ODOT District 8
2024 Pre-Inspection Report

Final Junel 2024

Bridge No. HAM-50-0376L
SFN: 3102521

Prepared for:

ODOT District 8
505 South SR 741
Lebanon, Ohio 45036

PID No. 105475

Prepared by:

TRANSYSTEMS

1100 Superior Avenue, Suite 1000
Cleveland, OH 44114

Project Number P402220026

Table of Contents

INTRODUCTION

LOCATION MAP

Figure 1 - US Route 50 (Westbound) over the Great Miami River, Village of Cleves, Ohio Location Map

INSPECTION DETAILS

Bridge No.:	HAM-50-0376L --- SFN 3102521
Features Intersected:	US Route 50 Westbound over the Great Miami River
Locations to Inspect:	In-Depth Element Level, Nonredundant Steel Tension Members (NSTM)
Number of Inspection Days:	Estimated 5 days
Inspection Dates:	July 8 – July 12, 2024
Inspection Hours:	7:00 AM to 5:00 PM
Inspection Equipment:	40' Manlift (above deck), 62' snooper (below deck), rope access techniques

NONREDUNDANT STEEL TENSION MEMBER INSPECTION REQUIREMENTS

The inspection will consist of an In-Depth "Arms-Reach" inspection, performed in accordance with the guidelines of the current FHWA National Bridge Inspection Standards for Nonredundant Steel Tension Members (NSTMs).

To perform an effective NSTM Inspection, the following tasks must be performed:

1. Determine Resource Requirements
   (Identify qualified inspection staff, use appropriate inspection access and inspection equipment).

2. Identify the Nonredundant Steel Tension Members
   (Contained in this document)

3. Develop the Inspection Procedure
   (Contained in this document)

4. Prepare Follow-up Procedure
   (Recommendations will be made as part of this current project)

5. Provide Quality Control/Quality Assurance for the Inspection and Report
   (Procedures outlined in this document)

6. Develop a Periodic Inspection Plan
   (Already in place with the Ohio Department of Transportation, District 8)

BRIDGE INFORMATION

HAM-50-0376L is a four-span structure that carries two lanes of US Route 50 westbound vehicular traffic over the Great Miami River in Cleves, Ohio. Eastbound traffic is carried by an adjacent bridge. The overall bridge length is 895'-8" and was opened to traffic in 1959. The bridge was rehabilitated in 1992 and 2017-2018.

The structure consists of four simply supported modified Pratt Truss spans, with interior spans (Spans 2 & 3) measuring 250'-0" and end spans (Spans 1 & 4) measuring 191'-4". Interior spans and end spans consist of 10 panels at 25'-0" and 8 panels at 23'-11" respectively. The truss upper and lower chord members consist of channels, angles, plates, and lacing bars with rivet and bolt connections. The truss verticals and diagonals are rolled wide flange sections. Sway bracing and upper lateral bracing are riveted to gusset plates and truss members at panel points. No lower lateral bracing exists on the structure. The floor system consists of five stringers spaced at 7'-0" with nine floorbeams spaced at panel points in end spans, and eleven floorbeams spaced at panel points in interior spans. The Piers and rear abutment are wall type substructures, but the forward abutment is a stub type substructure.

The nomenclature for this bridge follows a west to east stationing with trusses labeled as north and south. Floorbeams are labeled as 0 to 8 (Spans 1 and 4) and 0 to 10 (Spans 2 and 3) from the west to the east. The stringers are labeled as 1 to 5 from the north to the south (left to right looking forward). Abutments are labeled as Rear Abutment (west) and Forward Abutment (east). Piers are labeled as 2 to 4 (west to east).

NONREDUNDANT STEEL TENSION MEMBER LOCATIONS

Nonredundant steel tension members are shown in **Appendix B**.

FATIGUE PRONE DETAILS

The stringers are welded to floorbeam webs via a connection plate on both sides of the stringer web, as well as along the stringer bottom flange. This creates susceptible locations for fatigue cracking in floorbeams. The welded plate connection of the stringer web to the floorbeam web, and the stringer bottom flange weld, are both Category E details.

Tack welds are typical between chord members and fill plates, lower chord web plates and internal diaphragms, lower chord web plates and gusset plates, lateral bracing connection angles and upper chord splice plates, and lateral brace connection plates to upper chord cover plate.

INSPECTION METHOD AND PLAN

TranSystems Corporation and TRC Engineers Inc. will perform a nonredundant steel tension member and in-depth inspection on HAM-50-0376L. Access to the bridge members below the bridge deck will be gained by an Aspen A-62 snooper provided by the N.E. Bridge Contractors Inc. and with rope access techniques performed by SPRAT certified personnel. The truss members above the bridge deck will be inspected with the aid of a 40' manlift and rope access

Traffic control will be provided by A&A Safety according to the Ohio Manual for Uniform Traffic Control Devices (OMUTCD) TA-33.

FIELD COORDINATION

The following personnel are anticipated to be involved with the coordination and/or field work associated with the inspection of these structures.

TranSystems:

Project Manager	Steven Hammerschmidt, PE sfhammerschmidt@transystems.com	(785) 623-6704
Team Leader	Josh Sadlock, PE jdsadlock@transystems.com	(717) 554-2073
Team Leader	Jake Adamrovich, EI jaadamrovich@transystems.com	(724) 787-2250

TRC Engineers, Inc:

Team Leader	Craig Jacob, PE CJacob@trccompanies.com	(513) 222-0344

PERMITTING AND COORDINATION

The following entities will be involved in the permitting and coordination of all work associated with the inspection of this structure. Copies of permits from all entities will be kept on site at all times.

ODOT – A right of entry permit is necessary through ODOT District 8 and will be secured via the ODOT Right of Way E-Permitting System. The following ODOT personnel will be contacts:

Project Manager	Brandon Collett Brandon.Collett@dot.state.oh.us	(513) 933-6643
District Work Zone Traffic Manager	Scott Kraus Scott.Kraus@dot.state.oh.us	(513) 933-6519

Right-of-Way Use Permits	Chris Bass Chris.Bass@dot.state.oh.us	(513) 933-6577
Right-of- Permit Coordinator	Kimberly Giffin Kim.Giffin@dot.ohio.gov	(513) 933-6580

TRAFFIC CONTROL

TranSystems has contracted A&A Safety, Inc. to provide the necessary traffic control for this inspection. They will be responsible for all signs and devices which shall be placed in accordance with the latest Ohio Manual for Uniform Traffic Control Devices.

The inspection crew plans to utilize single lane closures of US-50 WB in order to access the structure with an Aspen A-62 snooper and a 40' manlift. The single lane closures will follow TA-33 out of the Ohio Manual for Uniform Traffic Control Devices (OMUTCD).

FOLLOW-UP PROCEDURES

Critical inspection findings will be reported to the District within 24 hours and details/ photographs will be provided via email. These along with other findings will be documented in the final inspection report.

QUALITY CONTROL/QUALITY ASSURANCE

TranSystems' Quality Assurance/Quality Control Plan will be followed. The team leaders were chosen to ensure that inspector qualifications are met. The team leaders have completed the course FHWA-NHI-130078, "Fracture Critical Inspection Techniques for Steel Bridges."

SPECIAL CONSIDERATIONS

HAM-50-0376L is programmed to be painted in 2026. In addition to painting, the project may include additional details found during this inspection. TranSystems will thoroughly document and photograph the location of any item that might be prudent to add to the 2026 project scope, such as deteriorated concrete, missing bolts/rivets, severely deteriorated members/lattice that should be replaced or plated over, etc. Detailed measurements of the gusset plates will be taken at locations of new/active section loss or additional out-of-plane bending. A dive inspection of the channel is scheduled for 2024 under a separate contract, however, TranSystems will document any significant findings related to scour from a high-level perspective.

APPENDIX A

ODOT RIGHT OF ENTRY PERMIT

MR 509
Permit No. 24-12527

Office Use Only

State of Ohio
Department of Transportation
Permit

County or Jurisdiction	HAM
Rte	SR128
Log Pt	0-0.19
Acc Cat	

[1] Subject to all terms, conditions, and restrictions printed, written below and on the reverse side hereof, or attached,

Name: TranSystems Corporation
Address: 1100 Superior Avenue Cleveland OH 44114
Company Phone: 724 787-2250

is hereby granted a permit under Section 5515.01 and 5515.02 of Ohio Revised Code, and permission to perform work necessary in the manner described and at the location indicated in the following or attached to this permit.

Lane Closure - (see attached sheets)

Description of Work: ##DescOfWork##

[2] This permit shall be in the possession of employees /agents of permittee on site at all times who are in charge of the work and shall be shown, upon request, to any employee of the Department of Transportation.

Contact ODOT Representative 3 days before work begins, also contact ODOT Representative when work is completed for final inspection.
Failure to notify the ODOT Representative could result in work stoppage!

[3] No work authorized by this permit shall begin until the permittee has contacted and received instructions from

ODOT Representative	DUSTIN WILLIAMS
Phone	513-615-4033
Email Address:	DUSTIN.WILLIAMS@DOT.OHIO.GOV
(Authorized ODOT Employee)	

NOTE: Any work performed by the permittee may be stopped if this requirement is not met.

[4] Prior to any excavation in the highway right-of-way, the Ohio811, https://www.oups.org/excavators, must be contacted in accordance with ORC Section 3781.25 to 3781.32. Ohio811 can be reached at 1-800-362-2764 or 811.

[5] If your utility is above ground in any way, you must mark your utility with a fluorescent colored marker that corresponds with the universal OUPS color code. The marker must be no shorter than six feet in height and you must maintain the marker. Guide wires must be marked a fluorescent yellow. Failure to mark as described, will result in the Department of Transportation being held harmless and no reimbursement for damage to your property.

[6] All work requiring persons or vehicles within ODOT right of way shall comply with all applicable requirements of the Ohio Manual of Uniform Traffic Control Devices and Item 614 (Maintaining Traffic) of the Construction and Material Specifications, latest editions. Failure to comply with these requirements will be cause for immediate revocation or suspension of the permit until the proper traffic control devices have been provided.

[7] The permittee accepts the conditions, terms, and requirements printed, written on, or attached to this permit and understands that failure to comply fully with those conditions, terms, and requirements or any change in the use of the permit inconsistent with its terms and conditions will be considered a violation and cause for suspension, revocation, or annulment of the permit thereby rendering the permit illegal and subject to appropriate Department action, up to an including removal of the installation at the permittee's expense.

[8] Performance Bond Required? _____ Yes _____ No Company_____
Effective Date _____ Expiration Date _____Amount $ _____

[9] This permit shall be void if the work described herein does not comply with the conditions, terms, and requirements applicable to this permit, and if the work is not completed by 10/16/2024

Dated 04/15/2024

Rev 5/6/2021

(the remainder of this page is left blank intentionally)

General Provisions Applicable to All Permits
(Sections 5515.01 and 5515.02 of O.R.C.)

[1] This permit is not a substitute for satisfying the rights or obligations of any other party who may have an interest in the underlying fee interest.

[2] The granting of this permit does not convey to the permittee or to the property served any rights, title, or interest in state highway rights of way or in the design or operation of the state highway; or in any way abridge the right of the Director of the Department of Transportation in his jurisdiction over state highways. If, in the process of any future work or for the benefit of the traveling public, it becomes necessary, in the opinion of the Director of Transportation to order the removal, reconstruction, relocation, or repair of any of the fixtures, or work performed under this permit, said removal, reconstruction, relocation, or repair shall be wholly at the expense of the owners thereof or the permittee and be made as directed by the Director of Transportation and within the time determined by the Director. Such changes in the state highway design or operation, necessary for improved safety and operation or for the benefit of the traveling public, shall not require a permit modification since the permit confers no private rights to the permittee over the control of t he state highway.

[3] The District Deputy Director acts for and on behalf of the Director in issuing and carrying out the provisions of all permits. The District Deputy Director has full authority to ensure that all provisions of the permit are met and to reject any materials, design, and workmanship that do not meet applicable Department standards. The District Deputy Director, at his/her discretion, may require a performance bond or certified check as a prerequisite to the issuance of a permit.

[4] Failure on the part of the permittee to comply fully with the provisions and conditions of the permit will be cause for suspension, revocation, or annulment of the permit thereby rendering the permit illegal and subject to appropriate Departmental action. By accepting the permit, the permittee agrees to comply with all conditions, terms, and restrictions printed or written on or attached to the permit. If the permittee or its agent performs any work contrary to the conditions of the permit or to the instructions of the District Deputy Director and, after due notice, fails to correct the problem, the Department of Transportation may, with or without notice, correct or remove such work and the permittee shall reimburse the Department for the costs and shall hold the Department harmless for all results of such work.

[5] The permittee shall indemnify and hold harmless the State of Ohio, Department of Transportation, its officers, representatives and assigns, from any and all loss, liability, damages, litigation costs, and claims for injury or death to any person, property, or business caused by or resulting from any act, omission, event, consequence, or occurrence, negligent or otherwise of the permittee, its employees, agents, or assigns as a result of the issuance of this permit.

[6] All work authorized under the permit shall be performed to the Department's satisfaction, and the entire expense shall be borne by the permittee. No work shall be performed until the permittee has contacted the Department's appointed representative named on the permit and received instructions. The Department's representative may inspect all work covered by the permit, or the Department reserves the right, during the time any or all of the work is being performed, to appoint an inspector over the work who shall represent the interest of the State on the work and any compensation arranged for shall be paid wholly by the permit holder. Work not in compliance shall be halted and the District Deputy Director shall be notified of the cause. The permittee shall be notified of the Department's determination and given an opportunity to correct the problem. If the problem is not corrected timely or to the satisfaction of the Department, this permit will be revoked.

[7] Failure to complete all work within the time specified on the permit shall void the permit, thereby making the permit illegal and subject to appropriate Departmental action. The permittee may request an extension in writing from the District Office, explaining why the extension is necessary and when the work is expected to be completed.

[8] All work infringing on the pavement or shoulders shall comply with applicable standards and requirements regarding traffic control devices. Failure to comply will be cause for revocation or suspension of the permit. Any closure of lanes or shoulders shall be described in terms of location, duration, time of day, etc. Such work shall not begin until all traffic control devices are in place.

[9] If any grading, sidewalk, or other work allowed by a permit interferes with the drainage of the highway in any way, such catch basins and outlets as necessary shall be constructed to take proper care of said drainage and any materials such as pipes and tiles damaged during any installation or repair by the permittee or its employees or agents shall be repaired immediately at the sole cost of the permittee . Permittee shall timely notify the Department of any such damage and repairs thereto. Failure of the permittee to immediately repair the damage after it is discovered shall result in the Department performing the repair and the permittee shall reimburse the Department for the costs and shall hold the Department harmless for all the results of such work which may include removal of the permittee's facilities.

[10] Any damage to ODOT or another's property caused by the work shall be repaired by the permittee or permittee's agent or contractor in a timely manner and at the sole cost of permittee. If any emergency repairs to ODOT property are needed that cannot be performed by the permittee or permittee's agent or contractor, ODOT shall cause the repairs to be performed at the sole cost of permittee.

