I-69 Evansville to Indianapolis, Indiana

Tier 2 Record of Decision

Section 4: Crane NSWC to Bloomington

September 8, 2011

INDIANA DEPARTMENT OF TRANSPORTATION
INDOT

U.S. Department of Transportation
Federal Highway Administration

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1.0 BACKGROUND

1.1 Evansville-to-Indianapolis Section of I-69

On March 24, 2004, the Federal Highway Administration (FHWA) issued a Tier 1 Record of Decision (Tier 1 ROD) for the Evansville-to-Indianapolis section of I-69. The Tier 1 ROD documents several decisions relating to the Evansville to Indianapolis portion of I-69 (the Project). The Tier 1 ROD determines: (1) to build an interstate highway, I-69, between Evansville and Indianapolis, Indiana; (2) to build the highway in the selected "corridor," known as Alternative 3C; (3) to separate the Tier 2 phase of the Project into six separate sections; and (4) to prepare Tier 2 environmental impact statements for each of the six separate sections. The corridor established in the Tier 1 ROD is generally 2,000 feet wide, but narrower in some places and broader in others. The proposed action addressed in this ROD is the completion of an interstate highway within Section 4 of the approved I-69 Tier 1 corridor. Section 4 extends from US 231 north of Crane Naval Surface Warfare Center (NSWC) to SR 37 south of Bloomington, Indiana.

1.2 Tiered Approach

FHWA initiated the Tier 1 study on January 5, 2000, with the publication of a Notice of Intent in the *Federal Register*. In the Tier 1 portion of the study (which was concluded with the Tier 1 ROD), the "big picture" issues were addressed on a corridor-wide basis, while taking into account the full range of impacts. The "big picture" issues addressed in Tier 1 ROD include approval of the corridor and the termini for Tier 2 sections. Individual Tier 2 National Environmental Policy Act (NEPA) studies are being conducted to determine an exact alignment for the project in each of the six Tier 2 sections. The Tier 1 study also included compliance with the Endangered Species Act, which culminated in a Tier 1 Biological Opinion issued by the U.S. Fish and Wildlife Service on December 3, 2003.

The Tier 2 environmental study for Section 4 was initiated April 29, 2004, when FHWA published a Notice of Intent in the *Federal Register* to advise that a Tier 2 Environmental Impact Statement (EIS) would be prepared for Section 4 of the I-69 Evansville-to-Indianapolis project. The Draft Environmental Impact Statement for Section 4 was issued on July 23, 2010. On July 13, 2011 the Final EIS (Section 4 FEIS) was issued. Included in the Section 4 FEIS was the Biological Opinion for Section 4 issued by the U.S. Fish and Wildlife service. The Section 4 FEIS also includes an air quality conformity finding as well as a Memorandum of Agreement between FHWA, the Indiana Department of Transportation, the State Historic Preservation office and others agreeing on procedures to be used to address the significance of archeological and historic resources within the area of potential effect of the project. This document is the ROD for Tier 2 Section 4.

2.0 DECISION

The proposed action in the I-69 Tier 2 EIS for the Section 4 project involves the completion of an Interstate highway from US 231 near the Crane NSWC to SR 37 south of Bloomington. Section 4 is approximately 26.7 miles in length and extends through Greene and Monroe Counties, Indiana.

The Selected Alternative for Section 4 is Refined Preferred Alternative 2 (see Figures 1A through 1S, pp. 10–28), as described in the *I-69 Evansville to Indianapolis, Indiana, Tier 2 Final Environmental Impact Statement, Section 4: Crane NSWC to Bloomington* (FEIS)[1] issued July 13, 2011. As further detailed below, this ROD also determines the alignment, location of interchanges, grade separations, deferred construction features, and mitigation measures for Section 4. This ROD also addresses request for preparation of a supplemental Tier 2 EIS for Section 4 and a supplemental Tier 1 EIS.

This ROD is executed in conformance with the Council on Environmental Quality (CEQ) regulations implementing the NEPA and documents FHWA compliance with NEPA and all other applicable Federal statutes, regulations, and requirements. This decision is based on analyses contained in the Draft Environmental Impact Statement (DEIS) issued July 23, 2010; the FEIS issued July 13, 2011; the comments of federal and state agencies, members of the public, and elected officials; and other information in the project record. In the event of any differences in wording, the ROD takes precedence over the FEIS.

2.1 Selected Alternative

2.1.1 Selection of Refined Preferred Alternative 2

The DEIS recommended Alternative 2 as the preferred alternative. Modifications made to the preferred alternative subsequent to and resulting from the DEIS public comment period (which are documented in FEIS Section 6.2) included:

- Refinement of the vertical road profile under the initial design criteria from 0.48 miles east of SR 45 to 0.34 miles north of Hobbieville Road (in subsections E and F).
- Refinement of the vertical road profile under the initial design criteria from 0.52 miles north of Carter Road to 0.18 mile west of Lodge Road (in subsections F and G).
- Greene CR 200E was changed from a grade separation in the DEIS to a closure in the FEIS (in Subsection A).
- Greene CR 215E was changed from a closure in the DEIS to a grade separation in the FEIS (in Subsection A).
- Dry Branch Road and Mineral-Koleen Road in Greene County (in subsection D), which were presented in the DEIS with options to provide a grade separation or close the road at I-69, will each have a grade separation at I-69.
- Access Road 2 (in Subsection E), which was proposed as an intersection improvement in the DEIS, would be replaced in the FEIS by a modification of the existing cul-de-sac at the south end of Spruce Road. The new access road is referred to as Access Road 2a.
- Access Road 6 was added on the east side of SR 45 to the north of I-69 to provide access to one residential property and one undeveloped parcel.

[1] Unless otherwise noted, all references to the Tier 2 Section 4 FEIS and chapters, figures, and tables contained within the Tier 2 Section 4 FEIS are to Volume I. All references to appendices are to Volume II of the Section 4 FEIS.

- Burch Road, Harmony Road, and Bolin Lane in Monroe County, which were presented in the DEIS with options to provide a grade separation or close the road at I-69, will each have a grade separation at I-69.
- Evans Lane in Monroe County, which was presented in the DEIS with an option to provide a grade separation or close the road at I-69, will be closed at I-69.
- Access Road 7 in Monroe County was added to maintain the current connection of Glenview Drive with Bolin Lane and the current connection of Glenview Drive to Wheaton Court.
- Various property acquisition changes were made including additional relocations and the acquisition of landlocked properties.
- Minor design corrections at various locations for compliance with INDOT's Design Manual (IDM) were made. Such changes included slope grading and drainage.
- Shoulders will be widened along local roads within the project limits to provide for a future shared shoulder/bicycle lane where Breeden Road, Harmony Road, Rockport Road, Tramway Road, and Bolin Lane cross the I-69 right-of-way.

These modifications were identified and evaluated in the Tier 2 Section 4 FEIS, published July 13, 2011.

The Section 4 FEIS sufficiently describes the development and evaluation of alternatives (Chapters 3 and 6), the affected environment (Chapter 4), potential environmental consequences of the proposed project (Chapter 5), proposed mitigation (Chapter 7), and coordination with regulatory agencies and comments from the agencies and the public (Chapter 11).

FHWA and the Indiana Department of Transportation (INDOT) have provided opportunities for government agency and public involvement in the development of the EIS documentation. Several opportunities and methods were used to involve the public and agencies in the study (see FEIS Chapter 11, *Comments, Coordination and Public Involvement*). The staffing of a local project office, hotline, website, outreach and CAC meetings, and other means were used to solicit input. Public and agency input was also sought at key milestones in this Tier 2 study, including a public hearing on the DEIS. Both the DEIS and FEIS were made available for public review. The comments received on the DEIS have been adequately addressed in the FEIS. Comments on the FEIS from 19 commenters were received and are addressed in this ROD (see Section 8.0 and Appendix C).

2.1.2 Location of Section 4 Corridor and Selected Alternative — Refined Preferred Alternative 2[2]

The Tier 1 ROD approved a corridor (Alternative 3C) for I-69 between I-64 north of Evansville and I-465 south of Indianapolis and divided the project into six sections. The location of Refined Preferred Alternative 2 is substantially[3] within Section 4 of the Alternative 3C corridor. In some areas access roads

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[2] Two comments (PI658-01 and PO007-02) were submitted on the DEIS suggesting that FHWA consider a new alignment that would significantly deviate from the corridor approved in the Tier 1 ROD. FHWA and INDOT conducted a thorough review of the suggested alignments and responded to the suggested change in the Tier 2 Section 4 FEIS, Volume III, Part A at pages 572 - 575. Several comments on the FEIS were received (See comments Boyd02-01, 08-01, CARR01-04, 01-133, Dunlap02-01, 05-01, and HEC01-02 in Appendix C to this ROD) challenging FHWA's decision that the proposed alignments did not warrant further review because neither avoided significant resource impacts. Section 2.3.5 of the Tier 1 ROD establishes that a decision to analyze an alignment that is outside the approved corridor must be premised by an initial finding that the "outside the corridor" alignment was needed "to avoid significant resources within the selected corridor." FHWA interprets this language to mean that the ability to consider or adopt an alignment outside the corridor, except for small deviations required by engineering reasons (see footnote 3 below), must be based on a finding that the Tier 2 study uncovered potential impacts to resources at a level that was not anticipated in the Tier 1 EIS. As further detailed in Appendix C, Responses to Comments, the Tier 2 environmental analysis for Section 4 did not reveal any unexpected or significantly greater impacts to resources than expected in the Tier 1 FEIS.

[3] As allowed by the Tier 1 Record of Decision (section 2.3.5), small portions of some alternatives (including Refined Preferred Alternative 2) were located slightly outside of the corridor to avoid impacts to resources, including wetlands, streams, forests and farmland. At eight different locations, one or more alternatives carried forward for detailed study had portions of their rights-of-

to landlocked parcels, improvements along existing roads at grade separations (overpass or underpass), turnarounds (cul-de-sacs) for local road closures, and interchange ramps are outside of the Alternative 3C corridor.[4] The south terminus of Refined Preferred Alternative 2 is approximately 3,800 feet east of US 231 near Crane NSWC. The north terminus is at SR 37 just north of That Road south of Bloomington. Refined Preferred Alternative 2 has a total length of approximately 26.7 miles. The Section 4 project corridor extends through Greene and Monroe Counties, Indiana. Section 1.3 of the Section 4 FEIS describes the Section 4 corridor in detail. Figure 1A through Figure 1S (pp. 10 - 28) of this ROD show the location of the Section 4 corridor and Refined Preferred Alternative 2.

2.1.3 Variations in Corridor Width

In Section 4, the corridor generally retains the 2000 foot width identified during the Tier 1 Study; however, the width of the approved corridor varies at three locations in Section 4. It widens to over one (1) mile in the vicinity of the Virginia Iron Works archaeological site along the Greene-Monroe County Line from just north of Hobbieville Road (CR 1260E/CR 190S) in Greene County to just north of Carter Road in Monroe County. At two locations in Monroe County it narrows to about 1,200 feet near sinking stream and sinkhole features situated in karst terrain. These are near Evans Lane and in the vicinity of Rockport Road and Lodge Road. Tier 2 studies identified a final alignment within the approved corridor.

2.1.4 Typical Cross Sections

Section 4 has a much wider range of topography than Sections 1 through 3. A range of design criteria were developed to better estimate the possible range of construction costs and impacts in Section 4. Two sets of design criteria were developed using a practical design approach[5] and several measures were fully examined and evaluated for their safety implications. These included critical length of grade for maximum truck speed reduction on upgrades; rock cut slope treatments; and fill slope treatments. After careful consideration of the potential cost savings and safety implications, several of the measures have been incorporated into the Section 4 low-cost design criteria. FEIS Appendix GG (*Low Cost Design Memo*) is a technical memo summarizing the additional cost savings measures that were considered in Section 4.

The typical cross section for the initial design criteria has two 12-foot wide lanes in each direction separated by a 60-foot wide depressed median. The median includes two 5-foot wide usable inside shoulders (4-feet paved). To the outside of each pair of travel lanes there is a minimum 35-foot wide

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way located slightly outside of the corridor. In all cases, more than half of the width of right-of-way remained within the corridor. The maximum width of the right-of-way outside of the corridor ranged from 15 to 246 feet; the acreage outside of the corridor ranged from 0.03 acres to 13.52 acres. See Appendix D – Table of Alternative Right-of-Way Outside of the Section 4 Corridor, for an enumeration of these locations, including a description of the resource impacts avoided.

[4] In June, 2006, INDOT prepared a Tier 1 Re-evaluation to consider the possibility of constructing some or all of the I-69, Evansville to Indianapolis project as a tolled facility. This Re-evaluation addressed several other issues, including whether portions of the project such as access roads, interchanges and grade separations could extend outside of the corridor approved in the Tier 1 ROD (See Re-evaluation, Section 7.1). In a November 22, 2006 letter from INDOT Commissioner Thomas Sharp to FHWA Indiana Division Administrator Robert Tally, INDOT withdrew the Re-evaluation. In his letter of February 12, 2007 to INDOT Commissioner Karl Browning, Mr. Tally stated FHWA's position on matters discussed in the Re-evaluation which were unrelated to tolling. He stated that other related design considerations, such as access and frontage roads, interchanges, and mitigation could occur outside the corridor.

[5] "Practical design" refers to an approach to applying criteria and guidelines in highway design manuals. Where design manuals provide for a range of values for features (e.g, shoulder width), a value within the range which is chosen is that which is sufficient to satisfy the needs identified for the project.

outside clear zone[6] containing 11-foot wide usable shoulders (10-feet paved). These design elements satisfy and, in some cases, exceed Indiana Design Manual (IDM) requirements. In addition to this footprint required for the roadway, median, and shoulders, sufficient land is needed to provide for cut and fill slopes, right-of-way maintenance (maneuverability of equipment for mowing, shrub clearing, etc.), drainage, and right-of-way fencing. Safety also is a consideration; there must be sufficient distance from freeway travel lanes so that, should a tree or structure outside the right-of-way fall into the right-of-way toward the freeway, it would not cause a significant risk to motorists. The average right-of-way width for the initial design criteria along Section 4 is approximately 500 feet; however, the right-of-way widths vary from about 300 feet to over 800 feet depending on terrain and accessibility. The typical cross sections for the initial design criteria are shown in Section 4 FEIS Figure 5.1-3.

The low-cost design criteria typical cross sections for Section 4 satisfy, but do not exceed, IDM requirements. They provide a mainline typical cross section similar to the initial design criteria, including a 60-foot median and 5-foot wide usable inside shoulders (4-feet paved). The most notable cross-sectional difference between the initial design criteria and low-cost design criteria is the 30-foot wide outside clear zone containing 11-foot wide usable shoulders (10-feet paved). The low-cost design criteria also consider alternative length of grade criteria; rock cut slope treatments; fill slope treatments, and different pavement materials. As with the initial design criteria cross section, additional right-of-way is required beyond this footprint for cut and fill slopes, right-of-way maintenance, drainage, and right-of-way fencing along with safety considerations. The right-of-way width for the low-cost design criteria along Section 4 varies from about 270 feet to 700 feet depending on terrain and accessibility with an average width of approximately 380 feet. The typical cross sections for the low-cost design criteria are shown in Section 4 FEIS Figure 5.1-5.

Due to the different physical characteristics of most of Section 4 (when compared with Sections 1, 2, and 3), application of the initial design criteria and low-cost design criteria leads to a significant variation in the lateral footprints of alternatives. Therefore, the impact calculations provided in Chapter 5 and Chapter 6 of the Section 4 FEIS applied both the initial design criteria and low-cost design criteria to determine the range of impacts and costs for each alignment.

While a range of both costs and impacts are shown in the FEIS and here in this ROD, the initial design criteria and low-cost design criteria for a particular alternative cannot be considered distinct alternatives for purposes of NEPA evaluation. As FEIS Appendix GG describes, geotechnical investigations and evaluation of other site conditions during the final design phase are required in order to identify the design criteria which should be used in specific areas. Under the initial and low-cost design criteria analysis in the FEIS, the impacts are estimated by applying all elements associated with each of the two sets of design criteria. This provides an estimate of the range of impacts possible for a particular alternative. Accordingly, the selection of a preferred NEPA alternative has been made by comparing the range of impacts and costs for alternatives.

For most resources, the environmental impact calculations in the FEIS were based on right-of-way, with local variations due to terrain, accessibility, and interchange footprints. Wetland impacts were calculated based on expected impacts within construction limits[7] (see Volume I, Chapter 5.1, *Environmental*

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[6] A clear zone is the unobstructed, relatively flat area provided beyond the edge of the traveled way. The clear zone is intended to allow errant vehicles to stop or maneuver without striking any fixed objects. The clear zone includes any shoulders and auxiliary lanes.

[7] "Construction limits" refers to the area which actually will be disturbed during construction activities. Right-of-way limits show the boundary of the land which will be purchased for the highway and access roads. Construction limits are contained within the

Consequences: Introduction and Methodology). Typical sections for other state and local road construction, which are part of the project, are depicted on Section 4 FEIS Figure 5.1-4. Typical sections are for impact estimation purposes only. Final design will be in compliance with the IDM and other applicable standards and specifications.

2.1.5 Interchanges, Overpasses, and Access Roads

The Tier 1 FEIS identified potential interchange and grade separation locations in Section 4. These locations were identified in the Tier 1 study for all Tier 1 alternatives for comparing potential impacts, benefits, and costs of the Tier 1 alternatives. Decisions regarding the number and location of interchanges and grade separations were not made in the Tier 1 ROD (2.1.6), which stated that such decisions would be made in Tier 2.

Potential interchanges identified within Section 4 in the Tier 1 FEIS were at US 231[8], SR 45, SR 54, and SR 37. In response to local government and public input, a potential interchange at the Greene County/Monroe County Line was added for consideration during the Section 4 study process and was included in Section 4 DEIS Alternatives 1, 2, 3, and 4. Potential interchanges at SR 45, Greene County/Monroe County Line, and SR 37 were included in the interchange options carried forward for detailed study in the Section 4 DEIS and DEIS Alternatives 1, 2, 3, and 4. The potential interchange at SR 54, which was identified as a potential interchange location in the Tier 1 FEIS, was discarded in the Tier 2 study. The Selected Alternative in this ROD, Refined Preferred Alternative 2, includes interchanges at SR 45, Greene County/Monroe County Line, and SR 37. The Greene County/Monroe County Line interchange includes the South Connector Road that connects the interchange with SR 45 and SR 445 in Greene County.

Potential grade separations identified within Section 4 in the Tier 1 FEIS in Greene County were at CR 215E, CR 600S, CR 475E/CR 440E/CR 450S (Taylor Ridge Road), CR 600E, CR 750E/CR 900E (Dry Branch Road), CR 360S/CR 880E (Mineral-Koleen Road), CR 1260E/CR 190S (Hobbieville Road), and CR 35N (Monroe County Carmichael Road, extended). In Monroe County, potential Tier 1 FEIS grade separations were located at Carter Road, Breeden Road, Burch Road, Harmony Road, Rockport Road, Tramway Road, and Bolin Lane. During the development of the Section 4 Tier 2 study, several grade separations were added for consideration in response to local government and public input. These potential grade separations locations were at CR 200E, CR 920E/CR 975E (Old Clifty Road), CR 1250E, and CR 150N (Carter Road, extended) in Greene County and Evans Lane and Lodge Road in Monroe County. Refined Preferred Alternative 2 includes all grade separations identified in the Tier 1 FEIS except CR 600S and CR 475E/CR 440E/CR 450S (Taylor Ridge Road) in Greene County and Carter Road in Monroe County. Refined Preferred Alternative 2 also includes grade separations at CR 150N (Carter Road, extended) in Greene County and Lodge Road in Monroe County, which were added for consideration during the Section 4 Tier 2 study.

All other local roads that cross the Section 4 corridor and the right-of-way for Refined Preferred Alternative 2 will be closed. Cul-de-sacs will be built for vehicle turnarounds. A summary of grade

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right-of-way limits. Section 404 permits obtained under the Clean Water Act will allow filling wetlands only within the construction limits; thus, it is the appropriate boundary to use for determining wetland impacts. By comparison, impacts to other resources will extend to the right-of-way limits. For example, forests within the right-of-way are assumed to be cleared, and farmland within the right-of-way is assumed to be no longer available for farming.

[8] The US 231 interchange was evaluated in the Tier 2 Section 3 FEIS and was selected as an I-69 interchange in the Tier 2 Section 3 ROD approved January 28, 2010.

separations, interchanges, road closures, and road relocations is included in Table 5.6-5 of the Section 4 FEIS.

In the Section 4 Tier 2 FEIS, seven access roads are proposed for Refined Preferred Alternative 2. These access roads either provide access to adjacent properties that otherwise would be inaccessible, realign (reconstruct) local road intersections, or relocate local roads to maintain connections to other local roads and state highways (see FEIS Table 5.6-4). Elimination of some of these access roads may occur during final project design where it is determined that it is more economically feasible to purchase one or more parcels during the right-of-way acquisition process rather than provide access roads.

This ROD approves the locations of the interchanges, grade separations, and access roads (which include new roads, road realignments, and road relocations) that are features of Refined Preferred Alternative 2.

2.1.6 Property Acquisition

This ROD approves the use of federal funds for property acquisition for the project, for construction of the roadway itself as well as for properties that will be used for mitigation purposes, as described in Section 5.0, herein.[9]

INDOT has already commenced right-of-way acquisition activities, as follows:

- Field surveys have been initiated that will tie the property parcel descriptions to the project engineering survey.
- Title research has been initiated and right-of-way engineering has begun.
- Appraising has been completed and offers have been made.
- Acquisitions have been completed and right-of-way has been transferred to INDOT. As of September 6, 2011, INDOT has acquired seven parcels of right-of-way.

These right-of-way acquisition activities have had no influence on the decisions reached in this ROD [per 23 C.F.R. 710.501(b)(5)]. No federal-aid highway funds are being used for the early acquisition of right-of-way for highway construction prior to the issuance of the Section 4 Tier 2 ROD except as permitted in the Tier 1 ROD. Funding for right-of-way and preliminary design has been included by amendment in INDOT's Statewide Transportation Improvement Program (STIP) for fiscal years 2011 and 2012.[10] FHWA has informed INDOT that these actions are at the discretion of the State, and that such actions are taken "at risk," with respect to any future claims of credit for the local portion of expenditures which may be federally-funded.[11]

Acquisition of properties, with state funds only, did not influence the decisions for the project including the need to construct the project, the consideration of alternatives, and the selection of the design or location.

2.2 Deferred Construction

The construction of the full interchange at SR 37 will be deferred until construction of the southern portion of the Section 5 upgrade of SR 37 to interstate standards. A temporary signalized "T" intersection will be

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[9] The Section 4 Biological Assessment (BA) identifies 36 potential mitigation sites in seven focus areas. See Section 5.1.4, *Mitigation Sites*, for details of the status of acquiring mitigation sites.

[10] Funding for right-of-way, design and construction are included for FY 2012 to 2014 in the 2012 to 2015 STIP submitted to FHWA on June 20, 2011. The Bloomington Monroe County Metropolitan Planning Organization (BMCMPO) added funding for right-of-way acquisition and design (for the portion of the project within its jurisdiction) on November 5, 2011.

[11] See FHWA letters dated December 7, 2010 and March 14, 2011 in Appendix C of the Section 4 FEIS.

constructed at SR 37 (see Section 4 FEIS Appendix PP, *Interim SR 37 Interchange Design*) in lieu of the full interchange. This signalized intersection would provide short-term cost savings compared with immediate construction of the full interchange at SR 37. The signalized intersection would also help facilitate future maintenance of traffic for the full interchange construction. Another advantage of the signalized intersection is that it would serve as an indicator to drivers on the Interstate that they are leaving the access controlled interstate for a lower speed, partially access controlled facility.

INDOT intends to purchase the right-of-way for the full build-out of the SR 37 interchange following issuance of this ROD. Drawings of the signalized intersection under the initial and low-cost design criteria are in FEIS Appendix PP (referenced above).

Construction of the SR 37 signalized intersection will affect access at the current SR 37/That Road at-grade intersection located north of the proposed I-69/SR 37 interchange and near the north terminus of Section 4. On the west side of I-69 (SR 37), That Road will be closed for both the Interim SR 37 intersection and for the full build-out of the I-69/SR 37 interchange. A cul-de-sac will be constructed as a vehicle turnaround for local traffic using That Road. On the east side of I-69 (SR 37), That Road is proposed for relocation via a proposed future frontage road that will connect That Road with Rockport Road for the full build-out of the I-69/SR 37 interchange. The proposed frontage road will be constructed as part of the Section 5 project. At such time, direct access between That Road and I-69 will be closed. For the Interim SR 37 intersection, the east leg of That Road at SR 37 will remain open for travel. Some turning movements at this intersection may be restricted (see Section 4 FEIS Appendix QQ, *SR 37 Operational and Safety Analysis*).

2.3 Mitigation

This ROD approves and directs the implementation of the mitigation measures listed in the Section 4 FEIS, Chapter 7, *Mitigation and Commitments.* FHWA will support efforts, in cooperation with INDOT and applicable resource agencies, to ensure the timely implementation of these measures. Mitigation measures implemented pursuant to this ROD (including land acquisition) shall be eligible for federal funding, subject to prior approval by FHWA. See Section 5.0, *Measures to Minimize Harm*, herein, for further discussion of mitigation.

Some of the mitigation measures involve a commitment to specific design features (e.g., wildlife crossings) or mitigation activity (e.g., mitigating for forest lands at a 3 to 1 ratio). Other measures involve a commitment to conduct further analysis (e.g., assessment of karst features in accordance with the Karst MOU). For activities directly related to the quantity of impacts, the Tier 2 Section 4 FEIS Chapter 7 identifies mitigation quantities specific to impacts determined in the Tier 2 Section 4 study. Mitigation quantities are based on ratios determined during Tier 1 and Tier 2 consultation with regulatory agencies and agreed to in the Tier 1 and Tier 2 Records of Decision. Mitigation measures are identified in Section 5.0, herein, and are summarized on the Commitments Summary Form in Appendix A.

Detailed design will continue to make efforts to further reduce impacts to sensitive resources. When this is determined possible without reducing the performance of the Selected Alternative or increasing impacts to other sensitive resources and in consultation with the appropriate resource agencies, mitigation quantities may be reduced but the agreed-to ratios shall be maintained. Impacts to these resources and mitigation will be tracked and reported to the appropriate resource agencies on an annual basis.

2.4 Request for Supplemental EIS

There have been several requests for a supplemental EIS for Section 4 and for the Tier 1 FEIS prepared in 2004. The basis for the requests are outlined more fully in the comments received during the 30-day waiting period after publication of the notice of availability of the Section 4 FEIS in the Federal Register on July 22, 2011 (amended notice published on July 29, 2011). The responses to comments, found in Appendix C of this ROD, explain in detail why a supplemental EIS for neither Section 4 nor the Tier 1 decision is warranted. For the Tier 1 study, the "new information" is generally information generated as a result of the Tier 2 studies. As the district court found in *Hoosier Environmental Council, et al. v. U.S. Department of Transportation, et al*., Civ. No. 06-1442, S.D. Ind. (12/10/2007), FHWA properly decided to prepare a tiered study for this project and that "the level of detail in the first tier selection of Alternative 3C was not arbitrary and capricious." (Slip Op. at 16). None of the "new information" alleged in the comments warrants preparation of a supplemental Tier 1 EIS.

Moreover, to the extent that the requests for a supplemental Tier 1 EIS rely on karst information developed in the environmental analysis of Section 4 (see comments CARR01-01 through 01-03 in Appendix C of this ROD), the request is denied. The karst information developed for the Section 4 EIS is not relevant to the Tier 1 decision. As Tables 1 and 2 in the Tier 1 ROD (ROD, page 3) point out, the methodologies used to determine impacts at the Tier 1 level are different than the methodologies used at the Tier 2 level. As previously noted, the use of the different scale of information in Tier 1 and Tier 2 was confirmed by the district court in *HEC v. DOT*. Moreover, there is nothing in the information developed for the Tier 2 FEIS for Section 4 that indicates that the Tier 1 analysis is flawed or failed to address reasonably foreseeable impacts. Thus, no supplemental Tier 1 EIS is warranted at this time.

Nor is a supplemental EIS for Section 4 warranted based on the "new information" claims made in the comments on the FEIS (See Appendix C of this ROD for the comments and responses[12]). The information that the comments claim requires a supplemental Tier 2 EIS for Section 4 was fully considered in the FEIS to the extent required. The are no environmental impacts analyzed which rise to the level of “new information.” The Section 4 Tier 2 EIS takes into account all relevant information gathered during the lengthy NEPA process conducted for the Section 4 Project. No further NEPA analysis is warranted.

Finally, as more fully discussed in Section 7 of this ROD, no supplemental EIS is warranted for the changes in refined preferred alternative alignment resulting from additional preliminary design work. The analysis of impacts from these changes (see Appendix F for the detailed analysis) supports the conclusion that implementation of these changes in the right-of-way will not cause significant environmental impacts that were not evaluated in the Section 4 FEIS, and that the right-of-way modifications themselves do not offer any new information or circumstances relevant to environmental concerns bearing on the approved project that will result in significant environmental impacts that were not discussed in the Section 4 FEIS.

[12] See comments Boyd05-03, CARR01-01, CARR01-07, CARR01-08, CARR01-13, CARR01-72, CARR02-05.

