

**MAHONING & TRUMBULL COUNTIES**  
**MAH. I.R.-80-12.82**  
**TRU. I.R.-80-0.00**

**RVE DATA**

- 2. 430+51.96
- 44° 25' 40" Rt.
- 2'-30"
- 100'
- 2291.83'
- 5° 00' 00"
- 2.91'
- 199.95'
- 266.77'
- 133.43'
- 799.86'
- 137.07'
- 186.88'
- 1377.11'
- 199.70'
- 1.63'
- 14° 26' 40"
- 2. 419+14.89
- 2. 423+14.89
- 2. 436+92.00
- 2. 440+92.00

± Boring  
 ve Rod Sounding

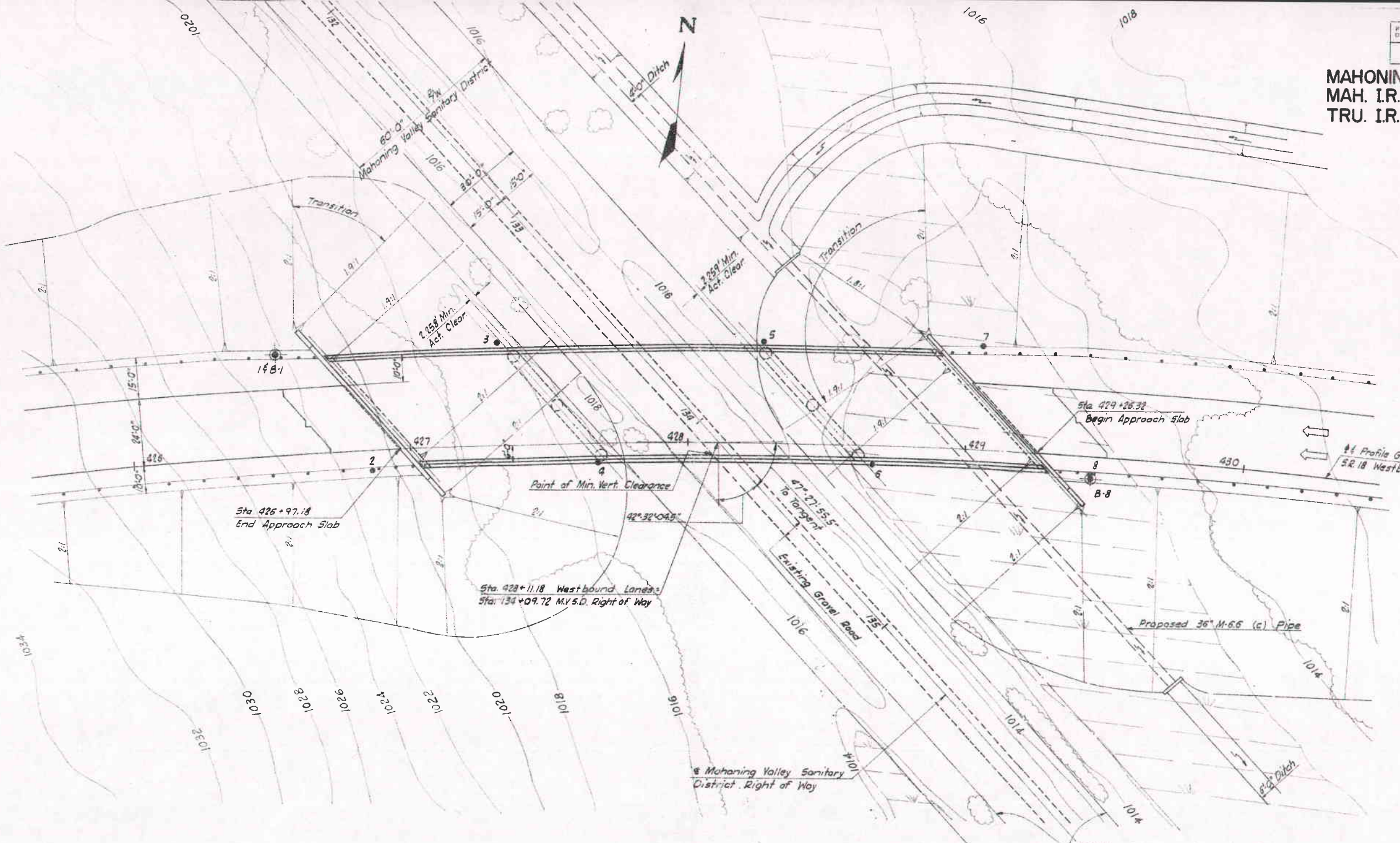
**GRADING INFORMATION**



PI Sta. 430+42  
 Elev. 1051.14  
 VC. 300'

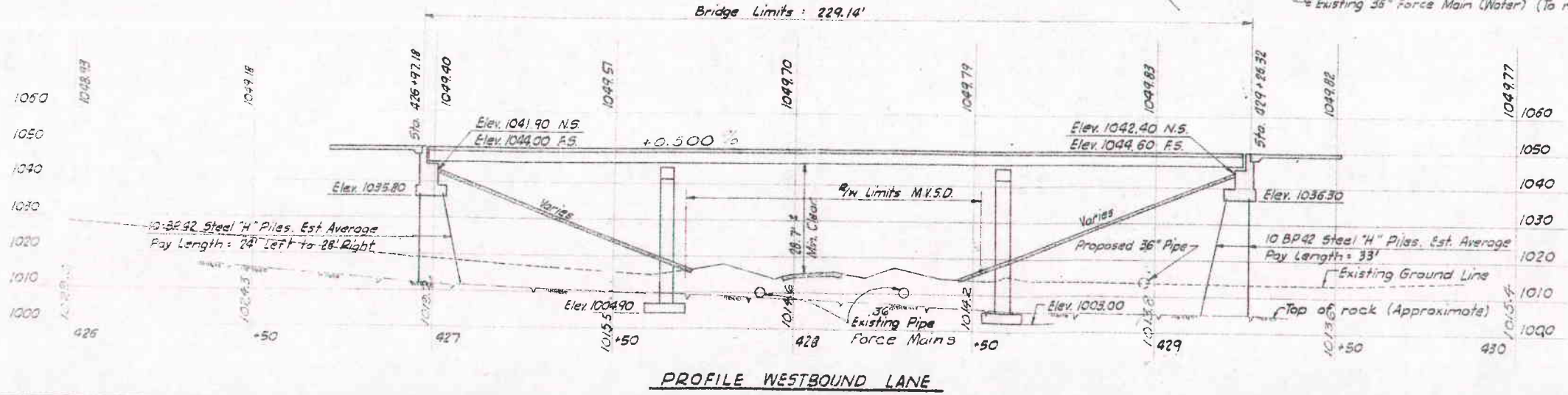
**GRADE DATA**

**FOUNDATION SOUNDINGS**  
 Foundation design and foundation  
 are based on a study of rod  
 logs and soil sampling soundings  
 at the site. This sounding  
 information, the accuracy of which  
 does not guarantee, may  
 be used in the office of the  
 State Engineer or in  
 the State Office.



1975 A.D.T. 20,225

PROPOSED STRUCTURE	
TYPE: Continuous welded plate girders with reinforced concrete deck and substructure.	
SPANS: 65'-0" - 93'-0" - 65'-0" c.c. bearings	
ROADWAY: 40'-0" $\frac{1}{2}$ Parapets including 1'-0" Curbs.	
LOAD FREQUENCY: C.F. 2000 (57) (Adequate for AA.5.HO Alternate Loading.)	
SKEN: 42°-32' - 43.5° Rt. Forward (Measured from Reference Chord)	
WEARINGS SURFACE: 1" Monolithic Concrete.	
APPROACH SLABS: A.S. - 1-54 (25' long)	
ALIGNMENT: 2°-30' Curve - Right	
SUPERELEVATION: 0.081' / Ft.	



