

MAHONING & TRUMBULL COUNTIES
 MAH. IR. 80-12.82
 TRU. IR. 80-0.00

DATA

- 135+04.15
- 25' 40" R
- 30'
- 1'
- 71.83'
- 00'
- 1'
- 7.95'
- 3.77'
- 43'
- 135'
- 707'
- 38'
- 7.11'
- 170'
- 3'
- 25' 40"
- 424+52.04
- 428+51.04
- 442+44.20
- 445+44.20
- 91' / 2'

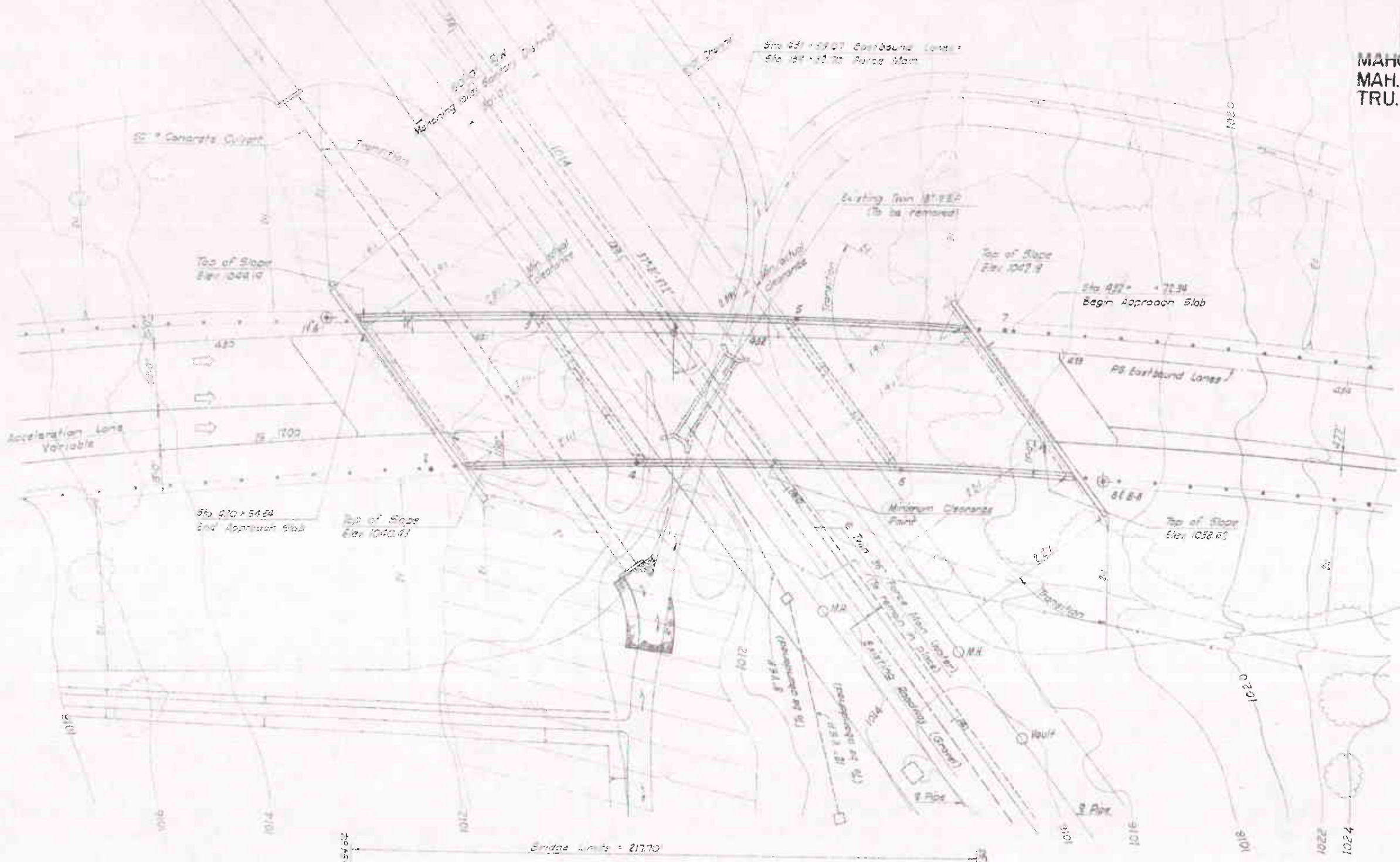
PI Sta 423+53
 Elev 1056.54
 VC 300'