[11] Upon completion of the work, the permittee shall leave the highway clean of all rubbish, excess materials, temporary structures and equipment, and all parts of the highway shall be left in a condition acceptable to the Department. Upon satisfactory completion of the work authorized by the permit, the Department's appointed representative shall complete the Permit Inspection Certificate, Form No. MR 678 certifying that the permittee has complied with the terms of the permit.

[12] Except as herein authorized, no excavation shall be made or obstacle placed within the limits of the highway so as to interfere with the travel over the road.

[13] All pole lines are to be built in accordance with Rule 4901:3-1-08 of Ohio Administrative Code promulgated and enforced by the Public Utilities Commission of Ohio.

[14] All underground utilities shall be installed at a depth and horizontal distance from the road surface and any appurtenances in accordance with state and national safety standards and as pre-approved by the Department. After installation, the exact location of the utility shall be provided to the Department. The Department shall be held harmless for any damage to utilities due to insufficient or inaccurate installation or identification and all repairs shall be at the sole cost of the permittee.

[15] The permittee shall comply with the Air Pollution requirements of Rule 3745-17-08 of the Ohio Administrative Code promulgated and enforced by the Ohio Environmental Protection Agency.

[16] The permittee certifies that he or she is fully authorized to sign this permit. This permit shall apply to and be binding upon the permittee and any successors in interest. No change in ownership of the underlying property or of the facility owned by permittee shall in any way alter the permittee's obligations under this permit.

[17] The permittee(s) for herself/himself/themselves/itself, her/his/their/its personal representatives, and her/his/their/its successors in interest and assigns, as a part of the consideration hereof, do/does hereby covenant and agree that:

(1) No person on the grounds of race, color, or national origin, shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of the utility/facilities/ services of the permittee.

(2) In the construction of any improvements on, over, or under the above described property and the furnishing of services thereon, no person on the grounds of race, color, national origin, sex, age, or disability shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination.

(3) The above described property shall be used in a manner that at all times is in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. DOT, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. DOT — Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

(4) In the event that this instrument grants a lease, license, or permit and any of the above non-discrimination covenants is breached, then the State of Ohio, Department of Transportation, shall have the unfettered right to terminate the lease, license or permit and to re-enter and repossess the above-described property and hold the same as if said lease, license or permit had never been made or issued.

This permit is granted subject to the following attached conditions:

PERMITTED LANE CLOSURE ARE FROM 9AM TO 3PM. NO EQUIPMENT OR MATERIAL WILL BE PERMITTED TO BE LEFT IN THE ODOT RIGHT OF WAY OR WITHIN THE CLEAR ZONE. ALL SIGNS WILL BE REQUIRED TO BE TURNED OR REMOVED EACH DAY.

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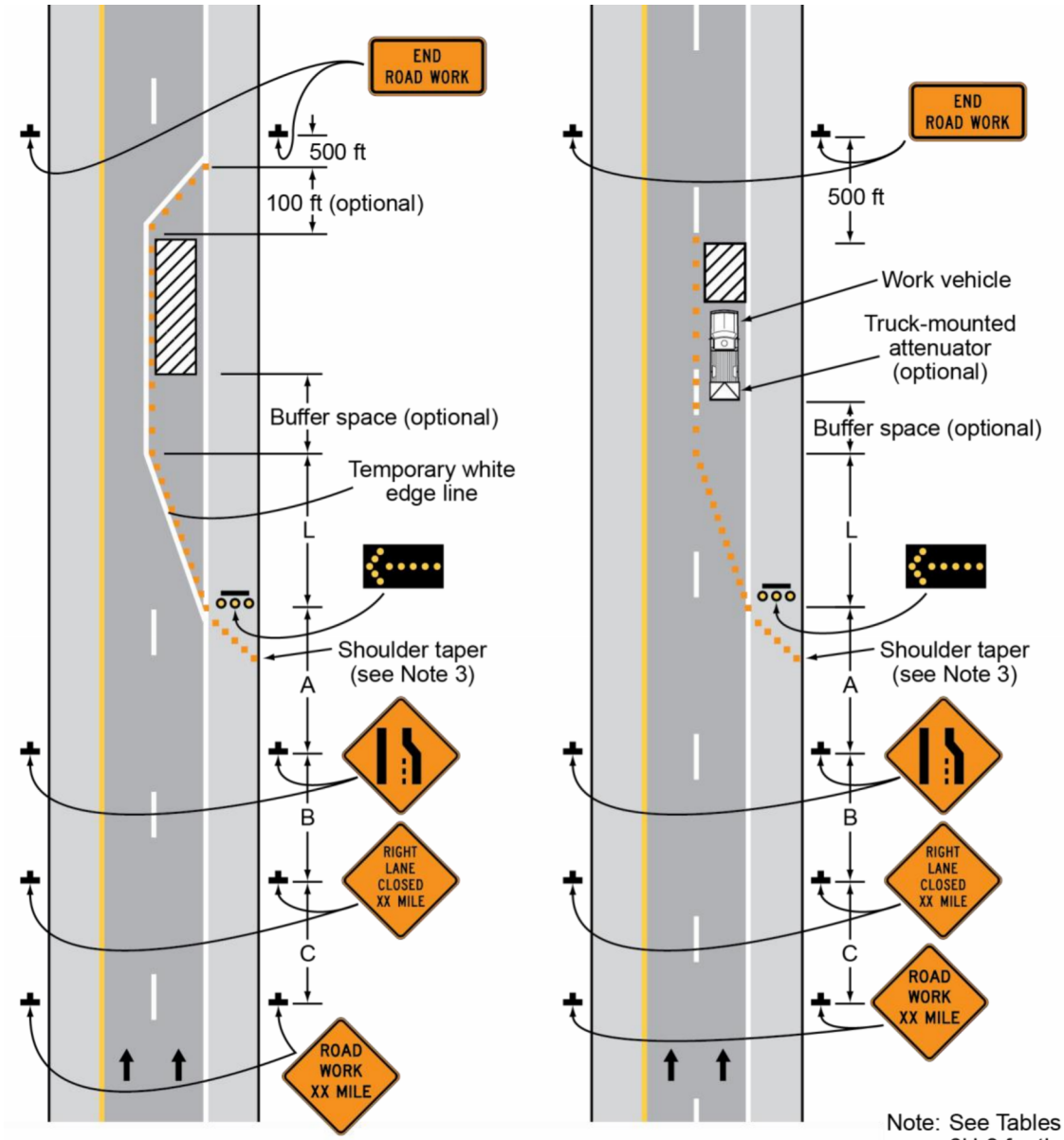
Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)



