

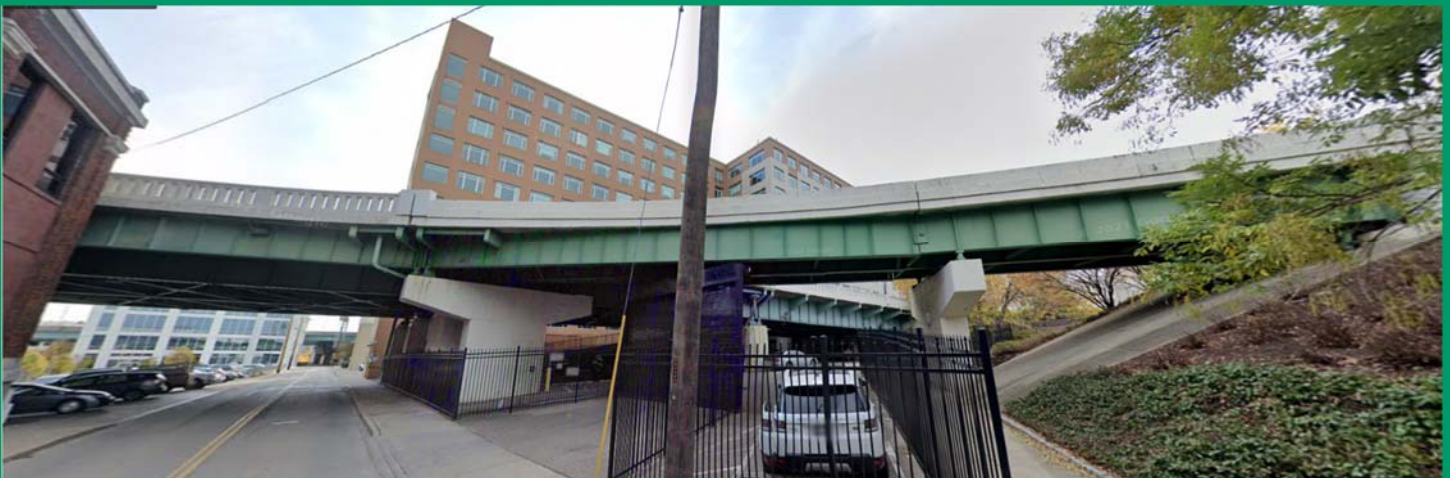
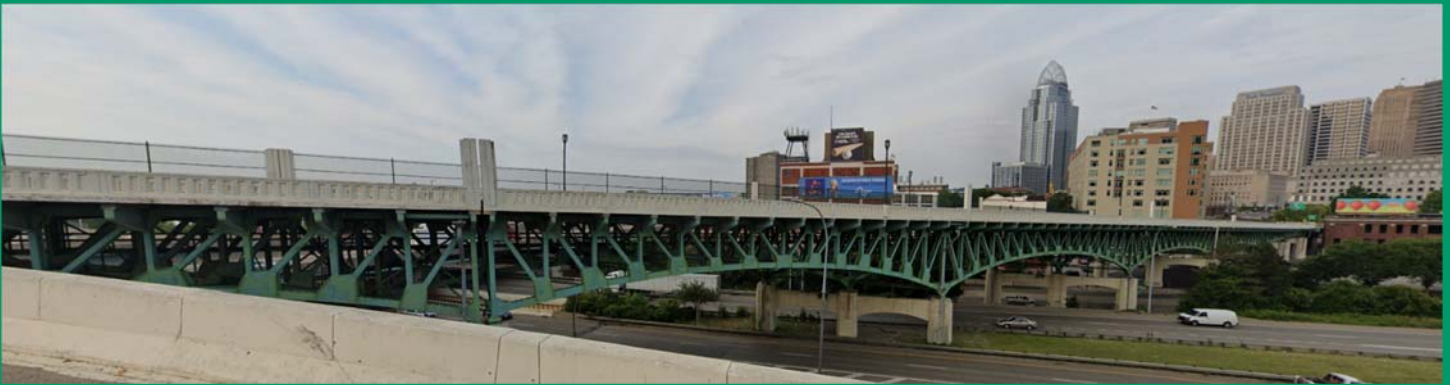
2022 PRE-INSPECTION REPORT

BRIDGE NO: HAM-50-2180N AND HAM-50-2181N

SFN: 3103390 AND 3103404

PID No.: 100838

City of Cincinnati



Submitted to ODOT District 8
May 2022

Prepared by



OHIO DEPARTMENT OF
TRANSPORTATION

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1. INTRODUCTION

1.1. Inspection Details

Bridge no.:	HAM-50-2180N HAM-50-2181N
Features intersected:	Butler Street, Culvert Street, Local Parking Lots, Eggleston Avenue, I-471, and US 50 Ramps
Locations to Inspect:	HAM-50-2180N: - Fracture Critical: - Spans 1-4 and 12-17: Girders - Spans 5-11: Truss Tension Members - In-Depth Element Level (Entire Structure) HAM-50-2181N: - Fracture Critical (Girders) - In-Depth Element Level (Entire Structure)
Inspection Dates:	Days: July 18, 2022 - July 20, 2022 (ODOT to provide snooper and traffic control on US 50) Days: September 12, 2022 - September 16, 2022 Nights: September 12, 2022 - September 16, 2022
Inspection Hours:	Days: 9:00 AM to 4:00 PM Nights: 10:00 PM to 6:00 AM (for I-471 lane closures).
Inspection Access Equipment:	ODOT Snooper, 120-foot lift, and ladders

1.2. Fracture Critical Inspection Requirements

The fracture critical 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 Fracture Critical Members. To perform an effective Fracture Critical 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 Fracture Critical Members.
(Identified in this document)
3. Develop the Inspection Procedure.
(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.
(Procedure contained in this document)
6. Develop a Periodic Inspection Plan

(Already in place with the Ohio Department of Transportation, District 8)

1.3. Bridge Descriptions

HAM-50-2180N

The Columbia Parkway Viaduct (HAM-50-2180N) connects East 5th Street to US 50 in Downtown Cincinnati carrying eastbound and westbound vehicular traffic and a pedestrian sidewalk over Butler Street, Culvert Street, local parking lots, Eggleston Avenue, Interstate 471, and ramps to US 50. The overall bridge length is 1,660'-9" and the structure was opened to traffic in 1938 with rehabilitations in 1997-1998 and 2017-2018. The rear approach spans (Spans 1-4) and the forward approach spans (Spans 12-17) consist of three lines of simple span, built-up steel girders. The main spans (Spans 5-11) consist of three lines of Pratt deck truss. Spans 5-6 and 10-11 are continuous over two spans, while Spans 7-9 are continuous over three spans. In the truss spans, the diagonals and verticals consist of rolled members and the upper and lower chords consist of built-up box sections. The floor beams consist of rolled members and the cantilevered floor beam extensions consist of welded plates. In the truss spans, sway bracing, and lower lateral bracing are riveted to gusset plates at even-numbered panel points. In girder spans, cross-frame and lower lateral bracing spacing varies due to the curved geometry. A reinforced concrete deck, with a roadway width of 56'-4", carries four lanes of traffic across the structure. A sidewalk with a width of 10'-8" carries pedestrian traffic on the south side of the structure. The Rear Abutment (Abutment 1) and the Forward Abutment (Abutment 18) are wall type substructures. All piers (Piers 2-17) are cap and column substructures.

The bridge follows a west to east stationing. Girders and truss lines are labeled north, center, and south. Floor beams are numbered from west to east and re-cycle at the beginning of each continuous span. Appendix C contains select plan sheets for HAM-50-2180N.

HAM-50-2181N

HAM-50-2181N carries a one lane ramp from westbound Columbia Parkway to southbound Interstate 471 over a parking area and a sidewalk. The bridge was constructed in 1978 and is a 3-span bridge consisting of (2) 3-girder spans and (1) 1-girder span that widens span 3 of the existing Columbia Parkway Viaduct (HAM-50-2080N). The bridge has a reinforced concrete deck that is supported by continuous steel girders resting on reinforced concrete piers. The structure is 194 ft long and has a 25 ft wide deck. In 2001 the structure was rehabilitated, receiving a deck overlay, steel painting, and other structure repairs.

The spans and substructure units are numbered from North to South. Spans 1 and 2 consist of the full-width 3-girder steel spans, and Span 3 consists of the 1 girder modification to Span 3 of HAM-50-2180N. The girders are labeled east, center, and west. Appendix D contains the site plan for HAM-50-2181N.

1.4. Fracture Critical Member Locations

Bridge HAM-50-2080N contains fractural critical girders in the approach spans (Spans 1-4 and Spans 12-17), and fracture critical truss tension members in Spans 5-11. The locations of these members can be seen in Appendix E. Bridge HAM-50-2081N contains fracture critical

girders in all three spans (Spans 1-3). Per ODOT’s direction, the girders are considered fracture critical, and the floor beams are not; this applies to both the truss spans and the girder spans. The locations of these members can be seen in Appendix F.

2. INSPECTION METHODS & PLAN

The AECOM Team will perform inspections as defined by the Scope of Services. The inspection will adhere to the relevant AECOM safety procedures. Traffic control will be provided by Intech Contracting according to the traffic control plans shown in Appendix B. Traffic control for the use of the ODOT snooper will be provided by ODOT as stated in the Scope of Services.

The superstructure including all truss web members, upper chord, lower chord, floor system and the piers for HAM–50-2180N and HAM-50-2181N will be accessed using a combination of the ODOT Snooper, manlift, rope access and structure climbing, and ladders. Permission from the parking lot operators will be obtained prior to accessing the parking lots below the structures. The contact information for the parking lot owners and operators is listed below.

Address	Location	Owner	Operator Contact Information
421 Butler St.	Under HAM-2181N west of Butler St.	City of Cincinnati 801 Plum St Room 122 Cincinnati, OH 45202	Jay Hollmeyer Park Place at Lytle 513-751-5040
421 Culvert St.	Under HAM-2180N between Butler St. and Culvert St.	Gray, Gilbert L 529 E 5 th St Cincinnati, OH 45202	Jay Hollmeyer Park Place at Lytle 513-751-5040
404 Culvert St.	Under HAM-2180N between Culvert St. and Eggleston Ave.	City of Cincinnati 801 Plum St Room 122 Cincinnati, OH 45202	Amy Pangallo ABM Parking 513-241-0629 amy.pangallo@abm.com (Email is preferred)

2.1. Field Coordination Contacts

AECOM - Field Team Contacts:

Travis Baker, P.E.: Team Leader, Project Manager D: 513-419-3404
C: 513-266-9344

Kyle Compton, P.E.: Team Leader D: 513-419-3422
C: 513-255-7862

ODOT - Project and Permitting Contacts:

(A lane closure permit through ODOT District 8 is required. See Appendix A.)

Brandon Collett: Project Manager O: 513-933-6643
brandon.collett@dot.ohio.gov

Scott Kraus: District Work Zone Traffic Manager O: 513-933-6519
scott.kraus@dot.ohio.gov

Chris Bass: Right-of-Way Use Permits O: 513-933-6577
christopher.bass@dot.ohio.gov

City of Cincinnati - Permitting Contacts:

(A lane closure permit through the City of Cincinnati is required. See Appendix A. Work performed on City owned property will be done so within ODOT easements therefore no right-of-entry permit is required.)

DOTe Permit & License Center O: 513-352-3463
row.permits@cincinnati-oh.gov F: 513-352-5397

Intech Contracting (Intech) - Traffic Control Team Contacts:

Andrea Ohlson: Bridge Inspection Support Services O: 859-272-0352 ext. 14
Coordinator
Bill Debord: Bridge Inspection Support Services C: 606-669-2223
Foreman

2.2. Traffic Control

Intech will be responsible for the installation of traffic control devices for the maintenance of traffic for ramp and lane closures on Interstate 471, US 50, 5th Street, Eggleston Avenue, Columbia Parkway, and Culvert Street. The closures and applicable detours are shown in the table and figures in Appendix B.

2.3. Follow-up Procedure for Inspection Findings

Critical inspection findings will be reported to the District upon discovery and will be documented in the final inspection report. All other inspection findings shall be documented in the final inspection report.

2.4. Quality Control and Quality Assurance

AECOM's Technical Quality Review Procedure - DCS (Procedure No. Q2[DCS]-351-PR1) will be followed. The team leaders for this inspection 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."

2.5. Special Considerations

Based on the items discussed during the scoping meeting and in the previous inspection reports, the following will receive special consideration:

- Section loss on truss members and gusset plates on HAM-50-2080N
- Out-of-plane bowing of gusset plates on HAM-50-2080N
- Loose concrete at the haunches on HAM-50-2080N

- Erosion and undermining of substructure units at piers 12-15 on HAM-50-2080N
- Flame cuts on bottom flange of girders in Spans 13, 14, and 15 of HAM-50-2080N
- Unsanitary conditions around substructure units
- Any small delaminations found over public areas during inspections shall be removed on-site with a hammer. ODOT shall be notified of larger spalls and may remove them during the inspection.

Appendix A:

Lane Closure Permit Applications

MR 509
Permit No. 22-13505

Office Use Only

State of Ohio
Department of Transportation
Permit

County or Jurisdiction HAM
Rte IR471
Log Pt 0.27-0.31
Acc Cat

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

Name: AECOM
Address: 525 Vine St. Ste. 1800 Cincinnati OH 45202
Company Phone: 513-419-3404

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: Lane closures to facilitate inspection of Columbia Pkwy (US50) bridge over I-471 and other local streets. Start and end dates are tentative and will be adjusted as needed to coordinate and avoid conflicts with the planned closure of the NB 471 circle ramp to WB US 50 for construction in June. See attached for additional information.

[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

Chris Bass
chris.bass@dot.ohio.gov

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 10/30/2022

Dated 04/29/2022

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:

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Transportation & Engineering Permit

Permit No.: TPZ2203804

City of Cincinnati
Department of Transportation & Engineering
Division of Engineering
Permit & License Center
Phone: 1-513-352-3463
Fax: 1-513-352-5397

Permit Type: *Street Blocking/Use Pmt
SAFETY CLOSURE*

This permit is valid for work starting
05/20/2022 and void after 06/30/2022

Plans Attached? N

Permittee:
AECOM

Contact: TRAVIS BARKER
513-419-3404

24-Hours:

Insp: BILL REDWINE
District: 1 - C.B.D.

Location: 266 EGGLESTON AV, EGGLESTON AV

Work Street: EGGLESTON AV

From Street: EGGLESTON AV

To Street: EGGLESTON AV

Work Order No.:

This Permit has been granted to do the following: EGGLESTON AV - SAFETY CLOSURE

Street Area Impacted: Overall Length: 0 Overall Width: 0

Special Notes:

1: PERMIT TO BLOCK LANES / SIDEWALK ALONG THE FOLLOWING STREETS FOR BIDGE INSPECTION:

CULVERT
BUTLER
EGGLESTON
MONASTERY

2: No work can be performed during the peak traffic periods of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, Monday thru Friday.

3: Maintain access to abutting property owners at all times.

4: All maintenance of traffic shall be performed in accordance with Item 614 "Maintenance of Traffic", as provided in the State of Ohio, Department of Transportation "Construction and Materials Specifications" (ODOTCMS) and the City of Cincinnati Supplement to the ODOTCMS and the requirements for maintaining traffic in the "Ohio Manual of Uniform Traffic Control Devices" (OMUTCD). The City of Cincinnati's "Traffic Safety Handbook" may be used as a supplement to the OMUTCD. Advanced Warning Signs, Reflective Cones and Arrow Boards where applicable, shall be the responsibility of the permittee to comply. Approval of this permit DOES NOT RELIEVE THE PERMITTEE of that responsibility.

5: The permitted equipment must be placed/removed daily in accordance with the posted parking and traffic control signs (including time restrictions) unless otherwise stated on this permit, at least 15 feet clear of the nearest fire hydrant and 50 feet clear of the nearest intersection. Permittee is cautioned regarding damage to street paving and facilities.

6: The permitted equipment must have company identification and meet City Public Works specifications for reflectivity at all times especially if the equipment will be used during nighttime hours. Construction barrels are required if the equipment does not comply with the city's reflectivity requirements. A sufficient number of barrels must be placed in advance of the equipment, immediately next to each other for the full width of the portion of roadway or the traffic lane that is blocked by the equipment. The approaching traffic must be able to see the barrels.

7: Notify METRO Dispatch at 513-632-7550 for any work near a bus stop.

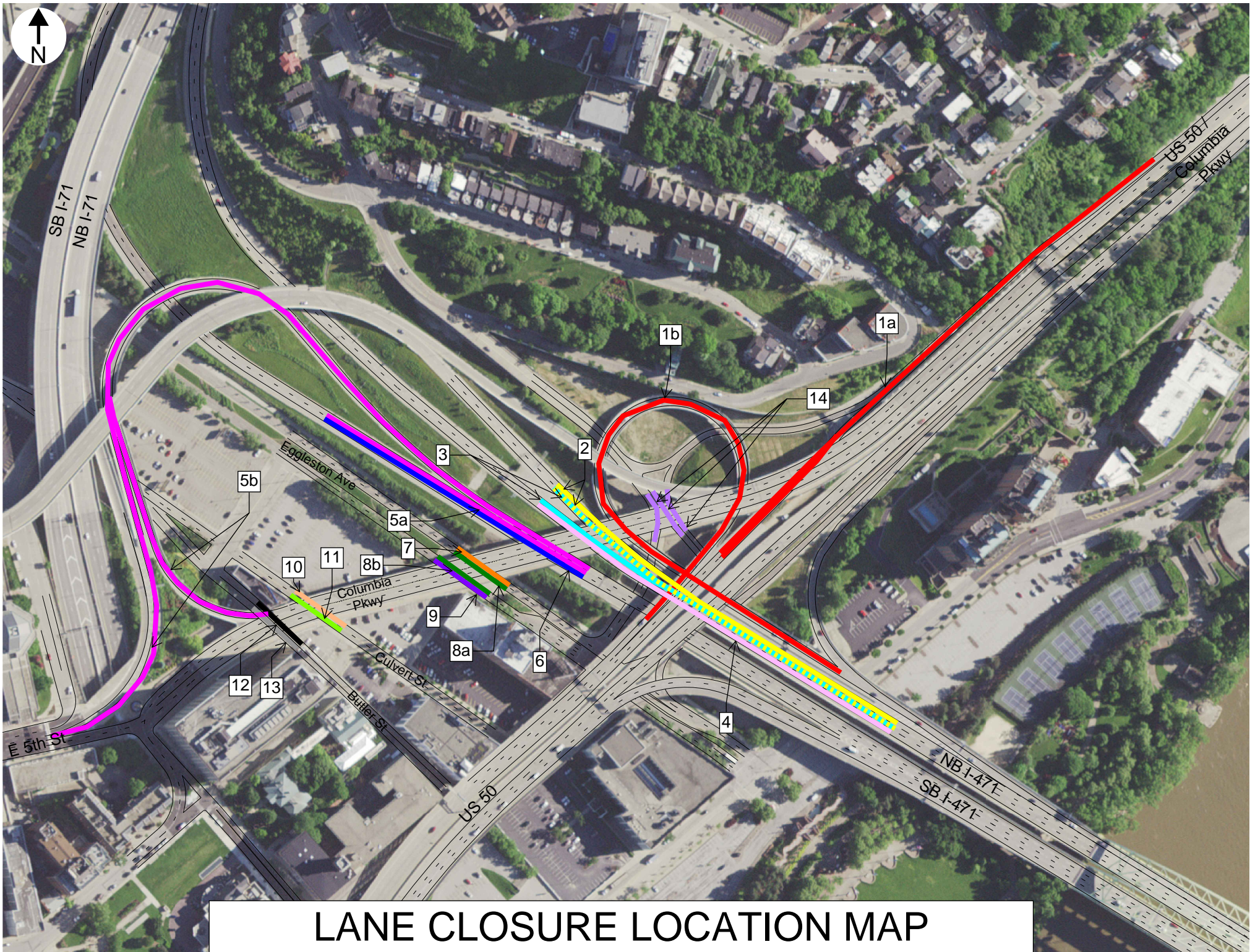
8: Requests for temporary parking restrictions must be made at the police district in which the requested restriction is geographically