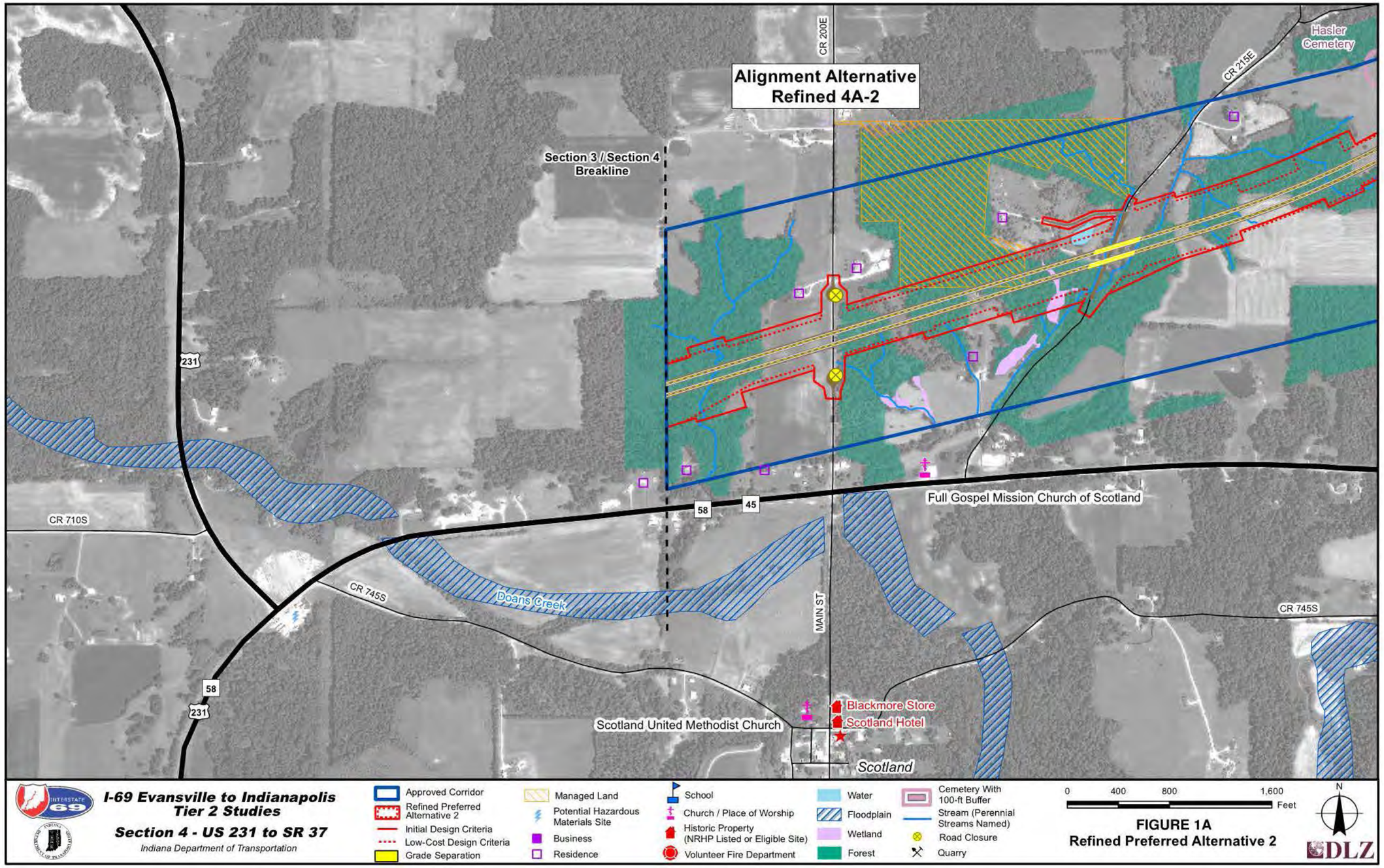


FIGURE 1A
Refined Preferred Alternative 2

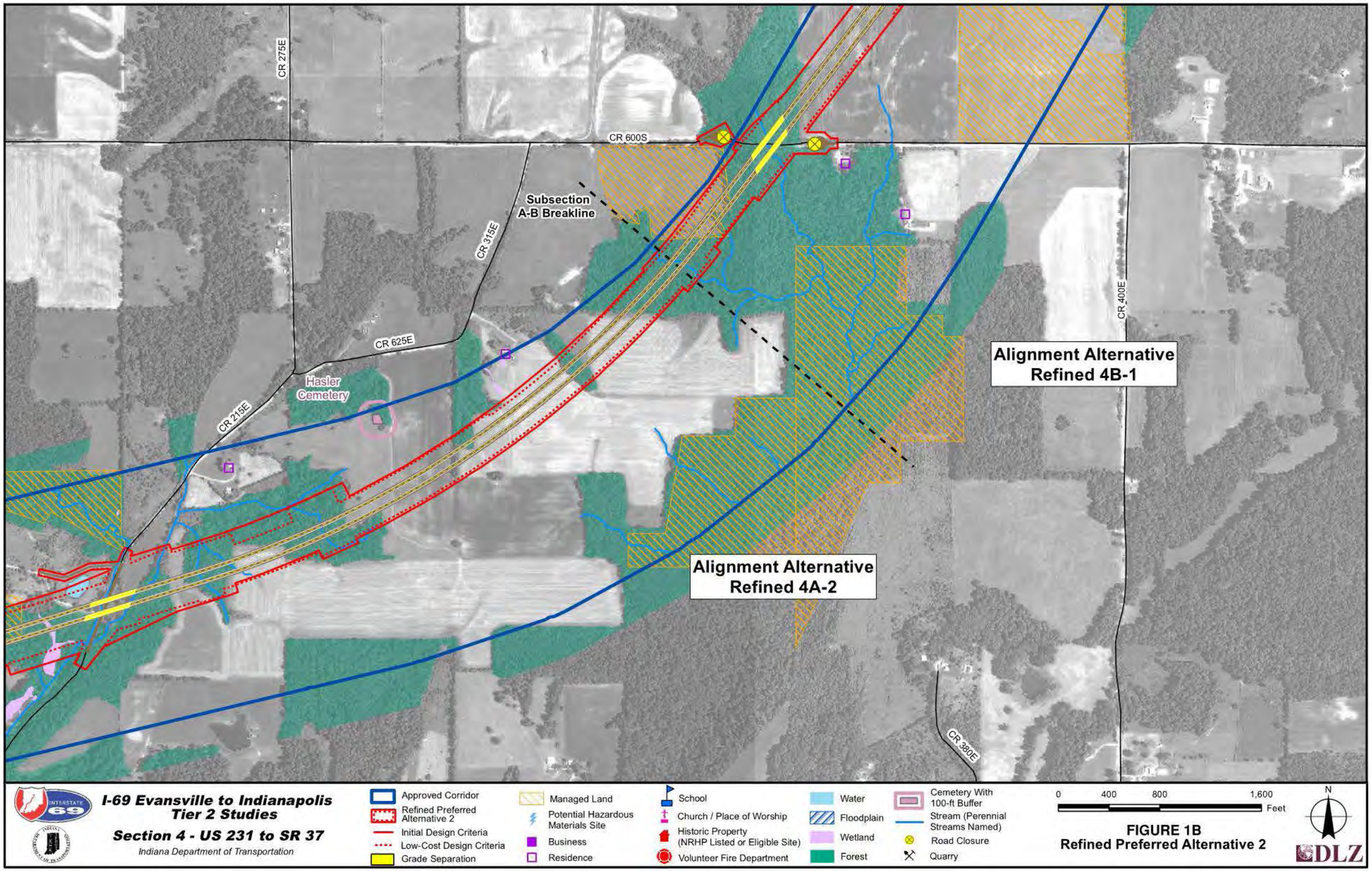


FIGURE 1B
Refined Preferred Alternative 2

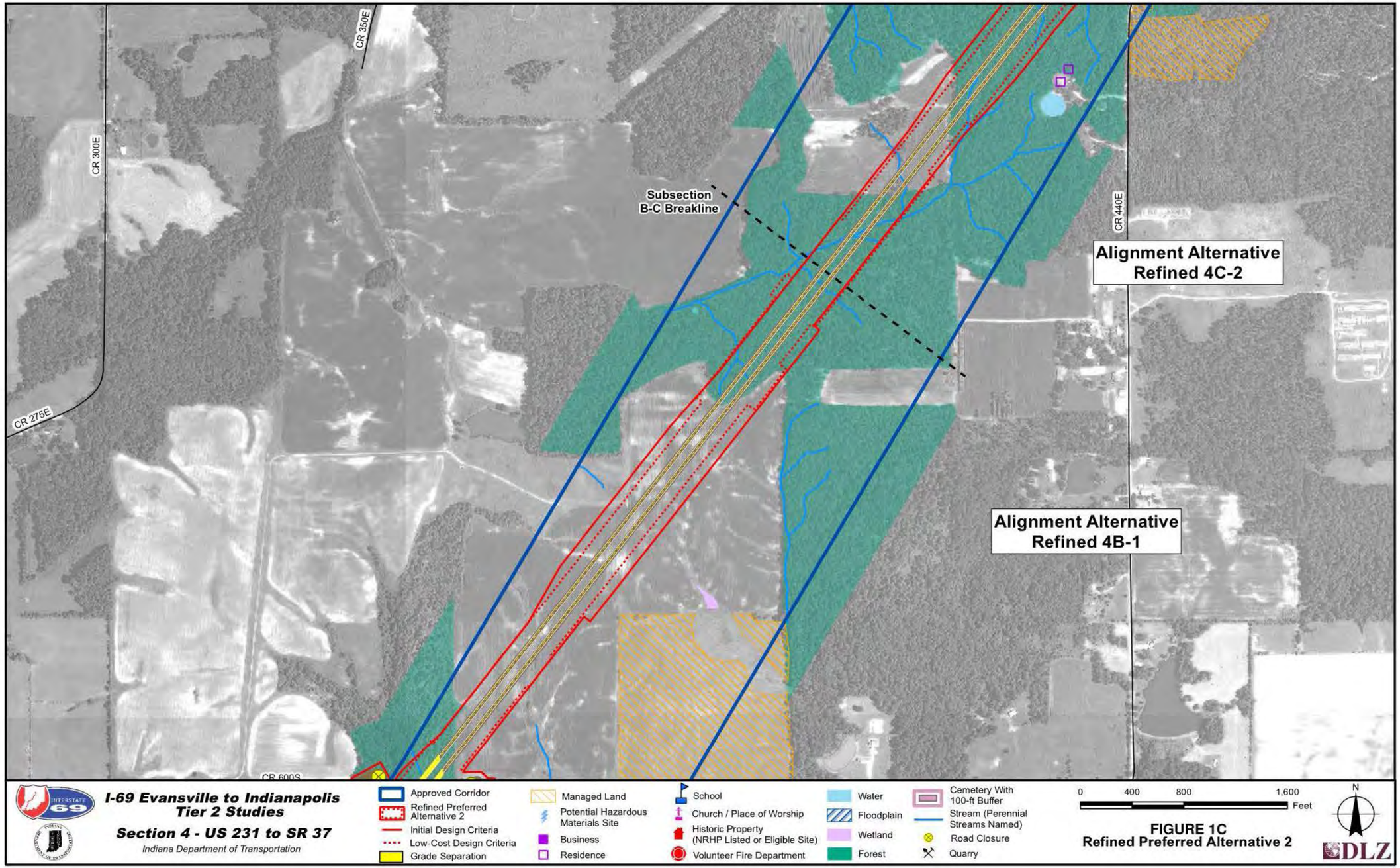
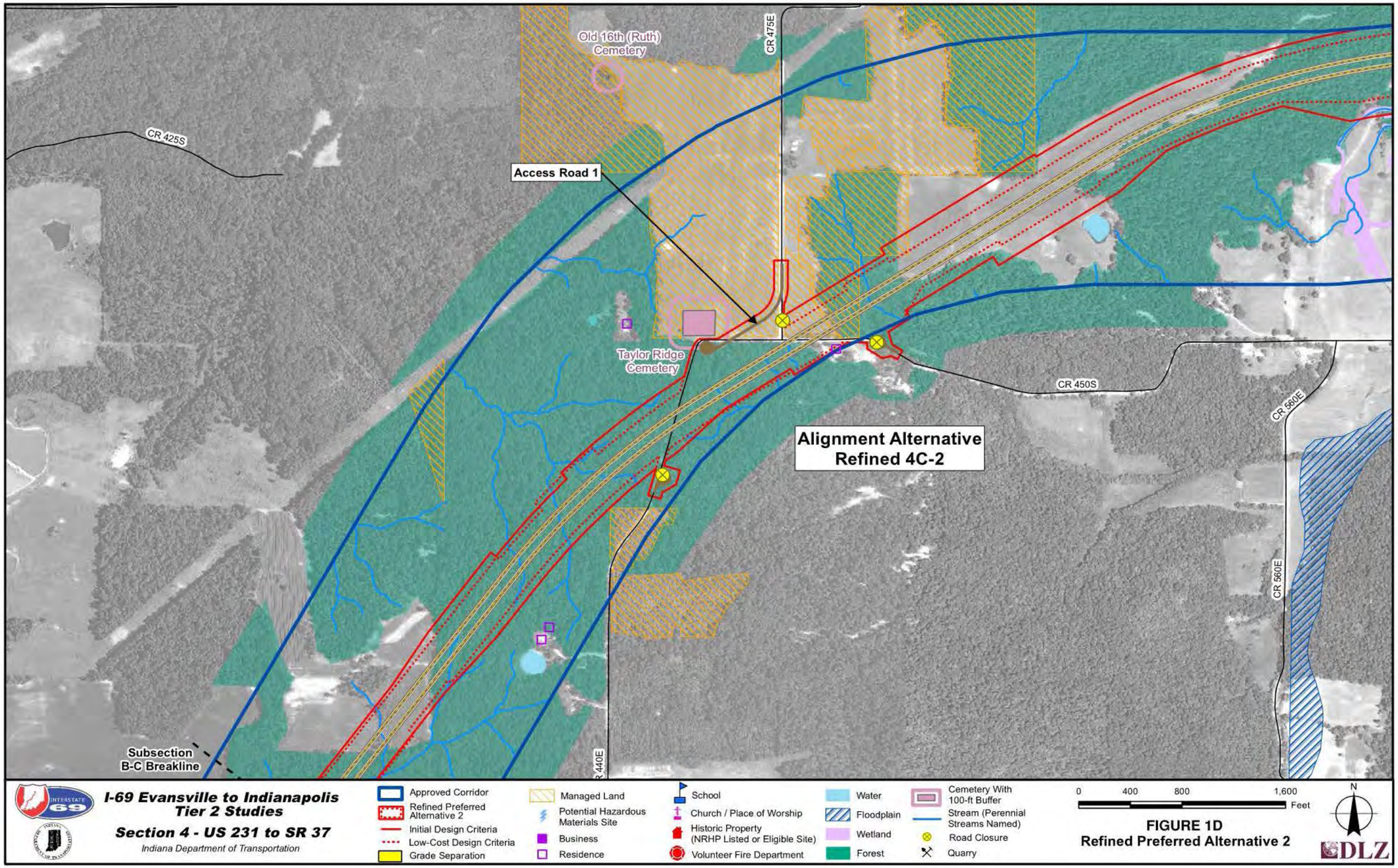


FIGURE 1C
Refined Preferred Alternative 2


Old 16th (Ruth) Cemetery
CR 475E
CR 425S
Access Road 1
Taylor Ridge Cemetery
CR 450S
CR 560E
Alignment Alternative
Refined 4C-2
CR 560E
Subsection
B-C Breakline
R 440E
I-69 Evansville to Indianapolis
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Refined Preferred Alternative 2
Initial Design Criteria
Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0
400
800
1,600
Feet
N
FIGURE 1D
Refined Preferred Alternative 2
DLZ

