71	1,954
15	772+00	779+00	9,810	0.88	9" B-70	1,388
9	SODDING	683+137	820	0.07	B-219	5,172
16	RAMP "A" STA. 0+25.31 - STA. 4+04.58		1,172	0.11	APPR. SLABS	872
17	RAMP "B" STA. 3+40.91 - STA. 9+24.78		1,705	0.15		
45	DELASON - BELLEVIEW STREET IMPROVEMENT STA. 2+50.00 TO EQUATION STA. G+62.38 BACK, 2+80.67 AHEAD		697	0.06		
TOTAL PARTICIPATING			33,427	3.08		18,817

ROADWAY ITEMS - NON-PARTICIPATING FUNDS

	DELASON - BELLEVIEW STREET IMPROVEMENT 2+80.67 AHEAD TO 11+63.32	2,942	0.26	9" B-70	3,137
TOTAL NON-PARTICIPATING		2,942	0.26		3,137
TOTAL BID QUANTITIES		36,369	3.34		21,954

EARTHWORK ANALYSIS - PARTICIPATING FUNDS

SHEET Nº	FROM	TO	EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.	EMBANKMENT +20% CU. YDS.	BORROW CU. YDS.	E-11 WATER
13	759+85	762+00	231	7,822 ✓	9,386		
14	762+00	772+00	863	84,398	101,278 ✓		
15	772+00	779+00	20,938	1,201	1,441 ✓		
16	RAMP "A" STA. 0+25.31 TO STA. 3+02		947	957	1,148 ✓		Embank 94,715 Cu.Yds.
17	RAMP "B" STA. 6+85.00 TO STA. 9+24.78		2,843	234	281		I-18 744 Cu.Yds.
45	DELASON - BELLEVIEW STREET IMPROVEMENT STA. 2+50.00 TO EQUATION STA. G+62.38 BACK, 2+80.67 AHEAD		602	103	124 ✓		I-22 3,097 Cu.Yds. TOTAL 98,556 Cu.Yds.
TOTAL PARTICIPATING			26,424 ✓	94,715 ✓	113,658 ✓	87,234	98,556 x 5 / 1000 = 492.78 M.Gals. USE 493 M.Gals.

EARTHWORK ANALYSIS - NON-PARTICIPATING FUNDS

45	DELASON - BELLEVIEW STREET IMPROVEMENT 2+80.67 AHEAD TO 11+63.32	1,546	1,634	1,961 ✓	415	Embank. 1634 Cu.Yds. 1634 x 5 / 1000 = 8.17 M.Gals.
TOTAL NON-PARTICIPATING		1,546	1,634	1,961 ✓	415 ✓	USE 9 M.Gals.
TOTAL BID QUANTITIES		27,970	96,349	115,619	87,649	502 M.Gals.

QUANTITY SUMMARY
ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

9
101

MAH-7-14.35

ITEM	6	8	13	14	15	16	17	27	29	45	55	96	97	98	99	100	FEDERAL, STATE AND CITY PARTICIPATION	NO FEDERAL OR STATE PARTICIPATION	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
																	TYPE CODE 7221					
E-1		26,424							1								26,425		E-1	27,986	CU. YDS.	ROADWAY EXCAVATION - METHOD "B" AS PER PLAN
		1,546							17									1563				
E-1		18,817															18,817		E-1	21,954	SQ. YDS.	COMPACTED SUBGRADE
		3,137																3,137				
E-8		3,785															3,785		E-8	5,722	SQ. YDS.	REMOVAL & DISPOSAL OF EXISTING RIGID PAVEMENT
		1,937																1937				
E-8		11,055															11,055		E-8	16,370	SQ. FT.	REMOVAL & DISPOSAL OF EXISTING SIDEWALK - CONCRETE
		5315																5,315				
E-8		2,513															2,513		E-8	4,258	LIN. FT.	REMOVAL & DISPOSAL OF EXISTING CURB, CURB & GUTTER OR HEADER CURB
		1,745																1,745				
E-9	LUMP																LUMP	LUMP	E-9	LUMP	LUMP	REMOVAL OF TREES & STUMPS
E-11		493															493		E-11	502	M. GALS.	WATER
		9																9				
E-4		87234															87,234		E-4	87,649	CU. YDS.	BORROW
		415																415				
E-12								82									82		E-12	82	LIN. FT.	PIPE REMOVED - OVER 15"
								—		—							—		I-13	132	LIN FT	CONCRETE STEPS - AS PER PLAN
										132								132				
I-8				1	2												3		I-8	3	EACH	MONUMENT ASSEMBLIES STANDARD
I-13		2,735		—	—												2,735		I-13	6,905	SQ. FT.	5" PORTLAND CEMENT CONC. SIDEWALKS INCLUDING 5" CINDER SUB BASE
		4,170																4170				
I-15				1062.5	150	387.5	437.5										2037.5		I-15	2037.5	LIN. FT.	GUARD RAIL - STEEL BEAM STANDARD TYPE (DEEP)
I-15				717	700												1,417		I-15	1,417	LIN. FT.	GUARD RAIL - STEEL BEAM BARRIER TYPE (DEEP) USING 6" x 8" SQUARE SAWED WOOD POSTS
				—	—													—				
L-9		33,427															33,427		L-9	34,369	SQ. YDS.	SEEDING & PROTECTING AS PER PLAN
		2,942																2,942				
L-9		3.08															3.08		L-9	3.34	TONS	COMMERCIAL FERTILIZER (12-12-12)
		0.26																0.26				
L-10				192	118	145	228										683		L-10	683	SQ. YDS.	SODDING, AS PER PLAN
				—	—	—	—											—				
L-10				137													137		L-10	137	SQ. YDS.	SODDING FOR SPECIAL BERM AND SLOPE PROTECTION, as per plan.
				—														—				
L-7	200																—	200	L-7	200	SQ. YDS.	RIP-RAP FOR TREE PROTECTION
L-8	10																	10	L-8	10	CU. YDS.	AGGREGATE FOR TREE ROOT AERATION
T-35	10																10		T-35	10	CU. YDS.	ASPHALTIC CONCRETE SURFACE COURSE OR APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING TRAFFIC
	—																	—				
T-10	200																	200	T-10	200	CU. YDS.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC
M-10	4																—	4	M-10	4	Tons.	CALCIUM CHLORIDE, FURNISHED AND APPLIED FOR MAINTAINING TRAFFIC
S-24									—	—							—		S-24	LUMP	LUMP	REMOVAL OF EXISTING STRUCTURES
									LUMP	LUMP								LUMP				
I-129					1												1		I-129	1	EACH	OVERHEAD SIGN SUPPORTS Nº 8.4 DESIGN 1 ; AS PER PLAN
					—													—				
I-129							1										1		I-129	1	EACH	OVERHEAD SIGN SUPPORTS Nº 2.14 AS PER PLAN
I-129					6.8		1.7										8.5	—	I-129	8.5	CU. YDS.	CONCRETE FOR SIGN SUPPORT FOUNDATIONS, CLASS "E"
SS-18												603	1268	771	1587	155	4384		SS-18	4384	LIN. FT.	FENCE TYPE "C"
																		—				
																						ROADWAY LIGHTING
S-25										—							—		S-25	4,350	LIN. FT.	#4 - 600 VOLT GRD. GRID SINGLE COND. CABLE
S-25										4,350								4,350				
S-25										13							13		S-25	13	EACH	STANDARD 27'-0" POLE WITH 15'-0" BRACKET
										—								—				
S-25										5							5		S-25	5	EACH	STANDARD 27'-0" POLE WITH 10'-0" BRACKET
										—								—				
S-25										18							18		S-25	18	EACH	POLE FOUNDATION - CONCRETE CLASS "C"
										—								—				
S-25										25							25		S-25	25	EACH	24" x 24" PULL BOX - CONCRETE CLASS "C"
S-25										100							100		S-25	100	LIN. FT.	3" ASBESTOS CEMENT CONDUIT - CONCRETE ENCASED SEC M-206.14
										—								—				
S-25										60							60		S-25	60	LIN. FT.	2" ASBESTOS CEMENT CONDUIT - CONCRETE ENCASED SEC M-206.14
										—								—				
S-25										—							—		S-25	13	EACH	LUMINAIRE 21,500 LUMEN TYPE III
										13								13				
S-25										—							—		S-25	5	EACH	LUMINAIRE 21,500 LUMEN TYPE II
										5								5				
S-25										18							18		S-25	18	EACH	5/8" x 8'-0" GROUND ROD
										—							—		S-25	6,200	LIN. FT.	#6 - 5,000 VOLT LIGHTING SINGLE COND. CABLE
S-25										6200								6,200				
										—												

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

MAH-7-14.35

QUANTITY SUMMARY
PAVEMENT

TYPE CODE 7221

ITEM	8	13	14	15	16	17	19	20	26	45	FEDERAL, STATE AND CITY PARTICIPATION	NO FEDERAL OR STATE PARTICIPATION	BID ITEM	BID QUANTITY	UNIT	DESCRIPTION
I-7			815 —			57 —					872	—	I-7	872	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS (T=13")
I-12					200 —						200	—	I-12	200	LIN. FT.	SPECIAL CONCRETE CURB AS PER PLAN
I-12					114 —	118 —					232	—	I-12	232	LIN. FT.	STANDARD TYPE 2-A CONCRETE CURB
I-12	769 1695										769	1,695	I-12	2,464	LIN. FT.	STANDARD TYPE 2-B CONCRETE CURB
I-12			1,469 —	1,420 —		200 —		15 —			3,104	—	I-12	3,104	LIN. FT.	STANDARD TYPE 6 CONCRETE CURB
I-18	744 —										744	—	I-18	744	CU. YDS.	STABILIZED CHRUSHED AGGREGATE SHOULDERS & APPROACHES
I-21			402 —	388 —		70 —					860	—	I-21	860	SQ. YDS.	4" PORTLAND CEMENT CONC. MEDIAN PAVEMENT, STANDARD TYPE 1, AS PER PLAN
I-22	3,330 —										3,330		I-22	3,330	CU. YDS.	SUBBASE, GRADING "A" OR "B", AS PER PLAN
I-22	239 492										239	492	I-22	731	CU. YDS.	SUBBASE, GRADING "C" OR "D"
B-219	431 —										431		B-219	431	CU. YDS.	WATERPROOFED AGGREGATE BASE COURSE
T-71	9430 —										9430	—	T-71	9,430	SQ. YDS.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
T-71	1,954 —										1,954	—	T-71	1,954	SQ. YDS.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
B-70	1,389 3,137							24 —			1,413	3,137	B-70	4,550	SQ. YDS.	9" PORTLAND CEMENT CONCRETE BASE COURSE, USING CLASS "D" CONCRETE, AS PER PLAN
T-71									108 —	25 91	133	91	T-71	224	SQ. YDS.	5" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAYS AND APPROACHES, AS PER PLAN.
T-30	139 314										139	314	T-30	453	GALS.	BITUMINOUS TACK COAT: SEC. M-5.5, MS-2 OR RS-1, OR M5.2, RC-1, RC-2 OR RC-3, AS PER SEC. T-30.02
T-31	40 —										40		T-31	40	CU. YDS.	BITUMINOUS SURFACE TREATMENT - № 6 AGGREGATE
T-31	1,242 —										1,242		T-31	1,242	GALS.	BITUMINOUS SURFACE TREATMENT - BITUMINOUS MATERIAL, AS PER PLAN.
T-35	36 74							1 —			37	74	T-35	111	CU. YDS.	ASPHALTIC CONCRETE SURFACE COURSE - TYPE "C" (70-85)
B-35	72 147										72	147	B-35	219	CU. YDS.	ASPHALTIC CONCRETE LEVELING COURSE (70-85)

WATER LINES

ITEM	8	13	14	15	16	17	19	20	26	45	FEDERAL, STATE AND CITY PARTICIPATION	NO FEDERAL OR STATE PARTICIPATION	BID ITEM	BID QUANTITY	UNIT	DESCRIPTION
I-124.03							110				110		I-124.03	110	LIN. FT.	4" NEW WATER MAINS - CLASS 22
I-124.03								788				788	I-124.03	788	LIN. FT.	6" NEW WATER MAINS - CLASS 22
I-124.03								10				10	I-124.03	10	LIN. FT.	6" NEW WATER MAINS - CLASS 22 CONCRETE ENCASED
I-124.03							1				1		I-124.03	1	EACH	4" CAST IRON 11 1/4 DEGREE BEND - CLASS 250
I-124.03							1				1		I-124.03	1	EACH	4" CAST IRON 22 1/2 DEGREE BEND - CLASS 250
I-124.03								1				1	I-124.03	1	EACH	6"x6" CAST IRON CROSS TEE - CLASS 250
I-124.03								1				1	I-124.03	1	EACH	6" TAP IN TEE - CLASS 250
I-124.03								1				1	I-124.03	1	EACH	6"x6"x6" CAST IRON TEE - CLASS 250
I-124.03								2				2	I-124.03	2	EACH	6" CAST IRON 22 1/2 DEGREE BENDS - CLASS 250
I-124.03								1				1	I-124.03	1	EACH	6" CAST IRON 45 DEGREE BEND - CLASS 250
I-124.03								3				3	I-124.03	3	EACH	6" CAST IRON 90 DEGREE BEND - CLASS 250
I-124.03								11				11	I-124.03	11	EACH	6" VALVES AND BOXES CLASS 150
I-124.03								4				4	I-124.03	4	EACH	FIRE HYDRANTS AS PER PLAN
I-124.04							2	3			2	3	I-124.04	5	EACH	CUT AND PLUG EXISTING WATER MAINS
I-124.07								55				55	I-124.07	55	LIN. FT	NEW 3/4" SERVICE BRANCH
I-124.10										12		12	I-124.10	12	EACH	WATER VALVE BOXES ADJUSTED TO GRADE
							1				1		I-124.03	1	EACH	6"x4" CAST IRON REDUCER, CLASS 250

STRUCTURES OVER 20' SPAN

FOR ESTIMATED QUANTITIES OF STRUCTURE №
MAH-7-1445 SEE SHEET № 58
MAH-7-1452 SEE SHEET № 81

QUANTITY SUMMARY
DRAINAGE

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

111
101

MAH-7-14.35

TYPE CODE 7221

ITEM	5	6	13	14	15	16	17	19	20	27	29	45	47	47A	FEDERAL, STATE AND CITY PARTICIPATION	NO FEDERAL OR STATE PARTICIPATION	BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
E-2											126				126		E-2	165	CU. YD.	EXCAVATION FOR STRUCTURES
											39					39				
											1,124				1,124		E-3	1692	CU. YD.	CHANNEL EXCAVATION
											568					568				
I-2	200														200		I-2	300	LIN. FT.	4" STORM SEWERS M-6.8(a)
	—	100													—	100				
I-2				100	501	30	27								658		I-2	658	LIN. FT.	12" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES
				—	—	—	—									—				
I-2				138											138		I-2	138	LIN. FT.	12" STORM SEWERS M-6.4(c)
				—												—				
I-2				48							18				66		I-2	66	LIN. FT.	12" STORM SEWERS M-6.5(b), M-6.8(b)
				—							—					—				
I-2						74									74		I-2	74	LIN. FT.	15" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES
						—										—				
I-2										43					43		I-2	43	LIN. FT.	21" STORM SEWERS M-6.6(d) UNDER RAILROAD - AS PER PLAN
										—						—				
I-2										80					80		I-2	80	LIN. FT.	36" STORM SEWERS M-6.6(a)
										—						—				
													311	—	311		I-2	580	LIN. FT.	12" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES, M-6.8(b)
													71	198		269				
													68		68		I-2	178	LIN. FT.	15" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES, M-6.8(b)
													110			110				
I-4			274	862	1577	697	838								4248		I-4	4,248	LIN. FT.	6" UNDERDRAINS
			—	—	—	—	—								—					
I-4			20	40	10	20	20								110		I-4	110	LIN. FT.	8" PIPE OUTLETS M-6.4(a) FOR UNDERDRAINS
			—	—	—	—	—								—					
I-5													—		—	1	I-5	1	EACH	15" PIPE SPECIAL FOR STORM SEWERS M-6.8(b)
													1							
I-5				4		2	2								8		I-5	8	EACH	6" PIPE SPECIALS FOR UNDERDRAINS
				—		—	—								—					
I-5				4											4		I-5	4	EACH	12" PIPE SPECIALS FOR STORM SEWERS M-6.4(c)
				—											—					
I-5													1		1		I-5	1	EACH	12" PIPE SPECIAL FOR STORM SEWERS M-6.8(b)
													—		—					
I-8											2				2		I-8	2	EACH	STANDARD Nº1 SIDE DITCH INLETS
											—				—					
I-8										1			—	—	1		I-8	10	EACH	MANHOLES ADJUSTED TO GRADE
										—		2	4	3		9				
I-8													2		2		I-8	2	EACH	MANHOLES REBUILT, AS PER PLAN
													—		—					
I-8													3	1	3	1	I-8	4	EACH	STANDARD Nº1 MANHOLES
I-8										1					1		I-8	1	EACH	STANDARD Nº2 MANHOLE
I-8				2											2		I-8	2	EACH	STANDARD Nº 2A-6 PAVED SHOULDER INLETS
				—											—					
I-8					1										1		I-8	1	EACH	STANDARD Nº 2A-12 PAVED SHOULDER INLET
					—										—					
I-8					1										1		I-8	1	EACH	STANDARD Nº 2-10 MEDIAN INLET, MODIFIED AS PER PLAN
					—										—					
I-8													3	—	3		I-8	9	EACH	YOUNGSTOWN TYPE I INLETS, AS PER PLAN
													4	2		6				
I-8						1	1					—		—	2		I-8	8	EACH	YOUNGSTOWN TYPE II INLETS, AS PER PLAN
						—	—					1		5		6				
I-8				1											1		I-8	1	EACH	STANDARD Nº 2-4 CATCH BASIN MODIFIED AS PER PLAN
				—											—					
I-8				3		1									4		I-8	4	EACH	STANDARD Nº 5 CATCH BASINS
				—		—									—					
I-8											—				—		I-8	1	EACH	YOUNGSTOWN MANHOLE FRAME & COVER - FURNISHED & PLACED
											1					1				
I-10				1		1					—				2		I-10	232	CU. YD.	DUMPED ROCK CHANNEL PROTECTION
				—		—					230					230				
I-14										189					189		I-14	189	LIN. FT.	PAVED GUTTER - STANDARD TYPE I
										—					—					
										292					292		I-14	292	LIN. FT.	PAVED GUTTER - STANDARD TYPE I MODIFIED AS PER PLAN.
										—					—					
I-16								1	1						2		I-16	2	EACH	MANHOLES ABANDONED
								—	—						—					
I-16									4			5			9		I-16	25	EACH	CATCH BASINS ABANDONED
									—			16				16				
S-1											676				676		S-1	928	CU. YD.	CONCRETE FOR STRUCTURES - CLASS "C"
											252					252				
S-1				0.3		0.3				0.4					1.0		S-1	1	CU. YD.	CONCRETE FOR STRUCTURES - CLASS "E"
				—		—				—					—					
S-4											98,132				98,132		S-4	168,683	LBS.	REINFORCING STEEL
											70,551					70,551				

QUANTITY SUMMARY
BUILDING REMOVAL

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH - 7-14.35

IHA 101

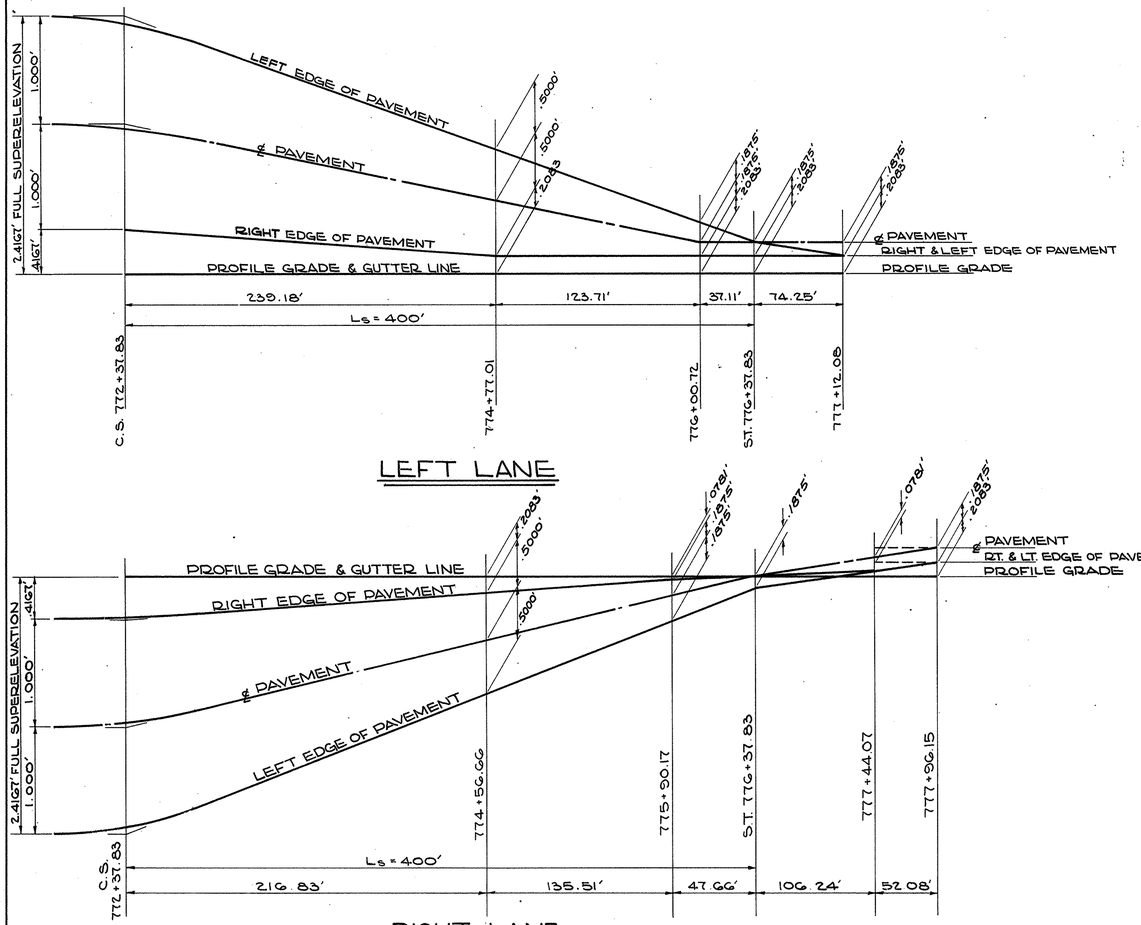
	BID ITEM	QUANTITY	UNIT	DESCRIPTION (PARTICIPATING FUNDS)	PARCEL Nº
*	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & STORE, 2 CAR FRAME GARAGE & ATTACHED SHED	540 LA
	S-24	LUMP	LUMP	2½ STORY BRICK APARTMENT (4 UNITS) & 3 CAR BRICK GARAGE	541 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STORY FRAME & BRICK APARTMENT & 2 CAR FRAME GARAGE~~	~~542 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~1½ STORY FRAME DWELLING & 2½ STORY FRAME DWELLING~~	~~543 LA~~
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING	544 LA
	S-24	LUMP	LUMP	1½ STORY FRAME DWELLING	545 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STORY BRICK DWELLING & 2 CAR FRAME GARAGE~~	~~546 LA~~
*	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING	547 LA
*	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	548 LA
*	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING	549 LA
*	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING	553 LA
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	554 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING, 2 CAR FRAME GARAGE & SHED~~	~~555 LA~~
	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & 2 CAR FRAME GARAGE	556 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STORY FRAME DWELLING & 1 CAR FRAME GARAGE~~	~~557 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING & 2 CAR FRAME GARAGE~~	~~558 LA~~
*	S-24	LUMP	LUMP	1 CAR FRAME GARAGE	560 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 CAR FRAME GARAGE~~	~~561 LA WA~~
	S-24	LUMP	LUMP	2½ STORY BRICK DWELLING & 1 CAR FRAME GARAGE	562 LA
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	563 LA
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	564 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STORY FRAME DWELLING~~	~~565 LA~~
	S-24	LUMP	LUMP	1½ STORY BRICK DWELLING	566 LA
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 1 CAR FRAME GARAGE	567 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING & 1 CAR FRAME GARAGE~~	~~568 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING~~	~~569 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~1½ STORY FRAME DWELLING & APPROVED GARAGE~~	~~570 LA~~
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	571 LA
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE	572 LA WA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING~~	~~574 LA~~
	S-24	LUMP	LUMP	2½ STORY FRAME DWELLING	575 LA
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~1½ STORY FRAME DWELLING~~	~~576 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY BRICK APARTMENT & 2 CAR BRICK GARAGE~~	~~577 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2½ STORY FRAME DWELLING & 2 CAR FRAME GARAGE~~	~~578 LA~~
	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & 2 CAR FRAME GARAGE	580 LA
	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & 1 CAR FRAME GARAGE	580 B A
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING & 1 CAR FRAME GARAGE~~	~~581 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING & 2 CAR FRAME GARAGE~~	~~582 LA~~
	~~S-24~~	~~LUMP~~	~~LUMP~~	~~2 STORY FRAME DWELLING & 1 CAR FRAME GARAGE~~	~~583 LA~~
	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & 3 CAR CONCRETE BLOCK GARAGE	584 LA
*	S-24	LUMP	LUMP	2 STORY FRAME DWELLING & 2 CAR FRAME GARAGE	585 LA
	S-24	LUMP	LUMP	1 CAR FRAME GARAGE	586 LA
	S-24	LUMP	LUMP	Y. & S. R.R., 1 STORY BRICK PAINT BUILDING	589 LA WA
	S-24	LUMP	LUMP	2 STORY BRICK BUILDING,	591 LA
	S-24	LUMP	LUMP	1 STORY SHEET METAL STORE ROOM, 1 STORY VITRIFIED BLOCK & BRICK FURNACE BUILDING & 2 STORY BRICK PLANT	592 LA
	S-24	LUMP	LUMP	2 STORY CONCRETE BLOCK BUILDING & 1½ STORY FRAME TAVERN	594 LA
	S-24	LUMP	LUMP	2 STORY BRICK TAVERN & APARTMENT, 1 CONCRETE BLOCK GARAGE & STORE ROOM	595 LA
	S-24	LUMP	LUMP	2 STORY BRICK TAVERN & APARTMENT, 1 CONCRETE BLOCK GARAGE & STORE ROOM	595 LA

* Indicates No Federal Participation in these items.

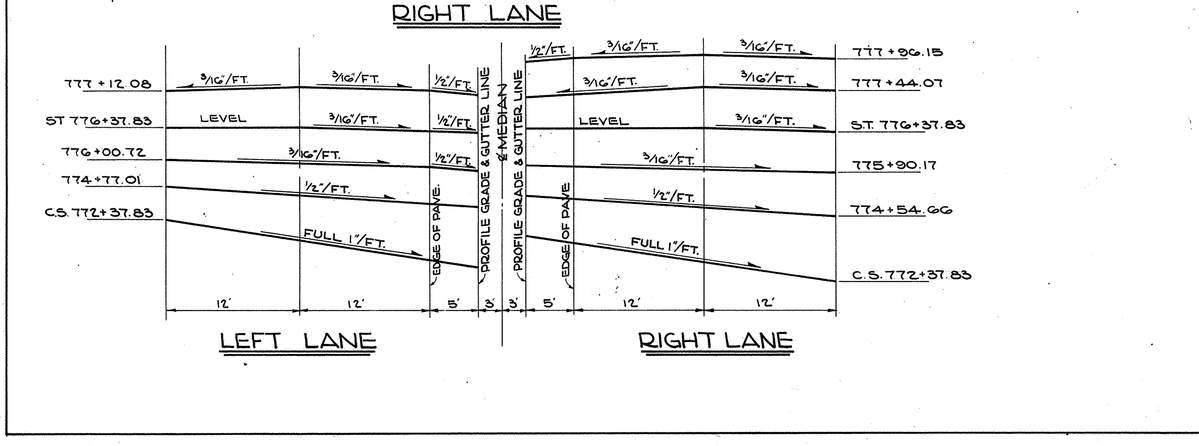
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

12
101

MAH-7-14.35



LEFT LANE



RIGHT LANE

LEFT LANE

RIGHT LANE

SUPERELEVATION TABLE
CURVE Nº 1
Δ = 53°49'25" RT.

℄ STATION	LEFT LANE LEFT EDGE	LEFT LANE ℄	LEFT LANE RIGHT EDGE	PROFILE GRADE	RIGHT LANE LEFT EDGE	RIGHT LANE ℄	RIGHT LANE RIGHT EDGE
761+00	972.73	971.73	970.73	970.31	969.83	968.83	967.83
761+25	973.54	972.54	971.54	971.12	970.70	969.70	968.70
761+50	974.34	973.34	972.34	971.92	971.52	970.52	969.52
761+75	975.15	974.15	973.15	972.73	972.31	971.31	970.31
762+00	975.96	974.96	973.96	973.54	973.12	972.12	971.12
762+25	976.76	975.76	974.76	974.34	973.92	972.92	971.92
762+50	977.57	976.57	975.57	975.15	974.73	973.73	972.73
762+75	978.38	977.38	976.38	975.96	975.54	974.54	973.54
763+00	979.19	978.19	977.19	976.77	976.35	975.35	974.35
763+25	979.99	978.99	977.99	977.57	977.15	976.15	975.15
763+50	980.80	979.80	978.80	978.38	977.96	976.96	975.96
763+75	981.61	980.61	979.61	979.19	978.77	977.77	976.77
764+00	982.42	981.42	980.42	980.00	979.58	978.58	977.58
764+25	983.22	982.22	981.22	980.80	980.38	979.38	978.38
764+50	984.03	983.03	982.03	981.61	981.19	980.19	979.19
764+75	984.84	983.84	982.84	982.42	982.00	981.00	980.00
765+00	985.64	984.64	983.64	983.22	982.80	981.80	980.80
765+25	986.45	985.45	984.45	984.03	983.61	982.61	981.61
765+50	987.26	986.26	985.26	984.84	984.42	983.42	982.42
765+75	988.07	987.07	986.07	985.65	985.23	984.23	983.23
766+00	988.87	987.87	986.87	986.45	986.03	985.03	984.03
766+25	989.68	988.68	987.68	987.26	986.84	985.84	984.84
766+50	990.49	989.49	988.49	988.07	987.65	986.65	985.65
766+75	991.26	990.26	989.26	988.84	988.42	987.42	986.42
767+00	991.94	990.94	989.94	989.52	989.10	988.10	987.10
767+25	992.56	991.56	990.56	990.14	989.72	988.72	987.72
767+50	993.10	992.10	991.10	990.68	990.26	989.26	988.26
767+75	993.55	992.55	991.55	991.13	990.71	989.71	988.71
768+00	993.93	992.93	991.93	991.51	991.09	990.09	989.09
768+25	994.24	993.24	992.24	991.82	991.40	990.40	989.40
768+50	994.47	993.47	992.47	992.05	991.63	990.63	989.63
768+75	994.61	993.61	992.61	992.19	991.77	990.77	989.77
769+00	994.68	993.68	992.68	992.26	991.84	990.84	989.84
769+25	994.68	993.68	992.68	992.26	991.84	990.84	989.84
769+50	994.59	993.59	992.59	992.17	991.75	990.75	989.75
769+75	994.43	993.43	992.43	992.01	991.59	990.59	989.59
770+00	994.19	993.19	992.19	991.77	991.35	990.35	989.35
770+25	993.87	992.87	991.87	991.45	991.03	990.03	989.03
770+50	993.48	992.48	991.48	991.06	990.64	989.64	988.64
770+75	993.01	992.01	991.01	990.59	990.17	989.17	988.17
771+00	992.45	991.45	990.45	990.03	989.61	988.61	987.61
771+25	991.83	990.83	989.83	989.41	988.99	987.99	986.99
771+50	991.13	990.13	989.13	988.71	988.29	987.29	986.29
771+75	990.38	989.38	988.38	987.96	987.54	986.54	985.54
772+00	989.64	988.64	987.64	987.22	986.80	985.80	984.80
772+25	988.89	987.89	986.89	986.47	986.05	985.05	984.05
772+37.83	988.51	987.51	986.51	986.09	985.67	984.67	983.67
772+50	988.09	987.11	986.14	985.73	985.33	984.35	983.38
772+75	987.22	986.30	985.37	984.99	984.61	983.60	982.78
773+00	986.34	985.47	984.60	984.24	983.88	983.03	982.17

℄ STATION	LEFT LANE LEFT EDGE	LEFT LANE ℄	LEFT LANE RIGHT EDGE	PROFILE GRADE	RIGHT LANE LEFT EDGE	RIGHT LANE ℄	RIGHT LANE RIGHT EDGE
773+25	985.48	984.66	983.84	983.50	983.17	982.37	981.57
773+50	984.61	983.85	983.08	982.76	982.45	981.71	980.97
773+75	983.73	983.02	982.31	982.01	981.73	981.04	980.36
774+00	982.87	982.21	981.55	981.27	981.01	980.38	979.76
774+25	982.00	981.39	980.78	980.53	980.29	979.73	979.16
774+50	981.17	980.57	980.01	979.78	979.57	979.06	978.55
774+56.66				979.58	979.37	978.87	978.37
774+75	980.27	979.76	979.25	979.04	978.85	978.40	977.94
774+77.01	980.19	979.69	979.19	978.98			
775+00	979.34	978.95	978.51	978.30	978.14	977.74	977.34
775+25	978.52	978.14	977.76	977.55	977.41	977.07	976.73
775+50	977.65	977.34	977.02	976.81	976.6	976.4	976.13
775+75	976.78	976.53	976.28	976.07	975.98	975.76	975.53
775+90.17				975.62	975.54	975.35	975.17
776+00	975.91	975.72	975.53	975.32	975.28	975.11	974.92
776+00.72	975.88	975.70	975.51	975.30			
776+25	975.04	974.98	974.79	974.58	974.56	974.51	974.32
776+37.83	974.60	974.60	974.41	974.20	974.20	974.20	974.01
776+50	974.21	974.24	974.05	973.84	973.85	973.87	973.68
776+75	973.39	973.49	973.30	973.09	973.11	973.18	973.00
777+00	972.59	972.75	972.56	972.35	972.38	972.51	972.32
777+12.08	972.20	972.39	972.20	971.99			
777+25				971.62	971.68	971.84	971.65
777+44.07				971.05	971.17	971.36	971.17
777+50				970.93	971.02	971.21	971.02
777+75				970.27	970.43	970.61	970.43
777+96.15				969.74	969.95	970.14	969.95

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

13
101

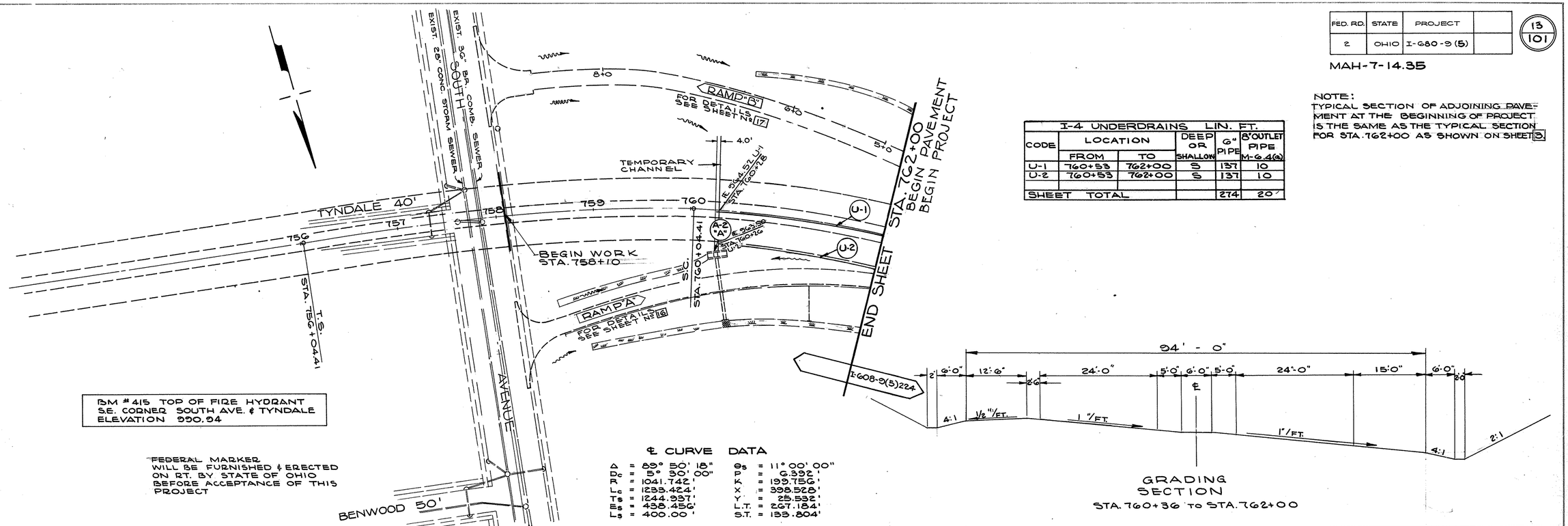
MAH-7-14.35

NOTE:
TYPICAL SECTION OF ADJOINING PAVEMENT AT THE BEGINNING OF PROJECT IS THE SAME AS THE TYPICAL SECTION FOR STA. 762+00 AS SHOWN ON SHEET 5

I-4 UNDERDRAINS LIN. FT.					
CODE	LOCATION		DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4(2)
	FROM	TO			
U-1	760+53	762+00	S	137	10
U-2	760+53	762+00	S	137	10
SHEET TOTAL				274	20

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

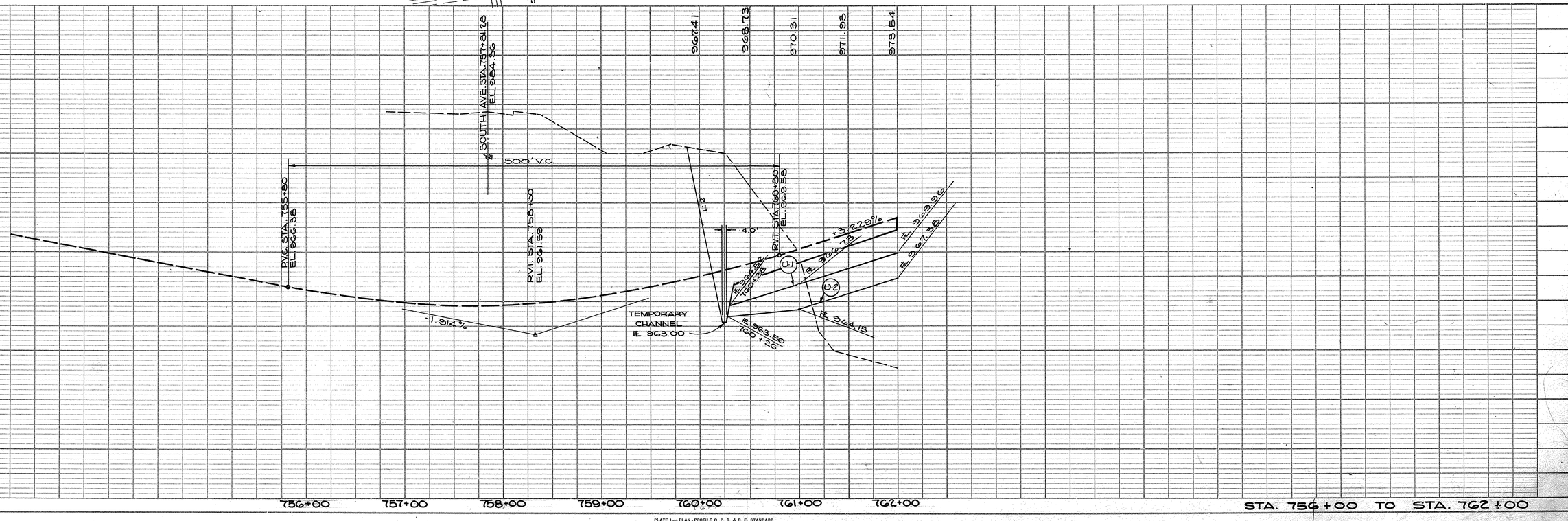
PROFILE
SURVEYED
PLOTTED
NOTE BOOK
GRADES CHECKED
B. M.'s NOTED
STRUCTURE NOTATIONS CHKD.
NO.
BY
DATE



℄ CURVE DATA

Δ	= 89° 50' 18"	θs	= 11° 00' 00"
Dc	= 5° 30' 00"	P	= 6.392'
R	= 1041.742'	K	= 199.756'
Lc	= 1233.424'	X	= 398.528'
Ts	= 1244.937'	Y	= 25.532'
Es	= 438.456'	L.T.	= 267.184'
Ls	= 400.00'	S.T.	= 133.804'

GRADING SECTION
STA. 760+36 TO STA. 762+00



STA. 756+00 TO STA. 762+00

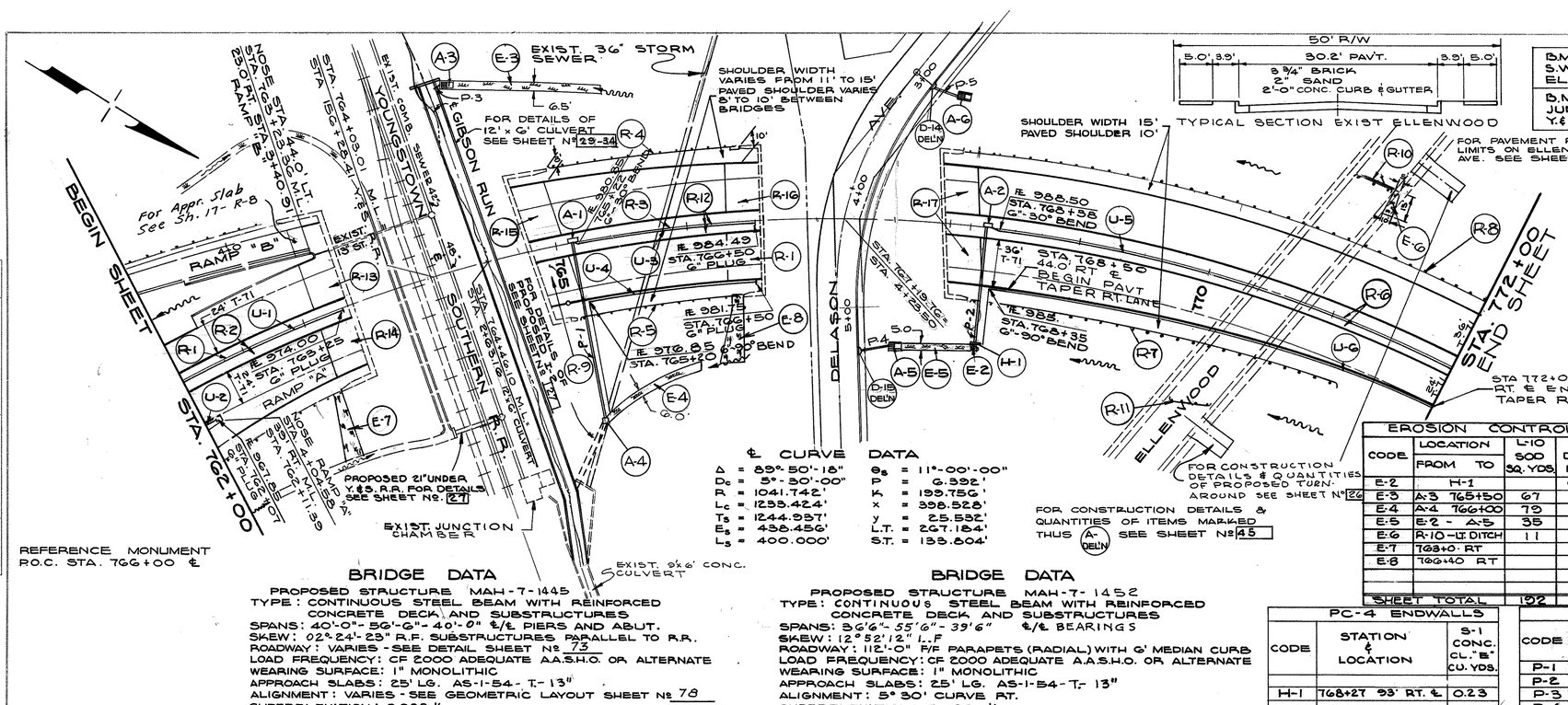
PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
261 FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

BM #409 TOP OF FIRE HYDRANT S.W. CORNER HEASLEY & DELASON ELEVATION 957.45
BM #414 CROSS CUT IN N.W. CORNER JUNCTION CHAMBER 12.0' RT. STA. 154+58 Y & S. RR. ELEVATION 944.09

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

14 / 101

MAH-7-14.35



ROADWAY ITEMS

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	I-21 P.C.C. MEDIAN SQ. YDS.	I-12 CONC. CURB TYPE 6 LIN. FT.		I-15 GUARD RAIL TYPE DEEP ST. BEAM LIN. FT.	BARRIER LIN. FT.	REINF. CONC. APPR. SLAB T=13" S.Y.
R-1	TG6+32.3 -766+57.3		RT.						100
R-2	TG2+05 -TG3+30		L.& R.	72.2	260.0			12.5	
R-3	TG4+72 - TG6+57		℄					185	
R-4	TG4+94.7 - TG6+57		LT.				162.5		
R-5	TG4+58 - TG6+23		RT.				125.0		
R-6	TG7+93 - 772+00		L.℄R.	226.7	814.0			407	
R-7	TG7+58 - 771+23		RT.				325.0		
R-8	TG8+15 - 772+00		LT.				400.0		
R-9	764+71.8 - TG4+96.8		RT.						100
R-10	770+84.5 - 771+09.8		LT.		25.0		25.0		
R-11	770+32.5 - 770+57.5		RT.				25.0		
R-12	TG4+72 - TG6+57		L.&R.	102.8	370.0				
R-13	TG3+05.8 - TG3+30.8		LT.						96
R-14	TG3+05.8 - TG3+30.8		RT.						103
R-15	TG4+71.8 - 764+96.8		LT.						11.6
R-16	TG6+32.3 - 766+57.3		L.T.						100.0
R-17	TG7+98.5 - TG8+18.5		L.&R.						200.0
SHEET TOTAL				401.7	1,469		1062.5	7/7	815

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	I-10 SOD SQ. YDS.	I-10 DUMP ROCK	I-10 SOD FOR EROSION PROTECTION SQ. YDS.
E-2	H-1			0.86	
E-3	A-3	765+50	67		
E-4	A-4	766+00	79		
E-5	E-2 -	A-5	35		
E-6	R-10 -	LT. DITCH	11		
E-7	768+0	RT.			71
E-8	766+40	RT			66
SHEET TOTAL			192	0.86	137

I-4 UNDERDRAINS - LIN. FT.

CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" PIPE OUTLET M-6.4(c)	I-5 PIPE SPEC. EA. 6"-30° BEND	6"-90° BEND
U-1	762+00	763+25	S	125			
U-2	762+00	762+07	S	7			
U-3	765+13	766+50	S	125	10	1	
U-4	765+20	766+50	S	205	10		1
U-5	768+27	772+00	S		10	1	
U-6	768+35	772+00	S	400	10		1
SHEET TOTAL				862	40	2	2

PC-4 ENDWALLS

CODE	STATION & LOCATION	S-1 CONC. CL. "B" CU. YDS.
H-1	768+27 93' RT. ℄	0.23
SHEET TOTAL		0.23

I-2 STORM SEWER - LIN. FT.

CODE	LOCATION FROM	LOCATION TO	CL. "B" STORM SEWER UNDER PAVT. OR APPR. 12"	STORM SEWERS M-6.4(c) 12"	M-6.6(b) M-6.8(b) 12"	15"	18"	I-5 PIPE SPEC.-EA 12"-45° BEND M-6.4(c)	12"-60° BEND M-6.4(c)	12"-90° BEND M-6.4(c)
P-1	A-1	RT. SIDE DITCH	50		84			1	1	
P-2	A-2	RT. SIDE DITCH	50		54			1	1	
P-3	A-3	12"xG CULT.				8				
P-4	A-5	D-15 DELASON				22				
P-5	A-G	D-14 DELASON				18				
SHEET TOTAL			100		138	48		2	2	

I-8 INLETS, MANHOLES & CATCH BASINS

CODE	STATION ℄ LOCATION	#2A-G INLET EACH	#5 C. B. EACH	#2-4 C.B. MODIFIED EACH
A-1	765+13 - 1.25' LT. ℄	1		
A-2	768+27 - 1.25' LT. ℄	1		
A-3	764+50 - 137' LT ℄		1	
A-4	765+19 125' RT ℄			1
A-5	767+72 95' RT. ℄		1	
A-6	768+00 98' LT ℄		1	
SHEET TOTAL		2	3	1

℄ CURVE DATA

Δ	= 89°-50'-18"	θ_s	= 11°-00'-00"
D_c	= 5°-30'-00"	P	= 6.392'
R	= 1041.742'	K	= 199.756'
L_c	= 1238.424'	x	= 398.528'
T_s	= 1244.937'	y	= 25.532'
E_s	= 488.456'	L.T.	= 267.184'
L_s	= 400.000'	S.T.	= 133.804'

BRIDGE DATA

PROPOSED STRUCTURE MAH-7-1445
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES
SPANS: 40'-0" - 5@-0" - 40'-0" ℄/℄ PIERS AND ABUT.
SKEW: 02°-24'-23" R.F. SUBSTRUCTURES PARALLEL TO R.R.
ROADWAY: VARIES - SEE DETAIL SHEET Nº 73
LOAD FREQUENCY: CF 2000 ADEQUATE A.A.S.H.O. OR ALTERNATE
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LG. AS-1-54 - T- 13"
ALIGNMENT: VARIES - SEE GEOMETRIC LAYOUT SHEET Nº 78
SUPERELEVATION: 0.083 ft/ft

BRIDGE DATA

PROPOSED STRUCTURE MAH-7-1452
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES
SPANS: 36'6" - 55'6" - 39'6" ℄/℄ BEARINGS
SKEW: 12°52'12" L.F.
ROADWAY: 112'-0" F/F PARAPETS (RADIAL) WITH 6' MEDIAN CURB
LOAD FREQUENCY: CF 2000 ADEQUATE A.A.S.H.O. OR ALTERNATE
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LG. AS-1-54 - T- 13"
ALIGNMENT: 5° 30' CURVE RT.
SUPERELEVATION: 0.083 ft/ft

REFERENCE MONUMENT
P.O.C. STA. 766+00 ℄

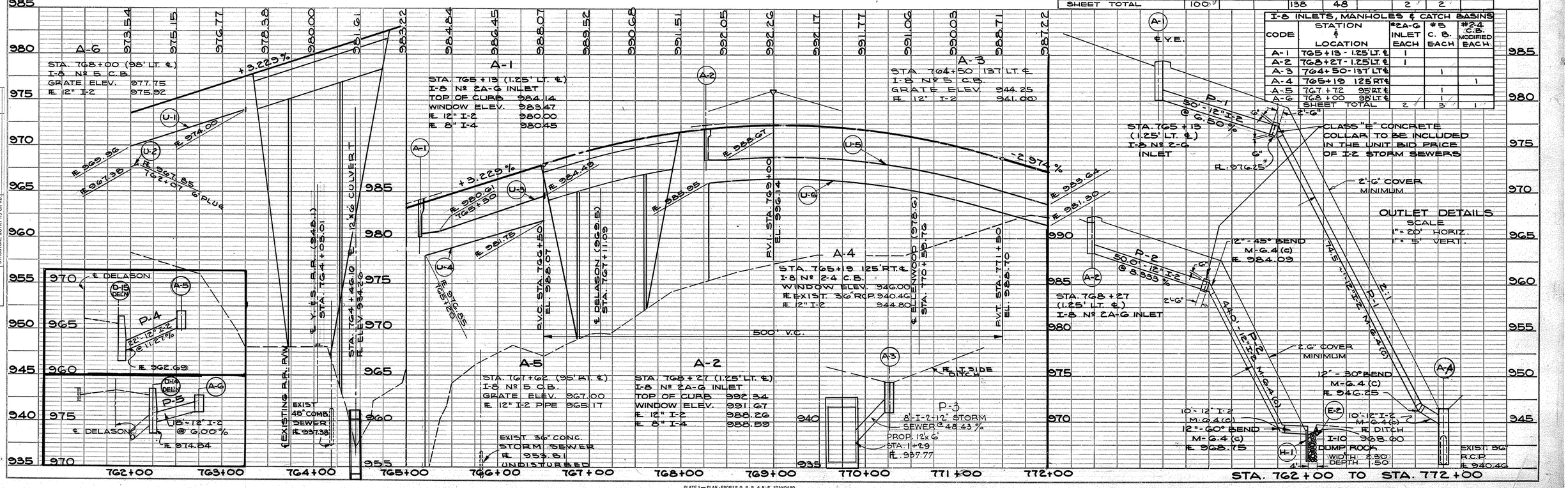


PLATE I — PLAN - PROFILE O. P. R. & R/E STANDARD
261 FM-3 AGEPROOF FILM MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

15/101

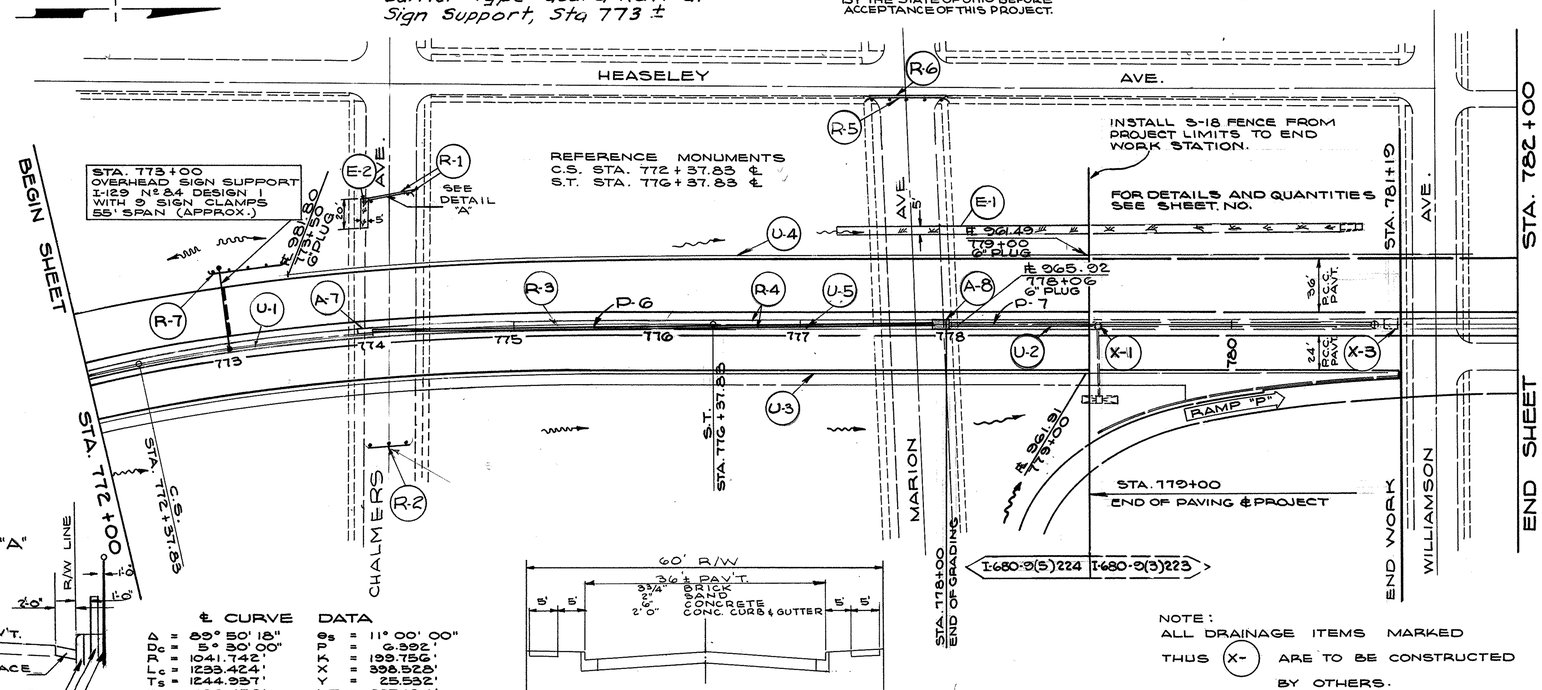
MAH-7-14.35

See Detail on Sheet 26 for Barrier Type Guard Rail at Sign Support, Sta 773 ±

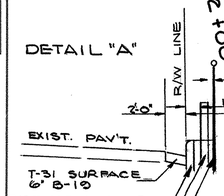
FEDERAL MARKER WILL BE FURNISHED & ERECTED ON THE LT. BY THE STATE OF OHIO BEFORE ACCEPTANCE OF THIS PROJECT.

FOR PAVEMENT REMOVAL LIMITS ON MARION AVE. & CHALMERS AVE. SEE SHEET NO. 20

B.M. #412 TOP OF FIRE HYDRANT SOUTH SIDE MARION AT HEASLEY ELEVATION 987.30

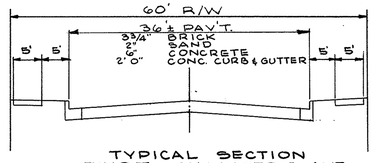


DETAIL "A"



℄ CURVE DATA

Δ =	89° 50' 18"	θs =	11° 00' 00"
Dc =	5° 30' 00"	p =	0.392'
R =	1041.742'	XK =	398.528'
Lc =	1233.424'	Y =	25.532'
Ts =	1244.957'	L.T. =	267.184'
Es =	438.456'	S.T. =	133.804'
Ls =	400.000'		



TYPICAL SECTION EXIST. CHALMERS AVE.

NOTE:
ALL DRAINAGE ITEMS MARKED THUS (X-) ARE TO BE CONSTRUCTED BY OTHERS.

I-8 INLETS, MANHOLES & CATCH BASINS

CODE	STATION & LOCATION	#2A-12 INLET EACH	#2-10 INLET MODIF. EACH	
A-7	774+0-1.25' LT ℄	1		
A-8	778+0- ℄		1	
SHEET TOTAL		1	1	

I-2 STORM SEWER LIN. FT.

CODE	LOCATION FROM	TO	CL. "B" STORM SEWER UNDER PAVT. OR APPR 12"		
P-6	A-7	A-8	390		
P-7	A-8	779+0	105		
SHEET TOTAL			501		

EROSION CONTROL

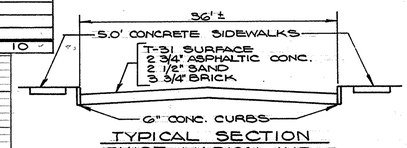
CODE	LOCATION FROM	TO	L-10 50D SQ.YD.
E-1	777+25	779+0	107
E-2	774+05	LT ℄	11
SHEET TOTAL			118

ROADWAY ITEMS

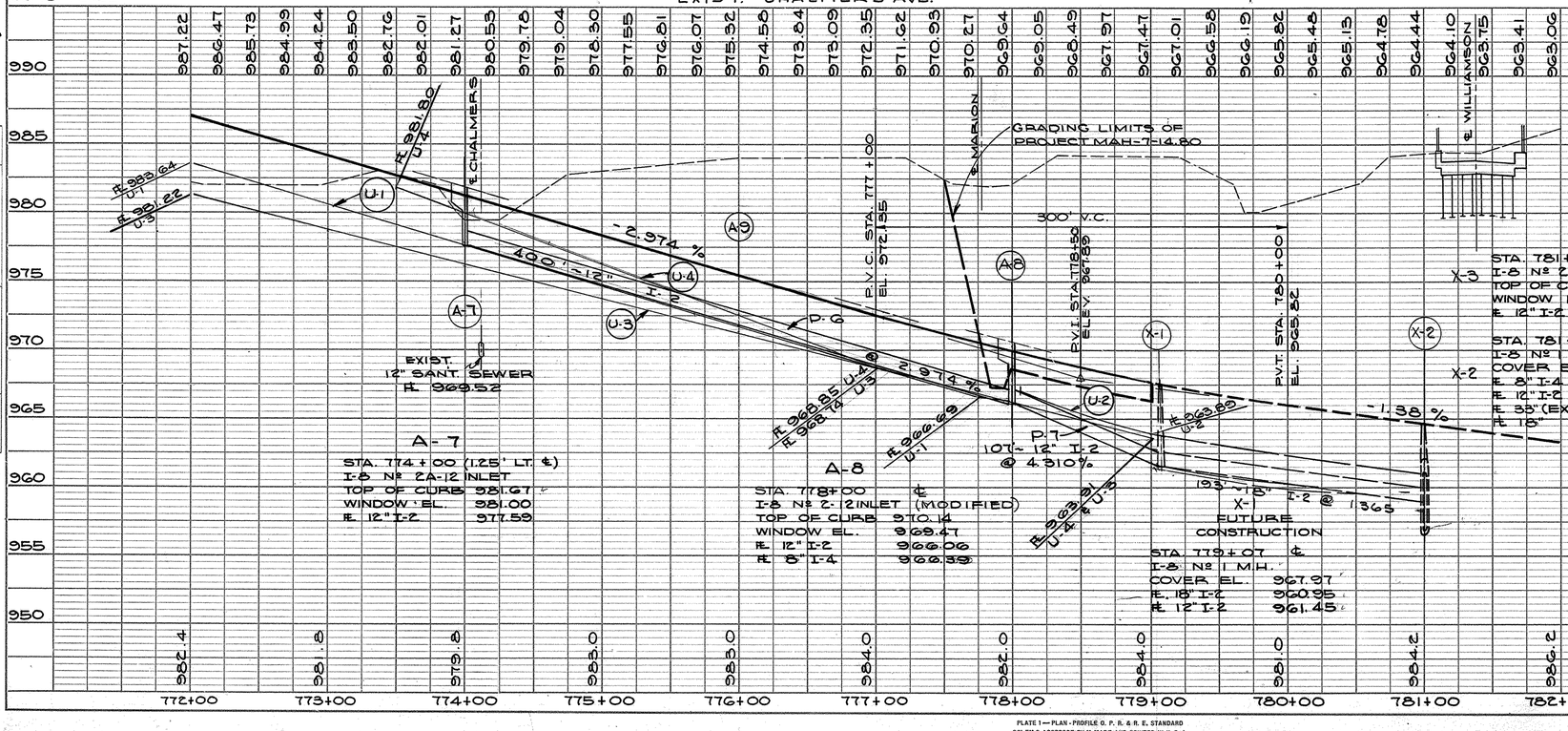
CODE	LOCATION FROM	TO	SIDE ℄	I-21 R.C.C. MEDIAN SQ.YDS.	I-12 CONC. CURB TYPE 6 LIN. FT.		I-15 GUARD RAIL TYPE DEED ST. BEAM LIN. FT.	BARRIER LIN. FT.
R-1	774+05	774+38	LT.				25	
R-2	773+89.5	774+14.5	RT.				25	
R-3	772+00	779+00	℄					700
R-4	772+00	779+00	L & R	387.7	1360			
R-5	777+49	777+99					50	
R-6	777+44	778+04	LT.		60			
R-7	772+97	773+47	LT.				50	
SHEET TOTAL				387.7	1420		150	700

I-4 UNDERDRAINS L.F.

CODE	LOCATION FROM	TO	DEEP SHALLW	SIDE ℄	6" PIPE	8" OUTLET M-6.4(A)
U-1	772+00	A-8	S	℄	388	10
U-2	778+06	779+0	S	℄	94	
U-3	772+00	779+0	S	RT.	700	
U-4	773+50	779+0	S	LT.	395	
SHEET TOTAL					1577	10



TYPICAL SECTION EXIST. MARION AVE.



NOTE:
TYPICAL SECTION OF ADJOINING PROJECT IS THE SAME AS THE TYPICAL SECTION AT STA. 779+00 AS SHOWN ON SHEET NO. 3.

NOTE:
OUTLET FOR SEWER P-7 AND HIGHWAY SIDE DITCHES ARE TO BE PROVIDED UNDER PROJECT MAH-7-14.80. ROUGH GRADING FROM STA. 778+00 TO STA. 779+00.15 TO BE PERFORMED UNDER PROJECT MAH-7-14.80.
THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION OPERATIONS WITH PROJECT MAH-7-14.80 SO THAT GRADING OPERATIONS BETWEEN STATIONS 774+00 AND 778+00 ARE NOT PERFORMED UNTIL DRAINAGE OUTLETS ARE PROVIDED.

STA. 772 + 00 TO STA. 782 + 00

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, R/W CHECKED, NOTE BOOK, NO., GRADES CHECKED, B. M.'S NOTED, STRUCTURE NOTATIONS CH'KD., BY, DATE

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, NOTE BOOK, NO., B. M.'S NOTED, STRUCTURE NOTATIONS CH'KD., BY, DATE

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

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

16
101

MAH-7-14.35

PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	PROFILE CHECKED		
NO.	ALIGNMENT CHECKED		
	R. OF WAY CHECKED		
	STRUCTURE NOTATNS CH'KD.		

757+81.28 Y.E. = 50+00.00 SOUTH AVE.

0+00.00 RAMP "A" = 51+40.44 SOUTH AVE.

EX. 15" T.C. 36" ST. SEWER

EX. 15" T.C. 28" COMBINATION SEWER

P.C. STA. 50+90.00 SOUTH AVE.

P.C. STA. 0+70.10

P.T. STA. 0+79.56

SOUTH CURB RETURN CURVE DATA

Δ = 98° 54' 52"
D = 225.00'
R = 25.46'
T = 28.29'
L = 43.10'
E = 15.46'

NORTH CURB RETURN CURVE DATA

Δ = 81° 05' 08"
D = 50.00'
R = 25.46'
T = 20.76'
L = 40.77'
E = 15.80'

RAMP "A"

RAMP "B"

END PAVING STA. TG2+00

P.C.C. RAMP "A" STA. 0+56.56 STA. TG2+11.56

EX. 15" ST. 42" SEWER

GIBSON RUN

P.R.R.

Y. & S. R.R.

Y. & S. R.R.

NOSE RAMP "A" STA. 4+02.58 39' RT. M.L. STA. TG2+11.39

870.74 4" PLUG

FOR CONSTRUCTION DETAILS AND ELEVATIONS OF NORTH AND SOUTH CURB RETURNS AT SOUTH AVE. AND RAMP "A" SEE SHEET Nº 18

FOR CONSTRUCTION DETAILS & ELEVATIONS OF PROPOSED I-2. PIPE UNDER Y. & S. R.R. SEE SHEET Nº 17

EXISTING 5'X6' BOX CULVERT

B.M. #414 CROSS CUT IN N.W. CORNER JUNCTION CHAMBER 12.0' RT. Y. & S. R.R. ELEVATION 944.09

B.M. #415 TOP OF FIRE HYDRANT S.E. CORNER SOUTH AVE. & TYNDALE ELEVATION 990.94

P.C. 4 ENDWALLS		
CODE	LOCATION	S-1 CONC. cu. yd.
H-1	2+35-35' RT. ℄	0.26
SHEET TOTAL		0.26

EROSION CONTROL					
CODE	LOCATION FROM	LOCATION TO	SIDE	I-10 SOD SQ. YDS.	I-10 DUMPED ROCK CU. YDS.
E-1	0+75	2+32.5	RT.	105	
E-2	1+75	2+35	LT.	40	
E-3	2+35	34' OFF ℄	RT.		1.0
E-4	2+37	5+	RT.		
SHEET TOTAL				145	1.0

ROADWAY ITEMS						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	I-15 L.F. GUARD RAIL (DEEP)	I-12 CURB L.F. TYPE ℄	I-12 CURB L.F. SPECIAL
R-1	1+22.5	5+10	RT.	387.5		
R-2	50+90.78 SOUTH	0+58.57	LT.		48.2	
R-3	51+78.97 SOUTH	0+70.10	RT.		70.7	
R-4	2+04.58	4+04.58	LT.			200
SHEET TOTAL				387.5	113.9	200

B.M. #414 CROSS CUT IN N.W. CORNER JUNCTION CHAMBER 12.0' RT. Y. & S. R.R. ELEVATION 944.09

B.M. #415 TOP OF FIRE HYDRANT S.E. CORNER SOUTH AVE. & TYNDALE ELEVATION 990.94

FOR ELEVATIONS FROM STA. 5+00 FORWARD SEE SHEET Nº 16

A-1
STA. 50+85.95
21.0 LT. ℄ SOUTH AVE.
I-8 YNGST. INLET TYPE II
TOP OF CURB 982.70
WINDOW ELEV. 981.95
℄ 12" I-2 978.62 +2.5%
BOTTOM INLET 976.95

A-2
STA. 2+35.00
40.0' LT. ℄
I-8 Nº 5 C.B.
GRATE ELEV. 964.20
℄ 8" I-4 962.67
℄ 15" I-2 962.09

P.V.I. STA. 0+70 = 979.57 EL. 980.23
P.V.C. STA. 0+50.00 EL. 980.87
P.V.T. STA. 1+07.50 EL. 977.83
P.V.I. STA. 2+00 EL. 971.91
P.V.C. STA. 1+92.50 EL. 971.51
P.V.I. STA. 3+00 ELEV. 965.91
P.V.T. STA. 4+00 EL. 969.51
200' V.C.
75' V.C.
GRAPHIC GRADE
-1.54%
-6.40%
+4.00%
℄ 966.64 25.5 DEG. 15.0°
℄ 964.66 6.4 DEG. 15.0°
℄ 870.74 6" PLUG
℄ 964.74 6" PLUG

STORM SEWER PROFILE
SCALE
1"-20' HORIZ.
1"-5' VERT.

SUPERELEVATION TABLE			
STATION	PROFILE GRADE	S.E. CORR.	LT. EDGE PAV'T.
0+70.56 T.S.	979.34	+ 0.38	979.05
1+00	978.25	+ 0.51	978.80
+25	976.71	+ 0.67	977.38
+50	975.11	+ 0.83	975.04
+75	973.51	+ 0.99	974.50
2+00	971.91	+ 1.15	973.06
+25	970.47	+ 1.28	971.75
+20.56 S.C.	970.27	+ 1.33	971.60

P-2
74.0' - 15" I-2 @ 3.175 %
℄ OUTLET 959.74
4'
I-10 DUMP ROCK WIDTH 2'-4" DEPTH 1'-6"
E-3
H-1
A-2

℄ RAMP "A"
℄ SOUTH AVE.
A-1
P-1
℄ EXIST 36" BR. SW.
30.12' - 18" I-2 @ 18.32%
FOR CONSTRUCTION DETAIL FOR 'BREAKING IN' TO THE EXIST. 36" DB. RING BRICK SEWER SEE SHEET Nº 17

I-4 UNDERDRAINS LIN. FT.						I-5 PIPE SPECIALS EACH	
CODE	LOCATION FROM	LOCATION TO	DEEP OR SHALLOW	6" PIPE	8" OUTLET PIPE M-6.4(a)	6" TEES	6"~60° BEND
U-1	87+18 SOUTH AVE	3+25 RAMP "A"	S	332	10	1	
U-2	3+25	5+14	S	189			
U-3	0+58.57	2+45	S	176	10		1
SHEET TOTAL				697	20	1	1

ESTIMATED QUANTITIES I-8 INLETS			
CODE	LOCATION ℄ STATION	YNGST. TYPE II INLET EACH	#5 CATCH BASIN EACH
A-1	50+83.95 21.0 LT. ℄ SOUTH AVE.	1	
A-2	2+35 - 40' LT. ℄		1
SHEET TOTAL		1	1

ESTIMATED QUANTITIES I-2 PIPES				
CODE	LOCATION FROM	LOCATION TO	CL. "B" STORM SEWER UNDER PAV'T & APPR. 12"	15"
P-1	A-1	℄ ST. SW. SOUTH AVE.	30	
P-2	A-2	RT. DITCH		74
SHEET TOTAL			30	74

RAMP "A"

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

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

17
101

MAH-7-14.35

I-2 PIPES - L.F.

CODE	LOCATION FROM	LOCATION TO	CL. "B" STORM SEWER UNDER PAV'T OR APPR. 12"		
P-1	A-1	EXIST. SW. & SOUTH	27		
SHEET TOTAL			27		

I-8 INLETS

CODE	LOCATION FROM	LOCATION TO	YNGST. TYPE II INLET EACH		
A-1	48+06.16	27.0 LT. & SOUTH	1		
SHEET TOTAL			1		

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE	L-10 SOD SQ. YD.
E-1	2+87	6+50	RT.	228
SHEET TOTAL				228

I-4 UNDERDRAINS L.F.

CODE	LOCATION FROM	LOCATION TO	6" PIPE	8" PIPE OUTLET M-6.4a	I-5 PIPE SPEC. EACH 6"x6"x6" TEE	6"x6" BEND
U-1	4+75	8+98	422			
U-2	3+40	4+75	135			
U-3	4+75	LT. DITCH	8	10	1	
U-4	6+00	8+75	273	10		1
SHEET TOTAL			838	20	1	1

B.M. #414 CROSS CUT IN N.W. CORNER JUNCTION CHAMBER 12.0' RT. Y & S. R.R. ELEVATION 944.09

B.M. #415 TOP OF FIRE HYDRANT S.E. CORNER SOUTH AVE. & TYNDALE ELEVATION 990.94

ROADWAY ITEMS

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	I-12 CONC. CURB L.F. TYPE 2A	I-12 CONC. CURB L.F. TYPE 6	I-21 CONC MEDIAN PAVING 4"THK. S.Y.	I-15 GUARD RAIL S.B. (DEEP) L.F.	X1 REINF. CONC. APPR. SLAB SQ. YDS.
R-1	48+15 SOUTH	8+72.88	RT.	78.5				
R-2	48+10 SOUTH	8+97.88	LT.	59.3				
R-3	3+40.91	4+40.91	LT.		200			
R-4	3+40.91	3+80.91	LT.			70.2		
R-5	3+66.00	6+03.50	RT.				237.5	
R-6	4+65.00	6+15.00	LT.				150.0	
R-7	3+83.00	4+12.50	LT.				50.0	
R-8	3+30	3+55						57
SHEET TOTAL				117.8	200	70.2	437.5	57

SUPERELEVATION TABLE

STATION	PROFILE GRADE	S. E. CORR.	LT. EDGE PAV'T
5+45 C.S.	980.55	-0.40	980.15
+50	980.63		980.23
+75	981.09		980.69
6+00	981.55		981.15
+25	982.01		981.61
+50	982.47		982.07
+75	982.93		982.53
7+00	983.39		982.99
+25	983.85		983.45
+50	984.31		983.91
+75	984.77		984.37
8+00	985.23		984.83
+25	985.69		985.29
+50	986.15	-0.40	985.75

FOR PAVEMENT ELEVATIONS FROM STA. 8+50 SEE INTERSECTION DETAIL SHEET Nº 18

SOUTH CURB RETURN CURVE DATA
Δ = 90° 00' 00"
R = 50.00'
T = 50.00'
L = 78.54'
E = 20.71'

NORTH CURB RETURN CURVE DATA
Δ = 90° 00' 00"
R = 25.00'
T = 25.00'
L = 39.27'
E = 10.36'

CURVE DATA
D = 12°00'00"
R = 477.46'
Δ = 15°21'38"
T = 64.39'
L = 128.00

SPIRAL DATA
Ls = 200'
Δ1+Δ2 = 15°00'00"
T = 120.613'
D = 80.536'
= 2.62

CURVE DATA
D = 3°00'00"
R = 1908.86'
Δ = 10°21'00"
T = 274.364'
L = 545.00'

FOR CONSTRUCTION DETAILS AND ELEVATIONS OF RAMP "B" AND SOUTH AVE. SEE SHEET Nº 18

FOR RAMP "B" NOSE DETAILS SEE SHEET Nº 18

FOR CONSTRUCTION DETAILS AND ELEVATIONS OF PROPOSED I-2 PIPE UNDER Y. & S. R.R. SEE SHEET Nº 27

STA. 762+60 OVERHEAD SIGN SUPPORT I-129 Nº 214 18' ARM WITH 6 SIGN CLAMPS

RAMP "B" STA. 9+49.88 SOUTH AVE. STA. 48+66.00

757+81.28 Y.E. = 50+00.00 SOUTH AVE.

FOR ELEVATIONS FROM STA. 3+50 TO STA. 0+00 SEE SHEET Nº 18

STORM SEWER PROFILE
SCALE HORIZ. 1" = 20'
VERT. 1" = 5'
℄ SOUTH AVE

DETAIL-OUTLET PIPE P-1 INTO EXIST. 36" BRICK SEWER-SOUTH AVE.

S-1: CL "E" CONCRETE-BELOW PIPE TO UNDISTURBED EARTH OR A MINIMUM OF 1.0 WIDTH & 6" DEPTH. S-1 CONCRETE ENCASEMENT & ALL OTHER MATERIALS AND LABOR REQUIRED TO OUTLET PIPE P-1 INTO EXIST. 36" BRICK SW. SHALL BE INCLUDED IN THE UNIT BID QUANTITY I-2 12" STORM SEWERS.

EXIST. 36" TWO RING BRICK SW. ℄ 977.09

RAMP "B"

PLAN — SURVEYED, PLOTTED, NOTE BOOK, NO., BY, DATE, PLANIMETRY CHECKED, ALIGNMENT CHECKED, RT. OF WAY CHECKED.

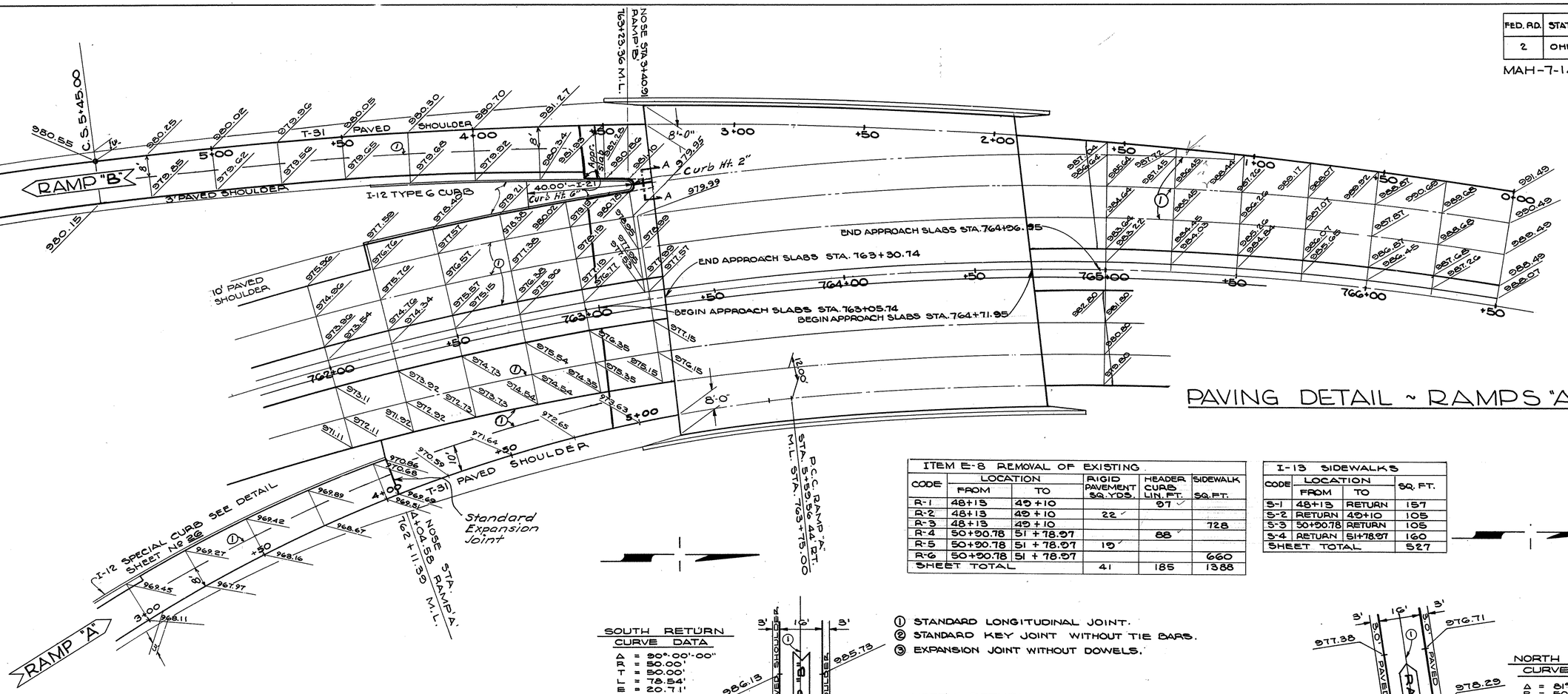
PROFILE — SURVEYED, PLOTTED, CURVES CHECKED, B. M.'S NOTED, STRUCTURE NO(FAI NO. OR CH'KD.

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	
2	OHIO	I-680-9(5)	

18
101

MAH-7-14.35



PAVING DETAIL ~ RAMPS "A" & "B"

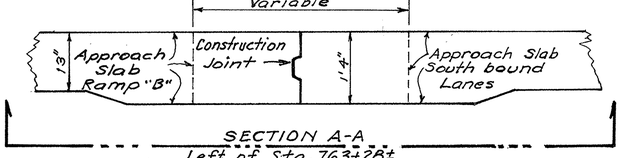
ITEM E-8 REMOVAL OF EXISTING					
CODE	LOCATION		RIGID PAVEMENT SQ. YDS.	HEADER CURB LIN. FT.	SIDEWALK SQ. FT.
	FROM	TO			
R-1	48+13	49+10		97	
R-2	48+13	49+10	22		
R-3	48+13	49+10			728
R-4	50+90.78	51+78.97		88	
R-5	50+90.78	51+78.97	19		
R-6	50+90.78	51+78.97			660
SHEET TOTAL			41	185	1388

I-13 SIDEWALKS			
CODE	LOCATION		SQ. FT.
	FROM	TO	
S-1	48+13	RETURN	157
S-2	RETURN	49+10	105
S-3	50+90.78	RETURN	105
S-4	RETURN	51+78.97	160
SHEET TOTAL			527

LIMITS OF 9" T-71 RAMP PAVEMENT.

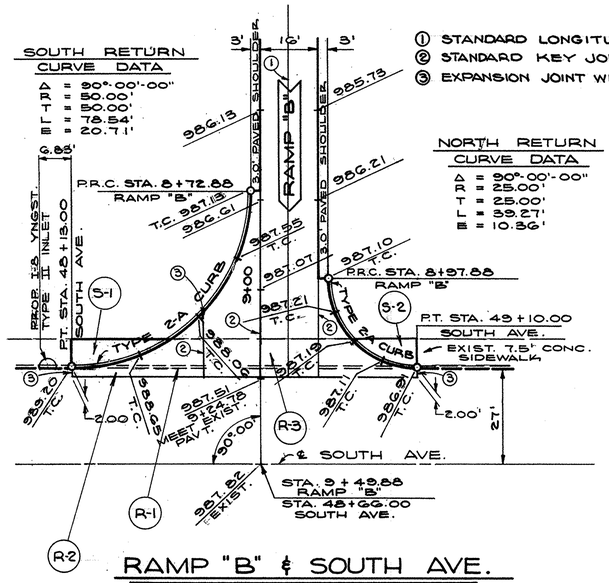
Ramp "A" Sta. 0+25.31 to Sta. 4+04.58
Ramp "B" Sta. 3+55, end of approach slab to Sta. 9+24.78.

APPROACH SLAB WIDENING
ON LEFT FROM STA. 763+25± TO STA. 763+31±

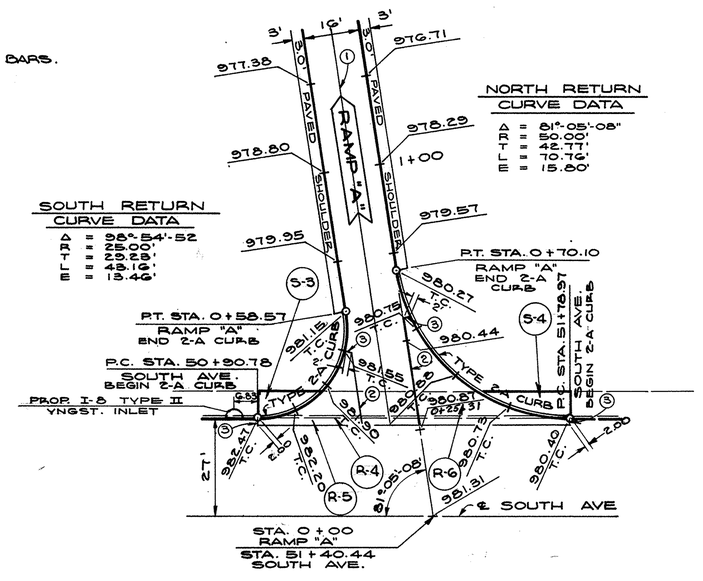


Approach slabs above indicated shall each be widened, at the thickened depth, to a keyed construction joint as shown, with the same class of concrete used in the approach slabs, finished to conform to the adjacent pavement surfaces.

Widening shall be measured and paid for at the unit price bid for Item I-7, Reinforced Concrete Approach Slabs.



RAMP "B" & SOUTH AVE.



RAMP "A" & SOUTH AVE.

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

MAH-7-14.35

19
101

FOR CONSTRUCTION DETAILS & ELEVATIONS OF PROPOSED 12'x6' CULVERT SEE SHEET Nº 29

KNOX ST. 40'

DICKSON

TYNDALE

SOUTH AVE. 60'

BENWOOD

ELLENWOOD AVE 50'

BELLEVIEW AVE 40'

RAMP "B"

RAMP "A"

EXIST. GIBSON RUN

STA. 1+17.49 PROP. CULVERT

STA. 1ST ¥ T.S. Y. & S. R.R.

P.C. PROP. 12'x6' BOX CULVERT @ 1.00% 45°

EXISTING 12" SEWER

PROPOSED 21" CULVERT

BEGIN PROJECT STA. 1G1+00

BITUMINOUS SURFACE

COLD STORAGE WAREHOUSE

EXIST. 9'x6' BOX CULVERT

OVERFLOW CHAMBER

36" St. SEWER

EXIST. PRIVATE G. ALLEY

1100

2100

5100

4100

7400

6100

5100

CUT & PLUG EXISTING MAIN (W-4)

CUT & PLUG EXISTING MAIN (W-5)

A-1

W-1

W-2

W-3

D-14 DEL.

A-6 M.L.

D-15 DEL.

A-5 M.L.

PROPOSED 12" STORM SEWER FOR DETAILS SEE SHEET Nº 47

36" BRICK 2 RING

NOTE:
EXISTING GAS LINE WEST OF A-1 TO BE ABANDONED BY OTHERS

NOTE:
SEE SHEET Nº 45 FOR DELASON AVE SEWER M.H. RESETTING.

