PHYSICAL CONDITION REPORT

OTIC DESIGN PROJECT NO. 71-22-12
PROSPECT ROAD BRIDGE (CR 34) OVER THE OHIO TURNPIKE
MILEPOST 182.1
SUMMIT COUNTY, OHIO

Prepared for:
Ohio Turnpike and Infrastructure Commission
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CIG Project No.: 10043 ***August* 2023**

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1.0 INTRODUCTION

Compass Infrastructure Group (Compass) performed an in-Depth inspection of the beams and substructures of the Prospect Road Bridge over the Ohio Turnpike, Milepost 182.1, on April 26th and April 27th, 2023. As the deck is scheduled for complete replacement as a minimum goal of the project it received a cursory review for any existing issue that could be mitigated in future design and was not included in the report.

1.1 Description

Prospect Road Bridge over the Ohio Turnpike, located at Milepost 182.1 carries two lanes of Prospect Road over the Ohio Turnpike in the City of Hudson, Summit County, Ohio. The structure is a continuous four-span steel beam bridge over the Ohio Turnpike. The superstructure consists of four rolled beams with cover plates at the piers, supported on reinforced concrete piers and reinforced concrete cellular abutments supported on driven piles. Span lengths are 44'-0"±, 69'-4"±, 69'-4"±, and 34'-8"± measured from center-to-center of bearings. The overall length of the bridge is approximately 246.27-ft. from end of approach slab to beginning of approach slab, per the existing plans.

Photograph #1 – Partial Elevation of Right Fascia (looking West)

Figure 1 – General Bridge Location Map

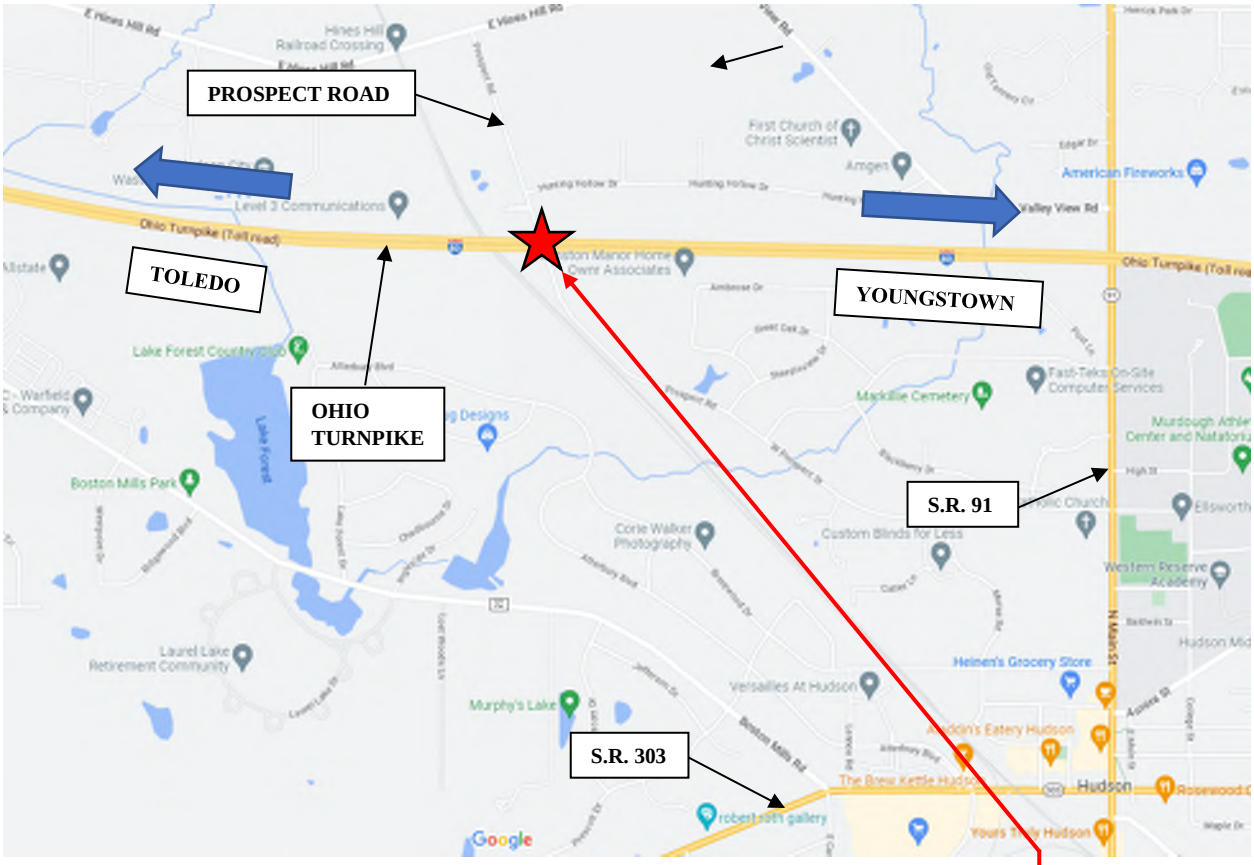


Figure 2 – Detailed Bridge Location Map

PROPSECT ROAD BRIDGE OVER THE OHIO TURNPIKE, MILEPOST 182.1

1.2 Bridge Inspection Procedure

The 2023 inspection consisted of an in-depth inspection of the steel beam superstructure and concrete substructures, which was performed in accordance with the guidelines of the current ODOT Manual of Bridge Inspection and National Bridge Inspection Standards.

The in-depth inspection was limited to the rolled steel beams and substructure units as part of the rehabilitation strategy for the structure. The deck and parapets were not inspected because they are scheduled to be replaced. Hands-on inspection of the beams was performed at the substructure units using ladders. The steel beams in middle spans were inspected visually from the ground and from the substructures using ladders and no areas requiring further investigation were observed. The inspection work was made possible with lane closures and flagging services provided by the Ohio Turnpike.

The CIG staff members who performed the inspection were David Buchanan, Ian Foye and Justin Koesel.

1.3 Nomenclature

The following nomenclature will be utilized throughout this report:

Element Location:

1. The bridge is on south to north alignment with stationing increasing to the south. (downstation is north)
2. Piers are numbered from 1 to 3 from south to north looking downstation.
    - Pier #1 is adjacent to the Ohio Turnpike Eastbound outside shoulder
    - Pier #2 is in the Ohio Turnpike median
    - Pier #3 is adjacent to the Ohio Turnpike Westbound outside shoulder
    - Pier columns are numbered 1 to 3 from left to right (looking downstation)
3. The rolled steel beams are numbered G1 through G4 from the left to right (looking downstation).

Steel Elements:

The levels of rust and section loss are defined as follows:

- Light: A light, loose rust formation pitting the paint surface of the steel element.
- Moderate: A looser rust formation with scales or flaking forming. Definite areas of rust are discernable.
- Severe: A heavily stratified rust or rust scale with pitting of the metal surface. This rust condition eventually culminates in the perforation of the steel section.
- Steel Section Loss Categories:
    - Minor Section Loss: Up to 25%.
    - Moderate Section Loss: Greater than 25% and up to 50%.
    - Severe Section Loss: Greater than 50% with perforations to primary members.

Concrete Elements:

- Concrete Cracking: Cracking will usually be large enough to be seen with the naked eye. Efflorescence will often appear at the locations of cracks and is comprised of white calcium deposits protruding through the concrete surface. The size and extent of cracks is documented based on the criteria as follows:
    - Minor or Hairline Cracks: Up to 1/16”
    - Moderate Cracks: Greater than 1/16” up to 1/4”
    - Significant Cracks: Greater than 1/4”
- Concrete Spalling: Spalling is caused by the separation and removal of a portion of the surface concrete revealing a fracture of the concrete face. It is typically caused by corrosion of the reinforcing steel that expands the steel surface, pushing the cover concrete cover away from the reinforcing steel, often exposing the reinforcing steel.
- Hollow Sounding Area: An area of concrete which gives off a hollow sound when struck with a hammer or steel bar, indicating the existence of a fracture plane below the concrete surface.

2.0 BEAMS

Type: Rolled Steel Beams (4 - 33WF130 beams)

The rolled steel beams are in good condition and received a system OZEU painting in 2008. The beams exhibit localized patches of rust-stained protective coating system, and light surface rust in small patches along the bottom flange where the protective coating system has failed. These minor rust locations are small patches less than 3" wide. The moment plates and splices of the beams are in similar condition. The end diaphragms at the abutments are in good condition. The current condition of the protective coating system does not warrant replacement at this time.

Photograph #2 – Typical Beam and Intermediate Diaphragm Condition (End Spans) MP 182.1

Photograph #3 – Typical Beam and Intermediate Diaphragm Condition (Main Spans) MP 182.1

Photograph #4 – Typical End Diaphragm Condition (Main Span) MP 182.1

Photograph #5 – Beam 2 Splice with Light Rust, Span 1 MP 182.1

2.1 Fatigue Prone Connections

The fatigue prone connections are in good condition. For this structure the fatigue prone connections are the transverse welds at the ends of the welded moment cover plates over Pier 1, Pier 2, and Pier 3. No distress was observed in the bottom flange cover plate welds at the piers. The top flange cover plates could not be inspected because they are encased in the concrete deck and should be inspected after deck removal.

Photograph #6 – Typical Moment Plate Condition MP 182.1

3.0 SUBSTRUCTURE

3.1 Abutments

The abutments are in good condition. No spalls were observed on the exposed portions of the backwall. The exposed portions of the abutment stems are also free from spalls but do have some minor vertical cracks. No evidence of deterioration on the exposed faces of the wingwalls was observed. The catch basins at the north approach have failed. The northeast catch basin has collapsed in on itself, and the northwest catch basin has erosion and piping around the drain pipe. These drainage issues are causing the embankment along the wingwalls to erode, pulling away from the side faces of the north abutment wingwalls. The following figures and sketches indicate the limits of cracks recommended to be repaired via epoxy injection to protect against further deterioration in the future. In addition the erosion around the wingwalls should be backfilled with rock channel protection to mitigate further erosion regardless of repairs to the catch basins.

Photograph #7 – Rear (South) Abutment Vertical Crack MP 182.1

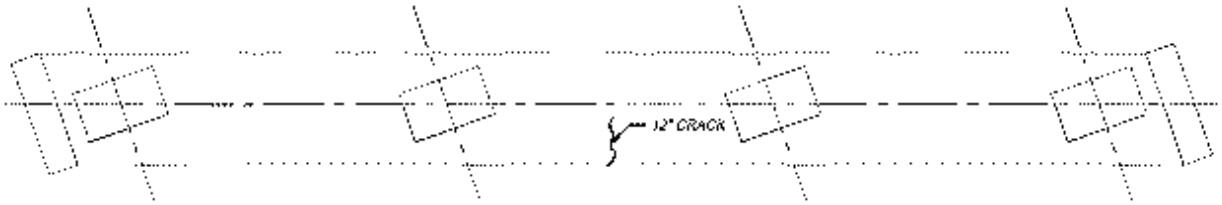


Figure 3 – Location of Proposed Concrete Repairs – Rear (South) Abutment Plan MP 182.1

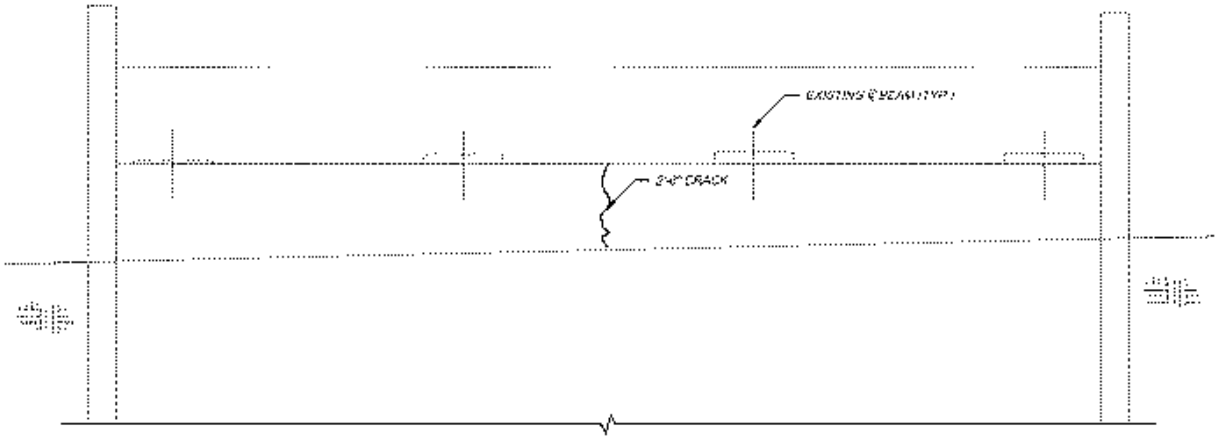


Figure 4 – Location of Proposed Concrete Repairs – Rear (South) Abutment Elevation MP 182.1

Photograph #8 – Forward (North) Abutment Vertical Crack MP 182.1

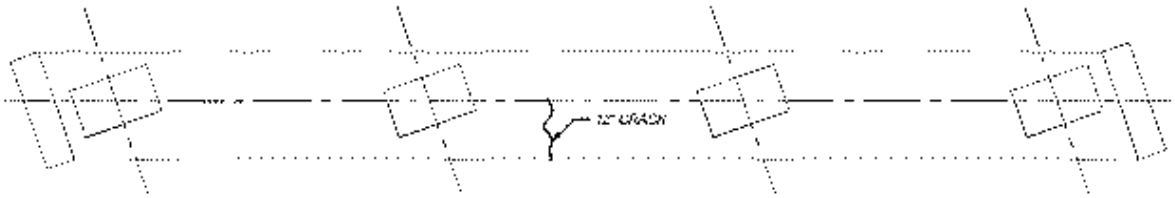


Figure 5 – Location of Proposed Concrete Repairs – Forward (North) Abutment Plan MP 182.1

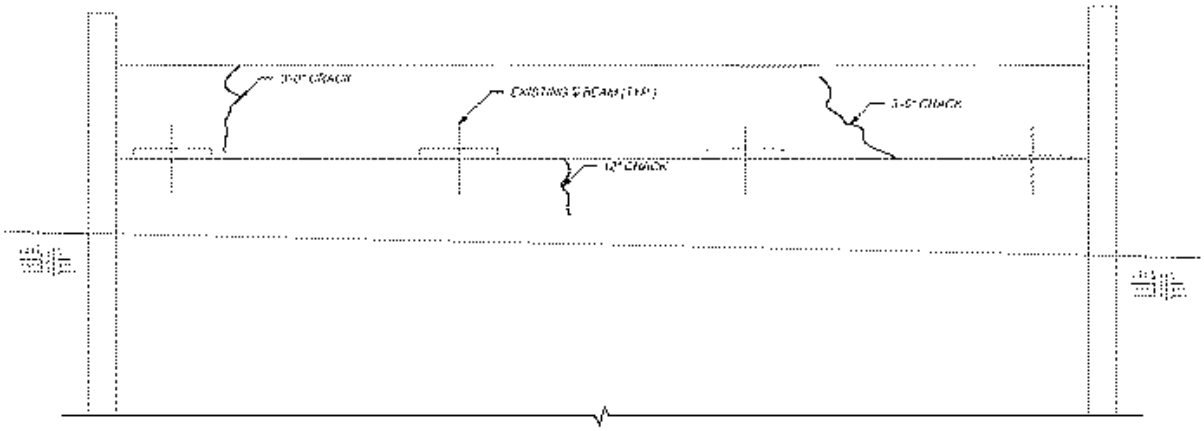


Figure 6 – Location of Proposed Concrete Repairs – Forward (North) Abutment Elevation MP 182.1

Photograph #9 – Collapsed Forward Right (Northeast) Catch basin MP 182.1

Photograph #10 – Typical Wingwall Condition and Slope Erosion at Forward Left (Northwest) MP 182.1

3.2 Piers

In all three pier caps, a few minor cracks were observed and measured 0.013" to 0.025" wide. Additional minor cracks exist at old patch material cold joints on both faces of Piers 1 and 3. Hammer sounding indicated localized delaminated areas on all three pier caps. The northwest corner on the cap of Pier 3 has a deep spall with reinforcing steel stirrups exposed with moderate section loss and delamination extending to the side face. This spall extends to the bearing seat pedestal, which is missing a corner of concrete extending to the bearing masonry plate with the plate overhanging 1/8".

Pier 1 Column 1 has minor delamination present on the traffic face (north face) that extends onto the west face. No deterioration was observed to Pier 2 columns. Pier 3 Column 2 has minor delamination on the traffic face (south face) that leads to the east face. Pier 3 Column 3 has a spall in the patch on the south east corner, exposing three stirrups with minor section loss. The entire patch on the west, south, and east faces and a halo around the patch are delaminated with wire mesh rust showing through on the face.

Details showing the extents of these deteriorations and recommend areas to be repaired are detailed in the Figures below.

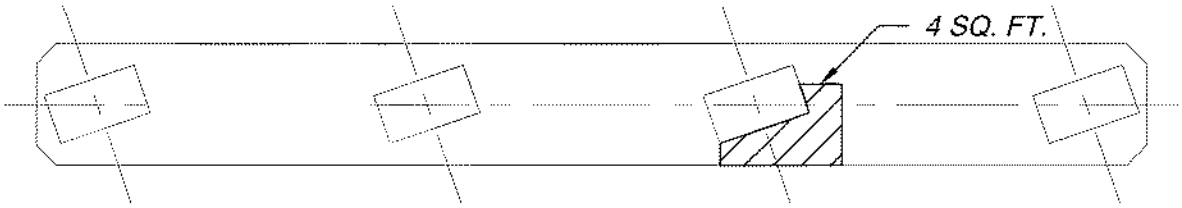


Figure 7 – Location of Proposed Concrete Repairs – Pier 1 Plan View MP 182.1

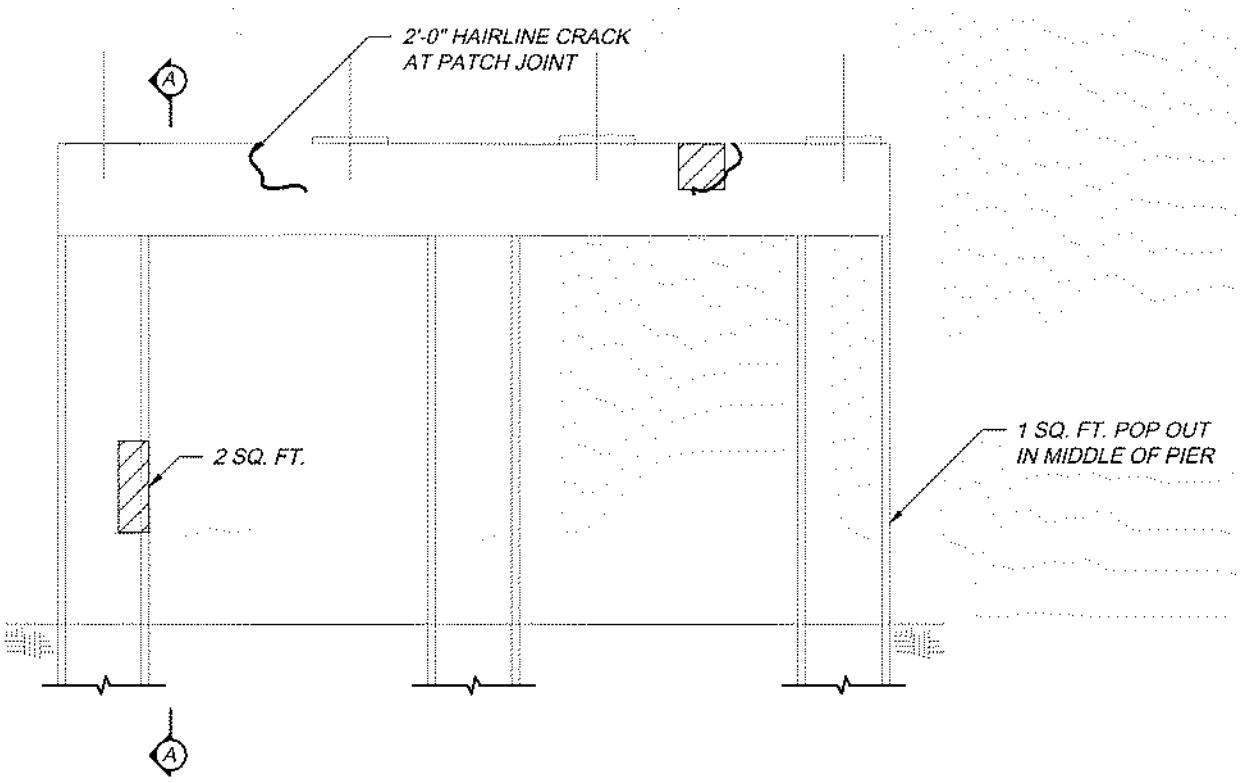


Figure 8 – Location of Proposed Concrete Repairs – Pier 1 Downstation (North) Face Elevation MP 182.1

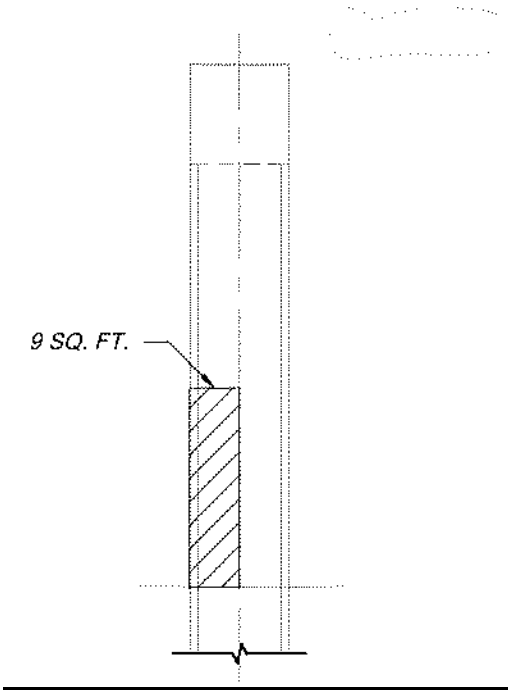


Figure 8 – Location of Proposed Concrete Repairs – Pier 1 View A-A MP 182.1

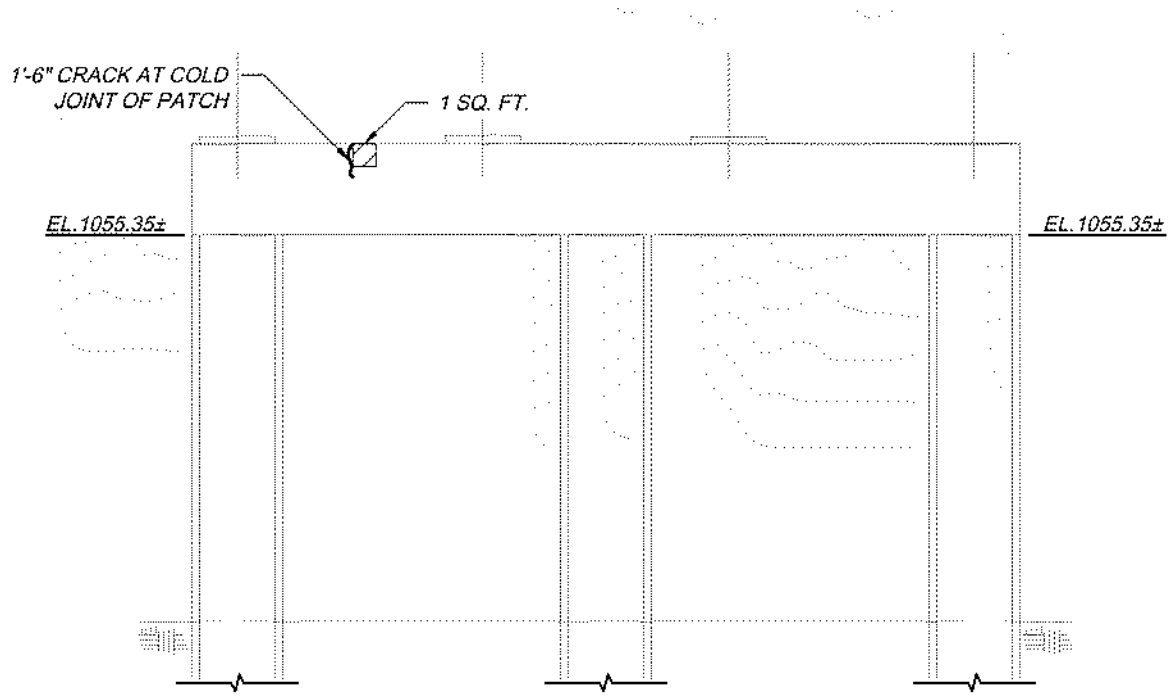


Figure 10 – Location of Proposed Concrete Repairs – Pier 1 Upstation (South) Face Elevation MP 182.1

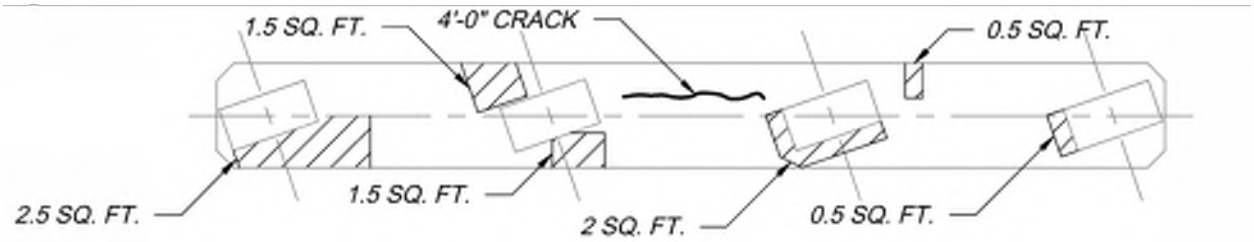


Figure 11 – Location of Proposed Concrete Repairs – Pier 2 Plan View MP 182.1

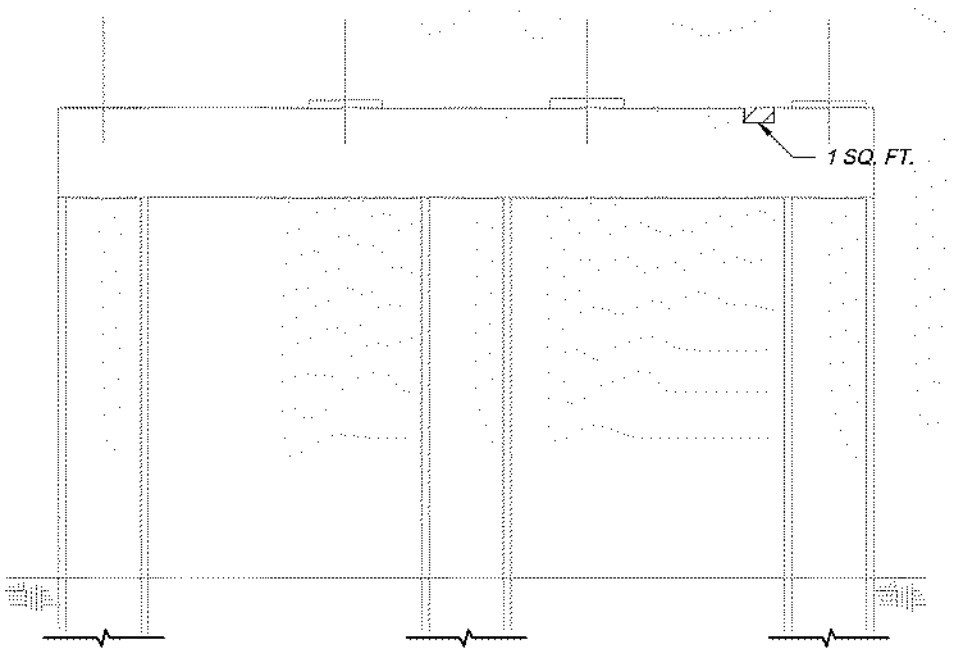


Figure 12 – Location of Proposed Concrete Repairs – Pier 2 Upstation (South) Face Elevation MP 182.1

