during the site reconnaissance. For reference to field data collected for this wetland see DP 224 included in the Appendix B. DP 225 included in Appendix B is representative of the upland areas surrounding Wetland 105. DP 225 lacked the hydrophytic vegetation, hydric soil, and hydrology to be determined a wetland.

3.1.109 Wetland 106

Wetland 106 is an emergent wetland located along the northbound lanes of I-65. The wetland begins approximately 0.30 mile south of Moonglo Road and is associated with the roadside ditch. Wetland 106 extends northeast beyond the State owned right-of-way. The wetland derives water from runoff from I-65.

Wetland 106 appears to drain southeast via a non-jurisdictional roadside ditch. Therefore, as the wetland does not abut a jurisdictional waters of the US and is not flooded in a typical year, it is anticipated to be a waters of the State. Wetland 106 is a Class I NF wetland located within mapped upland soils. The wetland extends northeast beyond the State owned right-of-way and investigated area. As the wetland extends beyond the State owned right-of-way into adjacent forested land, Wetland 106 is not likely eligible for State exemptions under 327 IAC 17-1-3 (7).

The dominant vegetation consisted of *Leersia oryzoides*, *Impatiens capensis*, and *Persicaria pennsylvanica* within the herbaceous stratum. Hydrologic indicators included High Water Table (A2) at 1 inch, Saturation (A3) at the surface, and FAC-Neutral Test (D5). Hydric soil indicators included Depleted Matrix (F3). Soil color and texture information are located in the table below:

Data Point	Depth (inches)	Soil Color	Soil Texture
DP 226	0-10	90% 10YR 4/1 with 10% 10YR 4/6 as a concentration in the matrix	Loamy/Clayey
	10-18	85% 10YR 4/1 with 15% 10YR 4/6 as a concentration in the matrix	Loamy/Clayey

Wetland 106 would be considered PEME under the Cowardin Classification System. Wetland 106 is 0.026 acre and extends northeast beyond investigated area. Wetland 106 would be considered a poor quality wetland due to its association with a roadside ditch. A continuous defined bed and bank or OHWM was not observed during the site reconnaissance. For reference to field data collected for this wetland see DP 226 included in the Appendix B. DP 227 included in Appendix B is representative of the upland areas surrounding Wetland 106. DP 227 lacked the hydrophytic vegetation, hydric soil, and hydrology to be determined a wetland.

3.2 Drainage Features, Streams, and Other Potential Waters of the US

3.2.1 Blue Lick Creek

Blue Lick Creek enters the investigated area approximately 0.17 mile south of Biggs Road. The stream flows east for 216 feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Blue Lick Creek is approximately 15.3 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Blue Lick Creek appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Blue Lick Creek would be considered a jurisdictional water of the US.

Blue Lick Creek is crossed once within the proposed project area by I-65 (Bridge No. I65-16-4220D). A QHEI was taken west of I-65 outside of the bridge's influence on the channel. The stream has low embeddedness and the channel was moderately stable. The stream had sparse in-stream cover, with some woody debris. The dominant substrate was bedrock. The OHWM of Blue Lick Creek at the assessment location was 30.5 feet wide by 1.6 feet deep. Top-of-bank was 32 feet wide by 2 feet deep. Blue Lick Creek would be classified as Riverine, Lower Perennial, Rock Bottom, Bedrock (R2RB1) using the Cowardin Classification System.

The overall QHEI score for the 200-foot sampled stream segment was 57. This is a good narrative rating in the manual. Blue Lick Creek scored highest for Riparian Zone/Bank Erosion (9/10). However, the poor riffle/run quality may be a limiting factor to the quality of the stream.

3.2.2 UNT to Blue Lick Creek

UNT to Blue Lick Creek enters the investigated area approximately 0.02 mile south of Biggs Road. The stream flows east for 249 feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Blue Lick Creek is approximately 0.08 square mile. UNT to Blue Lick Creek is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT to Blue Lick Creek is conveyed through a reinforced concrete pipe (RCP) maintenance pipe (UNT to Blue Lick CV) beneath I-65 which is approximately 161-linear feet in length. This portion of the stream (UNT to Blue Lick CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of UNT to Blue Lick Creek upstream and downstream of UNT to Blue Lick Creek CV within the investigated area total 88-linear feet.

A HHEI was conducted for UNT to Blue Lick Creek along the southbound lanes of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded. The stream had moderate in-stream cover, with some overhanging vegetation. The dominant substrate was silt. The OHWM of UNT to Blue Lick Creek at the assessment location was 3 feet wide by 0.45 foot deep. Top-of-bank was 3.5 feet wide by 0.45 feet deep. UNT to Blue Lick Creek would be classified as Riverine, Unconsolidated Bottom, Mud (RUB3) using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 200-foot sampled stream segment was 31. UNT to Blue Lick Creek would be considered a poor quality stream due to the lack of development and poor stability. UNT to Blue Lick Creek scored highest for Pool Depth (15/30). However, the poor bankfull width and Substrate may be limiting factors to the quality of the stream.

3.2.3 Caney Fork

Caney Fork enters the investigated area approximately 0.70 mile north of Biggs Road. The stream flows east for 277 feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Caney Fork is approximately 7.87 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Caney Fork appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Caney Fork would be considered a jurisdictional water of the US.

Caney Fork is crossed once within the proposed project area by I-65 (Bridge No. I65-17-4222D). A QHEI was taken west of I-65 outside of the bridge's influence on the channel. The stream has moderate embeddedness and has moderate channel stability. The stream had sparse in-stream cover, with some root mats, overhanging vegetation, and aquatic macrophytes. The dominant substrate was cobble. The OHWM of Caney Fork at the assessment location was 27.4 feet wide by 1.5 feet deep. Top-of-bank was 30 feet wide by 2 feet deep. Caney Fork would be classified as Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel (R2UB1) using the Cowardin Classification System.

The overall QHEI score for the 200-foot sampled stream segment was 62. This is a good narrative rating in the manual. Caney Fork scored highest for Riparian Zone/Bank Erosion (8/10). However, the poor riffle/run quality may be a limiting factor to the quality of the stream.

3.2.4 Henry Brook

Henry Brook enters the investigated area approximately 0.81 mile south of SR 160 and flows south along the northbound lanes of I-65 for approximately 800 feet before crossing. The stream flows west for 225 feet before exiting the investigated area at the first crossing. The stream re-enters the investigated area approximately 1.49 miles south of SR 160 and continues flowing south before crossing I-65 again; approximately 1,018 feet of the stream is within the investigated area between the two crossings. The stream flows east for 210 feet before exiting the investigated area at the second crossing. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Henry Brook is approximately 0.35 square mile. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. Henry Brook appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Henry Brook would be considered a jurisdictional water of the US.

Henry Brook is conveyed through CV I65-010-17.70 (southern crossing) and CV I65-010-18.35 (northern crossing) beneath I-65. CV I65-010-17.70 (Henry Brook CV 1) is a high-density polyethylene (HDPE) pipe culvert, which is approximately 173-linear feet in length. CV I65-010-18.35 (Henry Brook CV 2) is a

corrugated metal pipe (CMP) culvert, which is approximately 189-linear feet in length. These portions of the stream (Henry Brook CV 1 and Henry Brook CV 2) are anticipated to be considered artificial drainage features and non-jurisdictional. The portions of Henry Brook within the investigated area upstream and downstream of Henry Brook CV 1 and Henry Brook CV 2 total 1891-linear feet.

A HHEI was taken west of I-65 at the southern crossing outside of the culvert's influence on the channel. The stream is moderately embedded. The stream had moderate in-stream cover, with some overhanging vegetation and woody debris. The dominant substrate was silt. The OHWM of Henry Brook at the assessment location was 7 feet wide by 0.5 feet deep. Top-of-bank was 7 feet wide by 0.55 feet deep. Henry Brook would be classified as Riverine, Intermittent, Streambed, Mud (R4SB5) using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 41. Henry Brook would be considered an average quality stream due to poor stability. Henry Brook scored highest for Pool Depth and Bank Full Width (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.5 UNT to Caney Fork

UNT to Caney Fork enters the investigated area approximately 0.12 mile south of SR 160. The stream flows west for 10 feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Caney Fork is approximately 0.06 square mile. UNT to Caney Fork is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT to Caney Fork begins at a maintenance pipe outlet along the southbound lanes of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded. The stream had sparse in-stream cover, with some overhanging vegetation. The dominant substrate was silt. The OHWM of UNT to Caney Fork at the assessment location was 3.5 feet wide by 0.33 feet deep. UNT to Caney Fork would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 10-foot sampled stream segment was 32. UNT to Caney Fork would be considered a poor quality stream due to the lack of development and poor stability. UNT to Caney Fork scored highest for Pool Depth (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.6 Ville Run

Ville Run enters the investigated area approximately 0.39 mile north of SR 160. The stream flows east for 268 feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Ville Run is approximately 0.07 square mile. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. Ville Run appears to drain

east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Ville Run would be considered a jurisdictional water of the US.

Ville Run is conveyed through CV I65-010-19.60 (Ville Run CV) beneath I-65, which is a CMP culvert approximately 307-linear feet in length, 244 linear feet of which lie within the investigated area . This portion of the stream (Ville Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of Ville Run downstream of Ville Run CV within the investigated area is 24-linear feet.

A HHEI was conducted for Ville Run along the northbound lanes of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded. The stream had moderate in-stream cover, with some overhanging vegetation and woody debris. The dominant substrate was artificial. The OHWM of Ville Run at the assessment location was 2.5 feet wide by 0.33 feet deep. Ville Run would be classified as Riverine, Intermittent, Streambed, Sand (R4SB4) using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 43. Ville Run would be considered an average quality stream due to lack of development and high quality substrate. Ville Run scored highest for Pool Depth and Bank Full Width (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.7 Wolf Run

Wolf Run enters the investigated area approximately 0.06 mile south of Winding Road. The stream flows east for 279 feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Wolf Run is approximately 1.57 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Wolf Run appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Wolf Run would be considered a jurisdictional water of the US.

Wolf Run is conveyed through CV I65-010-19.90 (Wolf Run CV) beneath I-65 which is a CMP culvert approximately 270-linear feet in length. This portion of the stream (Wolf Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of Wolf Run upstream and downstream of Wolf Run CV within the investigated area total 9-linear feet.

A QHEI was conducted for Wolf Run along the southbound lanes of I-65 outside of the culvert's influence on the channel. The stream has moderate embeddedness and the banks were moderately stable. The stream had sparse in-stream cover, with some root mats, overhanging vegetation, and aquatic macrophytes. The dominant substrate was silt. The OHWM of Wolf Run at the assessment location was 7.2 feet wide by 1.6 feet deep. Top-of-bank was 9 feet wide by 2 feet deep. An approximately 22 foot wide by 4.5-foot deep scour hole is present at the culvert outlet along the northbound lanes of I-65. Wolf Run would be classified Riverine, Lower Perennial, Unconsolidated Bottom, Mud (R2UB3) using the Cowardin Classification System.

The overall QHEI score for the 200-foot sampled stream segment was 46.5. This is a fair narrative rating in the manual. Wolf Run scored highest for Riparian Zone/Bank Erosion (7.5/10). However, the poor instream cover may be a limiting factor to the quality of the stream.

3.2.8 UNT 1 to Wolf Run

UNT 1 to Wolf Run enters the investigated area approximately 0.42 mile south of Winding Road. The stream flows south for 222 feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Wolf Run is approximately 0.06 square mile. UNT 1 to Wolf Run is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 1 to Wolf Run begins at a maintenance pipe outlet along the southbound lanes of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream has normal embeddedness and the banks were moderately stable. The stream had sparse in-stream cover, with some overhanging vegetation and woody debris. The dominant substrate was silt. The OHWM of UNT 1 to Wolf Run at the assessment location was 2 feet wide by 0.5 feet deep. UNT 1 to Wolf Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 200-foot sampled stream segment was 21. UNT 1 to Wolf Run would be considered a poor quality stream due to lack of instream features and poor development. UNT 1 to Wolf Run scored highest for Substrate (11/40). However, the poor pool depth may be a limiting factor to the quality of the stream.

3.2.9 UNT 2 to Wolf Run

UNT 2 to Wolf Run enters the investigated area approximately 0.15 mile south of Winding Road. The stream flows south for 80 feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 2 to Wolf Run is approximately 0.19 square mile. Based on the watershed size and surrounding landscape, the stream flow is anticipated to be intermittent. The stream is not a County Legal Drain. UNT 2 to Wolf Run appears to drain south to Wolf Run, which drains to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated UNT 2 to Wolf Run would be considered a jurisdictional water of the US.

UNT 2 to Wolf Run begins at a maintenance pipe outlet along the northbound lanes of I-65. A HHEI was taken east of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded with eroding banks. The stream had sparse in-stream cover, with some overhanging vegetation. The dominant substrate was artificial. The OHWM of UNT 2 to Wolf Run at the assessment location was 5.2 feet wide by 2 feet deep. Top-of-bank was 7 feet wide by 3 feet deep. UNT 2 to Wolf Run would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 48. UNT 2 to Wolf Run would be considered an average quality stream due to poor stability. UNT 2 to Wolf Run scored highest for Bank Full Width (20/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.10 UNT 1 to Miller Fork

UNT 1 to Miller Fork enters the investigated area approximately 0.15 mile north of Winding Road. The stream flows south 50 feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 1 to Miller Fork is 0.27 square mile. Based on the watershed size and surrounding landscape, the stream flow is anticipated to be intermittent. The stream is not a County Legal Drain. UNT 1 to Miller Fork appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated UNT 1 to Miller Fork would be considered a jurisdictional water of the US.