FOR DETAILS & QUANTITIES OF ITEMS MARKED THUS (D DEL) SEE SHEET Nº 45

FOR DETAILS & QUANTITIES OF ITEMS MARKED THUS (A M.L.) SEE SHEET Nº 14

ITEM I-124 NEW WATER MAIN

CODE	LOCATION	4" C.I.P. CL-22 LIN. FT.	REMARKS	I-124 CUT & PLUG EXISTING LINE
W-1	14' S. STA. 3+60 RELOC. DELASON		CUT EXISTING 4" C.I.P.	
W-2	95' S. STA. 4+65 RELOC. DELASON		CUT EXISTING 4" C.I.P.	
W-3	W-1 TO W-2	110'	CONNECT TO EXIST. 4" C.I.P.	
W-4	143' N. & TYNDALE 42' W. & SOUTH		CUT & PLUG EXISTING LINE	1
W-5	146' N. & TYNDALE 43' W. & SOUTH		CUT & PLUG EXISTING LINE	1
				2

1-6"x4" Reducer Class 250

1-11°15' Bend- Class 250

1-22°30' Bend- Class 250

I-16 M.H. ABANDONED EA.		
CODE	LOCATION	Nº
A-1	143.5 N. & TYNDALE 44.5 W. & SOUTH	1

LEGEND

- S — EXISTING STORM SEWER
- SS — EXISTING SANITARY SEWER
- CS — EXISTING COMBINATION SEWER
- W — EXISTING WATER LINE

UTILITY RELOCATIONS

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

20
101

MAH-7-14.35

PAVEMENT REPLACEMENT

CODE	STREET	LOCATION	9" S-70 P.C.C. BASE SQ. YDS.	1" T-35 ASPHL. CONC. TYPE "C" CU. YDS.	TYPE 6 CURB LIN. FT.
P-1	ELLEN'D	285' E. & HEASLEY	11.5	0.5	5
P-2	CHALMERS	360' E. & HEASLEY	6.0	0.3	5
P-3	HEASLEY	75' S. & MARION & HEASLEY	0.4	0.1	
P-4	CHALMERS	80' E & HEASLEY	6.0	0.3	5
		SHEET TOTAL	23.9	1.2	15

DISPOSITION OF EXISTING SEWERS & APPURTENANCES

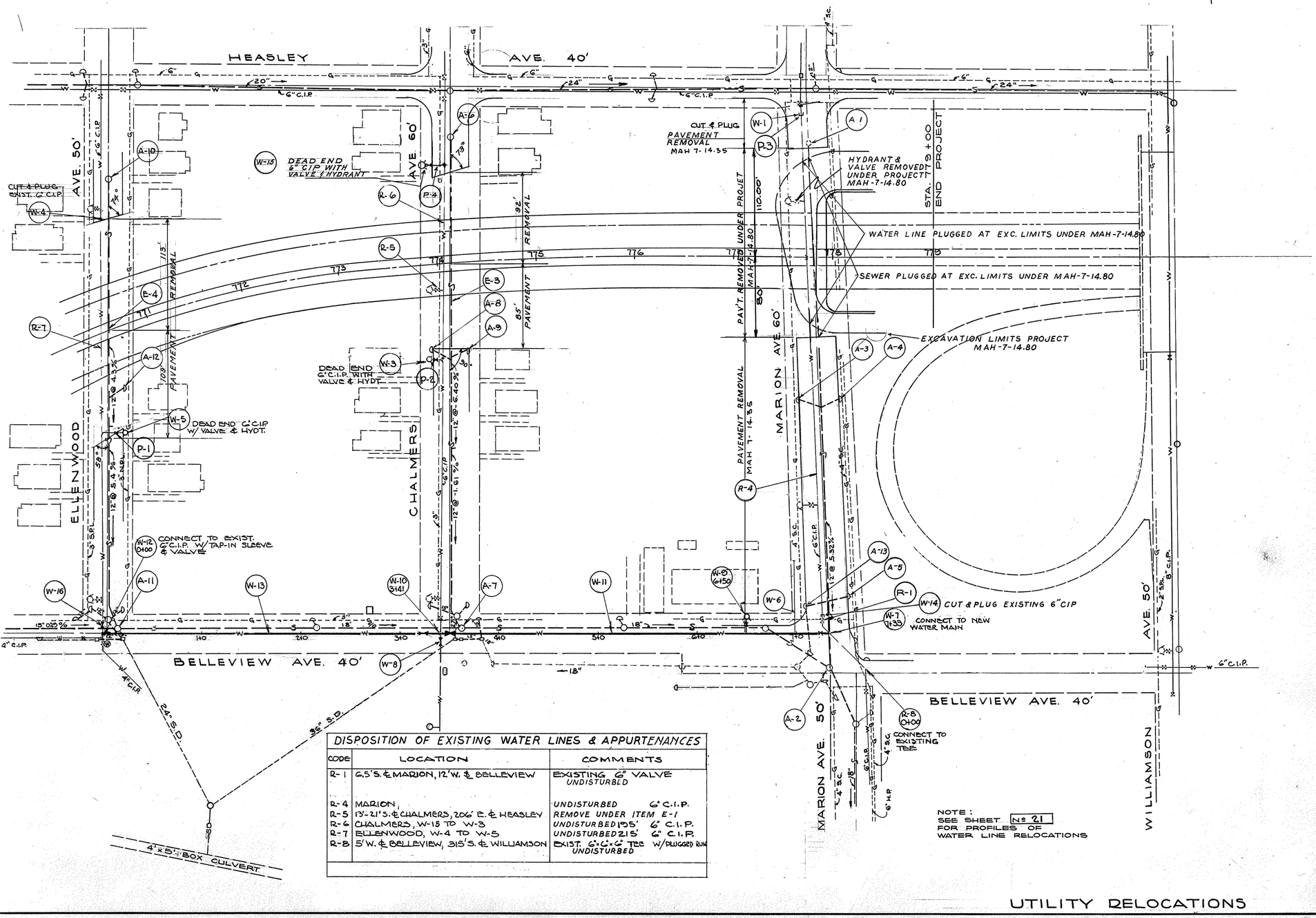
CODE	LOCATION	DESCRIPTION	INV. ELEV.	REMARKS	PAY ITEMS
A-1	2.5'N.& MARION, 56' E. & HEASLEY	MAN HOLE	12"-919.74	TOP 936.84 ABANDON	I-16
A-2	E. MARION, 5.5'W. & BELLEVIEW	MAN HOLE	18"-950.18	12" INV. 950.68 TOP 958.13 UNDISTURBED	
A-3	S. MARION S. CURB 145' E. OF EXP. &	C. BASIN		ABANDON	I-16
A-4	N. MARION N. CURB 145' E. OF EXP. &	C. BASIN		ABANDON	I-16
A-5	S. MARION N. CURB, 77'W. & BELLEV.	C. BASIN		ABANDON	I-16
A-6	& CHALMERS, 52' E. & HEASLEY	MAN HOLE	12"-915.32	UNDISTURBED	
A-7	4'W. & BELLEV., 12' N. & CHALMERS	MAN HOLE	18"-951.63	12" INV. 951.13 TOP 954.80	I-16
A-8	S. CURB CHALMERS, 300' E. & EXPWY.	C. BASIN		UNDISTURBED	I-16
A-9	N. CURB CHALMERS, 300' E. & EXPWY.	C. BASIN		UNDISTURBED	
A-10	& ELLENWOOD, 295' E. & HEASLEY	MAN HOLE	12"-916.80	TOP 965.42 UNDISTURBED	
A-11	4'W. & BELLEV., 12' N. & ELLENWD.	MAN HOLE	18"-953.24	12" INV. 954.44 TOP 962.36 UNDISTURBED	SEE SH.#
A-12	N. CURB ELLENW., 60' E. & EXPWY.	C. BASIN		REMOVE UNDER E-1	E-1
A-13	MARION, S. CURB 28'W. & BELLEV.	C. BASIN		ABANDON	I-16
	I-16	CATCH BASINS ABANDONED EACH	4		
	I-16	MANHOLES ABANDONED EACH	1		

I-124 ESTIMATED QUANTITIES NEW WATER MAIN & APPURTENANCES

CODE	LOCATION FROM STATION	LOCATION TO STATION	C.I. PIPE LIN. FT. 6" DIA. CL. 22	C.I. PIPE LIN. FT. 6" CONC. ENCASED	C.I. FITTINGS CL. 250 6"x6" CROSS TEE	C.I. FITTINGS CL. 250 6" TAP-IN SLEEVE	C.I. FITTINGS CL. 250 6"x6" TAP-IN TEE	6" DIA. BENDS 90°	6" DIA. BENDS 45°	6" DIA. BENDS 22½°	VALVE BOX & CL. 150 6" DIA. EACH	FIRE HYDT. EACH	CUT & PLUG EXIST. LINE EACH	NEW SERVICE BRANCH L.F.
W-1	TS. & MARION	27 E. & HEASLEY												
W-3	213' E. & CHALMERS	285' E. & HEASLEY	13'					1			1	1	1	
W-4	8' S. & ELLENWOOD	135' E. & HEASLEY												
W-5	18' N. & ELLENWOOD	360' E. & HEASLEY	24'					1			1	1	1	55
W-6	& BELLEVIEW	& MARION							1					
W-7	& BELLEVIEW										1			
W-8	& BELLEVIEW													
W-9	15'W. & BELLEVIEW	883' E. & MARION	15'		1									
W-10	& BELLEVIEW	93' S. & CHALMERS												
W-11	BELLEVIEW W-7	TO W-10	392'				1				2			
W-12	& BELLEVIEW	413' S. & ELLENWOOD									1			
W-13	& BELLEVIEW W-10	TO W-12								2				
W-14	MARION AVE		331'	10'			1				2			
W-15	CHALMERS AVE							1			1	1		
W-16	ELLENWOOD		13'										1	
		SHEET TOTAL	788	10	1	1	1	3	1	2	11	4	3	55

EXIST. COMBINED SEWERS

CODE	LOCATION	FROM	TO	SIZE	LENGTH	REMARKS
E-2	MARION	R/W	A-2	12"	75'	SLOPE 5.32% UNDISTURBED
E-3	CHALMERS	A-6	A-7	12"	458'	SLOPE 5.87% UNDISTURBED
E-4	ELLENWOOD	A-10	A-11	12"	455'	SLOPE 4.97% UNDISTURBED



DISPOSITION OF EXISTING WATER LINES & APPURTENANCES

CODE	LOCATION	COMMENTS
R-1	6.5'S. & MARION, 12'W. & BELLEVIEW	EXISTING 6" VALVE UNDISTURBED
R-4	MARION,	UNDISTURBED 6" C.I.P.
R-5	13'-21'S. & CHALMERS, 206' E. & HEASLEY	REMOVE UNDER ITEM E-1
R-6	CHALMERS, W-15 TO W-3	UNDISTURBED 195' 6" C.I.P.
R-7	ELLENWOOD, W-4 TO W-5	UNDISTURBED 215' 6" C.I.P.
R-8	5'W. & BELLEVIEW, 315'S. & WILLIAMSON	EXIST. 6"x6"x6" TEE W/PLUGGED RUN UNDISTURBED

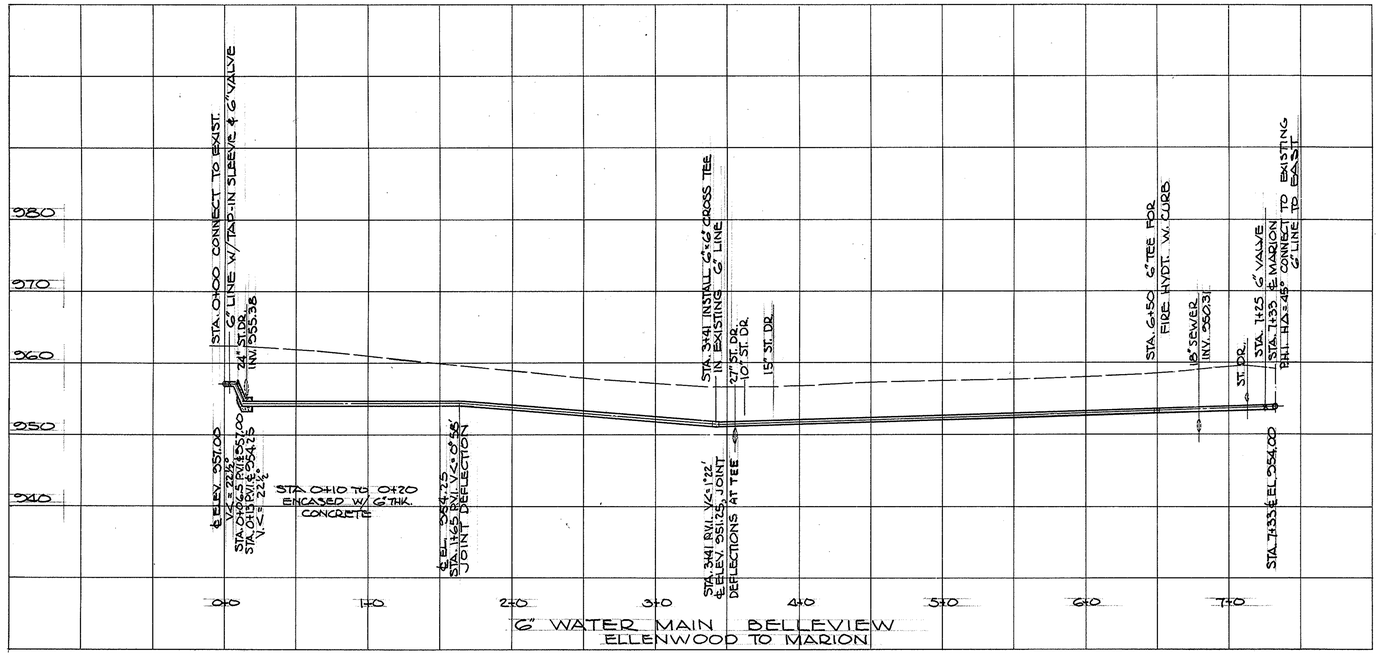
NOTE: SEE SHEET No 21 FOR PROFILES OF WATER LINE RELOCATIONS

UTILITY RELOCATIONS

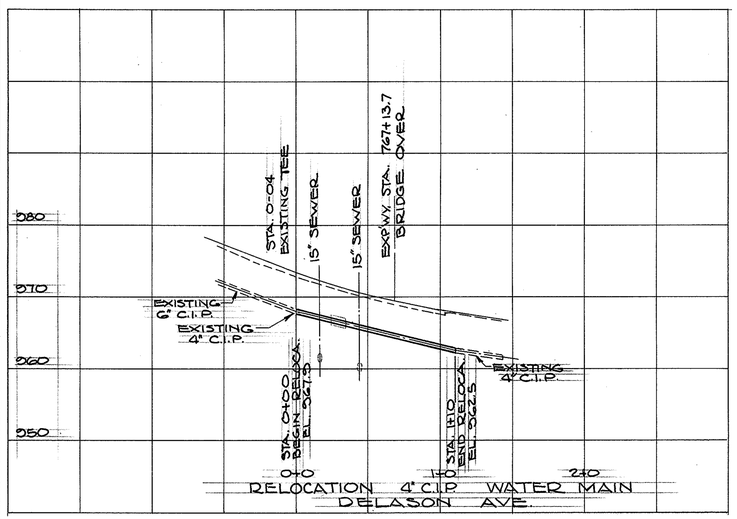
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-1-14.35

21
101



6" WATER MAIN BELLEVIEW
ELLENWOOD TO MARION



RELOCATION 4" C.I.P. WATER MAIN
DELASON AVE.

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH - 7 - 14.35

22/101

SPECIAL BERM AND SLOPE PROTECTION

PRIOR TO PLACEMENT OF SOD IN THE BERM & SLOPE, GALVANIZED POULTRY FENCE SHALL BE PLACED ON THE FINISHED GRADE IN STRANDS WHICH SHALL BE AT RIGHT ANGLES TO THE DIRECTION OF FLOW. EACH STRAND SHALL BE STAKED SECURELY ON TOP & BOTTOM WITH STAKES AT FOUR FOOT INTERVALS & ALTERNATED IN ROWS FOUR FEET APART.

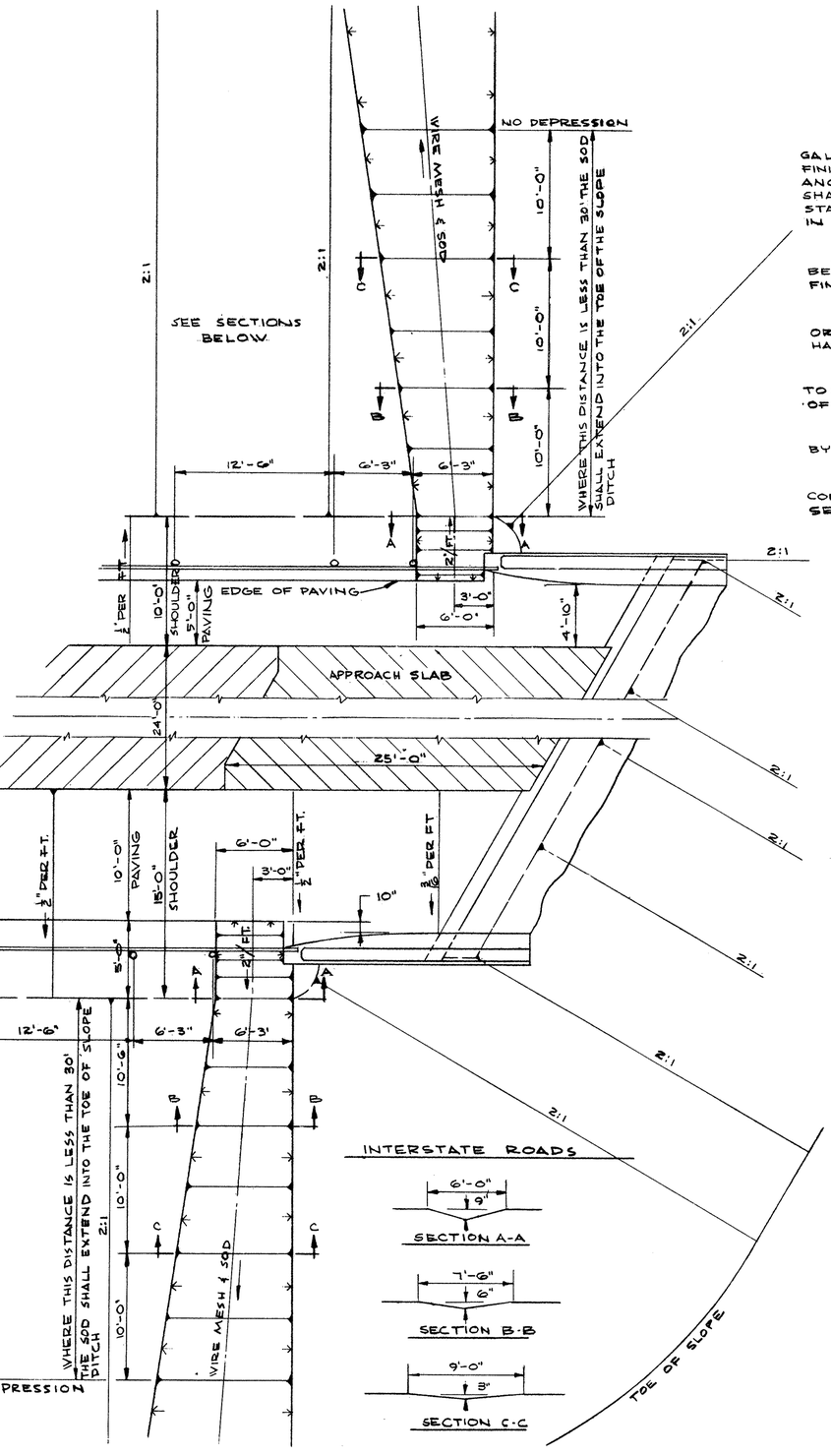
STAKES SHALL BE 1" x 1" x 8" WOOD STAKES AND SHALL BE PREPENDICULAR TO THE GROUND & FLUSH WITH THE FINISHED GRADE

THE FENCE SHALL BE STRAIGHT LINE POULTRY FENCE OR EQUIVALENT WITH STRAND WIDTH OF FOUR FEET, HAVING A TWO INCH MESH AND ALL WIRES No.20 GAUGE

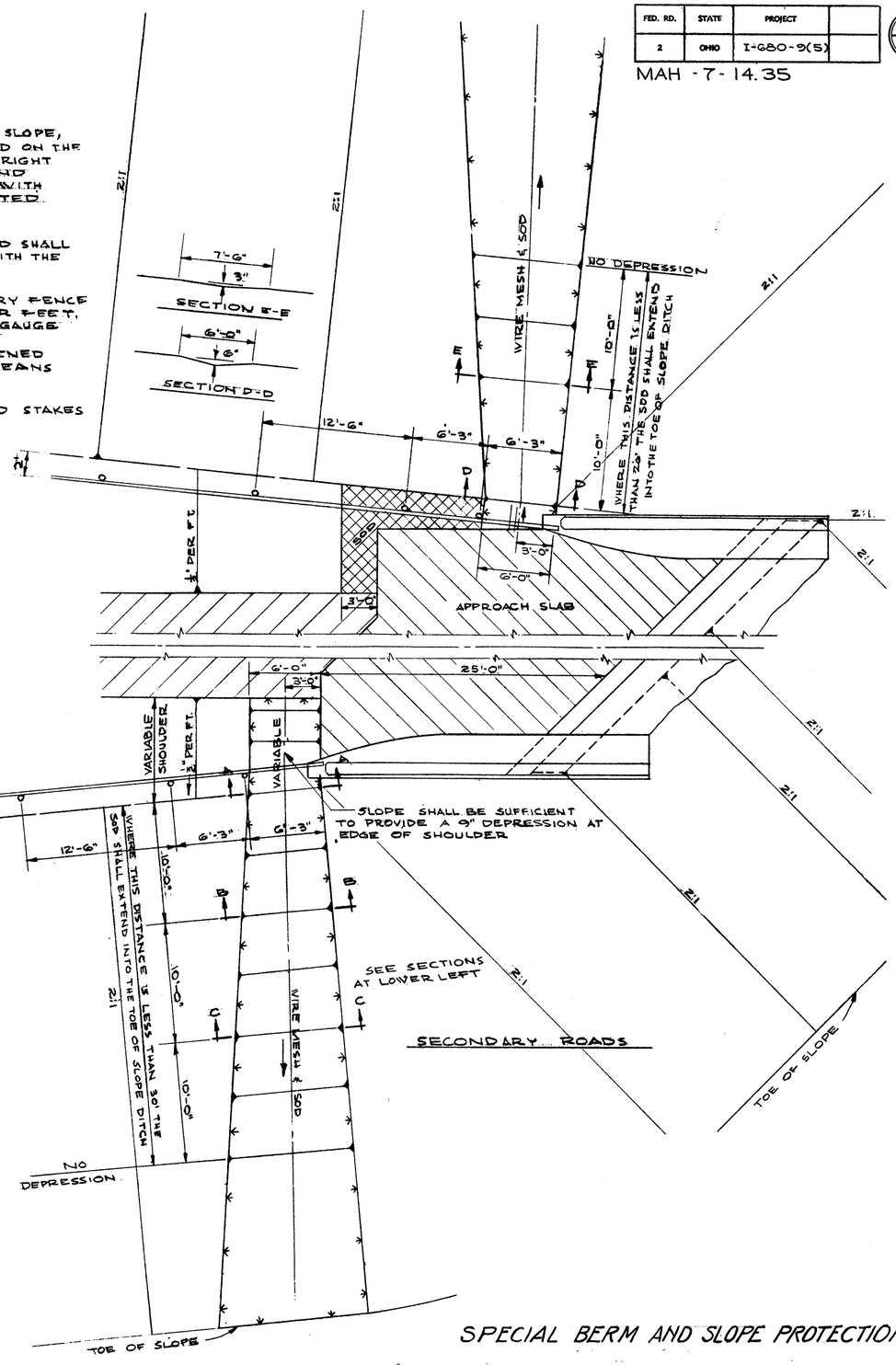
THE STRANDS OF FENCING SHALL BE FASTENED TOGETHER AT TWELVE INCH INTERVALS BY MEANS OF HOG RINGS

THE FENCE SHALL BE SECURED TO THE WOOD STAKES BY METAL STAPLES

SOD SHALL BE LAID IN ACCORDANCE WITH CONSTRUCTION & MATERIALS SPECIFICATIONS SECTION L-10.07



INTERSTATE ROADS



SECONDARY ROADS

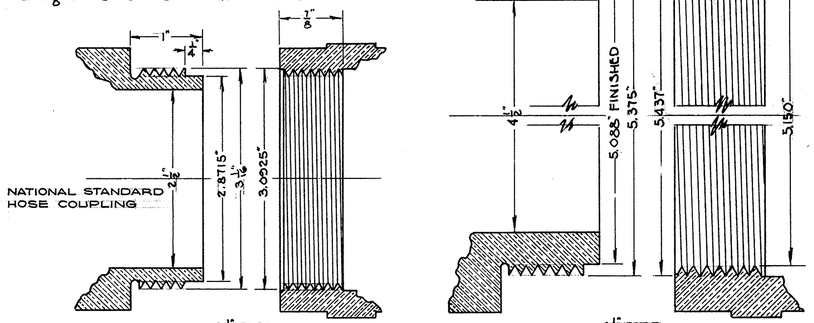
SPECIAL BERM AND SLOPE PROTECTION

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH - 7 - 14.35

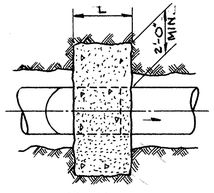
INSIDE DIAMETER OF HOSE COUPLING — 4½"
NUMBER OF THREADS PER INCH — 6
BLANK END ON MALE PART — ¼"
OUTSIDE DIAMETER OF THREAD FINISHED — 5⅛"
DIAMETER OF ROOT OF THREAD " — 5.088"
CLEARANCE BETWEEN MALE AND FEMALE THREADS — .062"
TOTAL LENGTH OF THREADED MALE END — 1⅜"
60° V THREAD PATTERN
FEMALE END TO BE CUT ⅛" SHORTER FOR ENDWISE CLEARANCE.

INSIDE DIAMETER OF HOSE COUPLING — 2½"
NUMBER OF THREADS PER INCH — 7½
BLANK END ON MALE PART — ¼"
OUTSIDE DIAMETER OF THREAD FINISHED — 3⅛"
DIAMETER OF ROOT OF THREAD — 2.8115"
CLEARANCE BETWEEN MALE & FEMALE THREADS — .03"
TOTAL LENGTH OF THREADED MALE END — 1.00"
60° V THREAD PATTERN 1/10 INCH
CUT OFF TOP OF THREAD AND 1/20 INCH
LEFT IN BOTTOM OF VALLEY FEMALE END TO BE CUT ⅛" SHORTER FOR ENDWISE CLEARANCE



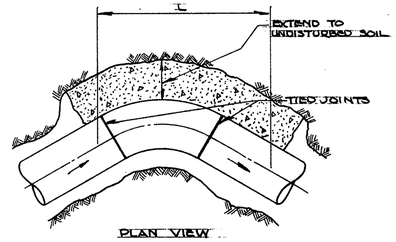
2½" SIZE — 4½" SIZE

YOUNGSTOWN STANDARD FIRE HYDRANT COUPLINGS FOR 2½" & 4½" HOSE

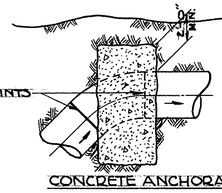


PLAN VIEW

NOTE:
ON CONC. ENCASED PIPE WHICH REQ. THRUST BLOCKS, THRUST BLOCKS SHALL EXTEND BEYOND CONCRETE ENCASEMENT TO UNDISTURBED SOIL

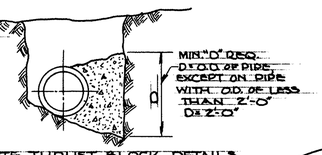


PLAN VIEW

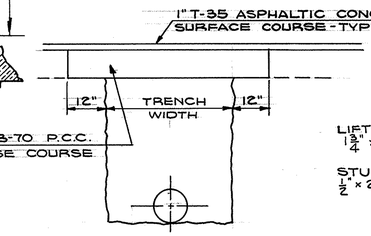


CONCRETE ANCHORAGE

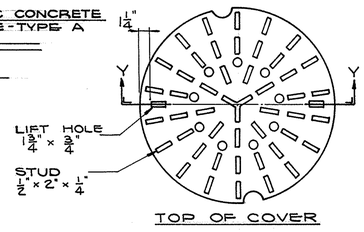
GENERAL NOTE:
CLASS E CONCRETE TO BE INCLUDED IN UNIT PRICE BID FOR ITEM I-124 "NEW WATER MAIN"



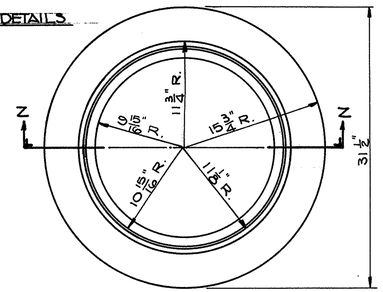
CONCRETE THRUST BLOCK DETAILS



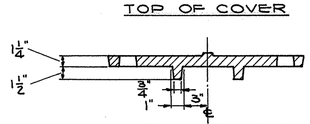
PAVEMENT REPLACEMENT



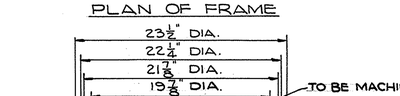
TOP OF COVER



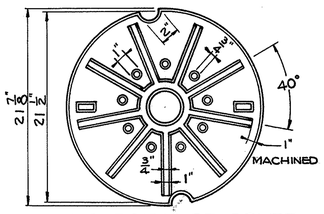
PLAN OF FRAME



SECTION Y-Y



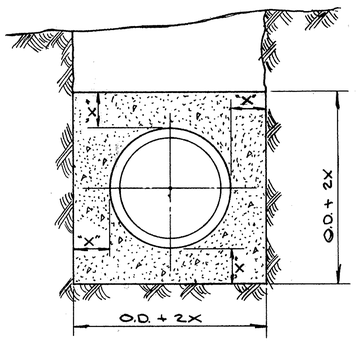
SECTION Z-Z



UNDERSIDE OF COVER

NOTE: CASTING SHALL BE OF CAST IRON IN ACCORDANCE W/STATE SPECIFICATION M-7.8(a)

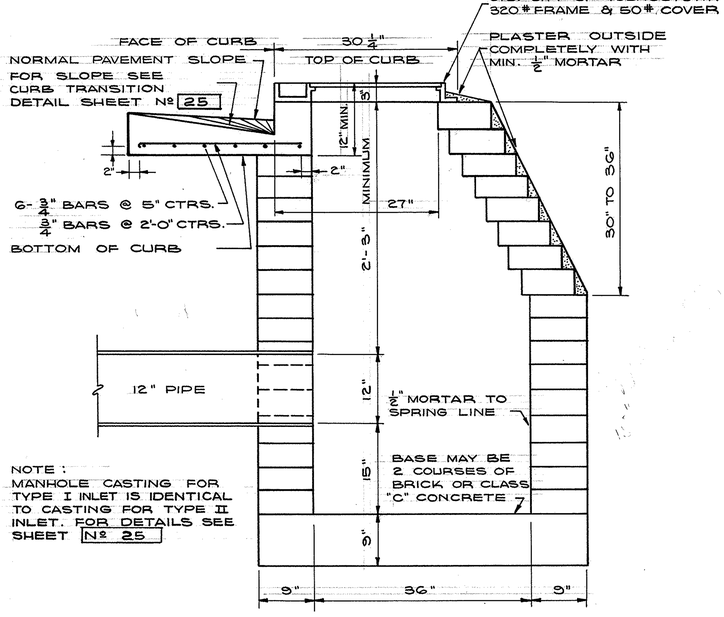
YOUNGSTOWN STANDARD MANHOLE FRAME & COVER



TYPICAL SECTION OF S-1 CLASS "E" CONCRETE ENCASEMENT

CONCRETE SCHEDULE

CITY WATER:		
O.D. + 2X	"X" = 6 INCHES	TO BE INCLUDED IN UNIT PRICE BID FOR ITEM I-124 NEW WATER MAIN



NOTE:
MANHOLE CASTING FOR TYPE I INLET IS IDENTICAL TO CASTING FOR TYPE II INLET. FOR DETAILS SEE SHEET № 25

SECTIONAL ELEVATION
TYPE I STORM INLET
SCALE : 1" = 1'-0

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.

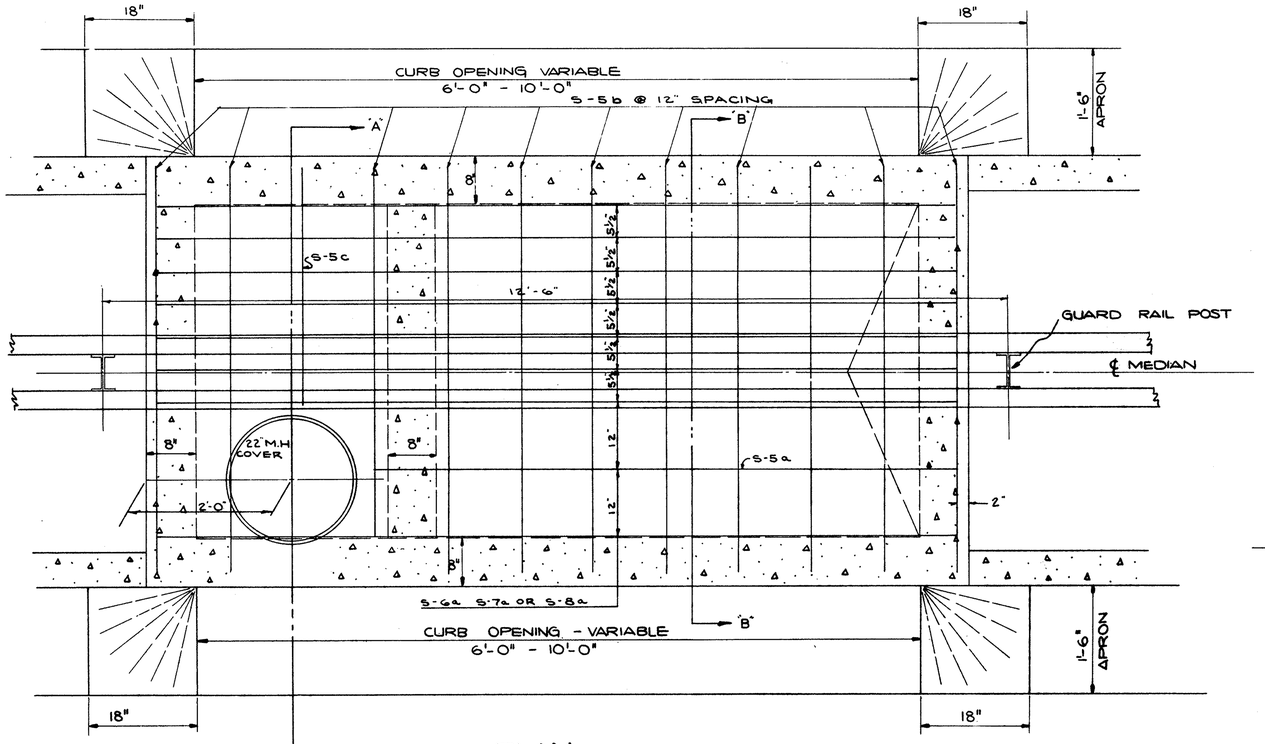
SETTING OF CASTING:~ THE BASE OF THE FRAME SHALL BE SET IN A FULL BED OF PORTLAND CEMENT MORTAR AND SO ADJUSTED TO CONFORM TO THE FINISHED PAVEMENT GRADE. A-S

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.

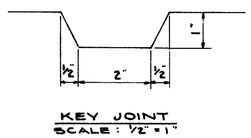
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

24
101

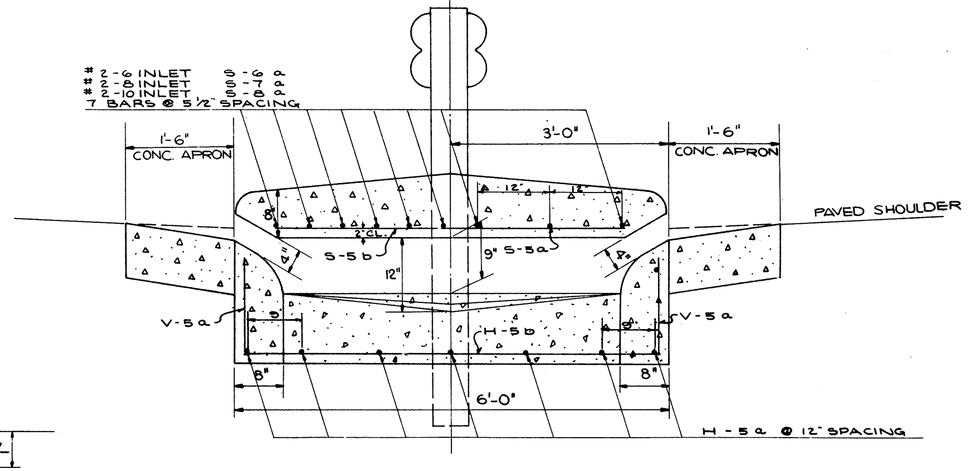
MAH-7-14.35



PLAN

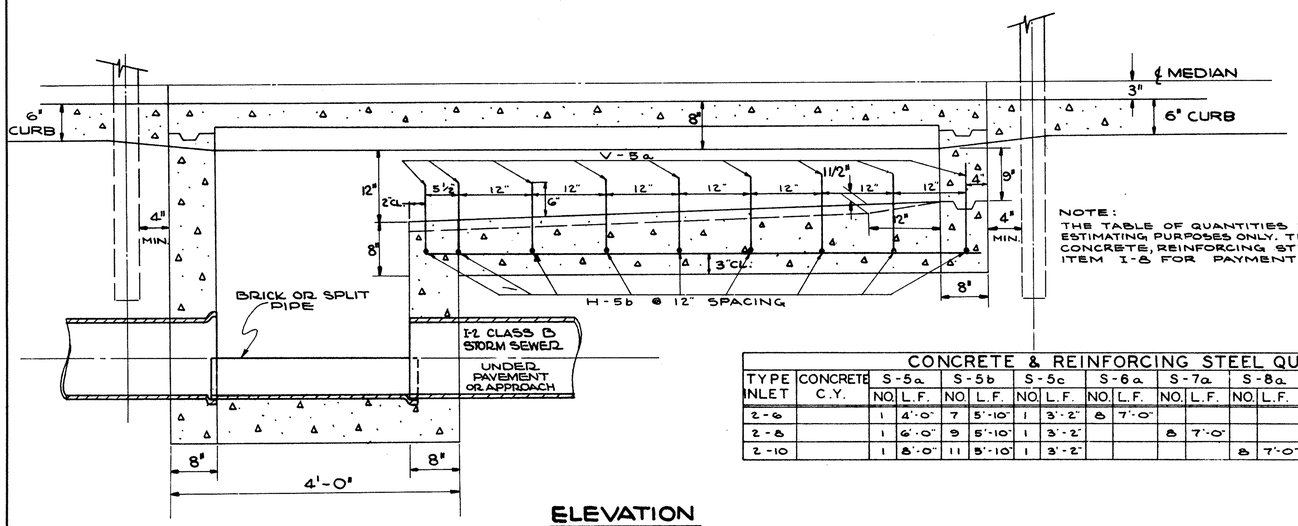


KEY JOINT
SCALE: 1/2" = 1"



SECTION B-B

QUANTITIES OF CURB WITHIN THE LIMITS OF THE INLET SHALL BE DEDUCTED FROM THE PROJECT QUANTITIES

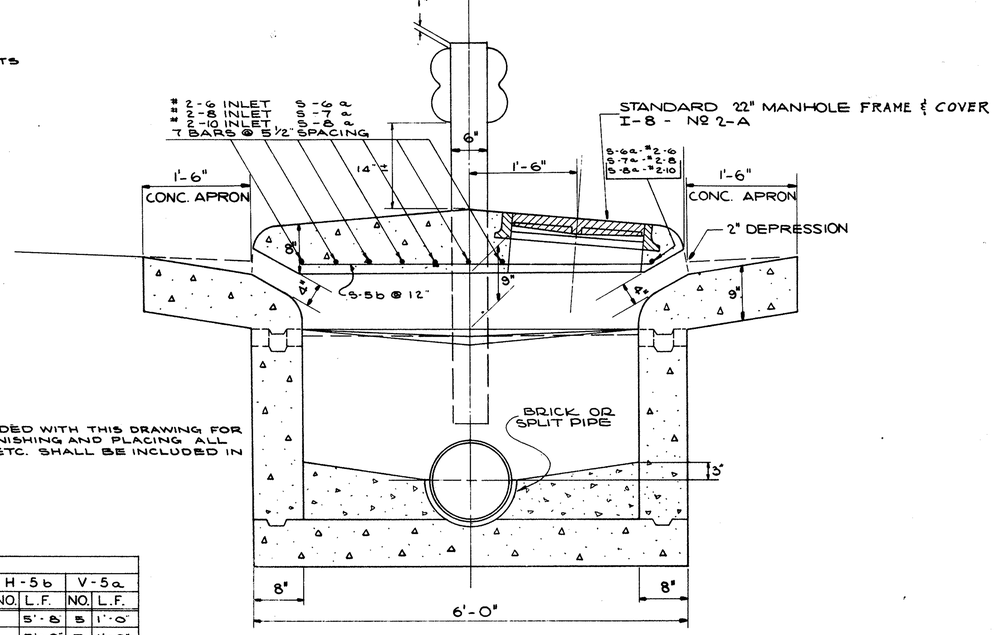


ELEVATION

NOTE:
THE TABLE OF QUANTITIES BELOW IS INCLUDED WITH THIS DRAWING FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL CONCRETE, REINFORCING STEEL, CASTING, ETC. SHALL BE INCLUDED IN ITEM I-8 FOR PAYMENT.

CONCRETE & REINFORCING STEEL QUANTITIES

TYPE INLET	CONCRETE C.Y.	S-5a NO.	S-5a L.F.	S-5b NO.	S-5b L.F.	S-5c NO.	S-5c L.F.	S-6a NO.	S-6a L.F.	S-7a NO.	S-7a L.F.	S-8a NO.	S-8a L.F.	TYPE	H-5a NO.	H-5a L.F.	H-5b NO.	H-5b L.F.	V-5a NO.	V-5a L.F.
2-6		1	4'-0"	7	5'-10"	1	3'-2"	8	7'-0"					*2-6	7	3'-8		5'-8	5	1'-0"
2-8		1	6'-0"	9	5'-10"	1	3'-2"			8	7'-0"			*2-8	7	5'-8"		5'-8"	7	1'-0"
2-10		1	8'-0"	11	5'-10"	1	3'-2"					8	7'-0"	*2-10	7	7'-8"	9	5'-8"	9	1'-0"



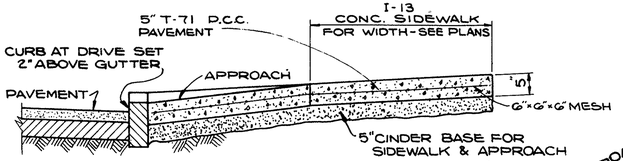
SECTION A-A

STANDARD Nº 2-6, 2-8 & 2-10 INLETS - MODIFIED

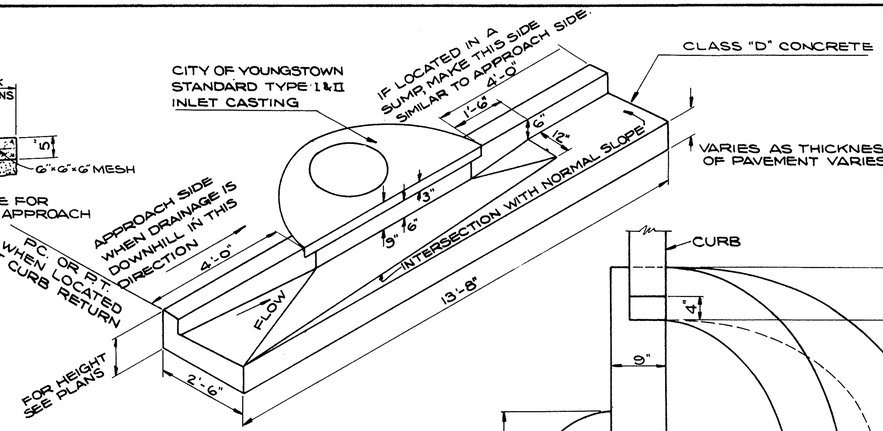
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH - 7 - 14.35

25/101

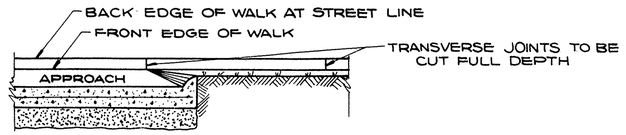


SECTION B-B

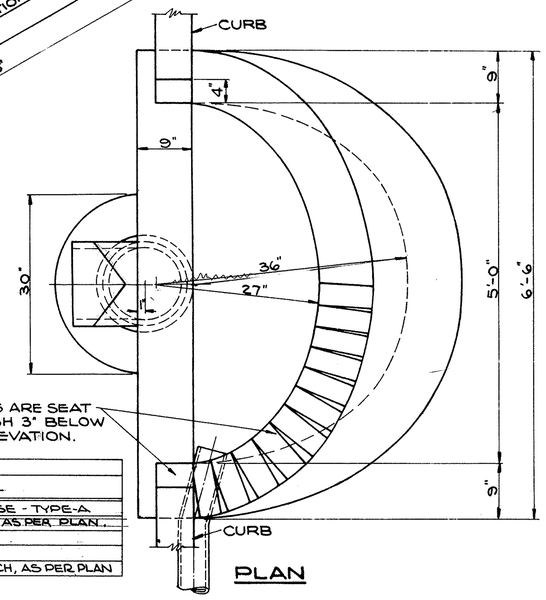


INLET APPROACH & CURB TRANSITION

SCALE: 1 1/2" = 1 FT.



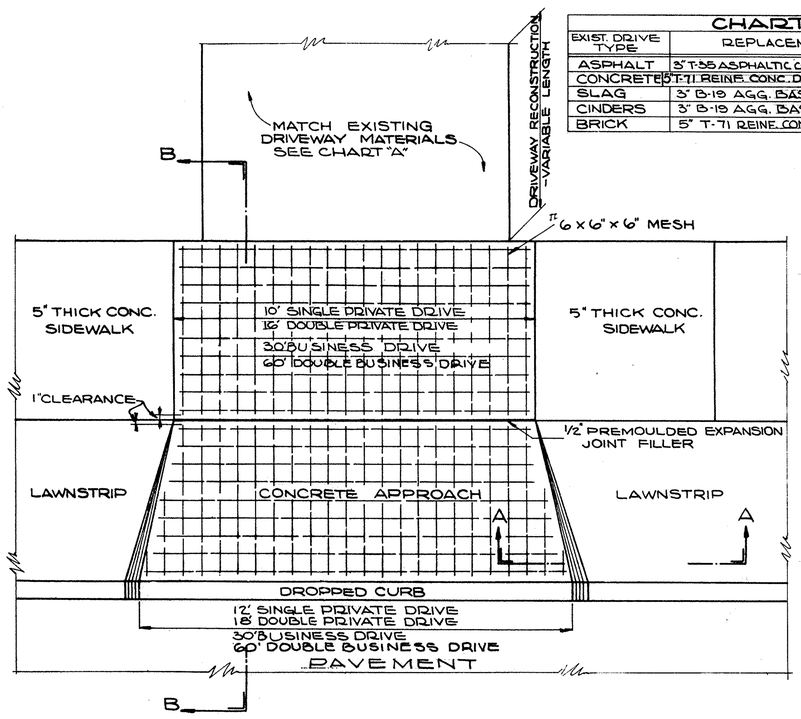
SECTION A-A



THESE SURFACES ARE SEAT FOR FRAME. FINISH 3" BELOW TOP OF CURB ELEVATION.

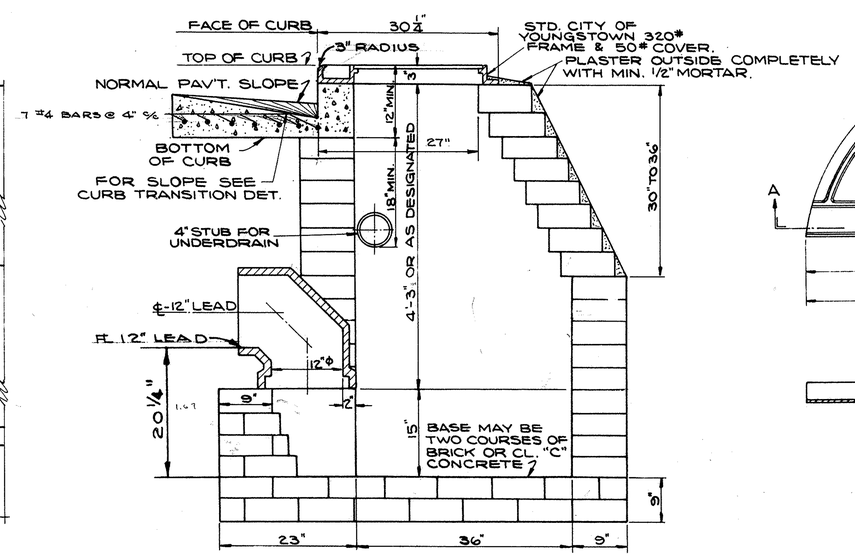
PLAN

CHART "A"	
EXIST. DRIVE TYPE	REPLACEMENT MATERIAL
ASPHALT	3" T-55 ASPHALTIC CONC. SURFACE COURSE - TYPE A.
CONCRETE	5" T-71 REINF. CONC. DRIVEWAY APPROACH, AS PER PLAN.
SLAG	3" B-19 AGG. BASE COURSE
CINDERS	3" B-19 AGG. BASE COURSE
BRICK	5" T-71 REINF. CONC. DRIVEWAY APPROACH, AS PER PLAN



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-11 R.P.C.C. DRIVEWAY APPROACH, AS PER PLAN.



SECTIONAL ELEVATION TYPE II - COMBINATION INLET

SCALE: 1" = 1 FT.

NOTES : TYPE I & TYPE II INLETS

FRAME & COVER SHALL BE OF CAST IRON IN ACCORDANCE WITH MATERIAL DETAILS FOR STANDARD TYPE I & II 320 # INLET CASTING & 50 # COVER.

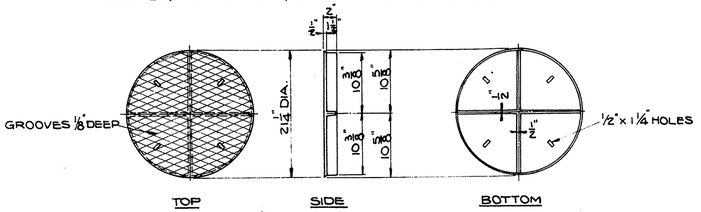
BRICK SHALL BE EIGHT INCHES IN SIZE LAID IN MORTAR AND INTERIOR SURFACE SHALL BE PLASTERED WITH A SMOOTH COATING OF PORTLAND CEMENT MORTAR AT LEAST ONE HALF INCH THICK TO THE HEIGHT SHOWN. THE BRICK SHALL BE LAID IN A FULL BED OF MORTAR WITH NO JOINTS APPEARING ON EITHER SURFACE OF MORE THAN THREE EIGHTS 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.

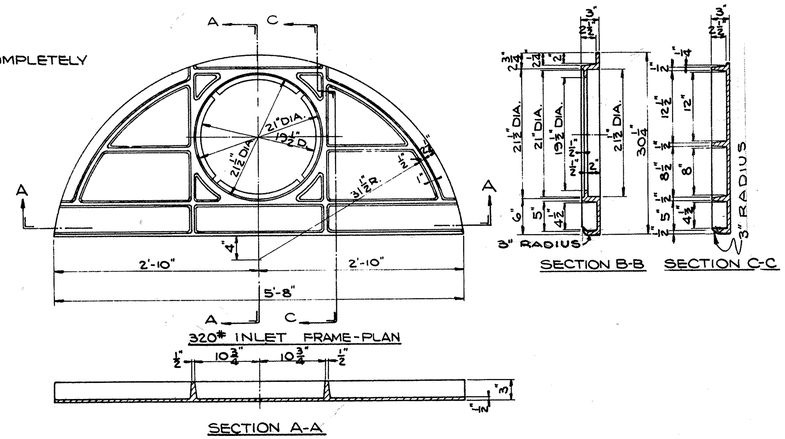
THE TOP OF THE CASTING SHALL BE FILLED WITH CLASS "C" CONCRETE AND TROWELLED TO A SMOOTH EVEN FINISH.

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

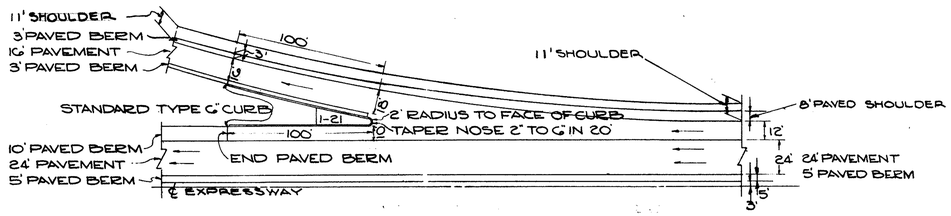
ARTERIAL HIGHWAY SYSTEM

SCALE AS SHOWN | MARCH, 1959

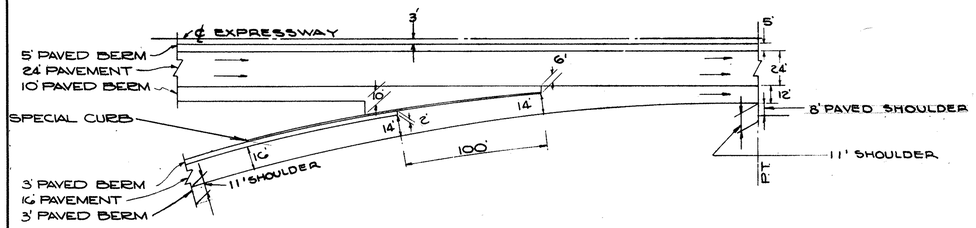
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

26/101

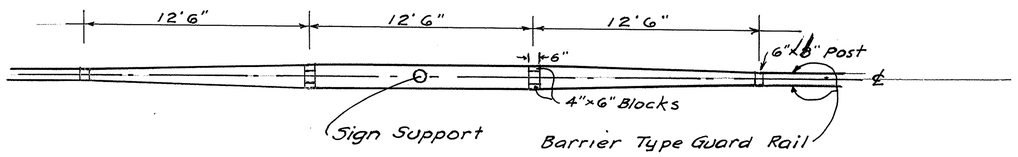
MAY - 7 - 14.35



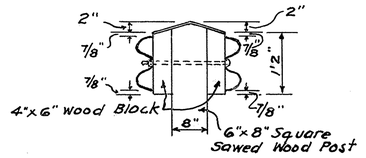
TYPICAL EXIT DETAIL



TYPICAL ENTRANCE DETAIL



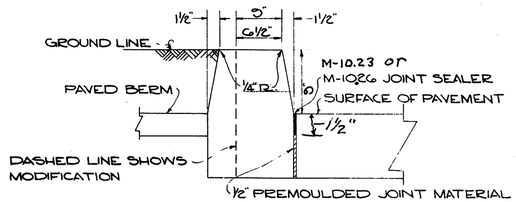
PLAN



ELEVATION
POST WITH BLOCKS

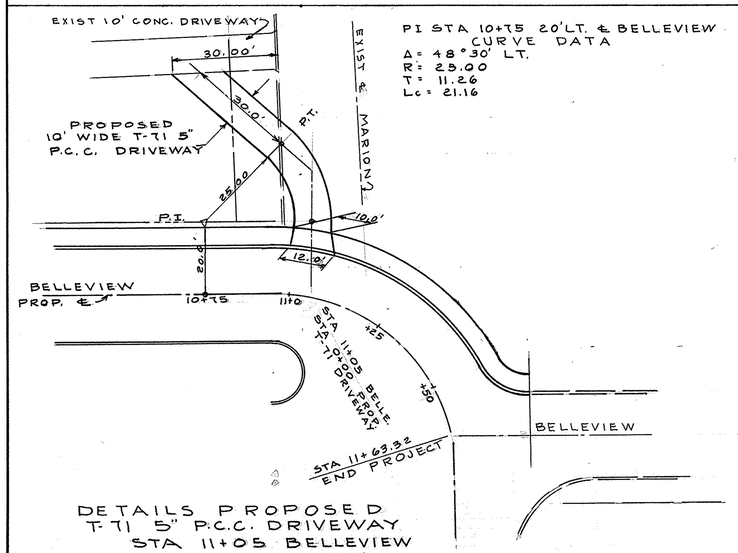
DETAILS OF FLARED GUARD RAIL FOR SIGN SUPPORT- STA. 773±

Cost of flare shall be included in the unit price bid for Item I-15, Guard Rail, Steel Beam Barrier Type (Deep)



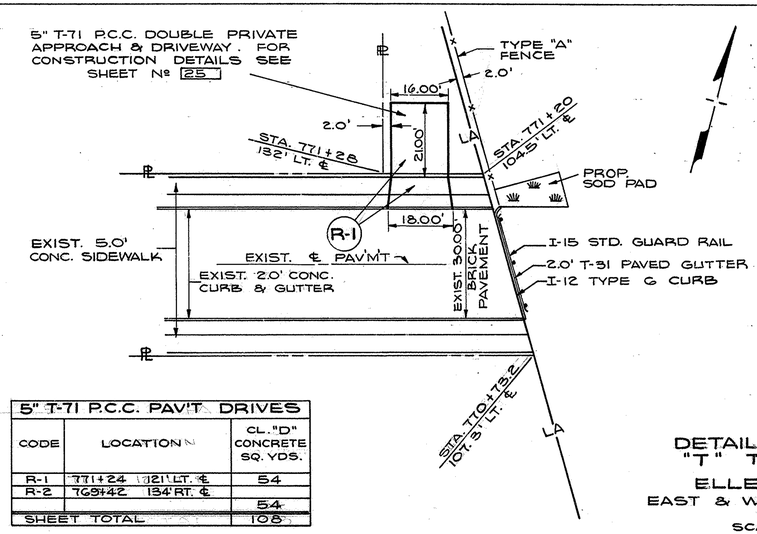
½" PREMOULDED JOINT MATERIAL WHERE CURB IS ADJACENT TO CONCRETE PAVEMENT.

SPECIAL PORTLAND CEMENT CONCRETE CURB DETAILS

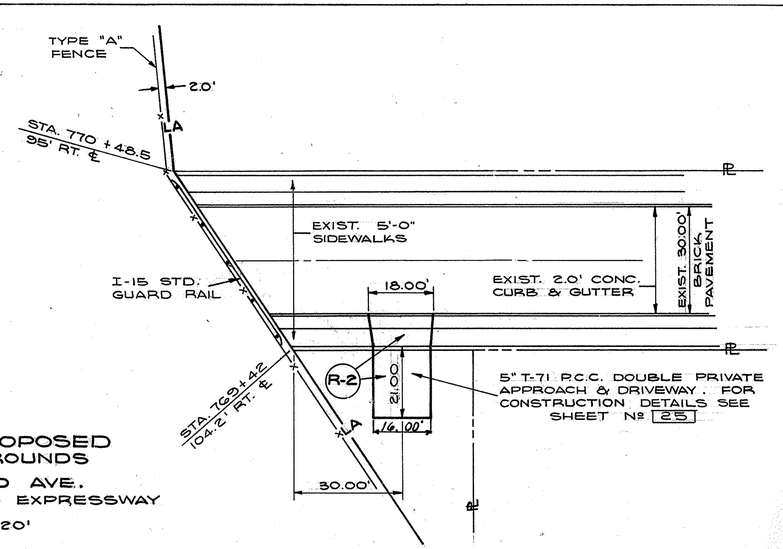


PI STA 10+75 20'LT. ℄ BELLEVIEW
CURVE DATA
Δ = 48°30' LT.
R = 25.00
T = 11.26
Lc = 21.16

DETAILS PROPOSED
T-71 5" P.C.C. DRIVEWAY
STA 11+05 BELLEVIEW
SCALE 1" = 20'



5" T-71 P.C.C. PAV'T. DRIVES		
CODE	LOCATION	CL. "D" CONCRETE SQ. YDS.
R-1	771+24 132' LT. ℄	54
R-2	769+42 134' RT. ℄	54
SHEET TOTAL		108



DETAILS PROPOSED
"T" TURNAROUNDS
ELLENWOOD AVE.
EAST & WEST OF EXPRESSWAY
SCALE : 1" = 20'

FED.RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-7-14.35

27/101

FOR CONSTRUCTION DETAILS & QUANTITIES OF ITEMS MARKED THUS (A-M.L.) SEE SHEET Nos 14

FOR DETAILS & QUANTITIES OF PROPOSED 12'x6' BOX CULVERT SEE SHEET Nos 29-34A

GIBSON RUN CHANNEL RELOCATION

2.0' OPEN DITCH

PROPOSED 12'x6' BOX CULVERT

EXIST. 42" COMB. SEWER

EXIST. 48" COMB. SEWER @ 0.56 %

EXIST. 36" PIPE

EXIST. 9'x6' BOX CULVERT

EXIST. 24" COMBINATION SEWER

EXIST. REGULATOR CHAMBER

EXISTING 12" SEWER

Y. & S. MAIN TRACK

Y. & S. SPUR TRACK

L-10 SOD WIDTH 5.0'

L-10 SOD WIDTH 6.0'

I-14 PAVED GUTTER TYPE I

DETAIL "A"
FORMING I-14 PAVED GUTTER @ ENDWALL H-1

I-14 PAVED GUTTER

2.0' OPEN DITCH

RAMP "B"

RAMP "A"

DITCH BOTTOM

6'-0" SOD

TYPE-1 MODIFIED PAVED GUTTER

CUT OFF WALL

E-12 PIPE REMOVAL

CODE	LOCATION	Over 15" LIN. FT.
E-1	A-4 M.L. EXIST. CONC. HEADWALL	82
SHEET TOTAL		82

I-2 STORM SEWER

CODE	LOCATION FROM	TO	21" M-C-C(II) UN. RD. LIN.FT.	36" M-C-C(II) LIN.FT.
P-1	155+11	Y. & S.	43	
P-2	A-4	BOX		80
SHEET TOTAL			43	80

I-8 MANHOLES EA.

CODE	LOCATION	No 2 MAN. HOLE	ADJUST TO GRADE
A-1	155+11-16'RT. &	1	
A-2	156+72-16'RT. &		1
SHEET TOTAL		1	1

EROSION CONTROL

CODE	LOCATION FROM	TO	I-14 PAVED GUTTER L.F. TYPE I	TYPE-I MOD.
E-1	A-1 157+0 - 23.25'LT. &		185	
E-2	154+51 -	157+82.5		291.5
SHEET TOTAL			185	291.5

PC-4 ENDWALL

CODE	LOCATION	Str. Conc. "E" CU. YD.
H-1	A-1 27'LT. &	0.32
SHEET TOTAL		0.32

TYPICAL SECTION
55+25 - 157+00
Y. & S. R.R.

PROFILE
STORM SEWER
SCALE: 1"=5' VERT. & 1"=20' HORIZ.

12'x6' BOX CULVERT
STA. 4+55

END DITCH STA. 157+82.5
INV. 939.50

157+15
941.50

157+41
942.00

PROFILE
LEFT SIDE DITCH
Y. & S. R.R.

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

END DITCH STA. 157+00

+2.00%

+1.00%

+1.20%

+12.56%

PROFILE
RIGHT SIDE Y. & S.
R.R. DITCH

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

156+91
940.75

156+41
940.50

155+91
940.50

155+41
941.50

STA. 155+11
25.75' LT. &

BEGIN DITCH STA. 154+91
939.00

PROFILE
STORM SEWER

SCALE:
1"=10' HORIZ.
1"=5' VERT.

E. RT. DITCH RAMP "A"

INLET
ELEV. 940.00

4.69' CLEAR TOP OF RAIL TO TOP OF PIPE

43.0'-21" I-2 PIPE @ 1.395%
M-C-C (d)

H-1

A-1
STA. 155+11
16.0' RT. & Y. & S. R.R.
I-8 No 2 M.H. -
COVER ELEV. 943.75
& 21" I-2 939.40
& 48" I-2 EXIST. 937.15

STA. 2+45
PROP. 12'x6' B.C.
INV. 939.50

157+00 156+00 155+00

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

FED. RD.	STATE	PROJECT	
2	OHIO	IG80-9(5)	

28
101

MAH 7 - 14.35

RIGHT

BRIDGE SLOPE

940

944.5

157+50
950.06

℄ MAIN TRACK

LEFT

BRIDGE SLOPE

940

946.00

42" R.C. SEWER

157+0
948.9

STA. 157+0
22.25' LT. ℄
END I-14 TYPE I
PAVED GUTTER

947.0

BRIDGE SLOPE

940

946.60

156+50
948.03

℄ SPUR TRACK
Y&S R.R.

946.00

BRIDGE SLOPE

940

945.65

48" R.C. SEWER

156+00
947.1

VARIABLE

945.6

STA. 155+12 23.25' LT. ℄
BEGIN I-14 TYPE I
PAVED GUTTER

BRIDGE SLOPE

940

942.25

155+50
946.43

944.9

℄ SPUR TRACK
Y&S R.R.

BRIDGE SLOPE

940

939.40

155+00
945.9

℄ MAIN TRACK
Y&S R.R.

RIGHT

LEFT

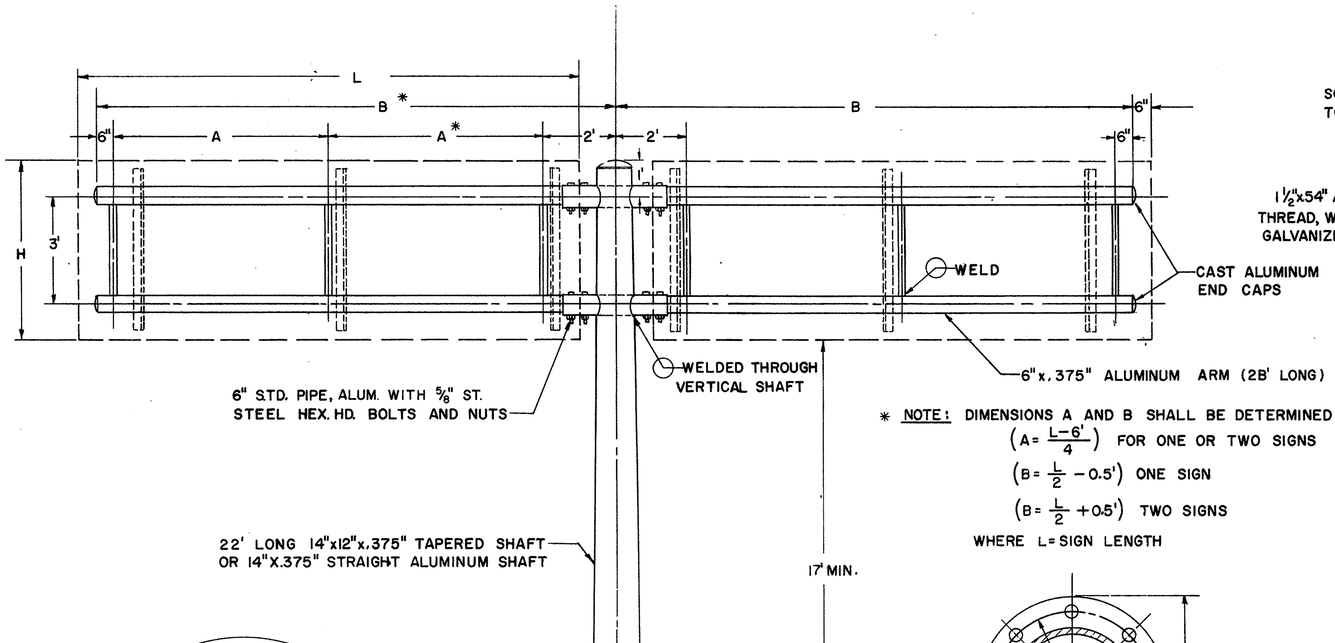
20 40 60 80

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

FED. RD. DIVISION	STATE		
2	OHIO		

28-A
101

MAH-7-14.35



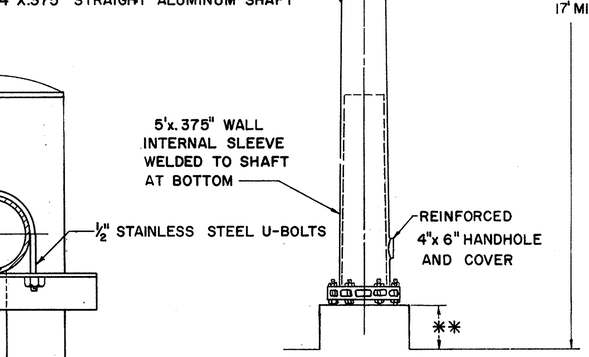
* NOTE: DIMENSIONS A AND B SHALL BE DETERMINED AS FOLLOWS:

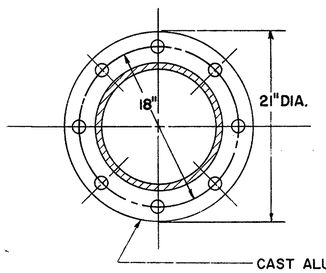
$\left(A = \frac{L-6'}{4}\right)$ FOR ONE OR TWO SIGNS

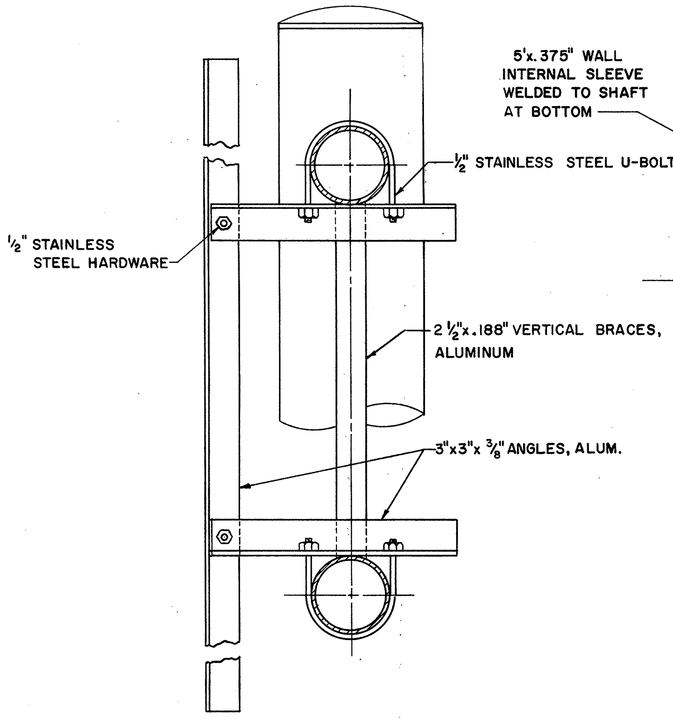
$\left(B = \frac{L}{2} - 0.5'\right)$ ONE SIGN

$\left(B = \frac{L}{2} + 0.5'\right)$ TWO SIGNS

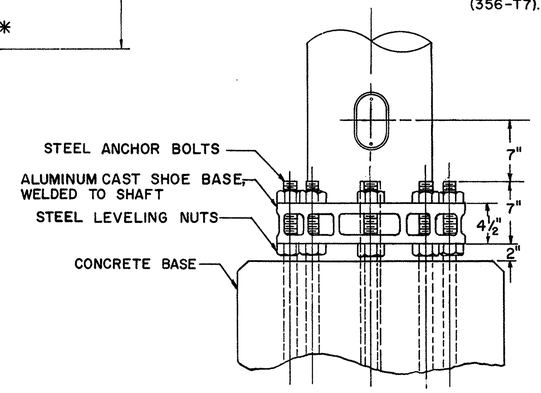
WHERE L = SIGN LENGTH



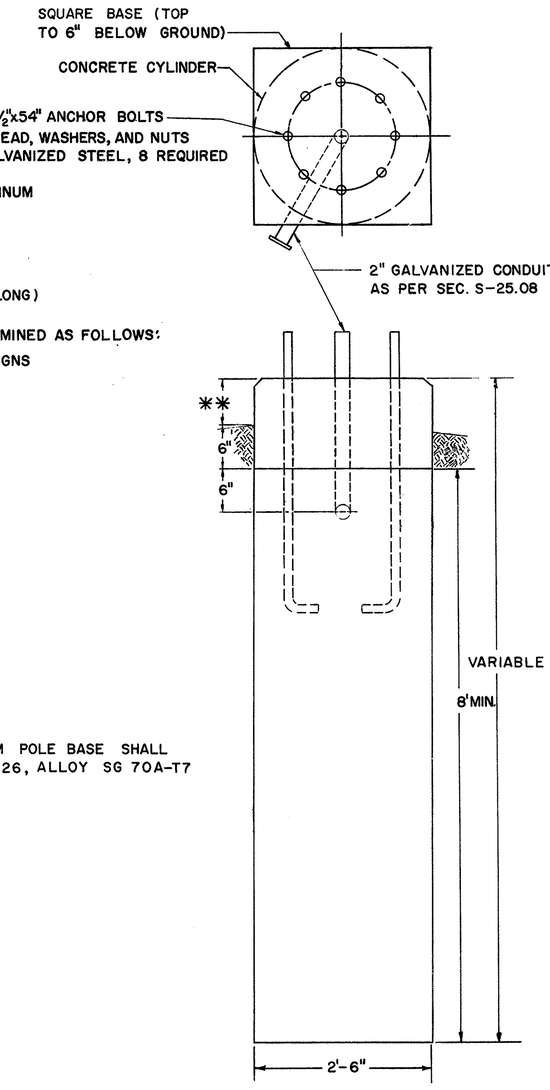




SIGN ATTACHMENT DETAIL



POLE BASE DETAIL



FOUNDATION DETAIL

NOTES

FABRICATION:

ALUMINUM CONFORMING TO A.S.T.M. DESIGNATION B 235, ALLOY GS10A-T6 (6063-T6) MAY BE USED FOR THE TAPERED SHAFT.

ERECTION:

THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

** NOTE: FOUNDATION TOP ELEVATION SHALL BE VARIED TO GIVE THE 17' MINIMUM VERTICAL CLEARANCE BETWEEN THE HIGHWAY CROWN AND THE SIGN BOTTOM.

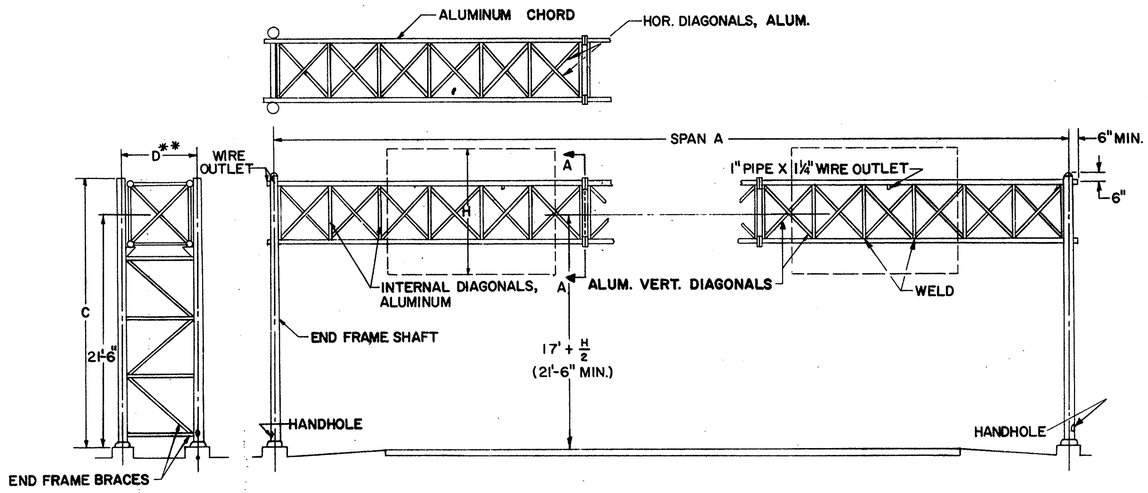
(140 SQ. FT. SIGN AREA)

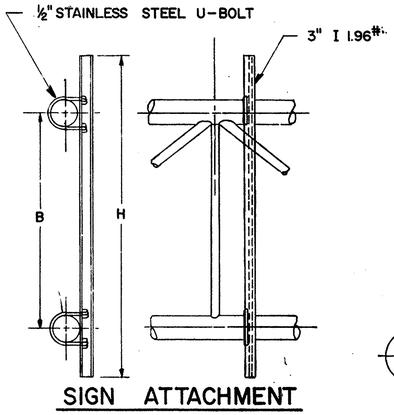
OVERHEAD SIGN SUPPORT I-129 NO. 2.14

FED. RD DIVISION	STATE		
2	OHIO		

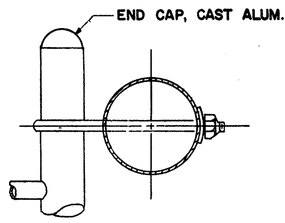
28-8
101

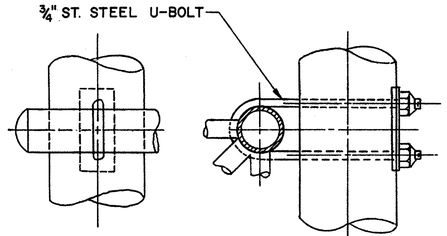
MAH-7-14.35





SIGN ATTACHMENT



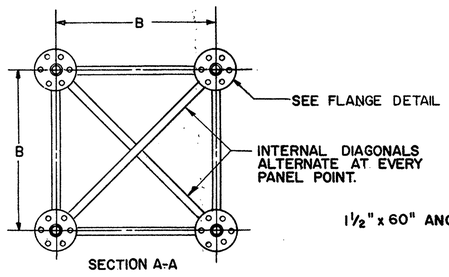


UPPER CLAMP

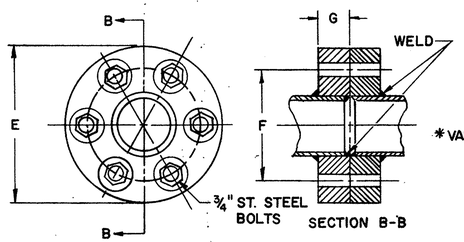
NOTES

FABRICATION:
ALUMINUM TUBING CONFORMING TO A.S.T.M. DESIGNATION B235, ALLOY GS 10A-T6 (6063-T6) MAY BE USED FOR TAPERED END FRAME SHAFTS.
SPAN SECTIONS ARE REQUIRED AS FOLLOWS:
2 FOR 50' TO 60' SPAN
3 FOR 65' TO 90' SPAN
4 FOR 95' TO 110' SPAN

ERECTION:
USE A MIN. OF 1" CAMBER IN THE CROSS-MEMBER FOR A 50' SPAN AND ADD ¼" OF CAMBER FOR EACH 5' INCREASE IN SPAN OVER 50'. THE GALVANIZED CONDUIT SHALL CONFORM TO SECTION S-25.08 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

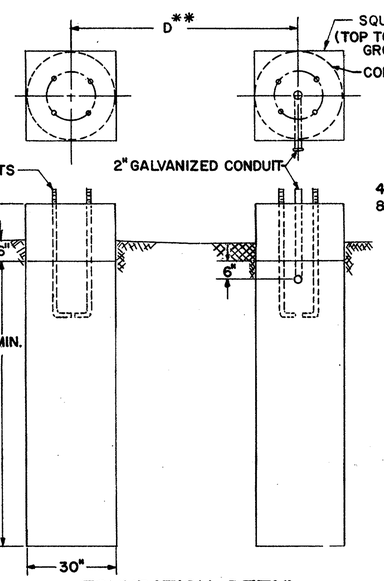


SECTION A-A

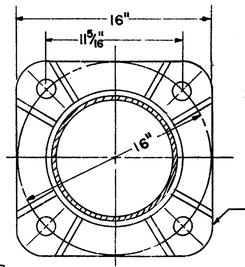


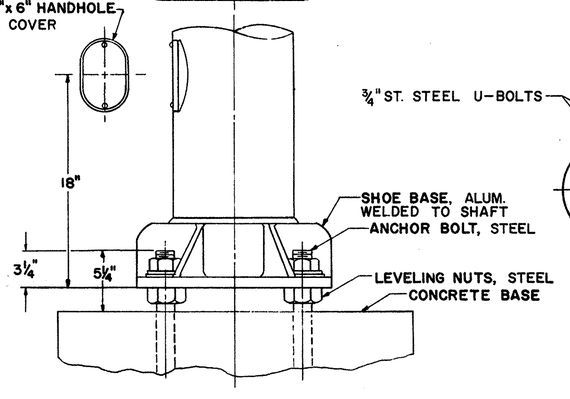
FLANGE SAME ALLOY AS POLE BASE

FLANGE DETAIL

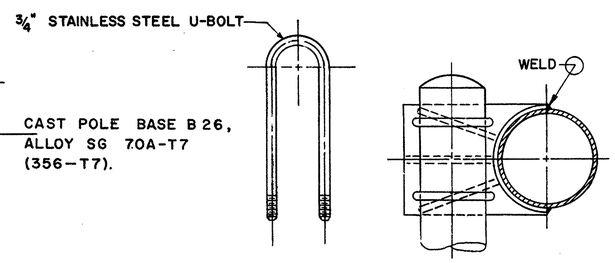


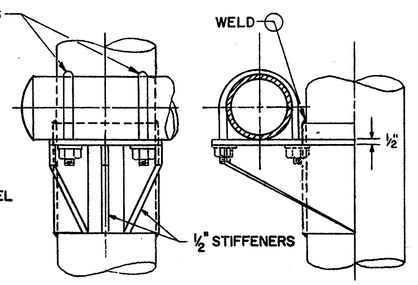
FOUNDATION DETAIL





POLE BASE DETAIL





LOWER CLAMP

** NOTE: THE VALUES OF "D" IN THE TABLE ARE FOR TAPERED ALUMINUM END SHAFTS. WHERE STRAIGHT ALUMINUM END SHAFTS ARE SPECIFIED 2" SHOULD BE ADDED TO DIMENSION "D".

* NOTE: ELEVATION OF TOP OF FOUNDATIONS SHALL BE BUILT UP SO THAT PROPER CLEARANCE IS MAINTAINED BETWEEN THE HIGHWAY CROWN AND THE CROSS MEMBER CENTERLINE.

DESIGN NO.	SPAN A	B	C	D**	CHORDS	END FRAME SHAFT		HORIZONTAL & INTERNAL DIAGONAL	END BRACES	E	F	G	VERTICAL DIAGONAL
						TAPERED	STRAIGHT						
1	50' thru 75'	3'-0"	23'-6"	4'-3"	4¾" x .188"	10"x8"x.250"	10"x.250"	1.900"x.145"	2½"x.188"	9¼"	7 7/16"	1⅜"	1.660"x.140"
2	80' thru 85'	4'-0"	24'-0"	5'-3"	4¾" x .188"	10"x8"x.188"	10"x.188"	2"x.188"	3½"x.188"	9¼"	7 7/16"	1⅜"	1.900"x.145"
3	90'	4'-0"	24'-0"	5'-4"	5½"x.250"	10"x8"x.188"	10"x.188"	2"x.188"	3½"x.188"	11"	8½"	1½"	1.900"x.145"
4	95' thru 110'	5'-0"	24'-6"	6'-4"	5½"x.250"	10"x8"x.188"	10"x.188"	2½"x.188"	3½"x.188"	11"	8½"	1½"	2½"x.188"

400 SQ.FT. SIGN AREA
OVERHEAD SIGN SUPPORT I-129 NO. 8.4

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-7-14.35

29/101

2.0' OPEN DITCH

NON-PARTICIPATING QUANTITIES

PARTICIPATING QUANTITIES

53.5 TAPER CHANNEL WIDTH

STA. 0+00 BEGIN RELOC. GIBSON RUN

STA. 1+91.67 31.0' RT. Y. & S. R.R.

P.C. STA. 0+53.50

EXIST. ℄

℄ S.R. 7

P.T. STA. 1+17.45

A-3 M.L.

2:1

CULVERT STA. 2+63.16 ℄ S.R. 7 STA. 764+46.10

PROPOSED 12' x 6' BOX CULVERT

I-2. 12" STORM SEWERS FOR DETAILS SEE SHEET Nº 31

80' 36" I-2 STORM SEWER FOR DETAILS & QUANTITIES SEE SHEET Nº 27

A-1 M.L.

A-4 M.L.

NON PARTICIPATING FUNDS

36" ST. SEWER EXT.

P.I. STA. 4+45.39 43' RT. Y. & S.R.R. STA. 154+43.10

PROPOSED 5'-6" x 3'-0" JUNCTION CHAMBER FOR DETAILS SEE SHEET Nº 34-A

I-8 Nº 1 INLET

I-8 Nº 1 INLET

P.I. STA. 5+08.85 BEGIN EXIST. 9'x6' BOX CULVERT 35.6S' RT. Y. & S. R.R. STA. 153+84.10

36" ST. SEWER 1.83%

1.773%

7'-0"

6'-25"

EXIST. 9'x6' BOX CULVERT 1.003%

EXIST. 42" SEWER 1.09%

EXIST. 48" SEWER 0.56%

REMOVE ALL OF EXIST. CONC. WALLS

EXIST. REGULATOR CHAMBER #3

EXIST. 24" SEWER 0.50% 0.50%

ADJUST EXISTING MANHOLE TO GRADE

℄ SURVEY Y. & S. R.R.

159+00 158+00 157+00 156+00 155+00 154+00 153+00

EXIST. 12" SEWER

STA. 157+75 Y. & S. R.R.

PROPOSED BRIDGE MAH-7-1445

PROPOSED 21" PIPE FOR QUANTITIES & CONSTRUCTION DETS. SEE SHEET Nº 27

FOR CONSTRUCTION DETAILS & QUANTITIES OF ITEMS MARKED THUS (A-M.L.) SEE SHEET Nº 14

LA

℄ CURVE DATA RELOC. GIBSON RUN

Δ = 8°-00'-00" RT.
T = = 457.60'
L_c = = 63.89'

NOTE:
FOR CONSTRUCTION DETAILS & ELEVATIONS OF THE FOLLOWING ITEMS SEE THE RESPECTIVE SHEETS LISTED BELOW:

CULVERT DETAILS	SHEET Nºs 32-34-A
EXTENSION OF 36" STORM SEWER	SHEET Nº 33
EXTENSION OF EXISTING REGULATOR CHAMBER	SHEET Nº 34
PROPOSED 5'-6" x 3'-0" JUNCTION CHAMBER	SHEET Nº 34-A

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	PARTICIPATING	NON PARTICIPATING	TOTAL
E-1	ROADWAY EXCAVATION	1 C.Y.	17 C.Y.	18 C.Y.
E-2	EXCAVATION FOR STRUCTURE	126 C.Y.	39 C.Y.	165 C.Y.
E-3	CHANNEL EXCAVATION	1,124 C.Y.	568 C.Y.	1692 C.Y.
I-2	12" PIPE FOR STORM SEWER	18 L.F.	0	18 L.F.
I-8	Nº 1 INLETS	2 EA.	0	2 EA.
I-8	MANHOLE FRAME & COVER FURNISHED & PLACED	0	1 EA.	1 EA.
I-10	DUMPED ROCK CHANNEL PROTECTION	0	230 C.Y.	230 C.Y.
S-1	CONCRETE FOR STRUCTURE CL."C"	676 C.Y.	252 C.Y.	928 C.Y.
S-4	REINFORCING STEEL	98,132 LBS.	70,551 LBS.	168,683 LBS.
S-24	REMOVAL OF EXISTING WINGWALLS	0	LUMP	LUMP

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 CHKD., BY, DATE

117.39' CHANNEL RELOCATION

BEGIN RELOCATION STA. 0+00

50' V.C.

P.V.C. STA. 0+50 EL. 937.44

P.V.I. STA. 0+75 EL. 936.15

P.V.T. STA. 1+00 EL. 935.90

STA. 1+17.49 43' RT. STA. 157+75 Y. & S. R.R.

