

ODOT District 8  
2023 Pre-Inspection Report

Final August  
2023

Bridge No. HAM-75-0022L/R



Prepared for:



ODOT District 8  
505 SR 741  
Lebanon, Ohio 45036

PID No. 105475

Prepared by:

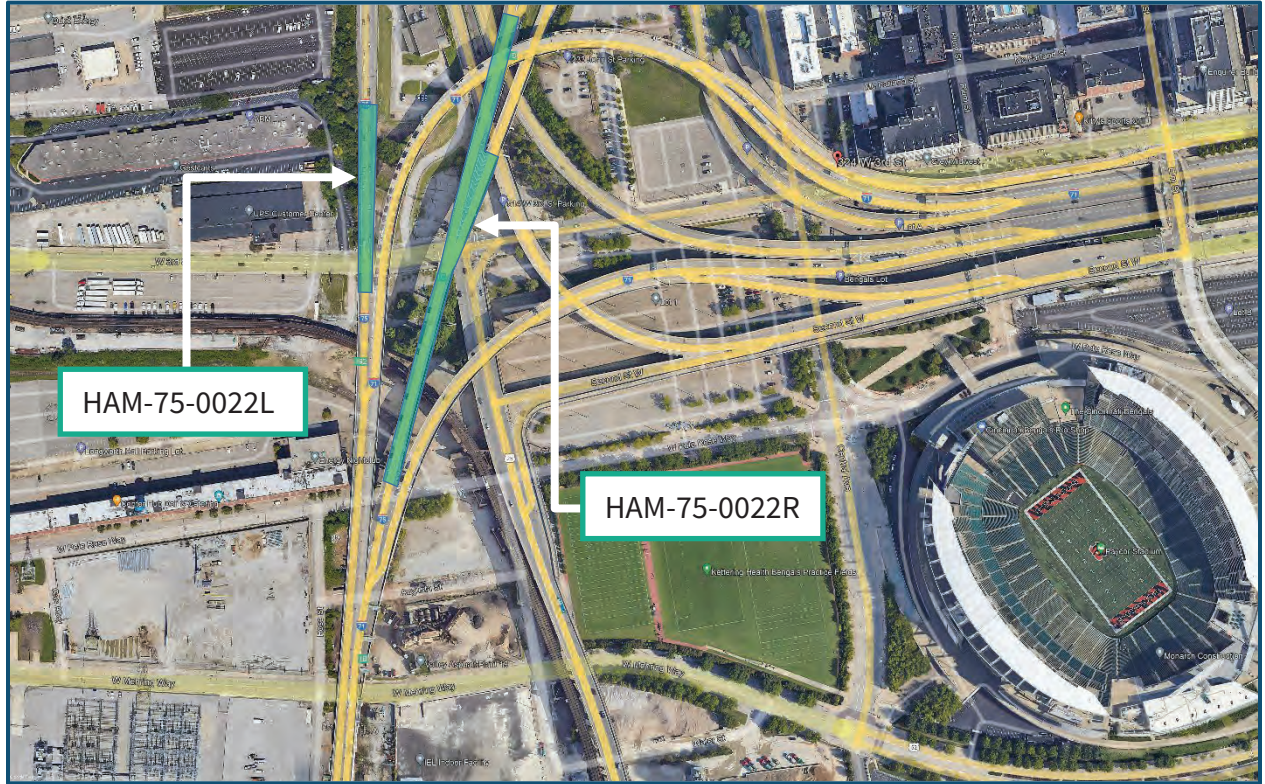
**TRANSYSTEMS**

1100 Superior Avenue, Suite 1000  
Cleveland, OH 44114

Project Number P402220026

**INTRODUCTION:**

**LOCATION MAP:**



**Figure 1 - I-75 Southbound over West Third Street & I-75 Northbound over West Third Street & US 50 Ramps, Cincinnati, Ohio Location Map.**

**INSPECTION DETAILS:**

Bridge No.: HAM-75-0022L --- SFN 3108791  
HAM-75-0022R --- SFN 3108805

Features Intersected: I-71 Southbound, CSX Railroad, Local Parking Lots, Third Street, US 42 Ramp, US 50 Ramps

Locations to Inspect: HAM-75-0022L (From Pier 19A to Abutment A): In-Depth Element Level  
HAM-75-0022R (From Pier 15C to Abutment C and Pier 22J to 26J): In-Depth Element Level

Number of Caps to Inspect: 2

Number of Inspection Days: Estimated 6 days & 1 night

Inspection Dates: September 11 - September 29, 2023

Inspection Hours: 7:00 AM to 5:00 PM (Day),  
11:00 PM to 5:00 AM (Night)

Inspection Equipment: 46' Bucket Truck, 120' Manlift, Ladders

## **BRIDGE INFORMATION:**

### **HAM-75-0022L**

The Brent Spence Approach Bridge (HAM-75-0022L) consists of a six-span welded steel plate girder structure that carries two lanes of I-75 southbound traffic over West Third Street. The structure was constructed in 1963 by Penker Construction and consists of a reinforced concrete deck that varies in width and bears directly on five continuous, welded, built-up steel girders supported by reinforced concrete piers. Crossframe angles spanning the width of the bays between the girders are welded to the transverse stiffeners of the girders. The structure is 428'-0" long and the longest spans (Span 21A and 24A) are each 78'-0" in length. The bridge numbering system follows the convention set in the design plans. Access to the structure will be from ladders, bucket truck, and manlift.

The nomenclature for this bridge follows the convention set in the design plans with spans, substructure units, and cross frames labeled from south to north and girders labeled from west to east. The substructure units are numbered from Pier 19A to Abutment A, spans are numbered from Span 20A to Span 25A, and girders are labeled from A to E.

### **HAM-75-0022R**

The Brent Spence Approach Bridge (HAM-75-0022R) is a 14-span structure that carries three lanes of I-75 northbound traffic over West Third Street, a railroad, and US 50 and I-75 Ramps. The structure was constructed in 1963 by Penker Construction. The original structure consists of a reinforced concrete deck that varies in width and bears directly on up to six continuous, welded, built-up steel girders supported by reinforced concrete piers. Crossframe angles spanning the width of the bays between the girders are welded to the transverse stiffeners of the girders.

A retrofit of the bridge was performed in 2000 and included widening of the east side of the bridge in Spans 21C through 29C. Steel beams, crossframes, and concrete piers were added to the structure along with two fracture critical steel pier caps at Piers 25J and 26C/J. The structure is approximately 1,187 feet long and the longest span (Span 28C) is approximately 117' in length.

The nomenclature of this bridge will follow the convention set in the design plans and retrofit plans with:

- Spans, substructure units and cross frames labeled from south to north.
- Original girders labeled A through F from west to east, and retrofit beams labeled B1 through B4 for east to west.
- The substructure units are numbered from Pier 15C to Abutment C on the original structure and from Pier 22J to 26J on the retrofit substructure units.
- Spans are numbered from Span 16C to 29C.

## **INSPECTION METHOD AND PLAN:**

TranSystems Corporation, Michael Baker International, and TRC Engineers, Inc. engineers will perform in-depth element level inspections on the Ohio portion of the Brent Spence Bridges HAM-75-0022L/R as defined by the Scope of Services. This will include entering the steel pier caps at Piers 25J and 26C/J. The inspection will adhere to the Confined Space Entry Procedure defined herein. Measurements and observations will be recorded to determine the physical and functional condition of the bridges, to identify any changes from previously recorded conditions, and to ensure that the structures continue to satisfy present service conditions.

## **FIELD COORDINATION:**

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

### **HAM-75-0022L Field Contacts**

#### TranSystems:

Team Leader; Project Manager	Carolyn Guion, PE ctguion@transystems.com	(216) 299-7724
Team Leader	Steven Hammerschmidt, PE sfhammerschmidt@transystems.com	(785) 623-6704
Team Leader	Kenny Wagner, PE kwwagner@transystems.com	(843) 303-1981
Team Leader	Chris Seman, PE cmseman@transystems.com	(617) 733-5097
Team Member	Jake Adamrovich, EI jaadamrovich@transystems.com	(724) 787-2250

#### TRC Engineers, Inc:

Team Leader	Christopher Hay, PE CHay@trccompanies.com	(614) 743-6493
Team Member	Lisa Brown, EI LBrown@trccompanies.com	(513) 728-0567

## HAM-75-0022R Field Contacts

### Michael Baker International:

Team Leader; Project Manager	Cory Larkin, PE, SE Cory.Larkin@mbakerintl.com	(513) 227-7486
Team Leader	Gus Clearly, EI Gustin.Clearly@mbakerintl.com	(330) 843-1113
Team Leader	Mike Baron, PE Michael.Baron@mbakerintl.com	(502) 403-6676
Team Member	Shelby Wilson, PE Shelby.Wilson@mbakerintl.com	(740) 406-8194

### **PERMITTING AND COORDINATION:**

The following entities will be involved in the permitting and coordination of all work associated with the inspection of these structures. 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

City of Cincinnati – Work performed on City owned property will be done so within ODOT easements therefore no right-of-entry permit is required.

DOT Permit and License Center (513) 352-3463  
row.permits@cincinnati-oh.gov

CSX RAILROAD – Visual inspection of the HAM-75-0022R structure over railroad tracks will be performed, thus no right of entry permit is required through CSX Transportation, Inc. to access railroad right-of-way.

**TRAFFIC CONTROL:**

TranSystems has contracted A&A Safety, Inc. to provide the necessary traffic control for these inspections. 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.

A maintenance of traffic scheme for closure of one (east) lane of the combined ramps from SB I-75 and EB US 50 to Second Street will be necessary to access the steel box girder pier caps of the HAM-75-0022R Bridge. This will be coordinated with inspection of the HAM-71-0000L Bridge.

The anticipated traffic control schedule is as follows:

Date	Structure	Traffic Control
Night of 9/17/23	HAM-75-0022R (coordinate with HAM-71-0000L)	Single left lane closure of I-75 SB at exit to 2nd Street Ramp

The remainder of the structures will be inspected from the ground using manlifts and bucket trucks and will not require roadway closures.

**NON-PERMIT CONFINED SPACE ENTRY PROCEDURE:**

The inspection of the steel box girder pier caps falls under the Ohio Department of Transportation Confined Space Entry Program. The procedure to be used will be Class B – Non-Permit Required Entry. This procedure states “Class B inspections are arms-length inspections performed on bridges/culverts that require no special provisions for confined space issues. An air monitor is required at all times while in the confined space.”

The entry procedure we will employ is described as follows:

- Open box girder caps at least 1 hour prior to entry and record air quality readings using a multi-gas air meter.
- Team shall be comprised of, at minimum, a two-person team consisting of one entrant and one attendant.
- Record readings upon entering. Do not enter if air meter alarms sound.
- Monitor air quality continuously while inside box girder cap (ensure monitor remains on and is functioning properly).
- The attendant stationed outside of the box girder cap shall maintain contact with inspector(s) at all times via phone or two-way radio.

Response procedure if the air meter alarm sounds while inside box girder cap:

- Entrant(s) shall notify the attendant and immediately exit the box girder cap.
- Allow additional ventilation and re-entry will be permitted if air quality readings are non-hazardous.
- If unsafe atmospheric conditions persist utilize a blower to provide further ventilation and re-entry will be permitted if air quality readings are non-hazardous.
- If hazardous atmospheric conditions cannot be eliminated entry into the box girder is **prohibited** and the District 8 Project Manager shall be notified within 24 hours.

Additional information:

- Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.
- Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

#### **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.



## **APPENDIX A**

### **RIGHT OF ENTRY PERMITS & MAINTENANCE OF TRAFFIC DRAWINGS**

MR 509  
Permit No. 23-18072

Office Use Only

State of Ohio  
Department of Transportation  
Permit

County or Jurisdiction HAM  
Rte US50  
Log Pt 20.552-20.65  
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 Ave Suite 1000 Cleveland OH 44114  
Company Phone: 216 357-3545

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: Bridge HAM-71-0000L & HAM-75-0022R Inspections. A maintenance of traffic scheme for closure of single left (east) lane of the combined ramps from SB I-75 and EB US 50 to Second Street will be necessary to access Pier 29B of the HAM-71-0000L Bridge and the box girder caps of HAM-75-0022R bridge. Closure to take place the night of 9/17/23. Permitted as locations and times on permit specified.

[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 Kim Giffin  
Phone 513-933-6580  
Email Address: Kim.giffin@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 02/11/2024

Dated 08/11/2023

Rev 5/6/2021

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**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 the 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:**

**(the remainder of this page is left blank intentionally)**

# Requires ODOT permit - applying for with this application

## LOCATION 1 – September of 2023

### Location 1A

I-71/75 NB (lower level Brent Spence)

39.095170°, -84.522188°

**Night** time closure – double left lane I-71/75 northbound

**Night** time closure – double right lane I-71/75 northbound

### Location 1B

I-75 SB Second St. Ramp

**Night** time closure – left lane of ramp to Second St.

### Location 1C

West 3<sup>rd</sup> St.

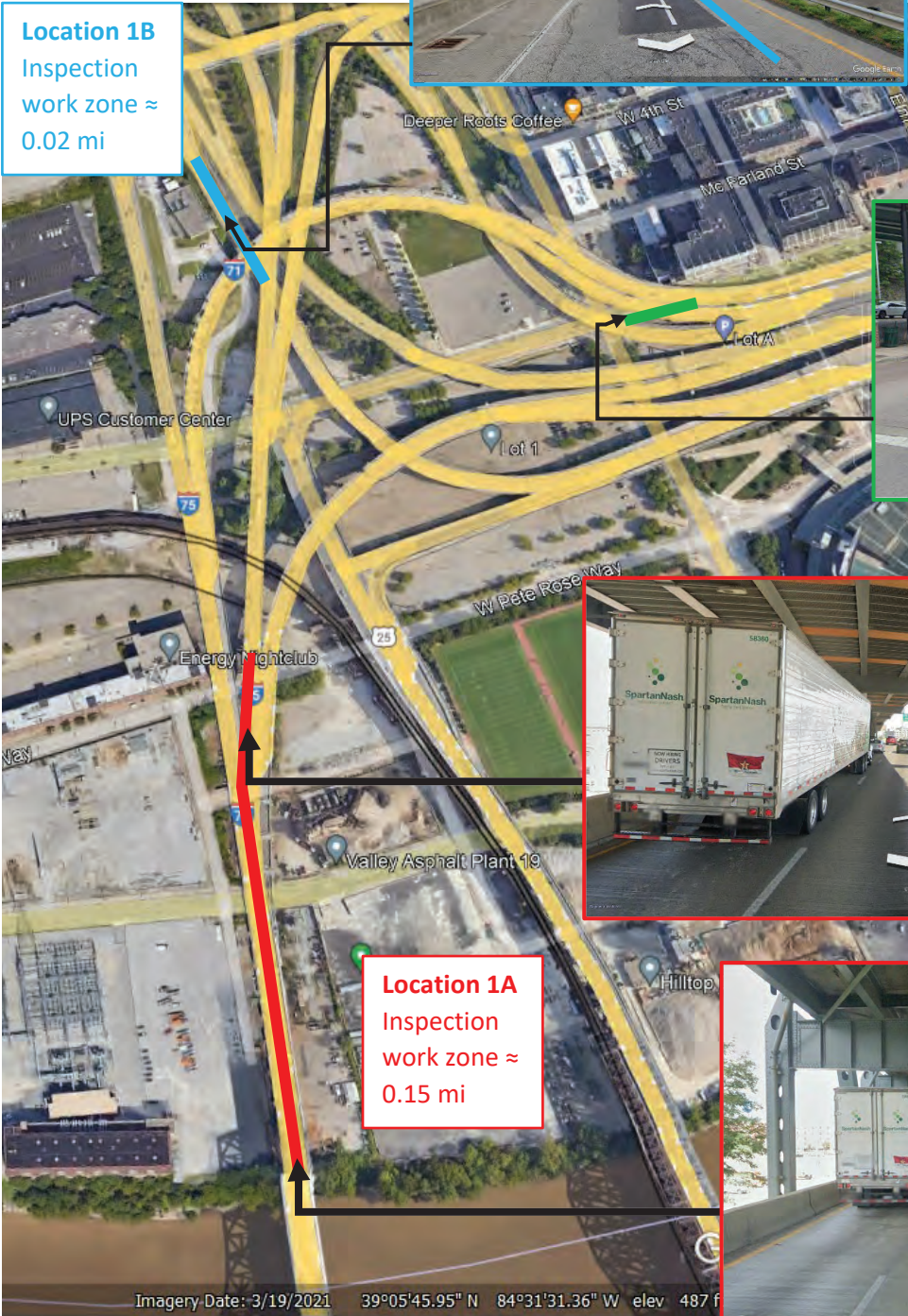
**Day** time closure – closure of left turn lane

### Location 1B

Inspection work zone ≈ 0.02 mi

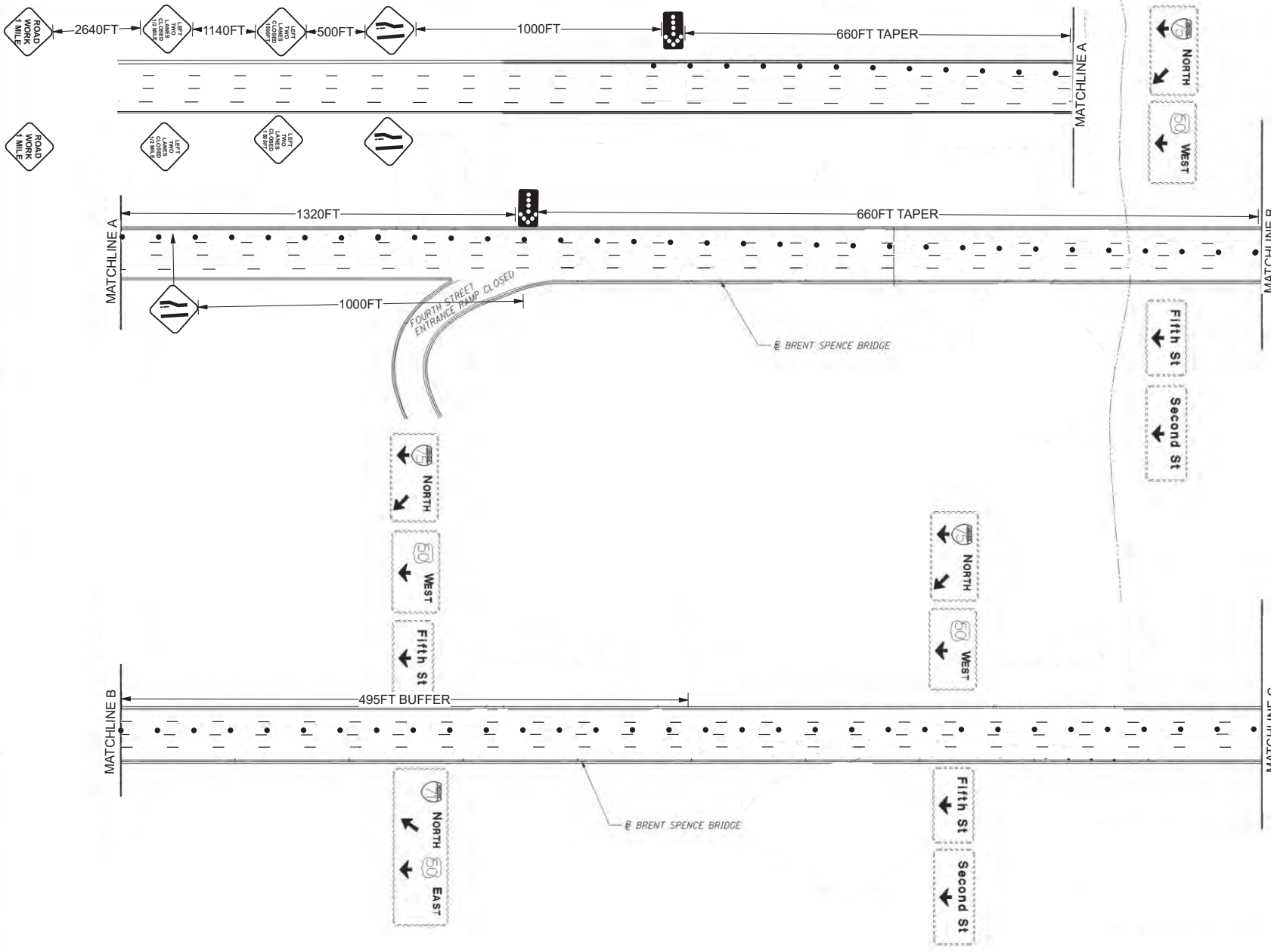
### Location 1C

Inspection work zone ≈ 0.02 mi



**Location 1A**  
Inspection work zone ≈ 0.15 mi

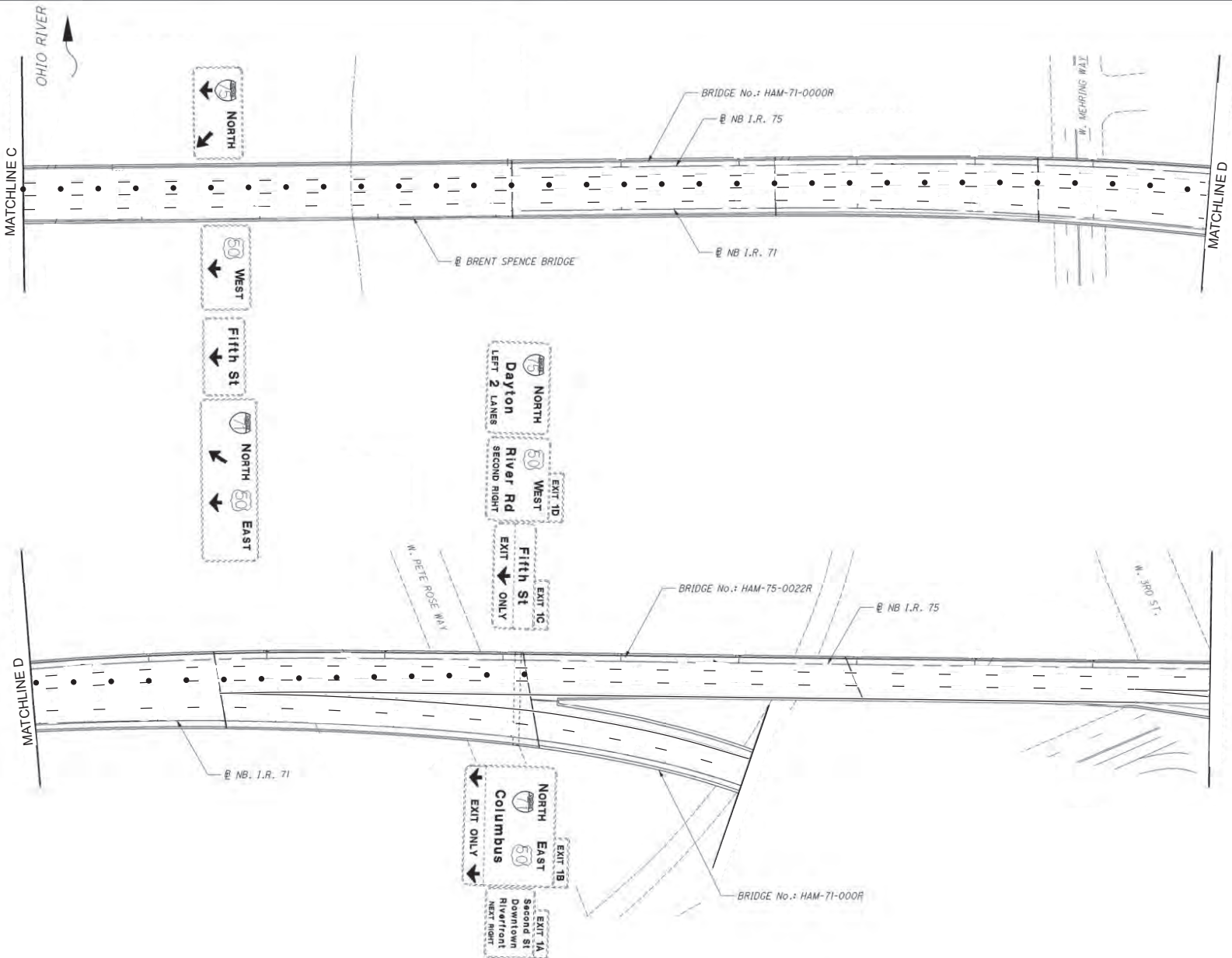
Imagery Date: 3/19/2021 39°05'45.95" N 84°31'31.36" W elev 487 f