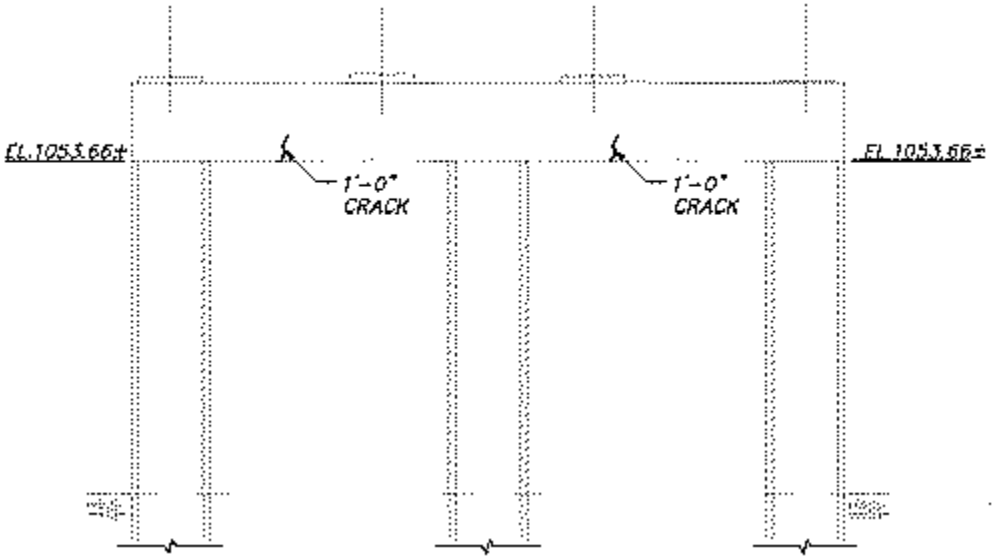


Figure 13 – Location of Proposed Concrete Repairs – Pier 2 Downstation (North) Face Elevation MP 182.1

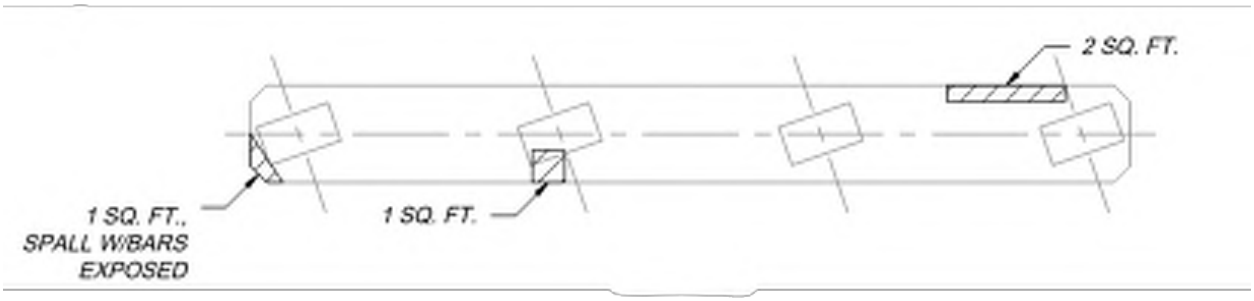


Figure 14 – Location of Proposed Concrete Repairs – Pier 3 Plan View MP 182.1

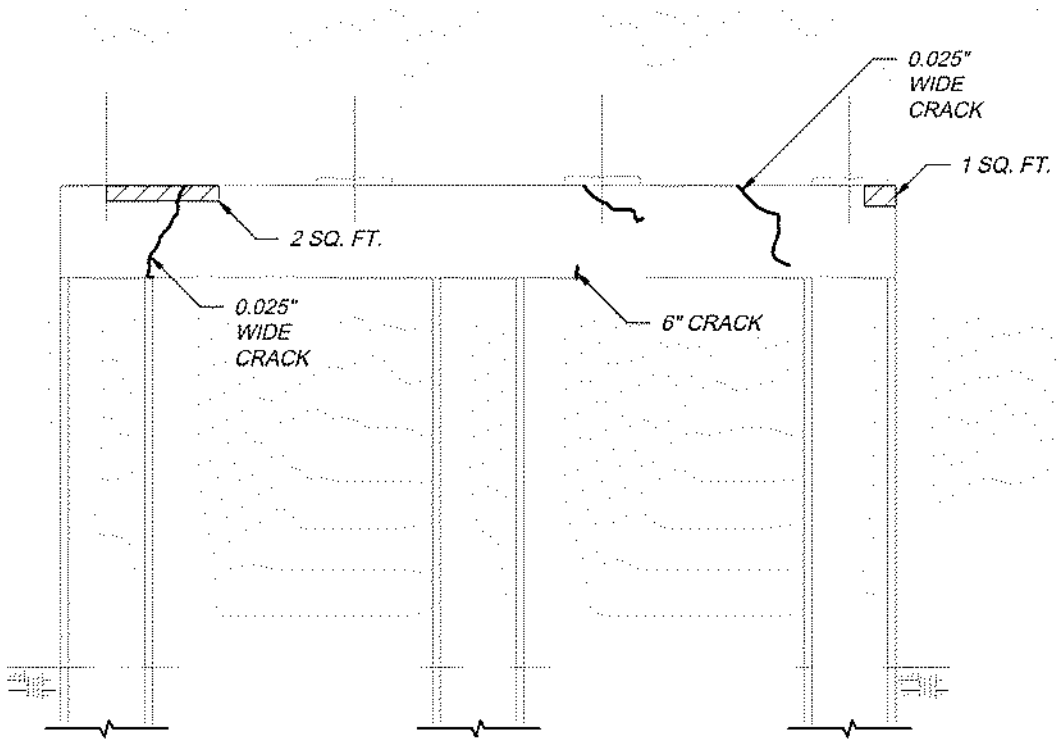


Figure 15 – Location of Proposed Concrete Repairs – Pier 3 Upstation (South) Face Elevation MP 182.1

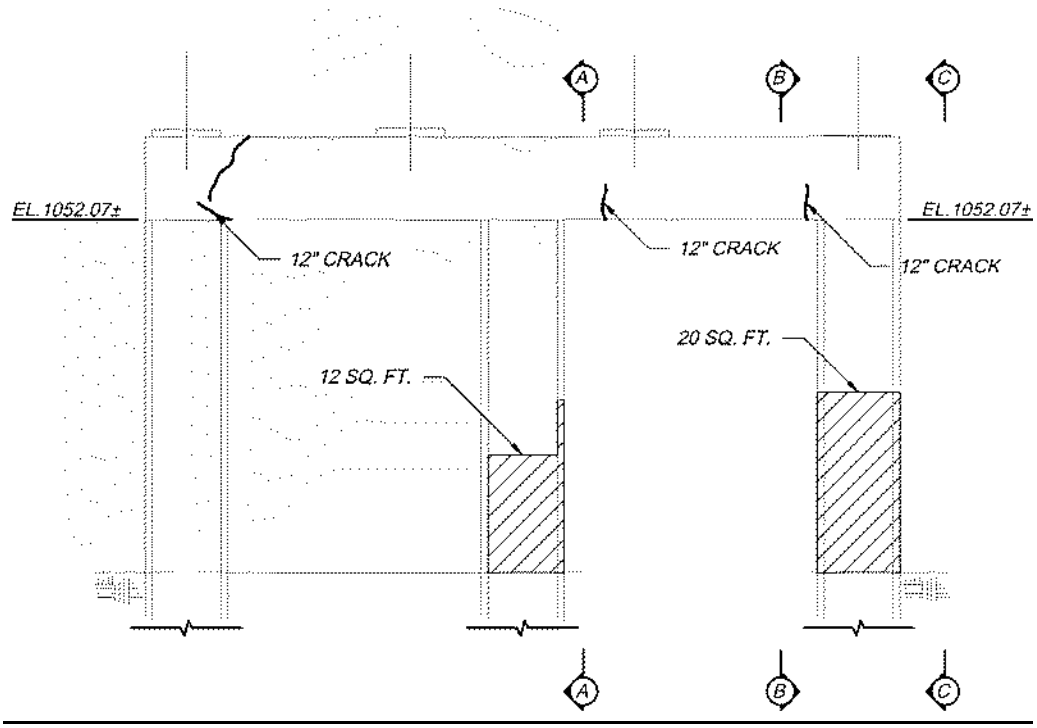


Figure 16 – Location of Proposed Concrete Repairs – Pier 3 Downstation (North) Face Elevation MP 182.1

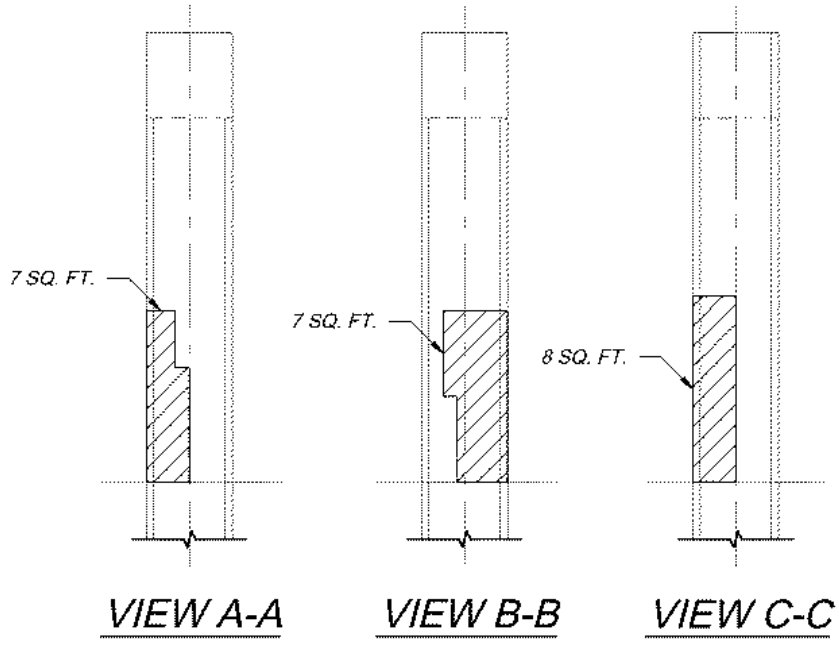


Figure 17 – Location of Proposed Concrete Repairs – Pier 3 View A-A – View C-C MP 182.1

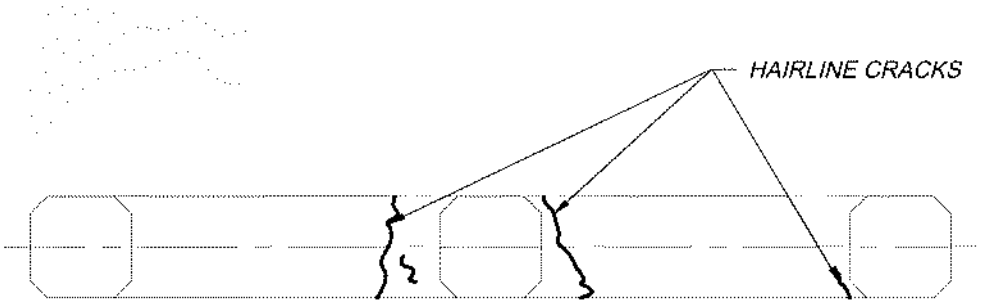
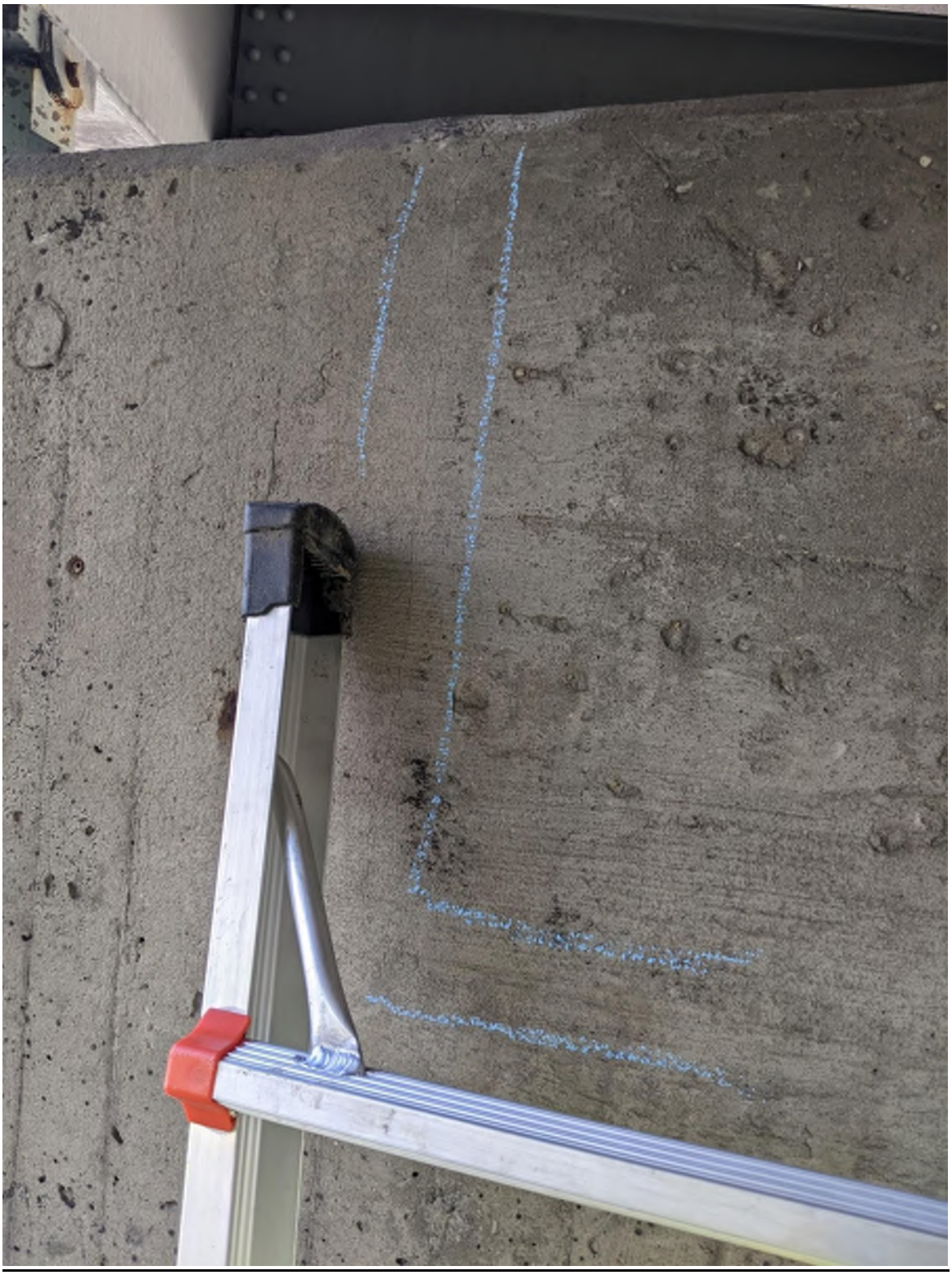


Figure 18 – Location of Proposed Concrete Repairs – Pier 3 Underside of Pier Cap MP 182.1

Photograph #12 – Pier 3 Column 3 Spall MP 182.1



Photograph #11 – Pier 1 Cap Cracks at Patch MP 182.1

Photograph #12 – Pier 3 Column 3 Spall MP 182.1

4.0 LOAD RATING SUMMARY

Load ratings were performed of the bridge's current conditions, including findings from our field inspection, and for a re-decking utilizing AASHTOWare Bridge Rating (BrR) software.

The existing bridge (current conditions) has a HS20 inventory rating of 1.380 and 1.351 for the fascia and interior beams, respectively. The HS20 inventory ratings for a re-decking are 1.253 and 1.284 for the fascia and interior beams, respectively. With the re-decking the exterior and interior beam rating decreases slightly due to the overhang width increase to accommodate the SBR-1-13 barrier while matching the existing width of 27'-10" toe-to-toe of parapets. Overall, the re-decking slightly reduces the controlling HS20 inventory rating from 1.351 to 1.284.

A summary of the load rating results is provided in Tables 1, 2 and 3.

Table 3 provides results that verify the additional widening does not reduce the overall load carrying capacity of the bridge. As shown with the additional beams available to distribute the composite dead loadings with minimal additional live loadings from pedestrians, the widening actually provides a slight increase in the available load carrying capacity.

		Rating		Controlling Member	Location
		Factor	Tonnage		
Fascia Beams	HS-20 (Inventory)	1.380	49.68	Beams G1 & G4	Pier 2
	HS-20 (Operating)	2.304	82.96	Beams G1 & G4	Pier 2
	Ohio 2F1	5.880	88.20	Beams G1 & G4	0.5 of Span 2
	Ohio 3F1	3.995	91.87	Beams G1 & G4	0.5 of Span 2
	Ohio 4F1	3.574	96.50	Beams G1 & G4	0.5 of Span 2
	Ohio 5C1	2.838	113.51	Beams G1 & G4	Pier 2
	SU4	3.534	95.42	Beams G1 & G4	0.5 of Span 2
	SU5	3.233	100.22	Beams G1 & G4	0.5 of Span 2
	SU6	2.915	101.29	Beams G1 & G4	0.5 of Span 2
	SU7	2.698	104.56	Beams G1 & G4	0.5 of Span 2
	EV2	3.481	100.07	Beams G1 & G4	0.5 of Span 2
	EV3	2.280	98.02	Beams G1 & G4	0.5 of Span 2
Interior Beams	HS-20 (Inventory)	1.351	48.63	Beams G2 & G3	0.5 of Span 2
	HS-20 (Operating)	2.256	81.21	Beams G2 & G3	0.5 of Span 2
	Ohio 2F1	4.381	65.71	Beams G2 & G3	0.5 of Span 2
	Ohio 3F1	2.972	68.36	Beams G2 & G3	0.5 of Span 2
	Ohio 4F1	2.661	71.86	Beams G2 & G3	0.5 of Span 2
	Ohio 5C1	3.069	122.77	Beams G2 & G3	Pier 1
	SU4	2.632	71.06	Beams G2 & G3	0.5 of Span 2
	SU5	2.409	74.68	Beams G2 & G3	0.5 of Span 2
	SU6	2.172	75.47	Beams G2 & G3	0.5 of Span 2
	SU7	2.011	77.92	Beams G2 & G3	0.5 of Span 2
	EV2	2.590	74.47	Beams G2 & G3	0.5 of Span 2
	EV3	1.698	73.03	Beams G2 & G3	0.5 of Span 2

Table 1 - Load Rating Results of Existing (Continuous Spans)

		Rating		Controlling Member	Location
		Factor	Tonnage		
Fascia Beams	HS-20 (Inventory)	1.253	45.12	Beams G1 & G4	Pier 2
	HS-20 (Operating)	2.093	75.34	Beams G1 & G4	Pier 2
	Ohio 2F1	5.622	84.34	Beams G1 & G4	0.5 of Span 2
	Ohio 3F1	3.819	87.85	Beams G1 & G4	0.5 of Span 2
	Ohio 4F1	3.418	92.27	Beams G1 & G4	0.5 of Span 2
	Ohio 5C1	2.577	103.09	Beams G1 & G4	Pier 2
	SU4	3.379	91.23	Beams G1 & G4	0.5 of Span 2
	SU5	3.091	95.83	Beams G1 & G4	0.5 of Span 2
	SU6	2.787	96.85	Beams G1 & G4	0.5 of Span 2
	SU7	2.580	99.98	Beams G1 & G4	0.5 of Span 2
	EV2	3.328	95.68	Beams G1 & G4	0.5 of Span 2
	EV3	2.180	93.73	Beams G1 & G4	0.5 of Span 2
Interior Beams	HS-20 (Inventory)	1.284	46.21	Beams G2 & G3	0.5 of Span 2
	HS-20 (Operating)	2.144	77.17	Beams G2 & G3	0.5 of Span 2
	Ohio 2F1	4.163	62.44	Beams G2 & G3	0.5 of Span 2
	Ohio 3F1	2.824	64.96	Beams G2 & G3	0.5 of Span 2
	Ohio 4F1	2.529	68.29	Beams G2 & G3	0.5 of Span 2
	Ohio 5C1	2.909	116.37	Beams G2 & G3	Pier 1
	SU4	2.501	67.53	Beams G2 & G3	0.5 of Span 2
	SU5	2.289	70.96	Beams G2 & G3	0.5 of Span 2
	SU6	2.064	71.72	Beams G2 & G3	0.5 of Span 2
	SU7	1.911	74.05	Beams G2 & G3	0.5 of Span 2
	EV2	2.461	70.77	Beams G2 & G3	0.5 of Span 2
	EV3	1.614	69.40	Beams G2 & G3	0.5 of Span 2

Table 2 - Load Rating Results of Proposed (Continuous Spans)

		Rating		Controlling Member	Location
		Factor	Tonnage		
Fascia Beam	HS-20 (Inventory)	1.284	46.22	Exisiting Beam G4	Pier 2
	HS-20 (Operating)	2.144	77.18	Exisiting Beam G4	Pier 2
	Ohio 2F1	5.584	83.76	Exisiting Beam G4	0.5 of Span 2
	Ohio 3F1	3.79	87.16	Exisiting Beam G4	0.5 of Span 2
	Ohio 4F1	3.394	91.64	Exisiting Beam G4	0.5 of Span 2
	Ohio 5C1	2.637	105.49	Exisiting Beam G4	Pier 2
	SU4	3.355	90.58	Exisiting Beam G4	0.5 of Span 2
	SU5	3.069	95.15	Exisiting Beam G4	0.5 of Span 2
	SU6	2.768	96.19	Exisiting Beam G4	0.5 of Span 2
	SU7	2.567	99.34	Exisiting Beam G4	0.5 of Span 2
	EV2	3.308	95.09	Exisiting Beam G4	0.5 of Span 2
	EV3	2.164	93.03	Exisiting Beam G4	0.5 of Span 2
Interior Beam	HS-20 (Inventory)	1.309	47.12	Ex. Beams G2 &G3	0.5 of Span 2
	HS-20 (Operating)	2.186	78.69	Ex. Beams G2 &G3	0.5 of Span 2
	Ohio 2F1	4.244	63.66	Ex. Beams G2 &G3	0.5 of Span 2
	Ohio 3F1	2.88	66.23	Ex. Beams G2 &G3	0.5 of Span 2
	Ohio 4F1	2.579	69.63	Ex. Beams G2 &G3	0.5 of Span 2
	Ohio 5C1	2.985	119.40	Ex. Beams G2 &G3	0.5 of Span 2
	SU4	2.550	68.85	Ex. Beams G2 &G3	0.5 of Span 2
	SU5	2.334	72.36	Ex. Beams G2 &G3	0.5 of Span 2
	SU6	2.104	73.13	Ex. Beams G2 &G3	0.5 of Span 2
	SU7	1.948	75.50	Ex. Beams G2 &G3	0.5 of Span 2
	EV2	2.51	72.16	Ex. Beams G2 &G3	0.5 of Span 2
	EV3	1.646	70.76	Ex. Beams G2 &G3	0.5 of Span 2

Table 3 - Load Rating Results of Proposed Widening (Continuous Spans)

5.0 VERTICAL ALIGNMENT

The existing surveyed minimum vertical clearance is 17.31'. This is more than the required minimum vertical clearance of 15'-6" per Section 207.1A of the OTIC Bridge Design Manual. The adjustment to the vertical profile is worked off the existing beam elevations, and the increase in deck thickness from 8.0" to 8.5" and an added 2" haunches over the beams. The difference in top of deck elevations is shown in the table and exaggerated profile below.

Node	Station	Existing Deck Thickness (in.)	Existing Deck Haunch (in.)	Existing Deck Elevation	Proposed Deck Thickness (in.)	Proposed Deck Haunch (in.)	Proposed Deck Elevation	Elevation Difference (in.)
Rear Abut.	13+86.67	8.00	0.00	1063.78	8.50	2.00	1064.01	2.87
Pier 1	14+30.67	8.00	0.00	1062.71	8.50	2.00	1062.97	3.03
Pier 2	15+00.00	8.00	0.00	1061.03	8.50	2.00	1061.32	3.42
Pier 3	15+69.33	8.00	0.00	1059.43	8.50	2.00	1059.66	2.86
Forward Abut.	16+13.33	8.00	0.00	1058.45	8.50	2.00	1058.62	1.94

Table 4 - Profile Data MP 182.1

Figure 18 - Prospect Road Graphical Vertical Profile MP 182.1

To chase back the proposed vertical alignment, the profile will extend 60' beyond the limits of the bridge. To ensure a smooth transition from existing to proposed pavement, 50' of resurfacing will be constructed.

6.0 REHABILITATION ALTERNATIVES

Three rehabilitation alternatives were evaluated based on direction from the OTIC in consultation with the City of Hudson due to the City's desire to add pedestrian and bike crossing over the Ohio Turnpike.

Alternative 1 - The first "baseline" alternative is deck replacement essentially in kind with no accommodation for pedestrian and or bikeway access. This is the original OTIC required rehabilitation work and costs.

Alternative 2 - The second alternative includes: a bridge deck replacement on existing substructure with a new pedestrian bridge constructed west of the existing rehabilitated bridge. This alternative is discussed in detail in Section 5.1 below. Existing OTIC bridge rehabilitation work is common between alternative 1 and 2 with the difference being the addition of the parallel truss bridge.

Alternative 3 - The third alternative includes: a bridge deck replacement that includes widening of the bridge deck, abutments and piers. This alternative is discussed further in Section 5.2 below.