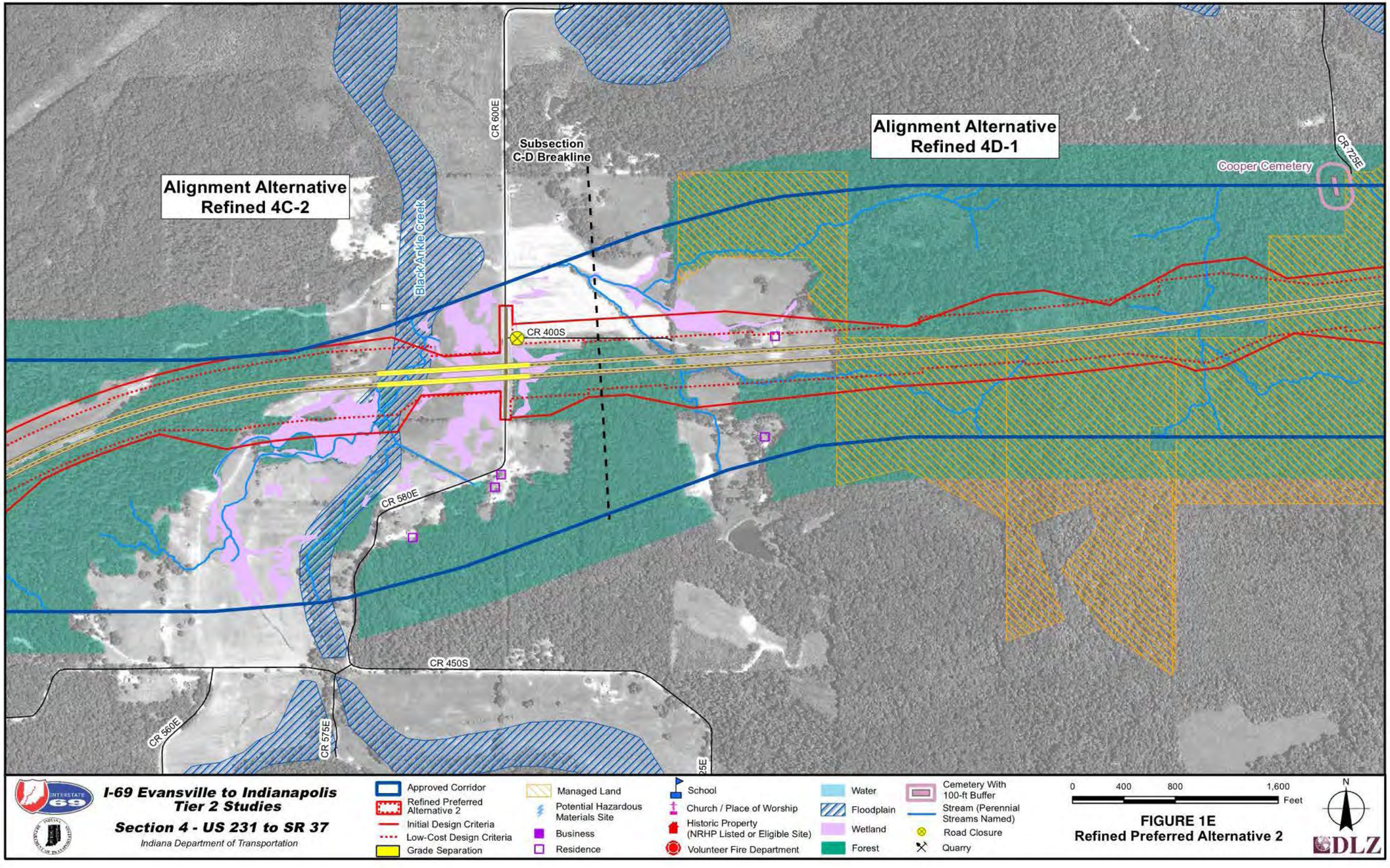


FIGURE 1E
Refined Preferred Alternative 2

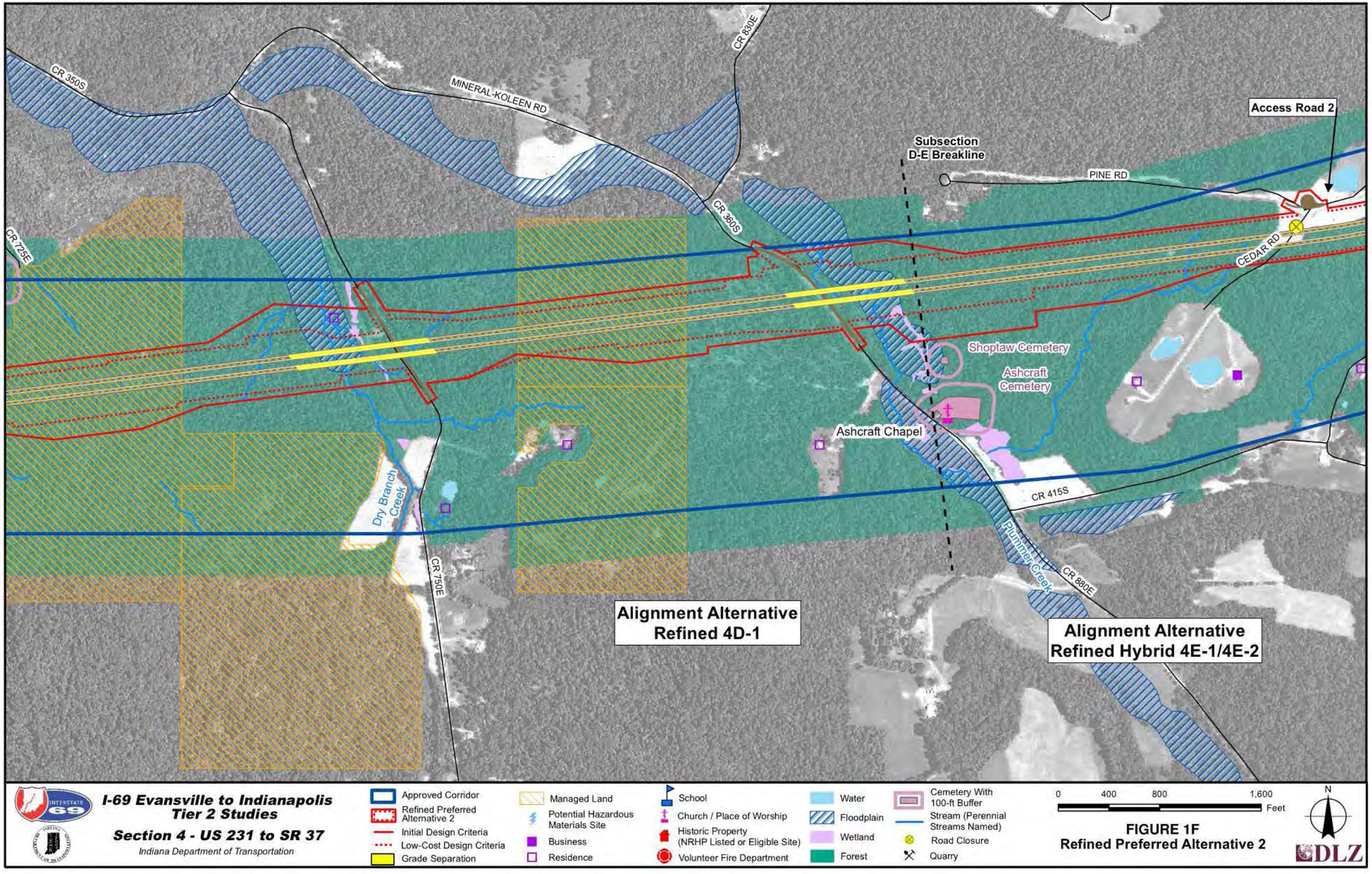


FIGURE 1F
Refined Preferred Alternative 2

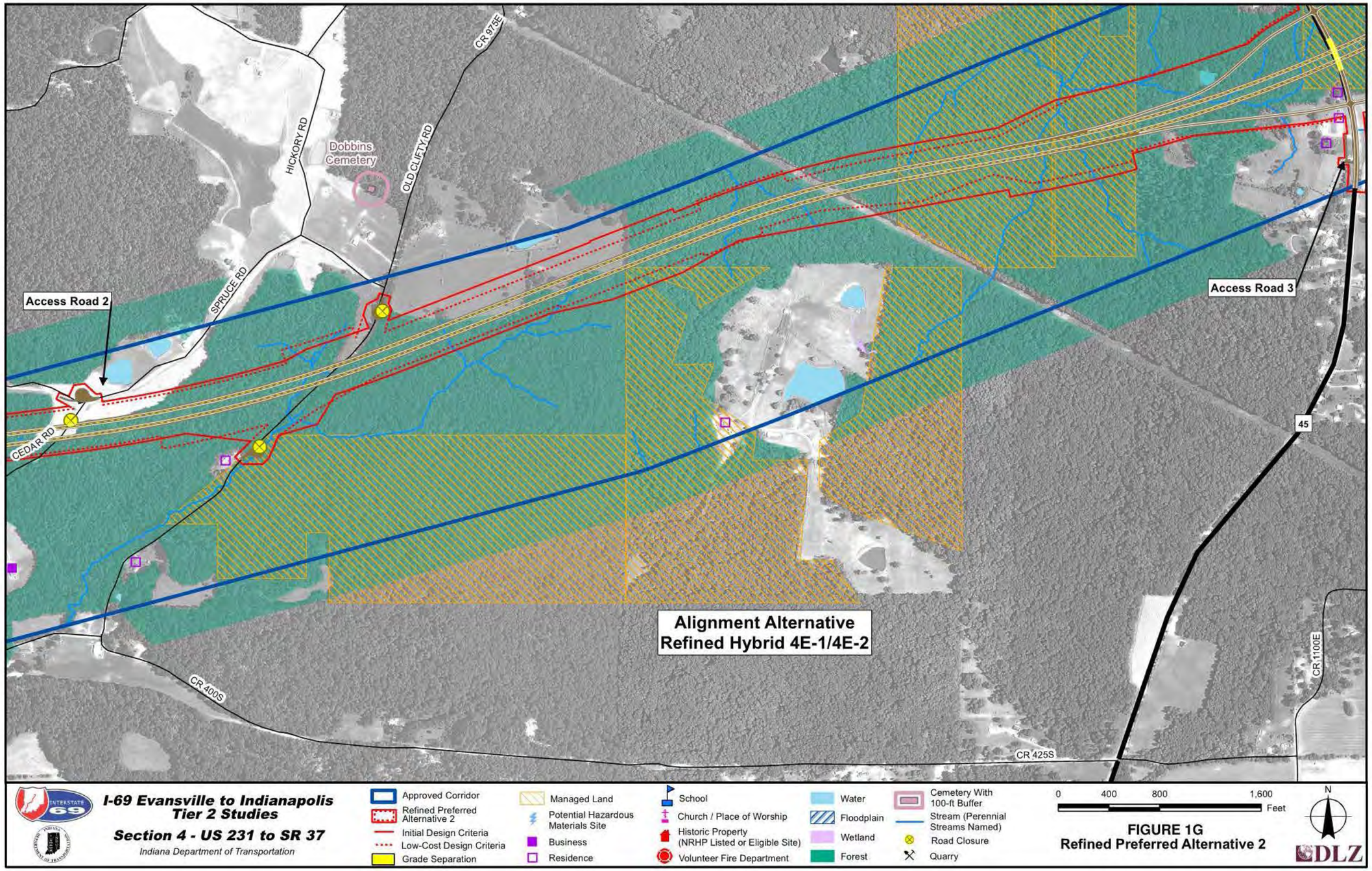


FIGURE 1G
Refined Preferred Alternative 2

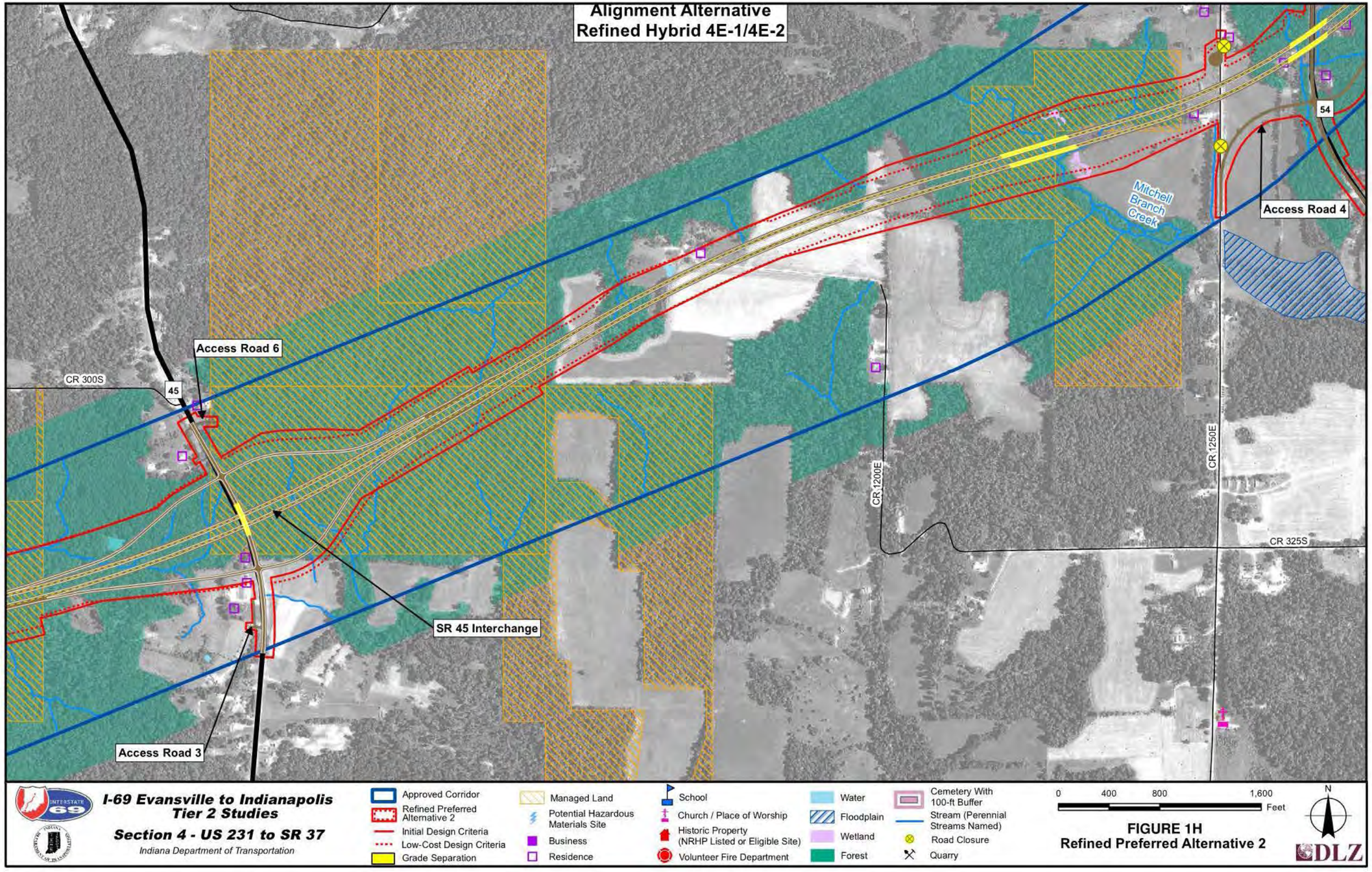
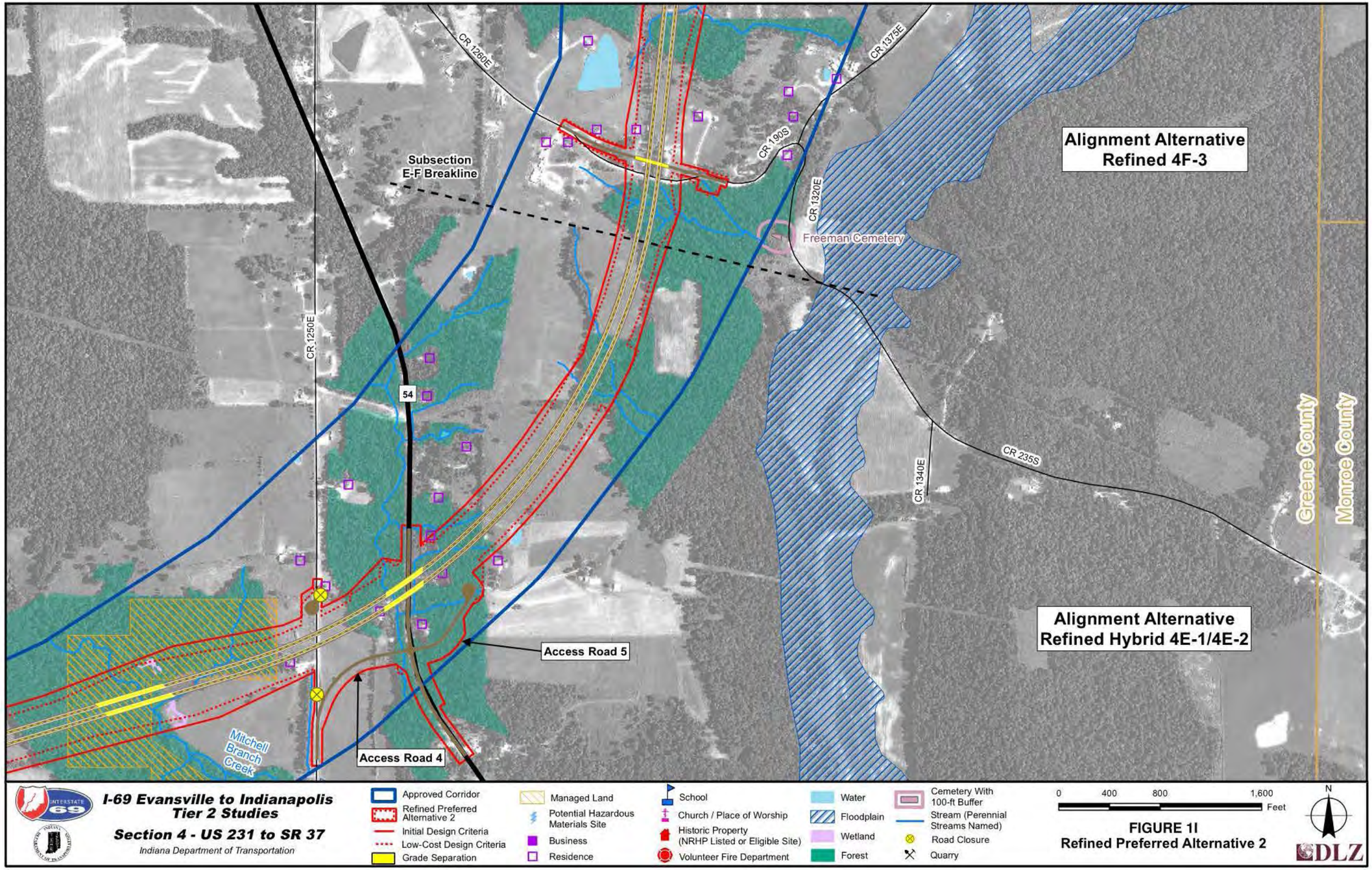
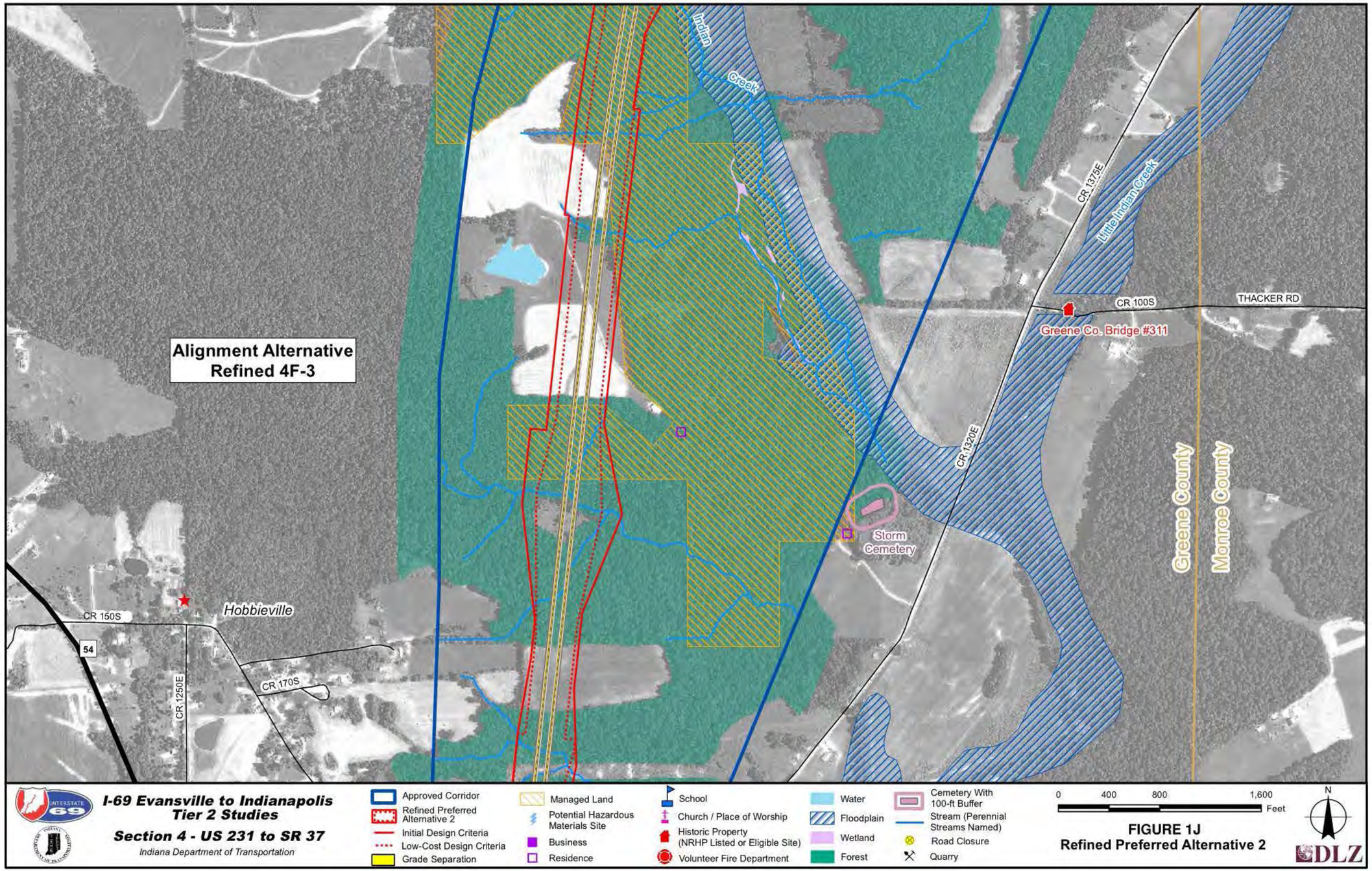


FIGURE 1H
Refined Preferred Alternative 2


CR 1260E
CR 1375E
CR 190S
CR 1320E
Alignment Alternative
Refined 4F-3
Subsection
E-F Breakline
Freeman Cemetery
CR 1250E
54
CR 1340E
CR 235S
Greene County
Monroe County
Alignment Alternative
Refined Hybrid 4E-1/4E-2
Access Road 5
Access Road 4
Mitchell
Branch
Creek
I-69 Evansville to Indianapolis
Tier 2 Studies
Section 4 - US 231 to SR 37
Indiana Department of Transportation
Approved Corridor
Refined Preferred Alternative 2
Initial Design Criteria
Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1I
Refined Preferred Alternative 2
DLZ


Alignment Alternative
Refined 4F-3
Indian Creek
Little Indian Creek
CR 1375E
CR 100S
THACKER RD
Greene Co. Bridge #311
CR 1320E
Storm Cemetery
Greene County
Monroe County
Hobbieville
CR 150S
54
CR 1250E
CR 170S
I-69 Evansville to Indianapolis
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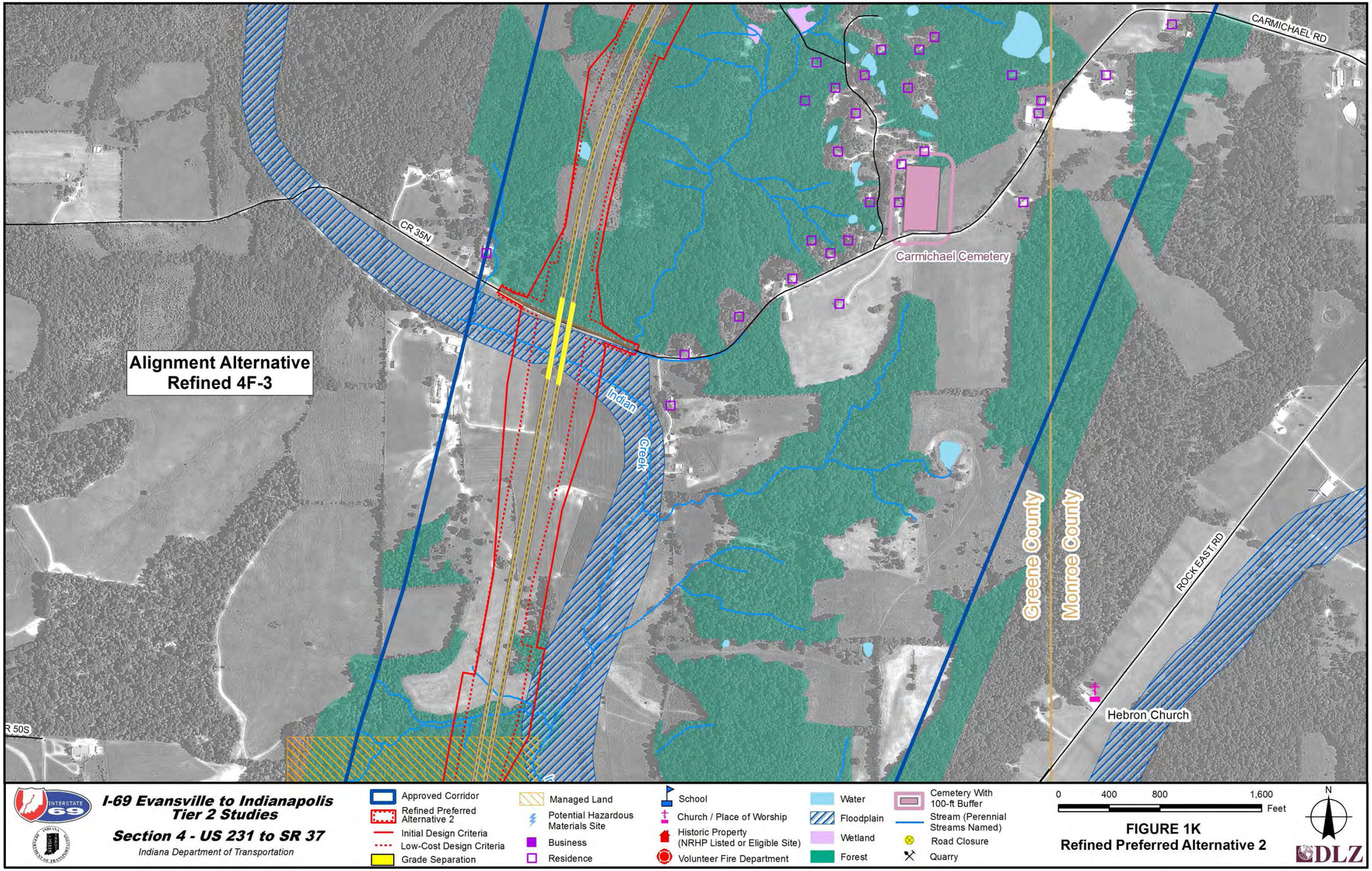
Refined Preferred Alternative 2
Initial Design Criteria
Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1J
Refined Preferred Alternative 2
DLZ


Alignment Alternative
Refined 4F-3
CR 35N
CARMICHAEL RD
Carmichael Cemetery
Indian
Creek
Greene County
Monroe County
ROCK EAST RD
Hebron Church
R 50S
I-69 Evansville to Indianapolis
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Initial Design Criteria
Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1K
Refined Preferred Alternative 2
DLZ

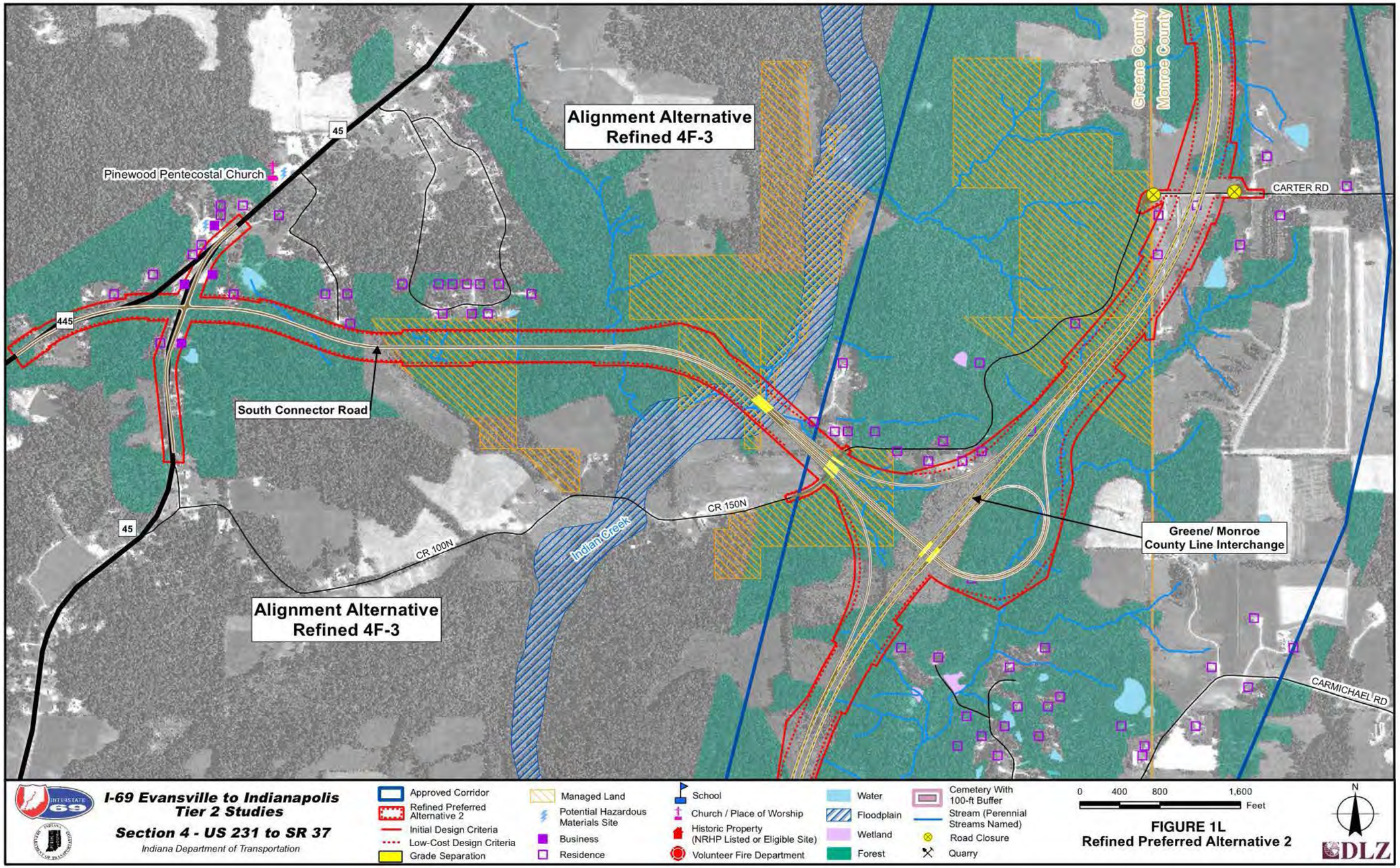
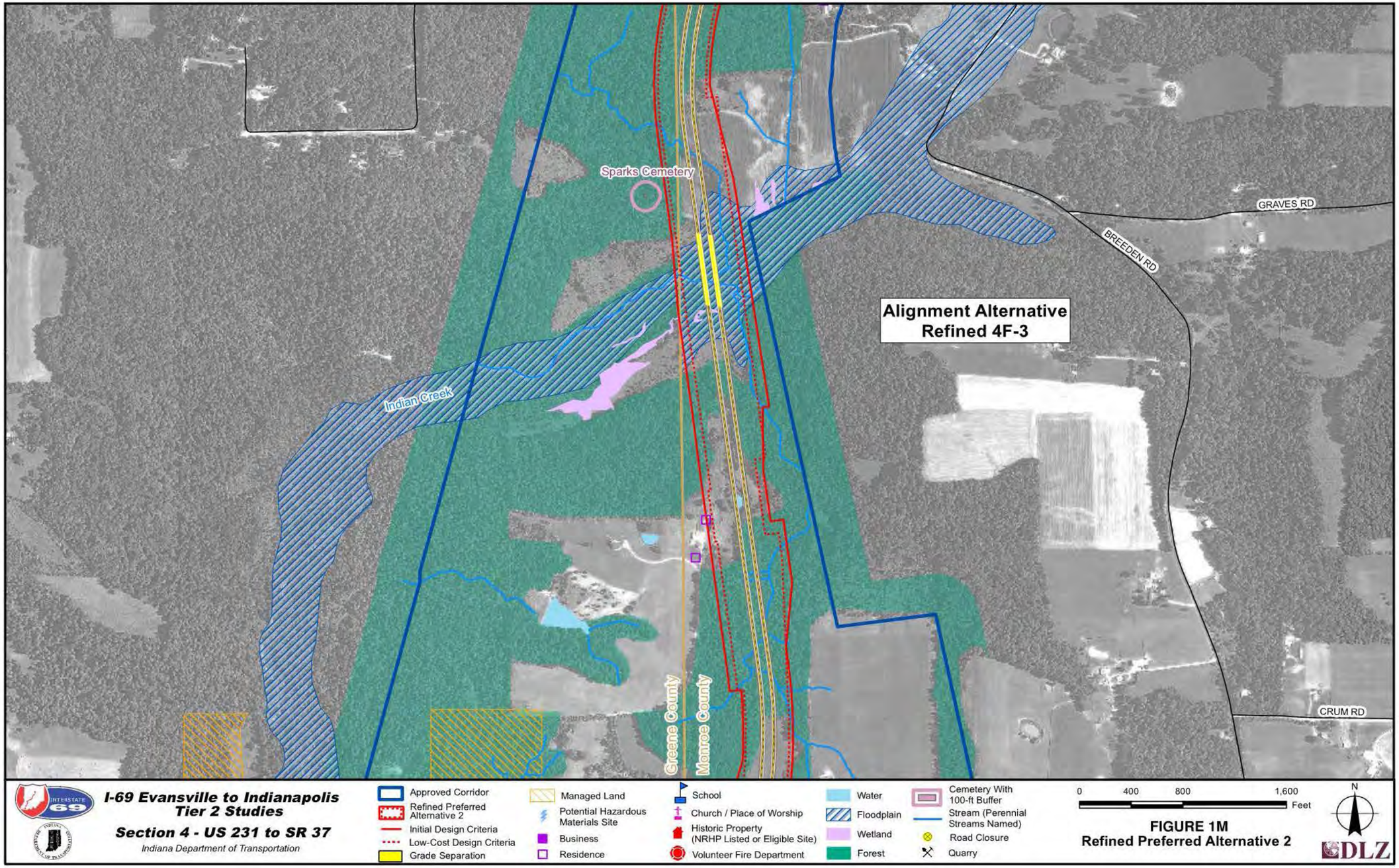


FIGURE 1L
Refined Preferred Alternative 2


Sparks Cemetery
Indian Creek
Alignment Alternative
Refined 4F-3
GRAVES RD
BREEDEN RD
CRUM RD
Greene County
Monroe County
I-69 Evansville to Indianapolis
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Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1M
Refined Preferred Alternative 2
DLZ

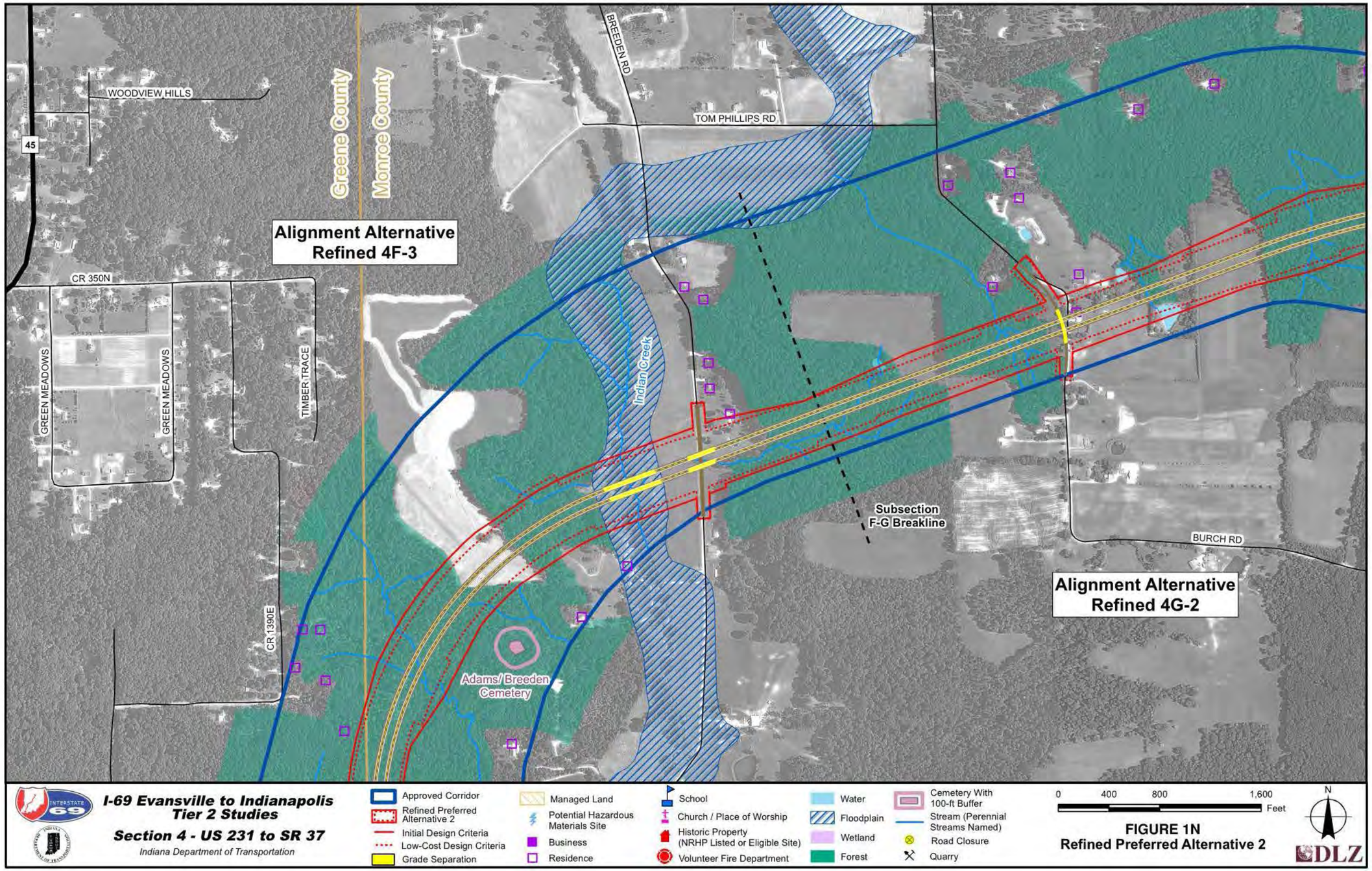
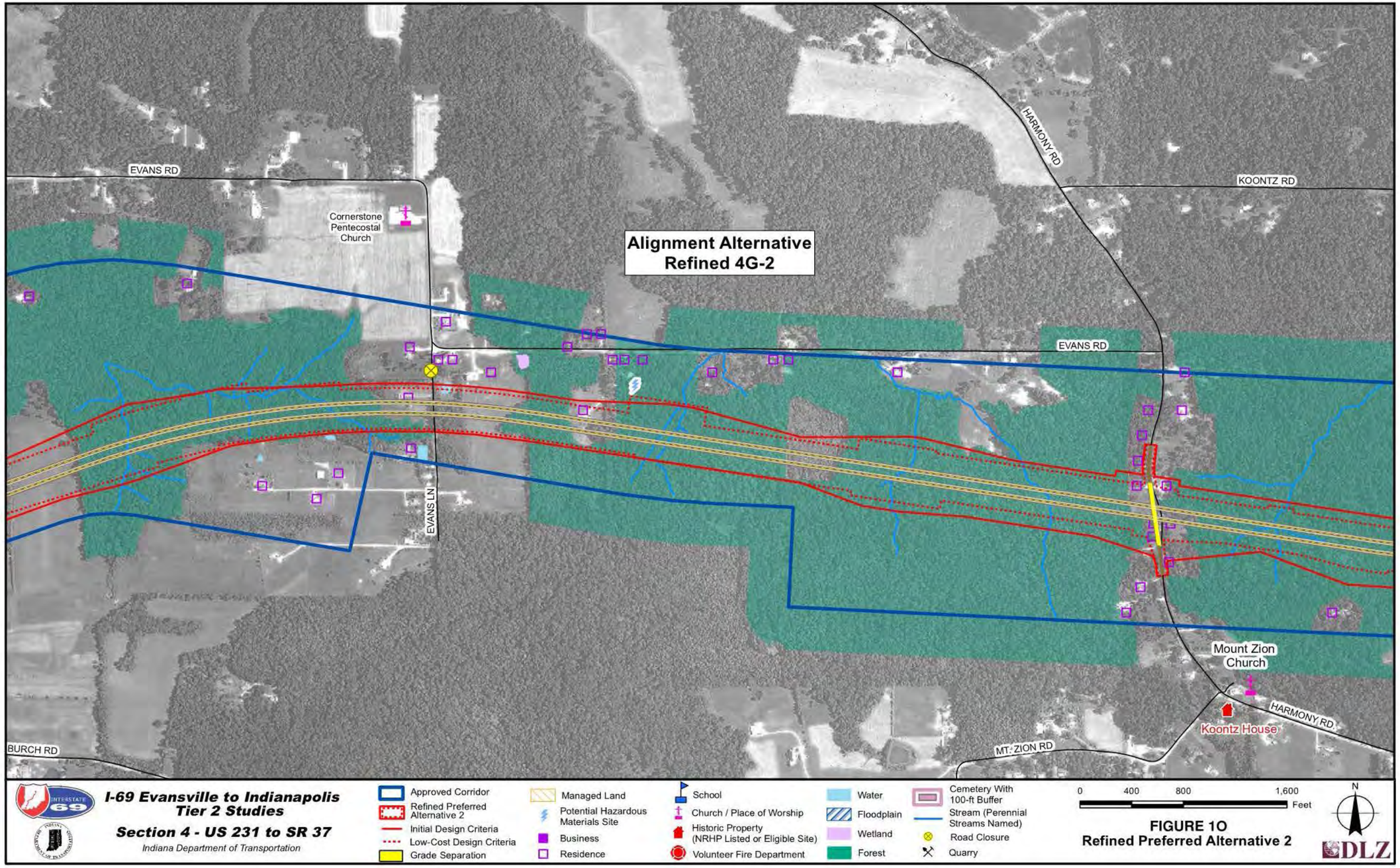


FIGURE 1N
Refined Preferred Alternative 2


Alignment Alternative
Refined 4G-2
EVANS RD
Cornerstone
Pentecostal
Church
HARMONY RD
KOONTZ RD
EVANS RD
EVANS LN
Mount Zion
Church
HARMONY RD
Koontz House
MT. ZION RD
BURCH RD
I-69 Evansville to Indianapolis
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Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1O
Refined Preferred Alternative 2
DLZ