Date: 6/20/2023 Author: JUSTIN BERGER Project: NB 175 Left Lane Closure  
 All signs and traffic control devices shall be placed in accordance with the latest version of the O MUTCD

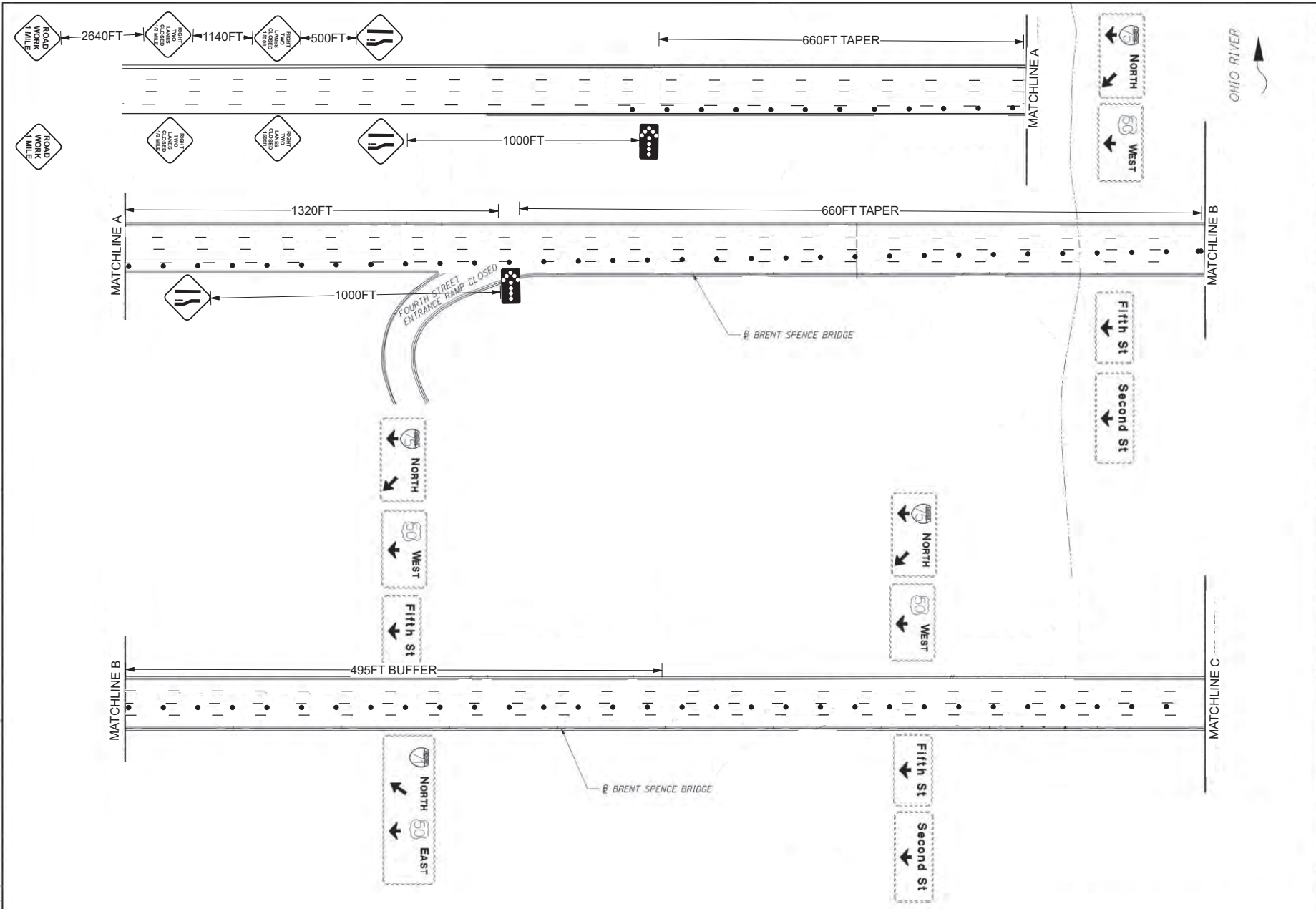






**Date:** 6/20/2023 **Author:** JUSTIN BERGER **Project:** NB 175 Left Lane Closure  
**Comments:** All signs and traffic control devices shall be placed in accordance with the latest version of the OMTCD

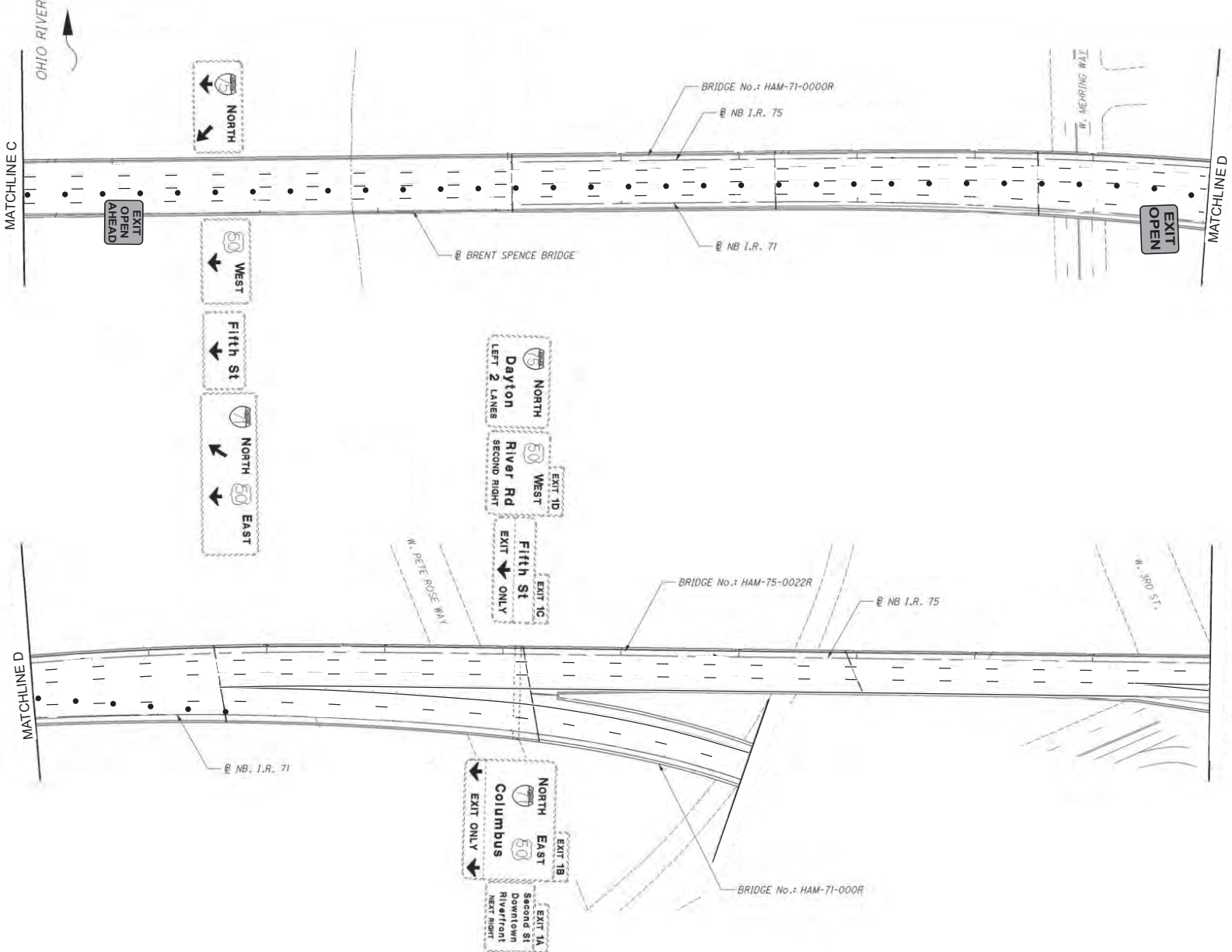




**Date:** 6/21/2023 **Author:** JUSTIN BERGER **Project:** NB 175 Right Lane Closure  
**City:** Cincinnati  
 All sign and traffic control devices shall be placed in accordance with the latest version of the OMUTCD

**A&A SAFETY**

1  
2



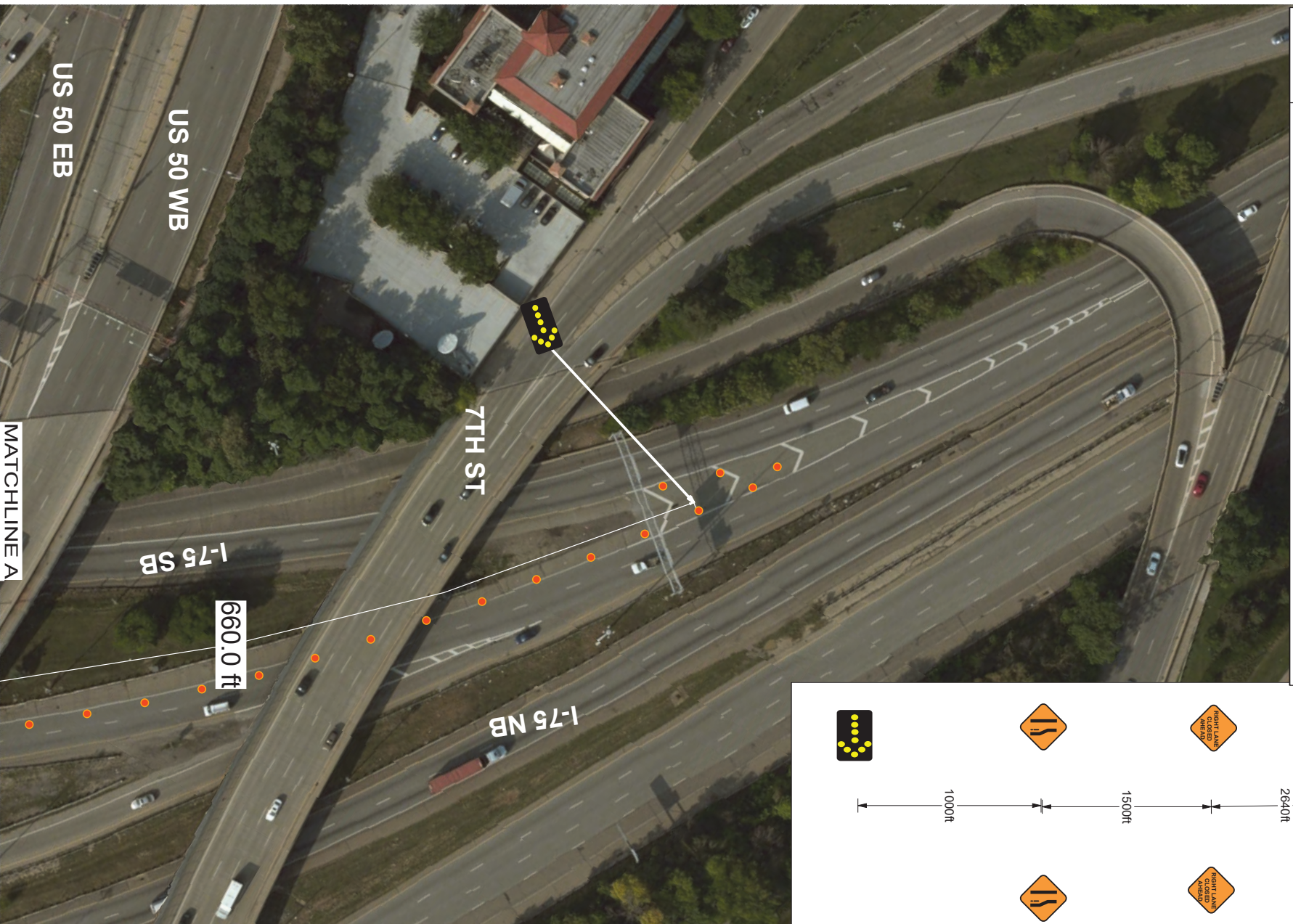
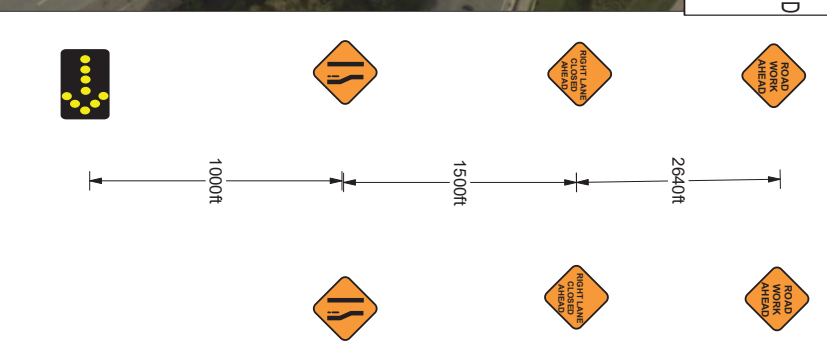
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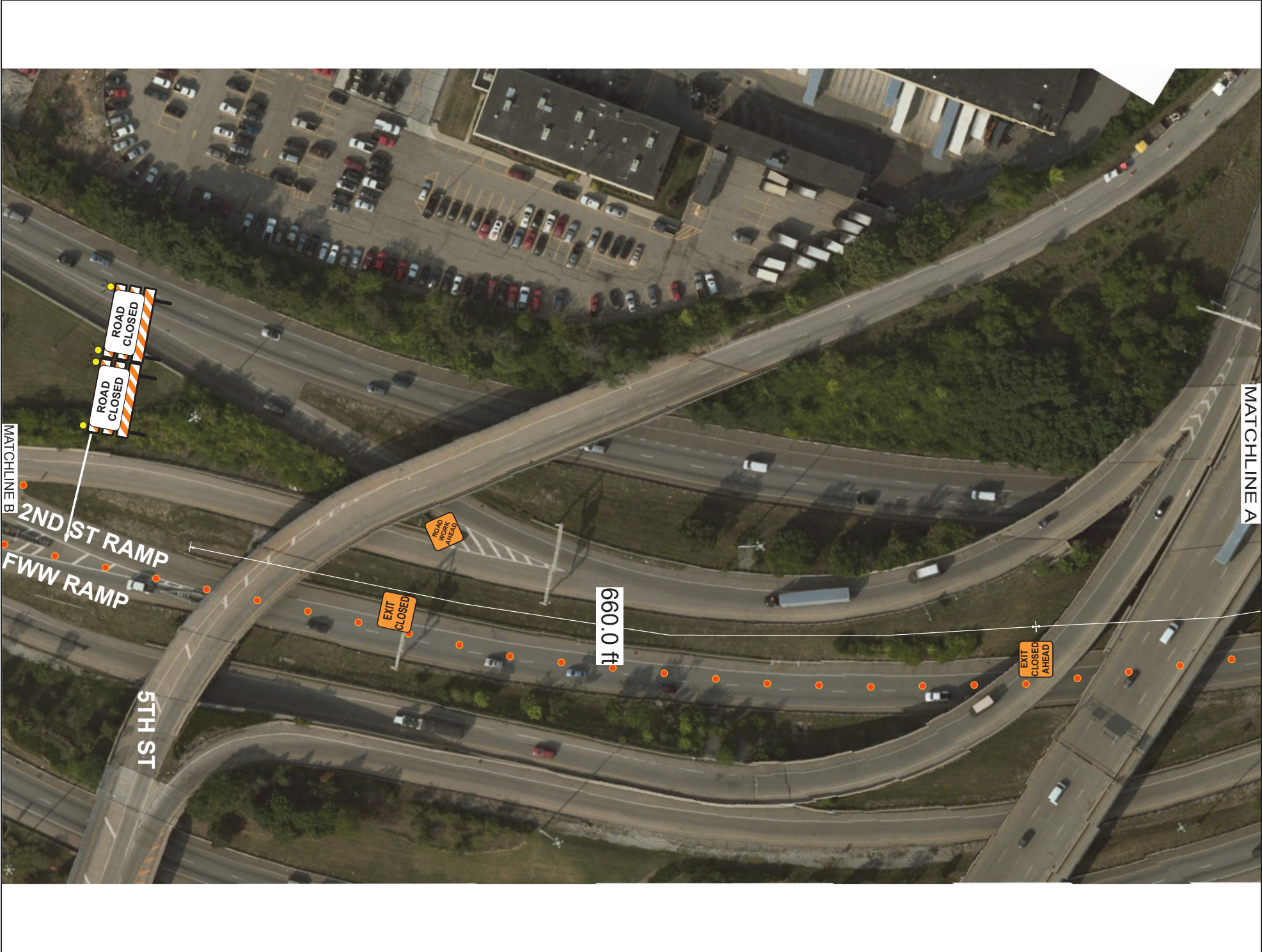


Comments:

All sign and traffic control devices shall be placed in accordance with the latest version of the OMUTCD