TRADE DATA

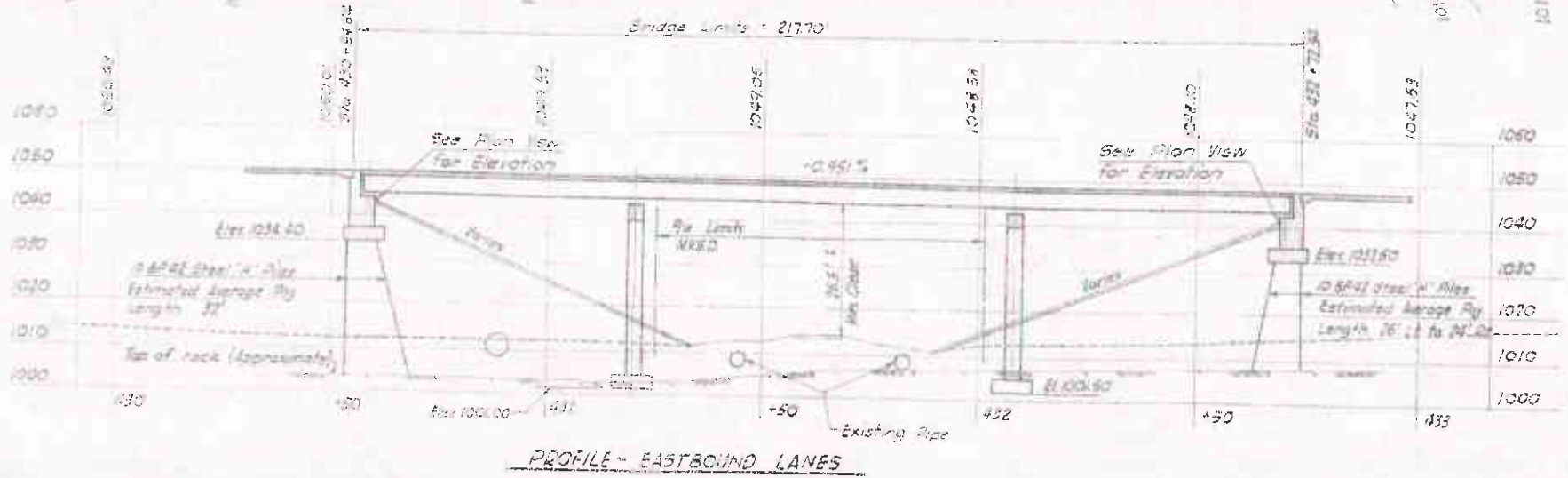
- * Core boring
- * Drive Rod sounding

NOTES INFORMATION

FOUNDATION SOUNDINGS
 Foundation design and foundation
 is based on a study of 100
 1 and soil sounding soundings
 the site. This sounding information,
 by of which the State does not
 may be examined in the office
 of the State Engineer at Columbus or
 in any of the District Offices.



PROPOSED STRUCTURE
TYPE: Continuous Steel Beams with reinforced concrete deck and substructure.
SPANS: 62'-88'-52" s.o. Bearings
ROADWAY: variable (full width construction) See Plan.
LOAD FREQUENCY: C.F. 2000 (S7) (Adequate for A.A.S.H.O. Alternate Loading)
SKEN: 37° 32' 05" Rt. Forward
WEARING SURFACE: 1" Monolithic Concrete
APPROACH SLABS: 45'-1-54. (25' long)
ALIGNMENT: 2° 30' Curve Right.
SUPERELEVATION: 0.08' / ft