12" I-2 PIPE STA. 1+29.49 EL. 937.77

6'-1"

I-10 DUMP ROCK CHANNEL PROTECTION

℄ INLET PROP. 12'x6' BOX CULVERT 935.72

℄ YOUNGSTOWN EXPRESSWAY STA. 764+46.10

1.00%

12" I-2 PIPE STA. 4+00 LT. & RT. EL. 936.40

STA. 4+36.39 ℄ EXTENSION EXIST. REG. CHAMBER E = 933.21

℄ 36" I-2 STA. 4+55.39 LT. E = 934.35

STA. 4+85.14 5'-6" x 3'-0" BOX LT. E = 936.32

40 YEAR FLOOD PLAIN TOP OF EXISTING WALL ELEV. 939.82

EXIST. 5'x6" BOX CULVERT 1.003%

P.I. STA. 5+08.85

937.44 936.41 935.90 935.72 935.40 934.90 934.40 933.90 933.40 932.90 932.40 931.90 931.81

960 940 920

940.00 940.50 939.75 939.00 938.50 938.75 935.30 934.50 934.00 932.00 931.50

0+00 1+00 2+00 3+00 4+00 5+00

WORK REQUIRED

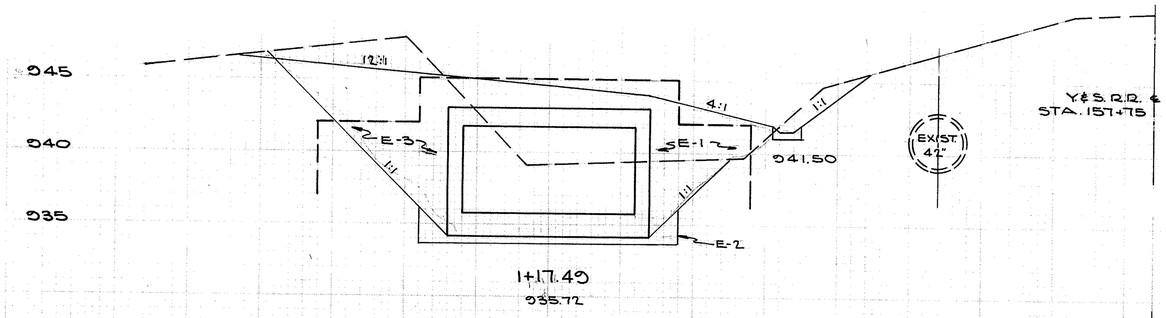
CONSTRUCT PROPOSED 12'x6' BOX CULVERT 391.4 LIN. FT.
RELOCATE EXISTING GIBSON RUN AS SHOWN
REMOVE EXISTING WINGWALLS
EXTEND EXIST. 36" STORM SEWERS TO PROP. BOX CULVERT
EXTEND OVERFLOW OUTLET TO PROPOSED BOX CULVERT
CONSTRUCT I-8 Nº1 INLET AS SHOWN. (1-REQ'D.)
CONSTRUCT 5'-6" x 3'-0" JUNCTION CHAMBER AS SHOWN

GIBSON RUN BOX CULVERT

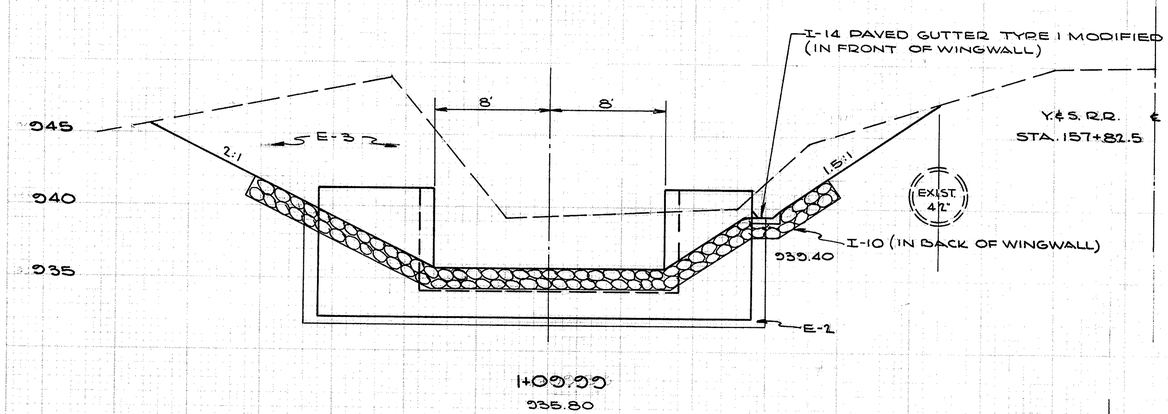
PLATE 1 — PLAN - PROFILE O. P. R. & R. E. STANDARD
261 FM-3 WATERPROOF FILM MADE AND PRINTED IN U.S.A.
EUGENE DIETZGEN CO., CHICAGO

FED. RD.	STATE	PROJECT		30/101
2	OHIO	I-680-9(5)		

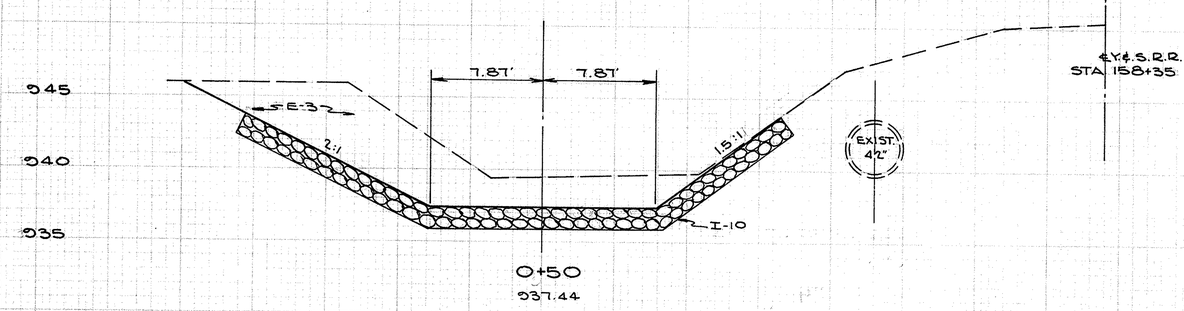
MAH.-7-14.35



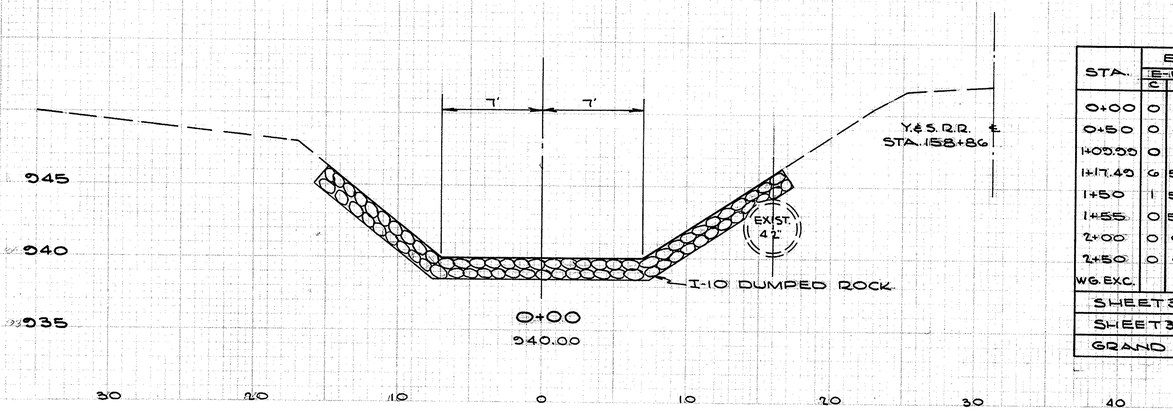
1+17.49
935.72



1+00.00
935.80

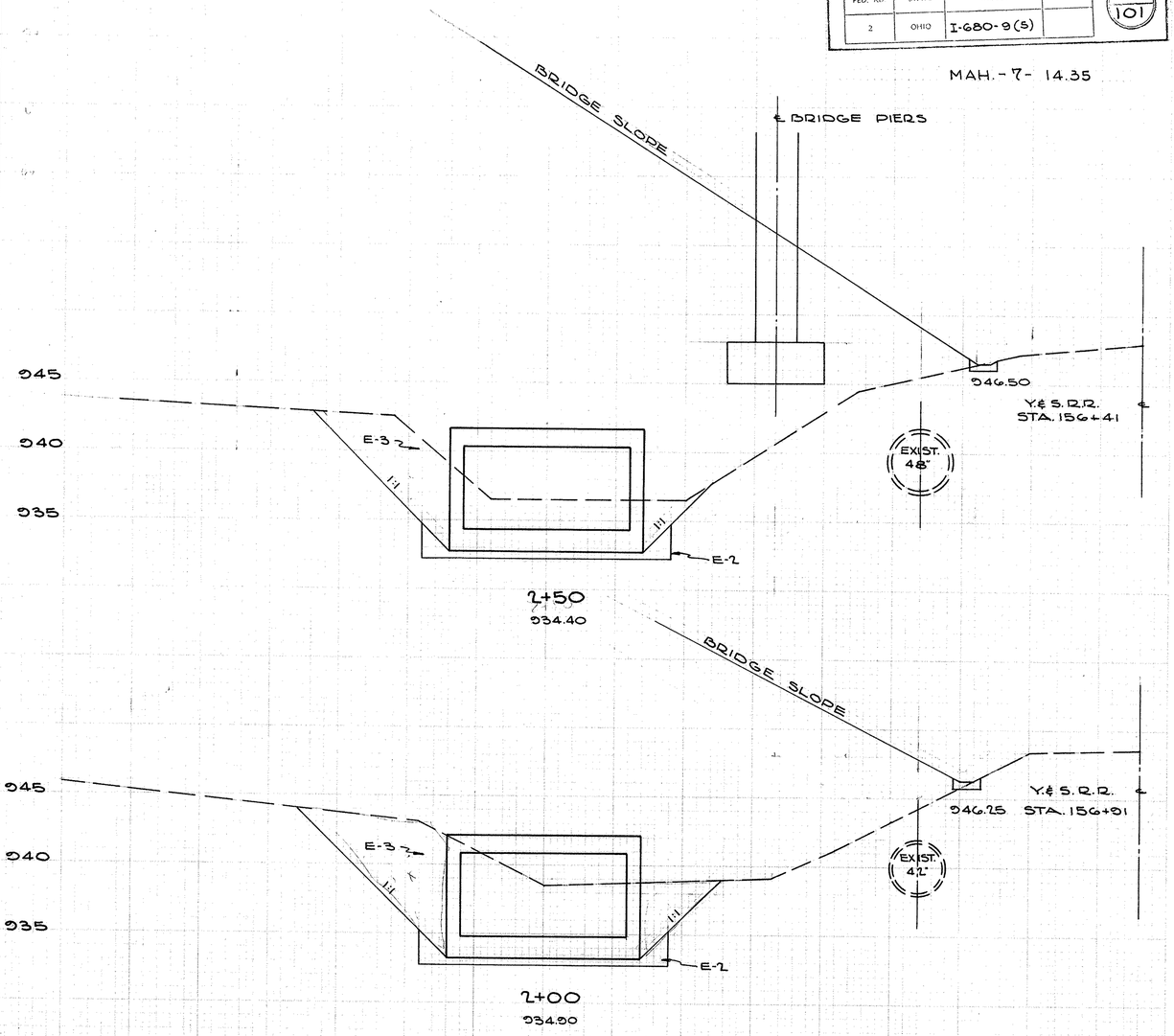


0+50
937.44

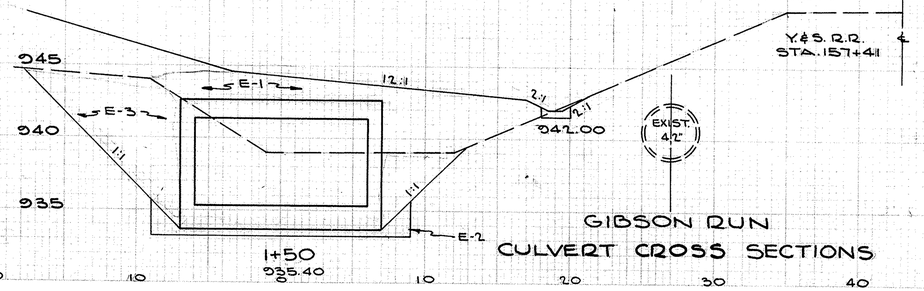


0+00
940.00

STA.	END AREA				CU. YDS.			
	E-1 C	E-1 F	E-2	E-3	E-1 C	E-1 F	E-2	E-3
0+00	0	0	0	0	-	-	-	-
0+50	0	0	0	108	0	0	0	100
1+00.00	0	0	0	240	0	0	0	258
1+17.49	6	58	11	176	1	8	2	58
1+50	1	56	11	146	4	69	13	191
1+55	0	56	11	147	0	10	2	27
2+00	0	0	11	140	0	47	18	247
2+50	0	0	11	99	0	0	20	239
WG. EXC.							70	
SHEET 30 TOTAL					5	134	75	1120
SHEET 31 TOTAL					13	506	90	572
GRAND TOTAL					18	640	165	1692



2+00
934.90



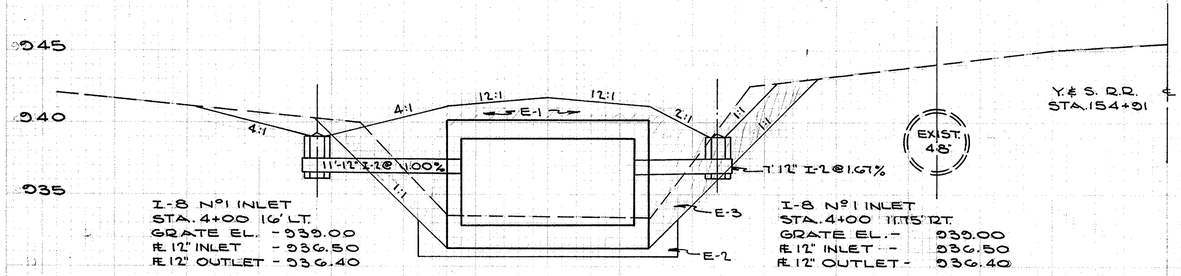
1+50
935.40

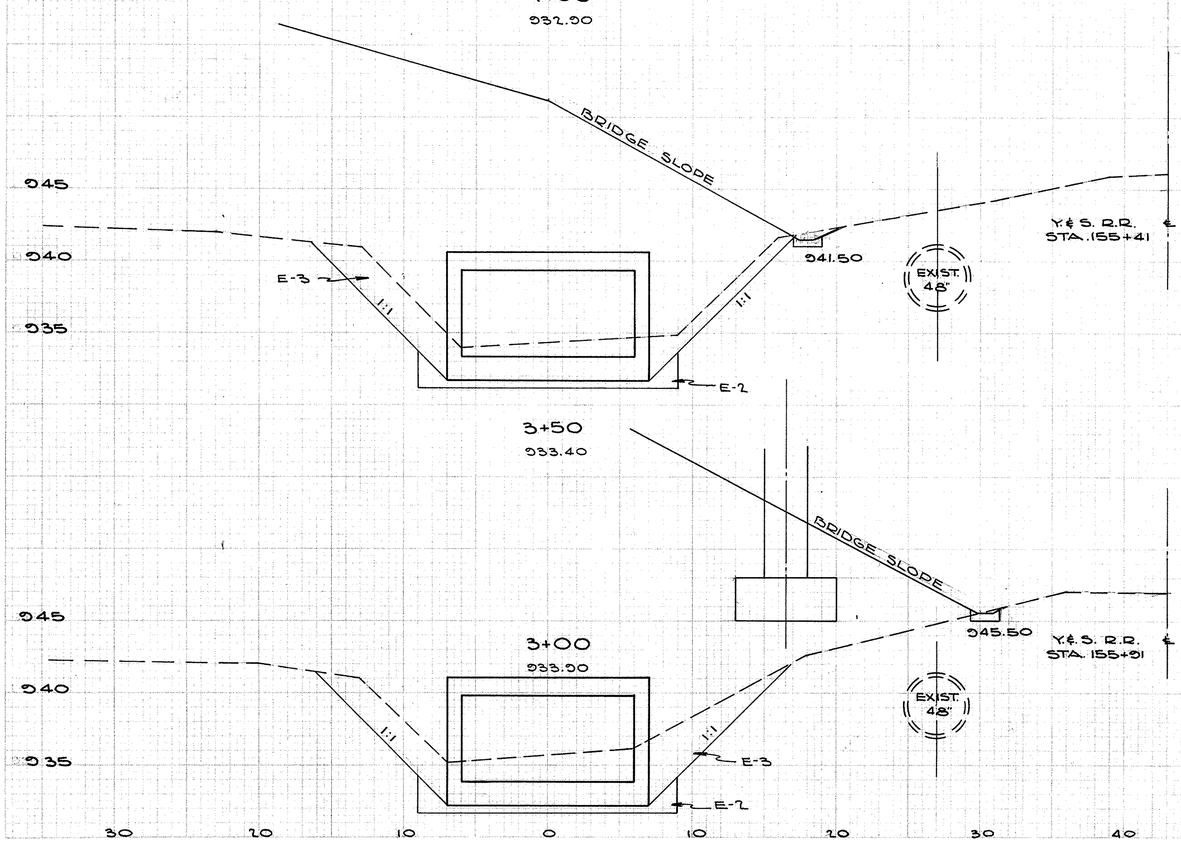
GIBSON RUN
CULVERT CROSS SECTIONS

PLATE 3-CROSS SECTION O.F.P.& B.E. STANDARD
BEUTTELL & ESSER CO., NEW YORK

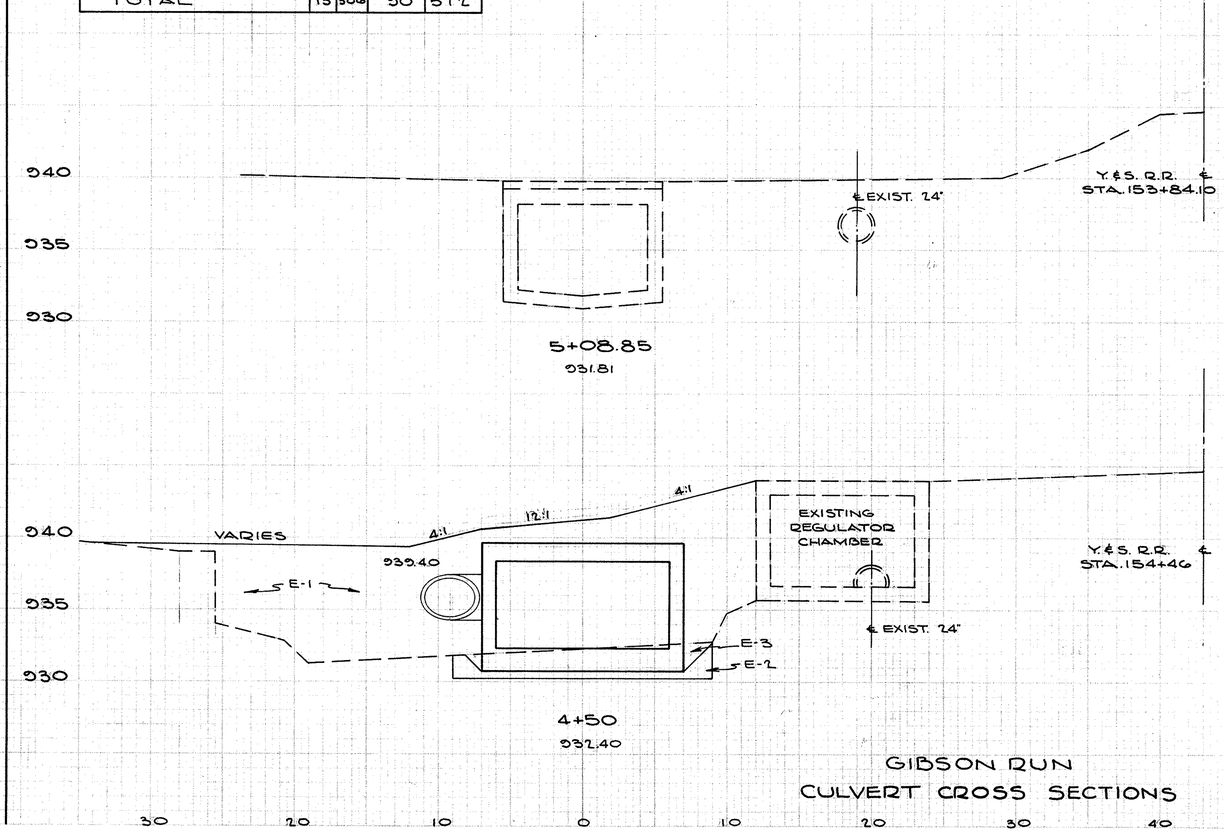
FED. RD.	STATE	PROJECT		31/101
2	OHIO	I-680-9 (5)		

MAH.-7-14.35





STA.	END AREA				CU. YDS.			
	E-1 C	E-1 F	E-2	E-3	E-1 C	E-1 F	E-2	E-3
3+00	0	0	11	93	0	0	20	178
3+50	0	0	11	73	0	0	20	154
3+82	7	52	11	76	4	31	13	88
4+00	7	52	11	79	3	23	5	34
4+50	0	201	11	22	6	234	20	94
5+08.85	0	0	0	0	0	218	12	24
TOTAL					13	506	90	572



GIBSON RUN
CULVERT CROSS SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

32
101

145' - 8"
7' - 6"
9 SPACES @ 30'-0" = 270'-0"
131' - 10"
℄ CONT. JT.
MATCH LINE A
℄ S.R. #7
℄ CONTRACTION JOINT
1'-3"
4' - 6"
℄ 12"ΦST. SEWER
5 - 602 N.S. & F.S.
2 - 505
INV. EL. 937.77
2"CL.
3 - 702
3 - 701
2½"
2½"
2½"
2½"
5"
5"
2½"
STA 1+17.49
FL. EL. 935.72
STA 1+29.49
FL. EL. 935.60
2 - 504
90°
℄ BOX CULVERT (SLOPE = -1.00%)
0°-02'-36" TO LOCAL TAN.
89°-57'-24" TO LOCAL TAN.
CULVERT STA 2+63.16
℄ S.R. #7 STA 764+46.10
7'-9⅛"
2'-6"
2'-9⅛"
2'-6"
3 SPACES @ 8'-0" = 24'-0" 3"Φ WEEPHOLES TYPICAL FOR ALL 30' SECTIONS
3'-0"
4"
3'-0"
3'-0"
1'-0" RAD. TYP.
5 - 602 N.S. & F.S.
2 - 505
16'-0"
6'-0"
6-405
2'-6"
2'-0"
3'-0"
2'-6"
2'-6"
4-604
4-603
5-405
1'-2"
6-402@1'-1" TOP
6-1002@1'-1" BOTT
1'-8½" 6-1003@1'-1" BOTT.
4½"
TOP SLAB
14 - 503@6½" N.S.
1"
7½"
BOTH WALLS
3-502@2'-8½" F.S. 1'-5½"
3-501@2'-8½" F.S.
7½"
7 - 1101@1'-1" TOP
1"
7 - 1001@1'-1" TOP
11"
7½"
BOTT. SLAB
7 - 401@1'-1" BOTT.
1" 13 SPCS.@6½" = 7'-0½" 4½"

TOP SLAB REINFORCING
WALL REIN. TYP. BOTH WALLS
BOTT. SLAB REINFORCING

27 -	402	@ 1'-1"	TOP OF SLAB
27 -	1002	@ 1'-1"	BOTT. OF SLAB
28 -	1003	@ 1'-1"	BOTT. OF SLAB
55 -	503	@ 6½"	N.S. OF WALL
11 -	502	@ 2'-8½"	F.S. OF WALL LAP WITH 501
11 -	501	DOWELS @ 2'-8½"	F.S. OF WALL
28 -	1101	@ 1'-1"	TOP OF SLAB
27 -	1001	@ 1'-1"	TOP OF SLAB
28 -	401	@ 1'-1"	BOTT. OF SLAB

54 SPACES @ 6½" = 29'-3"
30'-0"
11" 4½" 1'-5½"
℄ CONTRACTION JOINT
℄ CONT. JT.

8'8"
12"
1'-3⅜"
1.17' O.D.
INV. EL. 937.77
EL. 937.68
FL. EL. 935.60
2'-1"

SECTION X-X

PARTIAL PLAN

2-402
403
19-606 TOP SLAB
2-507
1'-0" RAD.
1'-0" MIN.
2'-0"
3-702
LAP WITH SER. 406 & SER. 1004: 2-513 F.S., 4-512 F.S., 5-511 F.S.
LAP WITH 501 DOWELS: 1-510 N.S., 1-509 N.S., 1-508 N.S.
2-506
ADJUST BARS TO MISS SEWER OPENING
1'-2"
3-701
3-407
404
7½"
3-501 DOW.@2'-8½" N.S.
SERIES 1102 @1'-1"
1'-2" SERIES 1004 @1'-1"
1'-0" 7½" SERIES 406 @1'-1"
10 SPCS.@6½" = 5'-5"
5-602 N.S. & F.S.
17-605 BOTT. SLAB
2-507

SECTION A-A

℄ CULVERT
6" 13 SPCS.@1'-0" = 13'-0" 14 - 403 6"
2-402
4-604 F.S.
4-603 N.S.
4-603 F.S.
4-604 N.S.
5-405 F.S.
6-405 N.S.
6'-0" HEIGHT
12'-0" SPAN
3-407
16 - 404 @1'-0"
27 SPACES @1'-0" = 27'-0"
6" 28'-0" 6"

SECTION B-B

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 THERE OF.

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

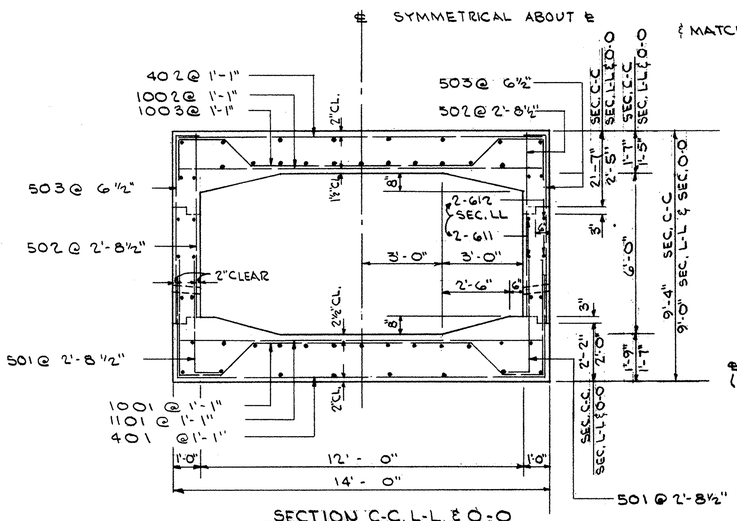
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

12 X 6 BOX CULVERT
UNDER S.R. #7
STA. 764+46.10
YOUNGSTOWN MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.D.H.	R.D.H.					

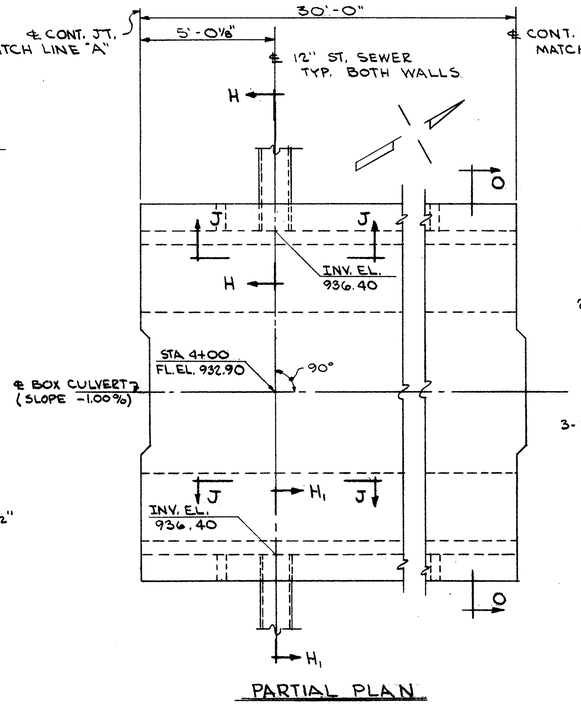
FED. RD.	STATE	PROJECT	
2	OHIO		

33
101

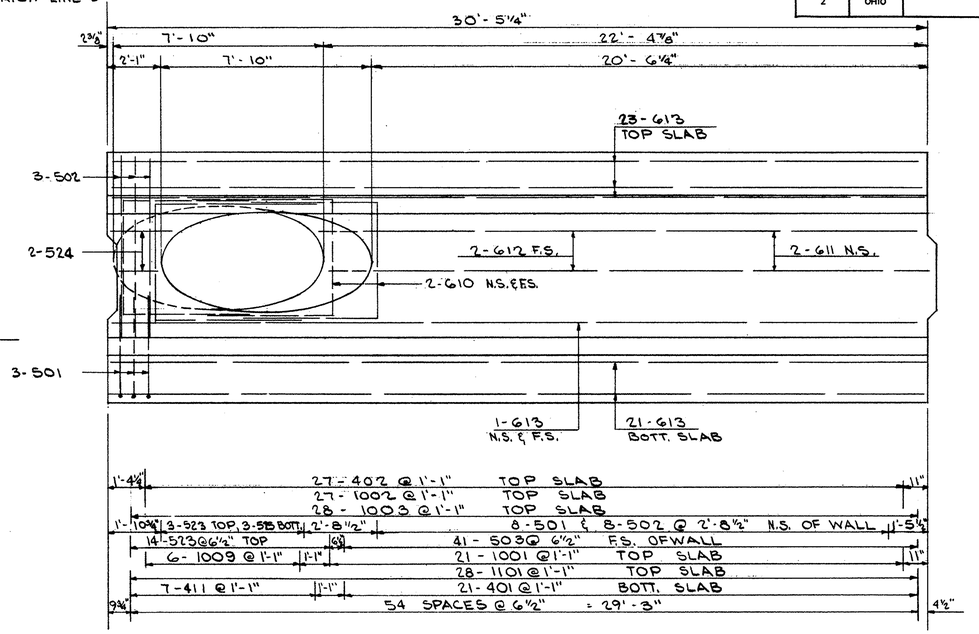


SECTION C-C L-L & O-O

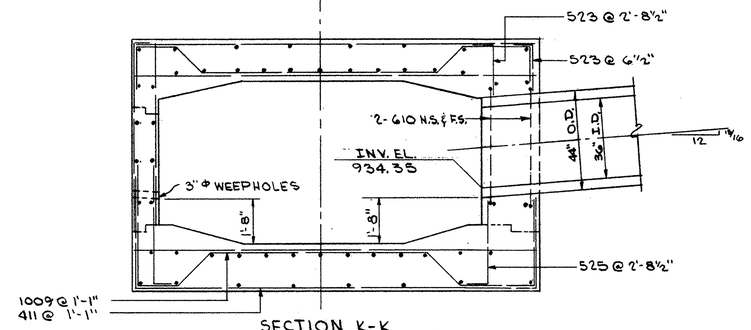
ALL LONGITUDINAL BARS ARE G01 FOR SEC. C-C & O-O & G13 FOR SEC. LL EXCEPT AS SHOWN



PARTIAL PLAN

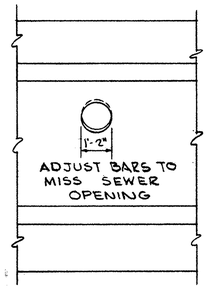


SECTION F-F

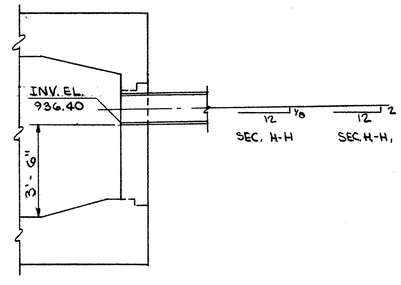


SECTION K-K

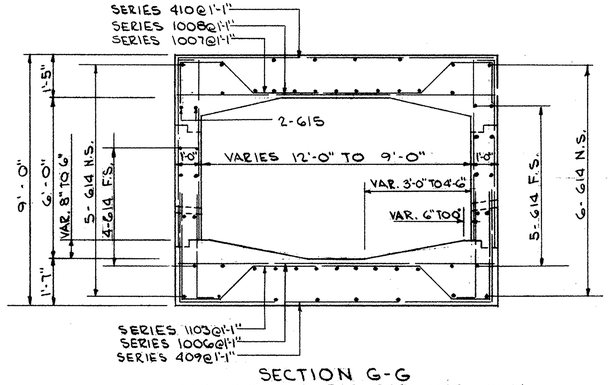
SEE SEC. L-L FOR DIMENSIONS AND REINFORCING BARS NOT SHOWN LONGITUDINAL BARS ARE G13 UNLESS OTHERWISE SHOWN



SECTION J-J

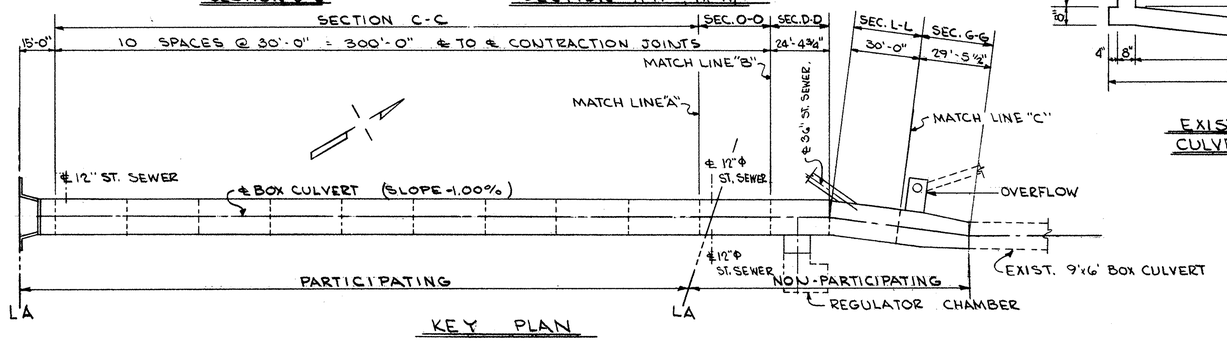


SECTION H-H & H,-H,

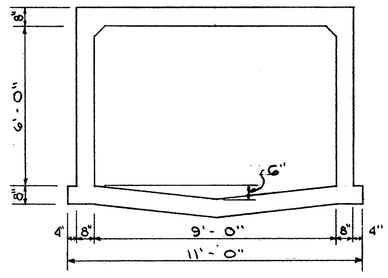


SECTION G-G

SEE SEC. C-C FOR BARS NOT SHOWN LONGITUDINAL BARS NOT SHOWN ARE G16



KEY PLAN



EXISTING 9'x6' CULVERT SECTION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

12 X 6 BOX CULVERT
UNDER S.R. #7
STA. 764+46.10
YOUNGSTOWN MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.					

FED. RD.	STATE	PROJECT	
2	OHIO		

34
101

MATCH LINE "B"

24'- 4 3/4"
11'- 4 3/4" | 13'- 0"
4½" | 44 SPCS. @ 6½" = 23'- 10"
7 - 401 @ 1'-1" | 8 - 408 @ 1'-1" | 8 - 401 @ 1'-1"
BOTT. SLAB: 6 - 1001 @ 1'-1" | 8 - 1005 @ 1'-1" | 8 - 1001 @ 1'-1"
23 - 1101 @ 1'-1"
23 - 1003 @ 1'-1"
TOP SLAB: 22 - 402 @ 1'-1"
22 - 1002 @ 1'-1"
4'- 10" | 2 SPCS. @ 8'-0" = 16'-0" 3" Φ WEEPHOLES | 4'- 10"
WALL REIN.: 9 - 501 @ 2'-8½" DOWELS N.S. OF WALL
9 - 502 @ 2'-8½" LAP WITH 501 N.S. OF WALL
45 - 503 @ 6½" F.S. OF WALL
1'-5½" | 3 - 501 @ 2'-8½" | 2'-8½" | 3 - 515 @ 2'-8½" | 2'-8½" | 3 - 501 @ 2'-8½" | 10"
3 - 502 @ 2'-8½" | 3 - 502 @ 2'-8½"
WALL REIN.: 13 - 503 @ 6½" F.S. | 17 - 515 @ 6½" F.S. TOP | 14 - 503 @ 6½" F.S.
4'-10" | 0°-56' | FL. EL. 933.21 | 3'-11½"

5 - 517
5 - 518
5 - 519
5 - 520

9'-0"
5 - 508
5 - 508
5 - 508
5 - 508
FL. EL. 935.81

13 SPCS. @ 6½" = 7'-0½"
1 - 412 @ 1'-1"
14 - 607 @ 6½"
1 - 608 @ 1'-1"
5 - 515 @ 2'-8½" F.S.
3 - 521 @ 2'-8½" F.S.
1 - 522 @ 1'-1" N.S.
BOTT. SLAB
TOP & BOTT. SLAB
TOP SLAB
WALL REIN.

EXISTING REGULATOR CHAMBER

D

STA 4+36.39
FL. EL. 932.54

RI. STA 4+49.39
FL. EL. 932.41

3 - 502 ABOVE
3 - 501 BELOW
2 - 524
INV. EL. 934.35

36" Φ ST. SEWER

6'-0" | 30'-0" | 24'-0"

2 - 612
2 - 611

11 - 502 @ 2'-8½" LAP WITH 11 - 501 DOWELS F.S. OF NEAR WALL
54 - 503 @ 6½" N.S. OF NEAR WALL
SEE SHT. 33 FOR REINFORCING NOT SHOWN

1'-0¼" | 5¾" | 5¼" | 5¼"

7°06' | 35°

℄ BOX CULVERT (SLOPE -1.00%)

STA 4+55.39
FL. EL. 932.35

MATCH LINE "C"

1'-0" | 5'-6" x 1'-9" OVERFLOW SEE SHT 34-A | 1'-0"

NORMAL 12'x6' CULVERT SECTION TO HERE.

9'- 5½" | 29'- 5½" | 19'- 5"

TAPER CULVERT BARREL TO MEET EXISTING 9'x6' CULVERT BARREL

2 SPACES @ 8'-0" = 16'-0" 3" Φ WEEPHOLES

3'-0"

SEE SHT. 34-A FOR REINFORCING IN THIS AREA

FL. EL. 936.32

STA 4+83.14
FL. EL. 932.07

PI STA 5+08.85
FL. EL. 931.81

6°-25'

3'-0" | 3 SPACES @ 8'-0" = 24'-0" 3" Φ WEEPHOLES | 3'-0¼"

EXIST. 9'x6' CULVERT

8 - 402 @ 1'-1" (TOP)
8 - 1002 @ 1'-1" (BOTT.)
9 - 1010 @ 1'-1" (BOTT.)
11 - 502 @ 2'-8½" LAP WITH 11-501 DOWELS F.S. OF WALL (NEAR WALL ONLY)
54 - 503 @ 6½" N.S. OF WALL (NEAR WALL ONLY)
9 - 1101 @ 1'-1" (TOP)
8 - 1001 @ 1'-1" (TOP)
9 - 401 @ 1'-1" (BOTT.)
55 SPCS. @ 6½" = 29'-8½"

SERIES 410Q 1'-1" (TOP)
SERIES 1008 Q 1'-1" (BOTT.)
SERIES 1007 Q 1'-1" (BOTT.)
SERIES 1108 Q 1'-1" (TOP)
SERIES 1006 Q 1'-1" (TOP)
SERIES 409 @ 1'-1" (BOTT.)

TOP SLAB
WALL
BOTT. SLAB

7'- 9" ±

402 @ 1'-1"
1002 @ 1'-1"
1003 @ 1'-1"
515 Q 6½"
514 Q 2'-8½"
9 - 516
9 - 541
502 Q 2'-8½"
503 Q 6½"
501 Q 2'-8½"
1005 @ 1'-1"
1101 @ 1'-1"
408 @ 1'-1"
FL. EL. 935.81
FL. EL. 933.21
VARIES

EXISTING REGULATOR CHAMBER

SECTION D-D
ALL LONGITUDINAL BARS ARE 609

9 - 516
608 @ 1'-1"
607 @ 6½"
9'-0"
VARIES
522 @ 1'-1"
521 @ 2'-8½"
5 - 508
5 - 508
515 @ 2'-8½"
412 @ 1'-1"
607 @ 6½"
515 @ 2'-8½"
9 - 516

SECTION E-E

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

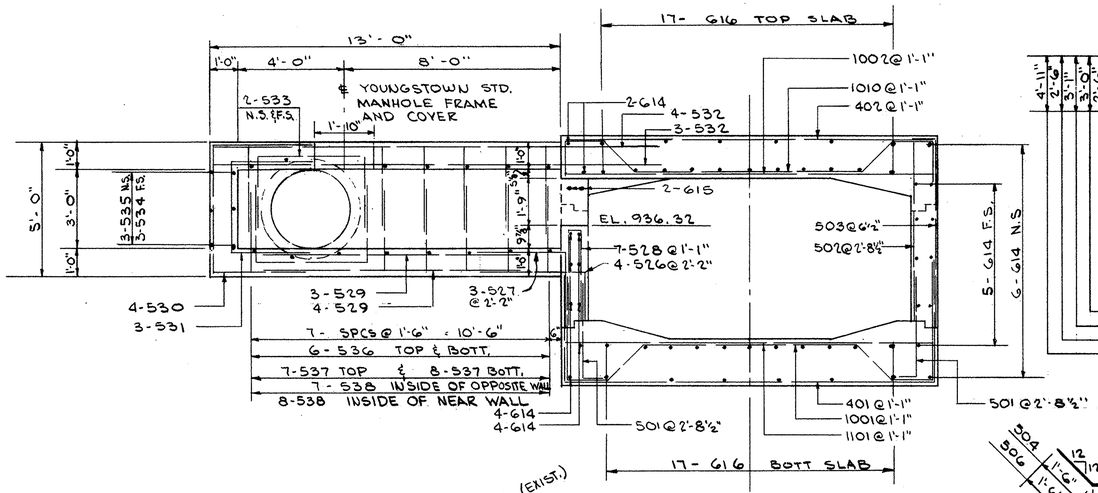
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

12 X 6 BOX CULVERT
UNDER S.R. 7
STA. 764+46.10
YOUNGSTOWN MAHONING COUNTY

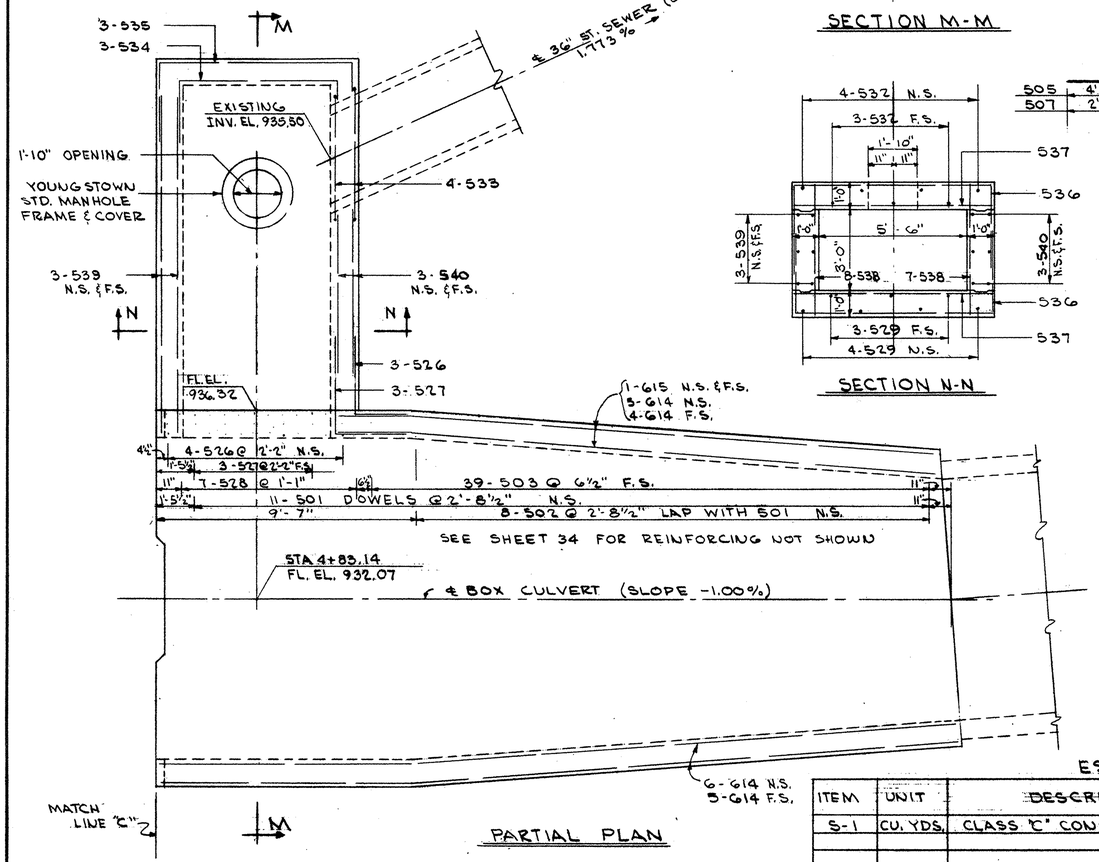
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.					

FED. RD.	STATE	PROJECT	
2	OHIO		

34-A
101

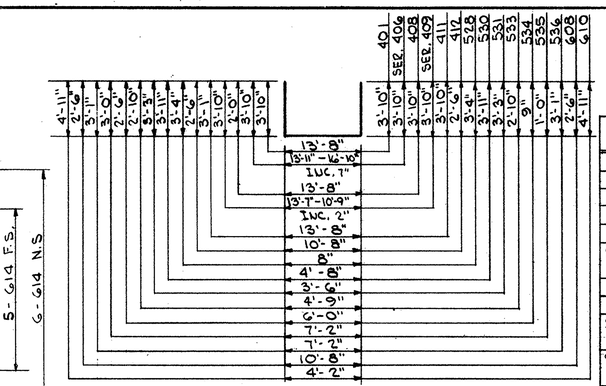


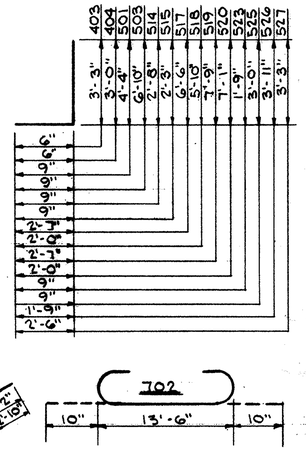
SECTION M-M

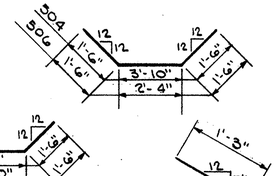


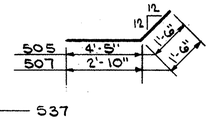
PARTIAL PLAN

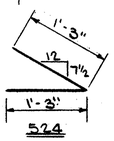
SECTION N-N

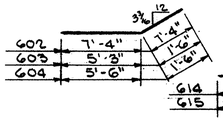


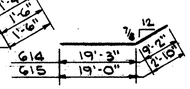


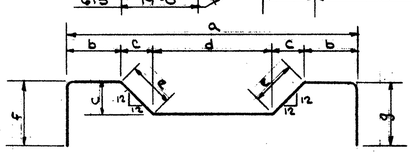












MARK	a	b	C	d	e	f	g
1001	13'-8"	1'-6"	1'-3⅜"	8'-1¼"	1'-9¾"	4'-3"	4'-3"
1003	13'-8"	1'-6"	1'-2⅜"	8'-3¼"	1'-8⅜"	1'-6"	1'-6"
SERIES 1004	14'-2" TO 16'-6" INC. 7"	1'-9" TO 2'-11" INC. 3½"	1'-3⅜"	8'-1¼"	1'-9¾"	4'-3"	4'-3"
1005	13'-8"	1'-6"	1'-3⅜"	8'-1¼"	1'-9⅜"	4'-3"	1'-10"
SERIES 1006	13'-7" TO 16'-7" INC. 2"	1'-6"	1'-3⅜"	8'-0⅛" TO 8'-5⅛" INC. 2"	1'-9¾"	4'-3"	4'-3"
SERIES 1007	13'-4" TO 16'-6" INC. 2"	1'-6"	1'-2⅜"	7'-11⅛" TO 8'-5⅛" INC. 2"	1'-8⅜"	1'-6"	1'-6"
1009	13'-8"	1'-6"	1'-3⅜"	8'-1¼"	1'-9¾"	4'-3"	3'-3"
1010	13'-8"	1'-6"	1'-2⅜"	8'-3¼"	1'-8⅜"	1'-3"	1'-6"

REINFORCING BAR SCHEDULE

MARK	NO. REQD.	LENGTH	WEIGHT	SHAPE	MARK	NO. REQD.	LENGTH	WEIGHT	SHAPE
401	332	21'-2"	4,695	BT.	601	560	29'-8"	24,956	ST.
402	335	13'-6"	3,021	ST.	602	20	14'-8"	441	BT.
403	14	3'-8"	34	BT.	603	8	6'-8"	80	BT.
404	16	3'-5"	37	BT.	604	8	6'-11"	83	BT.
405	22	9'-2"	135	ST.	605	17	14'-8"	375	ST.
SERIES 406	1 SET OF 6 BARS	21'-6" TO 24'-5" INC. 7"	92	BT.	606	19	7'-0"	200	ST.
					607	28	10'-8"	449	ST.
407	3	27'-8"	55	ST.	608	7	15'-6"	163	BT.
408	8	19'-4"	103	BT.	609	50	23'-8"	1777	ST.
SERIES 409	1 SET OF 18 BARS	21'-1" TO 18'-8" INC. 2"	237	BT.	610	4	13'-10"	83	BT.
					611	2	20'-8"	62	ST.
SERIES 410	1 SET OF 19 BARS	18'-6" TO 10'-6" INC. 2"	152	ST.	612	2	22'-0"	66	ST.
					613	52	29'-2"	2,278	ST.
411	7	20'-5"	95	BT.	614	22	28'-5"	939	BT.
412	7	15'-7"	73	BT.	615	2	21'-10"	66	BT.
					616	34	28'-8"	1464	ST.
501	291	5'-0"	1518	BT.					
502	282	6'-7"	1935	ST.	701	3	27'-8"	170	ST.
503	1388	7'-6"	10,858	BT.	702	3	15'-2"	93	BT.
504	52	6'-9"	366	BT.					
505	104	5'-10"	632	BT.					
506	52	5'-3"	285	BT.					
507	104	4'-3"	461	BT.	1001	320	22'-5"	30,871	BT.
508	22	7'-9"	178	BT.	1002	333	13'-6"	19,344	ST.
509	2	6'-6"	14	ST.	1003	337	17'-4"	25,130	BT.
510	2	5'-3"	11	ST.	SERIES 1004	1 SET OF 5 BARS	23'-8" TO 25'-7" INC. 7"	525	BT.
511	10	8'-0"	83	ST.					
512	8	6'-9"	56	ST.	1005	8	20'-0"	688	BT.
513	4	5'-6"	23	ST.	SERIES 1006	1 SET OF 19 BARS	22'-8" TO 19'-8" INC. 2"	1,731	BT.
514	3	3'-4"	10	BT.					
515	23	2'-11"	70	BT.	SERIES 1007	1 SET OF 18 BARS	16'-11" TO 14'-1" INC. 2"	1201	BT.
516	18	7'-9"	145	ST.					
517	5	9'-0"	47	BT.	SERIES 1008	1 SET OF 19 BARS	13'-5" TO 10'-5" INC. 2"	975	ST.
518	5	7'-9"	41	BT.					
519	5	10'-3"	53	BT.	1009	6	21'-5"	553	BT.
520	5	9'-0"	47	BT.	1010	9	17'-1"	661	BT.
521	6	4'-9"	30	ST.					
522	14	4'-0"	58	ST.					
523	17	2'-5"	43	BT.					
524	2	2'-5"	5	BT.	1101	347	13'-6"	24,889	ST.
525	3	3'-8"	8	BT.	SERIES 1102	1 SET OF 6 BARS	13'-11" TO 16'-10" INC. 7"	490	ST.
526	7	5'-7"	41	BT.					
527	6	5'-8"	35	BT.	SERIES 1103	1 SET OF 18 BARS	13'-5" TO 10'-5" INC. 2"	1140	ST.
528	7	7'-2"	52	BT.					
529	7	10'-0"	73	ST.					
530	4	12'-4"	51	BT.					
531	3	9'-10"	31	BT.					
532	7	15'-0"	110	ST.					
533	4	10'-3"	43	BT.					
534	3	9'-1"	28	BT.					
535	3	11'-0"	34	BT.					
536	12	13'-2"	165	BT.					
537	15	7'-2"	112	ST.					
538	15	4'-8"	73	ST.					
539	6	12'-6"	78	ST.					
540	6	6'-9"	42	ST.					
541	18	3'-6"	66	ST					

TOTAL WEIGHT = 168,683 LBS.

REPLACEMENT BARS			
RE 401	1	5'-3"	ST
RE 501	1	5'-6"	ST
RE 601	2	6'-0"	ST.
RE 701	1	6'-3"	ST.
RE 1001	5	7'-2"	ST.
RE 1101	2	7'-6"	ST.

ESTIMATED QUANTITIES

ITEM	UNIT	DESCRIPTION	TOTAL	PARTICIPATING	NON-PARTICIPATING
S-1	CU. YDS.	CLASS "C" CONCRETE	928	676	252
S-4	LBS.	REINFORCING STEEL	168,683	98,132	70,551

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, 411 IS A № 4 BAR, AND 1001 IS A № 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 SEC. S 4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

12 X 6 BOX CULVERT
UNDER S.R. №7
STA. 764+46.10
YOUNGSTOWN MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.D.H.	R.D.H.					

FED. RD	STATE	PROJECT	
2	OHIO	I-680-9(5)	

35
101

MAH 7-14.35

E.A. C.Y.

C-58
F-7060

C- 8
F-4165

950

C-21
F-7132

C- 15
F-3538

950

C-27
F-6161

C- 14
F-3123

950

C-36
F-5049

C-25
F-2330

950

C-195
F-2773

C-186
F-665

960

FINAL SURVEY PLOTTED MAP CHECKED NOTE BOOK PAGE NO. REMARKS

ORIGINAL SURVEY PLOTTED NOTE BOOK PAGE NO. REMARKS

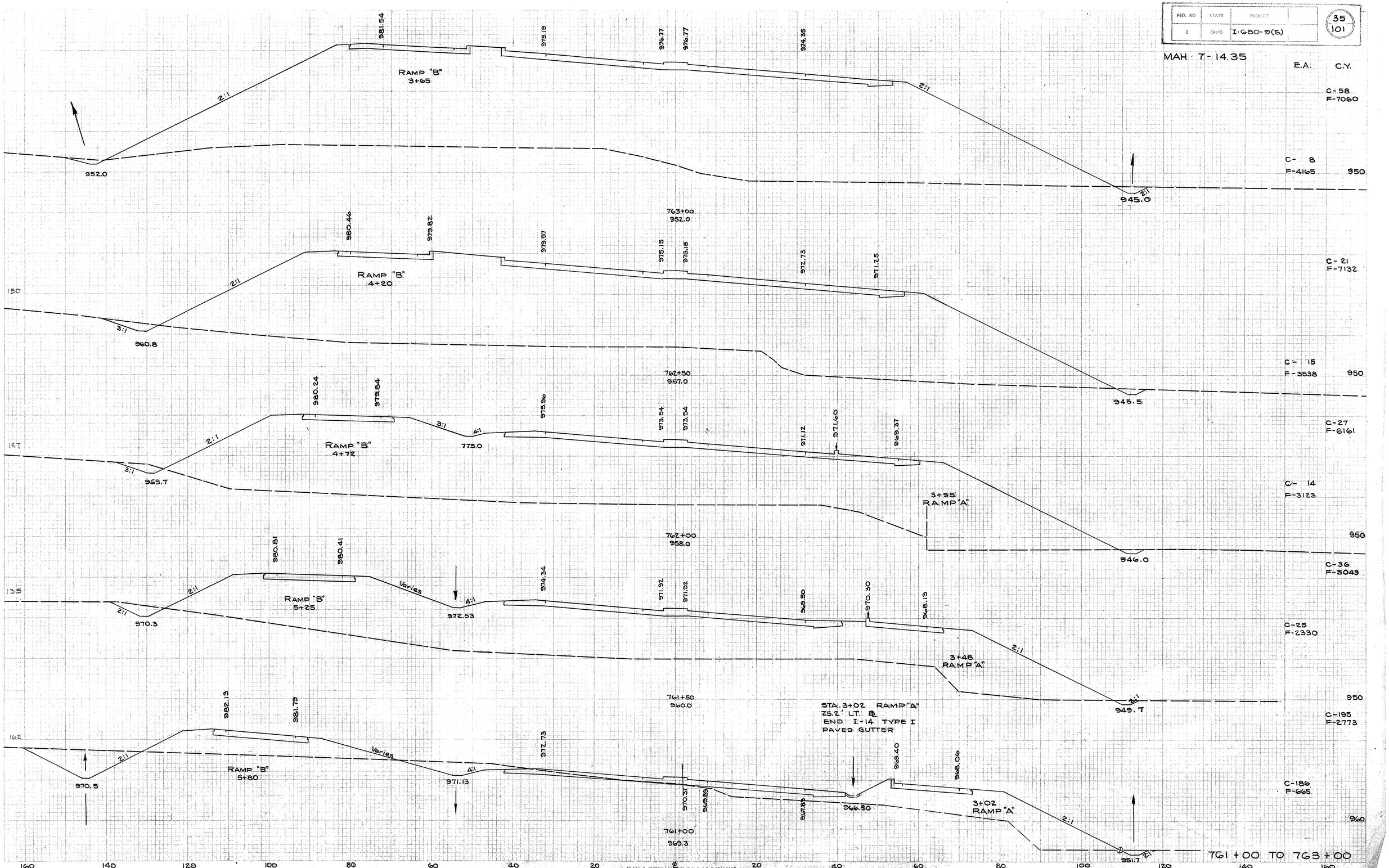


PLATE 3-CROSS SECTION O.P.S.&P.C. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

36
101

MAH 7-14.35 E.A. C.Y.
STA. 765+19 125' RT. ℄ C-39
I-8 № 2-4 C.B. F-9468
WINDOW ELEV. 946.00
FL EXIST. 36" PIPE 940.96

A-4

987.04 986.04 985.04 984.09 983.44 983.22 982.80 980.80 979.80 978.85

2:1 2:1 4:1

949.2

C-13
F-6860

984.03 981.61 765+00 946.0 983.19

RAMP "B"
2+9.5

970 960 950 940 980

C-15
F-10,394

970 960 950 940

VARIES VARIES

A-3

STA. 764+50
I-8 № 5 C.B.
137.0' LT. ℄
GRATE ELEV. 944.25
FL 12" I-2 942.41

C-3
F-4366

984.52 982.42 980.00 764+50 937.0 977.56

RAMP "B"
2+64

C-3
F-4063

980 970

C-0
F-0

993.08 980.80 978.38 764+00 948.2 975.96

RAMP "B"
3+15.5

950 940

C-51
F-3204

960 950 940

C-55
F-3460

951.80 944.50

763+50
947.0

763+50 TO 765+00

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

PLATE 3-CROSS SECTION 6.2" H. & B. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

FINAL SURVEY DATA NOT MONUMENTED AREA

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

37
101

MAH 7-14.35

E.A. C.Y.

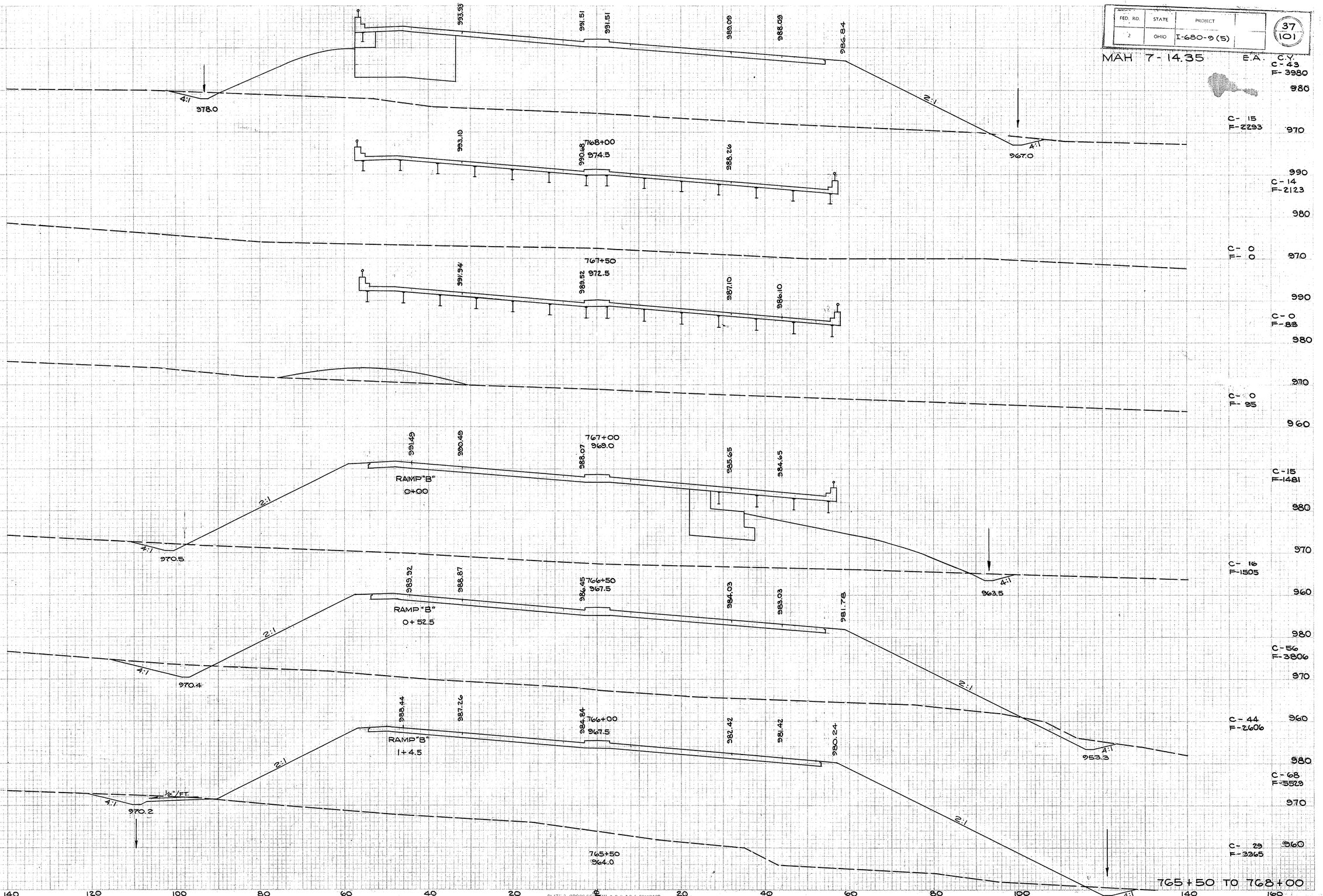


PLATE 3 - CROSS SECTION O. P. R. & P. E. STANDARD
KRUEGER & ESSER CO., NEW YORK.

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

38
101

MAH 7-14.35

E.A. C.Y.

993.45 992.45 990.03 987.61

2:1 3:1 981.0

771+00
980.0

3:1 4:1 976.7

C-40
F-2056

C-20
F-1318

980

993.48 993.48 991.06 988.64

2:1 3:1 980.7

2:1 4:1 973.4

C-48
F-2834

C-32
F-1743

993.19 770+50 978.0 991.77 989.35

970

2:1 3:1 979.9

2:1 4:1 972.5

C-45
F-3302

C-17
F-1823

970

995.55 994.59 992.17 989.75

770+00
979.0

2:1 3:1 980.2

2:1 4:1 972.2

C-50
F-3512

C-37
F-1970

970

995.08 994.08 992.26 989.84

769+50
978.5

2:1 3:1 979.9

2:1 4:1 971.2

C-116
F-3600

C-88
F-1918

970

995.74 994.47 992.05 989.63

769+00
977.0

2:1 3:1 979.6

2:1 4:1 968.0

C-110
F-3632

C-31
F-2005

970

768+50 TO 771+00

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

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

FINAL SURVEY SHEET
NOT FOR CONSTRUCTION
INC. AREAS ONLY

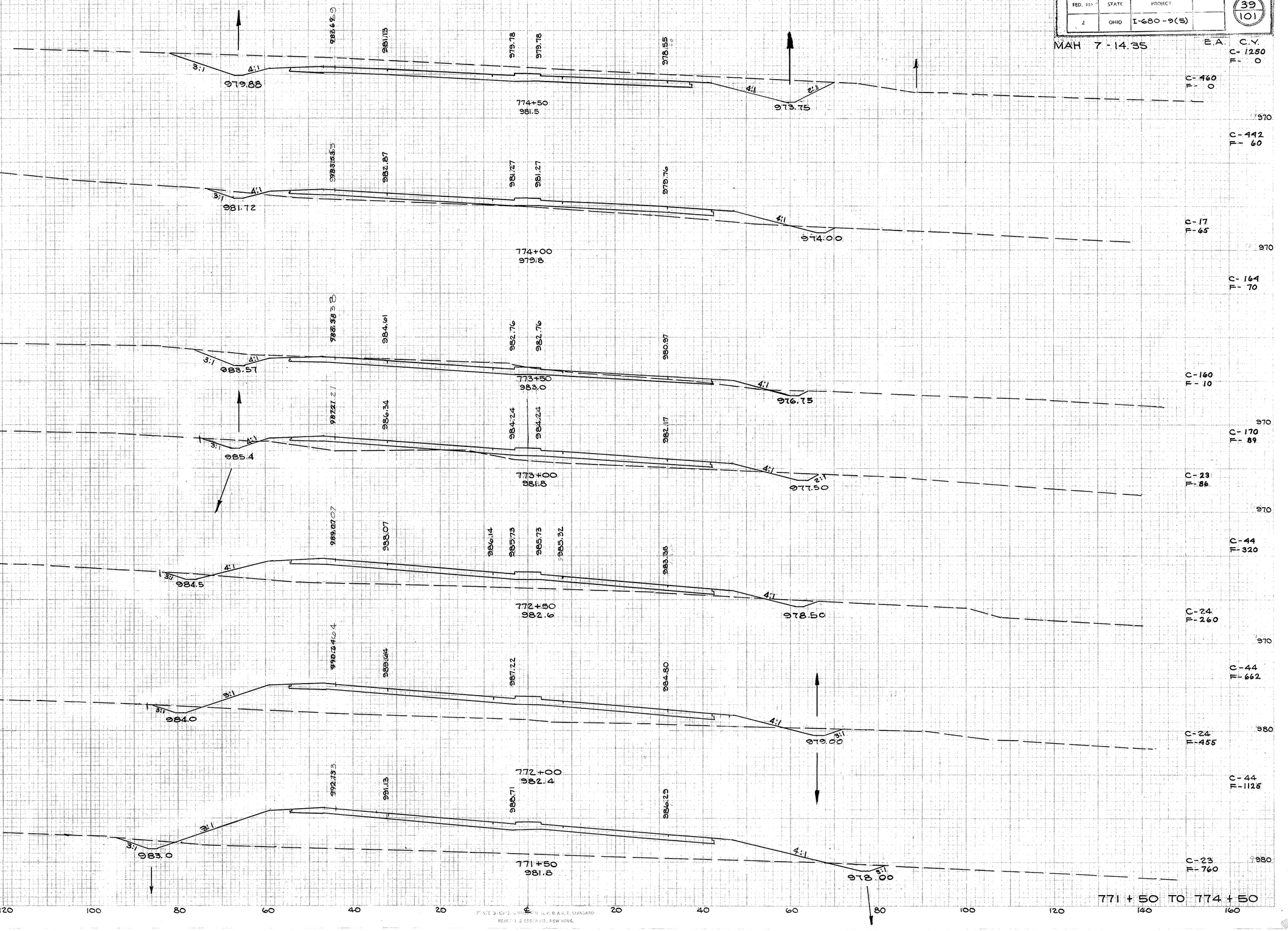
ORIGINAL SURVEY SHEET
NOT FOR CONSTRUCTION
INC. AREAS ONLY

FED. REG.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

39
101

MAH 7-14.35 E.A. C.Y.

FINAL SURVEY NOTE BOOK NO. PAGE



771 + 50 TO 774 + 50

PLATE 3-C(2) SHEET NO. 6 OF 8 P.R.&R.E. STANDARD
REUPKE & ESSER CO., NEW YORK.

FED. RD.	TYPE	PROJECT
2	OHIO	I-680-9(5)

40
101

MAH 7-14.35 E.A. C.Y.

FINAL SURVEY
NOTE BOOK
NO. PAGES

ORIGINAL SURVEYS
NOTE BOOK
NO. PAGES CHECKED

778+00 - ZERO SECTION
982.0
968.64
2:1
4:1
967.54
967.73
2:1

777+50
982.2
970.93
2:1
4:1
968.83
968.90
2:1

777+00
984.0
972.35
2:1
4:1
970.31
970.20
2:1

776+50
984.0
973.84
2:1
4:1
972.06
971.60
3:1

776+00
983.0
975.32
976.10
975.91
2:1
4:1
974.12
972.80
4:1
2:1

977.96
977.46
977.02
976.81
976.81
976.13
2:1
4:1
976.00
973.10
4:1
2:1

775+50
982.3
979.83
979.34
978.65
978.30
978.30
978.24
977.34
Variable
4:1
977.91
973.50
4:1
2:1

775+00
983.0

C-1759 F-0
C-1900 F-0
C-3630 F-0
C-2020 F-0
C-3426 F-0
C-1680 F-0
C-2620 F-0
C-1150 F-0
C-1889 F-0
C-890 F-0
C-1648 F-0
C-890 F-0

980
980
980
980
970
970
970

160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

775+00 TO 778+00

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

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

41
101

MAH 7-14.35

EXIST. ℄ HEASLEY AVE

℄ EXIST. HEASLEY

963.91

965.82

780+00
981.0

964.21

966.58

779+50
983.0

STA. 779+00
END PROJECT
&
PAVEMENT
MAH 7-14.35

2:1

967.47

965.56

779+00
984.0

968.49

966.58

778+50
984.0

778+50 TO 780+00

990
980
970

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

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

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

42
101

E.A. C.Y.

C- 26
F- 576

FOR ADDITIONAL SECTIONS
RAMP "A" SEE MAIN LINE
X-SECTIONS STA. 761+00
SHEET N° 35

MAH-7-14.35

C- 20
F- 228

C- 244
F- 248

C- 243
F- 40

C- 319
F- 57

C- 102
F- 22

C- 162
F- 39

C- 73
F- 20

C- 119
F- 28

C- 77
F- 4

C- 55
F- 10

C- 125
F- 0

970

980

2:1

4:1

3:1

958.0

963.36

970.04

2+50
964.0

℄-EXPRESSWAY

760+45
968.59
GRADE
ONLY

BEGIN I-14
TYPE I PAVED
GUTTER

963.8

971.91

973.06

2+00
976.2

971.68

908.6

973.11

975.34

1+50
976.4

974.48

975.08

978.29

978.80

BLDG.

977.26

1+00
978.5

979.25

980.44

980.87

0+50
980.5

0+27
981.3

ALONG WEST GUTTER

PG

100
80
60
40
20
00

FINAL
SURVEY
NOTE SHEET

ORIGINAL
NOTE SHEET

FLAT 3 CROSS SECTION O. P. R. A. R. E. STANDARD
KLUTTZ & ESSEN CO., NEW YORK

RAMP "A"

FED. RD.	STATE	PID
2	OHIO	

43
101

FOR ADDITIONAL SECTIONS
RAMP "B" SEE MAINLINE X-SEC
STA 761+00 SHEET Nº 35

E.A.
C.Y.

C-584
F-234

C-465
F-0

STA 760+50
MAINLINE

C-279
F-0

C-540
F-0

C-796
F-0

C-320
F-0

C-454
F-0

C-170
F-0

C-278
F-0

C-130
F-0

C-191
F-0

C-261
F-0

C-76
F-0

C-120
F-0

975.5

981.78

982.18

6+35

4:1

2:1

980.5

982.06

980.34

6+50

980.77

982.38

981.26

7+00

981.05

983.38

982.46

984.30

982.57

7+50

985.21

983.48

8+00

986.13

984.40

8+50

985.73

983.94

RAMP "B"
9+22.78
98?.47
MEET EXIST. PAVT.
SOUTH AVE.

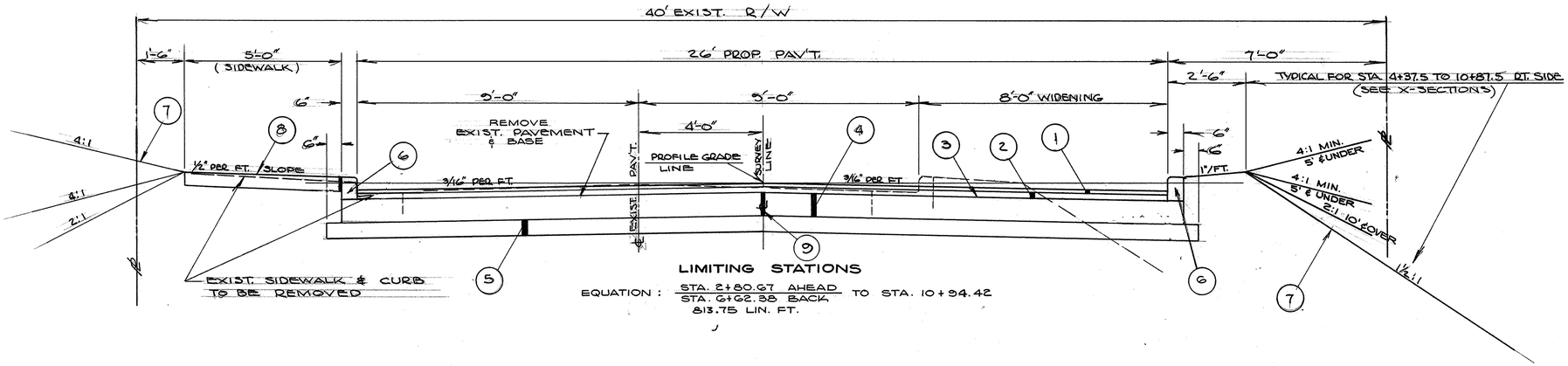
990
980

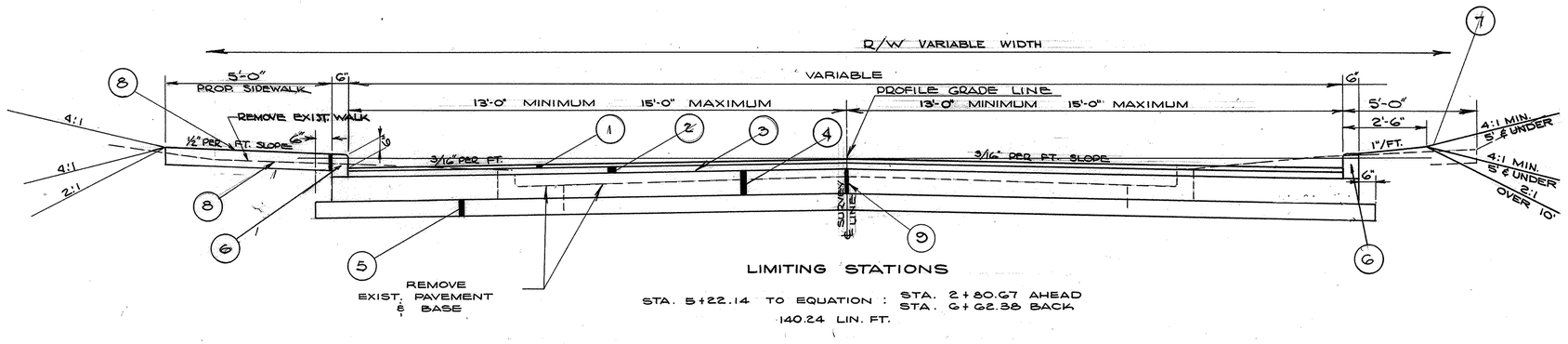
80
60
40
20
0
20
40
60
80

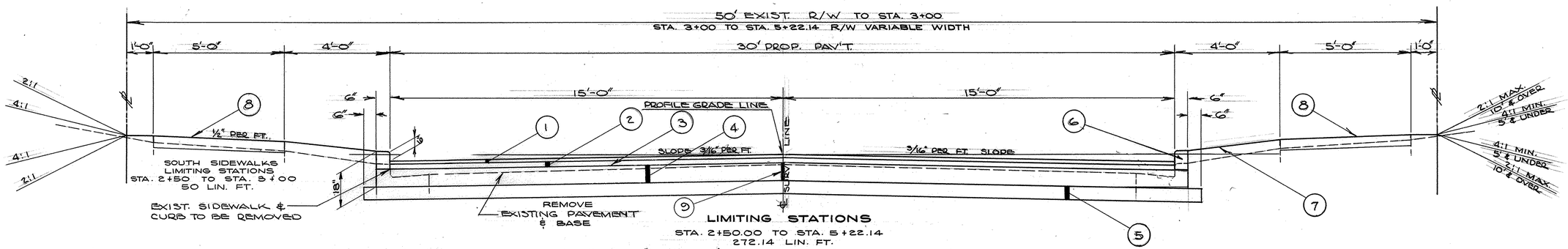
RAMP "B"

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-7-14.35







① 1" T-35 ASPHALTIC CONCRETE SURFACE COURSE TYPE "C" (70-85)
② 2" B-35 ASPHALTIC CONCRETE LEVELING COURSE (70-85)
③ T-30 BITUMINOUS TACK COAT, SEC. M-5.5, MS-2 OR RS-1, OR SEC. M-5.2, RC-1, RC-2 OR RC-3.
④ 9" B-70 PORTLAND CEMENT CONCRETE BASE COURSE
⑤ 6" I-22 SUBBASE, GRADING "C" or "D"
⑥ I-12 STANDARD TYPE 2-B CONCRETE CURB
⑦ L-9 SEEDING AND PROTECTING
⑧ 5" I-13 CONCRETE SIDEWALK- -INCLUDING 5" CINDER SUBBASE
⑨ STANDARD LONGITUDINAL JOINT

● *Thicknesses shown are "designed" thicknesses as described in Section T-35.01 and Section B-35.01.*

TYPICAL SECTIONS - DELASON & BELLEVIEW

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

45
101

MAH-7-14.35

ITEM I-12 CONC. CURB			
CODE	FROM	TO	LOCA.	QUAN.
G-1	2+50 DELA.	3+75 BELLE.	LT. OF ℄	498.08 L.F.
G-2	4+05 BELLE.	7+16 BELLE.	LT. OF ℄	340.90 L.F.
G-3	7+50 BELLE.	11+68 BELLE.	LT. OF ℄	417.94 L.F.
G-4	2+50 DELA.	1+00 DELA.	RT. OF ℄	107.72 L.F.
SHEET TOTAL - 2,464.04 LIN. FT.				

ITEM I-13 5" THK. P.C.C. SIDEWALK				
CODE	FROM	TO	LOCA.	QUAN.
H-1	2+50 DELA.	3+70 BELLE.	LT. OF ℄	2501 S.F.
H-2	4+05 BELLE.	7+12 BELLE.	LT. OF ℄	1775 S.F.
H-3	7+50 BELLE.	11+68.32	LT. OF ℄	1887 S.F.
H-5	2+50 DELA.	3+00 DELA.	RT. OF ℄	265 S.F.
SHEET TOTAL - 6,378 SQ. FT.				

ITEM E-8. REMOV. & DISP. OF EXIST. CURB				
CODE	FROM	TO	LOCATION	QUAN.
A-1	2+50 DELA.	3+75 BELL.	LT. OF ℄	539 L.F.
A-2	4+05 BELLE.	7+16 BELLE.	LT. OF ℄	379 L.F.
A-3	7+50 BELLE.	10+00 BELLE.	LT. OF ℄	448 L.F.
A-4	2+50 DELA.	11+00 BELLE.	RT. OF ℄	1,270 L.F.
SHEET TOTAL - 2,636 LIN. FT.				

FOR REMOVAL OF EXISTING PAVEMENT SEE COMPUTATION SHEET NO. 8

ITEM E-8. REMOV. & DISP. OF EXIST. WALK				
CODE	FROM	TO	LOCATION	QUAN.
B-1	2+50 DELA.	3+75 BELLE.	LT. OF ℄	2600 S.F.
B-2	4+05 BELLE.	7+16 BELLE.	LT. OF ℄	1800 S.F.
B-3	7+50 BELLE.	10+00 BELLE.	LT. OF ℄	2235 S.F.
B-4	2+50 DELA.	3+00 DELA.	RT. OF ℄	250 S.F.
SHEET TOTAL - 6,885 SQ. FT.				

5" P.C.C. PAV'T. - DRIVEWAYS			
CODE	STATION ℄	TYPE	CLASS "D" SQ. YDS.
R-1	6+46	DOUBLE PV'T.	25
R-2	5+28	SINGLE PV'T.	7
R-3	5+68	SINGLE PV'T.	7
R-4	8+53	SINGLE PV'T.	7
R-5	9+25	SINGLE PV'T.	7
R-6	11+05	SINGLE PV'T.	63
SHEET TOTAL			116

FOR CONSTRUCTION DETAILS & ELEVATION OF ALL INTERSECTIONS SEE SHEET Nº 46

NOTE: FOR CONSTRUCTION DETAILS & QUANTITIES OF PROPOSED DRAINAGE ITEMS FROM STA. 2+50 TO INTERSECTION BELLEVIEW & ELLENWOOD SEE SHEET Nº 47

ELLENWOOD AVE.

IRON PIN — 34.64' — DELASON AVE. — 18.41' — 15.08' — IRON PIN — P.K. IN POLE

BELLEVIEW AVE. — IRON PIN — 34.54' — 3.38' — P.K. IN POLE — IRON PIN — 34.25'

ELLENWOOD AVE — IRON PIN — 31.91' — 24.73' — P.K. IN POLE — BELLEVIEW — IRON PIN — 15.48'

CHALMERS AVE — IRON PIN — 29.10' — 28.00' — P.K. IN POLE — BELLEVIEW — P.K. IN CONC. CURB — 13.01'

NOTE: EXIST. WATER VALVE BOXES TO BE ADJUSTED TO GRADE AT THE DIRECTION OF THE ENGINEER. ESTIMATED QUANTITIES-12

NOTE: SEE SH'T. Nº 25 FOR DRIVE APPROACH AND INLET DETAILS.

FOR DETAIL OF PROPOSED DRIVEWAY LEFT STA 11+05 SEE SHEET Nº 26

BEGIN WORK STA. 2+50

P.C. STA. 3+22.06

R.T. STA. 4+01.50

P.C. STA. 5+22.14

77°-01'-43"

DELASON AVE.

HEASLEY AVE.

STA. 1+23.50 DELASON AVE. = STA. 767+13.76 EXP'WAY

B.M. #403 TOP OF HYDT. S.W. CORNER OF HEASLEY AND DELASON ELEV. 957.45

NOTE: SEE SH'T. Nº 19 OF UTILITY RELOCATION PLANS FOR RELOCATED UTILITIES IN BRIDGE STRUCTURE AREA & BELLEVIEW AVE. AREA.

NOTE: SEE SHEET Nº 46 FOR DETAILS OF INTERSECTING STREETS AND ℄ CURVE DATA. SEE SHEET Nº 44 FOR TYPICAL SECTIONS

℄ ELLENWOOD STA. 3+89.88

EXIST. 12" STORM SEWER @ 5.88%

EXISTING ℄ STORM SEWER

BELLE VIEW AVE.

℄ CHALMERS STA. 7+35.86

P.C. ℄ STA. 10+94.42

P.C. LT. CURB STA. 10+94.42 — 18.00' RT.

P.C. RT. CURB STA. 10+93.42 — 15.00' RT. ℄ — 31.00' RT. ℄

P.C. ℄ STA. 10+49.04

P.R.C. STA. 11+49.04 — 14.06' LT. ℄

STA. 11+68.32 END WORK

MARION AVE.

ITEM I-16 INLETS ABANDOND (EACH)			
CODE	STA.	LOCA.	REMARKS
F-1	3+78 DELA.	36' RT. ℄	
F-2	3+88 DELA.	ON NEW ℄	
F-3	4+05 DELA.	28' RT. ℄	
F-4	5+87 BELV.	ON NEW ℄	
F-5	5+85 BELV.	25' RT. ℄	
F-6	3+22 BELV.	5' RT. ℄	
F-7	3+81 BELV.	5' RT. ℄	

EXISTING ℄ STORM SEWER

S-1

FOR CONSTRUCTION DETAILS & QUANTITIES OF ALL DRAINAGE ITEMS THESE AREAS SEE SHEET Nº 47A.

B.M. #405 TOP OF HYDT. AT BELLVIEW AND MARION ELEV. 961.23.

I-8 MANHOLES EACH		
CODE	LOCATION	ADJUST TO GRADE
L-10	6+03 5.0' LT ℄	1
L-14	9+13 5.0' LT ℄	1
SHEET TOTAL		2

INLETS ABANDON'D (CONTINUED)		
F-8	4+07 BELV.	5' RT. ℄
F-9	3+60 BELV.	13' LT. ℄
F-10	3+74 BELV.	23' LT. ℄
F-11	4+04 BELV.	23' LT. ℄
F-12	7+16 BELV.	25' LT. ℄
F-13	5+99 BELV.	13' LT ℄
F-14	7+43 BELV.	5' RT. ℄
F-15	7+48 BELV.	26' LT. ℄
F-16	7+67 BELV.	13' LT. ℄
F-17	7+70 BELV.	5' RT. ℄
F-18	10+94 BELV.	26' RT. ℄
F-19	11+00 BELV.	20' RT. ℄
F-20	11+35 BELV.	51' LT ℄
F-21	11+41 BELV.	15' RT. ℄
SHEET TOTAL I-16 - 21		

I-8 YNGS'T INLETS TYPE II EACH			
CODE	LOCATION	TOP OF CURB ELEV.	BOTTOM OF INLET ELEV.
D-14	9+09, 13.0' LT. ℄	957.77	952.02
SHEET TOTAL			1

I-13 CONCRETE STEPS			S-24 REMOVAL OF EXIST. STR'T.	
CODE	LOCATION	6' WIDE LIN FT.	CODE	LOCATION
S-1	6+70-13.0' RT℄	132	X-1	6+70 13.0' RT

NOTE:
THE CONCRETE STEPS, S-1, LOCATED: 13.0' RT. STA. 6+70. SHALL BE GOVERNED BY AND PAID FOR UNDER ITEM I-13 "CONCRETE STEPS". THE STANDARD CONSTRUCTION DRAWING R1-1 "CONCRETE STEPS" SHALL BE MODIFIED AS FOLLOWS
1. "T" = 12" 3. THE WIDTH OF THE PROPOSED
2. "R" = 8" STEPS SHALL BE 6'-0" OUTSIDE TO OUTSIDE

5.0' CONCRETE SIDEWALK

18.0 ± — 5.0 — 0.5' — 1.5' — 1.5' — 0.5

5" SLAG BASE
3¾" BRICK
2.0' CONC. CURB & GUTTER

TYPICAL SECTION EXIST BELLEVIEW ELLENWOOD TO MARION

51.0' ± — 5.0' — 3.0' — 0.5' — 1.5' — 0.5' — 1.5' — 5.0' — 5.0'

5" COMPACT SLAG
2" SAND
3¾" BRICK
2.0' CONC. CURB & GUTTER
5.0' CONC. SIDEWALK

TYPICAL SECTION EXIST. DELASON AVE. HEASLEY TO ANGLE POINT

DESIGN GRADE ℄ ELEVATIONS & STATIONS

100' V.C.

7.86%

-3.05%

-0.56%

2.01%

-1.22%

+0.30%

+0.68%

+2.00%

EXISTING

12" COMBINATION

STA. 6+62.38 (BACK) = STA. 2+80.67 (AHEAD) EQUATION

P.V.I. STA. 4+41.00 ELEV. 963.36

P.V.I. STA. 4+00 ELEV. 962.74

P.V.I. STA. 6+00 ELEV. 963.76

P.V.I. STA. 8+75 ELEV. 957.63

P.V.I. STA. 9+42.11 ELEV. 956.21

P.V.I. STA. 10+60 ELEV. 953.93

P.V.I. STA. 8+75 ELEV. 957.63

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

DELASON AVE. & BELLEVIEW AVE.

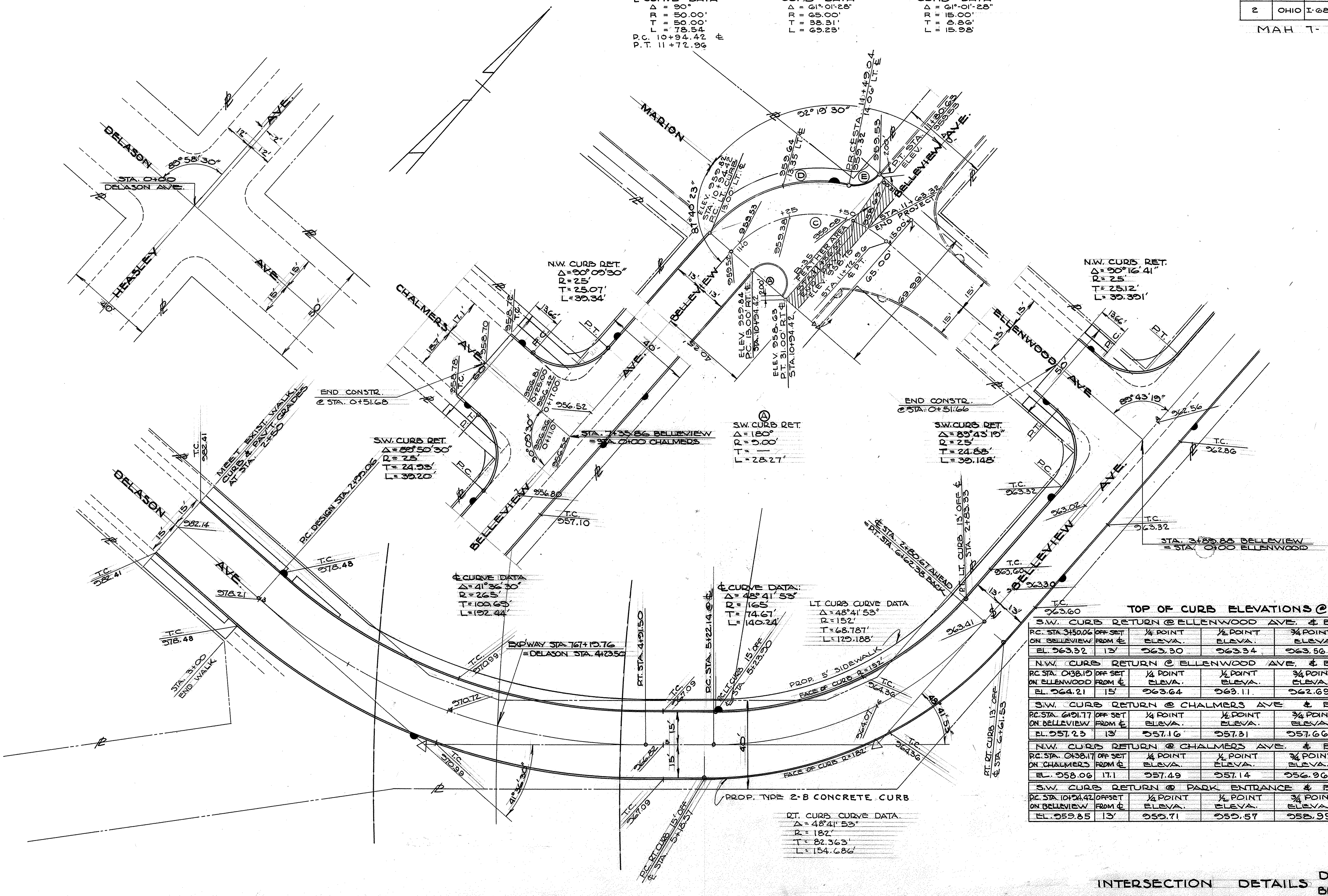
PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B. M.'S NOTED
NOTE BOOK
NO.
STRUCTURE NOTATIONS CHECKED
BY
DATE

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

46/101

MAH 7- 14.35



TOP OF CURB ELEVATIONS @ RETURNS

S.W. CURB RETURN @ ELLENWOOD AVE. & BELLEVIEW AVE.						
P.C. STA. 3+50.06 ON BELLEVIEW	OFF SET FROM ℄	1/4 POINT ELEVA.	1/2 POINT ELEVA.	3/4 POINT ELEVA.	P.T. STA. 0+37.81 ON ELLENWOOD	OFFSET FROM ℄
EL. 963.32	13'	963.30	963.34	963.56	EL. 964.09	15'
N.W. CURB RETURN @ ELLENWOOD AVE. & BELLEVIEW AVE.						
P.C. STA. 0+38.19 ON ELLENWOOD	OFF SET FROM ℄	1/4 POINT ELEVA.	1/2 POINT ELEVA.	3/4 POINT ELEVA.	P.T. STA. 4+30.06 ON BELLEVIEW	OFF SET FROM ℄
EL. 964.21	15'	963.64	963.11	962.69	EL. 962.41	13'
S.W. CURB RETURN @ CHALMERS AVE & BELLEVIEW AVE.						
P.C. STA. 6+91.77 ON BELLEVIEW	OFF SET FROM ℄	1/4 POINT ELEVA.	1/2 POINT ELEVA.	3/4 POINT ELEVA.	P.T. STA. 0+37.88 ON CHALMERS	OFF SET FROM ℄
EL. 957.23	13'	957.16	957.31	957.66	EL. 958.16	18.7
N.W. CURB RETURN @ CHALMERS AVE. & BELLEVIEW AVE.						
P.C. STA. 0+38.17 ON CHALMERS	OFF SET FROM ℄	1/4 POINT ELEVA.	1/2 POINT ELEVA.	3/4 POINT ELEVA.	P.T. STA. 7+77.62 ON BELLEVIEW	OFFSET FROM ℄
EL. 958.06	17.1	957.49	957.14	956.96	EL. 956.97	13'
S.W. CURB RETURN @ PARK ENTRANCE & BELLEVIEW AVE.						
P.C. STA. 10+94.42 ON BELLEVIEW	OFFSET FROM ℄	1/4 POINT ELEVA.	1/2 POINT ELEVA.	3/4 POINT ELEVA.	P.T. STA. 10+94.42 ON BELLEVIEW	OFF SET FROM ℄
EL. 959.85	13'	959.71	959.57	958.99	EL. 958.77	31

INTERSECTION DETAILS DELASON AVE. & BELLEVIEW AVE.

I-8 YOUNGSTOWN TYPE I INLET				
CODE	LOCATION	STREET	TOP OF CURB ELEV.	BOTTOM OF INLET ELEV.
D-1	3+00 15' LT. ℄	DELASON	978.46	973.75
D-2	3+90 15' RT. ℄	DELASON	971.62	966.87
D-3	3+18 13' RT. ℄	BELLEVIEW	963.63	959.88
D-4	5+25 15' LT. ℄	DELASON	966.33	961.58
D-5	3+43 18' LT. ℄	BELLEVIEW	963.36	958.61
D-6	0+44.6 15' LT. ℄	ELLENWOOD	964.54	959.79
D-7	0+45 15' RT. ℄	ELLENWOOD	964.66	959.91
SHEET TOTAL 7				

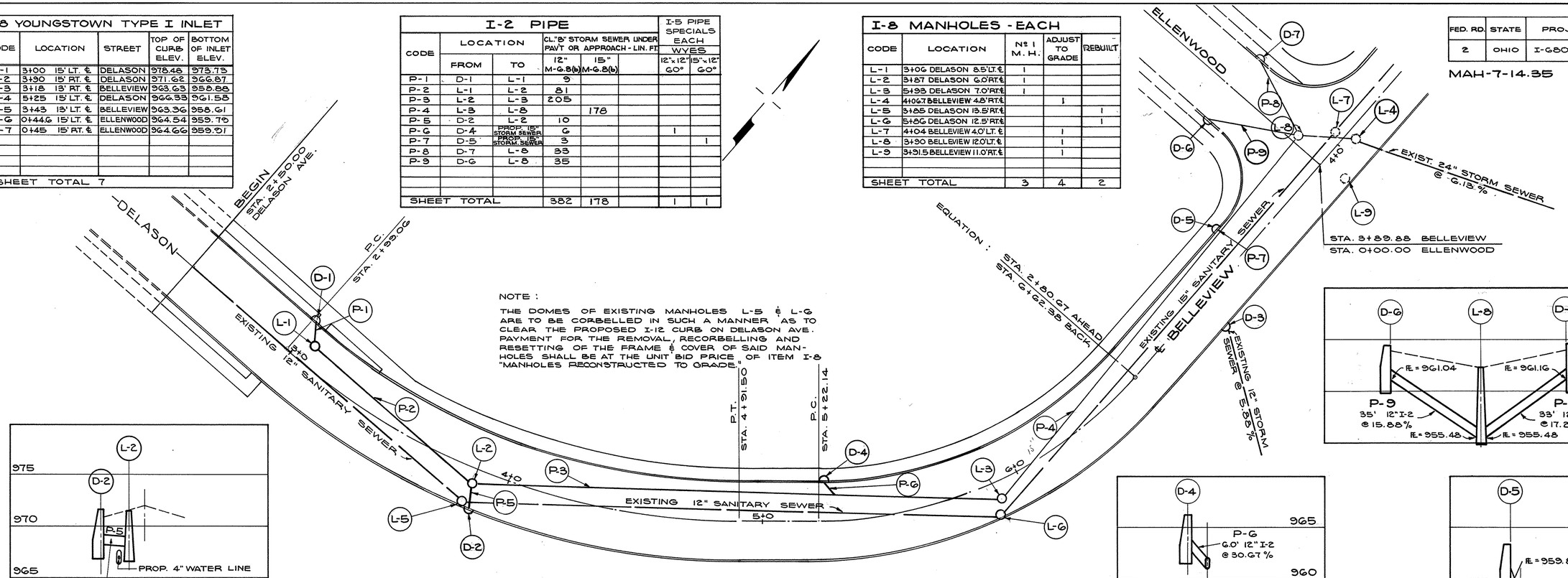
I-2 PIPE						I-5 PIPE SPECIALS EACH WYES	
CODE	LOCATION FROM	LOCATION TO	CL"B" STORM SEWER UNDER PAVT OR APPROACH - LIN. FT. 12" M-C.8(b)	15" M-C.8(b)		12"x12" 60°	15"x12" 60°
P-1	D-1	L-1	9				
P-2	L-1	L-2	81				
P-3	L-2	L-3	205				
P-4	L-3	L-8		178			
P-5	D-2	L-2	10				
P-6	D-4	PROP. 15" STORM SEWER	6			1	
P-7	D-5	PROP. 15" STORM SEWER	3				1
P-8	D-7	L-8	33				
P-9	D-6	L-8	35				
SHEET TOTAL			382	178		1	1

I-8 MANHOLES - EACH				
CODE	LOCATION	Nº 1 M.H.	ADJUST TO GRADE	REBUILT
L-1	3+06 DELASON 8.5'LT.℄	1		
L-2	3+87 DELASON 6.0'RT.℄	1		
L-3	5+93 DELASON 7.0'RT.℄	1		
L-4	4+06.7 BELLEVIEW 4.8'RT.℄		1	
L-5	5+85 DELASON 13.5'RT.℄			1
L-6	5+86 DELASON 12.5'RT.℄			1
L-7	4+04 BELLEVIEW 4.0'LT. ℄		1	
L-8	3+90 BELLEVIEW 12.0'LT.℄		1	
L-9	3+91.5 BELLEVIEW 11.0'RT.℄		1	
SHEET TOTAL		3	4	2

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

47
101

MAH-7-14.35

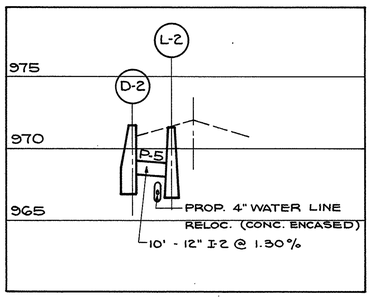


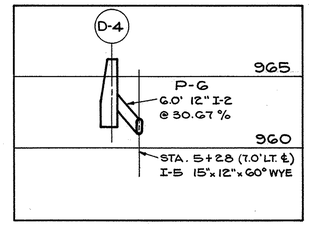
NOTE :

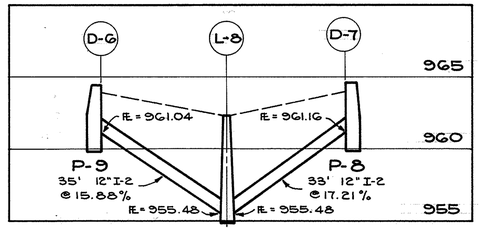
THE DOMES OF EXISTING MANHOLES L-5 & L-6 ARE TO BE CORBELLED IN SUCH A MANNER AS TO CLEAR THE PROPOSED I-12 CURB ON DELASON AVE. PAYMENT FOR THE REMOVAL, RECORBELLING AND RESETTING OF THE FRAME & COVER OF SAID MANHOLES SHALL BE AT THE UNIT BID PRICE OF ITEM I-8 "MANHOLES RECONSTRUCTED TO GRADE."