ADVANCED WARNING SIGN DETAIL





MATCHLINE B

2ND ST RAMP  
FWW RAMP

5TH ST

660.0 ft

MATCHLINE A

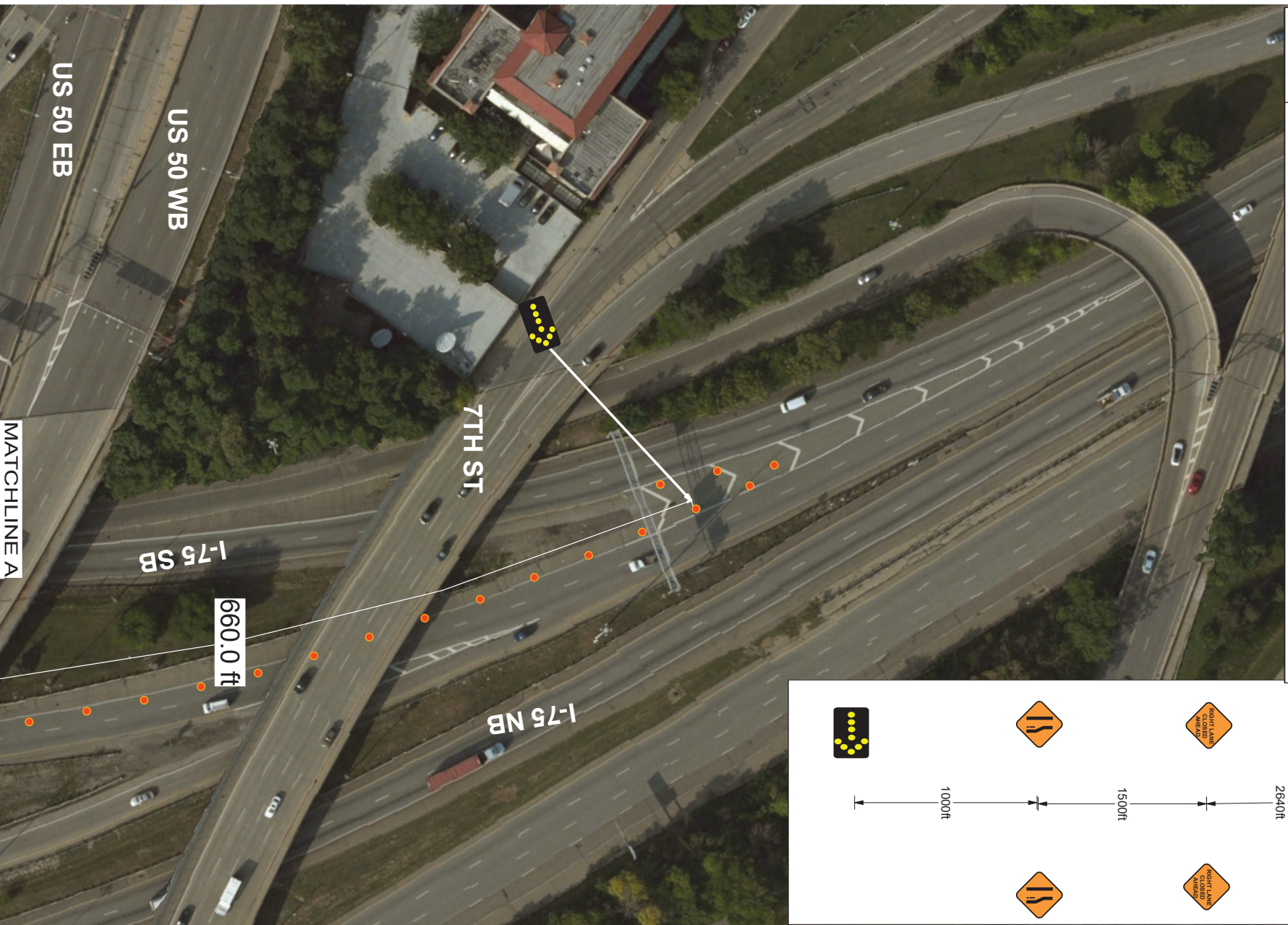
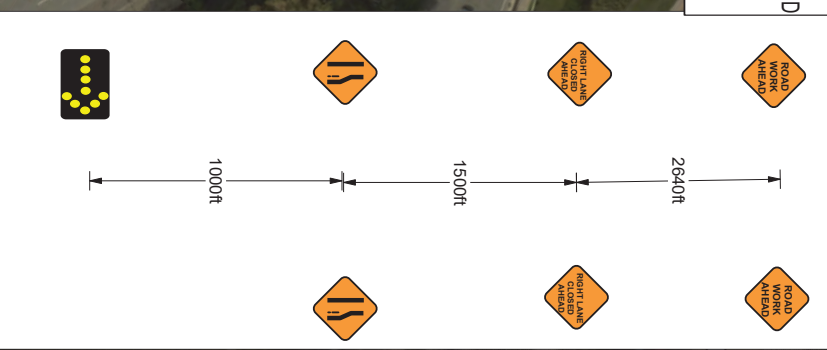


MATCHLINE B

Comments:

All sign and traffic control devices shall be placed in accordance with the latest version of the OMUTCD

ADVANCED WARNING SIGN DETAIL









MATCHLINE B

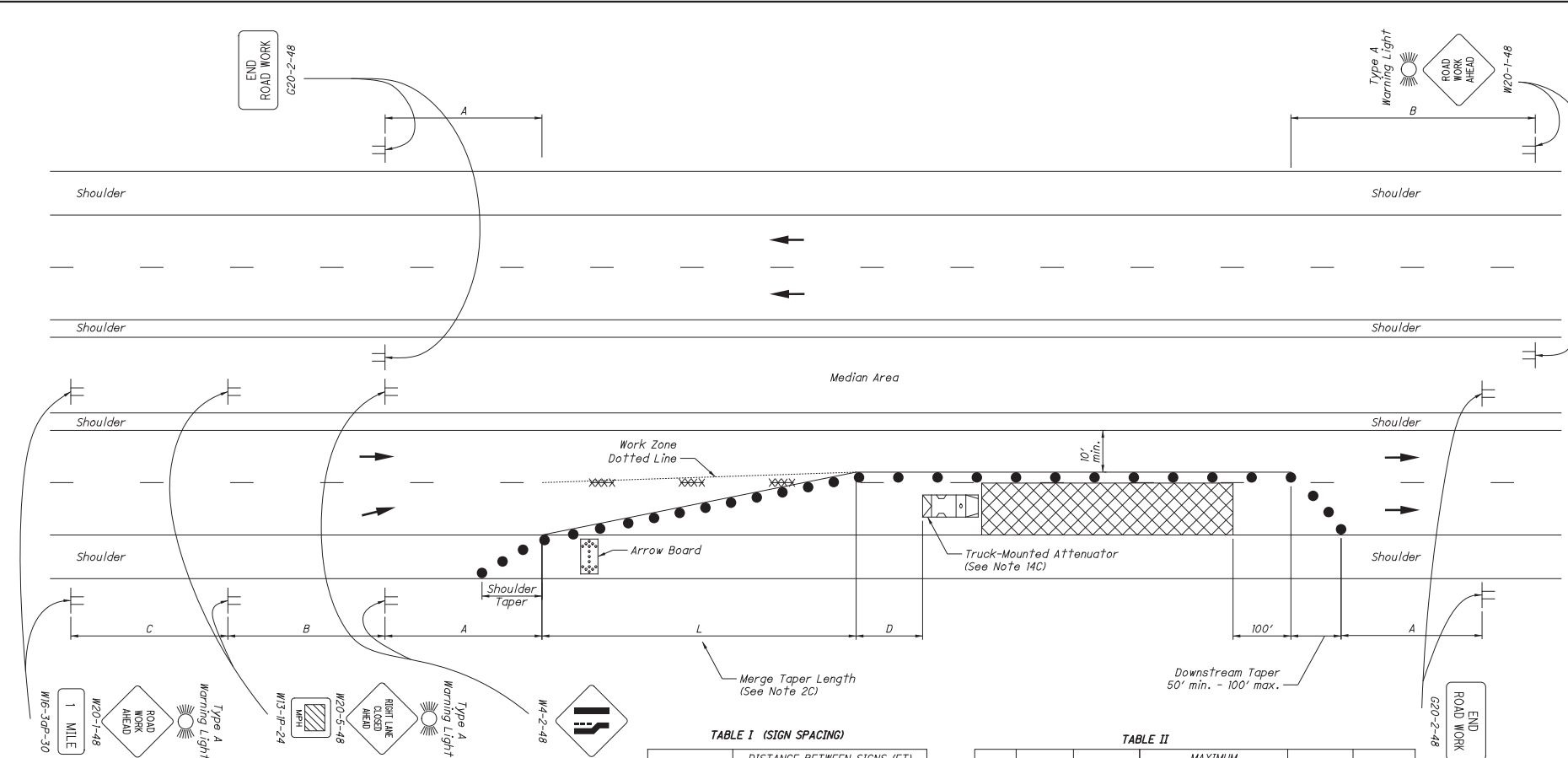


TABLE I (SIGN SPACING)

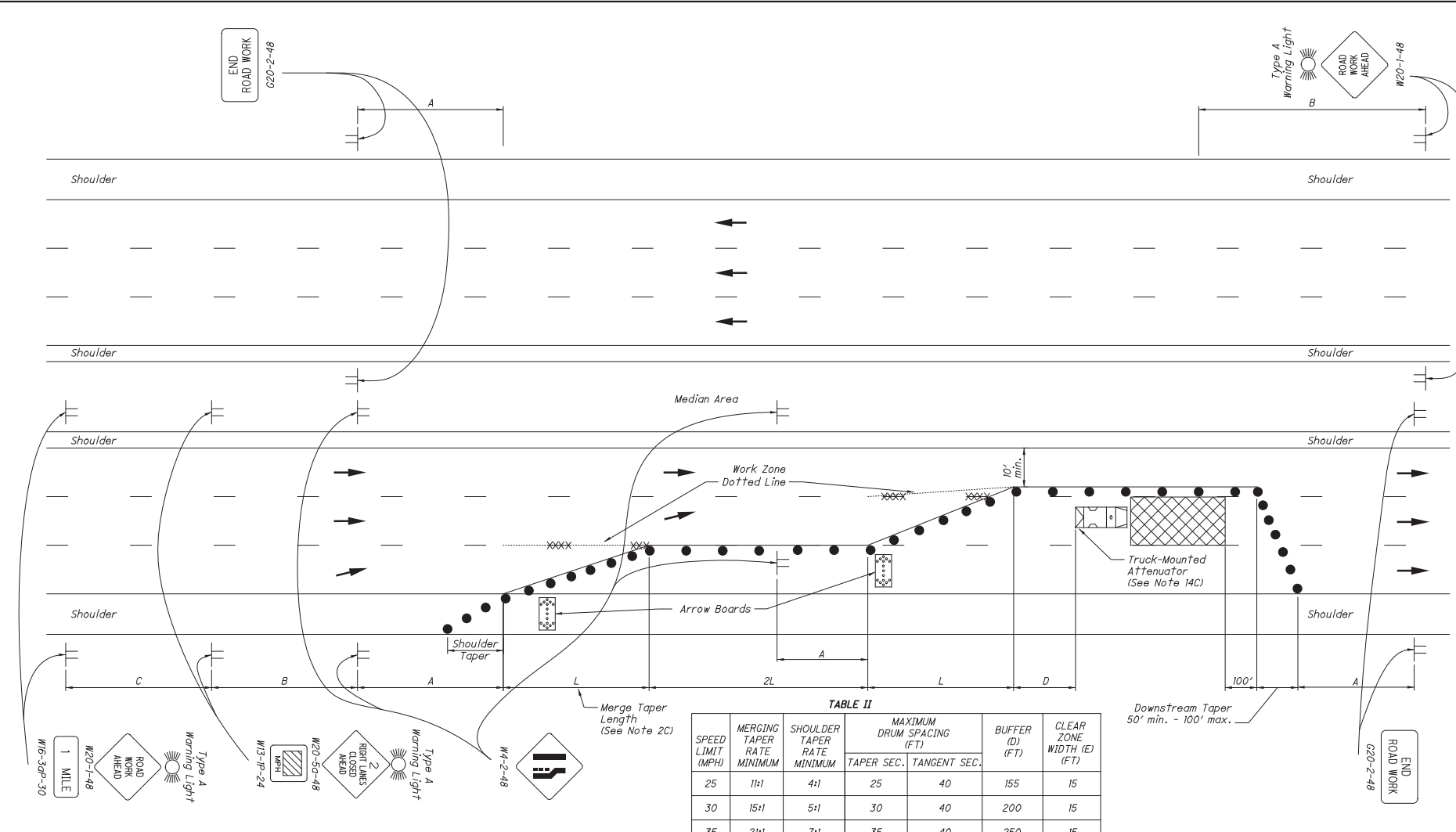
ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
MAJOR CONVENTIONAL	500	500	500
FREEWAY & EXPRESSWAY	1000	1500	2640

TABLE II

SPEED LIMIT (MPH)	MERGING TAPER RATE MINIMUM	SHOULDER TAPER RATE MINIMUM	MAXIMUM DRUM SPACING (FT)		BUFFER (D) (FT)	CLEAR ZONE WIDTH (E) (FT)
			TAPER SEC.	TANGENT SEC.		
25	11:1	4:1	25	40	155	15
30	15:1	5:1	30	40	200	15
35	21:1	7:1	35	40	250	15
40	27:1	9:1	40	80	305	15
45	45:1	15:1	45	80	360	19
50	50:1	17:1	50	80	425	19
55	55:1	19:1	55	80	495	23
60	60:1	20:1	60	120	570	30
65	65:1	22:1	65	120	645	30
70	70:1	24:1	70	120	730	30

**LEGEND**

- WORK AREA
- DRUMS/CONES
- REMOVE EXISTING MARKINGS
- DIRECTION OF TRAVEL
- SHADOW VEHICLE WITH TMA



**LEGEND**

- WORK AREA
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- DIRECTION OF TRAVEL
- SHADOW VEHICLE WITH TMA

**TABLE I (SIGN SPACING)**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
MAJOR CONVENTIONAL	500	500	500
FREEWAY & EXPRESSWAY	1000	1500	2640

**TABLE II**

SPEED LIMIT (MPH)	MERGING TAPER RATE MINIMUM	SHOULDER TAPER RATE MINIMUM	MAXIMUM DRUM SPACING (FT)		BUFFER (D) (FT)	CLEAR ZONE WIDTH (E) (FT)
			TAPER SEC.	TANGENT SEC.		
25	11:1	4:1	25	40	155	15
30	15:1	5:1	30	40	200	15
35	21:1	7:1	35	40	250	15
40	27:1	9:1	40	80	305	15
45	45:1	15:1	45	80	360	19
50	50:1	17:1	50	80	425	19
55	55:1	19:1	55	80	495	23
60	60:1	20:1	60	120	570	30
65	65:1	22:1	65	120	645	30
70	70:1	24:1	70	120	730	30

**NOTES:**

DESIGN SPEED

- 1. The design speed used for taper rates should typically be the permanent legal speed. However, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

TAPERS

- 2A. The minimum acceptable length for the merge taper shall be determined by multiplying the width of offset by the merge taper rate. The merge taper rate is provided in Table II.
- 2B. The minimum acceptable length for the shoulder taper shall be determined by multiplying the width of the shoulder by the shoulder taper rate. The shoulder taper rate is provided in Table II.
- 2C. The tangent section between the two merge tapers should be two times the longer of the two merge tapers.

SIGN SPACING

- 3A. The work zone sign spacings shown in Table I are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.
- 3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds 50 mph or greater.

ADJUSTMENTS FOR SIGHT DISTANCE

- 4. The location of the merging taper and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

- 5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.
- 5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. It is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.
- 5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any W20-1 or G20-2 signs which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

SIGNING DETAILS

- 6A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plan.
- 6B. When the approach speed limit is 40 mph or less, 36" warning signs may be used.
- 6C. The distance plaque W16-3aP (or W16-2aP if the distance shown is in feet) shall indicate the distance to the beginning of the merging taper. Distances less than 1 mile may be expressed in feet. The plaque may be omitted if Extra Advance Sign Groups are not used.
- 6D. Provide signing on the inactive side of the highway, as shown, when specified in the plans.
- 6E. Provide the appropriate word or symbol legend necessary on Lane Reduction (W4-2, W20-5, W20-5a) signs to correctly identify which lane is to be closed.

EXTRA ADVANCE WARNING SIGNING

- 7. Extra Advance Warning Sign Groups consisting of ROAD WORK AHEAD (W20-1), LANE CLOSED AHEAD (W20-5), LANES CLOSED AHEAD (W20-5a), and WATCH FOR STOPPED TRAFFIC (W3-H4b) signs plus Distance plaques may be specified in the plans or may be required to be erected, as determined by the Engineer (See Standard Construction Drawing (SCD) MT-95.50).

PAVEMENT MARKINGS / RPMs

- 8A. If the construction operation requires a lane closure for more than 1 day, the existing conflicting reflectors shall be removed from the raised pavement markers (RPMs).
- 8B. Additionally, if a lane closure of greater than 3 days is required, the following shall be performed:
  - a) The appropriate color work zone edge lines shall be applied along the taper and tangent sections.
  - b) The existing conflicting pavement markings shall be removed or covered per CMS 614.11G.
  - c) Work zone dotted lines, 3' in length separated by 9' gaps, shall be provided to identify the merge.
- 8C. Work zone pavement markings which would conflict with final traffic lanes shall be removable tape (CMS 740.06, Type I) unless the area will be resurfaced prior to project completion.
- 8D. After completion of the work, pavement markings other than CMS 740.06, Type I shall be removed in accordance with CMS 614.11I. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.

(RESERVED FOR FUTURE USE)

- 9A. (intentionally blank)

ARROW BOARD

- 10. The arrow board shall be chosen from the ODOT approved list and follow the guidelines in Supplemental Specification 821.

FLASHING WARNING LIGHTS

- 11. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs, on the LANE CLOSED AHEAD (W20-5), and on the LANES CLOSED AHEAD (W20-5a) signs are required whenever a night lane closure is necessary.

INTERSECTION / DRIVEWAY ACCESS

- 12. Within the length of the closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:
  - a) Place across the closed lane, either 3 drums (cones) or barricades, and/or
  - b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in SCD MT-97.11. For barricades, see SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

The method of control shall be subject to the approval of the Engineer.

DRUMS / CONES

- 13A. The maximum drum spacing along tapers and along tangent sections shall be as shown in Table II. A minimum of 5 drums shall be used to close the upstream shoulder. The downstream taper drum spacing shall be approximately 20'.
- 13B. Cones may be substituted for drums as follows:
  - a) Use of cones is permissible for either daytime operation or for nighttime operation, but shall not be used continuously, day and night. Upon completion of work within the work period, the cones shall be removed. They may again be placed on the highway in order to resume work in the following such work period.
  - b) Cones used for daytime traffic control shall have a minimum height of 28".
  - c) Cones used for nighttime traffic control shall have a minimum height of 42".
  - d) Use of cones at night shall be prohibited along tapers.
  - e) Cone spacing at night shall be at a maximum of 40".
  - f) Where cones are substituted for drums along tangents, intermixing of channelizing devices within the same run will not be permitted. Either cones shall be used for the entire length of the tangent section, or drums shall be used for the entire length.
- 13C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.

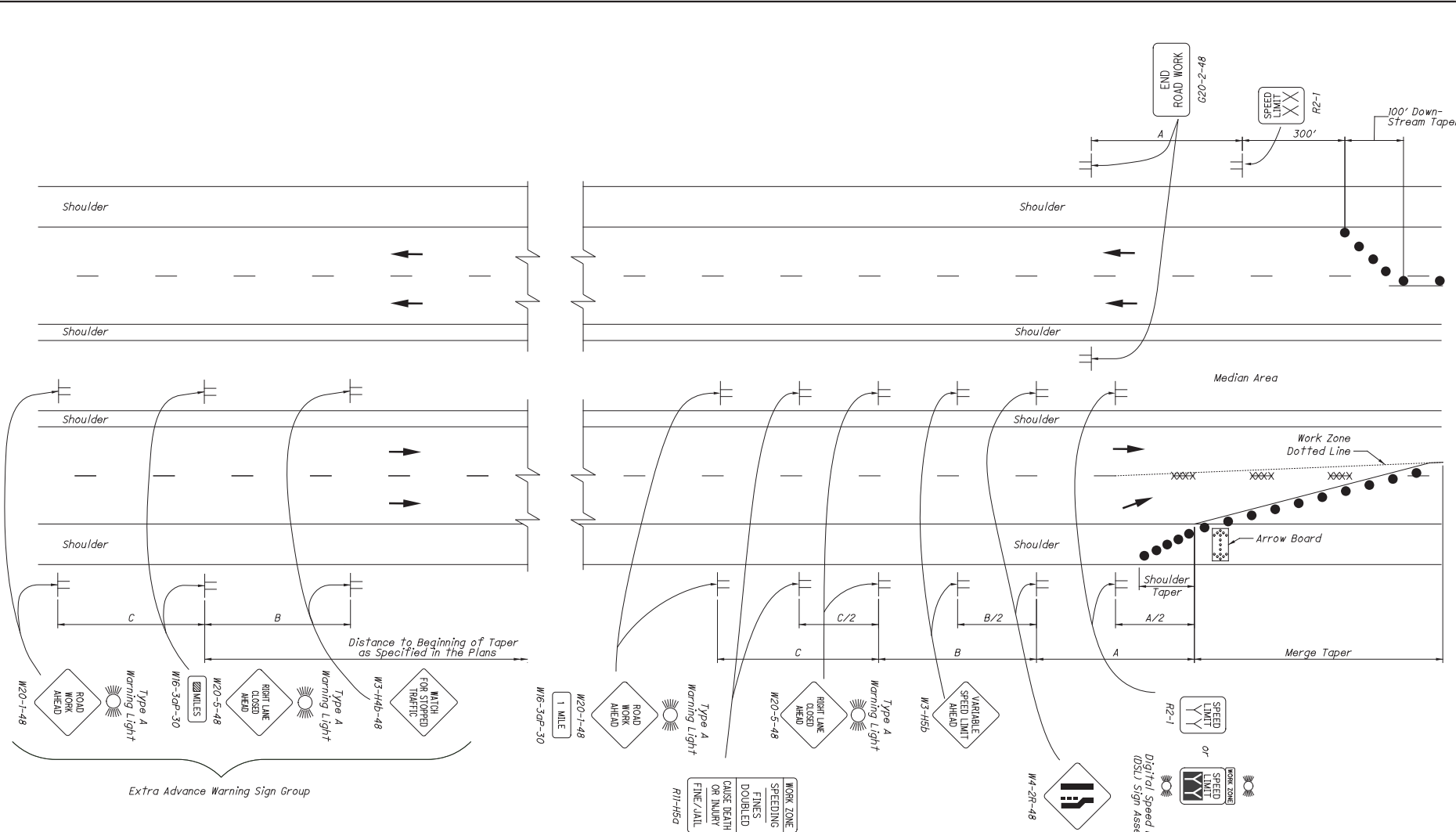
- 13D. All drums and cones should have a minimum offset from the edge of the traveled lanes of 1.5 feet.

SHADOW VEHICLE

- 14A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.
- 14B. The shadow vehicle shall be equipped with a high-intensity yellow rotating, flashing, oscillating, or strobe light(s).
- 14C. The shadow vehicle shall be equipped with a truck-mounted or trailer attenuator (TMA) in accordance with CMS 614.03.

BUFFER SPACE

- 15A. Where space constraints do not allow for the buffer space, a shorter length may be used.