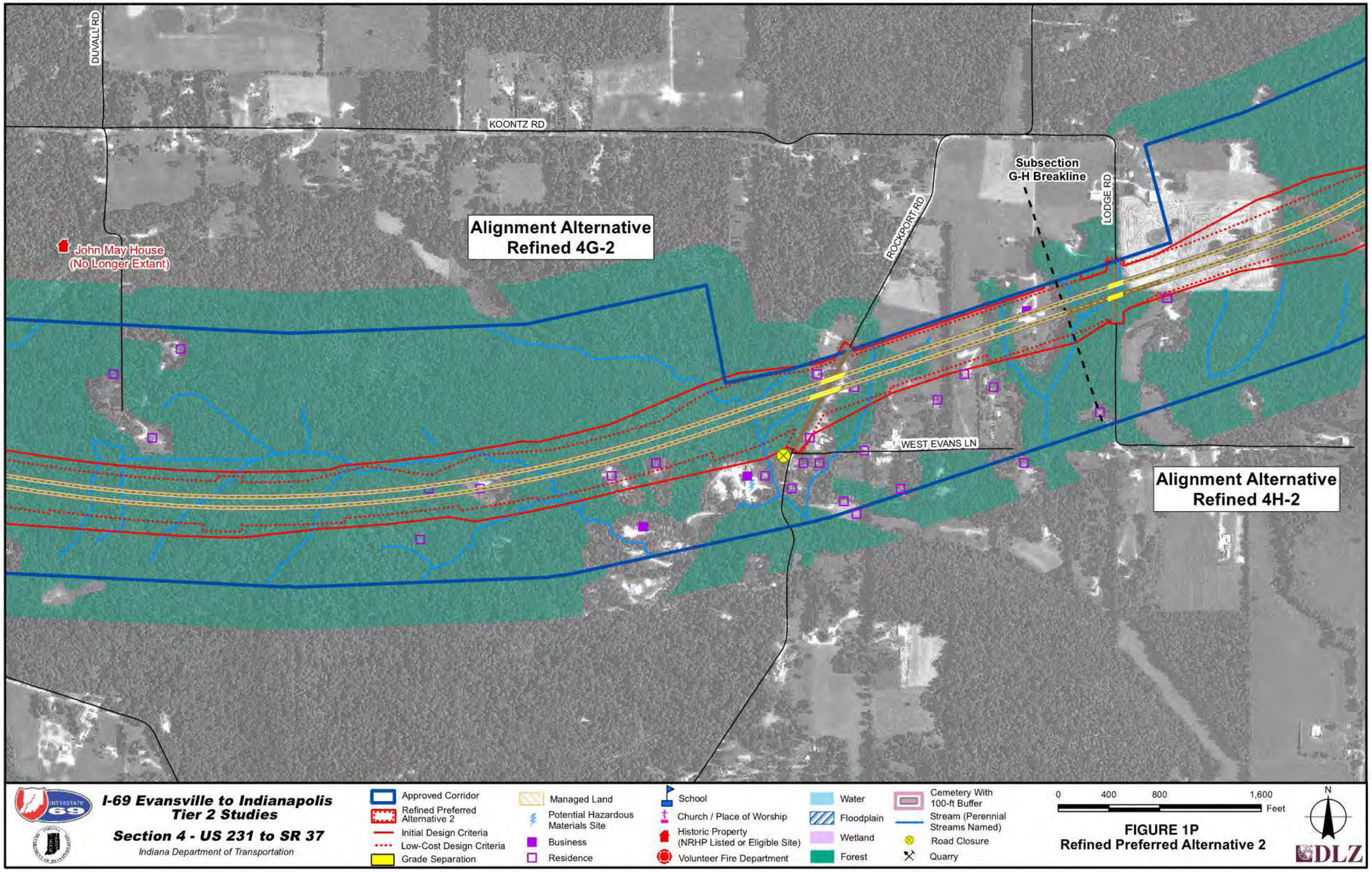
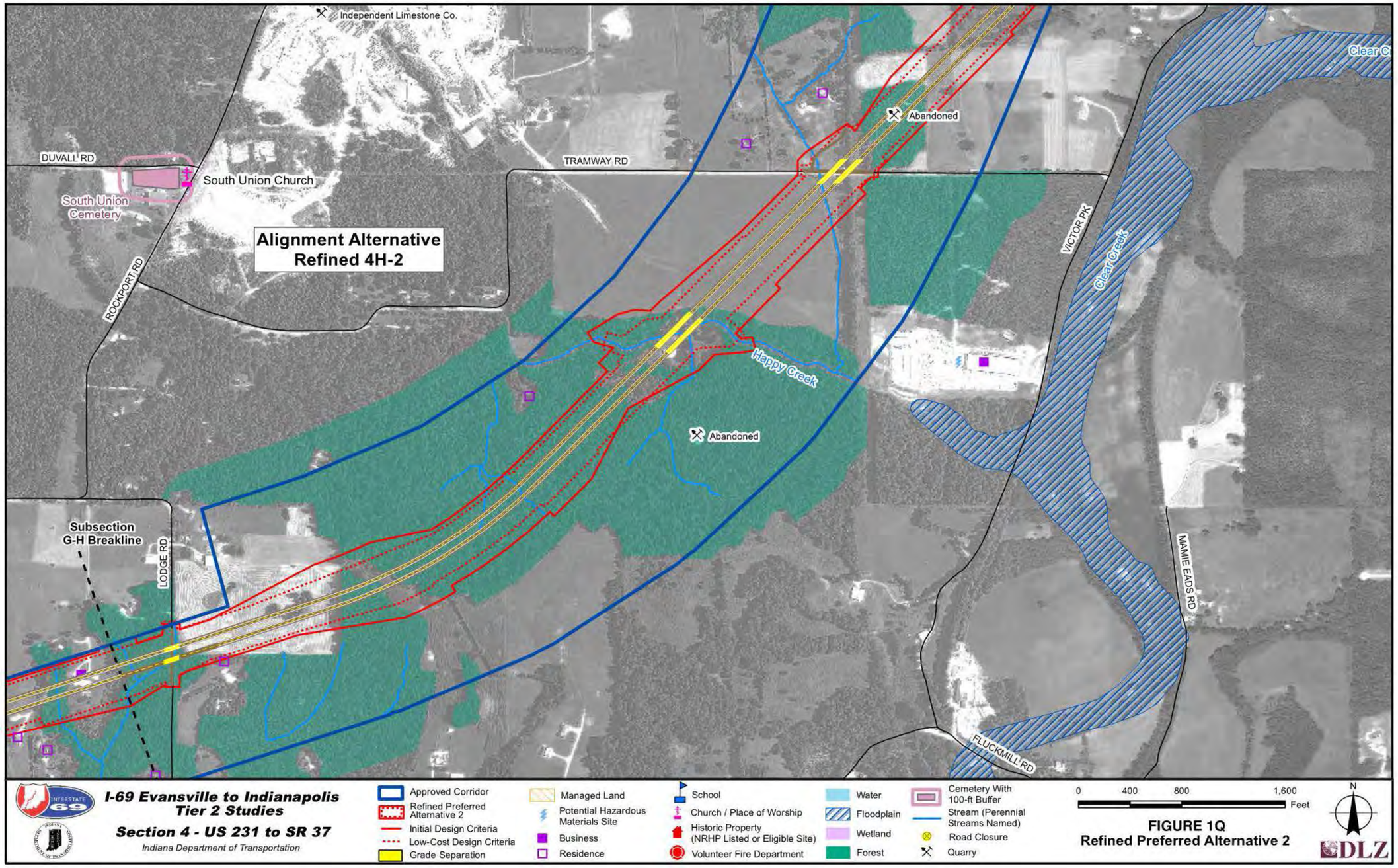


FIGURE 1P
Refined Preferred Alternative 2


Independent Limestone Co.
Abandoned
DUVALL RD
TRAMWAY RD
South Union Church
South Union Cemetery
Alignment Alternative
Refined 4H-2
ROCKPORT RD
VICTOR PK
Clear Creek
Happy Creek
Abandoned
Subsection
G-H Breakline
LODGE RD
MAMIE EADS RD
FLUCKMILL RD
I-69 Evansville to Indianapolis
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Refined Preferred Alternative 2
Initial Design Criteria
Low-Cost Design Criteria
Grade Separation
Managed Land
Potential Hazardous Materials Site
Business
Residence
School
Church / Place of Worship
Historic Property (NRHP Listed or Eligible Site)
Volunteer Fire Department
Water
Floodplain
Wetland
Forest
Cemetery With 100-ft Buffer
Stream (Perennial Streams Named)
Road Closure
Quarry
0 400 800 1,600 Feet
N
FIGURE 1Q
Refined Preferred Alternative 2
DLZ

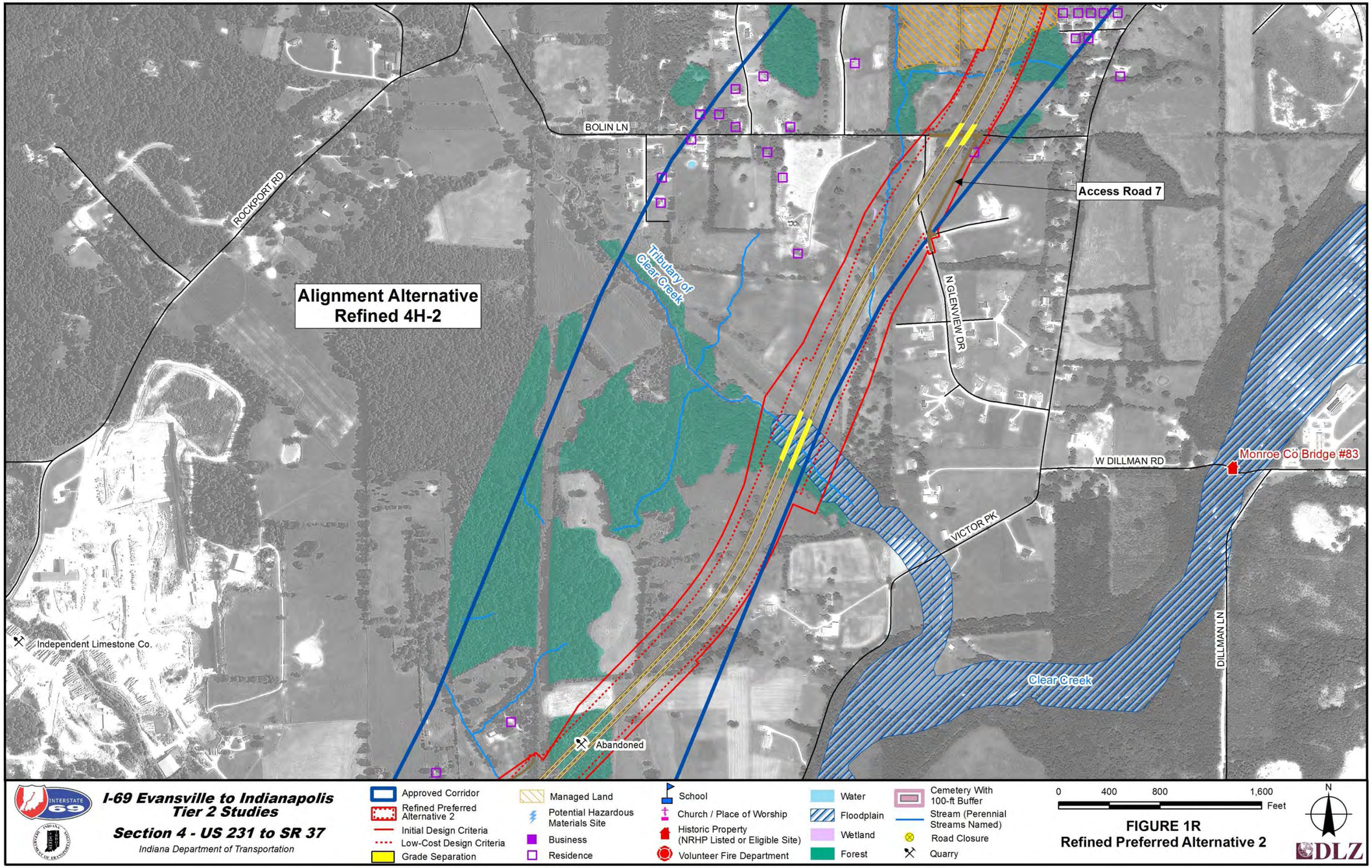

FIGURE 1R
Refined Preferred Alternative 2

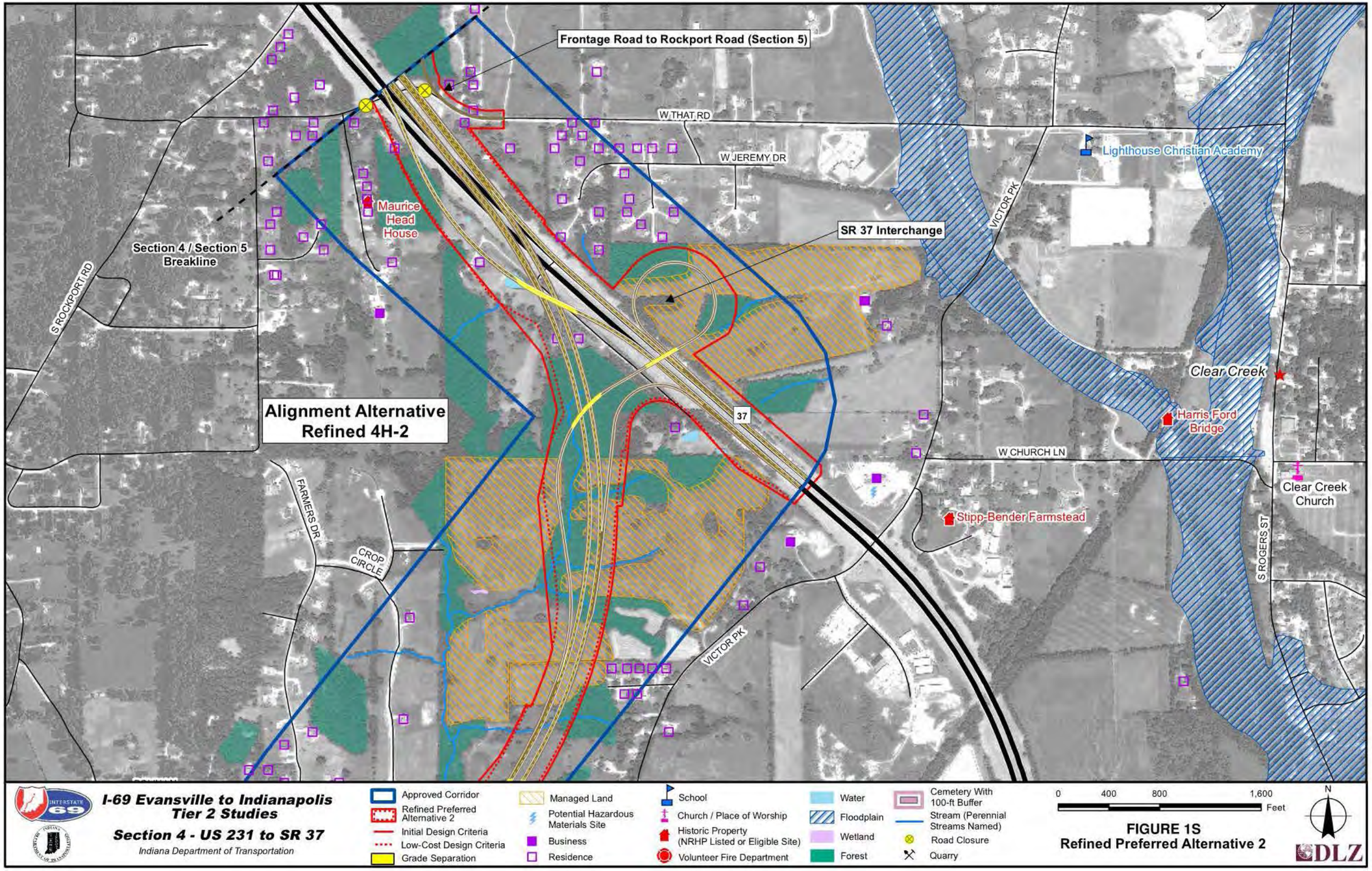

FIGURE 1S
Refined Preferred Alternative 2

3.0 ALTERNATIVES CONSIDERED

The range of alternatives in the second tier of a tiered NEPA study is circumscribed by the decisions reached in Tier 1. The primary limitation on Tier 2 alternatives established by the Tier 1 ROD is that alternative alignments considered in Tier 2 must be within the corridor approved in Tier 1. The Section 4 Tier 2 mainline alternatives considered in the FEIS are substantially[13] located within the approved corridor established in the Tier 1 ROD.[14] In a few areas access roads to landlocked parcels, improvements along existing roads at grade separations (overpass or underpass), turnarounds (cul-de-sacs) for local road closures, and interchange ramps are located partially outside of the Alternative 3C corridor. As described in Section 2.1.2 of this ROD, FHWA has determined that locating these elements of the highway outside of the approved corridor is consistent with the Tier 1 ROD.

This section of the Tier 2 ROD briefly describes the Purpose and Need for the proposed action, the alternatives evaluation procedures, the alternatives considered, and the balancing of impacts, costs and project benefits that formed the basis for the decision to select Refined Preferred Alternative 2. Section 3.2, *Development of Alternatives*, of the Section 4 FEIS describes in detail the scoping process, the development of alternative roadway alignments, and the identification of interchange options within the approved corridor for Section 4.

In the Section 4 Study Area, the transportation performance goals identified in the Tier 2 study include the completion of Section 4 of I-69 as stipulated in the Tier 1 ROD, the improvement of accessibility, congestion reduction, and the improvement of safety. Economic development goals support local economic development initiatives. Section 2.5, *Project Goals and Performance Measures,* of the Section 4 FEIS gives the specific performance goals and associated performance measures. The Tier 2 scoping process defined the range of alternatives to be considered and the process to be used to address potential environmental impacts. The scoping of alternatives included extensive opportunities for public and government agency input.

All alternatives have interchanges at the same three locations: SR 45, Greene-Monroe County Line and SR 37. As the analysis in the Section 4 FEIS shows (see Section 3.3, *Detailed Performance Analysis of Alternatives),* alternatives in Section 4 all provide a significant improvement with regard to the project goals, and do so in nearly an identical manner. Accordingly, the primary tools used to screen alternatives and identify a Selected Alternative were the analyses of the potential social, economic, and environmental impacts; public and resource agency input; cost; and engineering design standards.

3.1 Purpose and Need

The overall Purpose and Need for the I-69 Evansville-to-Indianapolis project was established in the Tier 1 EIS and Tier 1 ROD. The overall project Purpose and Need was based on regional goals for the entire Southwest Indiana region, which includes 26 counties and encompasses a quarter of the State of Indiana. These broad regional goals were used as the basis for evaluating alternatives in Tier 1, when the alternatives analysis involved comparing different corridors 140 to 160 miles in length located throughout

[13] In eight locations, portions of mainline alternatives are located slightly outside of the corridor in order to avoid impacts to resources. See Appendix D for a description of these locations. In all cases, more than half of the width of right-of-way remained within the corridor.

[14] The corridor width varies at three locations within Section 4. It widens to just over 1 mile wide along the Greene-Monroe County Line from just north of Hobbieville Road (Greene County) to just north of Carter Road (Monroe County) and narrows to 1,200-feet wide in Monroe County near Evans Lane and in the vicinity of Rockport Road and Lodge Road.

a broad geographic area. The Tier 1 ROD determined that the Tier 2 Purpose and Need would primarily focus on local needs specific to individual sections.

The purpose of the Tier 2 Section 4 project is to advance the overall goals of the I-69 Evansville-to-Indianapolis project in a manner consistent with the commitments in the Tier 1 ROD, while also addressing local needs identified in the Tier 2 process.

Local needs identified in Tier 2 for Section 4 are based upon and supportive of the project Purpose and Need and broad, regional goals developed in the Tier 1 study. The local needs were identified through a technical analysis and an extensive public involvement process that included comments from the general public, local officials, local business owners/managers, members of the Section 4 Community Advisory Committee (CAC), and others. The identified Tier 2 Section 4 needs include:

- Complete Section 4 of I-69 as determined in the Tier 1 ROD
- Increase personal accessibility for area residents
- Reduce existing and forecasted traffic congestion on the highway network in the Section 4 Study Area
- Improve traffic safety
- Support local economic development initiatives

These needs are defined in greater detail in the Section 2.3, *Needs Assessment* of the Section 4 FEIS. The public involvement process is described in detail in Chapter 11, *Comments, Coordination and Public Involvement* of the Section 4 FEIS. The Selected Alternative developed in Section 4 (Refined Preferred Alternative 2) addresses the overall goals of Tier 1 and the local needs identified in the Tier 2 study.

3.2 Identification and Evaluation of Alternatives

For purposes of reference and analysis, the Section 4 corridor was divided into eight segments referred to as Subsection 4A through Subsection 4H. All mainline alternatives developed in the Tier 2 study in Section 4 were located substantially within the Tier 1-approved corridor. Potential interchanges were developed as interchange options which were comprised of various combinations of interchanges identified in the Tier 1 FEIS and located at US 231[15], SR 45, SR 54, and/or SR 37. An interchange at the Greene/Monroe County Line was added after scoping based upon input from the public, local officials, and the Section 4 CAC.

3.2.1 Preliminary Alternatives

Preliminary alternatives developed within each segment are consistent with both INDOT's *Design Manual (IDM)* and the American Association of Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*. FEIS Chapter 3, *Alternatives*, describes the alternatives development, evaluation, and screening process in detail.

In the initial stage of the alternatives' development process a computer-aided engineering alignment tool—Quantm—was used to help generate alternatives within the approved I-69 corridor. Some of the cost- and impact-minimizing alternatives generated by Quantm were used as a beginning point and were refined to obtain alignments that had the desired horizontal geometry while taking into account social, economic, and other non-construction cost-related considerations.

[15] The US 231 interchange was evaluated in the Tier 2 Section 3 FEIS and was selected as an I-69 interchange in the Tier 2 Section 3 ROD approved January 28, 2010.

The preliminary alternatives developed through this process included mainline alignments in each of the eight corridor segments (two in Subsection A, two in Subsection B, two in Subsection C, two in Subsection D, three in Subsection E, three in Subsection F, two in Subsection G, and three in Subsection H). The interchange locations Section 4 proposed in Tier 1 were considered as interchange locations in Tier 2. An additional interchange at the Monroe-Greene county line was also considered.

All of the preliminary alternatives in Section 4 had grade separations with the same crossroads[16] and were relatively similar in length. The Section 4 preliminary alternatives did not have interchanges for purposes of cost or impact estimation.[17] As noted above, the primary tools used to screen alternatives were the analyses of the potential social, economic, and environmental impacts; public and resource agency input; cost; and engineering design standards.

In the Tier 2 DEIS, five interchange options consisting of various combinations of interchanges were proposed for analysis, and are shown in Table 1. The Greene/Monroe County Line interchange includes two possible alignments (North Connector Road and South Connector Road) to connect the interchange with SR 45 in Greene County.

The five interchange options provide essentially equal benefits for accessibility-related measures. Interchange Option 1 would provide the greatest congestion relief and the highest overall crash rate reduction. Interchange Option 5 would provide the least amount of congestion relief.

None of the interchange options have significant potential environmental impacts that would result in their discarding as an Alternative Carried Forward. Also, none of the interchange options clearly avoid/minimize environmental impacts to the extent that they should be selected as an Alternative Carried Forward for additional study.

Interchange Options 1 and 3 each have two intermediate interchanges between the Section 4 termini interchanges at US 231 and SR 37. Overall, Interchange Option 3 would have noticeably less congestion relief as compared to Interchange Option 1. Interchange Option 3 has a travel demand that is about 3,100 vehicles per day, or about 38%, less than Interchange Option 1. Interchange Option 3 also does not meet the desired rural interchange spacing per INDOT policy. For these reasons, Interchange Option 3 is not carried forward as an interchange alternative for detailed study.

Interchange Options 2, 4, and 5 each have one intermediate interchange. While daily congestion relief and safety benefits would be comparable for Interchange Options 4 and 5 and would be noticeably less than Interchange Option 2, the lowest level of benefits for these transportation performance measures would occur under Interchange Option 5. Interchange Option 5 has the lowest forecasted traffic of these three single interchange options. For these reasons, Interchange Option 5 is not carried forward as an interchange alternative for detailed study.

The three interchange options for Section 4 carried forward for detailed study are shaded in yellow.

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[16] In Subsection F, alternatives crossed either CR 150N in Greene County or Carter Rd. in Monroe County. These roads meet at the Monroe/Greene county line, and are continuations of each other.

[17] The Quantm tool used for the analysis of preliminary alternatives is appropriate for comparing mainline construction cost components, but does not include all costs. Quantm does not consider the costs and impacts of interchanges. See FEIS Section 3.1.3 for a detailed description of the role of Quantm in the analysis of preliminary alternatives.

Table 1: Section 4 Interchange Options					
Potential Interchange Locations	Interchange Options				
	1	2	3	4	5
SR 45	X		X	X	
SR 54			X		X
Greene/Monroe County Line	X	X			
SR 37	X	X	X	X	X

3.2.2 Alternatives Carried Forward

3.2.2.1 Mainline Alternatives

As a result of the evaluation and screening process, 15 segment alignments were carried forward for detailed study. The alternatives carried forward are identified in Table 2. The mainline segment alignments are depicted in the Tier 2 Section 4 FEIS in Figures 6-1 through 6-4.

Table 2: Alternatives Carried Forward	
Mainline Alternatives	
Subsection 4A The subsection begins at the north terminus of Section 3; approximately 1,280 feet west of CR 200E (3,800 feet east of US 231). An interchange at US 231 and the mainline that extends I-69 east of the interchange to the Section 3-4 breakline are included in the Section 3 Tier 2 EIS. Subsection 4A generally proceeds east/northeast crossing CR 200E and CR 215E. The east terminus of Subsection 4A is approximately 1,400 feet east of CR 315E and 1,200 feet south of CR 600S. Alternatives included a grade separation at CR 200E.	
Alternative 4A-2 (1.68 miles)	Alternative 4A-2 begins near the center of the Subsection 4A corridor and proceeds east/northeast crossing CR 200E about 1,100 feet north of SR 45/SR 58. The alignment continues generally east/northeast and crosses CR 215E about 2,000 feet northeast of SR 45/SR 58. Approximately 2,800 feet northeast of CR 215E, the alignment merges with Alternative Hybrid 4A-1/4A-2 and turns northeast to the subsection terminus.
Alternative Hybrid 4A-1/4A-2 (1.64 miles)	Alternative Hybrid 4A-1/4A-2 begins in the northern portion of the Subsection 4A corridor and proceeds east. The alignment crosses CR 200E about 2,000 feet north of SR 45/SR 58 and then crosses CR 215E about 2,400 feet northeast of SR 45/SR 58. Alternative Hybrid 4A-1/4A-2 merges with Alternative 4A-2 northeast of CR 215E.
Subsection 4B The corridor continues on a general northeast bearing from the Subsection 4A-4B breakline to a point approximately 4,100 feet north of CR 600S and 2,400 feet west of CR 440E (Taylor Ridge Road). Alternatives included a grade separation at Dowden Branch.	
Alternative 4B-1 (1.21 miles)	Alternative 4B-1 continues from the Subsection 4A-4B break line on a general northeast bearing along the west edge of the corridor. After crossing Dowden Branch, the alignment gradually shifts toward the center of the corridor and continues to the northeast ending at a point approximately 4,100 feet north of CR 600S and 2,400 feet west of CR 440E (Taylor Ridge Road).
Subsection 4C The subsection continues from the Subsection 4B-4C breakline on a general northeast bearing toward Taylor Ridge Cemetery (near the CR 440E/CR 450S intersection). Near the cemetery, the corridor turns east across Black Ankle Creek and CR 600E. The subsection terminus is about 700 feet east of CR 600E. Alternatives included a grade separation at Black Ankle Creek/CR 600E.	

Table 2: Alternatives Carried Forward	
Mainline Alternatives	
Alternative 4C-1 (2.65 miles)	Alternative 4C-1 diverges from the common alignment with Alternative 4C-2 about 800 feet northeast of the Subsection 4B-4C break line. The alignment follows the west edge of the corridor and passes to the west of Taylor Ridge Cemetery and north of the CR 475E/CR 450S intersection. The alignment utilizes a single curve to turn east along the north edge of the corridor and merges with the alignment of Alternative 4C-2 about 500 feet west of Black Ankle Creek.
Alternative 4C-2 (2.50 miles)	Alternative 4C-2 generally trends to the east edge of the corridor. To avoid Taylor Ridge Cemetery, the alignment curves to the northeast thru the CR 475E/CR 450S intersection just east of the cemetery. After a tangent (straight) section of roadway, the alignment curves to the east where it merges with the alignment of Alternative 4C-1 and continues east across Black Ankle Creek and CR 600E to the subsection terminus.
Subsection 4D The corridor proceeds east from the Subsection 4C-4D breakline across Dry Branch Creek, CR 750E/900E (Dry Branch Road), CR 350S/CR 360S/CR 880E (Mineral-Koleen Road), and Plummer Creek. The subsection ends approximately 700 feet east of Mineral-Koleen Road. Alternatives included grade separations at Dry Branch Creek/CR 750E-900E (Dry Branch Rd) and Plummer Creek/CR 350S-360S-880E (Mineral-Koleen Rd.).	
Alternative 4D-1 (2.46 miles)	Alternative 4D-1 proceeds east from the Subsection 4C-4D break line across Dry Branch Creek, CR 750E/900E (Dry Branch Road), CR 350S/CR 360S/CR 880E (Mineral-Koleen Road), and Plummer Creek. The alternative ends approximately 700 feet east of Mineral-Koleen Road.
Subsection 4E Subsection 4E proceeds east/northeast from the Subsection 4D-4E breakline before turning north/northeast to the subsection terminus located about 3,000 feet north/northeast of SR 54. Alternatives include an interchange at SR 45 and grade separations at Mitchell Branch and SR 54.	
Alternative Hybrid 4E-1/4E-2 (4.94 miles)	Alternative Hybrid 4E-1/4E-2 proceeds east/northeast from the Subsection 4D-4E break line and trends along the north and middle portions of the corridor before turning north/northeast to the subsection terminus located about 3,000 feet north/northeast of SR 54.
Subsection 4F The corridor for Subsection 4F, which is the longest subsection within Section 4, proceeds generally north/northeast from the Subsection 4E-4F breakline along and to the west of the Greene/Monroe County Line. Near the southeast corner of the Timber Trace Subdivision (Greene County), the corridor turns east into Monroe County. Subsection 4F ends about 900 feet east of Breeden Road. Subsection 4F widens to about 5,300 feet (one mile) in the vicinity of CR 150N; this portion of the corridor was specified as wider in Tier 1 to provide the flexibility to avoid potential cultural resources associated with the Virginia Iron Works. Alternatives include the Greene/Monroe County Line interchange in the vicinity of CR 150N. A connector extends west from the proposed interchange to SR 45. Mainline alternatives include grade separations at CR 1260E (Hobbieville Rd.) and 35N, as well as at three crossings of Indian Creek. The County Line Interchange connector road includes a fourth grade separation at Indian Creek, as well as a grade separation at CR 150N on two alternatives.	