Appendix B:

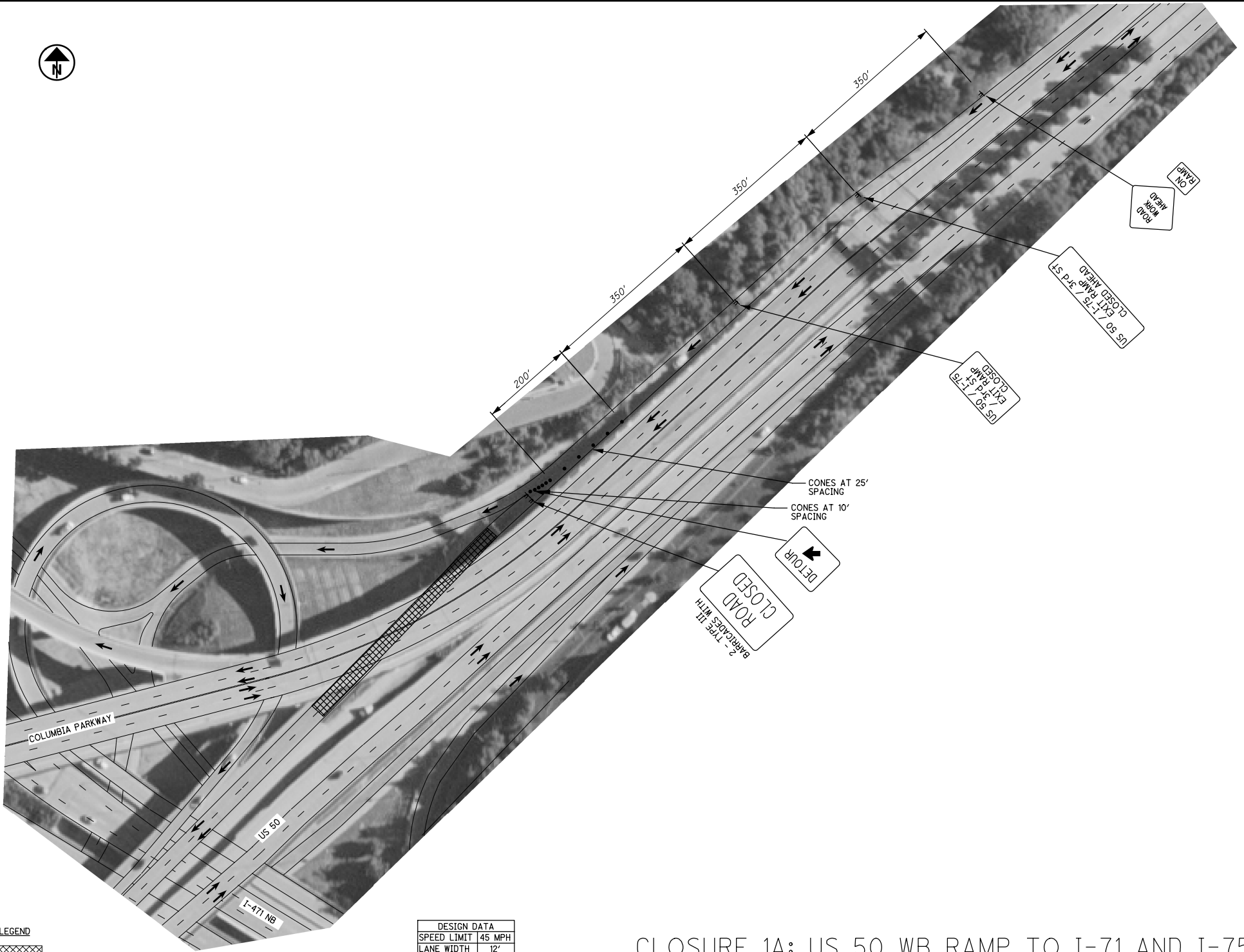
Traffic Control Details

Label	Date & Time	Closure	Traffic Control	Detour	Color
1a	9/12, 10pm-6am	US-50 WB ramp to I-71 SB and I-75	Ramp Closure	US-50 WB ramp to Eggleston Ave to Reading Rd to Eden Park Dr. to I-71 SB on-ramp	Red
1b		I-471 NB ramp to US 50 WB and I-71 SB	Ramp Closure	I-471 NB to I-71 NB to Exit 2 (Reading Rd Eden Park Dr.) to Reading Rd to Eden Park Dr to I-71 SB on-ramp	
2	9/13, 10pm-6am	Both lanes of I-471 NB ramp to 6th St.	Ramp Closure	I-471 NB to Exit 6A (3rd St.) to 3rd St. to Main St. to 6th St.	Yellow
3	9/14, 10pm-6am	Right lane of I-471 NB and left lane of I-471 NB ramp to 6th St.	Single Lane Closure	N/A	Cyan
4	9/14, 10pm-6am	Left lane of I-471 NB	Single Lane Closure	N/A	Pink
5a	9/15, 10pm-6am	Left lane of I-471 SB	Single Lane Closure	N/A	Magenta
5b		Ramp from E. 5th St. and US-50 WB to I-471 SB	Ramp Closure	Ramp to I-71 NB to Exit 2 (Reading Rd Eden Park Dr.) to Reading Rd to Eden Park Dr. to I-71 SB on-ramp	
6	9/16, 10pm-6am	Right lane of I-471 SB	Single Lane Closure	N/A	Blue
7	9/12, 9am-4pm	Right lane of Eggleston NB	Single Lane Closure	N/A	Orange
8a	9/13, 9am-4pm	Left lane of Eggleston NB	Single Lane Closure	N/A	Green
8b		Left lane of Eggleston SB	Single Lane Closure	N/A	
9	9/14, 9am-4pm	Right lane of Eggleston SB	Single Lane Closure	N/A	Purple
10	9/15, 9am-4pm	NB Culvert St.	Flaggers	N/A	Tan
11	9/15, 9am-4pm	SB Culvert St.	Flaggers	N/A	Light Green
12	9/15, 9am-4pm	NB Butler St.	Flaggers	N/A	Black
13	9/15, 9am-4pm	SB Butler St.	Flaggers	N/A	Gray
14	9/16, 9am-4pm	Monastery / E. 3rd St. / US-50 WB Off Ramp	Flaggers	N/A	Light Purple

Note: Closures labeled with letter suffixes (a, b, etc.) will occur simultaneously, while closures labeled with different numbers will occur independently.



LANE CLOSURE LOCATION MAP



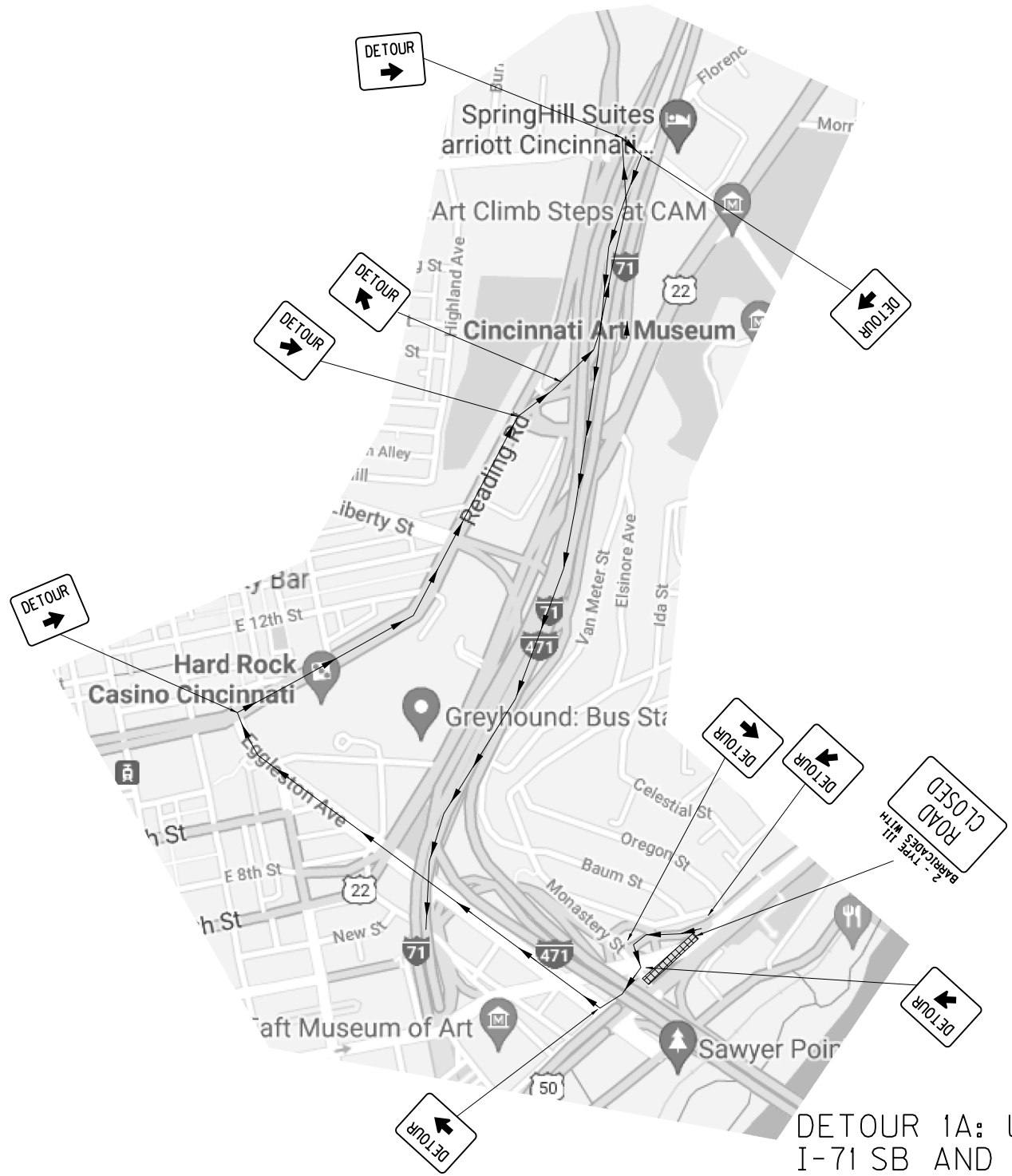
LEGEND



WORK ZONE AREA

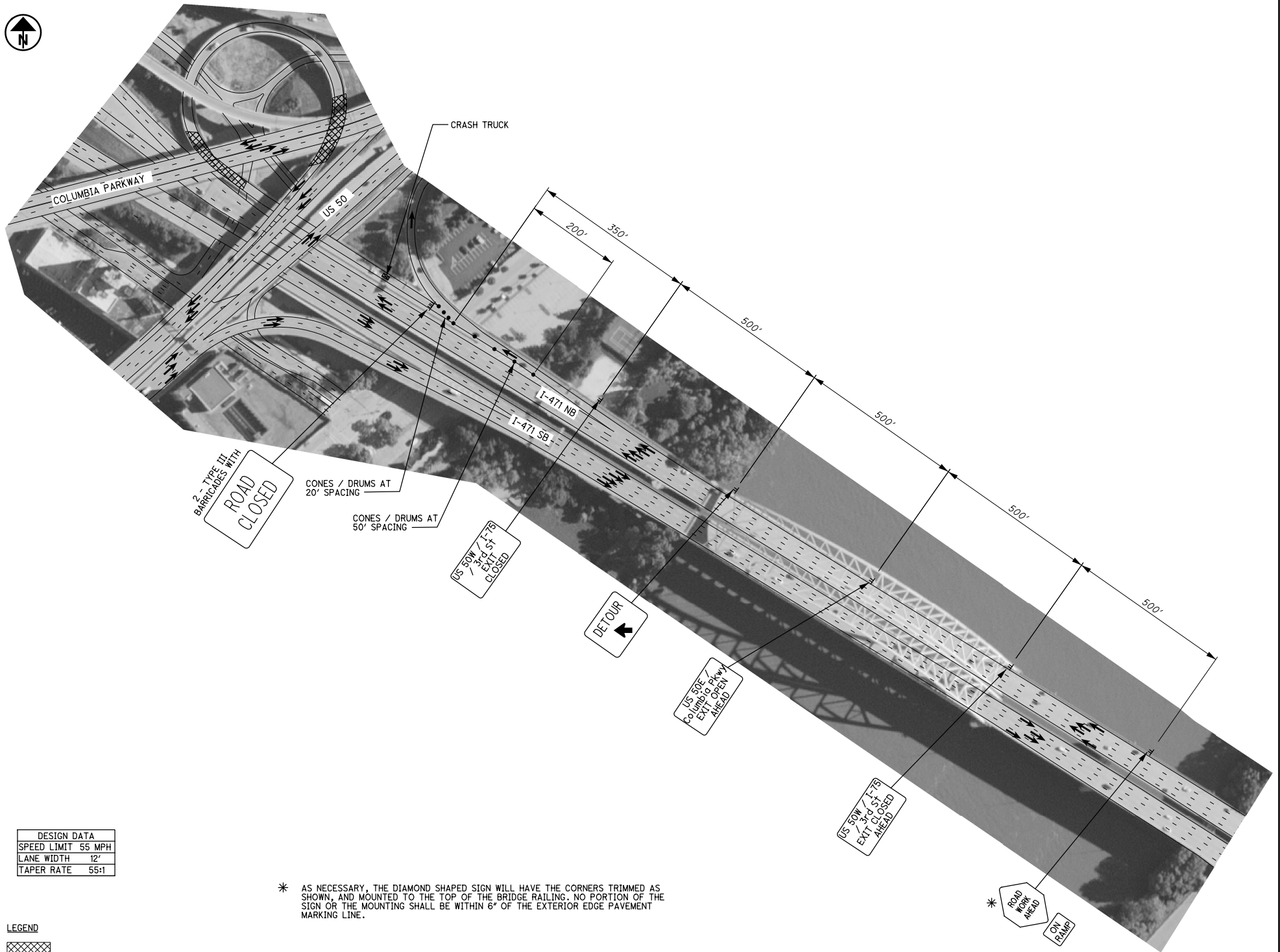
DESIGN DATA
SPEED LIMIT 45 MPH
LANE WIDTH 12'
TAPER RATE 45:1

CLOSURE 1A: US 50 WB RAMP TO I-71 AND I-75



LEGEND
WORK ZONE AREA

DETOUR 1A: US 50 WB RAMP TO I-71 SB AND I-75



DESIGN DATA	
SPEED LIMIT	55 MPH
LANE WIDTH	12'
TAPER RATE	55:1

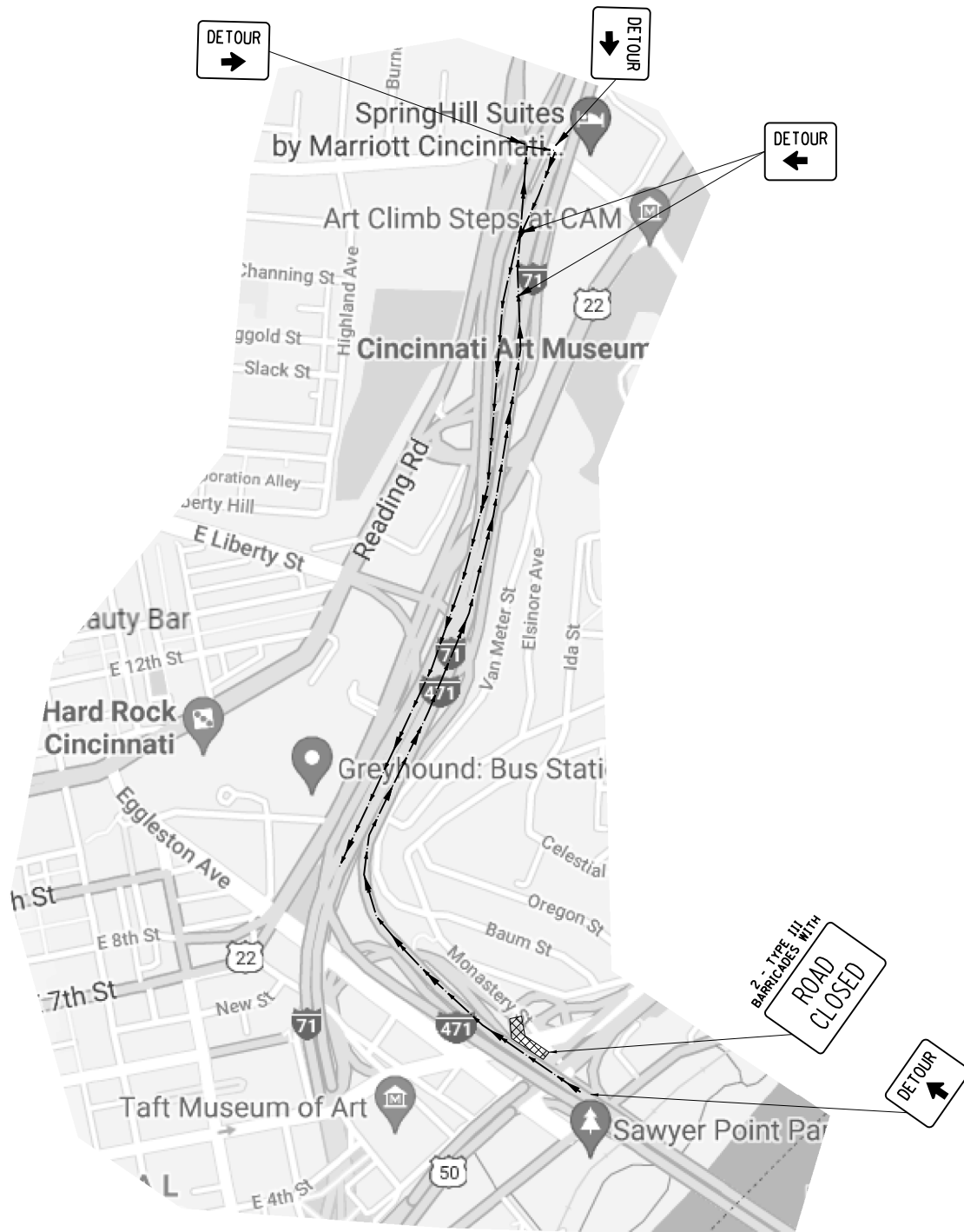
* AS NECESSARY, THE DIAMOND SHAPED SIGN WILL HAVE THE CORNERS TRIMMED AS SHOWN, AND MOUNTED TO THE TOP OF THE BRIDGE RAILING. NO PORTION OF THE SIGN OR THE MOUNTING SHALL BE WITHIN 6" OF THE EXTERIOR EDGE PAVEMENT MARKING LINE.