PROFILE - EASTBOUND LANES

MICHAEL BAKER JR. CONSULTING ENGINEERS
 ROCHESTER, PENNSYLVANIA

SITE PLAN

BRIDGE NO. MAH-18-1387 RT.
 SR 18 E.B. LANES OVER MAHONING VALLEY
 SANITARY DISTRICT RIGHT OF WAY

MAHONING CO. STA 430+54.64
 STA 432+72.34

DESIGNED	APPROVED	CHECKED	REVISIONS
TP	AA	AA	DKR

MAHONING & TRUMBULL COUNTIES
MAH. IR - 80-12.82
TRU. IR - 80-0.00

- ESTIMATED QUANTITIES -

Item	Qty	Description	Summary	Units	Price	Amount
E-2	42	Cut Rock Excavation			92	
E-2	650	Cut Unclassified Excavation		385	285	
E-1		Jump Sun Cofferdams, Crib, and Sheeting			Jump Sun	
E-1	339	Cut Class "C" Concrete Superstructure	238			
E-1	208	Cut Class "C" Concrete Pier Columns & Caps			208	
E-1	177	Cut Class "E" Concrete Floorings		105	72	
E-1	170	Cut Class "E" Concrete Abutment Footings		170		
E-3	19	6th Waterproofing, Premixed Sealing Strip			19	
E-4	17,225	Reinforcing Steel	105,300	4,197	5,476	
E-4	44,000	lb. Structural Steel	148,800			
E-8	42,000	Field Painting of Structural Steel	94,500			
E-14	464	1/2" Rolling Type "A" Aluminum Rail and Supports & Concrete Parapet	47458			
E-15		Jump Sun Pier Test Pile			Jump Sun	
E-18	140	10" x 12" Steel Piles, 100' L		140		
E-21		Electrical Lighting System, Complete				
E-21	81	Cut Parapet Baskets		81		
E-22	7	Each Scuppers, including supports		7		
E-22	143	1/2" x 1/8" Perforated, Helical CMP, 1/4" dia. including specials		143		
E-22	115	1/2" x 1/8" Helical, CMP, 1/4" dia. Non-perforated		115		
E-10	1820	6" x 6" Crushed aggregate slope protection		1820		
E-10	228	1/2" x 1/8" Water-retaining restraining aggregate	228			

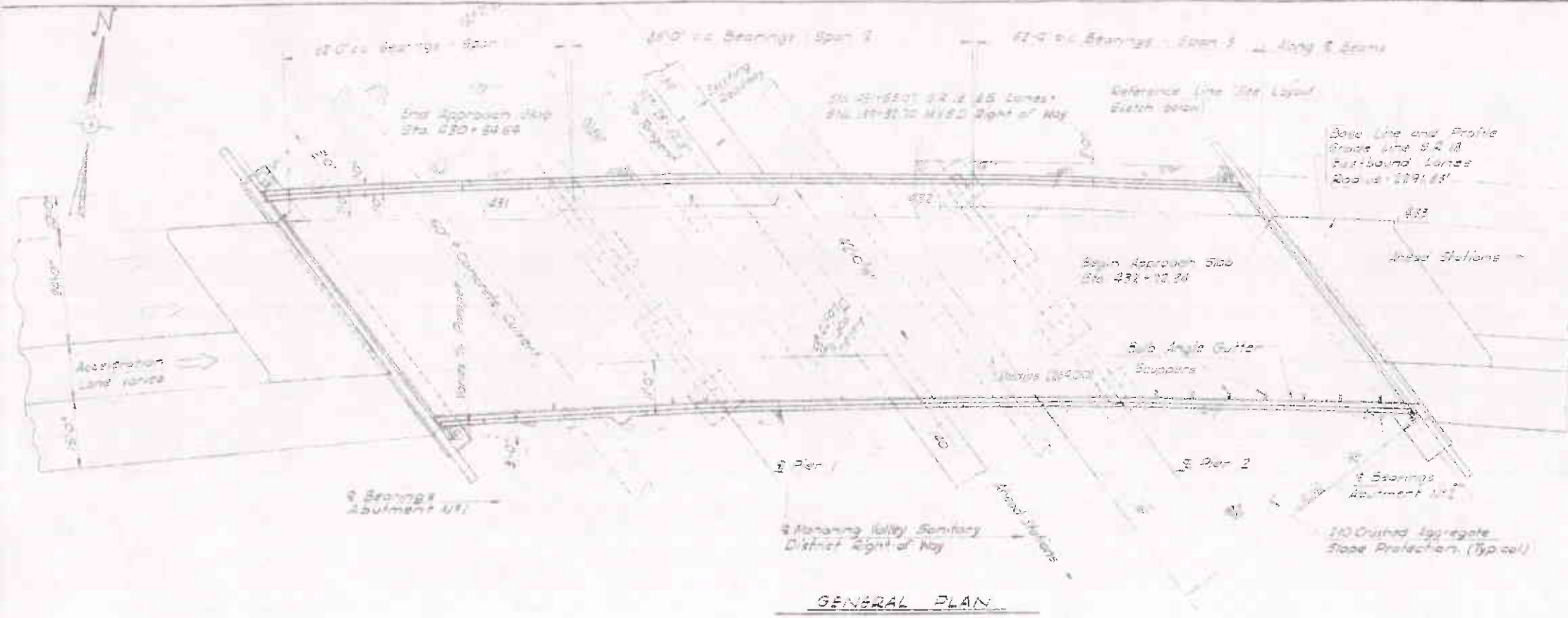
GENERAL NOTES:

- * See General Summary Lighting Sheet No. 207 for detailed description, unit & quantity.
- * REFERENCE: shall be made to Standard Drawings 28-155 revised 2-2-59, 50-1-63 dated 1-2-63, Sheets 2, 3, 4 of 4, 4R-1-57 revised 4-2-52, and to Supplemental Specifications, 5-101 dated 7-7-62, and 5-102 dated 10-1-64.
- * DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" Department of Highways, dated 7-1-57 together with current revisions thereof.
- * EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments and piers.
- * PILES shall be driven, with a hammer of not less than 1,000 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 obtained when the capacity according to the formula in Sec 518.05 is not less than the following value for a pile hammer of the indicated energy rating:
 35 tons per pile using a 1,000 ft. lb. hammer
 35 tons per pile using a 15,000 ft. lb. or greater hammer
- * WELDING of structural steel shall be Class "A" except as otherwise shown. 1/4" x 3/8" welds are shown thus 3/8" - 1/4" welds may be tied with any of the options of the Contractor, to be made in the shop.
- * PIER FOOTINGS shall extend a minimum of 3' into undisturbed rock, or to the situations shown, whichever is over.
- * FOUNDATION BEARINGS PRESSURE: Pier footings are designed for a maximum bearing pressure of 10 tons per square ft.

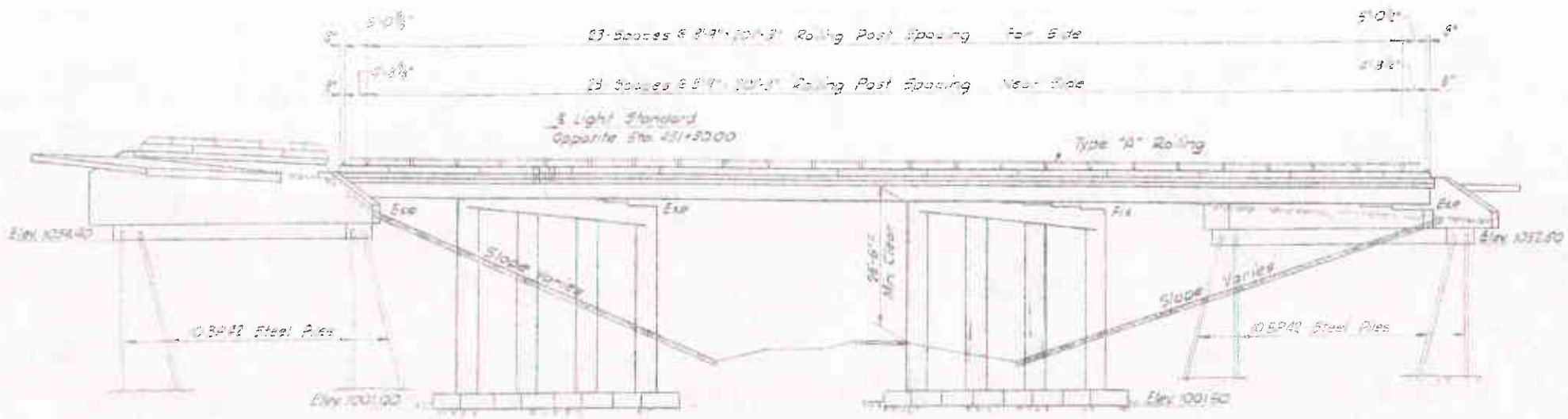
* CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress up-grade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

* MILLING FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.