A - LONG-TERM AND INTERMEDIATE

B - SHORT-TERM

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 33

APPENDIX B

NONREDUNDANT STEEL TENSION MEMBER LOCATIONS

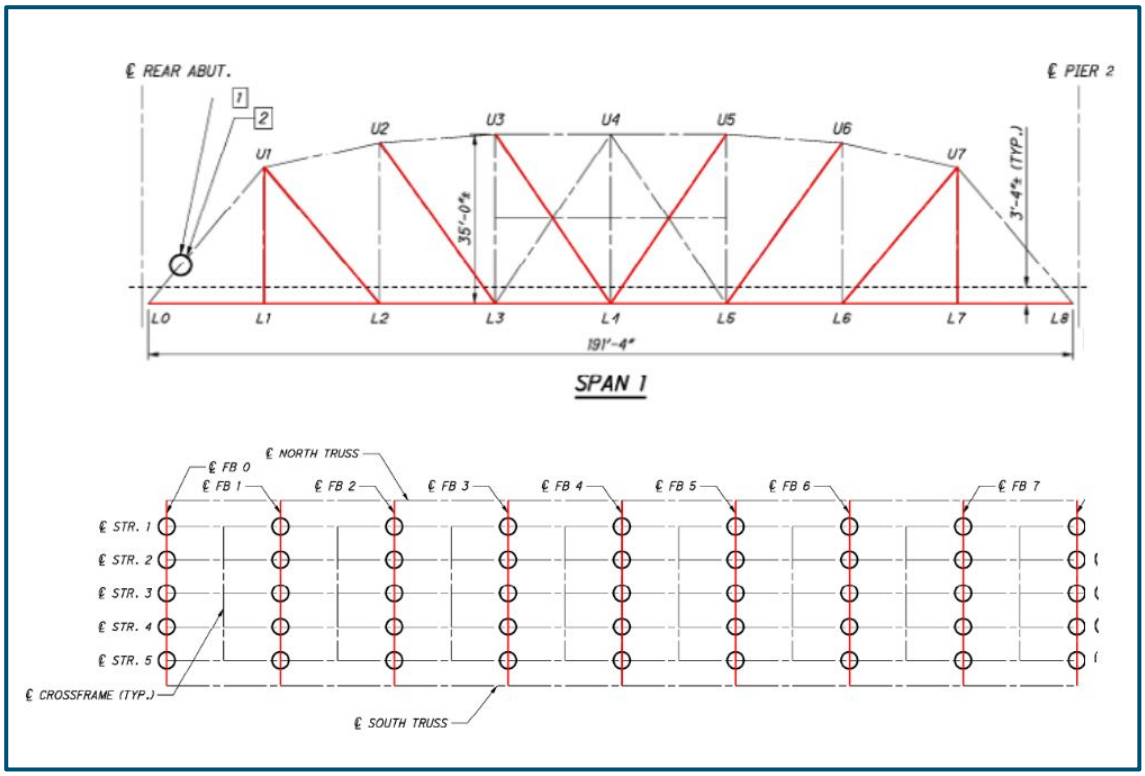


Figure 1 – Nonredundant Steel Tension Members in Span 1

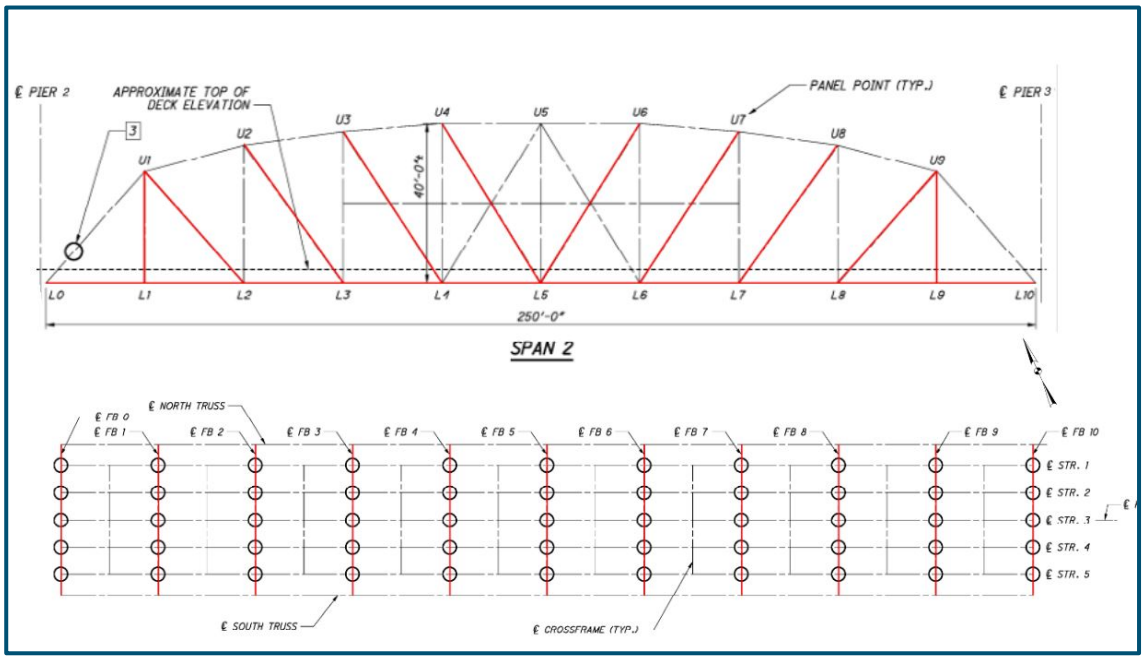


Figure 2 - Nonredundant Steel Tension Members in Span 2

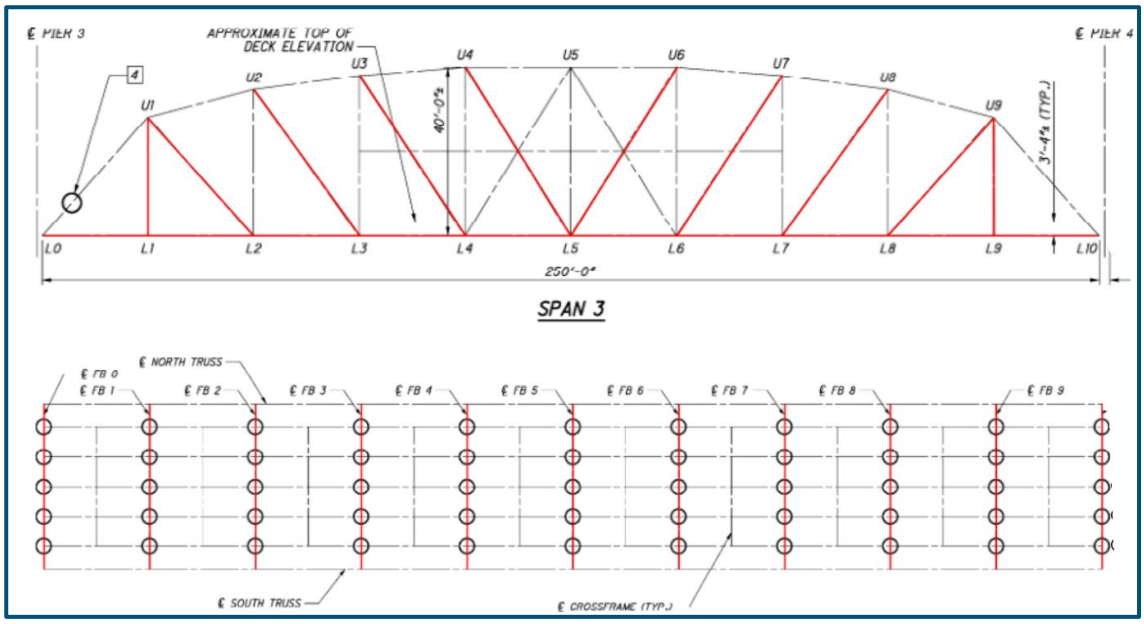


Figure 3 - Nonredundant Steel Tension Members in Span 3

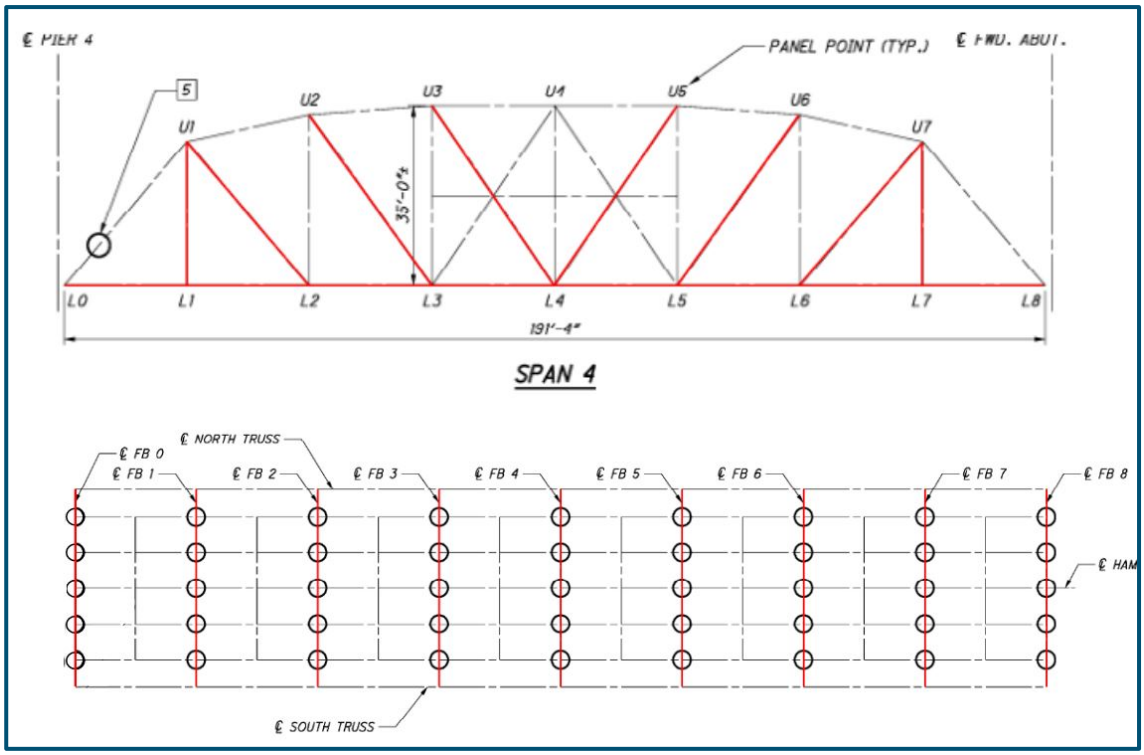


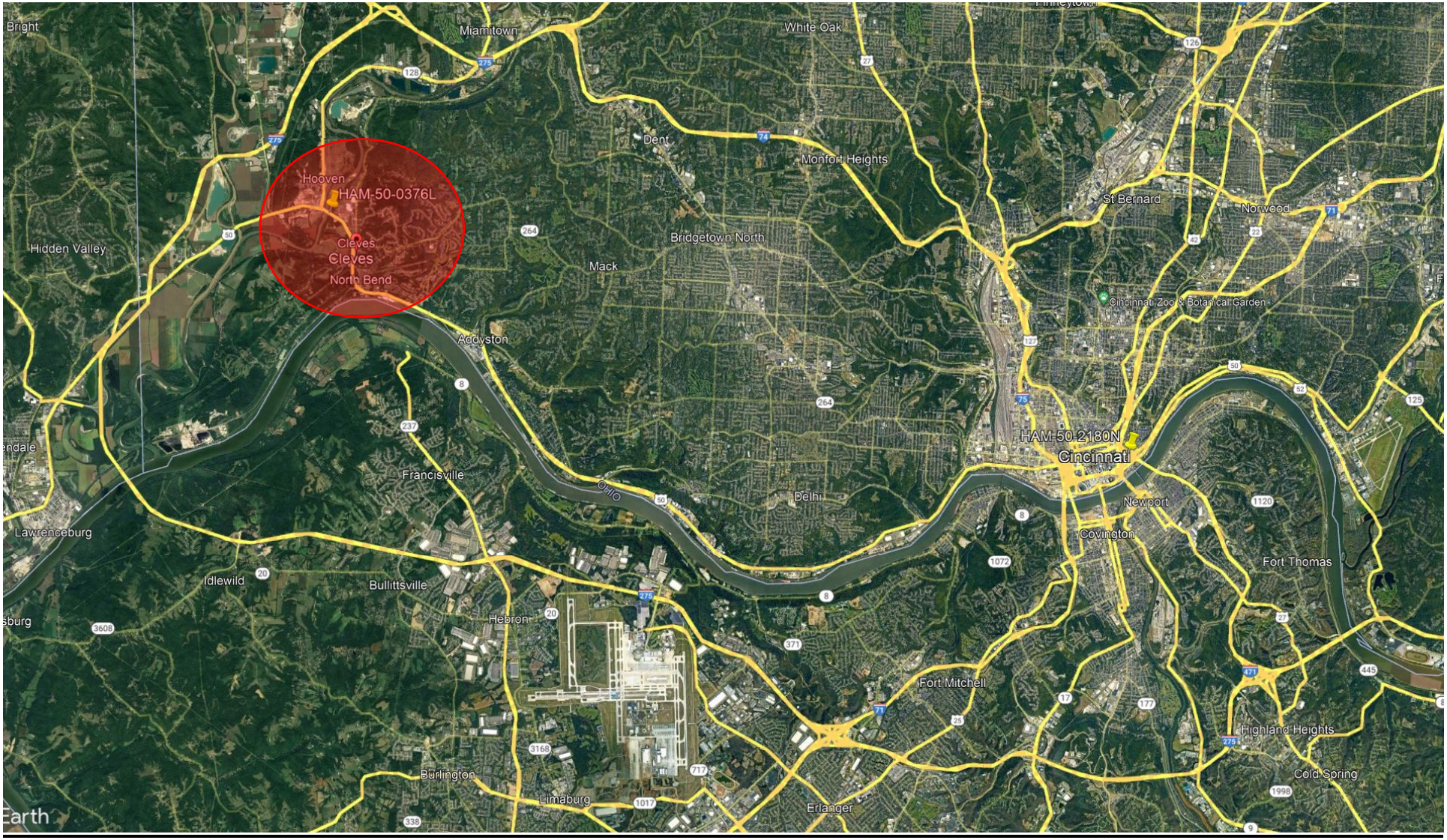
Figure 4 - Nonredundant Steel Tension Members in Span 4

APPENDIX C

TRAFFIC CONTROL DETAILS

OVERALL LOCATION MAP

GREATER CINCINNATI AREA



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HAM-50-0376L – July 8-12,2024

US-50 over Great Miami River (near Cleves, OH)

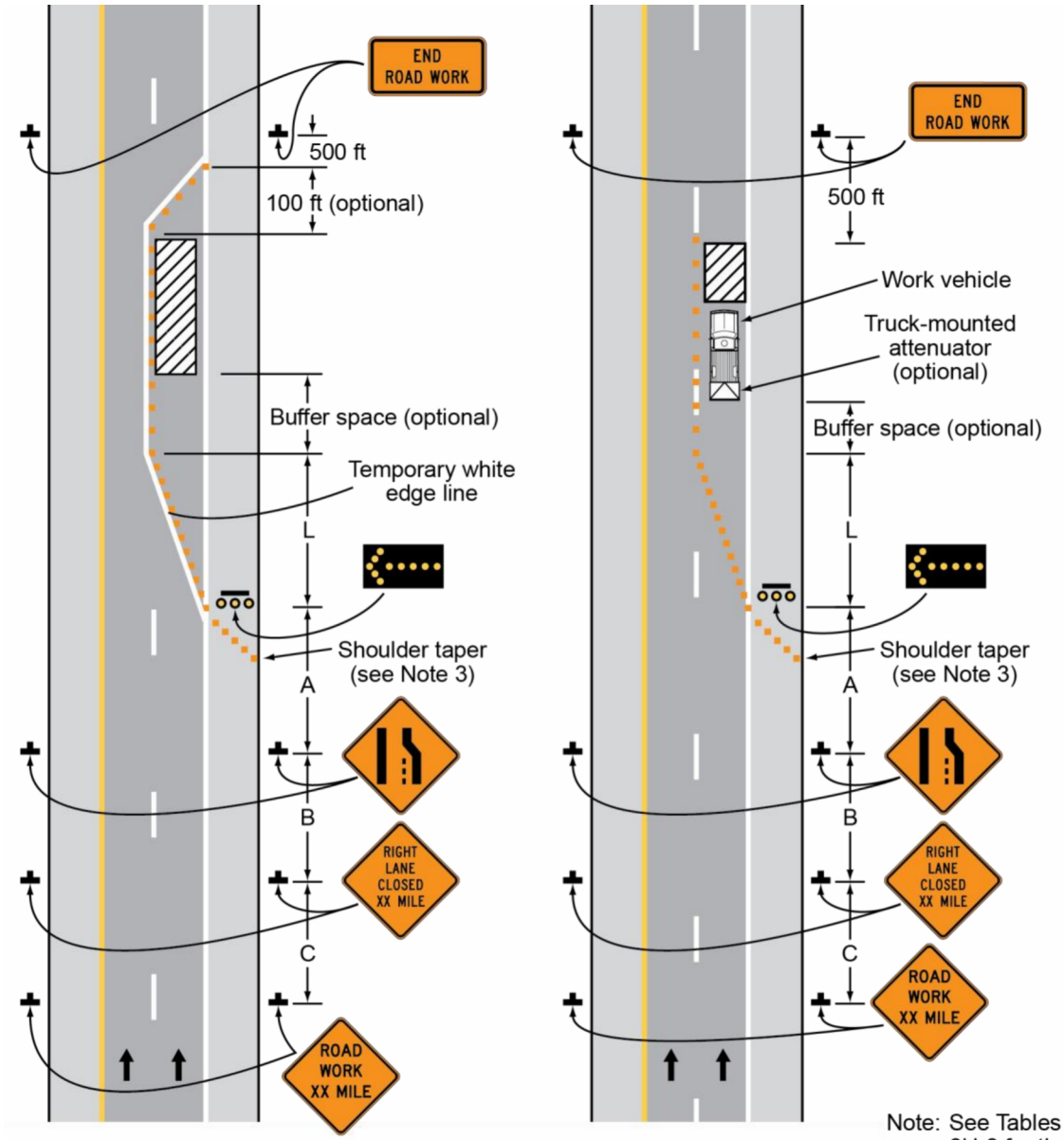
39.169947°, -84.758115°

Day time closure – single left closure of US-50 WB

Day time closure – single right closure of US-50 WB

TRANSYSTEMS

Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)



A - LONG-TERM AND INTERMEDIATE

B - SHORT-TERM

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 33

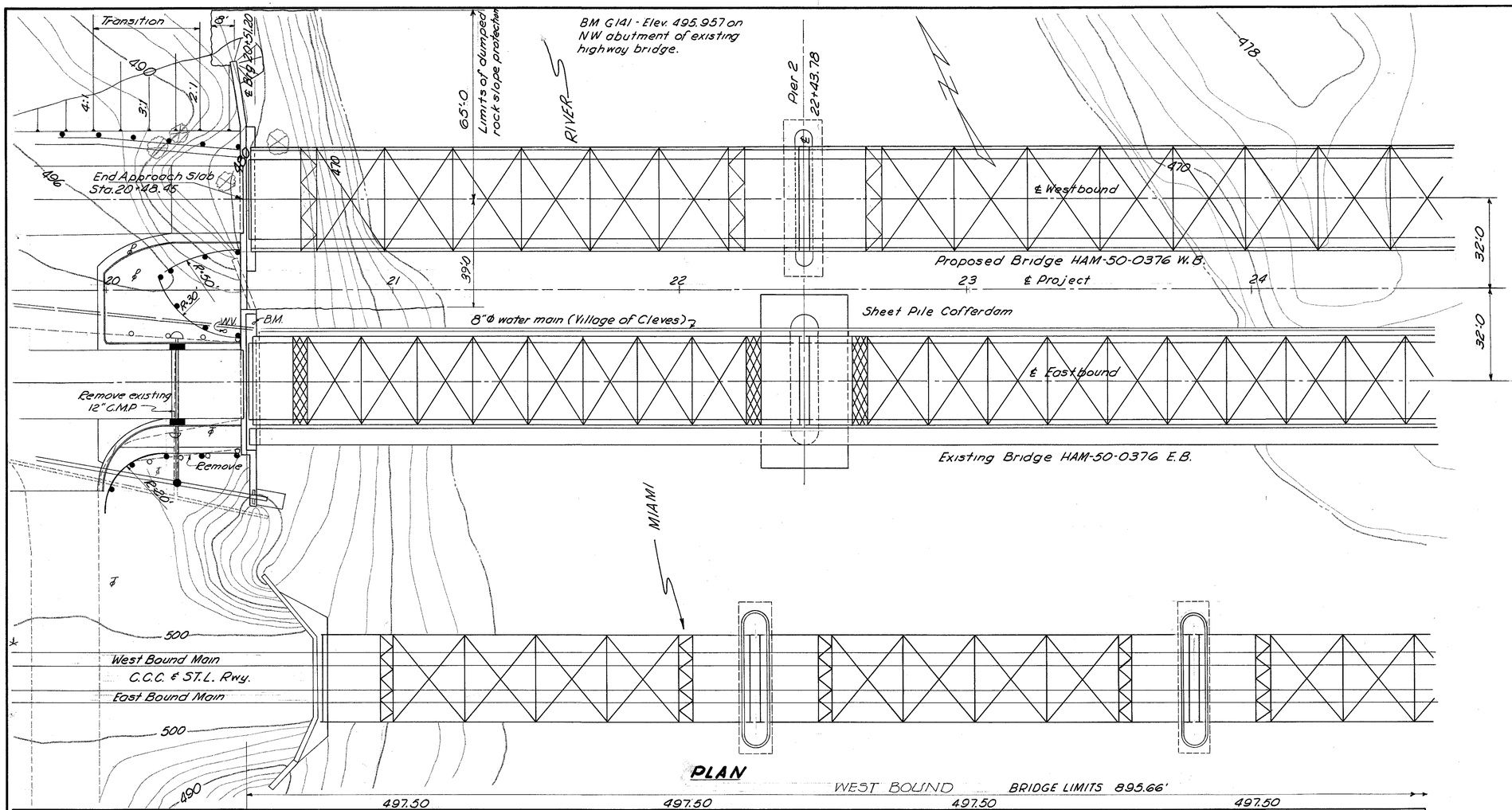
APPENDIX D

EXISTING PLANS

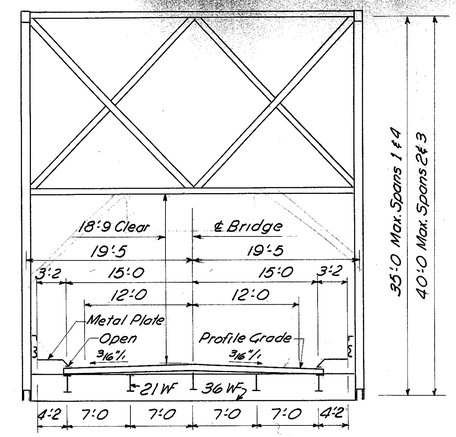
P.I.D. NO.	STATE	FED. PROJECT	SHEET NO.
2	OHIO		