UNT 1 Miller Fork begins at a maintenance pipe outlet along the northbound lanes of I-65. A HHEI was taken east of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded with eroding banks. The stream had moderate in-stream cover, with some overhanging vegetation, woody debris, and root mats. The dominant substrate was sand. The OHWM of UNT 1 to Miller Fork at the assessment location 3.5 feet wide by 2 feet deep. Top-of-bank was 5 feet wide by 3.5 feet deep. UNT 1 to Miller Fork would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 64. UNT 1 to Miller Fork would be considered an average quality stream due to lack of high quality substrate. UNT 1 to Miller Fork scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.11 UNT 2 to Miller Fork

UNT 2 to Miller Fork enters the investigated area approximately 0.47 mile south of Brownstown Road The stream flows east 30 feet before flowing into UNT 3 to Miller Fork. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 2 to Miller Fork is 0.09 square mile. UNT 2 to Miller Fork is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 2 to Miller Fork begins at a maintenance pipe outlet along the northbound lanes of I-65. A HHEI was taken east of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded. The stream had sparse in-stream cover, with some overhanging vegetation. The dominant substrate was artificial. The OHWM of UNT 2 to Miller Fork at the assessment location 2 feet wide by 0.5 feet deep. UNT 2 to Miller Fork would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 30-foot sampled stream segment was 28. UNT 2 to Miller Fork would be considered a poor quality stream due to lack of instream features and high quality substrate. UNT 2 to Miller Fork scored highest for Pool Depth (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.12 UNT 3 to Miller Fork

UNT 3 to Miller Fork enters the investigated area approximately 0.41 mile south of Brownstown Road. The stream flows east for 561 feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 3 to Miller Fork is 0.25 square mile. Based on the watershed size and surrounding landscape, the stream flow is anticipated to be intermittent. The stream is not a County Legal Drain. UNT 3 to Miller Fork appears to drain east to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated UNT 3 to Miller Fork would be considered a jurisdictional water of the US.

UNT 3 to Miller Fork is conveyed through CV I65-010-20.85 (UNT 3 to Miller Fork CV) beneath I-65 which is an HDPE culvert approximately 281-linear feet in length. This portion of the stream (UNT 3 to Miller Fork CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 3 to Miller Fork upstream and downstream of UNT 3 to Miller Fork CV within the investigated area total 280-linear feet.

A HHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded. The stream had moderate in-stream cover, with some overhanging vegetation and woody debris. The dominant substrate was silt. The OHWM of UNT 3 to Miller Fork at the assessment location 4.5 feet wide by 2 feet deep. Top-of-bank was 5 feet wide by 3 feet deep. UNT 3 to Miller Fork would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 59. UNT 3 to Miller Fork would be considered an average quality stream due to lack of instream features. UNT 3 to Miller Fork scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.13 Miller Fork

Miller Fork enters the investigated area approximately 0.2 mile south of Brownstown Road. The stream flows east for 327 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Miller Fork is 1.367 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Miller Fork appears to drain east towards Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Miller Fork would be considered a jurisdictional water of the US.

Miller Fork is conveyed through CV I65-010-21.10 (Miller Fork CV) beneath I-65 which is a CMP culvert approximately 262-linear feet in length. This portion of the stream (Miller Fork CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of Miller Fork upstream and downstream of the Miller Fork CV within the investigated area total 65-linear feet.

A QHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream has low embeddedness and the banks were moderately stable. The stream had sparse in-stream cover, with some woody debris and overhanging vegetation. The dominant substrate was gravel. The OHWM of Miller Fork at the assessment location was 8 feet wide by 0.67 feet deep. Top-of-bank was 12 feet wide by 1.5 feet deep.

An approximately 30 foot wide, 2 feet deep scour hole is present at the culvert outlet along the northbound lanes of I-65. Miller Fork would be classified as Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel (R2UB1) using the Cowardin Classification System.

The overall QHEI score for the 200-foot sampled stream segment was 52. This is a fair narrative rating in the manual. Miller Fork scored highest for Riparian Zone/Bank Erosion (9/10). However, the poor riffle/run quality may be a limiting factor to the quality of the stream.

3.2.14 UNT 4 to Miller Fork

UNT 4 to Miller Fork enters the investigated area approximately 0.1 mile south of Brownstown Road. The stream flows south for 258 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 4 to Miller Fork is 0.01 square miles. UNT 4 to Miller Fork is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 4 to Miller Fork is not crossed within the proposed project area and begins along the east side of I-65. A HHEI was conducted for UNT 4 to Miller Fork along the northbound lanes of I-65. A HHEI was taken east of I-65. The stream is poorly developed with unstable banks. The stream had moderate in-stream cover, with some woody debris, overhanging vegetation, and root wads. The dominant substrate was sand. The OHWM of UNT 4 to Miller Fork at the assessment location was 2 feet wide by 0.4 feet deep. Top-of-bank was 3 feet wide by 0.67 feet deep. UNT 4 to Miller Fork would be classified as would be classified as a Riverine, Unconsolidated Bottom, Sand (RUB2) using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes. The overall HHEI score for the 200-foot sampled stream segment was 41. UNT 4 to Miller Fork would be considered a poor quality stream due to the lack of development and poor stability. UNT 4 to Miller Fork scored highest for Pool Depth (25/30). However, the substrate may be a limiting factor to the quality of the stream.

3.2.15 UNT 1 to Meal Run

UNT 1 to Meal Run enters the investigated area approximately 0.5 mile north of Brownstown Road. The stream flows northeast for 280 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 1 to Meal Run is 0.06 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. UNT 1 to Meal Run appears to drain northeast to Meal Run, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated UNT 1 to Meal Run would be considered a jurisdictional water of the US.

UNT 1 to Meal Run is conveyed through a maintenance pipe (UNT 1 to Meal Run CV) beneath I-65 which is a CMP approximately 222-linear feet in length. This portion of the stream (UNT 1 to Meal Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 1 to Meal Run upstream and downstream of UNT 1 to Meal Run CV within the investigated area total 58-linear feet.

A HHEI was taken east of I-65 outside of the maintenance pipe's influence on channel. The stream is highly embedded with undercut banks. The stream had moderate in-stream cover, with woody debris. The dominant substrate was silt. The OHWM of UNT 1 to Meal Run at the assessment location was 4 feet wide by 0.6 feet deep. Top-of-bank was 6 feet wide by 1 foot deep. UNT 1 to Meal Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 60. UNT 1 to Meal Run would be considered a poor quality stream due to the high embeddedness and poor substrate. UNT 1 to Meal Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.16 Meal Run

Meal Run enters the investigated area approximately 0.8 mile north of Brownstown Road. The stream flows east for 316 linear feet before exiting the investigated area. The stream is depicted on USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Meal Run is 0.143 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. Meal Run appears to drain east towards Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Meal Run would be considered a jurisdictional water of the US.

Meal Run is conveyed through CV I65-010-22.10 (Meal Run CV) beneath I-65 which is an HDPE culvert approximately 281-linear feet in length. This portion of the stream (Meal Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of Meal Run upstream and downstream of Meal Run CV within the investigated area total 35-linear feet.

A HHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded with eroding banks. The stream had moderate in-stream cover, with undercut banks and some woody debris. The dominant substrate was gravel. The OHWM of Meal Run at the assessment location was 6 feet wide by 0.67 feet deep. Top-of-bank was 10 feet wide by 2.5 feet deep. Meal Run would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 64. Meal Run would be considered a poor quality stream due to the poor substrates and eroding banks. Meal Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.17 Wheel Run

Wheel Run enters the investigated area approximately 0.5 mile north of Brownstown Road. The stream flows east for 397 linear feet before entering a culvert under I-65 southbound. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Wheel Run is 0.044 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. Wheel Run appears to drain east to Mill Branch, which drains to Miller Fork, which drains to Grain Run, which drains to Silver Creek, a TNW. Therefore, it is anticipated Wheel Run would be considered a jurisdictional water of the US.

Wheel Run is crossed twice within the proposed project area, once by the I-65 mainlines (Wheel Run CV 2) and once by the rest area exit ramp (Wheel Run CV 1) and conveyed by maintenance pipe. Wheel Run CV 2 is a CMP maintenance pipe approximately 234-linear feet in length and Wheel Run CV 1 is a CMP maintenance pipe approximately 177-linear feet in length, 79-linear feet of which lie within the project area. These portions of the stream (Wheel Run CV 1 and Wheel Run CV 2) are anticipated to be considered artificial drainage features and non-jurisdictional. The portions of Wheel Run upstream of Wheel Run CV 1 and Wheel Run CV 2 within the investigated area total 84-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded with unstable banks. The stream had moderate in-stream cover, with woody debris and overhanging vegetation. The dominant substrate was silt. The OHWM of Wheel Run at the assessment location was 1 foot wide by 0.25 feet deep. Top-of-bank was 3 feet wide by 0.67 feet deep. Wheel Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 32. Wheel Run would be considered a poor quality stream due to the embeddedness and unstable banks. Wheel Run scored highest for Pool Depth (15/30). However, the substrate may be a limiting factor to the quality of the stream.

3.2.18 West Fork Silver Creek

West Fork Silver Creek enters the investigated area approximately 1 mile south of Liberty Knob Road. The stream flows northeast for 555 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of West Fork Silver Creek is 0.264 square miles. The flow regime appears to be intermittent based on watershed size and surrounding landscape. The stream is not a County Legal Drain. West Fork Silver Creek appears to drain east to Silver Creek, a TNW. Therefore, it is anticipated West Fork Silver Creek would be considered a jurisdictional water of the US.

West Fork Silver Creek is conveyed through CV I65-010-22.65 (West Fork Silver Creek CV) beneath I-65 which is a CMP culvert approximately 255-linear feet in length. This portion of the stream (West Fork Silver Creek CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of West Fork Silver Creek upstream and downstream of West Fork Silver Creek CV within the investigated area total 300-linear feet.

A HHEI was taken west of I-65 outside of the culvert's influence on channel. The stream is highly embedded with unstable banks. The stream had moderate in-stream cover, with woody debris and overhanging vegetation. The dominant substrate was gravel. The OHWM of West Fork Silver Creek at the assessment location was 6 feet wide by 0.4 feet deep. Top-of-bank was 9 feet wide by 1 foot deep. West Fork Silver Creek would be classified as Riverine, intermittent, R4SB3 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 60. West Fork Silver Creek would be considered a poor quality stream due to the embeddedness and unstable banks. West Fork Silver Creek scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.19 UNT to West Fork Silver Creek

UNT to West Fork Silver Creek enters the investigated area approximately 0.9 mile south of Liberty Knob Road. The stream flows east for 322 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to West Fork Silver Creek is 0.535 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. UNT to West Fork Silver Creek appears to drain east to West Fork Silver Creek, which drains to Silver Creek, a TNW. Therefore, it is anticipated UNT to West Fork Silver Creek would be considered a jurisdictional water of the US.

UNT to West Fork Silver Creek is conveyed through CV I65-010-22.27 (UNT to West Fork Silver Creek CV) beneath I-65 which is a CMP culvert approximately 297-linear feet in length, 264–linear feet of which lie within the project area. This portion of the stream (UNT to West Fork Silver Creek CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of UNT to West Fork Silver Creek downstream of UNT West Fork Silver Creek CV within the investigated area is 58-linear feet.

A HHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream is covered with riprap within the investigated area. The banks were stable with a lack of instream features. The dominant substrate was artificial. The OHWM of UNT to West Fork Silver Creek at the assessment location was 4 feet wide by 0.6 feet deep. Top-of-bank was 9 feet wide by 2 feet deep. UNT to West Fork Silver Creek would be classified as Riverine, Intermittent, Streambed, Rubble (R4SB2) using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 53. UNT to West Fork Silver Creek would be considered a poor quality stream due to the prominence of artificial substrate and lack of instream features. UNT to West Fork Silver Creek scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.20 UNT to Pigeon Roost Creek

UNT to Pigeon Roost Creek enters the investigated area approximately 0.7 mile north of Liberty Knob Road. The stream flows northeast for 61 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Pigeon Roost Creek is 0.037 square miles. UNT to Pigeon Roost Creek is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT to Pigeon Roost Creek begins at a maintenance pipe outlet along the northbound lanes of I-65. A HHEI was taken east of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded, with moderately stable banks and a lack on instream features. The dominant substrate was silt. The OHWM of UNT to Pigeon Roost Creek at the assessment location was 2 feet wide by 0.5 feet deep. Top-of-bank was 3 feet wide by 0.8 feet deep. UNT to Pigeon Roost Creek would be classified as RUB2 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 200-foot sampled stream segment was 42. UNT to Pigeon Roost Creek would be considered a poor quality stream due to the lack of development and instream features. UNT to Pigeon Roost Creek scored highest for Pool Depth (25/30). However, the poor instream cover may be a limiting factor to the quality of the stream.

3.2.21 Pigeon Roost Creek

Pigeon Roost Creek enters the investigated area approximately 1.1 mile north of Liberty Knob Road. The stream flows northeast for 220 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Pigeon Roost Creek is 8.959 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Pigeon Roost Creek appears to drain north and east to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated Pigeon Roost Creek would be considered a jurisdictional water of the US.