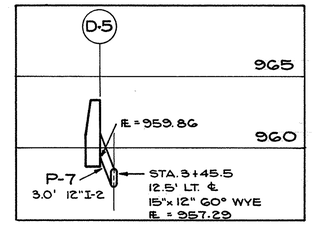
PLAN

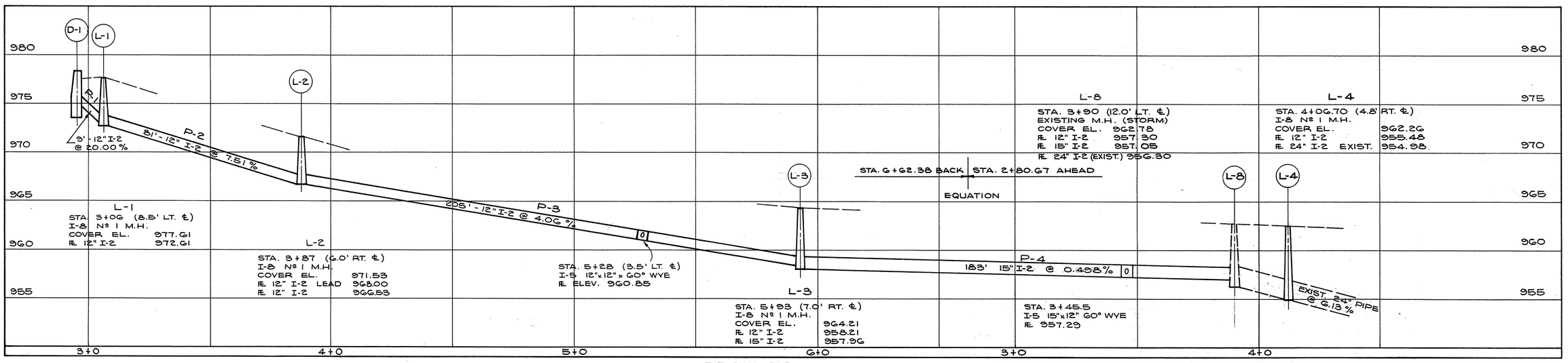
SCALE : 1" = 20'











L-1
STA. 3+06 (8.5' LT. ℄)
I-8 Nº 1 M.H.
COVER EL. 977.61
℄E 12" I-2 972.61

L-2
STA. 3+87 (6.0' RT. ℄)
I-8 Nº 1 M.H.
COVER EL. 971.53
℄E 12" I-2 LEAD 968.00
℄E 12" I-2 966.53

STA. 5+28 (3.5' LT. ℄)
I-5 12"x12"x 60° WYE
℄E ELEV. 960.85

L-3
STA. 5+93 (7.0' RT. ℄)
I-8 Nº 1 M.H.
COVER EL. 964.21
℄E 12" I-2 958.21
℄E 15" I-2 957.96

STA. 6+62.38 BACK, STA. 2+80.67 AHEAD
EQUATION

L-8
STA. 3+90 (12.0' LT. ℄)
EXISTING M.H. (STORM)
COVER EL. 962.78
℄E 12" I-2 957.30
℄E 15" I-2 957.05
℄E 24" I-2 (EXIST.) 956.30

STA. 3+45.5
I-5 15"x12" 60° WYE
℄E 957.29

L-4
STA. 4+06.70 (4.8' RT. ℄)
I-8 Nº 1 M.H.
COVER EL. 962.26
℄E 12" I-2 955.48
℄E 24" I-2 EXIST. 954.98

PROFILES

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

PLAN & PROFILE
DELASON - BELLEVIEW STORM SEWER

I-8 MANHOLES - EACH			
CODE	LOCATION	Nº 1 M.H.	ADJUST TO GRADE
L-11	7+43 BELL'W 6.0'RT.℄	1	
L-12	7+43 BELL'W 19.0'RT.℄		1
L-13	7+48.5 BELL'W 4.0'LT.℄		1
L-14	SEE SHEET 45		
L-15	10+54.5 BELL'W 4.5'LT.℄		1
SHEET TOTAL		1	3

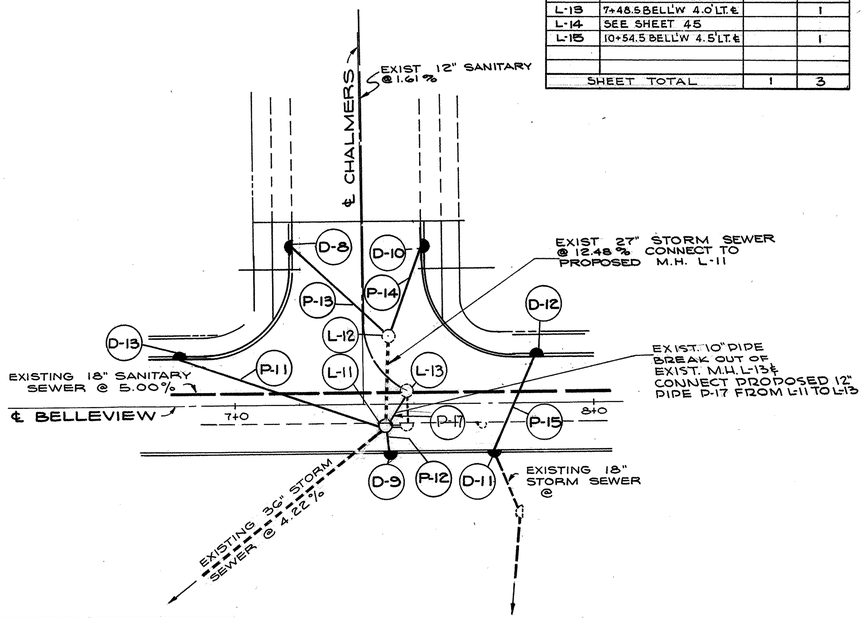
I-2 PIPE LIN. FT.			
CODE	LOCATION		CL "B" COMB. SEWER UND. PAV'T OR APPR. 12" M-6.8(b)
	FROM	TO	
P-11	D-13	L-7	56
P-12	D-9	L-7	4
P-13	D-8	L-8	33
P-14	D-10	L-8	24
P-15	D-12	D-11	29
P-16	D-5	EXIST. M.H.	40
P-17	L-13	L-11	12
SHEET TOTAL			198

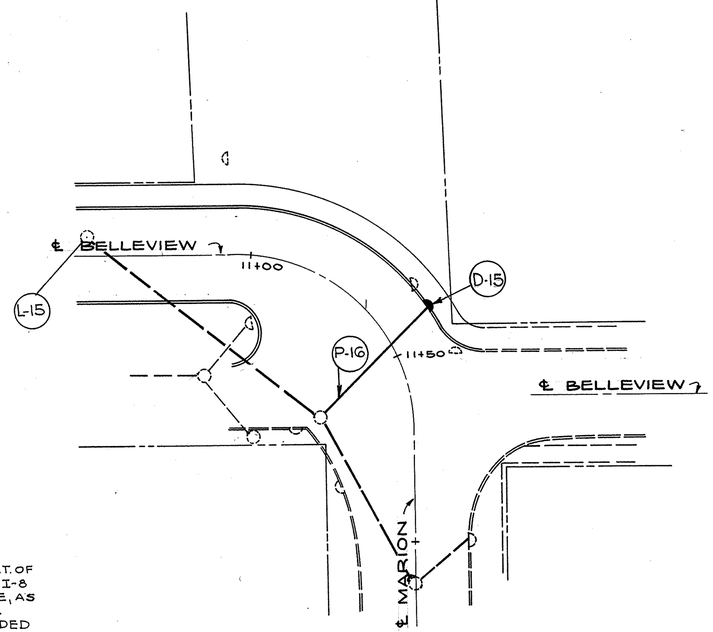
I-8 YOUNGSTOWN INLETS EA.					
CODE	LOCATION	STREET	TYPE	TOP OF CURB ELEV.	BOTTOM OF INLET ELEV.
D-8	0+44.7, 18.7' LT. ℄	CHALMERS	II	958.58	952.83
D-9	7+44.0, 13.0' RT.℄	BELLEVIEW	II	956.81	951.06
D-10	0+45.0, 17.1' RT. ℄	CHALMERS	II	958.53	952.78
D-11	7+72.0, 13.0' RT.℄	BELLEVIEW	I	956.94	949.69
D-12	7+84.45, 13.0' LT.℄	BELLEVIEW	I	957.02	952.27
D-13	6+84.9, 15' LT. ℄	BELLEVIEW	II	957.28	951.53
D-14	SEE SHEET Nº 45				
D-15	11+42.2, 14.0' LT.℄	BELLEVIEW	II	959.41	953.66
SHEET TOTAL		TYPE-I-2 - TYPE-II-5			

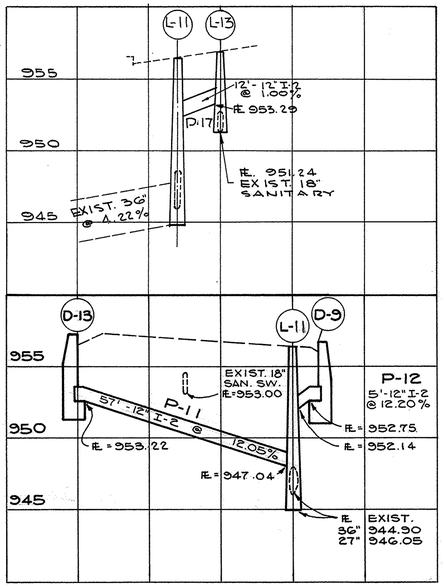
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

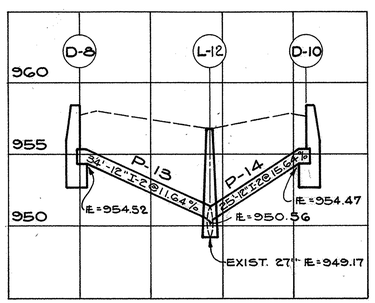
47-A
101

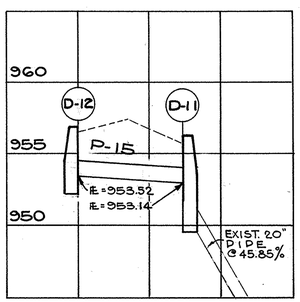
MAH 7 - 14.35

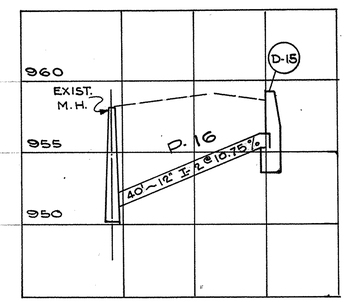












L-11
I-8 Nº 1 MANHOLE
6.0' RT ℄
COVER ELEV. 956.44
FE 12" I-2 952.29
FE 27" (EXIST.) 946.05
FE 36" (EXIST.) 944.90

NOTE:

THE WALLS & DOME OF THE EXISTING CATCH BASIN 5.0' RT. OF STA. 7+43 SHALL BE COMPLETLY REMOVED. THE PROPOSED I-8 MANHOLE L-11 SHALL BE BUILT ON THE EXISTING BASE, AS **DIRECTED BY** THE ENGINEER. PAYMENT FOR THE REMOVAL OF THE EXIST. CATCH BASIN SHALL BE INCLUDED IN THE UNIT BID PRICE OF I-8 Nº-1 MANHOLES.

DELASON - BELLEVIEW STORM SEWER PROFILES.

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

48
101

MAH-7-14.35

END AREA	CU. YDS.	
CUT	FILL	CUT	FILL
40	3		

C=41 F=6
C=48 F=10
C=45 F=9
C=50 F=9
C=36 F=14
C=38 F=20
C=26 F=13
C=28 F=9
C=22 F=14
C=21 F=22
C=24 F=14
C=32 F=7
C=42 F=8
C=40 F=6
C=43 F=3
C=53 F=1

968.44
4+48
969.39
4+25
970.61
4+02
972.10
3+79
973.88
3+55
975.78
3+31
977.66
3+07
980.18
2+75
979.37
982.14
2+50
982.13
MEET EXIST
984.17
2+25
986.02
2+00
987.77
1+75
989.00
1+50

SEEDING END SQ. MIDPNTS.
S
37
19
76
20
69
34
67
16
72
37
72
16
53
13
25
4

968
970
968
972
970
972
970
974
972
976
974
978
976
982
980
984
982
986
984
988
986
990
988

PLATE 1 CROSS SECTION C. E. & A. R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

DELASON & BELLEVIEW 1+50 TO 4+48

END AREA	CU. YDS.	
CUT	FILL	CUT	FILL
		F: 42	F: 0

C=45 F=0 | C=41 F=0 | C=44 F=0 | C=37 F=1 | C=37 F=2 | C=33 F=3 | C=35 F=5 | C=32 F=4 | C=34 F=3 | C=39 F=3 | C=50 F=3 | C=38 F=2 | C=53 F=4 | C=35 F=5 | C=43 F=5 | C=36 F=3 | C=34 F=2 | C=36 F=2 | C=35 F=2 | C=36 F=1 | C=38 F=1 | C=38 F=2 | C=36 F=2

18" OAK | 24" SYCA | 14" SYCA | 14" SYCA | 22" SYCA | 20" SYCA | 24" SYCA

℄ SURVEY LINE | ℄ EXIST PAVT.

	3+50	3+25	3+00	6+55	6+31	6+08	5+52	5+74	5+48	5+23	4+98	4+73
	362.70 ℄	362.90 ℄	362.33 ℄	362.97 ℄								
	363.02	363.16	363.30	363.46	363.64	363.95	364.23	364.63	365.35	366.12	366.88	367.63
									365.41	366.43	367.16	

3+36 TO 3+10 2 STY. FR. HSE.

2+75 TO 2+57 CONC. BLK. 2 CAR GAR.

2+46.8 TO 2+26.5 2 STY. FR. HSE. & PORCH

SEEDING:	
END WIDTH	SQ. YDS.

8 | 14 | 8 | 14 | 8 | 31 | 34 | 15 | 11 | 27 | 10 | 18 | 11 | 28 | 17 | 38 | 9 | 20 | 6 | 18 | 7 | 20 | 3 | 23 | 9

364 | 362 | 364 | 362 | 364 | 362 | 364 | 362 | 364 | 362 | 366 | 364 | 362 | 364 | 360 | 364 | 362 | 366 | 364 | 366 | 364 | 366 | 368 | 366

10 | 20 | 30 | 40 | 50

MAH.-7-14.35

I-680-9(5)

49 / 101

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

DELASON & BELLEVIEW 4+73 (BACK) TO 3+50 (AHEAD)

END AREA	CU. YDS.
CUT / FILL	CUT / FILL
	C=34 / F=116

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

50
101

MAH-7-14.35

C=35 F=131
C=37 F=115
C=34 F=117
C=31 F=98
C=33 F=36
C=33 F=79
C=39 F=76
C=36 F=67
C=30 F=60
C=36 F=56
C=40 F=52
C=41 F=32
C=48 F=17
C=47 F=5
C=54 F=2
C=44 F=1
C=47 F=0
C=43 F=1
C=46 F=1
C=42 F=0
C=45 F=0

18" ASH
18" ASH
18" ASH
12" ASH
22" ASH
12" ASH
12" ASH
18" SYCA
14" SYCA
12" SYCA

358.72
6+25
358.09 ℄

358.72
6+00
358.52 ℄

359.22
5+75
359.01 ℄

359.73
5+50
359.52 ℄

360.23
5+25
360.00 ℄

360.73
5+00
360.58 ℄

361.23
4+75
361.12 ℄

361.74
4+50
361.58 ℄

362.20
4+25
361.97 ℄

362.56
4+00
362.27 ℄

362.84
3+75
362.39 ℄

SEEDING:	
END WIDTH	30 YDS.

48
138
47
129
5+92 To
5+72
2 STY. FR. HSE. & PORCH
45
123
5+54 To
5+36
2 STY. FR. HSE. & PORCH
43
121
43
118
41
100
31
57
4+68.7 To
4+42.5
2 STY. FR. HSE.
10
18
3
13
6
18
7
20
8

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

DELASON & BELLEVIEW 3+75 TO 6+25

END AREA	CU. YDS.
CUT	FILL	CUT	FILL

SEEDING	
ENTIRE WIDTH	SQ. YDS.

FED. RTE.	STATE	PROJECT	
2	OHIO	I-680-8(5)	

51
101

MAH-7-14.35

C=41 F=93
C=41 F=84
C=48 F=85
C=44 F=78
C=44 F=80
C=47 F=70
C=45 F=72
C=44 F=67
C=50 F=74
C=47 F=75
C=51 F=88
C=44 F=89
C=44 F=104
C=38 F=103
C=38 F=119

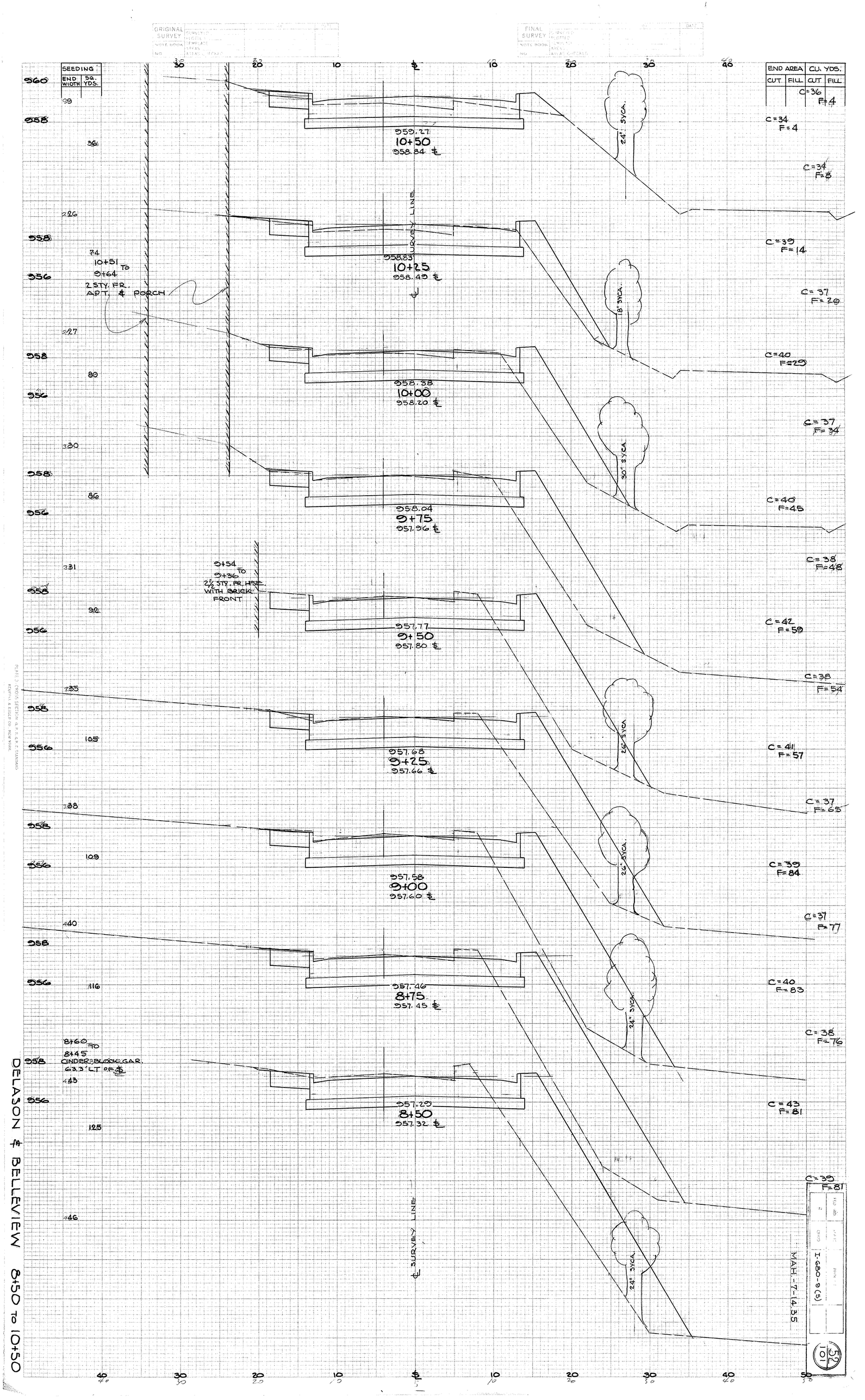
6" ASH
24" SYCA.
22" ASH
16" ASH
14" ASH
18" ASH
12" SUMAC

8+25 357.11 ℄
8+00 356.92 ℄
7+75 356.71 ℄
7+50 356.55 ℄
7+25 356.41 ℄
7+00 356.32 ℄
6+75 357.30 ℄
6+50 357.66 ℄

8+20 TO 7+04 1½ STY. BRICK HSE.
6+78 TO 6+52 2 STY. FR. HSE.

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

DELASON & BELLEVIEW 6+50 TO 8+25


ORIGINAL SURVEY
FINAL SURVEY
SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
960
958
956
954
952
950
948
946
944
942
940
938
936
934
932
930
928
926
924
922
920
918
916
914
912
910
908
906
904
902
900
898
896
894
892
890
888
886
884
882
880
878
876
874
872
870
868
866
864
862
860
858
856
854
852
850
848
846
844
842
840
838
836
834
832
830
828
826
824
822
820
818
816
814
812
810
808
806
804
802
800
798
796
794
792
790
788
786
784
782
780
778
776
774
772
770
768
766
764
762
760
758
756
754
752
750
748
746
744
742
740
738
736
734
732
730
728
726
724
722
720
718
716
714
712
710
708
706
704
702
700
698
696
694
692
690
688
686
684
682
680
678
676
674
672
670
668
666
664
662
660
658
656
654
652
650
648
646
644
642
640
638
636
634
632
630
628
626
624
622
620
618
616
614
612
610
608
606
604
602
600
598
596
594
592
590
588
586
584
582
580
578
576
574
572
570
568
566
564
562
560
558
556
554
552
550
548
546
544
542
540
538
536
534
532
530
528
526
524
522
520
518
516
514
512
510
508
506
504
502
500
498
496
494
492
490
488
486
484
482
480
478
476
474
472
470
468
466
464
462
460
458
456
454
452
450
448
446
444
442
440
438
436
434
432
430
428
426
424
422
420
418
416
414
412
410
408
406
404
402
400
398
396
394
392
390
388
386
384
382
380
378
376
374
372
370
368
366
364
362
360
358
356
354
352
350
348
346
344
342
340
338
336
334
332
330
328
326
324
322
320
318
316
314
312
310
308
306
304
302
300
298
296
294
292
290
288
286
284
282
280
278
276
274
272
270
268
266
264
262
260
258
256
254
252
250
248
246
244
242
240
238
236
234
232
230
228
226
224
222
220
218
216
214
212
210
208
206
204
202
200
198
196
194
192
190
188
186
184
182
180
178
176
174
172
170
168
166
164
162
160
158
156
154
152
150
148
146
144
142
140
138
136
134
132
130
128
126
124
122
120
118
116
114
112
110
108
106
104
102
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
10+51 TO 9+64
2 STY. FR. APT. & PORCH
9+54 TO 9+36
2½ STY. FR. HSE. WITH BRICK FRONT
8+60 TO 8+45
CINDER BLOCK GAR. 63.3' LT OF ℄
959.27
10+50
958.84 ℄
958.83
10+25
958.49 ℄
958.38
10+00
958.20 ℄
958.04
9+75
957.96 ℄
957.77
9+50
957.80 ℄
957.68
9+25
957.66 ℄
957.58
9+00
957.60 ℄
957.46
8+75
957.45 ℄
957.29
8+50
957.32 ℄
℄ SURVEY LINE
24" SYCA.
18" SYCA.
30" SYCA.
C=34 F=4
C=34 F=8
C=39 F=14
C=37 F=20
C=40 F=25
C=37 F=34
C=40 F=45
C=38 F=48
C=42 F=59
C=38 F=54
C=41 F=57
C=37 F=65
C=39 F=84
C=37 F=77
C=40 F=83
C=38 F=76
C=43 F=81
C=39 F=81
DELASON & BELLEVIEW 8+50 TO 10+50
MAH-7-1.435
I-280-8(5)
101
52

ORIGINAL SURVEY — SCRIBED — PLOTTED — NOTE BOOK — PAGES — AREA — DATE — NO.

FINAL SURVEY — SCRIBED — PLOTTED — NOTE BOOK — PAGES — AREA — DATE — NO.

TOTAL SEEDING = 3639 SQ. YDS.

SEEDING	
END WIDTH	SQ. YDS.

TOTAL CUT = 2148 Cu. Yds.
TOTAL FILL = 1737 Cu. Yds.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

END PROJET
STA 11+63.32
BELLEVIEW

960
958
41
C=0
F=0

958.63
11+63.32
ALONG ℄ BELLEVIEW N&S

C=24
F=10

960
958
36
26
11'-0"
LIMIT OF NEW PAVEMENT & BASE
B=35
FEATHER AREA
C=68
F=4

959.08
11+50
C=96
F=10

962
960
958
17
51
29'-6"
LIMIT OF NEW PAVEMENT & BASE
959.38
11+25
959.28 ℄
C=50
F=4
C=99
F=8

30" SYCA.

960
958
19
38
959.55
11+00
959.53 ℄
C=67
F=7
C=45
F=7

962
960
958
28
24
SURVEY LINE ℄
959.51
10+75
959.38 ℄
C=42
F=2
C=45
F=4

DELASON & BELLEVIEW 10+75 to 11+63.32

PLAT & CROSS-SECTION G. P. R. & R. E. STANDARD
KNOTTS & COSHOCTON, NEW YORK

MAH-7-14.35
STATE OHIO
PROJECT I-680-9(5)
SHEET 101

GENERAL NOTES - LIGHTING

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

54
101

MAH -7-14.35

INSPECTION AND TESTING:

COSTS OF ALL OF THE FOLLOWING INSPECTIONS AND TESTS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE 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 TEST:

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 DEFECTS WHICH MAY DEVELOP, AT NO EXTRA COST TO THE STATE.

LIGHTING STANDARD FOUNDATIONS, CONDUIT WIRE AND CABLE:

THE LAMP STANDARD FOUNDATIONS SHALL BE CLASS "C" CONCRETE WITH FOUR (4) 1" X 3'-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 STEEL CONDUIT, FROM THE 24" SQUARE CONC. PULL BOX MOUNTED ADJACENT TO IT, AS INDICATED ON THE PLANS.

THE NO. 6 AWG CABLE, AS INDICATED ON THE PLANS, SHALL BE 5,000 VOLT, STRANDED COPPER, SERIES CABLE WITH 10/64" RUBBER INSULATION, NON-SHIELDED, WITH 4/64" NEOPRENE JACKET, SUPER CORONAL-GEOPRENE OR EQUAL.

THE NO. 2 A/G CABLE, AS INDICATED ON THE PLANS, SHALL BE SEVEN-STRANDED TINNED COPPER CABLE WITH 2/64" FLAMENOL INSULATION OR EQUAL.

THE NO. 8 AWG CABLE USED TO CONNECT BETWEEN THE SECONDARY OF THE 175 W. SERIES TRANSFORMERS AND THE LUMINAIRE SHALL BE 1,000 VOLT 7 STRAND, COPPER WIRE WITH 5/64" VERSATOL GEOFRENE 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 STANDARDS 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" X 6 1/2" HAND HOLE. THE STANDARDS ON BRIDGES ARE TO BE MOUNTED ON THE CONC. PARAPET WALL, WITH A GALV. CAST IRON BOX ADJACENT TO IT, TO FACILITATE THE WIRING.

LUMINAIRE:

THE LUMINAIRE SHALL BE AS FOLLOWS:

A. EXPRESSWAY--G.E. FORM M-400 # C704G022 OR WEST. STYLES OV-25E II 20S, III 20S, OR L.M.CO.CAT. LM 16A4, OR 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).*

B. UNDER STRUCTURE UNITS--G.E. FORM 1015 (IF ADAPTED FOR 175 W. MERCURY LAMP), OR, WEST AK-10 OR, L.M. CO. CAT. L M 2B41 OR EQUAL. THEY SHALL BE DESIGNED FOR 1 1/4" SIDE MOUNTING SLIPFITTER, ASA-IES TYPE V DISTRIBUTION, AND A 7,000 LUMEN H22KD 175 WATT MERCURY LAMP (CLEAR).*

*Cost of lamps and transformers shall be included with luminaires for payment.

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" X 10" X 10" CAST BOX OF THE UNDER-STRUCTURE UNITS. (SEE NOTE "A" ON THIS SHEET)

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 NO. 6 5,000 VOLT LIGHTING CABLES, AND NO. 2 GROUND WIRE (ALSO USED TO COMPLETE THE SERIES LOOPS), 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 NO. 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 SMOOTH AND FREE FROM AGGREGATE LARGER THAN 1/4". PROVIDE SHORING WHEN REQUIRED.

WHEN ROCK IS ENCOUNTERED IN EXCAVATION FOR CABLE TRENCHES, THE ROCK SHALL BE REMOVED TO A DEPTH OF THREE INCHES (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 1/4" INCH 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 THE 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.

BACKFILL FOR CABLE TRENCHES SHALL BE PLACED IN LAYERS. THE FIRST LAYER SHALL BE EITHER EARTH OR SAND, 3 INCHES THICK LOOSE MEASUREMENT, AND SHALL CONTAIN NO MINERAL AGGREGATE PARTICLES THAT WOULD BE RETAINED IN A 1/4" INCH SIEVE. THE SECOND LAYER SHALL BE FOUR INCHES (4") THICK AND SHALL CONTAIN NO PARTICLES THAT WOULD BE RETAINED ON A 1 INCH SIEVE. THE THIRD AND SUBSEQUENT LAYERS SHALL CONTAIN NO AGGREGATE LARGER THAN 3 INCHES. 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 MANUFACTURERS' 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. RESISTANCE.

THE #2 CABLE SHALL BE GROUNDED TO THE LIGHTING STANDARD GROUND LUG AT EACH STANDARD. AT THE MID POINT AND AT EACH END OF THE CIRCUIT, THE #2 GROUND CONDUCTOR 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 RESISTANCE, 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 FOOT 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:

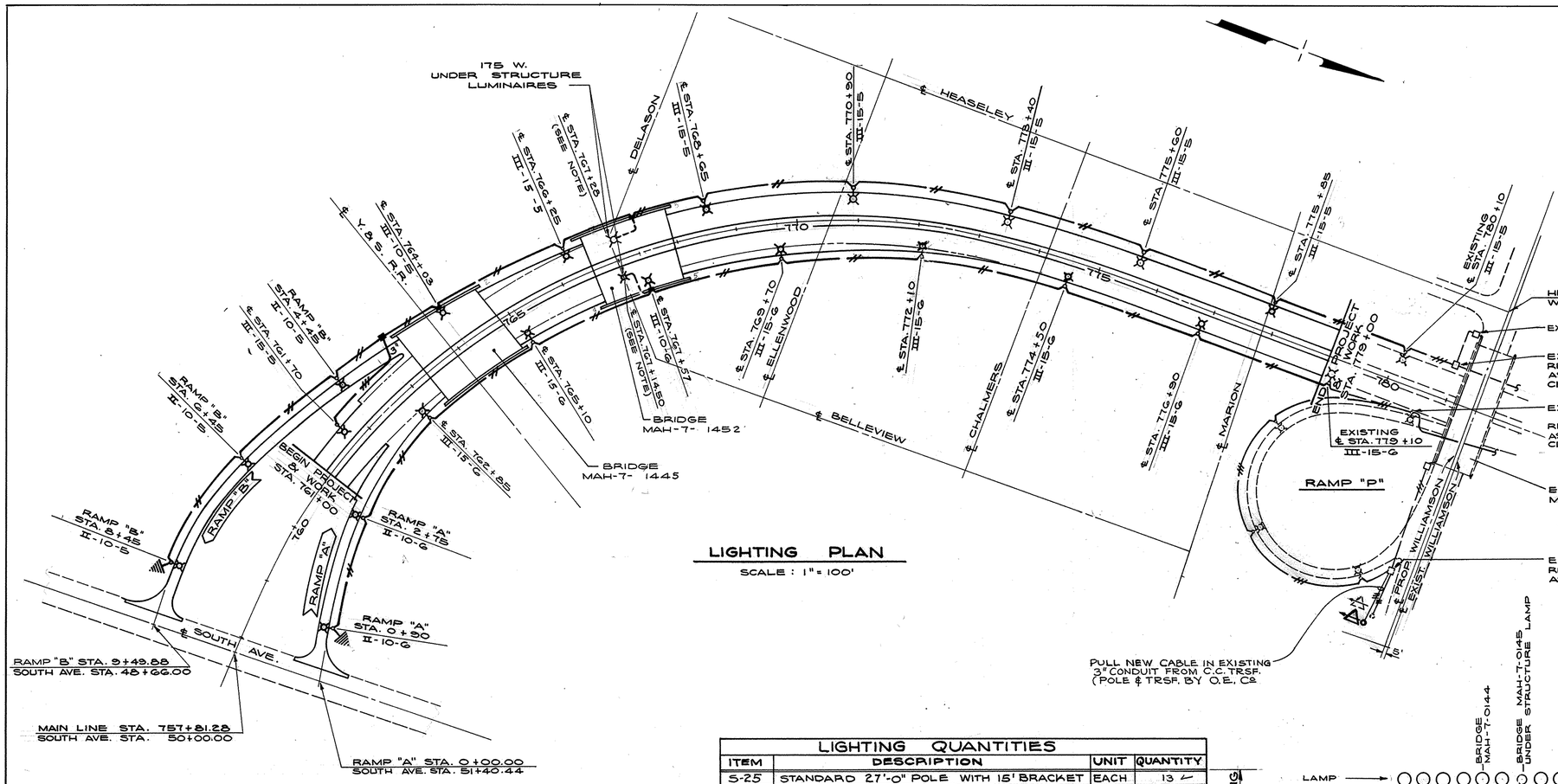
THE LIGHTING DESIGN IS BASED ON 0.6 TO 0.8 FOOTCANDLE AVERAGE MAINTAINED VALUE ON THE EXPRESSWAY, LANES, AND RAMPS.

NOTE "A"
TO GUARD AGAINST GALVANIC CORROSION, IT IS NECESSARY THAT IF TRANSFORMER HAS AN ALUMINUM CASE, IT SHALL BE INSULATED FROM THE GALVANIZED BOX AND SHALL HAVE AN EPOXY COATING AS FOLLOWS:
ALL SERIES TRANSFORMERS SHALL HAVE AN EPOXY COATING TO PROVIDE PROTECTION AGAINST SEVERE CORROSION, OR WATER AND SALINE CONDITIONS. THE EPOXY COATING SHALL BE APPLIED UNIFORMLY TO PROVIDE A MINIMUM THICKNESS OF TEN (10) MILS. THE COATING SHALL PROVIDE A FINISH WHICH WILL BE SMOOTH, HARD AND ABRASIVE RESISTANT. IT SHALL BE ABLE TO WITHSTAND A SALT FOG TEST IN ACCORDANCE WITH ASTM-B117, BUT FOR A MINIMUM OF TWO THOUSAND (2,000) HOURS WITHOUT INDICATION OF CORROSION OR DETERIORATION OF COATING.

FED.RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

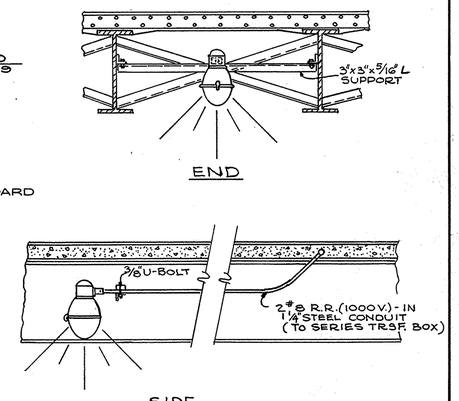
55
101

MAH-7-14.35



LIGHTING PLAN

SCALE : 1" = 100'



TYPICAL DETAIL LUMINAIRE MTG. UNDER STRUCTURE

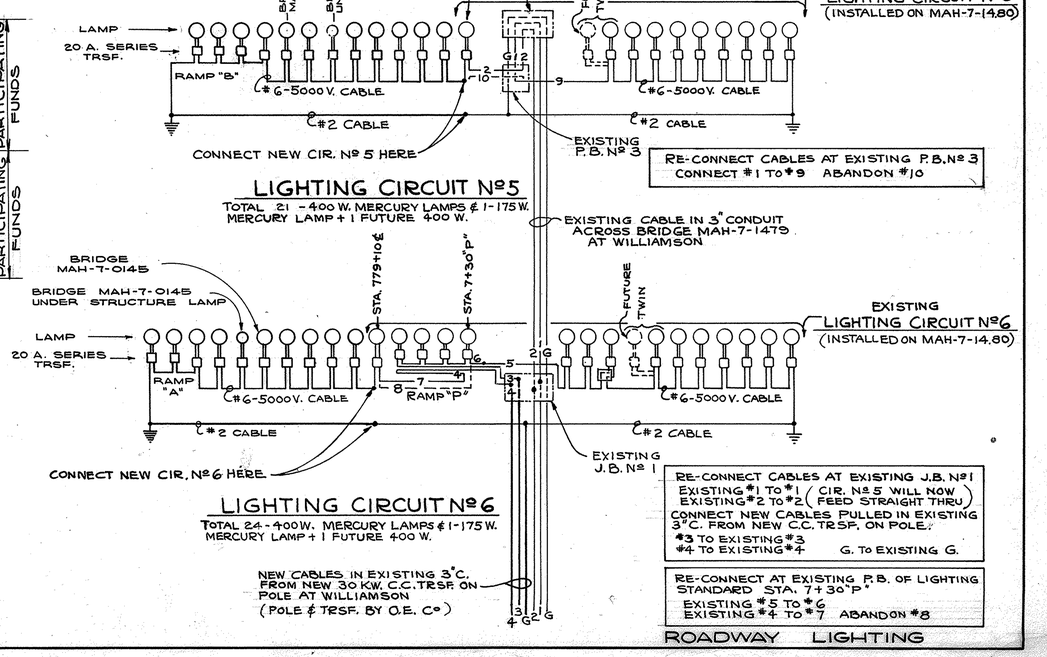
SCALE 3/8"=1'-0"

LIGHTING QUANTITIES

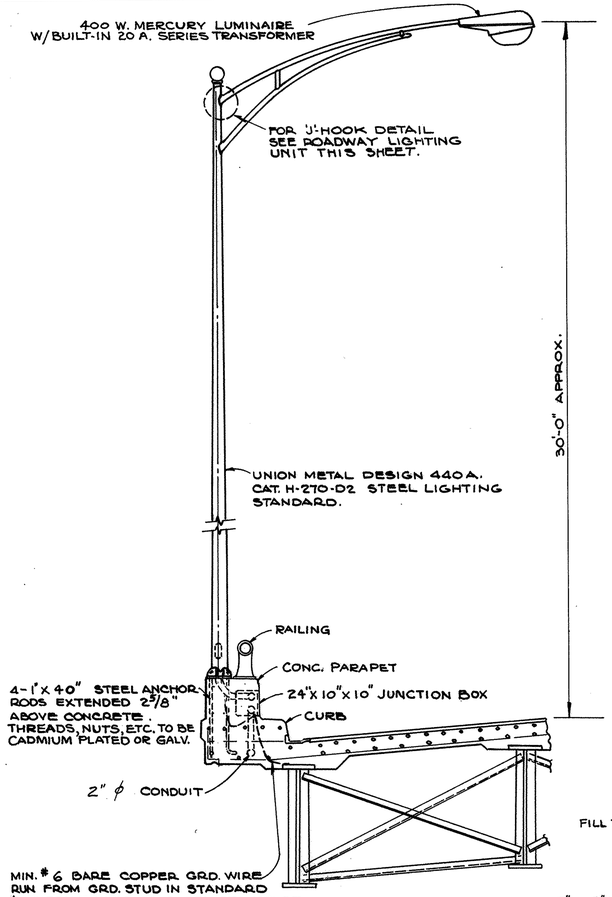
ITEM	DESCRIPTION	UNIT	QUANTITY	
5-25	STANDARD 27'-0" POLE WITH 15' BRACKET	EACH	13	NON-PARTICIPATING FUNDS
	STANDARD 27'-0" POLE WITH 10' BRACKET	EACH	5	
	POLE FOUNDATIONS - CONCRETE CL. "C"	EACH	18	
	CONCRETE - 24" SQUARE PULL BOX	EACH	25	
	CONCRETE ENCASED 3" A3B - CEM. CONDUIT	LIN. FT.	100	
	CONCRETE ENCASED 2" A3B. - CEM. CONDUIT	LIN. FT.	60	
	LUMINAIRE 21,500 LUMEN TYPE III	EACH	13	PARTICIPATING FUNDS
	LUMINAIRE 21,500 LUMEN TYPE II	EACH	5	
	#6-5000 VOLT LIGHTING SINGLE COND. CABLE	LIN. FT.	6,200	
	#4-600 VOLT GRD. GRID SINGLE COND. CABLE	LIN. FT.	4,350	
	5/8"x 8'-0" GROUND ROD	EACH	18	

LEGEND

- ROADWAY LIGHT STANDARD SEE DWG. Nº 5G FOR DETAIL.
- 175 W. MERCURY UNDER STRUCTURE LIGHT FOR LOCATION SEE BRIDGE DWG.'S SHEETS 88 AND 90 FOR DETAIL SEE THIS DWG.
- III-15-5 — DESIGNATION OF LIGHT STANDARDS: III INDICATES I.E.S. TYPE III DISTRIBUTION; THE NUMBER 15 INDICATES THE BRACKET ARM LENGTH; THE NUMBER 5 INDICATES THE SERIES CIRCUIT NUMBER.
- 2" OR 3" — TYPE RR COPPER WIRE, DIRECT BURIAL, OR IN CEMENT-ASBESTOS CONDUIT. SLASH MARKS INDICATE NUMBER OF WIRES, INCLUDING GROUND. NUMBER INDICATES SIZE OF CONDUIT. GALV. STEEL CONDUIT SHALL BE USED WHERE INDICATED.
- STA. — STATIONING: STATIONING SHOWN FOR LIGHT STANDARDS IS APPROXIMATE ℄ IN THE EVENT OF INTERFERENCE WITH OTHER PARTS OF THE WORK, LIGHT STANDARDS SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. SPACING OF LIGHTS IS DESIGNED FOR .6 TO .8 MAINTAINED F.C..
- GROUND TO O.E. CO. NEUTRAL GRID.
- CONSTANT CURRENT TRANSFORMER - 20 AMP. SERIES SYSTEM, ON WOOD POLE BY O.E. CO., 30 KW OR SIZE AS DETERMINED BY O.E. CO.
- BRIDGE 24" x 10" x 10" GALV. CAST IRON JUNCTION BOX - USED FOR PULL BOX AND ALSO TO HOUSE 175 W. BALLAST OF UNDERSTRUCTURE LUMINAIRES WHERE CIRCUITED TO IT.
- 24" SQUARE CONCRETE PULL BOX (OTHER THAN AT STANDARDS) ◻ EXISTING PULL BOX

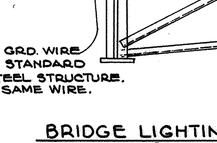


ROADWAY LIGHTING

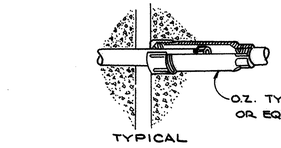


BRIDGE LIGHTING UNIT
SCALE 3/8" = 1'-0"

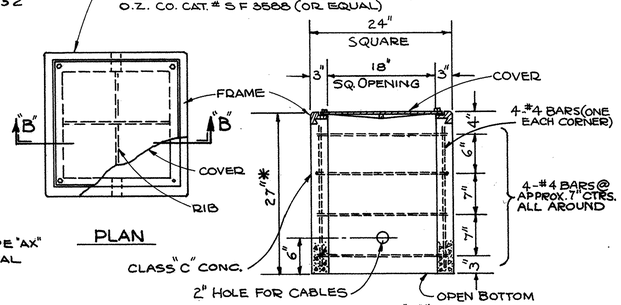
REQUIRED
1 - UNIT ON BRIDGE MAH-7-1445
1 - UNIT ON BRIDGE MAH-7-1452



COND. SECTION UNDER PAVEMENT



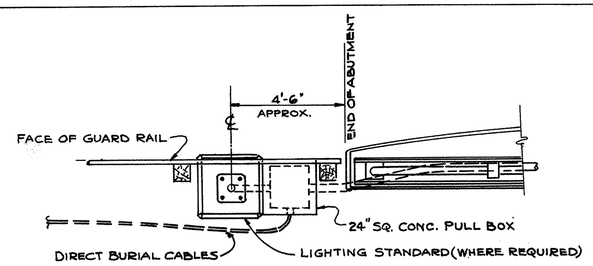
ELECTRICAL CONDUIT-EXPANSION FITTING IN BRIDGE CONC. SLAB
ONE AT EACH EXPANSION JOINT OF BRIDGE SLAB.



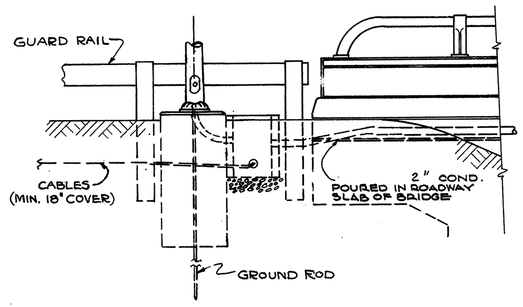
24" SQUARE CONC. PULL BOX
SCALE 1" = 1'-0"

PULL BOX MAY BE PRECAST OR CAST IN PLACE.

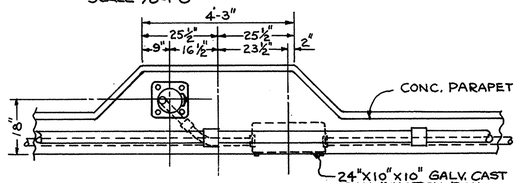
* 27" MINIMUM DEPTH - DEPTH OF BOX SHALL BE INCREASED WHERE CONDUIT PASSES UNDER PAVEMENT, TO MAKE IT'S BOTTOM NO LESS THAN UNDERSIDE OF CONC. ENCASEMENT.



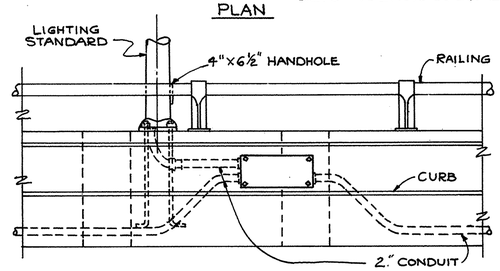
PLAN - BASE AND CONDUIT TREATMENT AT BRIDGES
SCALE 3/8" = 1'-0"



ELEVATION - BASE AND CONDUIT TREATMENT AT BRIDGES
SCALE 3/8" = 1'-0"

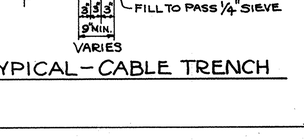


PLAN

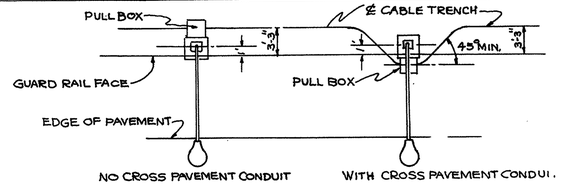


ELEVATION

DETAIL - BRIDGE LIGHTING UNIT
SCALE ½" = 1'-0"



TYPICAL - CABLE TRENCH



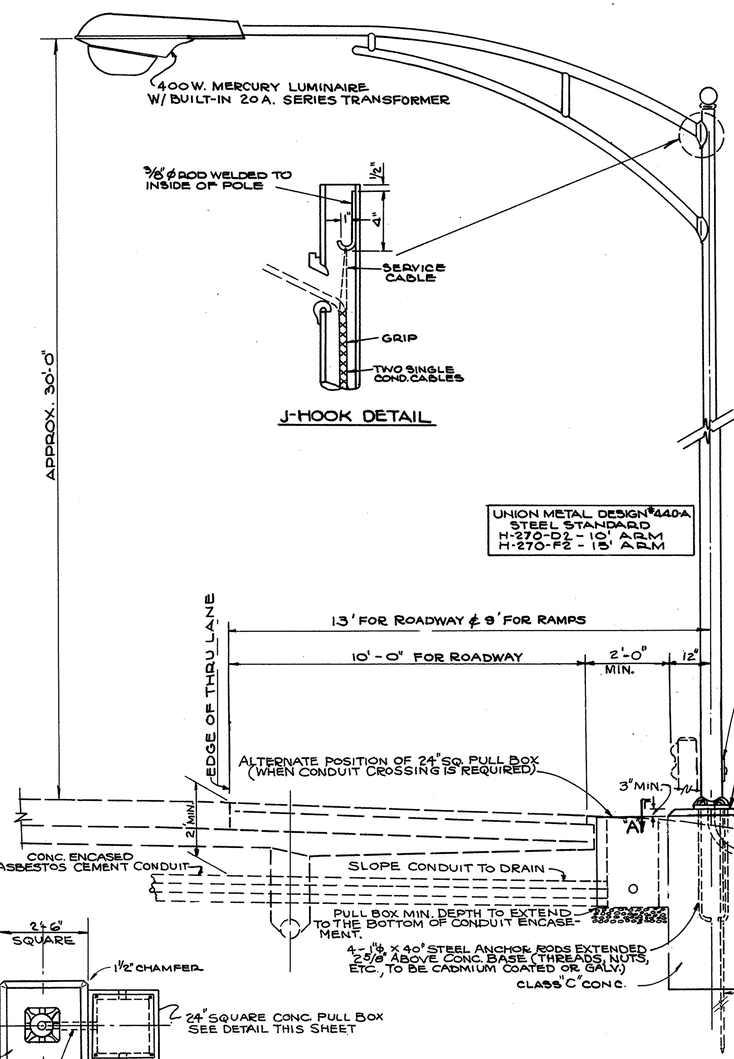
PLAN VIEW

CABLE AND PULL BOX LOCATION

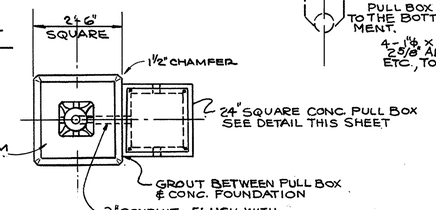
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9 (5)	

MAH-7-14.35

56
101



TYPICAL ROADWAY LIGHTING UNIT
SCALE ½" = 1'-0"



SECTION "A"-"A"
SCALE ½" = 1'-0"

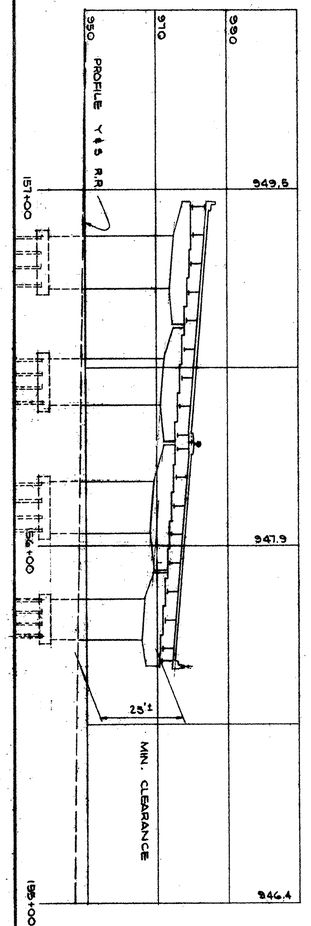
THIS IS A COMPOSITE ELEVATION VIEW, AND INDICATES THE TYPICAL NORMAL POSITION OF THE 24" SQUARE CONC. PULL BOX BEHIND STANDARD, AS WELL AS AN ALTERNATE POSITION OF PULL BOX USED WHERE CABLES ARE TO BE INSTALLED UNDER ROADWAY (RAMPS) DIRECTLY IN CONDUIT FROM A LAMP STANDARD. ONLY ONE PULL BOX IS REQUIRED 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.

ROADWAY LIGHTING DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

57
101

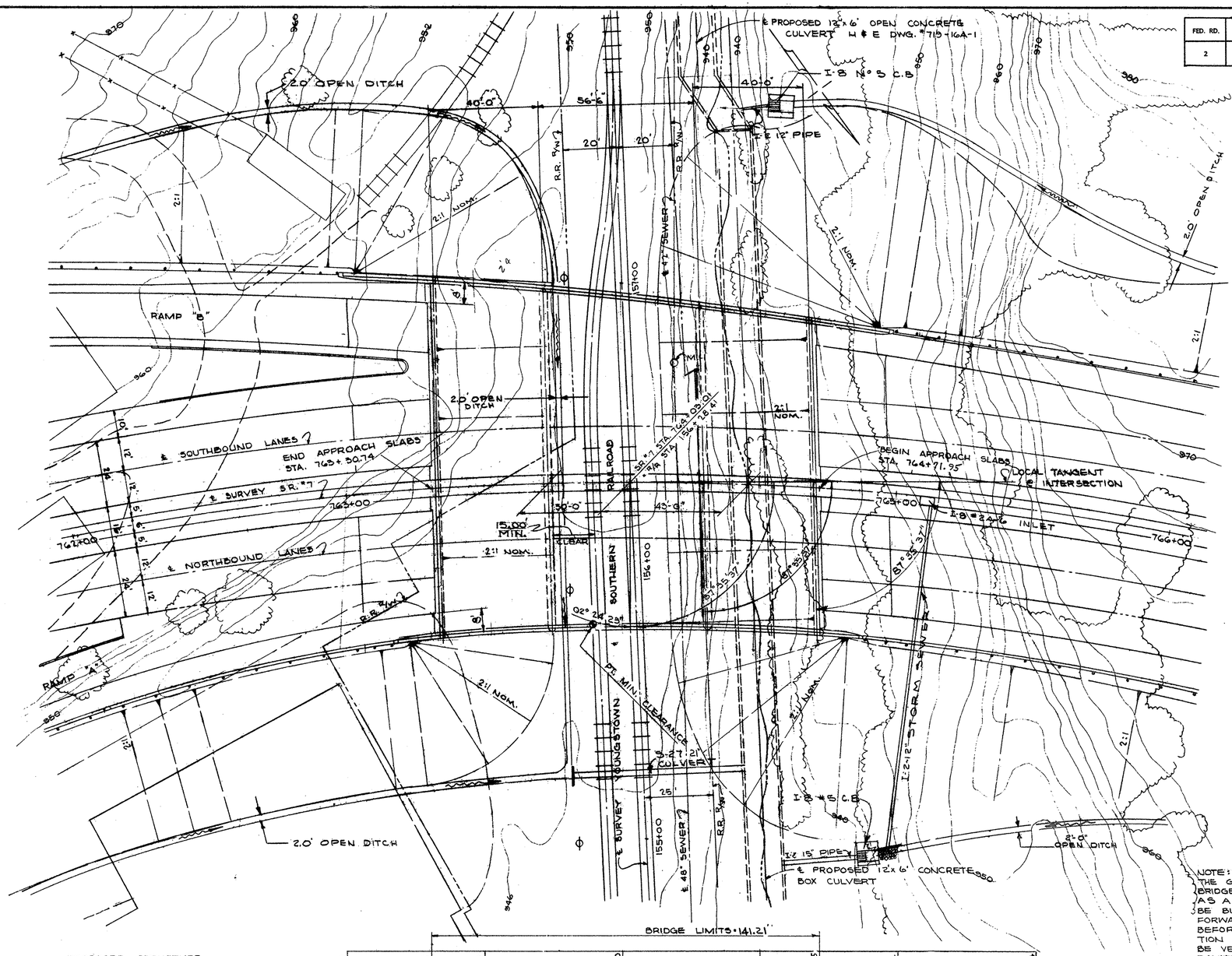
MAH 7- 14.35



RAMP B
CURVE DATA
Δ = 16° 21' 00"
D = 8°
L = 545.00'
T = 274.36'

℄ CURVE DATA
Δ = 89°50' 18"
T_s = 1244.937'
θ_s = 11°
L_s = 400'
Δ_c = 67° 50' 18"
D_c = 5° 30'
R_c = 1041.74'
L_c = 1233.42'
E_s = 438.46'
SC : STA. 760+09.41

RAMP A
CURVE DATA
Δ = 85° 00'
D_s = 10°
L_c = 870.00'
T = 169.22'
L_s = 150.00'
θ_s = 7° 30'
R_c = 572.96
PC : STA. 763+75.00



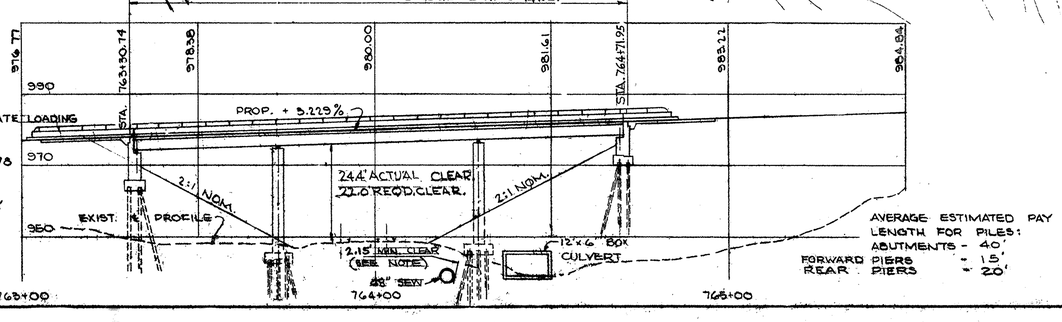
NOTE:
THE GIBSON RUN BOX CULVERT WITHIN THE BRIDGE LIMITS IS TO BE CONSTRUCTED AS A PART OF THIS CONTRACT AND SHALL BE BUILT AND BACKFILLED BEFORE THE FORWARD PIER PILING IS DRIVEN. BEFORE DRIVING THESE PILES, THE LOCATION OF THE 48" SEWER LINE SHALL BE VERIFIED IN THE FIELD TO AVOID DAMAGE TO THE SEWER. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE SEWER OR BOX CULVERT DURING CONSTRUCTION.

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.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SPANS: 40'-0" 56'-6" 40'-0" ℄'s PIERS & ABUT.
SKEW: 02° 24' 25" R.F. SUBSTRUCTURES PARALLEL TO R.R.
ROADWAY: VARIES - SEE DECK DETAIL SHEET # 75
LOAD FREQUENCY: CF 2000 ADEQUATE FOR A.A.S.H.O ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LG.
ALIGNMENT: VARIES - SEE GEOMETRIC LAYOUT SHEET # 78
SUPERELEVATION: 0.083"/'
SLOPE PROTECTION: I-10 CRUSHED AGGREGATE
R.R. TRAFFIC COUNT: 2 FR'T TRAINS/DAY & 4 SWITCH/DAY



AVERAGE ESTIMATED PAY LENGTH FOR PILES:
ABUTMENTS - 40'
FORWARD PIERS - 15'
REAR PIERS - 20'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SITE PLAN

BRIDGE Nº MAH.-7-14.45
STRUCTURE OVER YOUNGSTOWN & SOUTHERN R.R
YOUNGSTOWN MAHONING COUNTY
STA. 763+30.76 TO STA. 764+80.26

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	GASKILL		DC	JTM	12-16-64	

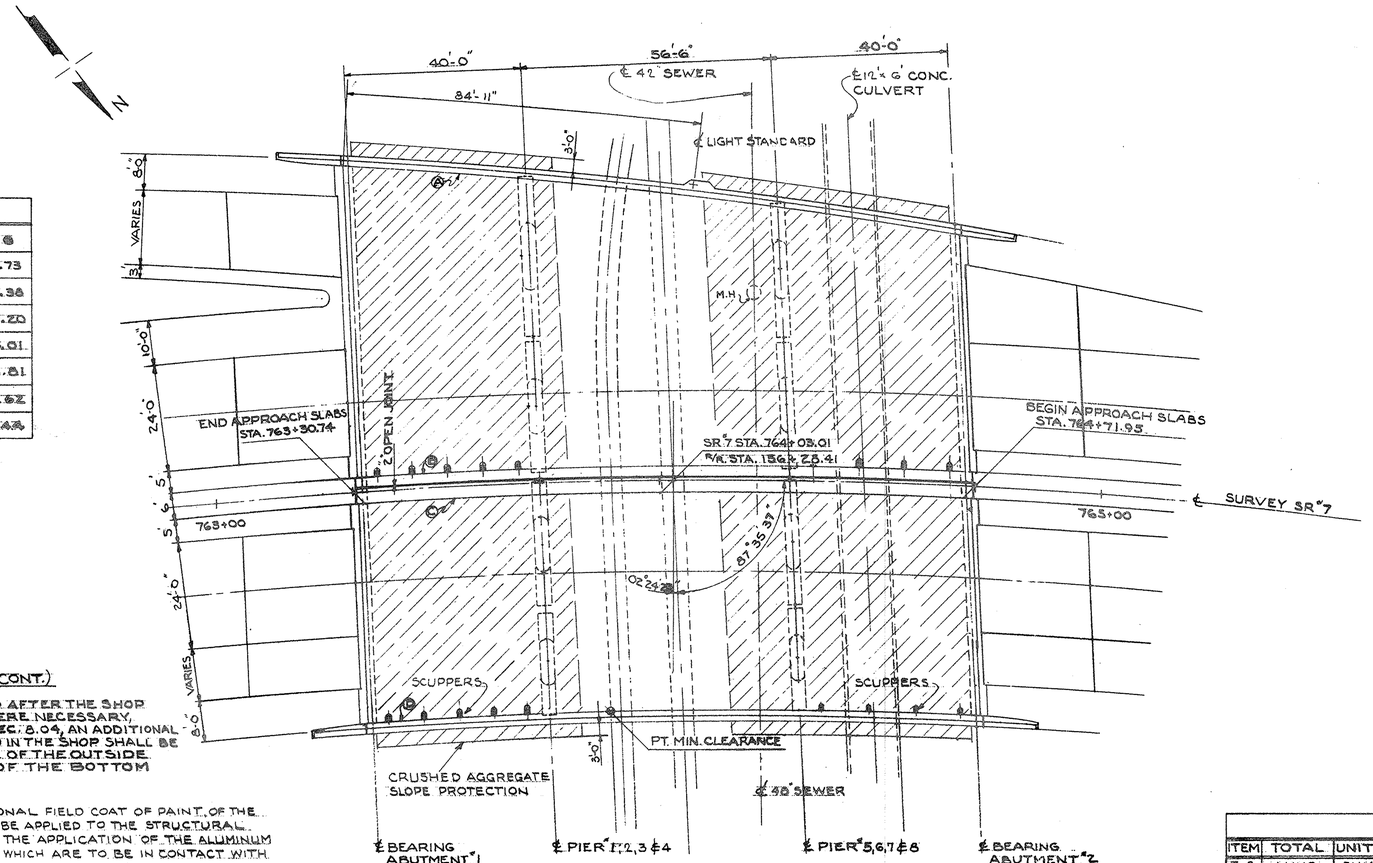
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

58/101

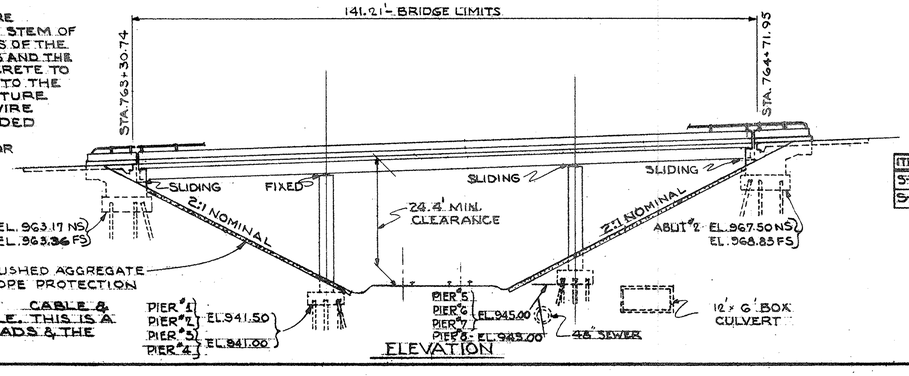
MAH.-7-14.35

ELEVATION TABLE (TOP OF PAVING @ BASE OF CURBS)				
STATION OR LOCATION	A ⊕	B ⊕	C ⊕	D ⊕
℄ BEARING ABUT. "1	985.68	977.84	977.84	973.73
763+50	984.00	978.38	978.38	974.38
763+75	984.53	979.19	979.19	975.20
764+00	985.12	980.00	980.00	976.01
764+25	985.70	980.80	980.80	976.81
764+50	986.32	981.61	981.61	977.62
℄ BEARING ABUT. "2	986.43	982.24	982.26	978.43

⊕ SEE PLAN FOR LOCATION



PLAN



ELEVATION

GENERAL NOTES (CONT.)

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 THE BOTTOM FLANGE OF THE END SPANS.

PAINT ON TRACK SPANS: ONE ADDITIONAL FIELD COAT OF PAINT, OF THE SAME KIND AS THE SHOP COAT, SHALL BE APPLIED TO THE STRUCTURAL STEEL IN THE TRACK SPANS BEFORE THE APPLICATION OF THE ALUMINUM PAINT, EXCEPT TO THOSE SURFACES WHICH ARE TO BE IN CONTACT WITH CONCRETE.

CONSTRUCTION CLEARANCE OF 21'-0" VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 8'-0" HORIZONTALLY FROM THE CENTER OF TRACKS SHALL BE MAINTAINED AT ALL TIMES.

SHEETING AND BRACING: BEFORE CONSTRUCTION IS STARTED, EIGHT SETS OF PRINTS SHOWING DETAILS OF THE SHEETING AND BRACING TO BE USED FOR EXCAVATION ADJACENT TO THE RAILROAD TRACKS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL BY THE DEPARTMENT OF HIGHWAYS AND BY THE RAILROAD COMPANY.

ALIGNING RAILROAD TRACKS: AFTER THE CONTRACTOR HAS COMPLETED ALL EXCAVATION AND BACKFILL ADJACENT TO THE RAILROAD TRACKS IN COMPLIANCE WITH SEC. E-2.04 AND E-2.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TO THE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN SEC. E-2.04, E-2.08 OR G-3.07 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RE-SURFACING THE RAILROAD TRACKS.

ELECTRICAL GROUNDS: A STRANDED NO 6 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE SOUTH SIDE PIER STEM OF PIER "1 & THE NORTH SIDE PIER STEM OF PIER "4. THE LOWER ENDS 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 & 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 STRANDED COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED NO 6 GAGE BARE COPPER WIRE BRAZED TO A ANCHOR BOLT OF THE 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" (1).

(1) ITEM S-25 INCLUDES: 4 EXPANSION FITTINGS, 4-1" DIA. ANCHOR BOLTS, 1-GALV. CAST IRON JUNCTION BOX, GROUND AND 1-BRIDGE STANDARD 27'-0" WITH 10'-0 BRACKET.

(2) ITEM S-25 INCLUDES ONE LUMINARE 22,500 LUMEN TYPE III, 350 LIN. FT. #4-600 VOLT GRD. GRID SINGLE COND. CABLE & 450 LIN. FT. #6-5000 VOLT LIGHTING SINGLE COND. CABLE. THIS IS A NON-PARTICIPATING ITEM BY THE BUREAU OF PUBLIC ROADS & THE STATE OF OHIO.

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 THERE-OF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UP-GRADE. 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 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 THE 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 FASCIA OF SUPERSTRUCTURE.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE PIERS AND THE ABUTMENTS.

PILING: 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-18.051 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING:

FOR THE ABUTMENT PILES:
- 50 TONS PER PILE USING A 11,000 FT. LB. HAMMER.
- 45 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER.

FOR THE PIER PILES:
- 45 TONS PER PILE USING A 11,000 FT. LB HAMMER.
- 40 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 DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS 30 TONS PER PILE FOR THE PIER PILES AND 40 TONS FOR THE ABUTMENT PILES

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
ALSO SUPPLEMENTAL SPECIFICATIONS S-101 DATED 12-2-59, AND M-206.14 DATED 7-15-49.

PROCEDURE: THE EMBANKMENT SHALL BE PLACED & COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENT AND PIERS, AND THE PILES DRIVEN.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.
E-2	LUMP	SUM	COFFERDAMS CRIBS AND SHEETING				LUMP
E-2	1210	CU. YDS	UNCLASSIFIED EXCAVATION		632	578	
I-10	1670	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION				1670
S-1	475	CU. YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	475			
S-1	358	CU. YDS.	CLASS "E" CONCRETE ABUT'S ABOVE FOOTINGS		358		
S-1	377	CU. YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS			377	
S-1	358	CU. YDS.	CLASS "E" CONCRETE ABUT. & PIER FOOTINGS		193	165	
S-3	70	LIN. FT.	WATERPROOFING, PREMOLDED SEALING STRIP		70		
S-4	227,654	LBS	REINFORCING STEEL	150,276	26,616	50,762	
S-7	364,417	LBS	STRUCTURAL STEEL	364,417			
S-8	364,417	LBS	FIELD PAINTING OF STRUCT. STEEL AS PER PLAN	364,417			
S-9	124	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		124		
S-14	350	LIN. FT.	RAILING (ALUMINUM RAIL & SUPPORTS - CONC. PARAPETS)	278	72		
S-14	139	LIN. FT.	GUARD RAIL-STEEL BEAM TYPE (DEEP) BARRIER DESIGN	139			
S-16	LUMP	SUM	FIRST TEST PILE				LUMP
S-18	5725	LIN. FT.	12" BP 53 STEEL "H" PILES		3520	2205	
S-25	350	LIN. FT.	2" ASBESTOS-CEMENT (CONDUIT)	278	72		
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM (1)				
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM (2)				

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.
S-29	18	EACH	SCUPPERS	18			
S-29	165	CU. YDS.	POROUS BACKFILL		165		

Superseded by Sheet 58A 5-24-61

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 - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		HGH	JTM	12-16-60	

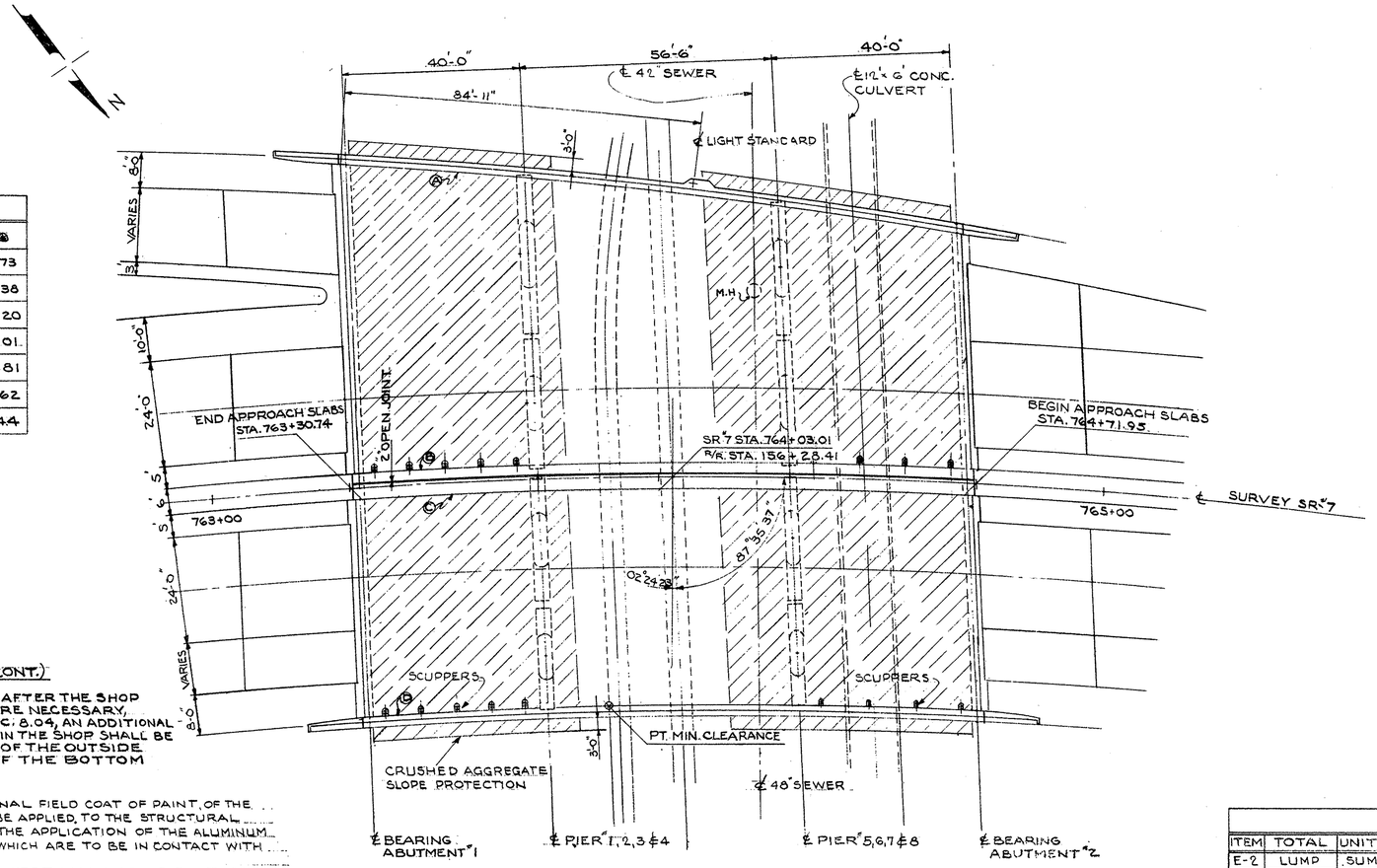
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

58A
101

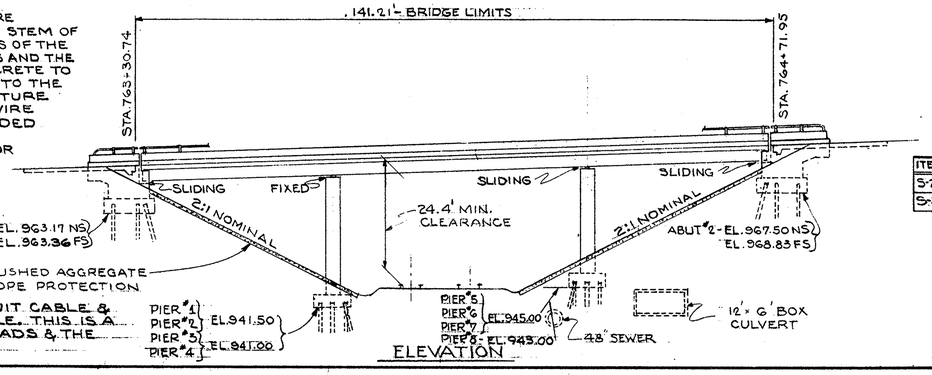
MAH.-7-14.35

ELEVATION TABLE (TOP OF PAVING @ BASE OF CURBS)				
STATION OR LOCATION	A ⊕	B ⊕	C ⊕	D ⊕
℄ BEARING ABUT. #1	983.68	977.84	977.84	973.73
763+50	984.00	978.38	978.38	974.38
763+75	984.55	979.19	979.19	975.20
764+00	985.12	980.00	980.00	976.01
764+25	985.70	980.80	980.80	976.81
764+50	986.32	981.61	981.61	977.62
℄ BEARING ABUT. #2	986.43	982.24	982.24	978.44

⊕ SEE PLAN FOR LOCATION



PLAN



ELEVATION

GENERAL NOTES (CONT.)

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 THE BOTTOM FLANGE.

PAINT ON TRACK SPANS: ONE ADDITIONAL FIELD COAT OF PAINT OF THE SAME KIND AS THE SHOP COAT, SHALL BE APPLIED TO THE STRUCTURAL STEEL IN THE TRACK SPANS BEFORE THE APPLICATION OF THE ALUMINUM PAINT, EXCEPT TO THOSE SURFACES WHICH ARE TO BE IN CONTACT WITH CONCRETE.

CONSTRUCTION CLEARANCE OF 21'-0" VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 8'-10" HORIZONTALLY FROM THE CENTER OF TRACKS SHALL BE MAINTAINED AT ALL TIMES.

SHEETING AND BRACING: BEFORE CONSTRUCTION IS STARTED, EIGHT SETS OF PRINTS SHOWING DETAILS OF THE SHEETING AND BRACING TO BE USED FOR EXCAVATION ADJACENT TO THE RAILROAD TRACKS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL BY THE DEPARTMENT OF HIGHWAYS AND BY THE RAILROAD COMPANY.

ALIGNING RAILROAD TRACKS: AFTER THE CONTRACTOR HAS COMPLETED ALL EXCAVATION AND BACKFILL ADJACENT TO THE RAILROAD TRACKS IN COMPLIANCE WITH SEC. E-2.04 AND E-2.06 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TO THE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN SEC. E-2.04, E-2.05 OR G-8.07 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RE-SURFACING THE RAILROAD TRACKS.

ELECTRICAL GROUNDS: A STRANDED N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDED IN THE SOUTH SIDE PIER STEM OF PIER #1 & THE NORTH SIDE PIER STEM OF PIER #4. THE LOWER ENDS 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 & 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 STRANDED COPPER WIRE IN THE PIER SHAFT. THERE SHALL BE A TINNED N°6 GAGE BARE COPPER WIRE BRAZED TO A ANCHOR BOLT OF THE 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".

(1) ITEM S-25 INCLUDES; 4 EXPANSION FITTINGS, 4-1" DIA. ANCHOR BOLTS, 1-GALV. CAST IRON JUNCTION BOX, GROUND AND 1-BRIDGE STANDARD 27'-0" WITH 10'-0 BACKET.

(2) ITEM S-25 INCLUDES: ONE LUMINARE 22,500 LUMEN TYPE III, 350 LIN. FT. #4-600 VOLT GRD. GRID SINGLE CONDUIT CABLE & 430 LIN. FT. #6-5000 VOLT LIGHTING SINGLE CONDUIT CABLE. THIS IS A NON-PARTICIPATING ITEM BY THE BUREAU OF PUBLIC ROADS & THE STATE OF OHIO.

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 THERE-OF.

CONCRETE DECK PLACING: IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UP-GRADE. 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 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 THE 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 FASCIA OF SUPERSTRUCTURE.

EXCAVATION QUANTITY: INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE PIERS AND THE ABUTMENTS.

PILING: 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-18.051 S IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING:

FOR THE ABUTMENT PILES:
- 50 TONS PER PILE USING A 11,000 FT. LB. HAMMER.
- 45 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER.

FOR THE PIER PILES:
- 45 TONS PER PILE USING A 11,000 FT. LB HAMMER.
- 40 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 DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS 50 TONS PER PILE FOR THE PIER PILES AND 40 TONS FOR THE ABUTMENT PILES

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
ALSO SUPPLEMENTAL SPECIFICATIONS S-101 DATED 12-2-59, AND M-206.14 DATED 7-15-49.

PROCEDURE: THE EMBANKMENT SHALL BE PLACED & COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENT AND PIERS, AND THE PILES DRIVEN.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.	As Built	
E-2	LUMP	SUM	COFFERDAMS CRIBS AND SHEETING				LUMP		
E-2	1380	CU. YDS.	UNCLASSIFIED EXCAVATION		802	578			
	1468.89								CO-18
I-10	~~1670~~	SQ. YDS.	GRUSHED AGGREGATE SLOPE PROTECTION				1670		-20.11
S-1	475	CU. YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	475					CO-13
S-1	~~358~~ 292.48	CU. YDS.	CLASS "E" CONCRETE ABUT'S ABOVE FOOTINGS		358				+65.52
S-1	377	CU. YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS			377			
S-1	426	CU. YDS.	CLASS "E" CONCRETE ABUT. & PIER FOOTINGS		261	165			
S-3	70	LIN. FT.	WATERPROOFING, PREMOLDED SEALING STRIP		70				
S-4	233,219	LBS	REINFORCING STEEL	150,276	32,181	50,762			
S-7	364,417	LBS	STRUCTURAL STEEL	364,417					
S-8	364,417	LBS	FIELD PAINTING OF STRUCT. STEEL AS PER PLAN	364,417					CO-18
S-9	~~140.2124~~	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		124				-16.20
S-14	350	LIN. FT.	RAILING (ALUMINUM RAIL & SUPPORTS - CONC. PARAPETS & REINFORCING STEEL	278	72				
S-14	139	LIN. FT.	GUARD RAIL-STEEL BEAM TYPE (DEEP) BARRIER DESIGN	139					
S-16	LUMP	SUM	FIRST TEST PILE				LUMP		
S-18	5725	LIN. FT.	12" BP 53 STEEL "H" PILES		3520	2205			
S-25	350	LIN. FT.	2" ASBESTOS-CEMENT (CONDUIT)	278	72				
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM (1)						
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM (2)						

Revised As Built

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.		
S-29	18	EACH	SCUPPERS	18					
S-29	163	CU. YDS.	POROUS BACKFILL		163				

This sheet supersedes Sheet 58 5-24-61

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 N° MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. Revised As-Built S.R. N° 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		HGH	JTM	12-16-60	

Revised As Built VLA ~ 6-11-63

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

59
101

1918.69 R.

1'-5½"

MAH.-7-14.35

℄ SURVEY

1" EXPANSION JOINT
SEE DETAIL SHEET #60

6" 2'-5" 5'-0 RADIAL DIM.

7'-11 3/16"

12½

5/16

APPROACH SLAB SEAT

SLOPE OF BACKWALL

58'-0" APPROACH SLAB SEAT

6" 1'-9" 1'-0" 1'-0" 2'-0"

7/16

℄ BEAM

8°02'-52" TYP. EXCEPT AS NOTED

1'-6" 1'-6" 3'-0" LEVEL TYP.

0°20'-40"

4°38'-38"

6°37'-28"

5°00'-23"

LOCAL TAN. & ℄ BEARING.
& TO ℄ BEAM SEATS

2'-10 7/8" 9'-11" 9'-11" 5 SPACES @ 8'-2 3/4" = 41'-1 3/4" 7'-2 5/8" 2'-10"

2'-7 1/4" 7 SPACES @ 9'-6" = 66'-6" ℄ TO ℄ 4"ϕ WEEP HOLES 4'-10

7" 73'-11 1/4" 8 1/4"

15/16" 45'-10 3/16" 28' 8 3/8" 2 6/16

72'-0" R.

2'-0" 1'-0" 1'-0" 2'-0"

11'-2"

25'-4 9/16" 25'-5 5/8"

10 7/16

℄ BEARING.

1°24'40" TO LOCAL TAN. @ ℄ BRGS. ℄ SURVEY

SEE SHEET #60 FOR CONTINUATION OF ABUTMENT.

PARTIAL PLAN ABUTMENT #1

CONTRACTION JOINT
(SEE DETAIL SHEET #60

"F"

EL. 983.54 ⊕

7-A-606 39-A 607 20-A 607 6-A 606

2"ϕ CONDUIT

"E"

"G"

4-A 547 NS. 2-A 512 FS 2-A 552 FS. 2-A 575 FS TOP OF FILLET FS.

2-A 506 FS 2-A 510 NS 2-A 539 FS

2-A 519

2-A 553 FS

A 538 FS & NS

BEAM NUMBERS SHOWN IN CIRCLES CORRESPOND TO NUMBERS SHOWN ON GEOMETRIC & FRAMING PLANS.

EL. 977.69 ⊕

EL. 979.89 (1)

EL. 979.29 (2)

EL. 978.59 (3)

"H"

13-A-560 CORNER BARS

A-544 NS-A-541 FS.

A-539 NS. A-551 FS

EL. = 977.91 (4)

EL. 977.21 (5)

EL. = 976.52 (6)

EL. = 975.83 (7)

EL. 974.99 (8)

EL. = 974.13 (9)

5-A 537 @ 5"c/c UNDER EA. BM.

A-550 NS & FS

A 576 NS & FS

A 548 NS & FS

8-A 542 NS & FS.

8-A 543 NS & FS.

9-A-544 NS. 9-A-602 FS.

8-A-545 NS 8-A-603 FS

7-A-505 NS 7-A-604 FS

2-A 546 NS.

1-A 546 NS 1-A 605 FS

Superseded by Sheet 59A 5-24-61

A-553

"J"

GROUND LINE EL. = 970.59

EL. 969.55

11-A 530 NS & FS. 10-A 540 NS & FS 9-A 541 NS

℄ 4 ϕ WEEPHOLES

46 A-501 @ 1'-0" N.S. & FS.

A-556 NS & FS

27 A-501 NS & 25 A-601 FS @ 1'-0"

A-510 NS & FS

A-510 NS & FS.

2 PAIR A-503

2 PAIR A-503

A-547 NS A-512 FS.

A-513 FS

A-501

A-511 NS A-549 FS.

"F"

FRONT ROW ONLY

FRONT & BACK ROW

EL. 963.36

4 SPA. @ 4'-11½" = 19'-10"

10 SPA. @ 4'-1⅜" = 41'-1¾"

2 SPA. @ 3'-7⅜" = 7'-2⅝"

EL. 963.36

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 1 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	E.W.W.		E.A.K.	J.T.M.	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

59A
101

SEE SHEET #60 FOR CONTINUATION OF ABUTMENT.

PARTIAL PLAN ABUTMENT #1

PARTIAL ELEVATION ABUTMENT #1

℄ SURVEY
1" EXPANSION JOINT SEE DETAIL SHEET #60
RADIAL DIM.
APPROACH SLAB SEAT
SLOPE OF BACKWALL
58'-0" APPROACH SLAB SEAT
℄ BEAM
℄ BEARING.
LOCAL TAN. ℄ BEARING & TO ℄ BEAM SEATS
CONTRACTION JOINT (SEE DETAIL SHEET #60
BEAM NUMBERS SHOWN IN CIRCLES CORRESPOND TO NUMBERS SHOWN ON GEOMETRIC & FRAMING PLANS.
℄ 4 ϕ WEEPHOLES
GROUND LINE EL. = 970.59
2" ϕ CONDUIT
13-A-560 CORNER BARS
A-544 NS - A-541 FS.
A-539 NS. A-551 FS
2-A546 NS.
1-A546 NS
1-A605 FS
A-553
A-547 NS
A-512 FS
2-A519
2-A553 FS
2-A506 FS
2-A510 NS
2-A539 FS
A538 FS & NS
A548 NS & FS
A576 NS & FS
A550 NS & FS
5-A537 @ 5"c/c UNDER EA. BM.
11-A530 NS & FS.
10-A540 NS & FS.
9-A541 NS & FS
8-A542 NS & FS.
8-A543 NS & FS.
9-A544 NS.
9-A602 FS.
8-A545 NS
8-A603 FS
7-A505 NS
7-A604 FS
2-A503
2-A578 TYP U.N.
A-510 NS & FS
A-556 NS & FS
46 A-501 @ 1'-0" N.S. & FS.
27 A-501 NS & 25 A-601 FS @ 1'-0"
A-551 NS
A-511 FS
1-A551
6-A611
2-A579
A-513 FS
A-501
5-A510 & A552
(A-510 NS) (A-552 FS)
A-510 NS
A-547 FS
5-A510
2-A547
16-A-701
40-A-702
18-A703
7-A-606
39-A 607
20-A 607
6-A 606
TOP OF FILLET FS.
EL. 983.54
EL. 979.89 (1)
EL. 979.29 (2)
EL. 978.59 (3)
EL. 977.91 (4)
EL. 977.21 (5)
EL. 976.52 (6)
EL. 975.83 (7)
EL. 974.99 (8)
EL. 974.13 (9)
EL. 977.69
EL. 969.55
EL. 963.36
1'-5½"
1'-5½"
MAH.-7=14.35
1918.69 R.
72'-0" R.
20'-2 7/8"
7'-11 3/16"
5'-0
2'-5"
6"
2'-6"
3'-10"
2'-0"
1'-9"
1'-10"
3'-0"
1'-6"
1'-6
3'-0" LEVEL
TYP.
8@ 2'-02'-52" TYP. EXCEPT AS NOTED
5 SPACES @ 8'-2 3/4" = 41'-1 3/4"
7 SPACES @ 9'-6" = 66'-6"
73'-11 1/4"
45'-9 5/8"
28'-5 7/8"
12'-6 3/8"
4'-10"
7'-2 5/8"
2'-10"
2'-7 1/4"
2'-10 7/8"
9'-11"
9'-11"
4@ 38'-38"
@ 20'-40"
6@ 37'-28"
6@ 20'-23"
1'-2 40.76 TO LOCAL TAN. ℄ BRGS. & ℄ SURVEY
TYP 8 3 EQUAL SPACES 8 8
206 8 8 5 SPACES 8 8 5 SPACES 8 8 206

This sheet supersedes Sheet 59 5-24-61

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 1 DETAILS

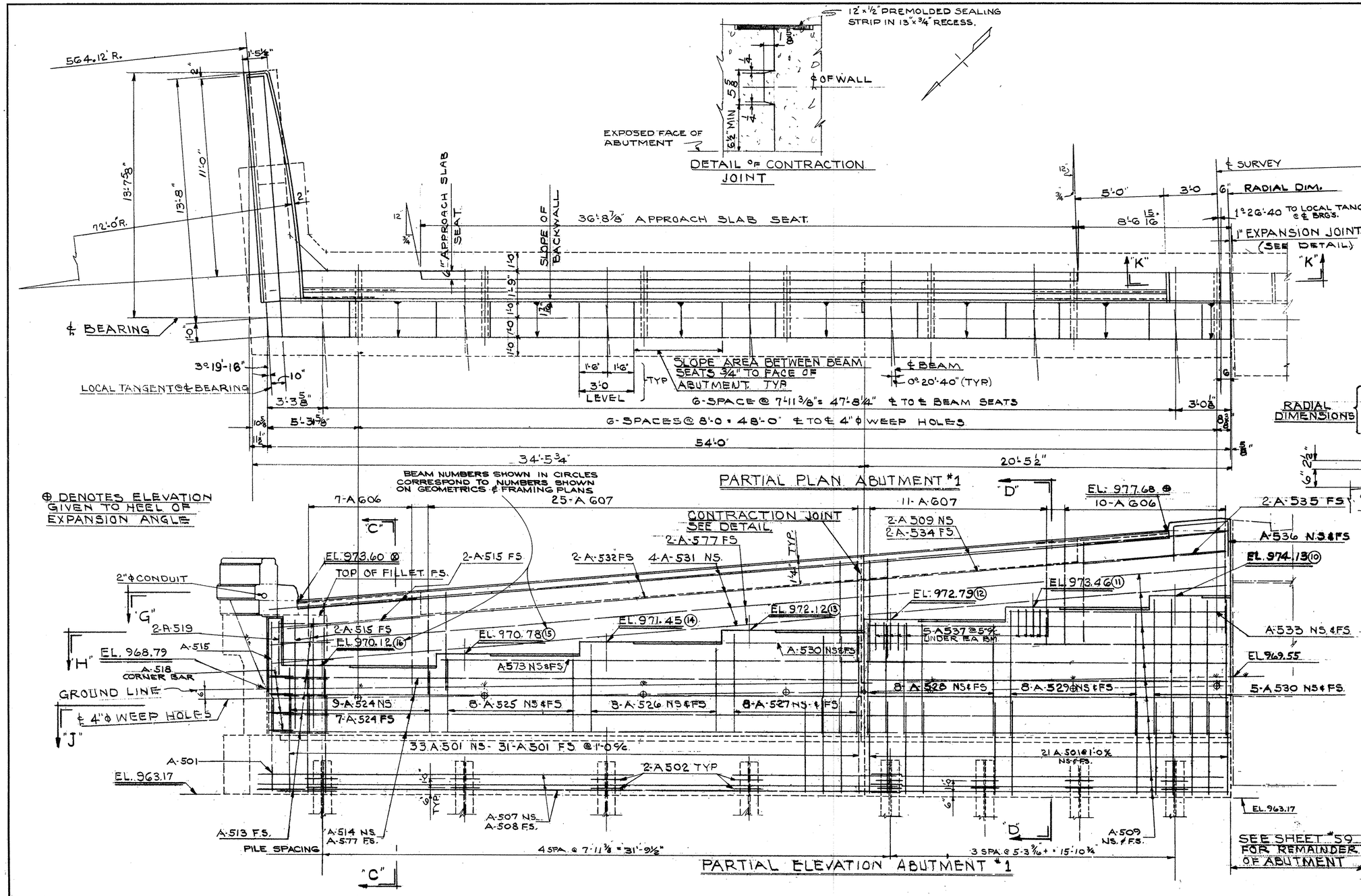
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

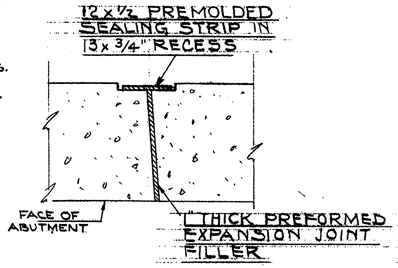
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	C.W.W.		E.A.K.	J.T.H.	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

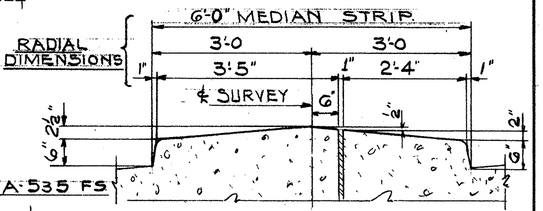
60/101

MAH.-7-14.35





DETAIL OF EXPANSION JOINT



SECTION - KK

DETAIL OF MEDIAN STRIP

NOTES:-

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL HAS BEEN ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

ALL PILES SHALL BE 12" BP 53# STEEL 'H' BEARING PILES.

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 REINFORCING STEEL SHALL HAVE A MIN. 2" COVER UNLESS OTHERWISE NOTED.

CARE MUST BE TAKEN IN PLACING BARS TO CLEAR BEARING ANCH. BOLTS

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 1 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

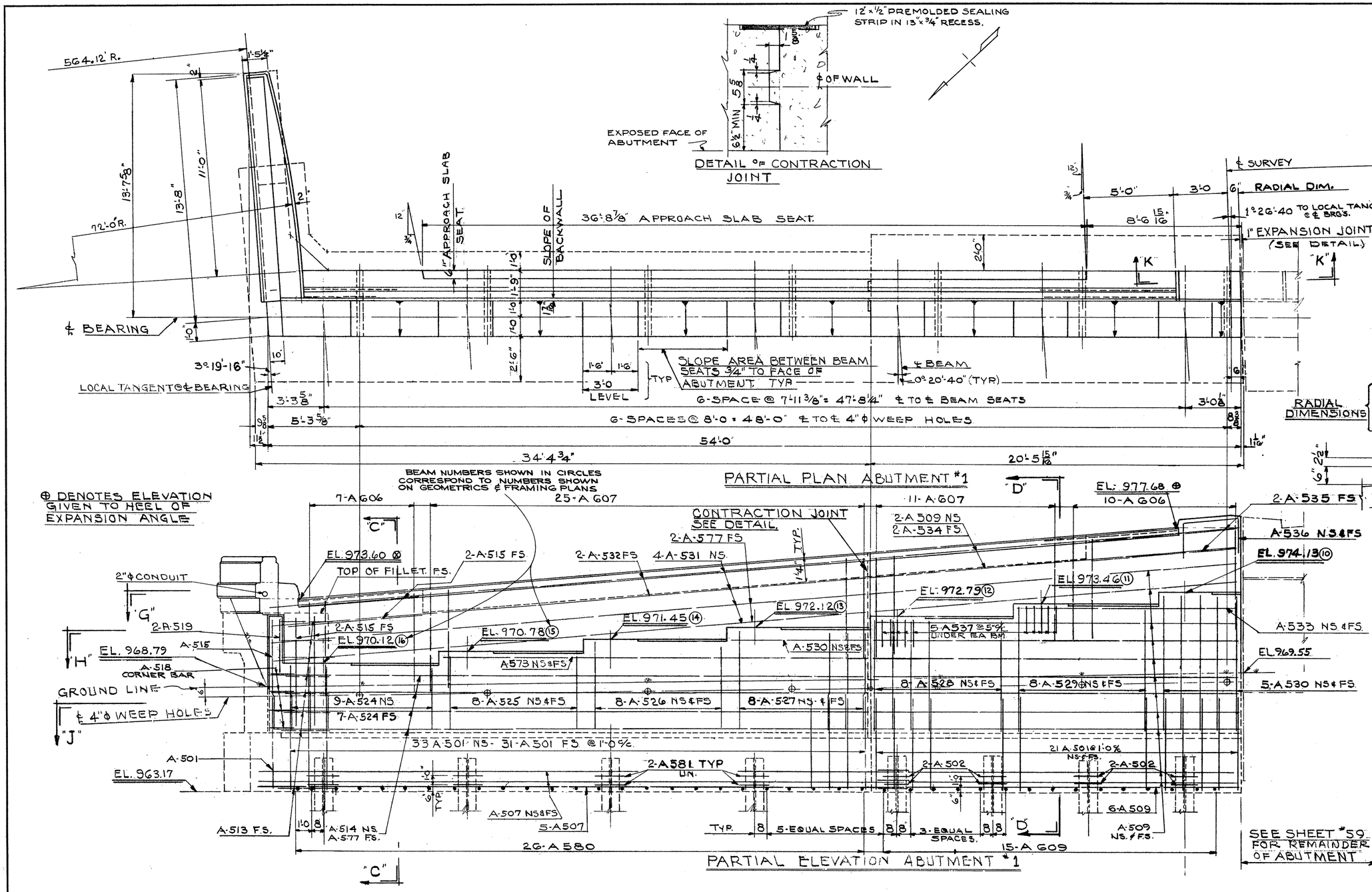
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	aww		EAK	JTH	12-16-60	

Superseded by Sheet 60A 5-24-61

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-7-14.35

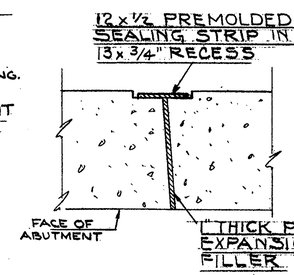
60A
101



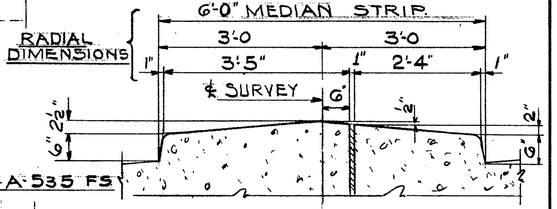
PARTIAL PLAN ABUTMENT #1

PARTIAL ELEVATION ABUTMENT #1

DETAIL OF CONTRACTION JOINT



DETAIL OF EXPANSION JOINT



SECTION - KK"

DETAIL OF MEDIAN STRIP

NOTES:-

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER STEEL HAS BEEN ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS PLACED.