All rehabilitation alternatives will include the following:

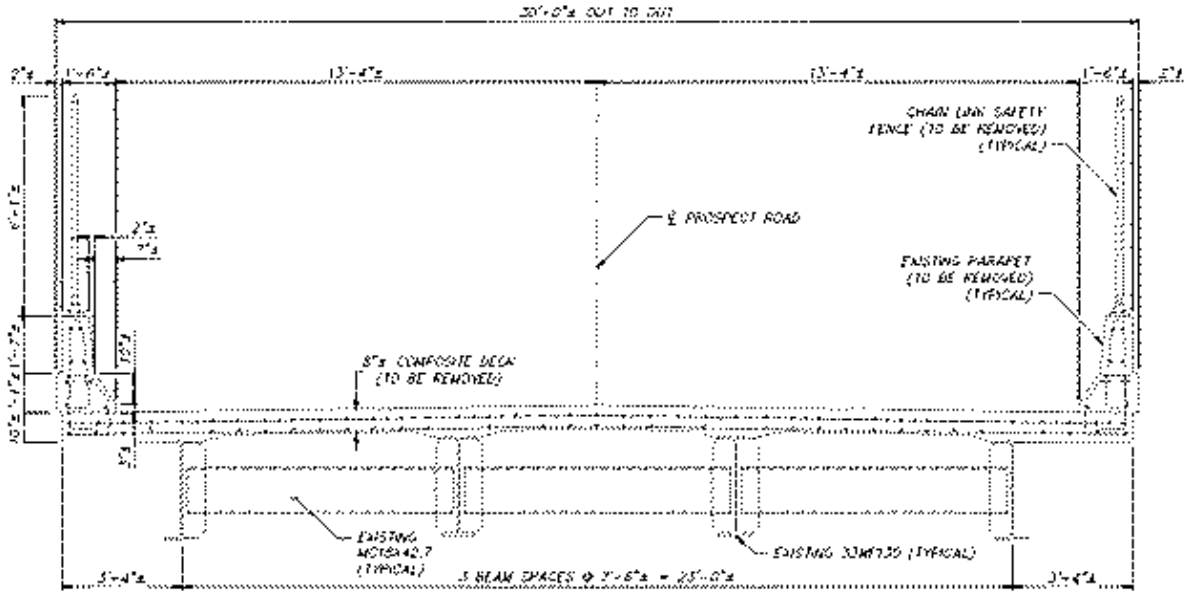
- New reinforced concrete composite deck, abutment slabs, approach slabs, parapets and chain link safety fencing
- Abutment & Pier pedestals where deterioration warrants replacement. Other pedestals will remain with bearing height differences accommodated with HP Pedestals
- Patching and other repairs of the existing substructures as noted in this report.
- Expansion bearing replacements with elastomeric bearings in accordance with OTIC's requirements for bridge re-decking projects. The existing steel rocker bearings at both Abutments will be replaced for all alternatives. We recommend retaining the existing good condition steel bolster bearings at Pier 2, as the existing bridge meets existing vertical clearance requirements, and the good condition of beams and limited repairs on the pier will eliminate the need for extensive lane and shoulder closures. If alternative 3 is implemented with he additional steel work we would recommend replacing all Pier 1 and 3 bearings as well to mitigate differential movement.
- Installing new guardrail; reconstructing two catch basins; relevant earthwork; and resurfacing the approach roadway pavement.

Maintenance of Traffic All Alternatives:
Prospect Road shall be closed during construction. Barricades are expected to be placed 225' north of the structure, and 500' south of the structure. Notes for the contractor to coordinate road closures with the work on the North Main Street bridge over the Ohio Turnpike will be included in the plan notes.

The detailed detour route is: Prospect Road to the south, East Hines Hill Road to the north, and North Main Street (SR-91) connecting the two. Of note additional coordination for this route will be required with the various local municipalities as there are truck restrictions on this route.

Existing Structure:

The existing bridge is a four-span structure with four 33WF130 non-composite beams with cover plates at Pier 1, Pier 2 and Pier 3which support a reinforced concrete deck on reinforced concrete abutments and piers supported by piles and spread footings. The existing beams are spaced at 7'-8"± with a 3'-4"± overhang. The toe to toe of parapet width is 26'-8"± and out to out of bridge is 30'-0"±. See Figure 19 for Existing Transverse Section.



EXISTING TRANSVERSE SECTION

Figure 19 – Existing Transverse Section MP 182.1

6.1 Bridge Deck Replacement & Pedestrian Bridge (Alternative 1 and 2):

Alternative 1 and 2 - Proposed Deck Replacement: The existing deck, parapets and chain link safety fence will be removed and replaced with an 8 ½" composite concrete deck with SBR-1-13 railing and chain link safety fence. The overhang will be increased to 4'-1" from 3'-4" to accommodate the change in barrier transitions from the Jersey style existing to the SBR-1-13 straight faced transition. These large overhangs will need to be taken into consideration during design and construction to prevent global superstructure distortion as the deck is poured, as the tributary deck load carried by the fascia beams exceeds 120% of the average tributary deck load carried by the interior beams. These loadings can be accommodated by temporary blocking and tie rods as necessary if the existing diaphragms do not have sufficient capacity. This will provide 27'-10" toe to toe of parapet and 31'-2" out to out bridge width. The proposed transverse section for the deck replacement alternative is shown as Figure 20.

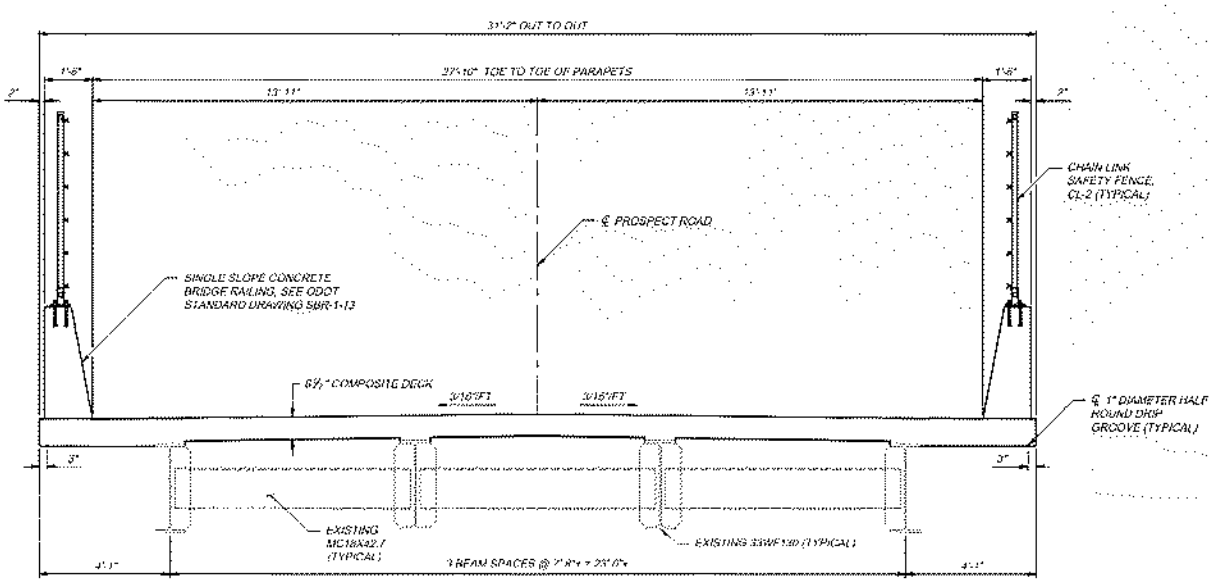


Figure 20 – Proposed Transverse Section MP 182.1

Alternative 2 - Proposed Deck Pedestrian Bridge: To accommodate the pedestrian traffic, a new stand-alone pedestrian bridge will be constructed to the west of the existing rehabilitated bridge. The bridge will consists of two 120' long spans and 10' width. The proposed plan view for the deck replacement and pedestrian bridge alternative is shown as Figure 21.

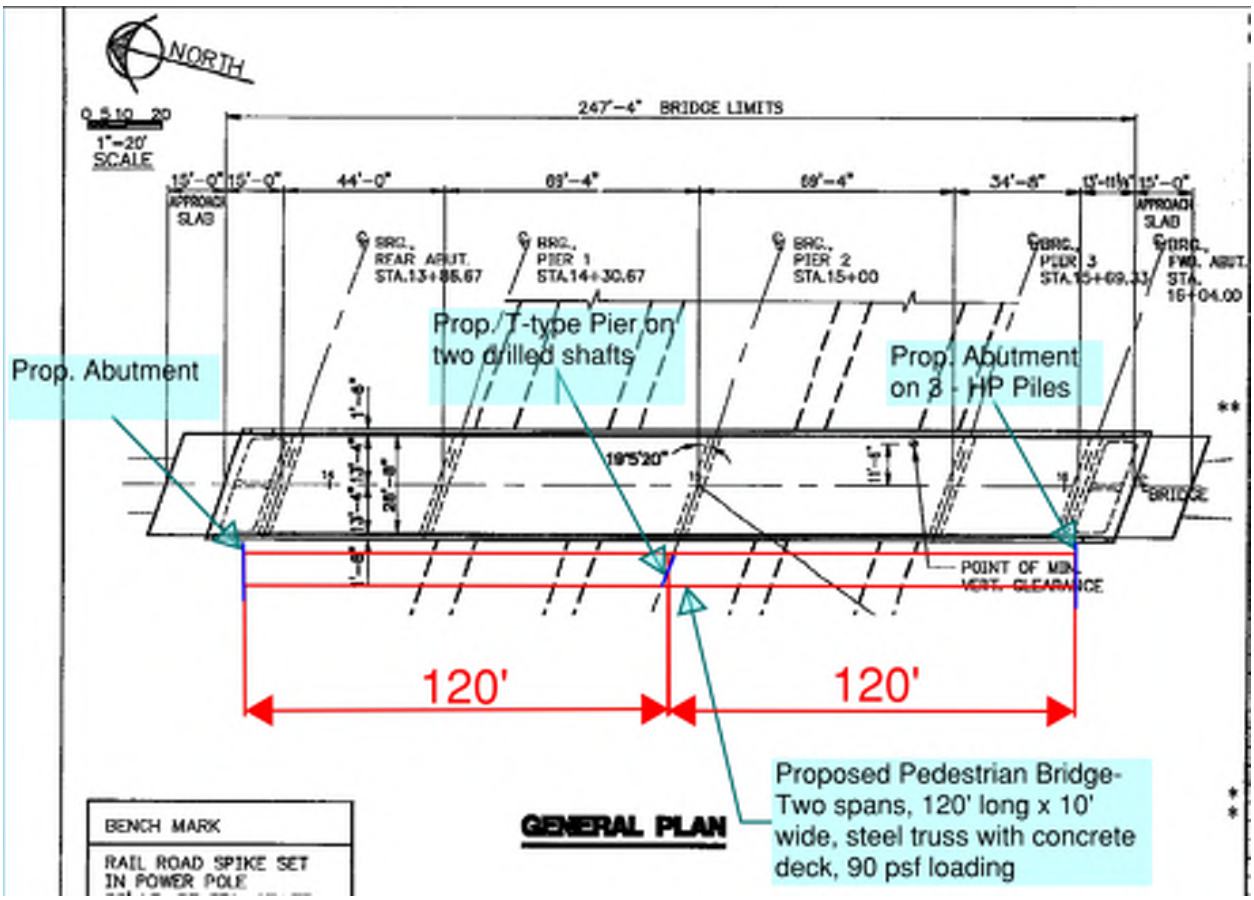


Figure 21 – Proposed Pedestrian Bridge – Plan View MP 182.1

Proposed Pedestrian Bridge Abutments: Rear and forward reinforced concrete abutments will be constructed to support the pedestrian bridge. Similar to the existing bridge, the rear abutment will supported by spread footing and the forward abutment will be supported by piles. See Figure 22 for the Plan View and Figure 23 for the Elevation and Section Views.

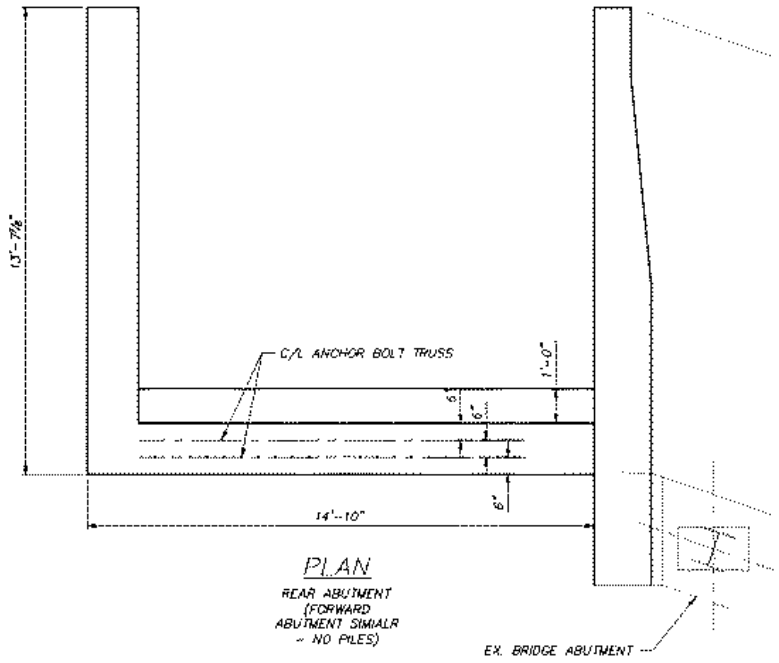


Figure 22 – Proposed Abutment Alternative 2 – Plan View MP 182.1

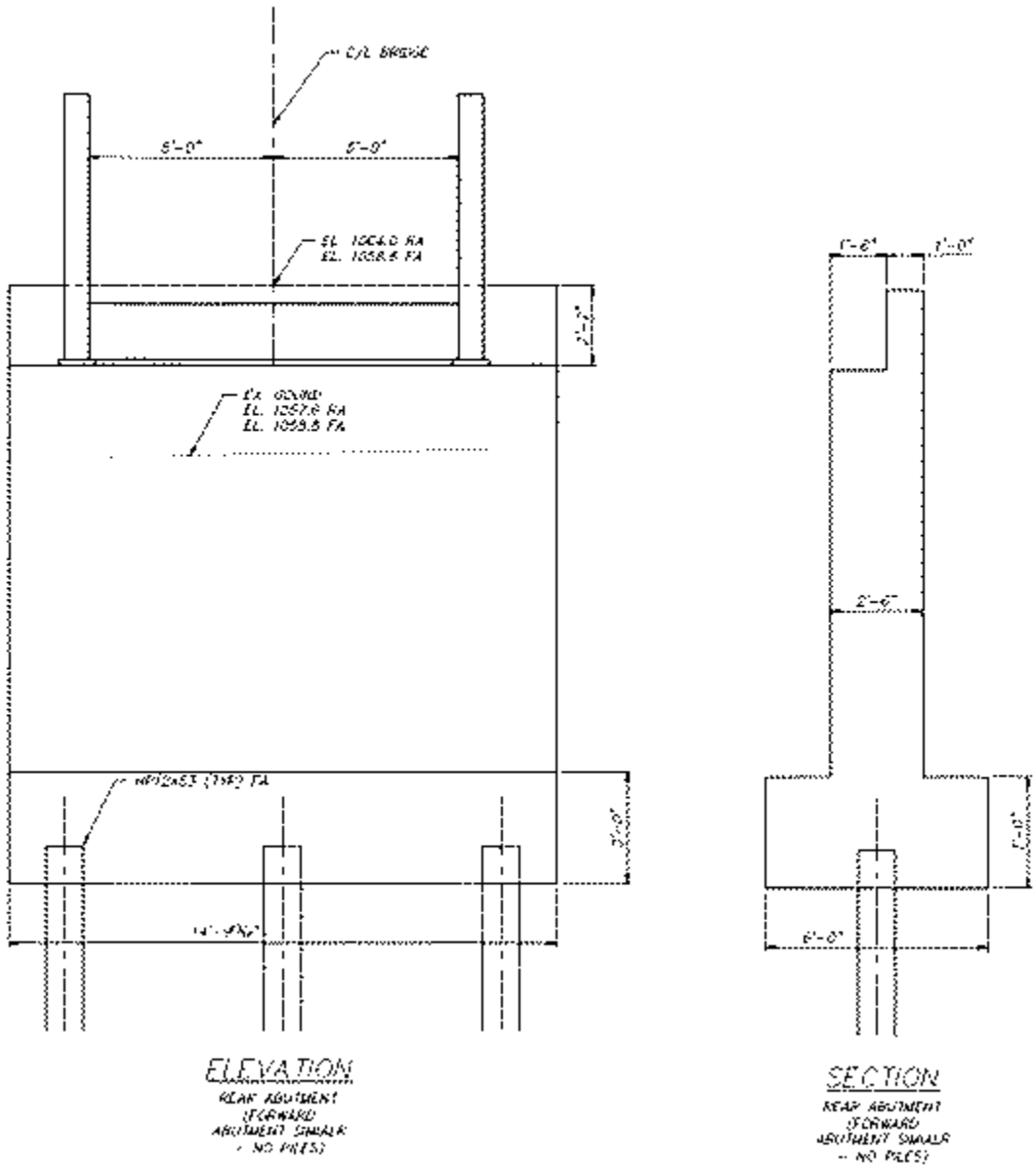


Figure 23 – Proposed Abutment Alternative 2 – Elevation and Section Views MP 182.1

Proposed Pier Pedestrian Bridge: A pier will be constructed to support the pedestrian bridge. The pier will consists of two 3' columns with a pier cap supported by drilled shafts to bedrock. See Figure 24 for the Plan View and Figure 25 for the Elevation View.

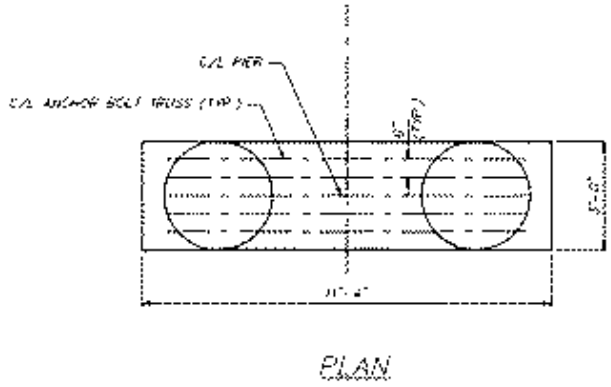
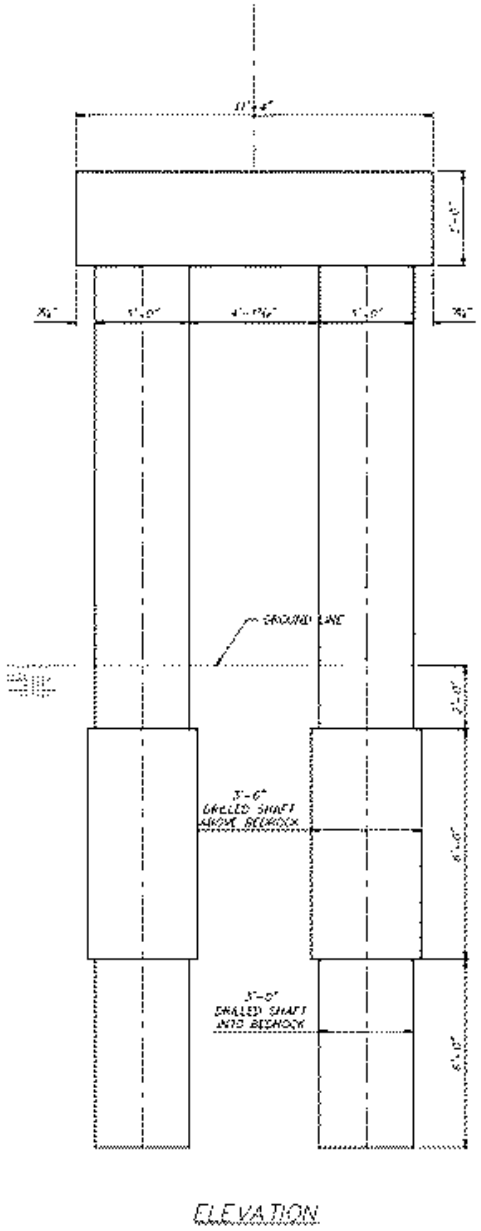


Figure 24 – Proposed Pier Plan View MP 182.1



ELEVATION

Figure 25 – Proposed Pier Plan View MP 182.1

6.2 Bridge Deck Replacement & Widening (Alternative 3):

Proposed Deck Replacement and widening: The existing deck, parapets and chain link safety fence will be removed and replaced with an 8 ½" composite concrete deck with SBR-1-13 railing and chain link safety fence. Two additional W33x130 painted beams will be added with MC18x45.7 intermediate diaphragms. The right overhang will be increased to 4'-1" from the centerline of the existing fasica beam, the left overhang will be 1'-7" from the centerline of the proposed fascia beam. The large 4'-1" overhang will need to be taken into consideration during design and construction to prevent global superstructure distortion as the deck is poured, as the tributary deck load carried by that beam exceeds 120% of the average tributary deck load carried by the interior beams. These loadings can be accommodated by temporary blocking and tie rods as necessary if the existing diaphragms do not have sufficient capacity. This will provide 27'-10" toe to toe of parapet for vehicle traffic and a 10' shared use path with a BR-2 railing with a chain link safety fence. The overall out to out bridge width will be 42'-2". The proposed transverse section for the deck replacement alternative is shown as Figure 22.

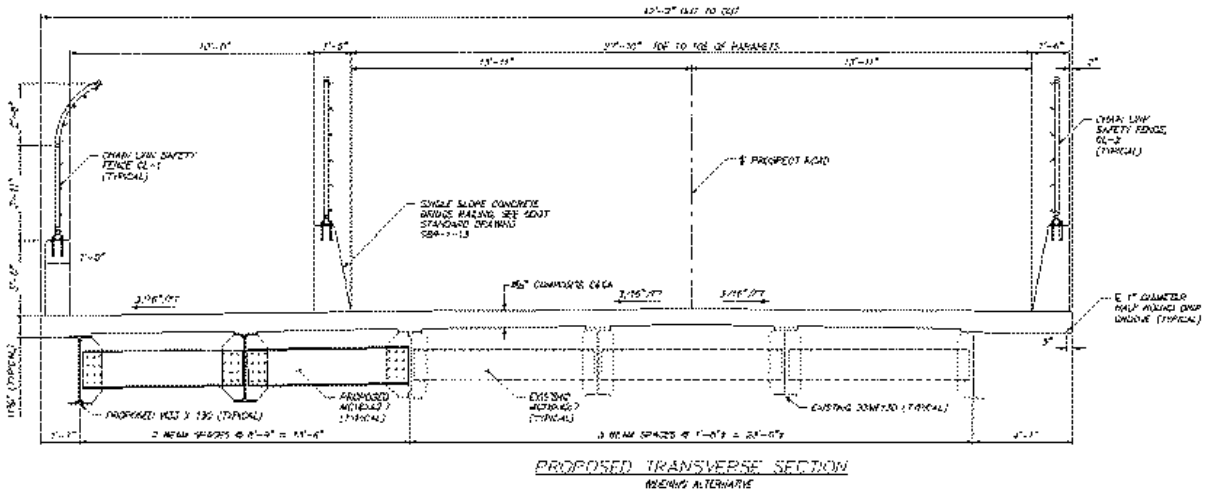


Figure 22 – Proposed Transverse Section MP 182.1

Proposed Abutment Removal and Widening: A portion of the abutment will be removed and the abutment will be widened to accommodate the two new beams. See Figure 23 for Abutment Plan View and Figure 24 for Abutment Elevation and Section Views.

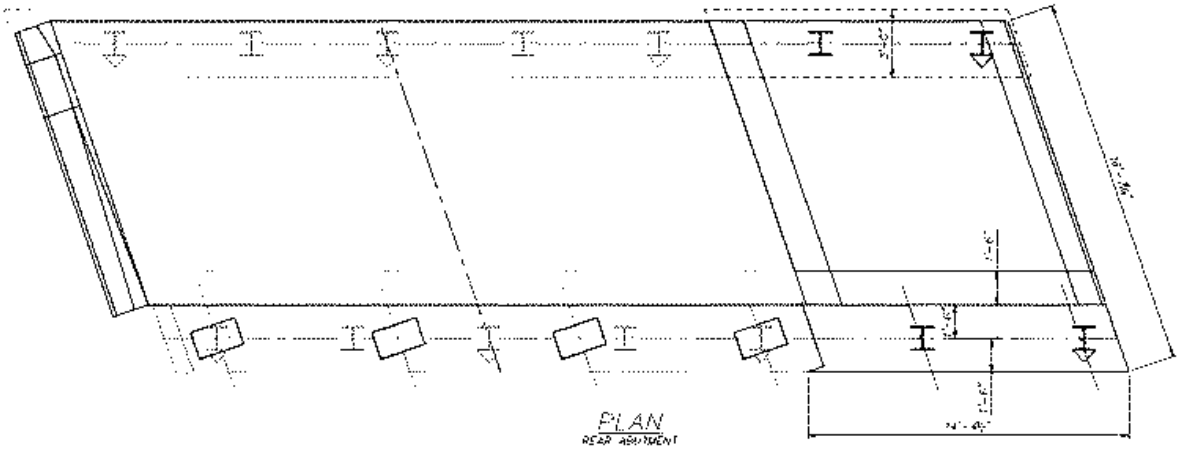


Figure 23 – Abutment Plan View MP 182.1

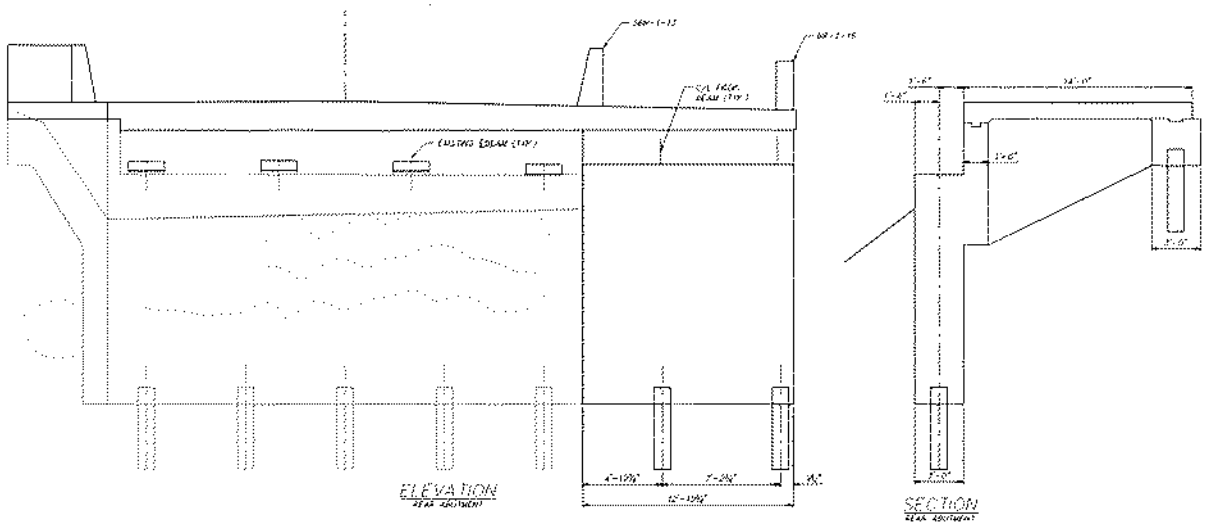


Figure 24 – Abutment Elevation and Section Views MP 182.1

Proposed Pier Widening: To support the two new beams, new independent two-column reinforced concrete piers will be required, built in-line with existing piers. These will be supported by drilled shafts. See Figure 25 for Pier Plan View and Figure 26 for Pier Elevation View.