Pigeon Roost Creek is crossed once within the proposed project area, by northbound I-65 and southbound I-65 (Bridge I65-24-4229A). A QHEI was taken east of I-65 outside of the bridge's influence on the channel. The stream is moderately embedded with stable banks. The stream had sparse in-stream features. The dominant substrate was sand and silt. The OHWM of Pigeon Roost Creek at the assessment location was 13 feet wide by 0.67 feet deep. Top-of-bank was 12 feet wide by 1.5 feet deep. Pigeon Roost Creek would be classified as Riverine, Lower Perennial, Unconsolidated Bottom, Sand (R2UB2) using the Cowardin Classification System.

The overall QHEI score for the 200-foot sampled stream segment was 42. This is a Poor narrative rating in the manual. Pigeon Roost Creek scored highest for Riparian Zone (6/10) and Gradient (6/10). However, the poor substrate and in-stream cover may be a limiting factor to the quality of the stream.

3.2.22 UNT to Underwood Run

UNT to Underwood Run enters the investigated area approximately 1.4 mile north of Liberty Knob Road. The stream flows east for 247 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Underwood Run is 0.179 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. UNT to Underwood Run appears to drain east to Underwood Run, which drains to Pigeon Roost Creek, which drains to Stucker Fork, which drains to the Muscatatuck River, a TNW. Therefore, it is anticipated UNT to Underwood Run would be considered a jurisdictional waters of the US.

UNT to Underwood Run is conveyed through CV I65-072-25.05 (UNT to Underwood Run CV) beneath I-65 which is a CMP culvert approximately 188-linear feet in length. This portion of the stream (UNT to Underwood Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT to Underwood Run upstream and downstream of UNT to Underwood Run CV within the investigated area total 59-linear feet

A HHEI was conducted for UNT to Underwood Run along the northbound lanes of I-65. The stream is highly embedded with poor development and moderately stable banks. The dominant substrate was silt. The OHWM of UNT to Underwood Run at the assessment location was 6 feet wide by 0.33 feet deep. Top-of-bank was 9 feet wide by 0.8 feet deep. UNT to Underwood Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 59. UNT to Underwood Run would be considered a poor quality stream due to the embeddedness and lack of instream features. UNT to Underwood Run scored highest for Pool Depth (25/30) and Bankfull Width (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.23 Tree Creek

Tree Creek enters the investigated area approximately 1.9 mile north of Liberty Knob Road. The stream flows northeast for 392 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as a perennial stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Tree Creek is approximately 0.82 square miles. The flow regime appears to be perennial as depicted on the USGS topographic map. The stream is not a County Legal Drain. Tree Creek appears to drain north and east to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated Tree Creek would be considered a jurisdictional water of the US.

Tree Creek is conveyed through CV I65-072-25.72 (Tree Creek CV) beneath I-65 which is an HDPE culvert approximately 477-linear feet in length, 367-linear feet of which lie within the investigated area. This portion of the stream (Tree Creek CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of Tree Creek downstream of Tree Creek CV within the investigated area is 25-linear feet.

A HHEI was taken east of I-65 outside of the culvert's influence on channel. The stream is moderately embedded with stable banks. The stream had moderate in-stream cover, with woody debris and overhanging vegetation. The dominant substrate was artificial. The OHWM of Tree Creek at the assessment location was 12 feet wide by 1.2 feet deep. Top-of-bank was 15 feet wide by 2 feet deep. Tree Creek would be classified as Riverine, Lower Perennial, Streambed, Rubble (R2SB2) using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 72. Tree Creek would be considered a poor quality stream due to low sinuosity and the dominance of artificial substrate. Tree Creek scored highest for Bankfull Width (30/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.24 UNT to Tree Creek

UNT to Tree Creek enters the investigated area approximately 2 mile north of Liberty Knob Road. The stream flows east for 248 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Tree Creek is 0.081 square miles. The flow regime appears to

be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. UNT to Tree Creek appears to drain north and east to Tree Creek, which drains to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated UNT to Tree Creek would be considered a jurisdictional water of the US.

UNT to Tree Creek is conveyed through CV I65-072-25.83 (UNT to Tree Creek CV) beneath I-65 which is an RCP culvert approximately 171-linear feet in length. This portion of the stream (UNT to Tree Creek CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT to Tree Creek upstream and downstream of UNT to Tree Creek within the investigated area total 77-linear feet

A HHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded and the banks were stable. The stream had moderate in-stream cover, woody debris and overhanging vegetation. The dominant substrate was sand and silt. The OHWM of UNT to Tree Creek at the assessment location was 7 feet wide by 0.5 feet deep. Top-of-bank was 9 feet wide by 1 foot deep. UNT to Tree Creek would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 200-foot sampled stream segment was 58. UNT to Tree Creek would be considered a poor quality stream due to low sinuosity and lack of high quality substrate. UNT to Tree Creek scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.25 Sycamore Run

Sycamore Run enters the investigated area 0.55 mile north of Leota Road. The stream flows east for 308 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Sycamore Run is approximately 0.21 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. Sycamore Run appears to drain east to Tree Creek, which drains to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated Sycamore Run would be considered a jurisdictional water of the US.

Sycamore Run is conveyed through CV I65-072-26.20 (Sycamore Run CV) beneath I-65 which is a CMP culvert approximately 305-linear feet in length, 278-linear feet of which lies within the project area. This portion of the stream (Sycamore Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of Sycamore Run downstream of the Sycamore Run CV within the investigated area is 30-linear feet.

A HHEI was taken east of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded with moderately stable banks. The stream had moderate in-stream cover, with some detritus substrates, leaf pack and woody debris, and sparse overhanging vegetation. The dominant substrate was artificial. The OHWM of Sycamore Run at the assessment location was 3.5 feet wide by 0.5 feet deep. Top-of-bank was 5 feet wide by 2 foot deep. Sycamore Run would be classified as R4SB2 using the Cowardin Classification System.

The overall HHEI score for the 150-foot sampled stream segment was 38. Sycamore Run would be considered a poor stream quality stream due to the instream features and lack of high quality substrate. Sycamore Run scored highest for Pool Depth (15/30) and Bankfull Width (15/30). However, the poor substrate quality may be a limiting factor to the quality of the stream.

3.2.26 UNT 1 to Sycamore Run

UNT 1 to Sycamore Run enters the investigated area 0.35 mile south of Leota Road. The stream flows east for 217 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 1 to Sycamore Run is approximately 0.01 square miles. UNT 1 to Sycamore is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 1 to Sycamore Run is conveyed through an RCP maintenance pipe (UNT 1 to Sycamore Run CV) beneath I-65 which is approximately 183-linear feet in length. This portion of the stream (UNT 1 to Sycamore Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 1 to Sycamore Run upstream and downstream of UNT 1 to Sycamore Run CV within the investigated area total 34-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is concrete lined with moderate overhanging vegetation. The dominant substrate was artificial. The OHWM of UNT 1 to Sycamore Run at the assessment location was 1.5 feet wide by 0.2 feet deep. Top-of-bank was 2.9 feet wide by 1 feet deep. UNT 1 to Sycamore Run would be classified as RUB2 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 9. UNT 1 to Sycamore Run would be considered a poor stream due to presence of artificial substrate. UNT 1 to Sycamore Run scored highest for Bankfull Width (5/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.27 UNT 2 to Sycamore Run

UNT 2 to Sycamore Run enters the investigated area 0.22 mile south of Leota Road. The stream flows east for 214 linear feet before exiting the investigated area. The stream is depicted as an intermittent stream on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 2 to Sycamore Run is approximately 0.01 square miles. UNT 2 to Sycamore Run is solely fed by runoff from I-65. Based on the watershed size and surrounding landscape, the stream flow is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore is anticipated to be non-jurisdictional.

UNT 2 to Sycamore Run is conveyed through an RCP maintenance pipe (UNT 2 to Sycamore Run CV) beneath I-65 which is approximately 164-linear feet in length. This portion of the stream (UNT 2 to Sycamore Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 2 to

Sycamore Run upstream and downstream of UNT 2 to Sycamore Run CV within the investigated area total 50-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded with unstable banks. The stream had moderate in-stream cover with moderate overhanging vegetation. The dominant substrate was sand. The OHWM of UNT 2 to Sycamore Run at the assessment location was 1.5 feet wide by 0.8 feet deep. Top-of-bank was 5.2 feet wide by 1.5 feet deep. UNT 2 to Sycamore Run would be classified as RUB2 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 17. UNT 2 to Sycamore Run would be considered a poor quality stream due to the lack of riparian surrounding the stream. UNT 2 to Sycamore Run scored highest for Substrate (12/40). However, the poor pool depth may be a limiting factor to the quality of the stream.

3.2.28 UNT 1 to Nest Run

UNT 1 to Nest Run enters the investigated area 0.26 mile north of Leota Road. The stream flows west for 34 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 1 to Nest Run is approximately 0.01 square miles. UNT 1 to Nest Run is solely fed by runoff from I-65. Therefore it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT 1 to Nest Run is not crossed within the proposed project area and beings along the west side of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded and sinuous. The banks were unstable with moderate overhanging vegetation and root wads. The dominant substrate was clay. The OHWM of UNT 1 to Nest Run at the assessment location was 7 feet wide by 2 feet deep. Top-of-bank was 16 feet wide by 7 feet deep. UNT 1 to Nest Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 51. UNT 1 to Nest Run would be considered an average quality stream due to moderate sinuosity and riparian buffer. UNT 1 to Nest Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.29 UNT 2 to Nest Run

UNT 2 to Nest Run enters the investigated area 0.22 mile north of Leota Road. The stream flows north for 277 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 2 to Nest Run is approximately 0.16 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic map. The stream is not a County Legal Drain. UNT 2 to Nest Run appears to drain north to Nest Run which drains to Tree Creek, which drains to Pigeon Roost Creek,

which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated UNT 2 to Nest Run would be considered a jurisdictional water of the US.

UNT 2 to Nest Run is conveyed through CV I65-072-26.95 (UNT 2 to Nest Run CV) beneath I-65 which is a CMP culvert approximately 277-linear feet in length, 271 linear feet of which lie within the project area. This portion of the stream (UNT 2 to Nest Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of UNT 2 to Nest Run downstream of the UNT 2 to Nest Run CV within the investigated area is 6-linear feet.

A HHEI was taken west of I-65 outside of the culvert's influence on the channel. The stream is highly embedded and sinuous. The banks were unstable. The stream had moderate in-stream cover, with undercut banks, woody debris, and moderate overhanging vegetation. The dominant substrate was sand. The OHWM of UNT 2 to Nest Run at the assessment location was 3 feet wide by 1.2 feet deep. Top-of-bank was 6 feet wide by 3 feet deep. UNT 2 to Nest Run would be classified as R4SB4 using the Cowardin Classification System.

The overall HHEI score for the 150-foot sampled stream segment was 44. UNT 2 to Nest Run would be considered an average quality stream due to moderate in-stream features and eroding banks. UNT 2 to Nest Run scored highest for Bankfull Width (20/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.30 UNT 3 to Nest Run

UNT 3 to Nest Run enters the investigated area 0.24 mile north of Leota Road. The stream flows north for 248 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 3 to Nest Run is approximately 0.01 square miles. UNT 3 to Nest Run is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 3 to Nest Run is not crossed within the proposed project area and begins along the east side of I-65. A HHEI was taken east of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded and sinuous. The banks were stable. The stream had moderate in-stream cover, some woody debris, and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 3 to Nest Run at the assessment location was 1.2 feet wide by 0.2 feet deep. Top-of-bank was 2.9 feet wide by 0.4 feet deep. UNT 3 to Nest Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 15. UNT 3 to Nest Run would be considered a poor quality stream due to high embeddedness and lack of high quality substrate. UNT 3 to Nest Run scored highest for Pool Depth (5/30) and Bankfull Width (5/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.31 Nest Run

Nest Run enters the investigated area 0.46 mile north of Leota Road. The stream flows east for 275 linear feet before exiting the investigated area. The stream is depicted on the USGS topographic map as an intermittent stream. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Nest Run is approximately 0.73 square miles. The flow regime appears to be intermittent as depicted on the USGS topographic mapping. The stream is not a County Legal Drain. Nest Run appears to drain east to Tree Creek which drains to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated Nest Run would be considered a jurisdictional water of the US.

Nest Run is conveyed through CV I65-072-27.15 (Nest Run CV) beneath I-65 which is a CMP culvert approximately 225-linear feet in length. This portion of the stream (Nest Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of Nest Run upstream and downstream of Nest Run CV within the investigated area total 50-linear feet.

A HHEI was taken west of I-65 outside of the culvert's influence on the channel. The stream is moderately embedded and the banks are stable. The stream had moderate in-stream cover, some woody debris, and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of Nest Run at the assessment location was 2 feet wide by 0.4 feet deep. Top-of-bank was 6 feet wide by 0.6 feet deep. Nest Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 150-foot sampled stream segment was 51. Nest Run would be considered an average quality stream due to the instream features and lack of high quality substrate. Nest Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.32 UNT 4 to Nest Run

UNT 4 to Nest Run enters the investigated area 0.75 mile north of Leota Road. The stream flows east for 249 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 4 to Nest Run is approximately 0.08 square miles. Based on the surrounding landscape, the stream flow of UNT 4 to Nest Run is anticipated to be intermittent. The stream is not a County Legal Drain. UNT 4 to Nest Run appears to drain east to Nest Run, which drains to Tree Creek, which drains to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated UNT 4 to Nest Run would be considered a jurisdictional water of the US.

UNT 4 to Nest Run is conveyed through CV I65-072-27.45 (UNT 4 to Nest Run CV) beneath I-65 which is a polyvinyl chloride (PVC) culvert approximately 169-linear feet in length. This portion of the stream (UNT 4 to Nest Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 4 to Nest Run upstream and downstream of UNT 4 to Nest Run CV within the investigated area total 80-linear feet.

