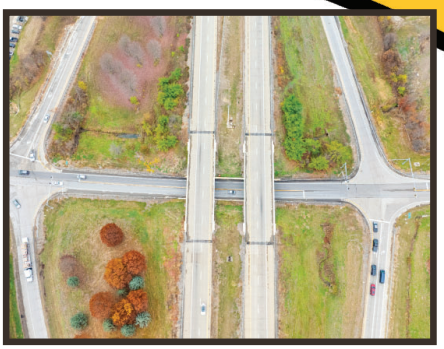
Submitted To:
Ohio Department of Transportation

Preliminary Alternative Technical Concepts (ATC) Submittal

BEL-70-9.35 Interchange Improvement Design-Build

Belmont County, Ohio

PID 120547



Submitted By:

BEAVER EXCAVATING COMPANY

In Association With Lead Designer

TRC

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Alternative Technical Concept (ATC)

01 - Modification of Closure Duration on IR-70 Ramps

ATC No.: 01 | **Type:** Maintenance of Traffic (MOT) | **Date:** 02/11/2025

1. **Description:** This ATC proposes extending the closure durations for Ramps on IR-70 as specified on Page 29 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1), Interchange Ramps (Exit 208), to keep the net impacted days to the public at 84 days. This modification provides additional time to complete work within each closure, thus allowing for better scheduling of activities and safer operations while keeping the public impact the same.

2. **Deviation:** Page 29 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*IR-70 Eastbound Exit Ramp to SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70 / SR-149.*

IR-70 Eastbound Entrance Ramp from SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: SR-149 / Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70.

IR-70 Westbound Exit Ramp to SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70 / SR-149.

IR-70 Westbound Entrance Ramp from SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: SR-149 / Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70.

Ramp closures cannot be concurrent."

The DBT proposes modifying the above language to:

"IR-70 Eastbound Exit Ramp to SR-149 may be closed for a period of 14-28 calendar days. Official signed detours: Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70 / SR-149.

IR-70 Eastbound Entrance Ramp from SR-149 may be closed for a period of 14-28 calendar days. Official signed detours: SR-149 / Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70.

IR-70 Westbound Exit Ramp to SR-149 may be closed for a period of 14-28 calendar days. Official signed detours: Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70 / SR-149.

IR-70 Westbound Entrance Ramp from SR-149 may be closed for a period of 14-28 calendar days. Official signed detours: SR-149 / Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70.

The total combined closure duration for all 4 ramps mentioned above shall not exceed 84 calendar days. Ramp closures cannot be concurrent."

3. **Usage:** The proposed ATC will be applied to the following ramps:

- IR-70 Eastbound Exit Ramp to SR-149
- IR-70 Eastbound Entrance Ramp from SR-149
- IR-70 Westbound Exit Ramp to SR-149
- IR-70 Westbound Entrance Ramp from SR-149

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

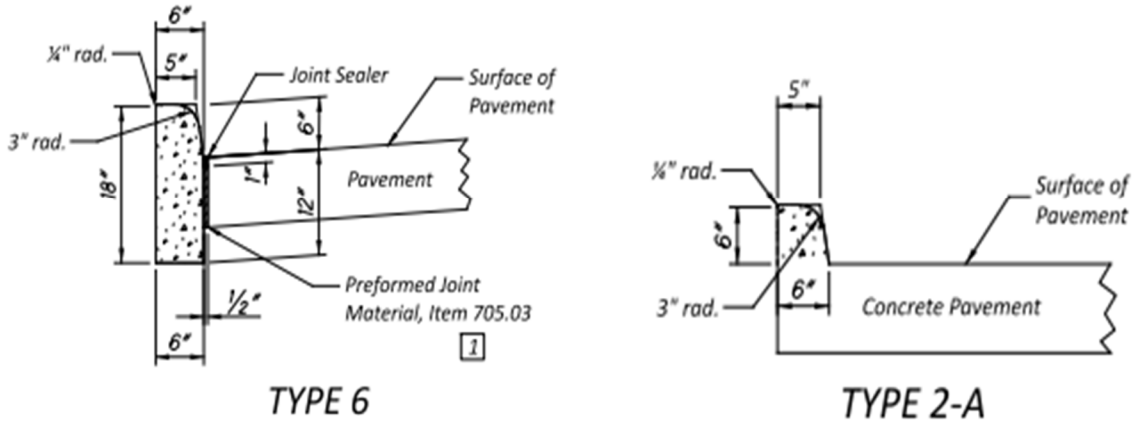
02 - Modification of Curb Type on SR-149

ATC No.: 02 | **Type:** Pavement, Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the curb specifications in the SCOPE OF SERVICES for BEL-70-9.35, PID 120547 (Addendum 1). The original specifications (Page 37 and Page 39) call for Item 609E26000 – CURB, TYPE 6 to be used for all proposed curbing along SR-149.

The DBT proposes changing the curb to Item 609E14000 – CURB, TYPE 2-A as shown in **Figure 1** below. This modification would improve production by allowing the curb to be paved with the pavement and eliminate the need for a separate activity with joints. This approach streamlines construction and potentially lowers costs, while maintaining the functional need for the curb.

Figure 1 - Specified (Type 6) versus proposed (Type 2-A) curb configuration.



2. **Deviation:** Page 37 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*All proposed curbing shall be Item 609E26000 – CURB, TYPE 6.*" Page 39 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*Curbing along SR-149 shall be Item 609E26000 – CURB, TYPE 6.*"

The DBT proposes to modify the above SCOPE OF SERVICES language to: *"All proposed curbing shall be Item 609E14000 – CURB, TYPE 2-A or* Item 609E26000 – CURB, TYPE 6." *"Curbing along SR-149 shall be Item 609E14000 – CURB, TYPE 2-A* or Item 609E26000 – CURB, TYPE 6."

3. **Usage:** This proposed ATC will be applied to all curb along SR-149 as specified in the conceptual plans from STA 107+50 to STA 137+99.80.

4. **Inspection:** Since Type 6 curb requires testing, this proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

03 - Modification to IR-70 Alignment

ATC No.: 03 | **Type:** Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the dimensional requirements outlined on Page 38 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates that the 42' dimension between the Centerline Survey IR-70 and the Centerline of WB and EB IR-70 lanes shall be held and not deviated from.

The DBT proposes modifying this requirement to align with the Location and Design Manual. This change enhances design flexibility, ensuring roadway alignment and geometry adhere to established standards while promoting safer traffic flow by eliminating contraflow and reducing phasing of the project construction.

This includes curves that are similar to curves for both the upstation and downstation of the project. DBT proposes to use 75mph design horizontal curves meeting L&D Vol 1, Fig 202-3 separated by tangents set to a minimum distance of 3x design speed. Record plans show 5729.58-ft radius Hz curves east and west of our project limits. The proposed permanent shift includes 15,000.00-ft radius curves separated by tangents set to a length of at least 3x design speed. See Exhibit A for additional details.

2. **Deviation:** Page 38 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The 42' dimension between Centerline Survey IR-70 and the Centerline WB and EB IR-70 lanes shall be held and not deviated from*."

The DBT proposes to modify the above language to state: "*The dimension between Centerline Survey IR-70 and the Centerline WB and EB IR-70 lanes shall be designed per the ODOT Location and Design Manual and ODOT Bridge Design Manual*."

3. **Usage:** The proposed modification will be applied to the dimensional design of the IR-70 alignment, specifically the distance between the Centerline Survey IR-70 and the Centerlines of the WB and EB IR-70 lanes.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

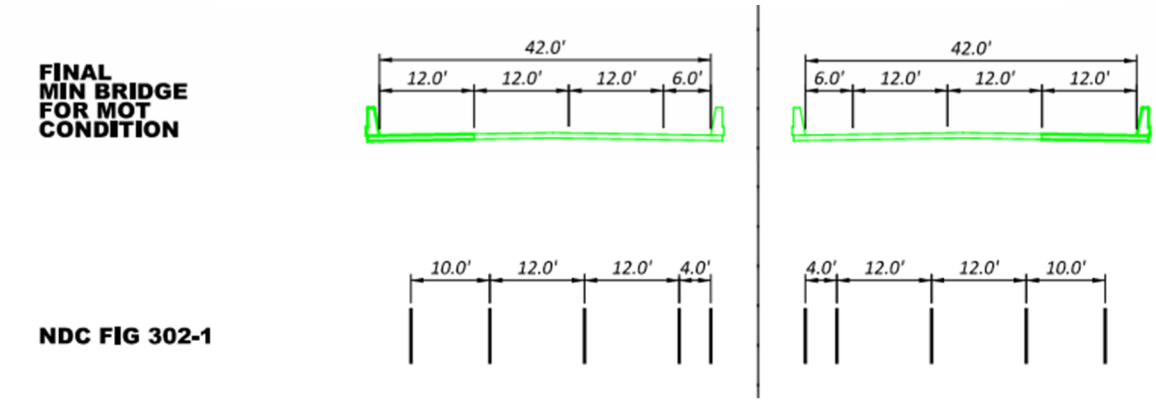
04 - Modification to IR-70 Bridge Shoulder Widths

ATC No.: 04 | **Type:** Structures| **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the dimensional requirements outlined on pages 44 and 45 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates shoulder widths in excess of ODOT Location and Design Manual Figure 302-1 requirements. The DBT proposes changing this requirement to design per the Location and Design Manual.

This change allows for greater flexibility in the design process, ensuring that the geometry of the roadway and structure transverse sections conform to established design standards, while also reducing the permanent bridge width to be maintained by ODOT.

Figure 2 - Minimum shoulder width for ATC 03 and Lane Widths per L&D manual



2. **Deviation:** Pages 44 and 45 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states for both SFN 0702227 and SFN 0702251: "*Proposed minimum toe to toe of parapet - 46' (2 - 12' lanes, 1 - 10' median shoulder and 1 - 12' outside shoulder).*"

The DBT proposes a modification of the above language to: "*Proposed minimum toe to toe of parapet - 38' (2 - 12' lanes, 1 - 4' median shoulder and 1 - 10' outside shoulder).*"

3. **Usage:** The proposed modification will be applied to the shoulders of both the SFN 0702227 and SFN 0702251 proposed structures.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction. The proposed ATC would reduce the required inspection efforts during the life of the structures by reducing the overall size of the structures.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

05 – Reuse of Existing Drainage Facilities

ATC No.: 05 | **Type:** Drainage| **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the culvert replacement requirements outlined on Page 40 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates full replacement of the following culverts due to their fair or poor condition:

- CFN 1858223 – 292 feet of 48"x60" elliptical CMP under IR-70
- CFN 1858224 – 102 feet of 54" CMP under Ramp A
- CFN 1836941 – 120 feet of 36" CMP under SR-149

The DBT proposes modifying this requirement to allow for replacement, slip lining, or coating to extend service life, provided drainage calculations confirm the feasibility of these alternative rehabilitation methods.

This change would offer greater flexibility in addressing culvert conditions, potentially reducing construction costs, public travel impacts, and safety while still ensuring long-term functionality and drainage performance.

2. **Deviation:** Page 40 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The following conduits/culverts shall be replaced due to them being in fair or poor condition*:

- CFN 1858223, 292 feet in length of 48"x60" elliptical CMP – traverses under IR-70
- CFN 1858224, 102 feet in length of 54" CMP – traverses under Ramp A
- CFN 1836941, 120 feet in length of 36" CMP – traverses under SR-149

The DBT will replace the culverts in their entirety."

The DBT proposes to modify the above language to:

"The following conduits/culverts shall be replaced or corrected due to them being in fair or poor condition:

- CFN 1858223, 292 feet in length of 48"x60" elliptical CMP – traverses under IR-70
- CFN 1858224, 102 feet in length of 54" CMP – traverses under Ramp A
- CFN 1836941, 120 feet in length of 36" CMP – traverses under SR-149

The DBT shall replace, slip-line, or coat the culverts in their entirety to extend their service life, provided drainage calculations support these methods. If slip-lined or coated, the final product must be equivalent to or better than replacing the drainage structures."

3. **Usage:** The proposed modification will be applied to the following drainage structures:

- CFN 1858223
- CFN 1858224
- CFN 1836941

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction. The proposed ATC would reduce the required inspection efforts during the life of the structures by increasing the service life of the structures.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

06A - Flexibility in Bridge Beam Selection

ATC No.: 06A | **Type:** Structures | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the structural beam requirements outlined on Page 43 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1).

The original specification requires the use of longitudinal steel beams with a hot-dipped galvanized coating. The DBT proposes an alternative of prestressed I-beams as per PSID-1-13. This modification maintains flexibility in material selection while adhering to PSID-1-13 specifications to ensure structural integrity.

2. **Deviation:** Page 43 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*Use longitudinal steel beams with a hot-dipped galvanized coating.*"

The DBT proposes to modify the above language to: "*Use longitudinal steel beams with a hot-dipped galvanized coating or prestressed I-beams as per PSID-1-13.*"

3. **Usage:** The proposed ATC will be applied to the following two proposed structures:

- SFN 0702227
- SFN 0702251

4. **Inspection:** This proposed ATC does impact inspection or testing requirements during construction or during the life of the structure as additional inspection would be required per ODOT ITEM 515 PRESTRESSED CONCRETE BRIDGE MEMBERS.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

06B - Flexibility in Bridge Beam Selection

ATC No.: 06B | **Type:** Structures | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the structural beam requirements outlined on Page 43 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1).

The original specification requires the use of longitudinal steel beams with a hot-dipped galvanized coating. The DBT proposes an alternative of weathering steel beams. This modification maintains flexibility in material selection while adhering to specifications to ensure structural integrity. Additionally, ODOT BDM states that uncoated weathering steel is the department's primary coating system. All requirements of ODOT BDM will be met, specifically BDM Section 308.2.2.1.d.1.

2. **Deviation:** Page 43 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*Use longitudinal steel beams with a hot-dipped galvanized coating.*"

The DBT proposes to modify the above language to: "*Use longitudinal steel beams with a hot-dipped galvanized coating or uncoated weathering steel.*"

3. **Usage:** The proposed ATC will be applied to the following two proposed structures:

- SFN 0702227
- SFN 0702251

4. **Inspection:** This proposed ATC does not impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

07 - Alternative Bridge Structure Type

ATC No.: 07 | **Type:** Structures | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the bridge design requirements outlined on Page 43 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates that all new bridges must be 3-span continuous composite steel beam structures with no skew, and no other structure type is permitted. Additionally, the eastbound and westbound bridge span arrangements must match.

The DBT proposes revising these requirements to allow for alternative structure types, such as a single span bridge, to be considered. This modification will provide flexibility in the design process. This approach could also lead to more cost-effective, innovative, or constructible solutions while still maintaining the requirement for consistency between the eastbound and westbound bridge span arrangements. The proposed change ensures the final design will meet project objectives while allowing the DBT to explore optimized structural options. See Exhibit B for additional details.

2. **Deviation:** Page 43 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*New bridges must be 3-span continuous composite steel beam structures with no skew. No other structure type will be allowed. The eastbound and westbound bridge span arrangements must match.*"

The DBT proposes modifying this language to: "*New bridges may be designed as 3-span continuous or single span composite steel beam structures with no skew. The eastbound and westbound bridge span arrangements must match.*"

3. **Usage:** The proposed ATC will be applied to the following two proposed structures:

- SFN 0702227
- SFN 0702251

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction. The proposed ATC would reduce the required inspection efforts during the life of the structures by reducing the overall size of the structures.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

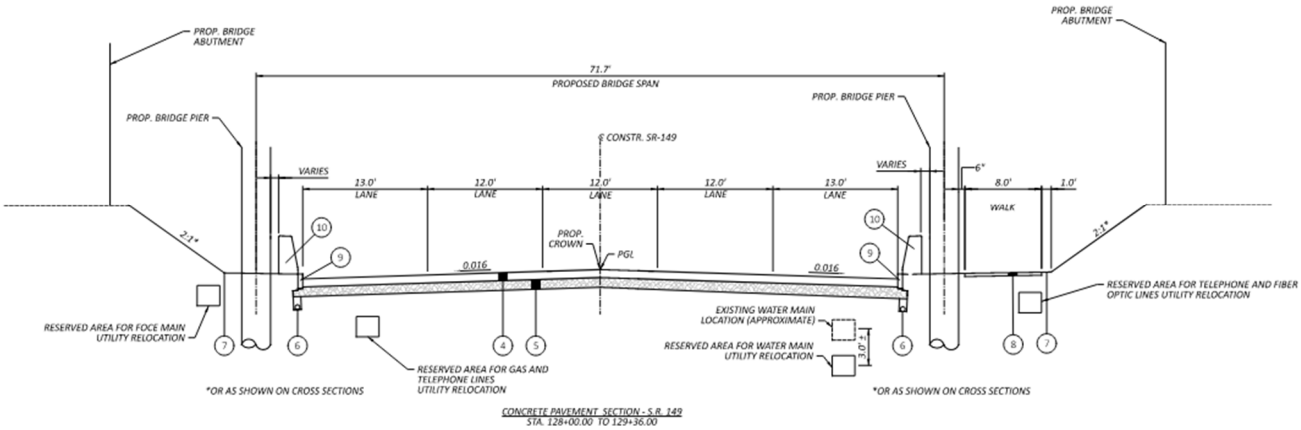
08 – Modification of Pier Protection Requirements

ATC No.: 08 | **Type:** Structures | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the pier design requirements outlined on Page 44 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification requires that piers be cap-and-column type and that their design must account for a 600-kip equivalent static force as described in AASHTO 3.6.5.1.