ALL PILES SHALL BE 12" BP 53# STEEL 'H' BEARING PILES.

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 REINFORCING STEEL SHALL HAVE A MIN. 2" COVER UNLESS OTHER WISE NOTED.

CARE MUST BE TAKEN IN PLACING BARS TO CLEAR BEARING ANCH. BOLTS

SEE SHEET "59" FOR REMAINDER OF ABUTMENT

This sheet supersedes Sheet 60 5-24-61

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 1 DETAILS

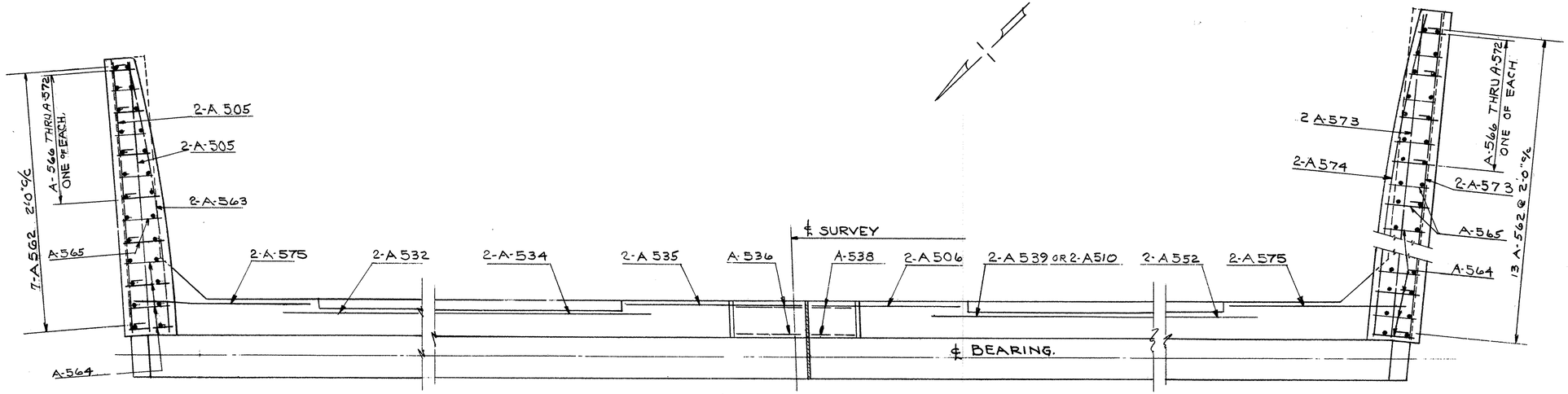
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	ccw		EAK	JTH	12-16-60	

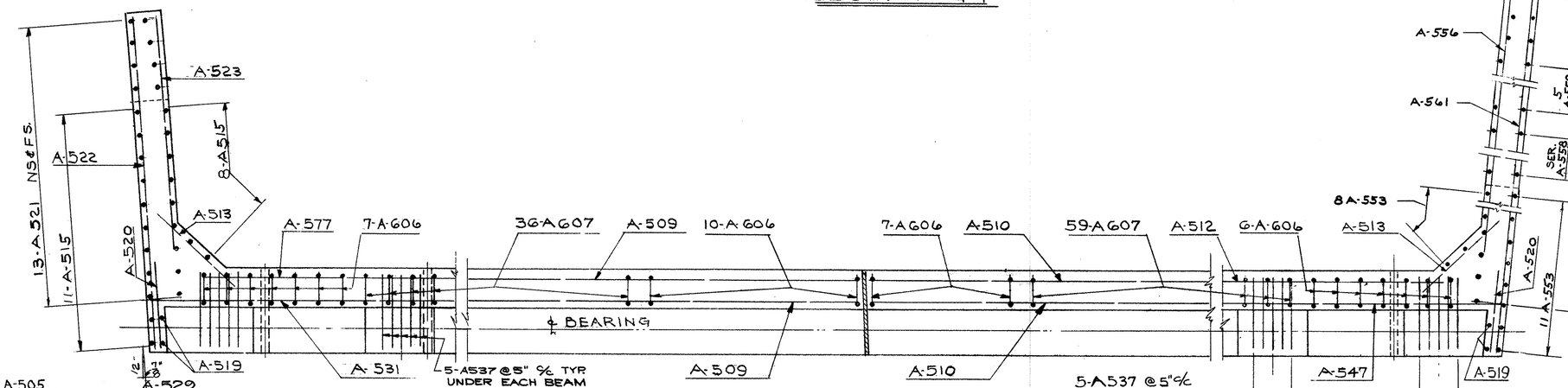
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(S)	

61
101

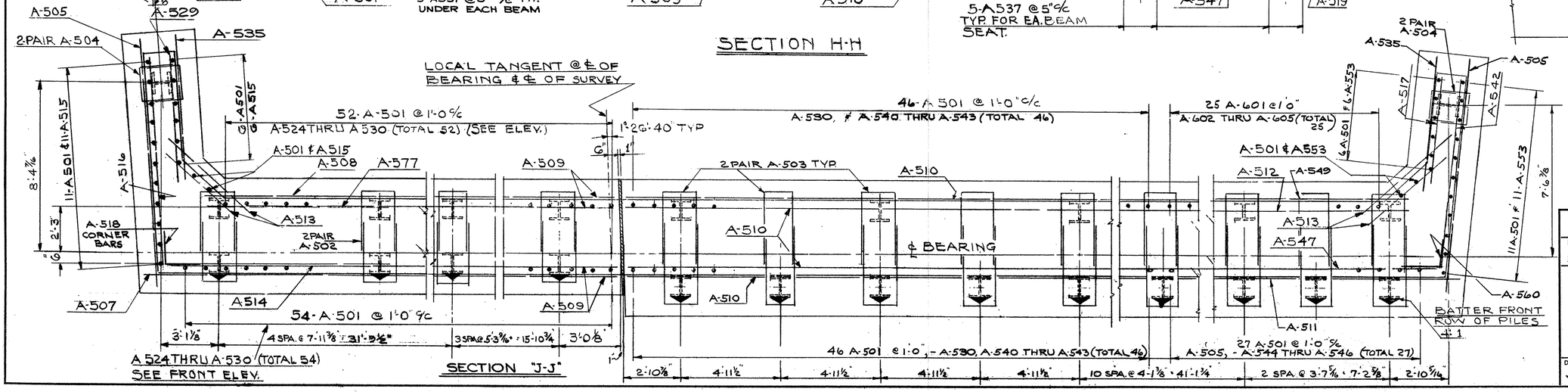
MAH.-7-14.35

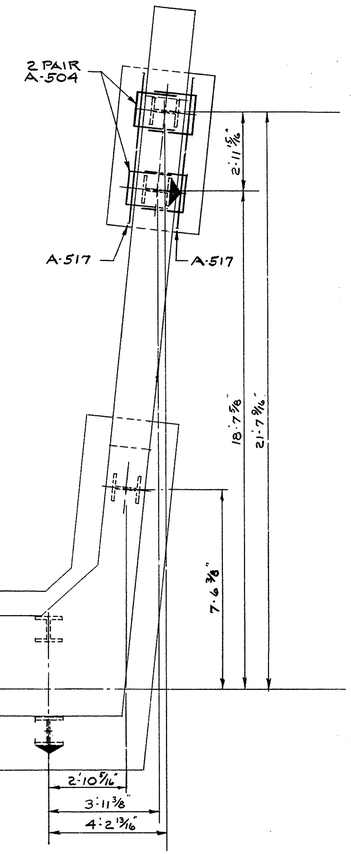


SECTION-GG.



SECTION H-H





SECTION "QQ"
FOR OTHER REINFORCING SEE SECTION "H-H"

Superseded by Sheet 61A 5-24-61

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 1 DETAILS

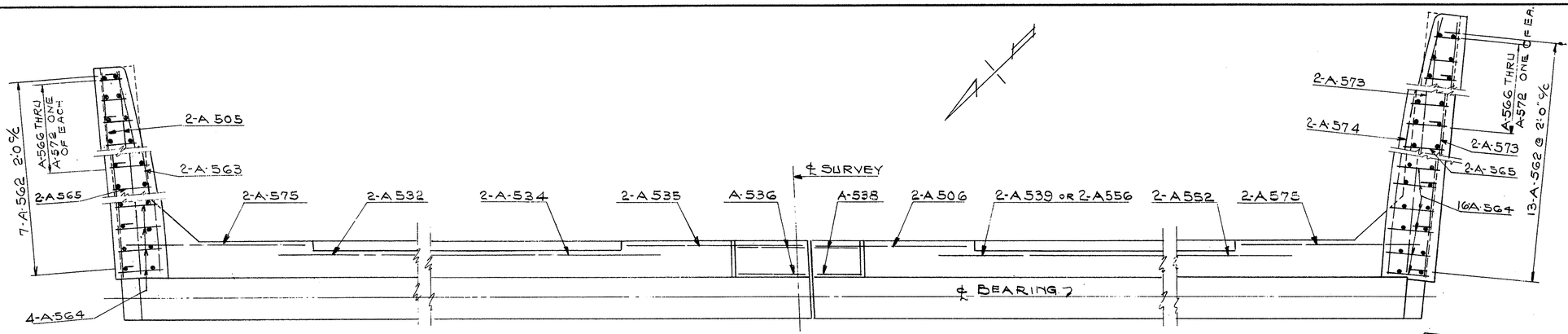
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	A.D.W.		EAK	JTM	12-16-60	

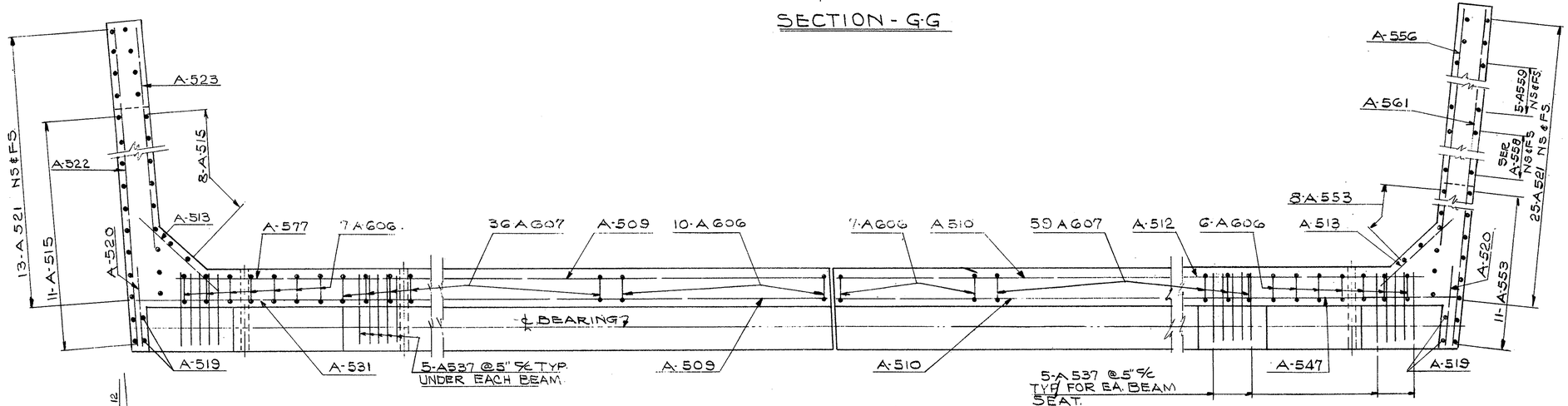
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH. 7 - 14.35

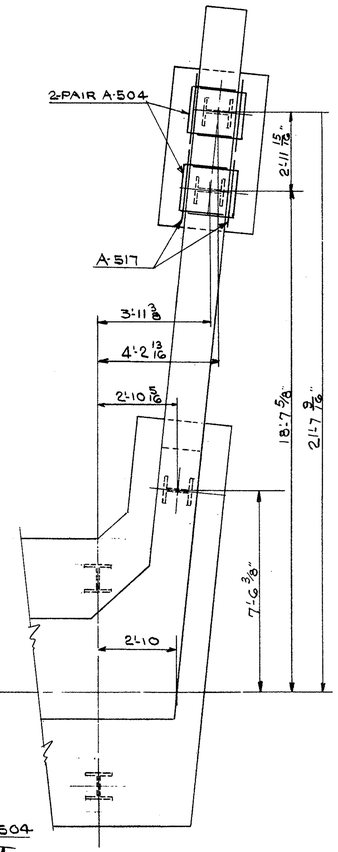
G1A 101



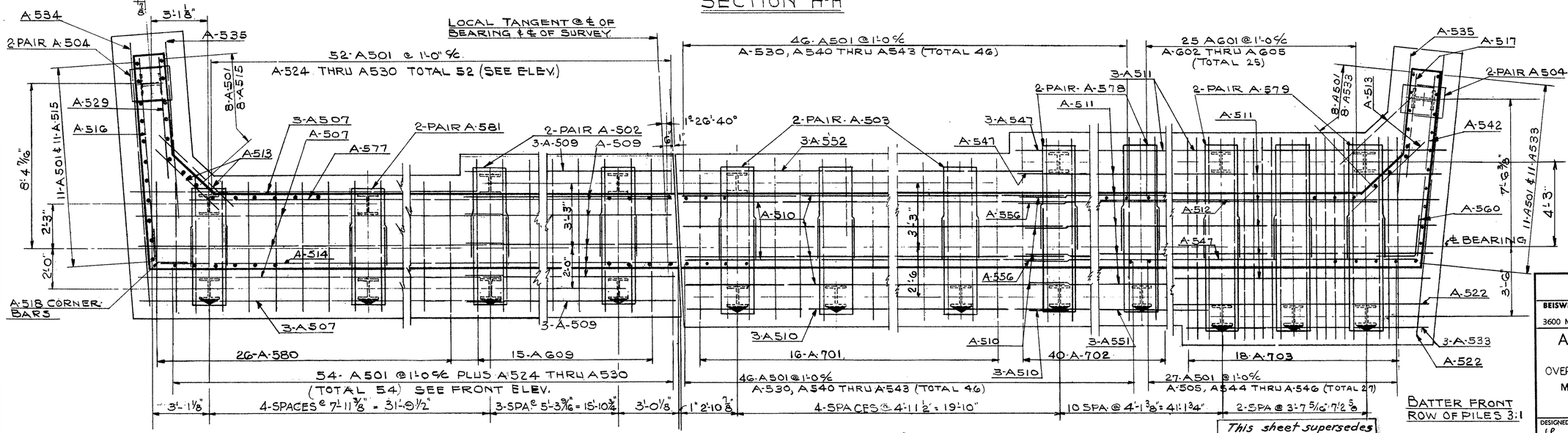
SECTION - G-G



SECTION H-H



SECTION "QQ"
FOR OTHER REINFORCING SEE SECTION "H-H"



SECTION J-J

BATTER FRONT ROW OF PILES 3:1

This sheet supersedes Sheet 61 5-24-61

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 1 DETAILS

BRIDGE Nº MAH 7 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764+03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	C.W.H.		G.A.K.	J.T.M.	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

62
101

MAH.-7-14.35

NOTE: CONCRETE ABOVE THIS LINE TO BE INCLUDED WITH ITEM S.14 FOR PAYMENT

TYPE 'A' ALUMINUM RAILING
RAILING TO BE CONTINUOUS

DIMENSIONS ALONG GRADE

DO NOT CHAMFER

2"Φ ELECTRICAL CONDUIT
SEE ELECTRICAL DETAILS

EL. 982.72

EL. 981.93

EL. 979.09

EL. 972.95

EL. 972.54

EL. 970.12

EL. 973.84

EL. 963.17

EL. 963.36

R-501

R-502

FOR BARS IN CURB SEE SECT. "G-G"

7-A.562 @ 2'-0⅞"ct

13-A.562 @ 2'-0"ct

25-A.521 NS & FS.

2-A.519 FS

3-A.520 FS

13-A.521 NS & FS.

11-A.515 NS - 8-A.515 FS

11-A.501 NS - 8-A.501 FS

11-A.501 NS & 8-A.501 FS.

A.522 NS
A.523 FS

A.516 NS - A.529 FS

A.505 NS
A.535 FS

A.556 NS.
A.557 FS.

A.561 NS
A.556 FS

A.542 NS
A.517 FS

A.554 NS
A.553 FS

A.608 NS & FS.

5-A.559 NS & FS.

SER. A.558 NS & FS.

A.517 NS & FS.

13-A.560
CORNER BARS

4-A.518
CORNER BARS

2 PAIR A.504

2 PAIR A.502

2 PAIR A.503

BATTER 4:1

1.82:1

ELEVATION OF NORTH WING WALL

ELEVATION OF SOUTH WINGWALL

SECTION B-B

SECTION A-A
DIMENSIONS & NOTES NOT SHOWN SAME AS SECT. B-B

A.562
A.573
A.521
A.561
A.556
A.553
SERIES A.554
A.501
2-PAIR A.504
A.505
A.535
A.574
A.556
CONST. JTS.
A.557
SERIES A.555
CONST. JT.
A.563
A.564 THRU A.572
A.505
3-A.522
A.521
4-A.516
A.515
A.501
A.505
3-A.523
4-A.529
A.535
2 PAIR A.504
6-A.542
6-A.517

R-502
A.564 THRU A.572
A.562
A.573
A.574
A.561
A.521
A.556
A.557
A.559
A.517
2 PAIR A.504
BATTER 4:1

SECTION K-K
DIMENSIONS & NOTES NOT SHOWN SAME AS SECT. B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

DIMENSIONS AND NOTES NOT SHOWN SAME AS SECTION C-C & DD

A.606
A.575
A.577
A.531
A.524 THRU A.527
A.514
A.507
A.508
A.509
A.501
A.502
CONSTRUCTION JOINT
Φ BEARING
4"Φ WEEPHOLES
CLEARS

SEE DETAIL "A"
A.534
A.607
APPROACH SLAB
A.509
A.537
A.533
A.528 - A.529 & A.330
A.530 A.540 THRU A.543
POROUS BACKFILL
7-A.509

A.539
A.607
4-A.510
A.510
7-A.510-N34FS
2 PAIR A.503
A.501
A.510
A.511

A.575
A.606
4-A.547
A.537
A.544
A.539
A.512
A.541
A.551
A.602, A.603
A.604 & A.605
A.544, A.545
A.546 & A.505
11-A.547
11-A.512
A.601
2-PAIR A.503
A.549

3.229 % GRADE
3" BAR BEVELED TO FIT GRADE (¼ MIN. THK.)
7"x4"x¾" L
LEVEL
FACE OF BACKWALL

FOR NOTES & DETAILS NOT SHOWN SEE STD. DWG. CSB-2-56 SHT. #2

DETAIL "A" (AS SHOWN)
DETAIL "B" (SAME EXCEPT REVERSE GRADE)

NOTE: ALL WINGWALL DIMENSIONS FIGURED TO OUTSIDE FACE OF 18" WALL.

Superseded by Sheet 62A 5-24-61

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 1 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	A.O.W.		EAK	JTH	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

62A / 101

MAH.-7-14.35

NOTE: CONCRETE ABOVE THIS LINE TO BE INCLUDED WITH ITEM 5.14 FOR PAYMENT

TYPE "A" ALUMINUM RAILING
RAILING TO BE CONTINUOUS

DIMENSIONS ALONG GRADE

DO NOT CHAMFER

R-501

R-502

FOR BARS IN CURB SEE SECT "G-G"

EL. 982.72

EL. 981.93

EL. 979.89

EL. 972.95

EL. 972.54

EL. 970.12

EL. 963.17

EL. 963.36

EL. 973.84

7-A-562 @ 2'-0⅞"ct

13-A-562 @ 2'-0⅞"ct

13-A-521 NS & FS

11-A-515 NS - 8-A-515 FS

11-A-501 NS - 8-A-501 FS

25-A-521 NS, FS.

11-A-553 NS & 8-A-553 FS.

11-A-501 NS & 8-A-501 FS.

13-A-560 CORNER BARS

4-A-518 CORNER BARS

3-A-520 FS

2-A-519 FS

A-522 NS
A-523 FS

A-516 NS - A-529 FS

A-534 NS
A-535 FS

A-542 NS
A-517 FS

A-561 NS
A-536 FS

A-556 NS.
A-557 FS.

A-608 NS & FS.

5A-559 NS & FS.

SER. A-554 NS
SER. A-555 FS

SER. A-558 NS & FS.

A-517 NS & FS.

2 PAIR A-504

2 PAIR A-581

2 PAIR A-579

2 PAIR A-578

2 PAIR A-502

BATTER 4:1

1.82:1

A-501

A-601

A-551

A-511

A-702

A-522 NS
A-535 FS

ELEVATION OF NORTH WINGWALL

ELEVATION OF SOUTH WINGWALL

SECTION AB-AB

SECTION BB

2"ϕ ELECTRICAL CONDUIT
SEE ELECTRICAL DETAILS

A-562

A-573

A-521

A-561

A-556

A-553

SERIES A-554

SERIES A-555

A-574

A-557

CONST. JTS.

A-535

CONST. JT.

A-564 THRU A-572

A-563

A-505

A-522

A-523

A-516

A-529

A-515

A-501

A-534

SECTION A-A

DIMENSIONS & NOTES NOT SHOWN SAME AS SECT. B-B

A-606

A-575

A-577

A-524 THRU A-527

CONSTRUCTION JOINT

ϕ BEARING

4"ϕ WEEP HOLES

A-507

A-581

A-609

A-580

SECTION C-C

SEE DETAIL "A"

A-534

A-607

APPROACH SLAB

A-509

A-537

A-533

POROUS BACKFILL

A-528 A-529 & A-530

A-530 A-540 THRU A-543

A-502

SECTION D-D

DIMENSIONS AND NOTES NOT SHOWN SAME AS SECTION C-C & DD.

A-539

A-510

4-A-510

SECTION E-E

4-A-547

A-537
A-544
A-539

A-606
A-512
A-541
A-551

A-602, A-603
A-604 & A-605

A-544, A-545
A-546 & A-505

A-552

A-703

SECTION F-F

NOTE: ALL WINGWALL DIMENSIONS FIGURED TO OUTSIDE FACE OF 18" WALL.

3.229 % GRADE

3 BAR BEVELED TO FIT GRADE (¼ MIN. THK.)

7"x4"x¾" L

LEVEL

FACE OF BACKWALL

FOR NOTES & DETAILS NOT SHOWN SEE STD. DWG. CSB-2-56 SHT. #2

DETAIL "A" (AS SHOWN)

DETAIL "B" (SAME EXCEPT REVERSE GRADE)

R-501

A-564 THRU A-572

A-563

A-562

A-505

A-522

A-523

A-521

A-516

A-529

A-515

A-501

A-534

A-535

2 PAIR A-504

SECTION "K-K"

DIMENSIONS & NOTES NOT SHOWN SAME AS SECT. B-B

R-502

A-564 THRU A-572

A-562

A-573

A-574

A-564

A-559

A-521

A-556

A-557

A-517

BATTER 4:1

2 PAIR A-504

This sheet supersedes Sheet 62 5-24-61

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 1 DETAILS

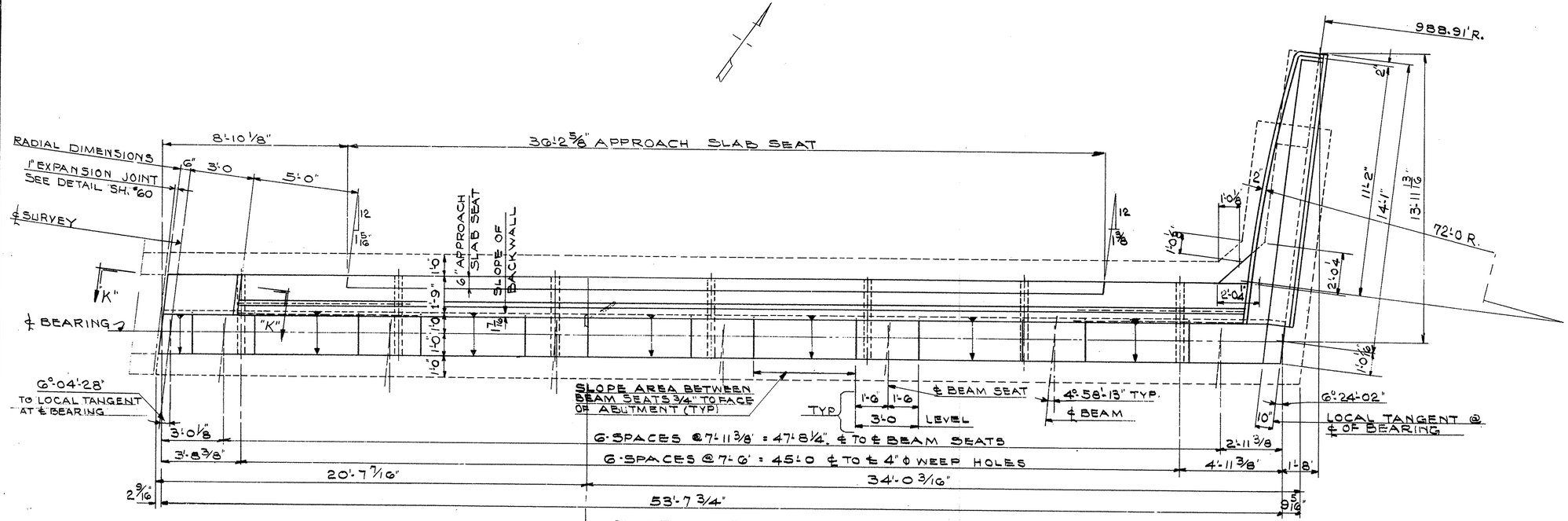
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	a.o.w		EAK	JTM	12-16-60	

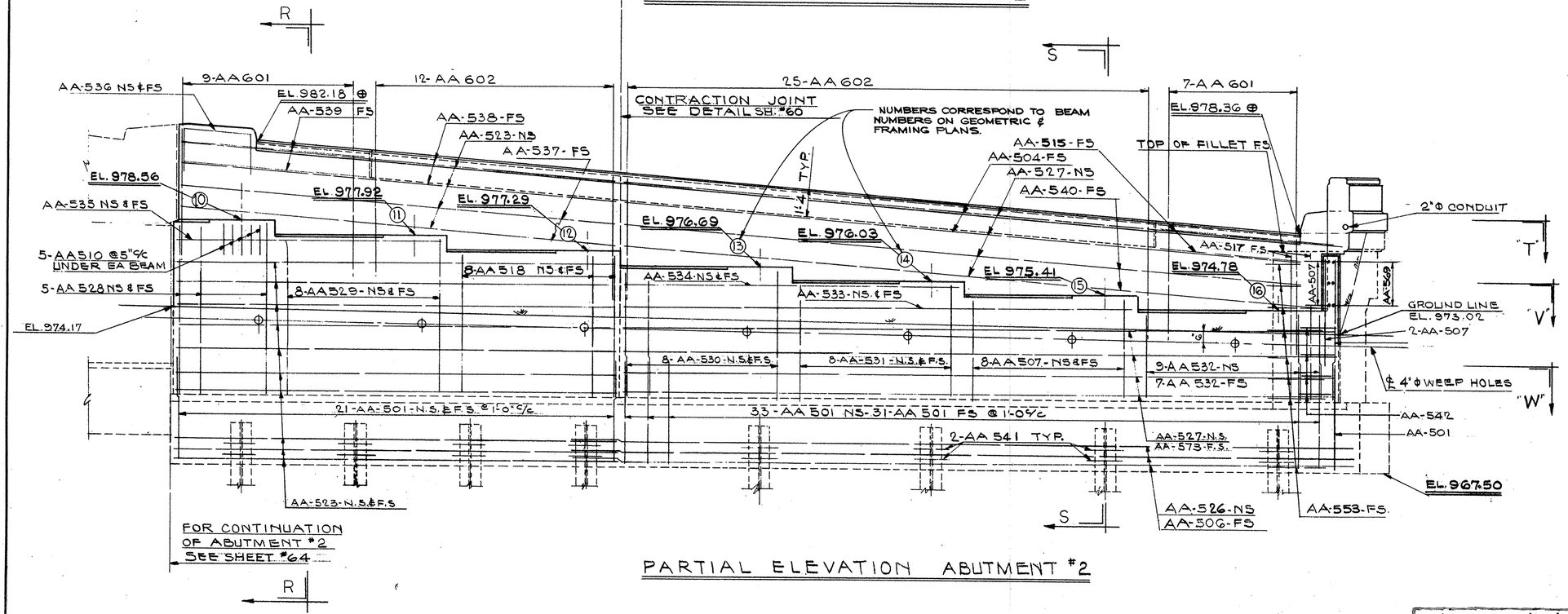
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAR.-7-14.35

63
101



PARTIAL PLAN ABUTMENT #2



PARTIAL ELEVATION ABUTMENT #2

Superseded by Sheet 63A 5-24-61

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 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	EW		EAK	JTM	12-16-64	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

63A
101

RADIAL DIMENSIONS
1" EXPANSION JOINT
SEE DETAIL SH. #60
℄ SURVEY
℄ BEARING
"K"
6°-04'-28"
TO LOCAL TANGENT
AT ℄ BEARING
8'-10 1/8"
30'-2 5/8" APPROACH SLAB SEAT
6"
3'-0
5'-0"
12
11 5/16
2'-0"
6" APPROACH SLAB SEAT
SLOPE OF BACKWALL
1'-6"
1'-0"
1'-9"
1'-0"
2'-6"
1 7/16
1 3/8
2'-6"
3'-0
1'-6"
988.91' R.
72'-0 R.
2'
11'-2"
14'-1"
13'-11 13/16"
2'-0 1/4"
1'-0 3/16"
1'-0 3/8"
1'-0 3/8"
SLOPE AREA BETWEEN BEAM SEATS 3/4" TO FACE OF ABUTMENT (TYP)
TYP
1'-6
1'-6
3'-0
LEVEL
℄ BEAM SEAT
4° 58'-13" TYP
℄ BEAM
6° 24'-02"
LOCAL TANGENT @ ℄ OF BEARING
10"
6 SPACES @ 7'-11 3/8" = 47'-8 1/4" ℄ TO ℄ BEAM SEATS
6 SPACES @ 7'-6" = 45'-0 ℄ TO ℄ 4" ϕ WEEP HOLES
3'-0 1/8"
3'-8 3/8"
20'-9 3/8"
33'-11 5/8"
2'-11 3/8"
4'-11 3/8"
1'-8"
4 1/2"
53'-7 3/4"
8 3/4"

PARTIAL PLAN ABUTMENT #2

R
S
9-AA601
12-AA602
25-AA602
7-AA601
AA-536 NS & FS
EL. 982.18 ℄
AA-539 FS
AA-538-FS
AA-523-NS
AA-537-FS
CONTRACTION JOINT SEE DETAIL SH. #60
NUMBERS CORRESPOND TO BEAM NUMBERS ON GEOMETRIC & FRAMING PLANS.
TYP.
AA-515-FS
AA-504-FS
AA-527-NS
AA-540-FS
TOP OF FILLET FS
EL. 978.36 ℄
EL. 978.56
EL. 977.92
EL. 977.29
EL. 976.69
EL. 976.03
EL. 975.41
EL. 974.78
AA-535 NS & FS
10
11
12
13
14
15
16
2" ϕ CONDUIT
AA-517 F.S.
AA-507
AA-542
"T"
"V"
"W"
GROUND LINE EL. 973.09
2-AA-507
℄ 4" ϕ WEEP HOLES
AA-542
AA-501
EL. 967.50
5-AA510 @5" ℄ UNDER EA BEAM
5-AA528 NS & FS
8-AA518 NS & FS
8-AA529-NS & FS
AA-534-NS & FS
AA-533-NS & FS
EL. 974.17
8-AA-530-N.S.&F.S.
8-AA-531-N.S.&F.S.
8-AA507-NS&FS
9-AA532-NS
7-AA532-FS
21-AA-501-N.S.&F.S. @1'-0" ℄
33-AA501 NS-31-AA501 FS @1'-0" ℄
AA-528 NS
AA-574 FS
2 PAIR AA-575
2 PAIR AA-576
AA-527-N.S.
AA-573-F.S.
1-AA523 NS
5-AA-574
AA-523-N.S.&F.S.
15 AA-604
3 EQUAL SPAC.
TYPICAL FROM HERE TO NORTH END
3 EQUAL SPACES TYPICAL
33 AA-579
AA-577-NS & F.S
AA-558-FS.
FOR CONTINUATION OF ABUTMENT #2 SEE SHEET #64

PARTIAL ELEVATION ABUTMENT #2

This sheet supersedes Sheet 63 5-24-61

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 DETAILS

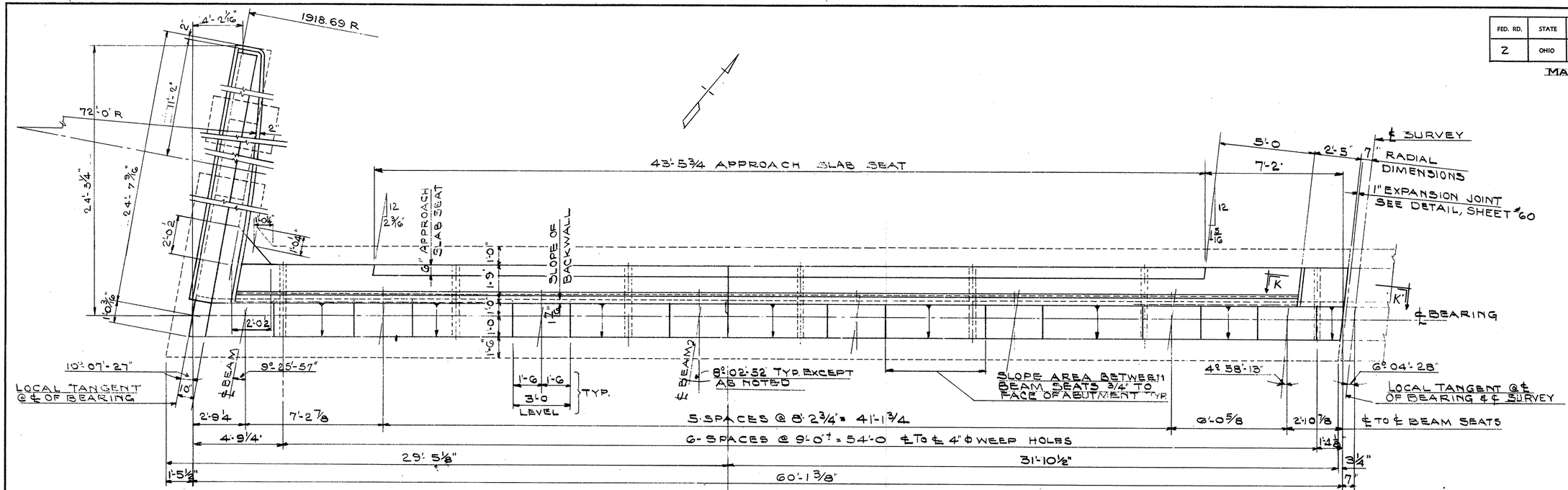
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	LW		EAK	JTH	12-6-60	

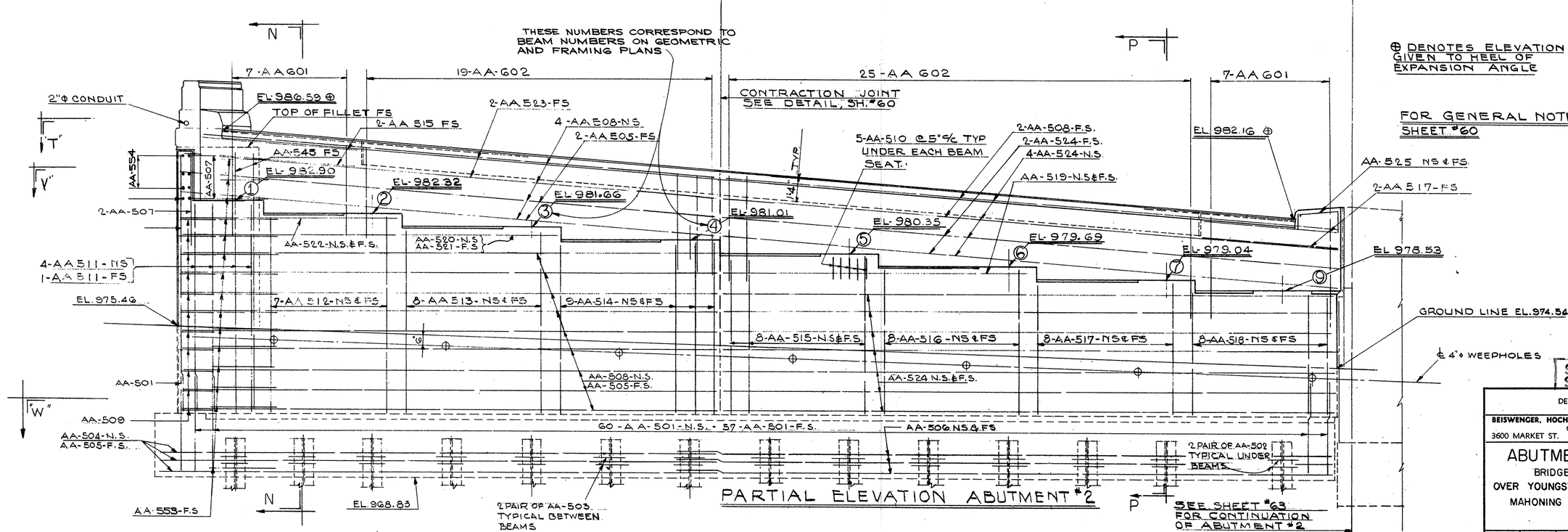
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

64
101

MAH.-7-14.35



PARTIAL PLAN ABUTMENT #2



PARTIAL ELEVATION ABUTMENT #2

FOR GENERAL NOTES SEE ABUT. #1 SHEET #60

Superseded by Sheet 64 A 5-24-61

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 DETAILS

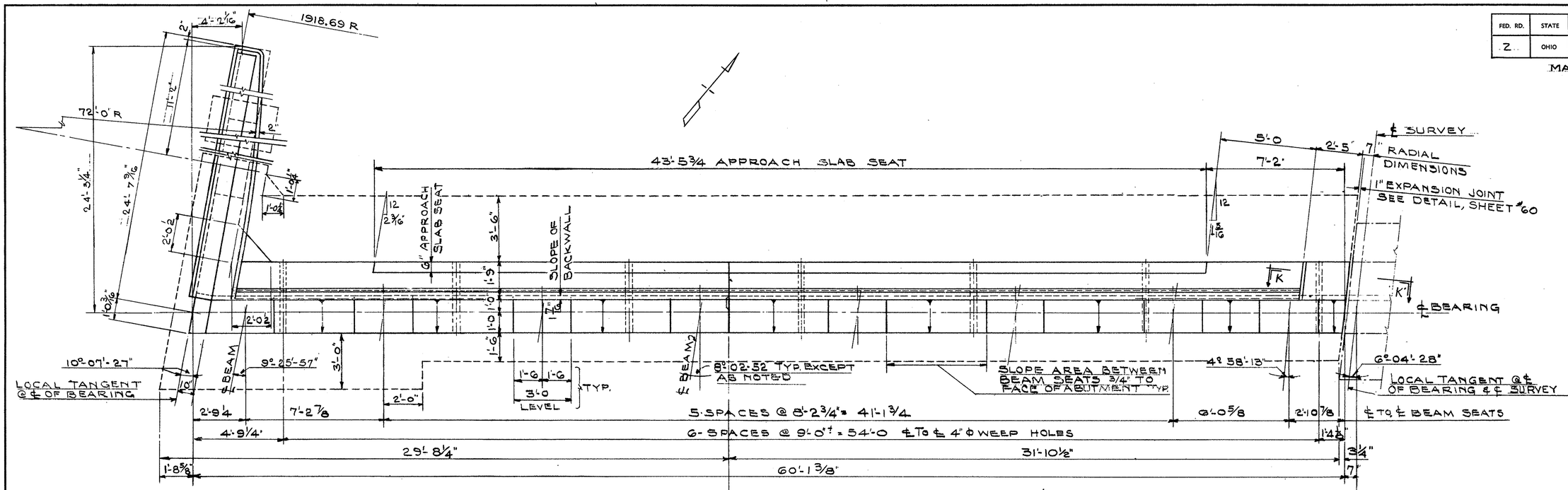
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P	C.W		E.A.K	J.T.M	12-16-60	

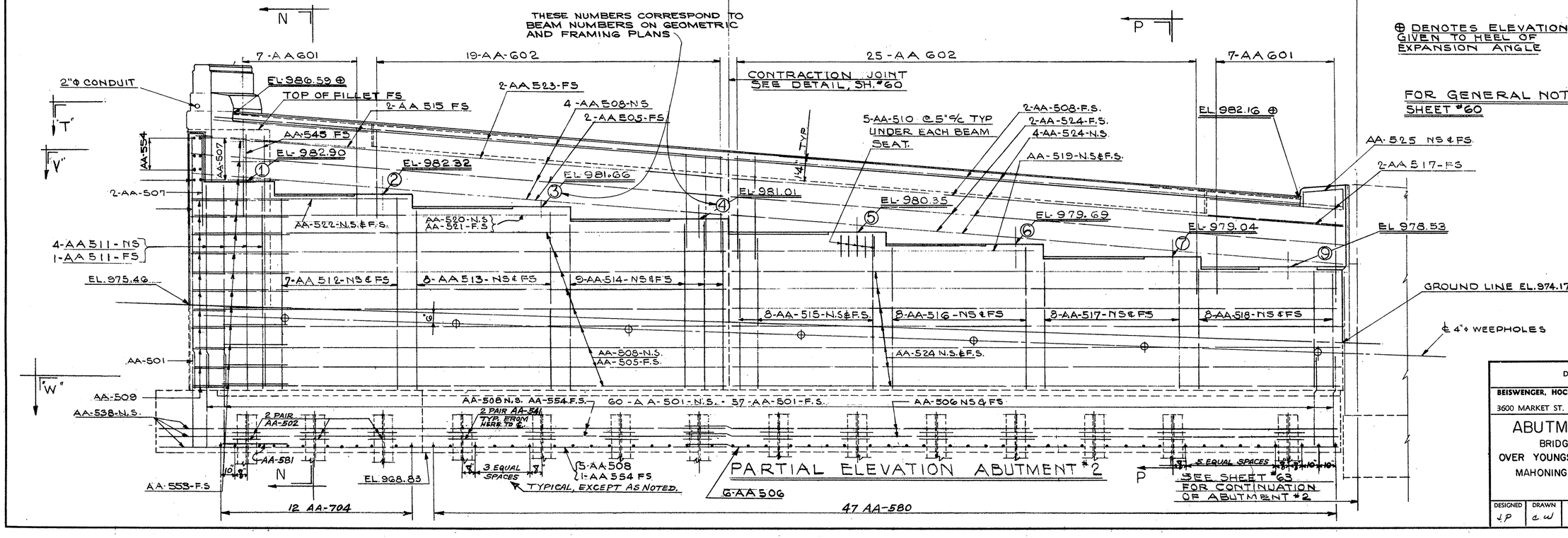
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

64A
101

MAH.-7-14.35



PARTIAL PLAN ABUTMENT #2



PARTIAL ELEVATION ABUTMENT #2

This sheet supersedes Sheet 64 5-24-61

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 DETAILS

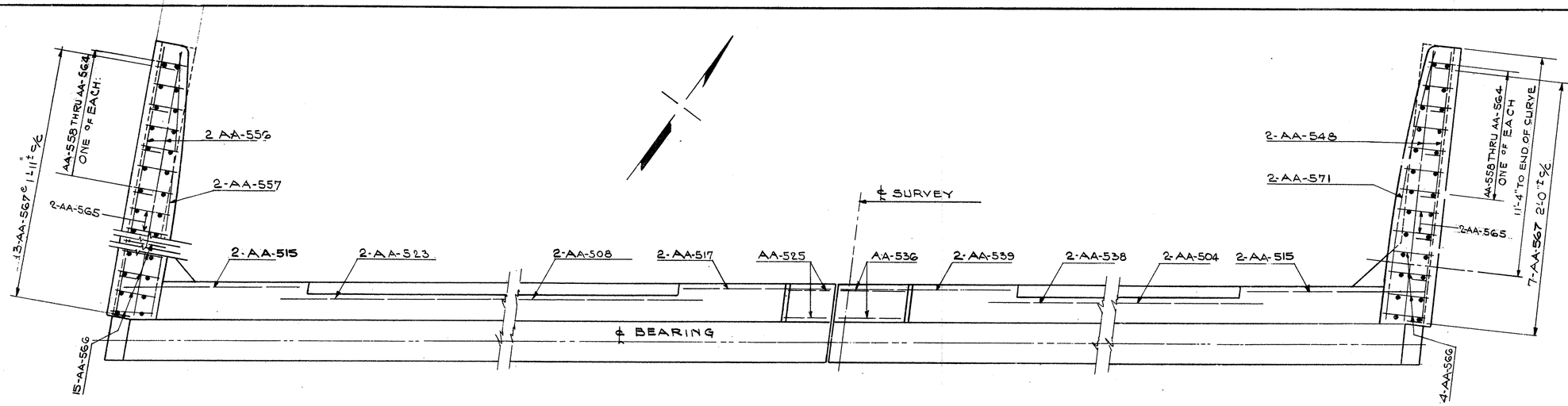
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LP	CW		EAK	JTM	12-16-60	

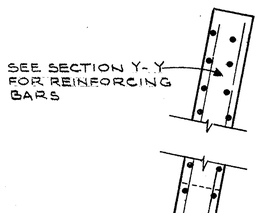
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

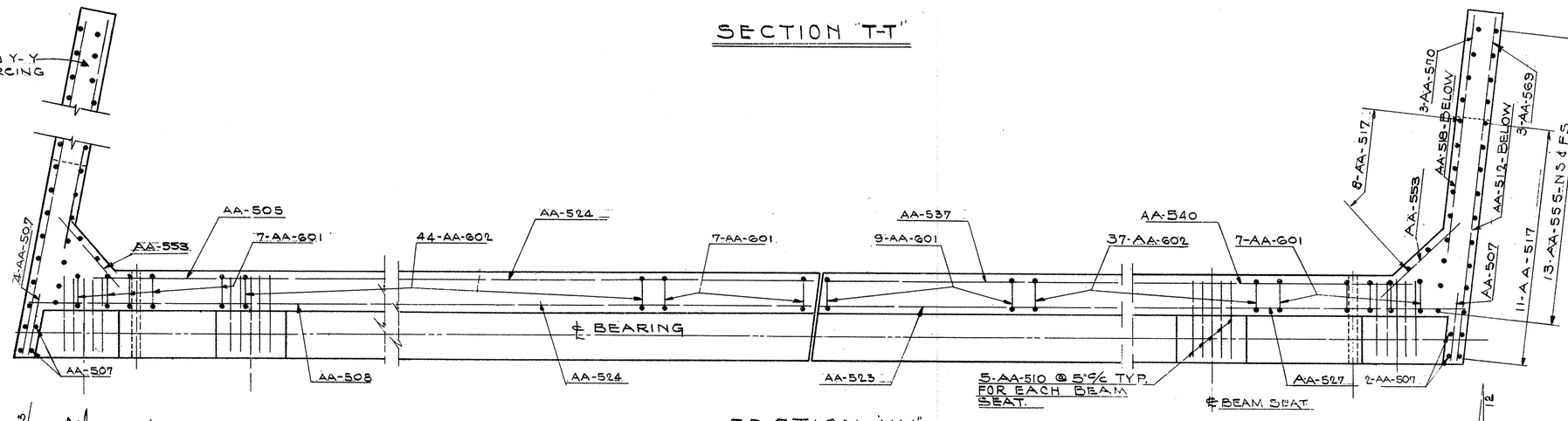
MAH.-7-14.35

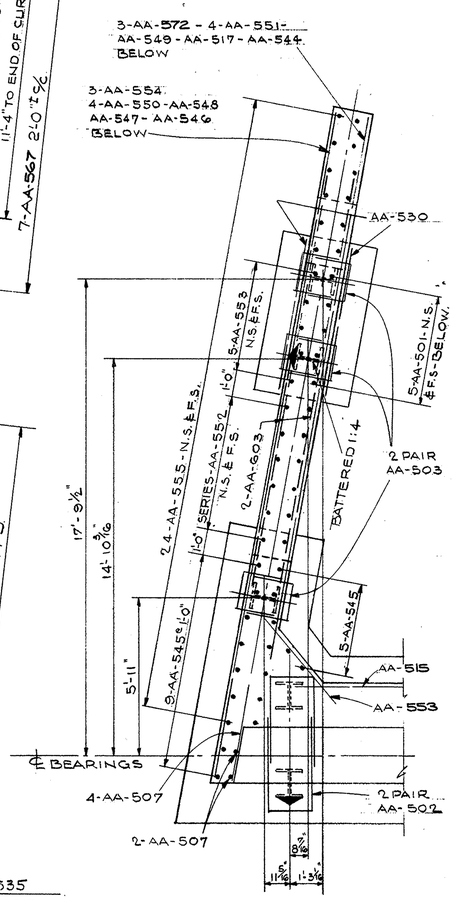
65
101



SECTION "T-T"

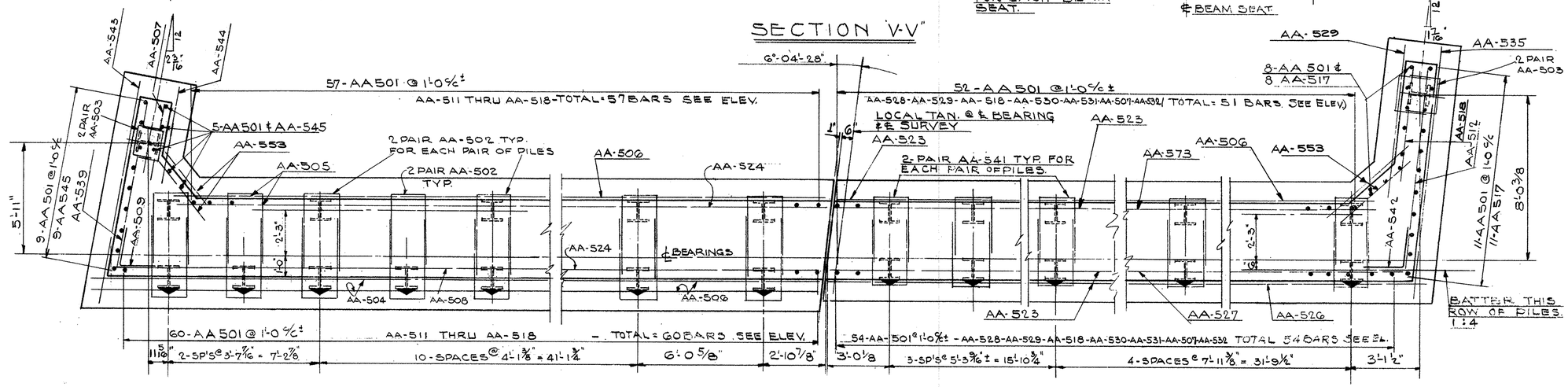






SECTION Y-Y

SECTION "V-V"



SECTION W-W

Superseded by Sheet 65A 5-24-61

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 DETAILS

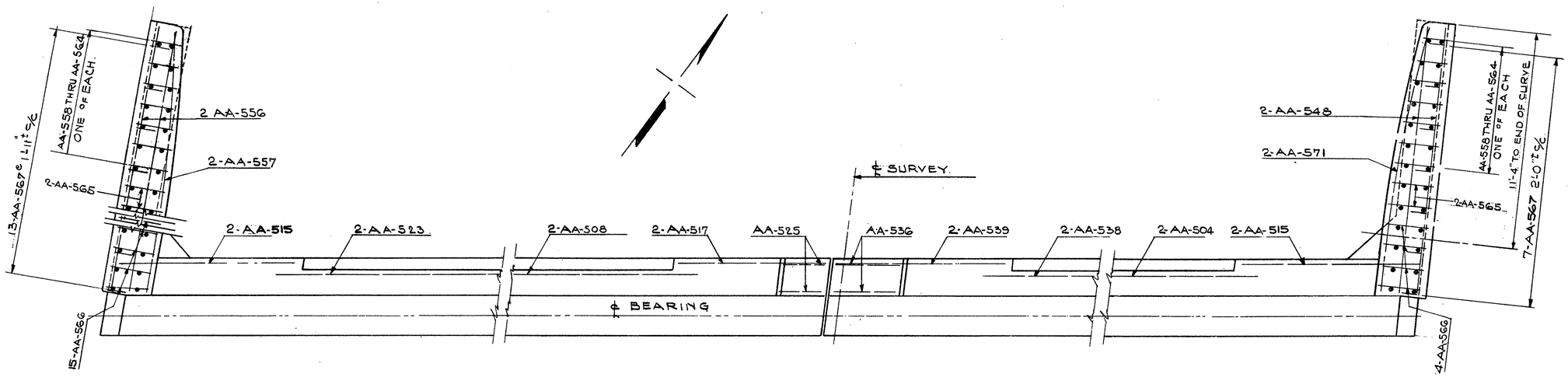
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	CWW		EAK	JTM	12-16-60	

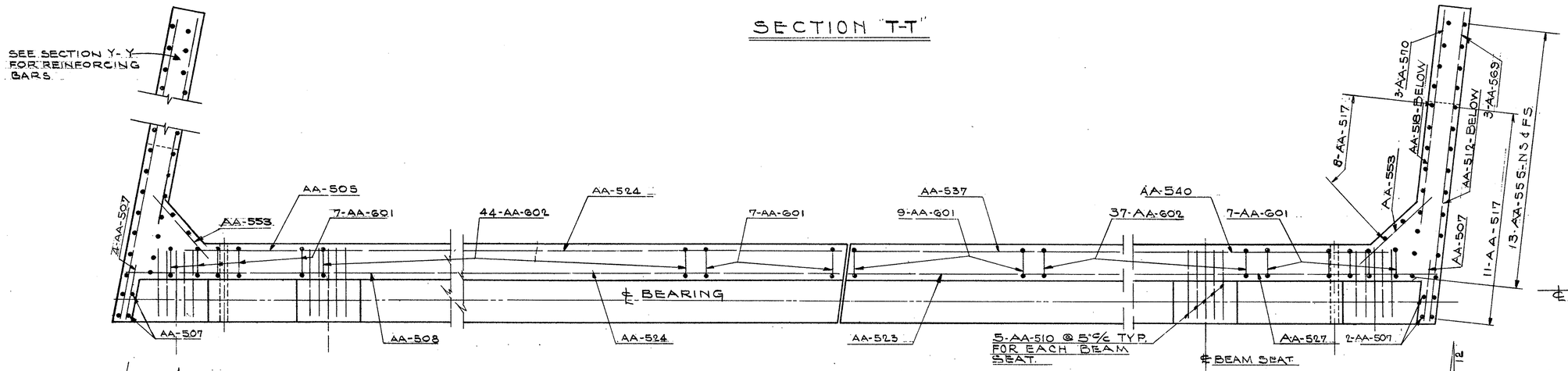
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

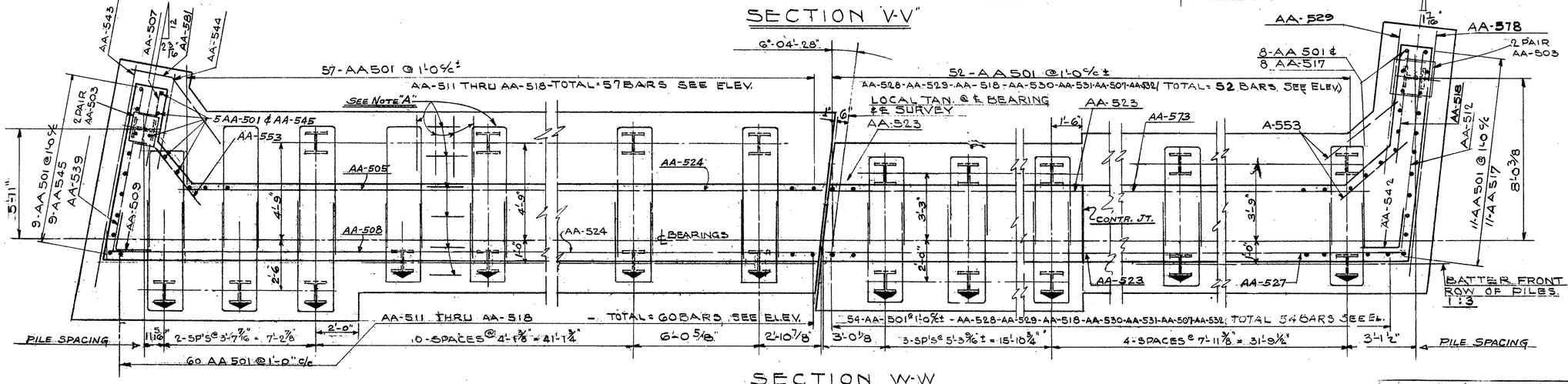
65A
101



SECTION "T-T"

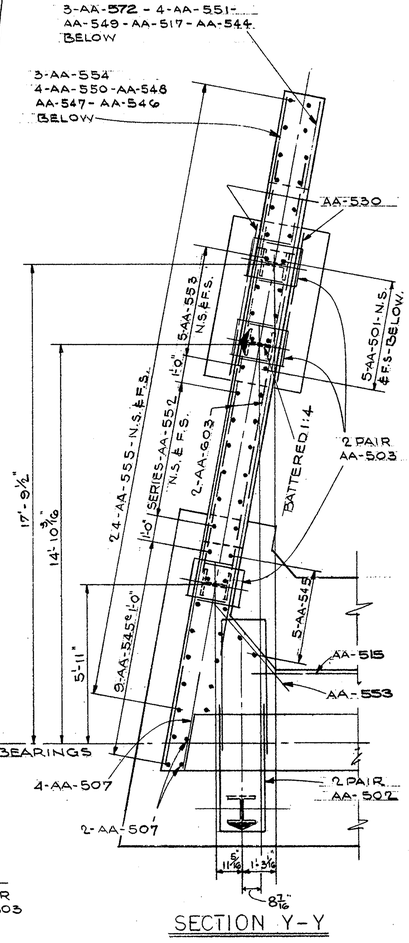


SECTION "V-V"



SECTION W-W

NOTE "A" — FOR REINFORCING BARS IN FOOTER — SEE ELEV. & SECT. VIEWS.



SECTION Y-Y

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 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

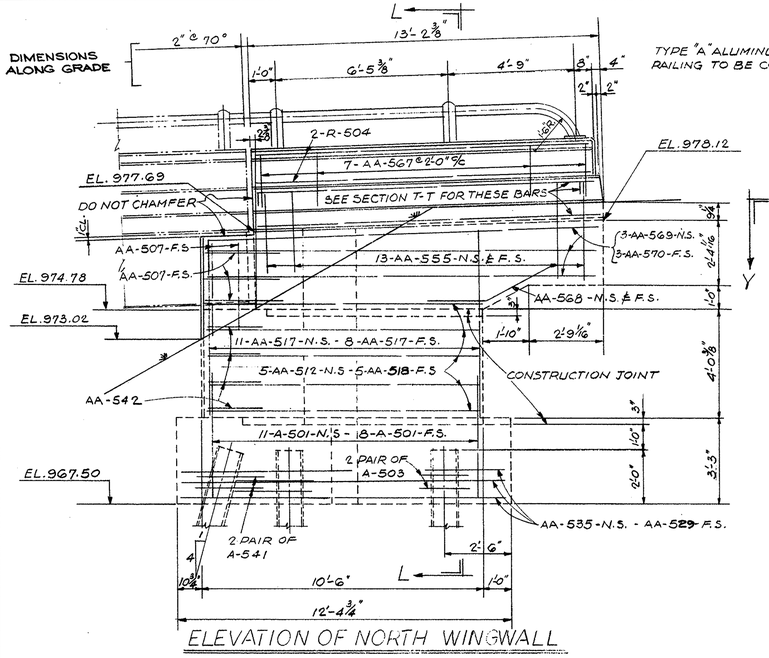
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAK	CJW		EAK	JTM	12-16-60	

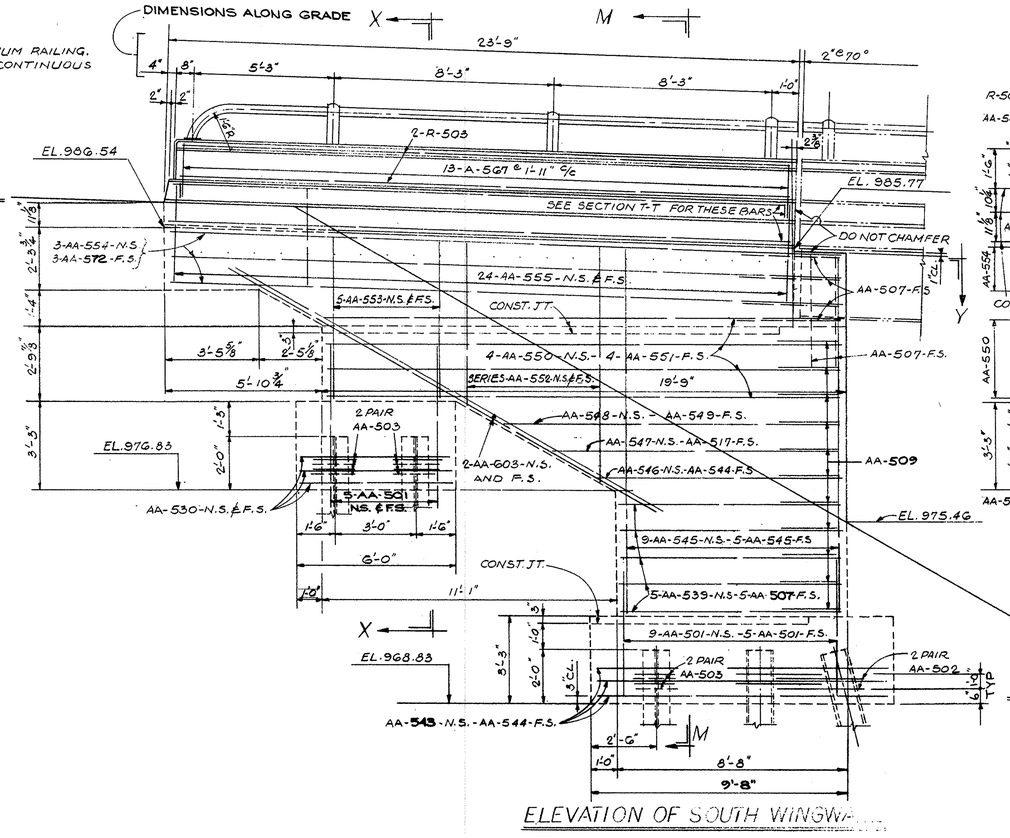
This sheet supersedes Sheet 65 5-24-61

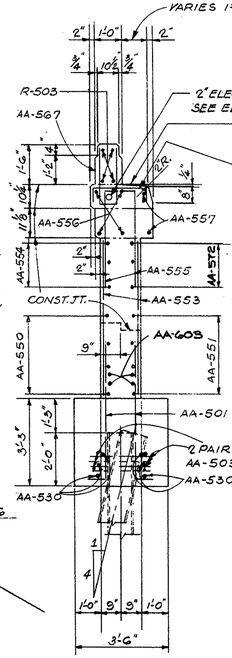
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

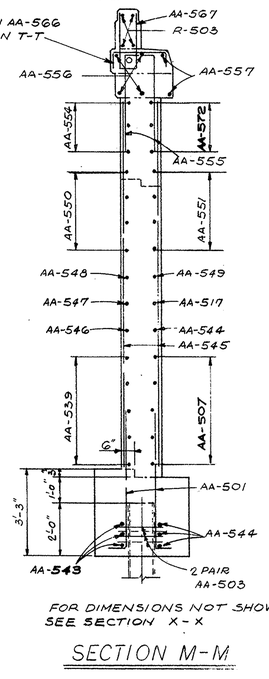
66
101

MAH.-7-14.35



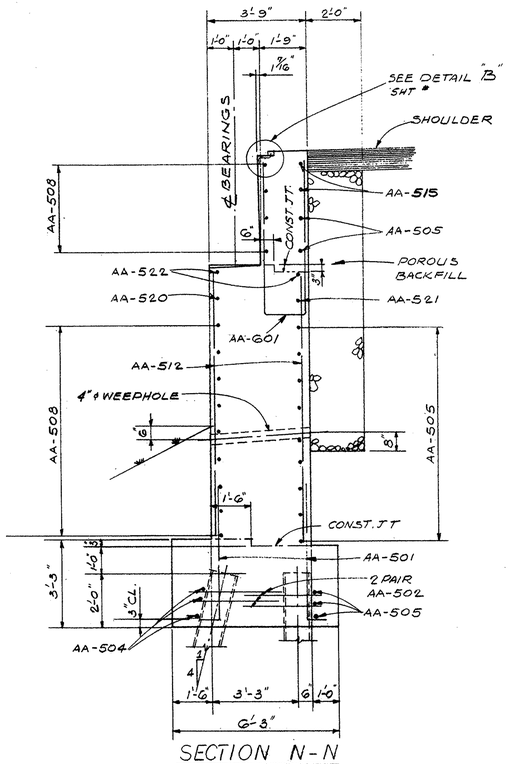


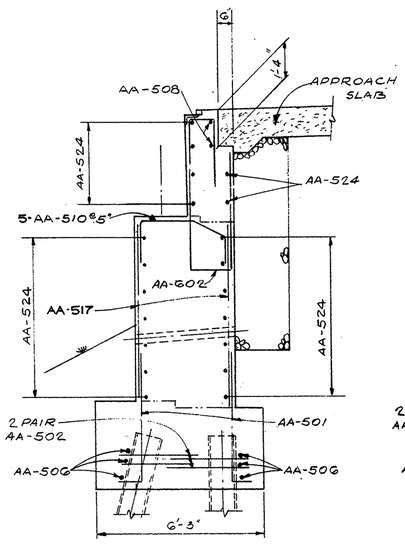


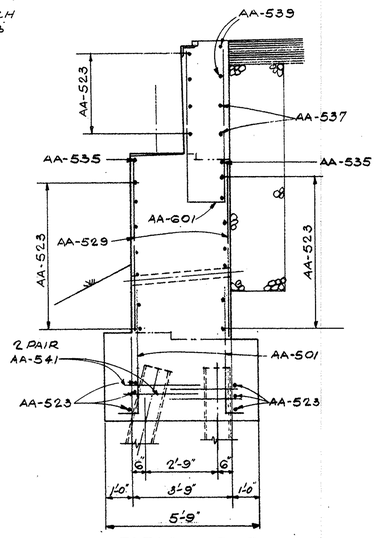


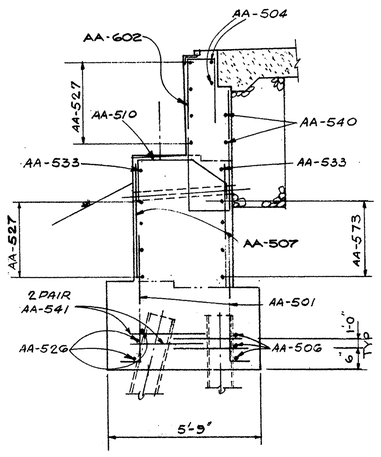
FOR DIMENSIONS NOT SHOWN SEE SECTION X-X

SECTION M-M

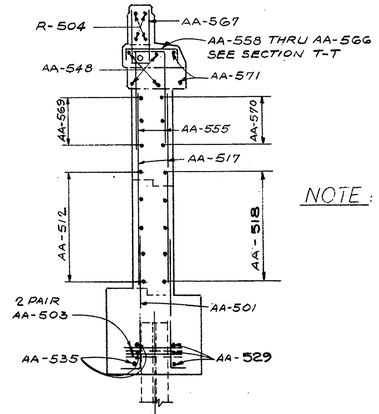








FOR DIMENSIONS NOT SHOWN SEE SECTION N-N AND R-R.



FOR DIMENSIONS NOT SHOWN SEE SECTION X-X AND M-M

SECTION L-L

NOTE: ALL WINGWALL DIMENSIONS FIGURED TO OUTSIDE FACE OF 18" WALL.

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 DETAILS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		EAK	JTH	12-16-60	

Superseded by Sheet 66A 5-24-61

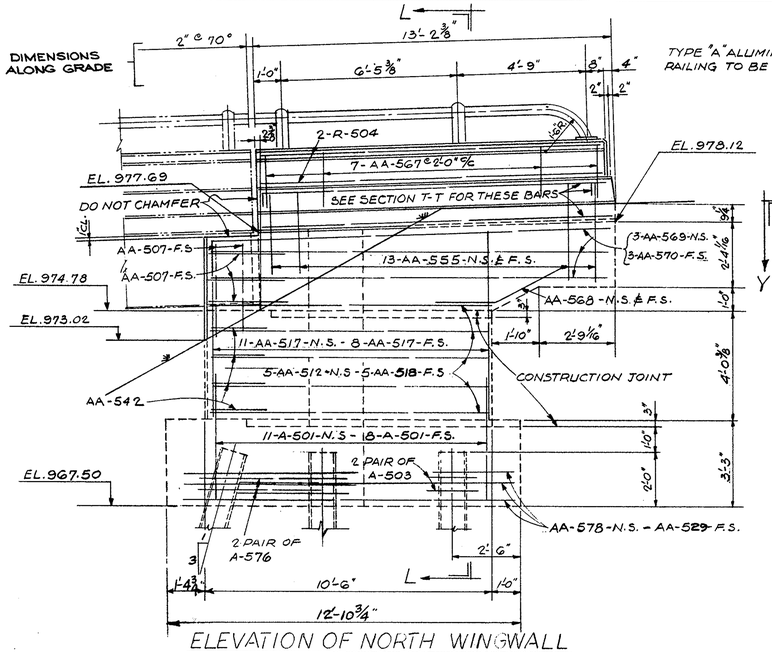
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

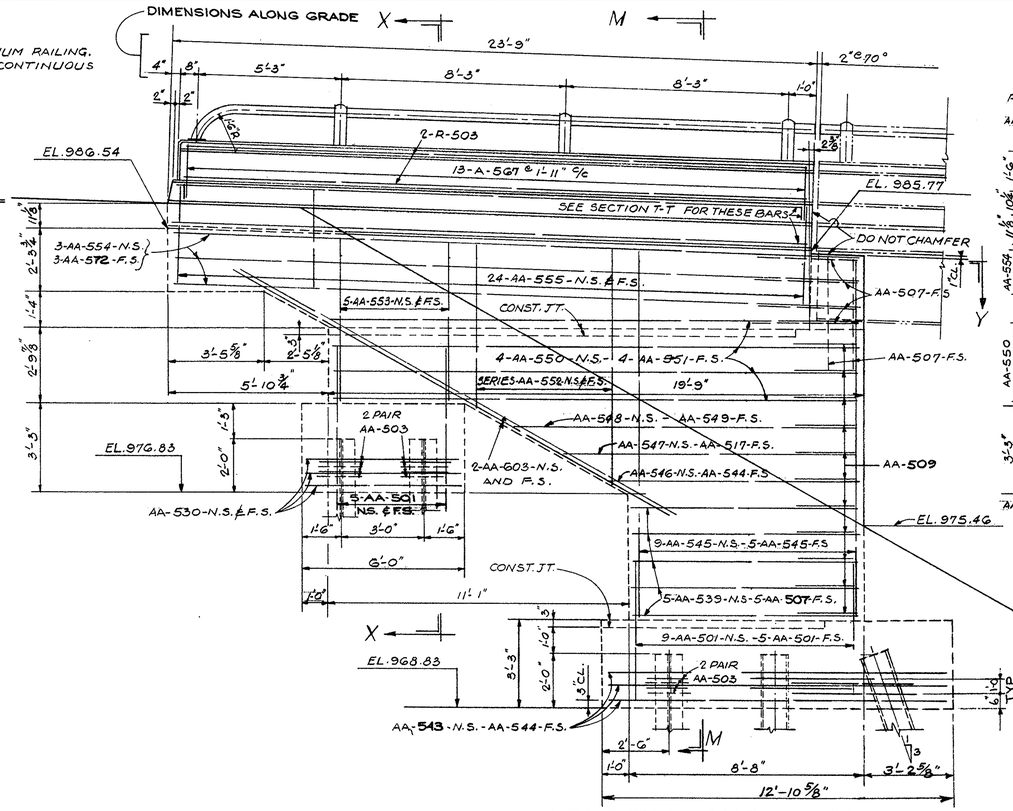
66
101

DIMENSIONS ALONG GRADE

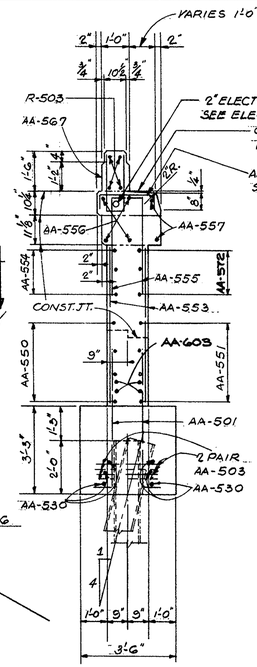
TYPE "A" ALUMINUM RAILING. RAILING TO BE CONTINUOUS



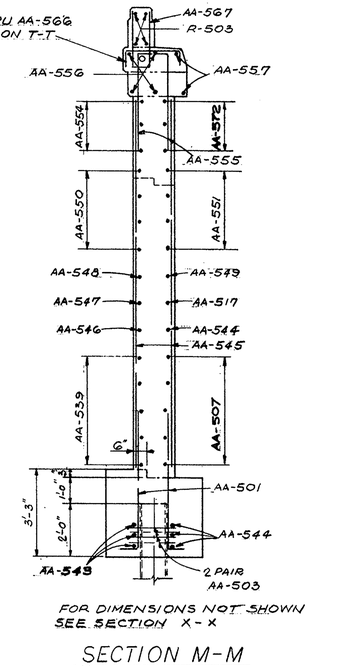
ELEVATION OF NORTH WINGWALL



ELEVATION OF SOUTH WINGWALL

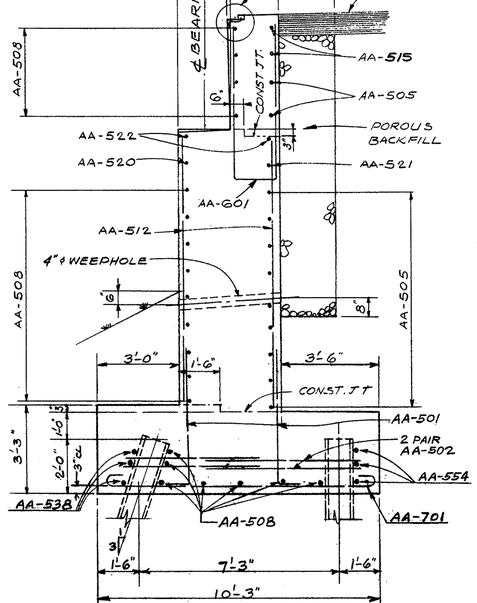


SECTION X-X

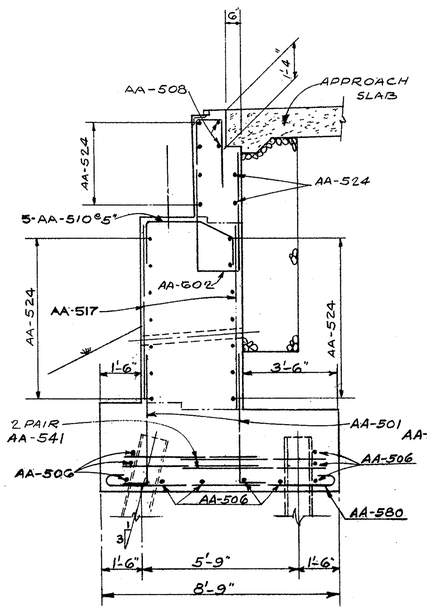


FOR DIMENSIONS NOT SHOWN SEE SECTION X-X

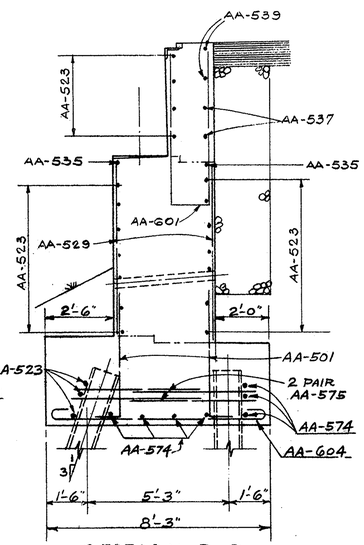
SECTION M-M



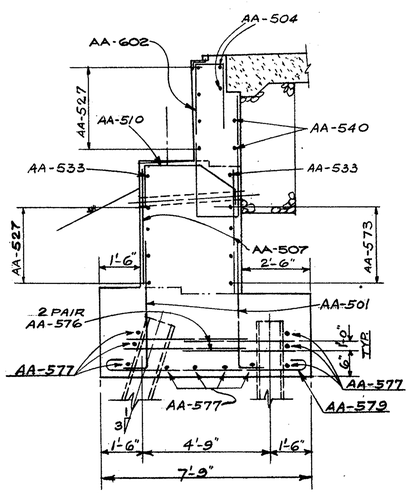
SECTION N-N



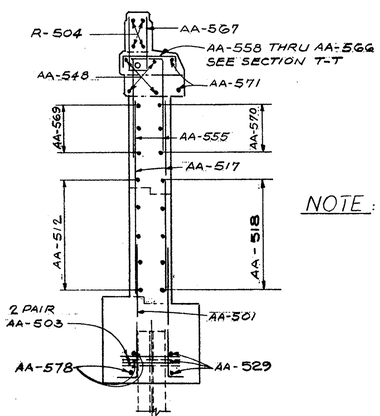
SECTION P-P



SECTION R-R



SECTION S-S



FOR DIMENSIONS NOT SHOWN SEE SECTION X-X AND M-M

SECTION L-L

NOTE: ALL WINGWALL DIMENSIONS FIGURED TO OUTSIDE FACE OF 18" WALL.

FOR DIMENSIONS NOT SHOWN SEE SECTION N-N

This sheet supersedes Sheet 66 5-24-61

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 DETAILS

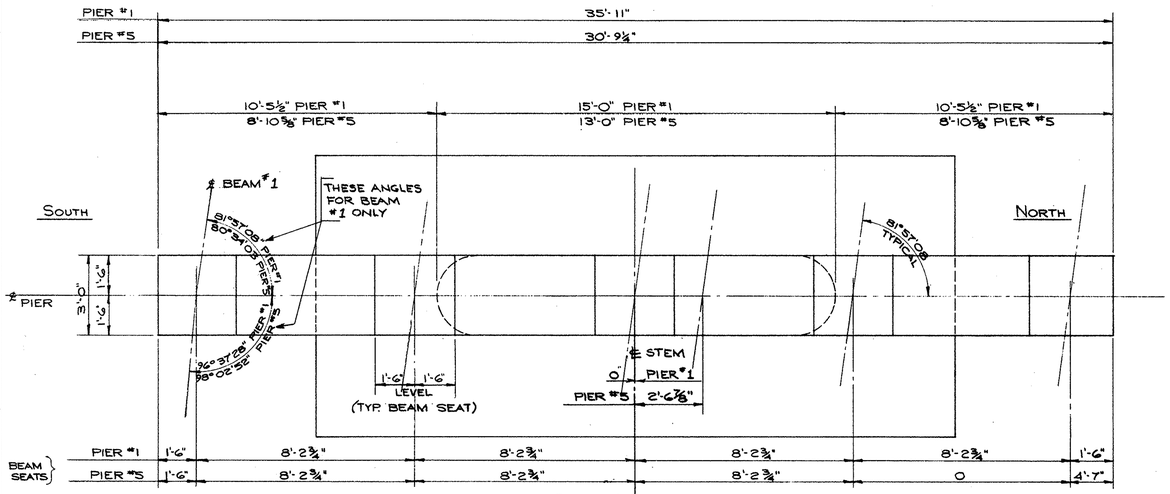
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		EAK	JTM	12-16-60	

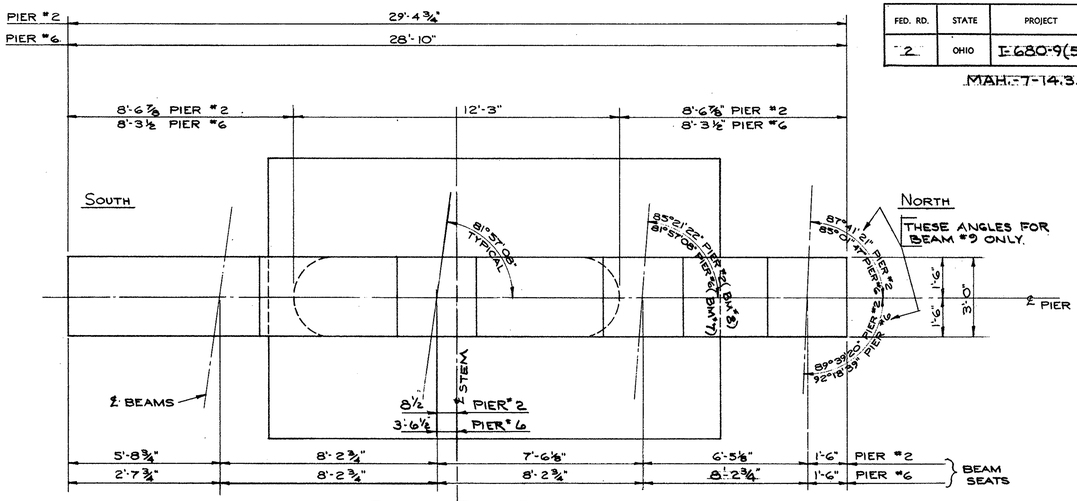
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

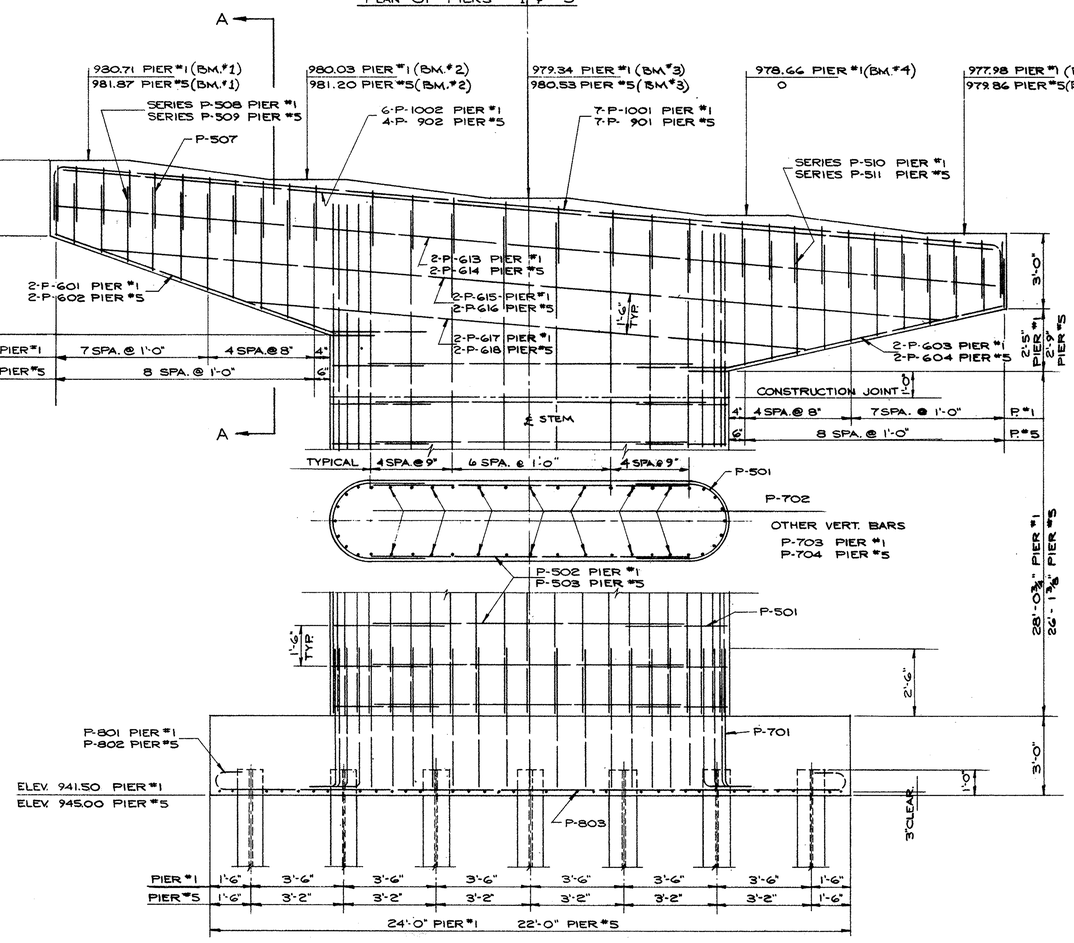
67
101



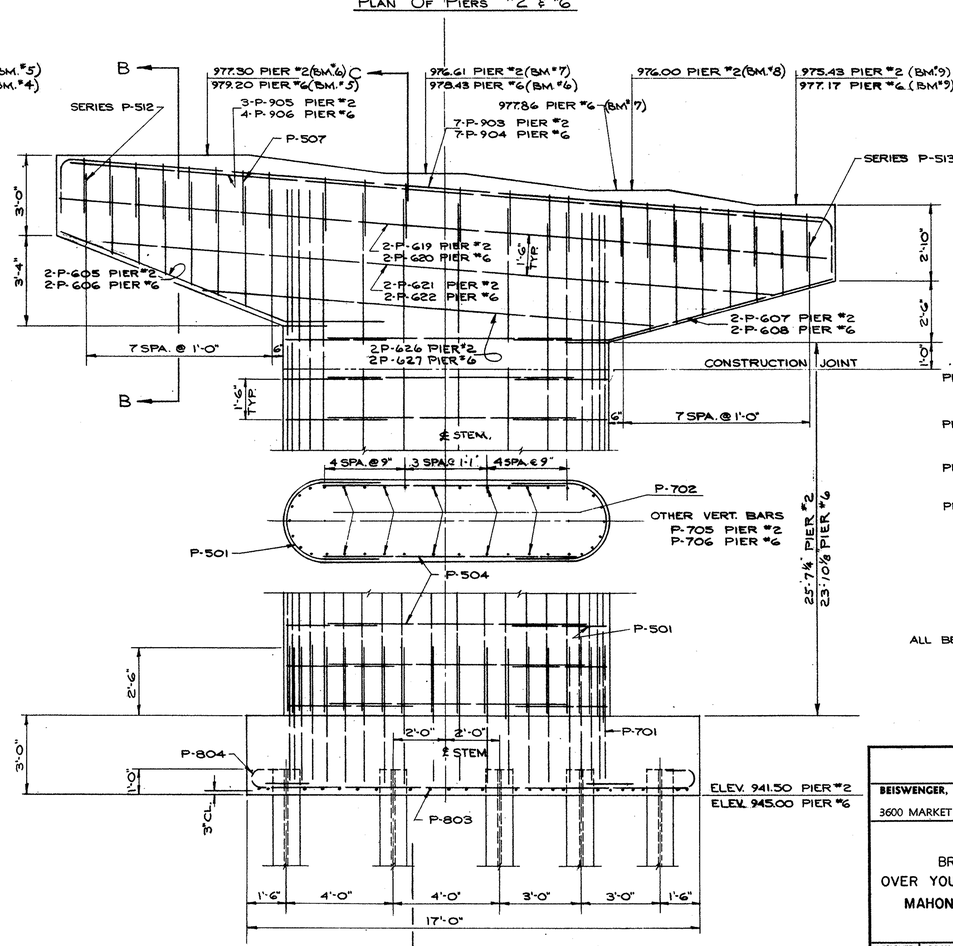
PLAN OF PIERS #1 & #5



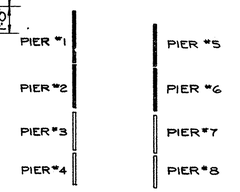
PLAN OF PIERS #2 & #6



ELEVATION OF PIERS #1 & #5



ELEVATION OF PIERS #2 & #6



KEY PLAN

ALL BEARING-PILES ARE 12 BP53

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

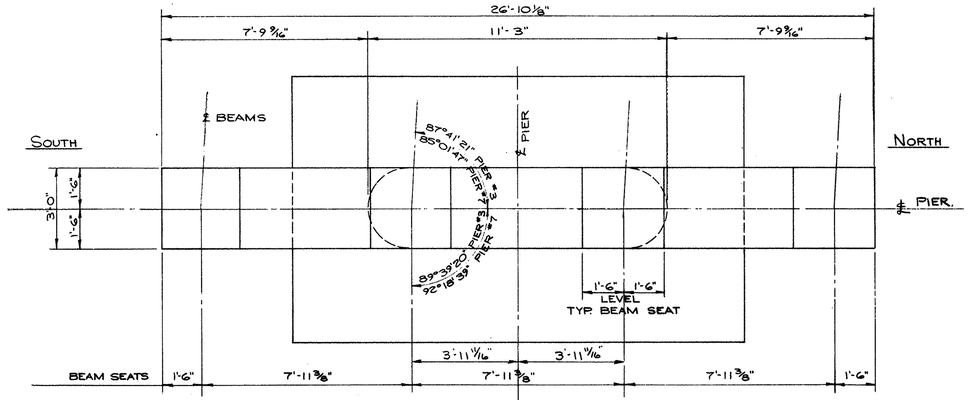
BRIDGE Nº MAH - 7 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	GAK		HGH	JTM	12-26-66	

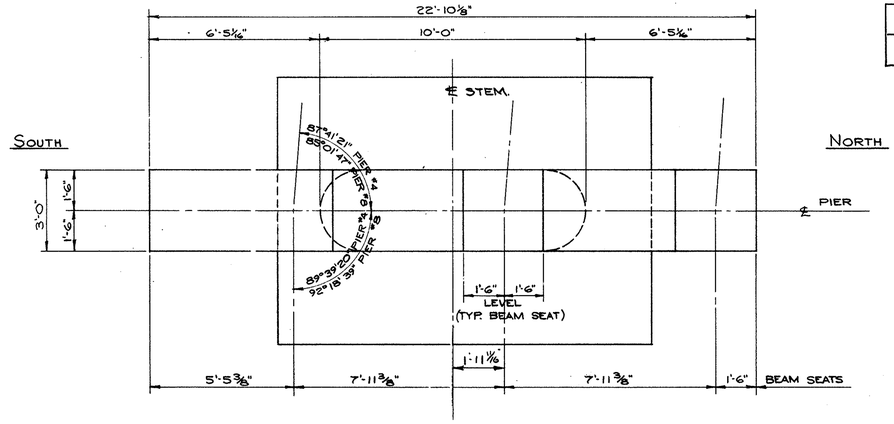
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

68
101

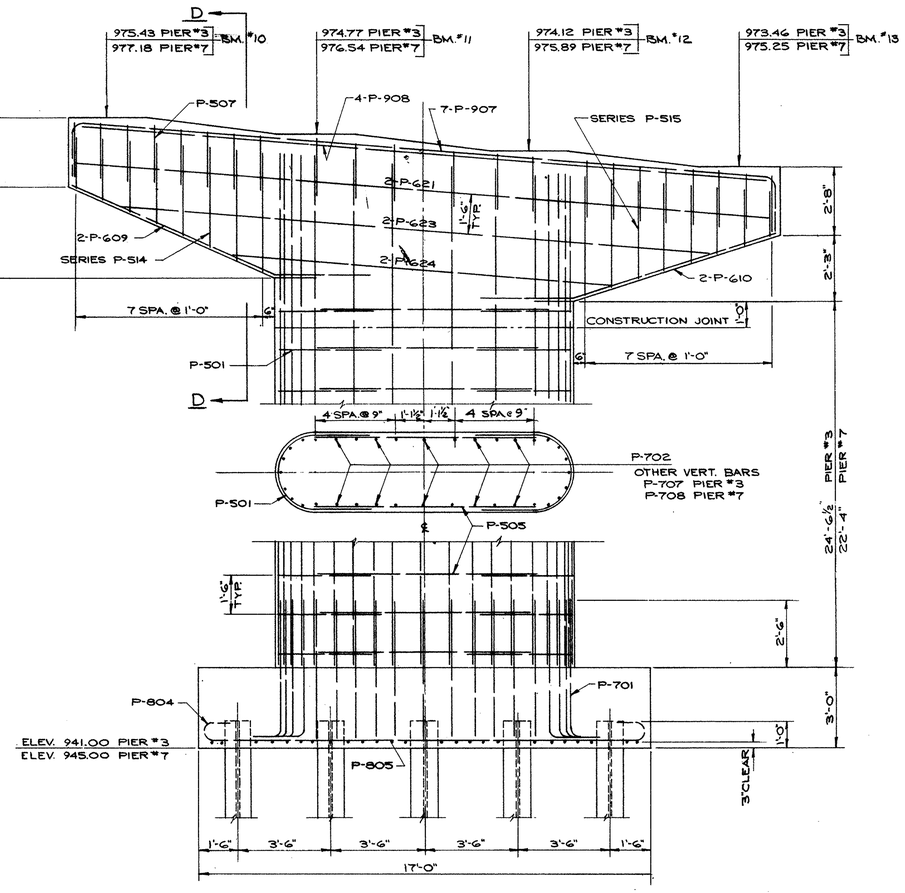
MAH.-7-14.35



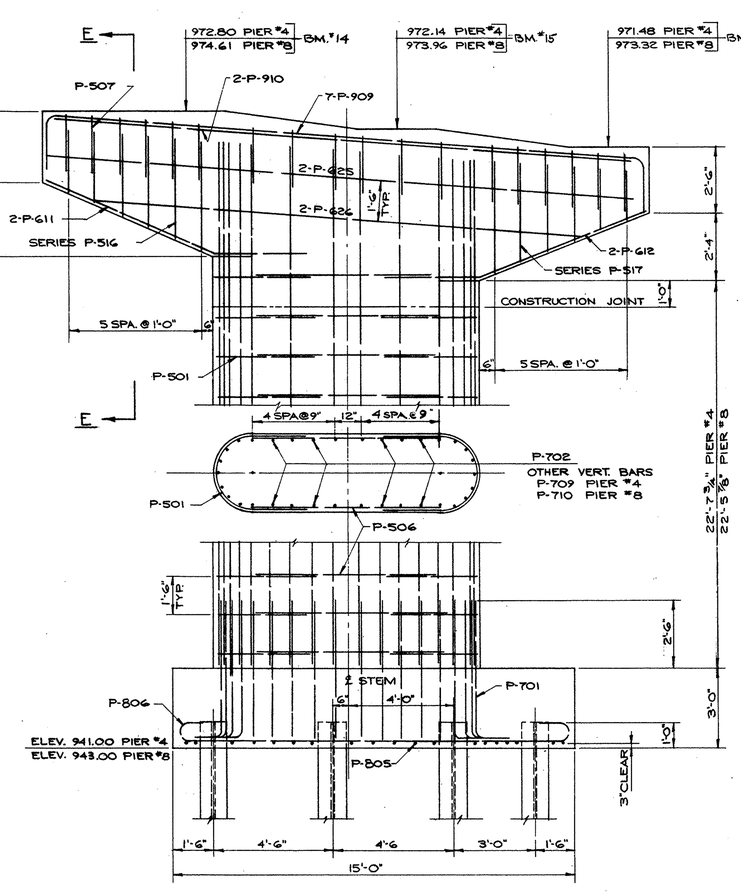
PLAN OF PIERS #3 ℄ #7



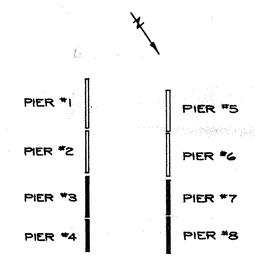
PLAN OF PIERS #4 ℄ #8



ELEVATION - PIERS #3 ℄ #7



ELEVATION - PIERS #4 ℄ #8



KEY PLAN

ALL BEARING-PILES ARE 12 BP 53

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

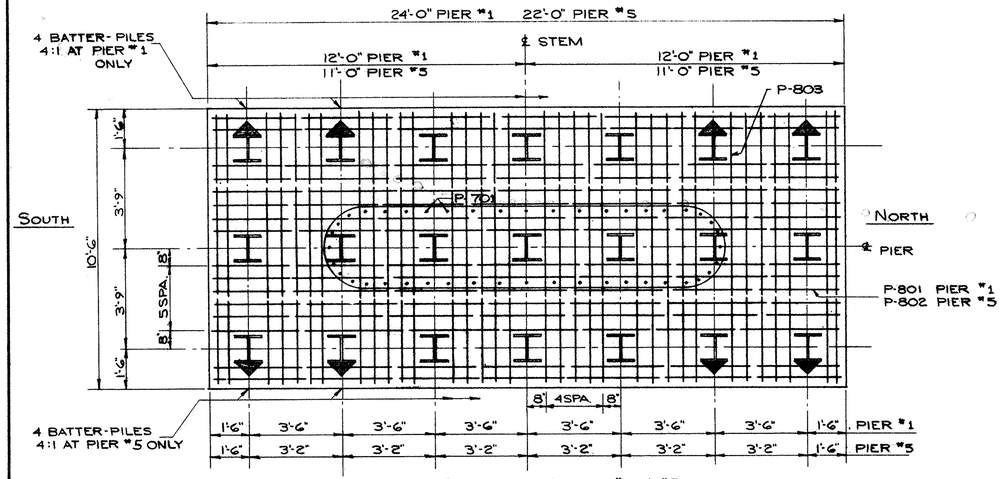
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	EAK		HGH	JTM	12-16-60	

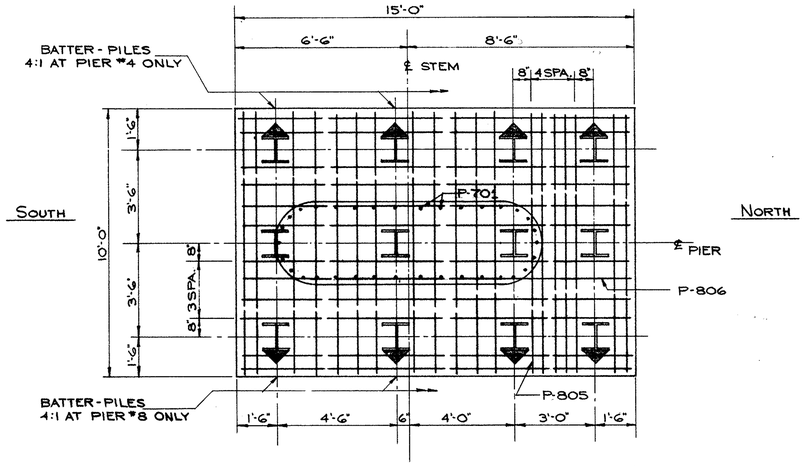
FED. RD.	STATE	PROJECT	
Z	OHIO	I-680-9(5)	

MAH.-7-14.35

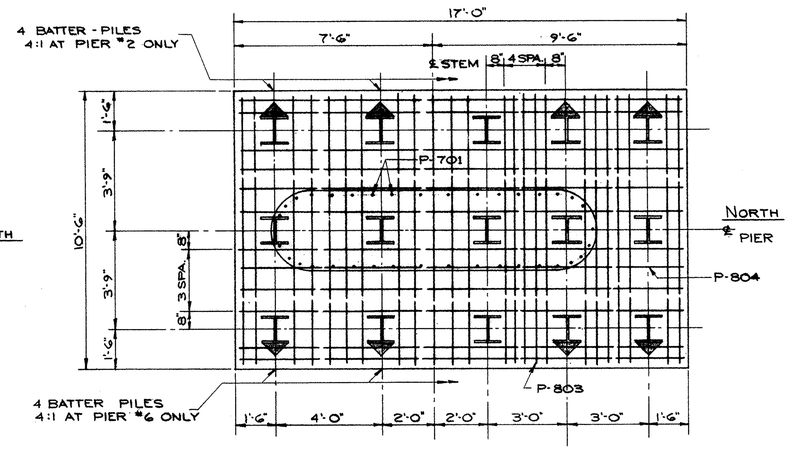
69
101



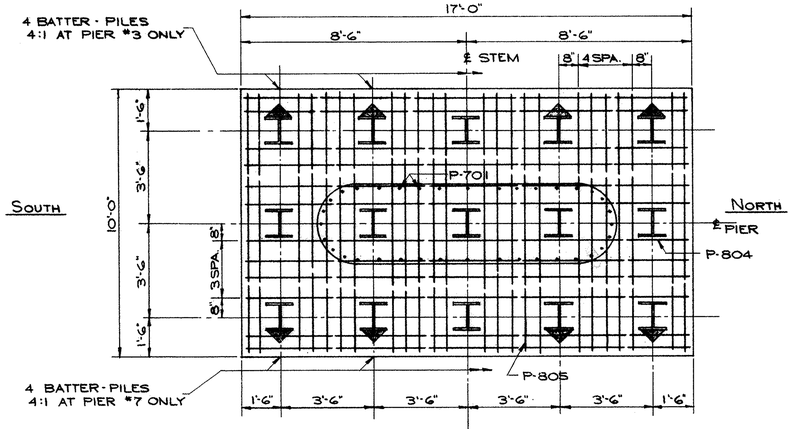
PLAN OF FOOTINGS PIERS #1 & #5



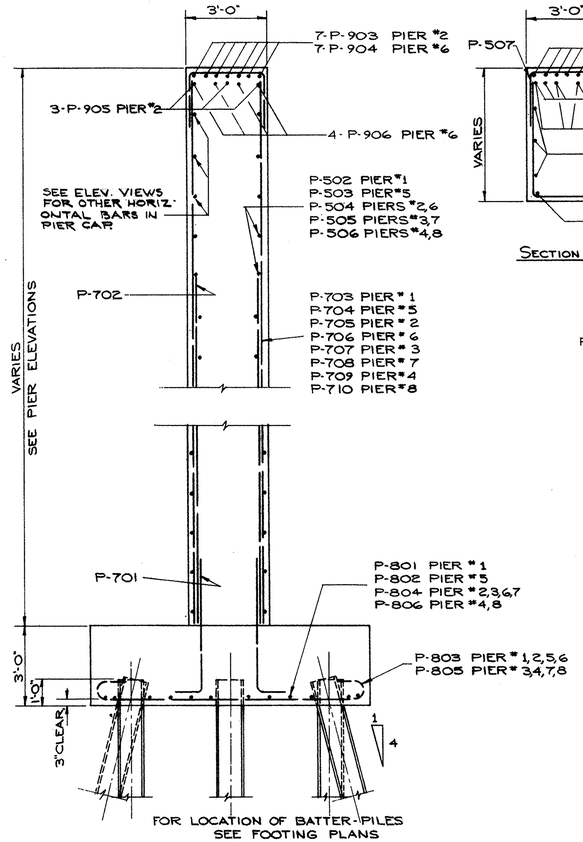
PLAN OF FOOTINGS - PIERS #4 & #8



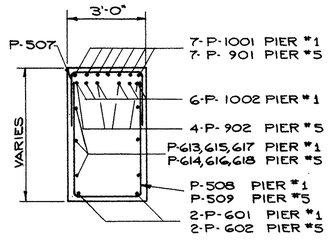
PLAN OF FOOTINGS - PIERS #2 & #6



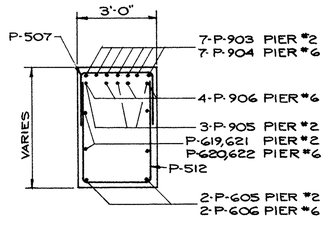
PLAN OF FOOTINGS - PIERS #3 & #7



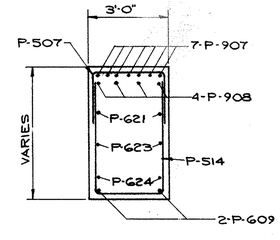
SECTION C-C



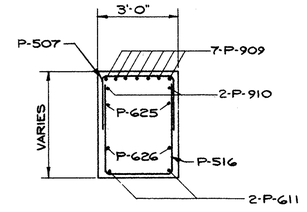
SECTION A-A



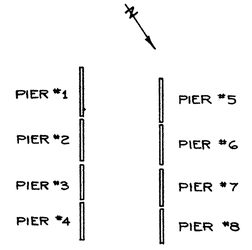
SECTION B-B



SECTION D-D



SECTION E-E



KEY PLAN

SPECIAL CARE MUST BE TAKEN IN PLACING REINFORCING STEEL IN THE PIER CAPS, SO THAT IT DOES NOT INTERFERE WITH THE BEARING PLATE ANCHOR BOLTS.