A HHEI was taken west of I-65 outside of the culvert's influence on the channel. The stream is highly embedded with stable banks. The stream had moderate in-stream cover with some woody debris and

moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 4 to Nest Run at the assessment location was 2.5 feet wide by 0.5 feet deep. Top-of-bank was 5 feet wide by 1 feet deep. UNT 4 to Nest Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 150-foot sampled stream segment was 61. UNT 4 to Nest Run would be considered an average quality due to the moderate instream features and high embeddedness. UNT 4 to Nest Run scored highest for Pool Depth (30/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.33 Elm Branch

Elm Branch enters the investigated area 0.45 mile south of Lake Road. The stream flows east for 267 linear feet before exiting the investigated area. The stream is depicted as an intermittent stream on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of Elm Branch is approximately 0.03 square miles. Elm Branch is fed by runoff from a pond west of I-65. Therefore, it is anticipated the stream flow would be intermittent. The stream is not a County Legal Drain. Elm Branch appears to drain east to Maple Run, which drains to Pigeon Roost Creek, which drains to Flat Creek, which drains to Stucker Ditch, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated Elm Branch would be considered a jurisdictional water of the US.

Elm Branch is conveyed through a CMP maintenance pipe (Elm Branch CV) beneath I-65 which is approximately 235-linear feet in length. This portion of the stream (Elm Branch CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of Elm Branch upstream and downstream of Elm Branch CV within the investigated area total 32-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded with stable banks. The stream had moderate in-stream cover with moderate overhanging vegetation. The dominant substrate was clay. The OHWM of Elm Branch at the assessment location was 1 foot wide by 0.5 feet deep. Top-of-bank was 2.6 feet wide by 1.2 feet deep. Elm Branch would be classified R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 150-foot sampled stream segment was 25. Elm Branch would be considered a poor quality stream due to the embeddedness and absence of a riparian corridor. Elm Branch scored highest for Pool Depth (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.34 UNT to Elm Branch

UNT to Elm Branch enters the investigated area 0.25 mile south of Lake Road. The stream flows east for 242 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT to Elm Branch is approximately 0.01 square miles. Based on the watershed size and surrounding landscape, the stream flow of UNT to Elm Branch is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT to Elm Branch is conveyed through an RCP maintenance pipe (UNT to Elm Branch CV) beneath I-65 which is approximately 167-linear feet in length. This portion of the stream (UNT to Elm Branch CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT to Elm Branch upstream and downstream of UNT to Elm Branch CV within the investigated area total 75-linear feet.

A HHEI was taken west outside of I-65 outside of the maintenance pipe's influence on the channel. The stream is embedded and sinuous. The banks were stable. The stream had moderate in-stream cover, some woody debris, and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT to Elm Branch at the assessment location was 1.2 feet wide by 0.4 feet deep. Top-of-bank was 2.3 feet wide by 1 foot deep. UNT to Elm Branch would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 21. UNT to Elm Branch would be considered a poor stream due to moderate instream features and high embeddedness. UNT to Elm Branch scored highest for Substrate (11/40). However, the minimal pool depth and bankfull width may be limiting factors to the quality of the stream.

3.2.35 UNT 1 to Honey Run

UNT 1 to Honey Run enters the investigated area 0.47 mile north of Lake Road. The stream flows west for 29 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 1 to Honey Run is approximately 0.01 square miles. UNT 1 to Honey Run is solely fed by runoff from I-65. Based on the watershed size, the stream flow is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore is anticipated to be non-jurisdictional.

UNT 1 to Honey Run is not crossed within the proposed project area and begins along the west side of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded and sinuous. The banks were moderately stable. The stream had sparse overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 1 to Honey Run at the assessment location was 1.8 feet wide by 0.6 feet deep. Top-of-bank was 2.6 feet wide by 1 foot deep. UNT 1 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 32. UNT 1 to Honey Run would be considered a poor quality stream due to the embeddedness and absence of a riparian corridor. UNT 1 to Honey Run scored highest for Pool Depth (15/30). However, the poor bankfull width may be a limiting factor to the quality of the stream.

3.2.36 UNT 2 to Honey Run

UNT 2 to Honey Run enters the investigated area 0.25 mile south of the I-65 and SR 56 overpass. The stream flows west for 244 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 2 to Honey Run is approximately 0.05 square miles. UNT 2 to Honey Run appears to be backwatered by Honey Run. Therefore, the stream flow is anticipated to be intermittent. The stream is not

a County Legal Drain. UNT 2 to Honey Run appears to drain west to Honey Run, which drains to Big Ox Creek, which drains to Muscatatuck River, a TNW. Therefore, it is anticipated UNT 2 to Honey Run would be considered a jurisdictional water of the US.

UNT 2 to Honey Run is conveyed through an RCP maintenance pipe (UNT 2 to Honey Run CV) beneath I-65 which is approximately 269-linear feet in length, 224-linear feet of which lie within the project area. This portion of the stream (UNT 2 to Honey Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of UNT 2 to Honey Run downstream of UNT 2 to Honey Run CV within the investigated area is 20-linear feet.

The stream is moderately embedded with unstable banks. The stream had moderate in-stream cover, with undercut banks, and some woody debris. The dominant substrate was clay. The OHWM of UNT 2 to Honey Run at the assessment location was 7.5 feet wide by 2.7 feet deep. Top-of-bank was 8.2 feet wide by 3.3 feet deep. UNT 2 to Honey Run would be classified as R4SB5 using the Cowardin Classification System.

The overall HHEI score for the 40-foot sampled stream segment was 58. UNT 2 to Honey Run would be considered an average stream due to the instream features and lack of high quality substrate. UNT 2 to Honey Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.37 UNT 3 to Honey Run

UNT 3 to Honey Run enters the investigated area 0.02 mile south of the I-65 and SR 56 overpass. The stream flows west for 54 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 3 to Honey Run is approximately 0.01 square miles. UNT 3 to Honey Run is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT 3 to Honey Run is not crossed within the proposed project area and begins along the west side of I-65. A HHEI was taken west of I-65. The stream is highly embedded with stable banks. The stream had moderate in-stream cover with some woody debris and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 3 to Honey Run at the assessment location was 2 feet wide by 0.5 feet deep. Top-of-bank was 3 feet wide by 1.2 feet deep. UNT 3 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 120-foot sampled stream segment was 10. UNT 3 to Honey Run would be considered a poor stream due to lack of high quality substrate. UNT 3 to Honey Run scored highest for Bankfull Width (5/30). However, the poor pool depth (no water or moist channel) may be a limiting factor to the quality of the stream.

3.2.38 UNT 4 to Honey Run

UNT 4 to Honey Run enters the investigated area 0.11 mile north of the I-65 and SR 56 overpass. The stream flows southwest for 201 linear feet before exiting the investigated area. The stream is not depicted on the

USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 4 to Honey Run is approximately 0.07 square miles. UNT 4 to Honey Run is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT 4 to Honey Run is not crossed within the proposed project area and begins along the west side of I-65. A HHEI was taken west of I-65. The stream is highly embedded and moderately sinuous. The banks were moderately stable. The stream had moderate in-stream cover with undercut banks, some woody debris, and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 4 to Honey Run at the assessment location was 3 feet wide by 0.4 feet deep. Top-of-bank was 4 feet wide by 1 foot deep. UNT 4 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 45. UNT 4 to Honey Run would be considered an average quality stream due to moderate instream cover and high embeddedness. UNT 4 to Honey Run scored highest for Pool Depth (25/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.39 UNT 5 to Honey Run

UNT 5 to Honey Run enters the investigated area 0.36 mile north of the I-65 and SR 56 overpass. The stream flows west for 19 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 5 to Honey Run is approximately 0.07 square miles. UNT 5 to Honey Run is solely fed by runoff from I-65. Based on the watershed size, the stream flow is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore is anticipated to be non-jurisdictional.

UNT 5 to Honey Run is not crossed within the proposed project area and beings along the west side of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded and moderately sinuous. The stream is poorly developed with unstable banks. The stream had moderate in-stream cover with moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 5 to Honey Run at the assessment location was 3 feet wide by 0.6 feet deep. Top-of-bank was 4 feet wide by 1 feet deep. UNT 5 to Honey Run would be classified as RUB3 the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 200-foot sampled stream segment was 51. UNT 5 to Honey Run would be considered an average quality stream due to the lack of development and poor stability. UNT 5 to Honey Run scored highest for Pool Depth (30/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.40 UNT 6 to Honey Run

UNT 6 to Honey Run enters the investigated area 0.61 mile north of the I-65 and SR 56 overpass. The stream flows west for 232 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage

area of UNT 6 to Honey Run is approximately 0.05 square miles. UNT 6 to Honey Run is solely fed by runoff from I-65. Based on the watershed size and surrounding landscape, the stream flow is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore is anticipated to be non-jurisdictional.

UNT 6 to Honey Run is conveyed through a maintenance pipe (UNT 6 to Honey Run CV) beneath I-65 which is approximately 182-linear feet in length. This portion of the stream (UNT 6 to Honey Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 6 to Honey Run upstream and downstream of UNT 6 to Honey Run CV within the investigated area total 51-linear feet.

A HHEI was taken east of I-65. The stream is highly embedded and moderately sinuous. The stream is poorly developed with unstable banks. The stream had moderate in-stream cover, some woody debris, and moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 6 to Honey Run at the assessment location was 1.5 feet wide by 0.4 foot deep. Top-of-bank was 3 feet wide by 1 feet deep. UNT 6 to Honey Run would be classified RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 200-foot sampled stream segment was 25. UNT 6 to Honey Run would be considered a poor quality stream due to the lack of development and high quality substrate. UNT 6 to Honey Run scored highest for Pool Depth (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.41 UNT 7 to Honey Run

UNT 7 to Honey Run enters the investigated area 0.70 mile north of the I-65 and SR 56 overpass. The stream flows southwest for 258 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 7 to Honey Run is approximately 0.01 square miles. UNT 7 to Honey Run is solely fed by runoff from I-65. Based on the watershed size, the stream flow is anticipated to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore is anticipated to be non-jurisdictional.

UNT 7 to Honey Run is conveyed through an RCP maintenance pipe (UNT 7 to Honey Run CV) beneath I-65 which is approximately 170-linear feet in length. This portion of the stream (UNT 7 to Honey Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portions of UNT 7 to Honey Run upstream and downstream of UNT 7 to Honey Run CV within the investigated area total 88-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is moderately embedded and sinuous. The banks were stable. The stream had moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 7 to Honey Run at the assessment location was 3 feet wide by 0.4 feet deep. Top-of-bank was 3.6 feet wide by 1.2 feet deep. UNT 7 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 42. UNT 7 to Honey Run would be considered an average quality stream due to lack of instream features. UNT 7 to Honey Run scored highest for Pool Depth (15/30) and Bankfull Width (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.42 UNT 8 to Honey Run

UNT 8 to Honey Run enters the investigated area 0.71 mile south of Moonglo Road. The stream flows west for 14 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 8 to Honey Run is approximately 0.01 square miles. UNT 8 to Honey Run is solely fed by runoff from I-65. Therefore, it is anticipated to be an ephemeral stream. The stream is not a County Legal Drain. The stream is ephemeral; therefore, it is anticipated to be non-jurisdictional.

UNT 8 to Honey Run is not crossed within the proposed project area and begins along the west side of I-65. A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded and moderately sinuous. The stream is poorly developed with unstable banks. The stream had moderate in-stream cover with moderate overhanging vegetation. The dominant substrate was clay. The OHWM of UNT 8 to Honey Run at the assessment location was 3 feet wide by 0.8 feet deep. Top-of-bank was 4 feet wide by 1 feet deep. UNT 8 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 100-foot sampled stream segment was 35. UNT 8 to Honey Run would be considered a poor quality stream due to the lack of development and poor stability. UNT 8 to Honey Run scored highest for Pool Depth (15/30) and Bankfull Width (15/30). However, the poor substrate may be a limiting factor to the quality of the stream.

3.2.43 UNT 9 to Honey Run

UNT 9 to Honey Run enters the investigated area 0.17 mile south of Moonglo Road. The stream flows southwest for 202 linear feet before exiting the investigated area. The stream is not depicted on the USGS topographic map. Stream Stats (https://water.usgs.gov/osw/streamstats/) reports the upstream drainage area of UNT 9 to Honey Run is approximately 0.04 square miles. The flow regime appears to be ephemeral. The stream is not a County Legal Drain. The stream is ephemeral; therefore it is anticipated to be non-jurisdictional.

UNT 9 to Honey Run is conveyed through an RCP maintenance pipe (UNT 9 to Honey Run CV) beneath I-65 which is approximately 183-linear feet in length; 180-linear feet of which lie within the project area. This portion of the stream (UNT 9 to Honey Run CV) is anticipated to be considered an artificial drainage feature and non-jurisdictional. The portion of UNT 9 to Honey Run downstream of UNT 9 to Honey Run CV within the investigated area is 22-linear feet.

A HHEI was taken west of I-65 outside of the maintenance pipe's influence on the channel. The stream is highly embedded and the banks were poorly developed and not well defined. The stream had moderate in-stream cover with some woody debris and moderate overhanging vegetation. The dominant substrate was

clay. The OHWM of UNT 9 to Honey Run at the assessment location was 1.8 feet wide by 0.6 feet deep. Top-of-bank was 2.3 feet wide by 0.9 feet deep. UNT 9 to Honey Run would be classified as RUB3 using the Cowardin Classification System. The Cowardin Classification System does not include a subsystem for ephemeral flow regimes.