The proposed modification eliminates redundancy in the pier protection requirements. Page 39 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES and the Conceptual Plans already mandate the installation of Item 622E10160 – CONCRETE BARRIER, SINGLE SLOPE, TYPE D on northbound and southbound SR-149 to protect the outside piers, with appropriate guardrail transitions and terminal assemblies. Given this existing protection, requiring the pier design to withstand a 600-kip equivalent static force per AASHTO 3.6.5.1 is excessive. Allowing the use of the Type D barrier in lieu of the 600-kip impact load ensures adequate protection while improving efficiency and as well as reducing cost and unnecessary structural reinforcement. The image below from the Conceptual Plans, P.7 of 133, TYPICAL SECTIONS - S.R. 149, CONCRETE PAVEMENT SECTION - S.R. 149 STA. 128+00.00 TO 129+36.00 shows the Type D barrier in front of the proposed bridge piers.

Figure 3 - Type D barrier in front of the proposed bridge piers per conceptual plans



2. **Deviation:** Page 44 of 63 of the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*Piers must be cap-and-column type. Pier design is required to account for a 600-kip equivalent static force described in AASHTO 3.6.5.1.*"

The DBT proposes to modify the above language to: "*Piers must be cap-and-column type. Pier design is required to account for a 600-kip equivalent static force described in AASHTO 3.6.5.1 or the use of Single Slope Barrier, Type D, per ODOT standards may be used to protect the piers in place of the 600-kip impact load.*"

3. **Usage:** The proposed ATC will be applied to the following two proposed structures:

- SFN 0702227
- SFN 0702251

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

09 - Modification of Bridge Skew

ATC No.: 09 | **Type:** Structures | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the bridge design requirements outlined on Page 43 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates that all new bridges must be 3-span continuous composite steel beam structures with no skew, and no other structure type is permitted. Additionally, the eastbound and westbound bridge span arrangements must match.

The DBT proposes revising the requirement to allow for skew in the bridges. This modification provides greater design flexibility, allowing for the inclusion of skewed bridge configurations and alternative structure types where beneficial. The ability to consider skewed spans could improve geometric alignment with the existing infrastructure, reduce span length, enhance constructability, and reduce costs associated with unnecessary constraints.

2. **Deviation:** Page 43 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*New bridges must be 3-span continuous composite steel beam structures with no skew. No other structure type will be allowed. The eastbound and westbound bridge span arrangements must match*."

The DBT proposes modifying the above language to: *"New bridges may be designed as 3-span continuous composite steel beam structures with or without skew. Alternative structure types may also be considered. The eastbound and westbound bridge span arrangements must match."*

3. **Usage:** The proposed ATC will be applied to the following two proposed structures:

- SFN 0702227
- SFN 0702251

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

10 - Acquisition of Additional ROW Parcels

ATC No.: 10 | **Type:** Right of Way (ROW) | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the Right-of-Way (ROW) acquisition requirements outlined on Page 17 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification states that the Department will acquire and pay for the additional ROW needed to encompass the construction limits as shown in Appendix B Conceptual Plans.

The DBT proposes that the language specifically identify Parcel 39-00328.001 (Nardo Earle Robin & Jamie L. Surv Et Al) and Parcel 39-00332.000 (Pilot Travel Centers, LLC) as additional takes. Property Costs paid by the DBT. This modification ensures that the necessary ROW acquisitions explicitly include Parcel 39-00328.001 and Parcel 39-00332.000, which are critical to project execution. Acquiring these parcels provides additional space for construction and minimizes impacts to existing utilities and potential wetlands. This also improves the drainage function at Ramp A. See Exhibit C for additional details.

2. **Deviation:** Page 17 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The Department will acquire and pay for the additional Right of Way needed to encompass the construction limits as shown on Appendix B Conceptual Plans.*"

The DBT proposes to modify the above language to: "*The Department will acquire and pay for the additional Right of Way needed to encompass the construction limits as shown in Appendix B Conceptual Plans. The DBT will reimburse ODOT for the cost of the additional take on Parcel 39-00328.001 (Nardo Earle Robin & Jamie L. Surv Et Al) and Parcel 39-00332.000 (Pilot Travel Centers LLC).*"

3. **Usage:** The proposed ATC will be applied to the two additional parcels 39-00328.001 (Nardo Earle Robin & Jamie L. Surv Et Al) and 39-00332.000 (Pilot Travel Centers LLC)". The approximate offset to the east is 10' and the total acreage of take is 0.05 acres.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

11 - Modification to Driveway Geometrics

ATC No.: 11 | **Type:** Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the driveway configuration requirements as outlined on Page 39 of 63 in the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates that the DBT follow the geometrics depicted in the Conceptual Plans regarding proposed driveway configurations and existing driveway removals.

The DBT proposes to modify this requirement to design the driveways with input from the driveway owners. This change allows for the incorporation of feedback and specific requirements from the local entities regarding truck traffic control, ensuring that the final driveway configurations meet the needs of these key stakeholders while maintaining compliance with the overall project design. See Exhibit D for additional details.

2. **Deviation:** Page 39 of 63 in the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The DBT shall follow the geometrics depicted within the Conceptual Plans in regard to proposed driveway configurations and existing driveway removals.*"

The DBT proposes to modify the above language to: *"The DBT shall design the driveways to geometrics acceptable to the truck stop entities, specifically DR-1 shown on 120547_Appendix Conceptual Plans, which will have an intersection point between Sta. 114+50 – 116+50."*

3. **Usage:** The proposed modification will be applied to the driveway identified as DR-1 in the conceptual drawings.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

12 - Modification to Reco Drive Intersection

ATC No.: 12 | **Type:** Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the driveway configuration requirements as outlined on Page 39 of 63 in the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1). The original specification mandates that the DBT follow the geometrics depicted in the Conceptual Plans regarding proposed driveway configurations and existing driveway removals.

The DBT proposes to modify this requirement to design the driveways with input from the driveway owners. This modification allows for greater flexibility in aligning the existing Reco Drive with the new driveway configuration, rather than requiring a full realignment of Reco Drive. By working with local stakeholders to determine an optimal geometric design, this change aims to minimize construction impacts, reduce costs, and improve overall traffic flow while still maintaining functionality and accessibility for adjacent properties. See Exhibit E for additional details.

2. **Deviation:** Page 39 of 63 in the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The DBT shall follow the geometrics depicted within the Conceptual Plans in regard to proposed driveway configurations and existing driveway removals*."

The DBT proposes to modify the above language to: *"The DBT shall design Reco Drive to the ODOT Location and Design Manual Volume 1 and maintain a signalized intersection. The intersection point of Reco Drive and DR-2 shall be between Sta. 119+00 and 121+50. DR-3 and/or DR-5 may be eliminated, combined, or relocated by the DBT due to the proposed proximity to Reco Drive."*

3. **Usage:** The proposed modification will be applied to Reco Drive and DR-2, DR-3, DR-5 in the conceptual drawings.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We consider this Alternative Technical Concept (ATC) to be a trade secret and request that it remain confidential to the DBT throughout the bid phase, project award, and the completion of the project.

Alternative Technical Concept (ATC)

13 - Modification of Side Slopes Along IR-70, SR-149, Reco Drive, & Ramps

ATC No.: 13 | **Type:** Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a change to the maximum side slopes specified Page 38 of 63 in the BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) along IR-70 mainline, state routes, local roads, and ramps. Steeper slopes would minimize impacts to existing culverts, drainage, wetlands, or utilities. The use of steeper slopes is a sustainable solution that offers the following advantages over a precast or cast-in-place retaining wall option:

- Naturally aesthetic look with vegetation options
- Eliminates the effects that differential settlement can have on a precast or cast-in-place concrete wall
- Offers a natural sound absorption option
- Improves roadway drainage
- Eliminates future inspection and maintenance requirements of a precast or cast-in-place wall

Our team may also implement combination 2H:1V on top of 1.5H:1V / 1H:1V slopes to minimize taller 1-1.5H:1V fills. See Exhibit F for additional details.

2. **Deviation:** Page 38 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*The maximum side-slopes along SR-149, Reco Drive, and the ramps shall be 2:1. A 1.5:1 slope may be used only along IR-70 WB near the proposed approach slabs and bridge abutments.*"

The DBT proposes to modify the above language to: *"The maximum side-slopes along SR-149, Reco Drive, and the ramps shall be 2:1. A 1:5 slope may be used along IR-70 near the proposed approach slabs and bridge abutments, and a 1.5:1 slope at the following locations:*

- SR-149 Sta. 112+00 – 115+00 Left and Right
- Reco Dr. Sta. 13+00 – 15+50 Right
- SR-149 Sta. 115+50 – 119+00 Left
- SR-149 Sta. 124+00 – 125+00 Left
- SR-149 Sta. 125+00 – 127+50 Left
- SR-149 Sta. 129+50 – 131+00 Left.
- I70 EB Sta. 516+50 – 518+50 Rt.

1.5:1 may be steepened to 1:1 in locations above to minimize the impacts to existing culverts, drainage, wetlands, or utilities."

3. **Usage:** The proposed ATC will be applied to the side slopes along IR-70 and the associated ramps within the project limits of BEL-70-9.35, PID 120547. The modification revises the maximum side slopes from 2:1 in the following locations:

- SR-149 Sta. 112+00 – 115+00 Left and Right
- Reco Dr. Sta. 13+00 – 15+50 Right
- SR-149 Sta. 115+50 – 119+00 Left
- SR-149 Sta. 124+00 – 125+00 Left
- SR-149 Sta. 125+00 – 127+50 Left
- SR-149 Sta. 129+50 – 131+00 Left
- I70 EB Sta. 516+50 – 518+50 Right

This slope design (steeper than 1.5:1) has already been used on roadway improvements for the adjacent Love's Travel Stop (BEL-149-23.44) Sta. 112+80 to 113+33 Lt., Sta. 113+00 to 113+50 Rt., and Sta. 115+73 to 117+35 Lt. This design uses special slope backfill and reinforced soil slopes. A 1:1 is also shown on Appendix B – Conceptual Drawings Sta. 124+50 Lt (1.1:1).

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the roadway/structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

14 - SS 863 Reinforced Soil Slopes

ATC No.: 14 | **Type:** Roadway | **Date:** 02/11/2025

1. **Description:** This ATC proposes a change to the ODOT Supplemental Specification 863 Reinforced Soil Slopes (October 17, 2014). This change allows for the use of stronger slope backfill material that is equal to or better than the typical 863 RSS embankment spec which uses natural soils or granular embankment materials.

2. **Deviation:** Page 3 of the Specification. B. Reinforced Embankment. "*Furnish embankment soil to be used in conjunction with the geogrid reinforcement that is either natural soil as defined in 703.16.A or granular embankment material as defined in 703.16.B.*"

Revise the above language to the following: "*Furnish embankment soil to be used in conjunction with the geogrid reinforcement that is either natural soil as defined in 703.16.A, granular embankment material as defined in 703.16.B, or Section 703.16C, granular material Type C with the following gradation as determined in accordance with ASTM D-422:*"

Sieve Size	Percent Passing
3 inches	100
2 inches	70-90
½ inch	30-60
No. 200	0-13

3. **Usage:** The proposed ATC will be applied to the side slopes along IR-70 and the associated ramps within the project limits of BEL-70-9.35, PID 120547. The modification revises the maximum side slopes from 2:1 in the following locations:

- SR-149 Sta. 112+00 – 115+00 Left and Right
- Reco Dr. Sta. 13+00 – 15+50 Right
- SR-149 Sta. 115+50 – 119+00 Left
- SR-149 Sta. 124+00 – 125+00 Left
- SR-149 Sta. 125+00 – 127+50 Left
- SR-149 Sta. 129+50 – 131+00 Left

This slope design (steeper than 1.5:1) has already been used on roadway improvements for the adjacent Love's Travel Stop (BEL-149-23.44) at Sta. 112+80 to 113+33 Lt., Sta. 113+00 to 113+50 Rt., and Sta. 115+73 to 117+35 Lt. This design uses

special slope backfill and reinforced soil slopes. A 1:1 is also shown on Appendix B – Conceptual Drawings, Sta. 124+50 Lt (1.1:1).

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Alternative Technical Concept (ATC)

15 - Modification to ITS Requirement

ATC No.: 15 | **Type:** Traffic control | **Date:** 02/11/2025

1. **Description:** This ATC proposes a modification to the requirement for the removal, salvage, and reinstallation of the CCTV camera and pole in the IR-70 median, west of SR-149, as specified in the SCOPE OF SERVICES Page 51 of 63, BEL-70-9.35, PID 120547 (Addendum 1). The original requirement mandates that the equipment be removed, salvaged, and reinstalled on a new pole foundation. The DBT proposes modifying this requirement so that the equipment is only removed, salvaged, and reinstalled if impacted by the DBT's design and construction work.

This modification ensures that unnecessary work is avoided thus reducing project costs and minimizing disruptions while maintaining the functionality of the existing infrastructure.

2. **Deviation:** Page 51 of 63 of BEL-70-9.35, PID 120547 SCOPE OF SERVICES (Addendum 1) states: "*CCTV camera and pole in the IR-70 median, on the west side of SR-149, shall be Removed, Salvaged and Re-erected on a new pole foundation* "

The DBT proposes to modify the above language to: "*CCTV camera and pole in the IR-70 median, on the west side of SR-149, shall only be removed, salvaged, and re-erected on a new pole foundation if impacted by the DBT's design and construction work.*"

3. **Usage:** The proposed modification will be applied to the CCTV camera and pole in the IR-70 median, on the west side of SR-149.

4. **Inspection:** This proposed ATC does not change or impact inspection or testing requirements during construction or during the life of the structure.

5. **Public Record:** We acknowledge that this Alternative Technical Concept (ATC) may not be considered a trade secret, but we request this ATC remain confidential to the DBT through the completion of the bid phase and project award.

Appendix: ATC Exhibits

Exhibit A - ATC 03
Exhibit B - ATC 07
Exhibit C - ATC 10
Exhibit D - ATC 11
Exhibit E - ATC 12
Exhibit F - ATC 13