LEGEND



WORK ZONE AREA

CLOSURE 1B: I-471 NB RAMP TO US 50 WB AND I-71 SB

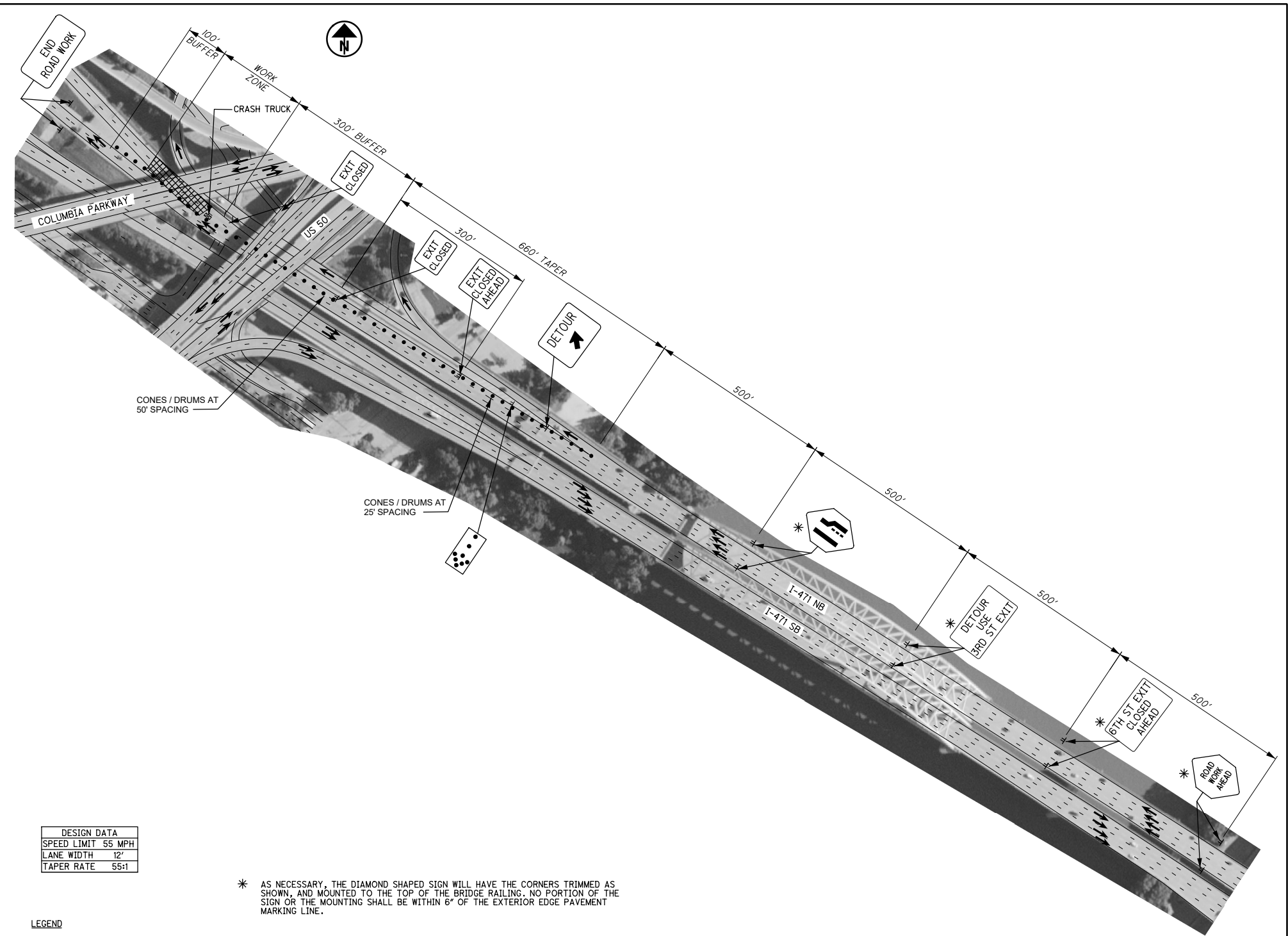


LEGEND



WORK ZONE AREA

DETOUR 1B: I-471 NB RAMP TO US 50 WB AND I71 SB



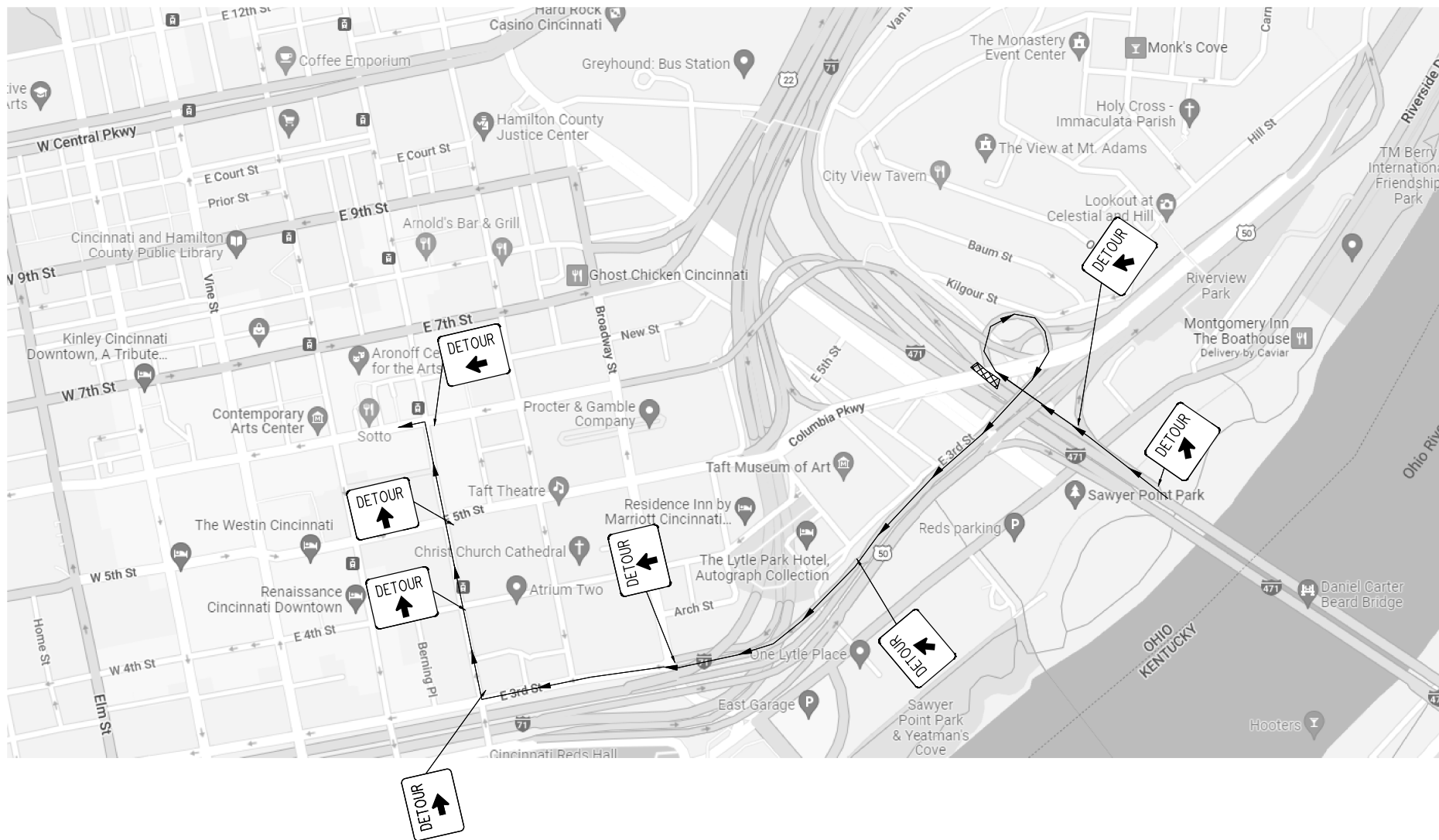
DESIGN DATA
SPEED LIMIT 55 MPH
LANE WIDTH 12'
TAPER RATE 55:1

* AS NECESSARY, THE DIAMOND SHAPED SIGN WILL HAVE THE CORNERS TRIMMED AS SHOWN, AND MOUNTED TO THE TOP OF THE BRIDGE RAILING. NO PORTION OF THE SIGN OR THE MOUNTING SHALL BE WITHIN 6" OF THE EXTERIOR EDGE PAVEMENT MARKING LINE.

LEGEND

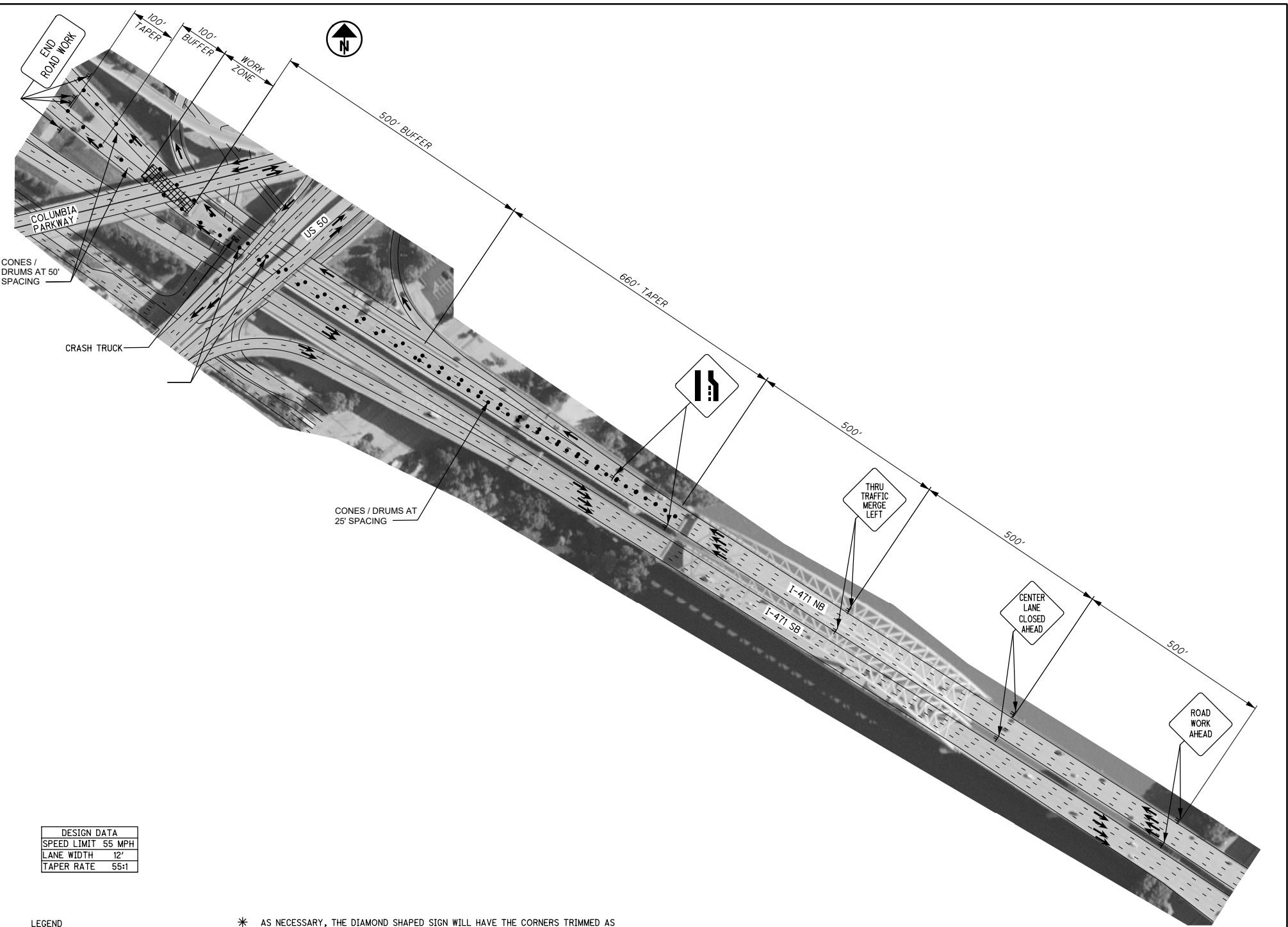


CLOSURE 2: BOTH LANES OF I-471 NB RAMP TO 6TH ST



LEGEND
WORK ZONE AREA

DETOUR 2: I-471 NB RAMP TO 6TH ST



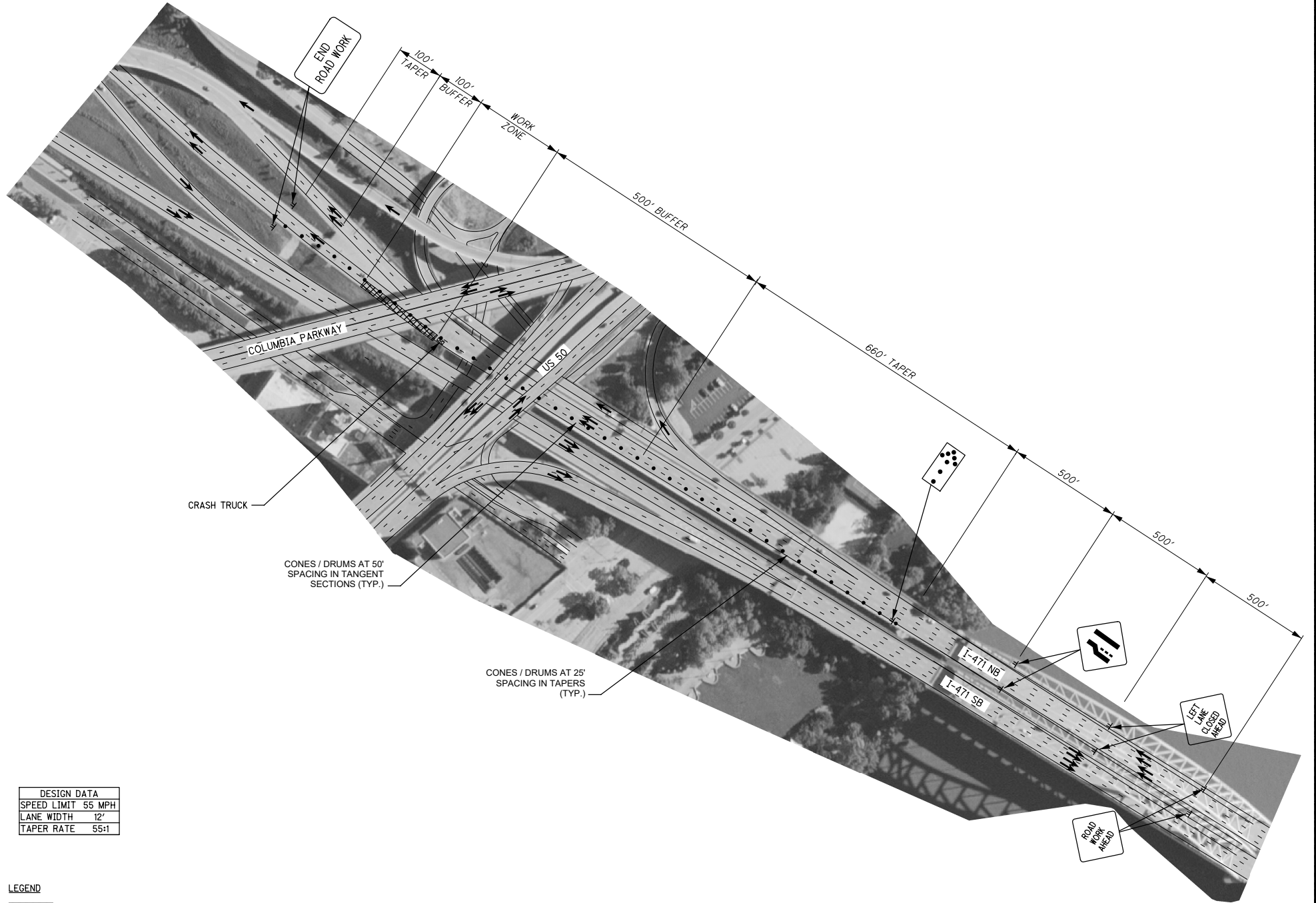
DESIGN DATA	
SPEED LIMIT	55 MPH
LANE WIDTH	12'
TAPER RATE	55:1

LEGEND



* AS NECESSARY, THE DIAMOND SHAPED SIGN WILL HAVE THE CORNERS TRIMMED AS SHOWN, AND MOUNTED TO THE TOP OF THE BRIDGE RAILING. NO PORTION OF THE SIGN OR THE MOUNTING SHALL BE WITHIN 6" OF THE EXTERIOR EDGE PAVEMENT MARKING LINE.