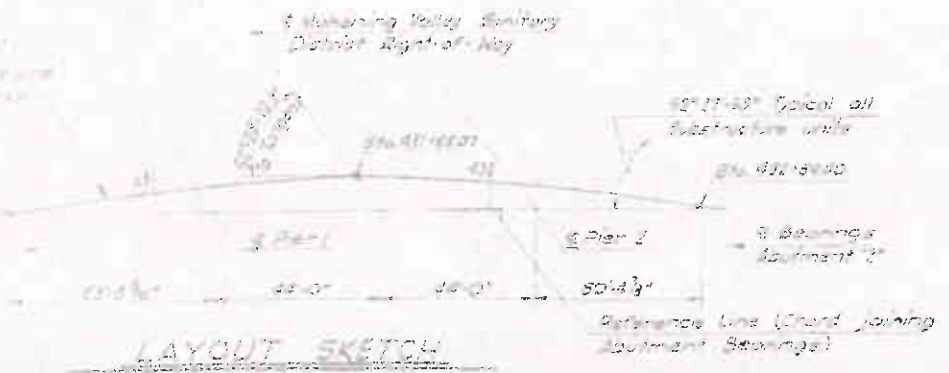
Design Loading - CP 8000 (57)
 Concrete Class "C" basic unit stress 333 p.s.i.
 Concrete Class "E" basic unit stress 133 p.s.i.
 Structural Steel - A 1 M, A36 basic unit stress 10,000 p.s.i. (ASTM A7 and A37 steel not permitted)
 Reinforcing Steel - ASTM A5, A6, A10, Deformed, Intermediate or Hard Grade, Basic unit stress 10,000 p.s.i. except spiral reinforcement may be plain, structural grade with basic unit stress of 9,000 p.s.i.
 Steel Piles - Piles shall conform to ASTM A36, A7 or A373



GENERAL PLAN



ELEVATION



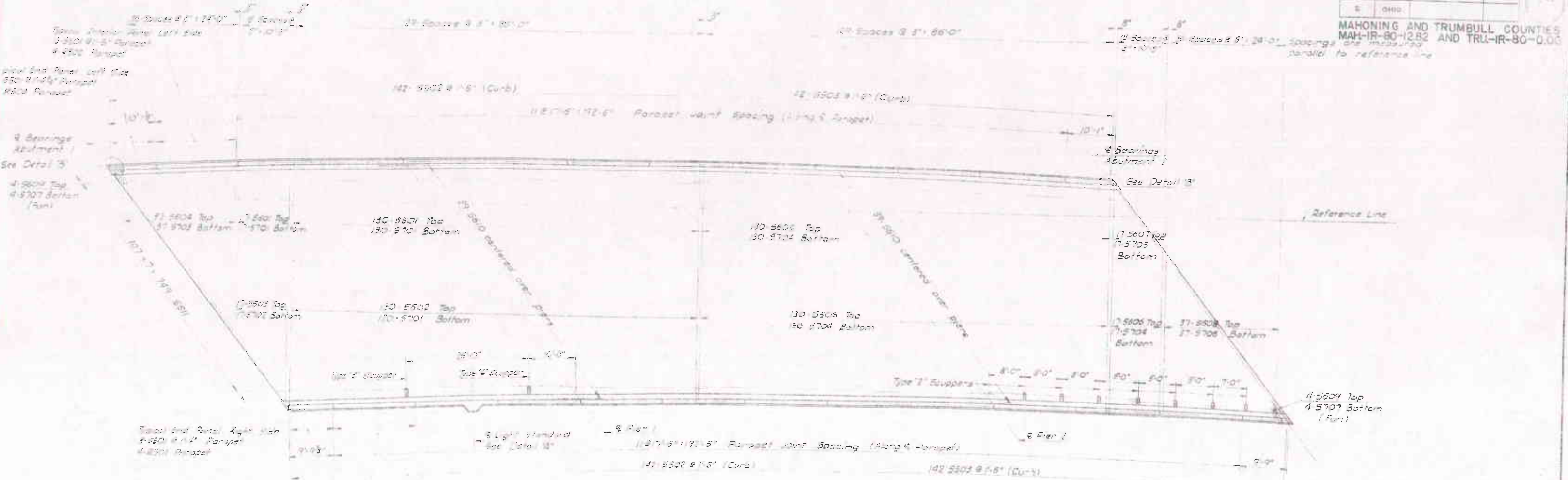
LAYOUT SKETCH

MICHAEL BAKER JR., CONSULTING ENGINEERS
 ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION
 BRIDGE NO. MAH-18-1387 RT
 SR 18 E & LANES OVER MAHONING VALLEY
 SANITARY DISTRICT RIGHT OF WAY