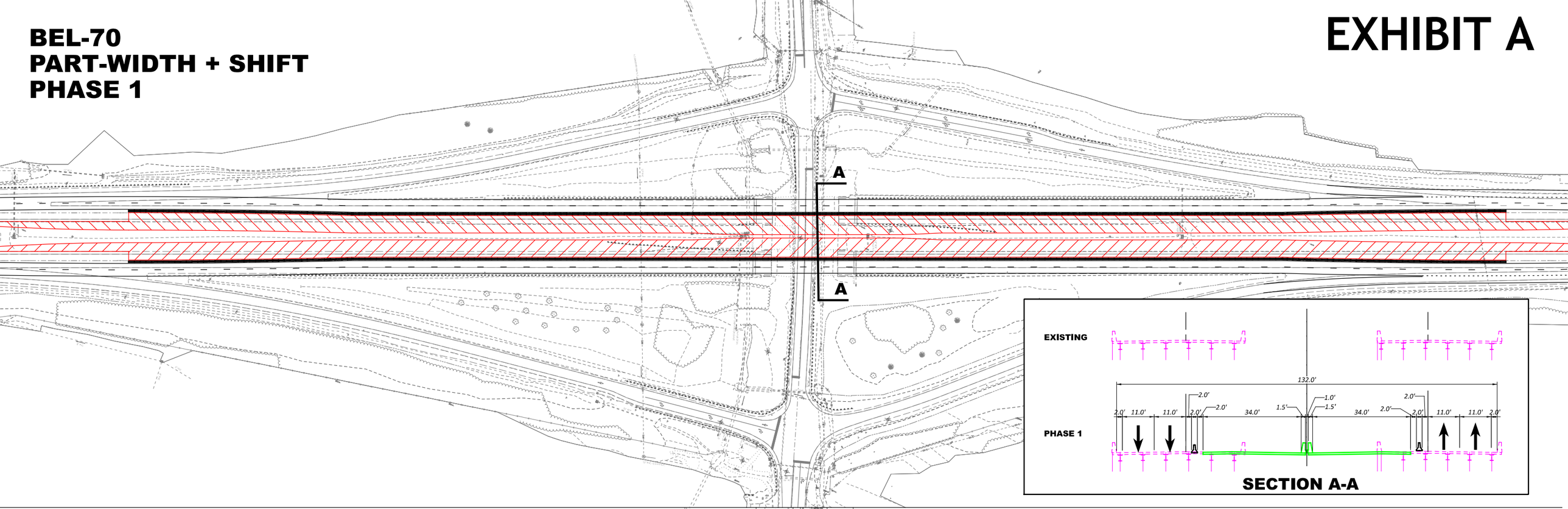
BEAVER EXCAVATING COMPANY

In Association With Lead Designer

TRC

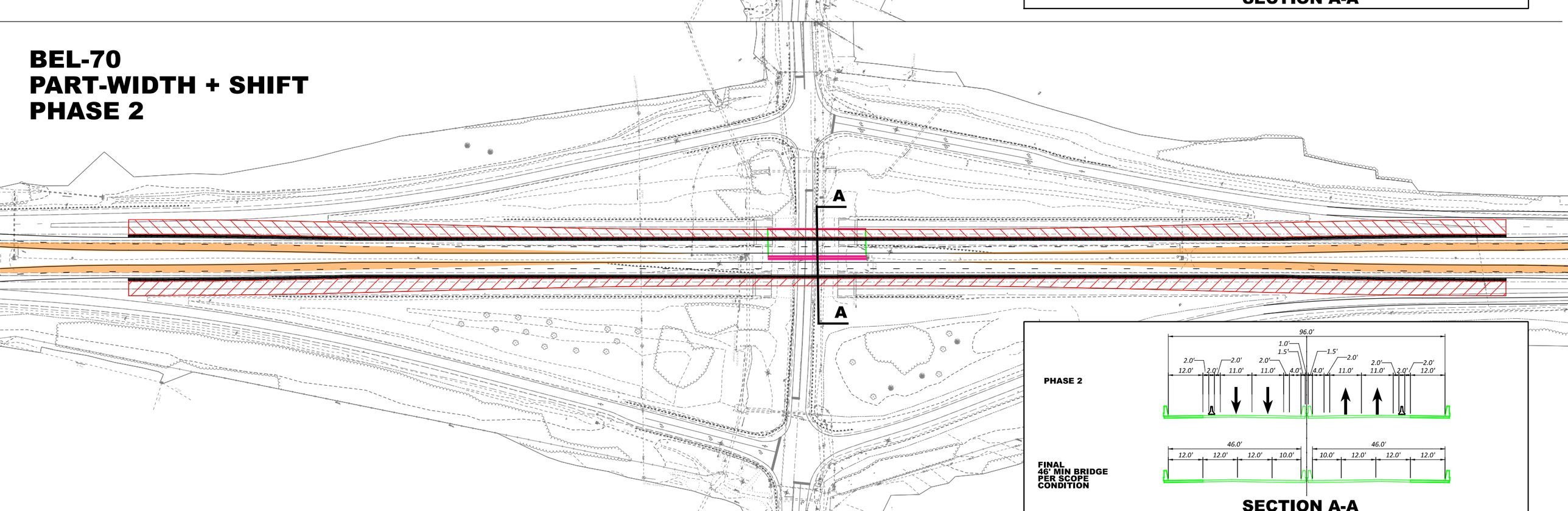
EXHIBIT A

BEL-70
PART-WIDTH + SHIFT
PHASE 1



SECTION A-A

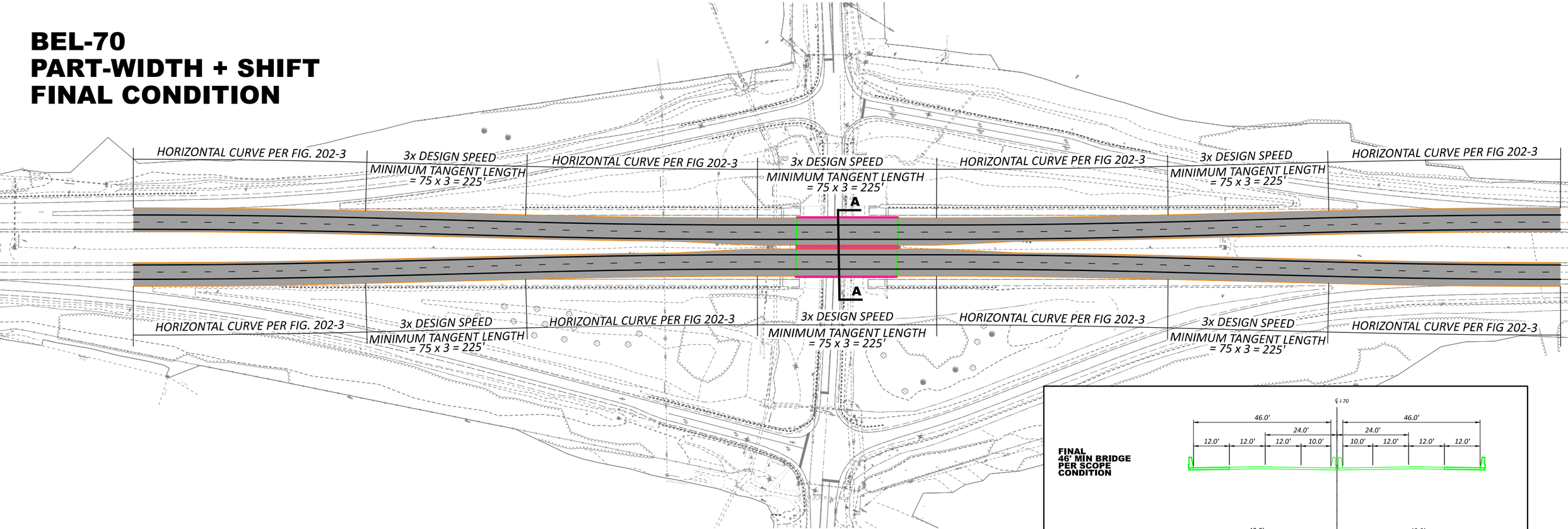
BEL-70
PART-WIDTH + SHIFT
PHASE 2



SECTION A-A

EXHIBIT A

BEL-70
PART-WIDTH + SHIFT
FINAL CONDITION



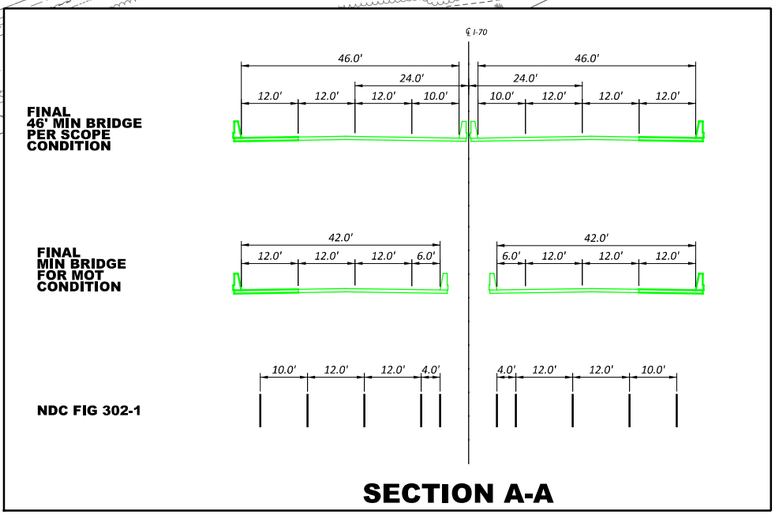
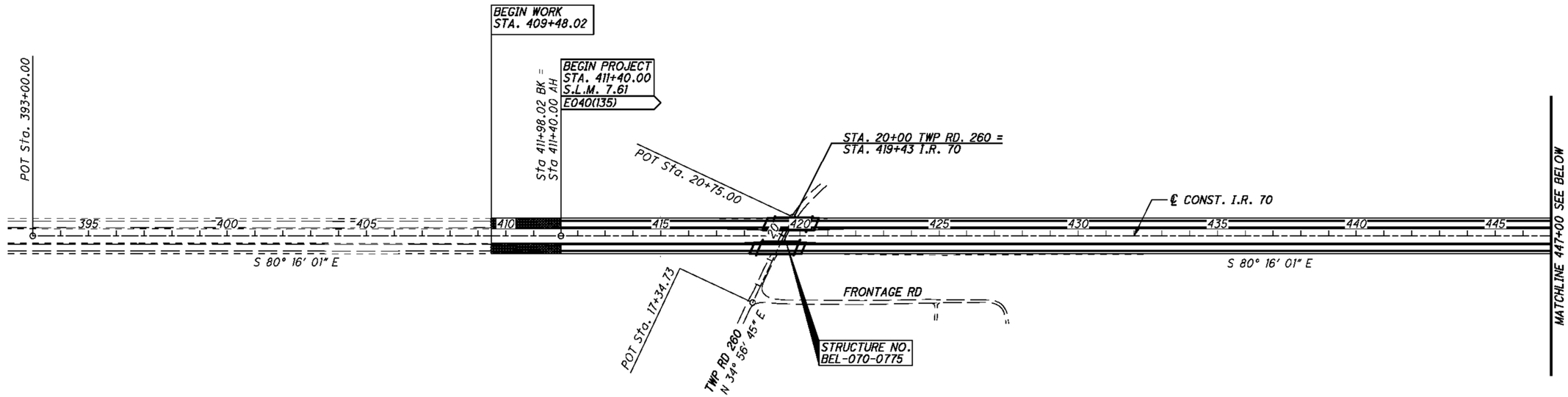
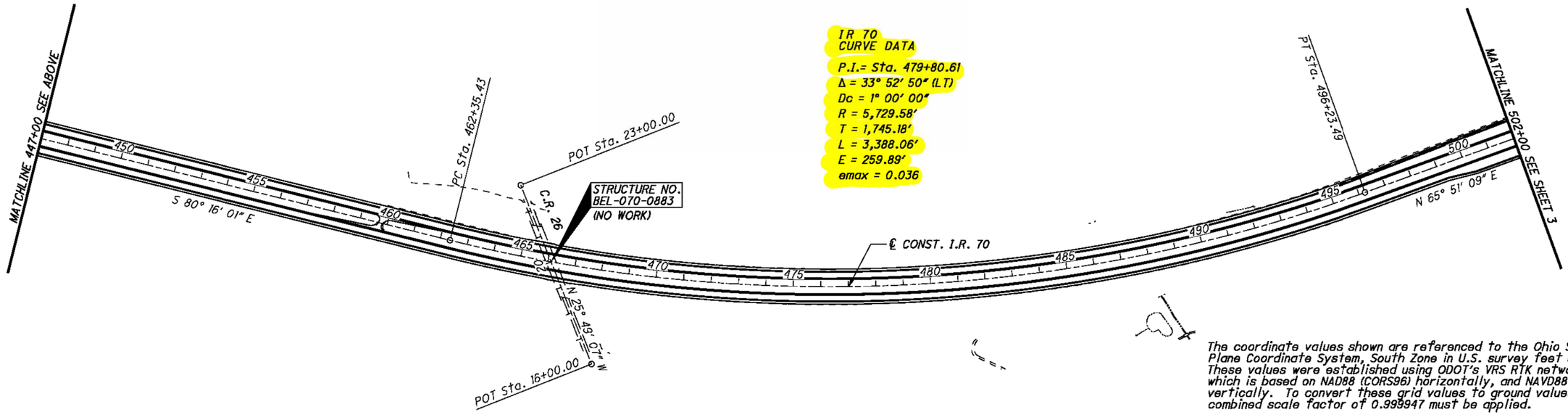


EXHIBIT A





IR 70
CURVE DATA

P.I.= Sta. 479+80.61
Δ = 33° 52' 50" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 1,745.18'
L = 3,388.06'
E = 259.89'
emax = 0.036

The coordinate values shown are referenced to the Ohio State Plane Coordinate System, South Zone in U.S. survey feet units. These values were established using ODOT's VRS RTK network which is based on NAD88 (CORS96) horizontally, and NAVD88 vertically. To convert these grid values to ground values a combined scale factor of 0.999947 must be applied.

HORIZONTAL SCALE IN FEET
0 100 200 400

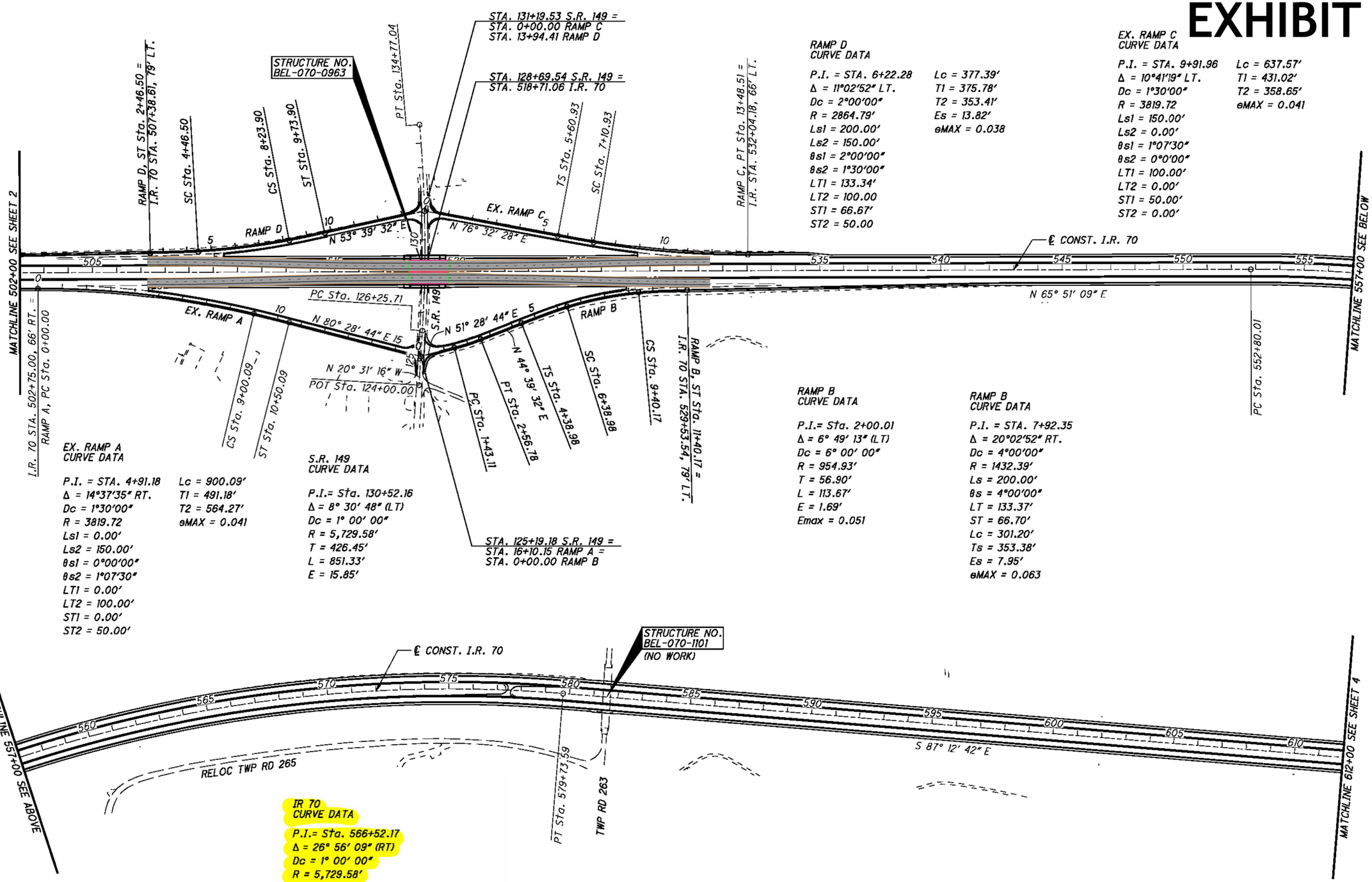
SCHEMATIC PLAN

BEL-70-7.61

2
373

P:\76825\roadway\sheets\76825GB401.dgn 9/21/2012 7:45:38 AM mcornett

EXHIBIT A



RAMP D CURVE DATA

P.I. = STA. 6+22.28
Δ = 11°02'52" LT.
Dc = 2°00'00"
R = 2864.79'
Ls1 = 200.00'
Ls2 = 150.00'
θs1 = 2°00'00"
θs2 = 1°30'00"
LT1 = 133.34'
LT2 = 100.00
ST1 = 66.67'
ST2 = 50.00
Lc = 377.39'
T1 = 375.78'
T2 = 353.41'
Es = 13.82'
eMAX = 0.038

EX. RAMP C CURVE DATA

P.I. = STA. 9+91.96
Δ = 10°41'19" LT.
Dc = 1°30'00"
R = 3819.72
Ls1 = 150.00'
Ls2 = 0.00'
θs1 = 1°07'30"
θs2 = 0°0'00"
LT1 = 100.00'
LT2 = 0.00'
ST1 = 50.00'
ST2 = 0.00'
Lc = 637.57'
T1 = 431.02'
T2 = 358.65'
eMAX = 0.041

EX. RAMP A CURVE DATA

P.I. = STA. 4+91.18
Δ = 14°37'35" RT.
Dc = 1°30'00"
R = 3819.72
Ls1 = 0.00'
Ls2 = 150.00'
θs1 = 0°00'00"
θs2 = 1°07'30"
LT1 = 0.00'
LT2 = 100.00'
ST1 = 0.00'
ST2 = 50.00'
Lc = 900.09'
T1 = 491.18'
T2 = 564.27'
eMAX = 0.041

S.R. 149 CURVE DATA

P.I.= Sta. 130+52.16
Δ = 8° 30' 48" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 426.45'
L = 851.33'
E = 15.85'

RAMP B CURVE DATA

P.I.= Sta. 2+00.01
Δ = 6° 49' 13" (LT)
Dc = 6° 00' 00"
R = 954.93'
T = 56.90'
L = 113.67'
E = 1.69'
Emax = 0.051

RAMP B CURVE DATA

P.I. = STA. 7+92.35
Δ = 20°02'52" RT.
Dc = 4°00'00"
R = 1432.39'
Ls = 200.00'
θs = 4°00'00"
LT = 133.37'
ST = 66.70'
Lc = 301.20'
Ts = 353.38'
Es = 7.95'
eMAX = 0.063

IR 70 CURVE DATA

P.I.= Sta. 566+52.17
Δ = 26° 56' 09" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 1,372.16'
L = 2,693.58'
E = 162.02'
Emax = 0.036

The coordinate values shown are referenced to the Ohio State Plane Coordinate System, South Zone in U.S. survey feet units. These values were established using ODOT's VRS RTK network which is based on NAD88 (CORS96) horizontally, and NAV88 vertically. To convert these grid values to ground values a combined scale factor of 0.999947 must be applied.