**LEGEND**

DRUMS	● ● ●
REMOVE EXISTING MARKINGS	XXX
DIRECTION OF TRAVEL	➔
ORIGINAL POSTED SPEED LIMIT (MPH)	XX
APPROVED WORK ZONE SPEED LIMIT (MPH)	YY

**TABLE 1 (SIGN SPACING)**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
MAJOR CONVENTIONAL	500	500	500
FREEWAY & EXPRESSWAY	1000	1500	2640

NOTES:

INTENDED USE

1. This Standard Construction Drawing (SCD) is intended for use as a supplement to SCDs MT-95.30, MT-95.31, MT-95.32, MT-95.40, and MT-95.41. It is not intended to be used as a stand-alone drawing.

GENERAL SIGNING

- 2A. Maximum spacing between adjacent signs in a series should not be greater than 1.5 times the distances specified in Table 1.
- 2B. END ROAD WORK (G20-2) signs are only required for lane closures of more than one day. It is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.
- 2C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any W20-1 or G20-2 sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.
- 2D. Median signing shall not apply to undivided highways.
- 2E. Provide the appropriate word or symbol legend necessary on Lane Reduction (W4-2, W20-5) signs to correctly identify which lane is to be closed.
- 2F. Signing for speed reduction and/or for increased penalties shall be provided when called for in the plans.

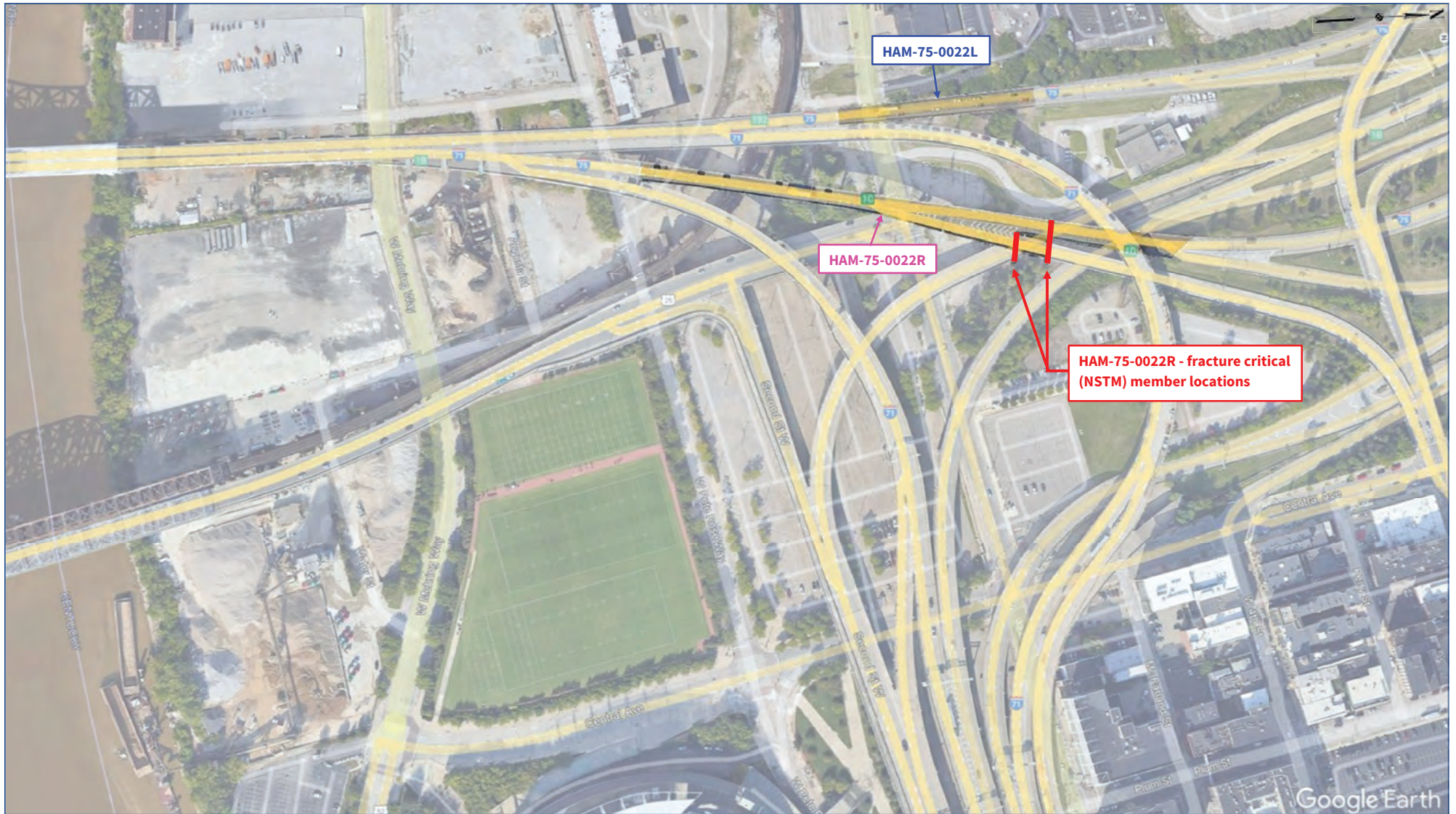
EXTRA ADVANCE WARNING SIGNS

- 3A. Extra Advance Warning Sign Groups consisting of ROAD WORK AHEAD (W20-1), LANE CLOSED AHEAD (W20-5) and WATCH FOR STOPPED TRAFFIC (W3-H4b) signs plus distance plaques may be specified in the plans or may be required to be erected, as determined by the Engineer.
- 3B. Installation of Extra Advance Warning Sign Groups shall not serve as a substitute for the standard advance signing group, beginning with the W20-1 sign, typically located at approximately 1 mile in advance of the beginning of the work area or the merge or shift taper.
- 3C. If a series of several Extra Advance Warning Sign Groups is provided in advance of the same work area or roadway restriction, the ROAD WORK AHEAD (W20-1) sign may be omitted from all but the first of the Extra Advance Warning Sign Groups in the series.

2	2	MT-95.50	SCD NUMBER	THIS DRAWING REPLACES MT-95.50 DATED 10-16-2015.	STANDARD ROADWAY CONSTRUCTION DRAWING SUPPLEMENTAL ADVANCED SIGNS USED WITH LANE CLOSURES	OFFICE OF ROADWAY ENGINEERING	STATE ENGINEER Soisson	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR David L. Holstein	REVISION DATE 07-21-2017
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**APPENDIX B**

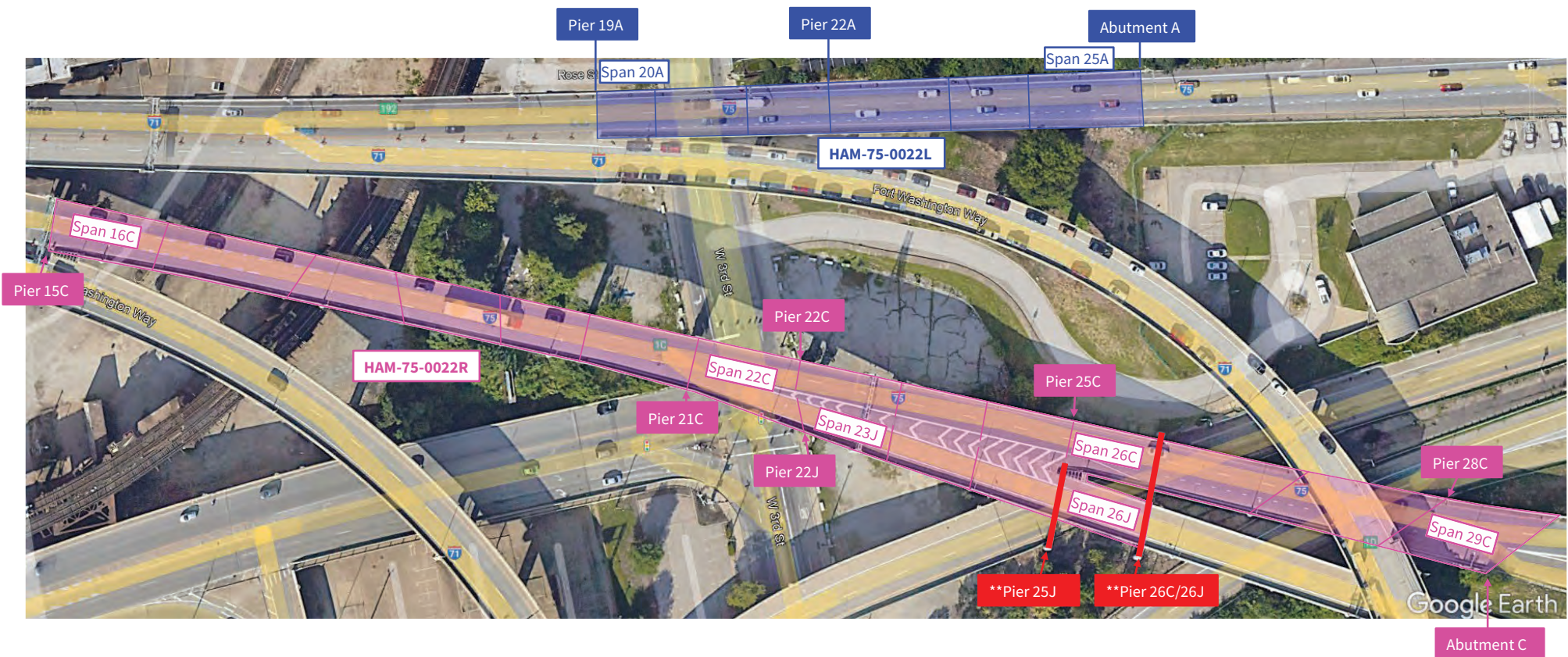
**STRUCTURE LOCATION/IDENTIFICATION MAPS  
&  
EXISTING PLANS**



**HAM-75-0022L/R**

**Overall location map and fracture critical (NSTM) member location**





**HAM-75-0022L/R**

**Structure nomenclature and fracture critical (NSTM) member identification**

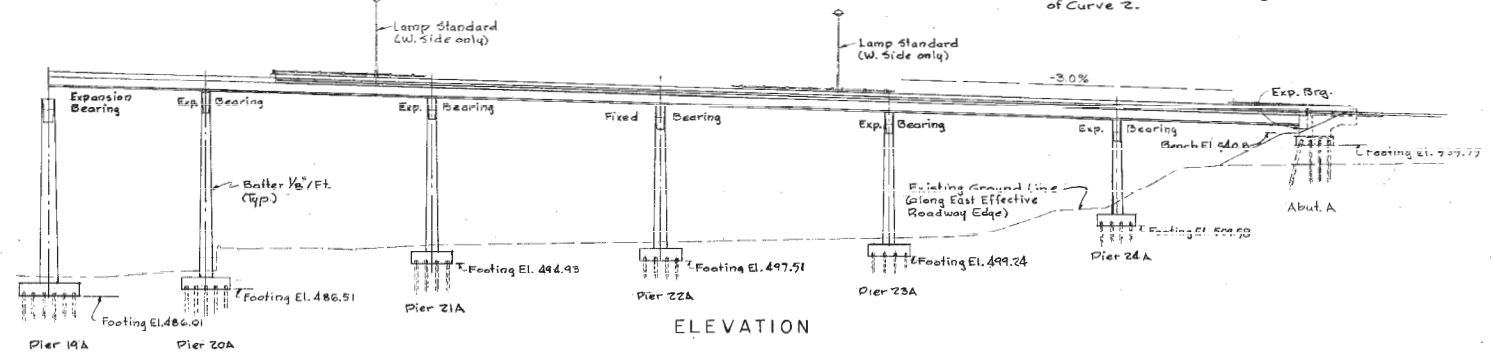
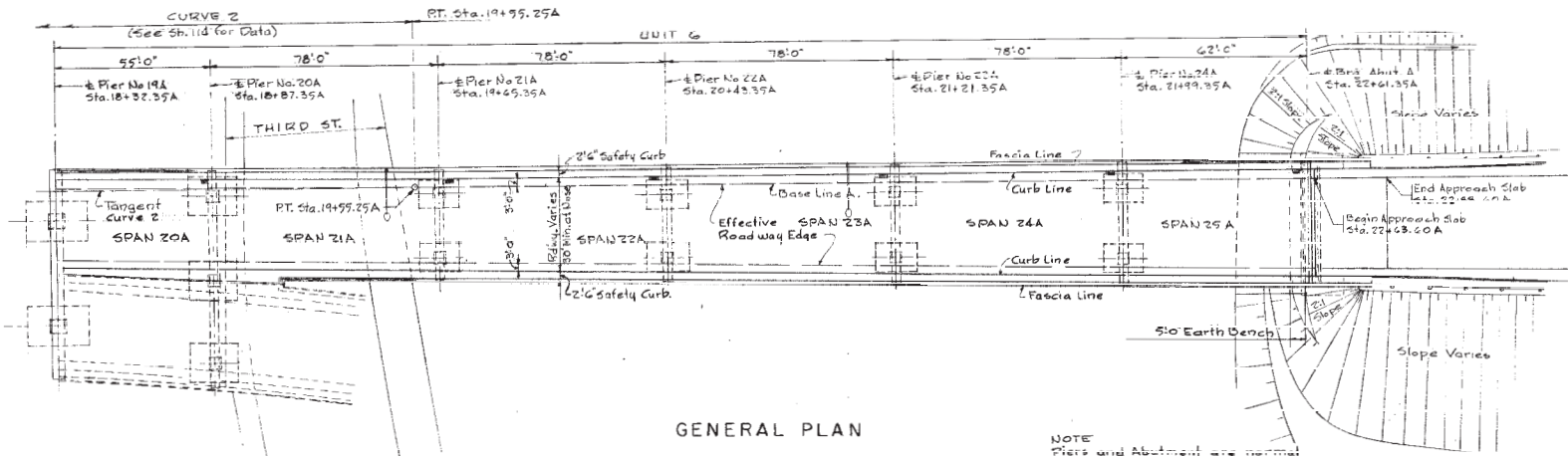
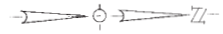
**\*\*Fracture critical (NSTM) members are shown in red**

Not to scale

HAZLET & ERDAL  
 03724  
 ENGINEERS

PRI. NO.	STATE	FISCAL	00
2	OHIO		

HAM-75-U-04

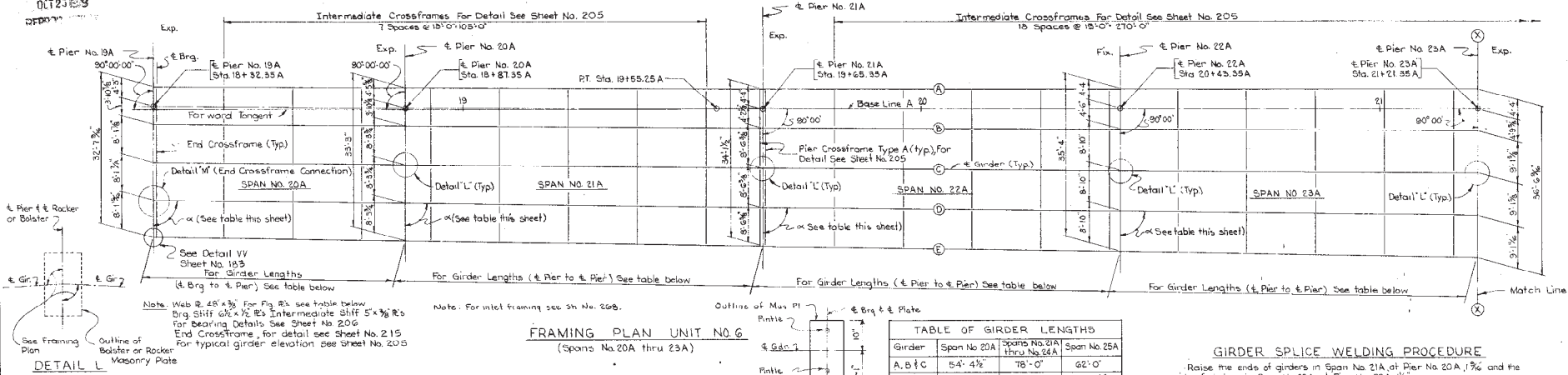
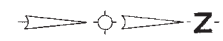


For Railings & Lighting Details See Sh. 255  
 For General Notes See Sh. 97  
 For Estimate of Quantities See Sh. 97

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL PLAN & ELEVATION UNIT 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVISION DATE	REVIEWED
J.C.D.	B.S.S.		R.A.S.	10-18-60	

**HAM-75-0022L**

HAM-25-0.04



Girder	Span No. 20A	Spans No. 21A thru No. 24A	Span No. 25A
A, B & C	54'-4 1/2"	78'-0"	62'-0"
D	54'-4 1/2"	78'-0"	62'-0"
E	54'-4 1/2"	78'-0"	62'-0"

**GIRDER SPLICE WELDING PROCEDURE**

Raise the ends of girders in Span No. 21A at Pier No. 20A, 1/2" and the ends of girders in Span No. 23A at Pier No. 22A, 1/2".

Butt weld girder flanges and webs of Piers No. 21A & 22A, using the sequence outlined in Note 'A' Sheet No. 181.

Weld all pier crossframes at Pier No. 21A into place.

Lower girders to their final positions.

Raise the ends of girders in Span No. 20A at Pier No. 19A, 1/2" and the ends of girders in Span No. 24A at Pier No. 24A, 1/2".

Butt weld girder flanges and webs of Piers No. 20A & 23A, using the sequence outlined in Note 'A' Sheet No. 181.

Lower girders to their final positions.

Raise the ends of girders in Span No. 25A at N. Abut., 1/2".

Butt weld girder flanges and webs of Pier No. 24A, using the sequence outlined in Note 'A' Sheet No. 181.

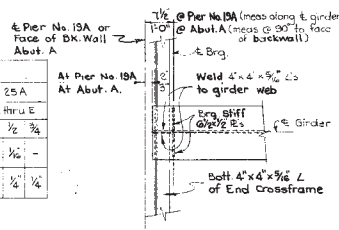
Lower girders to their final positions.

Girder	Piers No. 19A thru 20A	Piers No. 21A thru 24A
A	89°45' 07"	90°00' 00"
B	89°35' 20"	89°46' 39"
C	89°25' 51"	89°35' 18"
D	89°16' 12"	89°19' 51"
E	89°06' 36"	89°06' 36"

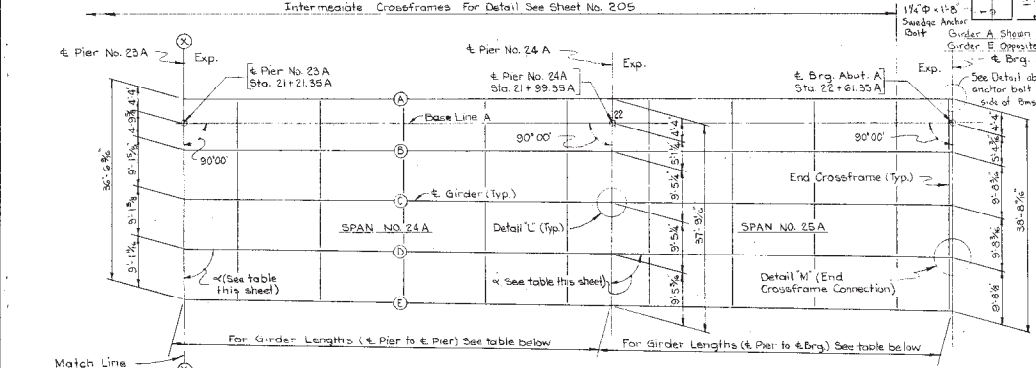
Note: E's of Piers No. 19A thru 24A and E. Brg. Abut. A are parallel.

Span No.	20A		21A		22A		23A		24A		25A	
	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	
Location	1/4	1/2	3/4	1	1/4	1/2	3/4	1	1/4	1/2	3/4	1
Deflection due to weight of steel	-	-	-	1/2	-	1/2	-	1/2	-	1/2	-	1/2
Deflection due to remaining Dead Load	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2

Girders for Unit No. 6 shall not be comberd.



(End Crossframe connection at Pier No. 19A, Span No. 20A) (Rotate thru 180° for connection at Abut. A, Span No. 25A)



FRAMING PLAN UNIT NO. 6 (Spans No. 24A thru 25A)

	Pier No. 19A	Pier No. 20A	Pier No. 21A	Pier No. 22A	Pier No. 23A	Pier No. 24A	Pier No. 25A
Span No. 20A	R100A @ E. Brg.	R225-B	R225-B	B225A	R225-B	R225-B	R125B
Flg. R's Girders A thru E (Top & Both)	14" x 3/8"	14" x 1/2"	14" x 1"	14" x 1 1/2"	14" x 1 1/2"	14" x 1 1/2"	14" x 1/2"
Flg. to Web Weld (Top & Both)	1/2" Weld	1/2" Weld	3/8" Weld	3/8" Weld	3/8" Weld	3/8" Weld	3/8" Weld

TABLE OF FLANGE PLATES AND WELD SIZES

	End Brg. Shif.	Intermediate Stiffeners	End Brg. Shif.
Span No. 20A	45" Spacing (Max.)	48" Spacing (Max.)	42" Spacing (Max.)
Spans No. 21A thru No. 24A	36" Spacing (Max.)	45" Spacing (Max.)	36" Spacing (Max.)
Span No. 25A	36" Spacing (Max.)	45" Spacing (Max.)	42" Spacing (Max.)
	1/4"	1/4"	1/4"

Note: Adjust intermediate stiffener spacing to conform to intermediate crossframe spacing.