HAM - 50 - 3.72

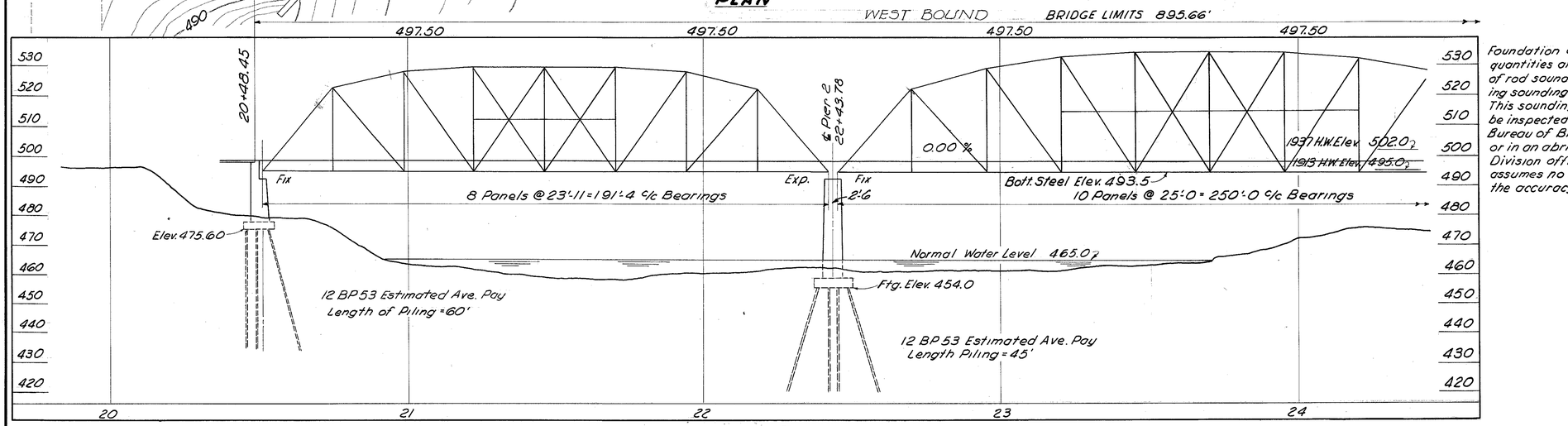
272



PLAN



TYPICAL SECTION



ELEVATION

Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus, or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

EXISTING BRIDGE DATA

GREAT MIAMI RIVER BRIDGE HAM-50-0376 E.B.
TYPE - High Truss - Conc. Deck & Substruct.
SPANS - 190'-10, 250'-0, 250'-0, 190'-10
ROADWAY - 26'-11 with 5'-9 sidewalk S. side
WEARING SURFACE - Mono. Concrete
LOADING - H-15
SKEW - None
DATE BUILT - 1914
CONDITION - See Sheets 268, 269, 270 & 271

C.C.C. & ST. L. RAILWAY BRIDGE No. 132
TYPE - Thru Truss - Masonry Substruct.
SPANS - 6 @ 150 c/c Pins
ROADWAY - Double track main line
WEARING SURFACE - 139# rail
LOADING -
SKEW - None
DATE BUILT - 1913
CONDITION - Good

DRAINAGE AREA = 3,950 Sq. Mi

PROPOSED STRUCTURE

TYPE - High Truss, Concrete Deck & Substructure
SPANS - 191'-4, 250'-0, 250'-0, 191'-4
ROADWAY - 30'-0 Curb to Curb
SIDEWALKS - 3'-0 Safety Walk each Side
LIVE LOAD - CF 2000 (57), Adequate for AASHO alternate loading.
SKEW - None
ALIGNMENT - Tangent
APPROACH SLABS - 25' long, 24' Wide
WEARING SURFACE - 1" Monolithic

HARRY BACKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

SITE PLAN

BRIDGE HAM-50-0376 E.B. & W.B.
EXISTING & PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RAK	D.S.	R.C.B.	A.C.A.	8/27/58	

CO. RD. MUNICIPAL	STATE	FED. AID PROJECT	SHEET NO.
2	OHIO		

MIAMI RIVER

Pier 3 ℄ 24+96.28

Pier 4 ℄ 27+48.78

℄ West Bound

Proposed Bridge HAM-50-0376 W.B.

℄ Project

Sheetpile Cofferdam

℄ East Bound

Existing Bridge HAM-50-0376 E.B

5-10" Pipes (Gulf Refining Co)

℄ Relocated Farm Rd

Bay 29+41.36

2:1

12"

Begin Approach Slab Sta. 29+44.11

Bench

Slope Facing (S29.05 Type)

1:1

1:10

W.V. Box

Remove

Remove

Berm

Conc. Slab

West Bound Main C.C.C.&St.L. Rwy.

East Bound Main

24 25 26 27 28 29

410 420 430 440 450 460 470 480 490 500

PLAN

WEST BOUND Bridge Limits 895.66'

497.50 497.50 497.50 497.50 497.50

Sta 24+96.28 ℄ Bridge ℄ Pier 3

-0.00%

Pier 4 ℄ 27+48.78

29+44.11

Exp Fix 2'-6

10 Panels @ 25'-0 = 250'-0

Exp Fix 2'-6

8 Panels @ 23'-11 1/4 = 191'-4

Bench Elev. 489.60

Exp

Elev. 485.60

Normal Water Level 465.0

5-10" Pipes (Gulf Ref. Co)

Ftg. Elev. 456.0

Ftg. Elev. 456.0

12 BP 53 Estimated Ave. Pay Length Piling = 45'

12 BP 53 Estimated Ave. Pay Length Piling = 45'

12 BP 53 Estimated Ave. Pay Length Piling = 66'

530 520 510 500 490 480 470 460 450 440 430 420

24 25 26 27 28 29

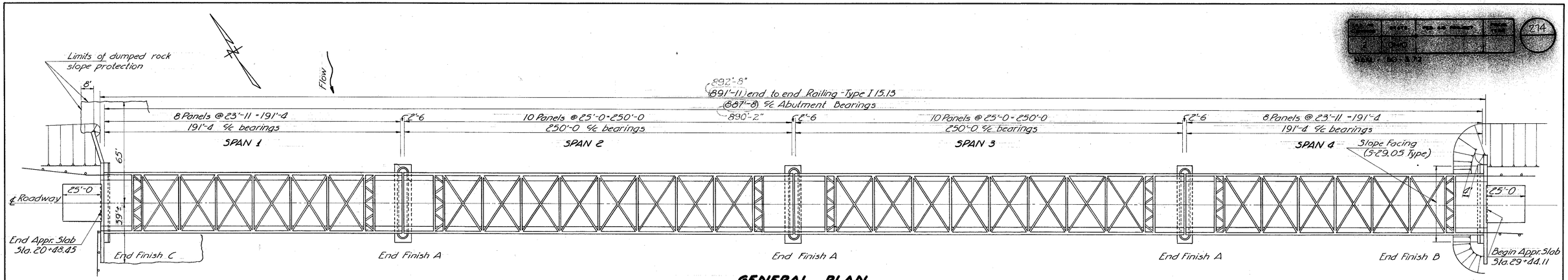
ELEVATION

HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

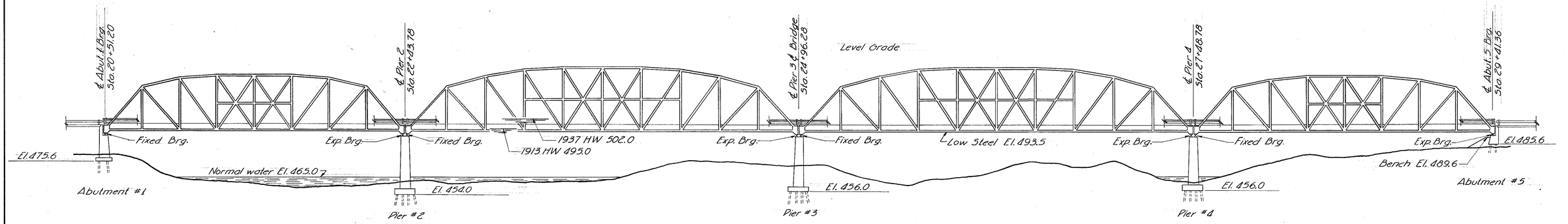
SITE PLAN

BRIDGE HAM-50-0376 EB&WB
EXISTING & PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO. STA. 24+96.28
SEC. 3.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.A.K.	R.A.K.	D.G.	R.C.B.	A.C.A.	2/27/58	



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	Abut 1	Pier 2	Pier 3	Pier 4	Abut 5	Superstr.	General
E-2	lump sum	lump sum	Cofferdams, cribs & sheeting							lump sum
E-2	1,372	cu. yds.	Unclassified excavation	227	264	561	186	134		
S-1	744.2	cu. yds.	Class "C" concrete, superstructure						744.2	
S-1	321.1	cu. yds.	Class "E" concrete, abutments	222.5				98.6		
S-1	378.6	cu. yds.	Class "E" concrete, footings	83.4	98.4	98.4	98.4			
S-1	933.8	cu. yds.	Class "E" concrete, piers above footings		327.6	303.1	303.1			
S-2	125	sq. ft.	Patching concrete	93				32		
S-3	14	lin. ft.	Waterproofing, ½" premolded sealing strip (12" wide)	16						
S-4	265,971	lbs.	Reinforcing steel	18,764	7,476	7,422	7,422	7,293	223,594	
S-7	2226806	lbs.	Structural steel						2226806	
S-8	2226806	lbs.	Field painting of structural steel						2226806	
S-9	95	sq. ft.	1 in. Preformed expansion joint filler (Type M-10.02)	73				22		
	1785.33								1785.33	
S-14	4,783.83	lin. ft.	Railing (Type I-15.13 steel, 4x3x⅜ handrail, 6W-20 Post's)						4783.83	
S-16	lump sum	lump sum	First test pile							lump sum
S-18	11,185	lin. ft.	Steel piles (12 BP 53)	2160	2700	2700	2700	925		
S-22	lump sum	lump sum	Removal of portions of existing structure							lump sum
S-29	115	cu. yds.	Porous backfill	76				39		
S-29	34	cu. yds.	Slope facing (S-29.05 Type)					34		
I-10	414	cu. yds.	Dumped rock fill	414						

GENERAL NOTES

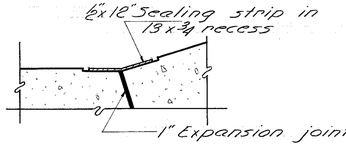
REFERENCE shall be made to Standard Drawing AS-1-54 dated December 1, 1954.
DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Sept. 1, 1957.
PILING shall be driven to a minimum bearing capacity of 30 tons.
WELDING shall be class "A" unless otherwise shown. Any weld shown as a field weld may be made in the shop at the option of the contractor.
SLOPE FACING (S-29.05, TYPE) shall be provided under the structure at Abutment 5. The slope facing material shall be 12 inches thick and shall extend from the face of the abutment down to Elev. 484.0 and transversely to 3 ft. outside the edge of the superstructure.
DUMPED ROCK FILL 2 ft. thick shall be provided under the bridge at Abutment 1. The dumped rock fill shall be constructed above Elevation 463 and to the limits shown on the plans.
CONCRETE DECK PLACING: The slab may be placed in sections, between transverse construction joints which are normal to the centerline of the bridge and are located near the center of any span.
COFFERDAMS: Before construction is started on the Piers, three sets of prints showing details of the cofferdams at each pier shall be submitted to the Director for approval by the Department of Highways.

HARRY BALKE, ENGINEERS
2230 VICTORY PARKWAY
CINCINNATI 6, O.

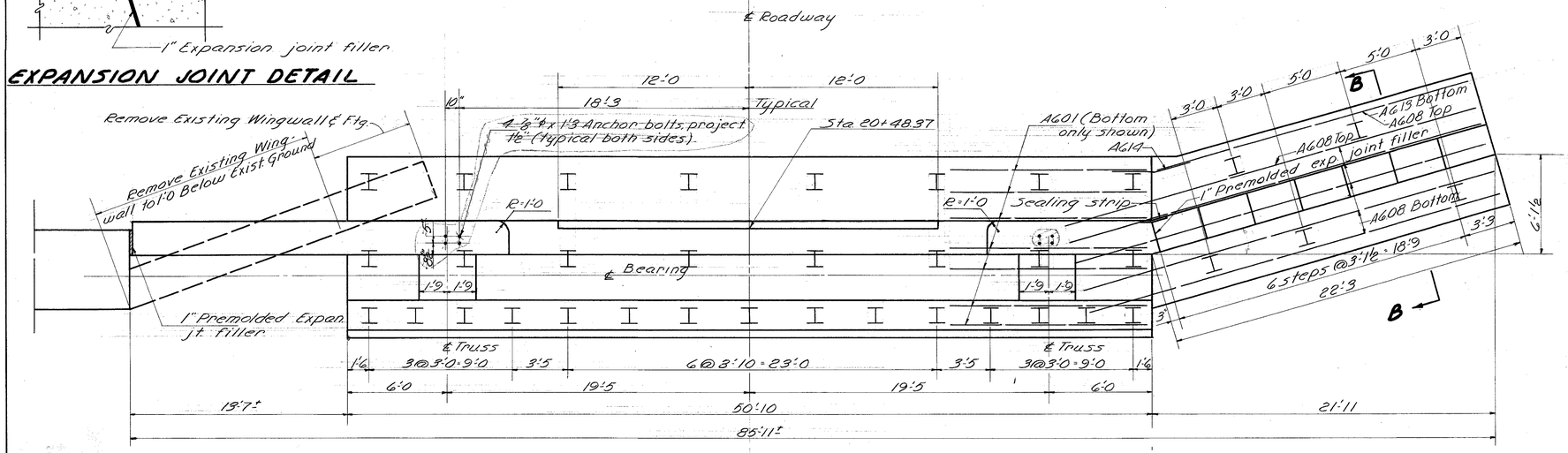
GENERAL PLAN & ELEVATION NOTES & ESTIMATED QUANTITIES

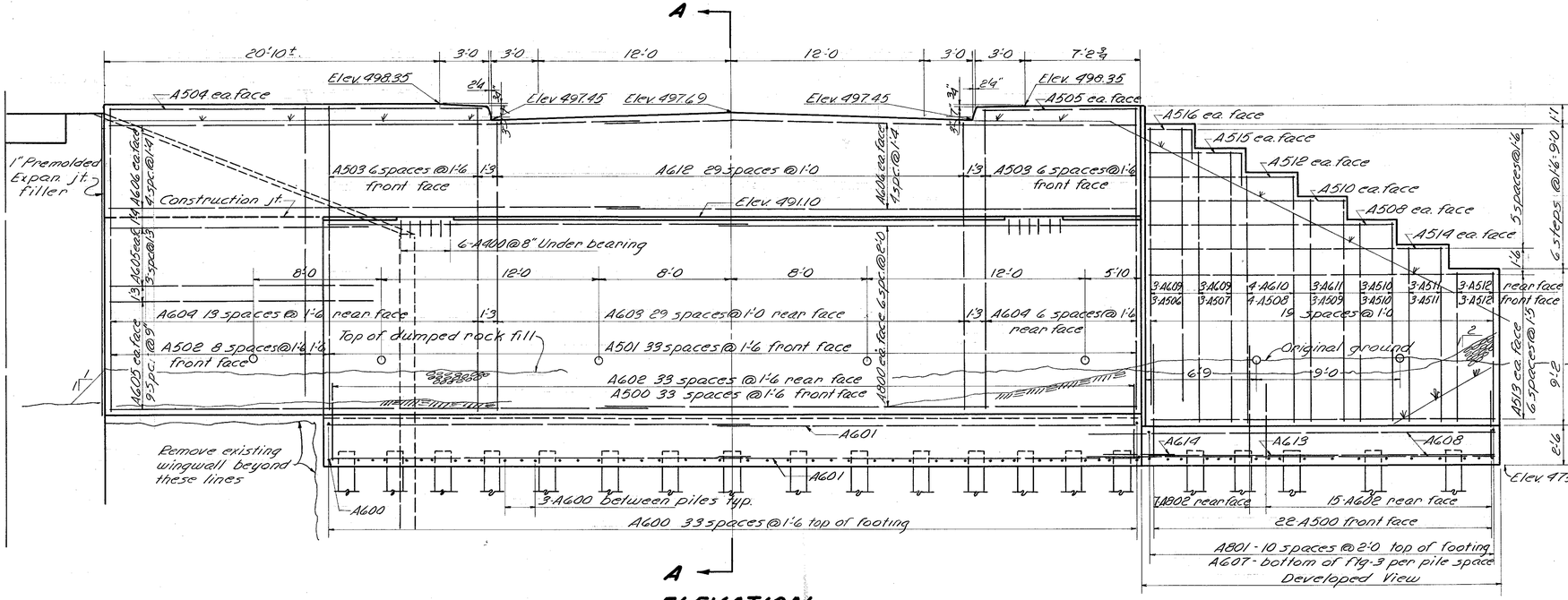
BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO. SHEET 24 OF 24 SHEETS