MAH-I 680-C033 L

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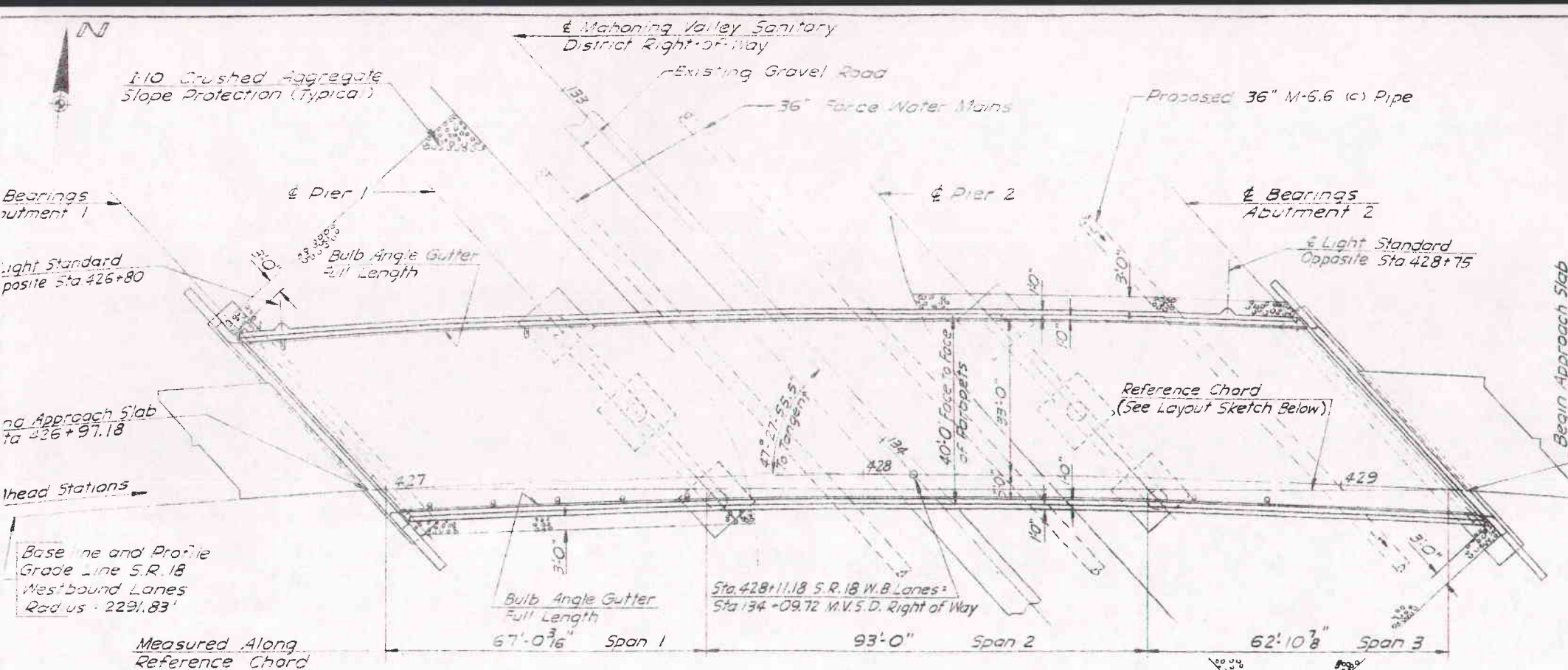
**SITE PLAN**