INDICATES DIRECTION OF BATTER COL. PILES, BATTER 4:1

ALL BEARING-PILES ARE 12 BP 53

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 - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	EAK		HGH	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

70
101

MAH.-7-14.35

4-3"x3"x3/8" CROSS FRAME LS OVER PIERS AS INDICATED SEE SECT. A-A & B-B FOR WELDING

℄ SURVEY S.R. #7

FACE OF CURB

BEAM #10 · BEAM #11 · BEAM #12 · BEAM #13 · BEAM #14 · BEAM #15 · BEAM #16

8'-0" TYP. · 5'-0 TYP.

FOR ALL BEAMS: TOP FL 10"x1/2" BOT. FL 13"x1/2"

33 WF 130 · 33 WF 141

6" TYP.

INTERMEDIATE CROSS FRAMES

END CROSS-FRAME ANGLES 4"x4"x5/16"

6 SPA. @ 7'-11 3/8" = 47'-8 1/4"

3'-0 1/8"

3/4" STANDARD PIPE WELD STUB END FULL PERIMETER TO BULB ANGLE AND PROVIDE COUPLING

2 SCUPPERS "B" · 3 SCUPPERS "C" · 4 SCUPPERS "C"

BULB ⌊ 5-3 1/2 x 13.0 PARALLEL CURB ALONG BRIDGE.

3'-6" · 8'-0" · 8'-0" · 8'-0" · 7'-6" · 13'-0" · 13'-6" · 13'-6" · 13'-8 7/16" · 14'-7 3/8" · 14'-7 3/8" · 14'-7 3/8" · 10'-3 13/16" · 10'-2" · 10'-2" · 15'-2" · 10'-2" · 14'-8" · 3'-6"

℄ BEARING @ ABT. #1 · ℄ PIERS #3 & #4 ℄ BEAM SPLICES · ℄ PIERS #7 & #8 ℄ BEAM SPLICES · ℄ BEARING @ ABT. #2

40'-0" · 56'-6" · 40'-0"

OUTSIDE FACE OF PARAPET

— FRAMING PLAN. —
NORTH-BOUND (RIGHT) LANES

FOR DIMENSIONS NOT SHOWN SEE SHEET "GEOMETRIC LAYOUT"

6" MIN.

℄ PIER

2"

SECTION X-X

2-6"x6"x7/16" LS

33WF130 · 33WF141

4 1/2" · 7 SPACES @ 1'-6"

6"x6"x7/16" LS

7/8" ϕ H.S. BOLTS OR RIVETS

SECTION H-H (SHEET #71)

MOM ℞ · 47 1/8" · ℄ MOM ℞

SECT. 1-1 · SECT. 2-2

FOR DETAIL OF BEARINGS SEE STANDARD DWG.# CSB-2-56 SHEET #3.

NOTE: SEE SHEET #71 FOR WELDING PROCEDURE.

RADIAL DIMENSIONS

2'-4" · 2" · 1'-0" · 1'-0" · 2'

1'-2" · 4" · 1'-6" · 1'-2" · 1'-7 1/2" · 10 1/4" · 9 1/4"

1/4" · 10" · 8 3/4"

1" DIAMETER 1/2 ROUND DRIP GROOVE · 3"

INTERMEDIATE CROSS FRAMES OF 3"x3"x5/16" L. WELD BOTH SIDES OF VERTICAL LEG & TOP SIDE OF HORIZONTAL LEG TO BEAM WITH CONTINUOUS 1/4 FILLET WELD

MAX. 9 3/4" @ ℄ ABUTMENT & PIER BEARINGS. MIN. 9 1/4" @ MIDDLE OF CENTER SPAN.

1"/FT.

TOP FL 3-3 3/8 IN CROSS FRAMES @ PIERS ONLY

9" TYP.

1/4" V · 1 CL.

2" · MAX 3'-5 5/8" · 7'-11 3/8" · 4 SPA @ 7'-11 3/8"

SECTION A-A.

3'-6" · 1" · 2'-11" · 6" · 2" OPEN JOINT

RADIAL DIMENSIONS

6" ϕ 2 1/2" · 9" · 1"

℄ SURVEY S.R. #7

L 3-3-3/8 @ PIERS. WELD SAME AS OTHER INTERMEDIATE CROSS FRAMES.

7'-11 3/8" · MAX 3'-0 1/8"

DIMENSIONS PARALLEL TO ℄ PIERS & ℄ ABUTMENTS

SECTION B-B

SCUPPER PLAN

2'-5 7/8" · 3 3/8" · 2'-2 1/2" · 2 1/2" (TYP) · 1/2" · 5 1/8" · BARS 1 1/2 x 1/2 · 8 1/4" · 6 1/2" · 3/8" ℞'s · 1/2" U BAR · 6" ϕ STANDARD PIPE

SCUPPER "B"

2'-1 3/8" · 3 3/8" · 1'-10" · (TYP) 1/2" · 2 1/4" · 5 1/8" · BARS 1 1/2 x 1/2 · 7 1/2" · 6 1/2" · 3/8" ℞'s · 1/2" U BAR · 6" ϕ PIPE

SCUPPER "C"

SCUPPER ELEVATIONS

FOR END-CROSS FRAME SEE "TYPICAL END-CROSS FRAME" ON SHEET #71 "FRAMING PLAN FOR SOUTHBOUND LANE".

FOR BEAM-SPLICE SEE "TYPICAL BEAM-SPLICE" ON SHEET #71 "FRAMING PLAN FOR SOUTHBOUND LANE".

THIS IS A NOMINAL DIMENSION. THE QUANTITY OF THE 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. SLAB THICKNESS SHOWN INCLUDES 1 MONOLITHIC WEARING SURFACE.

DEFLECTION & CAMBER

SPAN	40'-0	56'-6'
DEFLECTION DUE TO WEIGHT OF STEEL	0.02	0.08
DEFLECTION DUE TO REMAINING DEAD LOAD	0.08	0.30
CONVEXITY REQUIRED FOR VERTICAL CURVE	0	0
SUM OF DEFLECTION & CONVEXITY	0.10	0.38
REQUIRED CAMBER	0	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 - (N. Bound Lane)

BRIDGE № MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. № 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P	J.P		HGH	JTH	12-16-60	

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

71
101

4-3"x3"x3/8" CROSS FRAME L's OVER PIERS #1&2 BETWEEN BEAMS 1&2 AND 8&9 ONLY. SEE SECTIONS A-A & B-B FOR WELDING.

SH. #70

OUTSIDE FACE OF PARAPET

FACE OF CURB

BEAM #1 ℄

BEAM #2 ℄

BEAM #3 ℄

BEAM #4 ℄

BEAM #5 ℄

BEAM #6 ℄

BEAM #7 ℄

BEAM #8 ℄

BEAM #9 ℄

33 WF 130

33 WF 141

FOR ALL BEAMS:
TOP - Pl 10-1/2"
BOT. - Pl 13-1/2"

68'-2 3/8"

54'-5 1/4"

9'-2 15/16" | 16'-00" | 14'-00" | 9'-9" | 15'-9 1/4" | 15'-9 1/8" | 15'-9 1/4" | 9'-6 9/16" | 16'-0" | 16'-0"

8'-0" | 5'-0" | 9'-0" | 9'-0" | 5'-0" | 8'-0" | 5'-0" | 8'-0"

6" TYP

1'-1 13/16"

3'-0"

2'-4 1/4"

BULB L 5-3 1/2-13.0 PARALLEL CURB ALONG BRIDGE

3" ℄ STANDARD STEEL PIPE. WELD STUB END FULL PERIMETER TO BULB ANGLE AND PROVIDE COUPLING

5-SCUPPERS "A"

4 SCUPPERS "A"

33 WF 130 SEE SHEET #70 FOR DETAIL

℄ SURVEY S.R. #7

℄ PIERS #1 & 2

℄ BEAM SPLICES

℄ PIERS #5 & 6

℄ BEAM SPLICES

℄ BEARINGS @ ABT. #2

℄ BEARING @ ABT. #1

3'-6" | 7'-6" | 7'-6" | 7'-6" | 7'-6"

10'-2" | 10'-2" | 10'-2" | 3'-6"

7" | 2'-10 3/8"

40'-0"

56'-6"

FOR DETAIL OF BEARING SEE STD. DWG. CSB-2-56

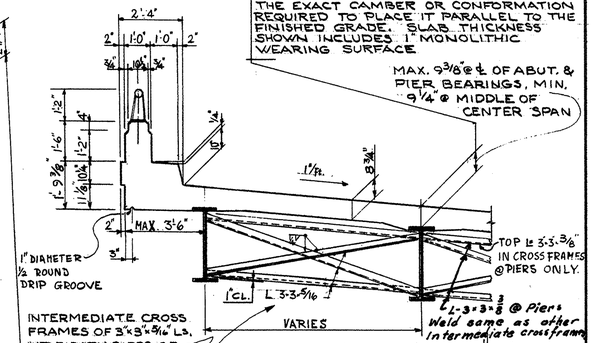
NOTE: FOR DIMENSIONS NOT SHOWN SEE SHEET "GEOMETRIC LAYOUT" SH. "78

FRAMING PLAN
SOUTH-BOUND (LEFT) LANES

MAH.-7-14.35

THIS IS A NOMINAL DIMENSION. THE QUANTITY OF THE 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. SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.

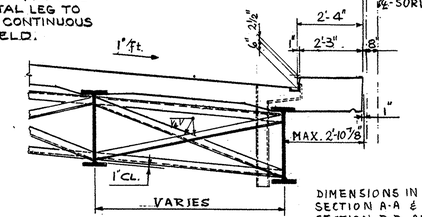
MAX. 9 3/8" ℄ OF ABUT. & PIER BEARINGS, MIN. 9 1/4" @ MIDDLE OF CENTER SPAN



INTERMEDIATE CROSS FRAMES OF 3"x3"x5/16" L's. WELD BOTH SIDES OF VERTICAL LEG & TOP SIDE OF HORIZONTAL LEG TO BEAM WITH CONTINUOUS 1/4" FILLET WELD.

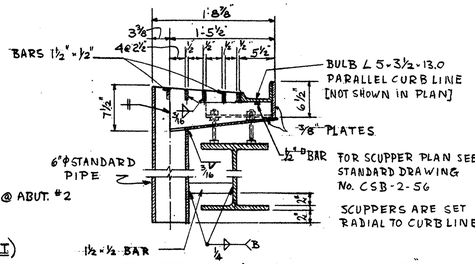
SECTION A-A

2" JOINT ℄ SURVEY

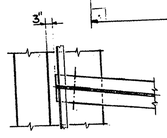


SECTION B-B

DIMENSIONS IN SECTION A-A & SECTION B-B ARE RADIAL



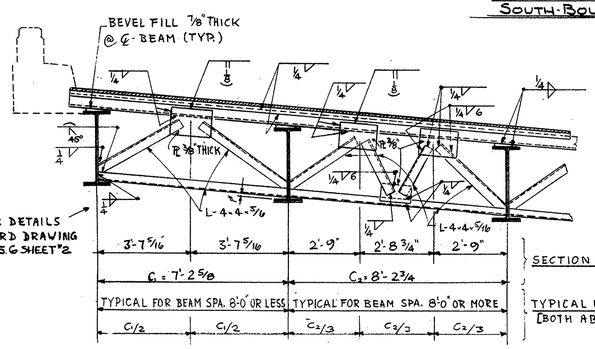
SCUPPER ELEVATION - SCUPPER A



SECTION E-E

SECTION C-C
[TYP. SECTION @ ABUTMENTS]

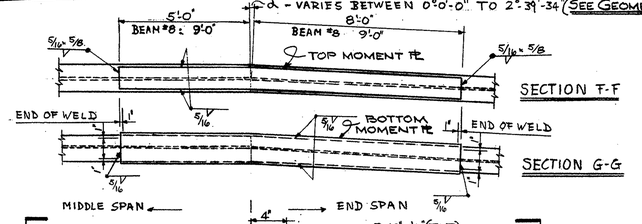
FOR FURTHER DETAILS SEE STANDARD DRAWING NO. CSB-2-56 SHEET #2



SECTION D-D

TYPICAL END CROSS FRAME [BOTH ABUTMENTS]

END CROSS FRAMES
SECTION D-D AND TYPICAL



TYPICAL BEAM-SPLICE ELEVATION
FOR PIERS #5,6,7 & 8 AS SHOWN
FOR PIERS #1,2,3 & 4 OPP. HAND

A - VARIES BETWEEN 0°0'-0" TO 2°-39'-34" (SEE GEOMETRIC LAYOUT)

DEFLECTION & CAMBER				
SPAN	40'-0"		56'-6"	
BEAM	1 THRU 7 & 9	8	1 THRU 7 & 9	8
DEFLECTION DUE TO WEIGHT OF STEEL	0.02	0.02	0.08	0.09
DEFLECTION DUE TO REMAINING DEAD LOAD	0.08	0.10	0.30	0.45
CONVEXITY REQUIRED FOR VERTICAL CURVE	0	0	0	0
SUM OF DEFLECTION & CONVEXITY	0.10	0.12	0.38	0.54
REQUIRED CAMBER	0	0	0	0

WELDING PROCEDURE: (1) RAISE END OF BEAMS AT ABUT. 1 & 2 1/2". (2) BUTT WELD BEAM FLANGE & 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 UNTIL WELDS ARE COMPLETED. (3) WELD TOP & BOTTOM FLANGE MOMENT PLATES. (4) LOWER ENDS OF BEAMS INTO PLACE AT ABUTMENTS. AFTER 4 ANGLE CROSSFRAMES ARE WELDED IN POSITION.

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 - (S. Bound Lane)

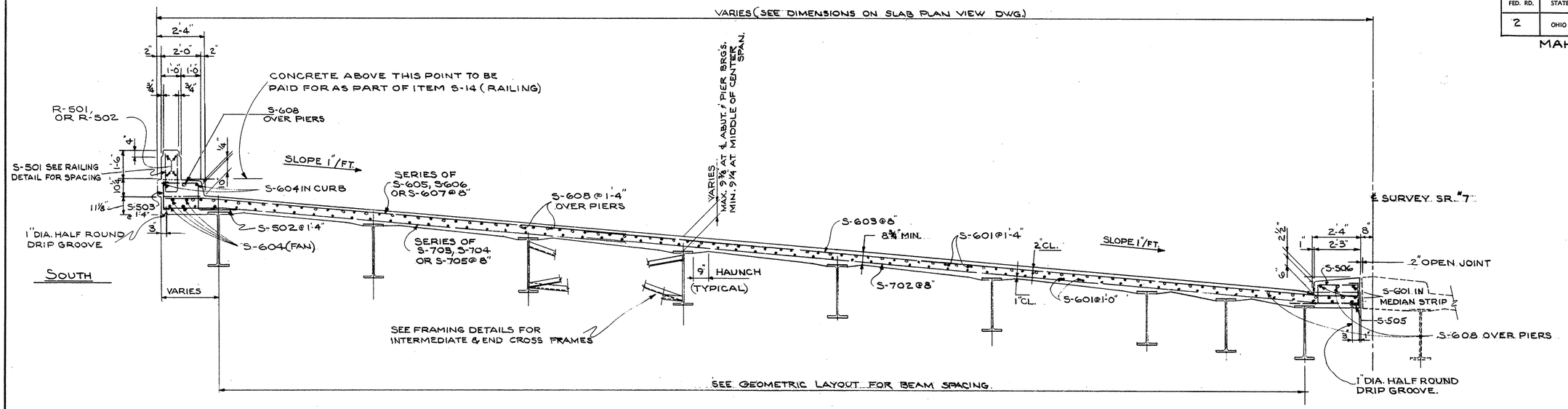
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	J.P.		H.G.H.	J.T.M.	12-16-60	

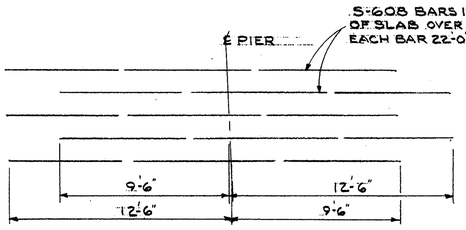
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

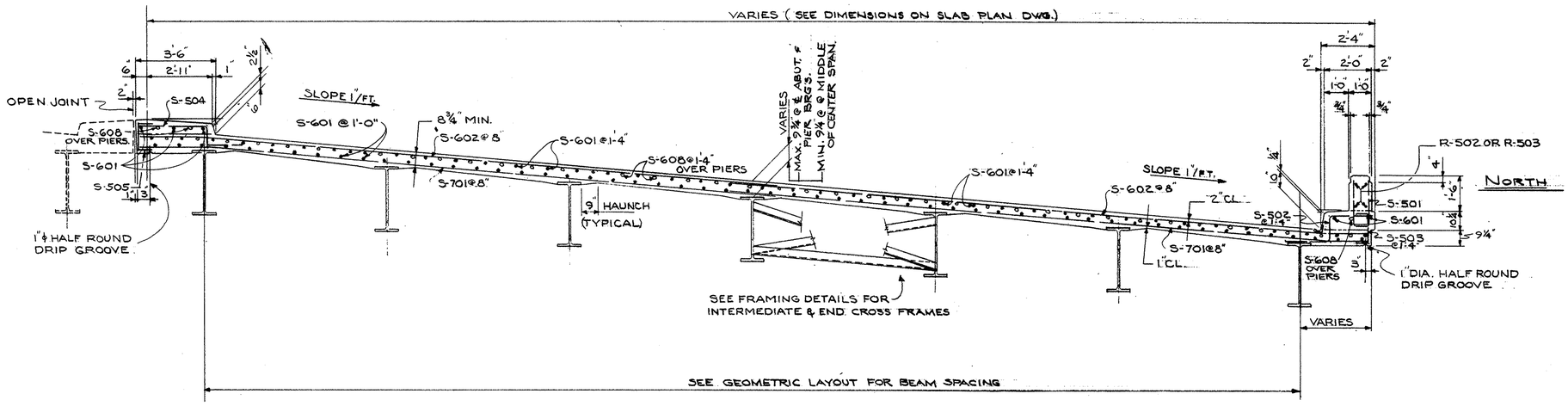
72
101



PARTIAL TRANSVERSE SECTION
OF SOUTHBOUND (LEFT) LANES



BAR STAGGERING DETAIL



PARTIAL TRANSVERSE SECTION
OF NORTH-BOUND (RIGHT) LANES

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

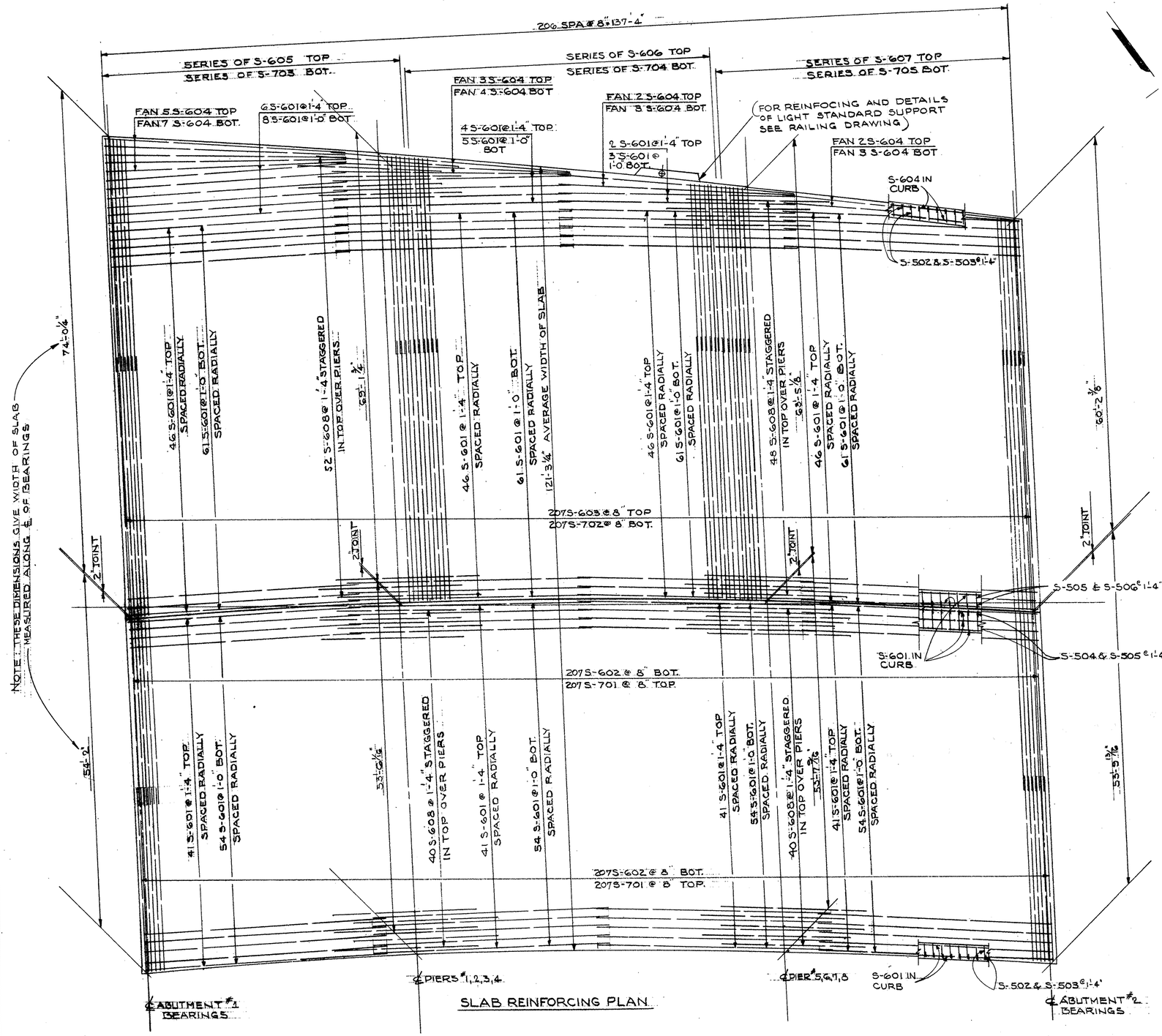
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		HGH	JTM	12-26-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

73
101



SLAB REINFORCING PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

SLAB REINF. DETAILS - PLAN

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		HGH	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

74
101

MAH.-7-14.35

℄ BEARING ABUTMENT "1

℄ PIER Nº 1,2,3&4

℄ PIER Nº 5,6,7&8

℄ BEARING ABUTMENT "2

1'-0" 1'-0" 6'-11¼"

15 SPA@8'-3" = 123'-9" ℄ TO ℄ RAIL POSTS

6'-11¼" 1'-0" 1'-0"

FACE OF CURB

USE WELDED BEND AND COUPLING

FACE OF MEDIAN STRIP

5"x3½"x13.0 BULB ANGLE

10 SPA@12'-6" = 125'-0" ℄ TO ℄ GUARD RAIL POSTS

℄ SURVEY SR"7

FACE OF ABUTMENT

FACE OF ABUTMENT

FACE OF MEDIAN STRIP

1'-0"

FACE OF CURB

5"x3½"x13.0 BULB ANGLE

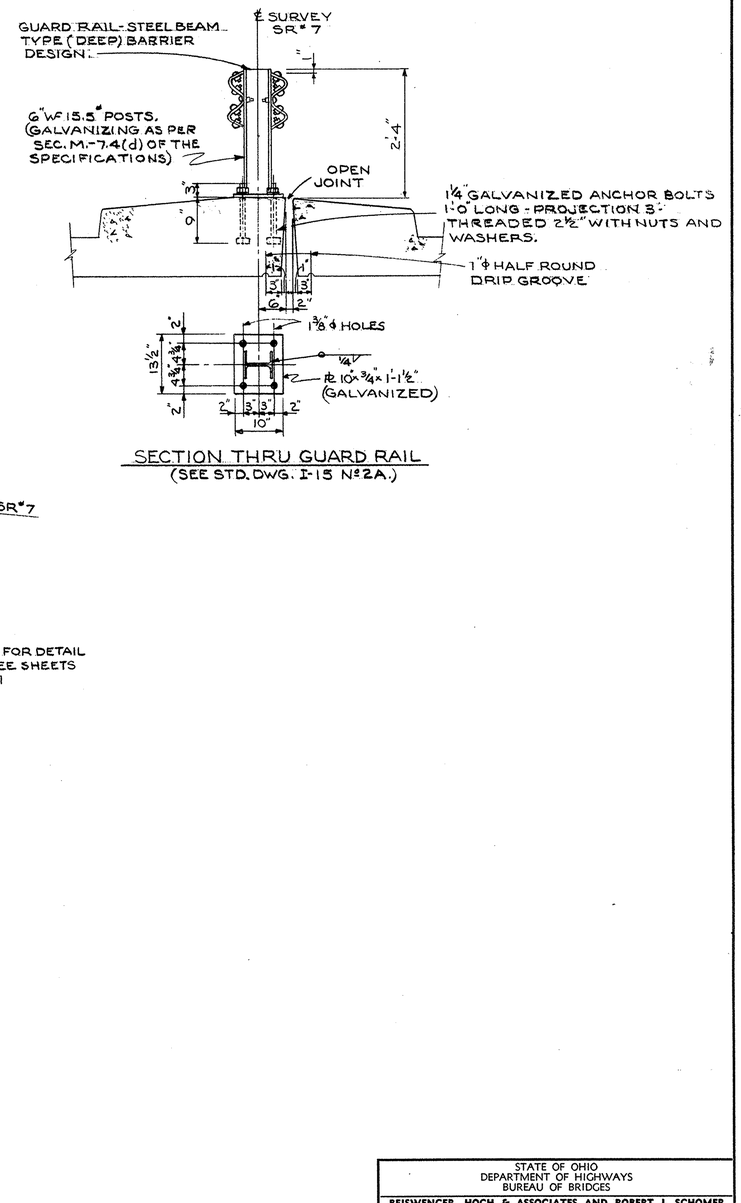
SCUPPERS - FOR DETAIL & SPACING SEE SHEETS Nº 70 & Nº 71

15 SPA@8'-3" = 123'-9" ℄ TO ℄ RAIL POSTS

1'-0" 1'-0" 6'-3½" 6'-3½" 1'-0" 1'-0"

3" 2"

PLAN



SECTION THRU GUARD RAIL
(SEE STD. DWG. I-15 Nº 2A.)

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

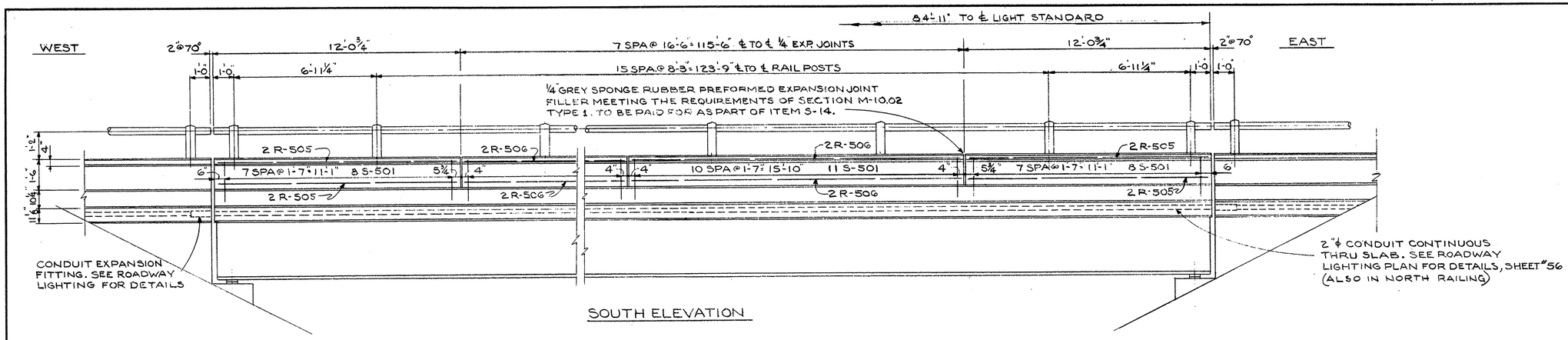
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH		HGH	JTM	12-16-60	

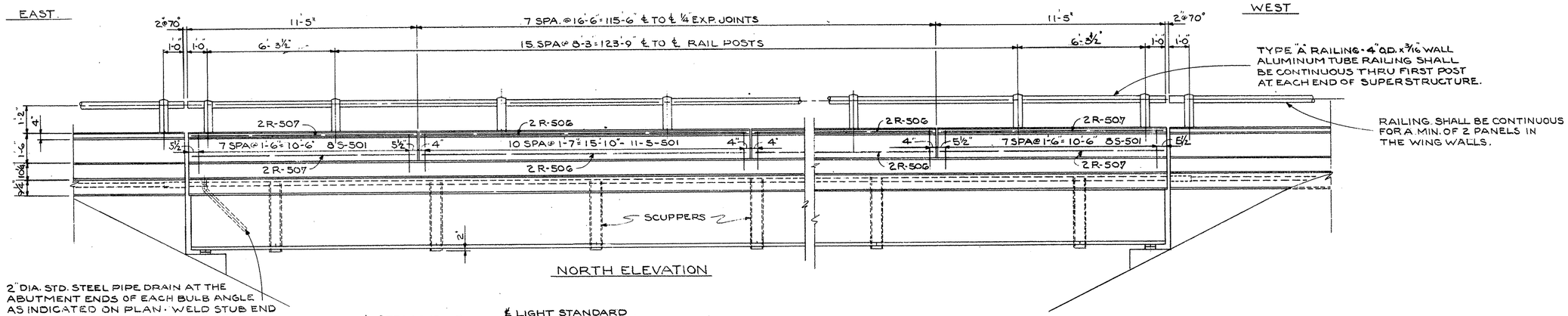
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(3)	

MAH.-7-14.35

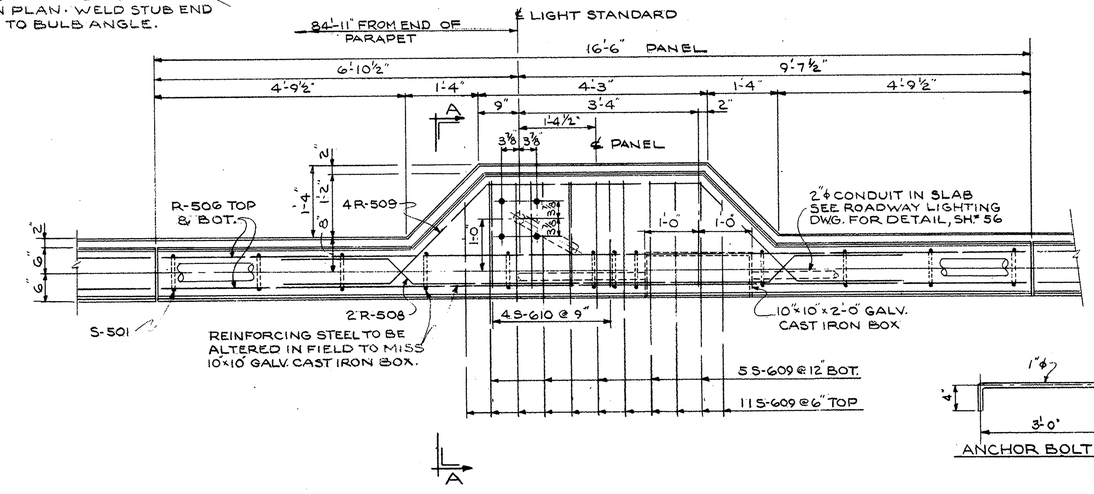
75
101



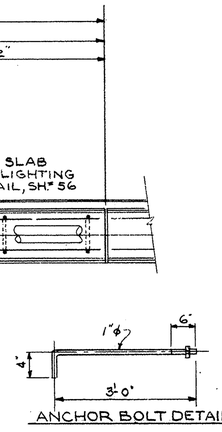
SOUTH ELEVATION



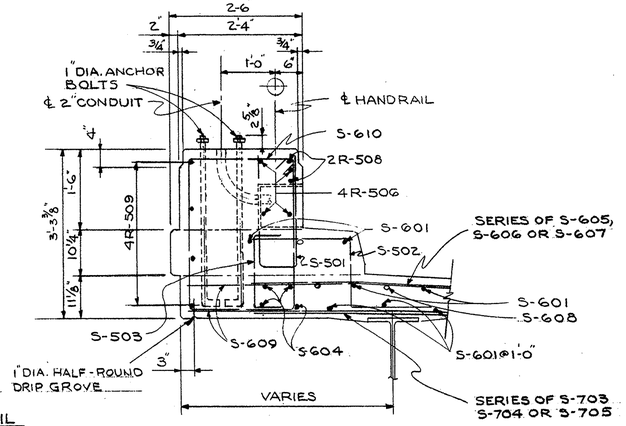
NORTH ELEVATION



DETAIL OF LIGHT STANDARD SUPPORT
(IN SOUTH PARAPET ONLY)



ANCHOR BOLT DETAIL



SECTION A-A

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 - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S. R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JLH.		HGH	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

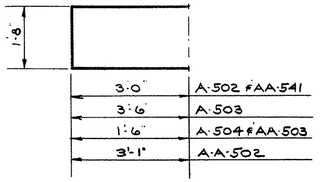
76
101

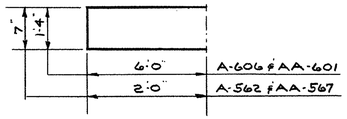
— Reinforcing Steel Schedule —

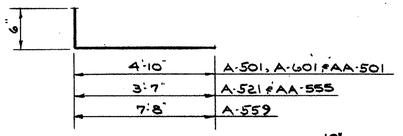
MARK	Nº REQD	LENGTH	WEIGHT	SHAPE
ABUTMENT # 1				
A-501	243	5'-3"	1440	BT.
A-502	32	7'-6"	250	BT.
A-503	68	8'-6"	603	BT.
A-504	16	4'-6"	75	BT.
A-505	17	12'-2"	216	ST.
A-506	2	7'-0"	15	ST.
A-507	3	36'-2"	113	ST.
A-508	5	34'-2"	178	ST.
A-509	26	20'-0"	542	ST.
A-510	32	24'-9"	826	ST.
A-511	3	28'-4"	89	ST.
A-512	13	25'-5"	345	ST.
A-513	25	6'-0"	156	ST.
A-514	4	33'-3"	139	ST.
A-515	19	5'-10"	115	ST.
A-516	4	10'-5"	43	ST.
A-517	12	5'-6"	69	ST.
A-518	4	4'-0"	17	BT.
A-519	4	4'-2"	17	ST.
A-520	6	3'-6"	22	ST.
A-521	76	4'-0"	318	BT.
A-522	3	14'-3"	44	ST.
A-523	3	10'-3"	32	ST.
A-524	16	3'-3"	54	ST.
A-525	16	8'-11"	65	ST.
A-526	16	4'-7"	76	ST.
A-527	16	5'-3"	88	ST.
A-528	16	5'-11"	99	ST.
A-529	20	6'-7"	137	ST.
A-530	34	7'-3"	257	ST.
A-531	4	33'-5"	140	ST
A-532	2	26'-3"	55	ST.
A-533	2	12'-0"	25	ST.
A-534	2	13'-5"	28	ST.
A-535	8	8'-2"	68	ST,
A-536	2	5'-11"	12	BT.
A-537	80	5'-5"	452	BT.
A-538	2	4'-11"	10	BT.
A-539	3	19'-3"	60	ST.
A-540	20	8'-0"	167	ST.
A-541	19	8'-10"	175	ST.
A-542	22	9'-6"	218	ST.
A-543	16	10'-2"	170	ST.
A-544	10	10'-10"	113	ST.
A-545	8	11'-6"	96	ST.
A-546	3	12'-10"	40	ST.
A-547	15	27'-7"	432	ST.
A-548	2	34'-3"	71	ST.
A-549	3	26'-6"	83	ST.
A-550	2	7'-10"	16	ST.
A-551	1	17'-2"	18	ST.
A-552	2	21'-0"	44	ST.
A-553	19	15'-10"	314	ST.
SERIES OF A-554	1 SET OF 4 BARS	VARIES 11'-3¼" TO 16'-9"@ 1'-9¼" INC.	59	ST.
SERIES OF A-555	1 SET OF 4 BARS	VARIES 7'-3¼" TO 12'-9" @ 1'-9¼" INC.	42	ST.
A-556	28	22'-8"	662	ST.
A-557	3	18'-8"	58	ST.
SERIES OF A-558	2 SETS OF 8 + 16 BARS	VARIES 5'-0" TO 9'-10" @ 6⅞" INC.	117	ST.
A-559	10	8'-1"	84	BT.
A-560	13	4'-0"	44	BT.
A-561	3	26'-0"	81	ST.
A-562	20	4'-5"	92	BT.

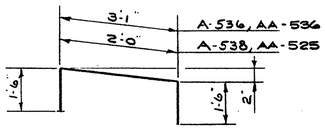
MARK	Nº REQD	LENGTH	WEIGHT	SHAPE
A-563	2	12'-4"	26	BT.
A-564	17	2'-8"	47	BT.
A-565	4	2'-7"	11	BT.
A-566	2	2'-6"	5	BT.
A-567	2	2'-5"	5	BT.
A-568	2	2'-4"	5	BT.
A-569	2	2'-3"	5	BT.
A-570	2	2'-1"	4	BT.
A-571	2	1'-11"	4	BT.
A-572	2	1'-10"	4	BT.
A-573	6	23'-9"	149	ST.
A-574	2	23'-9"	50	BT.
A-575	4	8'-3"	34	ST.
A-576	2	24'-4"	51	ST.
A-577	4	31'-3"	130	ST
A-601	25	5'-3"	197	BT.
A-602	9	10'-10"	147	ST.
A-603	8	11'-6"	138	ST.
A-604	7	12'-2"	128	ST.
A-605	1	12'-10"	19	ST.
A-606	30	13'-2"	593	BT.
A-607	95	14'-9"	2105	BT.
A-608	4	15'-0"	90	ST.
ABUTMENT #1 TOTAL = 14,433#				
ABUTMENT #2.				
A-A-501	256	5'-3"	1403	BT.
A-A-502	56	7'-8"	448	BT.
A-A-503	16	4'-6"	75	BT.
A-A-504	7	28'-9"	210	ST.
A-A-505	14	25'-9"	376	ST.
A-A-506	9	33'-9"	317	ST.
A-A-507	29	4'-6"	136	ST.
A-A-508	15	27'-9"	434	ST.
A-A-509	11	3'-11"	45	BT.
A-A-510	75	5'-5"	423	BT.
A-A-511	5	10'-8"	56	ST.
A-A-512	18	10'-0"	188	ST.
A-A-513	16	9'-4"	156	ST.
A-A-514	18	8'-9"	164	ST.
A-A-515	20	8'-1"	169	ST.
A-A-516	16	7'-5"	124	ST.
A-A-517	37	6'-9"	261	ST.
A-A-518	37	6'-3"	242	ST.
A-A-519	2	16'-1"	34	ST.
A-A-520	1	19'-3"	20	ST.
A-A-521	1	16'-9"	17	ST.
A-A-522	2	11'-0"	28	ST.
A-A-523	26	20'-0"	542	ST.
A-A-524	20	3'-1"-9"	662	ST.
A-A-525	2	4'-11"	10	BT.
A-A-526	3	35'-4"	111	ST.
A-A-527	8	32'-10"	274	ST.
A-A-528	10	7'-8"	80	ST.
A-A-529	19	7'-0"	139	ST.
A-A-530	22	5'-8"	130	ST.
A-A-531	16	5'-0"	83	ST.
A-A-532	16	3'-10"	64	ST.
A-A-533	2	23'-6"	49	BT.
A-A-534	2	15'-6"	32	ST.
A-A-535	5	12'-0"	63	ST.
A-A-536	2	5'-11"	12	BT.
A-A-537	2	19'-9"	41	ST.
A-A-538	2	13'-0"	27	ST.

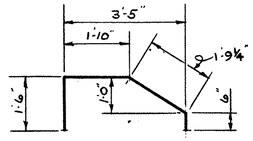
MARK	Nº REQD	LENGTH	WEIGHT	SHAPE
AA-539	7	8'-4"	61	ST.
AA-540	2	30'-1"	63	ST.
A-A-541	32	7'-6"	250	BT.
AA-542	4	3'-11"	16	BT.
AA-543	3	10'-9"	34	ST.
AA-544	4	4'-10"	20	ST.
AA-545	14	13'-4"	195	ST.
A-A-546	1	9'-1"	9	ST.
A-A-547	1	10'-11"	11	ST.
AA-548	5	12'-9"	67	ST.
AA-549	1	8'-9"	9	ST.
AA-550	4	19'-5"	81	ST.
AA-551	4	15'-5"	64	ST.
SERIES OF AA-552	2 SETS OF 6 = 12 BARS	VARIES 2'-3" TO 8'-9" @ 6" INC.	94	ST.
AA-553	7	6'-0"	44	ST.
AA-554	3	25'-3"	79	ST.
AA-555	74	4'-0"	309	BT.
AA-556	4	23'-3"	96	ST.
A-A-557	2	23'-3"	48	BT.
AA-558	2	1'-10"	4	BT.
AA-559	2	1'-11"	4	BT.
AA-560	2	1'-1"	4	BT.
AA-561	2	2'-3"	5	BT.
AA-562	2	2'-4"	5	BT.
A-A-563	2	2'-5"	5	BT.
AA-564	2	2'-6"	5	BT.
AA-565	4	2'-7"	11	BT.
AA-566	19	2'-8"	53	BT.
AA-567	20	4'-5"	92	BT.
AA-568	2	5'-0"	10	BT.
AA-569	3	14'-8"	46	ST.
AA-570	3	10'-8"	33	ST.
AA-571	2	12'-9"	27	BT.
AA-572	3	21'-3"	67	ST.
A-A-573	4	30'-10"	129	ST.
AA-601	30	13'-2"	593	BT.
AA-602	81	14'-9"	1792	BT.
AA-603	4	18'-0"	108	ST.
ABUTMENT #2 TOTAL = 12,183#				



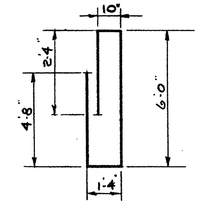




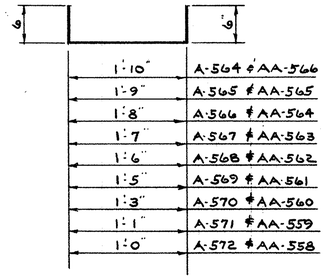


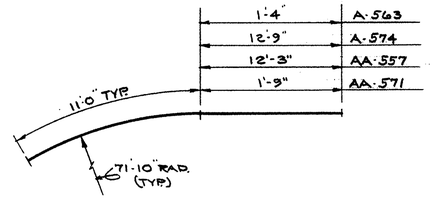


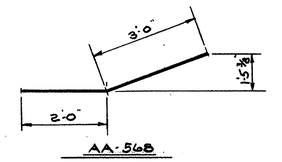
A-537 ≠ AA-510



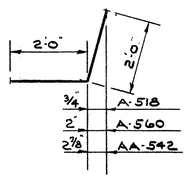
A-607 ≠ AA-602

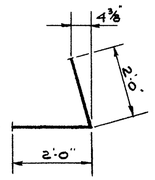






AA-568





AA-503

Superseded by Sheet 76A 5-24-61

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

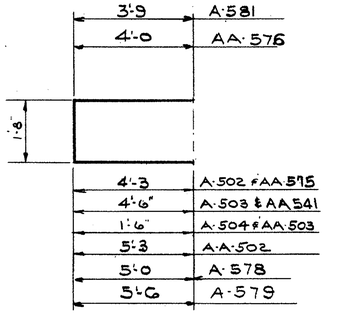
REINFORCING SCHEDULE

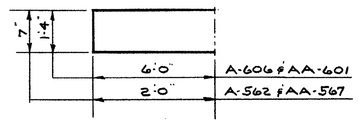
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

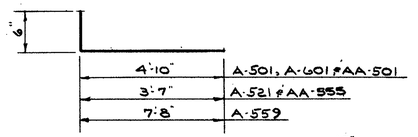
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
			EAK	JTM	12-16-60	

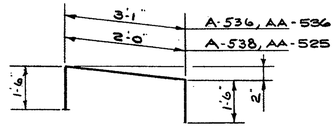
— Reinforcing Steel Schedule —

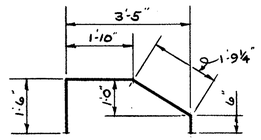
MARK	Nº REQD	LENGTH	WEIGHT	SHAPE
ABUTMENT # 1				
A-501	263	5'-3"	1440	BT.
A-502	16	10'-0"	167	BT.
A-503	16	10'-6"	175	BT.
A-504	16	4'-6"	75	BT.
A-505	11	12'-2"	139	ST.
A-506	2	7'-0"	15	ST.
A-507	9	36'-0"	338	ST.
A-508	"	"	"	"
A-509	30	20'-0"	626	ST.
A-510	34	24'-9"	878	ST.
A-511	8	28'-4"	237	ST.
A-512	13	25'-5"	345	ST.
A-513	25	6'-0"	156	ST.
A-514	4	33'-3"	139	ST.
A-515	19	5'-10"	115	ST.
A-516	4	10'-5"	43	ST.
A-517	12	5'-6"	69	ST.
A-518	4	4'-0"	17	BT.
A-519	4	4'-2"	17	ST.
A-520	6	3'-6"	22	ST.
A-521	76	4'-0"	318	BT.
A-522	7	14'-3"	104	ST.
A-523	3	10'-3"	32	ST.
A-524	16	3'-3"	54	ST.
A-525	16	3'-11"	65	ST.
A-526	16	4'-7"	76	ST.
A-527	16	5'-3"	88	ST.
A-528	16	5'-11"	99	ST.
A-529	20	6'-7"	137	ST.
A-530	34	7'-3"	257	ST.
A-531	4	33'-5"	140	ST.
A-532	2	26'-3"	55	ST.
A-533	5	12'-0"	63	ST.
A-534	5	13'-5"	70	ST.
A-535	8	8'-2"	68	ST.
A-536	2	5'-11"	12	BT.
A-537	80	5'-5"	452	BT.
A-538	2	4'-11"	10	BT.
A-539	3	19'-3"	60	ST.
A-540	20	8'-0"	167	ST.
A-541	19	8'-10"	175	ST.
A-542	22	9'-6"	218	ST.
A-543	16	10'-2"	170	ST.
A-544	10	10'-10"	113	ST.
A-545	8	11'-6"	96	ST.
A-546	3	12'-10"	40	ST.
A-547	19	27'-7"	547	ST.
A-548	2	34'-3"	71	ST.
A-549				
A-550	2	7'-10"	16	ST.
A-551	4	17'-2"	72	ST.
A-552	5	21'-0"	109	ST.
A-553	19	15'-10"	314	ST.
SERIES OF A-554	1 SET OF 4 BARS	VARIES 11'-3¼" TO 16'-9" @ 1'-3¼" INC.	59	ST.
SERIES OF A-555	1 SET OF 4 BARS	VARIES 7'-3¼" TO 12'-9" @ 1'-9¼" INC.	42	ST.
A-556	28	22'-8"	662	ST.
A-557	3	18'-8"	58	ST.
SERIES OF A-558	2 SETS OF 8 : 16 BARS	VARIES 5'-0" TO 9'-0" @ 6" INC.	117	ST.
A-559	10	8'-1"	84	BT.
A-560	13	4'-0"	44	BT.
A-561	3	26'-0"	81	ST.
A-562	20	4'-5"	92	BT.
A-563	2	12'-4"	26	BT.
A-564	20	2'-8"	56	BT.
A-565	4	2'-7"	11	BT.
A-566	2	2'-6"	5	BT.
A-567	2	2'-5"	5	BT.
A-568	2	2'-4"	5	BT.
A-569	2	2'-3"	5	BT.
A-570	2	2'-1"	4	BT.
A-571	2	1'-11"	4	BT.
A-572	2	1'-10"	4	BT.
A-573	6	23'-9"	149	ST.
A-574	2	23'-9"	50	BT.
A-575	4	8'-3"	34	ST.
A-576	2	24'-4"	51	ST.
A-577	6	31'-5"	196	ST
A-601	25	5'-3"	197	BT
A-602	9	10'-10"	147	ST.
A-603	8	11'-6"	138	ST.
A-604	7	12'-2"	128	ST.
A-605	1	12'-10"	19	ST.
A-606	30	13'-2"	593	BT.
A-607	95	14'-9"	2105	BT.
A-608	4	15'-0"	90	ST.
A-609	15	9'-1	204	BT
SEE SCHEDULE BELOW FOR CONTINUATION				
ABUTMENT #2.				
A-A-501	266	5'-3"	1457	BT.
A-A-502	12	12'-0"	150	BT.
A-A-503	16	4'-6"	75	BT.
A-A-504	2	28'-9"	60	ST.
A-A-505	11	25'-9"	296	ST.
A-A-506	10	34'-6"	360	ST.
A-A-507	32	4'-6"	150	ST.
A-A-508	22	27'-9"	637	ST.
A-A-509	11	3'-11"	45	BT
A-A-510	75	5'-5"	423	BT.
A-A-511	5	10'-8"	56	ST.
A-A-512	19	10'-0"	198	ST.
A-A-513	16	9'-4"	156	ST.
A-A-514	18	8'-9"	164	ST.
A-A-515	20	8'-1"	169	ST.
A-A-516	16	7'-5"	124	ST.
A-A-517	38	6'-9"	268	ST.
A-A-518	37	6'-3"	242	ST.
A-A-519	2	16'-1"	34	ST.
A-A-520	1	19'-3"	20	ST.
AA-521	1	16'-9"	17	ST.
AA-522	2	11'-0"	23	ST.
AA-523	23	20'-0"	480	ST.
A-A-524	20	3'-1½"	662	ST.
AA-525	2	4'-11"	10	BT.
A-A-526	3	35'-4"	111	ST.
A-A-527	8	32'-10"	274	ST.
A-A-528	10	7'-8"	80	ST.
A-A-529	19	7'-0"	139	ST.
A-A-530	22	5'-8"	130	ST.
A-A-531	16	5'-0"	83	ST.
A-A-532	16	3'-10"	64	ST.
A-A-533	2	23'-6"	49	BT.
A-A-534	2	15'-6"	32	BT.
A-A-535	2	12'-0"	25	ST.
AA-536	2	5'-11"	12	BT.
AA-537	2	19'-9"	41	ST.
AA-538	5	13'-0	68	ST.
AA-539	7	8'-4"	61	ST.
AA-540	2	30'-1"	63	ST.
A-A-541	44	10'-6"	482	BT.
AA-542	4	3'-11"	16	BT.
AA-543	3	12'-3	38	ST.
AA-544	4	4'-10"	20	ST.
AA-545	14	13'-4"	195	ST.
A-A-546	1	9'-1"	9	ST.
A-A-547	1	10'-11"	11	ST.
AA-548	5	12'-9"	67	ST.
AA-549	1	8'-9"	9	ST.
AA-550	4	19'-5"	81	ST.
AA-351	4	15'-5"	64	ST.
SERIES OF AA-552	2 SETS OF 6 #12 BARS	VARIES 4'-3" TO 8'-9" @ 6" INC.	94	ST.
AA-553	32	6'-0"	200	ST.
AA-554	6	25'-3"	158	ST.
AA-555	74	4'-0"	309	BT.
AA-556	4	23'-3"	96	ST.
A-A-557	2	23'-3"	48	BT.
AA-558	2	1'-10"	4	BT.
AA-559	2	1'-11"	4	BT.
AA-560	2	1'-1"	4	BT.
AA-561	2	2'-3"	5	BT.
AA-562	2	2'-4"	5	BT.
A-A-563	2	2'-5"	5	BT.
AA-564	2	2'-6"	5	BT.
AA-565	4	2'-7"	11	BT.
AA-566	19	2'-8"	53	BT.
AA-567	20	4'-5"	92	BT.
AA-568	2	5'-0"	10	BT.
AA-569	3	14'-8"	46	ST.
AA-570	3	10'-8"	33	ST.
AA-571	2	12'-9"	27	BT.
AA-572	3	21'-3"	67	ST.
A-A-573	4	30'-10"	129	ST
AA-574	7	22'-3	162	ST
AA-575	16	10'-9	167	BT
AA-576	32	9'-6	317	BT
AA-577	10	33'-6	350	ST.
AA-578	3	12'-6	39	ST
AA-579	33	8'-5	290	BT
AA-580	47	9'-5	461	BT
AA-581	1	6'-0	6	BT
AA-601	30	13'-2	593	BT
AA-602	81	14'-9	1792	BT
AA-603	4	18'-0	108	ST
AA-604	15	9'-1	204	BT
AA-701	12	11'-5	280	BT
ABUTMENT #2 TOTAL = 14,774				
CONTINUATION OF ABUTMENT # 1				
A-578	40	11'-6	480	BT
A-579	12	12'-6	155	BT
A-580	26	7'-11	215	BT
A-581	16	9'-0"	150	BT
A-701	16	9'-11"	324	BT
A-702	40	10'-11"	893	BT
A-703	18	11'-11"	438	BT
ABUTMENT #1 TOTAL 17,407 #				



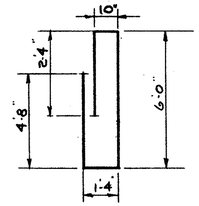




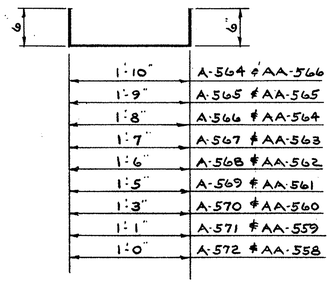


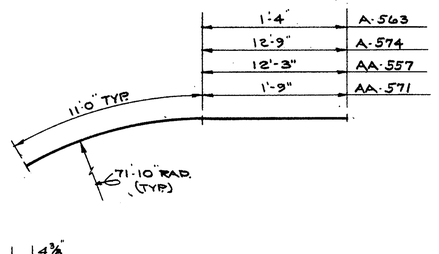


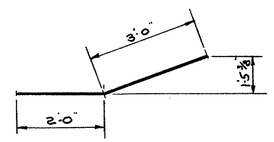
A-537 & AA-510



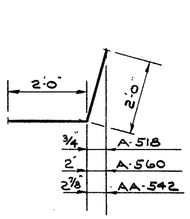
A-607 & AA-602

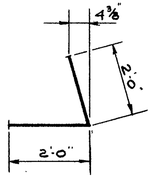




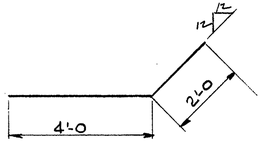


AA-568





AA-503



AA-581

7"	6'-9"	7"	A-580
7"	7'-3"	7"	AA-579
7	8'-3	7'	AA-580
8"	7'-9	8"	A-609 & AA604
10"	8'-3	10"	A-701
10"	9'-3	10"	A-702
10"	10'-3	10"	A-703
10"	9'-9	10"	AA-701

This sheet supersedes Sheet 76 5-24-61

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH-7-14.35

76A
101

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 - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
			EAK	JTM	12-16-60	

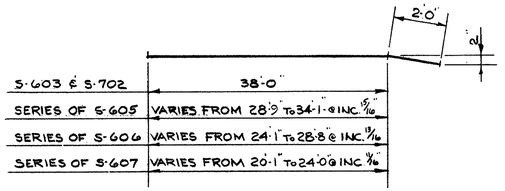
REINFORCING STEEL SCHEDULE

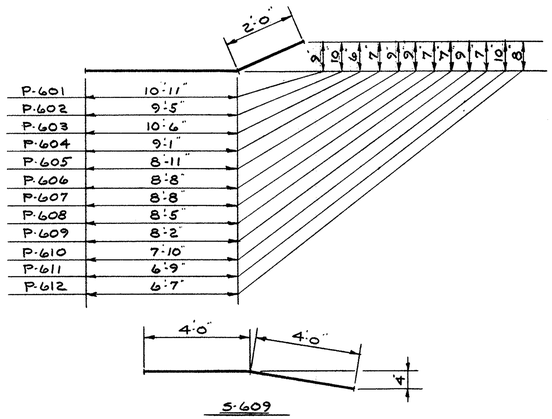
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(S)	

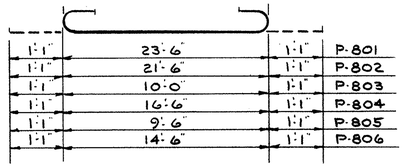
77
101

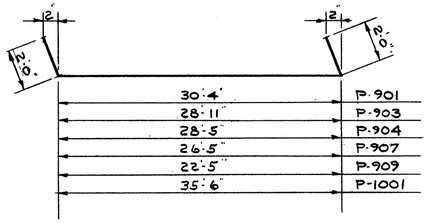
MARK	NO.	LENGTH	WEIGHT	SHAPE
	SLAB			
S-501	186	4'-7"	889	BT.
S-502	206	4'-9	1,021	BT.
S-503	206	2'-1"	448	BT.
S-504	103	5'-2"	555	BT.
S-505	206	1'-10"	394	BT.
S-506	103	4'-2"	448	BT.
S-601	864	35'-10"	46,502	ST.
S-602	414	28'-0"	17,411	BT.
S-603	207	40'-0"	12,437	BT.
S-604	37	36'-6"	2,020	ST.
SERIES OF S-605	1 SET OF 69 BARS	VARIES 30'-9"-36'-1" INC. 15/16	3,464	BT.
SERIES OF S-606	1 SET OF 69 BARS	VARIES 26'-1"-30'-8" INC. 13/16	2941	BT.
SERIES OF S-607	1 SET OF 69 BARS	VARIES 22'-1"-26'-0" INC. 1/16	2492	BT.
S-608	180	22'-0"	3,948	ST.
S-609	16	8'-0"	192	BT.
S-610	4	9'-6"	57	BT.
S-701	414	28'-0"	23,694	BT.
S-702	207	40'-0"	16,925	BT.
SERIES OF S-703	1 SET OF 69 BARS	VARIES 30'-9"-36'-1" INC. 15/16	4,713	BT.
SERIES OF S-704	1 SET OF 69 BARS	VARIES 26'-1"-30'-8" INC. 13/16	4,325	BT.
SERIES OF S-705	1 SET OF 69 BARS	VARIES 22'-1"-26'-0" INC. 1/16	3,391	BT.
TOTAL SLAB			150,276	
	RAILING *			
R-501	4	11'-10"		ST.
R-502	4	23'-9"		ST.
R-503	4	23'-1"		ST
R-504	4	12'-2"		ST.
R-505	8	11'-8"		ST.
R-506	56	16'-2"		ST.
R-507	8	11'-1"		ST.
R-508	2	11'-11"		BT.
R-509	4	13'-6"		BT.

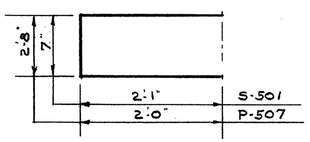
REPLACEMENT BAR SCHEDULE				
RE-501	2	5'-7"		ST.
RE-601	6	5'-11"		ST.
RE-701	4	6'-3"		ST.
RE-801	1	6'-6"		ST.
RE-901	1	6'-10"		ST.
RE-1001	1	7'-2"		ST.

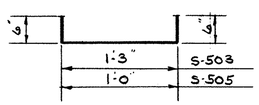


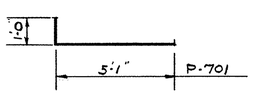












MARK	NO. OF BARS @ PIERS #1	#2	#3	#4	#5	#6	#7	#8	TOTAL	LENGTH	WEIGHT	SHAPE
P-501	37	35	34	31	35	33	30	31	266	8'-2"	2266	BT.
P-502	36								36	12'-0"	451	ST.
P-503					34				34	10'-0"	355	ST.
P-504		34				32			66	9'-3"	637	ST.
P-505			34				30		64	8'-3"	551	ST.
P-506				30				30	60	7'-0"	440	ST.
P-507	32	23	22	18	25	23	22	18	183	6'-6"	1241	BT.
SERIES OF P-508	SET OF 12								12	VARIES 6'-8"-13'-0" INC. 7"	123	BT.
SERIES OF P-509					SET OF 9				9	VARIES 6'-8"-12'-4" INC. 8 1/2"	89	BT.
SERIES OF P-510	SET OF 12								12	VARIES 6'-2"-13'-2" INC. 7 1/2"	121	BT.
SERIES OF P-511					SET OF 9				9	VARIES 6'-2"-12'-4" INC. 9 1/4"	87	BT.
SERIES OF P-512		SET OF 8				SET OF 8			16	VARIES 7'-10"-12'-6" INC. 8"	170	BT.
SERIES OF P-513		SET OF 8				SET OF 8			16	VARIES 6'-8"-12'-0" INC. 9"	156	BT.
SERIES OF P-514			SET OF 8				SET OF 8		16	VARIES 6'-6"-11'-4" INC. 9"	149	BT.
SERIES OF P-515			SET OF 8				SET OF 8		16	VARIES 5'-10"-11'-2" INC. 9"	142	BT.
SERIES OF P-516				SET OF 6				SET OF 6	12	VARIES 7'-0"-10'-6" INC. 8 1/2"	110	BT.
SERIES OF P-517				SET OF 6				SET OF 6	12	VARIES 6'-2"-10'-4" INC. 10"	103	BT.
P-601	2								2	12'-11"	39	BT.
P-602					2				2	11'-5"	34	BT.
P-603	2								2	12'-6"	38	BT.
P-604					2				2	11'-1"	33	BT.
P-605		2							2	10'-11"	33	BT.
P-606						2			2	10'-8"	32	BT.
P-607		2							2	10'-8"	32	BT.
P-608						2			2	10'-5"	31	BT.
P-609			2				2		4	10'-2"	61	BT.
P-610			2				2		4	9'-10"	59	BT.
P-611				2				2	4	8'-9"	53	BT.
P-612				2				2	4	8'-7"	52	BT.
P-613	2								2	35'-8"	107	ST.
P-614					2				2	30'-6"	92	ST.

MARK	NO. OF BARS @ PIERS #1	#2	#3	#4	#5	#6	#7	#8	TOTAL	LENGTH	WEIGHT	SHAPE
P-615	2								2	32'-0"	96	ST.
P-616					2				2	28'-3"	85	ST.
P-617	2								2	21'-8"	65	ST.
P-618					2				2	20'-7"	62	ST.
P-619		2							2	29'-1"	87	ST.
P-620						2			2	28'-7"	86	ST.
P-621		2	2				2		6	26'-4"	237	ST.
P-622						2			2	25'-10"	78	ST.
P-623			2				2		4	22'-4"	134	ST.
P-624			2				2		4	14'-6"	87	ST.
P-625				2				2	4	22'-7"	136	ST.
P-626		2		2				2	6	18'-6"	167	ST.
P-627						2			2	18'-0"	54	ST.
P-701	44	38	36	34	40	38	36	34	300	5'-11"	3628	BT.
P-702	14	10	10	8	12	10	10	8	82	20'-0"	3352	ST.
SERIES OF P-703	2 SETS OF 15								30	VARIES 33'-5"-34'-7" INC. 1"	2085	ST.
SERIES OF P-704					2 SETS OF 14				28	VARIES 31'-4"-32'-5" INC. 1"	1824	ST.
SERIES OF P-705		2 SETS OF 14							28	VARIES 30'-7"-31'-6" INC. 7/8"	1776	ST.
SERIES OF P-706						2 SETS OF 14			28	VARIES 28'-10"-29'-9" INC. 7/8"	1677	ST.
SERIES OF P-707			2 SETS OF 13						26	VARIES 29'-2"-30'-1" INC. 1"	1574	ST.
SERIES OF P-708							2 SETS OF 13		26	VARIES 26'-10"-27'-10" INC. 1"	1453	ST.
SERIES OF P-709				2 SETS OF 13					26	VARIES 26'-10"-27'-8" INC. 7/8"	1448	ST.
SERIES OF P-710								2 SETS OF 13	26	VARIES 26'-8"-27'-5" INC. 3/4"	1437	ST.
P-801	16								16	25'-8"	1,096	BT.
P-802					16				16	23'-8"	1,011	BT.
P-803	34	24			34	24			116	12'-2"	3768	BT.
P-804		12	12			12	12		48	18'-8"	2392	BT.
P-805			24	19			24	19	86	11'-8"	2679	BT.
P-806				12				12	24	16'-8"	1068	BT.
P-901					7				7	34'-0"	809	BT.
P-902					4				4	30'-4"	413	ST.
P-903		7							7	32'-7"	775	BT.
P-904						7			7	32'-1"	764	BT.
P-905		3							3	28'-11"	295	ST.
P-906						4			4	28'-5"	386	ST.
P-907			7				7		14	30'-1"	1432	BT.
P-908			4				4		8	26'-5"	718	ST.
P-909				7				7	14	26'-1"	1242	BT.
P-910				2				2	4	22'-5"	305	ST.
P-1001	7								7	39'-1"	1177	BT.
P-1002	6								6	35'-6"	917	ST.
TOTAL PIERS											50,762 #	

GRAND TOTAL 227,654 LBS.

NOTES:

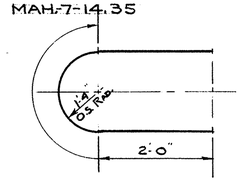
Superseded by Sheet 77A 5-24-61

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.

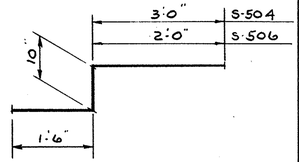
REPLACEMENT BARS: IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SECTION S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

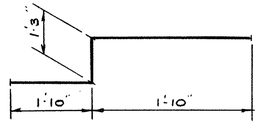
* RAILING BARS ARE INCLUDED WITH ITEM S-14 FOR PAYMENT.

MAH-7-14.35

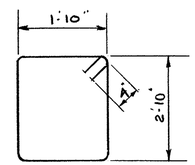


P-501

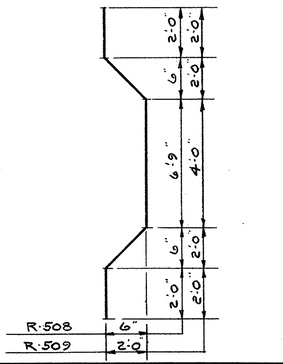




S-502



S-610



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 - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J K		HGH	JTM	12-16-60	

REINFORCING STEEL SCHEDULE

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

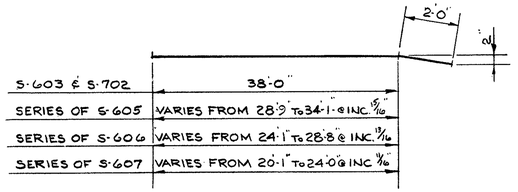
77A
101

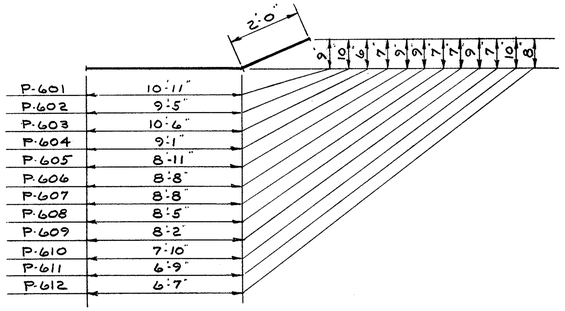
MAH-7-14.35

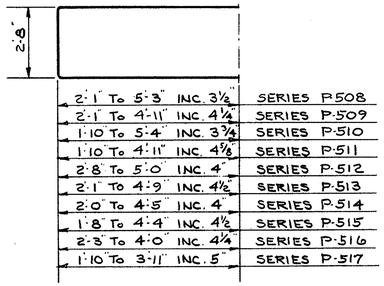
MARK	NO.	LENGTH	WEIGHT	SHAPE
	SLAB			
S-501	186	4'-7"	889	BT.
S-502	206	4'-9	1,021	BT.
S-503	206	2'-1"	448	BT.
S-504	103	5'-2"	555	BT.
S-505	206	1'-10"	394	BT.
S-506	103	4'-2"	448	BT.
S-601	864	35'-10"	46,502	ST.
S-602	414	28'-0"	17,411	BT.
S-603	207	40'-0"	12437	BT.
S-604	37	36'-6'	2,020	ST.
SERIES OF S-605	1 SET OF 69 BARS	VARIES 30'-9"-36'-1" INC. 15/16	3,464	BT.
SERIES OF S-606	1 SET OF 69 BARS	VARIES 26'-1"-30'-8" INC. 13/16"	2941	BT.
SERIES OF S-607	1 SET OF 69 BARS	VARIES 22'-1"-26'-0 INC. 11/16	2492	BT.
S-608	180	22'-0"	3,948	ST.
S-609	16	8'-0"	192	BT.
S-610	4	9'-6"	57	BT.
S-701	414	28'-0"	23,694	BT.
S-702	207	40'-0"	16,925	BT.
SERIES OF S-703	1 SET OF 69 BARS	VARIES 30'-9"-36'-1" INC. 15/16	4,713	BT.
SERIES OF S-704	1 SET OF 69 BARS	VARIES 26'-1"-30'-8" INC. 13/16	4,325	BT.
SERIES OF S-705	1 SET OF 69 BARS	VARIES 22'-1"-26'-0" INC. 11/16	3,391	BT.
TOTAL SLAB			150,276	

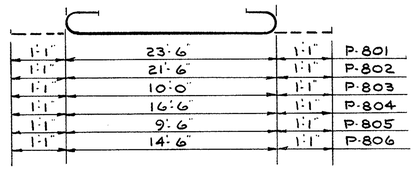
MARK	NO.	LENGTH	WEIGHT	SHAPE
	RAILING *			
R-501	4	11'-10"		ST.
R-502	4	23'-9"		ST.
R-503	4	23'-1"		ST
R-504	4	12'-2"		ST.
R-505	8	11'-8"		ST.
R-506	56	16'-2"		ST.
R-507	8	11'-1"		ST.
R-508	2	11'-11"		BT.
R-509	4	13'-6"		BT.

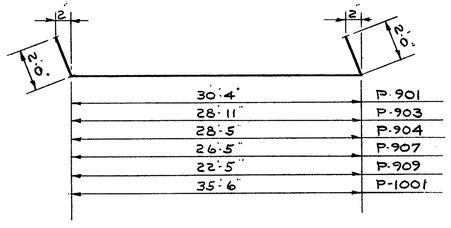
REPLACEMENT BAR SCHEDULE				
RE-501	2	5'-7"		ST.
RE-601	6	5'-11"		ST.
RE-701	4	6'-3"		ST.
RE-801	1	6'-6"		ST.
RE-901	1	6'-10"		ST.
RE-1001	1	7'-2"		ST.

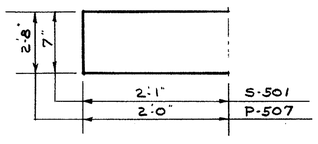


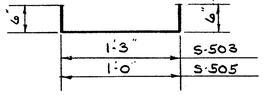


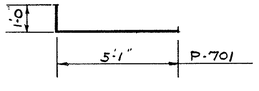












MARK	NO. OF BARS @ PIERS #1	#2	#3	#4	#5	#6	#7	#8	TOTAL	LENGTH	WEIGHT	SHAPE
P-501	37	35	34	31	35	33	30	31	266	8'-2"	2266	BT
P-502	36								36	12'-0"	451	ST.
P-503					34				34	10'-0"	355	ST.
P-504		34				32			66	9'-3"	637	ST.
P-505			34				30		64	8'-3"	551	ST.
P-506				30				30	60	7'-0"	440	ST.
P-507	32	23	22	18	25	23	22	18	183	6'-6"	1241	BT.
SERIES OF P-508	SET OF 12								12	VARIES 6'-8"-13'-0" INC. 7"	123	BT.
SERIES OF P-509					SET OF 9				9	VARIES 6'-8"-12'-4" INC. 8½"	89	BT.
SERIES OF P-510	SET OF 12								12	VARIES 6'-2"-13'-2" INC. 7⅛"	121	BT.
SERIES OF P-511					SET OF 9				9	VARIES 6'-2"-12'-4" INC. 9¼"	87	BT.
SERIES OF P-512		SET OF 8				SET OF 8			16	VARIES 7'-10"-12'-6" INC. 8"	170	BT.
SERIES OF P-513		SET OF 8				SET OF 8			16	VARIES 6'-8"-12'-0" INC. 9"	156	BT.
SERIES OF P-514			SET OF 8				SET OF 8		16	VARIES 6'-6"-11'-4" INC. 8"	149	BT.
SERIES OF P-515			SET OF 8				SET OF 8		16	VARIES 5'-10"-11'-2" INC. 9"	142	BT.
SERIES OF P-516				SET OF 6				SET OF 6	12	VARIES 7'-0"-10'-6" INC. 8½"	110	BT.
SERIES OF P-517				SET OF 6				SET OF 6	12	VARIES 6'-2"-10'-4" INC. 10"	103	BT.
P-601	2								2	12'-11"	39	BT.
P-602					2				2	11'-5"	34	BT.
P-603	2								2	12'-6"	38	BT.
P-604					2				2	11'-1"	33	BT.
P-605		2							2	10'-11"	33	BT.
P-606						2			2	10'-8"	32	BT.
P-607		2							2	10'-8"	32	BT.
P-608						2			2	10'-5"	31	BT.
P-609			2				2		4	10'-2"	61	BT.
P-610			2				2		4	9'-10"	59	BT.
P-611				2				2	4	8'-9"	53	BT.
P-612				2				2	4	8'-7"	52	BT.
P-613	2								2	35'-8"	107	ST.
P-614					2				2	30'-6"	92	ST.

MARK	NO. OF BARS @ PIERS #1	#2	#3	#4	#5	#6	#7	#8	TOTAL	LENGTH	WEIGHT	SHAPE
P-615	2								2	32'-0"	96	ST.
P-616					2				2	28'-3"	85	ST.
P-617	2								2	21'-8"	65	ST.
P-618					2				2	20'-7"	62	ST.
P-619		2							2	29'-1"	87	ST.
P-620						2			2	28'-7"	86	ST.
P-621		2	2				2		6	26'-4"	237	ST.
P-622						2			2	25'-10"	78	ST.
P-623			2				2		4	22'-4"	134	ST.
P-624			2				2		4	14'-6"	87	ST.
P-625				2				2	4	22'-7"	136	ST.
P-626		2		2				2	6	18'-6"	167	ST.
P-627						2			2	18'-0"	54	ST.
P-701	44	38	36	34	40	38	36	34	300	5'-11"	3,628	BT.
P-702	14	10	10	8	12	10	10	8	82	20'-0"	3,352	ST.
SERIES OF P-703	2 SETS OF 15								30	VARIES 33'-5"-34'-7" INC. 1"	2085	ST.
SERIES OF P-704					2 SETS OF 14				28	VARIES 31'-4"-32'-5" INC. 1"	1824	ST.
SERIES OF P-705		2 SETS OF 14							28	VARIES 30'-7"-31'-6" INC. 7/8"	1776	ST.
SERIES OF P-706						2 SETS OF 14			28	VARIES 28'-10"-29'-9" INC. 7/8"	1677	ST.
SERIES OF P-707			2 SETS OF 13						26	VARIES 29'-2"-30'-1" INC. 1"	1574	ST.
SERIES OF P-708							2 SETS OF 13		26	VARIES 26'-10"-27'-10 INC. 1"	1453	ST.
SERIES OF P-709				2 SETS OF 13					26	VARIES 26'-10"-27'-8" INC. 7/8"	1448	ST.
SERIES OF P-710								2 SETS OF 13	26	VARIES 26'-8"-27'-5" INC. 3/4"	1437	ST.
P-801	16								16	25'-8"	1,096	BT.
P-802						16			16	23'-8"	1,011	BT.
P-803	34	24			34	24			116	12'-2"	3768	BT
P-804		12	12			12	12		48	18'-8"	2392	BT
P-805			24	19			24	19	86	11'-8"	2679	BT.
P-806				12				12	24	16'-8"	1068	BT.
P-901					7				7	34'-0"	809	BT.
P-902					4				4	30'-4"	413	ST.
P-903		7							7	32'-7"	775	BT.
P-904						7			7	32'-1"	764	BT.
P-905		3							3	28'-11"	295	ST.
P-906						4			4	28'-5"	386	ST.
P-907			7				7		14	30'-1"	1432	BT.
P-908			4				4		8	26'-5"	718	ST.
P-909				7				7	14	26'-1"	1242	BT.
P-910				2				2	4	22'-5"	305	ST.
P-1001	7								7	39'-1"	1177	BT.
P-1002	6								6	35'-6"	917	ST.
TOTAL PIERS											50,762 #	

GRAND TOTAL 233,219 LBS.

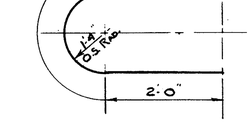
This sheet supersedes Sheet 77 5-24-61.

NOTES:

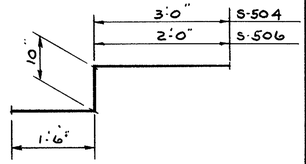
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-501 IS A NO. 5 SIZE BAR AND P-1101 IS A NO. 11 SIZE BAR.

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.

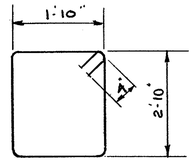
* RAILING BARS ARE INCLUDED WITH ITEM S-14 FOR PAYMENT.



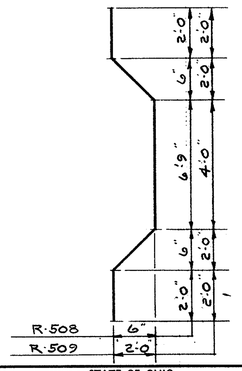
P-501



S-502



S-610



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

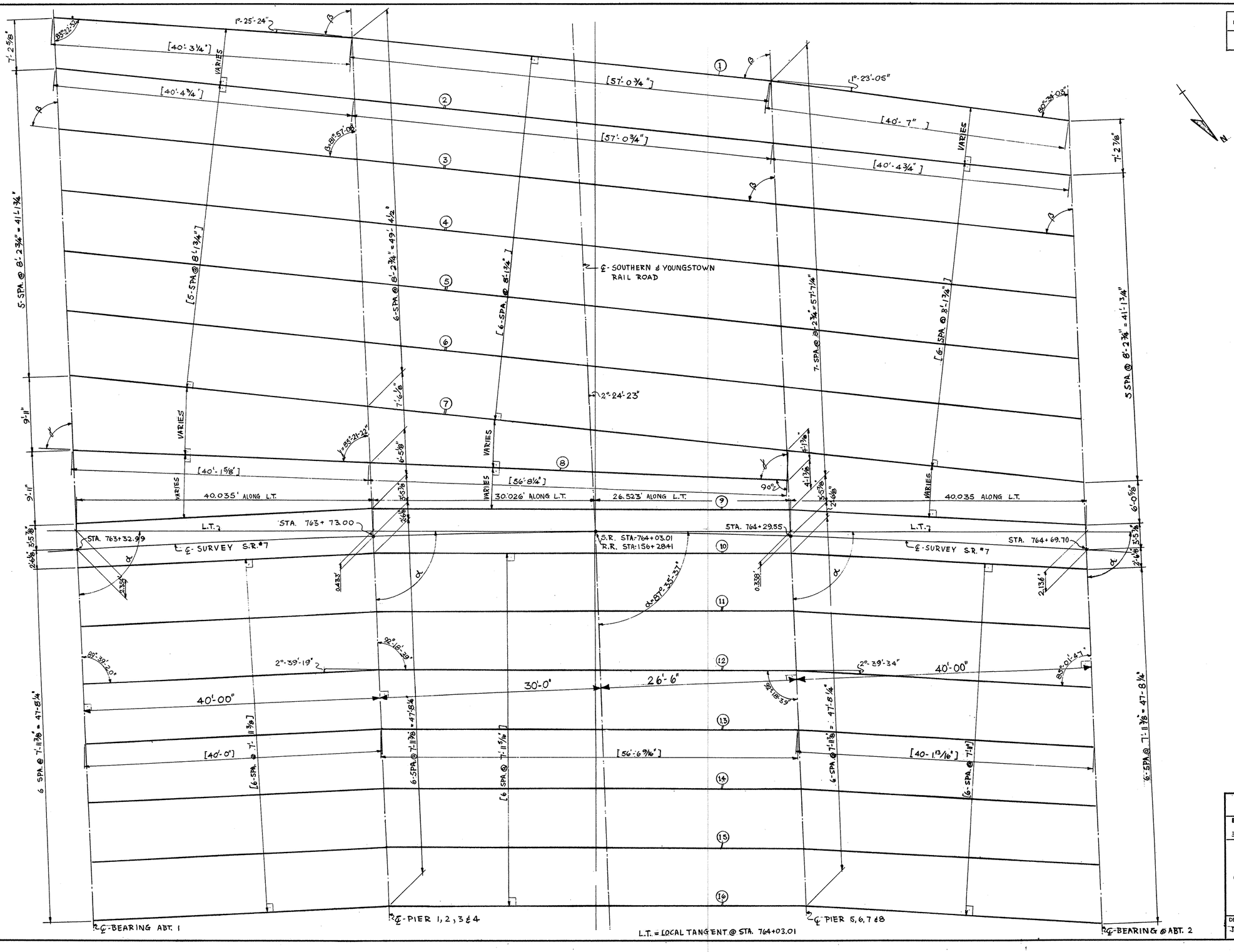
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J K		HGH	JTM	12-14-60	

FED. RD.	STATE	PROJECT	
Z	OHIO	I-680-9(5)	

MAH.-7-14.35

78
101



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GEOMETRICS

BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.P.	J.P.		Com 7/26/60	J.T.M.	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

79
101

℄ ABUTMENT #1 BEARINGS

21'-7 9/16"
2'-11 15/16"
18'-7 5/8"
7'-6 3/8"
2'-3"
1'-6"
6°00'-23"
℄ PILES
PILE CUT OFF EL. 975.84
PILE CUT OFF EL. 965.36
10-SP15 @ 4'-1 1/8" = 41'-1 3/4"
4-SP5 @ 4'-11 1/2" = 19'-10"
2'-4 1/4"
1'-1 3/8"
STA. 763+32.99
LOCAL TANGENT
℄ SURVEY S.R. #7
87°38'-33" TYPICAL
3-SP5 @ 5'-3 3/16" = 15'-9 9/16"
4-SP5 @ 7'-11 3/8" = 31'-9 1/2"
8'-4 7/16"
2'-3"
6"
3°19'-16"

℄ PIERS #1 - #4

3'-9" 3'-9"
PIER #1 PILE CUT OFF EL. 942.50
3-SP5 @ 5'-6" = 16'-6"
33'-7 1/8"
49'-10 13/16"
PIER #2 PILE CUT OFF EL. 942.50
4'-0" 4'-0" 4'-0" 4'-0"
16'-3 3/16"
40'-0 7/16"
℄ SOUTHERN AND YOUNGSTOWN RAIL ROAD
30'-0 5/16"
STA. 763+73.00
SR. STA. 764+03.01
R.R. STA. 156+28.41
87°35'37"
PIER #3 PILE CUT OFF EL. 942.00
3'-6" 3'-6" 3'-6" 3'-6" 3'-6"
14'-10 3/16"
40'-8 1/2"
25'-10 1/8"
PIER #4 PILE CUT OFF EL. 942.00
6" 4'-6" 4'-0" 3'-6" 3'-6" 3'-6"

℄ PIERS #5 - #8

3'-9" 3'-9"
PIER #5 PILE CUT OFF EL. 946.00
3 @ 3'-2" = 9'-6"
30'-9 3/8"
46'-10 7/16"
PIER #6 PILE CUT OFF EL. 946.00
3'-0" 3'-0" 3'-0" 4'-0"
16'-0 3/16"
40'-0 7/16"
26'-6 1/4"
STA. 764+29.55
PIER #7 PILE CUT OFF EL. 946.00
3'-6" 3'-6" 3'-6" 3'-6"
14'-9 3/4"
40'-7 7/8"
25'-10 1/8"
PIER #8 PILE CUT OFF EL. 944.00
6" 4'-6" 4'-0" 3'-6" 3'-6" 3'-6"

℄ ABUTMENT #2 BEARINGS

1'-0"
2'-3"
17'-9 1/2"
14'-10 3/16"
5'-11"
10°7'-27"
PILE CUT OFF EL. 978.83
℄ PILES
11 5/16"
1 3/16"
8 7/16"
PILE CUT OFF EL. 970.83
10-SP5 @ 4'-1 1/8" = 41'-1 1/4"
6'-0 3/8"
1'-4 1/2"
DIMENSIONS ALONG LOCAL TANGENT
LOCAL TANGENT ℄ @ STA. 764+03.01
℄ SURVEY S.R. #7
STA. 764+69.70
2'-1 3/16"
3-SP5 @ 5'-3 3/16" = 15'-10 1/4"
4-SP5 @ 7'-11 3/8" = 31'-9 1/2"
PILE CUT OFF EL. 969.50
3 1/16"
6°24'02"
6"
2'-3"
8'-0 7/8"

NOTE: ALL PILES TO BE 12 BP 53 STEEL PILES.