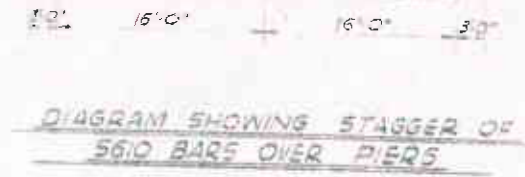
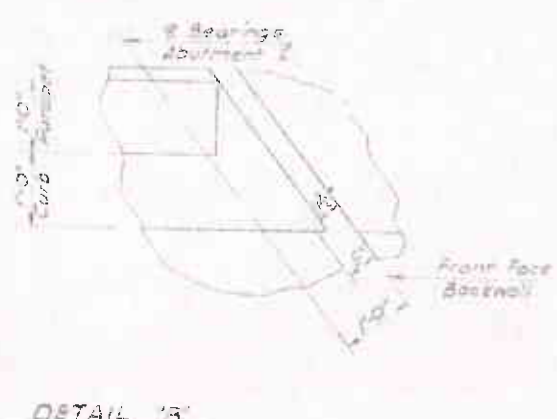
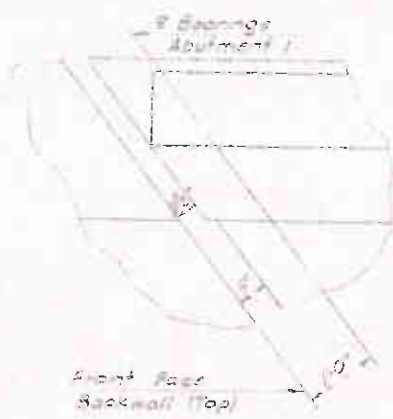
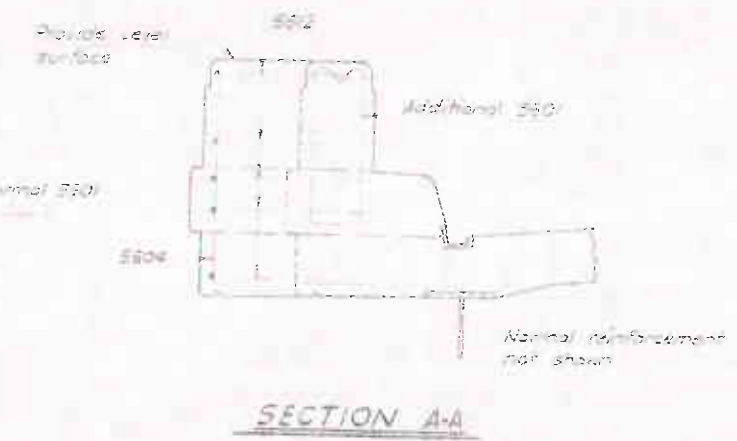
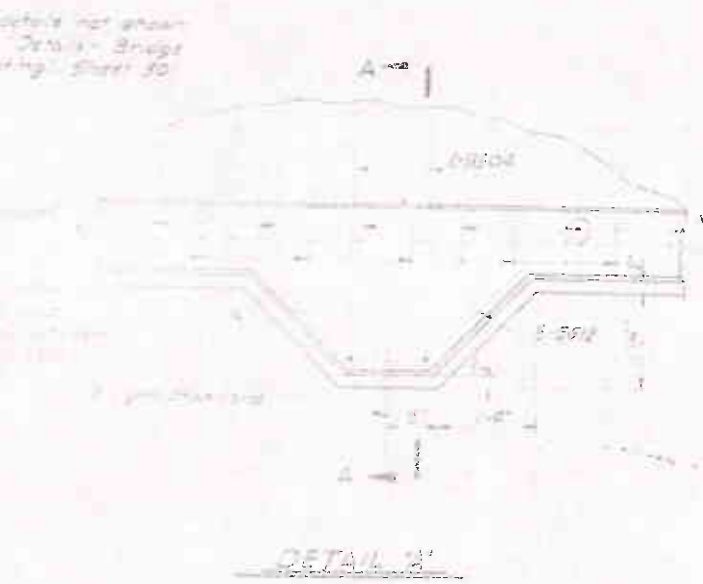
STA 430+54.64
 STA 432+72.34