Table 2: Alternatives Carried Forward	
Mainline Alternatives	
Alternative 4F-1 (5.94 miles)	Alternative 4F-1, along with the alignment for Alternative 4F-4, diverges from the common alignment with Alternatives 4F-3 and 4F-5 in the vicinity of CR 1260E/CR 190S (Hobbieville Road) and proceeds north/northeast across Indian Creek. The alignment crosses Indian Creek about one mile south of Carmichael Road and proceeds along the valley on the east side of the creek. Turning north to avoid the Whippoorwill Subdivision, it then crosses Carmichael Road. Alternative 4F-1 diverges from the alignment with Alternative 4F-4 and merges with the alignment of Alternative 4F-5 near CR 150N (the location of the County Line Interchange). North of CR 150N, the alignment for Alternative 4F-1 (and Alternative 4F-5) proceeds on a north/northeast bearing west of CR 150N (Carter Road). It curves slightly north to avoid Sparks Cemetery and makes a second crossing of Indian Creek. At a point east of Timber Trace Subdivision, all four Subsection 4F alignments merge and turn east, avoiding Adams/Breeden Cemetery, and crossing Indian Creek (third crossing) and Breeden Road. The ramp for the County Line Interchange connector road includes a grade separation at Indian Creek.
Alternative 4F-3 (5.94 miles)	Alternative 4F-3, along with the alignment for Alternative 4F-5, proceeds north from Hobbieville Road along the west edge of the corridor. The alignment proceeds along higher ground west of Indian Creek before crossing the creek adjacent to the south side of Carmichael Road. Near CR 150N (the location of the County Line Interchange), the alignment diverges from the alignment with Alternative 4F-5 and merges with the alignment of Alternative 4F-4. The alignment for Alternative 4F-3 (and Alternative 4F-4) proceeds northeast on the east side of CR 150N, and then turns north/northwest across Carter Road and a second crossing of Indian Creek. The four Subsection 4F alignments then merge and proceed east, avoiding Adams/Breeden Cemetery, and crossing Indian Creek (third crossing) and Breeden Road into Monroe County. The ramp for the County Line Interchange connector road includes grade separations at CR150N and Indian Creek.
Alternative 4F-4 (6.01 miles)	Alternative 4F-4 follows the same alignment as described above for Alternative 4F-1 south of the County Line Interchange. North of the proposed interchange, Alternative 4F-4 follows the same alignment as described above for Alternative 4F-3. The ramp for the County Line Interchange connector road includes grade separations at CR150N and Indian Creek
Alternative 4F-5 (5.89 miles	Alternative 4F-5 follows the same alignment as described above for Alternative 4F-3 south of the County Line Interchange. North of the proposed interchange, Alternative 4F-5 follows the same alignment as described above for Alternative 4F-1. The ramp for the County Line Interchange connector road includes a grade separation at Indian Creek.
Subsection 4G The corridor proceeds east/northeast from the Subsection 4F-4G breakline across Burch Road. It then turns east across Evans Lane, Harmony Road, and Rockport Road. The alignment ends about 400 feet west of Lodge Road. Mainline alternatives include grade separations at Burch Rd., Evans Lane, Harmony Rd., and Rockport Rd.	
Alternative 4G-2 (4.20 miles)	Alternative 4G-2 proceeds east/northeast from the Subsection 4F-4G break line across Burch Road staying on the south side of the corridor to minimize forest impacts. Alternative 4G-2 then turns east across Evans Lane and Harmony Road. At Harmony Road, Alternative 4G-2 stays near a low point near the center of the corridor where the alignment crosses the highest ridge within the Section 4 corridor. The alignment then curves slightly north across Rockport Road. Alternative 4G-2 ends about 400 feet west of Lodge Road.

Table 2: Alternatives Carried Forward	
Mainline Alternatives	
Subsection 4H The subsection continues northeast from the Subsection 4G-4H breakline across Lodge Road and then turns north/northeast to SR 37. The subsection ends just north of the SR 37 interchange near That Road. Mainline alternatives include an interchange at SR 37 and grade separations at Lodge Road, Happy Creek, Tramway Road, May Creek, and Bolin Lane.	
Alternative 4H-1 (3.59 miles)	Alternative 4H-1 and Alternative 4H-2 diverge from the alignment for Alternative 4H-3 about 1,000 feet northeast of Lodge Road. The common alignment for Alternative 4H-1 and Alternative 4H-2 follows the west boundary of the Subsection 4H corridor. Alternative 4H-1 diverges from Alternative 4H-2 just south of Happy Creek and continues on a north/northeast bearing along the west edge of the corridor across Happy Creek and Tramway Road. It then shifts toward the center of the corridor where it crosses May Creek and Bolin Lane. North of Bolin Lane the alignment turns north to SR 37.
Alternative 4H-2 (3.69 miles)	Alternative 4H-2 follows the same alignment as Alternative 4H-1 to a point just south of Happy Creek. At that point, the alignment proceeds northeast across Happy Creek and Tramway Road to the east edge of the Section 4H corridor. About 1,300 feet north of Tramway Road the alignment merges with Alternative 4H-3. The common alignment for Alternative 4H-2 and Alternative 4H-3 continue along the east side of the corridor across Bolin Lane and then turn north to SR 37.
Alternative 4H-3 (3.78 miles)	Alternative 4H-3 diverges from the common alignment for Alternative 4H-1 and Alternative 4H-2 about 1,000 feet northeast of Lodge Road and continues along the east edge of the Subsection 4H corridor across Happy Creek and Tramway Road. The alignment then merges with the alignment of Alternative 4H-2, as described above.

Table 3 provides a comparison of the impacts of the segment alternatives carried forward for detailed study in the FEIS. Table 4 provides a comparison of the impacts of the segment alternatives that were refined for the preferred alternative and that were evaluated in the FEIS. For purposes of comparing costs and impacts, interchanges at SR 45 and the Greene County/Monroe County Line (Interchange Option 1) were used to provide a conservative estimate of interchange-related impacts since the impacts of Interchange Option 1 are higher than those of Interchange Options 2 and 4.

The segment alternatives in Table 3 were combined to form four build alternatives[18] that extend from the southern terminus of Section 4 at the northern end of the US 231 interchange to the northern terminus at SR 37. Table 5 identifies the build alternatives and the segment alternatives of which they are composed.

[18] Four build alternatives were assessed in the DEIS. A total of 48 end-to-end build alternatives could be formed when using all combinations of the subsection alternatives that resulted from the screening of alternatives described in Chapter 3 of the FEIS. The five end-to-end alternatives (including the Refined Preferred Alternative 2) that were assessed in Chapters 5 and 6 of the FEIS represent a reasonable range of possible alternatives. The preferred alternative was chosen by considering impacts on a subsection basis. The choice of a reasonable range of end-to-end alternatives does not prevent selection of the least impact/cost effective alternative in each subsection.

Table 3: Summary of Key Impacts for Alternatives in Subsections 4A, 4B, 4C, 4D, 4E, 4F, 4G and 4H

Subsections	4A				4B		4C				4D		4E		4F								4G		4H					
Alignment Alternatives	4A-2		Hybrid 4A-1/4A-2		4B-1		4C-1		4C-2		4D-1		Hybrid 4E-1/ 4E-2		4F-1		4F-3		4F-4		4F-5		4G-2		4H-1		4H-2		4H-3	
Impacts/Design Criteria	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial
Total Cost ($M)*	18.88	26.28	20.45	26.08	12.42	24.19	45.37	74.33	41.33	72.71	66.53	90.19	79.90	116.79	123.71	182.83	123.62	168.92	124.84	188.91	125.43	181.45	56.83	100.69	75.35	111.01	74.63	108.28	79.57	112.00
Right-of-Way (Ac)	76.50	88.53	72.26	79.84	48.44	57.91	125.66	170.25	118.58	155.11	127.24	181.44	270.75	327.73	402.20	482.42	405.96	492.91	406.16	506.44	398.47	477.76	192.44	259.05	224.84	268.18	217.18	267.16	218.25	263.88
Forest (Ac)	38.54	45.45	29.08	33.62	21.26	22.53	73.42	98.06	71.97	92.32	115.90	162.33	187.78	227.86	284.76	338.35	235.10	282.03	263.03	324.75	252.87	298.27	141.76	189.10	72.71	89.55	61.51	76.73	69.79	85.63
Core Forest (Ac)	3.39	3.50	3.81	4.01	10.42	10.81	84.14	90.47	66.76	71.14	270.25	305.31	194.99	214.80	275.70	292.88	172.32	185.66	223.21	243.05	219.48	237.01	155.48	179.34	25.19	27.39	22.03	23.74	32.59	35.09
Total Wetland (Ac)																														
Emergent Wetland	0.00	0.00	0.00	0.00	0.00	0.00	3.16	3.70	3.17	3.70	0.05	1.41	0.11	0.22	1.90	2.41	0.00	0.01	0.00	0.01	1.89	2.36	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
Forested Wetland	0.00	0.00	0.00	0.00	0.00	0.00	1.44	3.81	1.43	3.13	0.17	0.33	0.06	0.15	0.45	0.54	0.15	0.15	0.27	0.38	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scrub/Shrub Wetland	0.18	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.00	0.07	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Wetland Impacts	0.18	0.45	0.00	0.00	0.00	0.00	4.60	7.51	4.60	6.83	0.22	1.74	0.17	0.37	2.39	3.02	0.15	0.16	0.27	0.46	2.26	2.76	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
Total Streams (LF)																														
Ephemeral	3,357	4,111	3,044	3,722	1,358	1,359	2,921	3,551	3,648	4,678	3,189	4,945	16,108	17,096	22,243	24,453	21,161	24,508	22,274	26,006	21,326	24,091	11,581	14,472	8,030	9,616	5,910	6,828	5,497	6,136
Intermittent	1,080	1,245	467	701	420	476	3,310	4,290	1,277	1,795	2,855	3,907	2,754	2,972	3,081	3,529	6,475	7,748	7,846	8,666	1,852	2,404	4,269	5,891	727	1,045	994	1,366	994	1,390
Perennial	0	0	0	0	0	0	1,220	1,374	1,220	1,351	1,430	2,033	607	927	1,839	2,543	1,796	2,882	1,876	2,736	1,891	2,534	0	0	1,088	1,890	1,621	2,211	896	1,439
Total Stream Impacts	4,437	5,356	3,511	4,423	1,778	1,835	7,451	9,215	6,145	7,824	7,474	10,885	19,469	20,995	27,163	30,525	29,432	35,138	31,996	37,408	25,069	29,029	15,850	20,363	9,845	12,551	8,525	10,405	7,387	8,965
Karst Features (#)	0	0	0	0	0	0	3	3	1	1	3	5	5	5	10	13	6	7	6	7	10	11	16	19	71	77	57	70	57	66
Displacements (#)																														
Residential	0	0	2	2	0	0	1	1	1	1	2	2	10	10	31	31	23	23	28	29	26	26	17	21	12	12	9	10	9	10
Institutional	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
Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	1	2	0	0	0	0	1	1
Total Displacements	0	0	2	2	0	0	1	1	1	1	2	2	10	10	34	34	26	26	31	33	29	29	18	23	12	12	9	10	10	11
Noise Impacts (#)	4	6	4	4	2	2	4	4	6	5	2	2	19	21	28	29	31	32	34	36	17	19	36	25	55	81	63	72	53	70
Managed Land (Ac)	2.24	3.20	6.30	7.82	2.53	2.88	25.22	41.46	5.36	7.48	43.74	63.12	71.19	88.43	57.52	68.03	59.33	72.97	56.87	71.81	57.45	69.66	0.00	0.00	25.27	27.24	19.71	21.40	19.83	21.38
Farmland (Ac)	30.14	34.45	31.99	35.13	26.02	34.21	17.79	23.99	27.47	41.14	9.01	14.04	44.26	57.46	60.67	75.66	101.34	131.18	80.27	107.56	81.70	106.38	22.78	31.62	89.02	111.06	94.99	123.93	85.90	107.98
Stream Relocations (LF)	1,361	1,596	524	771	0	0	3,419	4,381	1,920	3,049	2,697	2,258	5,893	7,600	7,105	7,640	13,768	15,477	14,721	15,337	6,318	7,956	4,624	6,654	3,239	3,940	564	1,922	949	2,281
Floodplain (Ac)	0.00	0.00	0.00	0.00	0.00	0.00	4.64	6.60	4.62	6.33	5.88	9.80	0.00	0.11	20.49	27.22	23.09	32.75	25.73	33.43	19.06	24.61	0.00	0.00	0.00	0.00	2.67	4.08	2.22	4.26

* 2010 Dollars, excluding mitigation costs, $M = million dollars, Ac = acres, LF = linear feet

** Displacement of the Indian Creek VFD fire station along Carmichael Road was identified as an impact in the FEIS for Alternative 4F-4 under the initial design criteria. This fire station has since moved outside the Section 4 corridor to Kirksville in Monroe County.

All impacts are by preliminary right-of-way except wetland impacts which are by construction limits.

Green shading denotes components of the Preferred Alternative – Alternative 2

Table 4: Summary of Key Impacts for Refined Preferred Alternative 2 in Subsections 4A, 4B, 4C, 4D, 4E, 4F, 4G and 4H

Subsections	4A		4B		4C		4D		4E		4F		4G		4H		Refined Preferred Alternative 2	
Alignment Alternatives	Refined Preferred 4A-2		Refined Preferred 4B-1		Refined Preferred 4C-2		Refined Preferred 4D-1		Refined Preferred Hybrid 4E-1/ 4E-2		Refined Preferred 4F-3		Refined Preferred 4G-2		Refined Preferred 4H-2			
Impacts/Design Criteria	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial	Low-Cost	Initial
Total Cost ($M)*	17.05	23.21	12.17	24.18	41.43	71.78	66.54	90.16	81.80	105.83	124.93	169.55	58.02	69.86	73.94	108.42	475.88	662.99
Right-of-Way (Ac)	75.57	89.08	48.46	57.87	118.65	155.47	127.80	181.44	268.81	318.13	406.11	491.91	191.90	248.20	218.20	267.29	1,455.5	1,809.39
Forest (Ac)	38.02	45.13	21.26	22.48	72.03	92.55	116.45	162.34	187.89	224.26	235.05	283.22	141.80	184.41	61.43	76.74	873.93	1,091.13
Core Forest (Ac)	3.39	3.50	10.42	10.80	66.78	71.35	270.31	305.33	194.98	213.12	171.19	185.52	155.49	173.87	22.03	23.74	894.59	987.23
Total Wetland (Ac)																	0	0
Emergent Wetland	0.00	0.00	0.00	0.00	3.17	3.70	0.05	1.41	0.11	0.20	0.00	0.00	0.00	0.00	0.00	0.03	3.33	5.34
Forested Wetland	0.00	0.00	0.00	0.00	1.43	3.13	0.17	0.33	0.06	0.15	0.15	0.15	0.00	0.00	0.00	0.00	1.81	3.76
Scrub/Shrub Wetland	0.18	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.45
Total Wetland Impacts	0.18	0.45	0.00	0.00	4.60	6.83	0.22	1.74	0.17	0.35	0.15	0.15	0.00	0.00	0.00	0.03	5.32	9.55
Total Streams (LF)																		
Ephemeral	3,461	4,150	1,359	1,354	3,649	4,739	3,189	4,946	16,111	16,927	21,147	24,395	11,581	13,866	5,882	6,829	66,379	77,206
Intermittent	1,088	1,270	420	476	1,277	1,794	2,855	3,907	2,754	2,967	6,484	7,625	4,271	5,630	994	1,366	20,143	25,035
Perennial	0	0	0	0	1,220	1,351	1,430	2,033	607	735	1,796	2,676	0	0	1,621	2,211	6,674	9,006
Total Stream Impacts	4,549	5,420	1,779	1,830	6,146	7,884	7,474	10,886	19,472	20,629	29,427	34,696	15,852	19,496	8,497	10,406	93,196	111,247
Karst Features (#)	0	0	0	0	1	1	3	5	5	5	6	7	16	20	57	70	88	108
Displacements (#)																		
Residential	0	0	0	0	1	1	2	2	10	10	23	23	26	29	9	10	71	75
Institutional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business	0	0	0	0	0	0	0	0	0	0	3	3	1	1	0	0	4	4
Total Displacements	0	0	0	0	1	1	2	2	10	10	26	26	27	30	9	10	75	79
Noise Impacts (#)	5	6	1	1	5	4	1	1	6	5	20	21	24	23	28	27	90	88
Managed Land (Ac)	2.23	3.18	2.53	2.88	5.37	7.49	43.79	63.13	71.29	85.59	58.89	72.98	0.00	0.00	19.72	21.40	203.82	256.65
Farmland (Ac)	29.96	34.90	26.03	34.21	27.47	41.26	9.01	14.04	44.32	53.63	101.43	129.63	22.77	29.73	95.04	123.96	356.03	461.36
Stream Relocations (LF)	1,359	1,611	0	0	1,920	3,048	2,697	2,258	5,894	6,526	13,801	15,329	4,626	6,631	564	1,922	30,861	37,325
Floodplain (Ac)	0.00	0.00	0.00	0.00	4.62	6.33	5.88	9.80	0.00	0.11	23.09	30.65	0.00	0.00	2.67	4.08	36.26	50.97

* 2010 Dollars, excluding mitigation costs, $M = million dollars, Ac = acres, LF = linear feet

All impacts are by preliminary right-of-way except wetland impacts which are by construction limits.

Table 5: Section 4 Build Alternatives			
ALTERNATIVE	**COMBINATION**	**LENGTH (miles)**	**TOTAL COST RANGE (Year 2010 Dollars)**
Refined Preferred 2 (Selected)	Refined 4A-2+ Refined 4B-1+ Refined 4C-2+ Refined 4D-1+ Refined Hybrid 4E-1/4E-2+ Refined 4F-3+ Refined 4G-2+ Refined 4H-2	26.68	$532,006,000 to $732,691,600
1	4A-2+4B-1+4C-1+4D-1+Hybrid 4E-1/4E-2+4F-1+4G-2+4H-1	26.67	$535,110,000 to $796,009,600
2	4A-2+4B-1+4C-2+4D-1+Hybrid 4E-1/4E-2+4F-3+4G-2+4H-2	26.68	$530,264,000 to $777,758,600
3	Hybrid 4A-1/4A-2+4B-1+4C-2+4D-1+Hybrid 4E-1/4E-2+4F-4+4G-2+4H-3	26.55	$537,988,000 to $801,268,600
4	4A-2+4B-1+4C-1+4D-1+Hybrid 4E-1/4E-2+4F-5+4G-2+4H-2	26.72	$536,116,000 to $791,904,600

3.2.2.2 Interchange Alternatives

Table 6 provides a summary of the key traffic impacts for the interchange options carried forward for detailed study in the DEIS. Table 7 provides a comparison of the impacts of the interchange options that were carried forward for detailed study in the DEIS.

Table 6: SR 45 Traffic Volumes and LOS per Interchange Option

Roadway Section	No-Build		Option 1*		Option 2**		Option 4	
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
SR 45/58 E of CR 200E	4,901	D	3,599	B	4,023	B	3,603	B
SR 45/58 E of CR 900E	4,620	C	3,288	B	3,612	B	3,290	B
SR 45 N of SR 58	3,246	B	1,914	B	2,097	B	1,917	B
SR 45 S of SR 54	4,396	C	3,327	B	3,526	B	2,871	B
SR 45 S of SR 445	4,704	C	3,113	B	3,978	C	2,431	B
SR 45 N of SR 445/South Connector Road	10,555	E	3,107	B	3,913	B	7,917	D
Greene-Monroe County Line								
SR 45 W of Breeden Rd	12,524	E	5,194	C	6,014	C	9,860	E
SR 45 NE of Harmony Rd/Garrison Chapel Rd	16,025	E	8,602	D	9,424	E	13,269	E
SR 45 NE of W Leonard Springs Rd	14,913	E	10,037	A	10,848	A	14,124	A
SR 45 SW of Curry Pike/ S Leonard Springs Rd	17,770	E	12,537	A	13,262	A	16,118	A
SR 45 SW of SR 37	26,461	A	24,861	A	25,213	B	27,301	B

* Option 1 uses the South Connector Road
** Option 2 uses the North Connector Road
Sources: I-69 Corridor Travel Demand Model for year 2030 traffic

Table 7: Overview of Key Impacts for Interchange Options

Impacts	Interchange Options					
	Option 1 (SR 45 & County Line)		Option 2 (County Line)		Option 4 (SR 45)	
	Low-Cost*	Initial**	Low-Cost*	Initial**	Low-Cost*	Initial**
Total Cost ($M)***	35.50	52.58	29.29	43.41	6.21	9.17
Right-of-Way (Ac)	148.82	154.31	123.66	131.34	25.16	22.97
Forest (Ac)	111.62	116.02	91.26	97.19	20.36	18.83
Core Forest (Ac)	69.66	69.50	63.82	63.32	5.84	6.18
Total Wetland Impacts (Ac)	0.00	0.00	0.00	0.00	0.00	0.00
Total Stream Impacts (LF)	11,425	12,126	9,706	10,548	1,719	1,578
Karst Features (#)	0	0	0	0	0	0
Total Displacements (#)	14	14	13	13	1	1

* Low-Cost Design Criteria, ** Initial Design Criteria, ***2010 Dollars, excluding mitigation costs
$M = million dollars, Ac = acres, LF = linear feet
The Greene/Monroe County Line interchange uses the South Connector Road.
All impacts are by preliminary right-of-way except wetland impacts which are by construction limits.

3.2.3 Cost Comparison

Detailed preliminary project cost estimates, including access roads, grade separations and interchanges at SR 45, the Greene County/Monroe County Line, and SR 37 (Interchange Option 1), were prepared for all the alternatives. Table 8 provides the estimated cost ranges for each build alternative. Project cost estimates included costs for construction, engineering and design, administration, right-of-way acquisition (land acquisition and relocations), utility relocation (major utilities), and mitigation.

Two typical cross sections are being considered for Section 4. These are the initial design criteria and the low-cost design criteria. Both are briefly discussed in Section 2.1.4 of this ROD and more fully described in Section 5.1, *Introduction and Methodology*, of the Section 4 FEIS. Cost estimates for the DEIS alternatives and Refined Preferred Alternative 2 are presented for both the initial design criteria and the low-cost design criteria.

Table 8: Estimated Cost Ranges for Alternatives 1, 2, 3, 4 and Refined Preferred Alternative 2* - 2010 Dollars					
Estimated Costs (Rounded)	**Refined Preferred Alternative 2**	**Alternative 1** 4A-2+4B-1+4C-1+4D-1+Hybrid 4E-1/4E-2+4F-1+4G-2+4H-1	**Alternative 2** 4A-2+4B-1+4C-2+4D-1+Hybrid 4E-1/4E-2+4F-3+4G-2+4H-2	**Alternative 3** Hybrid 4A-1/4A-2+4B-1+4C-2+4D-1+Hybrid 4E-1/4E-2+4F-4+4G-2+4H-3	**Alternative 4** 4A-2+4B-1+4C-1+4D-1+Hybrid 4E-1/4E-2+4F-5+4G-2+4H-2
Construction					
Initial Criteria	$554,568,000	$609,361,000	$596,227,000	$611,094,000	$607,907,000
Low Cost Criteria	$387,312,000	$387,747,000	$387,077,000	$388,140,000	$391,193,000
Design/Engineering					
Initial Criteria	$25,537,000	$27,350,000	$27,180,000	$27,767,000	$27,453,000
Low Cost Criteria	$18,708,000	$18,535,000	$18,691,000	$18,695,000	$18,822,000
Administration					
Initial Criteria	$39,612,000	$43,526,000	$42,588,000	$43,650,000	$43,422,000
Low Cost Criteria	$28,339,000	$28,372,000	$28,324,000	$28,401,000	$28,624,000
Right-of-Way					
Initial Criteria	$29,788,000	$32,570,000	$28,577,000	$35,829,000	$29,967,000
Low Cost Criteria	$28,042,000	$30,835,000	$26,567,000	$33,405,000	$27,903,000
Utility Relocation	$13,481,000	$13,497,000	$13,481,000	$13,223,000	$13,450,000
Mitigation					
Initial Criteria	$69,705,600	$69,705,600	$69,705,600	$69,705,600	$69,705,600
Low Cost Criteria	$56,124,000	$56,124,000	$56,124,000	$56,124,000	$56,124,000
Total Cost*					
Initial Criteria	**$732,691,600**	**$796,009,600**	**$777,758,600**	**$801,268,600**	**$791,904,600**
Low Cost Criteria	**$532,006,000**	**$535,110,000**	**$530,264,000**	**$537,988,000**	**$536,116,000**

* Cost estimates include access roads, grade separations, and interchanges.
Green denotes the Selected Alternative – Refined Preferred Alternative 2

3.3 Selected Alternative — Refined Preferred Alternative 219

3.3.1 Description of Refined Preferred Alternative 2, by Segment

Refined Alternative 4A-2: From its southern terminus just east of the US 231 interchange, Refined Preferred Alternative 2 proceeds east/northeast from the north terminus of Section 3's Alternative 3E-1. The US 231 interchange is within the Section 3 project limits. The alignment for Refined Preferred Alternative 2 proceeds along Refined Alternative 4A-2 across CR 200E and CR 215E. Approximately 2,800 feet northeast of CR 215E, the alignment turns northeast to the subsection terminus just south of CR 600S. A grade separation will be built at CR 215E.

[19] In addition to this description of the Selected Refined Preferred Alternative 2, Section 7 of the ROD identifies subsequent modifications of the right-of-way based on additional design efforts. These modifications are addressed more specifically in Section 7 as well as Appendix F, and are generally addressing additional right-of-way to accommodate building removals, drive construction, adjustment of cul-de-sacs, cut/fill limits and grade separation construction associated with the elements described below within Section 3.3.

Local Access: A local access road has been added to Refined Preferred Alternative 4A-2 to access otherwise landlocked parcels southeast of the I-69 mainline and east of CR 215E.

Refined Alternative 4B-1: Refined Preferred Alternative 2 continues from the Subsection 4A-4B break line on a general northeast bearing along the west edge of the corridor. After crossing Dowden Branch, the alignment gradually shifts toward the center of the corridor and continues to the northeast ending at a point approximately 4,100 feet north of CR 600S and 2,400 feet west of CR 440E (Taylor Ridge Road). There are no grade separations along this section of Refined Preferred Alternative 2.

Local Access: There are no access roads within the limits of Refined Alternative 4B-1.

Refined Alternative 4C-2: Continuing north from the Subsection 4B-4C break line, the alignment for Refined Preferred Alternative 2 generally trends to the east edge of the corridor. To avoid Taylor Ridge Cemetery, the alignment curves to the northeast thru the current CR 475E/CR 450S intersection just east of the cemetery. After a tangent (straight) section of roadway, the alignment curves to the east and continues across Black Ankle Creek and CR 600E. A grade separation will be built at CR 600E. This grade separation will be built as an extension of the bridge over Black Ankle Creek.

Local Access: Access Road 1 will be located on the north side of I-69. This access road will connect CR 475E with Taylor Ridge Cemetery. An additional access road has been included in the limits of Refined Preferred Alternative 4C-2 to provide additional connectivity for local residents during periods of flooding. The additional access road is located on the south side of I-69 and will connect CR 440E (Taylor Ridge Road) with CR 450S.

Refined Alternative 4D-1: Refined Preferred Alternative 2 proceeds east along the alignment of Refined Alternative 4D-1 across Dry Branch Creek, CR 750E/900E (Dry Branch Road), CR 350S/CR 360S/CR 880E (Mineral-Koleen Road), and Plummer Creek. The alignment ends approximately 700 feet east of Mineral-Koleen Road. Grade separations will be at Dry Branch Road (as an extension of the bridge over Dry Branch Creek) and Mineral-Koleen Road (as an extension of the bridge over Plummer Creek).

Local Access: There are no access roads within the limits of Refined Alternative 4D-1.

Refined Alternative Hybrid 4E-1/4E-2: The alignment proceeds east/northeast from the Subsection 4D-4E break line and trends along the north and middle portions of the corridor before turning north/northeast to the subsection terminus located about 3,000 feet north/northeast of SR 54. Refined Preferred Alternative 2 will have an interchange at SR 45. A grade separation will be built at SR 54.

Local Access: Access Road 2a will modify the existing cul-de-sac at the south end of Spruce Road in the Clifty Hills Subdivision. The improvement will be constructed slightly north of the existing cul-de-sac and will maintain connection to Pine Road. Access Road 3 will provide access to properties that otherwise would be inaccessible due to the limited access right of way along SR 45 at the I-69/SR 45 interchange. Access Road 3 is located in the southwest quadrant of this interchange. Access Road 6 which was located in the northeast quadrant of this interchange has been eliminated during subsequent design. Access Road 4, on the south side of I-69, will connect CR 1250E to SR 54. Access Road 5 on the south side of I-69 and the east side of SR 54, will provide access to several properties whose current access would be cut off by the construction of I-69.

Refined Alternative 4F-3: The alignment for Refined Preferred Alternative 2 proceeds north across Hobbieville Road along the west edge of the corridor and then proceeds along higher ground west of Indian Creek before crossing the creek adjacent to the south side of Carmichael Road. Near CR 150N, the alignment turns northeast on the east side of CR 150N, passing through the area of the

Greene/Monroe County line interchange. It then turns north/northwest across Carter Road and a second crossing of Indian Creek before turning east and crossing Indian Creek (third crossing) and Breeden Road into Monroe County. Grade separations are at Hobbieville Road, Carmichael Road, and Breeden Road. The Greene/Monroe County line interchange will use the South Connector Road for connection of the interchange with SR 45. A grade separation of CR 150N will be built along the South Connector Road. The Greene/Monroe County line interchange limits have been revised based on the subsequent design to modifications to the interchange configuration.

Local Access: There are no access roads within the limits of Refined Alternative 4F-3.

Refined Alternative 4G-2: Refined Preferred Alternative 2 proceeds east/northeast from the Subsection 4F-4G break line across Burch Road and then turns east across Evans Lane and Harmony Road. At Harmony Road, Refined Alternative 4G-2 stays near a low point near the center of the corridor before curving slightly north across Rockport Road. Refined Alternative 4G-2 ends about 400 feet west of Lodge Road. Grade separations are at Burch Road, Harmony Road, and Rockport Road.

Local Access: There are no access roads within the limits of Refined Alternative 4G-2.

Refined Alternative 4H-2: The alignment continues north/northeast and then turns northeast across Happy Creek and Tramway Road to the east edge of the Section 4H corridor. The alignment continues along the east side of the corridor across Bolin Lane and then turns north to SR 37 and the north terminus of Section 4. An interchange will be built at SR 37. Grade separations are at Lodge Road, Tramway Road and Bolin Lane.

Local Access: Access Road 7 reconnects Glenview Drive to Bolin Lane along a modified alignment of Glenview Drive on the east side of I-69. This access road retains the current connection to Wheaton Court.

Table 5 lists the interchanges, grade separations (overpasses/underpasses), and access roads that are features of the Selected Alternative, Refined Preferred Alternative 1, by corridor segment.