HORIZONTAL SCALE IN FEET
0 100 200 400

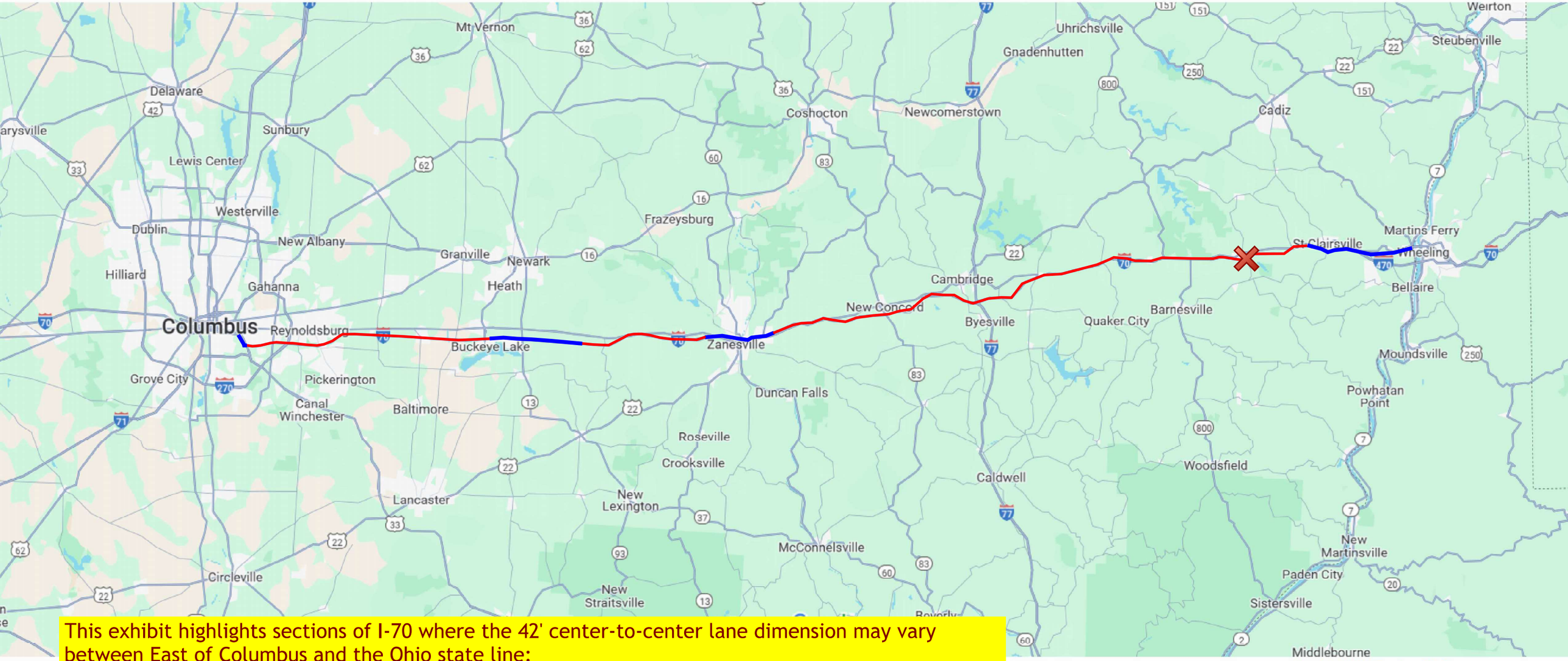
SCHEMATIC PLAN

BEL-70-7.61

3
373

P:\76825\roadway\sheets\76825GB402.dgn 9/21/2012 7:45:39 AM mcornett

EXHIBIT A



This exhibit highlights sections of I-70 where the 42' center-to-center lane dimension may vary between East of Columbus and the Ohio state line:

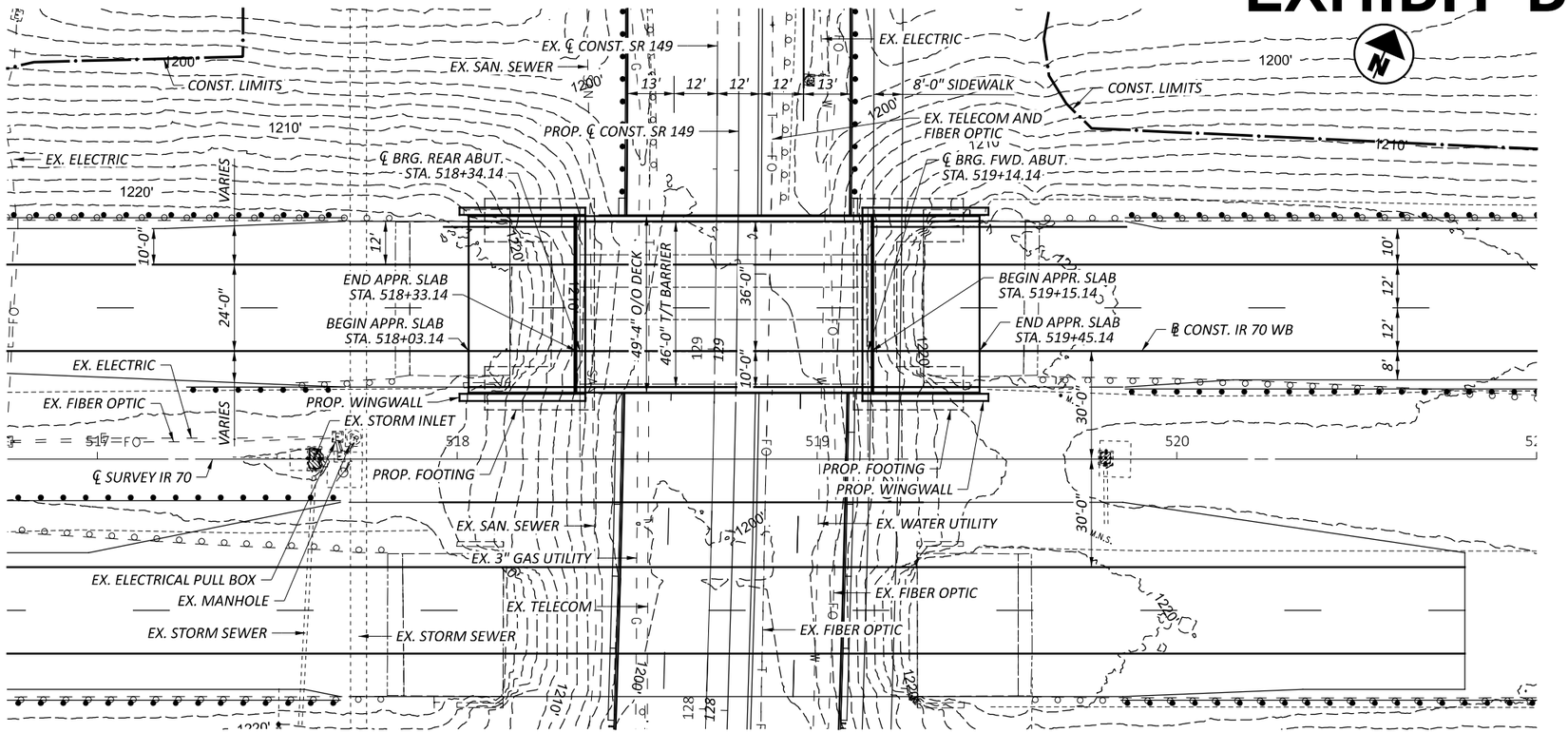
-Bridgeport, WV to Zanesville, OH: 10.5 miles of concrete median, followed by 62.7 miles of grass median.

-Zanesville to SR-334 & I-70: 5 miles of concrete median through Zanesville, then 17 miles of grass median to SR-334.

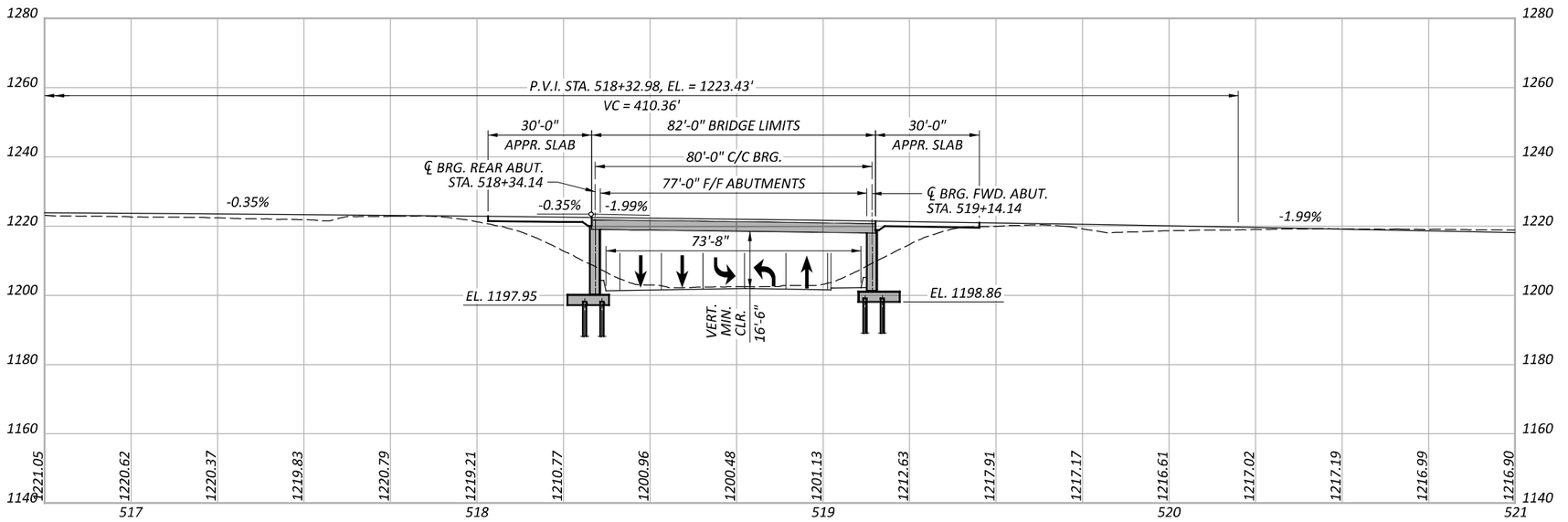
-SR-334 to Buckeye Lake: 15 miles of concrete median.

-Buckeye Lake to Columbus: ~25 miles of grass median, transitioning to concrete near Columbus.

EXHIBIT B



PLAN



PROFILE

BENCHMARK DATA

BM #1 STA.	,	ELEV.	,	OFFSET	,
BM #2 STA.	,	ELEV.	,	OFFSET	,
BM #3 STA.	,	ELEV.	,	OFFSET	,
BM #4 STA.	,	ELEV.	,	OFFSET	,

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
20XX ADT = 20XX ADTT =
20XX ADT = 20XX ADTT =
DIRECTIONAL DISTRIBUTION =

LEGEND

- BORING LOCATION
- - CHANNEL EXCAVATION
- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION
- ● 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  15'-9¼" ACTUAL MINIMUM VERTICAL CLEARANCE

HYDRAULIC DATA

DRAINAGE AREA = SQ. MILES
Q ( ) = CFS V ( ) = FT/S
Q ( ) = CFS V ( ) = FT/S
STRUCTURE CLEARS THE YEAR DESIGN HW BY FEET.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS COMPOSITE STEEL BEAM A709 GRADE 50W WITH CONCRETE DECK SUPPORTED BY MODIFIED SUBSTRUCTURE

SPANS: 35'-10", 44'-11¾", 35'-9¼" C/C BEARINGS
ROADWAY: 43'-0" T/T BARRIER
LOADING: HS20 CASE I AND THE ALTERNATIVE MILITARY LOADING
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-81, 25' LONG
ALIGNMENT: TANGENT
CROWN: 0.016
STRUCTURE FILE NUMBER: 0702226L
DATE BUILT: 1964 (MODIFIED 2012)
DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN CONTINUOUS COMPOSITE STEEL GRADE 50 BEAMS WITH REINFORCED CONCRETE DECK ON SEMI-INTEGRAL ABUTMENTS

SPANS: 80'-0" C/C BEARINGS
ROADWAY: 46'-0"
LOADING: HL93 AND 0.06 KIPS PER SQ. FT. FUTURE WEARING SURFACE
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 30'-0" LONG (AS-1-15, AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
DECK AREA: 4,046 SF

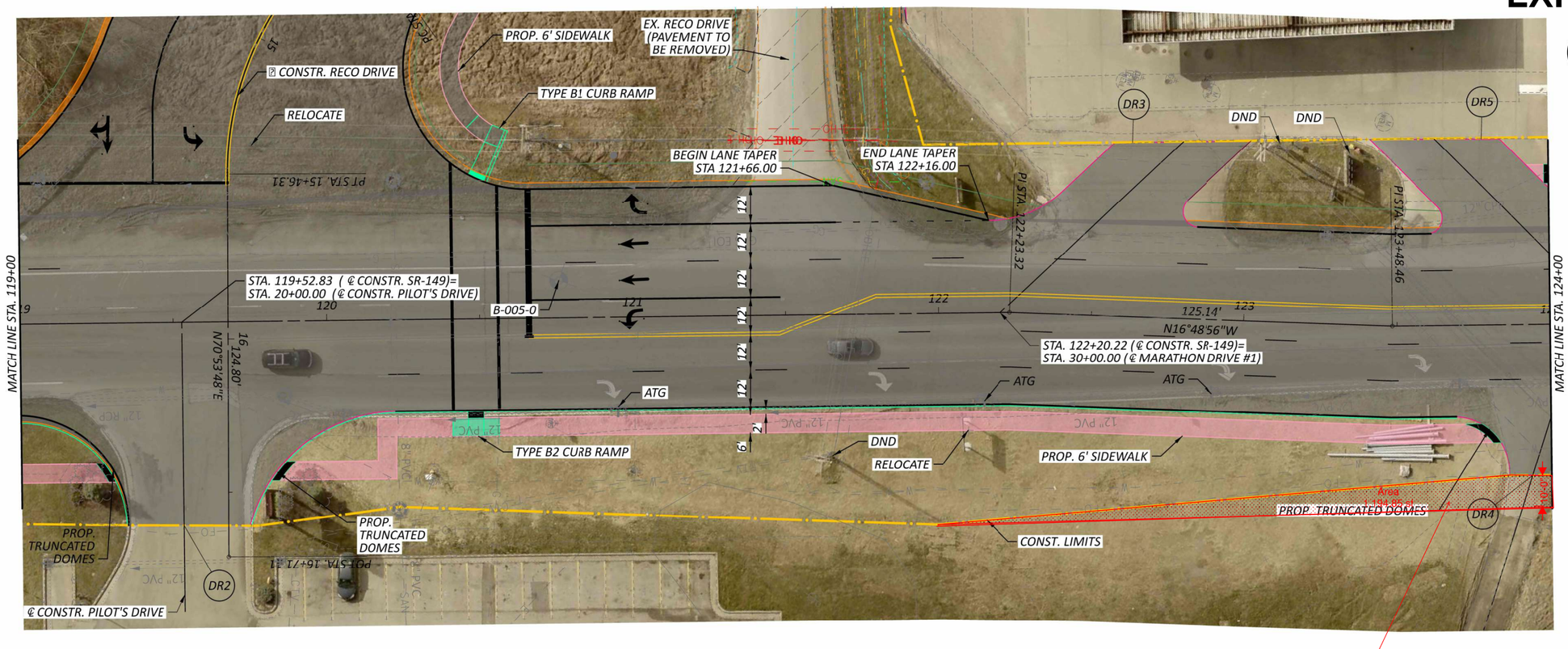
COORDINATES: LATITUDE 40°03'36" N
LONGITUDE 81°03'11" W