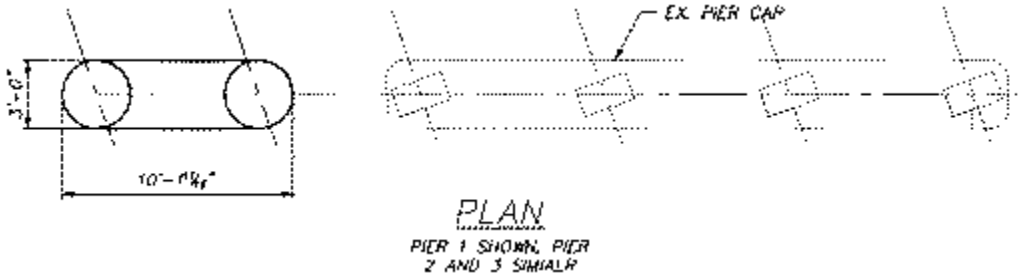


Figure 25 – Pier Plan View MP 182.1

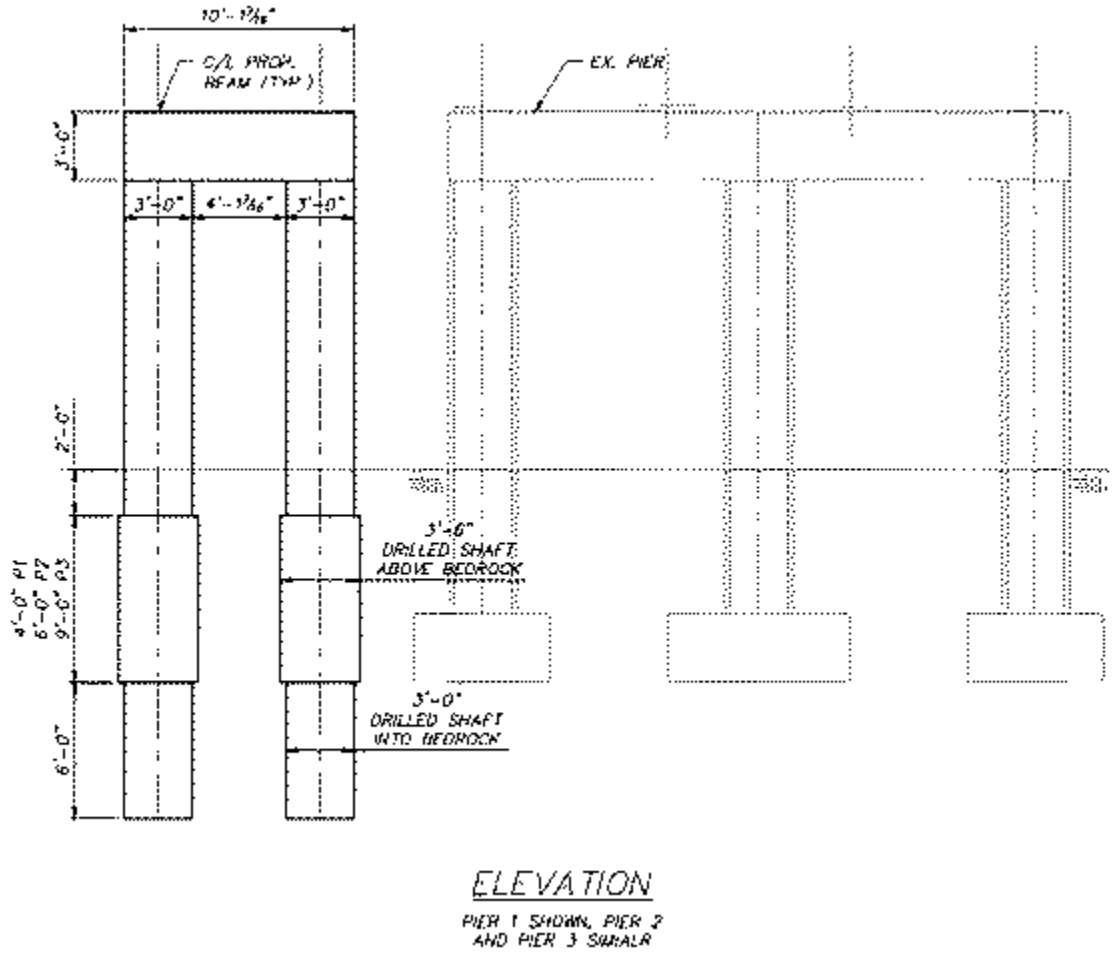


Figure 26 – Pier Elevation View MP 182.1

7.0 ESTIMATED COST

Per the revised Phase 1A scope under Modification 1, estimated construction costs are provided for the rehabilitation of the Prospect Road Bridge (MP 182.1) and the additional costs incurred by providing a multi-use path crossing the Ohio Turnpike as outlined in Section 5.0 for each alternative. The structures, roadway and total estimated costs for the three alternatives are summarized in Table 5 and are provided in Appendix B.

With the current inflationary environment we have used a factor of 15% for inflation to 2024 construction based on recent trends in similar ODOT projects as OTIC has not let a significant number of similar project to date in the current inflationary environment to accurately gage its impacts on pricing.

Table 5 - Estimated Construction Cost

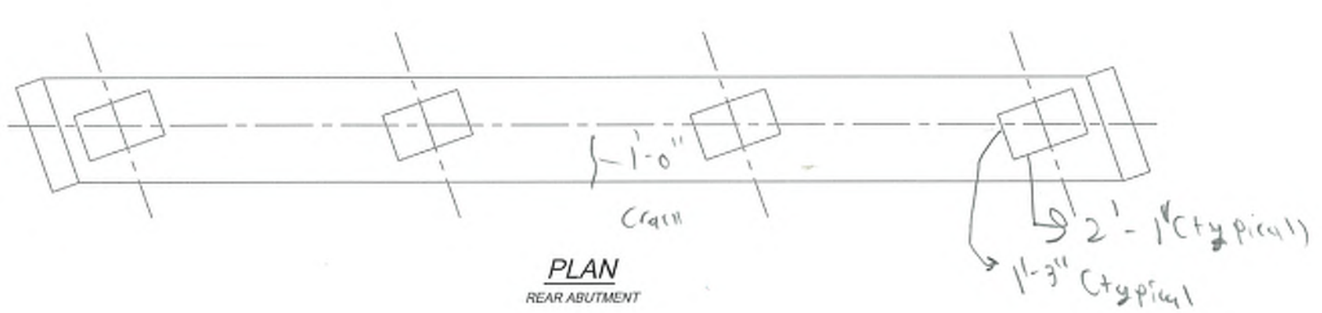
	MP182.1 Rehabilitation Cost	Additional Multi-Use Path Cost	Additional Design Costs Beyond Alternative 1	Total Project Cost
Alternative 1	2,247,000			
Alternative 2	$2,247,000	$1,890,000	$190,000	$4,327,000
Alternative 3	$2,247,000	$1,541,000	$217,000	$4,005,000

8.0 RECOMMENDED REHABILITATION ALTERNATIVE

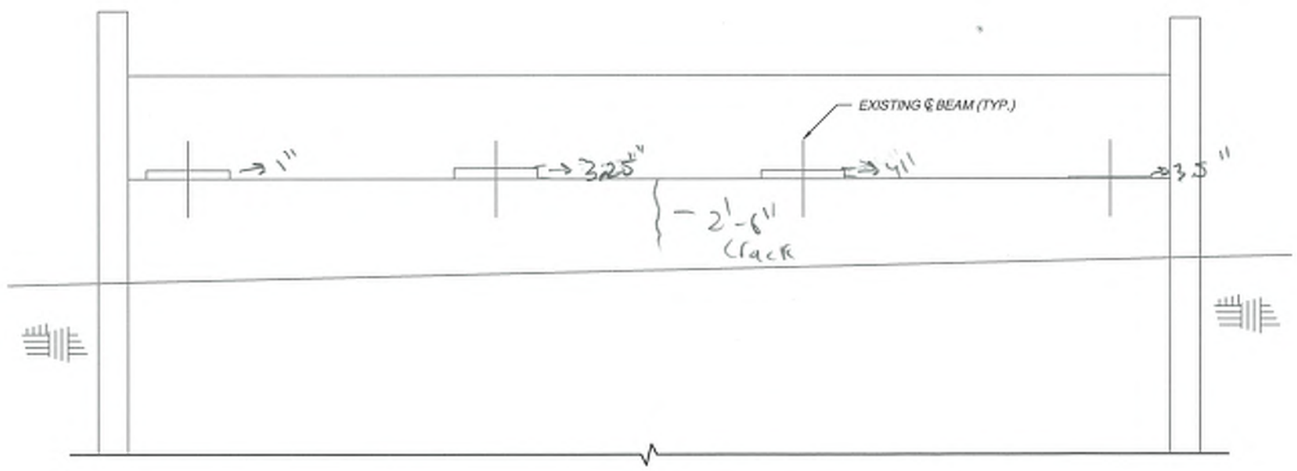
With the assumption that bike and pedestrian access will be provided Compass recommends Alternative 3. This alternative is the lowest total project cost as shown in section 7.0. In addition, it provides a structurally redundant option over the Ohio Turnpike mainline compared to the non-redundant fracture critical pedestrian truss. It also minimizes the number of structures required to be inspected and maintained by the OTIC and or by local agencies by agreement. Alternative 3 also minimizes project footprint and associated environmental impacts.

APPENDIX A:

BRIDGE INSPECTION FIELD NOTES



PLAN
REAR ABUTMENT



ELEVATION
REAR ABUTMENT

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0
SP 516A AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY: COMPASS

NO.	REVISIONS	BY	DATE
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DESIGNED AAA
DRAWN
CHECKED AAA
BY CHANGE
JFK
AAA

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

PATCHING AND PARTIAL REMOVAL DETAILS (1 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

PROJECT 00-00-00
DATE: MM/DD/YY

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OHIO TURNPIKE

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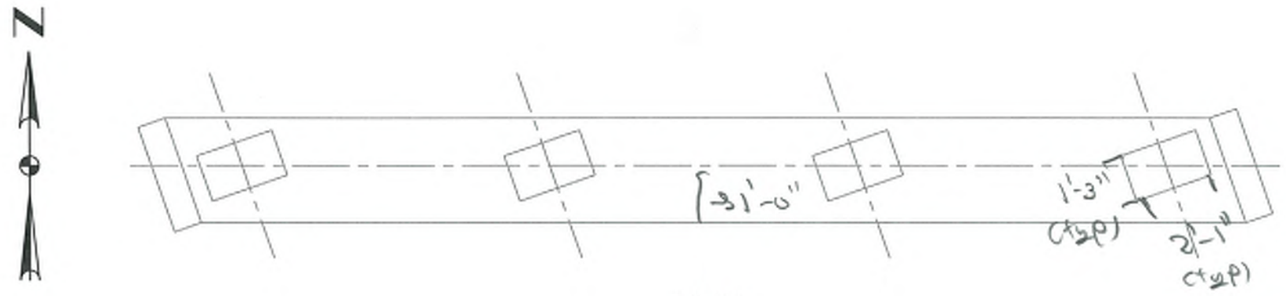
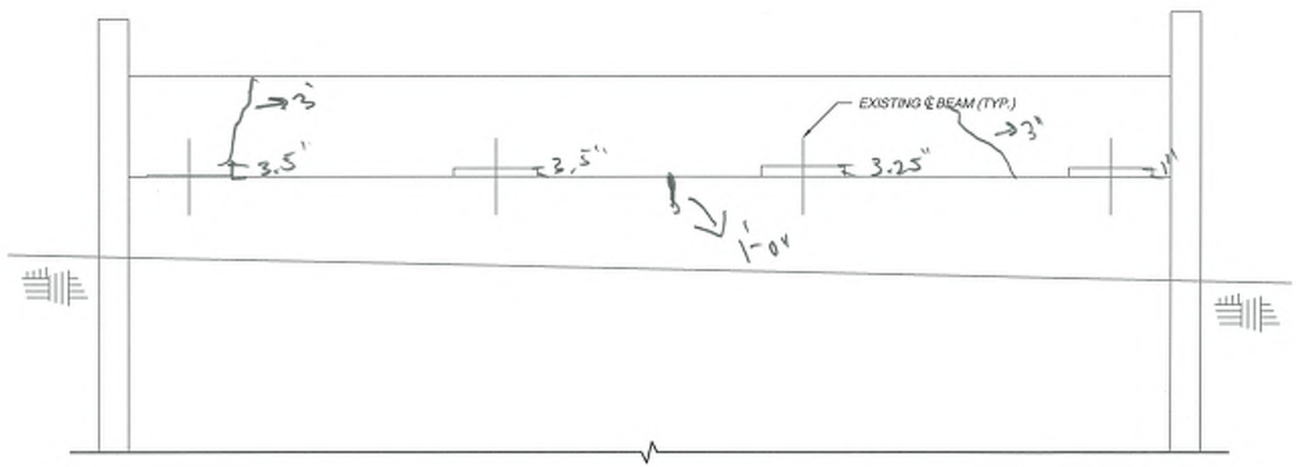


PLAN

FORWARD ABUTMENT



ELEVATION

~~Ahead~~ ABUTMENT

Forward

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0
SP 516A AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0

NOTES:

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LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

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CHECKED AAA
W.CHECKED AAA

NO.	REVISIONS	BY	DATE
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DESIGN AGENCY
COMPASS
TRANSPORTATION GROUP

OHIO TURNPIKE

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

PATCHING AND PARTIAL REMOVAL DETAILS (2 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

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DATE: MM/DD/YY

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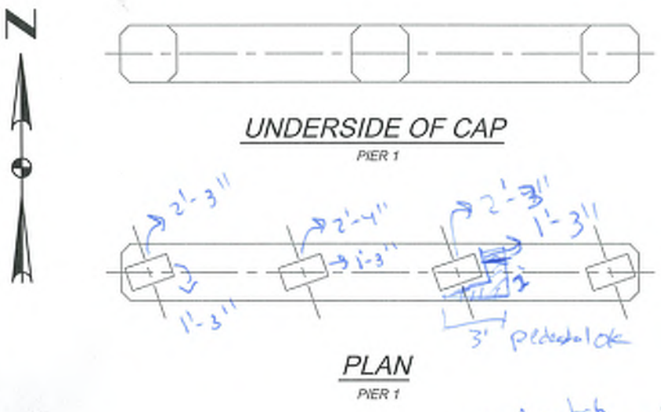
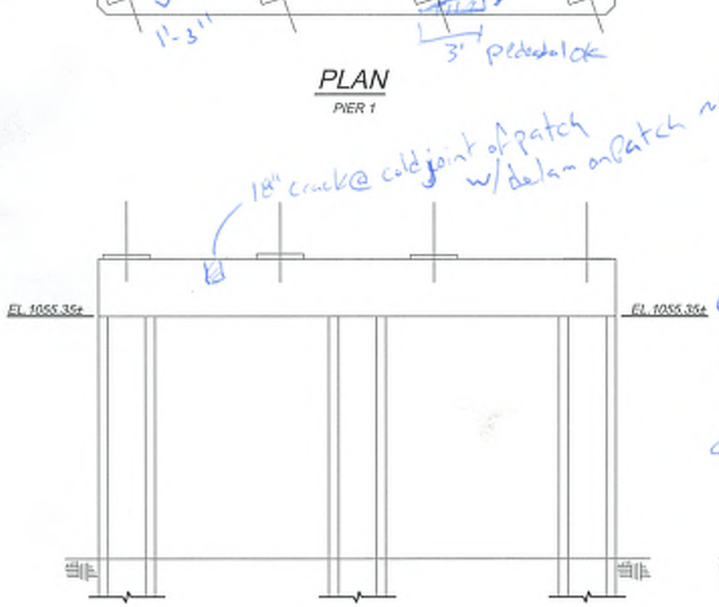
JFK pics
1 - Brg, Units S, Beam 2
Delam area

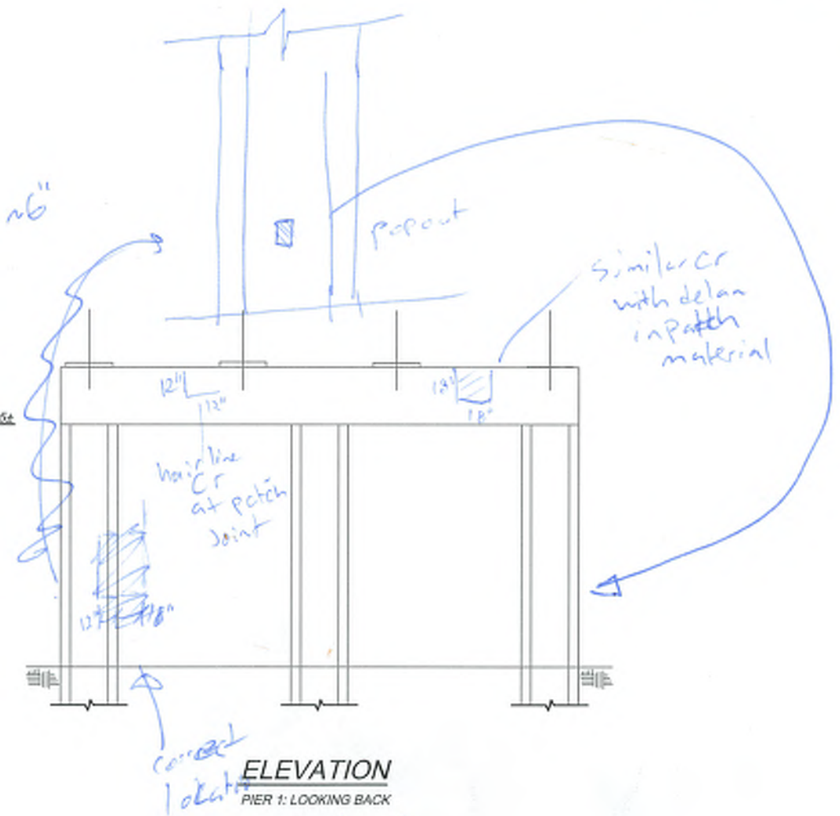
Pic cont
6 - Moment plates have minor surface rust on Bot/Rr no section loss welds ok
7 - Bm 2 F.S. 1 minor rust from Bot/Flange interface with caulk
8 - hairline cr at N Face look S, Btwn B3/4

IMF / JFK 4/27/23
Photos
1 - P1 ext bm 4 brg w/minor rust (typ?)
2 - rest of P1 brgs tilted Back twd abut
3/4 crack at patch S face (look N)
5 - minor pack on Brg rust plates

Caulked bearings
interface of rocker and bot plate
Keeper side of rocker







S. Pier
Wid 12" on N Face
18" on West face
36" tall on N
72" tall on W

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0
SP 516A AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
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LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY: COMPASS

NO.	REVISIONS	BY	DATE
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-	-	-	-

DESIGNED AAA | DETAILED AAA | CHECKED AAA | QUANTITY JFK | W CHECKED AAA

PROJECT 00-00-00
DATE: MM/DD/YY

PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
M.P. 182.1
SUMMIT COUNTY

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OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

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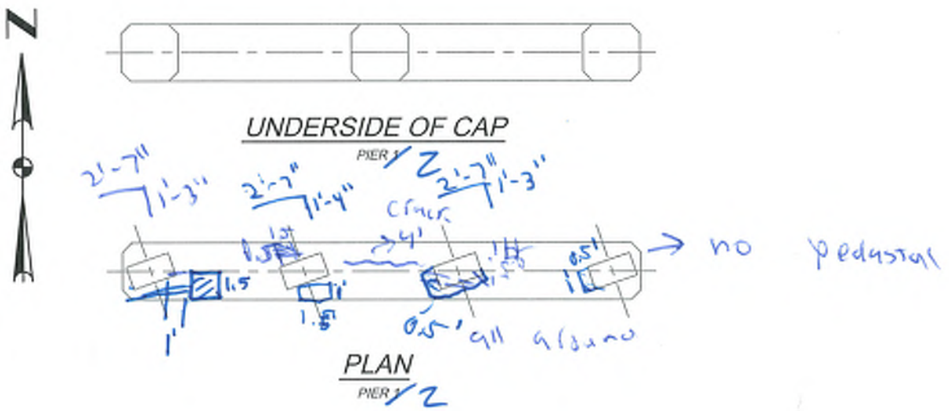
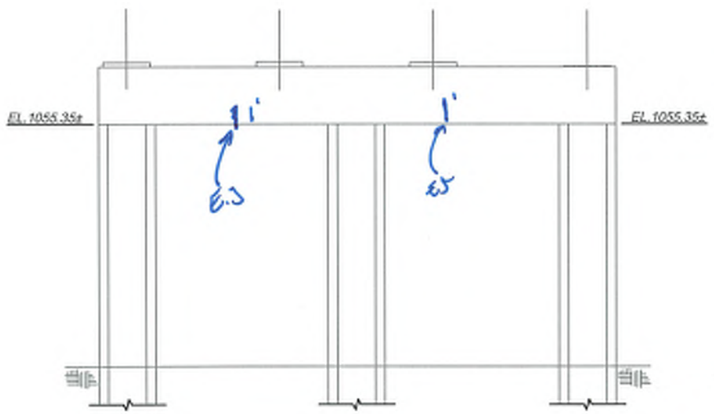
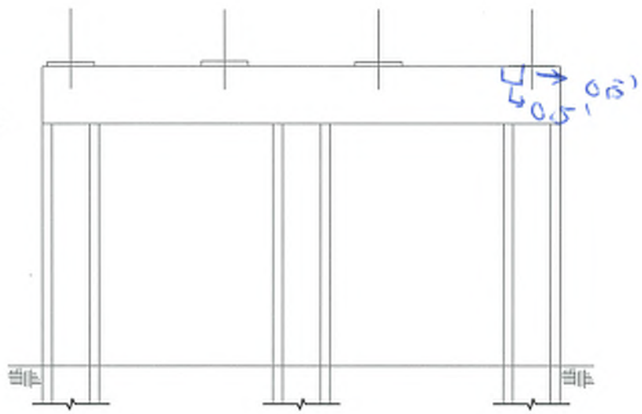
PIER 2







SP 519 REPAIR AREAS		
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SP 516A AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0

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LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

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DESIGNED AAA | CHECKED AAA
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PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
M.P. 182.1
SUMMIT COUNTY

PROJECT 00-00-00
DATE: MM/DD/YY

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OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

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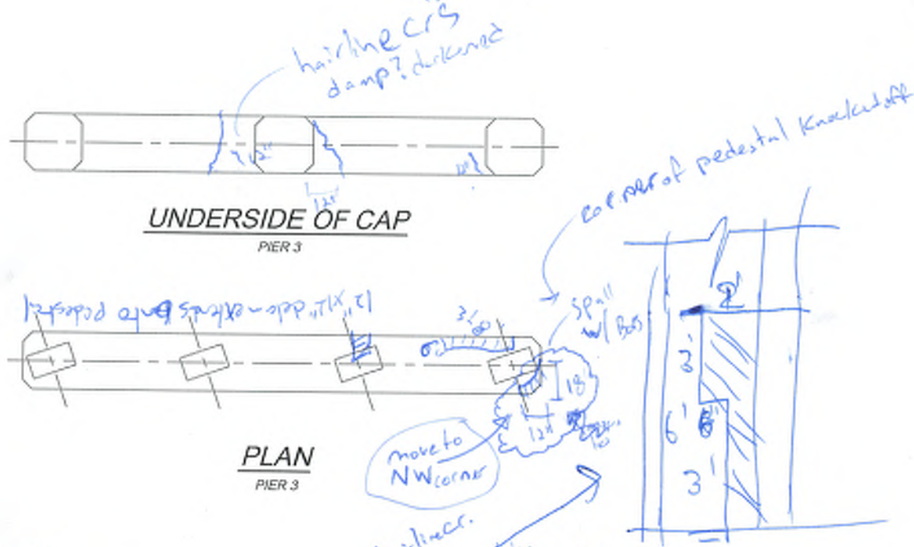

NF pics

9 - ECDU. View

10 - cr under bm 4

11 - cr under bm 3

12 - cr typ width ~0.013"

13 - Pier 3 column 3 spall/delam

14 - " column 2

15/16 - corner spall

17 - West side of N face cap showing marked cracks - hairline except noted

18 - Bm 3 pedestal N side top delam onto pedestal

could not reach min ladder contractor to confirm

19 - East End top cap crack/repair

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0
SP 516A AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	0	0

Surface cap Notes IAN messed up the directions...