INTERMEDIATE STIFFENER SPACING

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

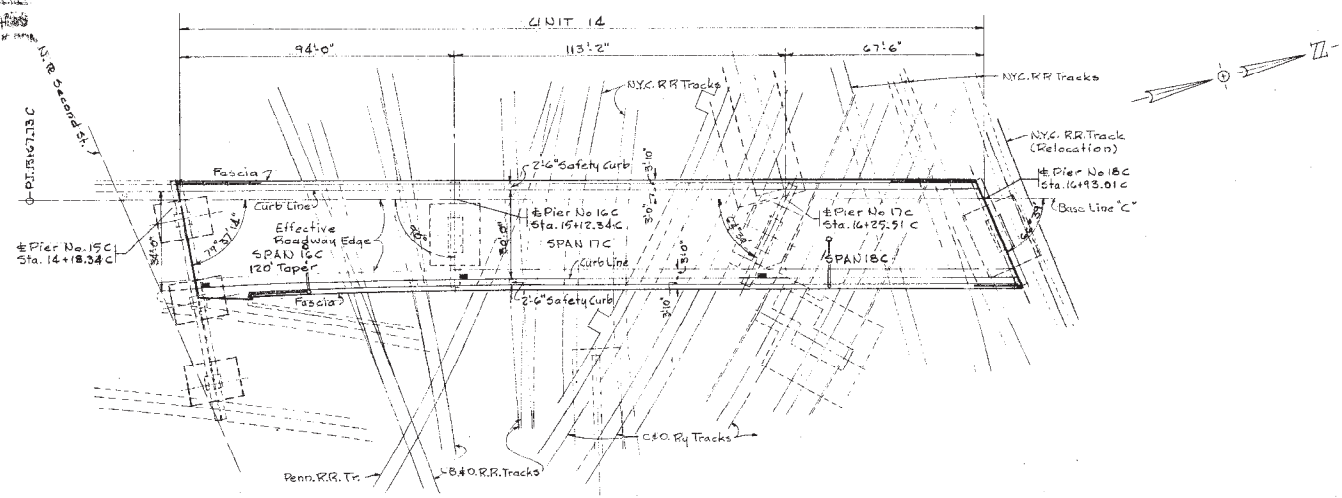
**STRUCTURAL STEEL DETAILS**  
UNIT NO. 6.

DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	DATE	REVISED
M.R.K.	J.C.		J.H.G.	H.A.S.	10-14-60	
2-15-60	5-1-60		7-15-60			

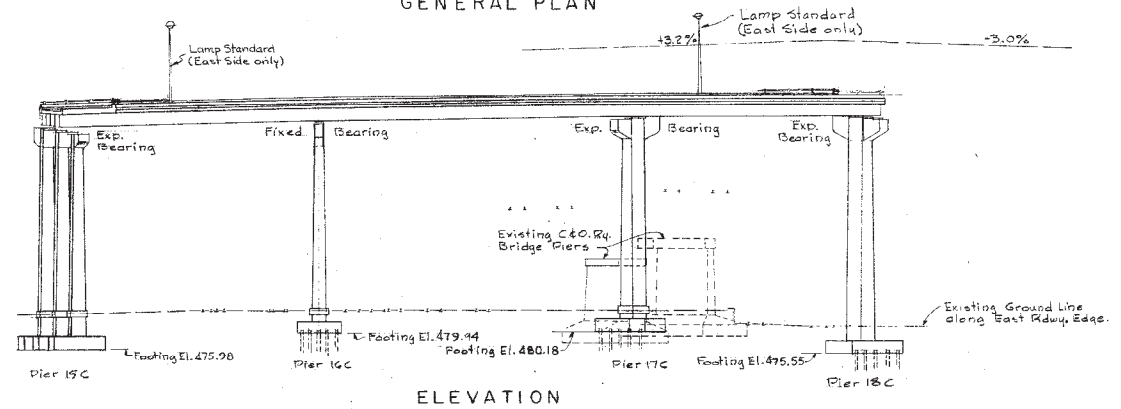
HAM-75-0022L

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR	72
2	OHIO			

HAM-25-0.04



GENERAL PLAN



ELEVATION

For Paving & Lighting Details see Sh. No. 260  
 For General Notes see Sheet No. 97  
 For Estimate of Quantities see Sheet No. 97

**HAM-75-0022R**  
**SPANS 16C-18C**

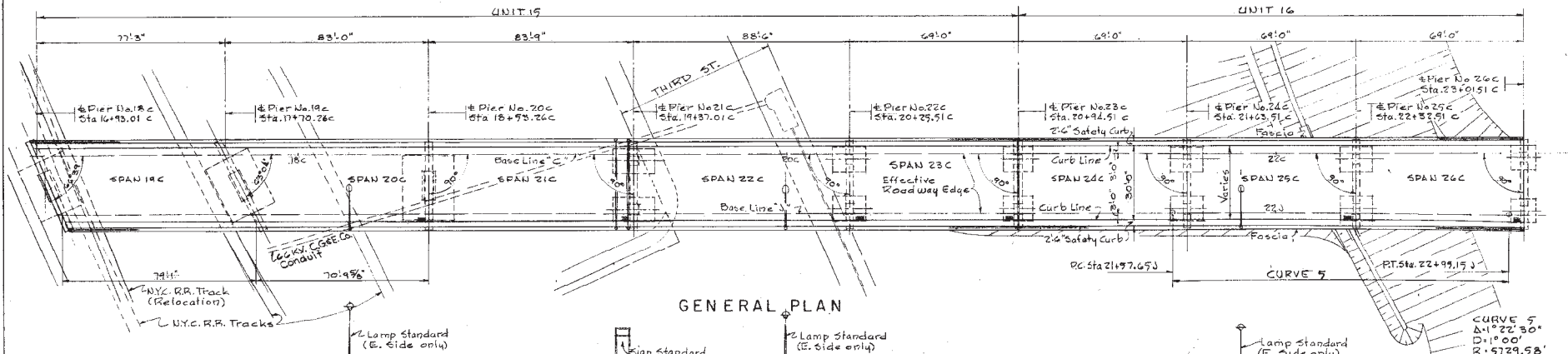
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
GENERAL PLAN & ELEVATION UNIT 14				
DESIGNED	DRAWN	TRACED	CHECKED	REVISION DATE
J.C.D.	J.C.D.		G.J.T.	H.A.S. 10-13-60
3-4-59			9-22-60	

REVISIONS  
 05/24/60  
 REVISION

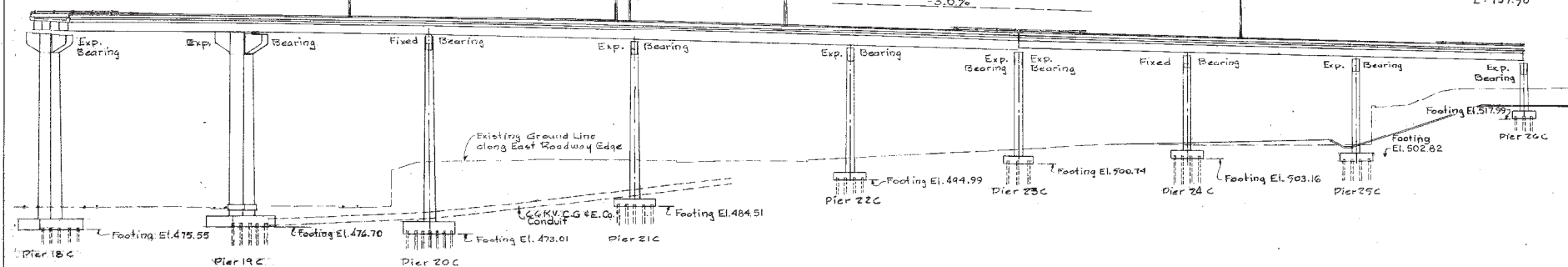
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAM-25-0.04

93



GENERAL PLAN



ELEVATION

For Railing & Lighting Details See Sheets 260 & 261  
 For General Notes See Sheet 97  
 For Estimate of Quantities See Sheet 97

**HAM-75-0022R**  
**SPANS 19C-26C**

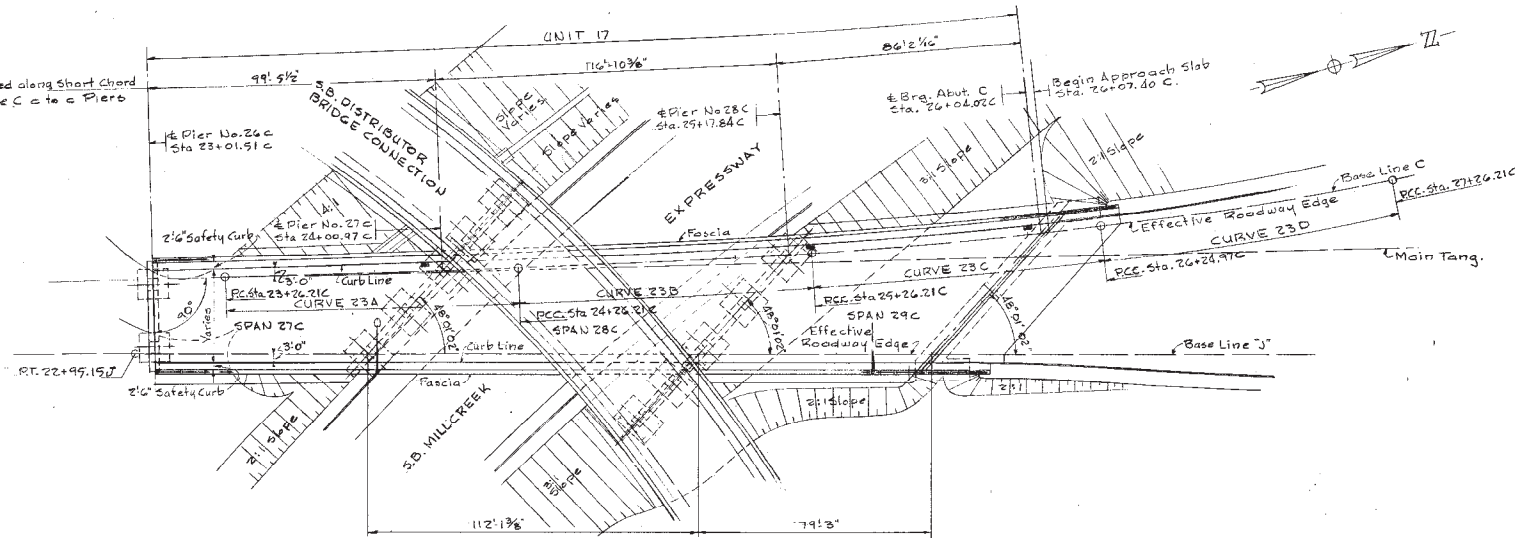
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL PLAN & ELEVATION UNITS 15 & 16					
DESIGNED	PLANNED	TRACED	CHECKED	REVISED DATE	BY
J.C.O.	J.C.O.		G.J.T.	10-13-60	
9-8-59			9-23-60		

REVISIONS  
 OCT 24 1960  
 RFB

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

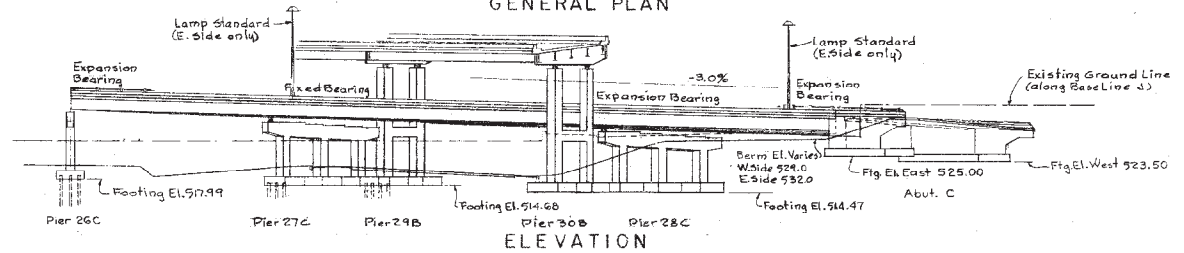
HAM-25-0.04

94



<b>CURVE 23A</b> $\Delta = 0^\circ 25'$ $D = 0^\circ 25'$ $R = 13750.99'$ $L = 100.0'$	<b>CURVE 23B</b> $\Delta = 2^\circ 04' 32''$ $D = 2^\circ 04' 32''$ $R = 2759.77'$ $L = 100.0'$
<b>CURVE 23C</b> $\Delta = 2^\circ 53' 04''$ $D = 2^\circ 55' 14''$ $R = 1461.81'$ $L = 98.76'$	<b>CURVE 23D</b> $\Delta = 4^\circ 37' 22''$ $D = 4^\circ 33' 58''$ $R = 1254.81'$ $L = 101.24'$

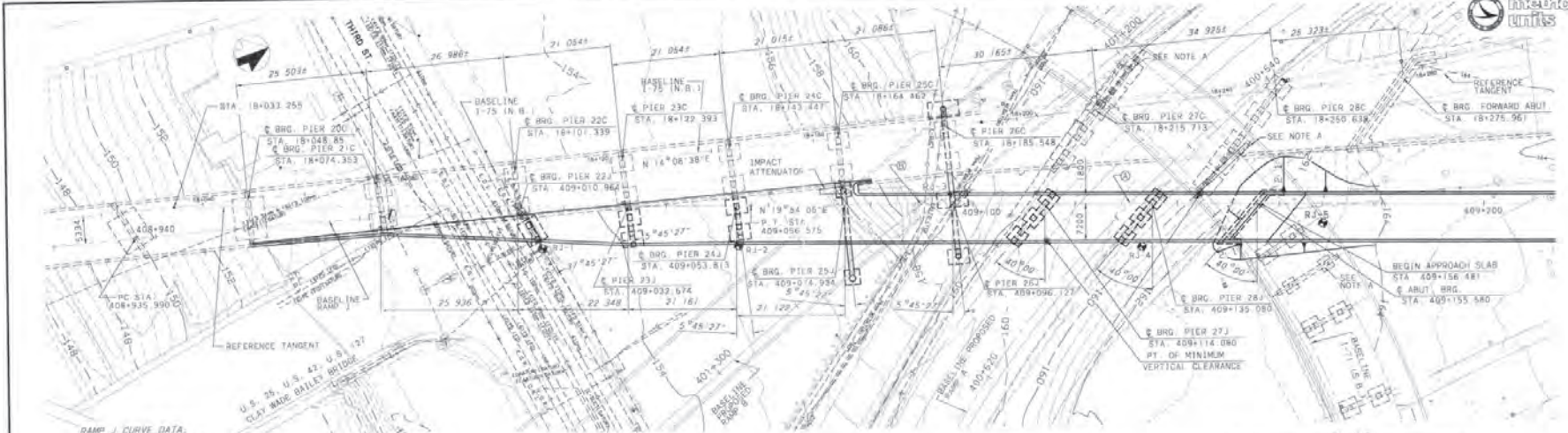
ALIGNMENT NOTE  
 See Sheet 85



For Railing & Lighting Details see Sheet No. 261.  
 For General Notes see Sheet No. 97  
 For Estimate of Quantities see Sheet No. 97

**HAM-75-0022R**  
**SPANS 27C-29C**

HAZELT & BRDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL PLAN & ELEVATION UNIT 17					
DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	DATE
	J.L.C. & P.L.S.		R.J.T.	R.M.P.	12-13-60



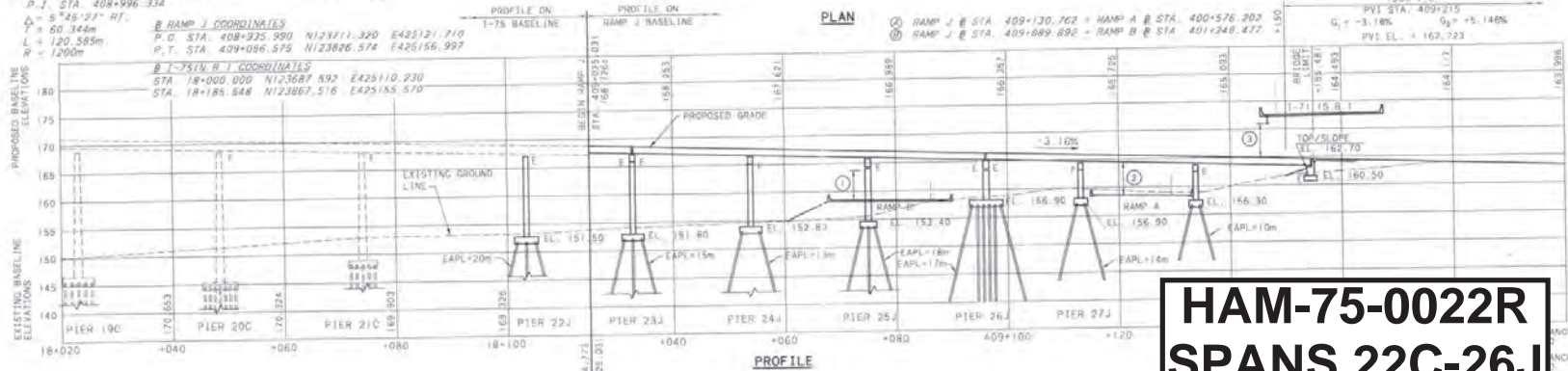
**RAMP J CURVE DATA**  
 P.I. STA. 408+996.334  
 Δ = 5°45'21" RT  
 A = 60.344m  
 L = 120.585m  
 R = 1200m

**B RAMP J COORDINATES**  
 P.O. STA. 408+935.990 N159°11'30" E425121.710  
 P.T. STA. 409+096.575 N123826.574 E425156.997

**B I-75 IN B J COORDINATES**  
 STA. 18+000.000 N123687.592 E425110.230  
 STA. 18+155.548 N123867.516 E425155.570

**PLAN**

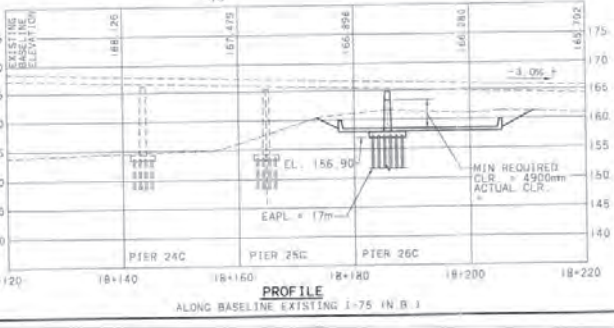
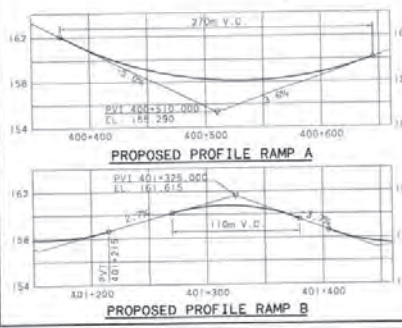
① RAMP J @ STA. 409+130.761 + RAMP A @ STA. 400+576.202 + 150  
 RAMP J @ STA. 409+089.892 - RAMP B @ STA. 401+248.477 + 150



**PROFILE**

**HAM-75-0022R  
 SPANS 22C-26J**

**FINAL FOR  
 CONSTRUCTION**

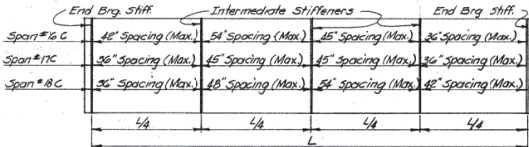


NOTE A: FUTURE PROPOSED PIERS 22C-26J OF I-75 IN B UNDER SEPARATE CONTRACT.  
 EAPL DENOTES ESTIMATED AVERAGE PILE LENGTH  
 □ DENOTES BORING LOCATION  
 BATHYMETRIC LIMITS SHOWN ARE APPROXIMATE ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS

**EXISTING STRUCTURE (I-75 IN B)**  
 TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE  
 SPANS: 28 652, 34 495, 20 524, 23 500, 25 300, 25 503, 26 986, 21 054, 21 054, 21 015, 21 086, 20 165, 34 925, 25 323 ALL S  
 STRUCTURE FILE NO. 3111709  
 ROADWAY: 10.465± TOE/TOE PARAPET SKEW: VARIES  
 ORIGINAL DESIGN LOADING: CF2000 (157)  
 WEARING SURFACE: CONCRETE  
 SUPERELEVATION: 0.018 AND VARIES  
 APPROACH SLABS: 7620±  
 YEAR BUILT: 1963

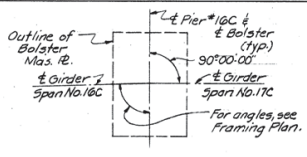
**PROPOSED STRUCTURE (RAMP J)**  
 TYPE: COMPOSITE CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE  
 SPANS: 25 936, 22 348, 21 161, 21 122, 21 193, 17 953, 21 000, 20 500  
 5/2± PIERS ALONG REFERENCE LINE  
 ROADWAY: 9000 TOE/TOE PARAPET SKEW: VARIES  
 DESIGN LOADING: HS20-44 (10.5E 11) AND ALT. MILITARY  
 WEARING SURFACE: CONCRETE  
 CROWN: 0.018 (ONE-WAY)  
 APPROACH SLAB: AS-1-NIM, 7600 LONG  
 ALIGNMENT: CURVED AND TANGENT  
 CURRENT ADT: NA  
 DESIGN YEAR ADT 120201: 11 000  
 DESIGN YEAR ADT 120201: 440  
 LATITUDE: 39°05'50"  
 LONGITUDE: 84°31'13"

SCALE	AS SHOWN
DATE	7/8/98
DESIGNED BY	JB/AA
CHECKED BY	JB/AA
IN CHARGE	JB/AA
PROJECT NO.	534
BRIDGE NO.	534
RAMP/J	534
COUNTY	HAMILTON
ROUTE	409+025.021
STA.	409+156.481
STA.	409+156.481
CONTRACT NO.	534
BRIDGE NO.	534
RAMP/J	534

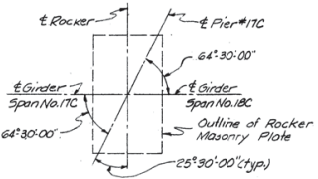


Note: Adjust intermediate stiffener spacing to conform to intermediate crossframe spacing.