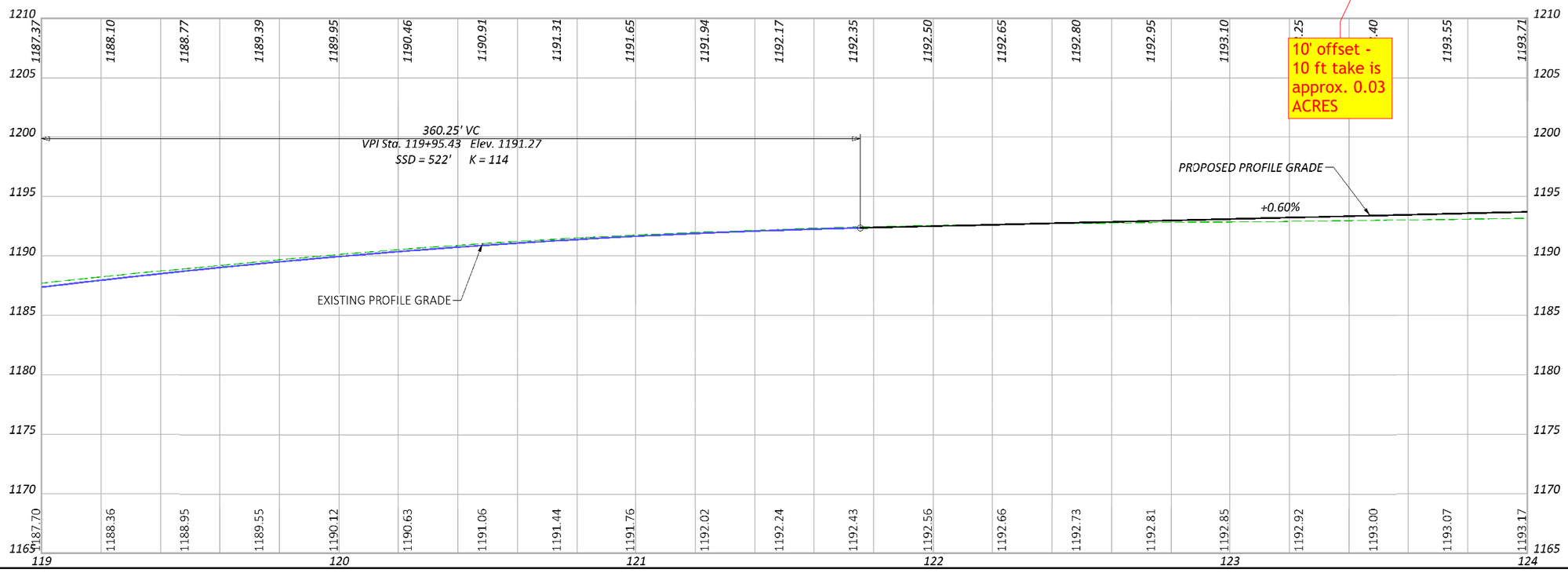
SITE PLAN
BRIDGE NO. BEL-70-0963 L/R
I.R. 70 OVER S,R, 149

SFN 0702227
DESIGN AGENCY TRC
DESIGNER JCP | CHECKER CMH
REVIEWER CJW 02-04-25
PROJECT ID 120547
SUBSET 1 | TOTAL 1
SHEET P.1 | TOTAL 1

BEL-70-09.63

EXHIBIT C





HORIZONTAL SCALE IN FEET
0 10 22 40

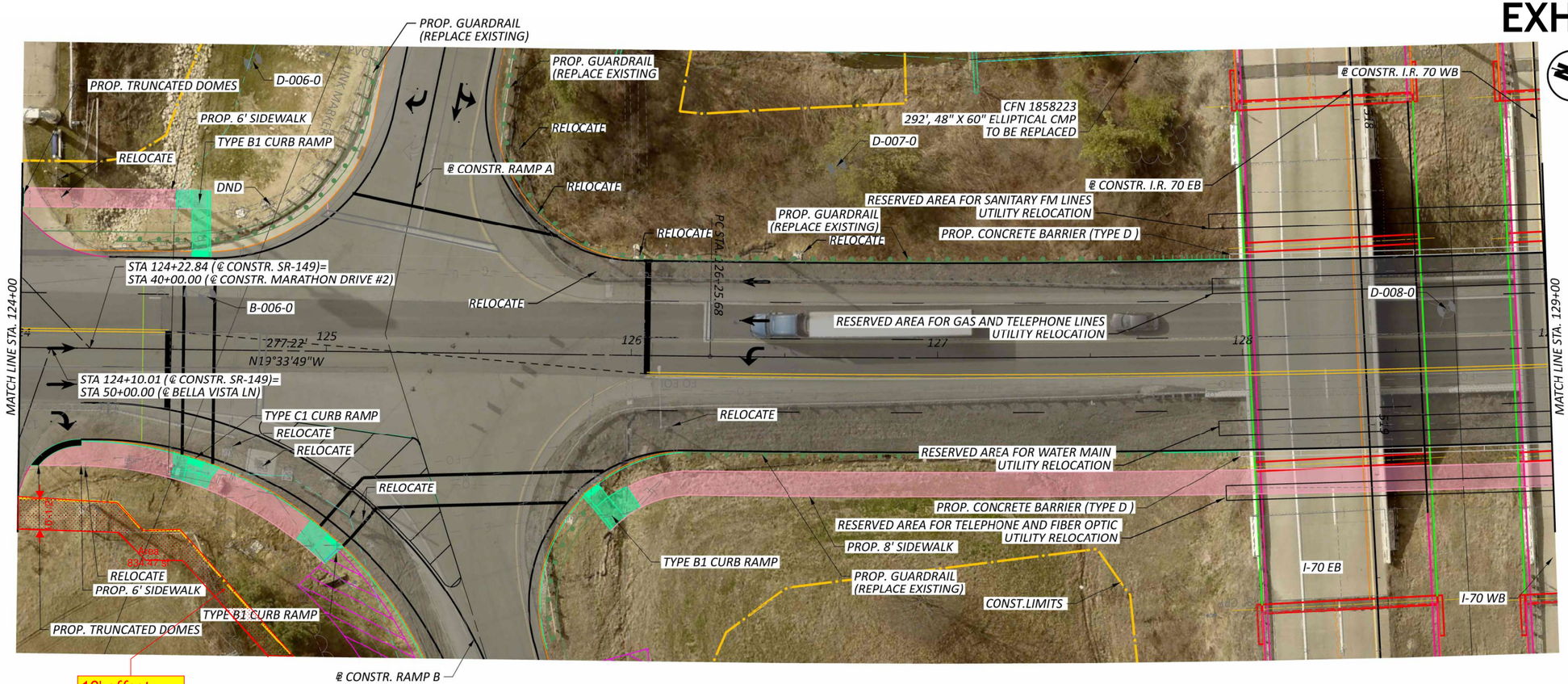
PLAN AND PROFILE - SR 149
STA 119+00 TO STA 124+00

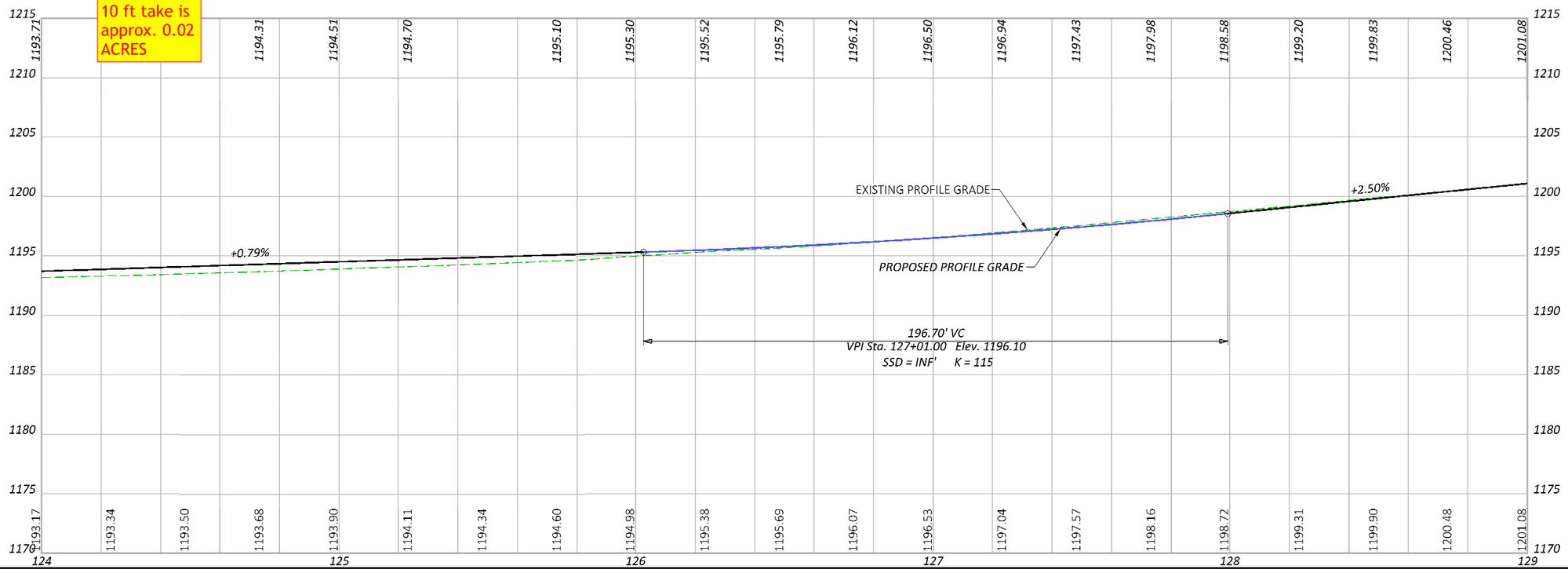
DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.32 TOTAL 133

BEL-70-9.35

EXHIBIT C





PLAN AND PROFILE - SR 149
STA 124+00 TO STA 129+00

HORIZONTAL SCALE IN FEET
0 10 22 40

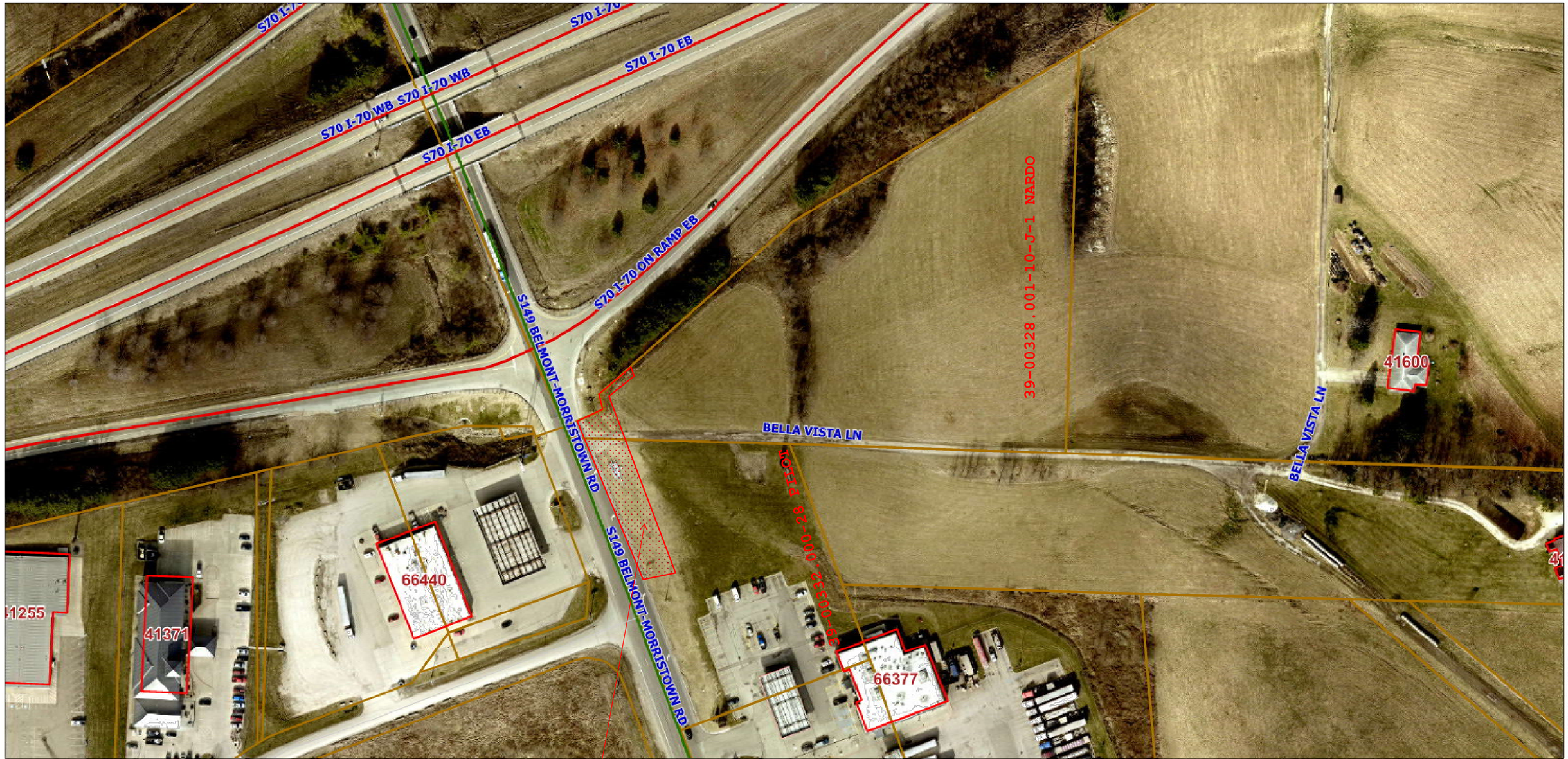
DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.33 TOTAL 133

BEL-70-9.35

Belmont County GIS

EXHIBIT C



2/3/2025, 4:29:29 PM

Road_Centerline — State Highway — Township Road — Interstate

Parcels — Townships — Addresses

Approx Location of Additional Take

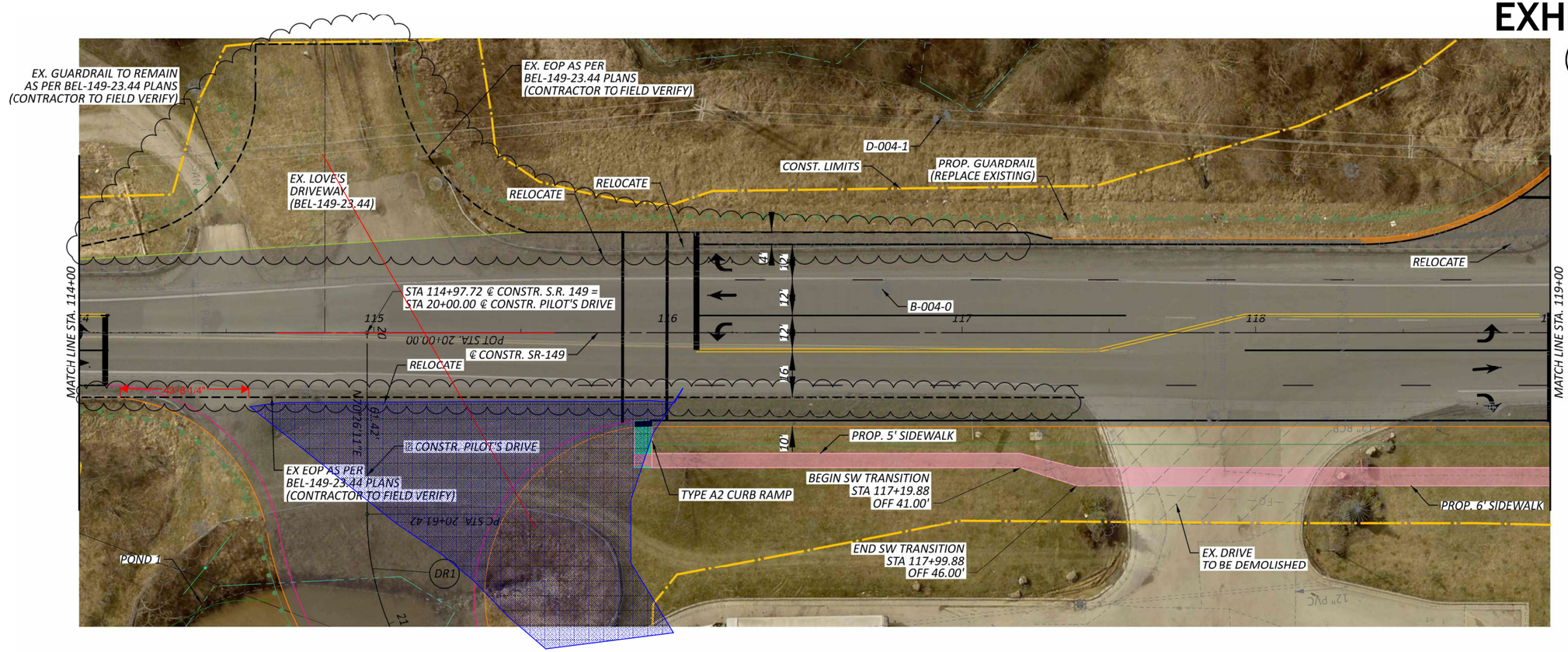
1:1,566

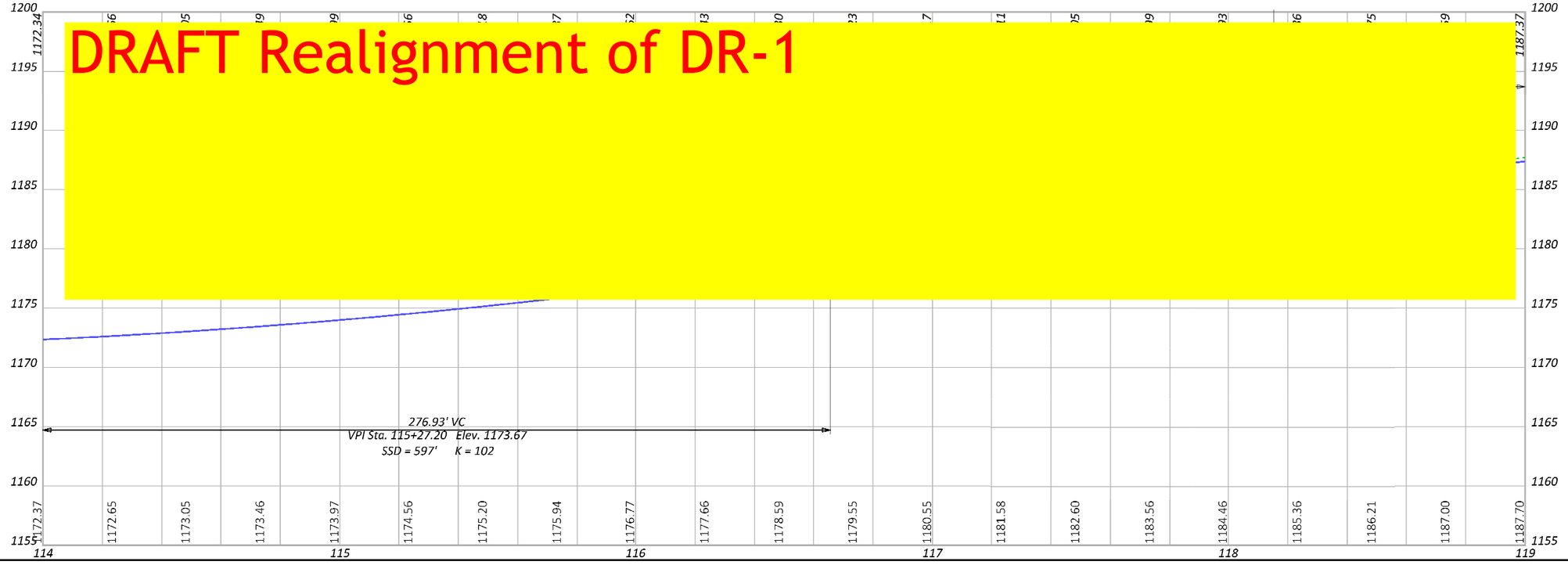
0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