↤ INDICATES 1:4 BATTERED PILES.

PILING PLAN

Superseded by Sheet 79A 5-24-61

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PILING PLAN

BRIDGE № MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. № 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		EAK	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)	

MAH.-7-14.35

79A
101

℄ ABUTMENT #1 BEARINGS

21'-7 9/16"
2'-11 15/16"
18'-7 5/8"
4'-3"
3'-6"
7'-6 3/8"
6°00'-23"
℄ PILES
PILE CUT OFF EL. 975.84
PILE CUT OFF EL. 965.36
10-50#S @ 4'-1 1/8" = 41'-1 1/4"
4-50#S @ 4'-11 3/8" = 19'-10"
3'-9"
2'-6"
2'-4 1/4"
STA. 763+32.99
LOCAL TANGENT — ℄
℄ SURVEY S.R. #7
87°35'-37" TYPICAL
3-50#S @ 5'-3 7/16" = 15'-10 3/4"
4-50#S @ 7'-11 3/8" = 31'-9 1/2"
PILE CUT OFF EL. 965.17
8'-4 7/16"
2'-0"
3°19'-16"
1'-1 5/8"

℄ PIERS #1 - #4

PIER #1
PILE CUT OFF
EL. 942.50
3-50#S @ 10'-6" = 31'-6"
3'-9" 3'-9"

PIER #2
PILE CUT OFF
EL. 942.50
4-50#S @ 10'-6" = 42'-0"
33'-7 1/2"
49'-10 15/16"
16'-3 7/16"
3'-0" 4'-0" 4'-0" 4'-0"

℄ SOUTHERN AND YOUNGSTOWN RAIL ROAD

40'-0 7/16"
30'-0 5/16"
SR STA. 764+03.01
R.R. STA. 156+28.41
STA. 763+73.00
5 3/4"

PIER #3
PILE CUT OFF
EL. 942.00
3'-6" 3'-6" 3'-6" 3'-6"
14'-10 3/8"
40'-8 1/2"

PIER #4
PILE CUT OFF
EL. 942.00
3'-6" 4'-6" 4'-0" 4'-0" 4'-0"
25'-10 1/8"
3'-6" 4'-6"

℄ PIERS #5 - #8

PIER #5
PILE CUT OFF
EL. 946.00
3-50#S @ 9'-6" = 28'-6"
3'-9" 3'-9"
30'-9 5/8"
46'-10 7/16"
3'-0" 4'-0" 4'-0" 4'-0"

PIER #6
PILE CUT OFF
EL. 946.00

26'-6 1/4"
STA. 764+29.55
4 1/2"

PIER #7
PILE CUT OFF
EL. 946.00
3'-6" 3'-6" 3'-6" 3'-6"
14'-9 1/4"
40'-7 7/8"

PIER #8
PILE CUT OFF
EL. 944.00
3'-6" 4'-6" 4'-0" 4'-0" 4'-0"
25'-10 1/8"
3'-6" 3'-6"

℄ ABUTMENT #2 BEARINGS

2'-6" 4'-9"
17'-9 1/2"
14'-10 3/16"
5'-11"
10°07'-27"
PILE CUT OFF EL. 978.83
℄ PILES
PILE CUT OFF EL. 970.83
3-50#S @ 7'-2 7/8" = 21'-8 5/8"
10-50#S @ 4'-1 1/8" = 41'-1 1/4"
1'-0" 4'-9"
DIMENSIONS ALONG LOCAL TANGENT
LOCAL TANGENT — ℄ @ STA. 764+03.01
℄ SURVEY S.R. #7
STA. 764+69.70
2'-1 3/8"
3°51'-36" = 15'-10 3/8"
8-50#S @ 3'-11 7/8" = 31'-9 1/2"
PILE CUT OFF EL. 969.50
6°24'02"
1'-0" 3'-9"
4'-0 7/8"

NOTE: ALL PILES TO BE 12 B.P. 53 STEEL PILES.

← INDICATES 1:4 BATTERED PILES.

PILING PLAN

This sheet supersedes Sheet 7A 5-24-61

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

PILING PLAN

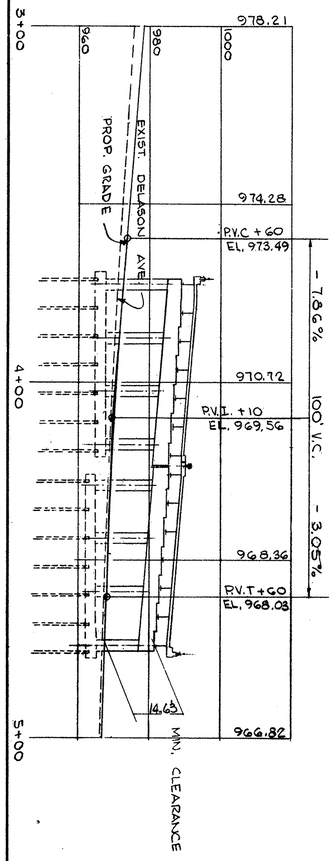
BRIDGE Nº MAH - 7 - 1445
OVER YOUNGSTOWN & SOUTHERN RAILROAD
MAHONING CO. S.R. Nº 7
STA. 764 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	JK		EAK	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-3(6) 2.24	

80
101

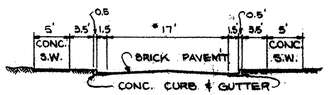
MAH-7-14.35



RAMP B
CURVE DATA
Δ 16° 21' 00"
D 3°
L 545.00'
T 274.36'

℄ CURVE DATA
Δ_s 89° 50' 18"
T_s 1244.937
θ_s 11°
L_s 400.00'
Δ_c 67° 80' 18"
D_c 5° 30'
R_c 1041.74'
L_c 1233.42'
E_s 438.46'

DELASOU AVE.
CURVE DATA
P.I. STA 3+99.75
Δ = 41°-36'-30"
R = 265.00'
T = 100.69'
L = 192.44'
E = 18.48'



TYPICAL SECTION
EXIST. DELASOU @ INTERSECTION
* ROADWAY WIDTH VARIES

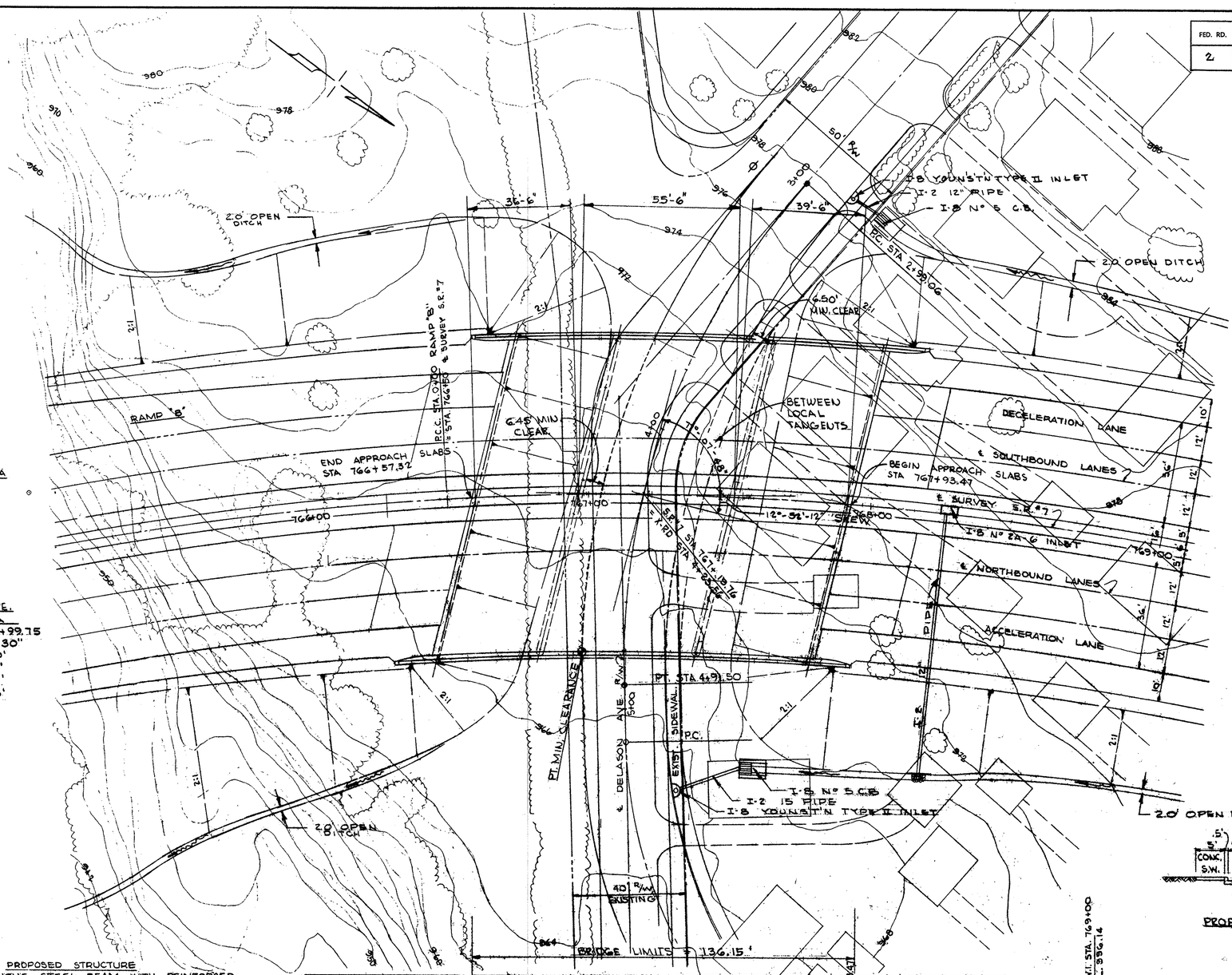
FOUNDATION SOUNDINGS

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.

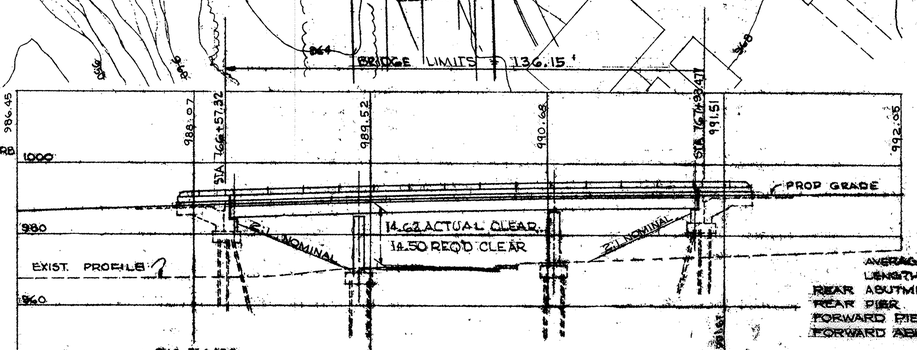
PROPOSED STRUCTURE

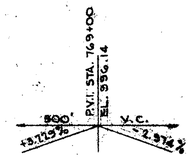
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURES,
SPANS: 36'-6" 55'-6" 39'-6" ℄/℄ BEARINGS
SKEW: 12° 52' 12" LF
ROADWAY: 112'-0" F/F PARAPETS (RADIAL) WITH 6' MEDIAN CURB
LOAD FREQUENCY: CF 2000 ADEQUATE A.A.S.H.O. OR ALTERNATE
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG AS-1-54
ALIGNMENT: 5° 30' CURVE RT.
SUPERELEVATION: 0.0833 ft/ft

SLOPE PROTECTION: I-10 CONCRETE SLAB
X-RD. TRAFFIC COUNT: (A.D.T. 1979) = 5618



TYPICAL SECTION
PROPOSED DELASOU @ INTERSECTION
* ROADWAY WIDTH VARIES





AVERAGE ESTIMATED PAY LENGTH FOR PILES:

REAR ABUTMENT	26'
REAR PIER	17'
FORWARD PIER	17'
FORWARD ABUT.	21'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

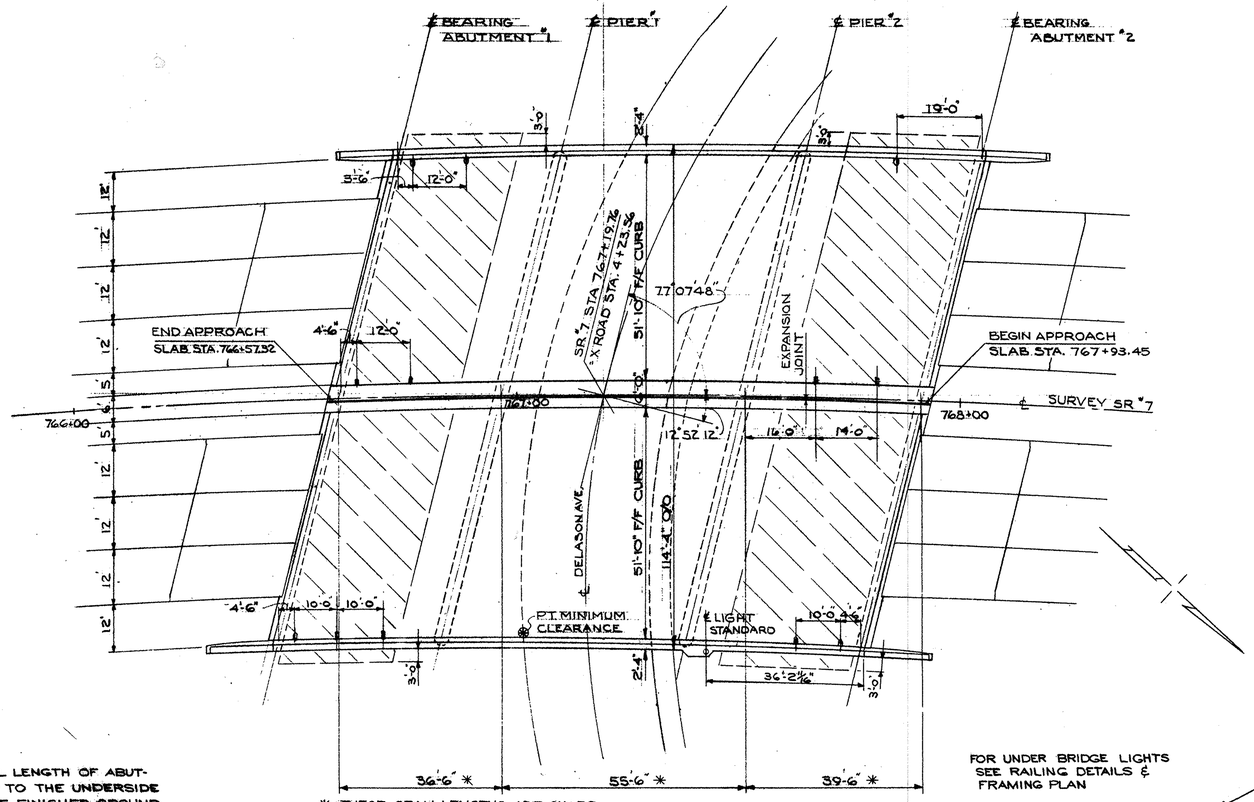
SITE PLAN
BRIDGE NO. MAH-7-1652
STRUCTURE OVER DELASOU AVE.
YOUNGSTOWN MAHONING COUNTY
STA. 766+57.32 TO STA. 767+93.47

DESIGNED	DRAWN	TRACED	CHECKED	QUANTITIES	DATE	REVISED
D.L.	D.S. E.G.		D.S.	J.T.H.	12-76	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

81/101

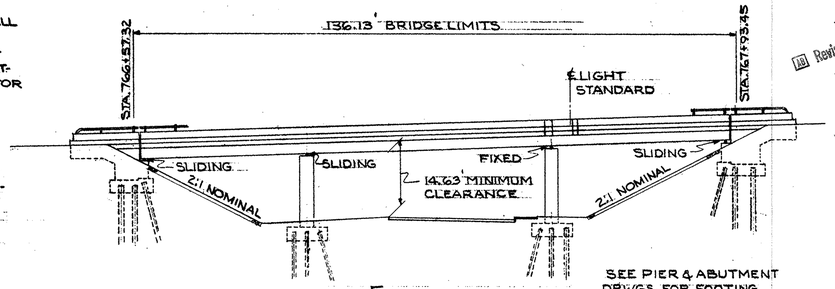
MAH.-7-14.35.



* THESE SPAN LENGTHS ARE CHORD DISTANCES ON THE CENTERLINE OF SURVEY CURVE

PLAN

FOR UNDER BRIDGE LIGHTS SEE RAILING DETAILS & FRAMING PLAN



— ELEVATION —

SEE PIER & ABUTMENT DRWGS. FOR FOOTING ELEVATIONS.

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.

WELDING 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.

CONCRETE SLOPE PAVING: SLOPE PAVING NOT LESS THAN 6" THICK SHALL BE PLACED ON AREA INDICATED AT THE ABUTMENT IN ACCORDANCE WITH ITEM 1-10.05

EXCAVATION QUANTITY: EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL BETWEEN THE SURFACE OF THE PROPOSED EMBANKMENT AND THE BOTTOM OF FOOTINGS.

PILING: 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.

FOR THE ABUTMENT PILES:
50 TONS PER PILE USING A 11,000 FT. LB. HAMMER.
45 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER.

FOR THE PIER PILES:
55 TONS PER PILE USING A 11,000 FT. LB. HAMMER
50 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER.

IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATING AS SHOWN ABOVE; THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS 35 TONS PER PILE FOR THE ABUTMENT AND PIER PILES.

ELECTRICAL GROUNDS: A STRANDED N°0 GAGE BARE COPPER WIRE ELECTRICAL GROUND SHALL BE EMBEDDED IN THE OUTSIDE COLUMN ON BOTH SIDES OF THE STRUCTURE AT PIER N°2. THE LOWER ENDS 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 & 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 STRANDED COPPER WIRE IN THE PIER COLUMN. THERE SHALL BE A TINNED N°6 GAGE BARE COPPER WIRE BRAZED TO A ANCHOR BOLT OF THE 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."

(1) ITEM S-25 INCLUDES; 4 EXPANSION FITTINGS, 4-1" DIA. ANCHOR BOLTS & TWO GALV. CAST IRON JUNCTION BOXES, GROUND AND ONE BRIDGE STANDARD, 27'-0" POLE WITH 10'-0" BRACKET, AND 1¼ METAL CONDUIT (INCLUDING FITTINGS)

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AR-1-57 DATED 2-2-59 FOR ALUMINUM RAILING.
CSB-2-56 SHEETS "2.5" "5 DATED 2-2-59.
I-15 N° 2 DATED 8-17-60 FOR CENTER GUARD RAIL DETAILS
ALSO SUPPLEMENTAL SPECIFICATIONS. S-101 DATED 12-2-59, AND M-206.14 DATED 7-15-49

GENERAL NOTES (cont)

POROUS BACKFILL: - 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WINGS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.

PAINTING: AFTER ERECTION AND AFTER THE SHOP COAT HAS BEEN CLEANED, AND WHERE NECESSARY, RE-PAINTED IN ACCORDANCE WITH SECTION 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 THE BOTTOM FLANGE.

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' BACK OF THE ABUTMENT, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE PIERS AND ABUTMENTS.

(2) ITEM S-25 INCLUDES TWO LUMINAIRE 7,000 LUMEN TYPE V; 250 LIN. FT #8-1000 VOLT SEC. SINGLE COND. CABLE; ONE LUMINAIRE 21,500 LUMEN TYPE III; 330 LIN. FT. #4-600 VOLT GRD. GRID SINGLE COND. CABLE; 420 LIN. FT. #6-5,000 VOLT LIGHTING SINGLE COND. CABLE. THIS IS A NON-PARTICIPATING ITEM BY THE BUREAU OF PUBLIC ROAD AND THE STATE OF OHIO.

S-25	315	LIN. FT.	2" ASBESTOS-CEMENT CONDUIT	
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM	(1)
S-25	LUMP	SUM	ELECTRICAL LIGHTING SYSTEM	(2)

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERST.	ABUTS.	PIERS	GEN.	
								As Built
E-2	1114	CU. YDS.	UNCLASSIFIED EXCAVATION		827	287		
	964.39							CO-18
I-10	866	SQ. YDS.	CONCRETE SLOPE PROTECTION				866	+98.59
S-1	464	CU. YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE	464				
S-1	244	CU. YDS.	CLASS "E" CONCRETE ABUTS. ABOVE FOOTINGS		244			
S-1	166	CU. YDS.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS			166		
S-1	312	CU. YDS.	CLASS "E" CONCRETE PIER & ABUT. FOOTINGS		179	133		
S-3	61	LIN. FT.	WATERPROOFING, PREMOLDED SEALING STRIP		61			
S-4	212,009	LBS.	REINFORCING STEEL	142,215	19,285	50,509		
S-7	343,529	LBS.	STRUCTURAL STEEL	343,529				
S-8	343,529	LBS.	FIELD PAINTING OF STRUCTURAL STEEL AS PER PLAN	343,529				
S-9	68.5	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		68.5			
S-14	3153	LIN. FT.	RAILING (ALUM. RAIL & SUPPORTS, CONC. PARAPETS)	2668	485			
S-14	133.4	LIN. FT.	GUARD RAIL STL. BEAM TYPE (DEEP) BARRIER DESIGN	133.4				
S-16	LUMP	SUM	FIRST TEST PILE					CO-6
S-18	2540	LIN. FT.	12" BP 53 STEEL "H" PILES (2997.2 Lin. Ft.)		1600	910		+457.2
S-29	12	EACH	SCUPPERS	12				
S-29	84	CU. YDS.	POROUS BACKFILL		84			

Revised As-Built

Revised As-Built

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 N° MAH - 7 - 1452
Revised As-Built
OVER DELASON AVE.
MAHONING CO. S.R. N° 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	JLH		CW	JTM	12-16-60	

Revised As-Built VLA ~ 6-11-63

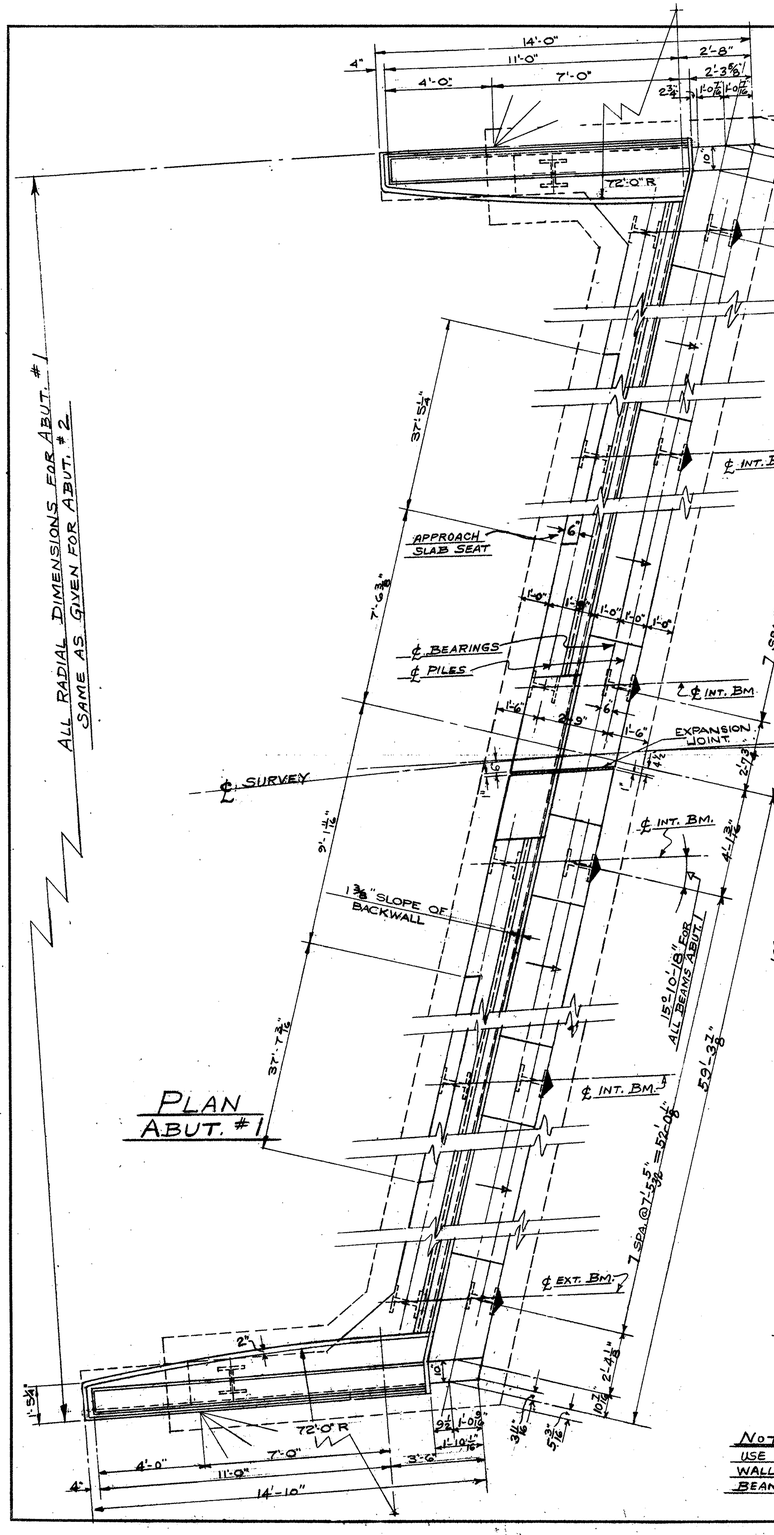
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

MAH-7-14.35

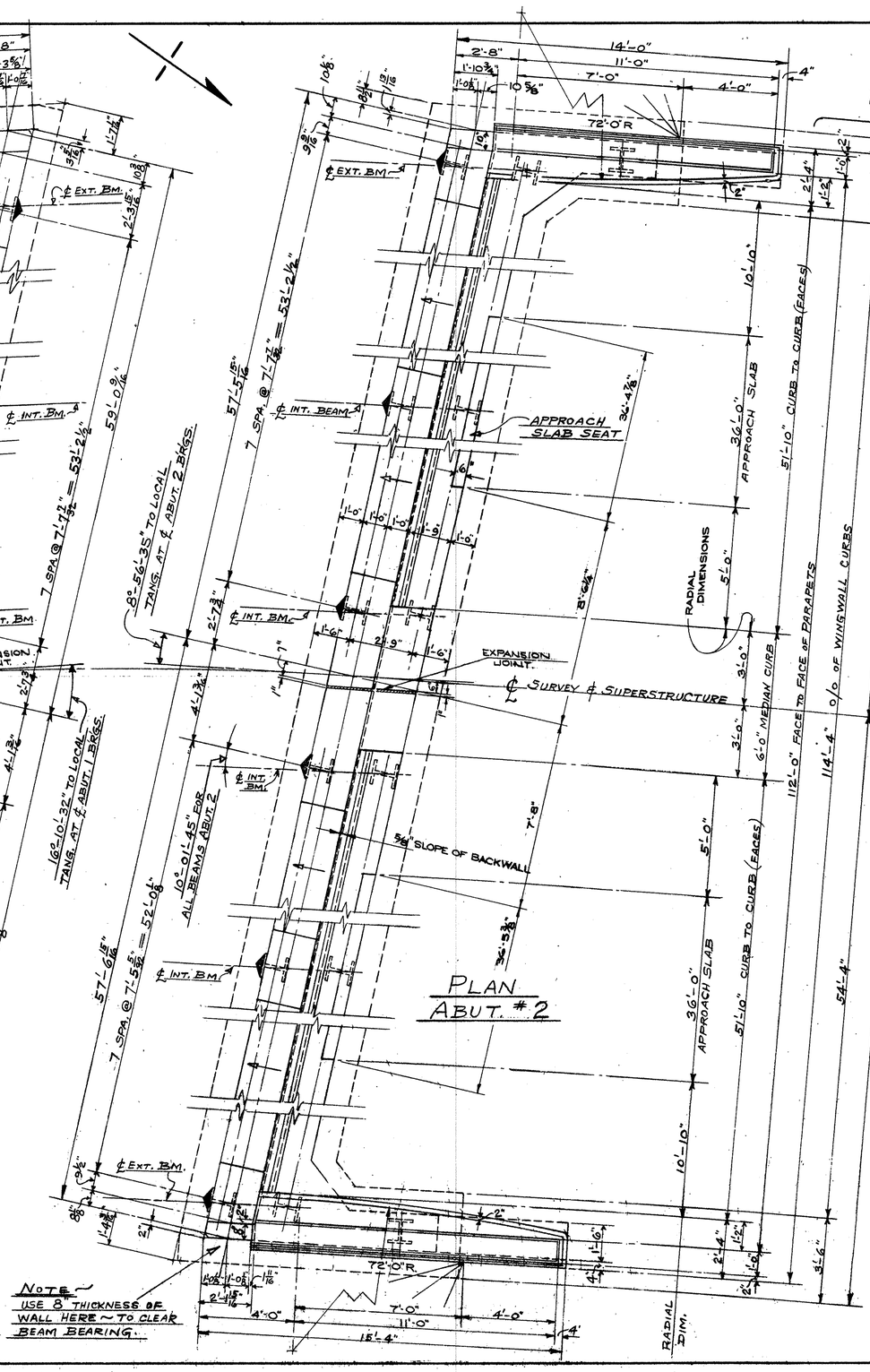
82
101

ALL RADIAL DIMENSIONS FOR ABUT. #1 SAME AS GIVEN FOR ABUT. #2

PLAN ABUT. #1



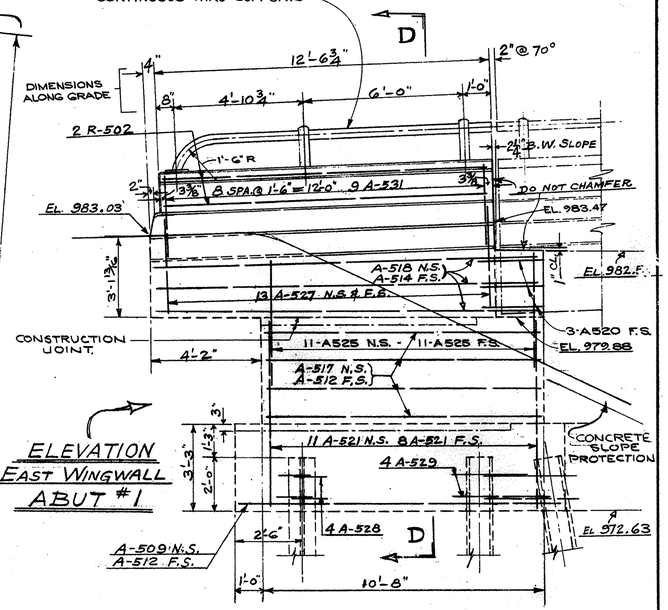
PLAN ABUT. #2



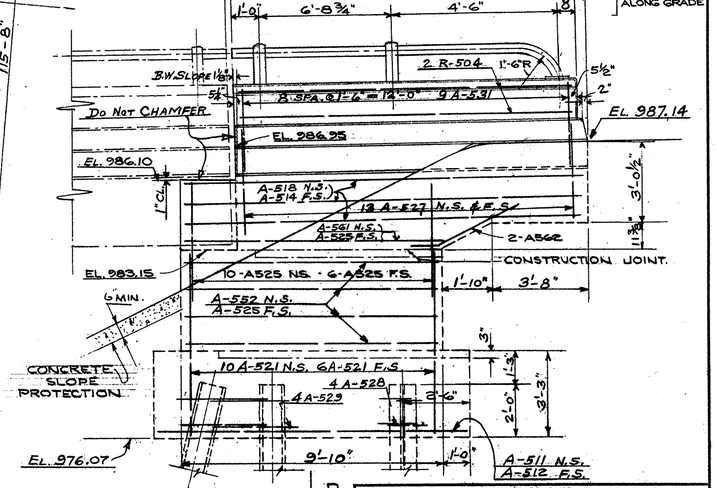
NOTE
USE 8 THICKNESS OF WALL HERE ~ TO CLEAR BEAM BEARING.

ALUMINUM RAILING SHALL BE CONTINUOUS THRU SUPPORTS

ELEVATION EAST WINGWALL ABUT #1



ELEVATION EAST WINGWALL ABUT. #2



ALL REINFORCING SHALL HAVE A 3" MIN COVER WHEN BEARING ON EARTH. ALL OTHER REINFORCING STEEL SHALL HAVE A 2" MIN. COVER EXCEPT WHERE 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

ABUTMENT Nº 1 & 2 DETAILS

BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE.
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hager		CW	JTH	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5) 224	

MAH-7-14.35

83
101

56'-7"

RADIAL DIMENS.

2'-4" | 10'-10" | 36'-0" (APPROACH SLAB SEAT) | 5'-0" | 2'-8"

2" | 1'-0" | 1'-0" | 2" | 3/4" | 3/4"

12 A-601 @ 1'-0" | 1'-0" | 17-A-602 @ 1'-0" | 21-A-602 @ 1'-0" | 1'-0" | 8 A-601 @ 1'-0"

CONCRETE ABOVE THIS LINE SHALL BE PAID FOR AS PART OF ITEM S-14 (RAILINGS)

G

EL 983.38 AT HEEL OF ANGLE

A-511 F.S.

A-504 N.S. & F.S.

EL 982.53 (LEVEL)

EAST

EL 979.88

EL 980.54

EL 981.21

EL 981.87

A-507 NS. & F.S.

1'-6" LEVEL (TYP.)

1'-6" 3/4" SLOPE TO FACE OF ABT. (TYP.)

CONTRACTION JOINT SEE SECTION X-X

F

EL 982.53

EL 983.20

A-502 N.S. & F.S.

EL 983.86

EL 988.24 AT HEEL OF ANGLE

A-512 F.S.

EL 984.53

A-507 N.S.

A-520 F.S.

EXPANSION JOINT

A-508 F.S.

A-515 N.S.

A-509 N.S.

A-511 F.S.

A-502 N.S. & F.S.

A-505 N.S. & F.S.

A-504 N.S. & F.S.

5 A-530 @ 8" TYP. UNDER BEAM SEATS

7-A-520

10 A-521 @ 1'-0" N.S. & F.S.

7 A-522 @ 1'-0" N.S. & F.S.

8 A-523 @ 1'-0" N.S. & F.S.

5A-524 @ 1'-0" N.S.

4A-524 @ 1'-0" F.S.

9 A-521 @ 1'-0" N.S.
7-A-521 @ 1'-0" F.S.

7 A-522 @ 1'-0" N.S. & F.S.

8 A-523 @ 1'-0" N.S. & F.S.

5 A-524 @ 1'-0" N.S. & F.S.

2-A503 N.S. & F.S.

2-A-503

A520 F.S.

EL. 972.63

A-501 N.S. & F.S.

EL 974.92

A-501 N.S. & F.S.

2:0

12

12

G

F

29'-8"

30'-0 13/16"

59'-8 13/16"

DIMENSIONS GIVEN ON FRONT FACE OF FOOTING

ALUMINUM RAIL SHALL BE CONTINUOUS THRU SUPPORTS

E

11'-3"

2"@7 0"

1'-0" | 4'-10" | 4'-9" | 8"

DIMENSIONS ALONG GRADE

2 R-501

DO NOT CHAMFER

1½"

6 SPA. @ 1'-9" = 10'-6"

7 A-531

EL 992.08

EL 991.20

EL 991.76

1" CL

3'-3½"

C

C

A-519 N.S.
A-513 F.S.

3A-520 F.S.

12 A-527 N.S. & F.S.

B

B

EL 988.44

2¼" B.W. SLOPE

CONSTRUCTION JOINT

EL 988.44

9 A-525 NS. 8 A-525 F.S.

5'-0"

A-516 N.S.
A-526 F.S.

CONCRETE SLOPE PROTECTION

A

A

3"

9 A-523 N.S. 5 A-523 F.S.

4 A-529

4 A-526

2'-0"

1'-3"

3'-3"

EL. 979.63

E

A-514 N.S.
A-512 F.S.

9'-0"

1'-0"

ELEVATION
WEST WINGWALL
ABUT. #1

57'-8"

3'-6" | 5'-0" | 36'-0" (APPROACH SLAB SEAT) | 5'-0" ROUNDING | 5'-10" | 2'-4"

RADIAL DIMENS.

6" | 3'-0"

9 A-601 @ 1'-0" | 1'-0" | 22-A-602 @ 1'-0" | 16-A-602 @ 1'-0" | 1'-0" | 10 A-601 @ 1'-0"

2" | 1'-0" | 1'-0" | 2"

℄ SUPERSTRUCTURE

K

EL 988.29 AT HEEL OF ANGLE

CONTRACTION JOINT SEE SECTION "X-X"

H

EL 992.05 AT HEEL OF ANGLE

EL 992.20 AT HEEL OF ANGLE

EL 992.06 AT HEEL OF ANGLE

A-511 F.S.

A-502 N.S. & F.S.

A-504 N.S. & F.S.

EL 988.65

EL 988.44

EL 987.97

EL 987.30

1'-6" LEVEL (TYR)

1'-6" 3/4" SLOPE TO FACE OF ABUT. (TYA)

A-502 N.S. & F.S.

A-513 F.S.

A-513 F.S.

EL 985.96

EL 986.63

A-507 NS. & F.S.

EL 985.29

A-504 N.S. & F.S.

EL 984.62

1" EXPANSION JOINT

A-509 N.S.

A-508 F.S.

A-564 N.S.

9-A-520 F.S.

A-509 N.S. & F.S.

A-502 N.S. & F.S.

5 A-530 @ 8" TYP. UNDER BEAM SEATS

2-A-521 NS. & F.S.

A-504 N.S. & F.S.

8 A-522 @ 1'-0" N.S. & F.S.

8 A-523 @ 1'-0" N.S. & F.S.

11 A-523 @ 1'-0" N.S.
8-A-523 @ 1'-0" F.S.

9 A-521 @ 1'-0" N.S.
10-A-521 @ 1'-0" F.S.

8 A-522 @ 1'-0" N.S. & F.S.

7 A-523 @ 1'-0" N.S. & F.S.

6 A-524 @ 1'-0" N.S. & F.S.

A-520 F.S.

A-503 NS. & F.S.

4 A-529 AT EACH PAIR OF PILES

EL 979.63

A-501 N.S. & F.S.

EL 977.29

A-501 N.S. & F.S.

2'-0"

2'-0"

K

H

29'-6"

31'-0 7/8"

1"

60'-6 7/8"

DIMENSIONS GIVEN ON FRONT FACE OF FOOTING

ELEVATION OF ABUT. #1

12" x ½" PREMOLDED SEALING STRIP IN 13" x ¾" RECESS

1" THICKNESS OF PREFORMED EXPANSION JOINT FILLER

FACE OF ABUTMENT

EXPANSION JOINT DETAILS

12" x ½" PREMOLDED SEALING STRIP IN 13" x ¾" RECESS

WALL

DETAIL OF CONTRACTION JOINT

SEC. X-X

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

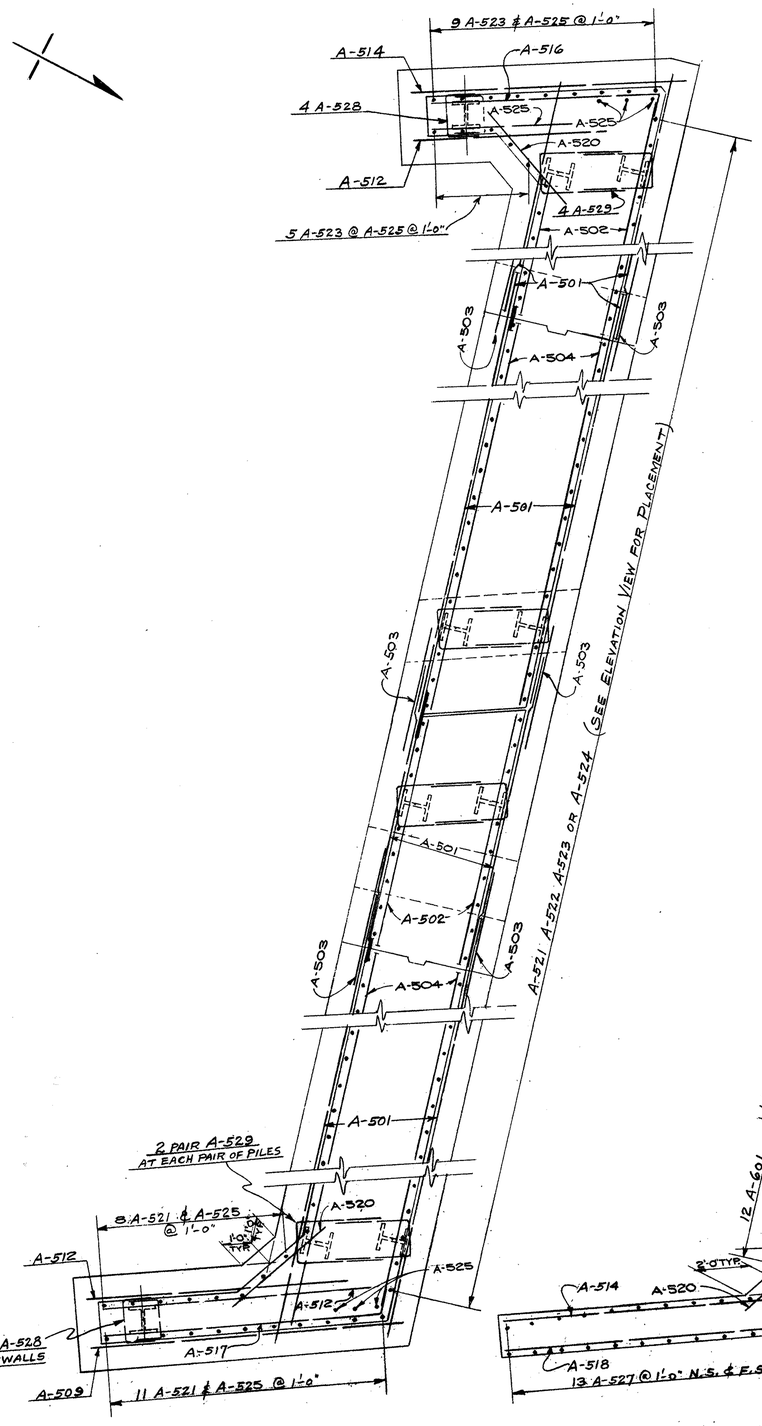
ABUTMENT Nº 1 DETAILS

BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

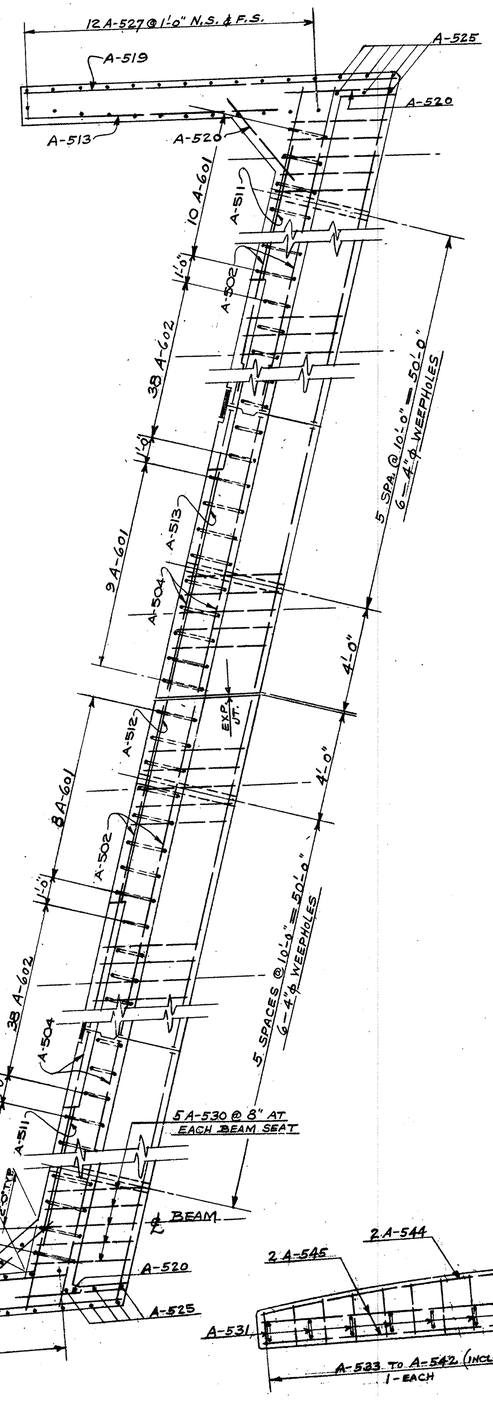
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Nagar		CW	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5) 22.4	

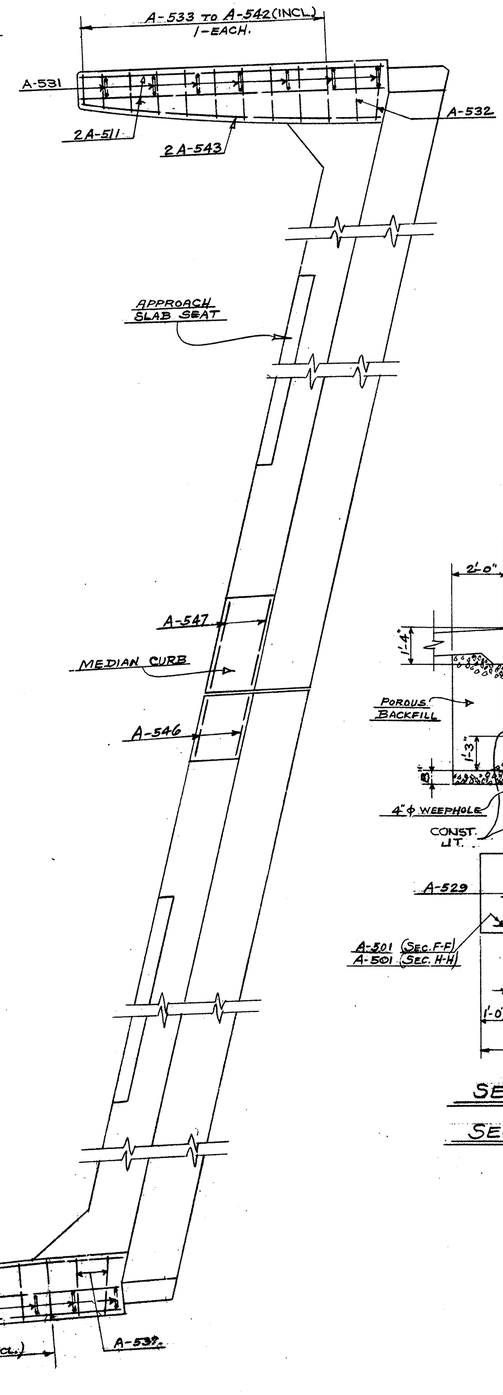
84
101



SECTION "A-A"



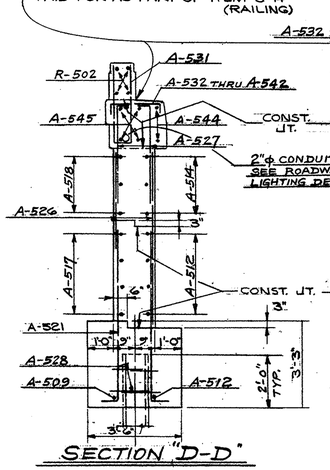
SECTION "B-B"



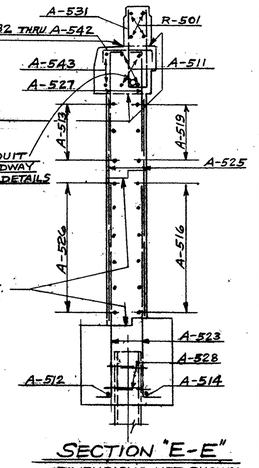
SECTION "C-C"

CONCRETE ABOVE THIS LINE SHALL BE PAID FOR AS PART OF ITEM S-14 (RAILING)

MAH-7-14.35

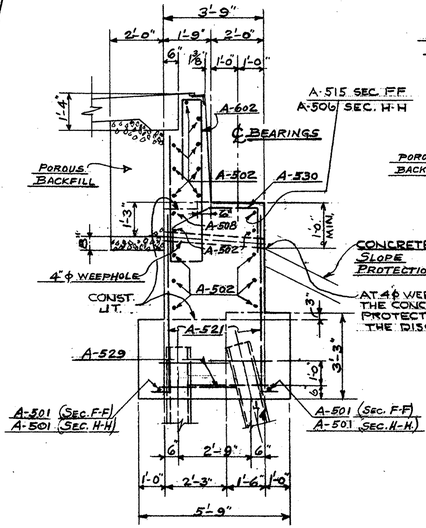


SECTION "D-D"



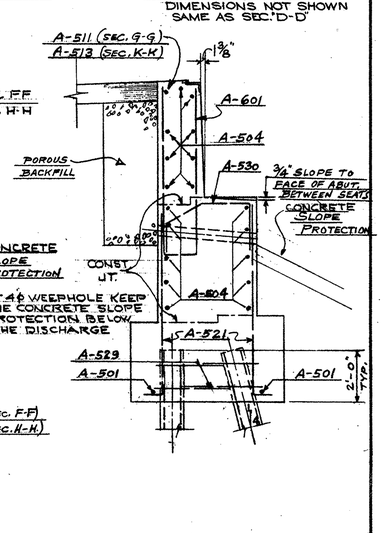
SECTION "E-E"

DIMENSIONS NOT SHOWN SAME AS SEC. D-D



SECTION "F-F"

SECTION "H-H"



SECTION "G-G"

SECTION "K-K"

DIMENSIONS NOT SHOWN SAME AS SEC. F-F & H-H

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 1 DETAILS

BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Nagin		CW	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I680-9(5)224	

MAH-7-14.35

85
101

RADIAL DIMENS.

57'-8"

2'-4" | 5'-10" | 5'-0" ROUNDING | 36'-0" (APPROACH SLAB SEAT) | 5'-0" | 3'-0"

EL 994.72 AT HEEL OF ANGLE | EL 994.95 AT HEEL OF ANGLE | EL 994.83 AT HEEL OF ANGLE

11 A-601 @ 1'-0" | 16A-602 @ 1'-0" | 22A-602 @ 1'-0" | 9A-601 @ 1'-0"

℄ SUPERSTRUCTURE

A-506 N.S. & F.S.

A-514 F.S.

EL 993.92 LEVEL

EL 991.07 | EL 991.33 | EL 990.84 | EL 990.20 | EL 989.56 | EL 988.91 | EL 988.27 | EL 987.63

A-506 N.S. & F.S. | A-550 N.S. & F.S. | A-507 N.S. & F.S. | A-509 N.S. & F.S. | A-526 N.S. & F.S. | A-513 F.S.

4 A-530

5 A-530 @ 8" TYPICAL EXCEPT AT EXTERIOR BEAM SEATS

3/4" SLOPE TO FACE OF ABUT. (TYP.)

1'-6" LEVEL (TYP.) | 1'-6" LEVEL (TYP.)

CONTRACTION JOINT SEE SECTION X-X SHEET #83

EL 991.33 AT HEEL OF ANGLE

WEST

18 A-523 @ 1'-0" N.S. 16A-523 @ 1'-0" F.S.

7 A-522 @ 1'-0" N.S. & F.S.

3 A-521 N.S. & F.S.

10A-520 F.S.

A-502 N.S. & F.S.

EL 982.50

5A-524 @ 1'-0" N.S. & F.S.

8 A-523 @ 1'-0" N.S. & F.S.

8A-522 @ 1'-0" N.S. & F.S.

10 A-521 @ 1'-0" N.S. & F.S.

A-503 N.S. & F.S.

EL 980.29

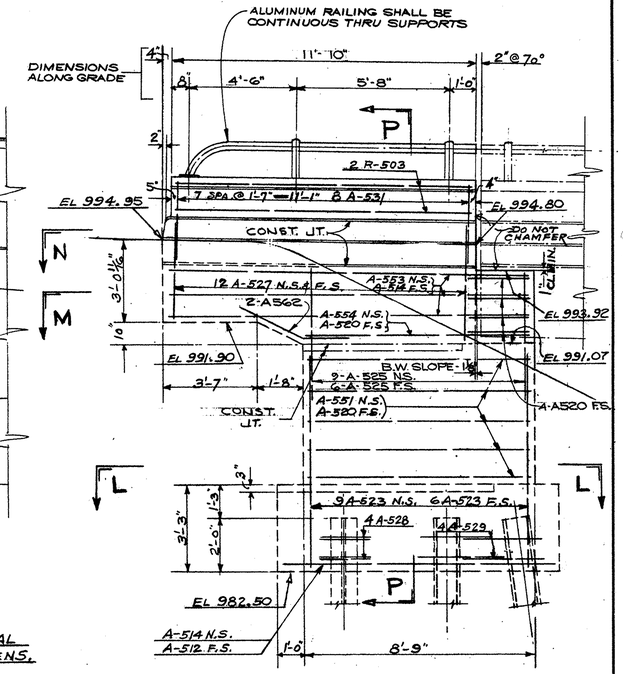
A-501 N.S. & F.S.

1" EXPANSION JOINT.

DIMENSIONS GIVEN ON FRONT FACE OF FOOTING

29'-1¼" | 29'-11" | 59'-0¼"

S | T



ELEVATION
WEST WINGWALL
ABUT. #2

56'-7"

2'-5" | 5'-0" | 36'-0" (APPROACH SLAB SEAT) | 10'-10" | 2'-4"

RADIAL DIMENS.

℄ SUPERSTRUCTURE

8 A-601 @ 1'-0" | 22A-602 @ 1'-0" | 14 A-602 @ 1'-0" | 12 A-601 @ 1'-0"

EL 991.32 AT HEEL OF ANGLE

A-559 N.S. & F.S.

A-512 F.S.

CONTRACTION JOINT SEE SECTION X-X SHEET #83

EL 987.56 | EL 986.93 | EL 986.30 | EL 985.67 | EL 985.04 | EL 984.41 | EL 983.78 | EL 983.15

A-509 N.S. A-545 F.S.

A-549 N.S. A-520 F.S.

A-559 N.S. & F.S.

5 A-530 @ 8" TYPICAL EXCEPT AT EXTERIOR BEAM SEATS

A-507 N.S. & F.S.

1'-6" LEVEL (TYP.) | 1'-6" LEVEL (TYP.)

3/4" SLOPE TO FACE OF ABUT. (TYP.)

1" EXPANSION JOINT.

A-559 N.S. & F.S.

A-509 N.S. & F.S.

A-559 N.S. & F.S.

5A-524 @ 1'-0" N.S. & F.S.

8 A-524 @ 1'-0" N.S. & F.S.

7 A-523 @ 1'-0" N.S. & F.S.

7 A-522 @ 1'-0" N.S. & F.S.

6A-524 @ 1'-0" N.S. & F.S.

7A-523 @ 1'-0" N.S. & F.S.

7A-522 @ 1'-0" N.S. & F.S.

8A-521 @ 1'-0" N.S. 4 A-521 @ 1'-0" F.S.

3A-521 @ 1'-0" N.S. & F.S.

A-503 N.S. & F.S.

A-501 N.S. & F.S.

EL 978.00

A-502 N.S. & F.S.

EL 976.07

4 A-529 AT EACH PAIR OF PILES

9A-520

2'-0"

29'-2" | 28'-10 5/16" | 58'-0 5/16"

DIMENSIONS GIVEN ON FRONT FACE OF FOOTING

V | W

CONCRETE ABOVE THIS LINE SHALL BE PAID FOR AS PART OF ITEM S-14 (RAILING)

EL 986.87 AT HEEL OF ANGLE

EL 986.10 LEVEL

A-514 F.S.

NOTE 8" WALL ADJACENT TO THIS SEAT ONLY

3A-520

EAST

ELEVATION OF 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 Nº2 DETAILS

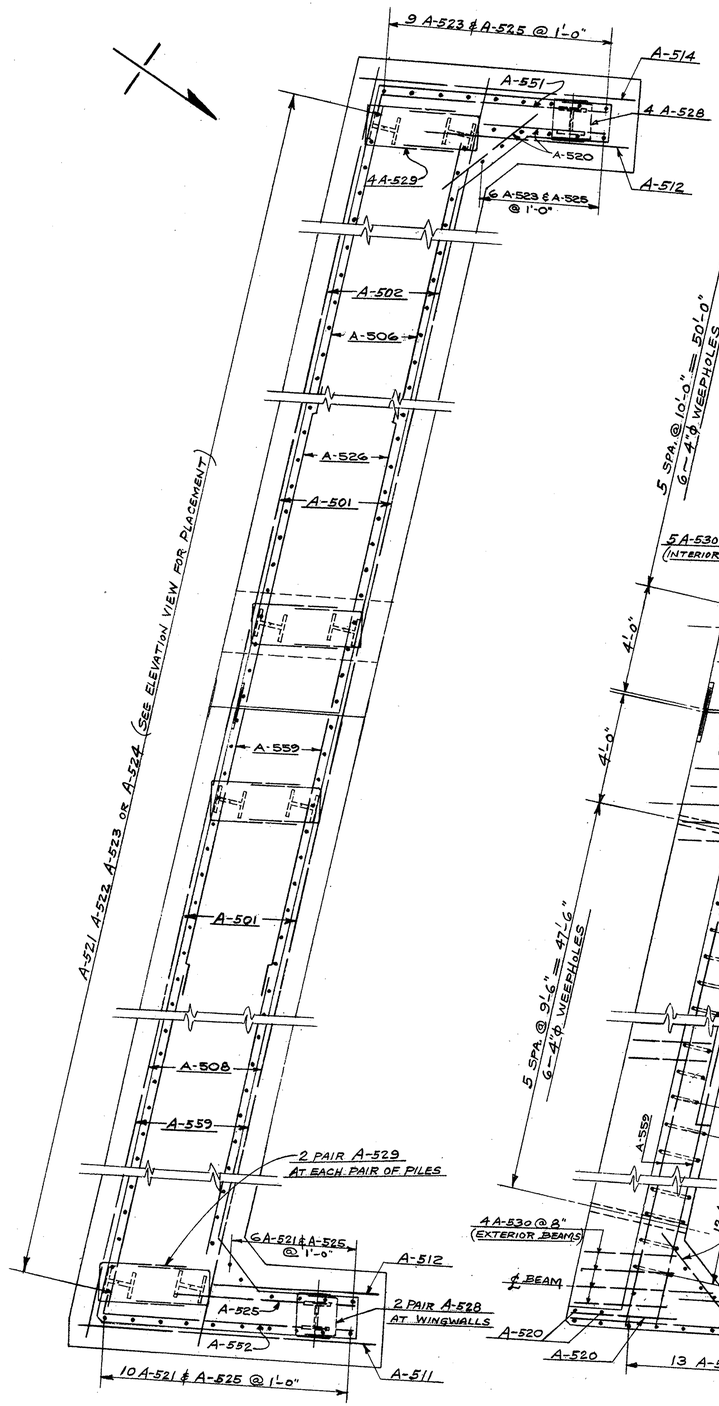
BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO, S.R. Nº 7
STA. 767 + 03.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hagen		CW	JTM	12-16-60	

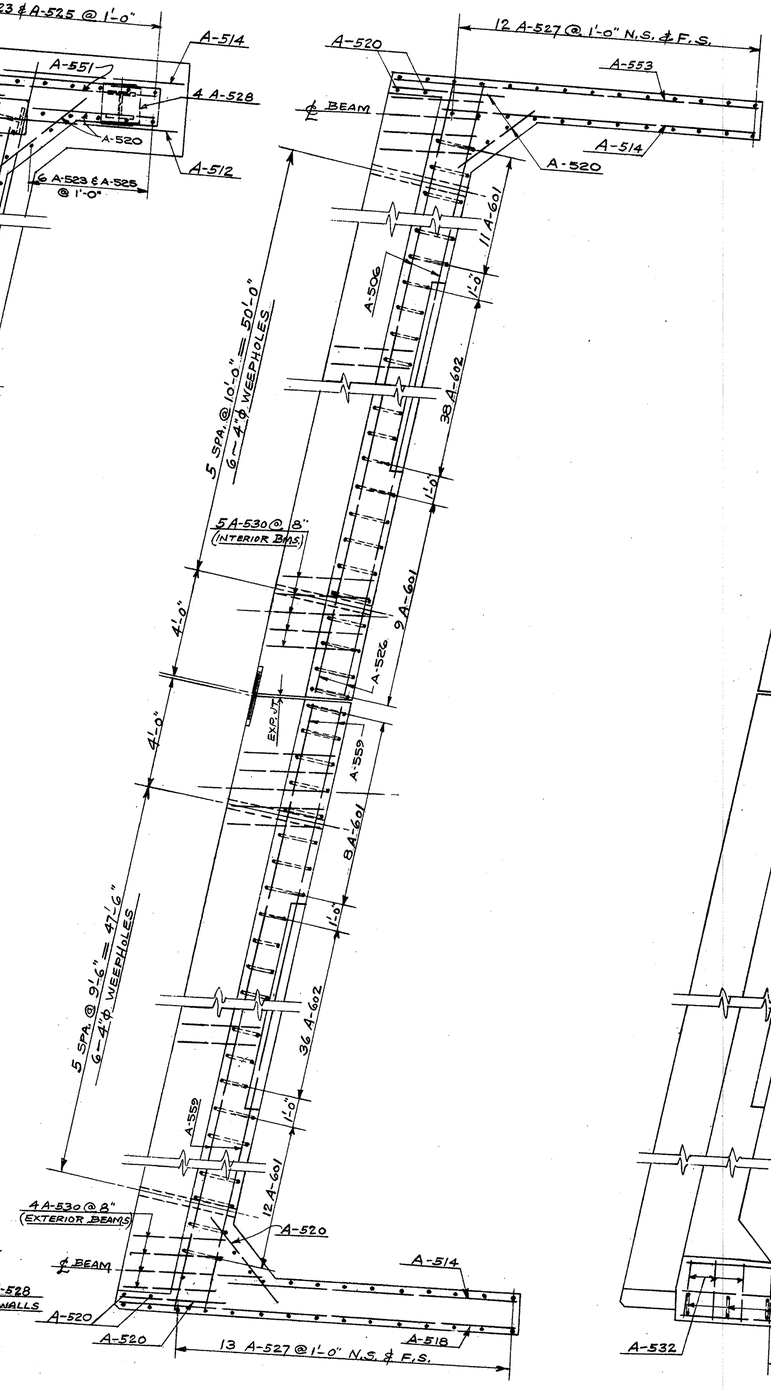
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5) 22.4	

86
101

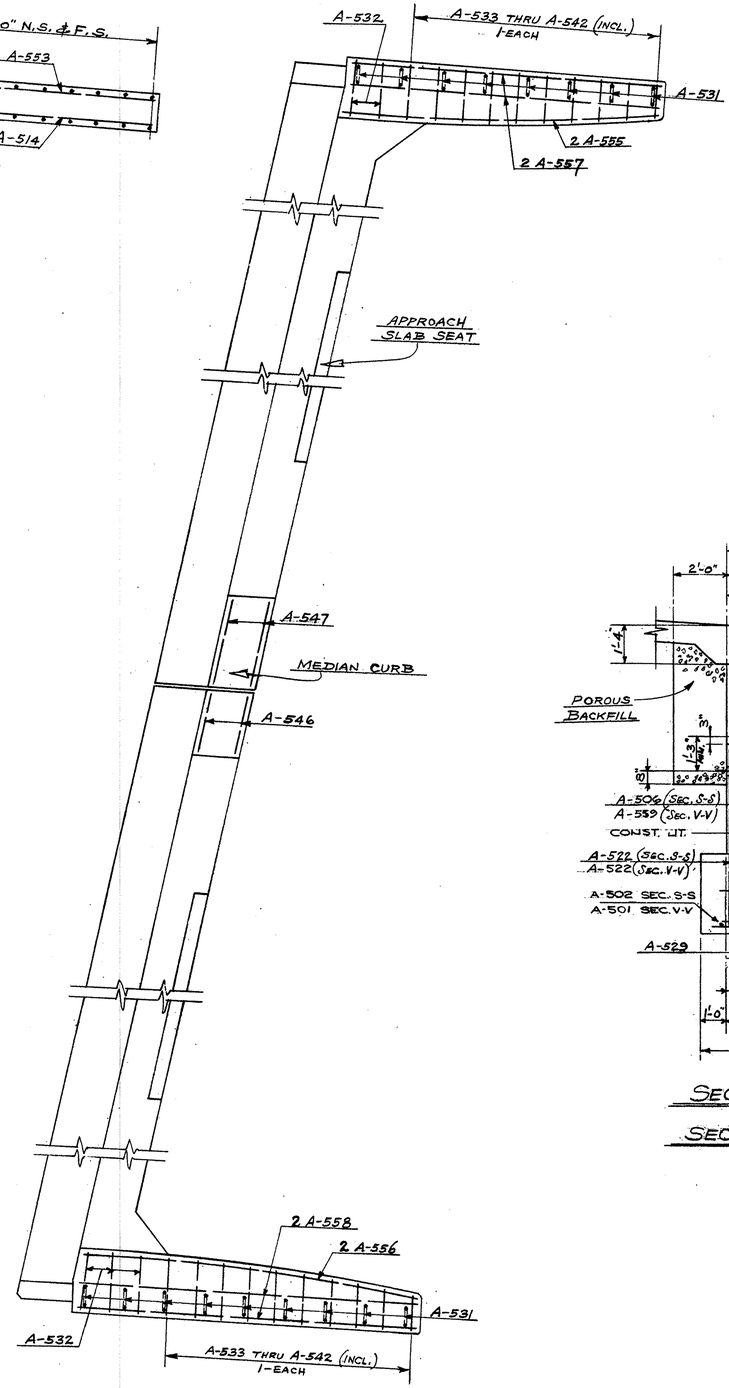
MAH.-7-14.35



SECTION "L-L"

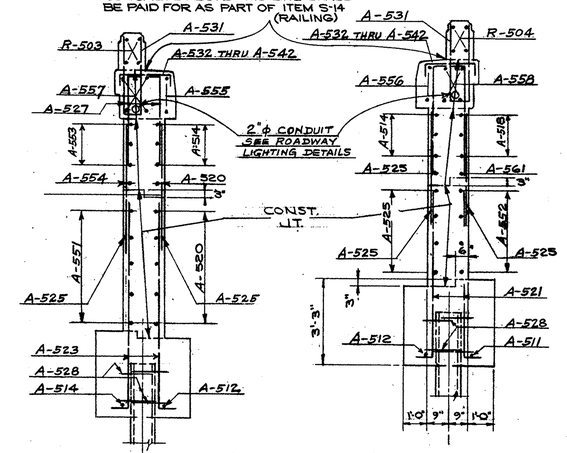


SECTION "M-M"



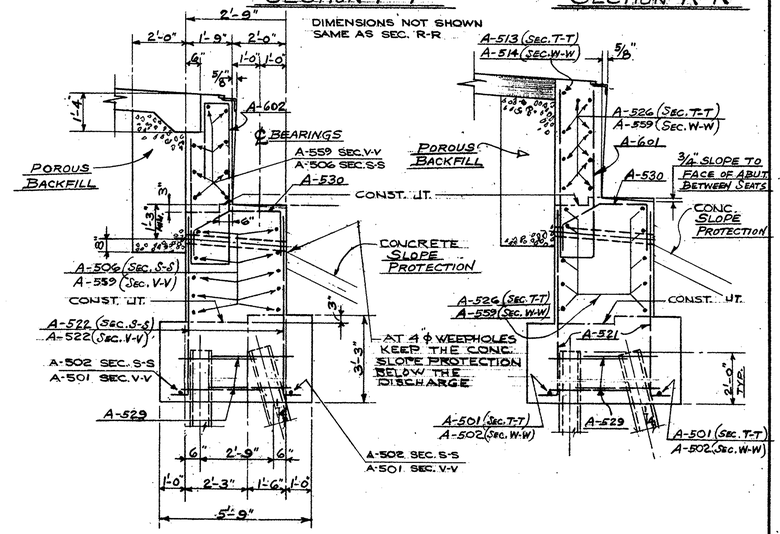
SECTION "N-N"

CONCRETE ABOVE THIS LINE SHALL BE PAID FOR AS PART OF ITEM S.14 (RAILING)



SECTION "P-P"

SECTION "R-R"



SECTION "S-S"

SECTION "V-V"

SECTION "T-T"

SECTION "W-W"

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 DETAILS

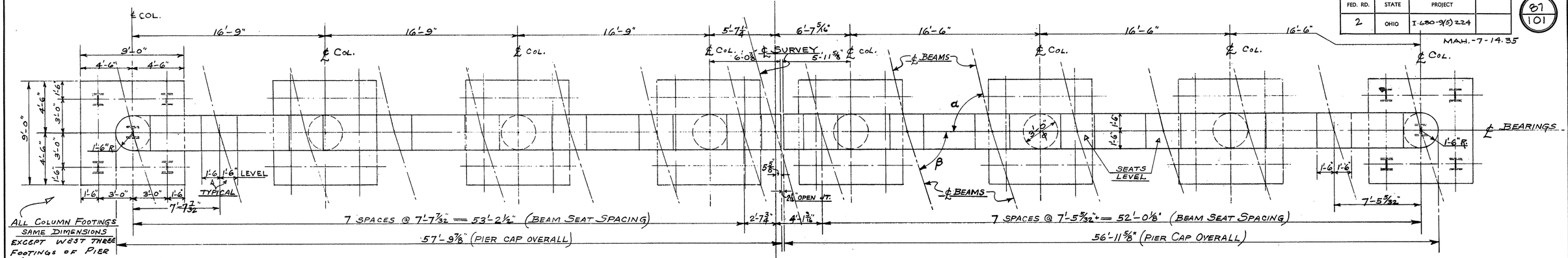
BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Wagn		CW	JTM	12-16-60	

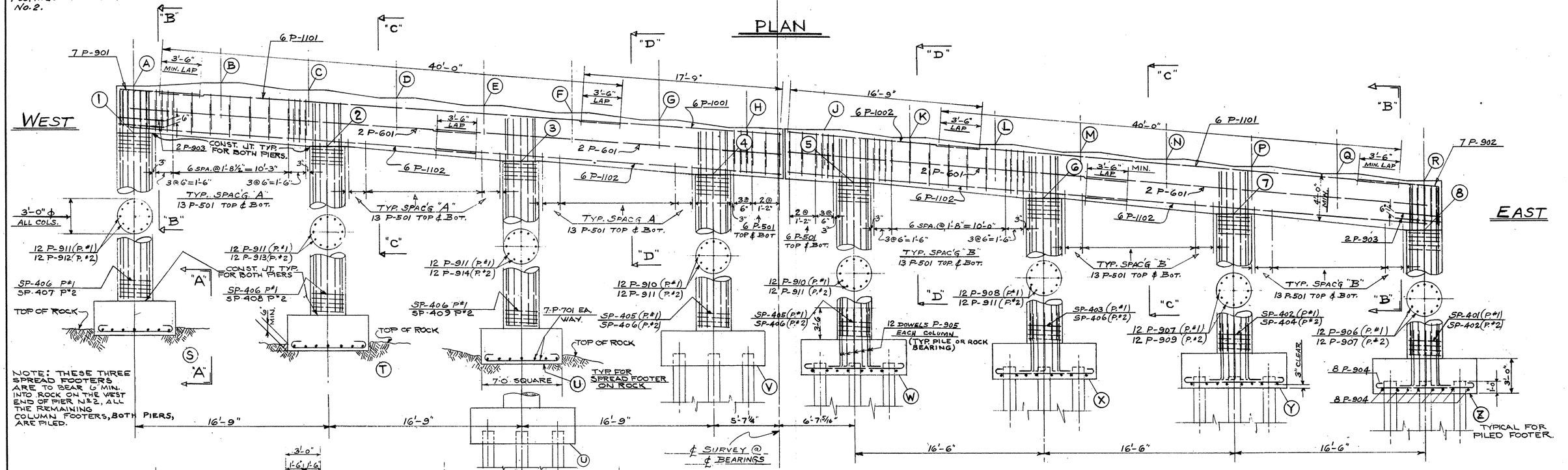
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

87
101

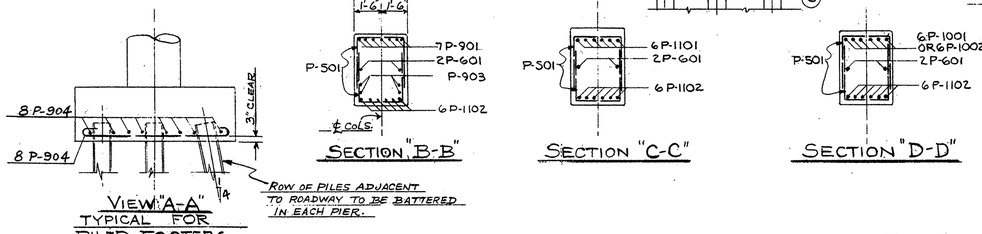
MAH.-7-14.35



PLAN



ELEVATION



NOTE ~

1. ALL REINFORCING STEEL TO HAVE A 2" MIN. COVER UNLESS OTHERWISE NOTED.
2. PILES ARE TO BE 12" BP-53 STEEL PILES.
3. REINFORCING STEEL MUST BE PLACED IN THE PIER CAPS SO THAT IT WILL NOT INTERFERE WITH THE BEARING ANCHOR BOLTS.

~ ELEVATION SCHEDULE ~

№	BEAM ANGLE		BEAM BEARING SEATS																BOTTOM OF FOOTINGS								TOP OF COLUMNS							
	α	β	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8
PIER 1	77°-21'-30"	74°-49'-41"	989.30	989.54	988.93	988.27	987.61	986.95	986.29	985.63	985.54	984.88	984.23	983.58	982.93	982.26	981.62	980.97	967.80	966.58	965.35	965.13	964.57	964.12	963.17	962.72	985.30	984.08	982.85	981.63	981.07	979.62	978.17	976.72
PIER 2	79°-58'-15"	77°-21'-30"	990.50	990.75	990.21	989.57	988.92	988.27	987.62	986.97	986.89	986.26	985.62	984.98	984.34	983.71	983.07	982.43	962.50	960.71	958.91	965.47	964.92	963.51	963.58	963.17	986.50	985.33	984.15	982.97	982.42	981.01	979.58	978.17

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

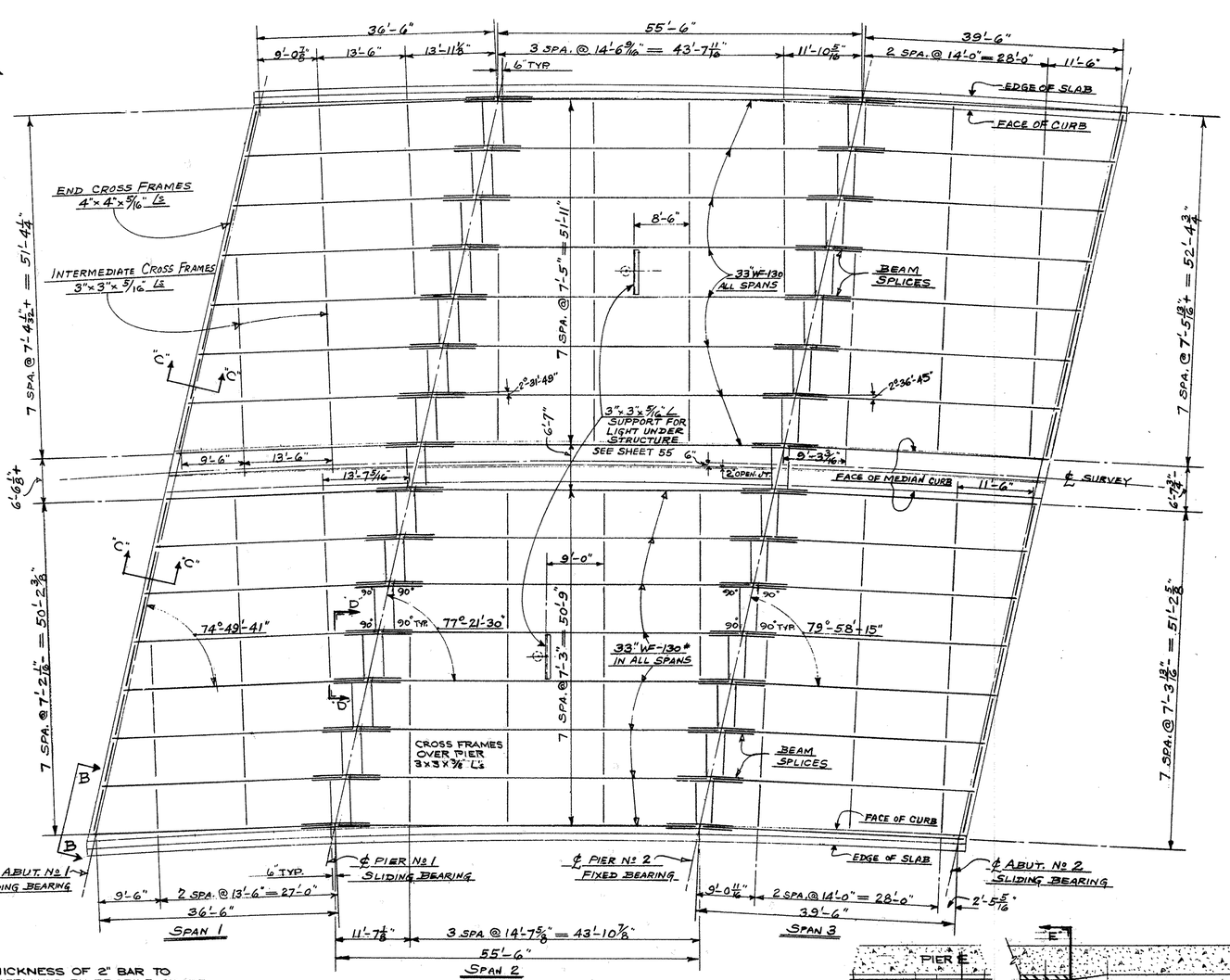
BRIDGE № MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. № 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hager		CW	JTM	12-16-60	

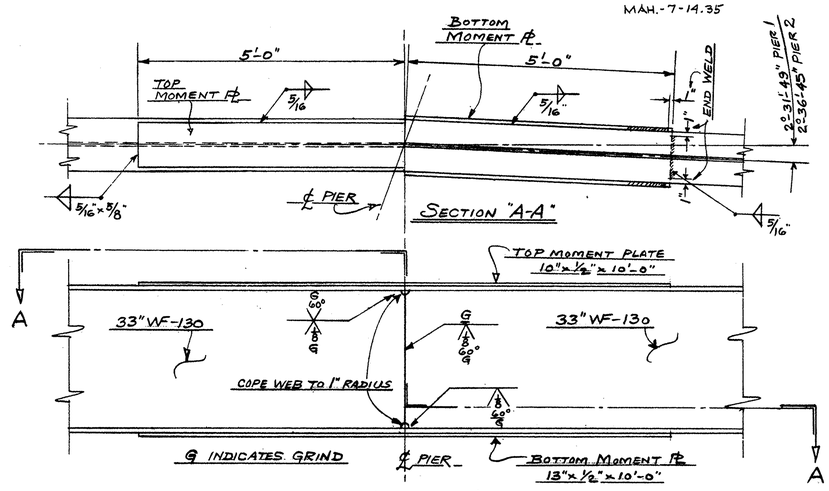
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5) 224	

88
101

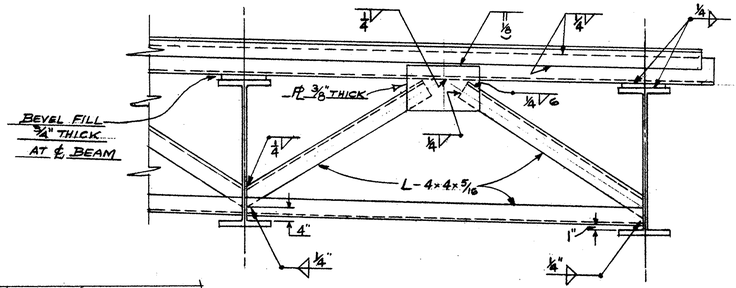
MAH.-7-14.35



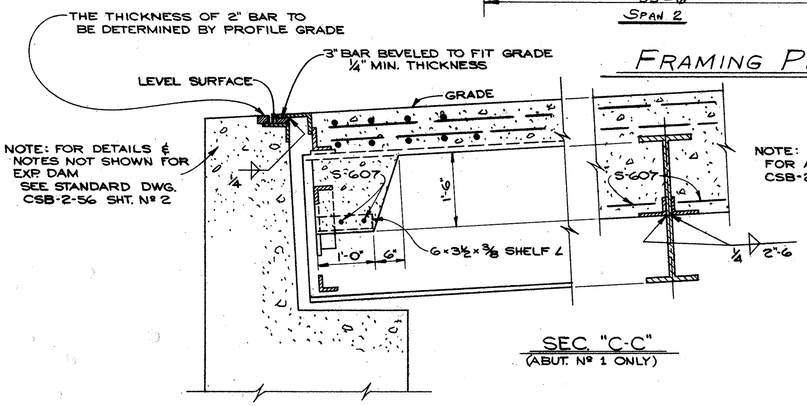
FRAMING PLAN



BEAM SPLICE DETAIL

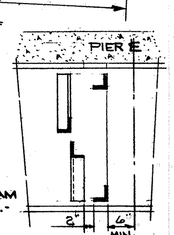


SECTION "B-B"
SHOWING END DIAPHRAGM

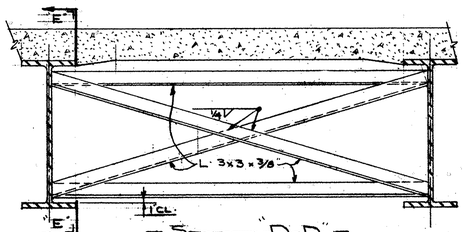


SEC. "C-C"
(ABUT. Nº 1 ONLY)

NOTE: FOR DETAIL OF EXPANSION DAM FOR ABUT. Nº 2 SEE STANDARD DWG.- CSB-2-56 SHEET Nº 2.



— SECTION E-E —



— SECTION "D-D" —
SHOWING CROSS-FRAME OVER PIERS

NOTES

WELDING PROCEDURE:

a - RAISE END OF BEAMS AT ABUTMENTS 3/8"

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, UNTIL WELDS ARE COMPLETE

c - WELD TOP AND BOTTOM FLANGE MOMENT PLATES AT PIERS.

d - WELD THE SPECIAL PIER CROSSFRAMES

e - LOWER BEAMS ENDS INTO FINAL POSITION AT ABUTMENTS.

DEFLECTION & CAMBER

SPAN	36'6"	55'-6"	39'-6"
DEFLECTION DUE TO WEIGHT OF STEEL	0.01	0.05	0.02
DEFLECTION DUE TO REMAINING DEAD LOAD	0.04	0.25	0.08
CONVEXITY REQUIRED FOR VERTICAL CURVE	0.25	0.55	0.28
SUM OF DEFLECTION & CONVEXITY	0.30	0.85	0.36
REQUIRED CAMBER	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 - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hagen		C.W.	J.M.	12-4-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)229	

MAH-7-14.35

89/101

RADIAL DIMENSIONS

114'-4" OUTSIDE OVERALL

56'-0"

43'-6"

8'-4"

2'-6" ROUNDING

2'-6"

3'-0"

3'-0"

℄ S.R. № 7

℄ SUPERSTRUCTURE

CONCRETE ABOVE THIS POINT TO BE PAID FOR IN ITEM S-4 (RAILING)

2"ϕ CONDUIT SEE ROADWAY LIGHTING DETAILS

1'-2" 1'-2" 1'-0" 2"

BULB L 5"x3½"x13.0

S-501

S-502

S-604 @ 8"

S-702 @ 8"

7¾" DECK PLUS 1" MONOLITHIC WEARING SURFACE = 8¾"

½"/FT. SLOPE

A-502 @ 1'-4" ℅

VARIES ½"ϕ ½ ROUND DRIP GROOVE

3"

5 S-601 IN CURB

WEST

SCUPPER

INTERMEDIATE CROSS FRAMES 3x3x3/16" ANGLES ~ WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH ¼" CONTINUOUS FILLET WELD.

ALL BEAMS 33" WF-130

9" HAUNCH TYP.

S-602 OVER PIERS @ 1'-4"

0.083'/FT. S.E.

S-601 @ 1'-4"

S-601 @ 1'-0"

3 S-601 IN TOP OF MEDIAN

S-506 @ 1'-4"

S-507 @ 1'-4"

S-504 @ 1'-4"

S-505 @ 1'-4"

2 S-601 IN TOP OF MEDIAN

S-603 @ 8"

MATCH LINE

S-701 @ 8"

BULB L 5½"x3½"x13.6#

MAX. 3'-3" MIN. 1'-9½"

FOR BEAM SPACING SEE FRAMING PLAN

114'-0" SLAB OVERALL (RADIAL)

MAX. 2'-7⅞" MIN. 2'-6⅝"

MAX. 4'-0⅝" MIN. 3'-11½"

℅ 5⅝" MAX. @ SUPPORTS 8¾" MIN @ CENTER OF SPAN ℅

℅ 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. SLAB THICKNESS SHOWN INCLUDES 1" MONOLITHIC WEARING SURFACE.

NOTE ~ Where Necessary, Field Bend Bars To Maintain Clear Distance To Face Of Concrete. (Field Bending Included With Item S-4 For Payment.)

TRANSVERSE SECTION

(114'-4")

56'-0" (FROM ℄ SUPERSTR)

51'-10"

RADIAL DIMENSIONS

1'-2" 1'-2"

MATCH LINE

S-601 @ 1'-4"

S-601 @ 1'-0"

0.083'/FT. S.E.

S-602 OVER PIERS @ 1'-4"

BULB L 5"x3½"x13.0#

S-502 @ 1'-4"

S-501 SEE RAIL'G DWG. FOR SPACING.

EAST

S-503 @ 1'-4" VARIES

2"ϕ CONDUIT SEE ROADWAY LIGHTING DETAILS

ALL BEAMS 33" WF-130

SCUPPER

MAX. 3'-2⅜" MIN. 1'-7⅝"

FOR BEAM SPACING SEE FRAMING PLAN

(114'-0" SLAB OVERALL)

TRANSVERSE SECTION CONTINUED

6'-0"

3'-0" 3'-0"

1" 2'-11" 6" 2" 2'-3" 1"

℄ S.R. № 7

2½" 2½"

6" 6"

2" 5 4 3

½"ϕ ½ ROUND DRIP GROOVE

MEDIAN STRIP DETAIL

S-601

3'-6"

1"

2'-5"

S-506 AND S-507 @ 1'-4" SPAC'G

S-504 AND S-505 @ 1'-4" SPAC'G.

REINFORCING PLAN MEDIAN STRIP

℄ ABUT. 1

NOTE ~

CONCRETE DECK PLACING:~ IN ORDER TO FACILITATE WATER CURING 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 CENTERLINE OF BRIDGE AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

198 - S-604 @ 8" TOP 198 - S-702 @ 8" BOT.
100 S-502 @ 1'-4" AND 100 S-503 IN CURB

℄ ABUT #1

℄ PIER #1

℄ PIER #2

℄ ABUT #2

12'-6" 9'-6" 9'-6" 12'-6"

TYPICAL STAGGERING FOR S-602 BARS

S-603 TOP S-701 BOT.

S-604 TOP S-702 BOT.

44 - S-601 @ 1'-4"± TOP

58 - S-601 @ 1'-0" % BOT.

43 S-602 OVER PIERS @ 1'-4"

100 S-506 AND 100 S-507 @ 1'-4" IN MEDIAN STRIP

3 S-601 IN TOP OF MEDIAN

SEE FRAMING PLAN DRWG.

℄ SURVEY

100 S-504 AND 100 S-505 @ 1'-4" IN MEDIAN STRIP

42 S-602 OVER PIERS @ 1'-4"

2 S-601 IN TOP OF MEDIAN

43 - S-601 @ 1'-4" % BOT.

57 - S-601 @ 1'-0" % BOT.

5 S-601 IN EACH CURB

100 S-502 AND 100 S-503 @ 1'-4" (IN CURBS)

199 S-603 @ 8" (TOP) 199 S-701 @ 8" (BOTT.)

NOTE ~ For Reinforcing Of Light Standard Support See Railing Dwg. № 90.