BRIDGE NO. MAH-18-1380 LT.  
 S.R.18WB LANES OVER MAHONING VALLEY  
 SANITARY DISTRICT RIGHT OF WAY

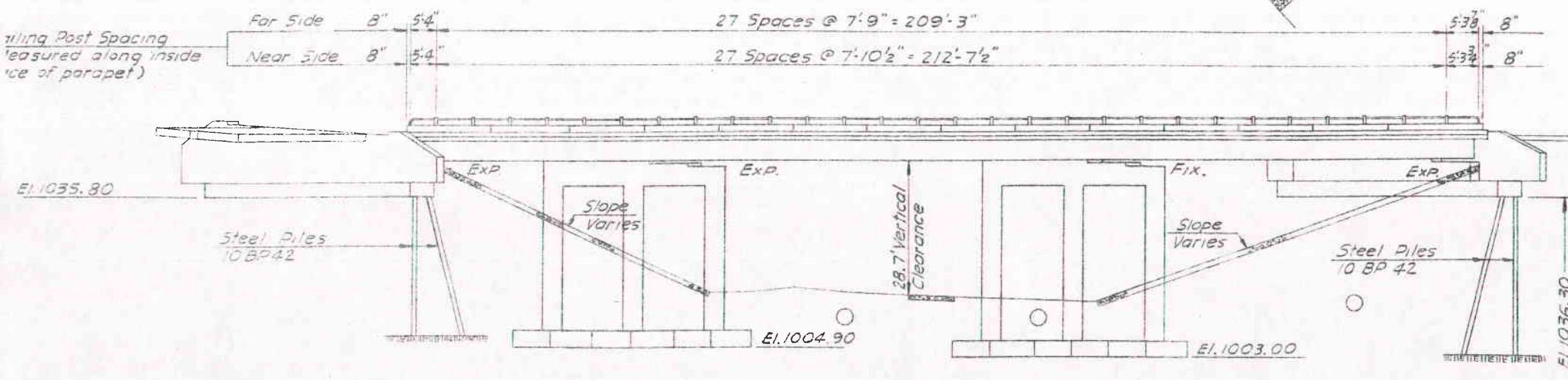
MAHONING CO. STA. 426+97.18  
 STA. 429+26.32

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	T.P.	AA.	AA.	D.W.P.	