DESIGNED	DETAILED	TRACED	CHECKED	QUANTITIES	DATE
EWS, CLT	LP	CHL	RCB	A.C.A. 2/27/58	



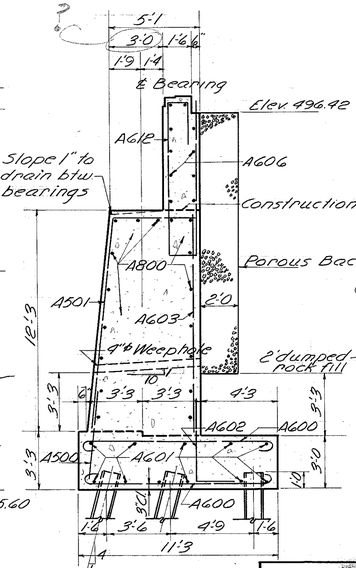
EXPANSION JOINT DETAIL





ELEVATION

PLAN



ABUTMENT NOTES

Before construction is started, the North wingwalls on Existing Bridge No. HAM-50-0376 E.B shall be removed to the limits shown on the plans. Waste masonry shall be used as bank protection in front of proposed Abutment 1. The exposed end of the existing breastwalls shall be thoroughly cleaned and all loose material removed. A dressing coat of concrete mortar shall be applied to the exposed breastwall ends in accordance with item 52 of the construction and materials specifications.

Excavation shall be made for abutment cap & wingwall footings, after which piling shall be driven.

Concrete for Abutments shall be Class "E".

Reinforcing bars in the bridge seat shall be placed to clear anchor bolts.

Concrete above bridge seat construction joint shall not be placed until steel work is erected. Steel end finish shall be used as a template for top of backwall.

Porous backfill, 2' thick shall extend upward to the approach slab and to the shoulders, and outward to the sunface of embankment slope on the North and to end of wingwall on the South.

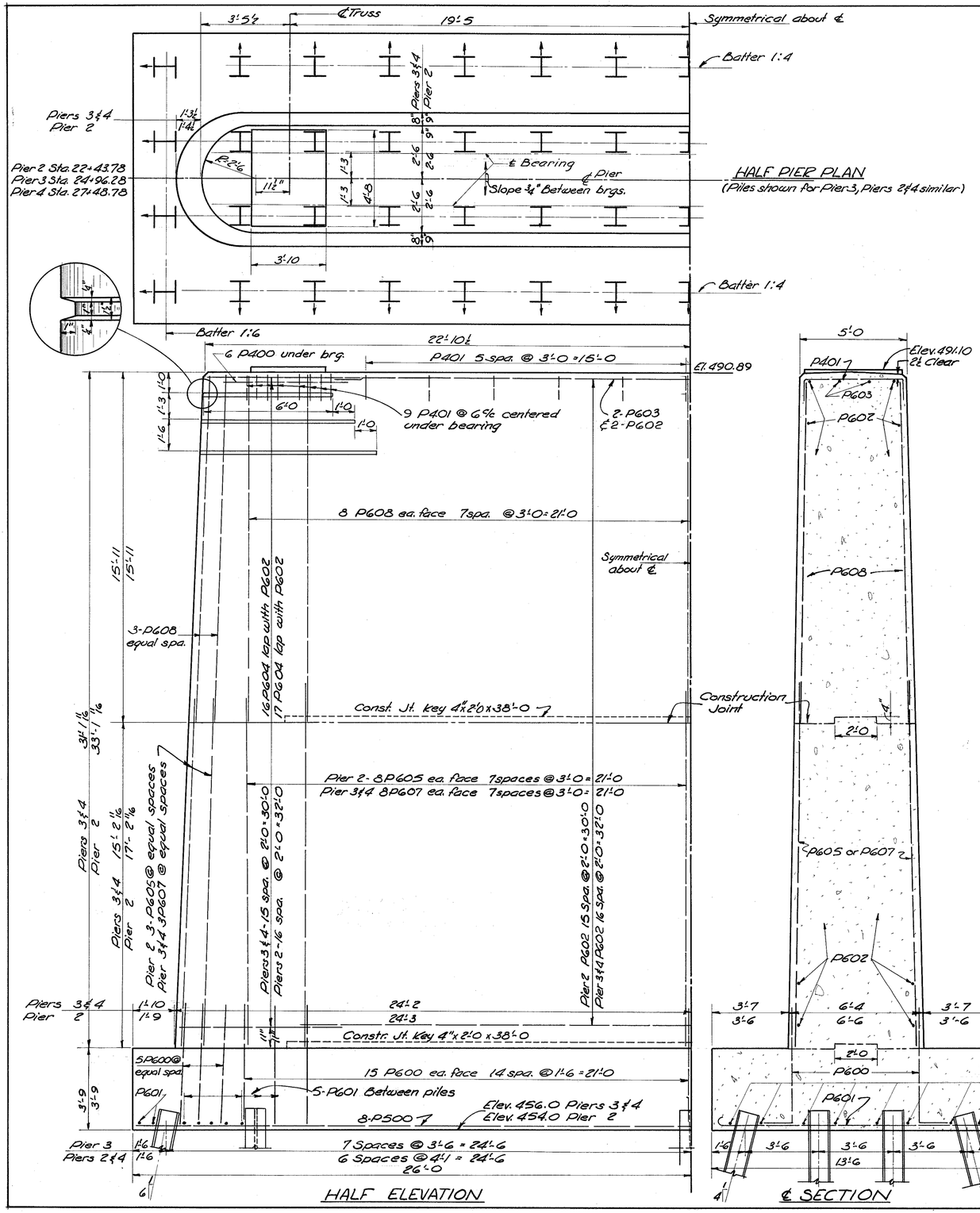
PILE DESIGN LOAD: 45 Tons per pile.

HARRY BALKE ENGINEERS
2300 VICTORY PARKWAY
CINCINNATI 6, O.

ABUTMENT 1 DETAILS

BRIDGE HAM-50-0376 W.B.
PROPOSED US ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+96.37

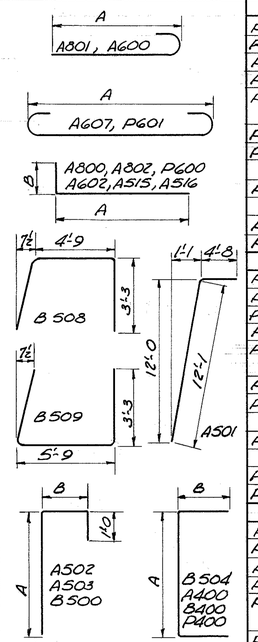
DRAWN	CHKD	TRACED	CHECKED	REVISED	DATE	SHEET
K.M. EA	R.C. W.B. R.E.H.	D.G.	R.C.B.	A.C.A.	8/67	



REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shape	A	B
ABUTMENT 1						
A800	34	30-9	2,791	B	26-9	4'-0
A801	11	7-6	220	B	6-5	
A802	7	8'-6	45	B	7-0	1-6
A600	78	11-5	1,338	B	10-9	
A601	22	26-6	876	S		
A602	49	6-0	442	B	5'-0	1-0
A603	30	12-0	541	S		
A604	23	19-3	665	S		
A605	28	18-0	757	S		
A606	20	33-0	991	S		
A607	18	9-7	259	B	8-3	
A608	7	27-0	284	S		
A609	6	16-6	149	S		
A610	4	15-0	90	S		
A611	3	13-6	61	S		
A612	30	22-0	991	B	–	–
A613	1	20-0	30	S		
A614	1	5-0	8	B		
A500	56	5-0	292	S		
A501	34	16-9	594	B		
A502	9	21-8	203	B	19-0	1-8
A503	14	11-4	165	B	8-8	1-8
A504	2	23-6	49	S		
A505	2	9-9	20	S		
A506	3	18-0	56	S		
A507	3	16-6	52	S		
A508	6	15-0	94	S		
A509	3	13-6	42	S		
A510	8	12-0	100	S		
A511	6	10-6	66	S		
A512	8	9-0	75	S		
A513	14	21-6	314	S		
A514	2	18-3	38	S		
A515	2	7-9	16	B	5-9	2-0
A516	2	4-9	10	B	2-9	2-0
A400	12	5-0	40	B	3-0	1-0
ABUTMENT 5						
B800	32	30-9	2627	S		
B801	4	26-9	286	S		
B600	18	18-0	216	S		
B601	4	33-0	198	S		
B602	30	22-0	991	B		
B603	16	36-0	865	S		
B604	14	9-9	205	S		
B500	14	11-4	165	B	8-8	1-8
B501	20	14-8	306	B	12-0	1-8
B502	2	23-6	49	S		
B503	2	9-9	20	S		
B504	32	9-0	300	B	3-8	1-8
B505	10	7-9	81	S		
B506	4	9-6	40	S		
B507	4	11-0	46	S		
B508	35	11-3	411	B		
B509	35	12-3	447	B		
A400	12	5-0	40	B	3-0	1-0

Bending Diagrams



All dimensions are out to out.

Mark	No.	Length	Weight	Shape	A	B
PIER 2						
P600	68	7-3	740	B	6-0	1-3
P601	64	14-4	1378	B	13-0	
P602	36	36-6	1974	S		
P603	2	10-6	32	S		
P604	2ea	Varies	836	B		
	=34	15-4 to 17-5				
P605	36	19-3	1041	S		
P608	36	15-9	852	S		
P500	16	26-9	446	S		
P400	12	6-0	48	S		
P401	29	6-3	129	B	4-8	1-0
PIER 3						
P600	68	7-3	740	B	6-0	1-3
P601	74	14-4	1593	B	13-0	
P602	34	36-6	1864	S		
P603	2	10-6	32	S		
P604	2ea	Varies	785	B		
	=32	15-4 to 17-4				
P607	36	17-3	933	S		
P608	36	15-9	852	S		
P500	16	26-9	446	S		
P400	12	6-0	48	S		
P401	29	6-3	129	B	4-8	1-0
PIER 4						
P600	68	7-3	740	B	6-0	1-3
P601	74	14-4	1593	B	13-0	
P602	34	36-6	1864	S		
P603	2	10-6	32	S		
P604	2ea.	Varies	785	B		
	=32	15-4 to 17-4				
P607	36	17-3	933	S		
P608	36	15-9	852	S		
P500	16	26-9	446	S		
P400	12	6-0	48	S		
P401	29	8-0	129	B	4-8	1-0
SUPERSTRUCTURE						
S700	1894	30-3	80,009	S		
S600	1894	30-3	58,794	S		
S601	378	33-9	18,958	S		
S602	434	37-6	24,445	S		
S500	960	11-6	11,515	S		
S501	378	33-6	12,998	S		
S502	434	37-6	16,975	S		
REPLACEMENT STEEL						
RE800	1	6-6		S		
RE700	5	6-3		S		
RE600	7	5-11		S		
RE500	3	5-7		S		
RE400	1	5-3		S		

REPLACEMENT BARS. If reinforcing bars are fabricated from stock which has been previously 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.

REINFORCING under bearings shall be placed to clear anchor bolts.

CONCRETE for piers shall be Class "E."

PILE DESIGN LOAD: 50 tons per pile

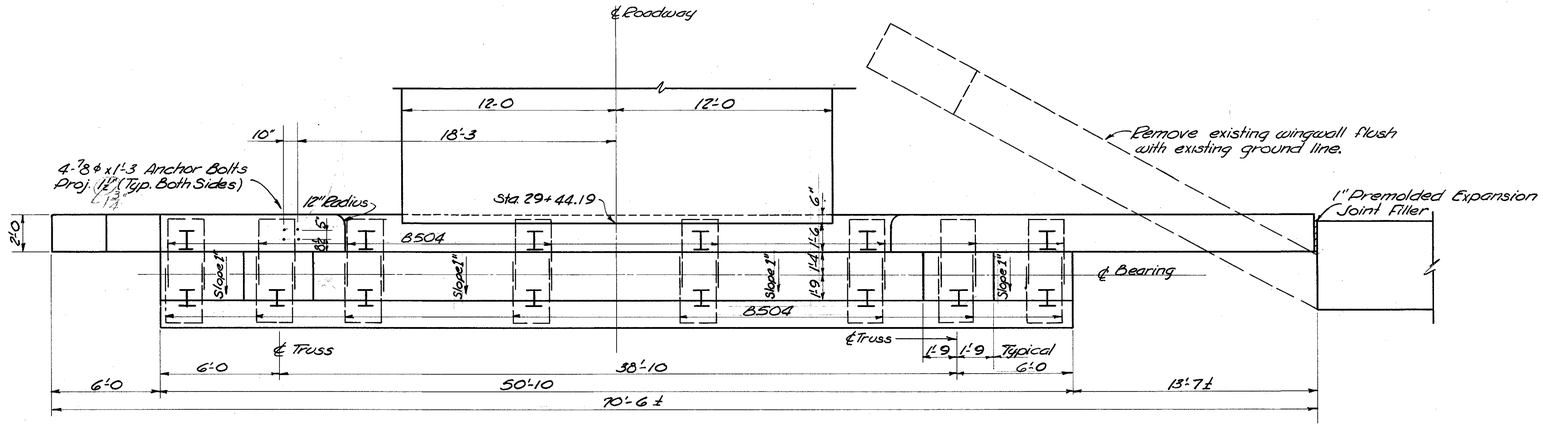
BAR SIZE is indicated in the bar mark. The first digit indicates the bar size number. For example A502 is a No 5 size bar and A803 is a No 8 size bar.

HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

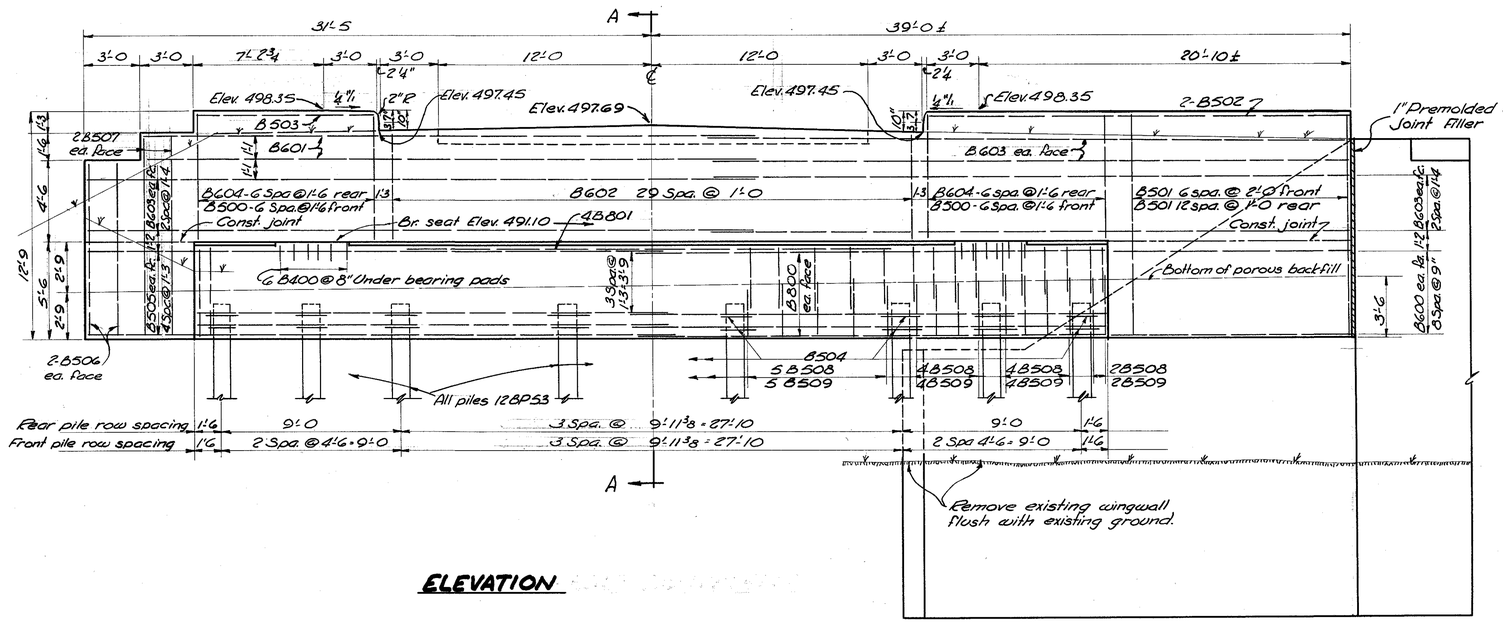
PIER DETAILS & REINFORCING BAR LIST

BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+76.28

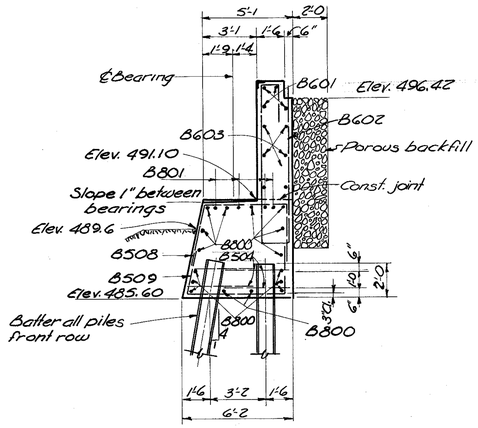
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EA	H.J. W.H.	AL	R.C.B.	A.C.A.	4/27/66	



PLAN



ELEVATION



SECTION-A-A

ABUTMENT NOTES

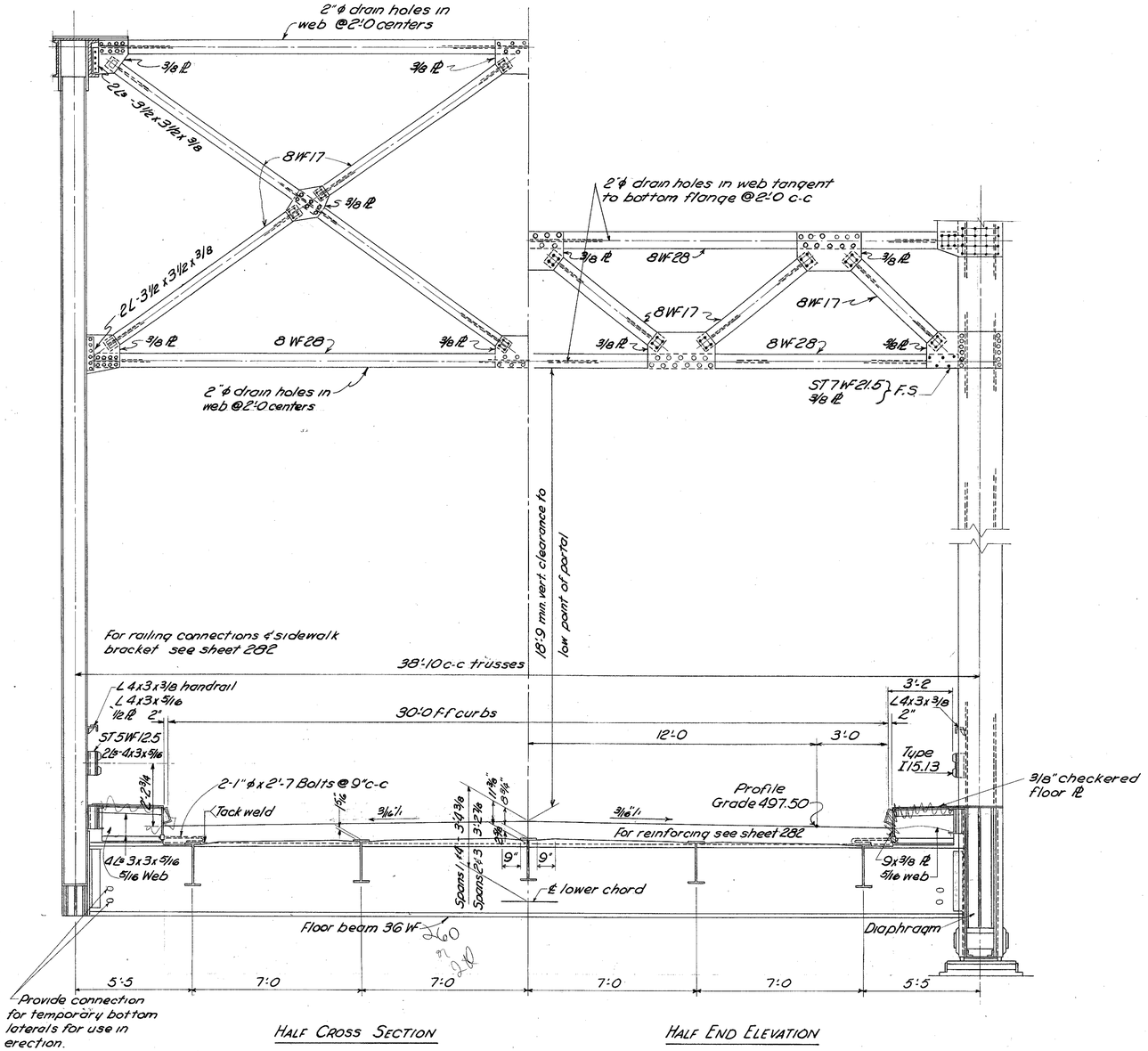
See sheet 275
PILE DESIGN LOAD: 45 tons per pile

HARRY BALKE ENGINEERS
4330 VICTORY PARKWAY
CINCINNATI 6, O.

ABUTMENT 5 DETAILS

BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GA	H.J.	A.L.	K.M. R.C.B.	ACA	2/27/58	

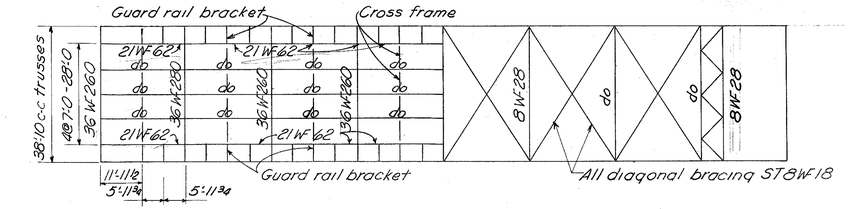


HALF CROSS SECTION

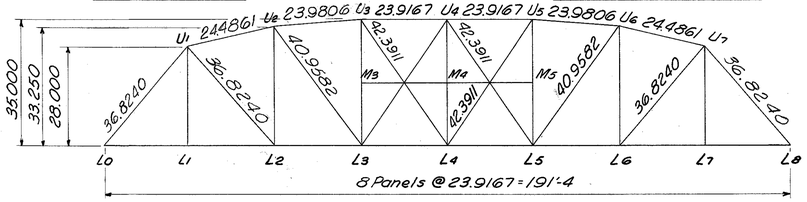
HALF END ELEVATION

TYPICAL FOR ALL SPANS

SPANS 1 & 4

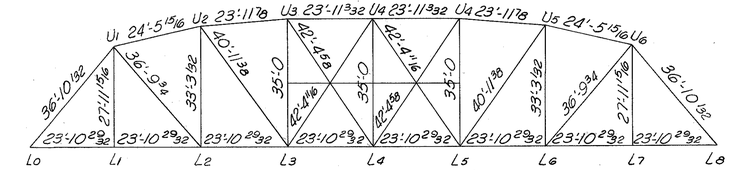


HALF FLOOR PLAN

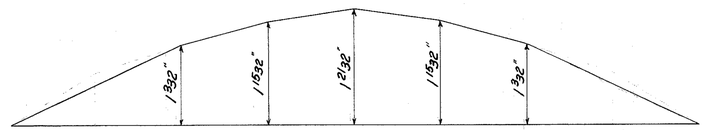


HALF TOP CHORD PLAN

ELEVATION



FABRICATED LENGTHS



CAMBER BLOCKING ORDINATES

TABLE OF MODIFIED STRESSES (SPANS 1 & 4)

Member	Modified Stresses in Kips DL	LL & I	Total	Section		
L0 U1	-284	-200	-484	2-15 C 50	1-PL 21 x 9/16	
U1 U2	-275	-179	-454	2-15 C 40	1-PL 21 x 1/2	
U2 U3	-319	-210	-529	2-15 C 40	1-PL 21 x 11/16	
U3 U4	-340	-224	-564	2-15 C 50	1-PL 21 x 9/16	
L0 L2	+185	+121	+306	2 PL 15 x 3/4		6 holes out
L2 L3	+268	+177	+445	2-PL 15 x 11/16	2 PL 15 x 3/8	do
L3 L4	+319	+207	+526	2-PL 15 x 11/16	2 PL 15 x 9/16	do
U1 L2	+129	+109	+238	12 WF 58		4 holes out
U2 L3	+88	+96	+184	12 WF 53		do
U3 L4	+39	+79	+118	12 WF 36		do
U1 L1	+59	+108	+167	12 WF 40		do
U2 L2	-36	-62	-98	12 WF 65		do
U3 L3	-9	-63	-72	12 WF 36		do
Substruts				12 WF 36		do
Floor beam reactions	56.6	86.4	143			

Note: Stresses modified according to sec. 76 of the 1957 Design Specification

All Rivets 7/8" unless noted

191'-4" TRUSS

HARRY BALKE ENGINEERS
2830 VICTORY PARKWAY
CINCINNATI 6, O.

SUPERSTRUCTURE DETAILS

BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EWS LLT	RW	DS	RCB	ACA	2/27/58	

REVISIONS	STATE	ROAD OR PROJECT	SHEET NO.
2	OHIO		279

W.P.# - 50 - 8.72

5 SPANS @ 191'-4" TRUSS

Diaphragm 4-L 8x4x⅜ 1-PL 10'-2"x⅜

19"x⅜ PL

R=2'

10'-2"

11'-4"

R=2'

Floor beam connection 2 Ls 8x4x⅝

SECTION A-A

Double lacing bars 2½"x½"@45°

HALF BOTTOM SECTION

HALF TOP VIEW

Fill PL 21"x⅜

L 3½"x3½"x⅜ (Bend)

2 STBWF 18

ST BWF 18

⅜ PL

Mill

U1 U2 2-15" [40 1-PL 21"x½"

ST 7WF 21.5

BWF 28

Splice PL 15"x⅜

Fill PL 15"x½

W.L.

Tie PL 21"x⅜"x2'-0

½" Gusset

12 WF 58

12 WF 53

12 WF 65

8" Fill

12 WF 40

36 WF 280

36 WF 260

Double lacing bars 2½"x½"@45°

L 3½"x3½"x⅜ (Bend)

2 9/16 PL

L 5"x3½"x⅜ (Bend)

2 STBWF 18

ST BWF 18

U2 U2 2-15" [40 1-PL 21"x11/16

Fill PL 15"x½

Mill

BWF 28

Diaphragm at all Top Chord Panel Points 4 Ls 3½"x3½"x⅜ ½" PL

HALF BOTTOM SECTION

HALF TOP VIEW

Fill PL 21"x⅜

L 3½"x3½"x⅜

2 9/16 PL

ST BWF 18

⅜ PL

Stitch rivet as per Sec. 228 & 229 of the Design Spec.

U2 U3 2-15" [50 1-PL 21"x9/16

Splice PL 15"x⅜

Tie PL's 21"x⅜"x2'-0

2½" Gusset

12 WF 36

⅜" Gusset

36 WF 260

2-L 4x4x½ 9 rivets in OSL

½" Gusset

Stitch rivet as per Sec. 228 of the 1937 Design Spec.

Int. Diaph @ 3'-0 cc 4 Ls 3½"x3½"x⅜ ½" PL

15"x11/16 PL

15"x⅜ PL

½" Sp PL

3/16 Fill PL

Diaphragm at Splice 4 Ls 3½"x3½"x⅜ ½" PL

Diaphragm at Panel Points 4 Ls 4"x3½"x⅜ ½" PL

191'-4 TRUSS

Abut 1 - N & S rail, use center splice & continue rail on roadway.

Abut 1 - N rail - use std splice & continue rail on roadway

S rail - use std end flare

Abut 2 - lap 4". Do not bolt

Post @ Abut 2 only

Top of hand rail

2'-0

L 4x3x⅜

Bolt hole Abut 2

6 WF 20

L 4x3½x5/16

Type I - 15.13

Bolt hole Abut 2

Top of ⅜" Curb PL

19"x⅜ PL

4'-0½"

3'-4⅜"

1'-4

1'-4½"

1'-10⅜"

1'-8

2 L 8x4x⅝

2 L 3x3x5/16

Flatten rivet heads to ⅜" @ Bottom Chord

36 WF 260

@ 9" Pin

¾" Pin PL's

¾" Fill

L 3x3x⅜

Bridge Seat

Face of Abutment

1'-0

1'-4

23'-11

⅜" sheet lead included with structural steel for payment.