Table 9: Refined Preferred Alternative 2—Interchanges, Grade Separations, and Access Roads	
Interchanges	
Subsection A	None (Section 4 starts just east of the US 231 interchange which is part of Section 3)
Subsection B	None
Subsection C	None
Subsection D	None
Subsection E	SR 45
Subsection F	Greene/Monroe County Line (with South Connector Road)
Subsection G	None
Subsection H	SR 37
Grade Separations	
Subsection A	CR 215E
Subsection B	None
Subsection C	CR 600E
Subsection D	CR 750E/CR 900E (Dry Branch Road) and CR 360S/CR 880E (Mineral-Koleen Road)
Subsection E	SR 54
Subsection F	CR 1260E/CR 190S (Hobbieville Road), CR 35N (Carmichael Rd), CR 100N/CR 150N (Carter Rd) at South Connector Road, and Breeden Road
Subsection G	Burch Road, Harmony Road, and Rockport Road
Subsection H	Lodge Road, Tramway Road, and Bolin Lane
Access Roads (AR*)	
Subsection A	New access road on the south side of I-69 connected to SR45/58 east of CR 215E
Subsection B	None
Subsection C	AR 1 – On the north side of I-69, this road will connect CR475E with Taylor Ridge Cemetery
	New access road located on the south side of I-69 and will connect CR 440E (Taylor Ridge Road) with CR 450S for additional access during local flooding situations
Subsection D	None
Subsection E	AR 2a – This improvement will be a modification of the existing cul-de-sac at the south end of Spruce Road. The new cul-de-sac will be constructed slightly north of the existing one with a new connection to Pine Road in the Clifty Hills Subdivision.
	AR 3 – On the south side of I-69, west of SR 45, this road provides access to two properties which lose access due to the limited access right-of-way on SR 45 at the I-69/SR 45 Interchange.
	AR 4 – On the south side of I-69, this road connects CR 1250E to SR 54. CR 1250E will be closed on the north side of I-69; this road provides north-south connectivity along CR 1250E for communities on either side.
	AR 5 – On the south side of I-69 and the east side of SR 54 this road provides access to several properties whose current access would be cut off by the construction of I-69.
	AR 6 – Eliminated during subsequent design review.
Subsection F	None
Subsection G	None
Subsection H	AR 7 – On the south side of I-69, this road reconnects Glenview Drive to Bolin Lane. This road provides access from Glenview Drive to Bolin Lane along a modified alignment that retains the current connection to Wheaton Court.
* AR identifies access roads on Figures 1A – 1S, pp. 10–28, herein.	

3.3.2 Deferred Construction

As determined in Section 2.2 of this ROD, INDOT may elect to defer construction of some features of the project. The features eligible for deferral are, in fact, approved as part of the project. Thus, the only "decision" left for the deferred features is when to build, not if they will be built.

3.3.3 Rationale for Selection of Refined Preferred Alternative 2

Preferred Alternative 2 was identified as the preferred alternative in the Section 4 DEIS and that recommendation was modified as Refined Preferred Alternative 2 in the FEIS. The segment alternatives that were combined to create Refined Preferred Alternative 2 are mainline segment Refined Alternatives 4A-2, 4B-1, 4C-2, 4D-1, Hybrid 4E-1/4E-2, 4F-3, 4G-2 and 4H-2. These alternatives, and the reasons for their selection and the elimination of non-preferred alternatives, are described briefly below and in greater detail in FEIS Section 6.2, *Comparison of Alternatives*.

Refined Alternative 4A-2 is the Selected Alternative over Alternatives 4A-2 and Hybrid 4A-1/4A-2 for reasons that include the following:

- Provides improved local access by closing CR 200E and constructing a grade separation at CR 215E. This change was not included in Alternative 4A-2 and Alternative Hybrid 4A-1/4A-2.
- The tangent (straight) alignment for Refined Alternative 4A-2 creates a more desirable and safer approach for motorists entering and exiting the US 231 interchange. This is consistent with Alternative 4A-2.
- Combined total cost (Refined Alternative 4A-2 plus Section 3 Alternative 3E-1 within the overlap area) would be less than combined Alternative 4A-2 and combined Alternative Hybrid 4A-1/4A-2.
- Combined right-of-way acquisition (Refined Alternative 4A-2 plus Section 3 Alternative 3E-1 within the overlap area) under the low-cost design criteria would be less than combined Alternative 4A-2 and combined Alternative Hybrid 4A-1/4A-2.
- Total cost and managed land impacts would be less than Alternative 4A-2 and Alternative Hybrid 4A-1/4A-2.
- Forest impacts would be less than Alternative 4A-2.
- Right-of-way acquisition, stream relocation impacts, and farmland impacts would be less than Alternative 4A-2 using the low-cost design criteria.
- Core forest, displacement, managed land, and farmland impacts would be less than Alternative Hybrid 4A-1/4A-2.

Key Evaluation Factors Considered in Selection of Refined Alternative 4A-2

Advantages Compared to Alternatives 4A-2 and Hybrid 4A-1/4A-2
- Costs are less
- Managed land impacts are less

Advantages Compared to Alternative 4A-2
- Less forest impacts

Advantages Compared to Alternative Hybrid 4A-1/4A-2
- Less core forest impacts
- Less farmland impacts
- Less displacements

Advantages Shared with Alternative 4A-2
- Core forest impacts
- Wetland impacts
- Displacements
- Karst feature impacts
- Floodplain impacts

Advantages Shared with Alternative Hybrid 4A-1/4A-2
- Karst feature impacts
- Floodplain impacts

Disadvantages
- Stream impacts

Refined Alternative 4B-1 is the Selected Alternative over Alternative 4B-1 for reasons that include the following:

- Total cost would be less than Alternative 4B-1.
- Right-of-way acquisition and forest, core forest, stream, and noise impacts would be less than Alternative 4B-1 using the initial design criteria.

Key Evaluation Factors Considered in Selection of Refined Alternative 4B-1

Advantages Compared to Alternative 4B-1
- Costs are less
- Noise impacts are less

Advantages Shared with Alternative 4B-1
- Wetland impacts
- Displacements
- Karst feature impacts
- Managed land impacts
- Stream relocation impacts
- Floodplain impacts

Refined Alternative 4C-2 is the Selected Alternative over Alternatives 4C-1 and 4C-2 for reasons that include the following:

- Total cost would be less than Alternative 4C-1 (both design criteria) and would be less than Alternative 4C-2 using the low-cost design criteria.
- Right-of-way acquisition and forest, core forest, stream, karst feature, and managed land impacts would be less than Alternative 4C-1.
- Noise impacts would be less than Alternative 4C-2.
- Wetland and farmland impacts would be less than Alternative 4C-1 using the initial design criteria.
- Stream relocation impacts would be less than Alternative 4C-1 and would be less than Alternative 4C-2 using the initial design criteria.

Key Evaluation Factors Considered in Selection of Refined Alternative 4C-2

Advantages Compared to Alternative 4C-1
- Less cost
- Less right-of-way acquisition
- Less forest impacts
- Less core forest impacts
- Less stream impacts
- Less karst feature impacts
- Less managed land impacts
- Less stream relocation impacts

Advantages Compared to Alternative 4C-2
- Less noise impacts

Advantages Shared with Alternative 4C-1
- Displacements

Advantages Shared with Alternative 4C-2
- Wetland impacts
- Karst feature impacts
- Displacements
- Floodplain impacts

Refined Alternative 4D-1 is the Selected Alternative over Alternative 4D-1 for reasons that include the following:

- Total cost would be less than Alternative 4D-1 using the initial design criteria.
- Noise impacts would be less than Alternative 4D-1.

Key Evaluation Factors Considered in Selection of Refined Alternative 4D-1

Advantages Compared to Alternative 4D-1
- Less noise impacts

Advantages Shared with Alternative 4D-1
- Wetland impacts
- Karst impacts
- Farmland impacts
- Stream relocation impacts
- Floodplain impacts

Disadvantages
- Forest impacts
- Core forest impacts
- Managed land impacts

Refined Alternative Hybrid 4E-1/4E-2 is the Selected Alternative over Alternative Hybrid 4E-1/4E-2 for reasons that include the following:

- Refinement of the vertical road profile under the initial design criteria would reduce total cost, right-of-way acquisition, and forest, core forest, wetland, stream, noise, managed land, farmland, and stream relocation impacts as compared to Alternative Hybrid 4E-1/4E-2.
- Access Road 6 would provide access to properties located immediately east of SR 45 north of I-69.
- Right-of-way acquisition and core forest impacts would be less than Alternative Hybrid 4E-1/4E-2 using the low-cost design criteria.
- Noise impacts would be less than Alternative Hybrid 4E-1/4E-2.

Key Evaluation Factors Considered in Selection of Refined Alternative Hybrid 4E-1/4E-2

Advantages Compared to Alternative Hybrid 4E-1/4E-2
- Less right-of-way acquisition
- Less core forest impacts
- Less noise impacts

Advantages Shared with Alternative Hybrid 4E-1/4E-2
- Karst feature impacts
- Displacements
- Floodplain impacts

Refined Alternative 4F-3 is the Selected Alternative over Alternatives 4F-1, 4F-3, 4F-4 and 4F-5 for reasons that include the following:

- Refinement of the vertical road profile under the initial design criteria would reduce right-of-way acquisition, and core forest, wetland, stream, noise, farmland, stream relocation, and floodplain impacts as compared to Alternative 4F-3.
- Forest, core forest, wetland, karst feature, displacement, and noise impacts would be less than Alternative 4F-1 and total cost would be less than Alternative 4F-1 under the initial design criteria.
- Forest, core forest, noise, and managed land impacts would be less than Alternative 4F-3 under the low-cost design criteria.
- Right-of-way acquisition and forest, core forest, wetland, stream, displacement, noise, stream relocation, and floodplain impacts would be less than Alternative 4F-4 and total cost would be less than Alternative 4F-4 under the initial design criteria.
- Total cost and forest, core forest, wetland, karst feature, and displacement impacts would be less than Alternative 4F-5.

Key Evaluation Factors Considered in Selection of Refined Alternative 4F-3

<u>Advantages Compared to Alternatives 4F-1, 4F-3, 4F-4 and 4F-5</u>
- Less core forest impacts

<u>Advantages Compared to Alternative 4F-1</u>
- Less forest impacts
- Less wetland impacts
- Less karst feature impacts
- Less displacements
- Less noise impacts

<u>Advantages Compared to Alternative 4F-3</u>
- Less noise impacts

<u>Advantages Compared to Alternative 4F-4</u>
- Less right-of-way
- Less forest impacts
- Less wetland impacts
- Less stream impacts
- Less displacements
- Less noise impacts
- Less stream relocation impacts
- Less floodplain impacts

<u>Advantages Compared to Alternative 4F-5</u>
- Less cost
- Less forest impacts
- Less wetland impacts
- Less karst feature impacts
- Less displacements

<u>Advantages Shared with Alternative 4F-3</u>
- Karst feature impacts
- Displacements

<u>Advantages Shared with Alternative 4F-4</u>
- Karst feature impacts

Refined Alternative 4G-2 is the Selected Alternative over Alternative 4G-2 for reasons that include the following:

- Refinement of the vertical road profile under the initial design criteria would reduce total cost (initial design criteria), right-of-way acquisition, and forest, stream, farmland, and stream relocation impacts as compared to Alternative 4G-2.
- Right-of-way acquisition and noise impacts would be less than Alternative 4G-2 using the low-cost design criteria.

Key Evaluation Factors Considered in Selection of Refined Alternative 4G-2

Advantages Compared to Alternative 4G-2
- Less right-of-way
- Less noise impacts
- Less farmland impacts

Advantages Shared with Alternative 4G-2
- Wetland impacts
- Managed land impacts
- Floodplain impacts

Disadvantages
- Displacements

Refined Alternative 4H-2 is the Selected Alternative over Alternative 4H-1, 4H-2, and 4H-3 for reasons that include the following:

- Total cost and forest impacts are less than Alternatives 4H-1 and 4H-3 and less than Alternative 4H-2 using the low-cost design criteria.
- Noise impacts are less than Alternatives 4H-1, 4H-2, and 4H-3.
- Right-of-way acquisition and core forest, stream, karst feature, managed land, noise impacts and stream relocation impacts are less than Alternative 4H-1.
- Forest, stream and noise impacts are less than Alternative 4H-2 using the low-cost criteria.
- Core forest and stream relocation impacts are less than Alternative 4H-3 and managed land impacts are less than Alternative 4H-3 using the initial design criteria.

Key Evaluation Factors Considered in Selection of Refined Alternative 4H-2

<u>Advantages Compared to Alternatives 4H-1, 4H-2, and 4H-3</u>
- Less noise impacts

<u>Advantages Compared to Alternative 4H-1</u>
- Less cost
- Less right-of-way
- Less forest impacts
- Less core forest impacts
- Less stream impacts
- Less karst feature impacts
- Less displacements
- Less managed land impacts
- Less stream relocation impacts

<u>Advantages Compared to Alternative H-3</u>
- Less cost
- Less forest impacts
- Less core forest impacts
- Less displacements
- Less stream relocation impacts

<u>Advantages Shared with Alternative 4H-1</u>
- Wetland impacts

<u>Advantages Shared with Alternative 4H-2</u>
- Core forest impacts
- Karst feature impacts
- Displacements
- Stream relocation impacts
- Floodplain impacts

<u>Advantages Shared with Alternative 4H-3</u>
- Wetland impacts

<u>Disadvantages</u>
- Farmland impacts

3.3.4 Rationale for Selection of Interchange Option 1

In the comparison of interchanges, **Interchange Option 1** (SR 45 and Greene/Monroe County Line) is the selected interchange option because it has the following advantages:

- It would provide the greatest congestion relief and reduction in crash rates in the five-county Study Area especially along SR 45.
- It has the greatest traffic volume usage.
- The SR 45 interchange would provide regional access for southeast Greene County and a direct I-69 connection to Crane NSWC. It also provides congestion relief on SR 45 between US 231 and SR 54.
- The Greene/Monroe County Line interchange has nearly double the overall interchange demand volume of SR 45 and would provide increased accessibility to Eastern Greene County and Bloomfield area residences. It has considerable local government and public support and provides accessibility for emergencies along I-69 and in Eastern Greene County and Western Monroe County and reduced traffic volumes and congestion relief on SR 45 between SR 445 and Bloomington.

Key Evaluation Factors Considered in Selection of Interchange Option 1

Advantages Compared to Interchange Options 2 and 4

- Greatest congestion relief in the five-county study area
- Greatest reduction in crash frequency in the five-county study area
- Highest predicted total interchange volume
- Highest I-69 mainline volume north of the Greene/Monroe County Line interchange
- Greatest traffic reduction along SR 45 from just east of CR 200E to just north of SR 58
- Greatest traffic reduction along SR 45 from just south of SR 445 to just southwest of SR 37

Advantages Shared With Interchange Options 2 and 4

- No wetland impacts
- No karst feature impacts

Disadvantages

- Highest cost
- Greatest right-of-way acquisition
- Greatest forest, core forest, stream, and displacement impacts

With the selection for Interchange Option 1, the Greene/Monroe County Line interchange is included as a component of Refined Preferred Alternative 2. Tables 10 and 11 compare environmental impacts and traffic forecasts for the two interchange options. Of the two connector roads for the interchange, the **South Connector Road** design option is the selected Greene/Monroe County Line interchange configuration because the alternative has the following advantages as compared to North Connector Road option:

- Demonstrates the best transportation performance with greater than 500 VPD traffic reductions on SR 45 from SR 445 to SR 37 compared to the North Connector.
- Provides a direct connection for travel between Eastern Greene County/Bloomfield and the Bloomington urbanized area at the point this traffic joins with SR 45.
- Replaces an unconventional, potentially confusing intersection (at present intersection of SR45/SR445) with a safer conventional four-leg intersection.

Key Evaluation Factors Considered in Selection of the South Connector Road

Advantages Compared to the North Connector Road

- Superior transportation performance
- Better meets the Tier 2 purpose and need goals of increased accessibility, reduced traffic congestion, and improved safety
- Provides a shorter, direct connection for travel between Eastern Greene County/Bloomfield and the Bloomington urbanized area
- Replaces an unconventional "Y" intersection at SR 45/SR 445

Advantages Shared With North Connector Road

- No wetland impacts
- No karst feature impacts

Disadvantages

- Greater forest, core forest, stream and displacement impacts.

Table 10: Overview of Key Impacts for the Greene/Monroe County Line Interchange Connector Road Options

Impacts	Greene/Monroe County Line Connector Roads			
	North Connector Road		South Connector Road	
	Low-Cost*	Initial**	Low-Cost*	Initial**
Total Cost ($M)***	28.76	43.03	29.29	43.41
Right-of-Way (Ac)	99.35	103.56	123.66	131.34
Forest (Ac)	65.59	68.80	91.26	97.19
Core Forest (Ac)	43.74	43.38	63.82	63.32
Total Wetland Impacts (Ac)	0.00	0.00	0.00	0.00
Total Stream Impacts (LF)	9,479	9,939	9,706	10,548
Karst Features (#)	0	0	0	0
Total Displacements (#)	6	6	13	13

* Low-Cost Design Criteria, ** Initial Design Criteria, ***2010 Dollars, excluding mitigation costs

$M = million dollars, Ac = acres, LF = linear feet

All impacts are by preliminary right-of-way except wetland impacts which are by construction limits.

Table 11: SR 45 Traffic Volumes and LOS – North Connector vs. South Connector

Roadway Section	No-Build		North Connector		South Connector	
	ADT	LOS	ADT	LOS	ADT	LOS
SR 45 N of SR 445/I-69 South Connector Road	10,555	E	8,601	D	3,107	B
SR 45 N of I-69 North Connector Road	10,555	E	3,626	B	3,107	B
SR 45 W of Breeden Rd	12,524	E	5708	C	5,194	C
SR 45 NE of Harmony Rd/Garrison Chapel Rd	16,025	E	9,123	E	8,602	D
SR 45 NE of W Leonard Springs Rd	14,913	E	10,556	A	10,037	A
SR 45 SW of Curry Pike/ S Leonard Springs Rd	17,770	E	13,021	A	12,537	A
SR 45 SW of SR 37	26,461	A	25,130	B	24,861	A

Both Scenarios also include a SR 45 Interchange.

Sources: I-69 Corridor Travel Demand Model for year 2030 traffic

While the South Connector Road is approximately 1,000 feet longer than the North Connector Road Option and has more impacts, it also has overall superior transportation performance and better meets the Section 4 local purpose and need goals of increased personal accessibility for area residents and reduced existing and forecasted traffic congestion.

3.3.5 Potential Reasonably Foreseeable Impacts of Refined Preferred Alternative 2

The FEIS for Section 4 was released in July, 2011. Potential reasonably foreseeable impacts associated with the project are discussed in detail in that document. Table 12 (p. 56-62) of this ROD summarizes the potential environmental impacts associated with the Selected Alternative by major resource categories evaluated in the FEIS (primarily in Chapter 5, *Environmental Consequences*; Chapter 6, *Comparison of Alternatives*; and Chapter 8, *Section 4(f) Evaluation*).

3.3.6 Consistency with Established Statewide Transportation Planning Goals

In June 2007 INDOT issued its *2030 Long Range Plan 2007 Update*. This update retains both the Statewide Mobility Corridors and Commerce Corridors. I-69 between Evansville and Bloomington is shown as both a proposed Statewide Mobility Corridor and Commerce Corridor. In early 2011, INDOT issued for public comment its *2010-2035 Draft Long-Range Transportation Plan.* It is to be finalized later in 2011. It also shows I-69 between Evansville and Bloomington as a proposed Statewide Mobility Corridor.

With the issuance of this I-69 Section 4 ROD, detailed design will be completed and construction of Section 4 is intended to be advertised for bid beginning in the second half of 2011. INDOT has already commenced right of way acquisition with the understanding that in no way may any acquisitions affect the decisions to be made during the NEPA process. In approving the project in this ROD, no consideration or weight was given to INDOT's pre-ROD property acquisitions. Funding for right-of-way and preliminary design has been included by amendment in INDOT's Statewide Transportation Improvement Program (STIP) for fiscal years 2011 and 2012.

On November 5, 2010, the Policy Committee of the Bloomington Monroe County Metropolitan Planning Organization (BMCMPO) approved adding the portion of Section 4 the project within its boundaries to its FY 2010 – 2013 amended TIP. This TIP remains in effect. See Section 7.2 for added details.

3.3.7 Consideration of Karst Feature Impacts

The avoidance and minimization of impacts to karst features has been an environmental concern for INDOT and FHWA since studies in the early 1990s. INDOT developed a karst report as part of the Southwest Indiana Highway Study entitled "Karst Features in the Bloomington to Evansville Highway" as early as 1994. This study was published as Appendix G in the March 1996 DEIS for the Southwest Indiana Highway[20]. The study area for this report extended from SR 37 south of Bloomington in Monroe County to SR 57 near the town of Newberry in Greene County, Indiana.[21]

To define guidelines for the development of transportation projects in karst areas and minimize the impact of construction projects, INDOT, Indiana Department of Environmental Management (IDEM), Indiana

[20] The referenced 1994 karst report was included in the Tier 1 ROD as part of Technical Memorandum 2. Maps originally contained in this karst report were not included as part of Tier 1 ROD Technical Memorandum 2. The district court, in HEC v DOT, found that the FHWA did not act in an arbitrary and capricious manner in approving Tier 1 without the karst maps being made part of the record (see page 29 of the Opinion). These maps have recently been distributed to several individuals in response to a public records request.

[21] The referenced 1994 karst report study area covered approximately 3,820 acres, 390 acres of which are located within the Tier 1 approved Corridor 3C.

Department of Natural Resources (IDNR), and the U.S. Fish and Wildlife Service (USFWS) entered into the Karst Memorandum of Understanding (Karst MOU) in 1993. Avoidance is the preferred strategy for minimizing karst resource impacts associated with highway construction and operation. As noted in the Tier 1 ROD (see ROD at page 20), any alignment within the approved corridor would have some impact on karst features. Within Section 4, Refined Preferred Alternative 2 traverses primarily undeveloped land. Therefore, careful positioning and planning of the highway alignment is the best opportunity to avoid and minimize impacts to karst resources.

Tier 2 field surveys were conducted to identify karst features within the Section 4 corridor, as well as areas with hydrologic connection to the corridor. Karst feature locations were considered in the alternative development and screening. While it was not possible to avoid all karst features, caves were recognized as karst features of high importance. Thus direct impacts to known caves were avoided during alternative development and screening.[22] Also avoided were direct impacts upon denser concentrations of karst features, where practicable.

Due to the high density of features in the northern portion of Section 4, consideration was given to moving alternatives outside of the corridor to minimize impacts. It was determined that alternatives adjacent to corridor would encounter areas of similar karst feature density and would not result in an appreciable difference in karst impacts. In addition, based on review of the features identified within the karst study area and the local geology extending well beyond the corridor area, development of alternatives outside of the corridor was not considered to provide karst avoidance and minimization benefits. This analysis in contained in a file document which is part of the project record.

In accordance with the Karst MOU, unavoidable impacts upon karst features will be mitigated through implementation of alternative drainage, where feasible. The term “alternative drainage” involves directing highway runoff away from recharge features. Alternative drainage also includes avoiding severance of karst conduits between recharge features and discharge features so as to avoid/minimize potential downstream effects upon cave-dwelling species that cannot be directly observed. It should be noted that in some areas karst features are distributed across the corridor, which could preclude diverting runoff from the highway away from all karst features.

Of the alternatives presented in the DEIS, Alternative 2 impacted the second-fewest karst features (between 88 and 108), which factored favorably toward its selection as the DEIS Preferred Alternative. While Alternative 3 would impact slightly fewer karst features (between 88 and 103), Alternative 3’s higher impacts to other resources (including forest, core forest, managed lands, floodplains, hazardous waste site, residential relocations, and business relocations) mitigated against its selection as the DEIS Preferred Alternative. Refer to FEIS Chapter 6 for more detailed information. Alternative 4 would impact more karst features (between 94 and 113) than Alternatives 2 and 3. Alternative 1 would impact the greatest number of karst features (between 108 and 122). Since the DEIS, the design of Alternative 2 has been modified and is now referred to as Refined Preferred Alternative 2. While the overall impact footprint of Refined Preferred Alternative 2 is smaller in comparison to Alternative 2, there is very little difference in karst impacts. Over all, in comparison to Alternative 2, Refined Preferred Alternative 2 would impact one additional karst feature, under the initial design criteria only.

[22] Since the publication of the DEIS, ongoing public outreach lead to the identification of a cave with the proposed rights-of-way for all Section 4 Alternatives. This feature did not exist when surveys were completed in 2004 - 2006. It has been identified and added to the impacts for all alternatives. See FEIS Section 5.21.3.10 for more information about this cave.

If alternative drainage is not possible, impacts will be mitigated through implementation of BMPs[23] including water quality treatment measures, and appropriate operation and maintenance measures. Per USEPA written comments on the DEIS, a firm commitment has been added that if active groundwater flow paths are discovered, measures will be taken to perpetuate the flow and protect water quality.

3.3.8 Environmentally Preferable Alternative — Refined Preferred Alternative 2

As summarized above and in greater detail in the Section 4 FEIS (see Section 6.2, *Comparison of Alternatives*, and Section 6.3, *Selection of Preferred Alignment Alternative*), Refined Preferred Alternative 2 is the alternative that sufficiently addresses the Purpose and Need for action while balancing important environmental, community, and economic values. While some of the other alternatives have lower impacts on certain environmental resources, those alternatives have greater impacts on other sensitive resources. Thus, Refined Preferred Alternative 2 is the environmentally preferable alternative among the alternatives that adequately achieve the project's objectives. This finding is made in accordance with 40 CFR §1505.2(b).

In weighing all these factors, FHWA and INDOT determined that Refined Preferred Alternative 2 best satisfies the project purposes while having an acceptable level of impacts.

[23] BMPs that may be implemented, and a numerical cross-reference to applicable Indiana Department of Transportation (INDOT) Standard Specifications such as Standard Specification 205 pertaining to soil liners, is included in FEIS Table 5.21-2a.