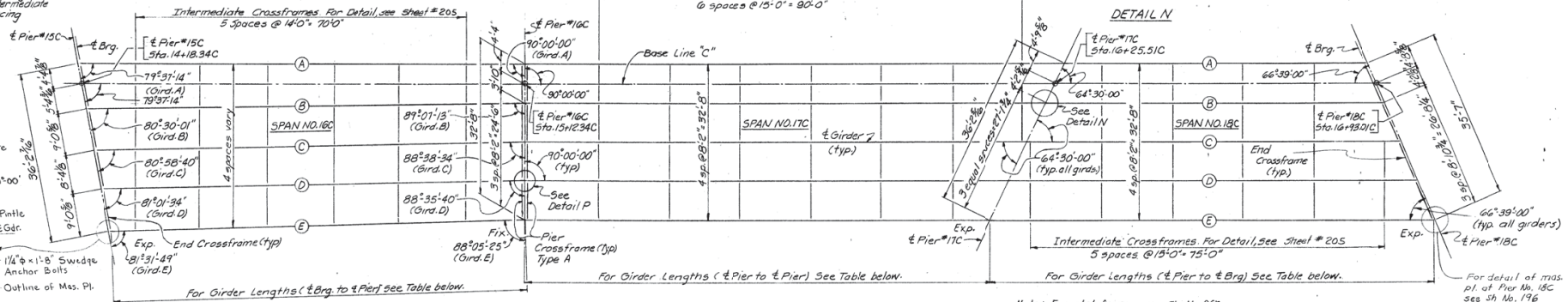
**INTERMEDIATE STIFFENER SPACING**



DETAIL P



DETAIL N



**FRAMING PLAN UNIT NO. 14**  
(Spans 16C thru 18C)

TABLE P (See Detail at right)

Girder	Dim. a	Dim. b	Dim. c	Dim. d
A	17'-9"	16'-3"	8'-6"	24'-0"
B	17'-9"	16'-3"	8'-6"	24'-0"
C	15'-6"	16'-0"	11'-3"	18'-6"
D	13'-0"	16'-6"	14'-0"	13'-0"
E	13'-0"	16'-6"	14'-0"	13'-0"

DETAIL OF FLANGE PLATES AND WELDS

Girder	Flg. #1	Flg. #2	Flg. #3	Flg. #4	Flg. #5
A	1/2" Weld (Girds. A thru C)	3/8" Weld (Girds. D & E)	3/8" Weld	3/8" Weld	3/8" Weld (Girds. C thru E) web, fillet welds.
B	1/2" Weld (Girds. A thru C)	3/8" Weld (Girds. D & E)	3/8" Weld	3/8" Weld	3/8" Weld (Girds. C thru E) web, fillet welds.
C	1/2" Weld (Girds. A thru C)	3/8" Weld (Girds. D & E)	3/8" Weld	3/8" Weld	3/8" Weld (Girds. C thru E) web, fillet welds.
D	1/2" Weld (Girds. A thru C)	3/8" Weld (Girds. D & E)	3/8" Weld	3/8" Weld	3/8" Weld (Girds. C thru E) web, fillet welds.
E	1/2" Weld (Girds. A thru C)	3/8" Weld (Girds. D & E)	3/8" Weld	3/8" Weld	3/8" Weld (Girds. C thru E) web, fillet welds.

Notes: For flange plate sizes for #2 thru #5, see Table O, below. For dimensions A thru D, see Table P, left.

**DETAIL OF FLANGE PLATES AND WELDS**

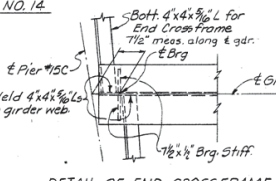
TABLE O (See Detail above)

Girder	Flg. #1	Flg. #2	Flg. #3	Flg. #4	Flg. #5
A	16"x1 1/2"	16"x2 1/2"	16"x1 3/8"	16"x1 3/4"	16"x3/4"
B	do	do	16"x1 3/8"	do	16"x3/4"
C	do	16"x2 1/2"	16"x1 1/4"	16"x1 1/4"	16"x1"
D	do	16"x2 1/2"	16"x1 1/8"	16"x1 1/8"	16"x1 1/8"
E	16"x1 1/8"	16"x2 1/8"	16"x1 1/8"	16"x1 1/8"	16"x1 1/8"

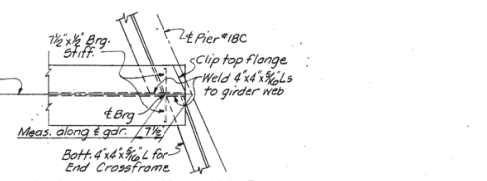
TABLE OF GIRDER LENGTHS

Girder	Span #16C	Span #17C	Span #18C
A	94'-2"	115'-2 1/2"	62'-11 1/4"
B	92'-5 1/2"	111'-4 1/2"	70'-4 3/8"
C	90'-9 1/2"	107'-5 3/8"	77'-9 3/8"
D	87'-3 3/8"	103'-6 3/8"	85'-2 3/8"
E	87'-8 3/8"	99'-7 3/8"	92'-7 1/8"

Note: Work these details with Plan of Expansion Joint, Sheet No. 215



DETAIL OF END CROSSFRAME CONNECTION AT PIER #15C



DETAIL OF END CROSSFRAME CONNECTION AT PIER #18C

TABLE Q

Girder	Span #16C	Span #18C
A	3 1/8"	1 3/4"
B	3"	1 7/8"
C	2 3/4"	2 1/8"
D	2 1/2"	2 1/4"
E	2 1/4"	2 3/8"

Note: Convexity includes variations due to vertical curvature, superelevation and horizontal curvature.

DEFLECTION AND CAMBER

SPAN GIRDER	SPAN NO. 16C					SPAN NO. 17C					SPAN NO. 18C				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
LOCATION	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Deflection due to weight of steel	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
Deflection due to remaining Dead Load	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
Convexity (See note above)	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"
Sum of deflection and convexity	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"	1 3/8"	1 1/8"
Required Camber	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"	2 3/8"	2 1/8"

Girder web plates shall be cut to a parabolic crown.

**GIRDER SPLICE WELDING PROCEDURE**

1. Raise the ends of girders of Span #16C at Pier #15C, and ends of girders of Span #18C at Pier #18C; the dimensions shown for each span in Table Q.
2. Butt-weld girder flanges and webs at Piers #16C & 17C, using the following welding 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 all Pier Crossframes at Pier #16C into place.
4. Lower the girders of Spans #16C & 18C into final positions.

Notes: For Details of End Crossframes see Sheet # 215. For Details of Pier Crossframes, see Sheet # 205. For Details of Intermediate & Bearing Stiffeners, see Sheet # 205. For Rocker & Bolaster Details, see Sheet # 206. For Typical Girder Elevation, see Sheet # 205.

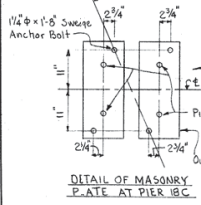
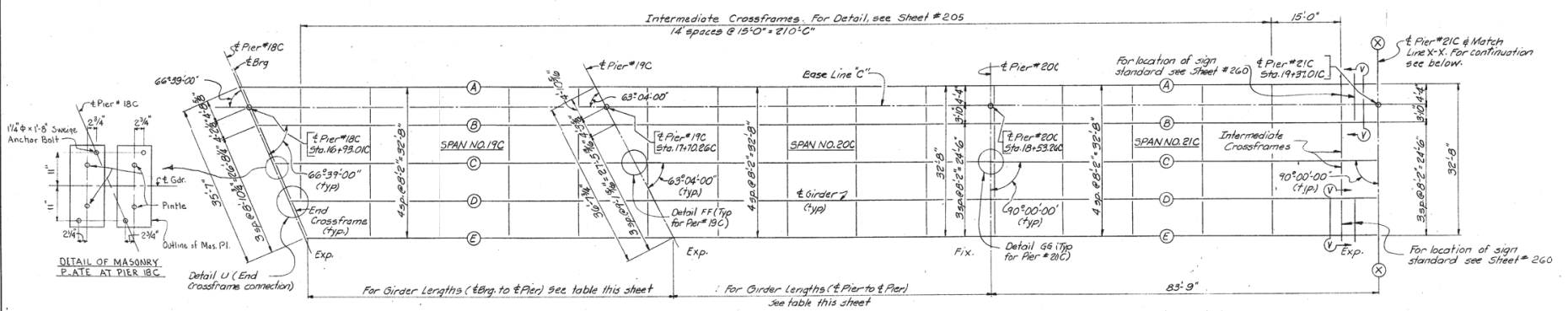
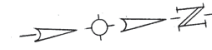
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**STRUCTURAL STEEL DETAILS**  
 UNIT NO. 14.

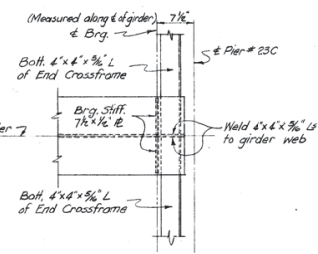
DRAWN	CHECKED	TRACED	REVISION DATE
REL	JHO	REL	10-14-60



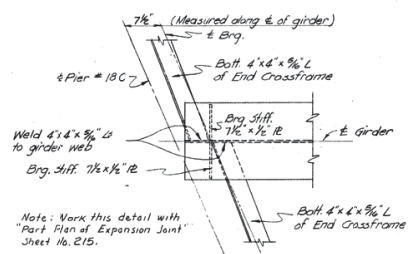
REPRODUCTION  
OCT 25 1960



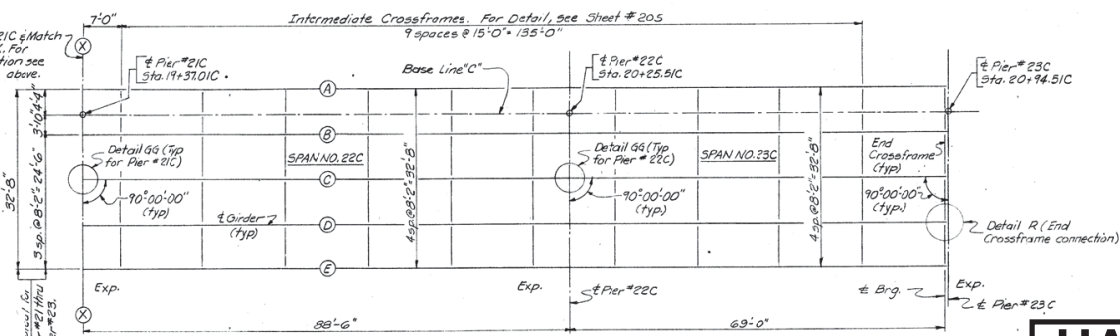
DETAIL U (End crossframe connection)



DETAIL R (End crossframe connection @ Pier = 23C, Span 23C)



DETAIL U (End crossframe connection @ Pier = 18C, Span 19C)



Note: Web R 48" x 3/8" for Fly R's see table below  
Brg. Stiff. 7 1/2" x 1/2" R's Intermediate Stiff. 6" x 3/8" R's  
For bearing details see Sheet No. 206  
For typical Girder Elevation see Sheet No. 205  
For End Crossframe detail see Sheet No. 215  
For Detail G6, See Sheet No. 197

FRAMING PLAN - UNIT NO. 15 (Spans No. 19C thru 23C)

Girder	Span #19C	Span #20C
A	76'-3 1/2"	85'-2 3/4"
B	76'-11"	81'-0 3/8"
C	77'-6 1/2"	76'-10 3/8"
D	78'-2"	72'-9"
E	78'-9 1/2"	68'-7 1/4"

Span #	Span #19C	Span #20C	Span #21C	Span #22C	Span #23C
Girder	R125-E Gdr. A R125-F Gdr. B R125-H Gdr. D 16" x 1 1/2"	R225-A 16" x 1 1/2"	B225-B 16" x 1 3/8"	R225-A 16" x 1 3/8"	R100-U Gdr. A to D R100-V Gdr. E 16" x 1"
Span Length	8'-6"	13'-0"	12'-0"	10'-0"	11'-6"
Weld	9/16" Weld	9/16" Weld	3/8" Weld	9/16" Weld	9/16" Weld

TABLE OF FLANGE PLATES AND WELD SIZE

# HAM-75-0022R SPANS 19C-23C

Work this sheet with Sheet No. 197

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CINCINNATI, OHIO

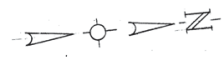
STRUCTURAL STEEL DETAILS  
UNIT NO. 15.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
RCF	REL		JHO B1100	10-14-60	

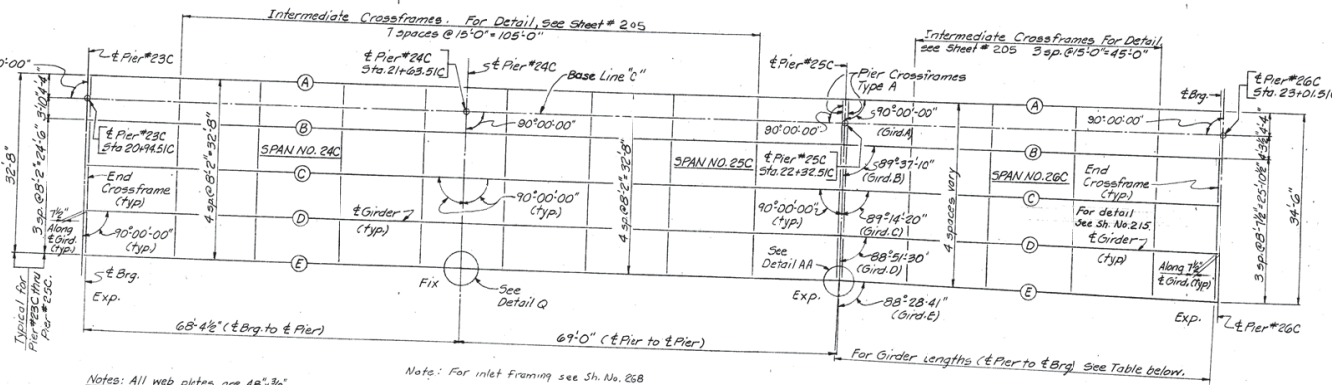
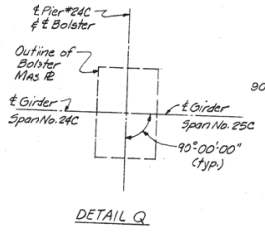
REVISED D  
OCT 25 1980  
REPRODUCTION

FED. NO.	STATE	PROJECT	FISCAL YEAR
2	OHIO		198

HAM-25-0.04



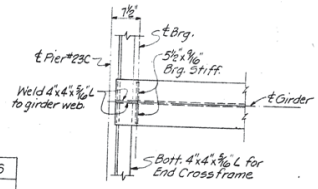
Note:  
All Piers in this unit are  
parallel to each other.



Notes: All web plates are 48" x 3/8".  
All intermediate stiffeners are 4" x 3/8".  
All end bearing stiffeners are 5 1/2" x 3/8".

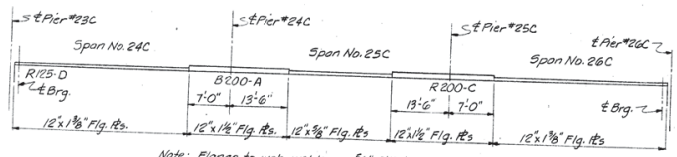
Note: For inlet framing see Sh. No. 238

FRAMING PLAN - UNIT NO. 16  
(Spans No. 24C thru 26C)



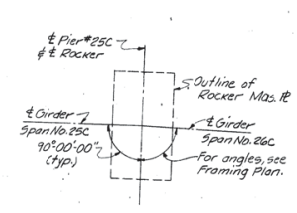
DETAIL OF END CROSSFRAME  
CONNECTION AT PIER #23C

Note: Work this detail with Part Plan of Expansion Joint, Sheet No. 215.

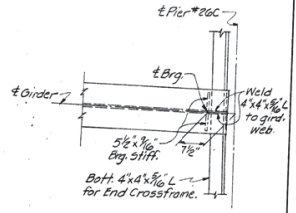


Note: Flange to web welds are 3/16" fillet welds throughout.

DETAIL OF FLANGE PLATES AND DIMENSIONS



DETAIL A A



DETAIL OF END CROSSFRAME  
CONNECTION AT PIER #26C

Note: Work this detail with Part Plan of Expansion Joint, Sheet No. 215

SPAN NO. 26C	
Girder	Length
A	68'-4 1/2"
B	68'-4 1/2"
C	68'-4 1/2"
D	68'-4 1/2"
E	68'-4 1/2"

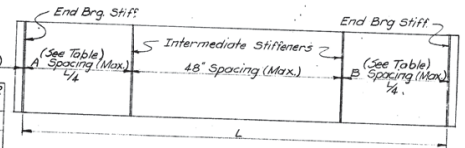
SPAN	SPAN NO. 24C			SPAN NO. 25C			SPAN NO. 26C		
	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E	A thru E
LOCATION	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
Deflection due to weight of steel	1/16"	1/8"	1/16"	0	0	0	1/16"	1/8"	1/16"
Deflection due to remaining Dead Load	5/16"	3/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/8"	1/16"

Girders for Unit #16 shall not be cambered

GIRDER SPLICE WELDING PROCEDURE

1. Raise the ends of girders of Span #26C at Pier #26C 1", and ends of girders of Span #24C at Pier #23C-1", using the following welding sequence:  
Make two passes on each flange, then two on the web; repeat using one pass on each location until welds are completed.
2. Butt-weld girder flanges and webs of Piers #24C & 25C, using the following welding sequence:  
Make two passes on each flange, then two on the web; repeat using one pass on each location until welds are completed.
3. Weld all Pier Crossframes at Pier #25C into place.
4. Lower the girders of Spans #24C & 26C into final positions.

Span	A	B
24 C	42"	39"
25 C	42"	42"
26 C	39"	42"



Note: Adjust intermediate stiffener spacing to conform to intermediate crossframe spacing.

INTERMEDIATE STIFFENER SPACING

HAM-75-0022R  
SPANS 24C-26C

Notes:  
For Details of Crossframes, see Sheet # 205  
For Details of Intermediate & Bearing Stiffeners, see Sheet # 205  
For Rocker & Bolster Details, see Sheet # 206  
For Typical Girder Elevations, see Sheet # 205  
For Details of End Crossframes, see Sheet # 215

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CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS  
UNIT NO. 16

HAM-25-0.04

Note:  $\pm$  Pier #27C,  $\pm$  Pier #28C &  $\pm$  Brg. Abut. are parallel to each other.

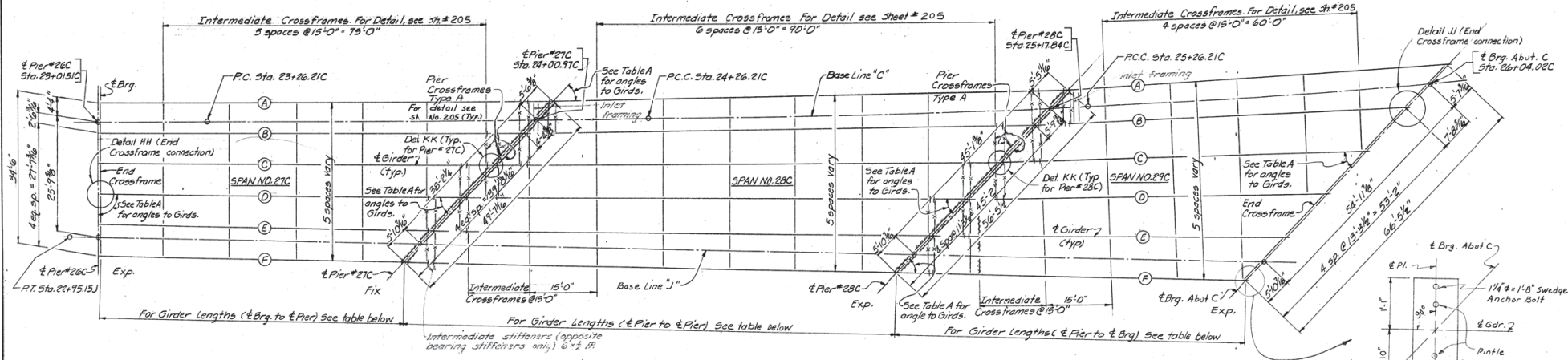


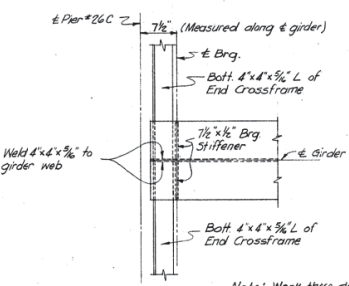
TABLE A (Angles from  $\pm$  Piers or  $\pm$  Brgs. to  $\pm$  Girders) See Plan.