SLAB REINFORCING PLAN

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

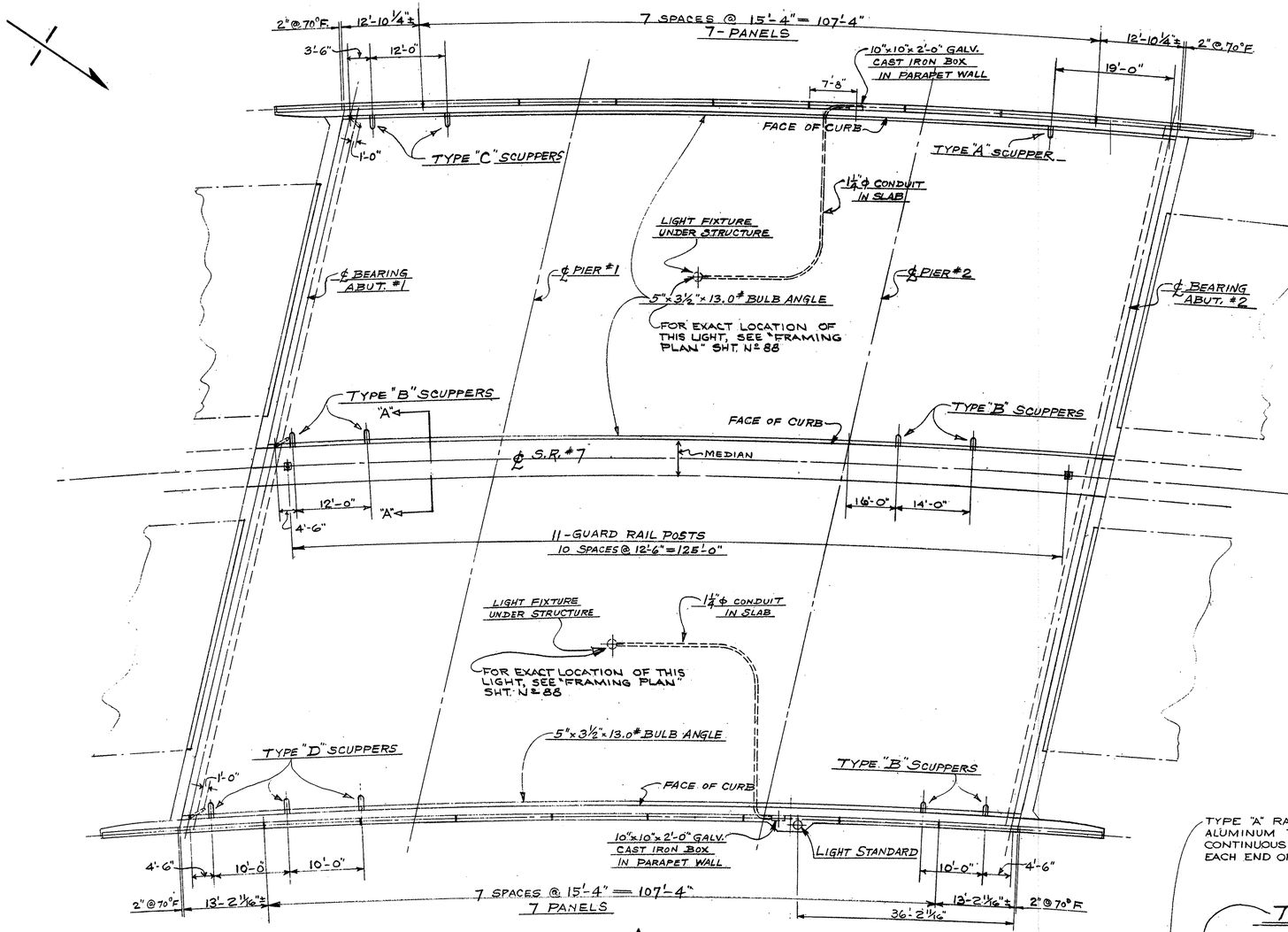
BRIDGE № MAH - 7 - 1452
OVER DELASON AVE
MAHONING CO. S.R. № 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hogue		CW	JTH	12-16-60	

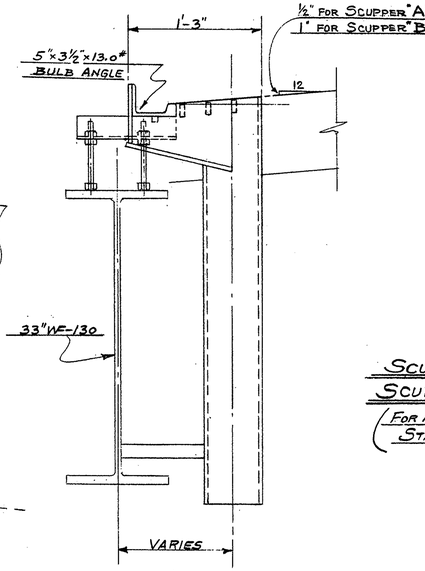
FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

90
101

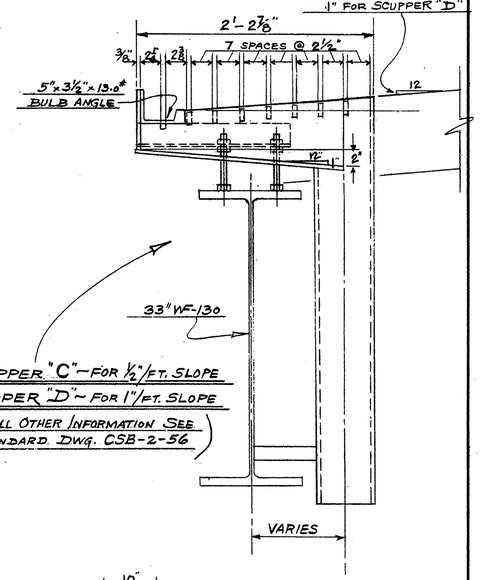
MAH-7-14.35



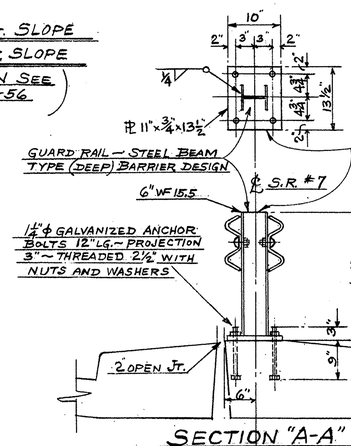
DECK PLAN



SCUPPER "A" – FOR ½"/FT. SLOPE
SCUPPER "B" – FOR 1"/FT. SLOPE
(FOR ALL OTHER INFORMATION SEE STANDARD DWG. CSB-2-56)



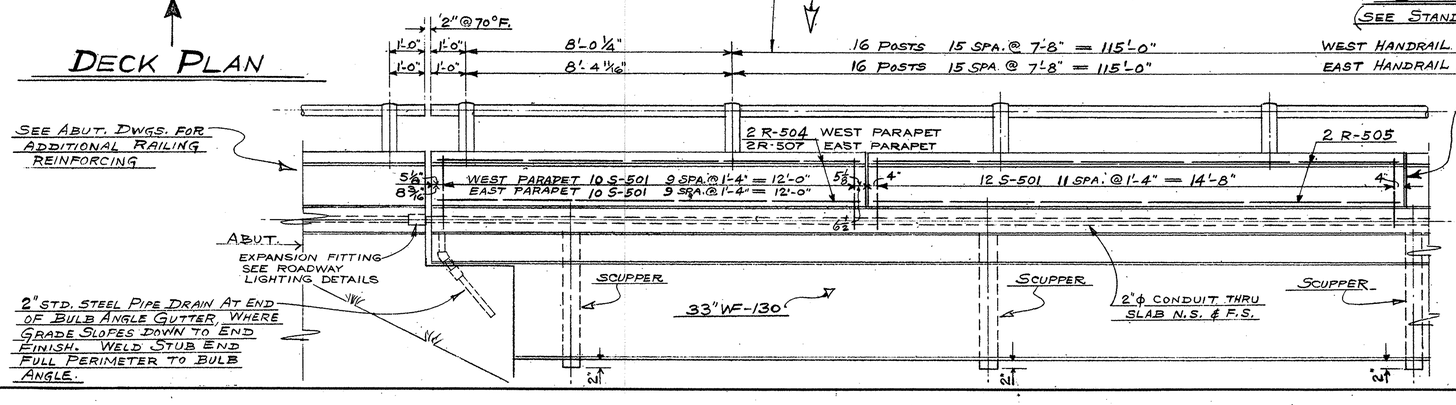
SCUPPER "C" – FOR ½"/FT. SLOPE
SCUPPER "D" – FOR 1"/FT. SLOPE
(FOR ALL OTHER INFORMATION SEE STANDARD DWG. CSB-2-56)



SECTION "A-A"
(SEE STANDARD DWG. I-15 Nº 2A)

TYPE "A" RAILING 4" O.D. x 3/16 WALL ALUMINUM TUBE, RAILING SHALL BE CONTINUOUS THRU FIRST POST AT EACH END OF SUPERSTRUCTURE.

TYPICAL ELEVATION



¼" GREY SPONGE RUBBER PREFORMED EXPAN. JT. FILLER MEETING THE REQUIREMENTS OF SEC. M-10.02, TYPE #1. SPACE TWO PANEL LENGTHS APART. (INCLUDED IN ITEM 3-14 FOR PAYMENT.)

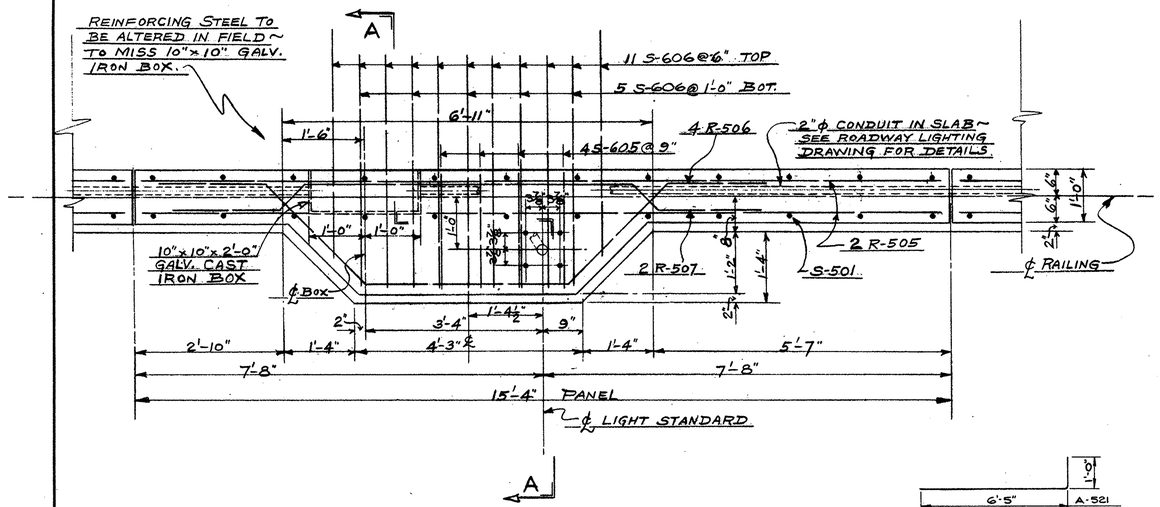
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

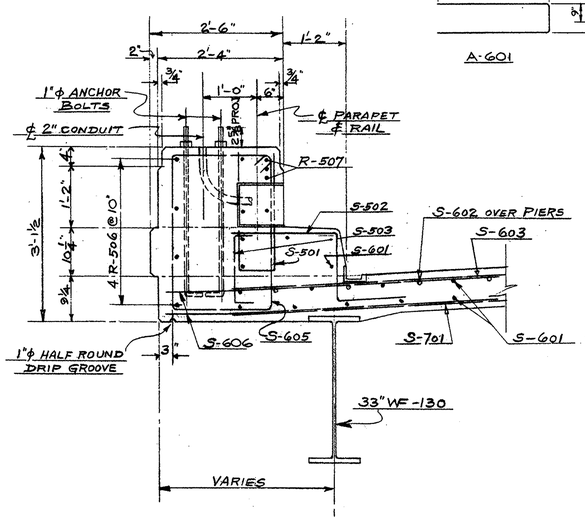
RAILING & DRAINAGE DETAILS

BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE.
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

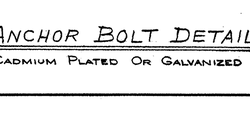
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	Hagen		CW	JTM	12-16-60	



DETAIL OF LIGHT STANDARD SUPPORT

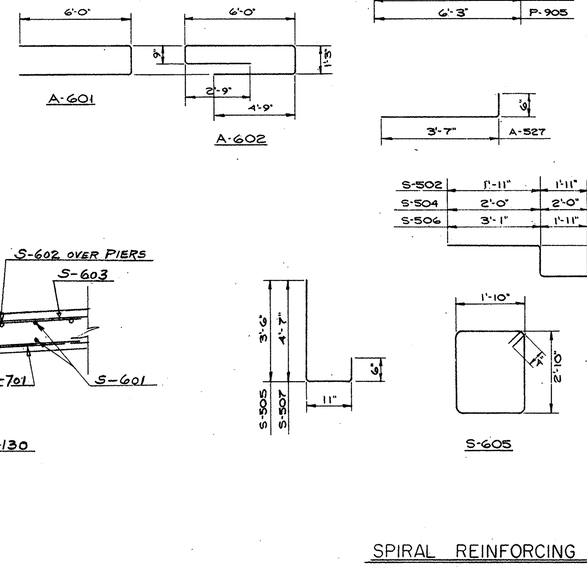


SECTION A-A



ANCHOR BOLT DETAIL

CADMIUM PLATED OR GALVANIZED



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 PIER CAPS.
THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE 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 P-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 NOT BE REQ'D.

* RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM S-14 FOR PAYMENT.

MARK	NO.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT
SPIRAL REINFORCEMENT						
SP-401	1	2'-8"	11'-0"	4"	36	198
SP-402	2	2'-8"	12'-0"	4"	39	430
SP-403	1	2'-8"	12'-6"	4"	41	226
SP-404	1	2'-8"	13'-0"	4"	42	231
SP-405	2	2'-8"	13'-6"	4"	44	485
SP-406	6	2'-8"	14'-6"	4"	47	1,553
SP-407	1	2'-8"	21'-0"	4"	66	364
SP-408	1	2'-8"	21'-7½"	4"	68	375
SP-409	1	2'-8"	22'-3"	4"	70	386
SPACERS	64					592
SPIRAL TOTAL						4,840 LBS

REINFORCING STEEL SCHEDULE

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

MAH-7-14.35

91/101

MARK	NO.	LENGTH	WEIGHT	SHAPE
ABUTMENTS				
A-501	12	31'-0"	388	ST.
A-502	36	29'-7"	1,111	ST.
A-503	12	7'-0"	88	BT.
A-504	36	28'-7"	1073	ST.
A-505	2	11'-6"	24	ST.
A-506	18	27'-5"	515	ST.
A-507	9	4'-8"	44	ST.
A-508	2	25'-2"	52	ST.
A-509	8	12'-0"	100	ST.
A-510	1	24'-7"	26	ST.
A-511	8	11'-3"	94	ST.
A-512	9	7'-4"	69	ST.
A-513	6	8'-6"	53	ST.
A-514	14	10'-6"	153	ST.
A-515	1	26'-0"	27	ST.
A-516	6	9'-5"	59	BT.
A-517	4	11'-4"	47	BT.
A-518	6	14'-7"	91	ST.
A-519	3	13'-7"	43	ST.
A-520	79	4'-0"	330	ST.
A-521	138	7'-4"	1056	BT.
A-522	118	8'-1"	995	BT.
A-523	188	8'-8"	1699	BT.
A-524	79	9'-4"	769	BT.
A-525	76	5'-0"	396	ST.
A-526	18	29'-7"	555	ST.
A-527	79	4'-0"	330	BT.
A-528	16	4'-6"	75	BT.
A-529	128	7'-6"	1001	BT.
A-530	158	6'-7"	1085	BT.
A-531	33	6'-0"	207	BT.
A-532	9	2'-10"	27	BT.
A-533	4	2'-9"	11	BT.
A-534	4	2'-8"	11	BT.
A-535	4	2'-7"	11	BT.
A-536	4	2'-6"	10	BT.
A-537	4	2'-4"	10	BT.
A-538	4	2'-2"	9	BT.
A-539	4	2'-0"	8	BT.
A-540	4	1'-10"	8	BT.
A-541	4	1'-8"	7	BT.
A-542	4	1'-6"	6	BT.
A-543	2	11'-0"	23	BT.
A-544	2	12'-7"	26	BT.
A-545	5	12'-6"	65	ST.
A-546	4	6'-0"	25	BT.
A-547	4	7'-2"	30	BT.
A-548				
A-549	1	19'-5"	20	ST.
A-550	2	17'-10"	37	ST.
A-551	5	9'-4"	49	BT.
A-552	4	10'-3"	43	BT.
A-553	3	13'-8"	43	ST.
A-554	1	8'-9"	9	ST.
A-555	2	11'-8"	24	BT.
A-556	2	12'-6"	26	BT.
A-557	4	11'-6"	48	ST.
A-558	4	12'-9"	53	ST.
A-559	36	29'-1"	1092	ST.
A-560	1	19'-11"	21	ST.
A-561	1	9'-8"	10	ST.
A-562	4	4'-5"	18	BT.
A-601	79	13'-1"	1552	BT.
A-602	150	15'-1"	3398	BT.
TOTAL ABUTMENTS			19,185	
SLAB				
S-501	208	4'-7"	994	BT.
S-502	200	4'-10"	1008	BT.
S-503	200	2'-1"	435	BT.
S-504	100	4'-9"	495	BT.
S-505	100	4'-9"	495	BT.
S-506	100	5'-9"	600	BT.
S-507	100	5'-10"	608	BT.
S-601	868	34'-8"	45,196	ST.
S-602	176	22'-0"	5,816	ST.
S-603	398	30'-3"	18,083	ST.
S-604	396	30'-8"	18,240	ST.
S-605	4	9'-7"	58	BT.
S-606	16	8'-0"	192	ST.
S-607	28	7'-0"	294	ST.
S-701	398	30'-5"	24,744	ST.
S-702	396	30'-10"	24,957	ST.
TOTAL SLAB			142,215	
PIERS Nº 1 & Nº 2				
P-501	360	8'-8"	3252	BT.
P-601	16	30'-0"	721	ST.
P-701	42	8'-4"	715	BT.
P-901	14	10'-6"	500	BT.
P-902	14	10'-6"	500	BT.
P-903	8	9'-8"	263	BT.
P-904	208	11'-2"	7899	BT.
P-905	192	7'-1"	4,624	BT.
P-906	12	14'-6"	592	ST.
P-907	24	15'-6"	1,265	ST.
P-908	12	16'-0"	653	ST.
P-909	12	16'-6"	673	ST.
P-910	24	17'-0"	1,387	ST.
P-911	82	18'-0"	5,018	ST.
P-912	12	24'-6"	1,000	ST.
P-913	12	25'-1"	1,023	ST.
P-914	12	25'-9"	1051	ST.
P-1001	12	17'-9"	917	ST.
P-1002	12	16'-9"	865	ST.
P-1101	24	40'-0"	5,100	ST.
P-1102	48	30'-0"	7651	ST.
TOTAL PIERS			45,669	
RAILING *				
R-501	4	10'-9"		ST.
R-502	4	12'-2"		ST.
R-503	4	11'-6"		ST.
R-504	12	12'-6"		ST.
R-505	56	15'-0"		ST.
R-506	4	14'-2"		BT.
R-507	2	10'-9"		BT.
R-508	4	11'-10"		ST.
REPLACEMENT BARS				
RE-401	1	5'-3"		BT.
RE-501	2	5'-7"		ST.
RE-601	5	5'-11"		ST.
RE-701	3	6'-3"		ST.
RE-901	2	6'-10"		ST.
RE-1001	1	7'-2"		ST.
RE-1101	1	7'-6"		ST.

GRAND TOTAL 212,009 LBS.

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

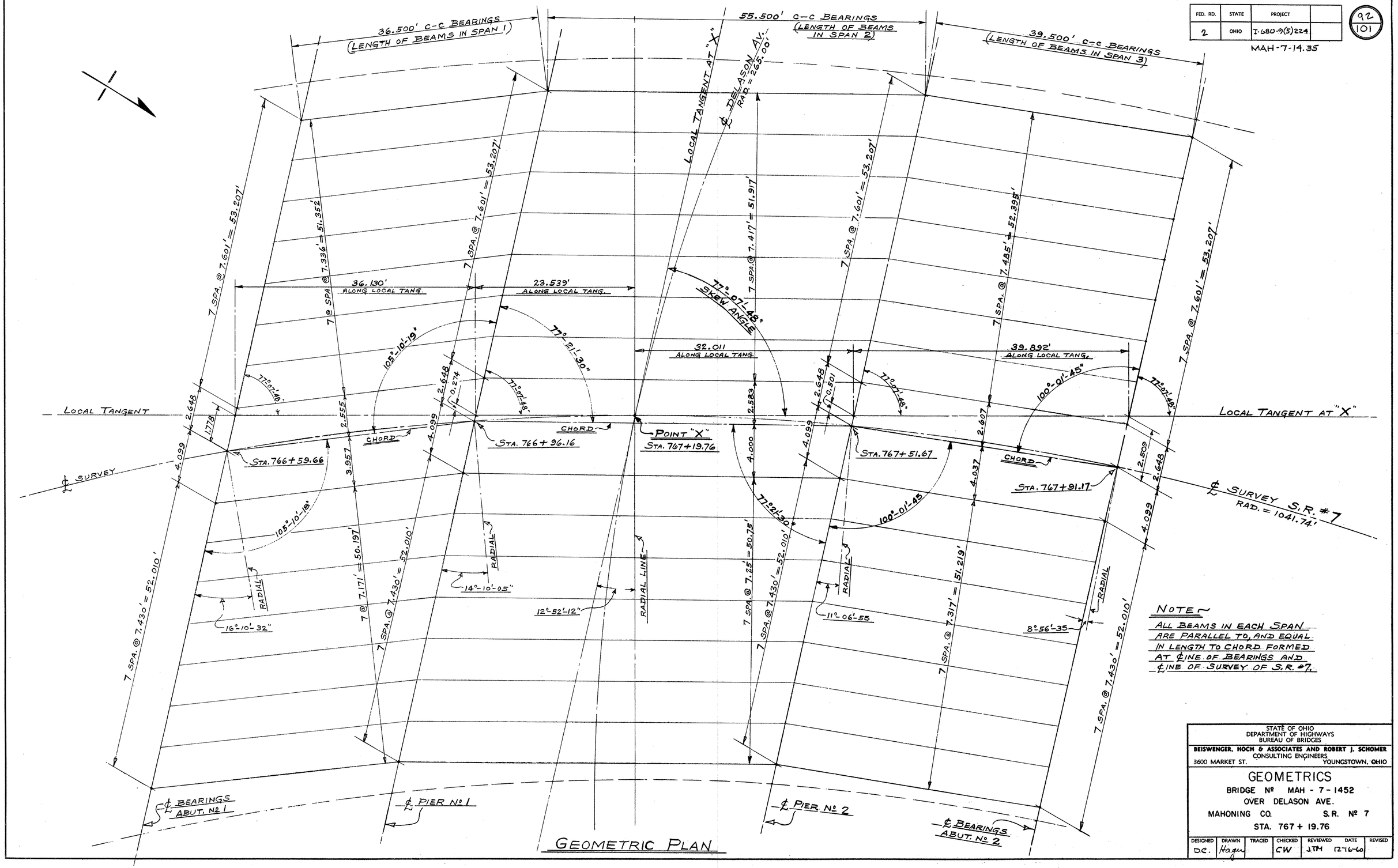
BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE.
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.A.	Hager		CW	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

92
101

MAH-7-14.35



GEOMETRIC PLAN

NOTE:-
ALL BEAMS IN EACH SPAN ARE PARALLEL TO, AND EQUAL IN LENGTH TO CHORD FORMED AT ℄ INE OF BEARINGS AND ℄ INE OF SURVEY OF S.R. #7.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ASSOCIATES AND ROBERT J. SCHOMER
CONSULTING ENGINEERS
3600 MARKET ST. YOUNGSTOWN, OHIO

GEOMETRICS

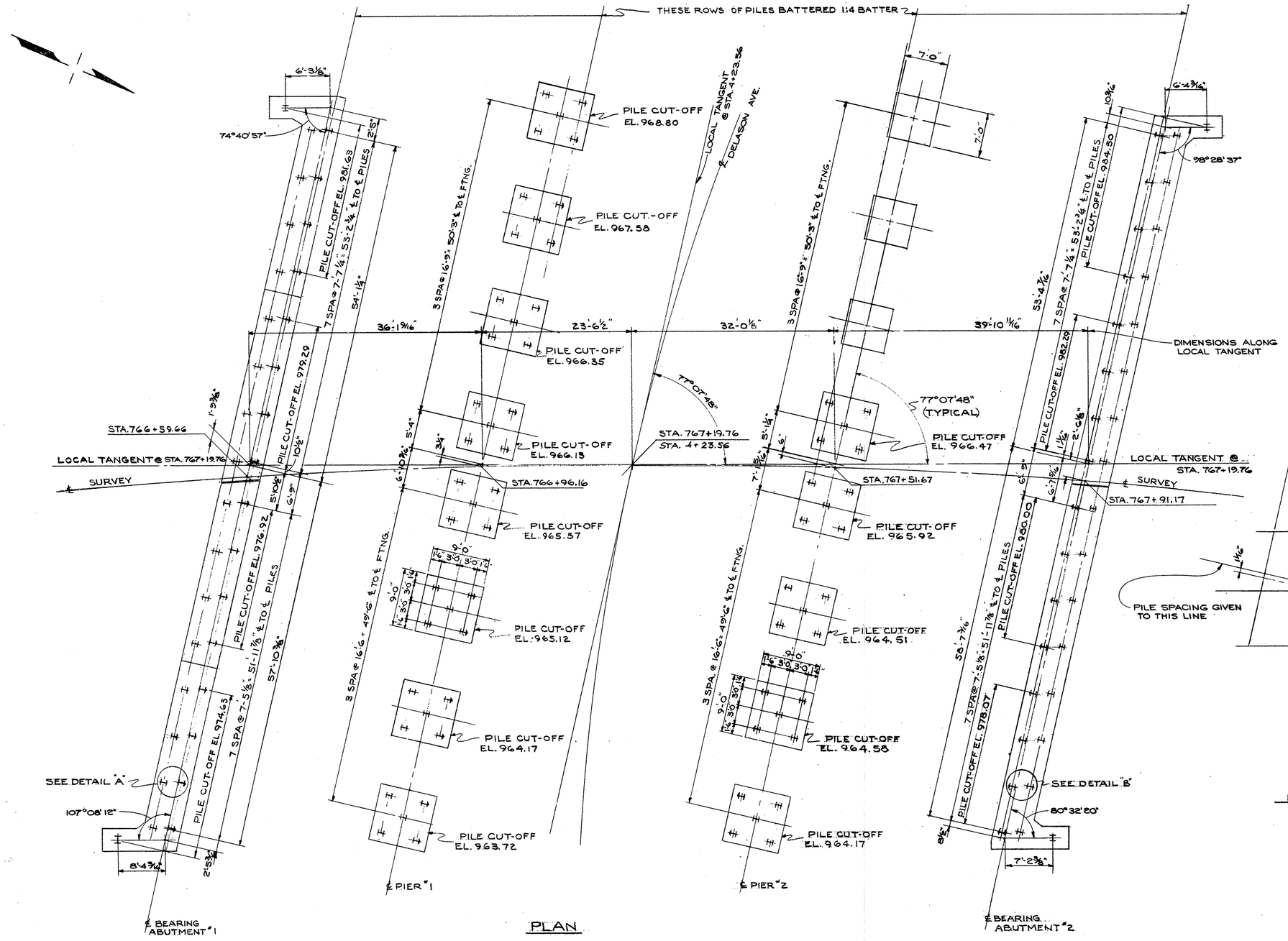
BRIDGE Nº MAH - 7 - 1452
OVER DELASON AVE.
MAHONING CO. S.R. Nº 7
STA. 767 + 19.76

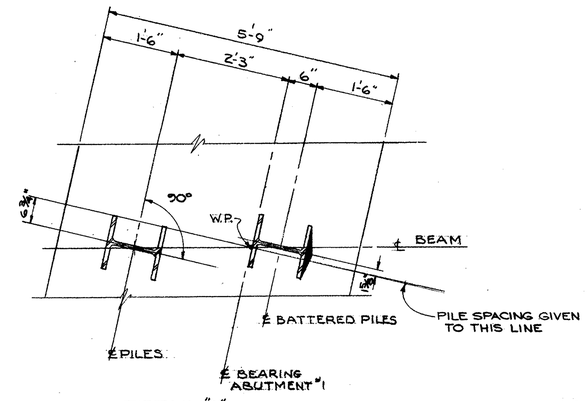
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DC.	Hogan		CW	JTM	12-16-60	

FED. RD.	STATE	PROJECT	
2	OHIO	I-680-9(5)224	

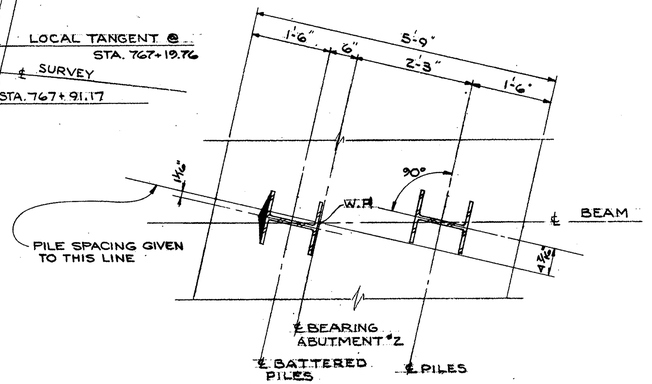
93/101

MAH-7-14.35





DETAIL "A"



DETAIL "B"

PILES TO BE 12" BP53 STEEL H PILES.
DRIVEN TO ROCK OR 35 TONS CAPACITY

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-7-1452
OVER DELASON AVE.
MAHONING CO. S.R. Nº 7
STA. 767+19.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.C.	J.L.H.		E.A.K.	J.T.H.	12-16-60	

7-MAH-14.35

FED. RD.	STATE	PROJECT	
2	OHIO	I608-9(5)	

94/101

CENTERLINE PLAT

MAH.~7~14.35

MAHONING COUNTY

CITY OF YOUNGSTOWN

NOTE: This Centerline Plat Voids And Supersedes Previous Recording Of Centerline Plat In Plat Book Vol. 47, Pages 55 & 56 On January 4, 1961 - 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

MAH-7-14.35

LIMITED ACCESS HIGHWAY

I HEREBY CERTIFY THIS PLAT TO BE CORRECT MAY 15 1975
SIGNED BY [signature], 713
ROBERT J. SCHOMER ~ REG. LAND SURVEYOR

RECEIVED FOR RECORD Jan 3rd 1961
at 10:30 AM RECORDED: VOL. 47, PAGES 55 & 56, OF THE MAHONING COUNTY RECORDS
William D. Holt
RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Phillip Kelley 12/12/60
CITY ENGINEER
SIGNED BY Carl L. Campbell 12/19/60
DIVISION ENGINEER

℄ REFERENCE MONUMENTS

DESC.	STATION	OFFSET
P.C.C.	760+04.58 (BK)	5' LT.
S.C.	760+04.41 (AHD.)	5' LT.
P.O.C.	766+00	5' LT.
C.S.	772+37.83	5' LT.
S.T.	776+37.83	5' LT.

GRAPHIC SCALE
0 100 200 400

NOTE:
SPIRAL CURVES INDICATED ON THIS PLAN ARE DEVELOPED AS OUTLINED IN "TRANSITION CURVES FOR HIGHWAYS" BY JOSEPH BARNETT, PUBLISHED IN 1940 BY THE U.S. GOVERNMENT PRINTING OFFICE

$40.00

Revised Nov. 29, 1960

I-680

FED. RD.	STATE	PROJECT	
2	OHIO	IG08-9(5)	

95/101

MAH.-7-14.35
LIMITED ACCESS

SUMMARY OF ADDITION R/W REQUIRED

PARCEL NO.	OWNER	SHEET NO'S.	EXIST. BLDG'S.	SQ.FT. TO BE ACQUIRED LA. "T"	SQ.FT. REMAINING "R"	SEVERANCE ACRES LEFT	SEVERANCE ACRES RIGHT	SQ.FT. ISOLATED "I"	SQ.FT. TO BE ACQUIRED -NOT "LA" LEFT	SQ.FT. TO BE ACQUIRED -NOT "LA" RIGHT	TOTAL SQ.FT.	REMARKS
540-LA	LUDOVICO CALAICOVO	6 OF 8	YES	6,029	0	0	0	0	0	0	6,029	This total appropriation is due to the construction of Ramp "D"
541-LA	MICHAEL P. & MARY C. MALENIC	6 OF 8	YES	6,088	0	0	0	0	0	0	6,088	
542-LA	SADIE LOPRESTA	6 OF 8	YES	6,144	0	0	0	0	0	0	6,144	
543-LA	ROSE MARY BANNA	6 OF 8	YES	6,206	0	0	0	0	0	0	6,206	
544-LA	ATHENA HUNTER	6 OF 8	YES	6,263	0	0	0	0	0	0	6,263	
545-LA	CARL LOWENGREN	6 OF 8	YES	6,319	0	0	0	0	0	0	6,319	
546-LA	SOPHIA LYSOWSKA	6 OF 8 7 OF 8	YES	6,396	0	0	0	0	0	0	6,396	
547-LA	CESIDO LEONE	7 OF 8	YES	6,438	0	0	0	0	0	0	6,438	
548-LA	ELIZABETH J. RANKIN	7 OF 8	YES	5,480	1,032	0	0	1,032	0	0	6,512	
549-LA	MARY E. STANTON	7 OF 8	YES	3,400	3,171	0	0	3,171	0	0	6,571	These total appropriations are due to the construction of Ramp "C"
550-LA	DOROTHY LOCKSHIN	7 OF 8	NO	1,628	5,002	0	0	5,002	0	0	6,630	
+ 551-LA	JOHN & ANNA KOLASKY	7 OF 8	NO	287	8,576	0	0	0	0	0	8,863	
552-LA	STANLEY J. OSINIAK	7 OF 8	NO	1,330	4,670	0	0	See Special Note			6,000	ADDIT. PARCEL FOUND ON SH. 6 OF 8
553-LA	JOHN & BERTHA J. SCHIRA	6 OF 8 7 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
554-LA	RUTH M. LARSON	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
555-LA	BRIDGET BROOKS	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
556-LA	JOHN MANOLUKAS	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
557-LA	JOHN N. SAUER	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
558-LA	MINNIE M. CLAYTON	6 OF 8	YES	4,400	0	0	0	0	0	0	4,400	
559-LA	OMIT NUMBER											
560-LA	JOSEPH & ELIZEBETH PAPIERNIK	6 OF 8	YES	2,584	5,016	0	0	0	0	0	7,600	This total appropriation is due to the construction of Ramp "D"
560-WA	JOSEPH & ELIZEBETH PAPIERNIK	6 OF 8				No Purchase		Involved				GARAGE REMOVAL & GRADING
561-LA	ROSE BUBAK	6 OF 8	YES	1,041	4,959	0	0	0	0	0	6,000	
561-WA	ROSE BUBAK	6 OF 8				No Purchase		Involved				GARAGE REMOVAL & GRADING
562-LA	PEARL FOLEY	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
563-LA	STANLEY J. OSINIAK	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	SEPARATE PARCEL SEE PARCEL 552-LA
564-LA	BARBARA SIEMBEIDA	6 OF 8	YES	6,000	0	0	0	0	0	0	6,000	
565-LA	HENDRIKUS J. & MICHELINA ADAMS	6 OF 8 7 OF 8	YES	9,616	2,384	0	0	0	0	0	12,000	2,678 sq. ft. of this appropriation is due to the construction of Ramp "C"
565-WA	HENDRIKUS J. & MICHELINA ADAMS	6 OF 8 7 OF 8				No Purchase		Involved				HOUSE STEPS & CONC. WALK REMOVAL & GRADING WHERE NECESSARY
565-A		7 OF 8	NO	47.9		0	0	0	0	0		
565-B-A		7 OF 8	NO	30.2	10,525	0	0	0	0	0	10,555	
566-LA	BERTHA MAE RUMMEL	5 OF 8 7 OF 8	YES	2,800	2,800	0	0	2,800	0	0	5,600	
566-WA	BERTHA MAE RUMMEL	7 OF 8				No Purchase		Involved				FILL & GRADE AREA (BASEMENT)
567-LA	HELEN BOHENEK	5 OF 8 6 OF 8 7 OF 8	YES	5,600	0	0	0	0	0	0	5,600	
568-LA	VICTORIA & ALVIN AHLSWEDE	5 OF 8 6 OF 8	YES	5,600	0	0	0	0	0	0	5,600	
569-LA	NORA KENNEDY	5 OF 8 6 OF 8	YES	5,600	0	0	0	0	0	0	5,600	
570-LA	NICK V. CRACIUM	5 OF 8 6 OF 8	YES	5,600	0	0	0	0	0	0	5,600	
571-LA	ANTHONY SWIDER	5 OF 8 6 OF 8	YES	3,589	1,411	0	0	0	1,411	0	5,600	
571-A	ANTHONY SWIDER	5 OF 8 6 OF 8	SEE ABOVE	0	0	0	0	0	1,411	0	SEE ABOVE	SECURED IN ORDER TO CONSTRUCT A TURN-AROUND
572-LA	VIOLA C. DURITZA	5 OF 8	YES	2,565	2,835	0	0	2,835	0	0	5,400	
572-WA	VIOLA C. DURITZA	5 OF 8	SEE ABOVE			No Purchase		Involved				HOUSE & GARAGE REMOVAL FILL & GRADE
572-A-WA	KATHERINE HEID	5 OF 8				No Purchase		Involved				SECURED IN ORDER TO ADJUST DRIVEWAY
573-LA	NILES LUMBER & SUPPLY Co.	5 OF 8	NO	5,400	0	0	0	0	0	0	5,400	
574-LA	C.H. & SUSAN O. JENKINS	5 OF 8	YES	5,400	0	0	0	0	0	0	5,400	
575-LA	ANGELINE DAMIANO	5 OF 8	YES	5,400	0	0	0	0	0	0	5,400	
576-LA	JAMES & MARY ALTIER	5 OF 8	YES	5,400	0	0	0	0	0	0	5,400	
577-LA	BENJAMIN & LILLIAN REICK	5 OF 8	YES	5,343	57	0	0	0	0	57	5,400	
577-A	BENJAMIN & LILLIAN REICK	5 OF 8	NO	0	0	0	0	0	0	57	SEE ABOVE	
578-LA	RICHARD W. PRICE	5 OF 8	YES	3,592	1,808	0	0	0	0	1,808	5,400	
578-A	RICHARD W. PRICE	5 OF 8	SEE ABOVE	0	0	0	0	0	0	1,808	SEE ABOVE	SECURED IN ORDER TO CONSTRUCT A TURN-AROUND

SUMMARY OF ADDITION R/W REQUIRED

PARCEL NO.	OWNER	SHEET NO'S.	EXIST. BLDG'S.	SQ.FT. TO BE ACQUIRED LA. "T"	SQ.FT. REMAINING "R"	SEVERANCE SQ.FT. LEFT	SEVERANCE SQ.FT. RIGHT	SQ.FT. ISOLATED "I"	SQ.FT. TO BE ACQUIRED -NOT "LA" LEFT	SQ.FT. TO BE ACQUIRED -NOT "LA" RIGHT	TOTAL SQ.FT.	REMARKS
579-LA	GEORGE & ELLINE PULLIAM	5 OF 8	NO	320	4,080	0	0	0	0	0	4,400	
580-LA	EUGENE A. & LILLIAN HALL	5 OF 8	YES	3,825	0	0	0	0	0	34	3,825	
580-WA	OMIT PARCEL	5 OF 8										
580-A	OMIT PARCEL	5 OF 8										
580-B-A	JOSEPH & MARY KILANOWSKI	5 OF 8	YES	0	1,872	0	0	0	0	1,050	2,922	SECURED FOR DELASON BELLEVIEW IMPROV.
580-B-WA	JOSEPH & MARY KILANOWSKI	5 OF 8	SEE ABOVE			No Purchase		Involved				FILL & GRADE AREA (BASEMENT)
580-B-SL	OMIT PARCEL	5 OF 8										
+ 580-C-A	WILLIAM J. & ALIDA HARRIS	5 OF 8	NO	0	3,555	0	0	0	0	60	3615	SECURED FOR DELASON BELLEVIEW IMPROV.
580-C-SL	OMIT PARCEL	5 OF 8										
580-D-A	HILDUR LINDGREN	5 OF 8	NO	0	3,478	0	0	0	0	53	3,531	SECURED FOR DELASON BELLEVIEW IMPROV.
581-LA	ANNA & JOHN M. VIDIS	5 OF 8	YES	7,848	459	0	0	0	0	459	8,307	
581-A	ANNA & JOHN M. VIDIS	5 OF 8	NO	0	0	0	0	0	0	459	SEE ABOVE	SECURED FOR DELASON BELLEVIEW IMPROV.
582-LA	RUTH HAMMAN	5 OF 8	YES	3,272	128	0	0	0	128	0	5,400	
582-A	RUTH HAMMAN	5 OF 8	NO	0	0	0	0	0	128	0	SEE ABOVE	SECURED FOR DELASON BELLEVIEW IMPROV.
583-LA	JOHN & MARY LAZAR	5 OF 8	YES	5,400	0	0	0	0	0	0	5,400	
584-LA	CECELIA & FRANK BAJDO	5 OF 8	YES	4,954	446	0	0	0	0	0	5,400	
585-LA	ELIZABETH JAKOBEY	5 OF 8	YES	3,120	2,280	0	0	0	0	0	5,400	
585-WA	ELIZABETH JAKOBEY	5 OF 8	SEE ABOVE			No Purchase		Involved				FILL & GRADE AREA (BASEMENT)
586-LA	HELEN R. CICHON	5 OF 8	YES	1,020	4,380	0	0	0	0	0	5,400	
587-LA	CITY OF YOUNGSTOWN	4 OF 8	NO	62,208	242,712	205,101	37,611	0	0	0	304,920	BASED ON DEEDS AVAILABLE, ADDITIONAL LAND IS KNOWN TO BE ADJACENT
587-S	CITY OF YOUNGSTOWN	4 OF 8	NO			No Purchase		Involved				GIBSON DUN IMPROVEMENT
+ 588-LA	THE DUNNING CRUM ICE & COAL Co.	4 OF 8	NO	7,257	190,680	0	0	0	0	0	197,937	
+ 589-LA	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8	NO	10,116	177,976	0	0	0	2,768	2,365	223,550 DEED	"LA" PARCELS BELONGING TO THE RAILROAD ARE NOT ADJACENT
589-A-LA	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8	NO	2,100		SEE ABOVE						
589 AERIAL	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8	NO	3,934		SEE ABOVE						
589-WA	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8	YES			No Purchase		Involved				BUILDING REMOVAL & GRADING
590	OMIT PARCEL NUMBER											
591-LA	A.C. PATTERSON	4 OF 8	YES	10,560	19,061	0	0	19,061	0	0	29,621	
591-WA	A.C. PATTERSON	4 OF 8	SEE ABOVE			No Purchase		Involved				FILL & GRADE AREA (BASEMENT)
+ 592-LA	SIDNEY RIGELHAUPT	3 OF 8 4 OF 8	YES	125,620	83,207	0	0	0	0	0	208,827 DEED	208,827 sq. ft. (Total sq. ft. corrected)
593-LA	MIKE RIDARSKY	4 OF 8	NO			No Purchase		Involved				Loss of Access Rights to Alley (See Sheet 6 of 8)
594-LA	MIKE RIDARSKY	4 OF 8	YES	18,313	0	0	0	0	0	0	18,313	SEPARATE PARCEL
595-LA	PAULINE C. BAKALIK & EDWARD H. SYMPSON	3 OF 8 4 OF 8	YES	12,093	0	0	0	0	0	0	12,093	
592-WA	SIDNEY RIGELHAUPT	3 OF 8	SEE 592 ABOVE			No Purchase		Involved				FILL & GRADE AREA (BASEMENT)
589-S	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8				No Purchase		Involved				PROPOSED 24" STORM SEWER
588-X	THE DUNNING CRUM ICE & COAL Co.	3 OF 8 4 OF 8				No Purchase		Involved				CHANNEL RELOCATION
551-WA	JOHN & ANNA KOLASKY	7 OF 8				No Purchase		Involved				SECURED TO CONSTRUCT A DRIVEWAY ACCESS
589-X	YOUNGSTOWN & SOUTHERN R.R.	4 OF 8 8 OF 8				No Purchase		Involved				CHANNEL RELOCATION
580-E-A	WILLIAM J. & ALIDA HARRIS	5 OF 8	NO		3,285	Total sq. ft. remaining based on Parcel 580-C-A being included with this parcel					270	See 580-C-A PARTICIPATING FUNDS (This parcel to be purchased by the State of Ohio)

Non-Participating Funds (This parcel to be purchased by the City of Youngstown)

Non-Participating Funds (This parcel to be purchased by the City of Youngstown)

29,621 sq. ft. of land belonging to Parcel Nº 591 LA (A.C. Patterson) is included in one Railroad Deed. Adjusted total sq. ft. is 193,929.

Total L.F. of Type "C" Fence = 4,787

NOTE:
THE LIMITED ACCESS LINE FOR PARCEL 552-LA CAN BE SO LOCATED THAT THE GARAGE ON SAID LAND NEED NOT BE TAKEN.

+ Indicates a similar number out of numerical order.

Revised Area Pcl. 552-LA 1-31-61
Revised Nov. 29, 1960 ℄

R/W SHEET Nº 2 OF 8

I-680

FED RD	STATE	PROJECT	
2	OHIO	I 608-9(5)	

96
101

MAH-7-14.35
LIMITED ACCESS

PARCEL Nº	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING
592-LA	SIDNEY RIGELHAUPT (TRUSTEE)	SEE R/W SHEET 4 OF 8			
595-LA	PAULINE C. BAKALIK & EDWARD H. SYMPSON	SEE R/W SHEET 4 OF 8			
588 X	THE DUNNING COUM ICE & COAL Co.	SEE R/W SHEET 4 OF 8			
589 X	YOUNGSTOWN & SOUTHERN R.R.	SEE R/W SHEET 4 OF 8			

WORK AGREEMENTS		
PARCEL Nº	NAME	REMARKS
592-WA	SIDNEY RIGELHAUPT (TRUSTEE)	FILL & GRADE AREA WHERE NECESSARY
588 X	THE DUNNING COUM ICE & COAL Co.	CHANNEL RELOCATION
589 X	YOUNGSTOWN & SOUTHERN R.R.	CHANNEL RELOCATION

KNOX ST.

SOUTH AVE.

PARKING AREA

TOWER

Old R/W Line

Assumed R/W Line

OPEN FIELD

O.L. 535

758+12.6 192

758+31.2 180

759+11.8 195

759+86 182.5

Type "C" Right-of-Way Fence

PT 6+74.29

S.C. 7+45.00

SLAG PARKING AREA & DRIVE

1-ST. CONC. BLOCK

760+00 175

592 WA

1-ST. BRICK

2-ST. BRICK MEAT PACKING PLANT- NOT OPERATING

EXIST. POWER LINE TO Y & B. STORE WRHE.

1-ST. FRAME ADDITION

RAMP "B"

C.S. 5+45.00

DIRT & GRAVEL - ABANDONED

2-ST. VIT. BLOCK ADDITION

1 ST. VIT. BLOCK ANIMAL BARN

O.L. 535

1-10" ELM & SCRUB TIMBER

SCRUB

763+00 60

3-4" WILD CHERRY

2-3" HAWTHORNE

1-TWIN 12" ELM

589 X

160

Begin Relocation 0+00 3.10 Rt. of P.O. Sta. 158+91.67

764+42.5 (274) 159+00 (60)

588 X

& Relocation Channel

O.L. 535

SLAG PARKING AREA

758+20 55

M.V.W.D. V.P.

8" CONC. BL. WALL

FIRE HYDRANT

759.96.2 154

2-ST. BRICK TAVERN & APARTMENT

SLAG DRIVE & PARKING AREA

1-ST. CONC. BL. GAR. & STORE RM.

595 LA

592 LA

END RAMP "B" & Ø STA. 9+49.66

EXPRESSWAY TANGENT & MATCH LINE TO R/W SHEET 4 OF 8

758

759

760

761

762

763

BEGIN WORK STA. 758+10

STA. 757+81.28 50+00 (SOUTH)

S.C. 760+04.10

BEGIN PROJECT @ STA. 762+00 ~ MAH.-7-14.35

Note: The Right-of-Way Fence is to remain 2' distant from the Limited Access Line unless otherwise stationed.

SCALE: 1" = 30'

Type "C" Fence = 603 L.F.

ADDED CO-ORDINATE TO 595-LA 1-19-61
Revised Nov. 29, 1960 @

R/W SHEET 3 OF 8

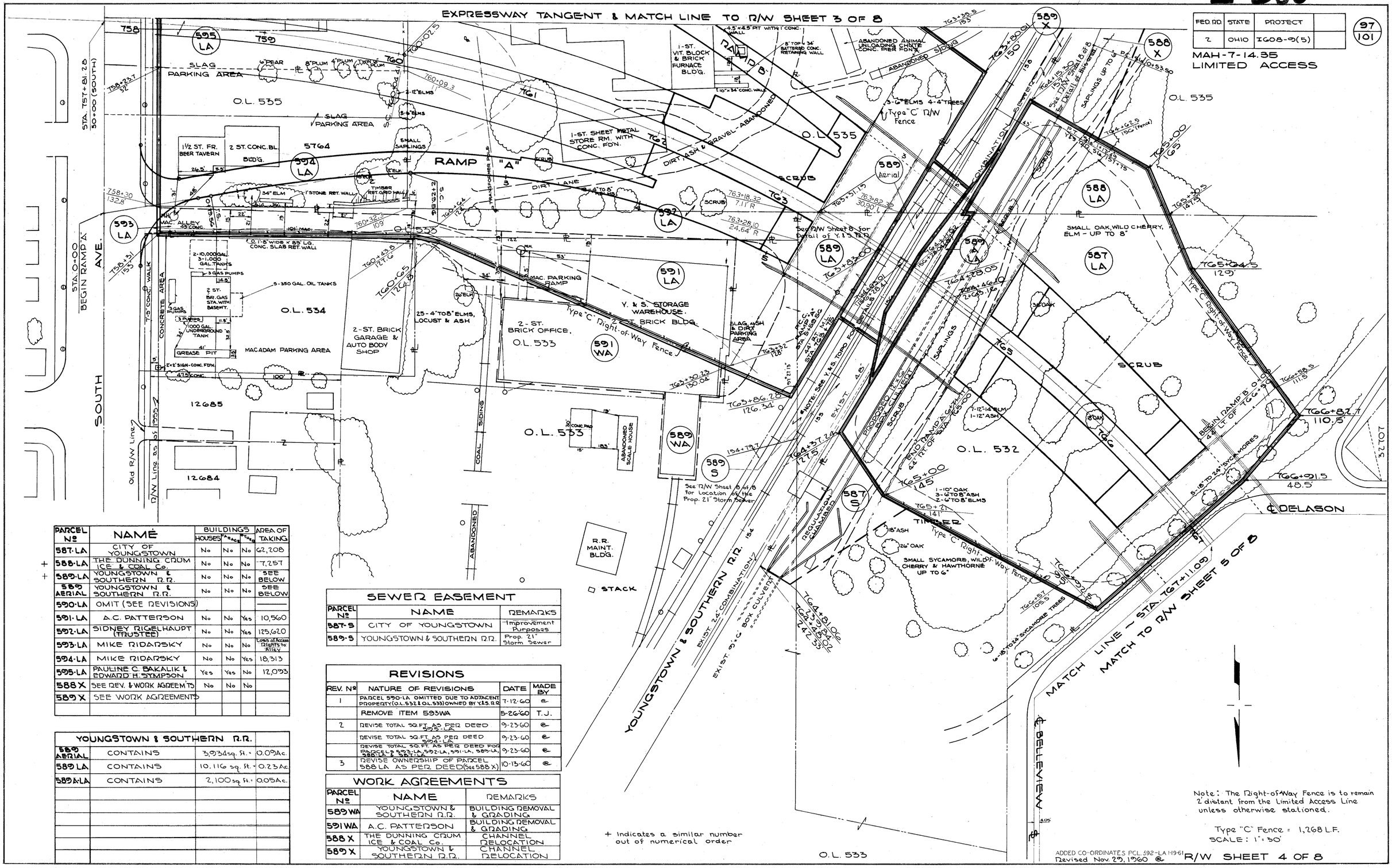
I-680

EXPRESSWAY TANGENT & MATCH LINE TO R/W SHEET 3 OF 8

FED. RD.	STATE	PROJECT	
2	OHIO	IG08-9(5)	

97/101

MAH-7-14.35
LIMITED ACCESS



PARCEL Nº	NAME	BUILDINGS HOUSES	BUILDINGS GARAGES	BUILDINGS OTHER	AREA OF TAKING
587-LA	CITY OF YOUNGSTOWN	No	No	No	62,208
+ 588-LA	THE DUNNING CRUM ICE & COAL Co.	No	No	No	7,257
+ 589-LA	YOUNGSTOWN & SOUTHERN R.R.	No	No	No	SEE BELOW
589 AERIAL	YOUNGSTOWN & SOUTHERN R.R.	No	No	No	SEE BELOW
590-LA	OMIT (SEE REVISIONS)				—
591-LA	A.C. PATTERSON	No	No	Yes	10,560
592-LA	SIDNEY RIGELHAUPT (TRUSTEE)	No	No	Yes	125,620
593-LA	MIKE RIDARSKY	No	No	No	Loss of Access Rights to Alley
594-LA	MIKE RIDARSKY	No	No	Yes	18,313
595-LA	PAULINE C. BAKALIK & EDWARD H. SYMPSON	Yes	Yes	No	12,093
588 X	SEE REV. & WORK AGREEM'TS	No	No	No	
589 X	SEE WORK AGREEMENTS				

YOUNGSTOWN & SOUTHERN R.R.			
589 AERIAL	CONTAINS	3,934 sq. ft. +	0.09 Ac.
589 LA	CONTAINS	10,116 sq. ft. +	0.23 Ac.
589 A-LA	CONTAINS	2,100 sq. ft. +	0.05 Ac.

SEWER EASEMENT

PARCEL Nº	NAME	REMARKS
587-S	CITY OF YOUNGSTOWN	Improvement Purposes
589-S	YOUNGSTOWN & SOUTHERN R.R.	Prop. 21" Storm Sewer

REVISIONS

REV. Nº	NATURE OF REVISIONS	DATE	MADE BY
1	PARCEL 590-LA OMITTED DUE TO ADJACENT PROPERTY (O.L. 532 & O.L. 533) OWNED BY Y&S R.R.	7-12-60	℄
	REMOVE ITEM 593WA	5-26-60	T.J.
2	REVISE TOTAL SQ. FT. AS PER DEED 595-LA	9-23-60	℄
	REVISE TOTAL SQ. FT. AS PER DEED 594-LA	9-23-60	℄
	REVISE TOTAL SQ. FT. AS PER DEED FOR PARCEL'S 593-LA, 592-LA, 591-LA, 589-LA, 588-LA & 587-LA	9-23-60	℄
3	REVISE OWNERSHIP OF PARCEL 588 LA AS PER DEED (See 588 X)	10-13-60	℄

WORK AGREEMENTS

PARCEL Nº	NAME	REMARKS
589 WA	YOUNGSTOWN & SOUTHERN R.R.	BUILDING REMOVAL & GRADING
591 WA	A.C. PATTERSON	BUILDING REMOVAL & GRADING
588 X	THE DUNNING CRUM ICE & COAL Co.	CHANNEL RELOCATION
589 X	YOUNGSTOWN & SOUTHERN R.R.	CHANNEL RELOCATION

+ Indicates a similar number out of numerical order

ADDED CO-ORDINATES PCL. 592-LA 1-19-61
Revised Nov. 29, 1960 ℄

R/W SHEET 4 OF 8

I-680

FED. RD.	STATE	PROJECT	
2	OHIO	IG08-9(5)	

98
101

MAH-7-14.35
LIMITED ACCESS

PARCEL Nº	NAME	BUILDINGS HOUSES	BUILDINGS TRAILERS	BUILDINGS OTHER	AREA OF TAKING	
566-LA	BERTHA MAE RUMMEL	Yes	No	No	2,800	
567-LA	HELEN BOHENEK	Yes	Yes	Yes	5,600	
568-LA	VICTORIA & ALVIN AHLSWEDE	Yes	Yes	No	5,600	
569-LA	NORA KENNEDY	Yes	No	No	5,600	
570-LA	NICK V. CRACIUM	Yes	No	No	5,600	
571-LA	ANTHONY SWIDER (SEE 571-A BELOW)	Yes	Yes	No	4,189	
572-LA	VIOLA C. DURITZA	Yes	Yes	No	2,565	
573-LA	NILES LUMBER & SUPPLY CO.	No	No	No	5,400	
574-LA	C.H. & SUSAN O. JENKINS	Yes	No	No	5,400	
575-LA	ANGELINE DAMIANO	Yes	No	No	5,400	
576-LA	JAMES & MARY ALTIER	Yes	No	No	5,400	
577-LA	BENTAMIN & LILLIAN REICK (SEE 577-A BELOW)	Yes	Yes	No	5,343	
578-LA	RICHARD W. PRICE (SEE 578-A BELOW)	Yes	Yes	No	3,592	
579-LA	GEORGE E. & ELLINE DULLIAM	No	No	No	320	
580-LA	EUGENE A. & LILLIAN HALL	Yes	Yes	No	3,825	
581-LA	ANNA & JOHN VIDIS (SEE 581-A BELOW)	Yes	Yes	No	7,848	
582-LA	RUTH HAMMAN (SEE 582-A BELOW)	Yes	Yes	No	5,272	
583-LA	JOHN & MARY LAZAR	Yes	Yes	No	5,400	
584-LA	CECELIA & FRANK BAJDO	Yes	Yes	No	4,954	
585-LA	ELIZABETH JAKOBEY	Yes	Yes	No	3,120	
586-LA	HELEN R. CICHON	No	Yes	No	1,020	
571-A	ANTHONY SWIDER	SECURED IN ORDER TO CONSTRUCT A TURN-AROUND			1,411	
577-A	BENTAMIN & LILLIAN REICK	See 577-LA			57	
578-A	RICHARD W. PRICE	SECURED IN ORDER TO CONSTRUCT A TURN-AROUND			1,808	
580-A	OMIT PARCEL				———	
580B-A	JOSEPH & MARY KILANOWSKI	Yes	No	No	1,050	
580C-A	WILLIAM J. & ALIDA HARRIS	No	No	No	60	City Purchase
+ 580D-A	HILDUR LINDGREN	No	No	No	53	City Purchase
581-A	ANNA & JOHN VIDIS	See 581-LA			459	
582-A	RUTH HAMMAN	See 582-LA			128	
580E-A	WILLIAM J. & ALIDA HARRIS	No	No	No	270	State Purchase

CURVE DATA OF LA LINE ALONG DELASON AVE.
Δ = 31°53'11"
R = 245.5'
L = 141.48'
T = 69.56'

NOTE
ALL WALKS, DRIVEWAYS & APPROACHES ARE CONCRETE UNLESS OTHERWISE NOTED.

Rev. Nº	Nature of Revision	Date	Made By
4	Corrected taking for Parcel 580-LA	11/29/60	e
	Corrected taking for Parcel 580B-A	11/29/60	e
	Omit Parcel 580A	11/29/60	e
	Omit Parcel 580 WA	11/29/60	e
	Omit Parcel 580 B-SL	11/29/60	e
	Omit Parcel 580 C-SL	11/29/60	e
5	Add Parcel 580E-A & corrected acreage for Parcel 580C-A	1/10/61	e

WORK AGREEMENTS

PARCEL Nº	NAME	Remarks
566WA	BERTHA MAE RUMMEL	FILL & GRADE AREA WHERE NECESSARY
571WA	ANTHONY SWIDER	SEE REVISIONS
572WA	VIOLA C. DURITZA	FILL & GRADE AREA WHERE NECESSARY
578WA	RICHARD W. PRICE	SEE REVISIONS
580BWA	JOSEPH & MARY KILANOWSKI	FILL & GRADE AREA WHERE NECESSARY
585WA	ELIZABETH JAKOBEY	FILL & GRADE AREA WHERE NECESSARY
572-A-WA	KATHERINE HEID	SECURED IN ORDER TO ADJUST DRIVEWAY

REV. Nº	NATURE OF REVISIONS	DATE	MADE BY
1	REVISE CONST. LIMITS RAMP "D" 370 TO 13+00	5-31-60	T.J.
2	REVISE L/A & W/A RAMP "C"	6-19-60	T.J.
3	OMIT WORK AGREEMENT FOR PARCEL 578 DUE TO CONST. OF TURN-AROUND	7-13-60	e
	OMIT WORK AGREEMENT FOR PARCEL 571 DUE TO CONST. OF TURN-AROUND	7-13-60	e

+ Indicates a similar number out of numerical order.

Revised Nov. 29, 1960 e
Revised Jan. 10, 1961 e

REVISE TOTAL SQ. FT. OF LAND AS PER DEED (581-LA)
REVISE TOTAL TAKE DUE TO CHANGE IN "LA" LINE (577-LA)

Construction Limits pending the construction of Ramp "D"
Construction Limits pending the construction of Ramp "C"
Note: The Right-of-Way Fence is to remain 2' distant from the Limited Access Line unless otherwise stationed.
Type "C" Fence = 771 L.F.

SCALE: 1" = 30'

R/W SHEET 5 OF 8

I-680

FED. RD.	STATE	PROJECT	
2	OHIO	I608-9(5)	

99/101

MAH-7-14.35
LIMITED ACCESS

*NOTE:
ALL HOUSES HAVE BASEMENTS EXCEPT THOSE NOTED.

REVISIONS

REV. Nº	NATURE OF REVISIONS	DATE	MADE BY
1	CONST. LIMITS REVISED DUE TO THE ALIGN'MT CHANGE ~ RAMP "D"	5-31-60	T. J.
2	REMOVE PARCEL Nº 561-A-LA	5-31-60	T. J.
3	CORRECTED WESTERLY R/W	6-13-60	@
4	RIGHT-OF-WAY FENCE POSITIONED TO FOLLOW FUTURE LA LINE & CONTINUED From MARION To WILLIAMSON	11-29-60	@
5	REMOVED PARCELS 561-LA & 561-WA. REVISED LA LINE STA. 772+13.7 TO STA. 774+49 LT. OF ℄	2-7-61	T. J.

WORK AGREEMENTS

PARCEL Nº	NAME	
560-WA	JOSEPH & ELIZEBETH PAPIERNIK	GARAGE REMOVAL & GRADING
~~561-WA~~	~~ROSE BUBAK~~	~~GARAGE REMOVAL & GRADING~~
565-WA	HENDRIKUS J. & MICHELINA ADAMS	HOUSE, STEPS & CONC. WALK REMOVAL & GRADING WHERE NECESSARY

END PROJECT & PAV'MT @ STA. 779+00 ~ MAH-7-1435

PARCEL Nº	NAME	BUILDINGS HOUSES	GARAGE	OTHER	AREA OF TAKING	
540-LA	LUDOVICO CALAICOVO	No	Yes	Yes	6,029	This total appropriation due to the construction of Ramp "D"
541-LA	MICHAEL P. & MARY C. MALENIC	Yes	Yes	No	6,088	
542-LA	SADIE LOPRESTA	Yes	Yes	No	6,144	
543-LA	ROSE MARY BANNA	Yes	No	No	6,206	
544-LA	ATHENA HUNTER	Yes	No	No	6,263	
545-LA	CARL LOWENGREN	Yes	No	No	6,319	
546-LA	SOPHIA LYSOWSKA	SEE R/W SHEET 7 OF 8				
553-LA	JOHN & BERTHA J. SCHIRA	SEE R/W SHEET			7 OF 8	
554-LA	RUTH M. LARSON	Yes	Yes	No	6,000	
555-LA	BRIDGET BROOKS	Yes	Yes	Yes	6,000	
556-LA	JOHN MANOLUKAS	Yes	Yes	No	6,000	
557-LA	JOHN N. SAUER	Yes	Yes	No	6,000	
558-LA	MINNIE M. CLAYTON	Yes	Yes	No	4,400	
560-LA	JOSEPH & ELIZEBETH PAPIERNIK	No	Yes	No	2,584	This total appropriation due to the construction of Ramp "D"
~~561-LA~~	~~ROSE BUBAK~~	~~No~~	~~Yes~~	~~No~~	~~1,041~~	
562-LA	PEARL FOLEY	Yes	Yes	No	6,000	
563-LA	STANLEY J. OSINIAK	Yes	Yes	No	6,000	
564-LA	BARBARA SIEMBEIDA	Yes	Yes	No	6,000	
565 LA	HENDRIKUS J. & MICHELINA ADAMS	Yes	No	No	9,616	2,678 sq. ft. of this appropriation due to the construction of Ramp "C"
567-LA	HELEN BOHENEK	SEE R/W SHEET			5 OF 8	
568-LA	VICTORIA & ALVIN OHLSWEDE	SEE R/W SHEET			5 OF 8	
569-LA	NORA KENNEDY	SEE R/W SHEET			5 OF 8	
570-LA	NICK V. CRACIUM	SEE R/W SHEET			5 OF 8	
571-LA	ANTHONY SWIDER	SEE R/W SHEET			5 OF 8	

LEGEND

(solid double line) LIMITED ACCESS or RIGHT-OF-WAY LINE WITHOUT ANY FUTURE CONSTRUCTION

(dashed line) LIMITED ACCESS LINE PENDING THE FUTURE CONSTRUCTION OF EITHER RAMP "C" or RAMP "D"

Note: The Right-of-Way Fence is to remain 2' distant from the Limited Access Line unless otherwise stationed.

Type "C" Fence = 1,023 L.F.
SCALE: 1" = 30'

Relocated LA line at 205½ Chalmers Ave. - Revised Nov. 10, 1961
Revised Nov. 29, 1960 @

R/W SHEET 6 OF 8

I-680

FED.RD.	STATE	PROJECT	
2	OHIO	I 608-9(5)	

100
101

MAH-7-14.35
LIMITED ACCESS

MATCH TO R/W SHEET 5 OF 8

MATCH TO R/W SHEET 6 OF 8

& EXIST. WILLIAMSON

& PROP. WILLIAMSON

CHALMERS AVE

MARION AVE

RAMP "C"

(FUTURE)

BELLEVIEW AVE.

Construction Limits pending construction of Ramp "C"

End Ramp "C" Sta. 181+21 (307.5) Left

End Fence Sta. 181+21 (307.5) Left

REVISIONS

Rev. Nº	Nature of Revisions	Date	Made By
1	RIGHT-OF-WAY FENCE POSITIONED TO FOLLOW FUTURE LA LINE & CONTINUED From MARION To WILLIAMSON	11-29-60	@
2	LIMITED ACCESS (FUTURE) FOR PARCEL Nº 552 HAS BEEN ALTERED TO AVOID ENCROACHMENT WITH GARAGE & STORAGE	1-24-61	@

PARCEL Nº	NAME	BUILDINGS HOUSES	BUILDINGS GARAGE	BUILDINGS OTHER	AREA OF TAKING
546-LA	SOPHIA LYSOWSKA	Yes	Yes	No	6,396
547-LA	CESIDO LEONE	Yes	No	No	6,438
548-LA	ELIZABETH J. RANKIN	Yes	Yes	No	5,480
549-LA	MARY E. STANTON	Yes	No	No	3,400
550-LA	DOROTHY LOCKSHIN	No	No	No	1,628
551-LA	JOHN & ANNA KOLASKY	No	No	No	287
552-LA	STANLEY J. OSINIAK	See Special on Summary Sheet		Note	1,330
553-LA	JOHN & BERTHA J. SCHIRA	Yes	No	No	6,000
565-LA	HENDRIKAS J. & MICHELINA ADAMS	SEE R/W SHEET 6 OF 8			
566-LA	BERTHA MAE RUMMEL	SEE R/W SHEET 5 OF 8			
567-LA	HELEN BOHENEK	SEE R/W SHEET 5 OF 8			
565-B-A		No	No	No	30.2
565-A		No	No	No	47.9

These total appropriations are due to the construction of Ramp "C"

ADDIT. PARCEL FOUND ON SHEET 6 OF 8

WORK AGREEMENTS

PARCEL Nº	NAME	
551-WA	JOHN & ANNA KOLASKY	CONSTRUCT DRIVE-WAY ACCESS

LEGEND

LIMITED ACCESS or RIGHT-OF-WAY LINE WITHOUT ANY FUTURE CONSTRUCTION

LIMITED ACCESS LINE PENDING THE FUTURE CONSTRUCTION OF EITHER RAMP "C" or RAMP "D"

Note: The Right-of-Way Fence is to remain 2' distant from the Limited Access Line unless otherwise stationed.

Type "C" Fence = 158 L.F.

SCALE: 1" = 50'

Revised Jan. 24, 1961 @
Revised Nov. 29, 1960 @

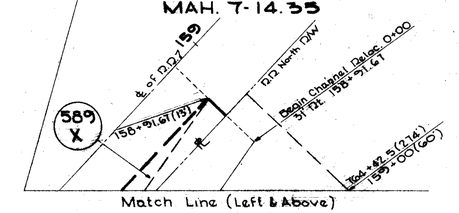
R/W SHEET 7 OF 8

I-680

FED. NO.	STATE.	PROJECT	
2	OHIO	IG08-9(5)	

101 / 101

MAH. 7-14.35



Match Line (Left & Above)

PARCEL	OWNER	ACRES
589-LA	YOUNGSTOWN & SOUTHERN R.R.	0.232
589-A LA	YOUNGSTOWN & SOUTHERN R.R.	0.048
589 AERIAL	YOUNGSTOWN & SOUTHERN R.R.	0.090
589-WA	YOUNGSTOWN & SOUTHERN R.R.	No Purchase Involved Sewer Easement
589-S	YOUNGSTOWN & SOUTHERN R.R.	Channel Change
589-X	YOUNGSTOWN & SOUTHERN R.R.	"
588-X	THE DUNNING CRUM ICE & COAL Co.	"
587-S	CITY OF YOUNGSTOWN	Sewer Easement

	YOUNGSTOWN EXPRESSWAY STATION OFFSET	YOUNGSTOWN & SOUTHERN RAILROAD STATION OFFSET
A	TG4+15.21 108.35'	157+36 18'
B	TG4+13.73 71.48'	157+00.23 14.31'
C	TG4+10.38 12.93'	156+41 8.00'
D	TG4+19.75 56.45'	156+84.86 20.00'
E	TG4+24.89 59.75'	156+87.88 23.00'
F	TG4+12.93 37.03'	155+91 8.00'
G	TG4+22.58 59.33'	155+68.14 16.70'
H	TG5+81.62 75.04'	157+03.99 20.00'
J	TG3+82.32 30.90'	156+60.25 20.00'
K	TG3+18.32 7.11'	156+21.69 84.39'
L	TG3+28.10 24.64'	156+04.24 74.16'
M	TG2+85.98 44.91'	155+81.90 113.80'
N	TG3+30.23 130.04'	154+95.75 72.52'
O	TG3+86.28 126.34'	155+02.62 20.00'
P	TG3+85.97 115.74'	155+13.29 20.00'
Q	TG3+84.43 59.33'	155+69.72 20.00'
S	TG4+54.24 85.86'	155+41 25'
T	TG4+17.02 108.41'	157+36 20'

MAINLINE CURVE DATA

Δ = 89°50'18"
Dc = 5°30'
Rc = 1041.74'
Ls = 400'
Θs = 11°
Δc = 67°50'18"
Lc = 1235.42'
K = 199.76'
Ts = 1244.94'
Es = 438.36'
L.T. = 267.18'
S.T. = 133.80'
L.C. = 599.34'
x = 398.55'
y = 25.53'
p = 6.39'

GRAPHIC SCALE
0 20' 40' 60' 80' 100'

Revised Nov. 29, 1960 @

R/W SHEET No. 8 OF 8

TE-54-A
200-1-58

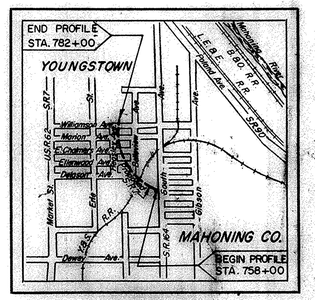
SOIL PROFILE

MAHONING COUNTY
MAH-7-14.35

OHIO STATE HIGHWAY TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

1/4

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.



LOCATION MAP

Recon-C.J.K.- 2/26/60
Drilling-Auger- J.R.G.- 3/24/60-3/29/60.
Core- J.H.S., J.R.G., W.A.R., J.B.S.- 3/8/60-3/15/60.
Drafting- D.A.P.- 6-3-60

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 82 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel and stone fragments	A-1-a(0)	A-1-a	77	1	12	5	5	NP	NP	10	1
Gravel with sand	A-1-b(0)	A-1-b	39	23	19	12	8	NP	NP	13	4
Coarse and fine sand	----	A-3a	12	19	41	19	9	NP	NP	17	1
Gravel and/or stone fragments with sand and silt	A-2-4(0)	A-2-4	34	7	27	20	12	NP	NP	18	6
Sandy silt	A-4(5)	A-4a	13	8	20	37	22	NP	NP	16	50
Silt	A-4(8)	A-4b	0	2	5	52	41	30	6	28	3
Silt and clay	A-6(9)	A-6a	3	3	7	43	44	33	12	24	11
Silty clay	A-6(11)	A-6b	0	1	1	38	60	39	17	24	1
Elastic clay	A-7-5(20)	A-7-5	0	0	1	38	61	77	38	30	1
Unclassified material											
Fill material - cinders, gravel & slag				VISUAL CLASSIFICATION							
Bouldery zone				VISUAL CLASSIFICATION							
Sandstone / Weathered shale / Shale				VISUAL CLASSIFICATION							4

Auger boring - plan view.

Drive sample-core boring - plan view.

Auger boring plotted to vertical scale only.

Drive sample-core boring, plotted to vertical scale only.

Number of blows for "Standard Penetration" test.
X-number of blows for the first 6 inches.
Y-number of blows for the second 6 inches.

NOTE: Small vertical figures beside borings indicate loss on ignition.e.g.15%.

NOTE: Figures beside borings indicate water content in percent. e.g.15.

Sod or Topsoil= X'= Approximate depth.

Berm material

● Water content nearly equal to or greater than liquid limit.

⊖ Indicates a non-plastic material with high water content.

W Free water

S Indicates soft rock interval

Sample Tested
Lab. Nos.So.
50292-50325 incl.
51228-51275 incl.

GENERAL INFORMATION

INTRODUCTION

The project consists of 0.4 mile of the Youngstown Innerbelt Expressway, beginning at South Avenue (SR 164), extending westward and then northward, terminating at Williamson Avenue. The proposed grade indicates the following:

SR 7 - cut, up to 23 feet in depth; and fill embankment, on the order of 30 feet in height.

Ramp "A" - fill embankment ranging from 0 to 30 feet in height.

Ramp "B" - cut, slightly more than 3 feet in depth; and fill embankment, as much as 36 feet in height.

Ramp "C" - the grade indicated on the plans, however, it is estimated fill embankment will attain a height of at least 10 feet, and cut will be less than 5 feet in depth.

Ramp "D" - cut, maximum of 5 feet in depth; and fill embankment, 15 feet in height.

GEOLOGY AND OBSERVATION OF THE SITE

Geologically, the alignment traverses a moderately dissected portion of the glaciated Allegheny Plateau, in a region where the glacial-derived cover has filled the valley of Gibson Run, on the valley slopes and on the uplands, ranges from approximately 5 to 31 feet in thickness.

There is surface indication of man-made fill consisting of steel mill refuse - slag, gravel, and cinders - between Stations 758+00 and 763+50 on SR 7 centerline, Stations 0+00 to 5+00 on Ramp "A", and Stations 5+50 to 3+30 on Ramp "B".

Local bedrock is composed of shale and sandstone of the Pottsville formation, Pennsylvanian age.

EXPLORATION

Exploratory borings were made by means of truck mounted mechanical earth auger, between March 24 and 29, 1960. The auger borings were supplemented by six drive sample-core borings made in conjunction with the structure foundation investigations at Delason Avenue, Youngstown and Southern Railroad, and Williamson Avenue.

INVESTIGATIONAL FINDINGS

SR 7 - below grade, materials in the cut areas consist of sandy silts, and gravels, in the A-4a and A-1-b classifications, with bouldery zones. In the embankment foundation area, thin fill, 1 to 3 feet in thickness comprised of gravels, cinders and slag, overlies sandy silts, in the A-4a classification. Wet gravel and sandy silt intervals up to three feet in thickness were encountered in borings at Stations 763+40, 766+86 and 767+62.

Ramp "A" - materials in the embankment foundation area consist largely of sands and sandy silt, in the A-3a and A-4a classifications; wet silt and sandy silt were encountered in each of the borings between Stations 4+00 and 6+60. Cinder fill was found to be a foot or less in thickness.

Ramp "B" - sandy silt, in the A-4a classification, constitutes the predominant material in the embankment foundation area and below proposed grade in the cut. Although some moist zones were encountered in the boring at Station 2+90, these are considered to be of negligible thickness to have detrimental effect. Slag, gravel and cinder fill was found to range from one to three feet in thickness. Frost susceptible silts were found at grade at Station 7+00 and less than 2 feet below grade at Station 9+00.

Ramp "C" - surface materials are comprised of as much as 5 feet of cinder fill, and sandy silt, in the A-4a classification.

Ramp "D" - sandy silt, in the A-4a classification is below grade in the cut area and at surface in the foundation area. Frost susceptible silts were encountered at Stations 0+15 and 3+30.

SOIL PROFILE
MAHONING COUNTY
MAH-7-14.35
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

2/4

For profile of Ramps "A" and "B" see sheet 3.

For profile of Ramp "D" see sheet 4.

Station 9+88.8 Ramp "B" Station 48+70.93 ℄ Existing South Avenue

Station 0+00 ℄ Ramp "A" Station 51+93.8 ℄ Existing South Avenue

Proposed S.R.7

Youngstown Avenue · Gibson Avenue · Southern R.R. · Rail · Dalason Avenue · Ellenwood Avenue · Chalmers Avenue · Heasley Avenue · Marion Avenue · Williamson Avenue

Ramp "A" · Ramp "B" · Ramp "C" · Ramp "D" · Ramp "F" · Ramp "G"

765 · 770 · 775 · 780 · 782

Drive Sample-Core Boring

Sod=0.5' · 22 ● Trace of organic · 17 · 16 · 12 · 11 · Refusal

Fill material · Hand Auger-Drive Sample-Core Boring · TS=0.2 · 70' Lt. · Refusal

50' Rt. · TS=0.5' · Refusal

56' Lt. · 56' Rt. · * Refusal

Sod=0.5' · 21 · 16 · 23 · 12 · Refusal

Sod=0.5' · Sandstone · Refusal

30' Lt. · 45' Lt. · Sod=0.3' · Refusal (Boulders) · Hole caved in at elev. 975.0'

4/23/59 Drive Sample-Core Boring · TS=0.5' · Refusal (Boulders) · Sandstone boulders · * 3' penetration

Gray sandstone cobbles and fragments

TOP OF ROCK-IN-PLACE

Sandstone, gray, medium-grained, with few thin soft shale beds, firm, medium-bedded, broken in part. Core loss 20%.

Shale, dark gray, siliceous with thin sandstone laminae, fissile, firm. No Core Loss.

Sandstone, gray, medium-fine-grained, firm, massive. No Core Loss.

Description Of Core Boring - Station 766+89 56' Lt.

A. TOP OF ROCK-IN-PLACE

B. Sandstone, buff to gray, medium-grained, with thin irregular coal seams below 951.0' firm, massive, broken in part. No Core Loss.

Top of Rock-In-Place
Note: For complete description of cored interval see Ramp "B" sheet 3.

LOGS OF OFFSET BORINGS RAMP "C"

Sta. 7+50 · 35' Lt. · Sod=0.5' · 17 · 16 · 17 · 24 Organic · 24 ● Trace of organic · 16

Sta. 10+00 · 35' Rt. · Fill material · W · 16 · 16

A - Top of Rock-In-Place

B - Sandstone, gray and brownish-gray, coarse to medium-grained, with micaceous laminae, medium-firm, jointed below 948.0', medium-bedded, with clay seam near base. Core loss 6%.

C - Shale, black, carbonaceous, slightly siliceous, hard, firm, jointed throughout. Core loss 10%.

D - Shale, dark-gray, siliceous, hard, firm, jointed throughout. Core loss 10%.

DRIVE SAMPLE SOIL TEST DATA

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL. Class.
781+63 ℄	5.0-6.0	27	6	15	31	21	26	10	18	A-4a
	10.0-11.0	28	6	17	28	21	NP	NP	17	A-4a
	15.0-16.0	18	8	17	39	18	NP	NP	15	A-4a
	20.0-20.8	62	7	17	5	9	NP	NP	16	A-1-b

980 · 970 · 960 · 950 · 940 · 930 · 920 · 910 · 900

758 · 759 · 760 · 761 · 762 · 763 · 764 · 765 · 766 · 767 · 768 · 769 · 770 · 771 · 772 · 773 · 774 · 775 · 776 · 777 · 778 · 779 · 780 · 781 · 782

TE-54-B
900-5-59

SOIL PROFILE
MAHONING COUNTY

3/4

MAH-7-14.35
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

980
970
960
950
940
930
920
910

0 1 2 3 4 5 6 7

15' Lt. Fill material 18 20 8 Refusal

Description Of Drive Sample-Core Boring
Station 5+40 - 5' Rt.

A. Greenish-gray sandy silt with shale fragments.

B. TOP OF ROCK-IN-PLACE

C. Shale, greenish-gray to gray, argillaceous, fissile medium-firm to medium-soft, broken and crumbly, with few firm sandstone beds (0.5' to 0.2' thick, comprising about 20% of interval). Core Loss 3%.

Description Of Core Boring
Station 5+90, 5' Rt.

A. TOF OF ROCK-IN-FLACE

B. Shale, gray, fissile medium-firm with soft clay seams, with few thin fine-grained sandstone beds, weathered to extremely weathered, broken. Core Loss 30%.

C. Shale, gray, fissile, firm with medium-firm zones, jointed in part, broken. Core Loss 6%.

D. Sandstone, gray, fine-grained, firm, massive. No Core Loss.

E. Gray, argillaceous, medium-soft with few firm zones, badly broken and crumbly. Core Loss 46%.

4' Rt. Fill material 21 25 30 32 24 28 25 Refusal Hole caved in at elev. 958.7

Trace of organic

Trace of organic Slightly organic

Drive Sample-Core Borings

5' Rt.

5' Rt.

15' Rt. TS=0.5' 2 14 17 18 Refusal

Ramp "A"

990
980
970
960
950
940
930
920
910

10 9 8 7 6 5 4 3 2 1 0

℄ TS=0.4' 16 20 14

℄ Fill material 18 Refusal

Description Of Core Boring
Station 2+00, 7' Rt

A. TOP OF ROCK-IN-PLACE

B. Sandstone, buff, medium-grained, with few thin irregular coal seams above elevation 933.8', firm, massive, broken in Part above elev. 933.8'. Core Loss 7%.

Description Of Core Boring
Station 2+90, 5' Rt

A. Brown sandstone boulders and cobbles with clayey silt.

B. TOP OF ROCK-IN-PLACE

C. Shale, greenish-gray, argillaceous, fissile, medium-soft, extremely weathered, crumbly. Core Loss 33%.

D. Sandstone, gray, fine-grained, firm, thin-bedded, broken in part, grading intermittently with a gray argillaceous, shale (fissile, firm, medium-firm in part, broken, comprising about 20% of interval). Core Loss 2%.

℄ Fill material 18 18 14 Refusal

Hand Auger-Drive Sample-Core Borings

5' Rt.

7' Rt. 10' Rt. Sod=0.5 10 7 Slightly organic Refusal Hole caved in at elev. 940.0'

17' Lt. Fill material 16 20 23 24

℄ TS=0.5' 16 9 6 5 Refusal

Ramp "B"

TE-54.B
900-5-59

SOIL PROFILE
MAHONING COUNTY
MAH-7-14.35
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

4/4

SUMMARY OF SOIL TEST DATA

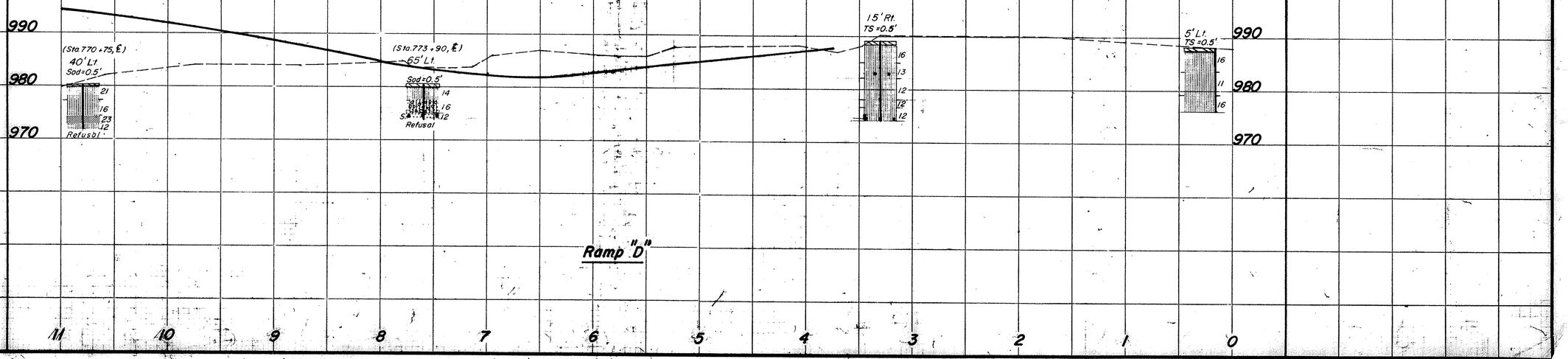
NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
* Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
					S. R. 7						
760+00	CL	0.5-2.0	7	7	15	40	31	24	2	22	A-4a
		2.0-5.5	9	6	21	45	22	23	5	17	A-4a
		5.5-10.0	18	8	22	38	19	22	4	16	A-4a
		10.0-11.5	10	7	23	41	19	22	5	12	A-4a
		11.5-12.0	8	7	28	35	22	NP	NP	11	A-4a
762+08	CL	0.0-1.0	Fill Material - Cinders								Visual
		1.0-5.0	8	5	19	34	34	26	8	21	A-4a
		5.0-8.0	0	5	8	41	46	32	11	27	A-6a
		8.0-14.0	0	3	3	51	43	35	10	27	A-4b
		14.0-19.0	0	0	2	45	53	32	11	27	A-6a
763+40	CL	0.0-1.5	Fill Material - Cinders								Visual
		1.5-5.5	0	6	28	41	24	24	7	21	A-4a
		5.5-9.0	18	7	20	43	12	NP	NP	19	A-1-b
		9.0-11.0	42	9	21	18	10	22	4	26	A-2-4
		11.0-12.0	32	11	18	25	14	NP	NP	14	A-1a
766+50	50'Rt	0.5-5.0	20	9	18	32	21	24	5	15	A-4a
		5.0-8.0	12	7	28	36	21	24	6	16	A-4a
		8.0-12.0	14	12	26	34	14	NP	NP	17	A-4a
		12.0-15.5	15	9	34	25	17	NP	NP	16	A-4a
770+75	CL	0.5-3.0	34	5	13	31	17	26	8	21	A-4a
		3.0-6.0	12	6	18	44	20	23	4	16	A-4a
		6.0-7.5	6	2	9	40	43	32	11	23	A-6a
		7.5-8.5	7	6	19	35	33	23	6	12	A-4a
773+90	CL	0.5-3.0	23	11	20	31	15	NP	NP	14	A-1a
		3.0-5.5	33	4	28	22	13	NP	NP	16	A-2-4
		5.5-6.5	Brown & Gray Soft Sandstone Boulder							12	Visual
778+10	30'Lt	0.5-3.0	13	8	18	41	20	NP	NP	12	A-4a
		3.0-6.0	32	6	17	31	14	NP	NP	10	A-4a
778+10	15'Lt	0.3-3.5	8	8	20	41	23	NP	NP	18	A-4a
		3.5-5.0	4	5	15	46	30	NP	NP	23	A-4a
		5.0-8.5	39	18	20	14	9	NP	NP	14	A-1-b
		8.5-12.0	36	30	21	8	5	NP	NP	14	A-1-b
		12.0-14.0	33	35	17	8	7	NP	NP	9	A-1-b
781+25	CL	0.5-4.5	13	10	18	36	23	NP	NP	18	A-4a
		4.5-9.0	8	5	14	47	26	NP	NP	17	A-4a
		9.0-11.5	8	7	20	39	26	NP	NP	17	A-4a
		11.5-16.0	20	14	27	27	12	NP	NP	18	A-4a
		16.0-19.0	13	11	24	31	21	NP	NP	16	A-4a
					RAMP "A"						
7+85	15'Lt	0.3-3.0	12	8	18	40	22	24	4	18	A-4a
		3.0-6.0	7	7	21	40	25	26	6	20	A-4a
		6.0-7.0	Gray Soft Sandstone Boulder							8	Visual
4+00	4'Rt	0.0-1.0	Fill Material - Cinders								Visual
		1.0-4.0	0	4	6	47	43	32	12	21	A-6a
		4.0-7.0	0	4	5	50	41	27	14	25	A-6a
		7.0-10.5	0	7	20	34	39	32	9	30	A-4a
		10.5-13.0	0	0	0	50	50	31	3	32	A-4b
		13.0-17.0	0	1	1	38	60	38	17	24	A-6a
		17.0-19.0	0	6	1	43	50	26	11	26	A-6a
		19.0-20.0	0	0	1	38	61	77	38	45	A-7-5
6+60	15'Rt	0.5-1.5	9	6	40	25	20	23	4	21	A-4a
		1.5-4.0	21	7	38	20	14	NP	NP	14	A-2-4
		4.0-7.0	12	19	41	19	9	NP	NP	17	A-3a
		7.0-9.0	18	8	33	28	13	NP	NP	18	A-4a
					RAMP "B"						
0+05	CL	0.5-4.5	38	8	18	29	13	NP	NP	16	A-4a
		4.5-5.5	36	8	23	22	11	NP	NP	16	A-2-4
		5.5-7.0	Brown & Gray Soft Sandstone Boulder							9	Visual
		7.0-8.5	Brown & Gray Soft Sandstone Boulder							6	Visual
0+50	17'Lt	0.0-0.3	Fill Material - Gravel and Cinders								Visual
		0.3-5.0	7	5	13	46	29	30	11	20	A-6a
		5.0-8.0	0	1	3	41	44	38	15	23	A-6a
		8.0-10.0	0	1	1	38	60	37	15	24	A-6a
1+90	10'Rt	0.5-2.0	77	1	12	5	5	NP	NP	10	A-1-a
		2.0-6.0	29	8	34	17	12	NP	NP	17	A-2-4
4+50	CL	0.0-3.5	Fill Material - Cinders								Visual
		3.5-6.5	18	9	15	28	30	29	11	18	A-6a
		6.5-9.0	20	6	18	28	28	28	9	18	A-4a
		9.0-10.5	13	8	22	32	25	25	7	14	A-4a
7+00	CL	0.0-0.8	Fill Material - Slag Fill								Visual
		0.8-8.5	8	8	22	39	23	NP	NP	11	A-4a
9+00	CL	0.4-3.0	9	8	20	43	20	22	3	16	A-4a
		3.0-7.0	8	5	17	46	24	25	6	20	A-4a
		7.0-10.0	13	7	21	36	23	26	7	14	A-4a
7+50	35'Lt	0.5-2.5	10	6	19	45	20	NP	NP	17	A-4a
		2.5-7.0	17	6	16	41	20	NP	NP	16	A-4a
		7.0-11.5	13	7	17	42	21	23	7	17	A-4a
		11.5-13.5	0	3	11	56	30	31	14	24	A-6a
		13.5-15.5	0	3	11	56	30	25	6	24	A-4b
		15.5-20.0	44	6	18	22	10	20	3	16	A-2-4
10+00	35'Pt	0.5-3.5	Fill Material - Cinders								Visual
		3.5-8.0	14	11	17	38	20	NP	NP	16	A-4a
		8.0-12.0	9	9	20	42	20	NP	NP	16	A-4a
					RAMP "D"						
0+15	5'Lt	0.5-4.5	14	10	19	36	21	NP	NP	16	A-4a
		4.5-9.0	21	6	13	50	20	NP	NP	11	A-4a
		9.0-12.0	8	8	18	45	21	NP	NP	16	A-4a
9+30	15'Rt	0.5-4.0	13	6	16	46	19	NP	NP	16	A-4a
		4.0-7.0	11	8	19	45	23	NP	NP	13	A-4a
		7.0-11.0	10	11	19	38	22	NP	NP	12	A-4a
		11.0-12.5	11	9	20	42	19	NP	NP	12	A-4a
		12.5-15.0	7	7	19	42	25	NP	NP	12	A-4a

HAND AUGER - DRIVE SAMPLE BORING SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
					S. R. 7						
766+69	56'Lt	2.5-3.5	15	7	17	42	19	NP	NP	19	A-4a
		5.0-6.0	18	8	19	36	19	NP	NP	18	A-4a
		7.5-8.5	8	8	19	42	23	25	8	22	A-4a
		10.0-11.0	9	4	11	50	26	25	6	24	A-4b
		12.5-13.5	6	5	19	41	27	27	5	25	A-4a
		15.0-15.5	43	5	32	9	11	NP	NP	22	A-2-4
767+62	58'Rt	2.5-3.5	6	6	12	48	28	27	9	26	A-4a
		5.0-6.0	0	0	1	72	27	NP	NP	22	A-4b
		7.5-8.5	0	0	3	76	21	NP	NP	18	A-4b
		10.0-11.0	12	9	31	33	15	NP	NP	15	A-4a
		12.5-13.5	8	6	31	34	16	NP	NP	15	A-4a
		15.0-16.0	8	12	39	24	12	NP	NP	16	A-4a
		20.0-21.0	10	7	38	32	13	NP	NP	12	A-4a
					RAMP "A"						
5+40	5'Rt	2.0-3.0	19	13	18	33	19	NP	NP	24	A-4a
		5.0-6.0	49	7	15	29	21	17	NP	30	A-4a
		7.5-8.5	73	7	12	2	6	NP	NP	16	A-1-a
		10.0-11.0	41	9	12	22	16	NP	NP	19	A-4a
		12.5-13.5	42	17	9	18	14	NP	NP	24	A-2-4
		15.0-16.0	0	0	0	52	48	NP	NP	29	A-4b
		17.5-18.5	5	7	23	38	27	NP	NP	20	A-4a
		20.0-21.0	26	5	19	34	16	NP	NP	13	A-4a
5+90	5'Rt	5.0-6.0	24	15	38	7	16	NP	NP	24	A-3a
		7.5-8.5	56	8	23	7	6	NP	NP	19	A-1-b
		10.0-11.0	22	6	33	24	15	NP	NP	15	A-4a
		12.5-13.5	36	1	18	19	26	25	7	22	A-4a
					RAMP "B"						
2+00	7'Rt	0.0-1.0	33	10	25	19	13	NP	NP	29	A-2-4
		1.0-2.0	8	9	38	29	16	NP	NP	18	A-4a
		5.0-6.0	76	6	10	3	5	NP	NP	14	A-1-a
2+90	5'Rt	1.0-2.0	30	6	19	25	20	NP	NP	15	A-4a
		2.0-2.5	38	15	19	16	12	NP	NP	11	A-2-4
		5.0-6.0	48	6	22	6	18	NP	NP	24	A-1-b
		7.5-8.5	62	24	8	- 6 -		NP	NP	23	A-1-a
		10.0-11.0	56	4	24	9	5	NP	NP	15	A-1-b
		12.5-13.5	55	6	13	17	9	NP	NP	18	A-2-4
		15.0-16.0	46	8	4	22	20	26	5	18	A-4a
		17.5-18.5	0	0	1	55	32	10	43	A-4a
		20.0-21.0	0	0	0	38	62	38	15	23	A-6a
		22.5-23.5	0	0	0	43	57	35	10	25	A-4a
		25.0-26.0	0	2	15	65	18	NP	NP	32	A-4b



	Signature	Date
Drawn by		
Checked by	Mary Cassidy	4-27-60
Recom checked by	Paul D. Page	5-2-60
Reviewed by		