NOTES:

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LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

looking S. Columns

Pier 3

DESIGN AGENCY: COMPASS

NO.	REVISIONS	BY	DATE
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PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

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DATE: MM/DD/YY

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OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

OHIO TURNPIKE

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APPENDIX B:

CONSTRUCTION COST ESTIMATES

PROJECT NO. 71-22-12 (PROSPECT ROAD BRIDGE OVER OTIC MAINLINE MP 182.1)
ENGINEER'S ESTIMATE - ALTERNATIVE 1

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		GENERAL (Ref. Nos. 1-5)				
1	IB.ART.6	PREMIUM FOR CONTRACT PERFORMANCE BOND AND PAYMENT BOND	1	LUMP	$ 50,000.00	$ 50,000.00
2	SP 614	MAINTAINING TRAFFIC	1	LUMP	$ 65,000.00	$ 65,000.00
3	SP 619	FIELD OFFICE	1	LUMP	$ 60,000.00	$ 60,000.00
4	SP 623	CONSTRUCTION LAYOUT SURVEY	1	LUMP	$ 50,000.00	$ 50,000.00
5	624	MOBILIZATION	1	LUMP	$ 100,000.00	$ 100,000.00
				TOTAL		**$ 325,000.00**

		STRUCTURES (Ref. Nos. 6 - 26)				
6	202	APPROACH SLAB REMOVED	106	SQ. YD.	$ 60.00	$ 6,360.00
7	SP 202	PORTIONS OF STRUCTURE REMOVED	1	LUMP	$ 209,000.00	$ 209,000.00
8	202	CATCH BASIN REMOVED	2	EACH	$ 500.00	$ 1,000.00
9	SP 509	EPOXY COATED REINFORCING STEEL, GRADE 60	71,450	POUND	$ 3.00	$ 214,350.00
10	SP 511(QC2)	CLASS QC2 CONCRETE, SUPERSTRUCTURE DECK SLAB	201	CU. YD.	$ 1,300.00	$ 261,300.00
11	SP 511(QC2)	CLASS QC2 CONCRETE, BARRIERS AND PARAPETS	78	CU. YD.	$ 1,000.00	$ 78,000.00
12	SP 511(QC2)	CLASS QC2 CONCRETE, ABUTMENT SLABS	37	CU. YD.	$ 950.00	$ 35,150.00
13	511	CLASS QC1 CONCRETE, PIER CAP	1	CU. YD.	$ 1,250.00	$ 1,250.00
14	511	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	1	CU. YD.	$ 1,250.00	$ 1,250.00
15	512	CONCRETE REPAIR BY EPOXY INJECTION	67	FOOT	$ 80.00	$ 5,320.00
16	513	WELDED STUD SHEAR CONNECTORS	2,664	EACH	$ 5.00	$ 13,320.00
17	516	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	16	EACH	$ 1,250.00	$ 20,000.00
18	SP 519	PATCHING OF CONCRETE STRUCTURES	114	SQ. FT.	$ 125.00	$ 14,187.50
19	526	REINFORCED CONCRETE APPROACH SLABS	110	SQ. YD.	$ 350.00	$ 38,500.00
20	SP 527	FALSEWORK, TEMPORARY BRACING AND PROTECTIVE STRUCTURES	1	LUMP	$ 75,000.00	$ 75,000.00
21	SP 533	1 1/2" CONTINUOUS STRIP SEAL IN STRUCTURAL STEEL JOINT	66	FOOT	$ 800.00	$ 52,800.00
22	SP 536	CONCRETE WEATHERPROOFING, DECK, ABUTMENT SLABS, AND APPROACH SLABS	913	SQ. YD.	$ 10.00	$ 9,130.00
23	SP 536	CONCRETE WEATHERPROOFING, PARAPETS	436	SQ. YD.	$ 10.00	$ 4,360.00
24	SP 536	CONCRETE WEATHERPROOFING, SUBSTRUCTURE	289	SQ. YD.	$ 15.00	$ 4,335.00
25	601	CRUSHED AGGREGATE SLOPE PROTECTION	50	SQ. YD.	$ 100.00	$ 4,979.67
26	SP 607	TYPE II FENCE, ALL ALUMINUM (6'-0" CHAIN LINK WITH SPECIALS)	474	FOOT	$ 150.00	$ 71,100.00
27	611	CATCH BASIN, NO. 3	2	EACH	$ 2,200.00	$ 4,400.00
				TOTAL - STRUCTURES		**$ 1,237,601.38**

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		ROADWAY (Ref. Nos. 29 - 43)				
28	201	CLEARING AND GRUBBING	1	LUMP	$ 25,000.00	$ 25,000.00
29	202	PAVEMENT REMOVED, ASPHALT	377	SQ. YD.	$ 10.00	$ 3,770.00
30	203	EXCAVATION	63	CU. YD.	$ 20.00	$ 1,260.00
31	203	EMBANKMENT	31	CU. YD.	$ 25.00	$ 775.00
32	204	SUBGRADE COMPACTION	377	SQ. YD.	$ 5.00	$ 1,885.00
33	254	PAVEMENT PLANING, ASPHALT CONCRETE, 1-1/4"	267	SQ. YD.	$ 10.00	$ 2,670.00
34	SP 302	ASPHALT CONCRETE BASE, PG64-22	43	CU. YD.	$ 200.00	$ 8,600.00
35	SP 304	AGGREGATE BASE	67	CU. YD.	$ 70.00	$ 4,690.00
36	SP 402	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22	18	CU. YD.	$ 350.00	$ 6,300.00
37	SP 404	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	22	CU. YD.	$ 200.00	$ 4,400.00
38	407	NON-TRACKING TACK COAT	77	GALLON	$ 5.00	$ 385.00
39	606	GUARDRAIL, TYPE MGS	100	FOOT	$ 25.00	$ 2,500.00
40	606	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
41	611	CATCH BASIN, NO. 3	2	EACH	$ 2,750.00	$ 5,500.00
42	642	EDGE LINE, 6", TYPE 1	0.19	MILE	$ 5,000.00	$ 946.97
43	642	CENTER LINE, 6", TYPE 1	0.09	MILE	$ 6,000.00	$ 568.18
				TOTAL - ROADWAY		**$ 65,100.18**

ENGINEER'S ESTIMATE

SUBTOTAL	$1,627,701.57
Contingency - 20%	$325,540.31
Inflation - 15%	$292,986.28
**TOTAL BASE BID (INCLUDES REF. NO. 1 THRU REF. NO. 43) ----------> **	**$2,246,228.16**

PROJECT NO. 71-22-12 (PROSPECT ROAD BRIDGE OVER OTIC MAINLINE MP 182.1)
ENGINEER'S ESTIMATE - ADDITIONAL ALTERNATIVE 2 COSTS

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		GENERAL (Ref. Nos. 1-2)				
1		ADDITIONAL SURVEY	1	LUMP	$ 20,000.00	$ 20,000.00
2		GEOTECHNICAL INVESTIGATIONS	1	LUMP	$ 50,000.00	$ 50,000.00
3		ADDITIONAL ENGINEERING COSTS	1	LUMP	$ 120,000.00	$ 120,000.00
				TOTAL		**$ 190,000.00**

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		STRUCTURES (Ref. Nos. 4-25)				
4	203	SPECIAL - EARTHWORK (GRADING FOR TRAIL)	1	LUMP	$ 100,000.00	$ 100,000.00
5	503	UNCLASSIFIED EXCAVATION	1	LUMP	$ 19,000.00	$ 19,000.00
6	505	PILE DRIVING EQUIPMENT MOBILIZATION	1	LUMP	$ 50,000.00	$ 50,000.00
7	507	STEEL PILES HP12X53 FURNISHED	150	FOOT	$ 50.00	$ 7,500.00
8	507	STEEL PILES HP12X53, DRIVEN	90	FOOT	$ 25.00	$ 2,250.00
9	SP 509	EPOXY COATED REINFORCING STEEL, GRADE 60	16,120	POUND	$ 3.00	$ 48,360.00
10	SP 511 (QC2)	CLASS QC2 CONCRETE, SUPERSTRUCTURE DECK SLAB	41	CU. YD.	$ 1,500.00	$ 61,500.00
11	511	CLASS QC1 CONCRETE, PIER CAP	4	CU. YD.	$ 1,500.00	$ 6,000.00
12	511	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	7	CU. YD.	$ 1,500.00	$ 10,500.00
13	511	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	40	CU. YD.	$ 1,500.00	$ 60,000.00
14	511	CLASS QC1 CONCRETE, FOOTING	20	CU. YD.	$ 1,500.00	$ 30,000.00
15	513	STRUCTURAL STEEL MISC.: PREFABRICATED BRIDGE	1	LUMP	$ 700,000.00	$ 700,000.00
16	516	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	8	EACH	$ 1,250.00	$ 10,000.00
17	518	POROUS BACKFILL WITH GEOTEXTILE FABRIC	30	CU. YD.	$ 125.00	$ 3,750.00
18	518	PERFORATED CORRUGATED PLASTIC PIPE	30	FOOT	$ 10.00	$ 300.00
19	518	NON-PERFORATED CORRUGATED PLASTIC PIPE	20	FOOT	$ 20.00	$ 400.00
20	524	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	12	FOOT	$ 2,000.00	$ 24,000.00
21	524	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	12	FOOT	$ 2,000.00	$ 24,000.00
22	526	REINFORCED CONCRETE APPROACH SLABS	36	SQ. YD.	$ 350.00	$ 12,600.00
23	SP 536	CONCRETE WEATHERPROOFING, DECK, ABUTMENT SLABS, AND APPROACH SLABS	291	SQ. YD.	$ 10.00	$ 2,910.00
24	SP 536	CONCRETE WEATHERPROOFING, SUBSTRUCTURE	89	SQ. YD.	$ 15.00	$ 1,335.00
25	601	CRUSHED AGGREGATE SLOPE PROTECTION	28	SQ. YD.	$ 100.00	$ 2,783.78
26	607	FENCE, MISC.: BIKEWAY RAILING	80	FOOT	$ 250.00	$ 20,000.00
				TOTAL - STRUCTURES		**$ 1,316,907.66**

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		ROADWAY (Ref. Nos. -)				
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0	0	$ -	$ -
0	0	0	0.00	0	$ -	$ -
0	0	0	0.00	0	$ -	$ -
				TOTAL - ROADWAY		**$ -**

ENGINEER'S ESTIMATE

SUBTOTAL	$1,506,907.66
Contingency - 20%	$301,381.53
Inflation - 15%	$271,243.38
TOTAL BASE BID (INCLUDES REF. NO. 1 THRU REF. NO.) --->	**$2,079,532.56**

PROJECT NO. 71-22-12 (PROSPECT ROAD WIDENED BRIDGE OVER OTIC MAINLINE MP 182.1)
ENGINEER'S ESTIMATE - ALTERNATIVE 3

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		GENERAL (Ref. Nos. 1-5)				
1	IB.ART.6	PREMIUM FOR CONTRACT PERFORMANCE BOND AND PAYMENT BOND	1	LUMP	$ 50,000.00	$ 50,000.00
2	SP 614	MAINTAINING TRAFFIC	1	LUMP	$ 65,000.00	$ 65,000.00
3	SP 619	FIELD OFFICE	1	LUMP	$ 60,000.00	$ 60,000.00
4	SP 623	CONSTRUCTION LAYOUT SURVEY	1	LUMP	$ 50,000.00	$ 50,000.00
5	624	MOBILIZATION	1	LUMP	$ 100,000.00	$ 100,000.00
6		ADDITIONAL SURVEY	1	LUMP	$ 20,000.00	$ 20,000.00
7		GEOTECHNICAL INVESTIGATIONS	1	LUMP	$ 50,000.00	$ 50,000.00
8		ADDITIONAL ENGINEERING COSTS	1	LUMP	$ 147,000.00	$ 147,000.00
				TOTAL		**$ 542,000.00**
		STRUCTURES (Ref. Nos. 9 - 45)				
9	202	APPROACH SLAB REMOVED	106	SQ. YD.	$ 60.00	$ 6,360.00
10	SP 202	PORTIONS OF STRUCTURE REMOVED	1	LUMP	$ 209,000.00	$ 209,000.00
11	202	CATCH BASIN REMOVED	2	EACH	$ 500.00	$ 1,000.00
12	503	UNCLASSIFIED EXCAVATION	1	LUMP	$ 11,500.00	$ 11,500.00
13	505	PILE DRIVING EQUIPMENT MOBILIZATION	1	LUMP	$ 50,000.00	$ 50,000.00
14	507	STEEL PILES HP12X53, FURNISHED	170	FOOT	$ 50.00	$ 8,500.00
15	507	STEEL PILES HP12X53, DRIVEN	160	FOOT	$ 25.00	$ 4,000.00
16	SP 509	EPOXY COATED REINFORCING STEEL, GRADE 60	114,775	POUND	$ 3.00	$ 344,325.00
17	SP 511(QC2)	CLASS QC2 CONCRETE, SUPERSTRUCTURE DECK SLAB	262	CU. YD.	$ 1,300.00	$ 340,600.00
18	SP 511(QC2)	CLASS QC2 CONCRETE, BARRIERS AND PARAPETS	103	CU. YD.	$ 1,000.00	$ 103,000.00
19	SP 511(QC2)	CLASS QC2 CONCRETE, ABUTMENT SLABS	80	CU. YD.	$ 950.00	$ 76,000.00
20	511	CLASS QC1 CONCRETE, PIER CAP	11	CU. YD.	$ 1,250.00	$ 13,750.00
21	511	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	18	CU. YD.	$ 900.00	$ 16,200.00
22	511	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	59	CU. YD.	$ 1,250.00	$ 73,750.00
23	511	CLASS QC1 CONCRETE, FOOTING	10	CU. YD.	$ 750.00	$ 7,500.00
24	SP516A	CRACK REPAIR BY EPOXY INJECTION	67	FOOT	$ 80.00	$ 5,320.00
25	513	STRUCTURAL STEEL MEMBERS, LEVEL 2	65,932	POUND	$ 5.00	$ 329,659.31
26	513	WELDED STUD SHEAR CONNECTORS	3,996	EACH	$ 5.00	$ 19,980.00
27	SP 514A	FIELD PAINTING OF NEW AND EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU	3,404	SQ. FT.	$ 3.00	$ 10,211.83
28	SP 514A	FIELD PAINTING OF NEW AND EXISTING STEEL, FINISH COAT, SYSTEM OZEU	3,404	SQ. FT.	$ 3.00	$ 10,211.83
29	516	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	8	EACH	$ 1,250.00	$ 10,000.00
30	516G	ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES, H-PILE AND LOAD PLATE (NEOPRENE)	16	EACH	$ 1,250.00	$ 20,000.00
31	518	POROUS BACKFILL WITH GEOTEXTILE FABRIC	26	CU. YD.	$ 125.00	$ 3,250.00
32	518	PERFORATED CORRUGATED PLASTIC PIPE	26	FOOT	$ 10.00	$ 260.00
33	518	NON-PERFORATED CORRUGATED PLASTIC PIPE	20	FOOT	$ 20.00	$ 400.00
34	SP 519	PATCHING OF CONCRETE STRUCTURES	114	SQ. FT.	$ 125.00	$ 14,187.50
35	524	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	36	FOOT	$ 375.00	$ 13,500.00
36	524	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	38	FOOT	$ 450.00	$ 17,100.00
37	526	REINFORCED CONCRETE APPROACH SLABS	149	SQ. YD.	$ 350.00	$ 52,150.00
38	SP 527	FALSEWORK, TEMPORARY BRACING AND PROTECTIVE STRUCTURES	1	LUMP	$ 75,000.00	$ 75,000.00
39	SP 533	1 1/2" CONTINUOUS STRIP SEAL IN STRUCTURAL STEEL JOINT	90	FOOT	$ 800.00	$ 72,000.00
40	SP 536	CONCRETE WEATHERPROOFING, DECK, ABUTMENT SLABS, AND APPROACH SLABS	1,291	SQ. YD.	$ 10.00	$ 12,910.00
41	SP 536	CONCRETE WEATHERPROOFING, PARAPETS	599	SQ. YD.	$ 10.00	$ 5,990.00
42	SP 536	CONCRETE WEATHERPROOFING, SUBSTRUCTURE	282	SQ. YD.	$ 15.00	$ 4,230.00
43	601	CRUSHED AGGREGATE SLOPE PROTECTION	66	SQ. YD.	$ 100.00	$ 6,571.89
44	SP 607	TYPE II FENCE, ALL ALUMINUM (6'-0" CHAIN LINK WITH SPECIALS)	661	FOOT	$ 150.00	$ 99,150.00
45	611	CATCH BASIN, NO. 3	2	EACH	$ 2,200.00	$ 4,400.00
				TOTAL - STRUCTURES		**$ 2,257,164.10**

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		ROADWAY (Ref. Nos. 46 - 60)				
46	201	CLEARING AND GRUBBING	1	LUMP	$ 25,000.00	$ 25,000.00
47	202	PAVEMENT REMOVED, ASPHALT	533	SQ. YD.	$ 10.00	$ 5,330.00
48	203	EXCAVATION	89	CU. YD.	$ 20.00	$ 1,780.00
49	203	EMBANKMENT	44	CU. YD.	$ 25.00	$ 1,100.00
50	204	SUBGRADE COMPACTION	533	SQ. YD.	$ 5.00	$ 2,665.00
51	254	PAVEMENT PLANING, ASPHALT CONCRETE, 1-1/4"	267	SQ. YD.	$ 10.00	$ 2,670.00
52	SP 302	ASPHALT CONCRETE BASE, PG64-22	61	CU. YD.	$ 200.00	$ 12,200.00
53	SP 304	AGGREGATE BASE	94	CU. YD.	$ 70.00	$ 6,580.00
54	SP 402	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22	26	CU. YD.	$ 350.00	$ 9,100.00
55	SP 404	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	28	CU. YD.	$ 200.00	$ 5,600.00
56	407	NON-TRACKING TACK COAT	101	GALLON	$ 5.00	$ 505.00
57	606	GUARDRAIL, TYPE MGS	50	FOOT	$ 25.00	$ 1,250.00
58	606	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
59	642	EDGE LINE, 6", TYPE 1	0.19	MILE	$ 5,000.00	$ 946.97
60	642	CENTER LINE, 6", TYPE 1	0.09	MILE	$ 6,000.00	$ 568.18
				TOTAL - ROADWAY		**$ 102,354.18**

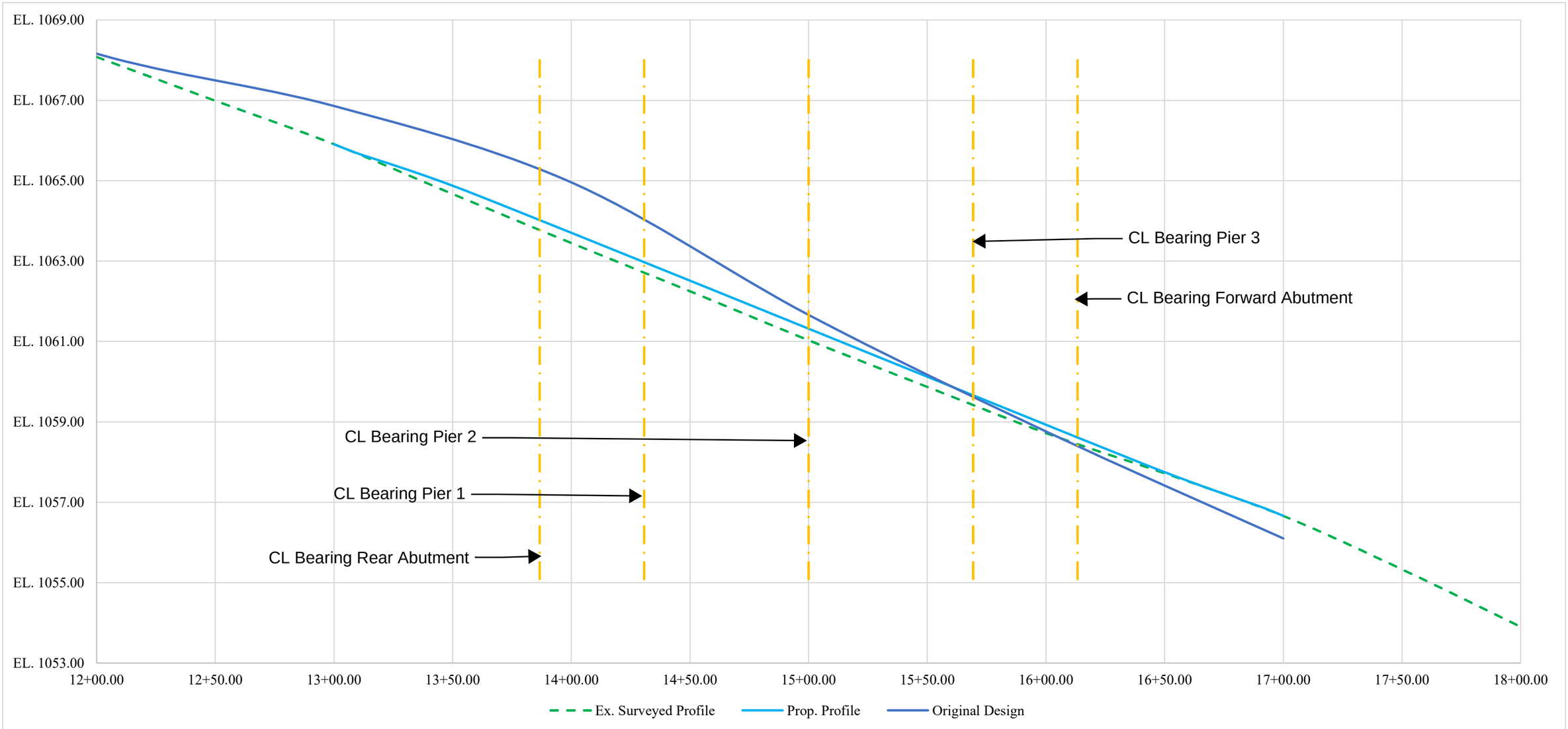
ENGINEER'S ESTIMATE

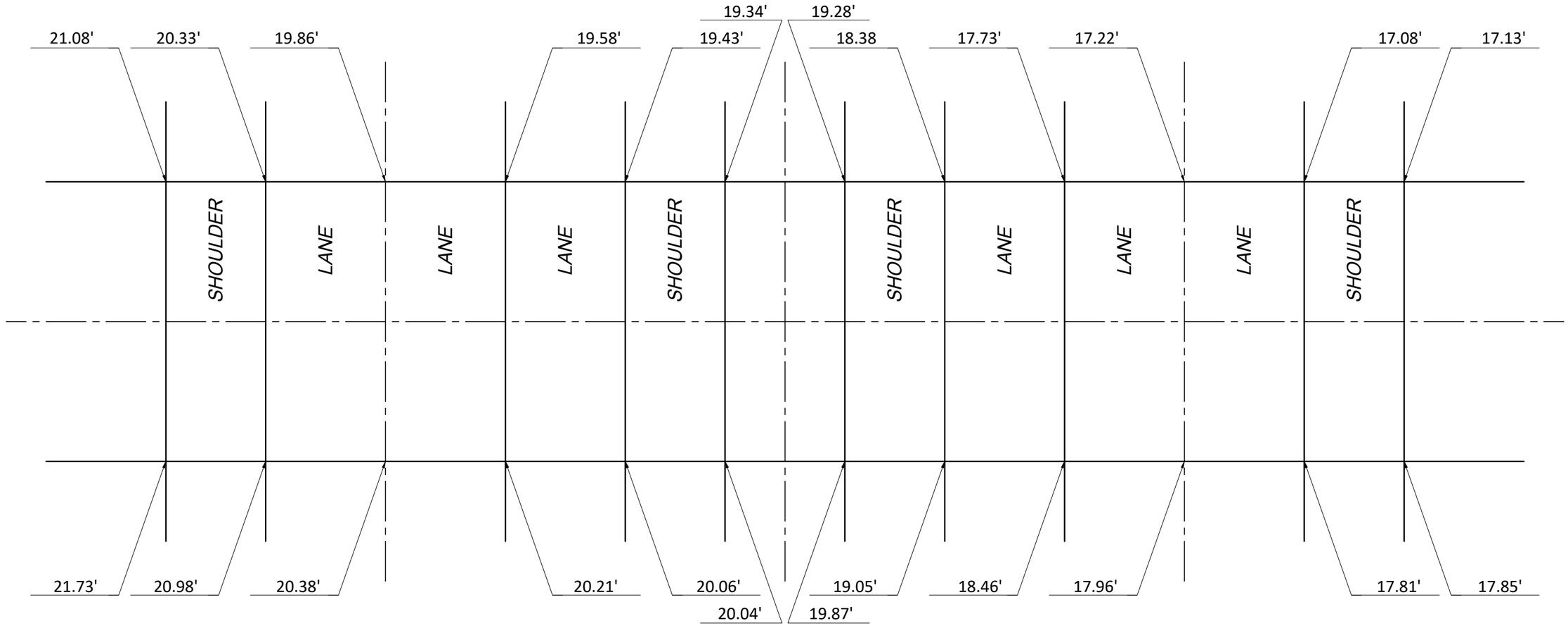
SUBTOTAL	$2,901,518.28
Contingency - 20%	$580,303.66
Inflation - 15%	$522,273.29
**TOTAL BASE BID (INCLUDES REF. NO. 1 THRU REF. NO. 60) ----------> **	**$4,004,095.23**

APPENDIX C:

EXAGGERATED ROADWAY PROFILES EXHIBIT & VERTICAL CLEARANCE

MP 182.1 Overhead Road - Exaggerated Profile





APPROVED

STATE OF OHIO
BRIAN P. BINGHAM
8438
REGISTERED
PROFESSIONAL SURVEYOR

Brian P. Bingham, PS

APPROVED

OHIO TURNPIKE

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

PROJECT 71-22-12

DATE: 08/22/23

PROSPECT ROAD OVER THE OHIO TURNPIKE

VERTICAL CLEARANCE

M.P. 182.1 SUMMIT COUNTY

OHIO TURNPIKE

APPENDIX D:

ASBESTOS CONTAINING MATERIALS BRIDGE SURVEY REPORT

Asbestos Inspection Reporting Form

Date: June 7, 2023

County: Summit

Route: Prospect Road over Mainline I-80

Section: OTIC MP 182.10

PID: OTIC 71-22-12

Requesting ODOT District Office: Ohio Turnpike Infrastructure Commission

Regulating OEPA District Office and Address

Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

Date of the Asbestos Inspection: April 20, 2023

Name and Address of the company conducting the asbestos inspection

EnviroScience Inc.
5070 Stow Road
Stow, Ohio 44224

Name, signature, and asbestos hazard evaluation number of the person writing the report

Amy Wakefield, AHES
Asbestos Hazard Evaluation Specialist #ES543881

Description sampling locations and how each location was determined (use additional pages if needed)

Project Background

EnviroScience, Inc. was contracted by American Structure Point to provide an asbestos survey of the MP 182.10 OTIC Prospect Rd. bridge over the I-80 Mainline in Summit County. The location coordinates of the structure are 41.255036°, - 81.461364°.

The deck will be replaced on the 223-foot-long four-span continuous steel girder bridge structure. The bridge inventory report information indicates the structure to have been originally built in 1954 with a major reconstruction done in 1993.

Asbestos Survey Summary

Bridge Plan Review – EnviroScience performed a limited review of available existing bridge construction plans that were provided by American Structure Point. The original construction plans from 1953 did not contain anything of note. The 1992 rehabilitation plans also did not have anything to note. There was no mention of expansion joint or caulking material to be used. No evidence of affixed utility conduits or duct work was found in any of the existing plans.

In summary, based on our review of portions of the MP182.10 original and rehabilitation plans, no conclusive evidence of suspect asbestos containing materials was noted. The plans reviewed are on file at EnviroScience and can be provided if requested.

Asbestos Survey - An asbestos survey of the subject bridge structure was conducted on 04/20/2023 by Amy Wakefield, Certified Asbestos Hazard Evaluation Specialist #ES543881.