2½" ϕ Anchor bolts set 1'-6 into concrete

L 0 U1 2-15" [50 1-PL 21"x9/16

Cope L to clear cover PL & Fig 27

Bolt hole

⅜" curb PL

2" min Clearance

Tie PL 21"x⅜"x2'-0

Fill L 4"x4"x⅜

⅜" Gusset 13¼ out-out

½" Gusset

Diaphragm 4 Ls 3½"x3½"x⅜ ½" PL

L 3x3x⅜

SECTION B

⅜x1¾ anchor bolts Furn by struct steel contractor

PL 8"x⅜"x1'-1

@ Truss

12

10

5

¼

Note: All rivets ⅞" ϕ unless noted

HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

SUPERSTRUCTURE DETAILS

BRIDGE HAM-50-0376WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EWS	EWS	HS	RCB	ACA	2/27/58	3-30-59

Diaphragm
4 L's - 8 x 6 x ½
1 - PL 9½ x ½

L - 3 x 3 x 5/16

19½ x ⅜" PL

L-4x4x⅝ Coverplate to Gusset

¾" Fill

12"

2" PL

36WF 280

Floor B. Connection
2 L's - 8 x 4 x ⅝

SECTIONS A-A

Diaphragm at all Top Chord Panel Points
4 L's 3½ x 3½ x ⅜
1 - PL 11 x ½

HALF BOT. SECT.

HALF TOP VIEW

L-5x3½x⅜(Bend)

ST 8WF18

⅜" PL

U3 U4
2-18L 51.9
1-PL 22 x ⅝
2 PL 15 x ⅜

⅜ Splice PL

22 x ⅝ Top PL

Stitch Rivets as per Sec. 228 & 229 of the 1957 Design Specifications.

15 x ⅜ PL

Tie PL 22 x ⅜ x 2'-0

Diaphragm
4-L 3½ x 3½ x ⅜
1-PL 11 x ½

L-3½x3½x⅜(Bend)

ST 8WF18

L-3½x3½x⅜ Bend

ST 8WF18

U2 U3
2-18L 45.8
1-PL 22 x ⅝
2-PL 15 x ⅜

Mill

3½ x 3½ x ⅜

U2

L-3½x3½x⅜

⅜ Splice PL

Bend Line

8WF28

Mill

U1

1/16 Splice PL

5/16 Fill PL

1/16 Splice PL

3/16 Fill PL

⅜ Splice PL

Tie PL's 22 x ⅜ x 2'-0

Tie PL's 22 x ⅜ x 2'-0

⅜ Gusset 12¼ in-in

⅛" Fill

12WF45

L0U1
2-18L 51.9
1 PL 22 x ⅝
2 PL 15 x ⅜

ST 7WF 21.5

⅜ PL

Cope L to clear Cover PL & Flg.

⅜ Gusset 12¼ in-in

⅜ Gusset 12¼ in-in

12WF65

12WF65

12WF53

12WF40

⅛ Fill

3/16 Fill

12WF36

⅜ Gusset

Top of hand rail

L-4x3x⅜

6WF20

6WF20

L-4x3½x5/16 22x⅜ PL

2¾ Min

I-15.13

4" Lap No Bolts

Type I-15.13

Bolt hole

L 5 x 3½ x ⅜

A

⅜ Curb PL

See Sheet 283 for Detail

L 3x3x5/16

A

⅜" PL

2L 8x4x⅜

2" Min. Clearance

22x⅜x2'-0

⅛" Fill

L 4x4x⅜x5'-0

¾ Gusset 13¼ out-out

℄ Bottom Chord

Diaphragm
4 L's 3½ x 3½ x ⅜
½" PL

℄ 9" ϕ Pin

1" Pin PL

1" Fill

L 3x3x⅜

½" sheet lead included with structural steel for payment

Draw in bottom chord to allow for ¾" Gusset

Bridge Seat

℄ of Bearing Adjacent Spans

2'-6

1½" ϕ Anchor bolts set 1'-6 into concrete

Strip O.S. Leg of L's

⅛ Fill

9/16 Gusset

9/16 Gusset

2-L 6 x 4 x ½
10 Riv. in O.S. Leg

Strip O.S. leg of L's

9/16 Gusset

All Floor B. Connections
2 L's 4 x 4 x ½ Unless Noted
9 riv. in O.S. Leg

Intermediate Diaphragms @ 3'-0 O.C.
4 L's 3½ x 3½ x ⅜
½" Plate

25'-0

25'-0

25'-0

Diaphragm at Panel Point
4 L's 4x3½ x ⅜
½" PL

18 x 13/16 PL

18 x 3/16 PL

7/16" Splice PL

18 x ¾ PL

18 x ⅜ PL

18x¼ Fill PL
18 x ⅜ Splice PL

18 x ¾ PL

18 x ⅝ PL

Diaphragm at Splice
4 L's 3½ x 3½ x ⅜
½" PL

Double Lacing Bars - 2½ x ½ @ 45°

Tie PL

1'-6⅜ ℓ

DETAIL OF TOP CHORD LACING FOR ALL SPANS

All Rivets ⅞" ϕ Unless Noted

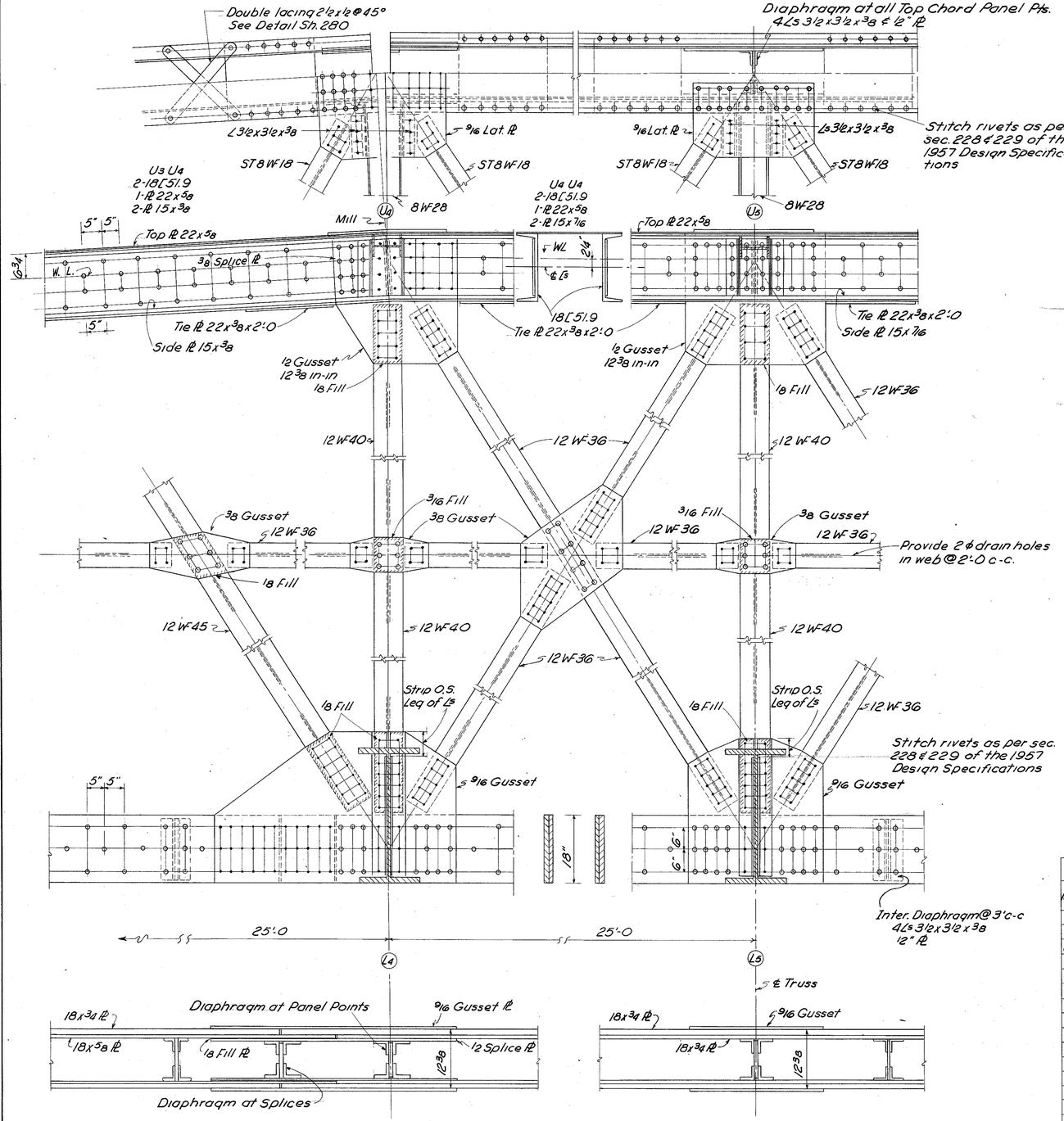
250' TRUSS

HARRY BALKE ENGINEERS
3200 VICTORY PARKWAY
CINCINNATI, O.

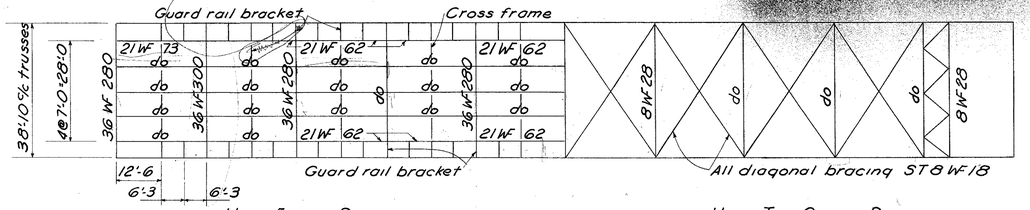
SUPERSTRUCTURE DETAILS

BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA 24+96.22

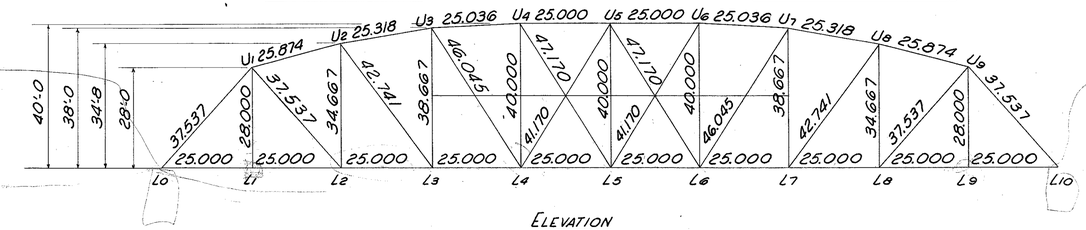
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	SHEET
LTT	LTT	AL	RCB	ACA	2/27/58	



SPANS 2 & 3

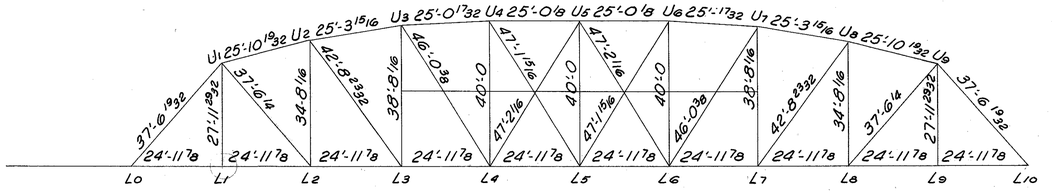


HALF FLOOR PLAN

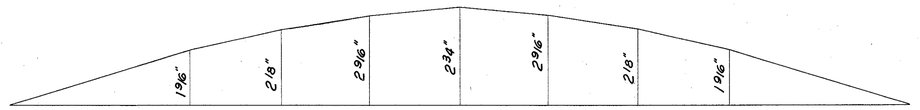


HALF TOP CHORD PLAN

ELEVATION



FABRICATED LENGTHS



CAMBER BLOCKING ORDINATES

TABLE OF MODIFIED STRESSES FOR 250' SPANS

MEMBER	MODIFIED STRESSES IN KIPS DL	LL+I	TOTAL	SECTION		
L0 U1	-398	-240	-638	2-18 [51.9	1 Pl 22x⅝	2 Pls 15x⅜
U1 U2	-394	-224	-618	2-18 [58	1 Pl 22x½	—
U2 U3	-455	-260	-715	2-18 [45.8	1 Pl 22x⅝	2 Pls 15x⅜
U3 U4	-499	-281	-780	2-18 [51.9	1 Pl 22x⅝	2 Pls 15x⅜
U4 U5	-520	-293	-813	2-18 [51.9	1 Pl 22x⅝	2 Pls 15x⅜
L0 L2	+266	+151	+417	2 Pls 18x3/16		6 holes out
L2 L3	+381	+215	+596	2 Pls 18x⅜	2 Pls 18x⅜	do
L3 L4	+451	+254	+705	2 Pls 18x⅜	2 Pls 18x⅝	do
L4 L5	+498	+281	+779	4 Pls 18x⅜		do
U1 L2	+175	+114	+289	12 WF 65		4 holes out
U2 L3	+118	+97	+215	12 WF 53		do
U3 L4	+89	+96	+185	12 WF 45		do
U4 L5	+40	+84	+124	12 WF 36		do
U1 L1	+63	+95	+158	12 WF 40		do
U2 L2	-65	-69	-134	12 WF 65		do
U3 L3	-29	-63	-92	12 WF 40		do
U4 L4	-8	-71	-79	12 WF 40		do
Substruts				12 WF 36		
Floor Beam Reactions	60	87.4	147.4			

Note: Stresses modified according to Sec. 76 of the 1957 Design Specifications

All rivets ⅞ ϕ unless noted

250' TRUSS

HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

SUPERSTRUCTURE DETAILS

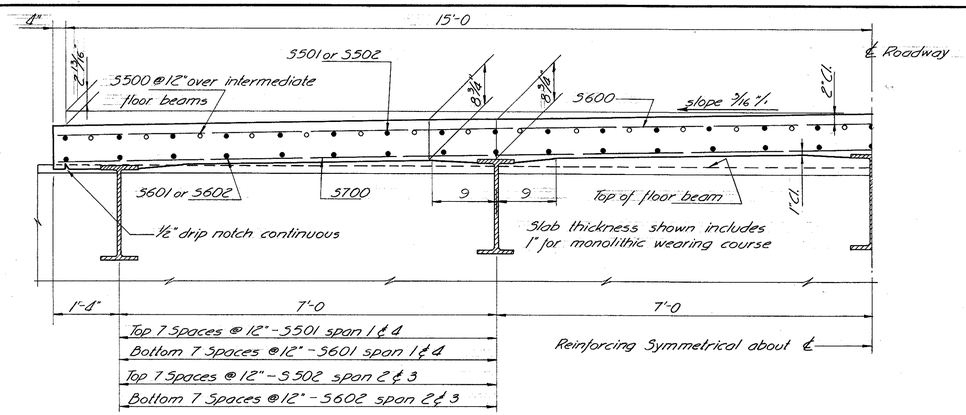
BRIDGE HAM-50-03.76 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA. 24+96.28

ORIGINAL	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LLT	LLT	DS	RCB	ACA	2/27/58	

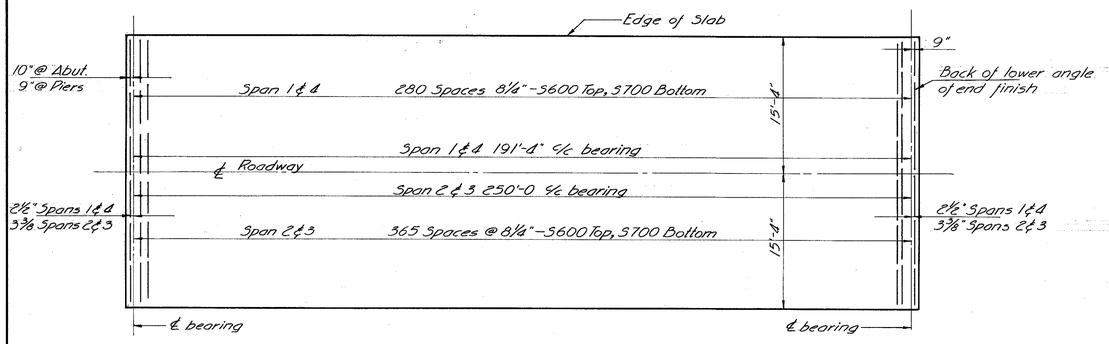
1				
2				

HAM-50-3.72

281

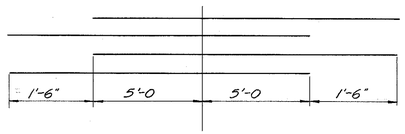


TYPICAL SECTION

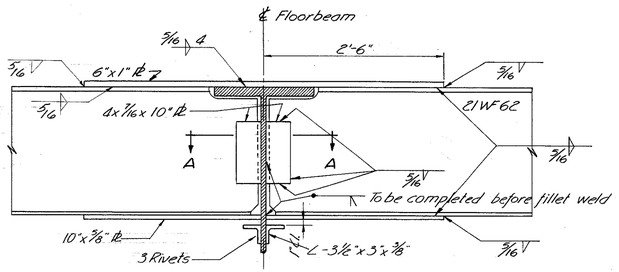


NOTE:
One transverse, keyed construction joint may be used in each truss span, at the Contractor's option. If used, the joint shall be located not less than four feet from a transverse floor beam.