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**
	Length (miles)	26.68	26.68
	Estimated costs ($M) in 2010 dollars including design, construction, ROW, relocation, utilities, mitigation	$532.01	$732.69
5.2 Social Impacts	**Relocations / displacements:**		
	Residential	71	75
	Institutional	0	0
	Business	4	4
	Acres of ROW to be acquired: Total	1,455.50	1,809.39
5.3 Land Use and Community Impacts	Agricultural	356.03	461.36
	Developed	134.01	146.46
	Mines/Quarries	0.96	0.96
	Upland habitat (includes non-wetland forest, herbaceous cover, and scrub/shrub areas)	962.29	1,191.66
	Open water (lakes, ponds, PUBs)	1.45	2.14
	Streams	15.80	19.42
	Wetlands: (Emergent / forested / scrub/shrub)	7.15	12.25
	Agricultural Land, Indirect Impacts (acres):	106	106
	Forest Land, Indirect Impacts (acres):	54	54
	Local road access impacts:		
	Roads closed	13	13
	Overpass, interchange, relocation (1)	21	21
	Proposed access roads: New and Relocations	7	7
5.4 Farmland	**Farmland impacts:**		
	Total farmland acres to be acquired for ROW	356.03	461.36
	Cropland acres to be acquired	239.28	309.96
	Agricultural land indirect impacts	106	106
	Number of uneconomic remnants	13	12
	Number of parcels landlocked	18	16
	NRCS-CPA-106 form results:		
	Prime/unique farmland acres in ROW:		
	Greene County	n/a	n/a
	Monroe County	n/a	n/a
	Statewide + local important farmland acres in ROW	n/a	n/a
	Total points: relative value of farmland to be converted + Corridor assessment:		
	Greene County	n/a	n/a

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**
	Monroe County	n/a	n/a
	Estimated crop production loss—total Greene + Monroe Counties:	$97,215	$126,015
5.5 Economic Impacts	**Economic impacts:**		
	Estimated loss in tax base	$342,302	$365,089
	Estimated crop production loss (i.e., farm income)	$97,215	$126,015
	Induced growth projected—year 2030, total Daviess & Greene Counties:		
	Housing units	476	476
	Jobs	771	771
5.6 Traffic	**Access**		
	Proposed interchanges	SR 45, Greene/Monroe County Line, and SR 37	
	Proposed Grade Separations	18	
	Proposed Road Closures	13	
	Proposed access roads: Relocate Existing	3	
	Proposed access roads: New to serve Landlocked Parcels	4	
	Proposed access roads: Total number & total length, in feet	7 / 4,550	
	Traffic volumes on state & local roads—percent variance from No Build		
	SR 45/58 E of CR 200E	-26.60%	
	SR 45/58 E of CR 900E	-28.80%	
	SR 45 N of SR 58	-41.00%	
	SR 45 S of I-69	-21.90%	
	SR 45 N of I-69	-32.10%	
	SR 54 N of SR 58	-7.00%	
	SR 54 S of Hobbieville Rd	-4.90%	
	SR 54 S of SR 45/SR 54 South Junction	-0.40%	
	SR 54/45	-22.10%	
	SR 54 W of SR 445	-0.40%	
	SR 445 W of SR 45	-0.40%	
	SR 45 S of SR 445	-33.80%	
	SR 45 N of SR 445	-70.60%	
	SR 45 W of Breeden Rd	-58.50%	
	SR 45 NE of Harmony Rd/Garrison Chapel Rd	-46.30%	
	SR 45 NE of W Leonard Springs Rd	-28.40%	
	SR 45 SW of Curry Pike/ S Leonard Springs Rd	-29.50%	
	SR 45 SW of SR 37	-5.90%	
	SR 37 S of Victor Pike	-0.10%	

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**
5.7 Visual	**View from / of I-69:** View from the road	Views will be limited due to terrain and/or dense vegetation. Some panoramic views will occur.	
	View of the road	Views from adjacent residences will be limited in many areas due to excavation for the roadway construction. The roadway will be visible in the area north of Tramway Road.	
5.8 Environmental Justice	**Impact on minority/low-income populations**	No disproportionately high or adverse effect on minority or low-income populations.	
5.9 Air Quality	**Air quality standard exceedances predicted (based on current SIP budget)**	0	0
5.10 Noise	**Total Number of Impacted Noise Receptors**	90	88
	Impacted Receptors that Approach or Exceed NAC	0	0
	Impacted Receptors that Approach or Exceed NAC and have a Substantial Increase	6	6
	Impacted Receptors with a Substantial Increase	84	82
	Impacted Receptors with Substantial Increases from 15 dBA to 20 dBA	51	50
	Impacted Receptors with Substantial Increases from 20 dBA to 25 dBA	32	33
	Impacted Receptors with Substantial Increases from 25 dBA and Greater	7	5
5.11 Wild & Scenic Rivers	**Wild & Scenic Rivers impacts**	None in Study Area	
5.12 Construction	**Construction impacts**	Temporary dust, noise, traffic delays, karst, and water quality impacts.	
5.13 Historic Resources	**National Register of Historic Places eligible or listed resources**	No Adverse Effect	
5.14 Archaeological Resources	**National Register of Historic Places eligible or listed resources**	±Adverse Effect on Below Ground Resources	
5.15 Mineral Resources	**Mineral resources potentially in ROW:**		
	Potentially Marketable Limestone (Acres)	279	349
	Abandoned Limestone Quarries	1	1
	Active Limestone Quarries	0	0

Table 12: Impacts Summary - Section 4 Selected Alternative			
FEIS Section	**Potential Impacts**	**Refined Preferred Alternative 2**	
		Low-Cost*	**Initial****
	Active Oil/Gas Wells (number of wells)	0	0
	Abandoned/Dry Oil/Gas Wells (number of wells)	1	1
5.16 Hazardous Waste	**HAZMAT sites potentially in ROW:**	5	5
	Sec-4 HM-3 (gas station, underground storage tanks (UST's))	Potential	Potential
	Sec-4 HM-5 (lumber yard/mill)	Potential	Potential
	Sec-4 HM-6 (open dump/auto graveyard)	Potential	Potential
	Sec-4 HM-7 (3-D Stone, Inc.)	No Impact	No Impact
	Dry Well (located near CR 600 S, Greene County)	Potential	Potential
5.17 Threatened & Endangered Species	**Impacts to listed species:** Federal-listed threatened/endangered (Corridor studied for Indiana bat, bald eagle)	Indiana bats captured near the corridor; no roosts located in the corridor. Formal Section 7 consultation ongoing. No T/E species found in corridor; no impact expected.	
	State-listed threatened/ endangered/rare/special concern	Habitat for the Indiana cave springtail, Packard's groundwater amphipod, Bollman's cave millipede, Jeannel's groundwater ostracod, Ray's cave beetle, Krekeler's cave ant beetle, Ashcraft cave springtail, hilly springtail, Fountain cave springtail, Weingartner's cave flatworm, Indiana cave amphipod, eastern spadefoot, mudpuppy, eastern box turtle, barn owl, loggerhead shrike, red-shouldered hawk, sharp-shinned hawk, Henslow's sparrow, cerulean warbler, hooded warbler, evening bat, little brown bat, eastern pipistrelle, eastern red bat, northern myotis and the bobcat will be impacted at various locations within the corridor.	
5.18 Wildlife	**Wildlife habitat impacts (acres):**		
	Dry-Mesic Upland Forest	414.46	532.26
	Forest Fragment	10.9	12.93
	Mesic Floodplain Forest	37.92	51.45
	Mesic Upland Forest	419.74	503.66
	Mid Successional Forest	37.52	42.86
	Old Field	41.75	48.5
	Upland Habitat Subtotal	**962.29**	**1191.66**
	Open water (ponds and lakes, including PUBs)	1.71	2.35
	Wetlands (forested/emergent & scrub/shrub) (See 5.19 for details)	5.32	9.55

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**
	Total acres in ROW & percent of corridor total	**969.32** 19.91%	**1203.56** 24.72%
	Streams (linear feet) (See 5.19 for details)	93,196	111,247
5.19 Water Resources	**Surface water impacts:**		
	Emergent Wetland	3.33	5.34
	Forested Wetland	1.81	3.76
	Scrub/Shrub Wetland	0.18	0.45
	TOTALS (Ac)	5.32	9.55
	Ephemeral	66,379	77,206
	Intermittent	20,143	25,035
	Perennial	6,674	9,006
	TOTALS (LF)	93,196	111,247
	Stream Relocations (LF)	30,861	37,325
	Floodplain (Ac)	36.26	50.97
	Ground water impacts:		
	Private wells	46	46
	Public wells	0	0
	Wellhead protection zones (AC)	0	0
	Sole Source Aquifers—*None in Study Area*	0	0
	Riparian impact: Acres	323.59	391.81
5.20 Forest	**Forest impacts:** total acres of impact & percent of total (4420.19 acres)	873.93 19.77%	1,091.13 24.69%
	Forest 38 wetland impacts (acres)	0.01	1.51
	Forest 40 wetland impacts (acres)	1.42	1.62
	Forest 49 wetland impacts (acres)	0.08	0.08
	Forest 53 wetland impacts (acres)	0.09	0.25
	Forest 67 wetland impacts (acres)	0.06	0.15
	Forest 82 wetland impacts (acres)	0.00	0.00
	Forest 100 wetland impacts (acres)	0.15	0.15
	Forest 101 wetland impacts (acres)	0.00	0.00
	Total, All Upland Forests	872.12	1,087.37
	Core forest impacts:	894.59	987.23
5.21 Karst	**Karst features (#)**	88	108
5.22 Managed Land	**Acres In ROW**	203.82	256.65

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**
5.23 Permits	**Permits potentially needed prior to construction**	USACE Section 404; IDEM 401, Rule 5, isolated wetland; IDNR Construction in a Floodway, USEPA Class 5 Injection Well	
5.24 Cumulative Impacts	**Cumulative land use changes (acres)—Greene and Monroe Counties:**		
	Direct conversion of agricultural land to ROW	356	461
	Indirect conversion of agricultural land	106	106
	Total Changes from Others of agricultural land (incl. No-Build)	2,930	2,930
	Direct conversion of forest land to ROW	872	1,087
	Indirect conversion of forest land	54	54
	Total Changes from Others of forest land (incl. No-Build)	2,163	2,163
	Total Cumulative Land Use Change	**6,481**	**6,801**
5.25 Energy	**Energy impacts**	Major one-time energy resources demand during construction. Once in operation, greater fuel consumption than No-Build due to higher speed and vehicle miles traveled.	
5.26 Short-Term vs. Long-Term	**Short-term uses versus long-term productivity**	Temporary construction impacts; permanent loss of cropland; residential displacements.	
		Completes a link in I-69 National Corridor and enhances local & regional long-term productivity.	
5.27 Irreversible or Irretrievable Commitment of Resources	**Irreversible & irretrievable commitment of resources**	Potential Impacts include permanent commitment of dollars & resources for construction; environmental impacts from induced development. Anticipated benefits include improved accessibility & safety, time savings, greater availability of services.	
8 Sections 4(f) & 6(f)	**Section 4(f) evaluation**	No direct or constructive use of publicly owned park, recreational area, wildlife/waterfowl refuge, or land from a historic property on or eligible National Register.	
	Section 6(f) evaluation	No known resources funded by the Land and Water Conservation Act.	

Table 12: Impacts Summary - Section 4 Selected Alternative

FEIS Section	Potential Impacts	Refined Preferred Alternative 2	
		Low-Cost*	Initial**

* Low-Cost Design Criteria, ** Initial Design Criteria
±Note – Adverse Effects upon archaeological resources relate to impacts to contributing archaeological sites within two discontiguous archaeological districts
(1) Total "Overpass, interchange, relocation" includes a portion of the" Proposed Access Roads" that will maintain existing local connectivity by relocation of existing roadways.

4.0 SECTION 4(f)

As previously indicated in the Tier 2 FEIS (see Chapter 8, *Section 4(f) Evaluation*), FHWA finds, in accordance with 23 CFR 774.7(e)(2), that:

- The preliminary findings made in the Tier 1 FEIS for the overall I-69 Evansville-to-Indianapolis project in accordance with 23 CFR 771.135(o)(1) (2007) remain valid, and;
- The criteria of 23 CFR 774.3 have been met for Section 4 of the I-69 Evansville-to-Indianapolis project and it has been determined that Section 4 will not use any identified resources protected under this regulation. Though it has been determined to be unlikely, if any archaeological sites eligible for the National Register of Historic Places (NRHP) are identified that should be preserved in place in this Section of the project, the protections under Section 4(f) will be applied.

5.0 MEASURES TO MINIMIZE HARM

Throughout this study, efforts have been made to avoid human and natural resources. The following discussion presents examples of how avoidance and minimization efforts were implemented on this project. In Tier 1, the 2,000-foot-wide corridor was narrowed to approximately 1,200 feet in width in the vicinity of Evans Lane and in the vicinity of Rockport Road/Lodge Road in Monroe County to minimize potential karst impacts. During the Tier 2 study, locations of proposed and potential wildlife crossings were developed in coordination with IDNR. Avoidance and the opportunity to minimize impacts were used in the decision-making process to identify a preferred alternative alignment. A notable effort to reduce impacts to wildlife/wildlife habitat was the decision during the development and screening of alternatives to prioritize the avoidance/minimization of wetland habitats. These screening analyses identified that there is effectively only one alignment for the crossing of the Black Ankle Creek valley, where a substantial percentage of the wetlands within the Section 4 corridor are located. In this location, direct impacts to wetlands and floodplain functions and values will be minimized, with much of the highway crossing of the valley constructed on bridge structure. In addition to the Black Ankle Creek valley, sizable wetlands exist at the middle crossing of Indian Creek. Alternatives were developed in this area to avoid/minimize impacts to these wetlands.

Environmental agencies and the public have been instrumental in providing assistance (see FEIS Chapter 11, *Comments, Coordination, and Public Involvement*) to avoid and minimize impacts upon both the human and natural environment, and helped develop many of the mitigation measures identified in the FEIS.

During the Tier 1 process, conceptual mitigation proposals were developed as the starting point for identifying the total mitigation for constructing I-69 from Evansville to Indianapolis. As required by the Tier 1 ROD, these measures were considered during the Tier 2 process in Section 4. As a result of this consideration, mitigation measures specific to the conditions and potential impacts within Section 4 were developed based on the more detailed information and interactions with the public and resource agencies. Where applicable, these mitigation measures incorporate and, in some cases, expand upon the "major mitigation initiatives" developed during Tier 1 (see Tier 1 FEIS, Vol. I, Chapter 7, *Mitigation and Commitments).*

Initiatives that apply to Section 4 are identified in the text that follows. For more detailed discussion of mitigation measures, see the Tier 2 Section 4 FEIS Chapter 7, *Mitigation and Commitments.*

5.1 Tier 1 Mitigation Commitments and Associated Tier 2 Section 4 Commitments

FHWA and INDOT applied the mitigation commitments identified in the Tier 1 FEIS Chapter 7, Mitigation and Commitments based on detailed information gathered in Tier 2 studies. The Tier 1 ROD stipulated that mitigation measures specified in Tier 1 will be reviewed and may be modified in Tier 2 in consultation with environmental resource agencies, based on more detailed environmental impact data developed in the Tier 2 studies. (pp. 27-28) The following sections identify the Tier 1 commitments that apply to Section 4 and their application within this section. In this ROD, FHWA and INDOT commit to the mitigation identified below. A detailed listing of all mitigation commitments is provided in Appendix A, Commitments Summary Form.

5.1.1 Context Sensitive Solutions / Community Advisory Committee

In keeping with stipulations in the Tier 1 ROD, five Community Advisory Committee (CAC) meetings were held in Section 4 prior to the publication of the Tier 2 Section 4 FEIS. CAC members provided valuable input, particularly with regard to local access. The following are some of the local access measures that that are now proposed as part of the Context Sensitive Solutions (CSS) process: construction of a grade

separation at Dry Branch Road (Greene CR 750E and 900E) to provide access to residences from the north or south, since this valley occasionally floods; construction of grade separations at Mineral-Koleen Road (CR 350S, CR 360S, and CR 880E), Burch Road (Monroe County), Harmony Road (Monroe County), Bolin Lane (Monroe County) to maintain local connectivity; an access road to maintain travel between CR 475E and CR 450S (west of CR 475E) and the current access to Taylor Ridge Cemetery; an access road to maintain the connection between Spruce Road and Pine Road just north of the interstate right-of-way; an access road to provide access to two residential properties on the west side of SR 45 to the south of I-69; an access road to maintain the connection of Greene CR 1250E to SR 45, facilitating travel between the Hobbieville area and Owensburg; construction of a Greene/Monroe County Line Interchange to serve traffic commuting between Bloomfield, Cincinnati, Crane NSWC and Hobbieville and the greater Bloomington urbanized area; an access road to extend east from SR 54, on the south side of I-69, to provide access to properties whose current access would be terminated by the construction of I-69; and an access road on the east side of SR 45 to the north of I-69 to provide access to one residential property and one undeveloped parcel. INDOT will continue coordination with local authorities during the design phase to obtain input on possible further measures.

5.1.2 Wetland Mitigation

INDOT and FHWA will follow the mitigation ratios listed in their Wetlands Memorandum of Understanding (MOU) signed January 28, 1991. The MOU is provided in the Tier 2 Section 4 FEIS Vol. II, Appendix W. In addition, INDOT and FHWA will implement any additional mitigation measures required by USACE and IDEM as part of any permits granted under Section 404 and 401 of the Clean Water Act. Under the 1991 MOU, emergent wetlands would be mitigated at a ratio of 2 to 1 or 3 to 1 and forested wetlands would be mitigated at a ratio of 3 to 1 or 4 to 1. Ratios used to determine mitigation will depend upon the quality of the resource. In the case of any forested wetlands in this Section, it is anticipated a 3 to 1 ratio would apply. Wetland impacts associated with Refined Preferred Alternative 2 range from approximately 3.33 to 5.34 acres of emergent wetlands, 0.18 to 0.45 acres of scrub/shrub wetlands, and 1.81 to 3.76 acres of forested wetlands. Based on the 1991 Wetlands MOU ratios, mitigation for wetland impacts in Section 4 could range from approximately 15.79 to 29.14 acres.

5.1.3 Forest Mitigation

In Section 4, direct upland forest impacts associated with Refined Preferred Alternative 2 range from approximately 872.12 to 1,087.37 acres. As stipulated in the Tier 1 ROD (p. 29), upland forest impacts will be mitigated at a ratio of 3 to 1 (up to 2 to 1 by purchasing and protection of existing forest tracts and at least 1 to 1 (minimum) by planting trees). Based on these ratios, between 2,616 and 3,262 acres of forest mitigation would be required in Section 4.

Impacts to non-wetland riparian areas that are not in a regulated floodway will be mitigated in consultation with IDEM and USACE. All non-wetland riparian forest replacement will be included as part of the 3 to 1 upland forest mitigation. Refined Preferred Alternative 2 would impact between 323.28 and 389.30 acres of non-wetland riparian habitat. Of this total, approximately 312.96 to 377.20 acres have been identified as forested, and are already included in the totals for forest mitigation. The remaining 10.32 to 12.10 acres, identified as other riparian areas, include areas with trees but do not meet the definition of forest. These areas are therefore not included in the forest mitigation, but will be mitigated at a 1 to 1 ratio in consultation with IDEM and USACE. As described below in Section 5.1.4, the mitigation proposed for Section 4 includes approximately 3,771.4 acres, approximately 3,743.1 acres of which is forest mitigation.

5.1.4 Mitigation Sites

The Tier 2 Section 4 BA includes a description of Section 4 mitigation. The BA identifies 36 possible mitigation sites for Section 4. Seven (7) focus areas were targeted for Section 4: SR 57, Doans Creek Maternity Colony, Plummer Creek Maternity Colony, Little Clifty Branch Maternity Colony, Indian Creek Maternity Colony Area, a cave known to be an important Indiana bat hibernaculum, and Garrison Chapel Valley. In addition, Section 4 mitigation includes two sites near the Veale Creek maternity colony in Section 2. INDOT has purchased or is in the process of purchasing mitigation sites. Approximately 2,278 acres have been purchased for mitigation in Section 4 as of August 10, 2011. The current status of all mitigation sites (as of August 10, 2011) secured for Section 4 is as follows:

- *Veale Creek Maternity Colony Area (located in Section 2)*

  Approximately 32.5 acres of forest preservation, 87.5 acres of reforestation, 4.2 acres of emergent wetlands, 7.4 acres of forested wetlands and 1.6 acres of scrub/shrub wetlands are contained in two sites that have been purchased for mitigation.

- *SR 57 Focus Area*

  Approximately 6 acres of forest preservation and 24 acres of reforestation have been purchased in one mitigation site. Approximately 187 acres of forest preservation, 274 acres reforestation and 3 acres of forested wetlands are currently being pursued in two additional mitigation sites.

- *Doans Creek Maternity Colony Area*

  Approximately 228 acres of forest preservation and 139 acres of reforestation are currently being pursued in four additional mitigation sites.

- *Plummer Creek Maternity Colony Area*

  Approximately 674 acres of forest preservation, 160.6 acres of reforestation, 3 acres of forested wetlands and 0.4 acre of scrub/shrub wetlands have been purchased in seven mitigation sites. Approximately 64 acres of forest preservation, 127 acres of reforestation and 8.2 acres of emergent wetlands are currently being pursued from two additional mitigation sites.

- *Little Clifty Branch Maternity Colony Area*

  Approximately 205 acres of forest preservation and 105 acres of reforestation are currently being pursued from two additional mitigation sites.

- *Indian Creek Maternity Colony Area*

  Approximately 325 acres of forest preservation and 42 acres of reforestation have been purchased in five mitigation sites. Approximately 142 acres of forest preservation and 176 acres of reforestation are currently being pursued in three additional mitigation sites.

- *Cave Focus Area*

  Approximately 106 acres of forest preservation and 37 acres of reforestation have been purchased in two mitigation sites.

- *Garrison Chapel Valley Focus Area*

  Approximately 507 acres of forest preservation, 79.5 acres of reforestation and 0.5 acre of emergent wetlands have been purchased in five mitigation sites. Approximately 15 acres of forest preservation are currently being pursued in one additional mitigation site.

The proposed combined mitigation features will create a mosaic of wetland, riparian, and bottomland woods habitat within areas where much of the land is currently being farmed in row crop production providing very little natural habitat value. The proposed mitigation sites will include the development of approximately 3,771.4 total mitigation acres, including the following:

- 2,491.5 acres of forest preservation
- 1,251.6 acres of reforestation
- 12.9 acres of emergent wetlands
- 13.4 acres of forested wetlands
- 2 acres of scrub/shrub wetlands

INDOT will be responsible for monitoring and maintaining the mitigation areas while they are being established. As noted in the Section 4 Tier 2 BA, the mitigation sites will be restricted from other uses to ensure that they remain in a natural condition in perpetuity. Areas set aside for mitigation plantings will be protected from development in the short term, and in the long term will provide quality roosting and foraging habitat for Indiana bats. These areas will also help to decrease habitat fragmentation, and to improve the potential for colonies of Indiana bats currently using the action area to expand into other areas of suitable habitat. Successful implementation of the mitigation plans and conservation measures are expected to result in sustainable, and in some cases improved, long-term habitat conditions for Indiana bat maternity colonies, individuals, and hibernating populations within the action areas.

5.1.5 I-69 Community Planning Program

The I-69 Community Planning Program, committed to in the Tier 1 ROD (p. 30) provided resources to local communities to manage the growth and economic development associated with I-69. On October 29, 2007 INDOT awarded $950,000 in grants to communities located along the I-69 corridor in southwest Indiana. Each community was eligible for a grant of $50,000. Multiple communities, such as a city and a county, were allowed to pool their grant money together.

Greene County, the town of Bloomfield, and the city of Linton together were awarded a grant for $150,000. The I-69 Corridor Plan was adopted by the Greene County Economic Development Corporation on February 17, 2009. Using these grant funds, Greene County developed its Draft Comprehensive Plan on August 3, 2009. The Bloomfield Town Council formed an Advisory Plan Commission and adopted a Comprehensive Plan on August 4, 2009.

On February 1, 2008, Monroe County submitted an application for a $50,000 grant. The grant was awarded to Monroe County in the second phase of the program on July 30, 2008, and this grant was used for the preparation of a transportation corridor plan for SR 37/I-69.

The I-69 project website provides a link to the Community Planning Program website (www.i69indyevn.org/CommunityPlanningProgram). The website contains information including a concise description of the program, examples of eligible activities, and other information about the program.

5.1.6 Update County Historic Surveys

As part of the Tier 1 commitment, FHWA and INDOT will provide funding and technical assistance to support a comprehensive effort to update the Interim Reports for Greene and Monroe counties. The reports are used to update the Indiana Historic Sites and Structures Inventory (IHSSI), which is managed by IDNR-Division of Historic Preservation and Archaeology (DHPA).

As part of this commitment, IDNR-DHPA will be provided with the IHSSI survey forms when they are completed following the completion of this study, and the surveys for Greene and Monroe counties will begin. (Note: the surveys are for areas outside of the Area of Potential Effects that were studied as part of the Section 106 process for this project.)

5.1.7 Bridging of Floodplains

The Tier 1 ROD states that the decision to bridge floodplains, other than the Patoka River and Flat Creek floodplains, would be made in Tier 2. Floodplains identified in Section 4 are located along Black Ankle Creek, Dry Branch, Plummer Creek, Indian Creek, and an unnamed tributary to Clear Creek. Although complete bridging of the floodplains is not proposed, the channels of Black Ankle, Dry Branch, Plummer Creek, Mitchell Branch, Indian Creek and a portion of their floodplains will be bridged to minimize impacts.

5.1.8 Biological Surveys on Wildlife and Plants

In keeping with stipulations in the Tier 1 revised Biological Opinion and the commitment in the Tier 1 ROD (p. 31), a work plan for surveying, monitoring, and reporting on the Indiana bat (*Myotis sodalis*) will be developed and conducted in consultation with and approved by the U.S. Fish and Wildlife Service (USFWS). This mist netting effort will be beyond the Tier 2 sampling requirements, and will be implemented in accordance with the conditions in the Tier 2 BO. If Indiana bats are captured, radio transmitters will be used in an attempt to locate roost trees, and multiple emergence counts will be made at each located roost tree. These monitoring efforts will be documented and summarized within an annual report prepared for USFWS.

5.1.9 Karst MOU

The Tier 1 FEIS/ROD committed to following the Karst MOU (see Tier 1 FEIS Section 7.3.14, and Tier 1 ROD, Section 3.5.4, point (5)). As part of the Karst MOU stipulations, detailed design information and additional information gathered from geotechnical studies will be provided to the Karst MOU signatory agencies for their review and comment. The Karst MOU signatory agencies will be able to provide comments on how Best Management Practices (BMPs) and structural engineering measures for karst features are implemented for specific features. INDOT will incorporate agency comments where possible. Special provisions will be included in the contract documents to incorporate an emergency response plan for karst areas. Construction personnel will be notified at the pre-construction conference that if during construction it is found that the mitigation agreement must be altered, all of the agencies will be contacted and agreement reached prior to work continuing in that specific area. In addition, construction personnel will be made aware that if a state/federal endangered/threatened species is found during construction, work in that area of the project will stop. The Indiana Department of Natural Resources (IDNR) and U.S. Fish and Wildlife Service (USFWS) will be immediately notified. The Project Engineer at the construction site will be made aware of all karst related contract provisions and ensure that all Karst MOU stipulations are followed during construction.

5.2 Additional Section 4 Commitments

The FEIS Section 7.3, *Section 4 Mitigation Measures and Commitments,* provides specific mitigation measures and commitments proposed for each resource category in Section 4 to be implemented at the appropriate time during project development, construction, and as part of the maintenance of the highway. In addition to the mitigation measures identified above, mitigation measures for the following categories of impacts are presented in that section and are considered an integral part of the Selected Alternative. Therefore, in this ROD, FHWA and INDOT commit to the mitigation identified below.

- ***Social and Neighborhood***: Commitments include providing for local access via service drives and overpasses; and assistance available to all acquisitions and displacements through the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The relocation program provides assistance to displaced persons in finding comparable housing that is decent, safe, and sanitary; and to displaced businesses, farms, and nonprofit organizations.

- ***Construction***: Commitments include several measures to mitigate impacts, as appropriate, such as use of erosion control devices, swales to protect sources of potable water, maintenance of equipment to control air quality impacts, date-restricted tree-cutting to avoid impacts to Indiana bats, revegetation of disturbed areas, use of native grasses and native wildflowers when revegetating disturbed soils in the right-of-way and medians where appropriate, spill containment measures, a maintenance of traffic plan, noise abatement measures, adherence to the Wetland MOU, and compliance with requirements in permits received following the approval of this document, such as Construction in a Floodway permits.

  Best Management Practices (BMP) will be implemented during construction to protect groundwater, especially in areas with karst features. Procedures to reduce the impacts to karst will be implemented in accordance with INDOT's *Standard Specifications* and the 1993 Karst MOU between INDOT, IDNR, IDEM and USFWS. Per USEPA written comments on the DEIS, a firm commitment has been made that if active groundwater flow paths are discovered, measures will be taken to perpetuate the flow and protect water quality. USEPA Class V injection well permits may be required. Any permit would need to be applied for and obtained prior to construction of the Class V well.

  Heavy blasting is anticipated, and strict blasting specifications will be followed. Blasting will be avoided between September 15 and April 15 in areas within 0.5 miles of known Indiana bat hibernacula. All blasting in the Winter Action Area (WAA) will follow the specifications developed in consultation with the USFWS and will be conducted in a manner in attempt to avoid compromising the structural integrity or alter the karst hydrology of nearby caves serving as Indiana bat hibernacula. Blasting within areas where dimensional limestone is being quarried will be completed following specifications developed in consultation with limestone industry representatives as well as the Indiana Geological Survey and other geology experts.

- ***Historic and Archaeological Resources***: Per the Section 106 Memorandum of Agreement (MOA) (see FEIS Vol. II, Appendix N), the contributing archaeological site within the Virginia Ironworks Archaeological District and the contributing archaeological site within the Victor Limestone Archaeological District will be documented per the Secretary of the Interior's Guidelines for Archaeological Documentation. Phase II evaluations and Phase Ic subsurface reconnaissance agreed to in the MOA, will be completed before construction on the project begins at that site. Commitments are included in the MOA to mitigate adverse impacts to archaeological resources that are determined eligible for the National Register of Historic Places (NRHP) as a result of Phase II or Phase Ic surveys, if any such resources are identified.

- ***Visual Impacts***: Mitigation of visual impacts will be considered during final design as part of Context Sensitive Solutions considerations, which may include vegetative screening and non-diffuse lighting if warranted.

- ***Open Water Impacts***: Mitigation involves using a 1 to 1 ratio for between 1.71 and 2.35 acres of impacts to ponds/lakes (including palustrine unconsolidated bottom [PUB] wetlands) as a result of Refined Preferred Alternative 2 (see FEIS Section 5.19.2.4, *Mitigation*). Borrow pit construction may be considered for mitigating these open water impacts.

- ***Stream Impacts***: Impacts to streams in Section 4 will be mitigated at a 1:1 ratio on a linear foot basis. This will include both on-site and off-site stream mitigation. Mitigation will be developed in coordination with IDEM and the USACE.
- ***Hazardous Material Impacts***: Appropriate cleanup of hazardous materials, if any, will be coordinated with appropriate agencies and property owners. Contractors will be required to maintain a spill response plan to address any incidents during construction.
- ***Wetland Impacts***: In addition to the mitigation identified in Section 5.1.2, above, the following commitments are made:
  - Wetland impacts will be minimized by further refinements in the alignment during design, if feasible. INDOT and FHWA are committed to mitigating for unavoidable wetland losses.
  - Wetlands within the right-of-way that are not to be filled will be delineated and protected from construction use.
  - Wetlands outside the actual footprint of the project will be protected from I-69 construction-related impacts from borrow and waste activities (see FEIS Sections 5.12.2.10, *Wetlands,* and 7.3.4, *Construction*). Wetland areas outside the construction limits within the right-of-way will be identified and protected from use as borrow or waste disposal sites, construction staging areas, etc. Wetlands adjacent to the construction limits will be protected with silt fences and other erosion control measures. Special Provisions in contracts relating to the construction of I-69 will include prohibiting the filling and other damaging of wetlands outside the construction limits within the right-of-way. Note: this prohibition would not include isolated ponds such as farm ponds and those developed from old borrow sites.
  - Construction will adhere to the Wetland MOU (dated January 28, 1991).
  - To prevent herbicides from entering wetland areas, “Do Not Spray” signs will be posted as appropriate in the right-of-way.
  - If appropriate, wetland mitigation may include wetland banking.
- ***Farmland Impacts***: Impacts will be minimized where feasible by managing access at interchange locations to discourage the development of large expanses of prime farmland, providing access to avoid landlocking parcels where reasonable, and providing overpasses at selected locations to maintain local road connectivity and access to farmland.
- ***Water Body Modifications***: Modifications will be minimized by keeping tree clearing and snag removal to a minimum and limited to within calendar requirements and the construction limits along streams and in wetland areas, mitigating unavoidable stream impacts in coordination with permitting agencies (IDEM, IDNR, and USACE as appropriate), using soil bioengineering techniques for bank stabilization where situations allow, placing culverts and other devices so they do not preclude the movement of fish and other aquatic organisms, and using erosion control devices to minimize sediment and debris.
- ***Ecosystems Impacts***: Impacts will be minimized by controlling invasive plants, coordinating with the USFWS pursuant to the Migratory Bird Treaty Act of 1918, and providing wildlife corridors (see FEIS Section 5.18.4). Impacts also will be mitigated through the development of mitigation sites.
- ***Water Quality Impacts***: Impacts will be minimized by crossing streams at their narrowest floodway width to the extent feasible, developing stream mitigation plans where necessary, returning disturbed in-stream habitats to their original condition when possible, minimizing tree clearing and snag

removal, avoiding wetlands as much as possible and following the 1991 Wetland MOU, following Best Management Practices (BMP) for erosion control, providing grass-lined ditches connected to filter strips and containment where appropriate, and minimizing the amount of salt used for deicing.