The overall HHEI score for the 150-foot sampled stream segment was 11. UNT 9 to Honey Run would be considered a poor quality stream due to lack of high quality substrate and no water. UNT 9 to Honey Run scored highest for Bankfull Width (5/30). However, the poor substrate and no water may be a limiting factor to the quality of the stream.

3.3 Other Features (Erosional Feature/Roadside Ditch/Ravine Draw, etc.)

Erosional Feature 1 was noted as a gully at a culvert outlet along the northbound lanes of I-65. The feature is located approximately 0.05 mile south of Liberty Knob Road and extends east within the investigated area for approximately 39 feet before extending east beyond the investigated area and state owned right-of-way. This feature lacked the hydrophytic vegetation to be determined a wetland. This feature lacked a defined bed and bank and lacked a continuous OHWM. This feature is not presumed to be a jurisdictional water of the US.

Surface drainage systems (constructed roadside ditches) are present along both sides of I-65 and within the median throughout the investigated area. Unless otherwise noted the roadside ditches were inspected and were determined to not exhibit defined bed and bank or a continuous OHWM.

3.4 Non-Wetland Data Points

DP 39 was taken to characterize the area around Wheel Run due to the presence of hydrophytic vegetation. DP 39 is located along the southbound lanes of I-65 approximately 1 mile north of Brownstown Road. DP 39 possessed the hydrophytic vegetation and wetland hydrology but lacked the hydric soils to be determined a wetland. For reference to field data collected for DP 39, see Appendix B.

DP 113 was taken due to the presence of hydrophytic vegetation located approximately 0.16 mile north of Liberty Knob Road. DP 113 possessed the hydrophytic vegetation and hydrology but lacked the hydric soil to be determined a wetland. Heavy rains occurred the night prior which contributed to the hydrology indicators. For reference to field data collected for DP 113, see Appendix B.

4.0 Conclusions

A total of 109 wetlands (Wetlands 1, 2, 3.1, 3.2, 4-20, 21.1, 21.2, 22-40, 41.1, 41.2, 42– 106) totaling approximately 7.69 acres and 43 streams (for stream names, see the Aquatic Resources Summary: Streams Table in Appendix A) totaling 11,703 linear feet (1.581 acres) were identified within the investigated area. Wetlands 2, 3.1, 3.2, 9, 12, 21.1, 21.2, 26, 32, 40, 65, 68-69, 74, 76, 78, 86, 89, and 105 as well as 24 of the streams (for jurisdictional information, see the Aquatic Resources Summary: Streams Table in Appendix A) appear to have a hydrologic connection to a Traditional Navigable Waterway (TNW). Therefore, these wetlands and streams are anticipated to be considered jurisdictional waters of the US.

Wetlands 1, 4-8, 10, 11, 13-20, 22-25, 27-31, 33-39, 41.1, 41.2, 42- 64, 66-67, 70-73, 75, 77, 79-85, 87-88, 90-104, and 106 do not abut jurisdictional waters of the US and are not flooded within a typical year. Therefore, these features are anticipated to be considered jurisdictional waters of the State.

Nineteen of the streams were determined to be ephemeral streams. Additionally, culverts and maintenance pipes associated with intermittent and perennial streams within the project area are anticipated to be considered artificial drainage features (for jurisdictional information, see the Aquatic Resources Summary: Streams Table in Appendix A). Therefore, these resources are anticipated to be non-jurisdictional.

All jurisdictional waters of the US are under the regulatory authority of the USACE under Section 404 of the Clean Water Act. Every effort should be taken to avoid and minimize impacts to the waterway and wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

5.0 Acknowledgement

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

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Appendix A - Aquatic Resource Summary Tables