CLOSURE 3: RIGHT LANE OF I-471 NB AND LEFT LANE OF I-471 RAMP TO 6TH ST

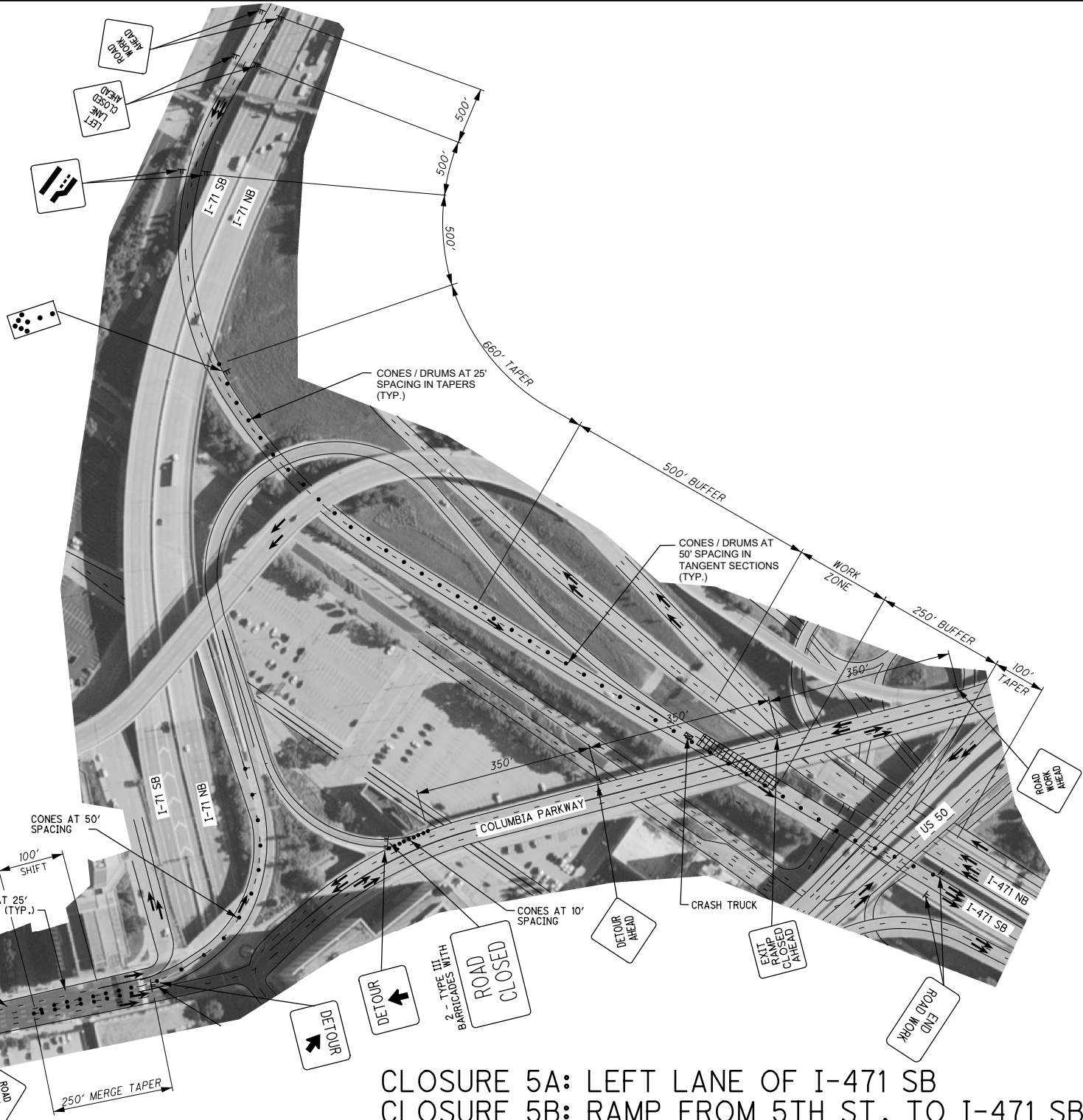


DESIGN DATA
SPEED LIMIT 55 MPH
LANE WIDTH 12'
TAPER RATE 55:1

LEGEND

 WORK ZONE AREA

CLOSURE 4: LEFT LANE I-471 NB



DESIGN DATA	
SPEED LIMIT	55 MPH
LANE WIDTH	12'
TAPER RATE	55:1

DESIGN DATA	
SPEED LIMIT	35 MPH
LANE WIDTH	12'
TAPER RATE	21:1

DESIGN DATA	
SPEED LIMIT	25 MPH
LANE WIDTH	12'
TAPER RATE	11:1

LEGEND

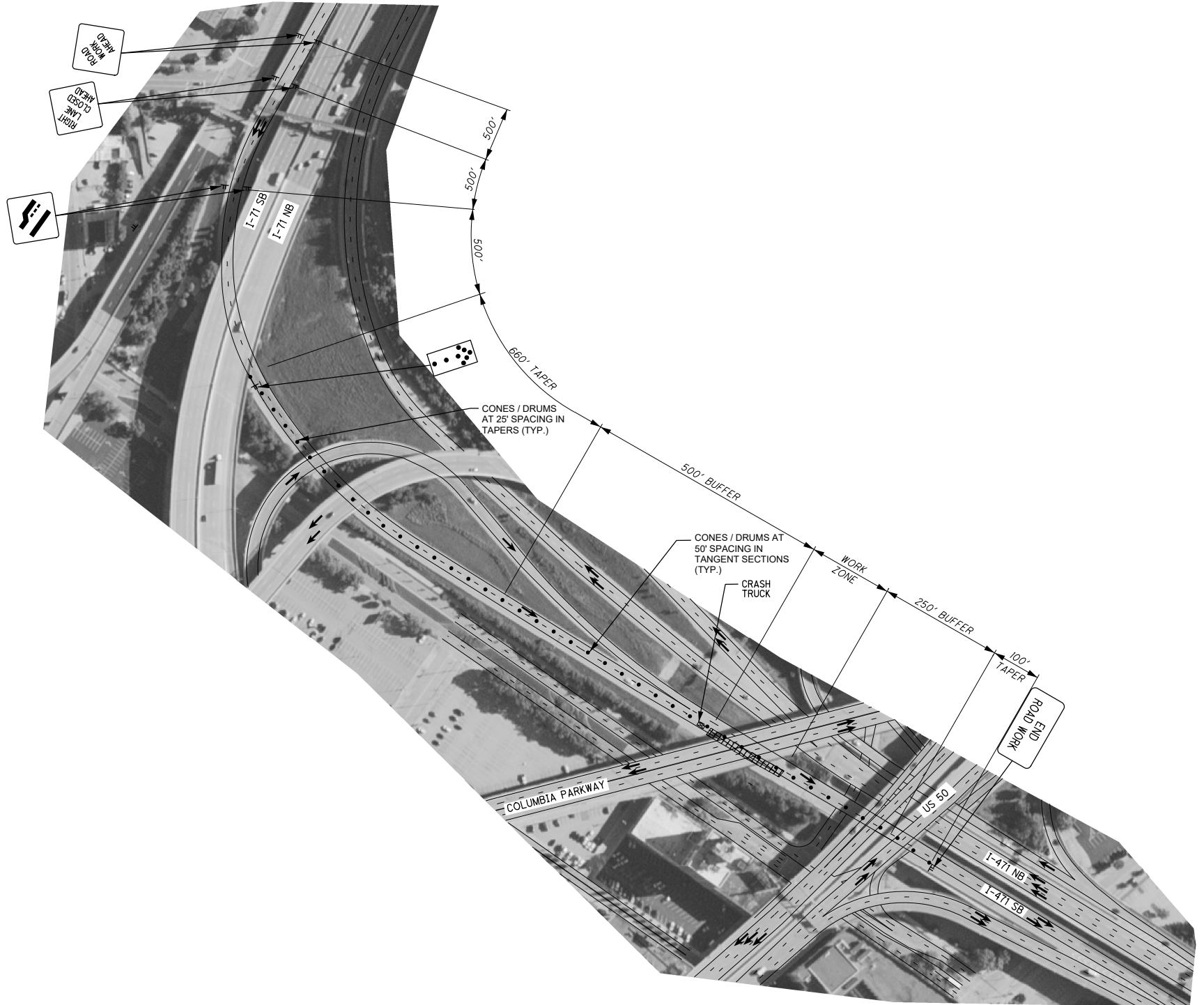


WORK ZONE AREA

CLOSURE 5A: LEFT LANE OF I-471 SB
 CLOSURE 5B: RAMP FROM 5TH ST. TO I-471 SB



DETOUR 5B: 5TH ST. RAMP TO I-471 SB



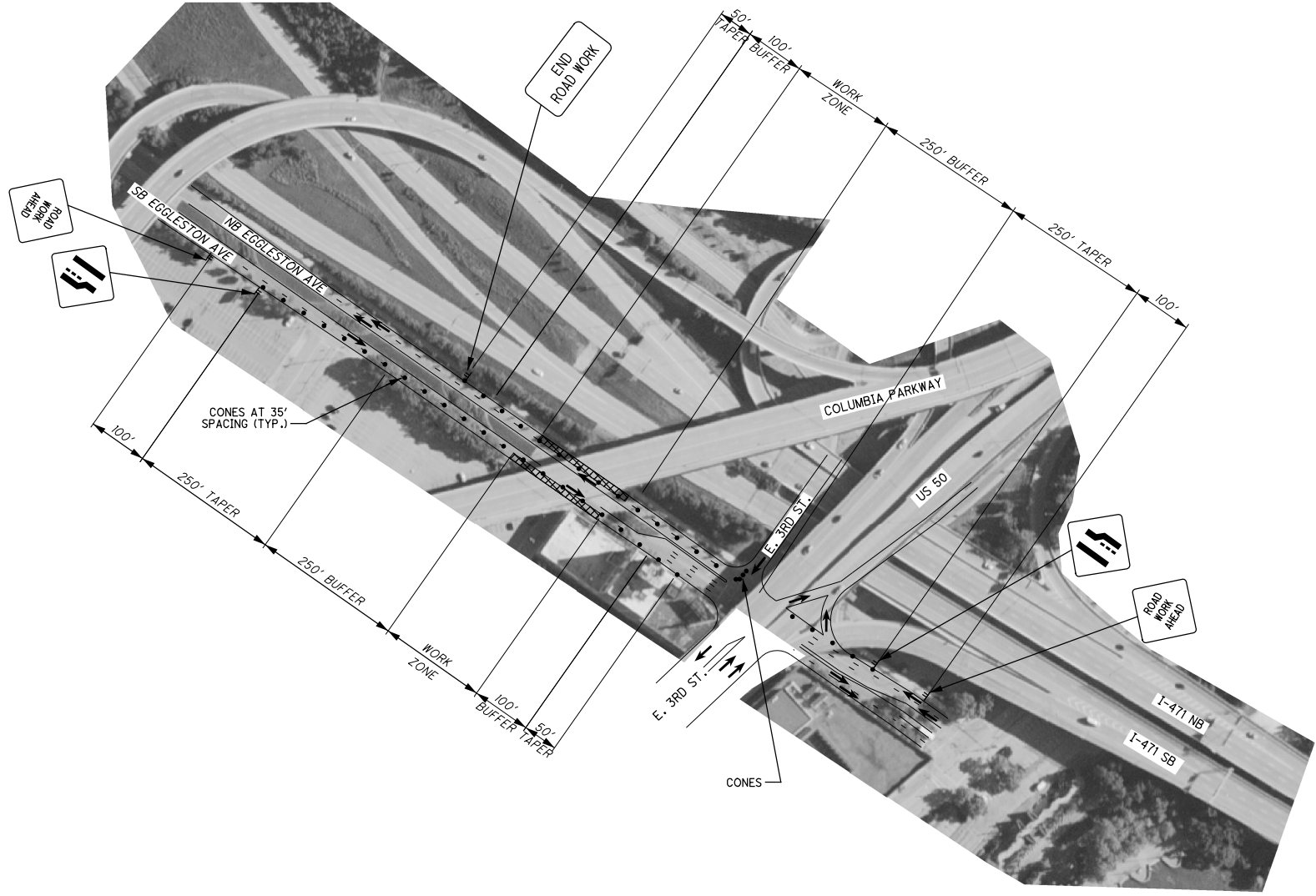
DESIGN DATA	
SPEED LIMIT	55 MPH
LANE WIDTH	12'
TAPER RATE	55:1

LEGEND



WORK ZONE AREA

CLOSURE 6: RIGHT LANE OF I-471 SB

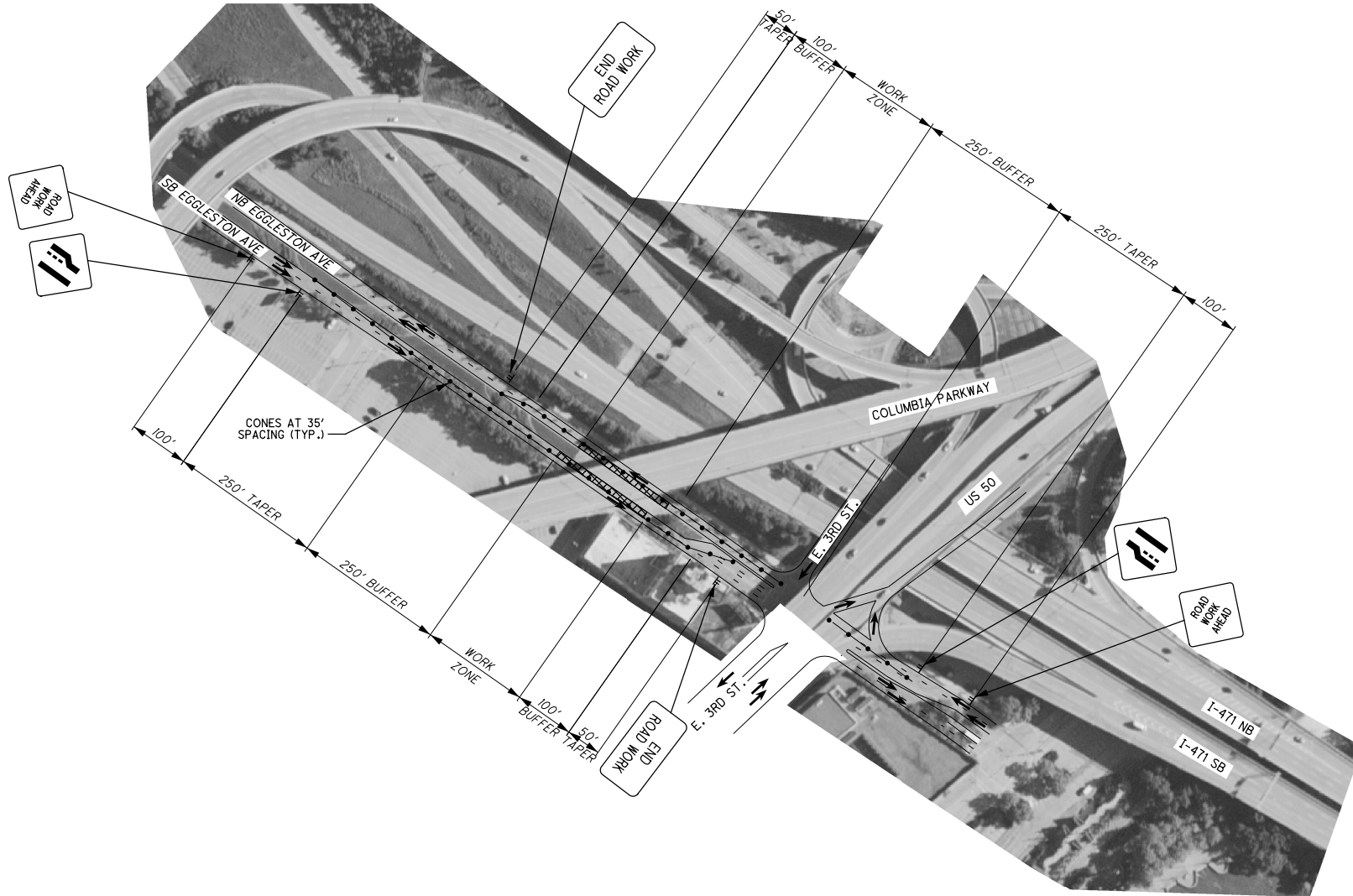


DESIGN DATA	
SPEED LIMIT	35 MPH
LANE WIDTH	12'
TAPER RATE	2:1

LEGEND



CLOSURE 7: RIGHT LANE OF EGGLESTON NB
CLOSURE 9: RIGHT LANE OF EGGLESTON SB



DESIGN DATA	
SPEED LIMIT	35 MPH
LANE WIDTH	12'
TAPER RATE	21:1

LEGEND



CLOSURE 8A: LEFT LANE OF EGGLESTON NB
CLOSURE 8B: LEFT LANE OF EGGLESTON SB

Appendix C:

Select Plan Sheets for HAM-50-2180N

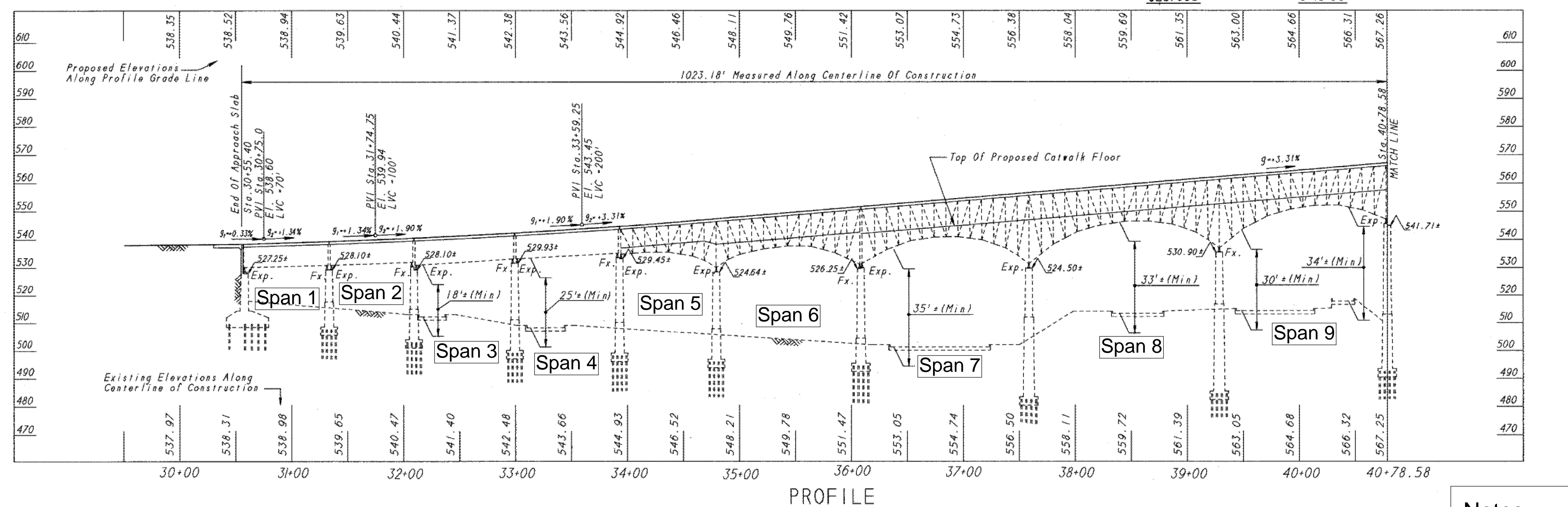
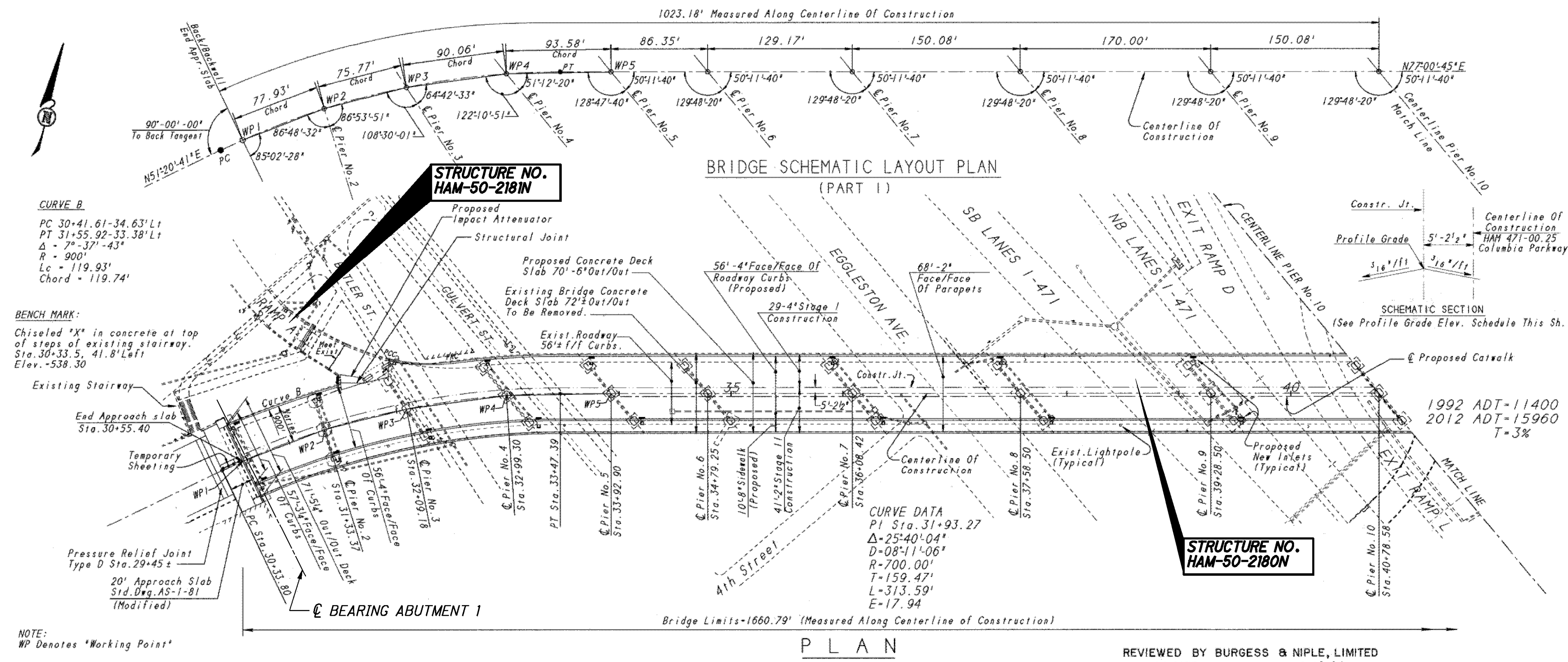
F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

HAM-471-00.25

LOCATION	STATION, OFFSET	ELEVATION
BEGIN BRIDGE	30+55.24, 5.21' LT	538.55
PIER NO. 2	31+33.37, 5.21' LT	539.39
PIER NO. 3	32+07.13, 5.21' LT	540.57
PIER NO. 4	32+95.57, 5.21' LT	542.29
PIER NO. 5	33+88.56, 5.21' LT	544.60
PIER NO. 6	34+74.91, 5.21' LT	547.28
PIER NO. 7	36+04.08, 5.21' LT	551.55
PIER NO. 8	37+54.16, 5.21' LT	556.52
PIER NO. 9	39+24.16, 5.21' LT	562.15
PIER NO. 10	40+74.24, 5.21' LT	567.12
PIER NO. 11	42+03.41, 5.21' LT	571.39
PIER NO. 12	42+89.91, 5.21' LT	574.25
PIER NO. 13	43+54.30, 5.21' LT	576.38
PIER NO. 14	44+36.95, 5.21' LT	579.12
PIER NO. 15	45+19.60, 5.21' LT	581.86
PIER NO. 16	45+84.60, 5.21' LT	584.01
PIER NO. 17	46+49.60, 5.21' LT	586.16
END BRIDGE	47+16.19, 5.21' LT	588.34

PROFILE GRADE ELEVATIONS SCHEDULE

LOCATION	STATION, OFFSET	ELEVATION
BEGIN BRIDGE	30+55.24, 5.21' LT	538.55
PIER NO. 2	31+33.37, 5.21' LT	539.39
PIER NO. 3	32+07.13, 5.21' LT	540.57
PIER NO. 4	32+95.57, 5.21' LT	542.29
PIER NO. 5	33+88.56, 5.21' LT	544.60
PIER NO. 6	34+74.91, 5.21' LT	547.28
PIER NO. 7	36+04.08, 5.21' LT	551.55
PIER NO. 8	37+54.16, 5.21' LT	556.52
PIER NO. 9	39+24.16, 5.21' LT	562.15
PIER NO. 10	40+74.24, 5.21' LT	567.12
PIER NO. 11	42+03.41, 5.21' LT	571.39
PIER NO. 12	42+89.91, 5.21' LT	574.25
PIER NO. 13	43+54.30, 5.21' LT	576.38
PIER NO. 14	44+36.95, 5.21' LT	579.12
PIER NO. 15	45+19.60, 5.21' LT	581.86
PIER NO. 16	45+84.60, 5.21' LT	584.01
PIER NO. 17	46+49.60, 5.21' LT	586.16
END BRIDGE	47+16.19, 5.21' LT	588.34