- ***Threatened and Endangered Species***: Conservation measures identified in the Tier 1 revised BO, and Tier 2 Section 4 BA, the Tier 2 Section 4 BO, and mitigation plan address impacts to Indiana bats. These measures are listed in the Tier 2 Section 4 FEIS, Section 7.3.16, *Threatened and Endangered Species,* and the documents are provided in their entirety in FEIS Vol. II, Appendices DD, JJ1, and JJ2, respectively. Mitigation measures include but are not limited to the following:

  Indiana bat (*Myotis sodalis*)

  - Prohibiting cutting trees with a diameter of three or more inches between April 1 and November 15 for areas within the Indiana bat Winter Action Area (WAA). The majority of Section 4 is within the Indiana bat WAA. For areas outside the WAA, tree cutting is prohibited from April 1 and September 30.
  - Adhering to the 1991 Wetland MOU and 1993 Karst MOU (see Tier 2 Section 4 FEIS Vol. II, Appendix W and Appendix AA).
  - Using measures to avoid water quality contamination, such as using designated equipment service areas and equipment maintenance.
  - Where appropriate, using spill prevention/containment, revegetation, and bridge design to avoid water quality contamination.
  - Summer habitat creation and enhancement in the Summer Action Area through wetland and forest mitigation focused on riparian corridors and existing forest blocks to provide habitat connectivity (as described in Sections 5.1.2 and 5.1.3, above).
  - Mitigating forest impacts at a ratio of 3 to 1 (replacement at a 1 to 1 minimum ratio and preservation at up to a 2 to 1 ratio).
  - Providing for education opportunities to inform the public about the presence and protection of bats, particularly the Indiana bat: As required by the Tier 1 ROD, $25,000 will be provided for the creation of an educational poster or exhibit and/or other educational outreach media to inform the public about the presence and protection of bats, particularly the Indiana bat.
  - Purchase of certain hibernacula from willing sellers and protection of certain hibernacula, including associated autumn swarming/spring staging habitat, with landowner permission.
  - Blasting of rock during construction of the interstate will be avoided in winter between September 15 and April 15 in areas near hibernacula. All blasting will be conducted in a manner that will not compromise the structural integrity or alter the karst hydrology of nearby caves serving as Indiana bat hibernacula.
  - Avoid and minimize the potential for changes within hibernacula, site-specific efforts will be made to minimize changes in the amount, frequency, and rate of flow of roadway drainage that enters karst systems that are determined to be hydrologically connected to Indiana bat hibernacula.
  - Total funding of $125,000 will be provided for research on the relationship between quality autumn/spring habitat near hibernacula and hibernacula use within/near the Action Area.

5.3 Tracking of Mitigation Commitments

Tracking of mitigation commitments and mitigation activities associated with each will be performed by INDOT. The overall mitigation tracking includes a GIS database for tracking of mitigation properties. In addition to the GIS database, INDOT will maintain a mitigation commitments listing that will be utilized to track all mitigation, including non-land-based mitigation commitment items, for implementation status. The multiple annual monitoring reports required by permit conditions, and under the conditions of the Section 4 Tier 2 BO, will include the GIS database information as well as tabular summary data derived from the database. INDOT will provide to permitting agencies and USEPA the tracking summary data on an annual basis. The summary will identify the mitigation commitments and describe the status of the activities-to-date associated with each commitment.

6.0 MONITORING AND ENFORCEMENT

Coordination with all appropriate state and federal regulatory agencies occurred throughout the Tier 1 process and has continued in Tier 2. Major regulatory requirements applicable to this project include the following:

- Adherence to the requirements of the Karst MOU of 1993.
- Consultation regarding historic and archaeological resources under Section 106 of the National Historic Preservation Act;
- Certification of conformity under the Clean Air Act;
- Consultation regarding threatened and endangered species under Section 7 of the Endangered Species Act;
- Permitting activities required as follows: permitting under Section 404 of the Clean Water Act, which requires permits for discharges into wetlands or other waters of the United States; water quality certification under Section 401 of the Clean Water Act; Construction Within a Floodway permitting under Indiana Flood Control Act; National Pollution Discharge Elimination System (NPDES) permitting for storm water discharges under the Clean Water Act; Class V Injection Well permitting; and permitting under Rule 5 of Indiana State Regulations regarding erosion and sediment control;
- Determination of no use of resources protected under Section 4(f) of the Department of Transportation Act of 1966 including publically owned parks, recreation areas, wildlife and waterfowl refuges, land from a historic property that is on or eligible for the National Register of Historic Places, and archaeological sites where preservation in place provides important value.

Actions committed to or taken to comply with the requirements are summarized below in Sections 6.1 to 6.5. Monitoring of the commitments within this project will be accomplished in part by INDOT maintaining the mitigation commitments listing and tracking GIS database with regular reviews by FHWA as the project progresses.

6.1 Section 106 (National Historic Preservation Act)

For Tier 2 of the I-69 project, a phased approach to investigate archaeological resources was developed. The phased approach included research of existing records and literature to identify known and potential resources in the project corridor. The research phase was followed by a Phase Ia surface survey and visual inspection to locate potential resources within the Area of Potential Effect (APE) of the preferred alternative. Eleven sites identified within the Selected Refined Preferred Alternative 2 were recommended for avoidance or additional study. In addition, Phase Ic investigations were recommended for seven creek crossing locations. The Phase II evaluations and the Phase Ic investigation will be completed (in consultation with the Indiana SHPO) following property acquisition, but prior to construction beginning at these sites (see Section 5.14, *Archaeology Impacts* of the Section 4 FEIS.)

On January 18, 2011, FHWA signed a modified “Section 106 Findings and Determinations: Effect Finding,” in accordance with the National Historic Preservation Act, that determined that there are eleven NRHP-listed or eligible resources within the APE of Section 4 and that the project would have an adverse effect on two of them, the Virginia Iron Works Archaeological District and the Victor Limestone Archaeological District. Due to the inability to complete Phase II evaluations and Phase Ic investigations, the finding stated the eligibility and effects for individual archaeological sites requiring additional study will be determined at a later date. On February 15, 2011, the Indiana SHPO concurred with this finding. The Section 106 Memorandum of Agreement (MOA) stipulates that the contributing archaeological site within the Virginia Ironworks Archaeological District and the contributing archaeological site within the Victor

Limestone Archaeological District will be documented per the Secretary of the Interior's Guidelines for Archaeological Documentation. Completion of the Phase II evaluations and Phase Ic evaluations will occur following acquisition of the subject properties. Commitments for completion of the Phase II evaluations and Phase Ic evaluations, or avoidance of the archaeological sites if possible, and further consultation if any potentially eligible resources are identified have been included in the MOA. If results of additional testing show that Phase III Archaeological Mitigation would be warranted, that work will be completed, in consultation with the Indiana SHPO, before construction on the project begins at that site. The Section 4 FEIS Vol. II, Appendix N, contains all documentation related to Section 106 activities in Section 4.

6.2 Air Quality Conformity Finding (Clean Air Act)

Pursuant to the 1990 CAA Amendments, Greene County has been designated a maintenance area for the 8-hour ozone standard. The county is currently in attainment of the standard and is under an approved maintenance plan. A regional conformity analysis was developed for the project in accordance with the required interagency consultation process. A conformity demonstration for Greene County, Indiana's 8-hour ozone maintenance area for the I-69 Tier 2 Section 4 Final Environmental Impact Statement (FEIS) was completed in December 2010. The conformity demonstration found that the I-69 Section 4 Tier 2 FEIS demonstrates conformity to the State Implementation Plan budgets as required by the conformity rule. FHWA, IDEM and the USEPA completed their reviews and found that the analyses and documentation meet the criteria outlined in the conformity rule.

Section 4 passes through CO attainment areas for NAAQS, and a conformity demonstration is not required at the regional-level or project-level. However, results of project level CO hotspot and the free-flow section analyses (which were measured at the worst case scenario locations) for the Build Alternative indicate no violation of the CO NAAQS. This demonstrates that there are no local air quality impacts of concern for CO.

Because Greene and Monroe counties are in attainment of the fine PM standard, fine particulate matter emissions were not identified as an air quality concern at the regional or project level based on the required interagency consultation meetings.

Regarding Mobile Source Air Toxics (MSATs), in the absence of established criteria for determining when MSAT emissions should be considered a significant issue in the NEPA context, a qualitative analysis of emissions to compare or differentiate among proposed project alternative scenarios was prepared, per FHWA[24] guidance. MSAT emissions are projected to decrease substantially in the future as a result of new EPA programs. As a result, the I-69 Section 4 project is expected to result in low potential MSAT effects. In addition, the I-69 Section 4 corridor is situated in a rural setting (the closest communities to the Preferred Alternative are the unincorporated communities of Scotland and Hobbieville, which are about one-half mile from the project), which would tend to lessen any impact from MSAT emissions.

6.3 Section 7 (Endangered Species Act)

On April 11, 2011, the Federal Highway Administration reinitiated Tier 1 Section 7 consultation based on new maternity colony information in Section 4, as well as documentation of the newly discovered disease White Nose Syndrome (WNS) within the action area. On May 25, 2011, the USFWS issued an Amendment to the August 24, 2006 Tier 1 revised BO (Revised Tier 1 BO), including a revised Incidental Take Statement (see Section 4 FEIS Vol. II, Appendix DD). The Amendment to the Revised Tier 1 BO

[24] Interim Guidance on Air Toxics in NEPA Documents, FHWA, Feb. 3, 2006.

also affirms the finding of the Revised Tier 1 BO that the I-69 project is not likely to jeopardize the continued existence of the Indiana bat.

A Tier 2 BA for Section 4 (see Section 4 FEIS Vol. II, Appendix JJ1) on the preferred alternative was prepared for USFWS in accordance with procedures set forth in the Revised Tier 1 BO. The Tier 2 Section 4 BA, which includes a plan for mitigation for impacts to wetlands, forests, and streams, stipulates that all conservation measures reported in the revised Tier 1 BO will be carried out as written. It also provides USFWS updated information on reasonably certain impacts. The Tier 2 Section 4 BA also provides USFWS with plans and impacts of the Section 4 project based on the preferred alternative, including access roads.

Conservation measures were jointly developed by the FHWA, INDOT, and USFWS during informal consultation and were subsequently incorporated into the Tier 1 BA and the Tier 1 BA Addendum as part of the official Proposed Action for the I-69 project. The Tier 2 Section 4 BA and mitigation plan are consistent with the mitigation and commitments in the amendment to the revised Tier 1 BO, except where status changes were made in conservation measures as reported in the Tier 2 BA. Such changes are documented in the Tier 2 BO issued July 6, 2011 (see Section 4 FEIS Vol. II, Appendix JJ2).

Since conservation measures are part of the Proposed Action, their implementation is required under the terms of the consultation. These measures were specifically designed to avoid and minimize impacts of the proposed action on Indiana bats and bald eagles and to further their recovery. The Section 4 FEIS (see Section 7.3.16, *Threatened and Endangered Species*) presents the conservation measures applicable to Section 4. Section 4 FEIS Section 5.17 (also titled *Threatened and Endangered Species*) and the revised Tier 1 BO provide a history of the Section 7 consultation for this project. The revised Tier 1 BO also contains the complete list of conservation measures for the I-69 project as a whole. The issuance of the Tier 2 Section 4 BO concluded formal Section 7 consultation for I-69 Section 4.

6.4 Permitting

6.4.1 Section 404 Permits (Clean Water Act)

Projects involving discharges of material into waters of the United States, including jurisdictional wetlands, require a permit or a letter of permission from USACE prior to the commencement of construction. As part of this project, all streams and potential wetlands within the project area were assessed. The assessment identified the streams and wetland areas within the project area that would be subject to USACE permitting jurisdiction.

At the same time as the Section 4 FEIS was being finalized for publication, coordination was underway with the USACE to make a Jurisdictional Determination for “Waters of the United States” that will be regulated under Section 404 of the Clean Water Act. USACE will make a jurisdictional determination that will take into account all aquatic resources, including wetlands, subject to Section 404 Permit jurisdiction.

The Section 4 FEIS (see Section 5.19, *Water Resources*) identifies stream, wetland, and open water impacts and the agreed-to mitigation ratios: 1 to 1 ratio for streams and open water, and 2 to 1 and 3 to 1 ratios for emergent wetlands and forested wetlands, respectively. The Section 4 Tier 2 BA and *Conceptual Mitigation Plan*, approved in USFWS’s Tier 2 Section 4 BO (see Section 4 FEIS Vol. II, Appendix JJ2) sets forth the specific plans for meeting these mitigation requirements. The USACE permit conditions will be addressed by the proposed mitigation for impacts to those resources.

Applicable Section 404 Permit(s) will be obtained prior to the start of construction in any area subject to Section 404 jurisdiction and any mitigation required by those permits will be implemented.

6.4.2 Section 401 Water Quality Certification (Clean Water Act)

Section 401 Water Quality Certifications must be obtained from IDEM prior to issuance of a Section 404 Permit. The Section 401 Water Quality Certification is a state's review of applications for USACE Section 404 permits for compliance with state water quality standards. Any activity involving dredging, excavation, or filling within waters of the United States requires a Section 401 Water Quality Certification from IDEM. Section 401 Water Quality Certifications will be obtained prior to the start of construction in any area subject to Section 401 Water Quality Certification requirements and any mitigation required by those permits will be implemented.

6.4.3 Construction in a Floodway Permit (Flood Control Act)

Construction in a Floodway permits are required from IDNR under Indiana's Flood Control Act (IC 14-28-1) and will be applied for during the design phase of this project.

6.4.4 NPDES Permit

A National Pollution Discharge Elimination System (NPDES) Permit is required from IDEM under 327 IAC 15-13 (Rule 13) and will be applied for during the design phase of this project.

6.5 Section 4(f) (Department of Transportation Act)

The applicable criteria of 23 CFR Part 774 have been met for Section 4 of the I-69 Evansville-to-Indianapolis project, and it has been determined that Section 4 will not use any identified resources protected under this regulation. Though it has been determined to be unlikely, if any archaeological sites eligible for the NRHP are identified that should be preserved in place in this section of the project, the protections under this section will be applied. For a discussion of Section 4(f), please refer to Section 4.0 of this ROD and the Section 4 FEIS, Chapter 8, *Section 4(f) Evaluation.*

7.0 POST-FEIS Issues

Two general areas of post-FEIS activity are described in this section. These include the identification of additional right-of-way outside of the footprints of the Refined Preferred Alternative 2, as shown in the FEIS, and additional coordination with the Bloomington Monroe County Metropolitan Planning Organization (BMCMPO).

7.1 Identification of Additional Right-of-Way

As described in the Section 4 FEIS (see Section 6.4.3, *Section 4 Right-of-Way and Construction Status*) INDOT is currently planning for the construction of Section 4. As provided in the *FHWA Policy on Permissible Project Related Activities during the NEPA Process* (October 1, 2010), preliminary design activities have continued. These design activities have identified minor modifications to the Refined Preferred Alternative which have resulted, in some instances, in small amounts of right-of-way which are outside the footprint of the Refined Preferred Alternative 2 (as defined under either the initial or low-cost design criteria).

Appendix F, *Post-FEIS Alignment Changes*, identifies 60.46 acres of additional right-of-way (26.86 acres of permanent right-of-way and 33.60 acres of temporary right-of-way) outside of the footprint of Refined Preferred Alternative 2. Appendix F identifies the land uses for this 60.46 acres of added right-of-way. This additional right-of-way occurs due to cul-de-sac construction, building removal, drainage treatment, driveway reconstruction, access road reconstruction, changes in cut and fill limits, stationing shifts, and similar needs.

This Record of Decision approves the modification to the Revised Preferred Alternative 2 to include the additional right-of-way acres. No additional NEPA analysis is needed because, as discussed in Appendix F, these minor modifications will not cause significant environmental impacts not evaluated in the FEIS.

7.2 Additional Coordination with Bloomington MPO

As documented in Section 2.2.3 of the FEIS, *Metropolitan Transportation Plans*, approximately 1.8 miles of the Section 4 project are located within the boundary of the BMCMPO. On November 5, 2010, the MPO's Policy Committee approved adding that part of the Section 4 project to the proposed FY 2010 – 2013 amended TIP. The approval included funding for preliminary engineering and right-of-way activities. On May 13, 2011, the BMCMPO Policy Committee voted to remove I-69 from its proposed FY 2012 – 2015 TIP. This amended TIP was not approved by the Governor. The BMCMPO was notified on June 20, 2011, that its current Year 2010 – 2013 TIP (which includes funds for preliminary engineering and right-of-way activities) remains as the current TIP, and that INDOT used that 2010 – 2013 TIP in the State's FY 2012 – 2015 STIP. This STIP was submitted to FHWA on June 20, 2011.

Subsequent to the publication of the Section 4 FEIS, INDOT Commissioner Michael Cline wrote to Kent McDaniel, Policy Committee Chairman of the BMCMPO, on July 27, 2011. Mr. Cline informed the BMCMPO in this letter that INDOT is returning BMCMPO's Draft 2012-2015 for revision and resubmittal. The letter also stated that INDOT found the actions of the MPO Policy Committee at its May 13, 2011 meeting to be "in direct violation of the BMCMPO's bylaws" regarding notification and public posting of TIP amendments, as well as publication of its meeting agendas. The letter also stated INDOT's desire that INDOT and the BMCMPO agree upon the inclusion of I-69 as part of its TIP.

Mr. Cline's letter is included in Appendix B, *Correspondence Since Publication of Tier 2 Section 4 FEIS.*

8.0 COMMENTS ON THE FINAL EIS

This portion of the ROD includes comments received by the INDOT on the Final EIS for the I-69 Tier 2 Section 4 project. The Final EIS was approved by the FHWA on July 13, 2011. The Notice of Availability of the Final EIS was published in the Federal Register on July 22, 2011.

Approximately 41 comment letters have been received by INDOT and FHWA regarding the Final EIS. INDOT and FHWA have carefully reviewed all comments received on the Final EIS. Detailed, point-by-point responses to these comments have been prepared in support of this ROD and are provided in the Comments and Responses document in Appendix C, herein. In Appendix C, each substantive comment within a submittal is presented individually and is immediately followed by the response. Copies of the correspondence, as submitted by the commenters, are included in Appendix C.

The following summarizes these comments on the Tier 2 Section 4 FEIS.

Indiana Department of Natural Resources – Division of Historic Preservation & Archaeology – August 15, 2011

- IDNR-DHPA noted that they had no comments on impacts to archaeological resources and above-ground historic properties beyond those comments that they had offered previously. (DHPA 01-01)

U.S. Environmental Protection Agency – August 22, 2011

- They found the FEIS both informative and generally responsive to most of their DEIS concerns and recommendations. (USEPA 01-03)
- The stream relocations for the Refined Preferred Alternative 2 have increased from the DEIS to the FEIS. (USEPA 01-01)
- Requested additional analysis should be undertaken regarding the vulnerability of water resources and mitigation measures. (USEPA 01-02)
- Requested that while the FEIS included a series of figures providing additional information on land use, USEPA would have preferred a single figure as well as including more information on known karst features, water wells, and springs. (USEPA 01-03, USEPA 01-08, USEPA 01-18)
- Noted that the Karst MOU must be rigorously implemented to prevent harm to karst resources. (USEPA 01-04, USEPA 01-05, USEPA 01-09, USEPA 01-10, USEPA 01-26)
- Requested that stream impacts be tracked as part of the I-69 tracking tally. (USEPA 01-06)
- Requested that future Tier 2 EISs include the INDOT tracking system. (USEPA 01-07)
- Requested that all streams with riffle-pool structures be bridged and the bridges span a stream's 100-year floodplain. (USEPA 01-12)
- Recommend riparian buffers to protect stream quality. (USEPA 01-13)
- Reiterated that stream resources will need formal mitigation. (USEPA 01-14)
- Requested that "areas of importance" be factored into karst impacts. (USEPA 01-15)
- Requested that the geophysical surveys be conducted during the preliminary engineering phase of the design. (USEPA 01-17, USEPA 01-24)
- Requested that baseline water quality sampling be conducted prior to construction activity. (USEPA 01-19)
- Noted that no discussion in FEIS of local, state, county provisions regarding wastewater treatment. (USEPA 01-20)
- Requested that cave expert be noted and methodology discussed regarding the "new" cave. (USEPA 01-22)
- Noted that project needs to specifically address effects of construction blasting on karst features. (USEPA 01-23, USEPA 01-29)
- Noted that the FEIS is unclear regarding project delivery method. (USEPA 01-25)

- Reiterated the desire of the FEIS to address climate change. (USEPA 01-33)

Hoosier Environmental Council – August 22, 2011

- Requested longer review period. (HEC 01-01)
- Noted increase in karst features from Tier 1 to Tier 2. (HEC 01-02)
- Concerned about the Greene-Monroe County line interchange. (HEC 01-03)
- Noted that the FEIS and BO have not adequately analyzed full and cumulative impacts on the hibernacula and surrounding habitats. (HEC 01-04)
- Concerned that the Indiana bat mitigation are not sufficient to offset impacts to the Indiana bat. (HEC 01-05)
- Concerned about INDOT management of the conservation easements. (HEC 01-06)
- Concerned about implementation and compliance with the Karst MOU. (HEC 01-07, HEC 01-08)
- Noted that the proposed mitigation on forest habitat is inadequate. (HEC 01-09)
- Concerned about cost analysis at the Tier 1 level. (HEC 01-10)
- Requested that additional analysis of the "interim" intersection at SR 37 be conducted. (HEC 01-11)

Citizens for Appropriate Rural Roads – August 21, 2011 and August 23, 2011

- Requested Supplemental EIS. (CARR 01-01, CARR 01-67, CARR 02-05)
- Concerned about difference in karst information between Tier 1 and Tier 2. (CARR 01-02, CARR 01-27)
- Concerned about the magnitude and extent of I-69 on karst features. (CARR 01-03)
- Questioned the existence of Appendix NN. (CARR 01-04, CARR 01-16, CARR 01-28)
- Concerned about the impacts of White Nose Syndrome on the Indiana bat. (CARR 01-05)
- Questioned whether the latest motor vehicle data has been used in the air quality analysis. (CARR 01-06)
- Concerned about funding of I-69 and other state transportation projects. (CARR 01-07)
- Concerned about procedures followed by INDOT as part of the TIP amendment process for the Bloomington Monroe County MPO. (CARR 01-08)
- Concerned about information on archaeologic and historic sites (Dowden Farm). (CARR 01-09, CARR 01-10, CARR 01-124)
- Access onto private property. (CARR 01-11, CARR 01-12)
- Requested longer review period. (CARR 01-15, CARR 01-17, CARR 01-68)
- Should study other alternatives. (CARR 01-19, CARR 01-26)
- Concerned about crash data and analysis. (CARR 01-20 CARR 02-01, CARR 02-02)
- Concerned about safety aspects of I-69. (CARR 01-22, CARR 01-29, CARR 02-03)
- Requested additional analysis for business and housing relocations as well as land valuation. (CARR 01-30, CARR 01-31, CARR 01-44)
- Concerned about the Greene-Monroe County line interchange. (CARR 01-37, CARR 01-38, CARR 01-39, CARR 01-57)
- Requested that the traffic analysis be updated. (CARR 01-42, CARR 01-45)
- Requested that the FEIS conduct a more detailed analysis for Mobile Source Air Toxics and PM-2.5. (CARR 01-50, CARR 01-52)
- Concerned about noise pollution and increases in noise levels. (CARR 01-53, CARR 01-100)
- Noted that project needs to specifically address effects of construction blasting on karst features. (CARR 01-54, CARR 01-102)
- Requested that the analysis address the following species including spadefoot toad, barn owl, red-shouldered hawk, cerulean warbler, bobcat, rough green snake, bald eagle, and cougar. (CARR 01-55)

- Requested additional definition regarding tree habitat in the median. (CARR 01-56)
- Concerned about INDOT management of the conservation easements and mitigation lands. (CARR 01-58, CARR 01-95)
- Concerned about wetland impacts and their magnitude. (CARR 01-63, CARR 01-64)
- Concerned about the stream relocations for the Refined Preferred Alternative 2 that have increased from the DEIS to the FEIS. (CARR 01-66)
- Requested more assurance regarding highway runoff and protecting the environment. (CARR 01-69, CARR 01-88, CARR 01-101)
- Requested more analysis on highway spills. (CARR 01-70)
- Requested discussion of mitigation regarding private wells. (CARR 01-72)
- Noted that the Karst MOU must be rigorously implemented to minimize impacts to karst resources. (CARR 01-78)
- Concerned about Rule 5 Erosion Control. (CARR 01-81)
- Requested additional information regarding growth in Greene and Monroe counties. (CARR 01-84)
- Requested that mitigation for farmland be discussed in the FEIS. (CARR 01-86)
- Noted that the proposed mitigation on forest habitat is inadequate. (CARR 01-87, CARR 01-96, CARR 01-98, CARR 01-117)
- Requested discussion of the composition of fill materials. (CARR 01-92)
- Concerned about lack of mention of opposition to I-69. (CARR 01-18,CARR 01-106)
- Reiterated concerns about the tiering process. (CARR 01-108)
- Requested the FEIS address earthquake design standards. (CARR 01-118)
- Reiterated that the finding of no adverse effect on the Scotland Hotel, the Blackmore Store, Old Clifty Church, and the Koontz House be rejected. (CARR 01-121)
- Requested additional notice regarding change in eligibility on the US 231 bridges. (CARR 01-122)
- Reiterated comments about the Knott property. (CARR 01-123)
- Requesting analysis of noise and visual impacts to cemeteries within the APE. (CARR 01-126)
- Reiterated comments of others on the DEIS that were addressed in the FEIS. (CARR 01-132, CARR 01-133, CARR 01-134, CARR 01-135)
- Requested that additional analysis of the “interim” intersection at SR 37 be conducted. (CARR 02-04)

Bloomington Common Council – August 21, 2011

- Concerned that the Indiana STIP is invalid since the STIP does not reflect the Bloomington Monroe County MPO current position on I-69. (BCC 01-01)

Keith Dunlap – July 27, 2011, July 28, 2011, August 15, 2011, August 16, 2011, August 22, 2011

- Questioned the existence of Appendix NN and website links. (Dunlap 01-01, Dunlap 02-01, Dunlap 03-01, Dunlap 05-01)
- Concerned about the analysis on the Level 2 Design Exception related to the Critical Length of Grade. (Dunlap 04-01, Dunlap 07-01, Dunlap 07-02, Dunlap 07-04, Dunlap 08-02)
- Concerned about the Indiana Design Manual suggesting a general grade deviation regarding truck climbing lanes. (Dunlap 07-03, Dunlap 07-09)
- Concerns regarding the “Crash Involvement Rate” charts used in the crash analysis. (Dunlap 07-05)
- Concerned regarding the benefit-to-cost calculations. (Dunlap 07-06, Dunlap 07-07, Dunlap 07-08)
- Concerned about the design criteria for I-69 Section 4. (Dunlap 08-01, Dunlap 08-03)

Indiana Karst Conservancy – August 21, 2011

- Questioned the existence of Appendix NN. (IKC 01-01)

- Concerned regarding the Karst MOU and its protection of karst features. (IKC 01-02)
- Reiterated that the IKC alignment should be analyzed. (IKC 01-03, IKC 01-04, IKC 01-05, IKC 01-06)
- Concerned about the inclusion of the Greene-Monroe County line interchange. (IKC 01-07)

Clark Sorenson – August 16, 2011, August 17, 2011, August 19, 2011, August 24, 2011

- Questioned the date for the signing of the ROD. (Sorenson 01-01, Sorenson 02-01, Sorenson 03-01, Sorenson 04-01)
- Questioned the existence of Appendix NN. (Sorenson 03-01, Sorenson 04-01)

Jan and William Boyd – July 22, 2011, July 28, 2011, August 21, 2011, August 22, 2011, August 24, 2011, August 25, 2011

- Questioned the review period date for commenting on the 800.11(e) documentation. (Boyd 01-01, Boyd 02-01)
- Questioned the review period for commenting on the FEIS. (Boyd 03-01, Boyd 05-01, Boyd 06-01, Boyd 09-01)
- Questioned the reference to Appendix NN. (Boyd 04-01, Boyd 07-01, Boyd 08-01, Boyd 11-01, Boyd 13-01)
- Questioned changes in page length to the corrected DVD. (Boyd 04-02, Boyd 07-01, Boyd 08-01, Boyd 11-01, Boyd 12-01, Boyd 13-01)
- Questioned INDOT letter date for corrected DVD. (Boyd 04-03, Boyd 07-01, Boyd 11-01, Boyd 13-01)
- Questioned the determination of eligibility of the Dowden Farm. (Boyd 05-02)
- Noted that changes in design will require a re-evaluation of impacts upon historic properties. (Boyd 05-03)
- Noted that INDOT letter for corrected DVD arrived with consultant return address. (Boyd 08-03)
- Noted that there could be noise impact to Scotland Hotel, Blackmore Store, Koontz House, and Maurice Head House. (Boyd 05-04)
- Noted that response in DEIS regarding archaeological site 12Gr1095 is incorrect. (Boyd 05-05)

John Licht – July 22, 2011

- Requested information on I-69 and railroad intersections. (Licht 01-01)

Scott Clarke – July 26, 2011

- Questioned the status of bridging various roads including Harmony Road. (Clarke 01-01)

Jerry Merriman – July 26, 2011

- Asked that he be removed from I-69 mailing list. (Merriman 01-01)

Eddie Higgins – July 27, 2011

- Questioned the status of his house and possible acquisition. (Higgins 01-01)

Marie Young – July 27, 2011

- Questioned the Vernal Pike realignment. (Young 01-01)

Various Individuals Associated with Bloomington MPO

- Concerns about refusal of INDOT/Governor to accept new Bloomington TIP. (Baker 01-01)
- Fiscal constraint of Section 4 project. (Baker 01-02, Martin 01-02)
- Availability of funds to MPO for other projects. (Baker 01-03, Martin 01-01)

- Including I-69 in MPO TIP. (Baker 01-04, Baker 01-05)
- Degree of cooperation by INDOT in 3C process. (Martin 01-03, Martin 01-07)
- Insufficient time to review FEIS. (Martin 01-04, Martin 02-03)
- Lack of detail in FEIS. (Martin 01-05, Martin 02-02, Williams 01-03)
- Conflicts of I-69 with local ordinances. (Martin 01-06)
- Adequacy of critical length of Grade Analysis in Appendix GG; use of data from overseas. (Martin 02-01, Williams 01-01)
- INDOT commitment to upgrades on SR 37 (Williams 01-02)

9.0 RECORD OF DECISION

For the foregoing reasons, and based on the analysis and evaluation contained in the project's Final Environmental Impact Statement; after careful consideration of all the identified social, economic, and environmental factors and input received from other agencies, organizations, and the public; and the factors and project commitments and mitigation measures outlined above, it is the decision of the FHWA to approve the selection of Refined Preferred Alternative 2 as the Selected Alternative for the I-69 Tier 2 Section 4 project.

September 8, 2011
Date

Robert F. Tally, Jr.
Division Administrator
Federal Highway Administration
Indiana Division