Girder	Span #27C	Span #27C	Span #28C	Span #28C	Span #29C	Span #29C
1	81°56'20"	46°42'12"	45°30'38"	45°04'31"		
3	81°44'56"	46°53'21"	45°59'45"	43°59'49"		
C	81°31'59"	47°06'33"	46°29'18"	44°57'04"		
D	81°16'41"	47°21'42"	46°59'18"	45°56'19"		
E	80°58'52"	47°39'36"	47°29'36"	46°57'56"		
F	80°57'27"	48°01'02"	48°01'02"	48°01'02"		

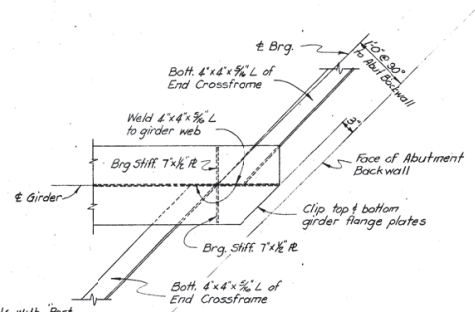
*Some as shown for spans 27C & 28C. Some as shown for spans 28C & 29C.*

Note: For int'l framing see Sh. No. 268  
**FRAMING PLAN - UNIT NO. 17**  
 (Spans No. 27C thru 29C)

Note: Web R 54"x $\frac{3}{8}$ ". For Flg. R's see table below  
 Brg. Stiff. 7x $\frac{1}{2}$ "x $\frac{1}{2}$ ". Intermediate Stiff. 6"x $\frac{3}{8}$ "x $\frac{1}{2}$ "  
 For bearing details see Sheet #206  
 For detail of End Crossframe see Sheet No. 215  
 For Typical girder Elevation see Sheet No. 205  
 For Detail KK, See Sheet #200



DETAIL HH  
 (End Crossframe connection)  
 (at Pier #26C, Span 27C)



DETAIL JJ  
 (End Crossframe connection)  
 (at Abutment C.)

	$\pm$ Pier #26C	$\pm$ Pier #27C	$\pm$ Pier #28C	$\pm$ Brg. Abut. C.
Fig. R's Gdrs. A & B (Top & Bottom)	16" x 13 $\frac{1}{2}$ "	16" x 2 $\frac{1}{2}$ " 15'-3"	16" x 13 $\frac{1}{2}$ "	16" x 2 $\frac{1}{2}$ " 18'-0"
Fig. R's Gdrs. C & D	16" x 13 $\frac{1}{2}$ "	16" x 2" 20'-0"	16" x 13 $\frac{1}{2}$ "	16" x 2 $\frac{1}{2}$ " 18'-0"
Fig. R's Gdrs. E & F	16" x 13 $\frac{1}{2}$ "	16" x 13 $\frac{1}{2}$ " 23'-6"	16" x 13 $\frac{1}{2}$ "	16" x 2 $\frac{1}{2}$ " 18'-0"
Flg. to Web Weld Size (Typ. all girders)	$\frac{3}{8}$ " weld	$\frac{3}{8}$ " weld	$\frac{3}{8}$ " weld	$\frac{3}{8}$ " weld

TABLE OF FLANGE PLATES AND WELD SIZES

GIRDER LENGTHS

Girder	Span #27C	Span #28C	Span #29C
A	102'-7 $\frac{1}{2}$ "	116'-9 $\frac{1}{2}$ "	86'-3 $\frac{1}{2}$ "
B	95'-9 $\frac{1}{2}$ "	115'-10 $\frac{1}{2}$ "	84'-9 $\frac{1}{2}$ "
C	89'-0 $\frac{1}{2}$ "	114'-10 $\frac{1}{2}$ "	83'-4 $\frac{1}{2}$ "
D	82'-2 $\frac{1}{2}$ "	113'-11 $\frac{1}{2}$ "	81'-11 $\frac{1}{2}$ "
E	75'-4 $\frac{1}{2}$ "	113'-0 $\frac{1}{2}$ "	80'-7 $\frac{1}{2}$ "
F	68'-7 $\frac{1}{2}$ "	112'-1 $\frac{1}{2}$ "	79'

# HAM-75-0022R

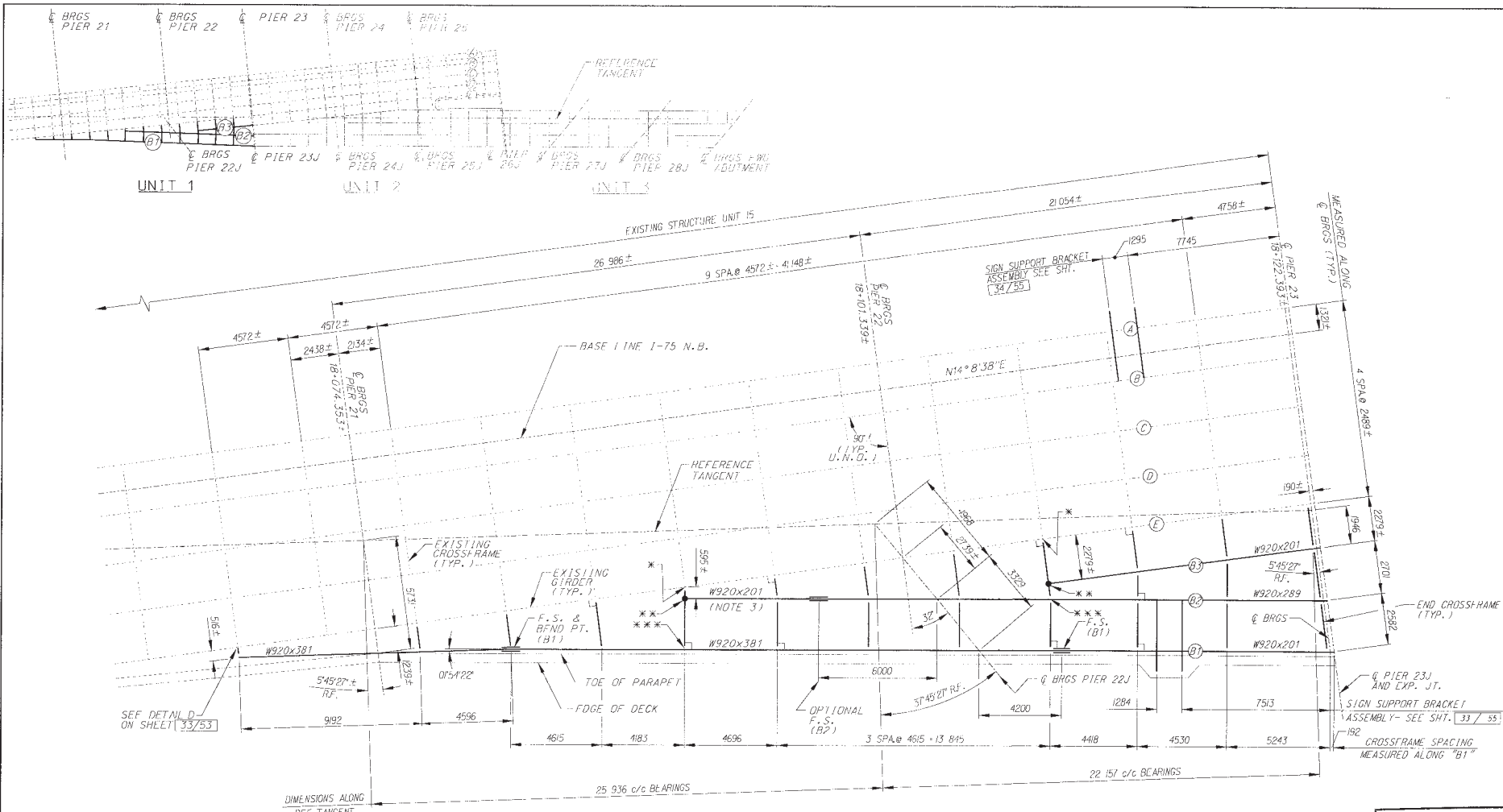
## SPANS 27C-29C

Work this sheet with Sheet #200

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STRUCTURAL STEEL DETAILS  
 UNIT NO. 17.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
RCF	RELJUC	7/15/60	JHO	11/18/60	8-2-61



FRAMING PLAN  
(UNIT 1)

# HAM-75-0022R SPANS 22C-23J

**FINAL FOR  
CONSTRUCTION**

ROCKER BEARINGS			
BEAM	PIER 21	PIER 22J	PIER 23J
B3			R575A
B2		R1100	R575B
B1	R1000	R1100	R575C

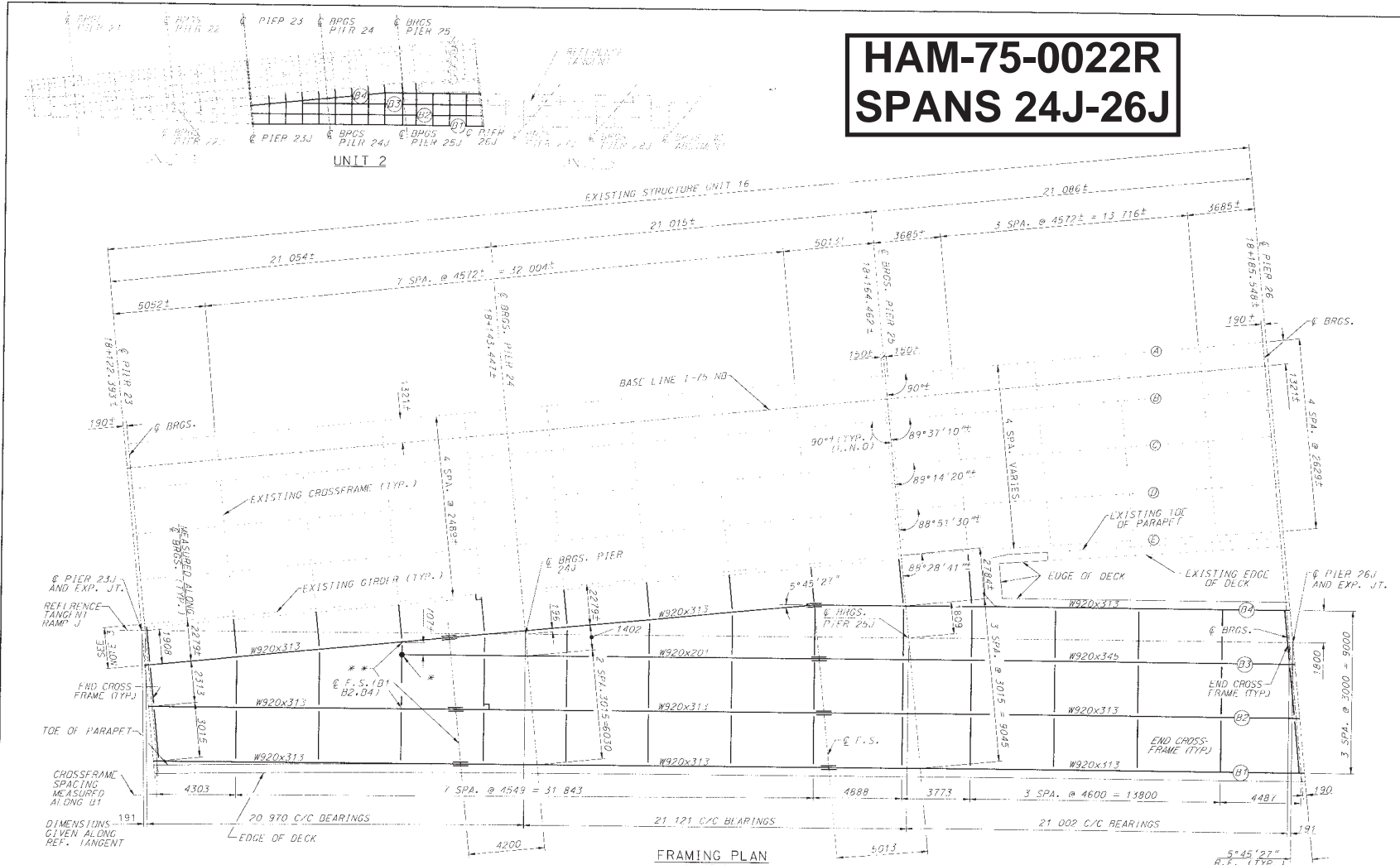
- \* - SLL DIAPHRAGM CONNECTION  
DETAIL C ON SHEET [32/55].
- \*\* - SEE DIAPHRAGM CONNECTION  
DETAIL B ON SHEET [32/55].
- \*\*\* - SEE DIAPHRAGM CONNECTION  
DETAIL A ON SHEET [32/55].

- NOTES:
- STRUCTURAL STEEL SHALL BE ASIM A572, LEVEL 3 FABRICATION.
  - SEE SHEET [28/55] FOR BEARING DETAILS.
  - USE W920x289 FULL LENGTH OF "B2" IF OPTIONAL FIELD SPLICE IS NOT USED.

LEGEND:  
 F.S. = FIELD SPLICE  
 BRGS = BEARINGS  
 ⊗ = BEAM LINE DESIGNATION  
 U.N.O. = UNLESS NOTED OTHERWISE  
 † = BEAM SUPPORT DIAPHRAGM

P:\0021482\CONV\BRGS\SPANS\SPANS1.DWG

# HAM-75-0022R SPANS 24J-26J



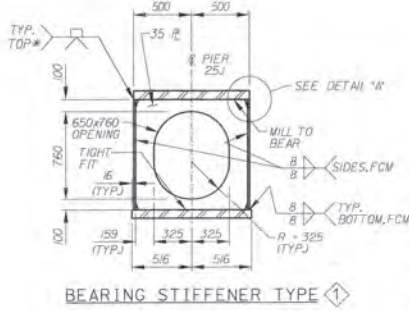
ROCKER & BOLSTER BEARINGS					
BFAM	PIER 23 J	PIER 24 J	PIER 25 J	PIER 26 J	
B4	R575	B1000	R1000A	R675A	
B3		B775	R1225A	R675B	
B2	R675	R1225	R1225B	R675C	
B1	R675	B1225	R1225	R675D	

\* = SEE DIAPHRAGM CONNECTION IN TAIL B ON SHEET 32755.1  
 \*\* = SEE DIAPHRAGM CONNECTION IN TAIL A ON SHEET 32755.1

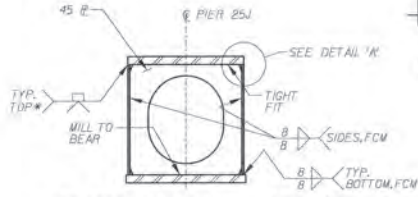
NOTES:  
 1. STRUCTURAL STEEL SHALL BE ASTM A572M LEVEL 3 FABRICATION.  
 2. SEE SHEET 48755.1 FOR BEARING DETAILS.  
 3. CROSSFRAMES IN THIS BAY SHALL NOT BE WELDED UNTIL AFTER STAGE 1 DECK PLACEMENT.

LEGEND:  
 F.S. = FIELD SPIICE  
 BRGS. = BEARINGS  
 (X) = BEAM LINE DESIGNATION  
 U.N.D. = UNLESS NOTED OTHERWISE!  
 + = BEAM SUPPORT DIAPHRAGM

**FINAL FOR CONSTRUCTION**

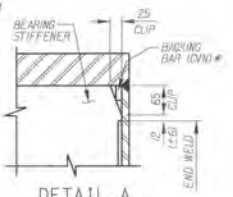


BEARING STIFFENER TYPE 1

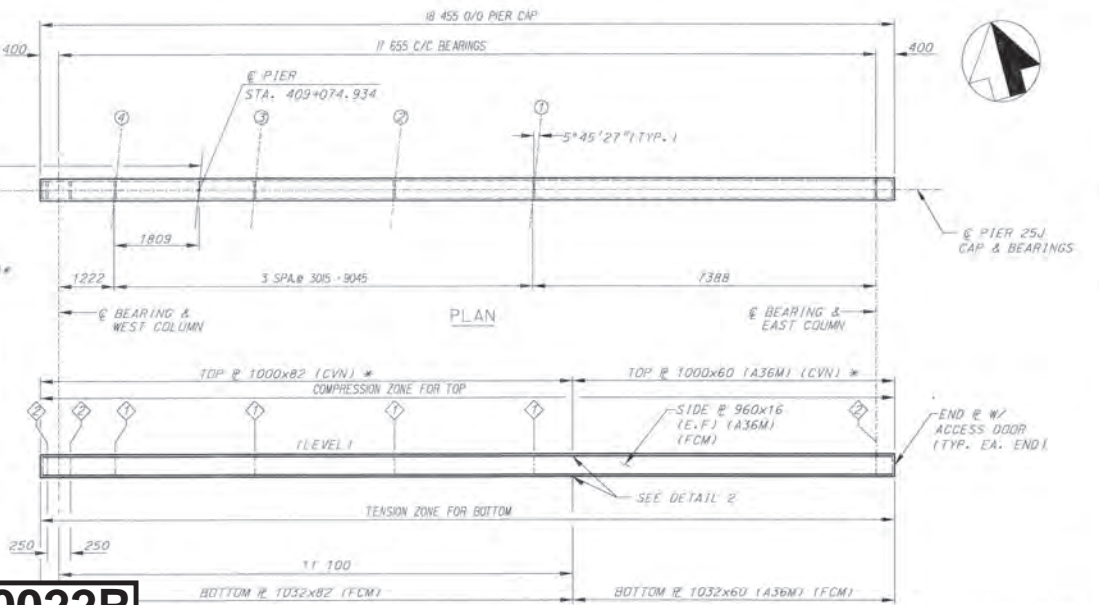


BEARING STIFFENER TYPE 2

FOR DETAILS SHOWN BUT NOT NOTED, SEE TYPE 1 STIFFENER DETAIL.

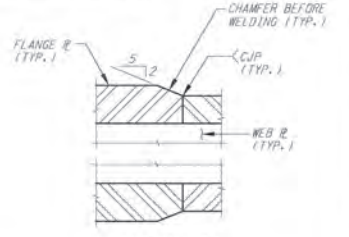


DETAIL A  
(TYPICAL DIAPHRAGM CLIP AND WELD TERMINATION, TOP SHOWN, BOTTOM SIMILAR)

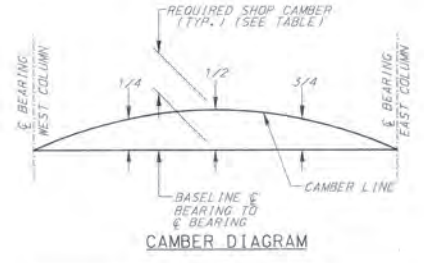


ELEVATION

\* - FABRICATOR MAY SUBSTITUTE 1032mm WIDE TOP PLATE ATTACHED TO WEBS WITH DOUBLE 8mm FILLET WELDS AT EACH WEB R IN PLACE OF 1000mm WIDE TOP PLATE WITH FULL PENETRATION WELDS AND BACKING BAR.