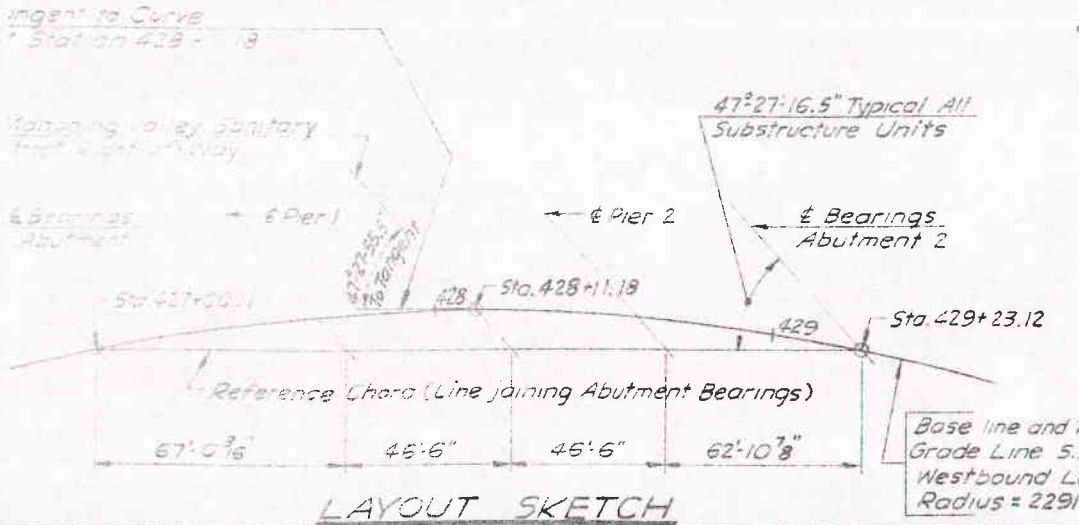




**GENERAL PLAN**



**ELEVATION**



**LAYOUT SKETCH**

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E-2	198	Cu.Yd.	Rock Excavation			198	
E-2	649	Cu.Yd.	Unclassified excavation		347	302	
E-2	Lump	Sum	Cofferdams, cribs, and sheeting				
S-101	296	Each	Water-reducing, set-retarding admixture	296			
S-1	296	Cu.Yd.	Class "C" concrete - superstructure	296			
S-1	165	Cu.Yd.	Class "C" concrete - piers above footings			165	
S-1	179	Cu.Yd.	Class "E" concrete - footings		98	81	
S-1	152	Cu.Yd.	Class "E" concrete - abutments above footings		152		
S-4	159,055	Lbs.	Reinforcing steel	86,020	14,537	58,498	
S-7	285,290	Lbs.	Structural steel	285,290			
S-8	285,290	Lbs.	Field painting of structural steel	285,290			
S-14	445.84	Lin.Ft.	Railing (Type "A" Aluminum rail and supports, concrete parapet)				
S-16	Lump	Sum	First test pile				
S-18	1,180	Ln.Ft.	Steel piles, 10BP42			1,180	
S-25			Electrical lighting system, complete *				
S-29	63	Cu.Yd.	Porous backfill		63		
S-29	9	Each	Scuppers, including supports	9			
S-29	107	Ln.Ft.	6" perforated, helical C.M.P., M-6.4 (h) including specials			107	
S-29	84	Ln.Ft.	6" helical C.M.P., M-6.4 (h) non-perforated			84	
S-10	1,300	Sq.Yd.	Crushed aggregate slope protection				1,300

\* See General Summary, Lighting Sheet No. 207 for detailed description.

**GENERAL NOTES**

- REFERENCE shall be made to Standard Drawings RB-1-55 revised 2-2-59, SO-1-63 dated 11-12-63 Sheets 2, 3, and 4 of 4, AR-1-57 revised 4-2-62, Supplemental Specification S101 dated 7-12-62 and to Supplemental Specification S-307 dated 10-1-64.
- 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.
- FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5.0 tons per sq. ft.
- PIER FOOTINGS shall extend a minimum of 3' into undisturbed rock, or to the elevations shown, whichever is lower.
- WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B
- CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.
- MACHINE FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.
- EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments, and the piers.
- PILES shall be driven, with a hammer of not less than 7,000 ft. lbs. per blow, to firm contact with rock. If the length of penetration is approximately equal to the depth of 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 rating:
  - 45 Tons per pile using a 7,000 ft. lb. hammer
  - 38 Tons per pile using an 11,000 ft. lb. hammer
  - 35 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 35 Tons per pile.

Design Loading - CF = 2000 (57)  
 Concrete Class "C" - basic unit stress 1,333 p.s.i.  
 Concrete Class "E" - basic unit stress 1,133 p.s.i.  
 Structural Steel - ASTM A36 - basic unit stress 20,000 p.s.i. (ASTM A7 and A373 steel not permitted)  
 Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, Structural Grade with a basic unit stress of 18,000 p.s.i.  
 Steel Piles - Piles shall conform to ASTM A-36, A-7, or A-373