BelcoGIS

EXHIBIT D





HORIZONTAL
SCALE \ IN FEET
0 10 22 40

PLAN AND PROFILE - SR 149
STA 114+00 TO STA 119+00

DESIGN AGENCY
AECOM

DESIGNER
MA

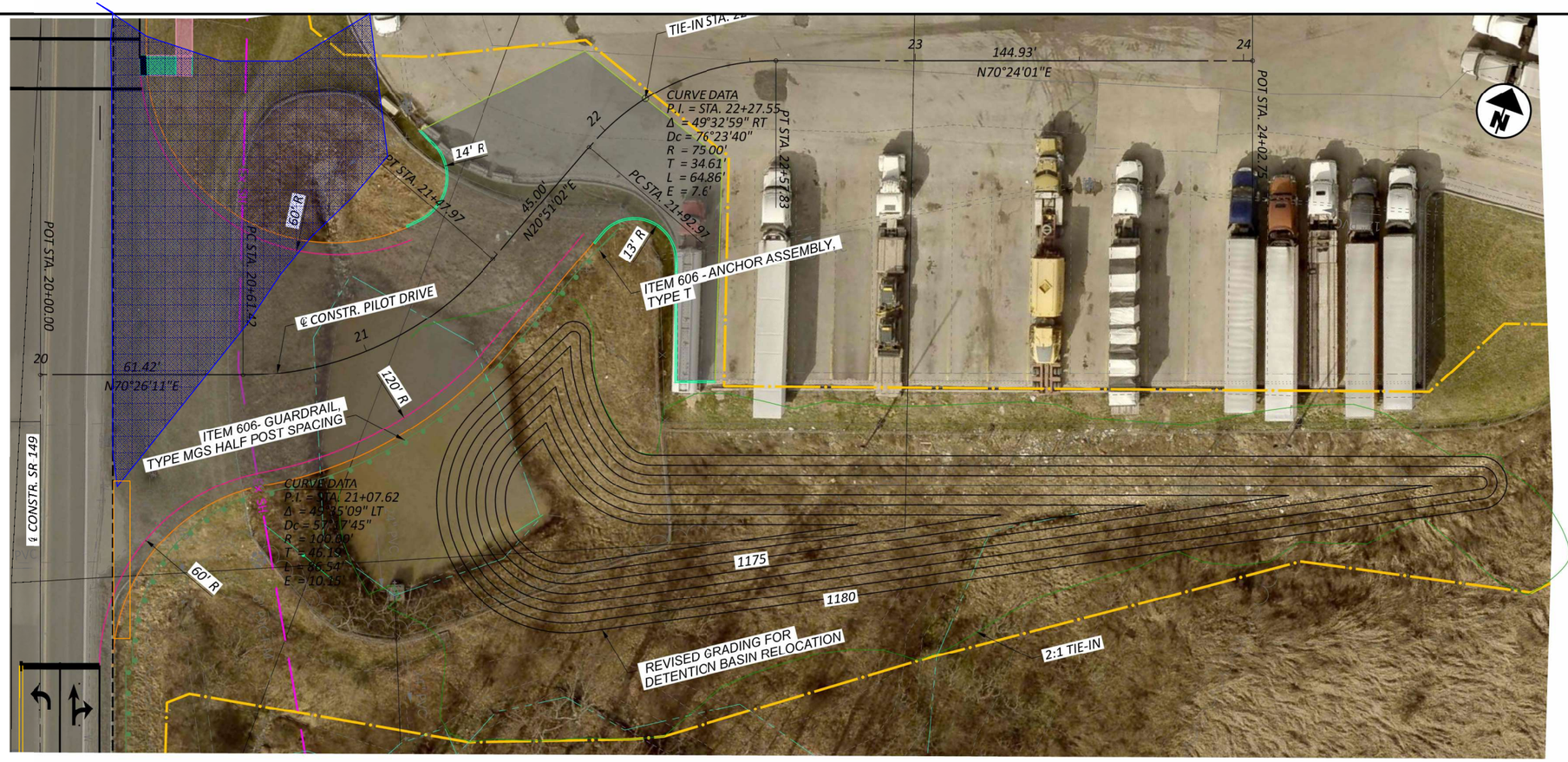
REVIEWER
MAW 11-01-24

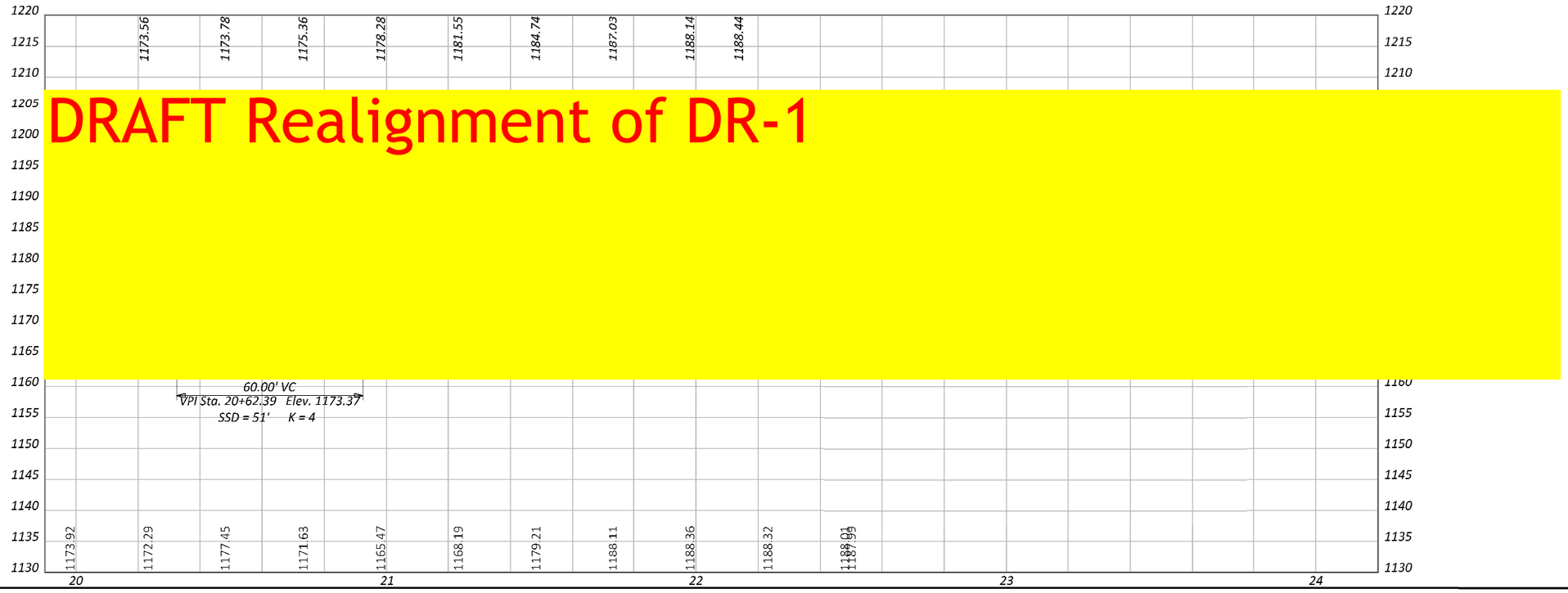
PROJECT ID
120547

SHEET P.31 TOTAL 133

BEL-70-9.35

EXHIBIT D





DRAFT Realignment of DR-1

HORIZONTAL SCALE IN FEET
0 10 22 40

PLAN AND PROFILE - PILOTS DRIVE

DESIGN AGENCY
AECOM

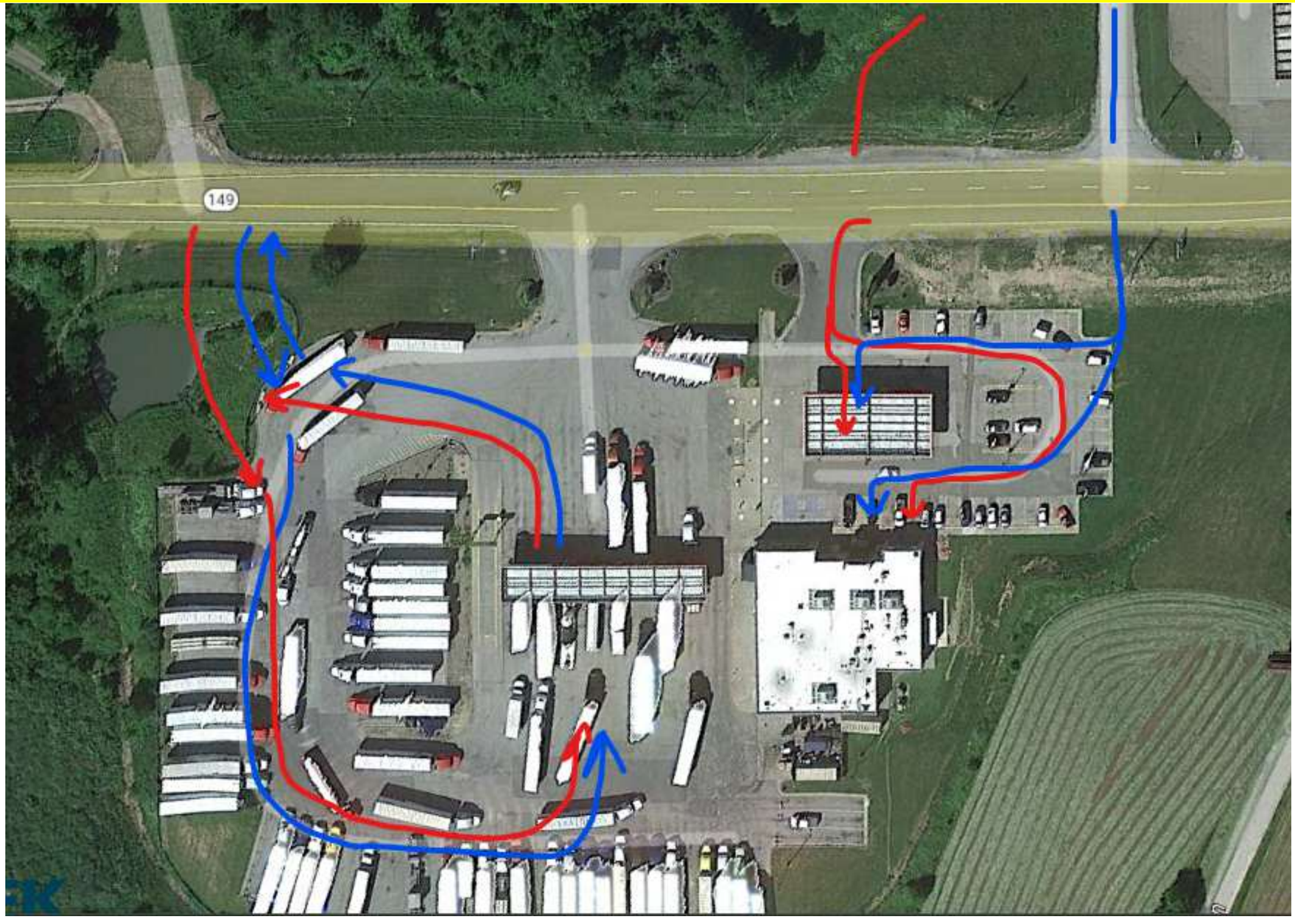
DESIGNER FTA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.41 TOTAL 133

BEL-70-9.35

MODEL: CLP_Drive1 - Pilot DR-1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 11/1/2024 TIME: 10:04:29 AM USER: Wills
pw:\\ohiodot.pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 11\Belmont\120547\v01-Engineering_AECOM\Roadway\Sheets\120547_GP100.dgn