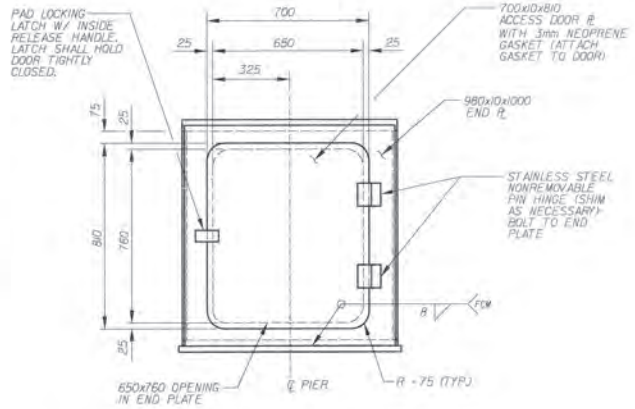


DETAIL 2



CAMBER DIAGRAM

POINT	DEFLECTION AND CAMBER (mm)		
	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF CAP	2	2	2
DEFLECTION DUE TO REMAINING D.L.	19	27	19
REQUIRED SHOP CAMBER	21	29	21



END PLATE WITH ACCESS DOOR DETAIL

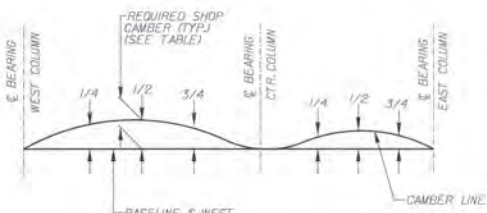
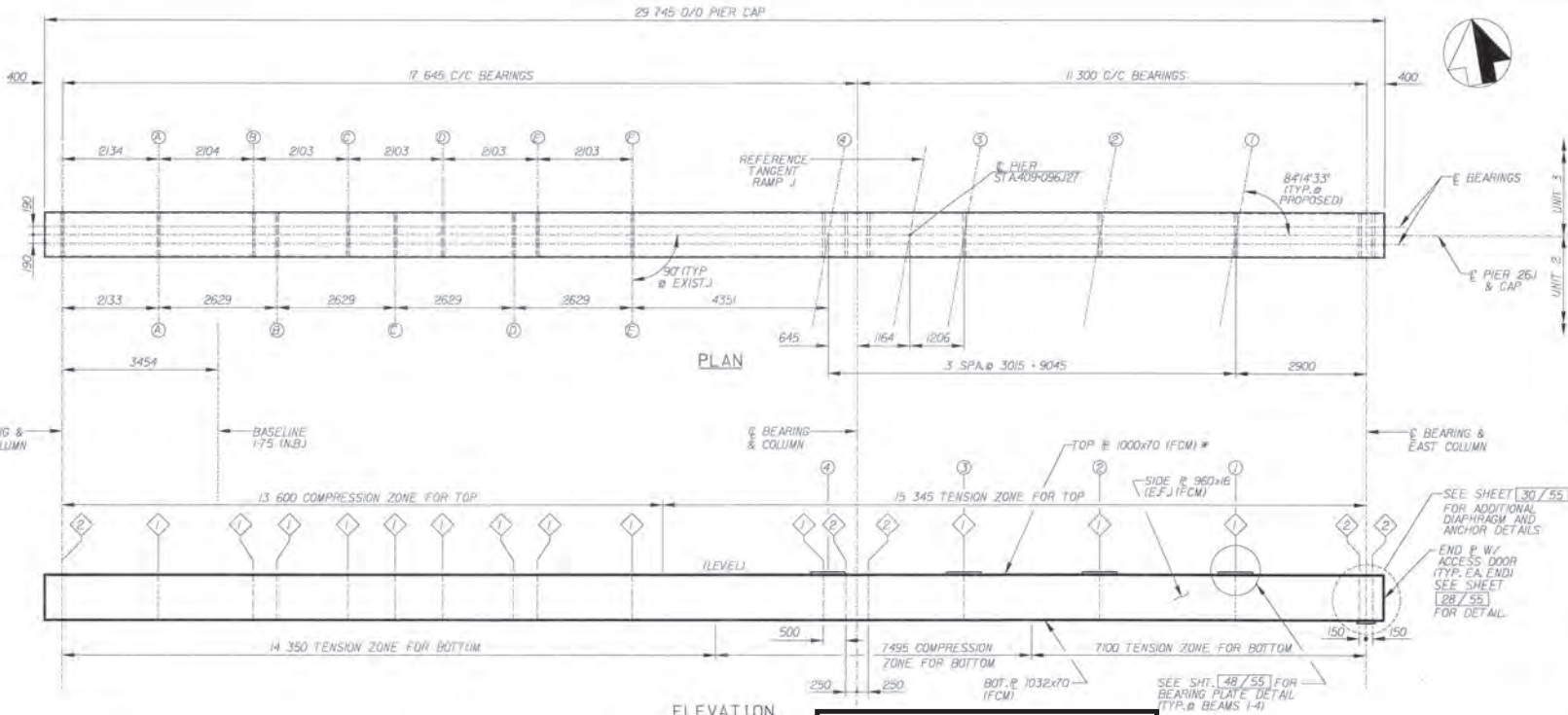
LEGEND:  
 ⊗ = BEAM LINE DESIGNATION  
 ⊕ = INDICATES BEARING STIFFENER TYPE  
 FCM = FRACTURE CRITICAL MEMBER

NOTES:  
 1. ALL STRUCTURAL STEEL THIS SHEET SHALL BE A572M GR345 UNLESS OTHERWISE NOTED.  
 2. CAP BOTTOM & SIDE PLATES ARE FRACTURE CRITICAL COMPONENTS AND SHALL CONFORM TO THE PROVISIONS OF CHAPTER 12 OF ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE WELDING REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 863.23. CHARRY V-NOTCH IMPACT TEST REQUIREMENTS SHALL MEET OR EXCEED THE FCM VALUES FOR ZONE 2.  
 INTERIOR SURFACES OF BOX SHALL BE PRIME PAINTED WITH A WHITE PAINT PRIOR TO WELDING OF FINAL BOX FLANGE.

**FINAL FOR CONSTRUCTION**

**HAM-75-0022R  
PIER 25J**

P:\1990\44447\CD\PROCS\15-18-R.P20.DWG

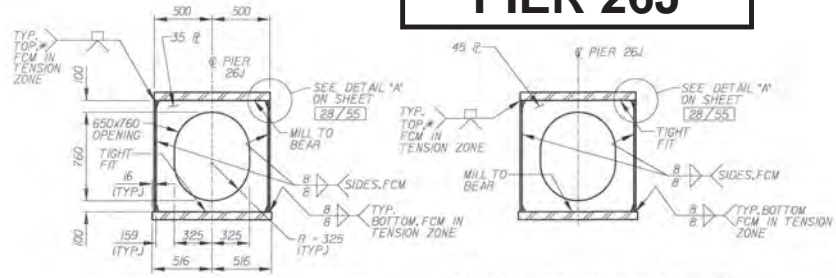


CAMBER AND BLOCKING DIAGRAM

DEFLECTION AND CAMBER (mm)						
STEEL CAP	SPAN 1			SPAN 2		
POINT	1/4	1/2	3/4	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF CAP	1	1	1	0	0	0
DEFLECTION DUE TO REMAINING DL	13	16	9	1	1	0
REQUIRED SHOP CAMBER	14	17	10	1	1	0

# HAM-75-0022R PIER 26J

**FINAL FOR CONSTRUCTION**



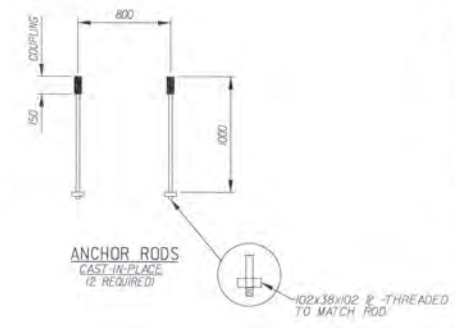
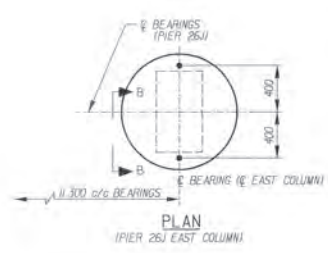
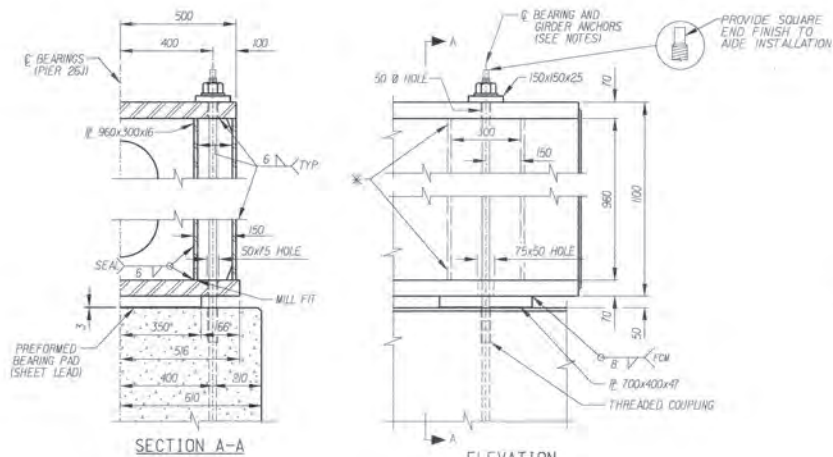
BEARING STIFFENER TYPE 1

BEARING STIFFENER TYPE 2

\* - FABRICATOR MAY SUBSTITUTE 1032mm WIDE TOP PLATE ATTACHED TO WEBS WITH DOUBLE 8mm FILLET WELDS AT EACH WEB & IN PLACE OF 100mm WIDE TOP PLATE WITH FULL PENETRATION WELDS AND BACKING BAR.

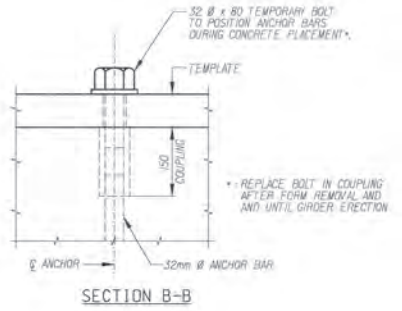
FOR DETAILS SHOWN BUT NOT NOTED. SEE TYPE 1 STIFFENER DETAIL.

- LEGEND:
- (X) - BEAM LINE DESIGNATION
  - (X) - INDICATES BEARING STIFFENER TYPE
  - FCM - FRACTURE CRITICAL MEMBER
- NOTES:
- ALL STRUCTURAL STEEL THIS SHEET SHALL BE ASTM A36M, LEVEL 6 FABRICATION UNLESS OTHERWISE NOTED.
  - CAP TOP, BOTTOM & SIDE PLATES ARE FRACTURE CRITICAL COMPONENTS AND SHALL CONFORM TO THE PROVISIONS OF CHAPTER 12 OF ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE WELDING REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 86.2.3, CHAMPP V-NOTCH IMPACT TEST REQUIREMENTS SHALL MEET OR EXCEED THE FCM VALUES FOR ZONE 2.
  - INTERIOR SURFACES OF BOX SHALL BE PRIME PAINTED WITH WHITE PAINT PRIOR TO WELDING OF FINAL BOX FLANGE.



ELEVATION  
EAST COLUMN GIRDER ANCHOR  
\* SEAL O-RING CLIPS WITH SEALANT PER FED. SPEC. TYP. S-00230C. TYPE 2 (TYP.)

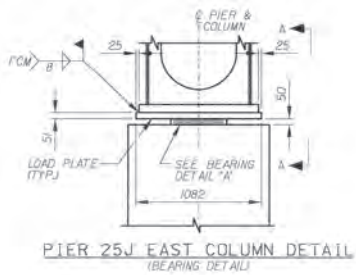
# HAM-75-0022R PIER 26J



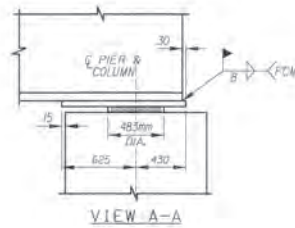
**FINAL FOR CONSTRUCTION**

**NOTE**  
GIRDER ANCHORS: PROVIDE 2-32mm  $\phi$  ANCHOR RODS FOR THE EAST COLUMN OF PIER 26J. THESE ANCHORS INCLUDE 2-150x150x25 SQUARE WASHERS, 2 ROUND WASHERS, 2 THREADED COUPLINGS WITH 2-32mm  $\phi$  CAST-IN-PLACE ANCHOR RODS AND 2-32x80 TEMPORARY BOLTS TO SECURE CAST-IN-PLACE ANCHOR RODS IN POSITION DURING PLACEMENT OF CONCRETE. MATERIALS FOR ANCHORS AND HARDWARE SHALL CONFORM TO ASTM A325M/TYP. 3 SPECIFICATIONS. COUPLING SHALL BE SUITABLE TO DEVELOP THE FULL STRENGTH OF THE ANCHOR BOLTS. USE FORM TEMPLATE TO POSITION ANCHOR BAR IN PROPER POSITION DURING CONCRETE PLACEMENT. AFTER REMOVAL OF TEMPLATE, PLACE TEMPORARY BOLTS INTO EXPOSED COUPLINGS UNTIL THEY ARE REPLACED BY PERMANENT ANCHOR BARS DURING GIRDER ERECTION. AFTER GIRDER ERECTION AND BEFORE RELEASING AND REMOVING TEMPORARY SUPPORTS UNDER THE EXISTING STRUCTURE, BOLTS SHOULD BE TIGHTENED TO TIGHTEN, TURN NUTS UNTIL STEEL IS FULLY COMPACTED IN BEARING PLATE, THEN TURN NUTS 2/3 TURN RELATIVE TO ROD. INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT TO PLACE AND STRESS GIRDER ANCHORS WITH STRUCTURE LUMP SUM BID PARMENT. ANCHORS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 1102.

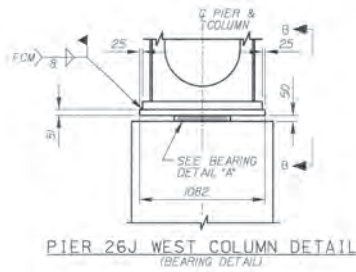




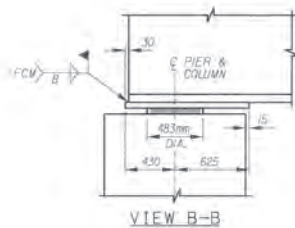
PIER 25J EAST COLUMN DETAIL  
(BEARING DETAIL)



VIEW A-A

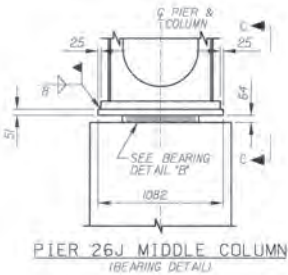


PIER 26J WEST COLUMN DETAIL  
(BEARING DETAIL)

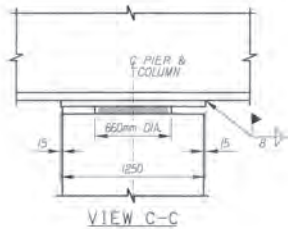


VIEW B-B

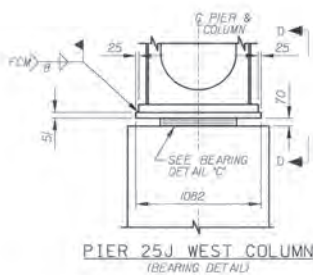
**HAM-75-0022R  
PIERS 25J-26J**



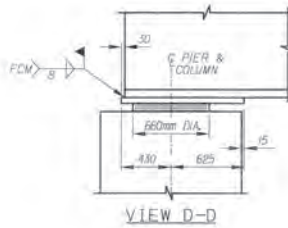
PIER 26J MIDDLE COLUMN  
(BEARING DETAIL)



VIEW C-C



PIER 25J WEST COLUMN  
(BEARING DETAIL)



VIEW D-D

**ELASTOMERIC BEARINGS:**

ELASTOMERIC BEARINGS SHALL COMPLY WITH 516 AND ARTICLES 18.4.5.1 THROUGH 18.5.6.2 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION OF THE ASPHALT STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3.60 DUROMETER ELASTOMER, AND SHALL BE SUBJECT TO THE LOAD TESTING REQUIREMENTS OF ARTICLE 18.7.4.5 CORRESPONDING TO DESIGN BY ARTICLE 18.5.5. PAYMENT FOR TESTING SHALL BE INCLUDED IN THE STRUCTURE LUMP SUM BID.

**BEARING REPOSITIONING:**

IF STEEL PIER CAPS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 27°C OR LOWER THAN 4°C, AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/5 OF THE BEARING HEIGHT AT 15°C ± 5°C, THE STEEL PIER CAPS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 15°C ± 5°C.

**LOAD PLATE:**

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. PAINTING SHALL BE DONE IN THE SHOP, EXCEPT THE EDGES TO BE WELDED SHALL BE MASKED OFF. PAINTING SHALL BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

THE STEEL PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150°C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

**DESIGN LOADING:**

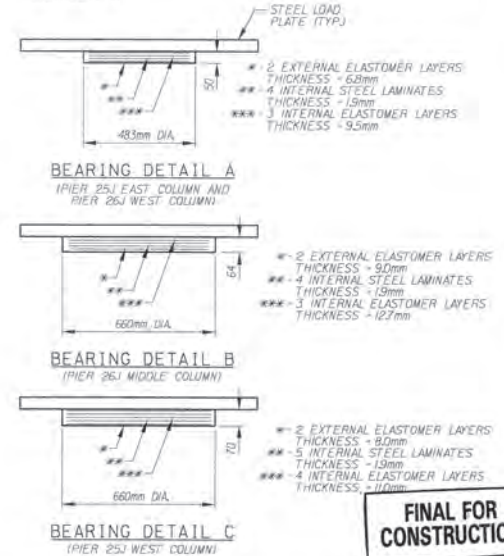
BEARINGS ARE DESIGNED FOR THE FOLLOWING LOADS:

PIER NO.	PIER 25J		PIER 26J	
	WEST	EAST	WEST	MIDDLE
DEAD LOAD (kN)	2015	979	112	2831
LIVE LOAD w/o IMPACT (kN)	512	334	535	728
TOTAL DESIGN LOAD (kN)	2527	1313	647	3559

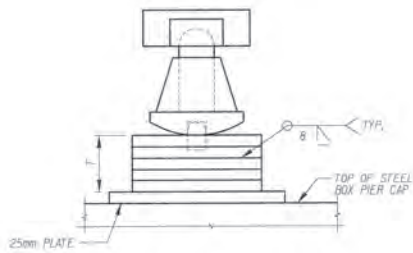
BEARING LOCATIONS (25 W/26 U, TYP) SHALL BE CLEARLY MARKED ON THE BEARINGS PRIOR TO SHIPMENT.

**LEGEND:**

DIA = DIAMETER

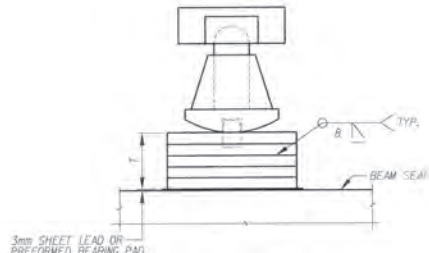


**FINAL FOR  
CONSTRUCTION**



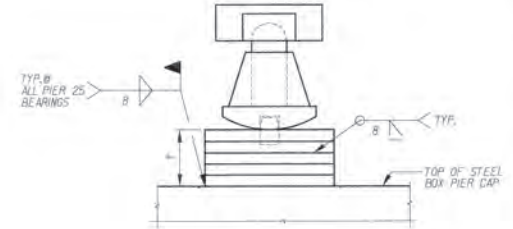
BASE PLATE THICKNESS DETAIL  
(PIER 26J)

BEARING	R575D	R575E	R575F	R575G
DIMENSION "T"	282	224	171	113
BEARING	R675A	R675B	R675C	R675D
DIMENSION "T"	218	180	103	45



BASE PLATE THICKNESS DETAIL  
(PIER 23)

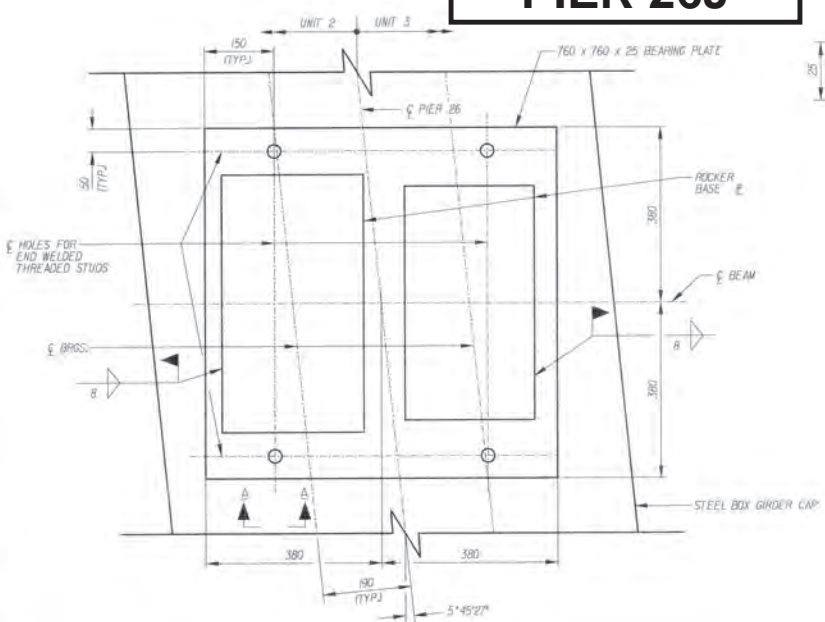
BEARING	R575A	R575B	R575C
DIMENSION "T"	78	79	87



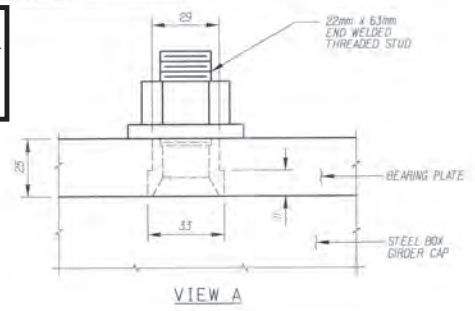
BASE PLATE THICKNESS DETAIL  
(PIER 25)

BEARING	R1000A	R1225A	R1225B
DIMENSION "T"	298	205	127

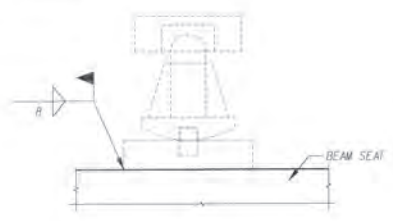
# HAM-75-0022R PIER 26J



BEARING PLATE DETAIL  
(PIER 26J)  
14 REQUIRED

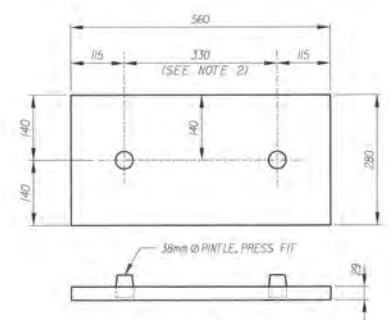


VIEW A

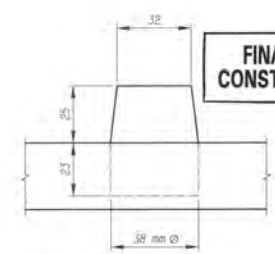


BASE PLATE WELDING DETAIL  
(EXISTING GIRDERS @ PIER 26J)

- NOTES:
- ROCKERS AND BOLSTERS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING RB155M, EXCEPT THAT DIMENSION "T" SHALL BE AS SHOWN IN THE TABLE ON THIS SHEET FOR BEARING DESIGNATIONS WITH A LETTER SUFFIX. BASE PLATES MAY BE ONE SINGLE PLATE OR MULTIPLE LAYERS WELDED TOGETHER AS SHOWN.
  - CONTRACTOR SHALL VERIFY EXISTING FINTE SPACING PRIOR TO FABRICATION OF REPLACEMENT BASE PLATE.



BASE PLATE  
(FOR EXISTING BEARINGS AT GIRDER A,  
PIER 26, B. REQUIRED)



PINTE DETAIL

**FINAL FOR  
CONSTRUCTION**