Table 1 – Data Points Summary

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
1	1-5	38.498392/ -85.771298	Wetland 1	Yes	Yes	Yes	Yes
2	6-9	38.498593/ -85.771192	Upland of Wetland 1	No	Yes	No	No
3	29-32	38.504271/ -85.771291	Wetland 2	Yes	Yes	Yes	Yes
4	25-28	38.504276/ -85.771305	Upland of Wetland 2	Yes	No	No	No
5	58-61	38.515182/ -85.772752	Wetland 3.1	Yes	Yes	Yes	Yes
6	62-65	38.515188/ -85.772821	Upland of Wetland 3.1	No	Yes	No	No
7	68-71	38.517445/ -85.772993	Wetland 3.2	Yes	Yes	Yes	Yes
8	72-75	38.517562/ -85.773012	Upland of Wetland 3.2	No	Yes	No	No
9	80-83	38.518422/ -85.773218	Wetland 4	Yes	Yes	Yes	Yes
10	76-79	38.518357/ -85.773105	Upland of Wetland 4	Yes	Yes	No	No
11	111-114	38.529729/ -85.774781	Wetland 5	Yes	Yes	Yes	Yes
12	107-110	38.529645/ -85.774789	Upland of Wetland 5	No	No	No	No
13	133-136	38.533604/ -85.775981	Wetland 6	Yes	Yes	Yes	Yes
14	129-132	38.533642/ -85.775985	Upland of Wetland 6	Yes	Yes	No	No
15	142-145	38.537332/ -85.777254	Wetland 7	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
16	146-149	38.537336/ -85.777226	Upland of Wetland 7	No	No	No	No
17	162-165	38.539185/ -85.777766	Wetland 8	Yes	Yes	Yes	Yes
18	158-161	38.539174/ -85.777848	Upland of Wetland 8	Yes	No	No	No
19	211-214	38.553063/ -85.779240	Wetland 9	Yes	Yes	Yes	Yes
20	215-218	38.553039/ -85.779220	Upland of Wetland 9	No	Yes	No	No
21	232-235	38.558055/ -85.779132	Wetland 10	Yes	Yes	Yes	Yes
22	228-231	38.558038/ -85.779156	Upland of Wetland 10	No	No	No	No
23	237-241	38.559363/ -85.779061	Wetland 11	Yes	Yes	Yes	Yes
24	242-245	38.559409/ -85.779136	Upland of Wetland 11	No	No	No	No
25	265-268	38.568026/ -85.779328	Wetland 12	Yes	Yes	Yes	Yes
26	262-264	38.568030/ -85.779368	Upland of Wetland 12	No	No	No	No
27	274-277	38.570235/ -85.779327	Wetland 13	Yes	Yes	Yes	Yes
28	278-281	38.570125/ -85.779211	Upland of Wetland 13	No	No	No	No
29	282-285	38.570336/ -85.779260	Wetland 14	Yes	Yes	Yes	Yes
30	286-289	38.570346/ -85.779320	Upland of Wetland 14	No	No	No	No
31	290-293	38.570200/ -85.778988	Wetland 15	Yes	Yes	Yes	Yes
32	294-297	38.570141/ -85.778826	Upland of Wetland 15	No	No	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
33	299-302	38.571342/ -85.779111	Wetland 16	Yes	Yes	Yes	Yes
34	303-305, 307	38.571265/ -85.779113	Upland of Wetland 16	Yes	No	No	No
35	311-314	38.578878/ -85.779223	Wetland 17	Yes	Yes	Yes	Yes
36	315-318	38.578846/ -85.779201	Upland of Wetland 17	Yes	Yes	No	No
37	321-324	38.581797/ -85.779132	Wetland 18	Yes	Yes	Yes	Yes
38	325-328	38.581782/ -85.779123	Upland of Wetland 18	Yes	Yes	No	No
39	333-336	38.584093/ -85.779251	N/A	Yes	No	Yes	No
40	339-342	38.586092/ -85.779169	Wetland 19	Yes	Yes	Yes	Yes
41	343-346	38.585984/ -85.779198	Upland of Wetland 19	No	Yes	No	No
42	353-356	38.588405/ -85.779223	Wetland 20	Yes	Yes	Yes	Yes
43	357-360	38.588399/ -85.779216	Upland of Wetland 20	No	Yes	No	No
44	366-369	38.590239/ -85.779262	Wetland 21.2	Yes	Yes	Yes	Yes
45	370-373	38.590278/ -85.779264	Wetland 21.1	Yes	Yes	Yes	Yes
46	374-377	38.590256/ -85.779226	Upland of Wetland 21.1 and 21.2	No	Yes	No	No
47	379-382	38.591848/ -85.779098	Wetland 22	Yes	Yes	Yes	Yes
48	383-386	38.591803/ -85.779106	Upland of Wetland 22	No	Yes	No	No
49	391-394	38.595436/ -85.779430	Wetland 23	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
50	395-398	38.595761/ -85.779479	Upland of Wetland 23 and Wetland 24	No	No	No	No
51	399-402	38.595994/ -85.779467	Wetland 24	Yes	Yes	Yes	Yes
52	404-407	38.597891/ -85.780009	Wetland 25	Yes	Yes	Yes	Yes
53	408-411	38.597901/ -85.780056	Upland of Wetland 25	No	No	No	No
54	429-432	38.619253/ -85.783025	Wetland 26	Yes	Yes	Yes	Yes
55	433-436	38.619250/ -85.783011	Upland of Wetland 26	No	No	No	No
56	439-442	38.620910/ -85.783647	Wetland 27	Yes	Yes	Yes	Yes
57	443-446	38.620921/ -85.783669	Upland of Wetland 27	No	Yes	No	No
58	455-458	38.632848/ -85.784261	Wetland 28	Yes	Yes	Yes	Yes
59	459-462	38.632842/ -85.784242	Upland of Wetland 28	Yes	No	No	No
60	464-467	38.635077/ -85.784231	Wetland 29	Yes	Yes	Yes	Yes
61	468-471	38.635001/ -85.784210	Upland of Wetland 29	No	Yes	No	No
62	508-511	38.658847/ -85.783421	Wetland 30	Yes	Yes	Yes	Yes
63	512-515	38.658870/ -85.783454	Upland of Wetland 30	No	No	No	No
64	519-522	38.662329/ -85.782779	Wetland 31	Yes	Yes	Yes	Yes
65	523-526	38.662314/ -85.782824	Upland 31	No	Yes	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
66	533-536	38.664804/ -85.782685	Wetland 32	Yes	Yes	Yes	Yes
67	537-540	38.664825/ -85.782699	Upland 32	Yes	No	No	No
68	561-564	38.676307/ -85.786569	Wetland 33	Yes	Yes	Yes	Yes
69	565-568	38.676341/ -85.786703	Upland 33	No	No	No	No
70	578-581	38.677799/ -85.787207	Wetland 34	Yes	Yes	Yes	Yes
71	574-577	38.677733/ -85.787149	Upland 34	No	No	No	No
72	603-606	38.684182/ -85.788333	Wetland 35	Yes	Yes	Yes	Yes
73	599-602	38.684027/ -85.788386	Upland 35	No	No	No	No
74	612-615	38.684666/ -85.788408	Wetland 36	Yes	Yes	Yes	Yes
75	627-630	38.685004/ -85.788833	Wetland 36	Yes	Yes	Yes	Yes
76	631-634	38.685069/ -85.788897	Upland 36	No	No	No	No
77	658-661	38.686059/ -85.788855	Wetland 37	Yes	Yes	Yes	Yes
78	654-657	38.686026/ -85.788538	Upland 37	No	No	No	No
79	671-674	38.686860/ -85.788545	Wetland 38	Yes	Yes	Yes	Yes
80	666-669	38.686809/ -85.789134	Upland 38	Yes	No	Yes	No
81	685-688	38.687431/ -85.789108	Wetland 39	Yes	Yes	Yes	Yes
82	691-694	38.687715/ -85.788960	Upland 39	No	No	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
83	701-705	38.688923/ -85.788701	Wetland 40	Yes	Yes	Yes	Yes
84	696-699	38.688878/ -85.788690	Upland 40	No	No	No	No
85	721-724	38.691744/ -85.788914	Wetland 41.1	Yes	Yes	Yes	Yes
86	718-720	38.691743/ -85.788929	Upland 41.1	No	Yes	No	No
87	731-734	38.694180/ -85.789188	Upland 41.1	No	Yes	No	No
88	737-741	38.695503/ -85.789448	Wetland 41.2	Yes	Yes	Yes	Yes
89	742-745	38.695520/ -85.789436	Upland 41.2	No	No	No	No
90	753-757	38.695939/ -85.789570	Wetland 42	Yes	Yes	Yes	Yes
91	749-752	38.695927/ -85.789536	Upland 42	No	Yes	No	No
92	758-762	38.696090/ -85.789590	Upland 42	Yes	No	Yes	No
93	764-768	38.696502/ -85.789692	Wetland 42	Yes	Yes	Yes	Yes
94	773-776	38.697590/ -85.790018	Wetland 43	Yes	Yes	Yes	Yes
95	778-781	38.698213/ -85.790200	Upland 43	Yes	Yes	No	No
96	783-786	38.698713/ -85.790330	Wetland 43	Yes	Yes	Yes	Yes
97	795-798	38.699720/ -85.790795	Wetland 44	Yes	Yes	Yes	Yes
98	790-793	38.699666/ -85.790726	Upland 44	Yes	No	No	No
99	818-821	38.710021/ -85.796183	Wetland 45	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
100	822-825	38.710009/ -85.796158	Upland of Wetland 45	No	No	No	No
101	840-843	38.695290/ -85.789100	Wetland 46	Yes	Yes	Yes	Yes
102	844-847	38.695263/ -85.789103	Upland of Wetland 46	No	No	No	No
103	857-860	38.678009/ -85.786984	Wetland 47	Yes	Yes	Yes	Yes
104	861-864	38.678065/ -85.786989	Upland of Wetland 47	No	No	No	No
105	871-874	38.672846/ -85.784387	Wetland 48	Yes	Yes	Yes	Yes
106	875-878	38.672856/ -85.784436	Upland of Wetland 48	No	No	No	No
107	895-898	38.646514/ -85.783711	Wetland 49	Yes	Yes	Yes	Yes
108	899-902	38.646481/ -85.783721	Upland of Wetland 49	No	Yes	No	No
109	908-911	38.640970/ -85.783795	Wetland 50	Yes	Yes	Yes	Yes
110	912-915	38.640964/ -85.783770	Upland of Wetland 50	No	No	No	No
111	919-922	38.634106/ -85.783910	Wetland 51	Yes	Yes	Yes	Yes
112	923-926	38.634107/ -85.783882	Upland of Wetland 51	No	No	No	No
113	938-941	38.607363/ -85.781468	N/A	Yes	No	Yes	No
114	954-957	38.590497/ -85.778843	Wetland 52	Yes	Yes	Yes	Yes
115	958-961	38.590552/ -85.778835	Upland of Wetland 52	No	No	No	No
116	962-965	38.588446/ -85.778819	Wetland 53	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
117	966-969	38.588402/ -85.778850	Upland of Wetland 53	No	Yes	No	No
118	970-973	38.584979/ -85.778796	Wetland 54	Yes	Yes	Yes	Yes
119	974-977	38.584973/ -85.778774	Upland of Wetland 54	No	No	No	No
120	978-981	38.583897/ -85.778808	Wetland 55	Yes	Yes	Yes	Yes
121	982-985	38.583893/ -85.778793	Upland of Wetland 55	No	No	No	No
122	992-995	38.578010/ -85.778818	Wetland 56	Yes	Yes	Yes	Yes
123	988-991	38.578107/ -85.778858	Upland of Wetland 56	No	Yes	No	No
124	999-1003	38.574300/ -85.778825	Wetland 57	Yes	Yes	Yes	Yes
125	1004-1007	38.574401/ -85.778746	Upland of Wetland 57	No	No	No	No
126	1021-1024	38.561301/ -85.778811	Wetland 58	Yes	Yes	Yes	Yes
127	1017-1020	38.561341/ -85.778830	Upland of Wetland 58	No	No	No	No
128	1025-1028	38.559511/ -85.778815	Wetland 59	Yes	Yes	Yes	Yes
129	1029-1032	38.559484/ -85.778834	Upland of Wetland 59	Yes	Yes	No	No
130	1037-1040	38.550145/ -85.778842	Wetland 60	Yes	Yes	Yes	Yes
131	1042-1045	38.550080/ -85.778800	Upland 60	No	No	No	No
132	1053-1056	38.542771/ -85.778094	Wetland 61	Yes	Yes	Yes	Yes
133	1057-1060	38.542645/ -85.778064	Upland 61	No	Yes	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
134	1063-1066	38.535331/ -85.776244	Wetland 62	Yes	Yes	Yes	Yes
135	1067-1070	38.535320/ -85.776273	Upland of Wetland 62	No	Yes	No	No
136	1097-1100	38.498291/ -85.770708	Wetland 63	Yes	Yes	Yes	Yes
137	1093-1096	38.498194/ -85.770643	Upland of Wetland 63	No	Yes	No	No
138	1120-1123	38.512349/ -85.771733	Wetland 64	Yes	Yes	Yes	Yes
139	1124-1127	38.512413/ -85.771740	Upland of Wetland 64	No	No	No	No
140	1135-1138	38.514395/ -85.771920	Wetland 65	Yes	Yes	Yes	Yes
141	1131-1134	38.514314/ -85.771854	Upland of Wetland 65	No	No	No	No
142	1143-1146	38.515858/ -85.772204	Wetland 66	Yes	Yes	Yes	Yes
143	1147-1150	38.515832/ -85.772120	Upland of Wetland 66	Yes	No	No	No
144	1158-1161	38.519114/ -85.772651	Wetland 67	Yes	Yes	Yes	Yes
145	1162-1165	38.519272/ -85.772639	Upland of Wetland 67	No	No	No	No
146	1177-1180	38.524444/ -85.773362	Wetland 68	Yes	Yes	Yes	Yes
147	1173-1176	38.524446/ -85.773333	Upland of Wetland 68	No	Yes	No	No
148	1196-1199	38.512349/ -85.771733	Wetland 69	Yes	Yes	Yes	Yes
149	1192-1195	38.529554/ -85.774080	Upland of Wetland 69	No	No	No	No
150	1211-1214	38.533129/ -85.775213	Wetland 70	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
151	1215-1218	38.533140/ -85.775233	Upland of Wetland 70	No	No	No	No
152	1233-1236	38.539715/ -85.777204	Wetland 71	Yes	Yes	Yes	Yes
153	1237-1240	38.539742/ -85.777067	Upland of Wetland 71	No	No	No	No
154	1251-1254	38.543700/ -85.777887	Wetland 72	Yes	Yes	Yes	Yes
155	1255-1258	38.543771/ -85.777844	Upland of Wetland 72	Yes	No	No	No
156	1267-1270	38.546757/ -85.778369	Wetland 73	Yes	Yes	Yes	Yes
157	1271-1274	38.546775/ -85.778401	Upland of Wetland 73	No	No	No	No
158	1318-1321	38.563630/ -85.778359	Wetland 74	Yes	Yes	Yes	Yes
159	1314-1317	38.563629/ -85.778284	Upland of Wetland 74	No	No	No	No
160	1328-1331	38.566841/ -85.778580	Wetland 75	Yes	Yes	Yes	Yes
161	1332-1335	38.567018/ -85.778578	Upland of Wetland 75	No	No	No	No
162	1339-1342	38.567920/ -85.778294	Wetland 76	Yes	Yes	Yes	Yes
163	1343-1346	38.568051/ -85.778320	Upland of Wetland 76	No	Yes	No	No
164	1353-1356	38.569832/ -85.778236	Wetland 77	Yes	Yes	Yes	Yes
165	1357-1360	38.569806/ -85.778186	Upland of Wetland 77	No	Yes	No	No
166	1373-1376	38.583775/ -85.778373	Wetland 78	Yes	Yes	Yes	Yes
167	1377-1380	38.583792/ -85.778317	Upland of Wetland 78	No	No	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
168	1386-1389	38.587513/ -85.778515	Wetland 79	Yes	Yes	Yes	Yes
169	1390-1393	38.587578/ -85.778512	Upland of Wetland 79	No	No	No	No
170	1397-1400	38.590209/ -85.778419	Wetland 80	Yes	Yes	Yes	Yes
171	1401-1404	38.590257/ -85.778399	Upland of Wetland 80	Yes	No	No	No
172	1407-1410	38.592589/ -85.778530	Wetland 81	Yes	Yes	Yes	Yes
173	1411-1414	38.592633/ -85.778532	Upland of Wetland 81	No	Yes	No	No
174	1420-1423	38.603902/ -85.781065	Wetland 82	Yes	Yes	Yes	Yes
175	1424-1427	38.604094/ -85.781089	Upland of Wetland 82	No	Yes	No	No
176	1429-1432	38.604446/ -85.781118	Wetland 83	Yes	Yes	Yes	Yes
177	1433-1436	38.604392/ -85.781114	Upland of Wetland 83	No	Yes	No	No
178	1441-1444	38.605519/ -85.781237	Wetland 84	Yes	Yes	Yes	Yes
179	1445-1448	38.605776/ -85.781234	Upland of Wetland 84	No	Yes	No	No
180	1450-1453	38.608615/ -85.781168	Wetland 85	Yes	Yes	Yes	Yes
181	1454-1457	38.608516/ -85.781172	Upland of Wetland 85	No	Yes	No	No
182	1459-1462	38.609968/ -85.781085	Wetland 86	Yes	Yes	Yes	Yes
183	1463-1466	38.610116/ -85.781117	Upland of Wetland 86	No	No	No	No
184	1467-1470	38.610847/ -85.781176	Wetland 87	Yes	Yes	Yes	Yes
185	1471-1474	38.610885/ -85.781182	Upland of Wetland 87	Yes	No	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
186	1476-1480	38.615330/ -85.781301	Wetland 88	Yes	Yes	Yes	Yes
187	1481-1484	38.615332/ -85.781282	Upland of Wetland 88	Yes	No	No	No
188	1491-1494	38.618001/ -85.781924	Wetland 89	Yes	Yes	Yes	Yes
189	1495-1498	38.618000/ -85.781959	Upland of Wetland 89	No	No	No	No
190	1508-1511	38.620837/ -85.782956	Wetland 90	Yes	Yes	Yes	Yes
191	1504-1507	38.620661/ -85.782895	Upland of Wetland 90	No	Yes	No	No
192	1516-1519	38.622548/ -85.783524	Wetland 91	Yes	Yes	Yes	Yes
193	1512-1515	38.622400/ -85.783494	Upland of Wetland 91	No	Yes	No	No
194	1550-1553	38.646998/ -85.783436	Wetland 92	Yes	Yes	Yes	Yes
195	1554-1557	38.647017/ -85.783372	Upland 92	No	No	No	No
196	1562-1565	38.650177/ -85.783395	Wetland 93	Yes	Yes	Yes	Yes
197	1566-1569	38.650163/ -85.783360	Upland 93	No	No	No	No
198	1588-1591	38.656683/ -85.783158	Wetland 94	Yes	Yes	Yes	Yes
199	1592-1595	38.656682/ -85.783129	Upland 94	No	No	No	No
200	1601-1604	38.660811/ -85.782422	Wetland 95	Yes	Yes	Yes	Yes
201	1605-1608	38.660805/ -85.782445	Upland 95	No	No	No	No
202	1610-1613	38.661648/ -85.782276	Wetland 95	Yes	Yes	Yes	Yes

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
203	1614-1617	38.661848/ -85.782244	Upland 95	No	No	No	No
204	1621-1624	38.664776/ -85.782002	Wetland 96	Yes	Yes	Yes	Yes
205	1625-1628	38.664823/ -85.782054	Upland 96	No	No	No	No
206	1630-1632	38.665375/ -85.782036	Wetland 97	Yes	Yes	Yes	Yes
207	1633-1636	38.665476/ -85.782115	Upland 97	No	No	No	No
208	1650-1653	38.671645/ -85.783567	Wetland 98	Yes	Yes	Yes	Yes
209	1654-1657	38.671633/ -85.783537	Upland 98	No	No	No	No
210	1665-1668	38.679604/ -85.787109	Wetland 99	Yes	Yes	Yes	Yes
211	1669-1672	38.679615/ -85.787064	Upland 99	No	No	No	No
212	1678-1681	38.682284/ -85.787433	Wetland 100	Yes	Yes	Yes	Yes
213	1683-1686	38.682529/ -85.787463	Upland 100	Yes	Yes	No	No
214	1690-1693	38.683987/ -85.787102	Wetland 100	Yes	Yes	Yes	Yes
215	1694-1697	38.683961/ -85.787018	Upland 100	No	No	No	No
216	1707-1710	38.683453/ -85.787599	Wetland 101	Yes	Yes	Yes	Yes
217	1711-1714	38.683618/ -85.787628	Upland 101	Yes	No	No	No
218	1744-1747	38.686133/ -85.787698	Wetland 102	Yes	Yes	Yes	Yes
219	1740-1743	38.686062/ -85.787552	Upland 102	Yes	No	No	No

Data Points Summary							
Data Point	**Photos**	**Lat/ Long**	**Water Resource**	**Hydrophytic Vegetation**	**Hydric Soils**	**Wetland Hydrology**	**Within a Wetland**
220	1728-1730	38.686817/ -85.787408	Wetland 103	Yes	Yes	Yes	Yes
221	1731-1734	38.686812/ -85.787430	Upland 103	No	No	No	No
222	1758-1761	38.691721/ -85.788358	Wetland 104	Yes	Yes	Yes	Yes
223	1754-1757	38.691675/ -85.788317	Upland 104	Yes	No	No	No
224	1771-1774	38.695136/ -85.788763	Wetland 105	Yes	Yes	Yes	Yes
225	1766-1769	38.694504/ -85.788624	Upland 105	No	No	No	No
226	1781-1784	38.703258/ -85.791822	Wetland 106	Yes	Yes	Yes	Yes
227	1785-1788	38.703260/ -85.791880	Upland 106	No	No	No	No

Table 2 – Aquatic Resources Summary

Aquatic Resources Summary: Wetlands							
Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 1	2-5, 10-12	38.498392/ -85.771298	PEME	Poor	water of the State	0.107	280
Wetland 2	23, 29-32	38.504271/ -85.771291	PFO1A	Poor	water of the US	0.098	585
Wetland 3.1	56-61	38.515182/ -85.772752	PFO1E	Poor	water of the US	0.117	345
Wetland 3.2	68-71	38.517445/ -85.772993	PEME	Poor	water of the US	0.116	745
Wetland 4	80-83	38.518422/ -85.773218	PFO1E	Poor	water of the State	0.029	126
Wetland 5	107-111, 115-120	38.529729/ -85.774781	PEME	Poor	water of the State	0.125	875
Wetland 6	133-137	38.533604/ -85.775981	PEME	Poor	water of the State	0.132	782
Wetland 7	142-145	38.537332/ -85.777254	PEME	Poor	water of the State	0.003	20
Wetland 8	162-165	38.539185/ -85.777766	PEME	Poor	water of the State	0.099	485
Wetland 9	211-214	38.553063/ -85.779240	PEME	Poor	water of the US	0.054	345
Wetland 10	232-235	38.558055/ -85.779132	PEME	Poor	water of the State	0.019	N/A
Wetland 11	237-241	38.559363/ -85.779061	PEME	Poor	water of the State	0.017	120
Wetland 12	261-264	38.568026/ -85.779328	PFO1E	Average	water of the US	0.118	430
Wetland 13	274-277	38.570235/ -85.779327	PEME	Poor	water of the State	0.011	88
Wetland 14	282-285	38.570336/ -85.779260	PEME	Poor	water of the State	0.009	N/A
Wetland 15	290-293	38.570200/ -85.778988	PEME	Poor	water of the State	0.003	50
Wetland 16	299-302	38.571342/ -85.779111	PEME	Poor	water of the State	0.004	48
Wetland 17	311-314, 319	38.578878/ -85.779223	PEME	Poor	water of the State	0.022	196

Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 18	321-324	38.581797/ -85.779132	PEME	Poor	water of the State	0.015	N/A
Wetland 19	338-342	38.586092/ -85.779169	PEME	Poor	water of the State	0.095	673
Wetland 20	352-356	38.588405/ -85.779223	PEME	Poor	water of the State	0.027	265
Wetland 21.1	364-365, 370-373	38.590278/ -85.779264	PFO1E	Poor	water of the US	0.072	358
Wetland 21.2	366-369	38.590239/ -85.779262	PEME	Poor	water of the US	0.007	N/A
Wetland 22	379-382, 387	38.591848/ -85.779098	PEME	Poor	water of the State	0.023	153
Wetland 23	389-394	38.595436/ -85.779430	PEME	Poor	water of the State	0.064	402
Wetland 24	399-402	38.595994/ -85.779467	PEME	Poor	water of the State	0.008	N/A
Wetland 25	404-407	38.597891/ -85.780009	PEME	Poor	water of the State	0.037	364
Wetland 26	427-432	38.619253/ -85.783025	PEME	Poor	water of the US	0.122	1,121
Wetland 27	439-442	38.620910/ -85.783647	PEME	Poor	water of the state	0.004	N/A
Wetland 28	455-458	38.632848/ -85.784261	PEME	Poor	water of the State	0.012	101
Wetland 29	464-467	38.635077/ -85.784231	PEME	Poor	water of the State	0.006	86
Wetland 30	508-511	38.658847/ -85.783421	PEME	Poor	water of the State	0.085	876
Wetland 31	518-522, 527	38.662329/ -85.782779	PEME	Poor	water of the State	0.091	771
Wetland 32	530, 533-536	38.664804/ -85.782685	PEME	Poor	water of the US	0.054	769
Wetland 33	561-564	38.676307/ -85.786569	PEME	Poor	water of the State	0.013	47
Wetland 34	578-584	38.677799/ -85.787207	PEME	Poor	water of the State	0.024	N/A
Wetland 35	596-597, 603-606, 608-609	38.684182/ -85.788333	PEME	Poor	water of the State	0.130	N/A

Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 36	611-615, 618-619 621-622, 624-630	38.684666/ -85.788408	PEME	Poor	water of the State	0.431	N/A
Wetland 37	652-653, 658-663	38.686059/ -85.788855	PEME	Poor	water of the State	0.128	N/A
Wetland 38	671-677	38.686860/ -85.788545	PEME	Poor	water of the State	0.189	351
Wetland 39	685-690	38.687431/ -85.789108	PEME	Poor	water of the State	0.060	280
Wetland 40	700-705	38.688923/ -85.788701	PEME	Poor	water of the US	0.002	N/A
Wetland 41.1	716, 721-727, 735	38.691744/ -85.788914	PEME	Poor	water of the State	0.163	1,511
Wetland 41.2	730, 737-741,	38.695503/ -85.789448	PFO1A	Average	water of the State	0.280	N/A
Wetland 42	753-757, 763-768	38.695939/ -85.789570	PFO1A	Poor	water of the State	0.051	N/A
Wetland 43	773-777, 782-786	38.697590/ -85.790018	PEME	Poor	water of the State	0.037	444
Wetland 44	794-798	38.699720/ -85.790795	PEME	Poor	water of the State	0.011	N/A
Wetland 45	818-821	38.710021/ -85.796183	PEME	Poor	water of the State	0.005	371
Wetland 46	840-843	38.695290/ -85.789100	PEME	Poor	water of the State	0.014	115
Wetland 47	857-860	38.678009/ -85.786984	PEME	Poor	water of the State	0.024	189
Wetland 48	871-874	38.672846/ -85.784387	PEME	Poor	water of the State	0.021	140
Wetland 49	895-898	38.646514/ -85.783711	PEME	Poor	water of the State	0.018	60
Wetland 50	908-911	38.640970/ -85.783795	PEME	Poor	water of the State	0.019	213
Wetland 51	919-922	38.634106/ -85.783910	PEME	Poor	water of the State	0.012	112
Wetland 52	957-960	38.590497/ -85.778843	PEME	Poor	water of the State	0.030	145
Wetland 53	962-965	38.588446/ -85.778819	PEME	Poor	water of the State	0.020	150

Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 54	970-973	38.584979/ -85.778796	PEME	Poor	water of the State	0.034	120
Wetland 55	978-981	38.583880/ -85.778808	PEME	Poor	water of the State	0.042	135
Wetland 56	992-995	38.578010/ -85.778818	PEME	Poor	water of the State	0.042	350
Wetland 57	999-1002	38.574300/ -85.778825	PEME	Poor	water of the State	0.044	110
Wetland 58	1021-1024	38.561301/ -85.778811	PEME	Poor	water of the State	0.020	105
Wetland 59	1025-1028	38.559511/ -85.778815	PEME	Poor	water of the State	0.020	145
Wetland 60	1036-1041	38.550145/ -85.778842	PEME	Poor	water of the State	0.041	188
Wetland 61	1052-1056, 1061	38.542771/ -85.778094	PEME	Poor	water of the State	0.033	126
Wetland 62	1063-1066	38.535331/ -85.776244	PEME	Poor	water of the State	0.030	155
Wetland 63	1091-1094, 1101-1102	38.498291/ -85.770708	PEME	Poor	water of the State	0.218	180
Wetland 64	1119-1121	38.512349/ -85.771733	PEME	Poor	water of the State	0.012	45
Wetland 65	1135-1139	38.514395/ -85.771920	PFO1E	Poor	water of the US	0.033	N/A
Wetland 66	1142-146	38.515858/ -85.772204	PEME	Poor	water of the State	0.136	770
Wetland 67	1158-1161, 1166-1169	38.519114/ -85.772651	PEME	Poor	water of the State	0.099	950
Wetland 68	1172, 1177-1189	38.524444/ -85.773362	PEME	Poor	water of the US	0.322	1,640
Wetland 69	1196-1201	38.512349/ -85.771733	PEME	Poor	water of the US	0.048	110
Wetland 70	1211-1214	38.533129/ -85.775213	PEME	Poor	water of the State	0.023	178
Wetland 71	1231-1236	38.539715/ -85.777204	PEME	Poor	water of the State	0.114	488
Wetland 72	1251-1254	38.543700/ -85.777887	PEME	Poor	water of the State	0.013	80

Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 73	1267-1270	38.546757/ -85.778369	PEME	Poor	water of the State	0.015	132
Wetland 74	1318-1321	38.563630/ -85.778359	PEME	Poor	water of the US	0.029	N/A
Wetland 75	1328-1331	38.566841/ -85.778580	PEME	Poor	water of the State	0.022	259
Wetland 76	1339-1342, 1346-1347	38.567920/ -85.778294	PFO1E	Poor	Water of the US	0.023	N/A
Wetland 77	1353-1355, 1359	38.569832/ -85.778236	PEME	Poor	Water of the state	0.003	N/A
Wetland 78	1373-1376	38.583775/ -85.778373	PEME	Poor	water of the US	0.009	N/A
Wetland 79	1386-1389, 1392-1393	38.587513/ -85.778515	PEME	Poor	water of the State	0.009	97
Wetland 80	1397-1400	38.590209/ -85.778419	PEME	Poor	water of the State	0.004	N/A
Wetland 81	1407-1410, 1413	38.592589/ -85.778530	PEME	Poor	water of the State	0.005	N/A
Wetland 82	1419-1423	38.603902/ -85.781065	PEME	Poor	water of the State	0.039	422
Wetland 83	1429-1431, 1435-1437	38.604446/ -85.781118	PEME	Poor	water of the State	0.015	182
Wetland 84	1441-1444, 1448	38.605519/ -85.781237	PEME	Poor	water of the State	0.020	201
Wetland 85	1450-1453	38.608615/ -85.781168	PEME	Poor	water of the State	0.024	217
Wetland 86	1459-1462	38.609968/ -85.781085	PSS1E	Poor	water of the US	0.010	N/A
Wetland 87	1467-1470, 1474	38.610847/ -85.781176	PEME	Poor	water of the State	0.027	69
Wetland 88	1476-1480	38.615330/ -85.781301	PEME	Poor	water of the State	0.022	287
Wetland 89	1490-1494, 1499-1500	38.618001/ -85.781924	PEME	Poor	water of the US	0.089	952
Wetland 90	1508-1511	38.620837/ -85.782956	PEME	Poor	water of the state	0.016	93
Wetland 91	1516-1521	38.622548/ -85.783524	PEME	Poor	water of the state	0.031	346

Delineated Resource	Photos	Lat/ Long	Type	Quality	Likely Jurisdiction	Total Acreage	
						Acres	Linear Feet
Wetland 92	1550-1553, 1558	38.646998/ -85.783436	PEME	Poor	water of the State	0.036	342
Wetland 93	1562-1565, 1570	38.650177/ -85.783395	PEME	Poor	water of the State	0.019	169
Wetland 94	1587-1591	38.656683/ -85.783158	PEME	Poor	water of the State	0.018	113
Wetland 95	1601-1604, 1609-1613	38.660811/ -85.782422	PEME	Poor	water of the State	0.252	N/A
Wetland 96	1621-1624	38.664776/ -85.782002	PEME	Poor	water of the State	0.050	N/A
Wetland 97	1630-1632	38.665375/ -85.782036	PEME	Poor	water of the State	0.055	N/A
Wetland 98	1648, 1650-1653, 1658-1659	38.671645/ -85.783567	PEME	Poor	water of the State	0.123	799
Wetland 99	1665-1668	38.679604/ -85.787109	PEME	Poor	water of the State	0.232	876
Wetland 100	1677-1682, 1687-1693, 1698-1700, 1702-1703	38.682284/ -85.787433	PEME	Poor	water of the State	0.800	1228
Wetland 101	1707-1710, 1716-1717, 1719, 1721	38.683453/ -85.787599	PEME	Poor	water of the State	0.236	628
Wetland 102	1744-1747, 1749	38.686133/ -85.787698	PEME	Poor	water of the State	0.241	480
Wetland 103	1727-1730, 1735-1736	38.686817/ -85.787408	PEME	Poor	water of the State	0.144	471
Wetland 104	1758-1762	38.691721/ -85.788358	PEME	Poor	water of the State	0.017	352
Wetland 105	1770-1774	38.695136/ -85.788763	PEME	Poor	water of the State	0.218	698
Wetland 106	1781-1784	38.703258/ -85.791822	PEME	Poor	water of the State	0.026	N/A
Total						**7.690 Acre**	**30,789 Linear Feet**

Aquatic Resources Summary: Streams											
Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
Blue Lick Creek	18-20	38.501510/ -85.771383	Yes; PER	30.5 feet	1.6 feet	PER/ Good	90% glide, 10% riffle	Bedrock, Gravel	water of the US	216	0.151
UNT to Blue Lick Creek	24, 33	38.504271/ -85.771534	No	3.0 feet	0.45 feet	EPH/ Poor	40% run, 40% glide, 10% run, 10% pool	Silt, Sand	N/A	88	0.006
UNT to Blue Lick Creek CV									N/A	161	0.004
Caney Fork	51-55, 1129-1130, 1140-1141	38.514394/ -85.771686	Yes; PER	27.4 feet	1.5 feet	PER/ Good	60% glide, 20% run, 20% riffle	Cobble, Gravel, Sand, Boulder	water of the US	277	0.174
Henry Brook	92-93 102-104, 1155-1156, 1191, 1202-1208	38.518895/ -85.773162	Yes; INT	7.0 feet	0.50 feet	INT/ Average	80% glide10% run, 10% pool	Silt, Sand	water of the US	1891	0.304
Henry Brook CV 1									N/A	173	0.023
Henry Brook CV 2									N/A	189	0.024
UNT to Caney Fork	152	38.538660/ -85.777982	No	3.5 feet	0.33 feet	EPH/ Poor	100% glide	Silt, Sand	N/A	10	0.001