EXHIBIT D

DRAFT PILOT ACCESS FLOW

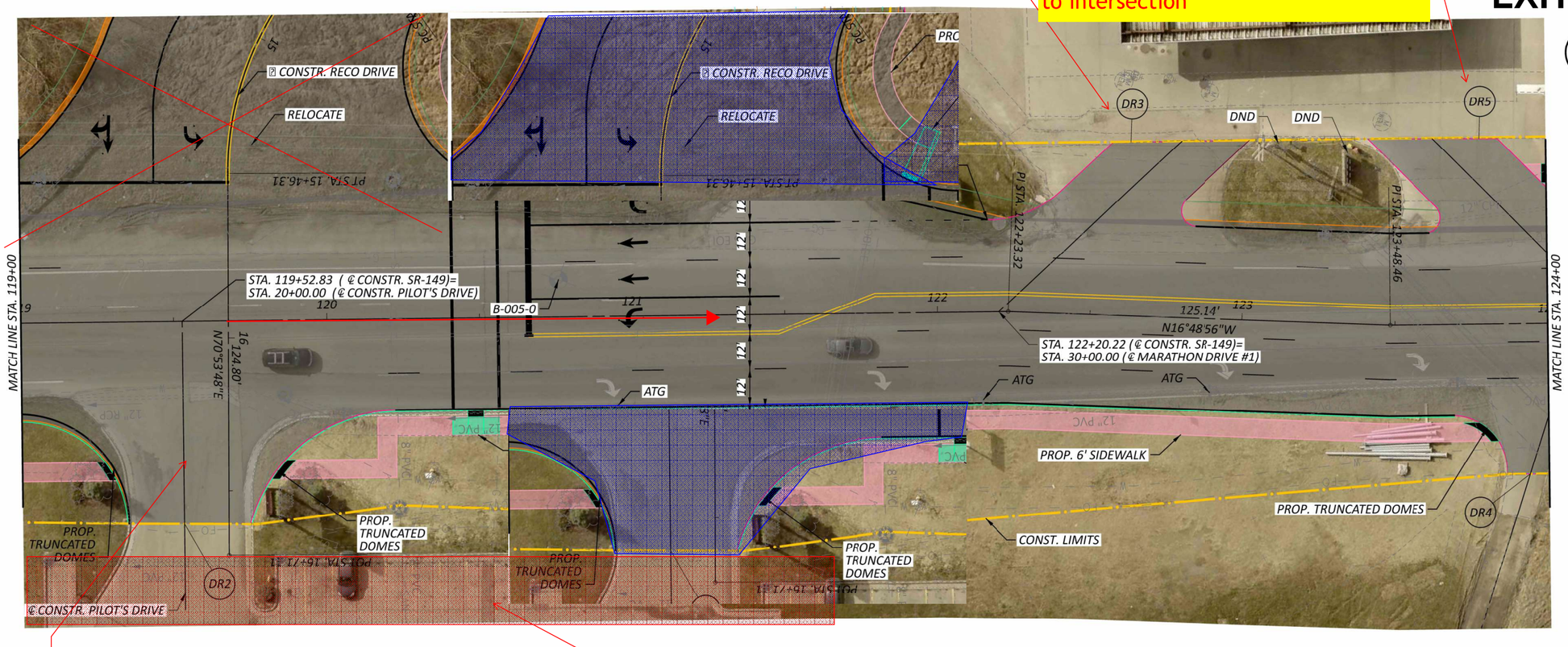


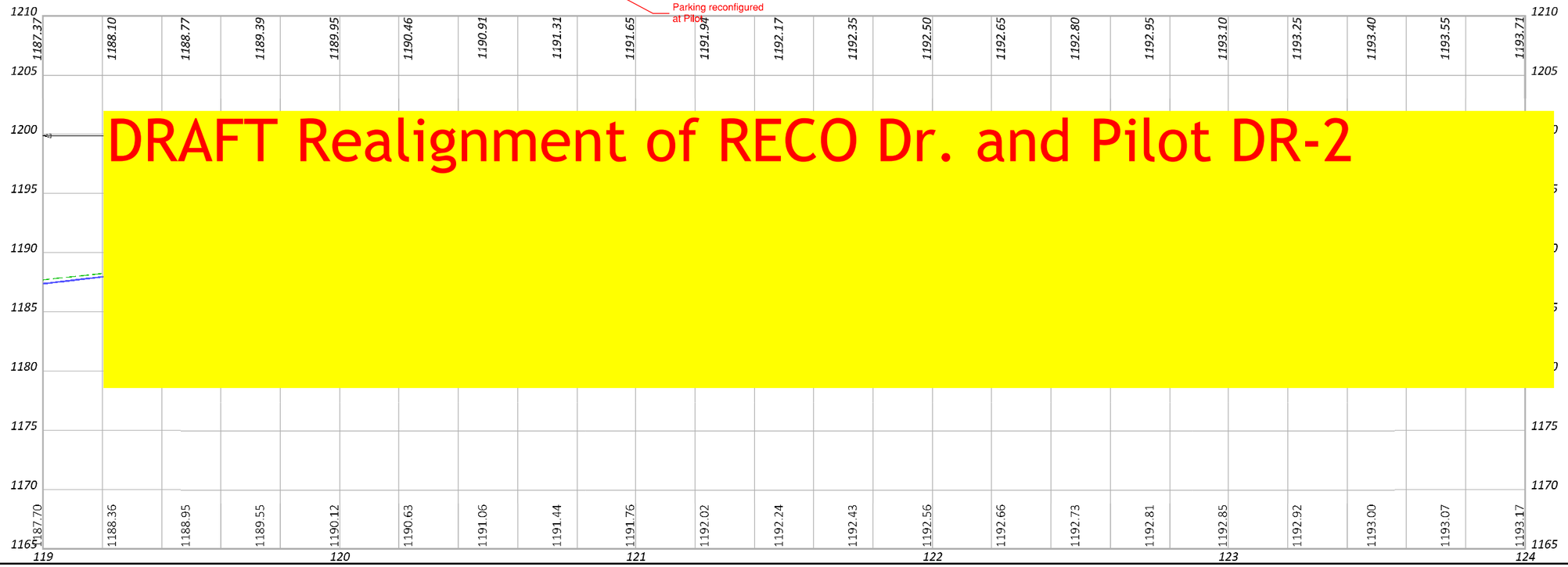
Red - Proposed on Conceptual

Blue - ATC Flow

EXHIBIT E

Need to Analyze DR3 & DR-5 distance to intersection





DRAFT Realignment of RECO Dr. and Pilot DR-2

HORIZONTAL SCALE IN FEET
0 10 22 40

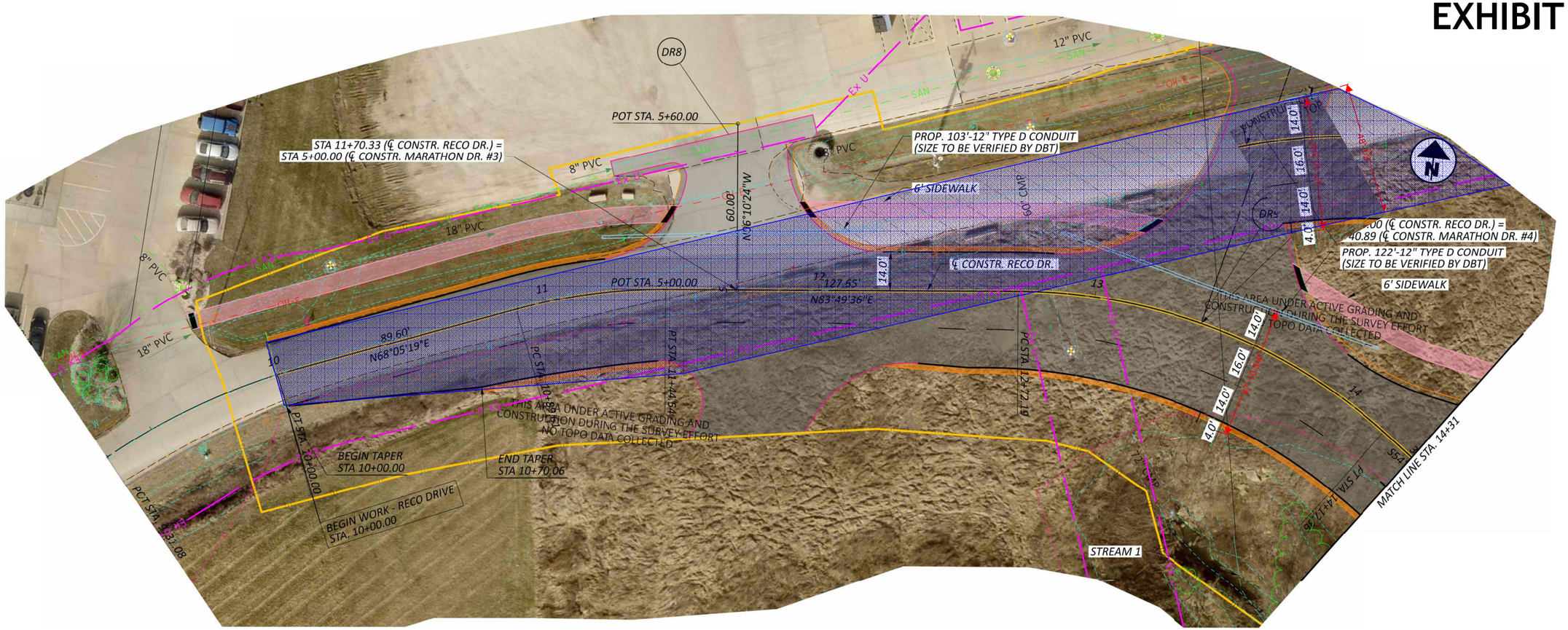
PLAN AND PROFILE - SR 149
STA 119+00 TO STA 124+00

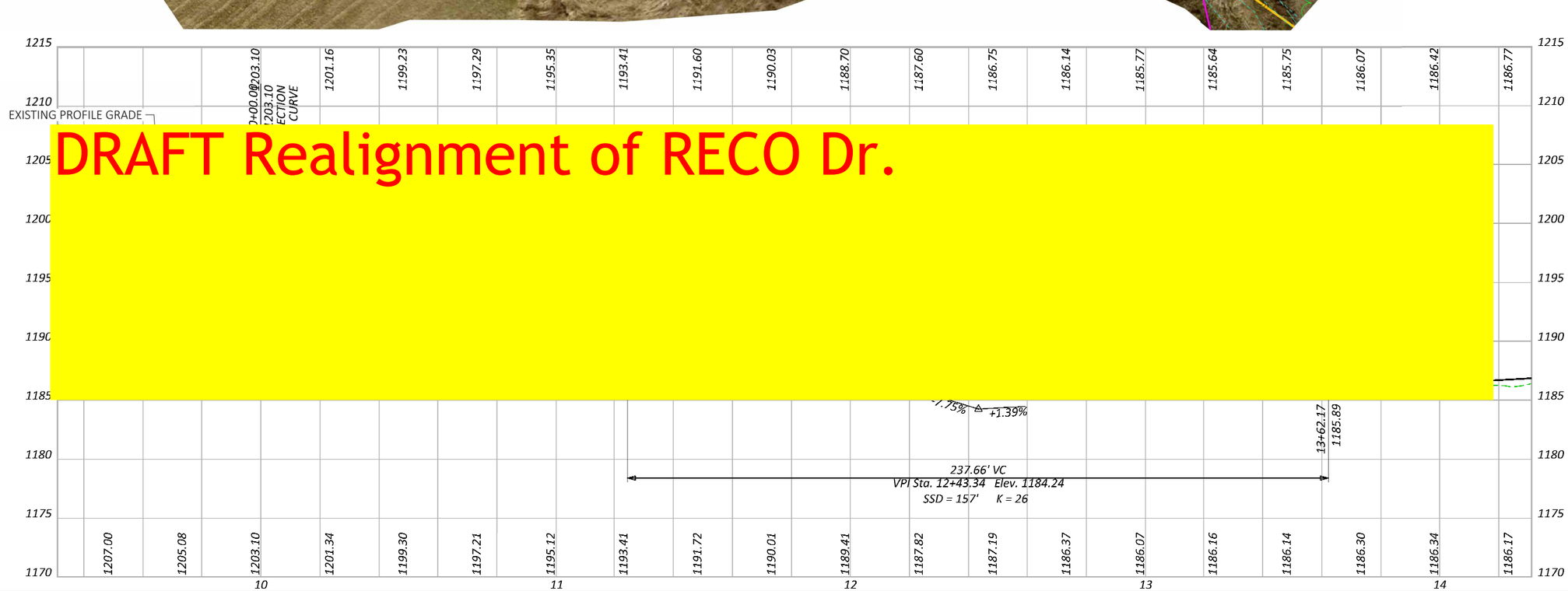
DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.32 TOTAL 133

BEL-70-9.35

EXHIBIT E





DRAFT Realignment of RECO Dr.

HORIZONTAL SCALE IN FEET
0 10 22 40

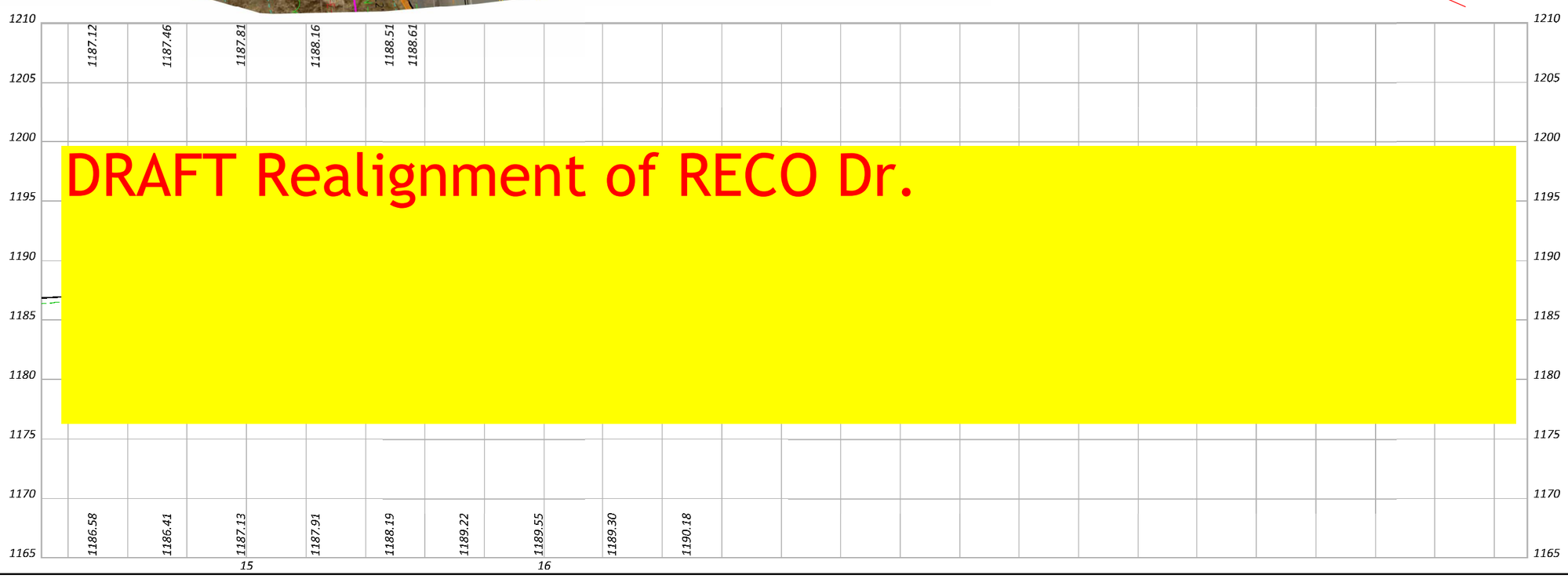
PLAN AND PROFILE - RECO DR.
BEGINING TO STA 14+31

DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.42 TOTAL 133

BEL-70-9.35

EXHIBIT E



DRAFT Realignment of RECO Dr.