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MM	MM	MM	MM	7-1-64	



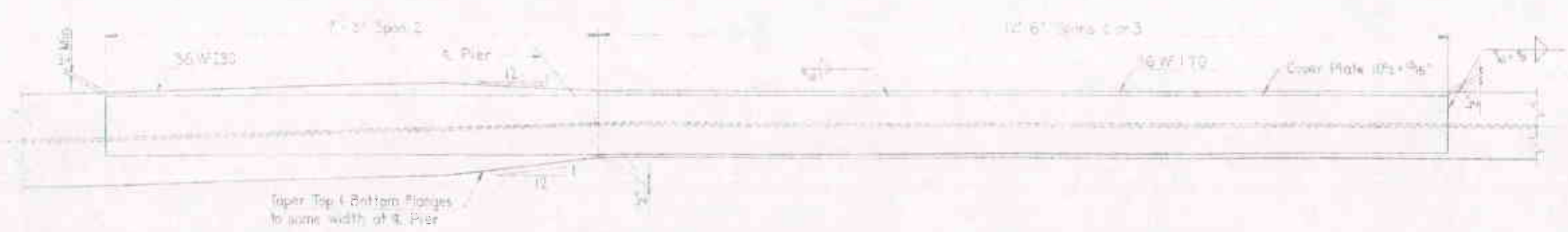
DECK REINFORCING PLAN

NOTES
 * See notes on STEEL FRAMING SHEET
 * For Scupper Details and Notes, see DECK DETAILS SHEET

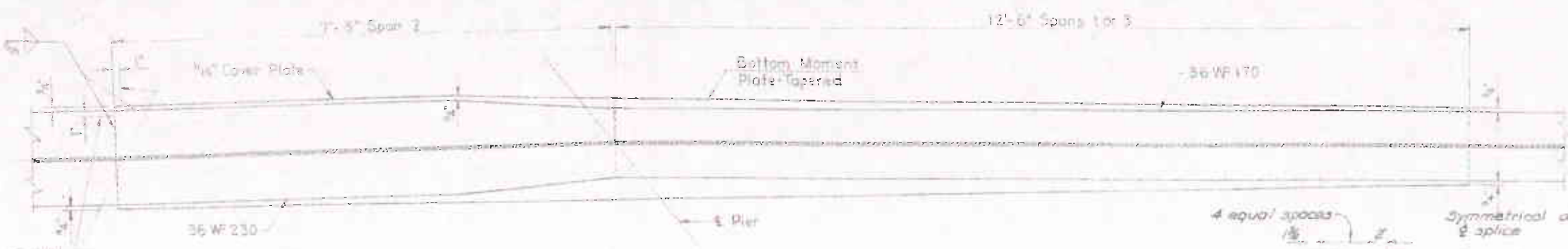
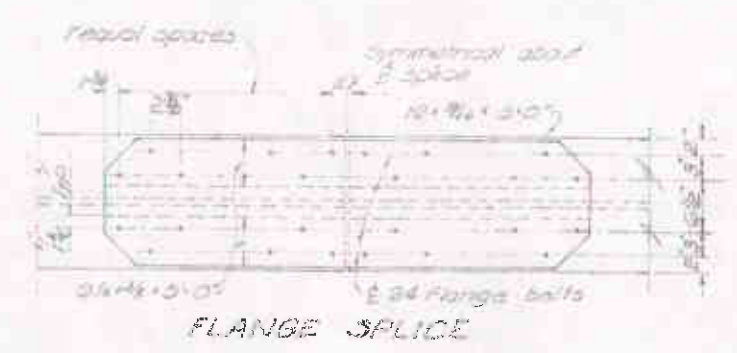


MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
DECK PLAN					
BRIDGE NO MAH-18-1387 RT SR 18 E B LANES OVER MAHONING VALLEY SANITARY DISTRICT RIGHT OF WAY					
MAHONING CO			STA 430+54.64 STA 432+72.34		
DESIGNED	DRAWN	TRACKED	CHECKED	REVISION DATE	BY
WVH	WVH	MM	KAE	7/19-69	

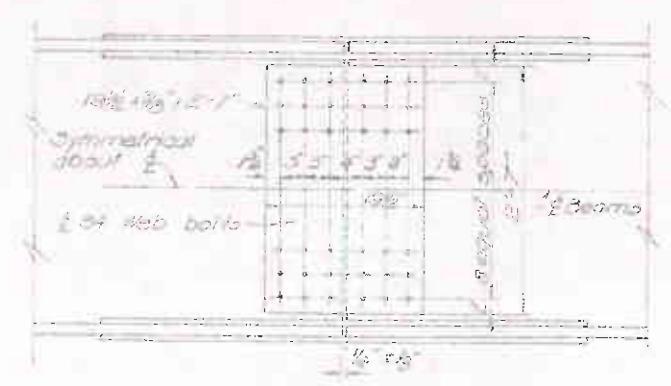
MAHONING AND TRUMBULL COUNTIES
 MAH-18-80-12 S2 AND TRU-18-80-000