EXISTING STRUCTURE

TYPE: STEEL GIRDERS AND DECK TRUSSES WITH REINFORCED CONCRETE DECK SUPERSTRUCTURE ON REINFORCED CONCRETE SUBSTRUCTURE

SPANS: AS NOTED ON BRIDGE SCHEMATIC LAYOUT PLAN

ROADWAY: 56'-4"± CURB TO CURB WITH 10'-8"± SIDEWALK ON RIGHT SIDE

LOADING: HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING

SKEW: VARIES

ALIGNMENT: CURVE RIGHT 700'R, THEN TANGENT, THEN CURVE LEFT 850'R, THEN TANGENT

STRUCTURE FILE NUMBER: 3103390

DATE BUILT: 1938 ORIGINAL CONSTRUCTION, 1997 REHABILITATION

DISPOSITION: BRIDGE REHABILITATION

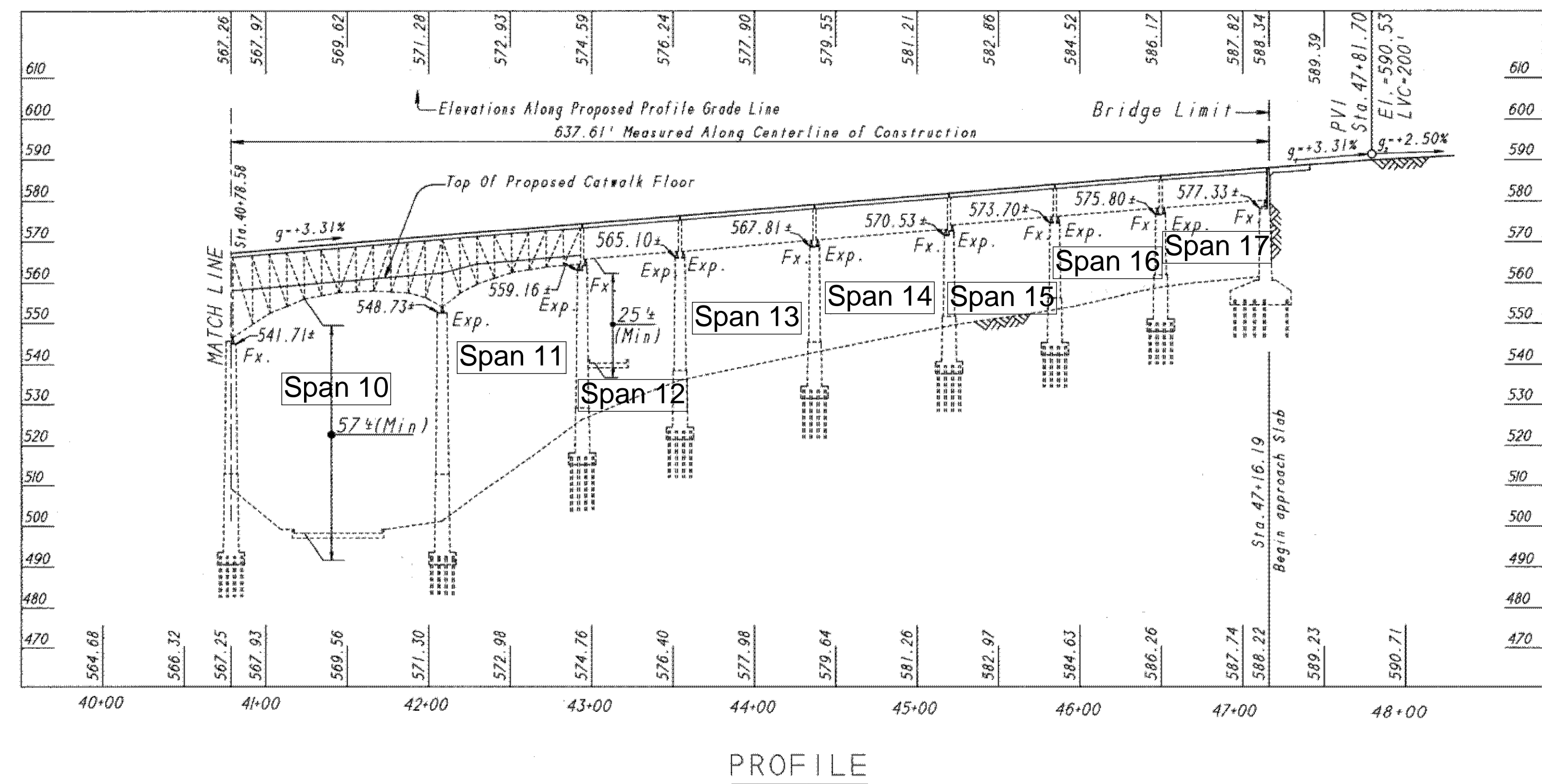
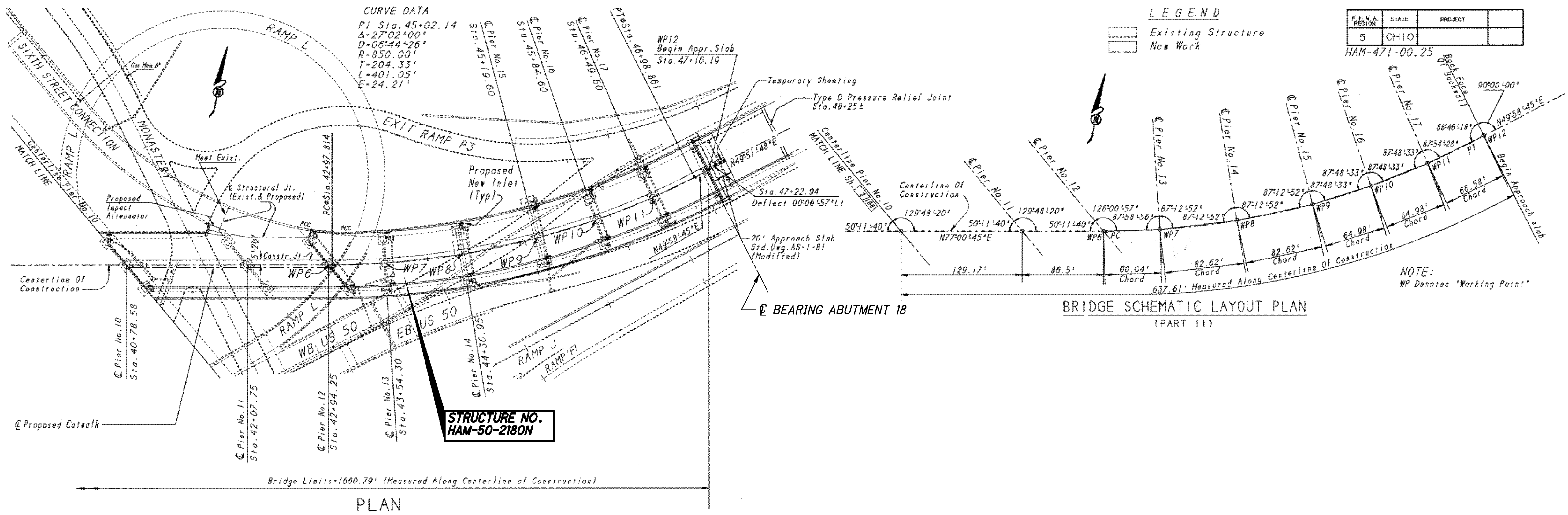
- Notes:**
- Image is taken from the 2016 Rehabilitation Drawings, Sheet 1 of 156, Site Plan (1 of 2) Bridge No. Ham-50-2180N (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.

919.39:SP001.dgn 10/7/2016 11:43:32 AM sfhamerschmidt

HAMILTON COUNTY
STA. 30+55.40
STA. 47+16.19

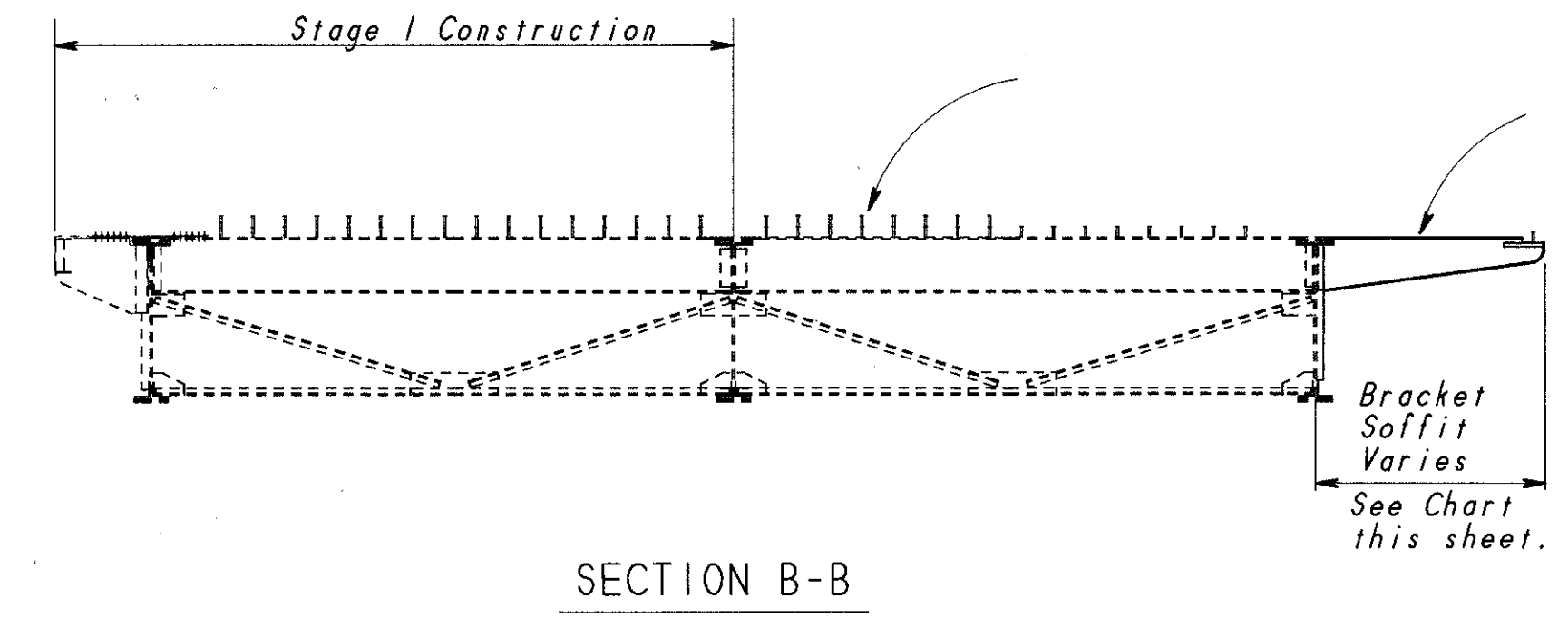
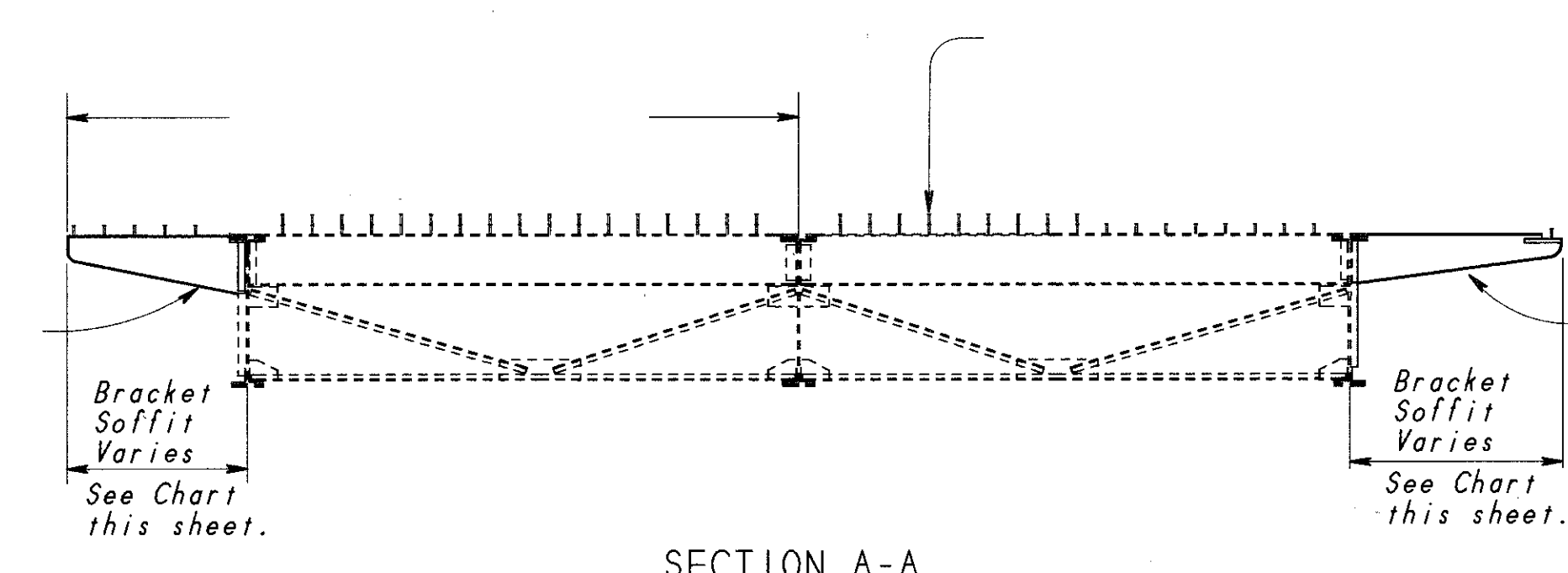
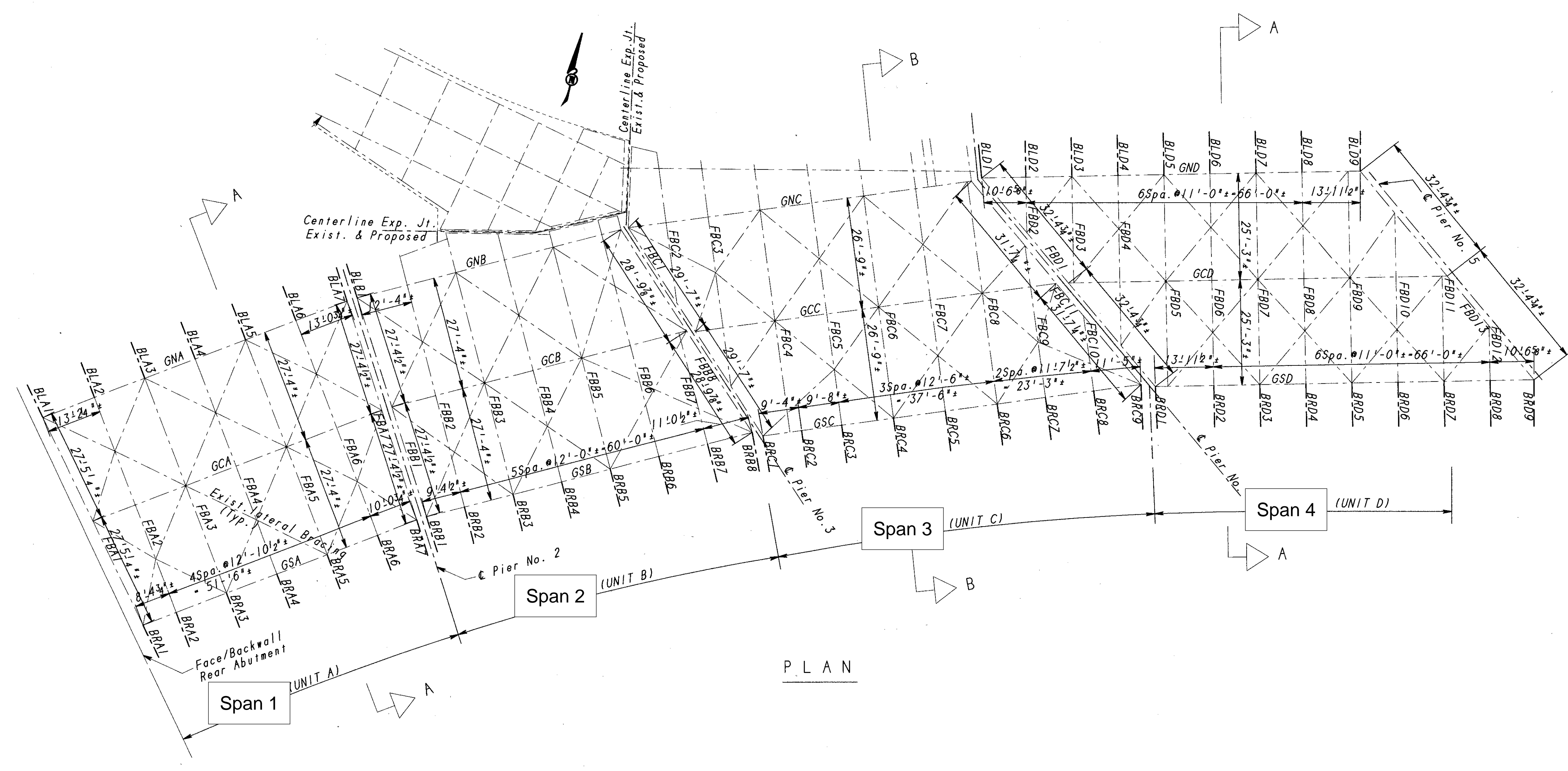
SITE PLAN (1 OF 2)
BRIDGE No. HAM-50-2180N
COLUMBIA PARKWAY VIADUCT OVER I-471

HAM-50-2180N



Notes:

- Image is taken from the 2016 Rehabilitation Drawings, Sheet 2 of 156, Site Plan (2 of 2) Bridge No. Ham-50-2180N (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.