All accessible portions of the MP 182.10 OTIC Prospect Road bridge over the I-80 Mainline were field investigated for the presence of suspected ACMs. A visual inspection of the top and bottom sides of the structure including the deck, outside parapet railing walls, steel beams, and abutments were conducted. No active or abandoned utilities were affixed to the structure. Saw cuts in the parapet railing walls contained caulking material that were sampled. The vandal fence base plates contained caulking material however, due to limited quantities only one sample was collected. Sample locations were determined by the ability to access the material safely, being suspect material and to amply characterize the entire structure.

The following table summarizes the samples that were collected:

Table 1 – Sample Summary – MP 182.10 Prospect Road Bridge SFN 7729820

Sample	Homogeneous Area	Category	Location of Sample	Positive for Asbestos?
PC01	Parapet Wall Caulk	Misc.	Westside, eastbound	No
PC02	Parapet Wall Caulk	Misc.	Westside, eastbound	No
PC03	Parapet Wall Caulk	Misc.	Eastside, eastbound	No
VFC01	Vandal Fence Caulk	Misc.	Eastside, westbound	No

Appendix B includes sampling documentation including a Sample Location Map, sampling log, and laboratory analysis report and chain of custody. A photo log is provided in Appendix C.

Conclusion and Recommendations

Lab analysis of bulk samples taken from the MP 182.10 Prospect Road Bridge over the I-80 Mainline indicate that no asbestos containing material was identified.

If suspect ACMs are revealed during demolition or renovation activities that were not identified during this survey it is recommended that work activities cease until a Certified Asbestos Hazard Evaluation Specialist can evaluate the new material(s). Any removal and subsequent disposal of the asbestos containing material during demolition operations must comply with the Ohio Administrative code, the occupational Safety and Health Administration (OSHA) regulations and the National Emission Standard for Hazardous Air Pollutants (NESHAP). Reference the Ohio Environmental Protection Agency adopted chapters 3745-20-03 & 3745-20-04 of the Ohio Administrative Code. This implements the NESHAP standards for asbestos and its removal.

Notification

An OEPA Notification of Demolition and Renovation form must be submitted ten (10) working days prior to work activities. Appendix D contains the OEPA form of which Section 1 - General Information 1, 2, 3, 4, and 5; and Section 2 - Project Address Specific Information A, B, and C have been completed.

Once the Contractor has been selected for the project, the remaining sections of the form shall be completed (as applicable) and the notification form submitted with the proper remittance to the following address at least 10 working days prior to starting work:

Ohio EPA, DAPC Asbestos
P.O. Box 1049
Columbus, Ohio 43216-1049

The form may also be completed/submitted via on-line at https://epa.ohio.gov/dapc/atu/asbestos

Name, signature, and asbestos hazard evaluation number of each person who selected samples from the structure (use additional pages if needed)

Name	Signature	Asbestos Evaluation #
Amv Wakefield		ES543881

SUPPORTING INFORMATION

Laboratory Analytical Report

Blueprint, diagram or written description with the following:

- Type, location and amount of confirmed regulated asbestos containing material
- Location and collection date of each bulk sample
- Location and amounts of suspected asbestos containing material, both friable and non-friable

NOTE: The OEPA Notification of Demolition and Renovation Form with the appropriate Sections I, II, III, IV, VI and VII must be completed by the licensed asbestos hazard evaluation specialist and included with the report submission to ODOT prior to submission to OEPA or the local air authority with jurisdiction.

OEPA Notification of Demolition and Renovation Form

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at ***epa.ohio.gov/asbestos***. This form can be completed, and payment made, at ***ebiz.epa.ohio.gov***. Questions? ***asbestos@epa.ohio.gov*** or (614) 466-0061.

Appendix A

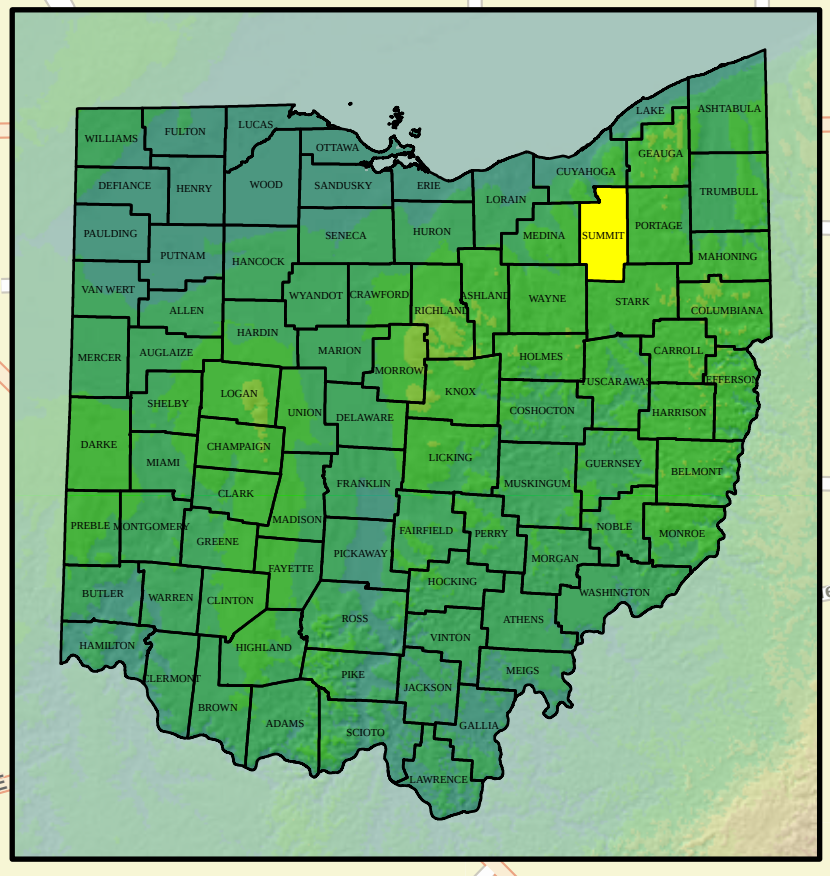


Figure 1.
Location of Site on Highway Map of Summit County, Ohio.
Prospect Road Bridge (MP182.10).

Project Area

0 200 400 800 1,200 Feet

0 100 200 400 Meters

EnviroScience™
Excellence In Any Environment

Basemap courtesy of Esri.

NAD 1983 2011 StatePlane Ohio North FIPS 3401 Ft US

Date: 4/29/2023 ES Project #17432 Path: C:\Users\AnnaPiazza\OneDrive - EnviroScience, Inc\Desktop\OTIC 71-22-12 Bridges, Hudson\17432_OTIC_Asbestos.aprx

Appendix B

OTIC MP 182.10, Prospect Rd. over Mainline

41.255036°, - 81.461364°

OTIC MP 182.10, Prospect Rd. over Mainline

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

Chain of Custody

Contact Information

Client Company:	EnviroScience Inc	**Project Number:**	17431
Office Address:	5020 Stow Rd	**Project Name:**	OTIC 3 Bridges Hudson
City, State, Zip:	Stow OH 44224	**Primary Contact:**	Amy Wakefield
Fax Number:		**Office Phone:**	330 688 0100
Email Address:	awakefield@enviroscienceinc.com	**Cell Phone:**	440 225 1909

Matrix:

Air ☐ Soil ☐ Bulk ☒ Other ☐ _____
Water ☐ Paint ☐ Surface Dust / Wipe ☐

Analysis Method:

☐ PCM: NIOSH 7400
☐ PCM: OSHA
☐ PCM: TWA

☐ Total Dust: NIOSH 0500
☐ Total Dust: NIOSH 0600

☐ AAS: Lead in Air
☐ AAS: Lead in Water
☐ AAS: Lead in Paint
☐ AAS: Lead Dust/Wipe[1]
☐ AAS: Lead in Soil
☐ AAS: TCLP
☐ AAS: Metals [Cd, Zn, Cr-circle]

PLM Use Bulk Asbestos Sample Log

☒ PLM: Bulk Asbestos EPA 600
☐ PLM: Point Counting 198.1
☐ PLM: NOB via 198.6 (PLM only)
☐ If <1% by PLM, to TEM via 198.4 [2]

IAQ Use Mold Sample Log

☐ IAQ: I Bioaersol Fungal Spore Trap[3]
☐ IAQ: II Bioaersol Fungal Spore
☐ IAQ: Tape, Bulk, Misc. Qualitative[3]
☐ IAQ: Tape, Bulk, Misc. Quantitative[3]
☐ IAQ: Other Culturable ID[2]

☐ TEM: AHERA
☐ TEM: NIOSH 7402
☐ TEM: ISO 10312
☐ TEM: ISO 13794
☐ TEM: Wipe ASTM 6480
☐ TEM: Microvac ASTM D5755
☐ TEM: Microvac ASTM D5756
☐ TEM: NOB 198.4
☐ TEM: Bulk Analysis
☐ TEM: Potable Water
☐ TEM: Non-Potable Water
☐ TEM: Other_____
☐ Soil: Call for Available Methods

1- Requires ASTM acceptable material 2- Call to confirm TAT 3- Non-culturable 4- With Non-fungal Microscopic Exam

Special Instructions: PLM: EPA 600 R-93/116, 1993

Turnaround Time

Preliminary Results Requested Date: May 1, 2023 (Specific date / time)

☐ Verbal ☒ Email ☐ Fax

☐ 10 Day ☒ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day* ☐ 12 Hour** ☐ 6 Hour** ☐ RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***

Shipping Method

☒ FedEx ☐ UPS ☐ USPS ☐ Other _____

Chain of Custody

Relinquished (Name/Organization):	Amy Wakefield/EnviroScience	Date: 4/20/23	Time: 1630
Received (Name / iATL):		Date:	Time:
Sample Login (Name / iATL):		Date:	Time:
Analyst (Name(s) / iATL):		Date: 5/1/23	Time:
QA/QC Review (Name / iATL):		Date:	Time:
Archived / Released:	QA/QC InterLAB Use:	Date:	Time:

RECEIVED APR 24

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Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

Sample Log

–Bulk Asbestos –

Client: American Structure Point ~~Cooperative Mortg~~ AW Project: Prospect Rd Bridge

Sampling Date/Time: 4/20/23 13:15

Bulk Asbestos Sample Log			
Client Sample #	**iATL #**	**Location/Description**	**Notes**
VFC-01	7606326	Composite Vandal fence caulk	Limited qty
PC-01	7606327	Parapet Wall Caulk	West Side
PC-02	7606328	Parapet Wall Caulk	West Side
PC-03	7606329	Parapet Wall Caulk	East Side

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EnviroScience, Inc.
5070 Stow Road
Stow OH 44224

Client: ENV507

Report Date: 5/1/2023
Report No.: 682295 - PLM
Project: OTIC 3 Bridges Hudson; Prospect Rd Bridge
Project No.: 17431

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7606326
Client No.: VPC-01
Analyst Observation: Clear Caulk
Client Description: Composite Vandal Fence Caulk
Location:
Facility:

Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 7606327
Client No.: PC-01
Analyst Observation: Grey Caulk
Client Description: Parapet Wall Caulk
Location: West Side
Facility:

Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 7606328
Client No.: PC-02
Analyst Observation: Grey Caulk
Client Description: Parapet Wall Caulk
Location: West Side
Facility:

Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 7606329
Client No.: PC-03
Analyst Observation: Grey Caulk
Client Description: Parapet Wall Caulk
Location: East Side
Facility:

Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 4/24/2023
Date Analyzed: 05/01/2023
Signature:
Analyst: Christopher Riffe

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client:	EnviroScience, Inc. 5070 Stow Road Stow OH 44224	Report Date:	5/1/2023
		Report No.:	682295 - PLM
		Project:	OTIC 3 Bridges Hudson; Prospect Rd Bridge
		Project No.:	17431
Client:	ENV507		

Appendix to Analytical Report

Customer Contact: Chuck Kessler
Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, USEPA 600, R93-116 and NYSDOH ELAP 198.1 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: wchampion@iatl.com
iATL Account Representative: House Account
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and ir our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB) See additional information at the end of this appendix.

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client:	EnviroScience, Inc.	Report Date:	5/1/2023
	5070 Stow Road	Report No.:	682295 - PLM
	Stow OH 44224	Project:	OTIC 3 Bridges Hudson; Prospect Rd Bridge
		Project No.:	17431
Client:	ENV507		

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

1) Note: No mastic provided for analysis.
2) Note: Insufficient mastic provided for analysis.
3) Note: Insufficient material provided for analysis.
4) Note: Insufficient sample provided for QC reanalysis.
5) Note: Different material than indicated on Sample Log / Description.
6) Note: Sample not submitted.
7) Note: Attached to asbestos containing material.
8) Note: Received wet.
9) Note: Possible surface contamination.
10) Note: Not building material. 1% threshold may not apply.
11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
12) Note: Asbestos detected but not quantifiable.
13) Note: Multiple identical samples submitted, only one analyzed.
14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: “ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite.”

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1)**Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% for most samples.

9000 Commerce Parkway Suite B
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CERTIFICATE OF ANALYSIS

Client: EnviroScience, Inc.
5070 Stow Road
Stow OH 44224

Client: ENV507

Report Date: 5/1/2023
Report No.: 682295 - PLM
Project: OTIC 3 Bridges Hudson; Prospect Rd Bridge
Project No.: 17431

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.
*With advance notice and confirmation by the laboratory.
**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

New York State Department of Health requires that samples originating from NYS that they categorize as Non-friable Organically Bound materials can only be confirmed as None Detected for asbestos by method 198.4. See the table below for a list of those materials. (ENVIRONMENTAL LABORATORY APPROVAL PROGRAM CERTIFICATION MANUAL - ITEM No. 198.1, Revision Date 5/6/16)

*Asphalt Shingles, Caulking, Ceiling Tiles with Cellulose, Duct Wrap, Glazing, Mastic, Paint Chips, Resilient Floor Tiles, Rubberized Asbestos Gaskets, Siding Shingles, Vinyl Asbestos Tile, NOB materials (other that SM-V) with <10% vermiculite, Any material (Friable or NOB other than SM-V) with >10% vermiculite.

Statistically derived uncertainty with any measure should be taken into consideration when reviewing and interpreting all reported data and results. A more comprehensive listing of accuracy, precision, and uncertainty as it impacts this method is available upon request.

Appendix C

PHOTO 1
View of Prospect Road (MP 182.10).

PHOTO 2
View of structure underside. No utilities were affixed.

PHOTO 3
View of steel bearing. No gasketing material observed.

PHOTO 4
View of typical joint on parapet wall. Samples taken of caulk material.

PHOTO 5
View of outer beam. Paint in good condition.

PHOTO 6
View of the vandal fence base plate. Samples taken of caulk material.

Appendix D

Notification of Demolition and Renovation/Abatement

Section 1: General Information

Division of Air Pollution Control

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at ***epa.ohio.gov/asbestos***. This form can be completed, and payment made, at ***ebiz.epa.ohio.gov***. Questions? ***asbestos@epa.ohio.gov*** or (614) 466-0061.

Ohio EPA Use Only	Notification #:	Postmarked: / /	Received: / /	☐ Hand-Delivered

1) Notification Information (Check all that apply)

☒ Original	☐ Revision # (count):	☐ Installation	☐ Emergency	☐ Annual	☐ Cancellation	**Project County:** Summit

2) Owner, Asbestos Abatement Contractor, Billing and Fire Department Information **Revised?** ☐

Owner		
Name: Ohio Turnpike and Infrastructure Commission		Is this a company? ☐ Yes ☒ No
Address: 682 Prospect Street	Contact Person: Chris Matta, PE	
City: Berea	State: OH	Zip: 44017 -
Email: Chris.Matta@ohioturnpike.org	Phone: (440) 234 - 2081	Fax: ( ) -
Asbestos Abatement Contractor (if applicable)		
Name:	License #: AC	Expiration Date: / /
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -
Billing Contact		
Is this contact associated with the ☒ Owner, ☐ Asbestos Abatement Contractor, or ☐ Demolition Contractor (if not installation)?		
Address: 682 Prospect Street	Contact Person: Chris Matta, PE	
City: Berea	State: OH	Zip: 44017 -
Email: Chris.Matta@ohioturnpike.org	Phone: (330) 234 - 2081	Fax: ( ) -
Fire Department (if applicable)		
Name:		
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -

3) Ohio Asbestos Hazard Evaluation Specialist and Evaluation Procedure **Revised?** ☐

Evaluation Specialist: Amy Wakefield	Certification #: ES 543881	Expiration Date: 05 / 26 / 2024

Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of regulated asbestos-containing material (RACM) and Category I and Category II non-friable asbestos-containing material: ☒ PLM ☐ Point Count ☐ TEM ☐ Other Method (Explain Below):

Bulk Sampling w/point count of samples that are less than 10% asbestos containing

4) Procedures to be followed should unexpected RACM be discovered (check all that apply) **Revised?** ☐

☒ Stop work and keep wet	☐ Evacuate area	☐ Demarcate area	☐ Contact licensed abatement contractor

☐ Contact district office/local air authority

☒ Other (Explain): Notify Ohio Turnpike and Infrastructure Commission and the Project Superintendent

5) Planned Demolition (check all that apply) **Revised?** ☐

Describe demolition work to be performed and method(s) to be employed, including demolition techniques to be used:
☐ Implosion ☐ Fire Training ☐ Wet Methods ☒ Manual Demolition ☒ Mechanical Demolition ☐ Other (Explain):

Existing structure will be removed by industry standard means and methods

Mail completed form and payment to:
Ohio EPA, DAPC – Asbestos
P.O. Box 1049, Columbus, OH 43216-1049

Notification of Demolition and Renovation/Abatement

Section 1: General Information

Continued

Description of affected facility components (include attachment if necessary):

6) Asbestos Description and Engineering Controls (if asbestos is being abated) **Revised?** ☐

For the material listed in each project, describe the type(s) of ACM to be abated, engineering controls and work practices to be used to minimize emissions and ensure proper waste handling:					
Type of ACM to be abated:	☐ Surfacing	☐ Mechanical	☐ Other		
Engineering Controls:	☐ Wet Methods	☐ Glove Bag	☐ NPE	☐ AFD	☐ Other:
Work Practices:	☐ Intact Removal	☐ Manual	☐ Mechanical	☐ Other:	

7) Asbestos Waste Transporter (if applicable) **Revised?** ☐

Transporter #1 Name:		
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -
Transporter #2 Name (if applicable):		
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -

8) Asbestos Waste Disposal Site (if applicable) **Revised?** ☐

Name:		
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -

9) Emergency Demolition (complete if you checked "Emergency" above and "Demolition" for any project) **Revised?** ☐

A copy of the issued order, including the following information, **must be attached** to this notification.	
Government Official Issuing Order:	Title:
Agency:	Authority of Order (Citation of Code):
Date of Order: / /	Demolition Date: / /

10) Emergency Renovation/Abatement (complete if you checked "Emergency" above and "Renovation/Abatement" for any project) **Revised?** ☐

Date of Emergency: / /	Time of Emergency: : ☐ a.m. ☐ p.m.
Description of Sudden, Unexpected Event:	
Explanation of how the event caused unsafe conditions or equipment damage:	

11) Attestation **Revised?** ☐

In accordance with Ohio Administrative Code rule 3745-20-03(A)(4)(p), I certify that at least one person trained as required by paragraph (B) of rule 3745-20-04 of the Administrative Code will supervise the stripping and removal described by this notification. I acknowledge that the submission of false or misleading statements is prohibited by law and I certify that facts contained in this notification are true, accurate, and complete.	
Signature:	Date: / /
Name: Chris Matta, PE	Title: Chief Engineer
Organization: Ohio Turnpike and Infrastructure Commission	

Notification of Demolition and Renovation/Abatement

Section 2: Project Address Specific Information

Division of Air Pollution Control

Please complete Section 2 for the address included with this notification. If the project is an "Installation" per OAC 3745-20, complete a separate Section 2 page for each address associated with this notification.

Ohio EPA Use Only	Project ID #:

A. Facility Description **Revised?** ☐

Building Name (if applicable): MP 182.10 Prospect Road Bridge	Site Location (specific): MP 182.10 Prospect Road Bridge over Mainline I-80 SFN 7729820	
Address: 1.8 miles east of Exit 12, Coordinates: 41.255036°, - 81.46136		
City: Hudson	State: OH	Zip: 44236 -
Building Size (square feet):	No. of Floors:	Age: 70
Present Use: Highway Bridge	Prior Use: Highway Bridge	

B. Type of Operation (check all that apply) **Revised?** ☐

☒ Demolition ☐ Renovation/Abatement – Type: ☐ Removal ☐ Repair ☐ Encapsulation ☐ Enclosure

C. Asbestos Present (check one) **Revised?** ☐

☐ Yes ☒ No ☐ No, previously abated Year Abated:

D. Approximate Amount of Asbestos-Containing Materials (complete table below and Section 1 #6 if asbestos is present) **Revised?** ☐

	Material to be Removed			Material NOT to be Removed	
		Non-friable Asbestos-Containing Material		Non-friable Asbestos-Containing Material	
	RACM	Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface area on other facility components (ft^2)					
Volume if length or area cannot be measured (ft^3)					

E. Asbestos Abatement Schedule and Abatement Specialist (original notification is required 10 working days prior to the start of work) **Revised?** ☐

Setup Date: / /		Abatement Date: / /			Complete Date: / /		
(Shift 1) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:		Certification #: AS			Expiration Date: / /		
(Shift 1) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:		Certification #: AS			Expiration Date: / /		

F. Demolition Contractor (if applicable) **Revised?** ☐

Name:		
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	Fax: ( ) -

G. Demolition Schedule (original notification is required 10 working days prior to the start of work) **Revised?** ☐

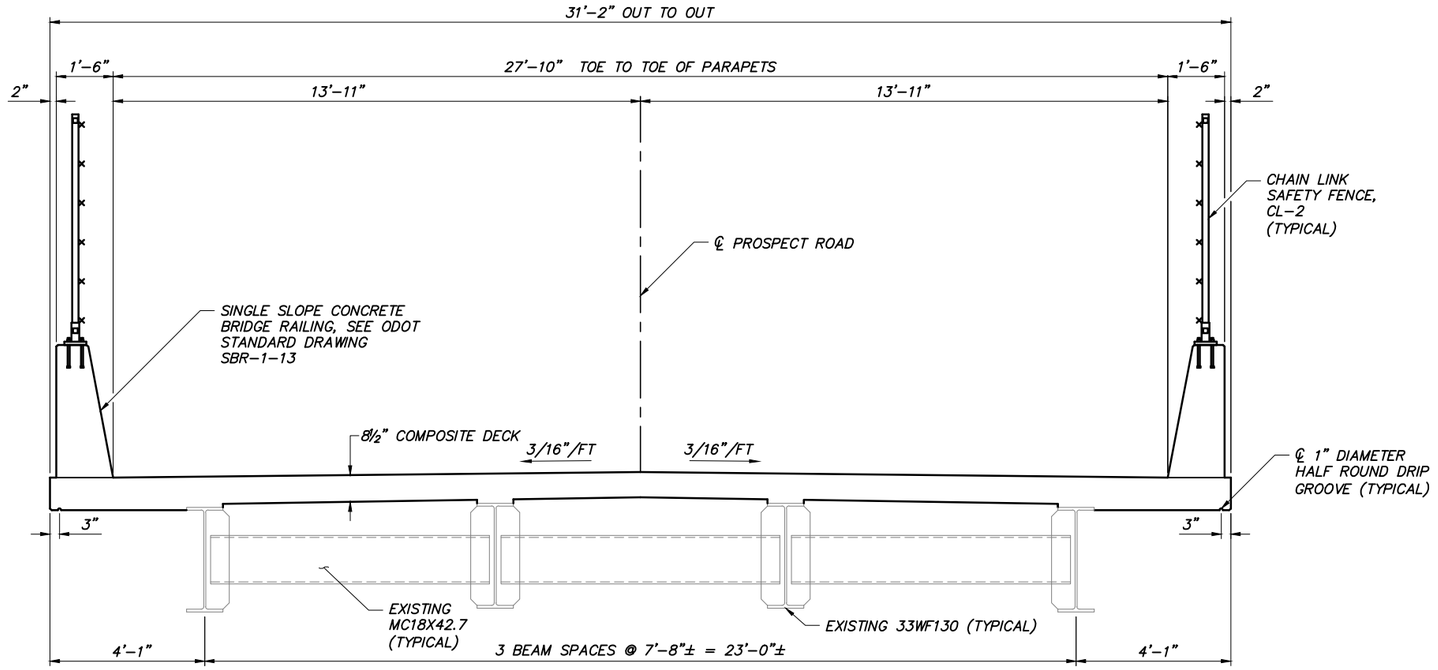
Start Date: / /	Complete Date: / /

H. Project Hold **Revised?** ☐

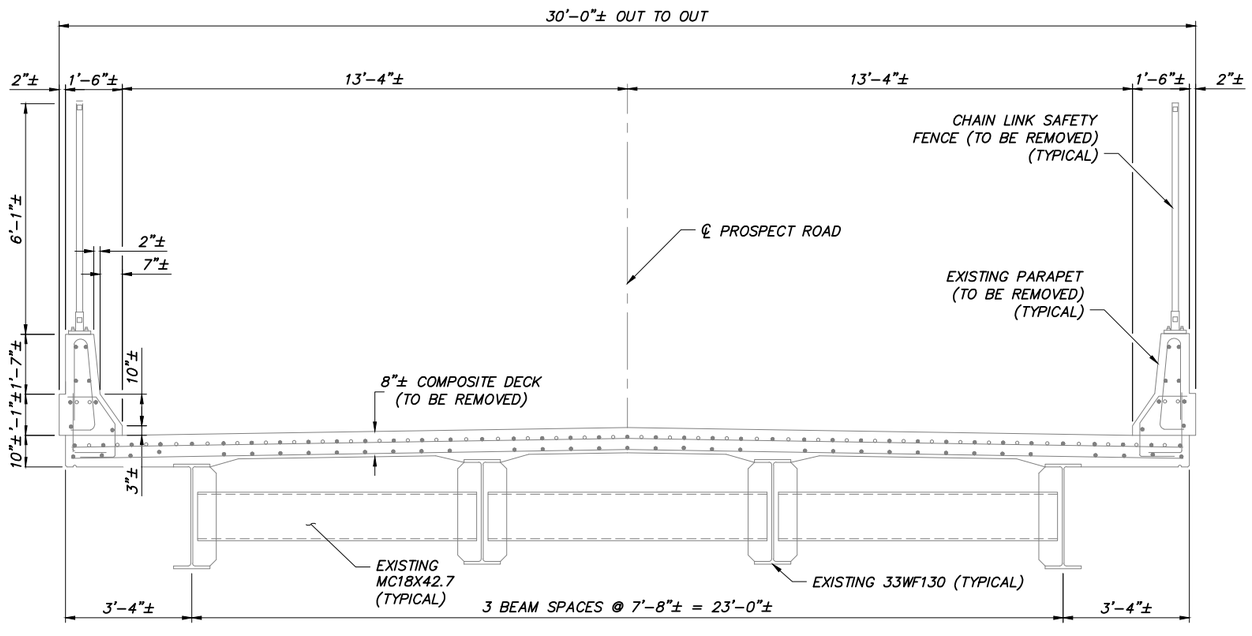
Hold Begin Date: / /	Work Resume Date: / /