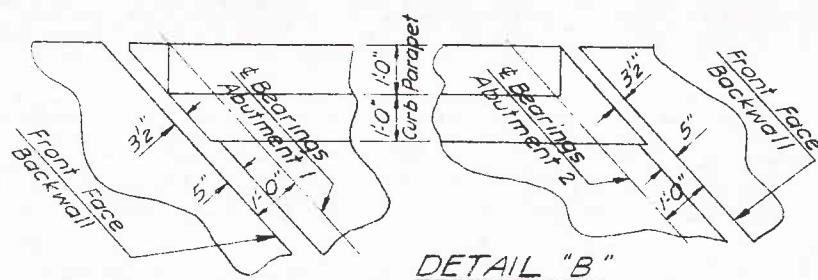
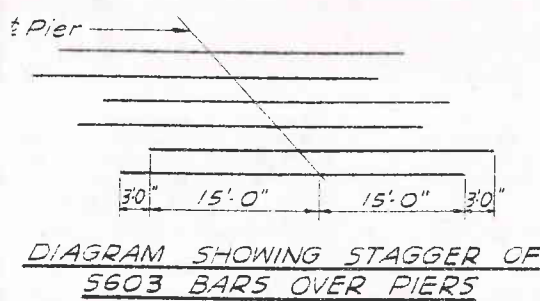
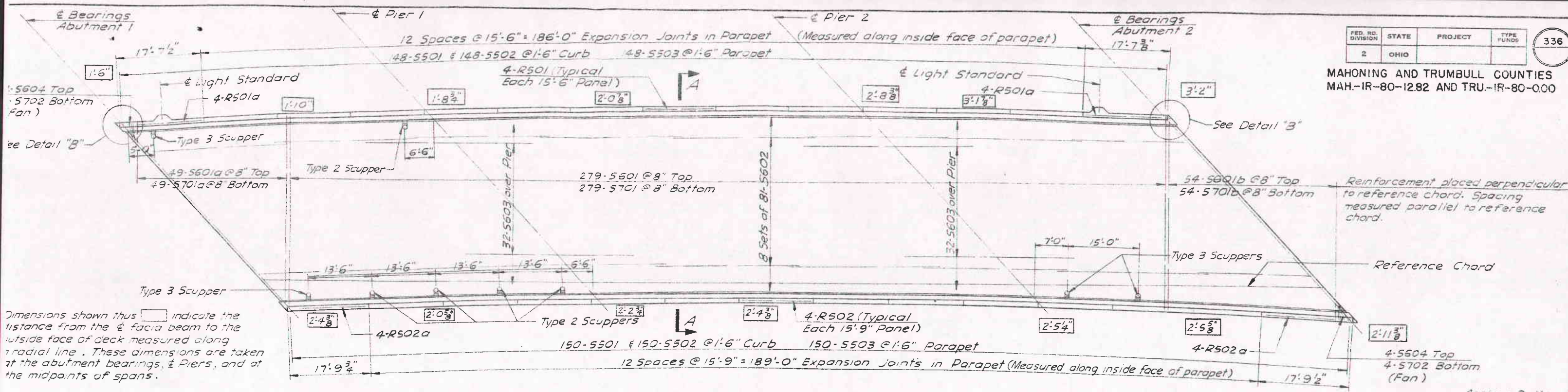
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ROCHESTER, PENNSYLVANIA

**GENERAL PLAN & ELEVATION**  
 BRIDGE NO MAH-18-1380 LT.  
 S.R.18 W.B. LANES OVER MAHONING VALLEY  
 SANITARY DISTRICT RIGHT OF WAY  
 STA. 426+97.18  
 STA. 429+26.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CWC	CWC	CWC	R.L.S.	7-14-64	