SLAB PLAN

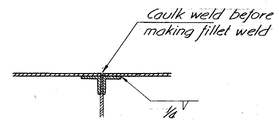


SPACING OF 3500 BARS OVER FLOOR BEAMS

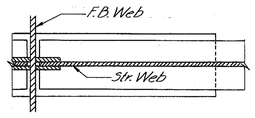


SPLICE DETAIL

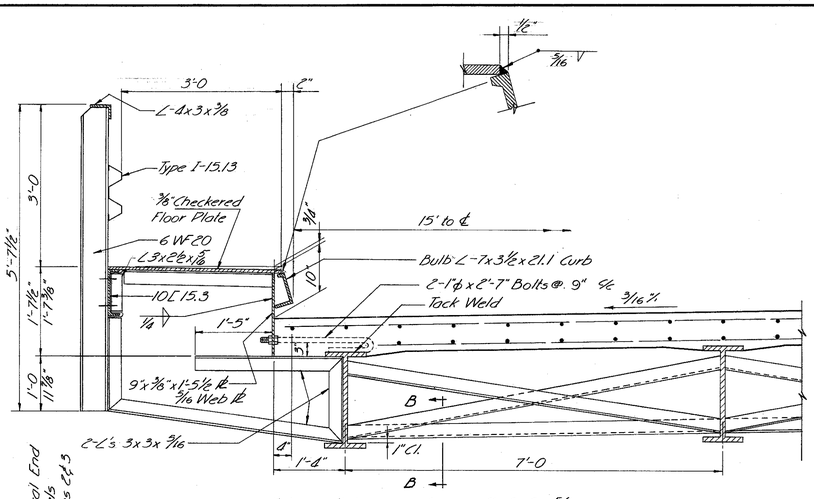
NOTE:
See sheet 276 for reinforcing steel schedule



SECTION C



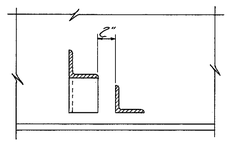
SECTION A-A



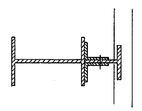
Intermediate cross frame L's 3 x 3 x 5/16
Weld both sides of vertical leg and one side of hor. leg to stringer webs with 1/8" cont. fillet weld.

All slab concrete shall be class 'C'.
All welding shall be class A.
Rivets 7/8" ϕ unless noted.

SECTION AT INTERMEDIATE CROSS FRAME

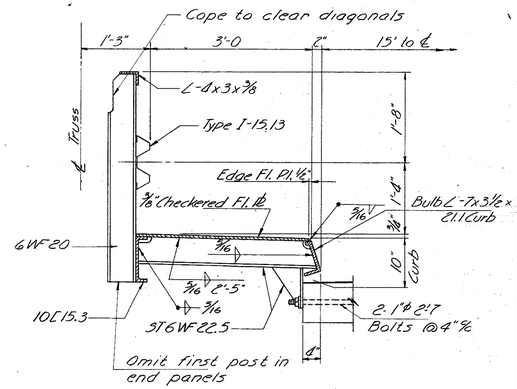


SECTION B-B

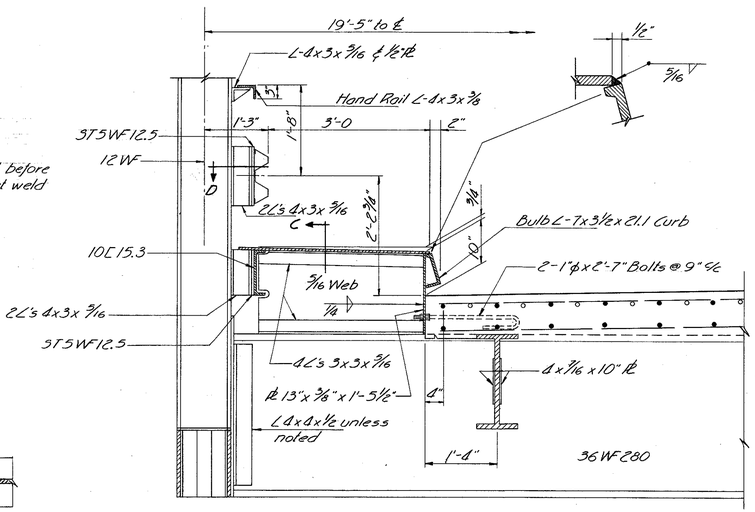


SECTION D

NOTE: 3-14, shall include the type I-15.13 railing, 4 x 3 x 3/8 top angle railing, railing post and railing connections to trusses for payment.



INTERMEDIATE RAILING AND CURB SUPPORT



SECTION AT FLOOR BEAM

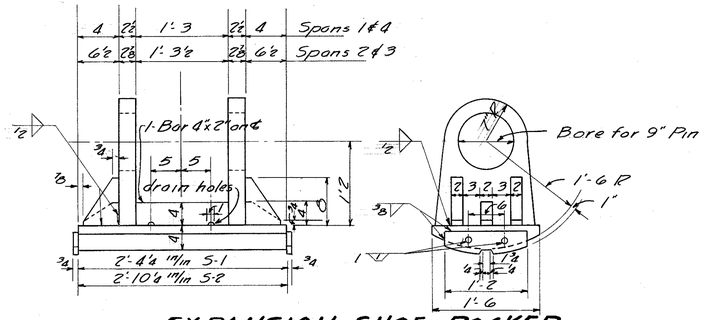
HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

SUPERSTRUCTURE DETAILS

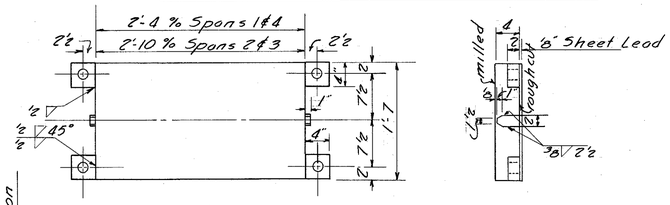
BRIDGE HAM-50-0376 WB
PROPOSED US ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.L.T.	A.C.	C.L.	R.C.B.	A.C.A.	2/27/58	

				282
2	OHIO			
HAM - 50 - 8.73				

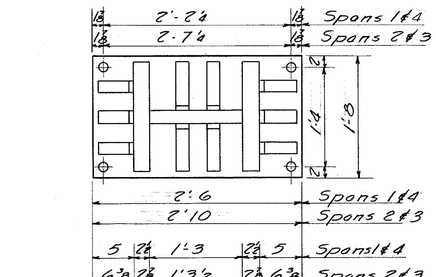


EXPANSION SHOE ROCKER



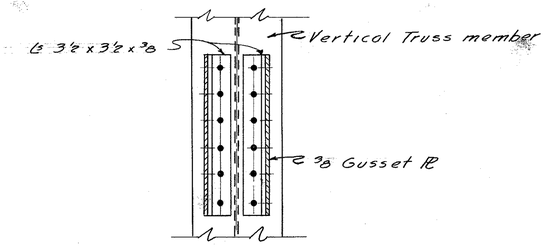
BASE PLATE FOR EXPANSION ROCKER

All edges are to be square and true

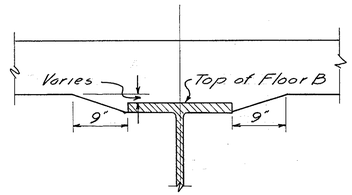


FIXED SHOES

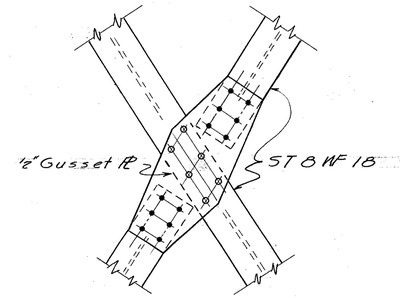
All edges are to be square and true



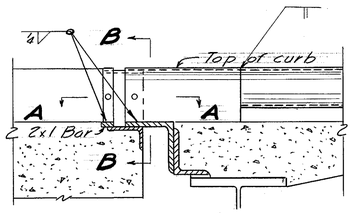
TYPICAL CONNECTION OF SWAY BRACING TO TRUSS VERTICAL



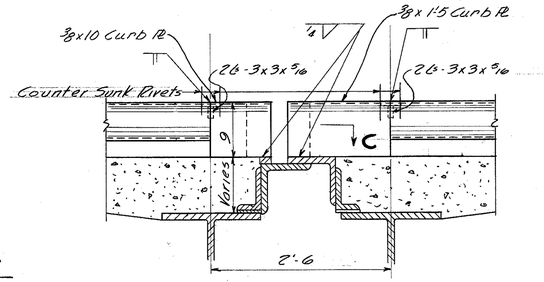
SECTION AT FLOOR BEAM



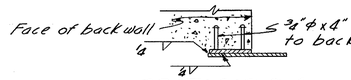
TYPICAL CONNECTION FOR TOP CHORD BRACING



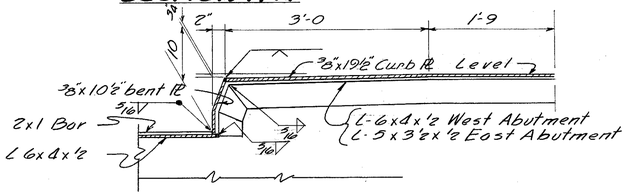
CURB PLATE AT ABUTMENT



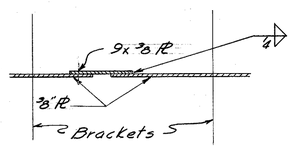
CURB PLATE AT PIERS



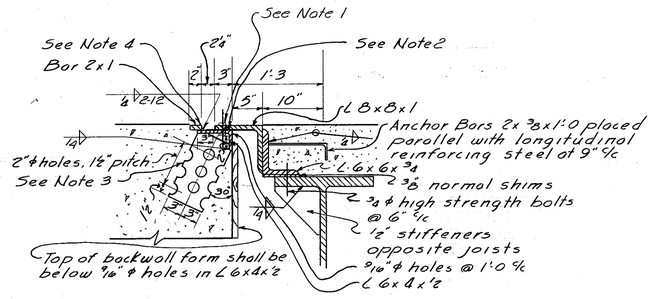
SECTION A-A



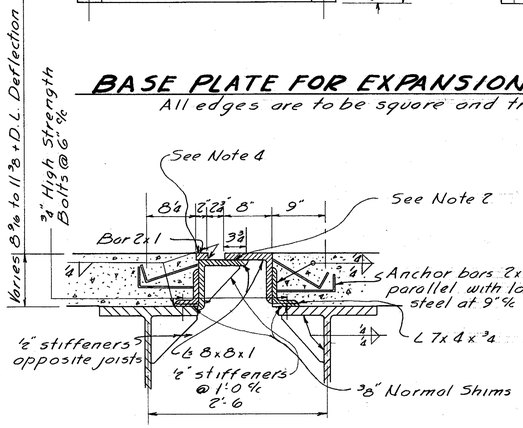
SECTION B-B



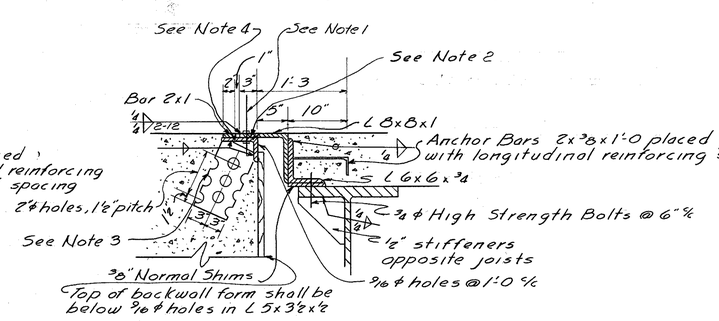
SECTION C-C



ROADWAY END FINISH "B"



ROADWAY END FINISH "A"



ROADWAY END FINISH "C"

NOTES:

1. ⅞"ø x 2 bolts at not more than 2'-0 c/c with nuts tack-welded to under side of lower angle. 1 1/16" ø holes in upper angle. Center ⅞" ø bolts in 1 1/16" ø holes. Apply flake graphite between washers and angles. Turn bolt tight and release one-half turn. Remove bolts as soon as concrete has reasonably set preferably within two hours, to avoid effect of temperature expansion or contraction of superstructure. Fill hole with bituminous material.
2. This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete.
3. ½ x 12" plates spaced at approximately 15" c/c except near joints in the angle, where the plates shall be placed within 6 in. of each side of the joint. The holes may be burned in the plate.
4. Provide a joint in the edge bar and in the angle on the center line of the roadway. Additional joists may be provided in them at a minimum spacing of 6'-0". (Joints shall not be welded.)

See Sheets 279 and 280 for Railing details for bridge ends

STATE	STATE NO.	SHEET NO.	TOTAL SHEETS
OHIO			

HAM - 50 - 37.72

283

HARRY BALKE ENGINEERS
2330 VICTORY PARKWAY
CINCINNATI 6, O.

SUPERSTRUCTURE DETAILS

BRIDGE HAM-50-0376 WB
PROPOSED U.S. ROUTE 50
OVER GREAT MIAMI RIVER
HAMILTON CO.
SEC. 3.72 STA 24+96.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.L.T. E.W.S.	A.L.	J.S.	R.C.B.	A.C.A.	6/27/55	