LEGEND

- BLA1 - Bracket Left Unit A Number 1
- FBA1 - Floor Beam Unit A Number 1
- GNA - Girder North Unit A
- GCA - Girder Center Unit A
- GSA - Girder South Unit A
- BRA1 - Bracket Right Unit A Number 1

Existing Structure

Notes:

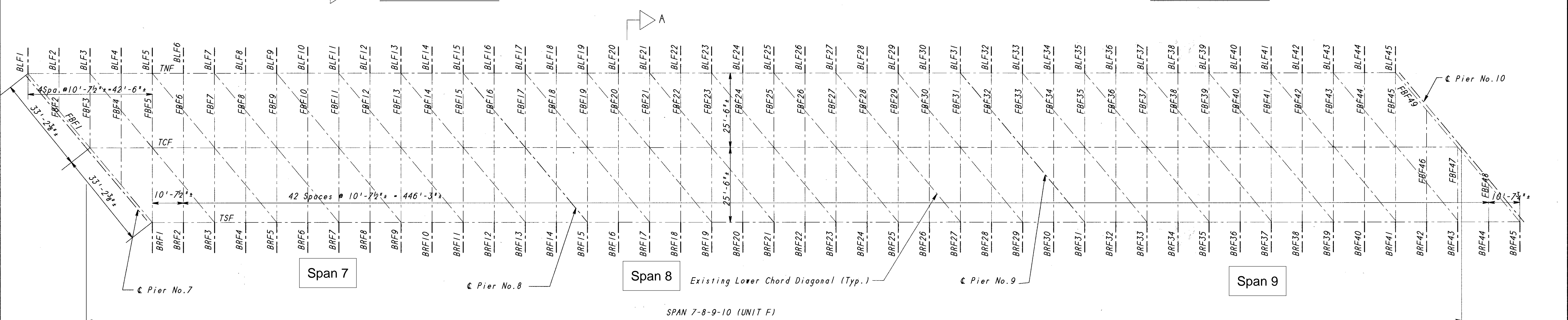
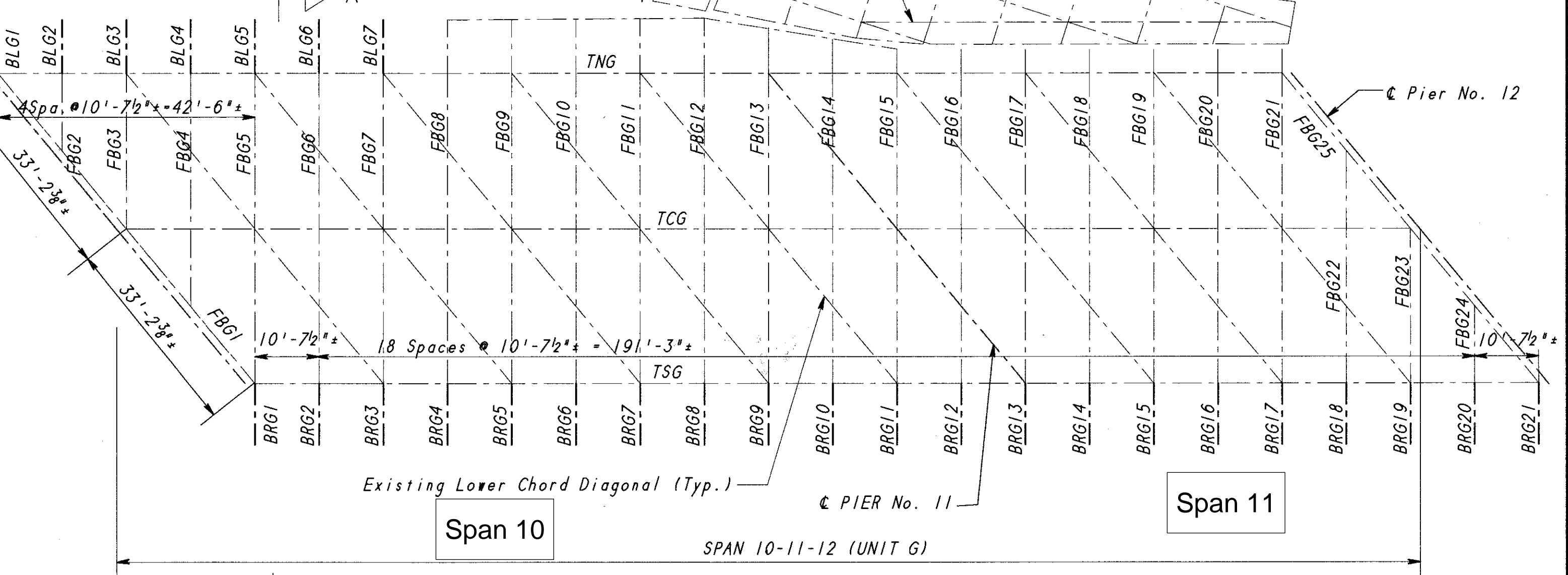
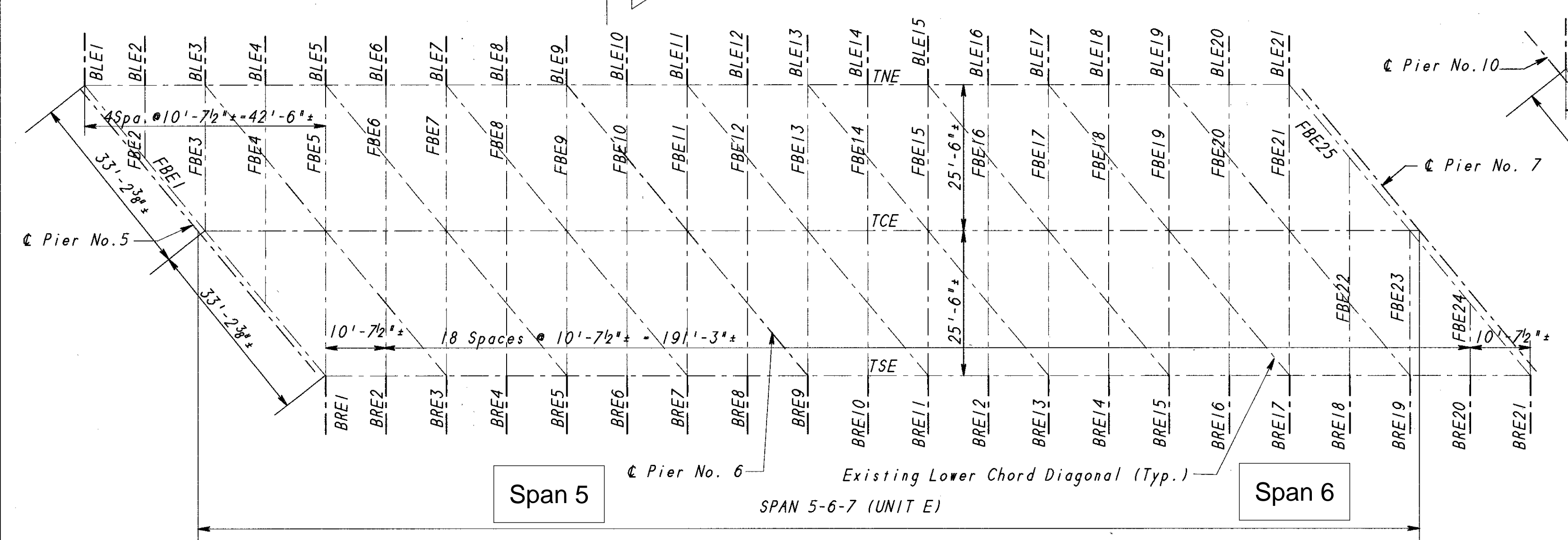
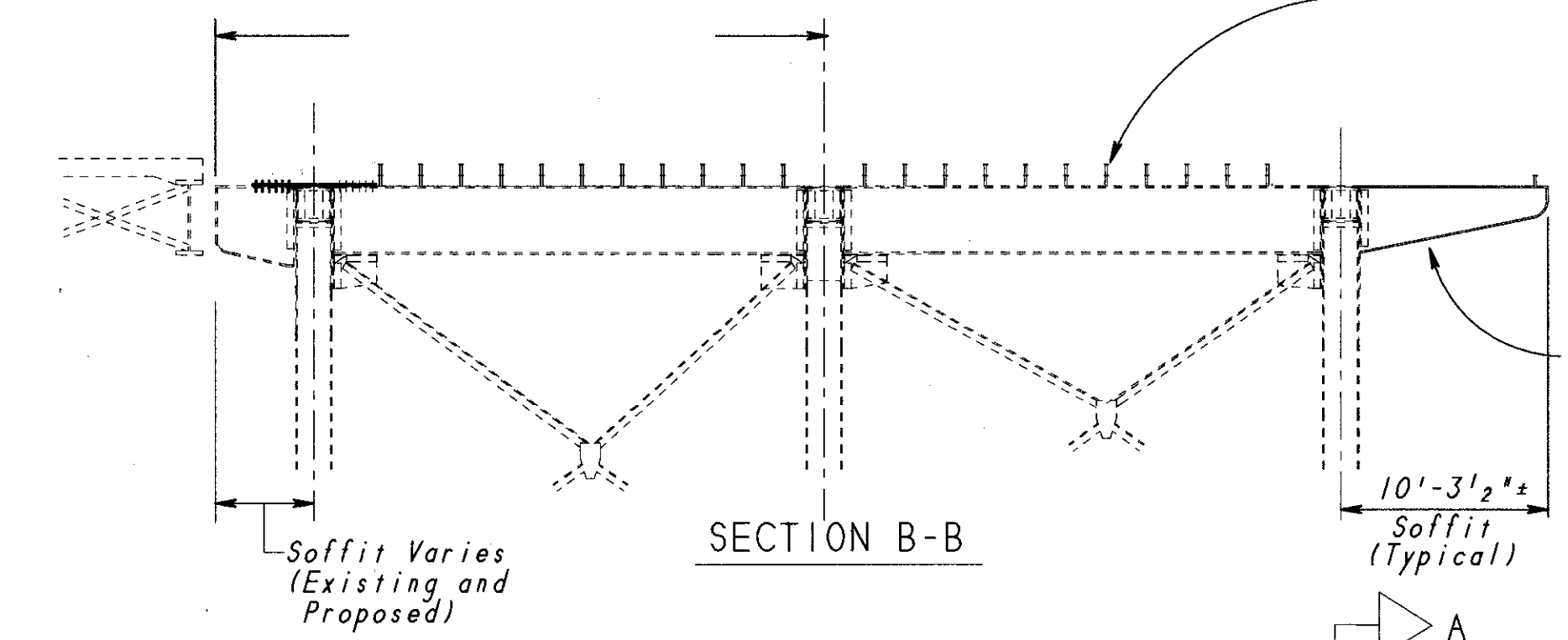
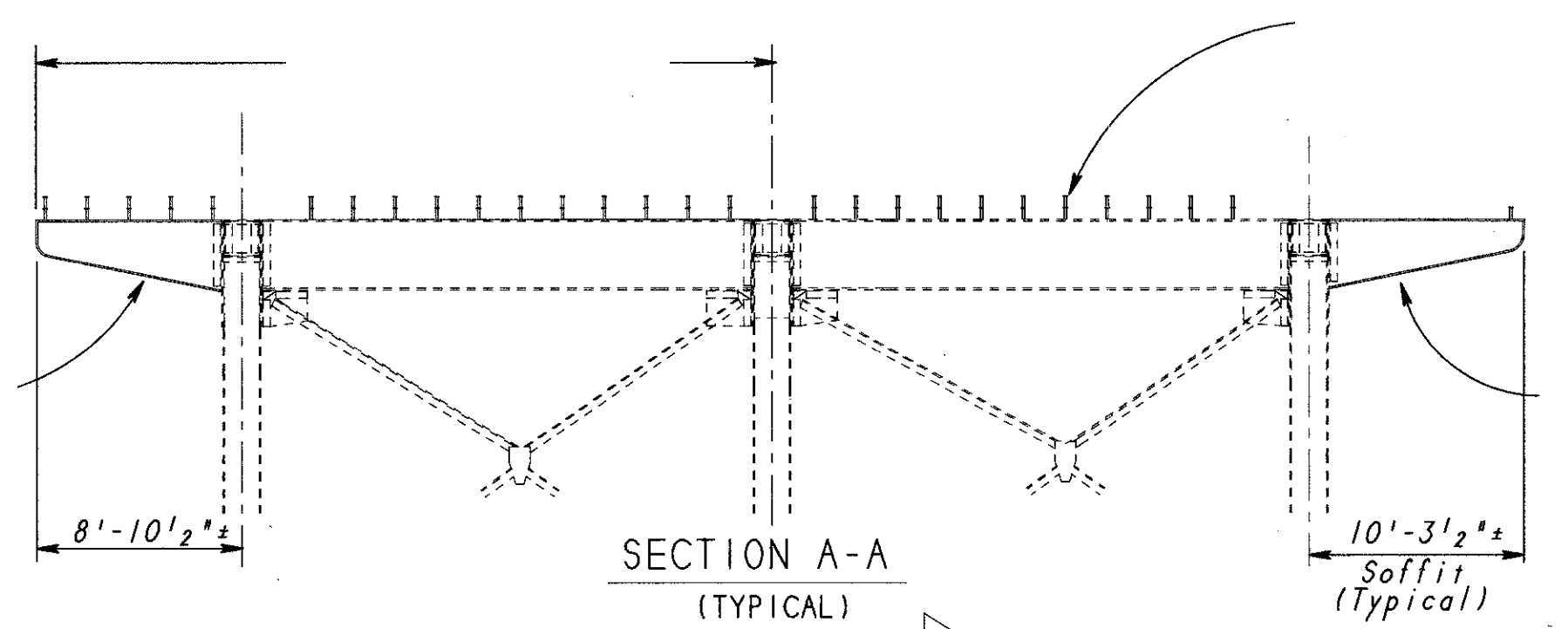
- Image is taken from the 1997 Rehabilitation Drawings, Sheet 115 of 182, Structural Steel Details New Brackets Spans 1-2 Thru 4-5 (Slab Units A B C & D) Bridge No. HAM-471-0025 (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.

STRUCTURAL STEEL DETAILS
NEW BRACKETS
SPANS 1-2 THRU 4-5
(SLAB UNITS A B C & D)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
HAMILTON COUNTY

STL ABCD Scale 1/6



Sixth St. Connection Framing Plan (Existing Structure To Remain) See Sh. 75/708



LEGEND

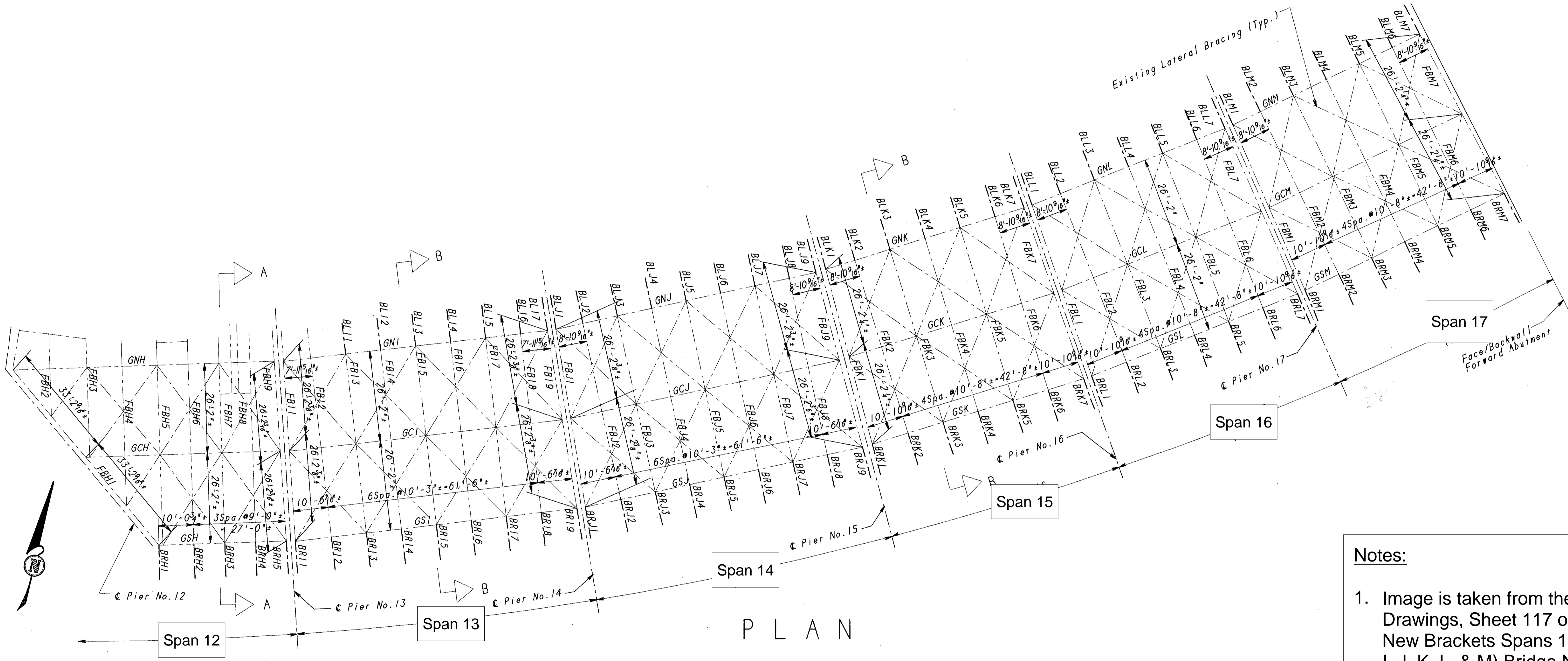
- BLF1 - Bracket Left Unit F Number 1
 - BRF1 - Bracket Right Unit F Number 1
 - BLF2 - Bracket Left Unit F Number 2
 - BRF2 - Bracket Right Unit F Number 2
 - BLF3 - Bracket Left Unit F Number 3
 - BRF3 - Bracket Right Unit F Number 3
 - BLF4 - Bracket Left Unit F Number 4
 - BRF4 - Bracket Right Unit F Number 4
 - BLF5 - Bracket Left Unit F Number 5
 - BRF5 - Bracket Right Unit F Number 5
 - BLF6 - Bracket Left Unit F Number 6
 - BRF6 - Bracket Right Unit F Number 6
 - BLF7 - Bracket Left Unit F Number 7
 - BRF7 - Bracket Right Unit F Number 7
 - BLF8 - Bracket Left Unit F Number 8
 - BRF8 - Bracket Right Unit F Number 8
 - BLF9 - Bracket Left Unit F Number 9
 - BRF9 - Bracket Right Unit F Number 9
 - BLF10 - Bracket Left Unit F Number 10
 - BRF10 - Bracket Right Unit F Number 10
 - BLF11 - Bracket Left Unit F Number 11
 - BRF11 - Bracket Right Unit F Number 11
 - BLF12 - Bracket Left Unit F Number 12
 - BRF12 - Bracket Right Unit F Number 12
 - BLF13 - Bracket Left Unit F Number 13
 - BRF13 - Bracket Right Unit F Number 13
 - BLF14 - Bracket Left Unit F Number 14
 - BRF14 - Bracket Right Unit F Number 14
 - BLF15 - Bracket Left Unit F Number 15
 - BRF15 - Bracket Right Unit F Number 15
 - BLF16 - Bracket Left Unit F Number 16
 - BRF16 - Bracket Right Unit F Number 16
 - BLF17 - Bracket Left Unit F Number 17
 - BRF17 - Bracket Right Unit F Number 17
 - BLF18 - Bracket Left Unit F Number 18
 - BRF18 - Bracket Right Unit F Number 18
 - BLF19 - Bracket Left Unit F Number 19
 - BRF19 - Bracket Right Unit F Number 19
 - BLF20 - Bracket Left Unit F Number 20
 - BRF20 - Bracket Right Unit F Number 20
 - BLF21 - Bracket Left Unit F Number 21
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 - BLF22 - Bracket Left Unit F Number 22
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 - BLF23 - Bracket Left Unit F Number 23
 - BRF23 - Bracket Right Unit F Number 23
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 - BLF29 - Bracket Left Unit F Number 29
 - BRF29 - Bracket Right Unit F Number 29
 - BLF30 - Bracket Left Unit F Number 30
 - BRF30 - Bracket Right Unit F Number 30
 - BLF31 - Bracket Left Unit F Number 31
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 - BLF43 - Bracket Left Unit F Number 43
 - BRF43 - Bracket Right Unit F Number 43
 - BLF44 - Bracket Left Unit F Number 44
 - BRF44 - Bracket Right Unit F Number 44
 - BLF45 - Bracket Left Unit F Number 45
 - BRF45 - Bracket Right Unit F Number 45
- Existing Structure

PLAN

Notes:

1. Image is taken from the 1997 Rehabilitation Drawings, Sheet 116 of 182, Structural Steel Details New Brackets Truss Spans 5-6-7, 7-8-9-10, & 10-11-12 (Slab Units E F & G) Bridge No. HAM-471-0025 (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.