APPENDIX E:

EXISTING AND PROPOSED TRANSVERSE SECTIONS



PROPOSED TRANSVERSE SECTION



EXISTING TRANSVERSE SECTION

CHECKING PRINT

DESIGNER _____ DATE: _____ CHECKED: _____ DATE: _____ CORRECTED: _____ DATE: _____

DRAWN _____ DATE: _____ BACKCHECKED: _____ DATE: _____ APPROVED: _____ DATE: _____

7729820_ST001.dwg; 8/16/23 – 2:14pm

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	-
-	-	-	-

DESIGNED IMF | CHECKED DEB | NO. | REVISIONS | BY | DATE

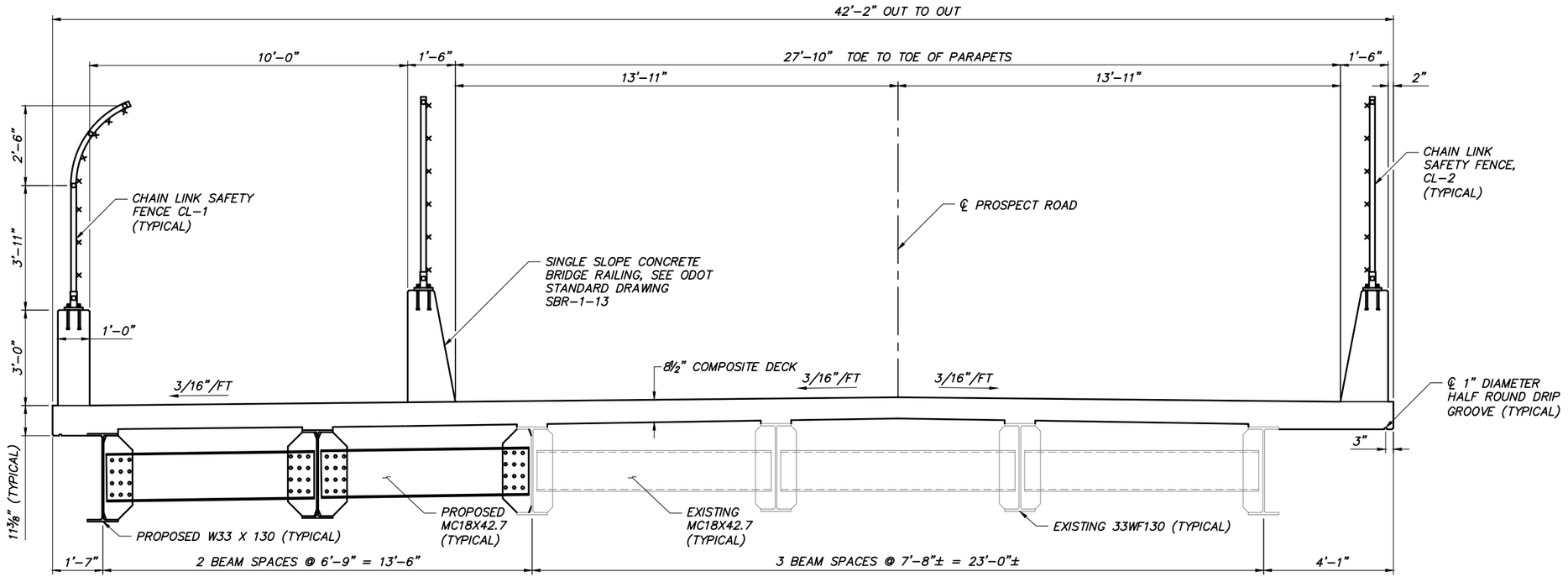
DRAWN JFK | IN CHARGE DEB

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

TRANSVERSE SECTIONS
PROSPECT OVER THE OHIO TURNPIKE
SANDUSKY COUNTY
M.P. 182.1

PROJECT 71-22-12
DATE: 05/18/2023

XX
XX



PROPOSED TRANSVERSE SECTION

WIDENING ALTERNATIVE

CHECKING PRINT

DESIGNER _____ DATE: _____ CHECKED: _____ DATE: _____ CORRECTED: _____ DATE: _____

DRAWN _____ DATE: _____ BACKCHECKED: _____ DATE: _____ APPROVED: _____ DATE: _____

7729820_ST002.dwg; 8/16/25 - 2:16pm

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	-
-	-	-	-

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

DESIGNED IMF | CHECKED DEB | IN CHARGE DEB

DRAWN JFK

TRANSVERSE SECTIONS
PROSPECT OVER THE OHIO TURNPIKE
SANDUSKY COUNTY
M.P. 182.1

PROJECT 71-22-12
DATE: 06/16/2023

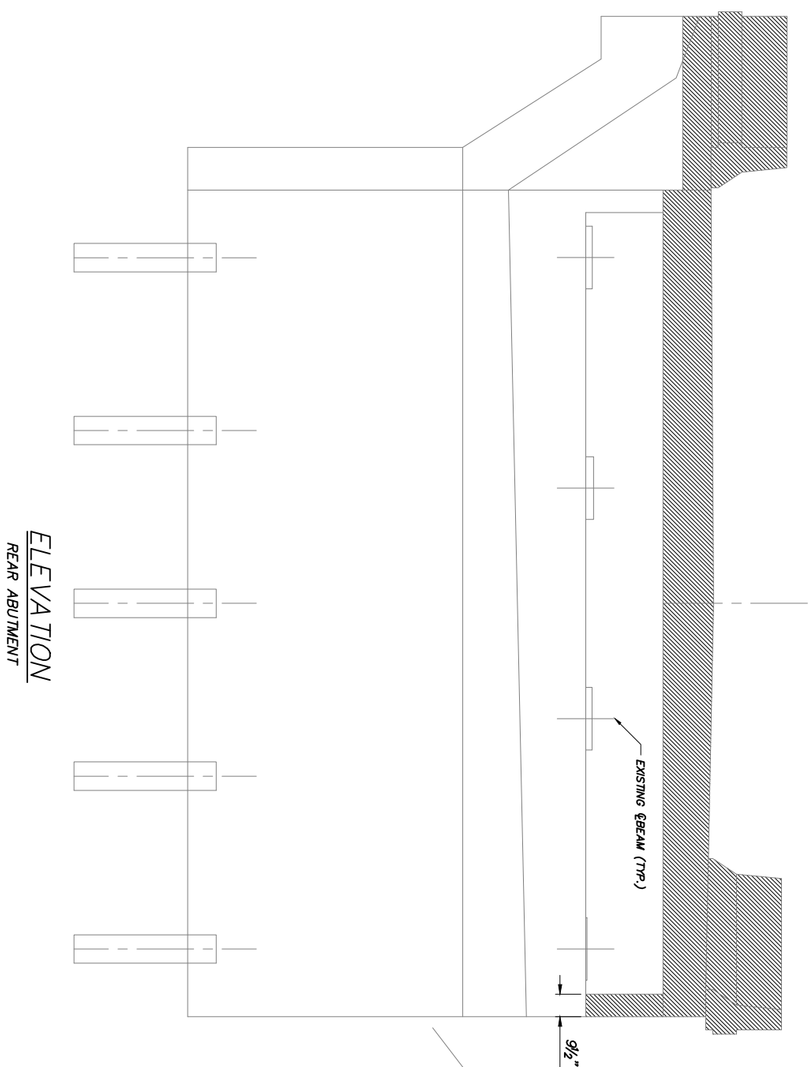
XX
XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

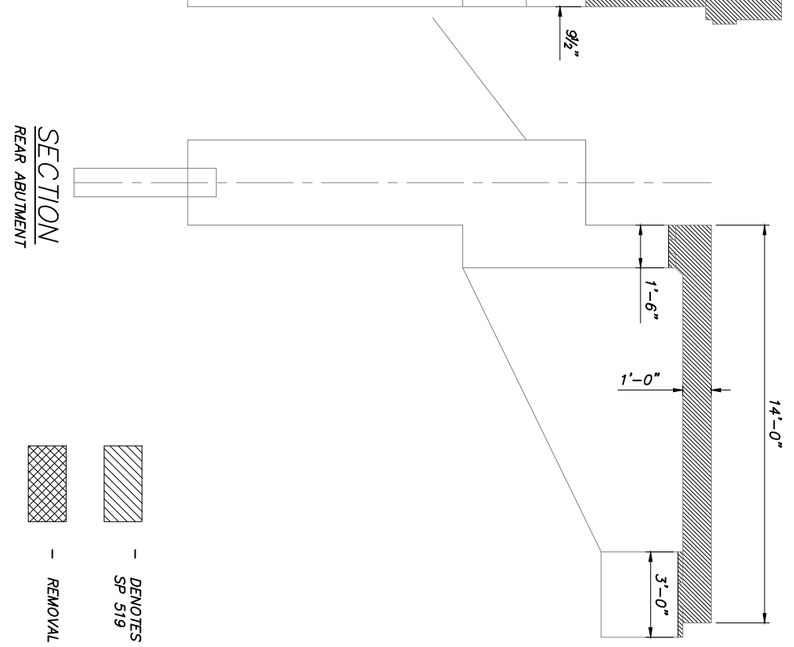
APPENDIX F:

BIKEWAY ALTERNATIVES SKETCHES

7729820_AR001.dwg; 8/17/23 – 6:32am



ELEVATION
REAR ABUTMENT



SECTION
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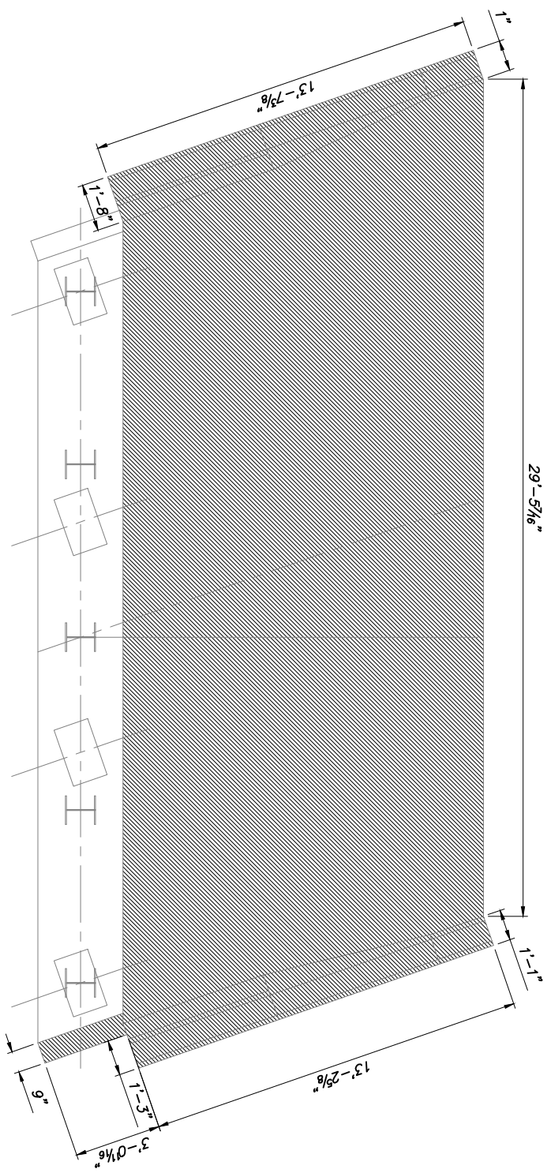


PLAN
REAR ABUTMENT

– REMOVAL PER SP 202, SEE SHEET X OF X.

– DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519

PROJECT 71-22-12

DATE: 8/17/23

ABUTMENT REMOVAL
PROSPECT OVER THE OHIO TURNPIKE
M.P. 182.1 SUMMIT COUNTY

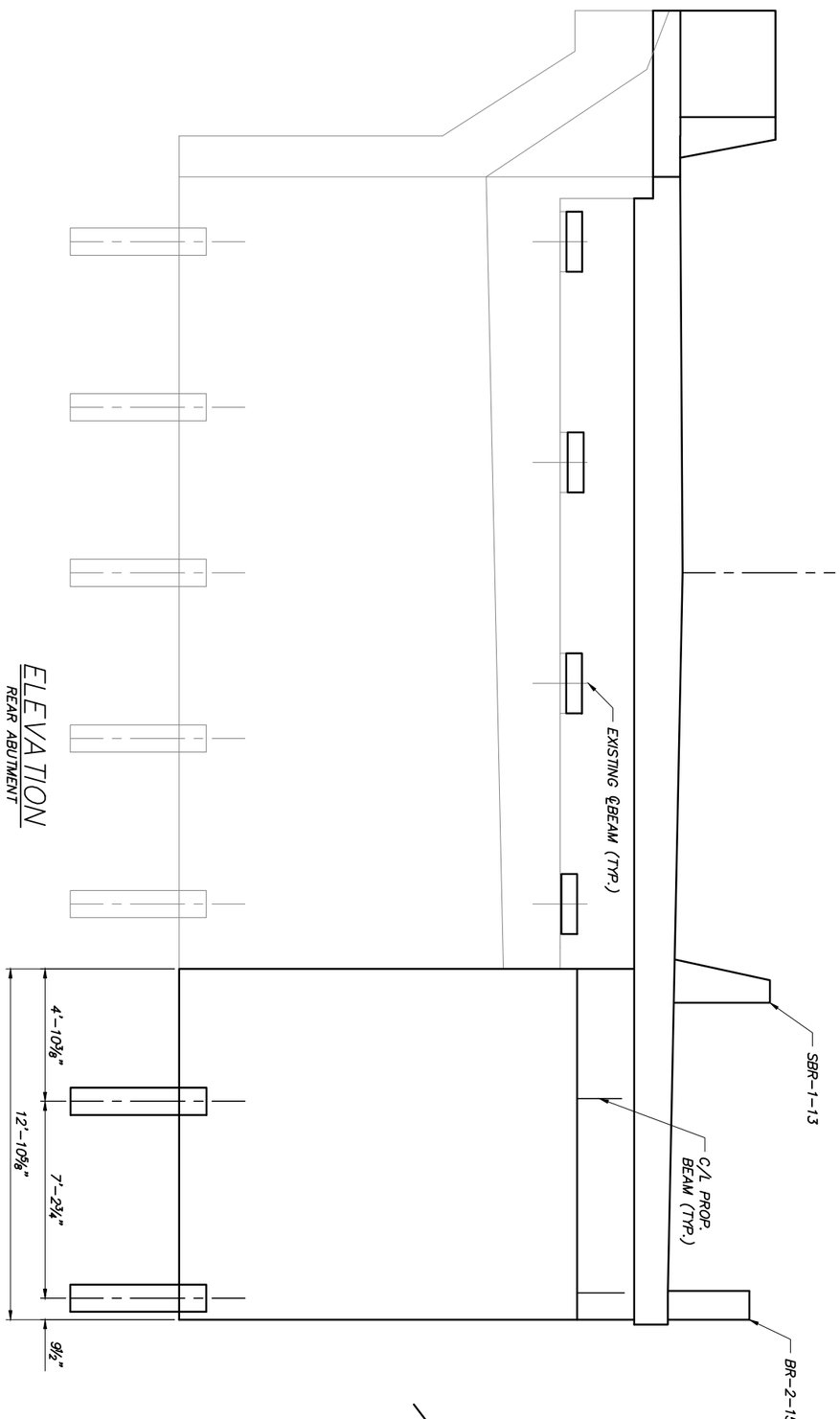
DESIGNED	CHECKED
JGM	IMF
DRAWN	IN CHARGE
JGM	DEB

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	
-	-	-	-

DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

7729820_AR002.dwg; 8/17/23 – 7:10am



ELEVATION
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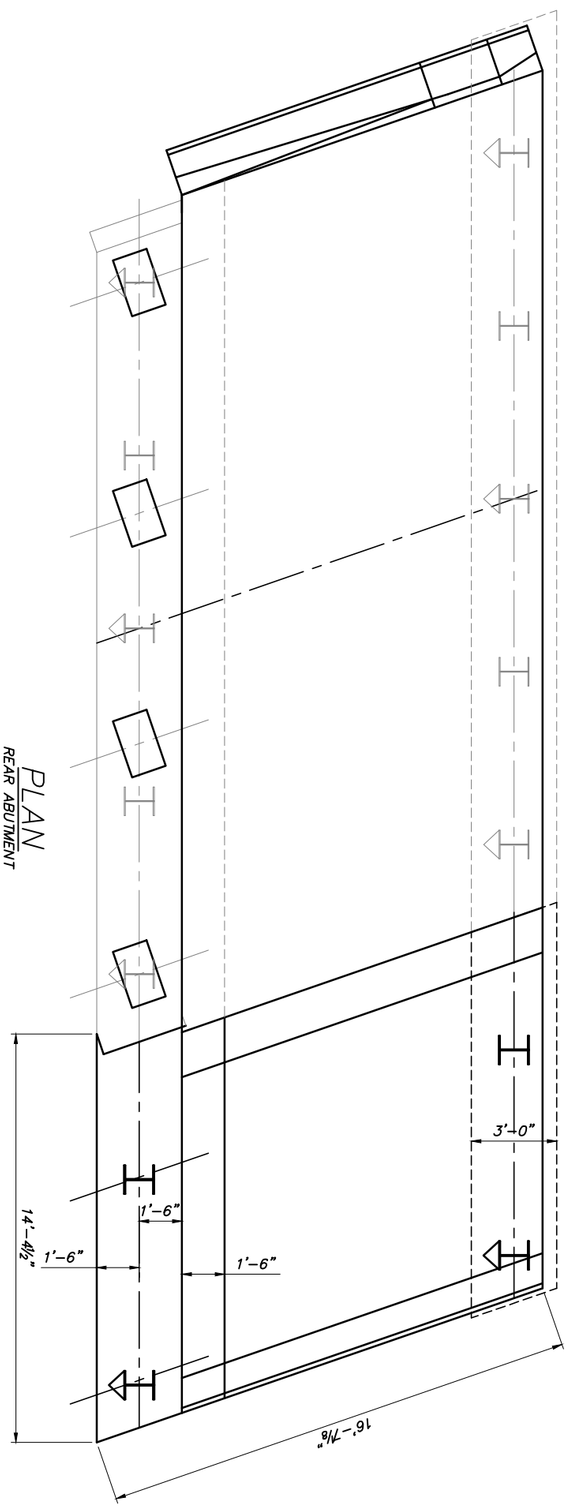

PLAN
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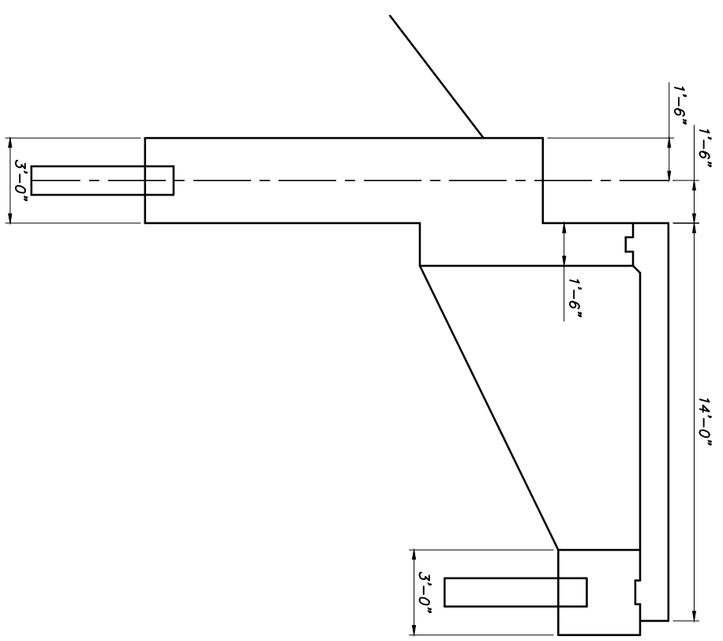
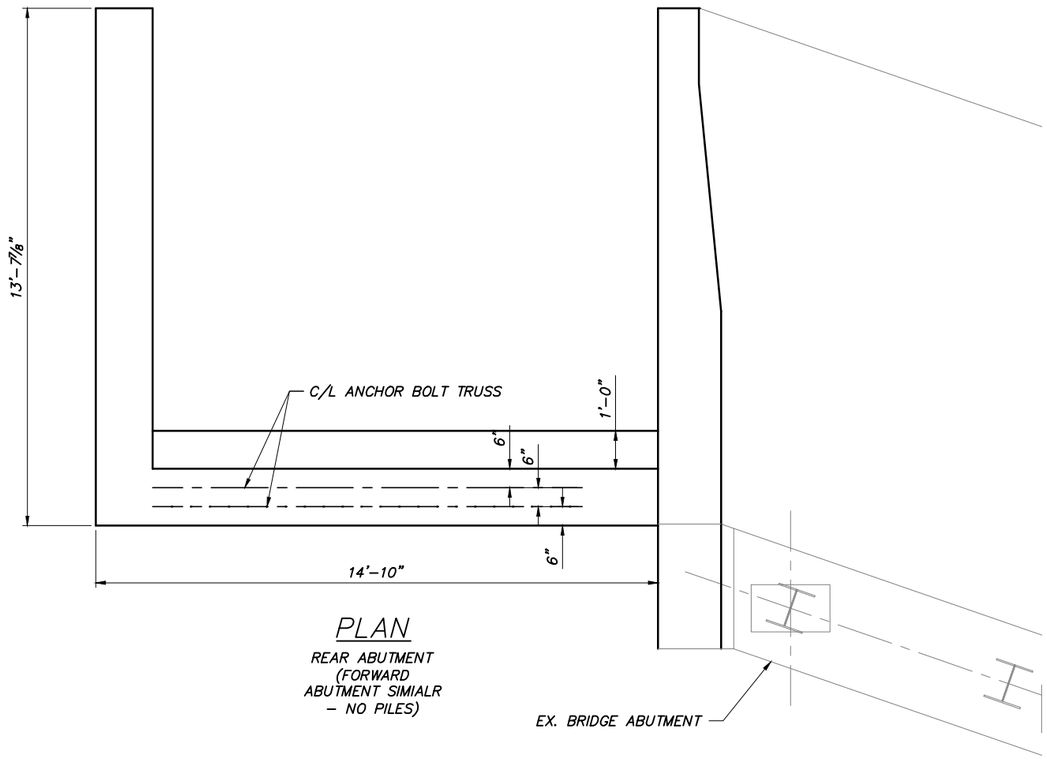


SECTION
REAR ABUTMENT

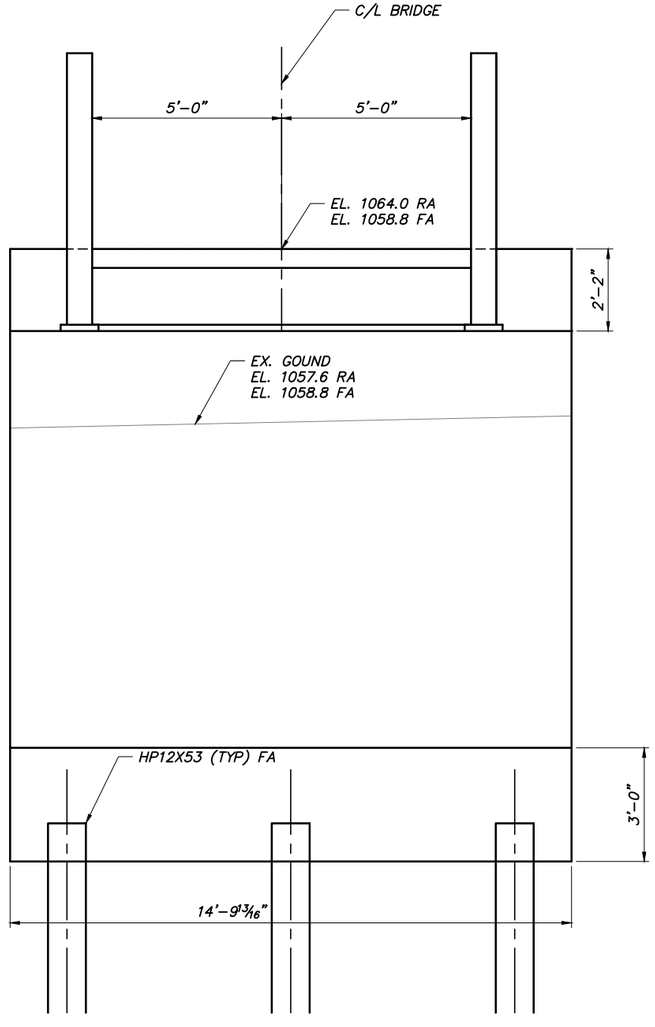
XX XX	PROJECT 71-22-12	ABUTMENT WIDENING ALTERNATE	DESIGNED	CHECKED	NO.	REVISIONS	BY	DATE	DESIGN AGENCY
	DATE: 8/17/23	PROSPECT OVER THE OHIO TURNPIKE	JGM	IMF	-	-	-	-	COMPASS INFRASTRUCTURE GROUP
		M.P. 182.1 SUMMIT COUNTY	DRAWN	IN CHARGE	-	-	-	-	
			JGM	DEB	-	-	-	-	

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION



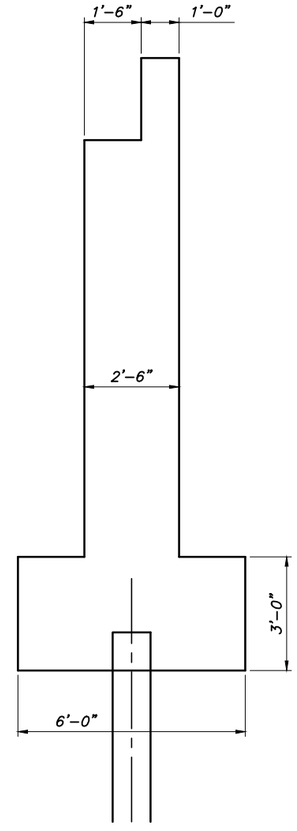
PLAN

REAR ABUTMENT
(FORWARD
ABUTMENT SIMIALR
– NO PILES)



ELEVATION

REAR ABUTMENT
(FORWARD
ABUTMENT SIMIALR
– NO PILES)



SECTION

REAR ABUTMENT
(FORWARD
ABUTMENT SIMIALR
– NO PILES)