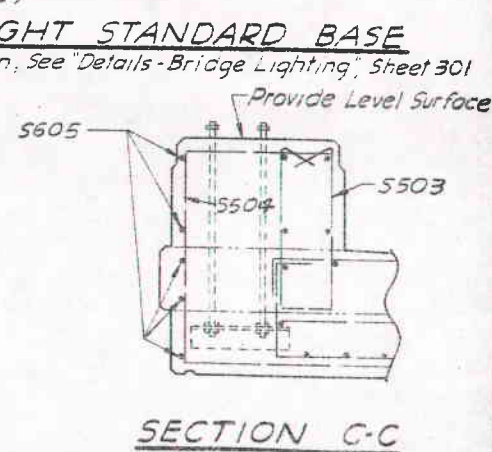
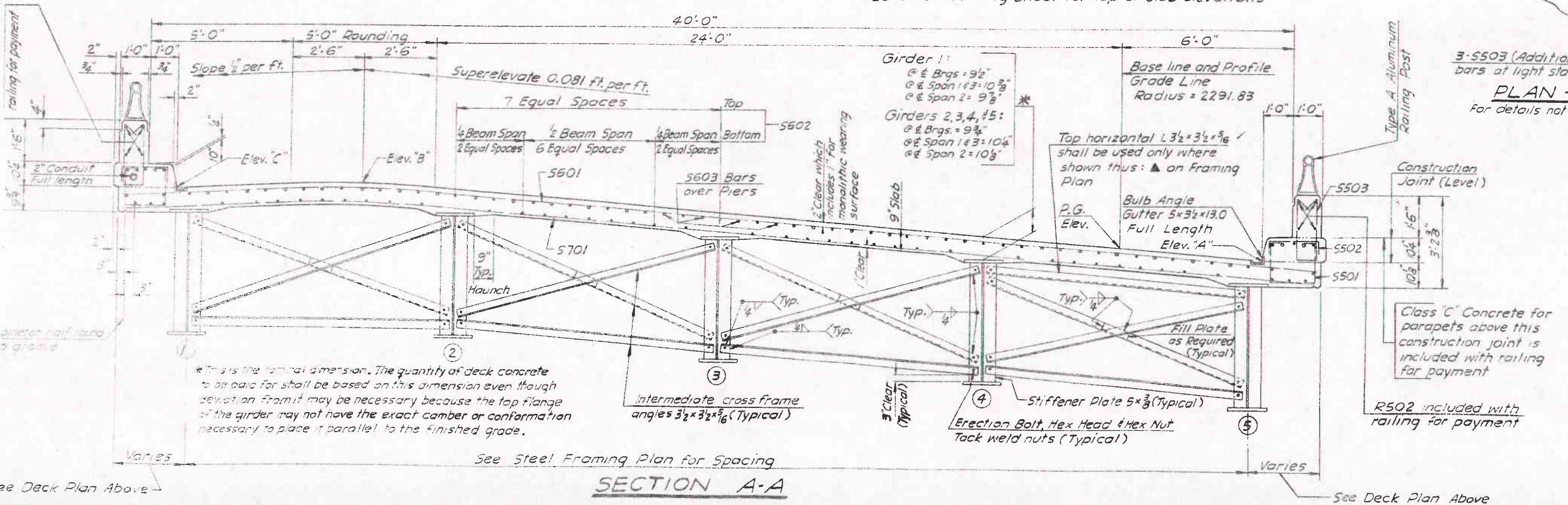
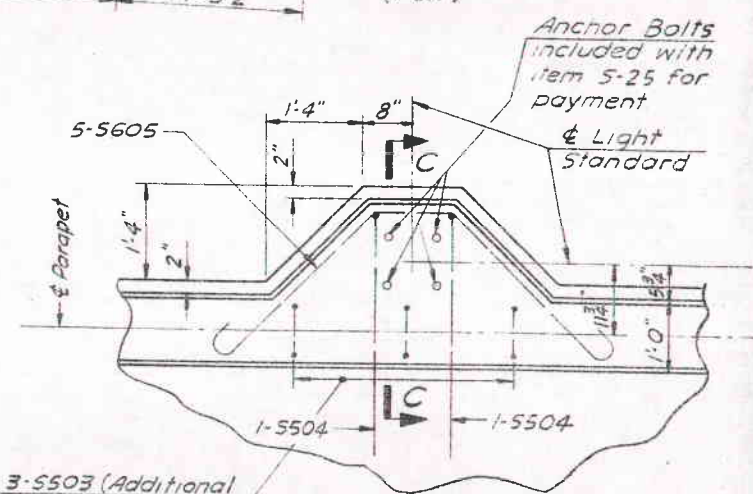


MAHONING AND TRUMBULL COUNTIES  
MAH-IR-80-12.82 AND TRU-IR-80-000



**DECK REINFORCING PLAN**

- NOTES:**
- DECK SLAB HAUNCH: A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.
  - REFER to Standard Drawings SD-1-63 dated 11-12-63, Sheets 2, 3, 4 of 4, for end crossframes (Beam Spacing 12'0" to 16'0"), roadway end dam for monolithic wearing surface, curb plate details, and scupper details (Type 2 Scupper). See superstructure detail sheet for Type 3 Scupper.
  - REFER to Standard Drawing AR-1-57, revised 4-2-62 for parapet railing.
  - ALL concrete is Class "C".
  - SEE steel framing sheet for top of slab elevations



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**DECK PLAN**

BRIDGE NO. MAH-18-1380 LT.  
S.R. 18 W.B. LANES OVER MAHONING VALLEY  
SANITARY DISTRICT RIGHT OF WAY  
STA 426+97.18  
STA 429+26.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DM	CWC	CWC	RLS	7-14-64	