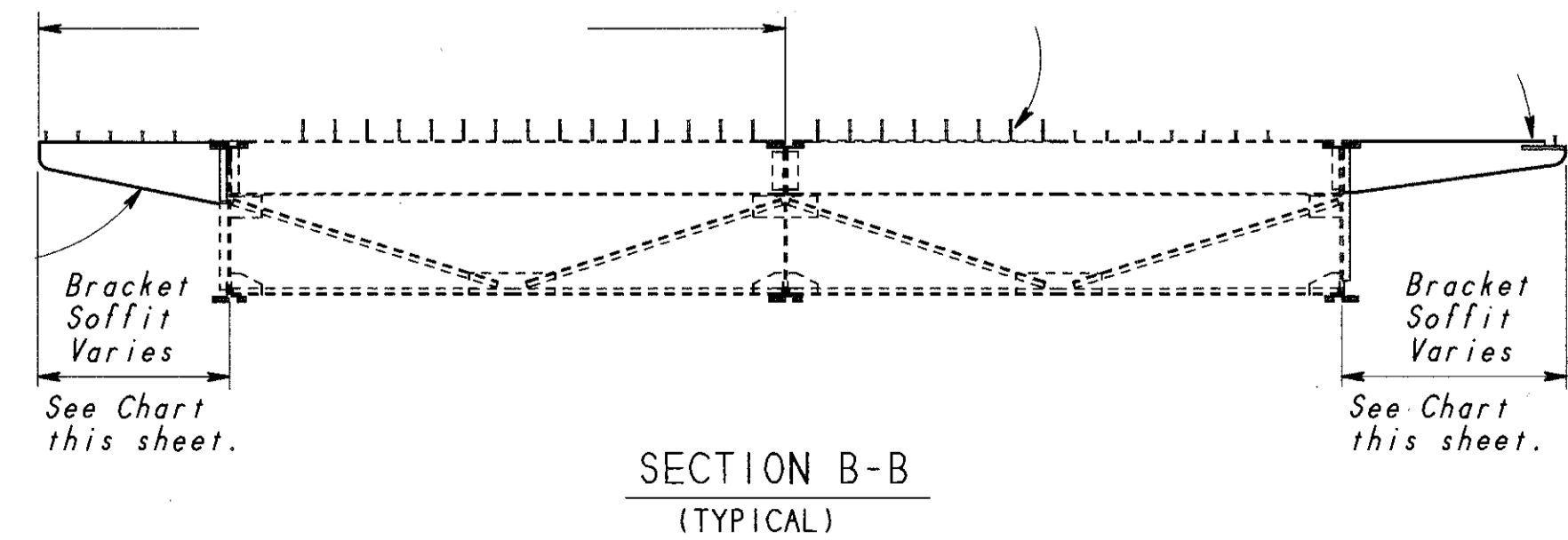
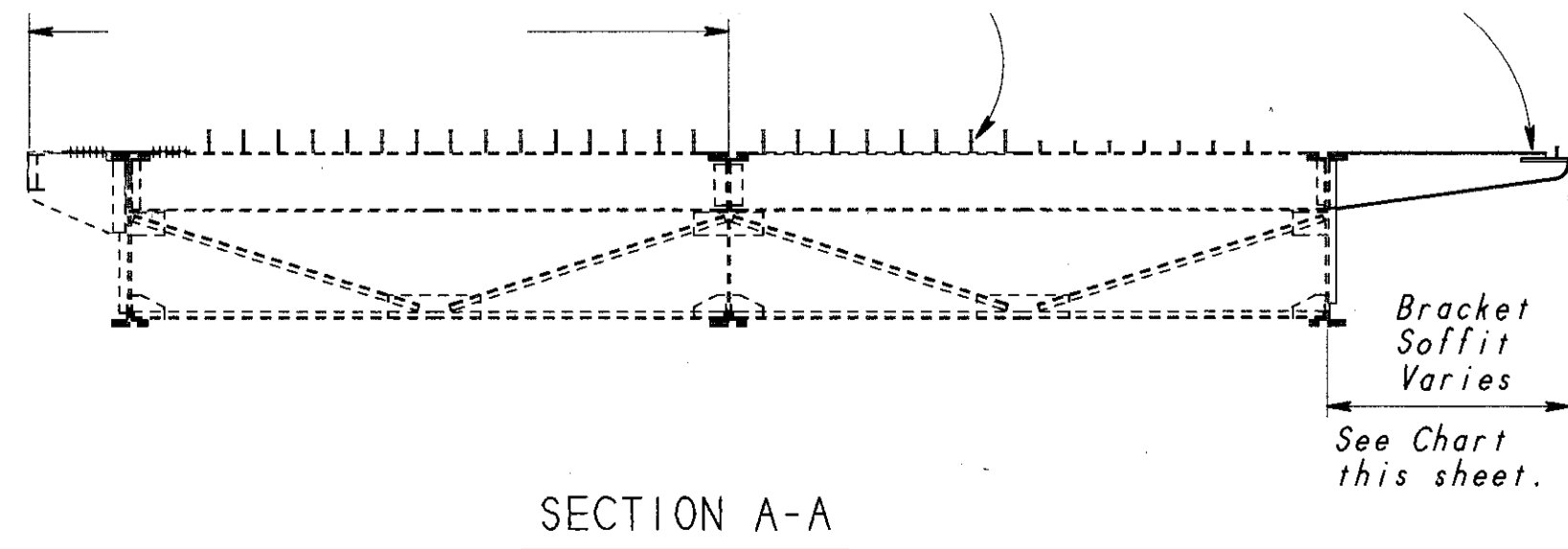
STRUCTURAL STEEL DETAILS
 NEW BRACKETS
 TRUSS SPANS 5-6-7, 7-8-9-10, & 10-11-12
 (SLAB UNITS E F & G)
 BRIDGE No. HAM-471-0025
 (COLUMBIA PARKWAY VIADUCT OVER I-471)
 HAMILTON COUNTY



Notes:

1. Image is taken from the 1997 Rehabilitation Drawings, Sheet 117 of 182, Structural Steel Details New Brackets Spans 12-13 Thru 17-18 (Slab Units H, I, J, K, L, & M) Bridge No. HAM-471-0025 (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.

- LEGEND**
- BLJI - Bracket Left Unit J Number I
 - FBHI - Floor Beam Unit H Number I
 - GNH - Girder North Unit H
 - GCH - Girder Center Unit H
 - GSH - Girder South Unit H
 - BRHI - Bracket Right Unit H Number I
 - Existing Structure

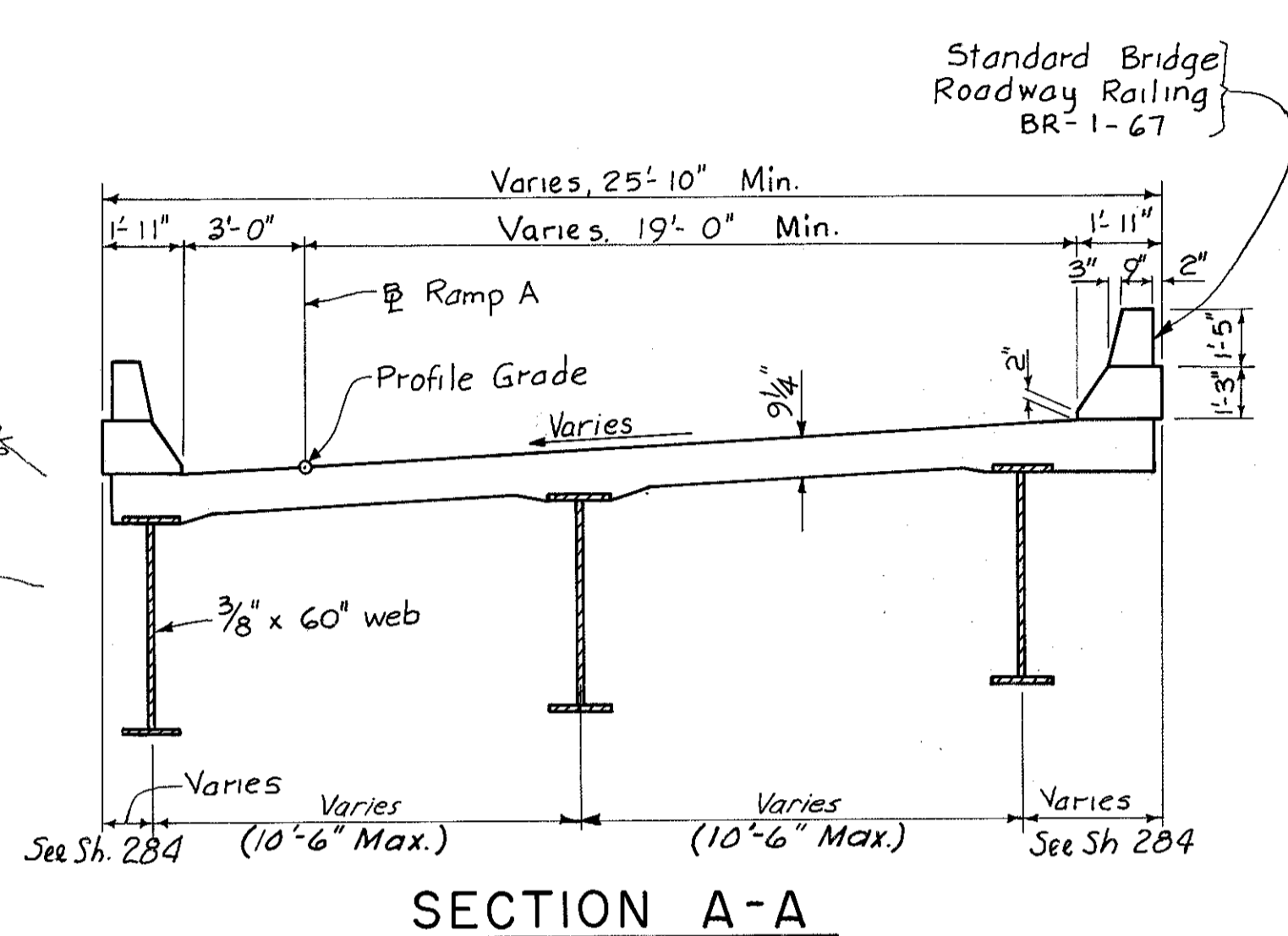
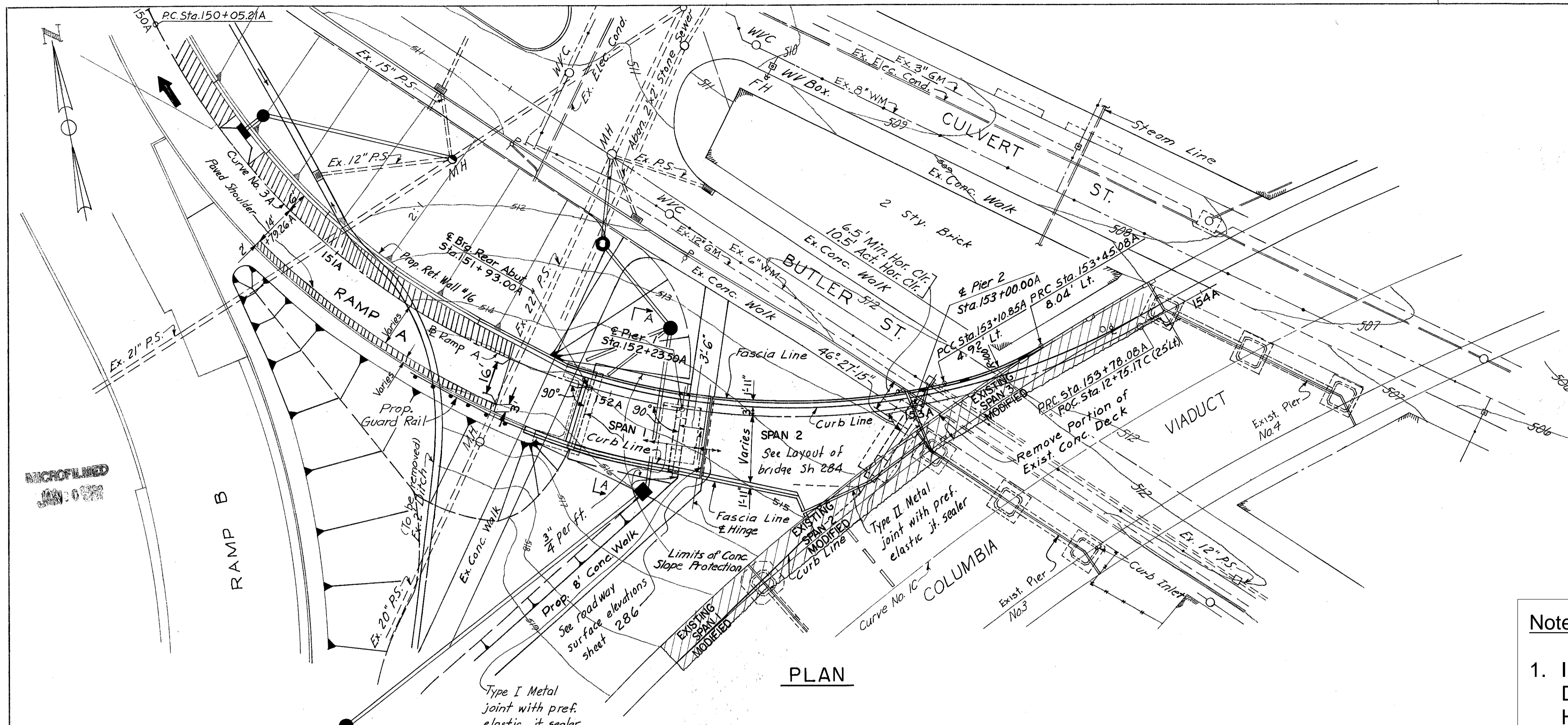


**STRUCTURAL STEEL DETAILS
NEW BRACKETS
SPANS 12-13 THRU 17-18
(SLAB UNITS H, I, J, K, L, & M)
BRIDGE No. HAM-471-0025
(COLUMBIA PARKWAY VIADUCT OVER I-471)
HAMILTON COUNTY**

STLHM Scale 1/6

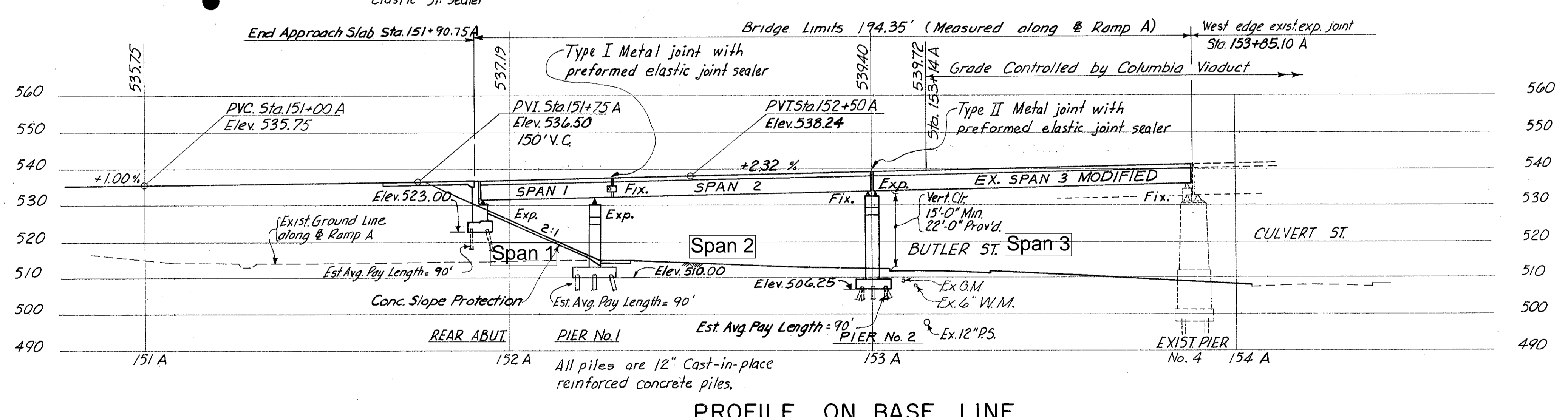
Appendix D:

Select Plans Sheets for HAM-50-2181N



Notes:

- Image is taken from the 1978 Original Construction Drawings, Sheet 256 of 494, Site Plan Bridge No. HAM-471-0.30 Ramp A Off Columbia Viaduct. Some information from the original sheet has been removed and or updated.



CURVE DATA

Curve No. 3A	Curve No. 1C
$\Delta = 92^\circ 53' 08''$	PC Sta. 10+33.80C
R = 230'	PI Sta. 11+33.27C
T = 241.89'	PT Sta. 13+47.39C
L = 372.87'	$\Delta = 25^\circ 40' 04''$
D = $24^\circ 54' 40.4''$	D = $8^\circ 11' 06.4''$
	R = 700'
	L = 313.59'
	T = 159.47'

Existing	STRUCTURE
	TYPE: Steel Plate Girders; span 1 simple span with 3'6" cantilever arm in span 2; Span 2 & 3 simple spans. Reinforced concrete deck and substructure.
	SPANS: Span 1 = 30.5', Span 2 = 76.5', Span 3 = 85.1' measured along Base Line Ramp A.
	LIVE LOAD: HS 20-44
	ROADWAY: Varies, 23.5' f/f parapet (min.)
	SKEW: Varies, see Plan
	WEARING SURFACE: 1" Monolithic Concrete
	ALIGNMENT: See Curve Data
	SUPERELEVATION: Varies, see Plan
	APPROACH SLAB: AS-1-67 25' Long

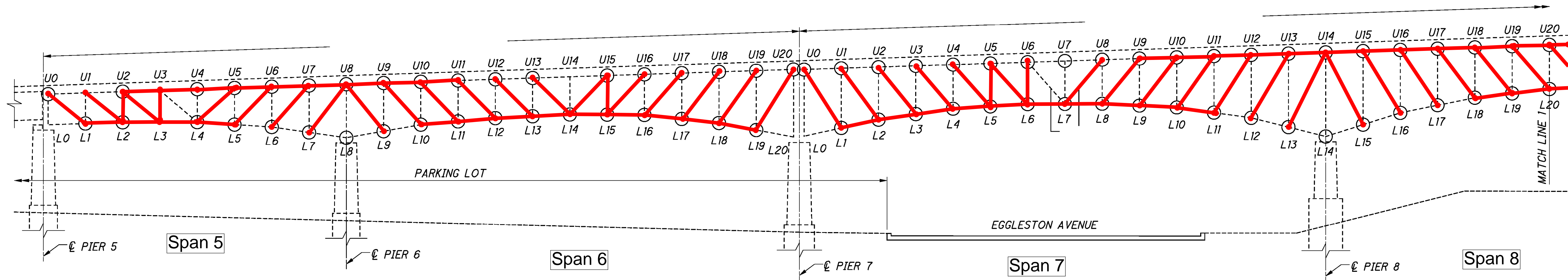
EXISTING COLUMBIA VIADUCT

TYPE: Riveted Plate Girder with reinforced concrete deck
 SPANS: Existing spans to be affected are simple spans
 ROADWAY: 56'-0" f/f curbs with reinforced concrete sidewalk and railing
 PIERS: Reinforced Concrete (on piles)
 ALIGNMENT: R = 700' (E Viaduct)

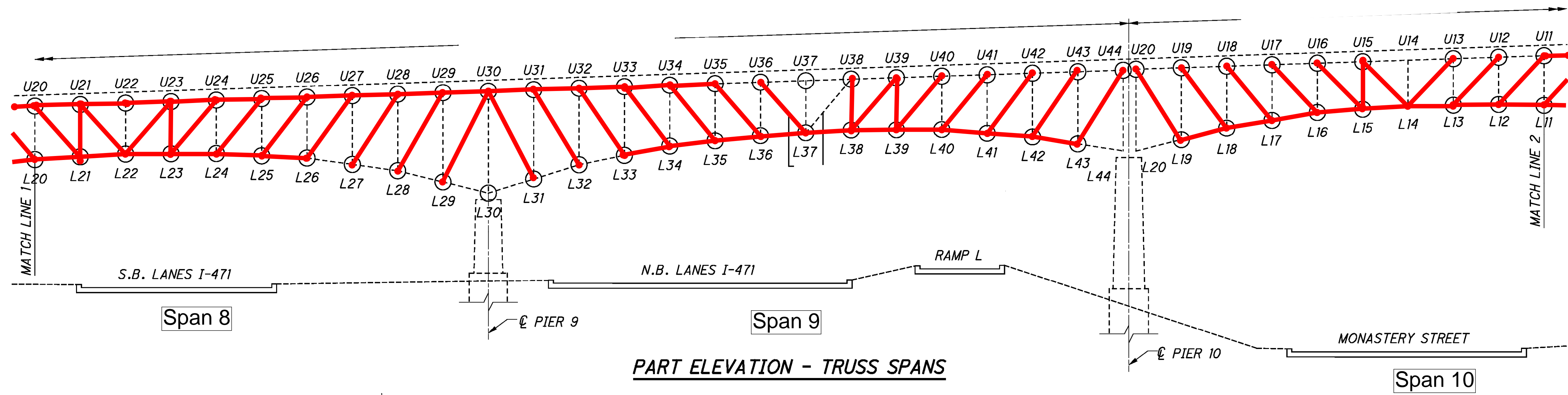
SITE PLAN
 BRIDGE NO. HAM-50-2181N
 RAMP A OFF COLUMBIA VIADUCT

Appendix E:

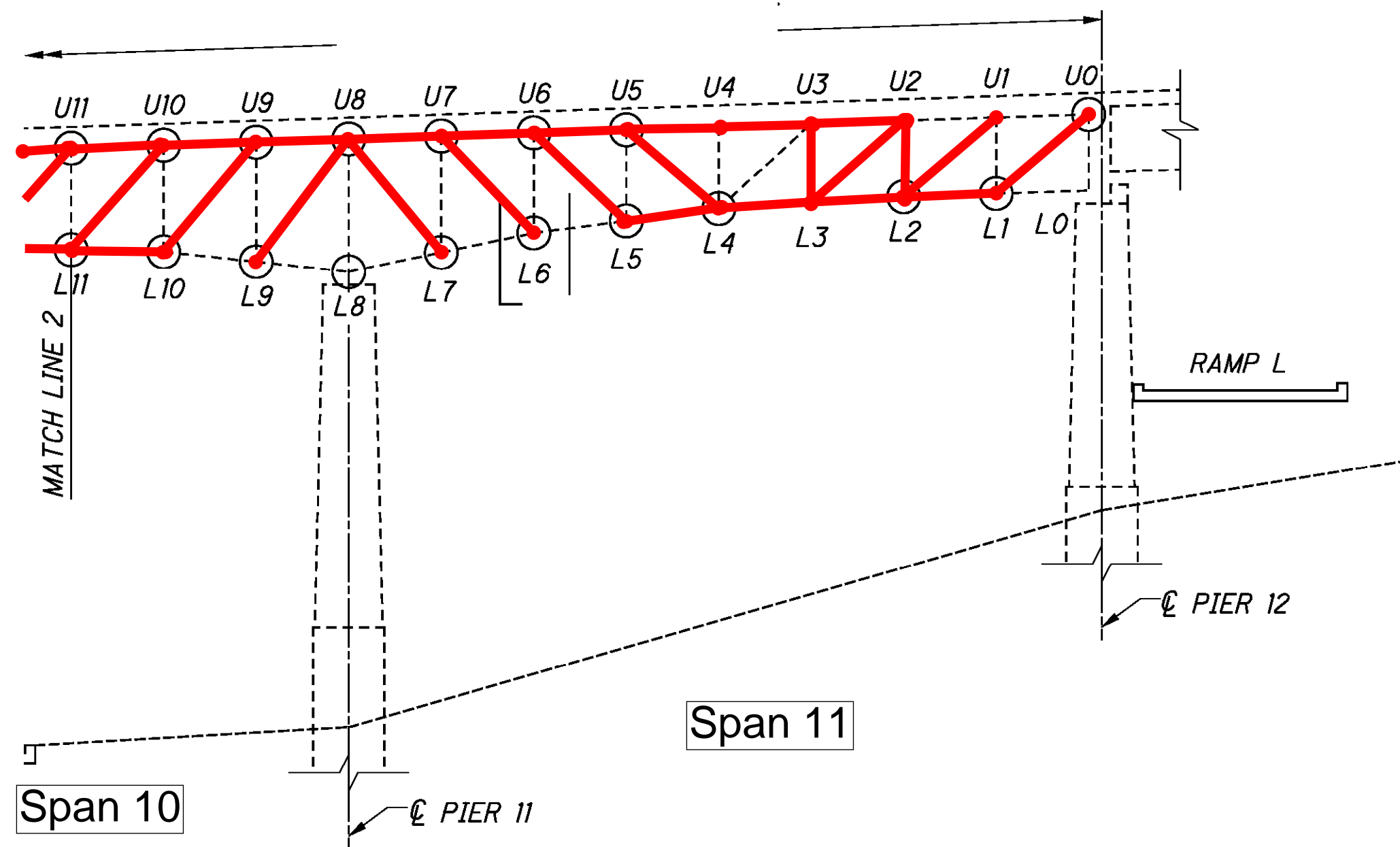
*Fracture Critical Member Plan for
HAM-50-2180N*



PART ELEVATION - TRUSS SPANS



PART ELEVATION - TRUSS SPANS



PART ELEVATION - TRUSS SPANS

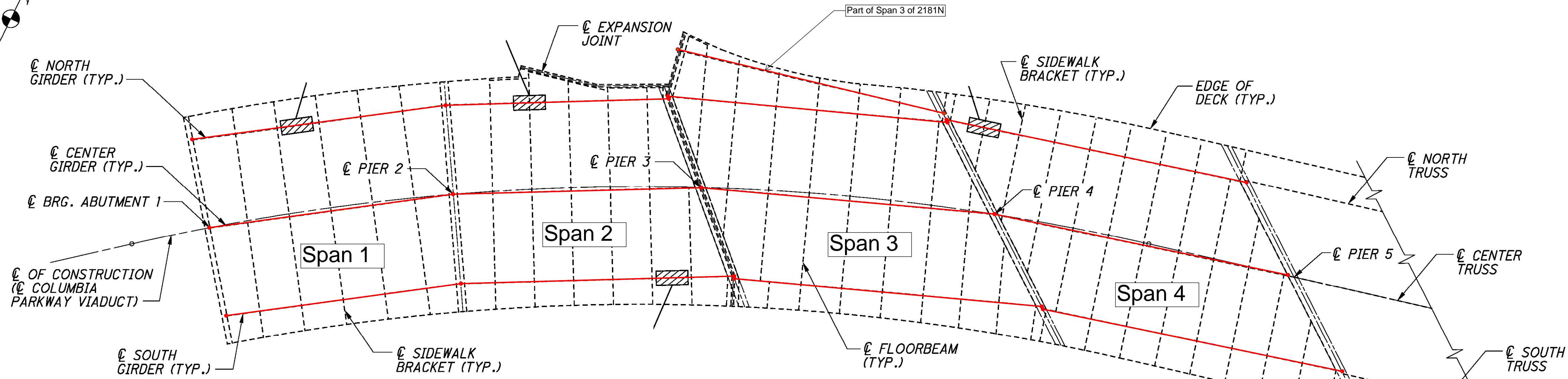
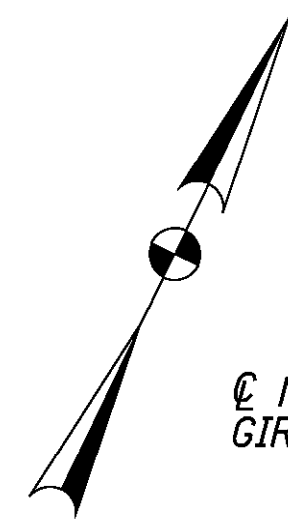
Notes:

1. Image is taken from the 2016 Rehabilitation Drawings, Sheet 19 of 156, Truss Spans Elevations - Repair Locations Bridge No. Ham-50-2180N (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.
2. Red lines indicate fracture critical members (tension or stress reversal) based on the original construction drawings.

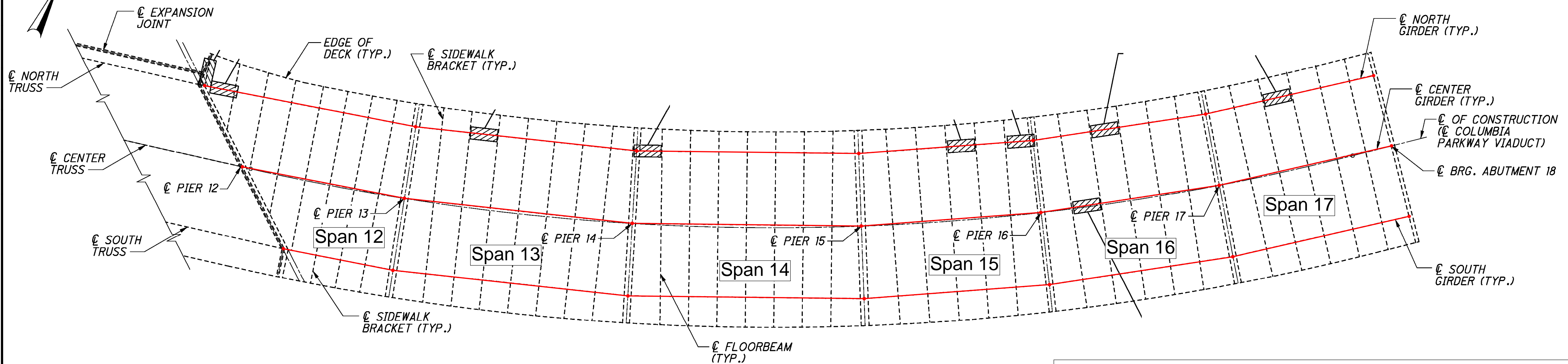
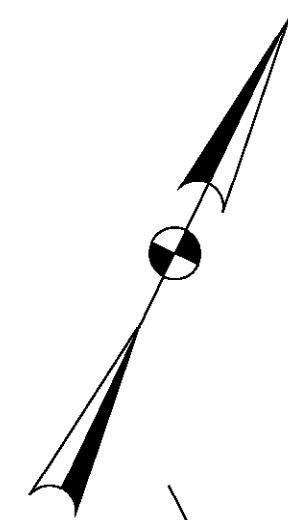
91939SD050.dgn 10/7/2016 11:43:54 AM sfhemerschmidt

TRUSS SPANS ELEVATION
BRIDGE No. HAM-50-2180N
COLUMBIA PARKWAY VIADUCT OVER I-471

HAM-50-2180N



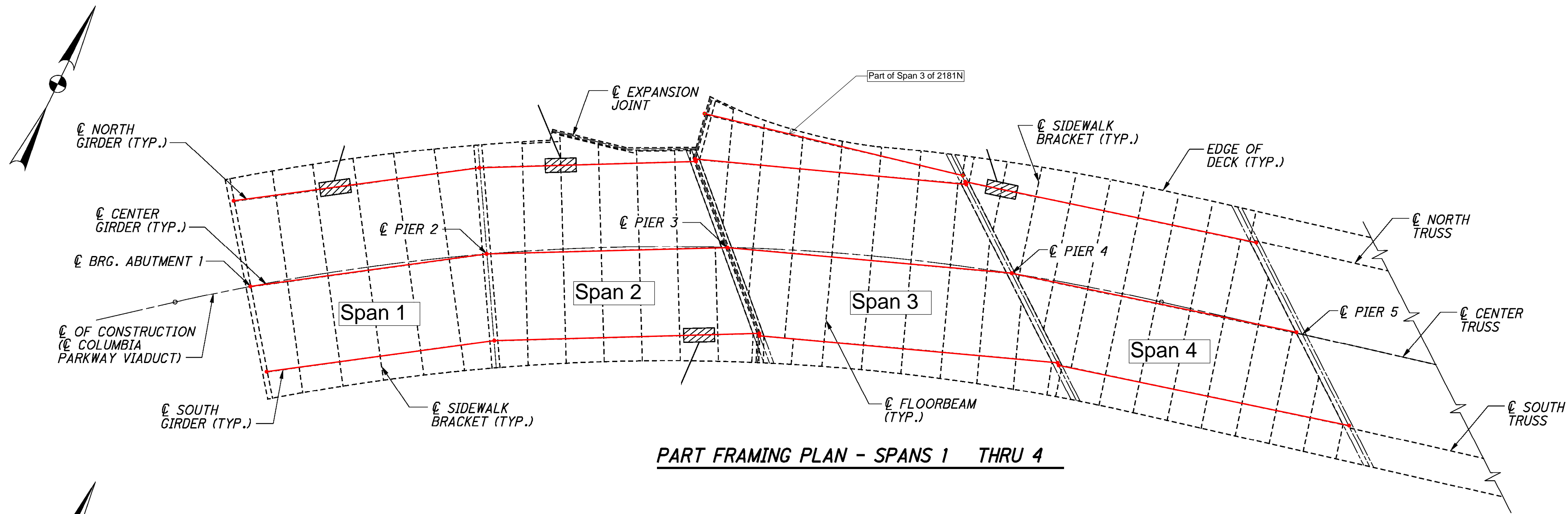
PART FRAMING PLAN - SPANS 1 THRU 4



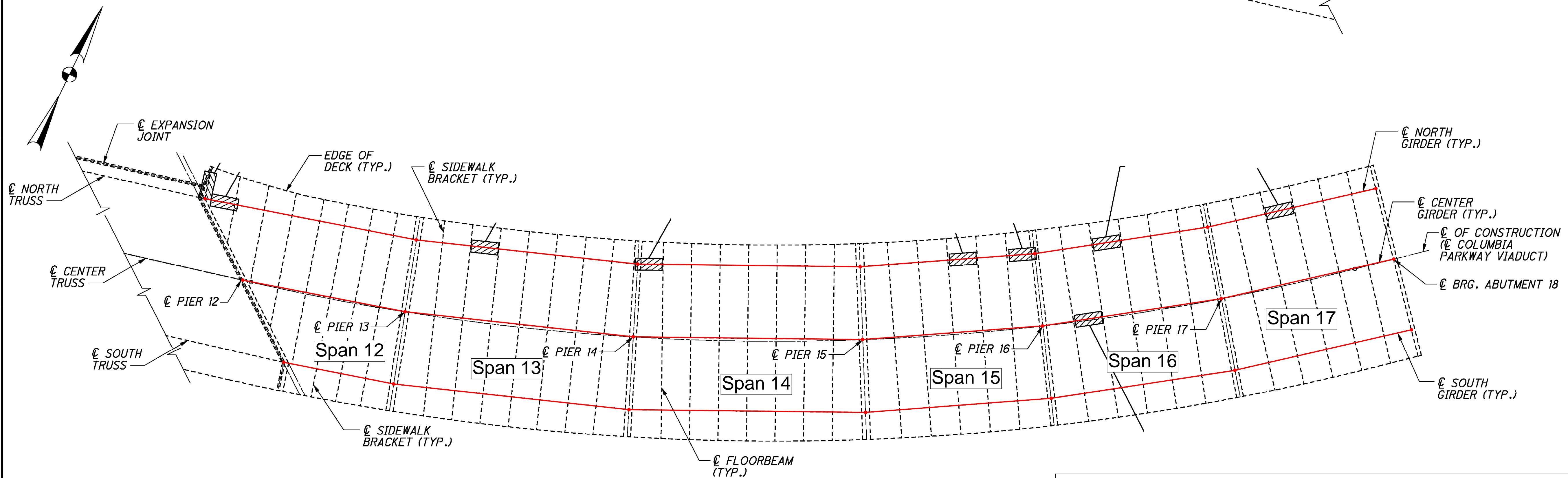
PART FRAMING PLAN - SPANS 12 THRU 17

Notes:

1. Image is taken from the 2016 Rehabilitation Drawings, Sheet 150 of 156, Girder Spans Framing - Painting Locations Bridge No. Ham-50-2180N (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.
2. Red lines indicate fracture critical members.



PART FRAMING PLAN - SPANS 1 THRU 4



PART FRAMING PLAN - SPANS 12 THRU 17

- Notes:**
1. Image is taken from the 2016 Rehabilitation Drawings, Sheet 150 of 156, Girder Spans Framing - Painting Locations Bridge No. Ham-50-2180N (Columbia Parkway Viaduct Over I-471). Some information from the original sheet has been removed and or updated.
 2. Red lines indicate fracture critical members.

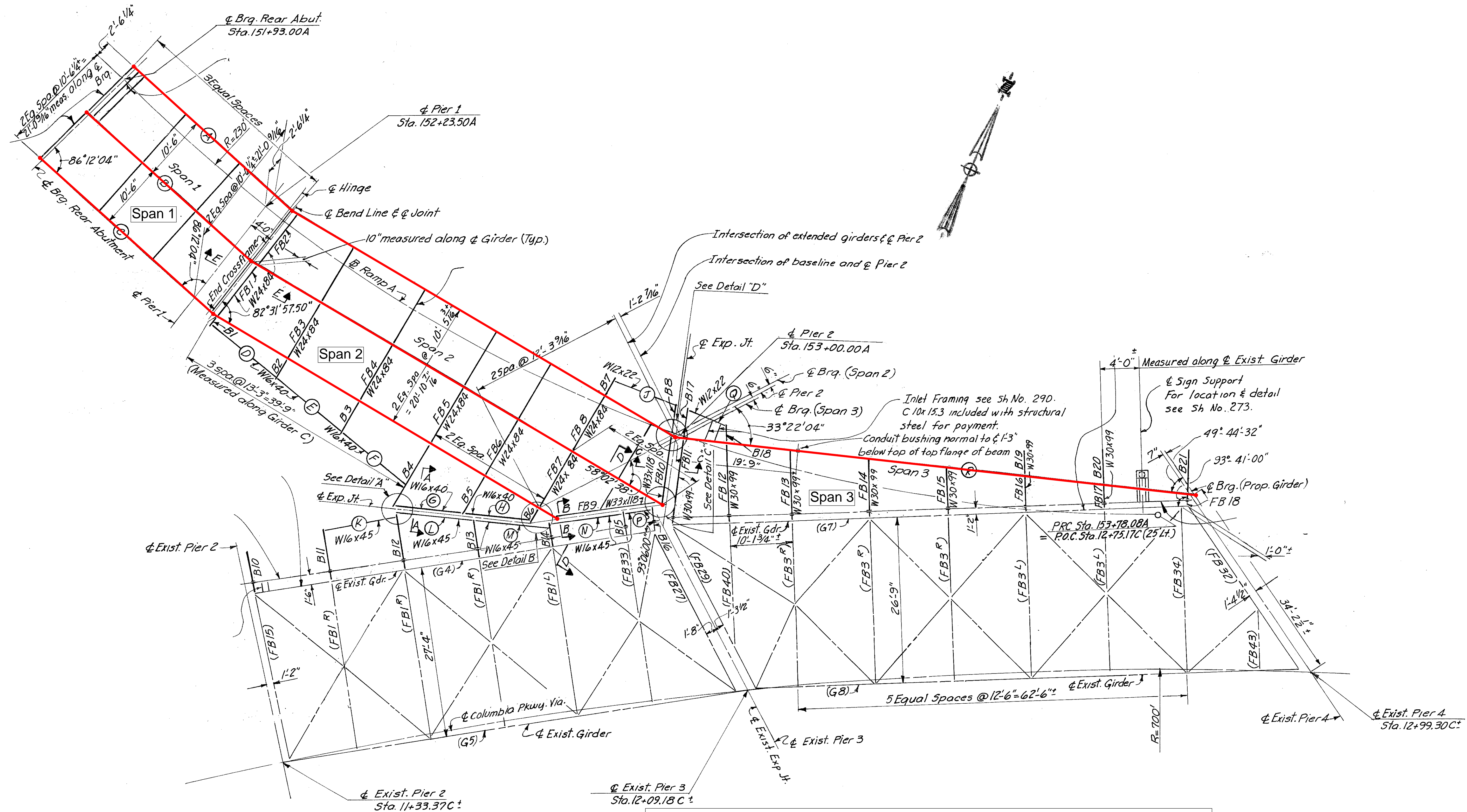
91939:SD005.dgn 10/7/2016 11:44:53 AM sfhemerschmidt

GIRDER SPANS FRAMING
BRIDGE No. HAM-50-2180N
COLUMBIA PARKWAY VIADUCT OVER I-471

HAM-50-2180N

Appendix F:

*Fracture Critical Member Plan for
HAM-50-2181N*



FRAMING PLAN

Notes:

1. Image is taken from the 1978 Original Construction Drawings, Sheet 265 of 494, Structural Steel Bridge No. HAM-471-0.30 Ramp A Off Columbia Viaduct. Some information from the original sheet has been removed and or updated.
2. Red lines indicate fracture critical members.

10/39
STRUCTURAL STEEL
BRIDGE NO. HAM-50-2181N
RAMP A OFF COLUMBIA
VIADUCT