HORIZONTAL
SCALE IN FEET
0 10 22 40

PLAN AND PROFILE - RECO DR.
STA 14+31 TO END

DESIGN AGENCY
AECOM

DESIGNER
MA

REVIEWER
MAW 11-01-24

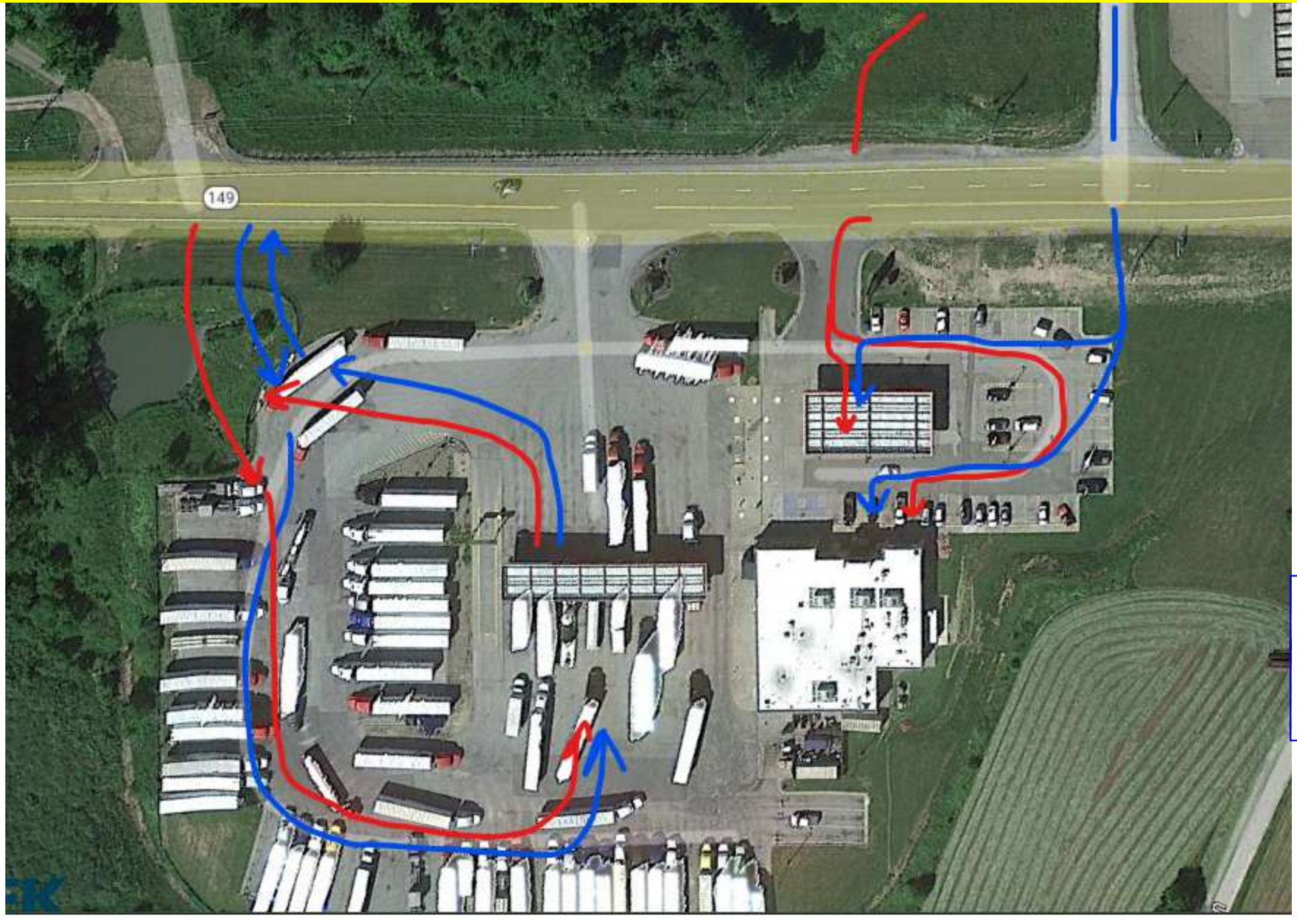
PROJECT ID
120547

SHEET P.43 | TOTAL 133

BEL-70-9.35

EXHIBIT E

DRAFT PILOT ACCESS FLOW

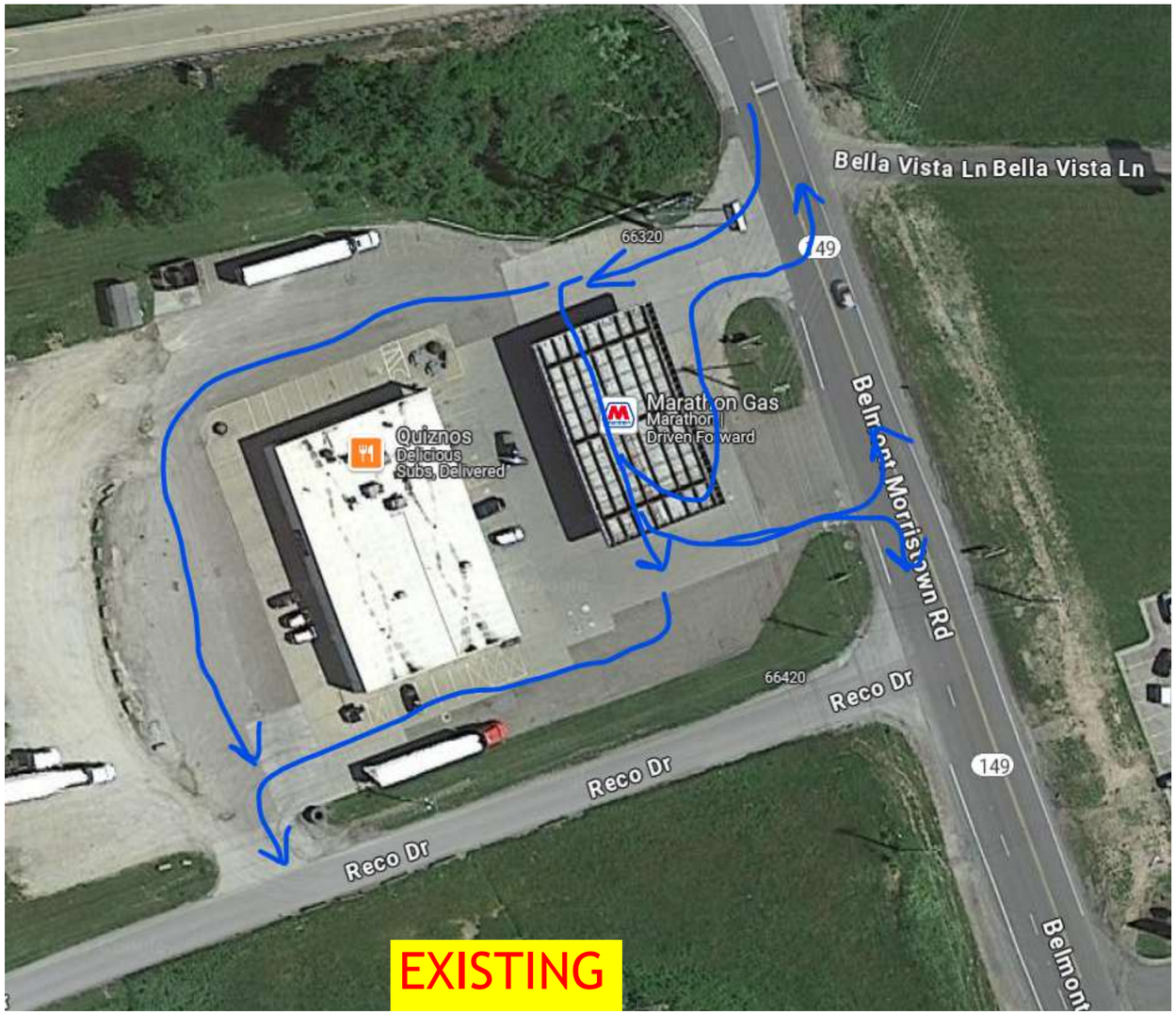


Red - Proposed on Conceptual

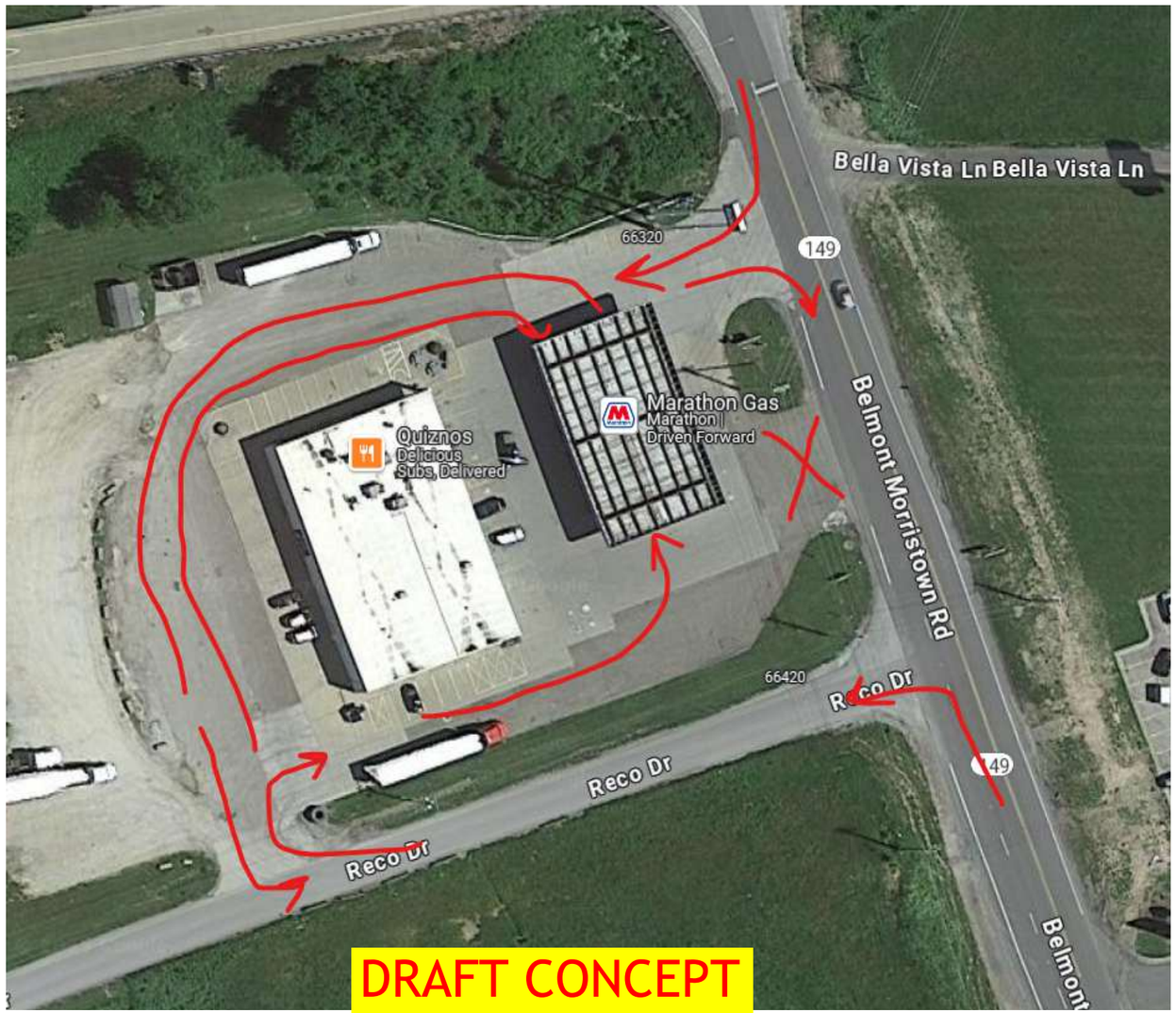
Blue - ATC Flow

EXHIBIT E

DRAFT MARATHON ACCESS FLOW



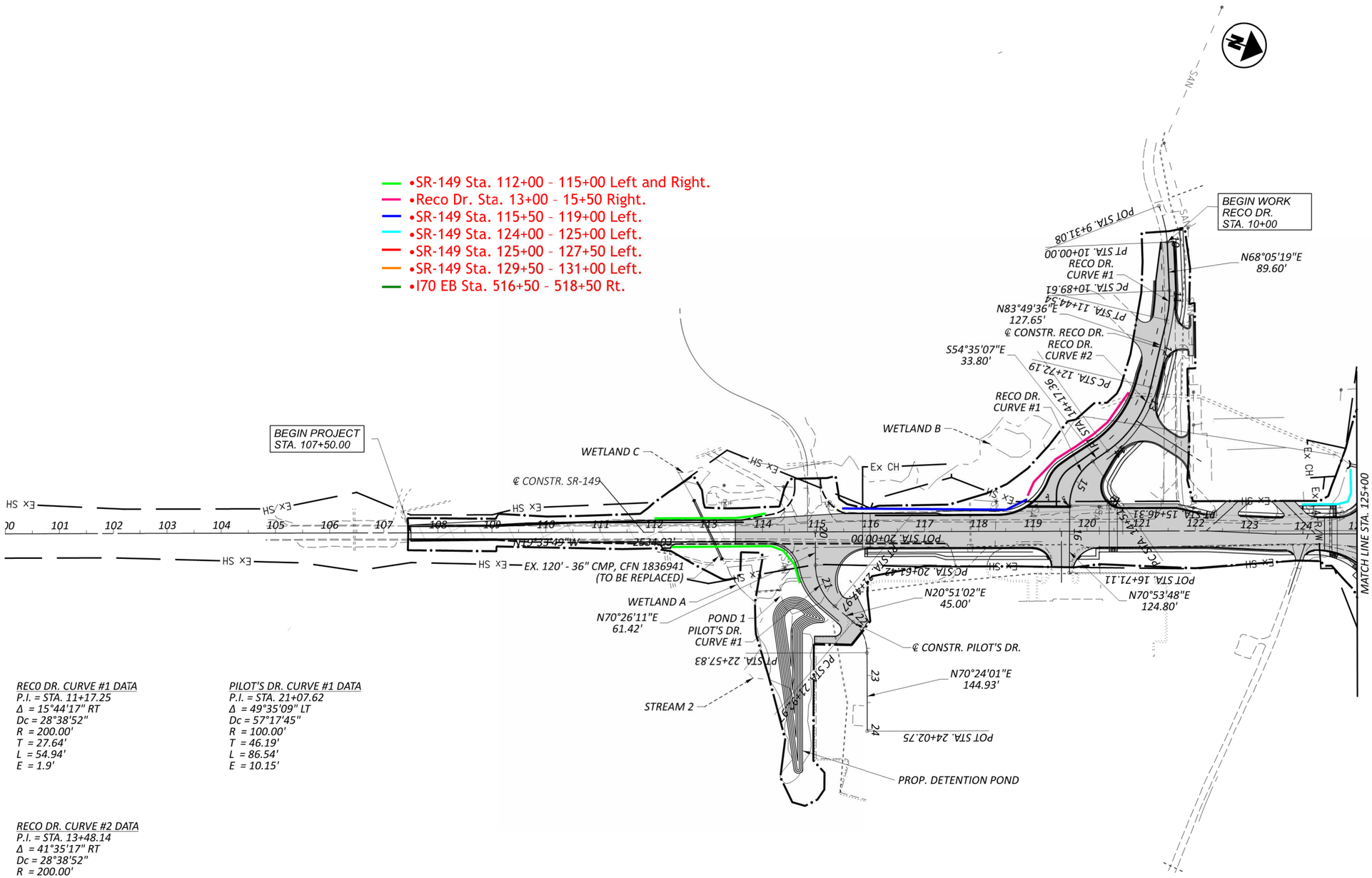
EXISTING



DRAFT CONCEPT

EXHIBIT F

- •SR-149 Sta. 112+00 – 115+00 Left and Right.
- •Reco Dr. Sta. 13+00 – 15+50 Right.
- •SR-149 Sta. 115+50 – 119+00 Left.
- •SR-149 Sta. 124+00 – 125+00 Left.
- •SR-149 Sta. 125+00 – 127+50 Left.
- •SR-149 Sta. 129+50 – 131+00 Left.
- •I70 EB Sta. 516+50 – 518+50 Rt.



RECO DR. CURVE #1 DATA
P.I. = STA. 11+17.25
Δ = 15°44'17" RT
Dc = 28°38'52"
R = 200.00'
T = 27.64'
L = 54.94'
E = 1.9'

PILOT'S DR. CURVE #1 DATA
P.I. = STA. 21+07.62
Δ = 49°35'09" LT
Dc = 57°17'45"
R = 100.00'
T = 46.19'
L = 86.54'
E = 10.15'

RECO DR. CURVE #2 DATA
P.I. = STA. 13+48.14
Δ = 41°35'17" RT
Dc = 28°38'52"
R = 200.00'
T = 75.95'
L = 145.17'
E = 13.94'

RECO DR. CURVE #3 DATA
P.I. = STA. 15+02.68
Δ = 54°31'05" LT
Dc = 57°17'45"
R = 100.00'
T = 51.52'
L = 95.15'
E = 12.49'

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN
BEGIN TO STA. 125+00

DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 120547
SHEET P.2 TOTAL 133

BEL-70-9.35

EXHIBIT F

- •SR-149 Sta. 112+00 – 115+00 Left and Right.
- •Reco Dr. Sta. 13+00 – 15+50 Right.
- •SR-149 Sta. 115+50 – 119+00 Left.
- •SR-149 Sta. 124+00 – 125+00 Left.
- •SR-149 Sta. 125+00 – 127+50 Left.
- •SR-149 Sta. 129+50 – 131+00 Left.
- •I70 EB Sta. 516+50 – 518+50 Rt.

HORIZONTAL SCALE IN FEET
0 50 100 200

BEGIN WORK - RAMP A STA. 11+13.55
℄ CONSTR. RAMP A
BEGIN WORK - I.R. 70 EB STA. 516+70.00
℄ CONSTR. I.R. 70 EB
STREAM 1
EX. 102' - 54" CMP, CFN 1858224 (TO BE REPLACED)
EX. 292' - 48" X 6" ELLIPTICAL CMP, CFN 1858223 (TO BE REPLACED)
℄ CONSTR. RAMP D
END WORK - RAMP D STA. 11+97.51
BEGIN WORK - I.R. 70 WB STA. 515+00.00
℄ CONSTR. SR-149
MATCH LINE STA. 125+00
END WORK - I.R. 70 E.B. STA. 520+80.00
END WORK - I.R. 70 WB STA. 522+00.00
DITCH 1
℄ CONSTR. RAMP C
DITCH 2
℄ CONSTR. RAMP B
℄ CONSTR. I.R. 70 WB
END WORK - RAMP B STA. 7+30.87
END WORK - RAMP C STA. 6+66.10
BOND DRIVE
END WORK STA. 139+52.41
END PROJECT STA. 137+99.80

S.R. 149 CURVE DATA
P.I. = STA. 130+52.75
Δ = 08°31'00" LT
Dc = 00°59'56"
R = 5,735.58'
T = 427.07'
L = 852.56'
E = 15.88'

RAMP A SPIRAL DATA
P.I. = STA. 9+50.09
Ls = 150.00'
Θs = 01°07'30"
LT = 100.00'
ST = 50.00'
x = 149.98'
y = 1.96'
k = 75.00'
p = 0.25'
C = 150.00'
Start = Sta. 9+00.09
End = Sta. 10+50.09
C.B. = N81°03'08"E

RAMP B SPIRAL DATA
P.I. = STA. 5+54.90
Ls = 200.00'
Θs = 04°00'00"
LT = 133.37'
ST = 66.70'
x = 199.90'
y = 4.65'
k = 99.98'
p = 1.16'
C = 199.96'
Start = Sta. 4+21.53
End = Sta. 6+21.53
C.B. = N46°57'04"E

RAMP C SPIRAL DATA
P.I. = STA. 6+60.95
Ls = 150.00'
Θs = 01°07'30"
LT = 100.00'
ST = 50.00'
x = 149.99'
y = 0.98'
k = 75.00'
p = 0.25'
C = 150.00'
Start = Sta. 5+60.95
End = Sta. 7+10.95
C.B. = N77°07'03"E

RAMP D CURVE DATA
P.I. = STA. 6+50.88
Δ = 11°00'00" LT
Dc = 02°00'00"
R = 2,864.79'
Ls = 150.00'
Θs = 01°30'00"
LT = 100.00'
ST = 50.00'
Lc = 400.00'
Ts = 350.88'
Es = 13.58'
Emax =
T.S. =
S.C. = 4+50.00
C.S. = 8+50.00
S.T. =

RAMP B CURVE DATA
P.I. = STA. 2+00.01
Δ = 06°49'13" LT
Dc = 06°00'00"
R = 954.93'
T = 56.90'
L = 113.67'
E = 1.69'

RAMP B CURVE DATA
P.I. = STA. 7+74.29
Δ = 20°00'00" RT
Dc = 04°00'00"
R = 1,432.39'
Ls = 200.00'
Θs = 04°00'00"
LT = 133.37'
ST = 66.70'
Lc = 300.00'
Ts = 352.76'
Es = 23.28'
Emax =
T.S. =
S.C. = 6+21.53
C.S. = 9+21.53
S.T. =

RAMP D SPIRAL DATA
P.I. = STA. 9+00.00
Ls = 150.00'
Θs = 01°30'00"
LT = 100.00'
ST = 50.00'
x = 149.97'
y = 2.62'
k = 75.00'
p = 0.33'
C = 150.00'
Start = Sta. 8+50.00
End = Sta. 10+00.00
C.B. = N55°06'37"E

SCEMATIC PLAN
STA. 125+00 TO END

DESIGN AGENCY
AECOM

DESIGNER MA
REVIEWER MAW 11-01-24
PROJECT ID 102547
SHEET P.3 TOTAL 133

BEL-70-9.35

MODEL: CLP_S.R. 149 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 11/1/2024 TIME: 8:42:30 AM USER: WillS
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 11\Belmont\120547\401-Engineering_AECOM\Roadway\Sheets\120547_GB001.dgn