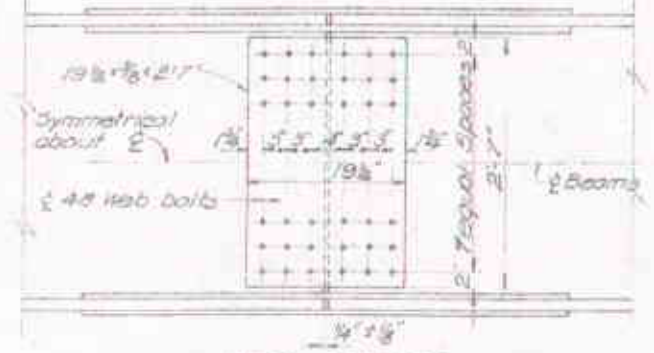
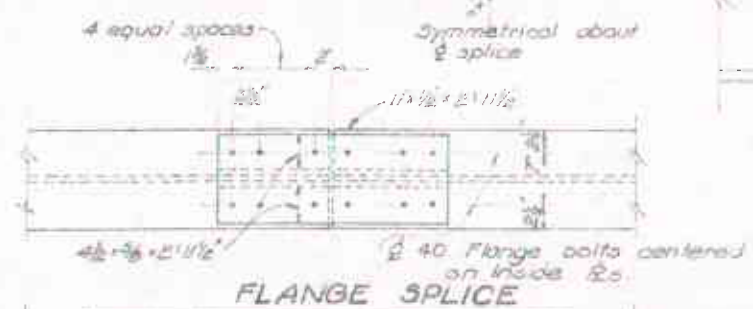
PLAN-TOP FLANGE OF BEAMS AT PIERS.



PLAN-BOTTOM FLANGE OF BEAMS AT PIERS.

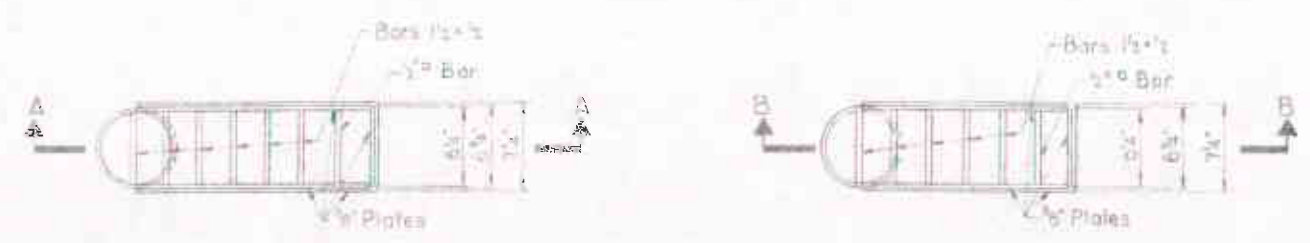


WEB SPLICE
 36WF230 BEAM SPLICE DETAILS



WEB SPLICE
 36WF170 BEAM SPLICE DETAIL

- NOTES:
- Refer to Standard Drawing SD-1-53, Sheets 1 & 2 for beam splice detail which is illustrated as a field welded joint, but shall instead be made in the shop and for Type E scupper and gutter supports.
 - All Splice Bolts shall be 1" Diameter High Strength Bolts in accordance with Sec 5-7 and 31-1.21



SECTION A-A
 Type 3 Scupper
 Required

SECTION B-B
 Type 4 Scupper
 Required

NOTE:
 Details not shown similar to Type 2 Scupper Details.

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DECK DETAILS					
BRIDGE NO. MAH-18-1387 RT SR 18 EB LANES OVER MAHONING VALLEY SANITARY DISTRICT RIGHT OF WAY					
MAHONING CO.				STA 430+54.54 STA 432+72.34	
DESIGNED	DRAWN	TRACED	CHECKED	REVISION DATE	REVISION
MMH	MWA	PKR	YAE	7-14-80	