DESIGN AGENCY
COMPASS
INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	-
-	-	-	-

DESIGNED	CHECKED
JGM	IMF
DRAWN	IN CHARGE
JGM	DEB

PARALLEL BRIDGE ALTERNATE ABUTMENT
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

PROJECT 71-22-12
DATE: 8/17/23

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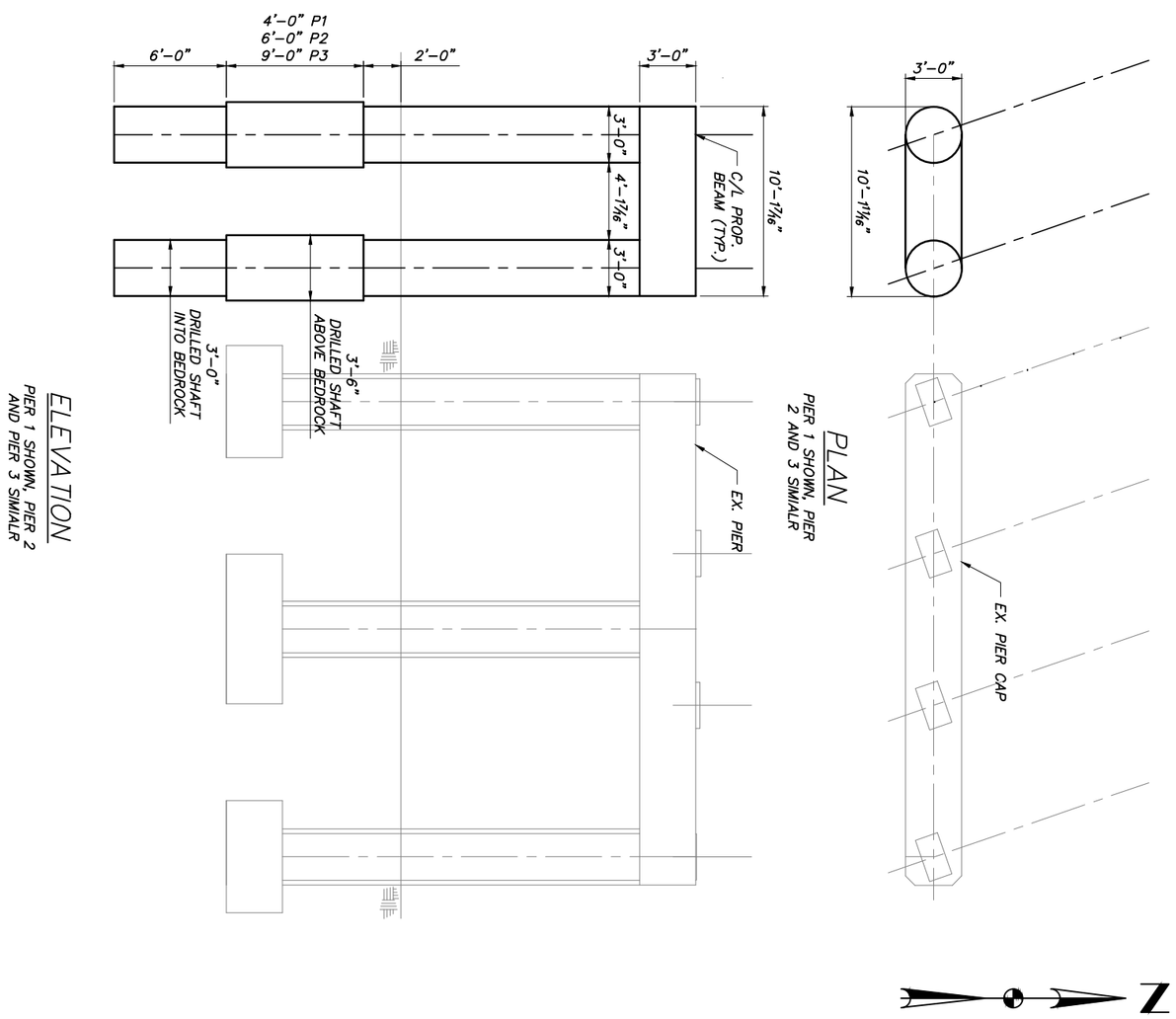
OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

7729820_AR003.dwg; 8/17/23 – 8:12am



PROJECT 71-22-12

DATE: 8/17/23

PIER WIDENING DETAILS

PROSPECT OVER THE OHIO TURNPIKE

M.P. 182.1 SUMMIT COUNTY

DESIGNED	CHECKED
JGM	IMF
DRAWN	IN CHARGE
JGM	DEB

NO.	REVISIONS	BY	DATE
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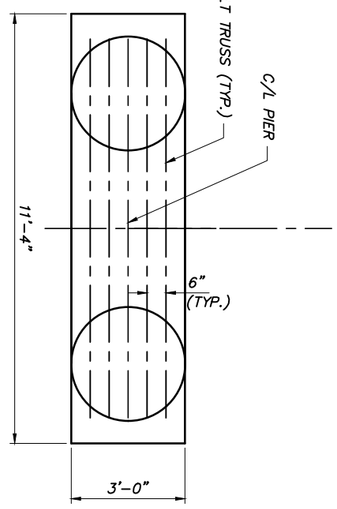
DESIGN AGENCY

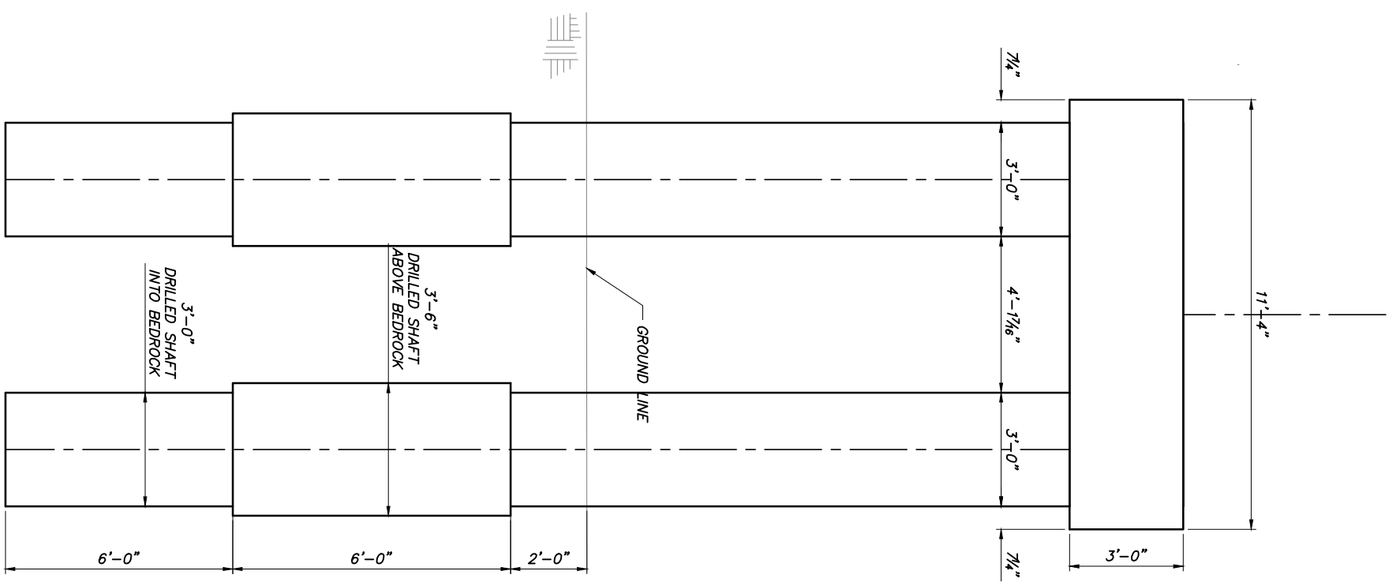
COMPASS INFRASTRUCTURE GROUP

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

PLAN

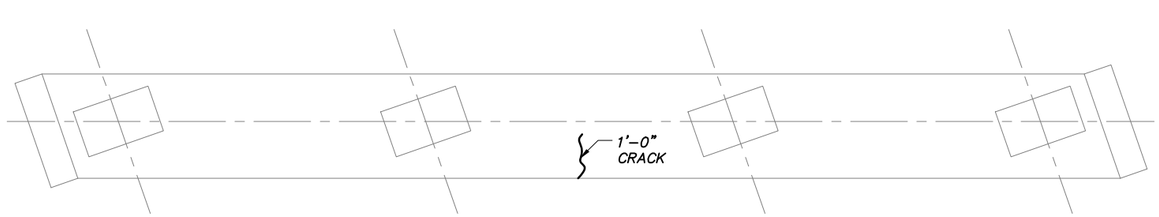


ELEVATION



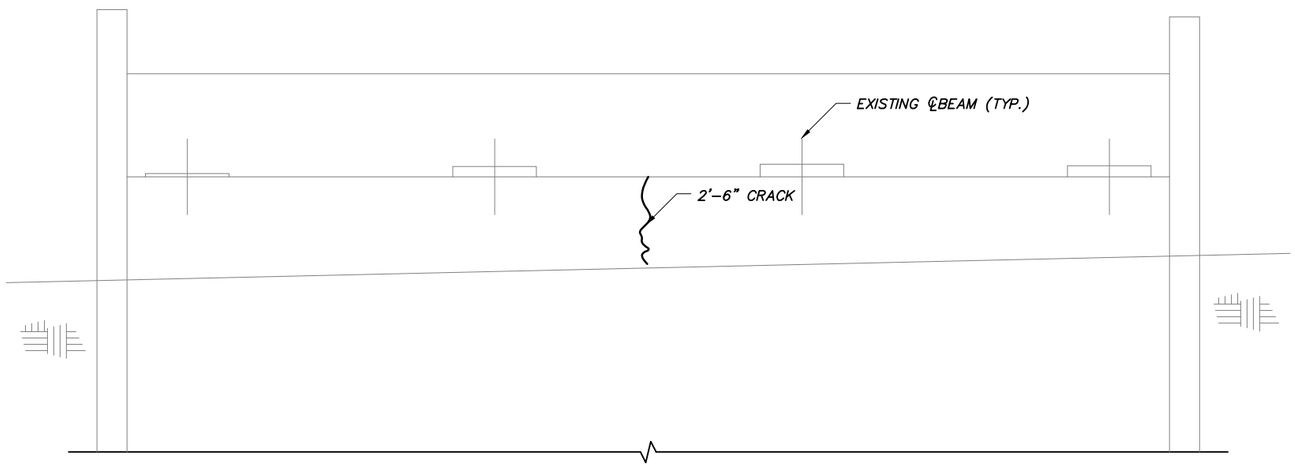
XX XX	PROJECT 71-22-12	PARALLEL BRIDGE PIER	DESIGNED	CHECKED	NO.	REVISIONS	BY	DATE	DESIGN AGENCY
	DATE: 8/17/23	PROSPECT OVER THE OHIO TURNPIKE	JGM	IMF	-	-	-	-	COMPASS INFRASTRUCTURE GROUP
		M.P. 182.1 SUMMIT COUNTY	DRAWN JGM	IN CHARGE DEB	-	-	-	-	

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION



PLAN

REAR ABUTMENT



ELEVATION

REAR ABUTMENT

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	10	10
SP 516A AREAS		
MEASURED QUANTITY (FT.)	CONTINGENT QUANTITY (FT.)	TOTAL (FT.)
3.5	10	13.5

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
.	.	.	.
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DESIGNED JFK | CHECKED IMF
DRAWN JFK | IN CHARGE DEB

PROJECT 71-22-12
DATE: 8/17/23

PATCHING AND PARTIAL REMOVAL DETAILS (1 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

XX / XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

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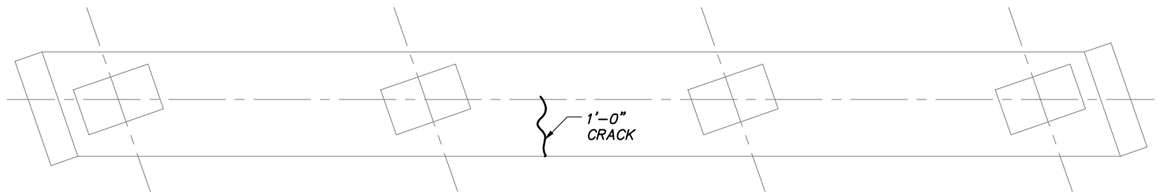
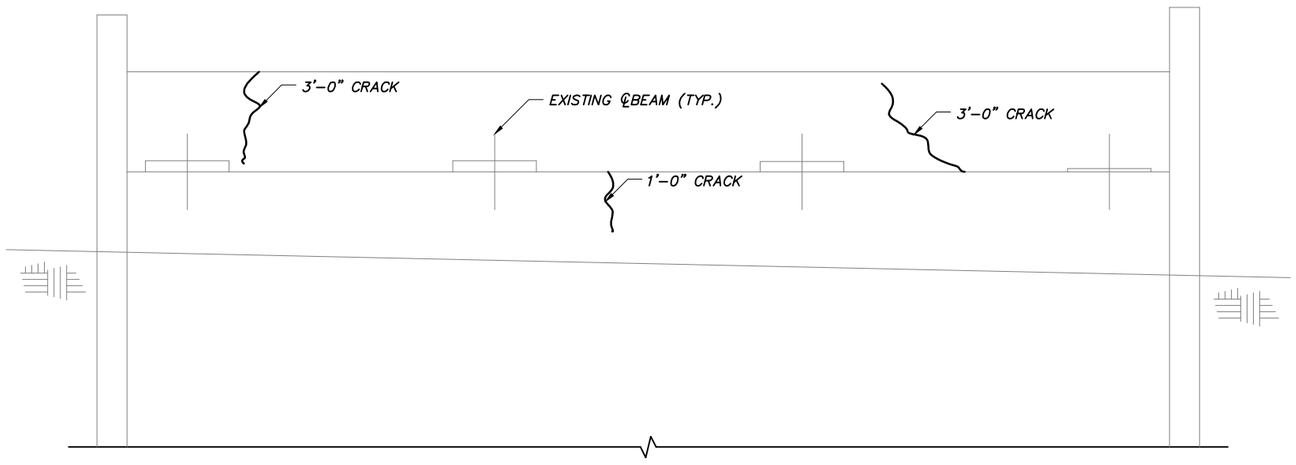


PLAN

FORWARD ABUTMENT



ELEVATION

FORWARD ABUTMENT

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
0	10	10
SP 516A AREAS		
MEASURED QUANTITY (FT.)	CONTINGENT QUANTITY (FT.)	TOTAL (FT.)
8	10	18

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

– DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519

– REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY
COMPASS

NO.	REVISIONS	BY	DATE
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DESIGNED JFK | CHECKED IMF
DRAWN JFK | IN CHARGE DEB

PROJECT 71-22-12
DATE: 8/17/23

PATCHING AND PARTIAL REMOVAL DETAILS (2 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
M.P. 182.1
SUMMIT COUNTY

XX
XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

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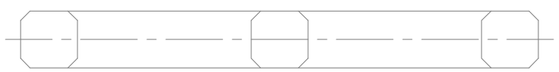
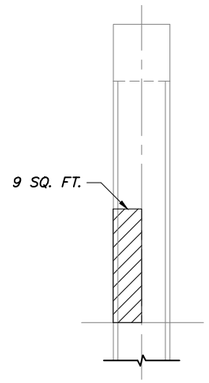
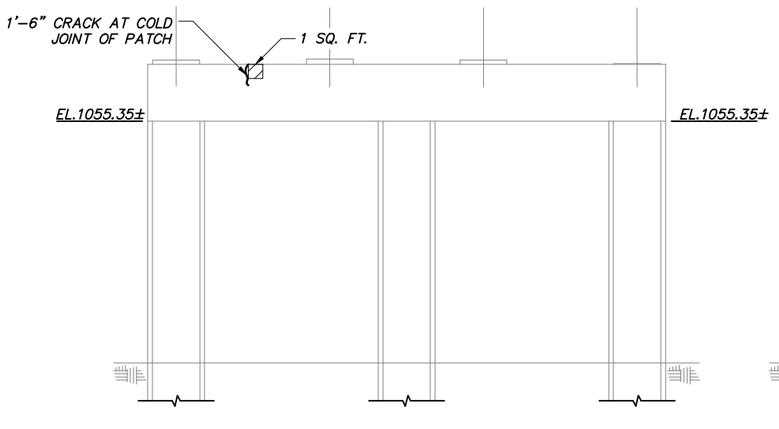


UNDERSIDE OF CAP
PIER 1

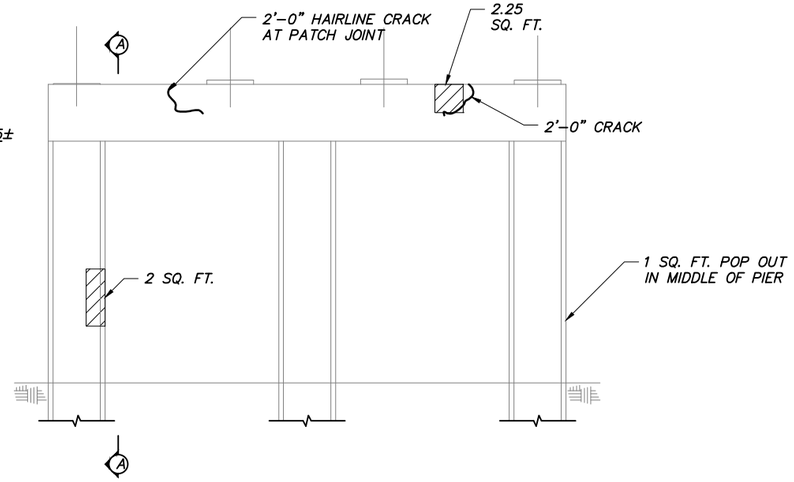
PLAN
PIER 1



VIEW A–A



ELEVATION
PIER 1: LOOKING AHEAD (NORTH)



ELEVATION
PIER 1: LOOKING BACK (SOUTH)

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
20	3	23
SP 516A AREAS		
MEASURED QUANTITY (FT.)	CONTINGENT QUANTITY (FT.)	TOTAL (FT.)
6	0	6

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

– DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519

– REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
.	.	.	.
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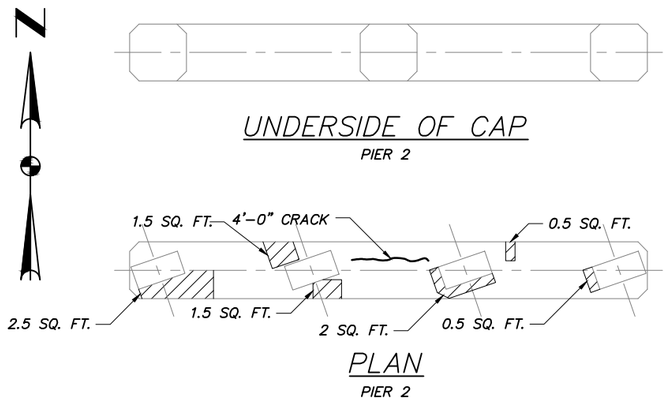
DESIGNED JFK | CHECKED IMF
DRAWN JFK | IN CHARGE DEB

PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
M.P. 182.1 SUMMIT COUNTY

PROJECT 71-22-12
DATE: 8/17/23

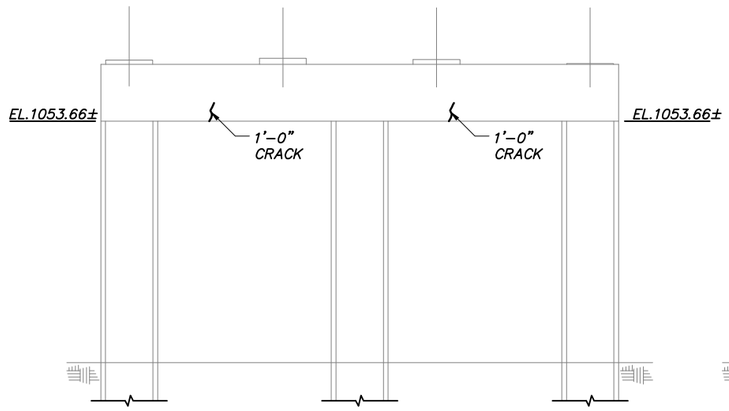
XX / XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

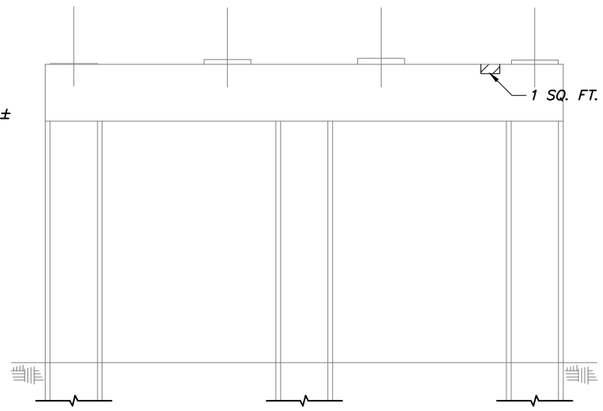


UNDERSIDE OF CAP
PIER 2

PLAN
PIER 2



ELEVATION
PIER 2: LOOKING AHEAD
(NORTH)



ELEVATION
PIER 2: LOOKING BACK
(SOUTH)

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
9.5	0	9.5
SP 516A AREAS		
MEASURED QUANTITY (FT.)	CONTINGENT QUANTITY (FT.)	TOTAL (FT.)
6	0	6

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

- DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519
- REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
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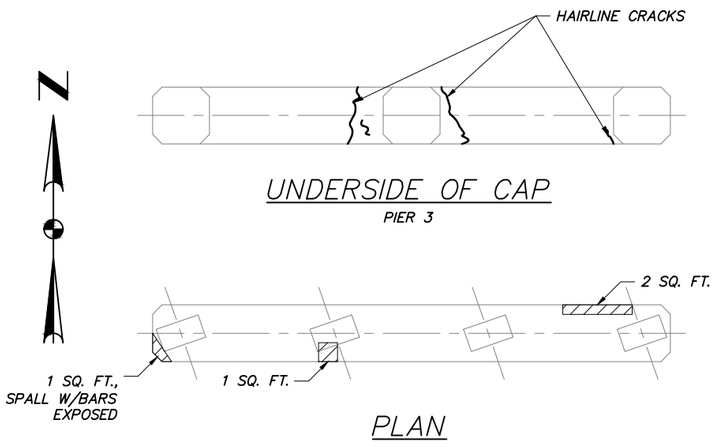
DESIGNED JFK | CHECKED IMF
DRAWN JFK | IN CHARGE DEB

PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

PROJECT 71-22-12
DATE: 8/17/23

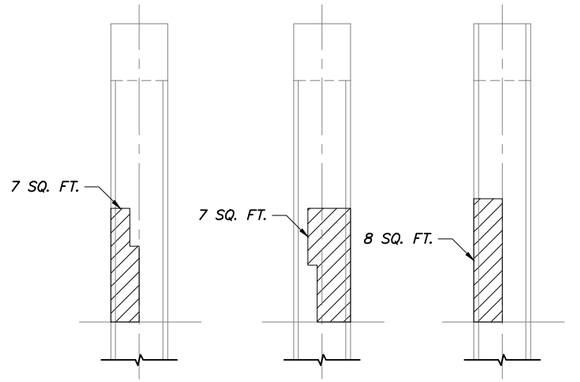
XX / XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

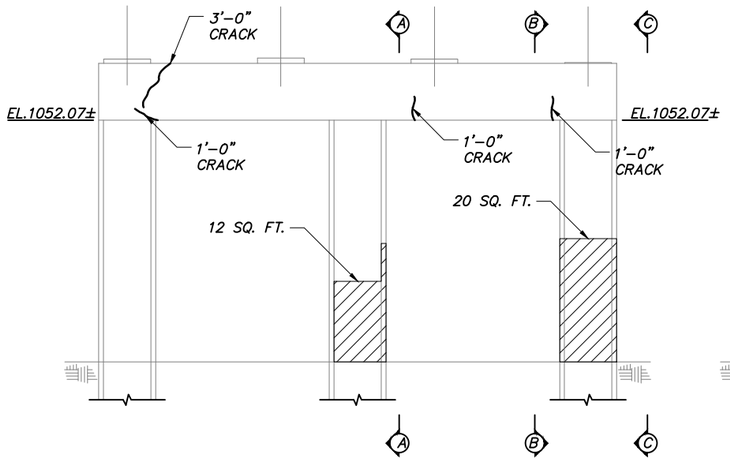


UNDERSIDE OF CAP
PIER 3

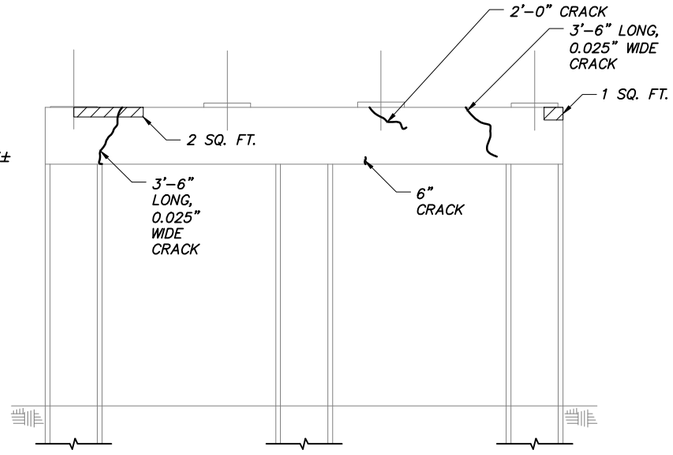
PLAN
PIER 3



VIEW A–A VIEW B–B VIEW C–C



ELEVATION
PIER 3: LOOKING AHEAD (NORTH)



ELEVATION
PIER 3: LOOKING BACK (SOUTH)

SP 519 REPAIR AREAS		
MEASURED QUANTITY (SQ. FT.)	CONTINGENT QUANTITY (SQ. FT.)	TOTAL (SQ. FT.)
61	0	61
SP 516A AREAS		
MEASURED QUANTITY (FT.)	CONTINGENT QUANTITY (FT.)	TOTAL (FT.)
23	0	23

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.

LEGEND:

– DENOTES AREAS TO BE REPAIRED AS PER ITEM SP 519

– REMOVAL PER SP 202, SEE SHEET X OF X.

DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	-
-	-	-	-

CHECKED IMF
IN CHARGE DEB
DESIGNED JFK
DRAWN JFK

PATCHING AND PARTIAL REMOVAL DETAILS (3 OF 5)
PROSPECT OVER THE OHIO TURNPIKE
SUMMIT COUNTY
M.P. 182.1

PROJECT 71-22-12
DATE: 05/17/2023

XX / XX

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

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