Aquatic Resources Summary: Streams											
Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
Ville Run	1262-1264	38.545695/ -85.778121	Yes; INT	2.5 feet	0.33 feet	INT/ Average	65% glide, 15% riffle, 10% run, 10% pool	Sand, Artificial, Silt, Gravel	water of the US	24	0.001
Ville Run CV									N/A	244	0.025
Wolf Run	201, 1282	38.550404/ -85.779302	Yes; PER	7.2 feet	1.6 feet	PER/ Average	90% glide, 10% Riffle	Silt, Sand, Gravel	water of the US	9	0.001
Wolf Run CV									N/A	270	0.053
UNT 1 to Wolf Run	207-210	38.552299/ -85.779357	No	2.0 feet	0.50 feet	EPH/ Poor	100% glide	Silt, Sand	N/A	222	0.010
UNT 2 to Wolf Run	1296-1297	38.557645/ -85.778388	No	5.2 feet	2.0 feet	INT/ Average	80% riffle, 10% run, 10% glide	Sand, Artificial, Silt, Gravel	water of the US	80	0.010
UNT 1 to Miller Fork	1303	38.563032/ -85.778210	No	3.5 feet	2.0 feet	INT/ Average	80% riffle, 20% run	Sand, Gravel, Clay	water of the US	50	0.004
UNT 2 to Miller Fork	1310	38.563120/ -85.778322	No	2.0 feet	0.5 feet	EPH/ Poor	100% riffle	Artificial, Silt	N/A	30	0.001
UNT 3 to Miller Fork	1309, 1311-1312	38.563238/ -85.778283	Yes; PER	4.5 feet	2.0 feet	INT/ Average	70% glide, 10% riffle, 10% run, 10% pool	Sand, Gravel, Clay	water of the US	280	0.029
UNT 3 to Miller Fork CV									N/A	281	0.035

Aquatic Resources Summary: Streams											
Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
Miller Fork	1336-1338	38.567643/ -85.778212	Yes; PER	8.0 feet	0.67 feet	INT/ Average	20% pool, 10% riffle, 70% run	Gravel, Sand, Cobble, Silt	water of the US	65	0.012
Miller Fork CV									N/A	262	0.063
UNT 4 to Miller Fork	1348-1349	38.568620/ -85.778306	No	2 .0 feet	0.4 feet	EPH/ Poor	50% riffle, 50% run	Sand, Silt	N/A	258	0.012
UNT 1 to Meal Run	310, 1366-1367	38.577685/ -85.778323	Yes; INT	4.0 feet	0.6 feet	INT/ Poor	20% riffle, 80% run	Silt, Gravel, Artificial (riprap)	water of the US	58	0.005
UNT 1 to Meal Run CV									N/A	222	0.015
Meal Run	329, 1370-1371	38.581898/ -85.778189	Yes; INT	6.0 feet	0.67 feet	INT/ Poor	25% pool, 75% run	Gravel, Sand, Silt	water of the US	35	0.005
Meal Run CV									N/A	281	0.013
Wheel Run	331-332	38.584111/ -85.779289	Yes; INT	1.0 foot	0.67 feet	INT/ Poor	15% riffle, 85% run	Silt, Sand, Gravel	water of the US	84	0.002
Wheel Run CV 1									N/A	79	0.005
Wheel Run CV 2									N/A	234	0.016
West Fork Silver Creek	362-363, 1395-1396	38.589121/ -85.779337	Yes; PER	6.0 feet	0.4 feet	INT/ Poor	10% riffle, 90% run	Gravel, Silt, Cobble	water of the US	300	0.041
West Fork Silver Creek CV									N/A	255	0.032

Aquatic Resources Summary: Streams											
Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
UNT to West Fork Silver Creek	378, 1405	38.590620/ -85.778277	Yes; INT	4.0 feet	0.6 feet	INT/ Poor	100% run	Artificial (riprap), Silt	water of the US	58	0.005
UNT to West Fork Silver Creek CV									N/A	264	0.027
UNT to Pigeon Roost Creek	1485-1487	38.615637/ -85.781326	No	2.0 feet	0.5 feet	EPH/ Poor	15% riffle, 85% run	Silt, Sand, Gravel	N/A	61	0.003
Pigeon Roost Creek	437, 933, 1501-1502	38.620028/ -85.782625	Yes; PER	13 feet	0.67 feet	PER/ Poor	5% riffle, 20% pool, 75% run	Silt, Sand, Gravel, Boulder	water of the US	220	0.066
UNT to Underwood Run	449-450, 1522-1524	38.624344/ -85.783580	Yes; INT	6.0 feet	0.33 feet	INT/ Poor	20% pool, 80% run	Silt, Artificial (riprap), Sand	water of the US	59	0.008
UNT to Underwood Run CV									N/A	188	0.022
Tree Creek	1529-1530	38.633928/ -85.783460	Yes; PER	12 feet	1.2 feet	PER/ Poor	25% pool, 75% run	Artificial (riprap), Bedrock, Silt	water of the US	25	0.007
Tree Creek CV									N/A	367	0.059

Aquatic Resources Summary: Streams											
Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
UNT to Tree Creek	472, 1532-1533	38.635340/ -85.783482	Yes; INT	7.0 feet	0.5 feet	INT/ Poor	100% run	Sand, Silt, Artificial (riprap), Gravel	water of the US	77	0.012
UNT to Tree Creek CV									N/A	171	0.004
Sycamore Run	1539-1540	38.640869/ -85.784210	Yes; INT	3.5 feet	0.5 feet	INT/ Poor	90% glide, 10% pool	Detritus, Artificial	water of the US	30	0.002
Sycamore Run CV									N/A	278	0.038
UNT 1 to Sycamore Run	484-485, 1544	38.643730/ -85.783951	No	1.5 feet	0.2 feet	EPH/ Poor	N/A	Artificial, Clay	N/A	34	0.001
UNT 1 to Sycamore Run CV									N/A	183	0.006
UNT 2 to Sycamore Run	487-489, 1546-1547	38.645551/ -85.784023	Yes; INT	1.5 feet	0.8 feet	EPH/ Poor	100% glide	Sand, Artificial, Cobble	water of the US	50	0.002
UNT 2 to Sycamore Run CV									N/A	164	0.008
UNT 1 to Nest Run	494-495	38.650266/ -85.783969	No	7.0 feet	2.0 feet	EPH/ Average	70% glide, 30% pool	Clay, Sand, Gravel, Cobble, Detritus	N/A	34	0.006
UNT 2 to Nest Run	496-497, 1576	38.651849/ -85.783970	Yes; INT	3.0 feet	1.2 feet	INT/ Average	75% glide, 15% riffle, 10% pool	Sand, Clay, Gravel	water of the US	6	0.0004
UNT 2 to Nest Run CV									N/A	271	0.028

Aquatic Resources Summary: Streams

Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
UNT 3 to Nest Run	1572-1575	38.652095/ -85.783255	No	1.2 feet	0.2 feet	EPH/ Poor	95% glide, 5% pool	Clay, Woody Debris	N/A	248	0.007
Nest Run	502-504, 1583-1585	38.655404/ -85.783904	Yes; INT	2.0 feet	0.4 feet	INT/ Average	75% glide, 20% riffle, 5% pool	Clay, Sand, Artificial, Silt, Detritus	water of the US	50	0.002
Nest Run CV									N/A	225	0.041
UNT 4 to Nest Run	517, 1598-1599	38.659706/ -85.783340	No	2.5 feet	0.5 feet	INT/ Average	60% glide, 25% pool, 15% riffle	Clay, Cobble, Detritus, Artificial	water of the US	80	0.005
UNT 4 to Nest Run CV									N/A	169	0.016
Elm Branch	531-532, 1619-1620	38.664473/ -85.782652	Yes; INT	1.0 feet	0.5 feet	INT/ Poor	90% glide, 5% riffle, 5% pool	Clay, Detritus	water of the US	32	0.001
Elm Branch CV									N/A	235	0.013
UNT to Elm Branch	545-547, 1638-1639	38.667402/ -85.782900	No	1.2 feet	0.4 feet	EPH/ Poor	90% glide, 5% riffle, 5% pool	Clay, Gravel	N/A	75	0.002
UNT to Elm Branch CV									N/A	167	0.013
UNT 1 to Honey Run	571-572	38.677170/ -85.786984	No	1.8 feet	0.6 feet	EPH/ Poor	90% glide, 5% pool, 5% riffle	Clay, Gravel, Detritus	N/A	29	0.001

Aquatic Resources Summary: Streams

Delineated Resource	Photos	Lat/ Long	USGS Blue Line & Type	OHWM Width	OHWM Depth	Flow Regime/ Quality	Riffle/Pool Presence	Substrate	Likely Jurisdiction	Total Linear Feet	Total Acres
UNT 2 to Honey Run	589-591	38.681886/ -85.788133	No	7.5 feet	2.7 feet	INT/ Average	90% glide, 10% pool	Clay, Gravel, Woody Debris, Cobble	water of the US	20	0.001
UNT 2 to Honey Run CV									N/A	224	0.021
UNT 3 to Honey Run	640-641	38.684913/ -85.790193	No	2.0 feet	0.5 feet	EPH/ Poor	95% glide, 5% riffle	Clay, Woody Debris	N/A	54	0.002
UNT 4 to Honey Run	681-683	38.687168/ -85.789311	No	3.0 feet	0.4 feet	EPH/ Average	90% glide, 5% pool, 5% riffle	Clay, Detritus	N/A	201	0.014
UNT 5 to Honey Run	710-711	38.690579/ -85.788815	No	3.0 feet	0.6 feet	EPH/ Average	85% glide, 10% pool, 5% riffle	Clay, Silt, Detritus	N/A	19	0.001
UNT 6 to Honey Run	1764-1765	38.694301/ -85.788587	No	1.5 feet	0.4 feet	EPH/ Poor	90% glide, 5% pool, 5% riffle	Clay, Detritus	N/A	51	0.002
UNT 6 to Honey Run CV									N/A	182	0.017
UNT 7 to Honey Run	746-747, 1775	38.695562/ -85.789452	No	3.0 feet	0.4 feet	EPH/ Average	70% glide, 30% pool	Clay, Gravel, Cobble	N/A	88	0.006
UNT 7 to Honey Run CV									N/A	170	0.016
UNT 8 to Honey Run	771-772	38.697548/ -85.790029	No	3.0 feet	0.8 feet	EPH/ Poor	75% glide, 20% riffle, 5% pool	Clay, Detritus	N/A	14	0.001

Aquatic Resources Summary: Streams											
Delineated Resource	**Photos**	**Lat/ Long**	**USGS Blue Line & Type**	**OHWM Width**	**OHWM Depth**	**Flow Regime/ Quality**	**Riffle/Pool Presence**	**Substrate**	**Likely Jurisdiction**	**Total Linear Feet**	**Total Acres**
UNT 9 to Honey Run	810-812	38.704907/ -85.793401	No	1.8 feet	0.6 feet	EPH/ Poor	90% glide, 10% riffle	Clay, Detritus, Gravel	N/A	22	0.001
UNT 9 to Honey Run CV									N/A	180	0.017
Total										**11,703 Linear Feet**	**1.581 Acres**

Appendix B - Routine Wetland Determination Data Forms

Note: Wetland Data Forms Removed

Appendix C - Quality Assessment Forms

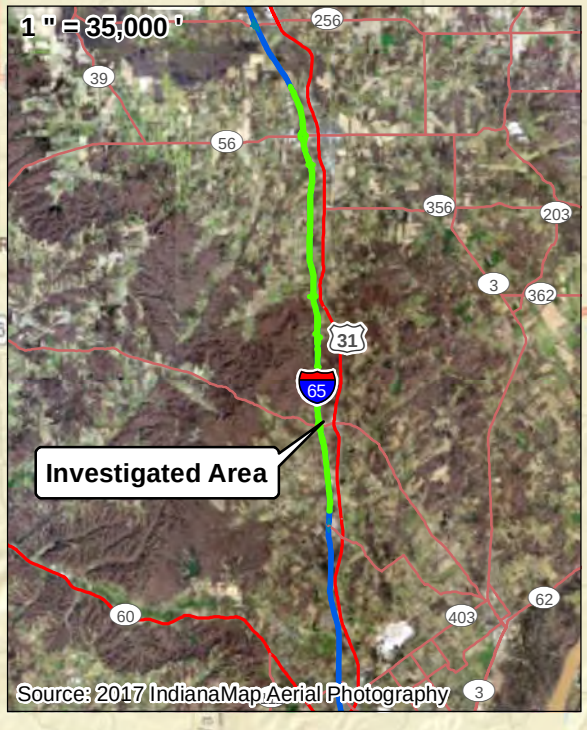
QHEI/HHEI

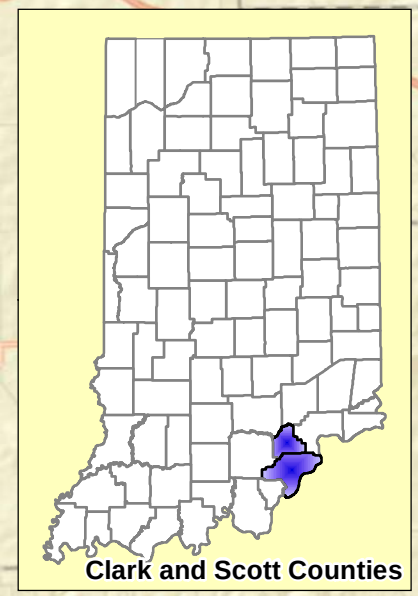
Note: QHEI/HHEI Assessment Forms Removed

Appendix D - Mapping

Figure 1: State Location Map
Figure 2: USGS Topographic Mapping
Figure 3: Clark and Scott County Mapped Soils - SSURGO
Figure 4: NWI and FEMA 100-Year Floodplain Mapping
Figure 5: 2017 Aerial Photography
Figure 6: 12-Digit HUC Map
Figure 7: Field Investigation and Photo Location Map

Note: Clark and Scott Counties Soil Maps Removed
Figure 2: USGS Topographic Maps (1-5) Removed
Figure 5: 2017 Aerial photography Removed
Figure 7: Field Investigation & Photo Map Location Removed





Investigated Area

Source: ESRI World Street Map

Not to Scale

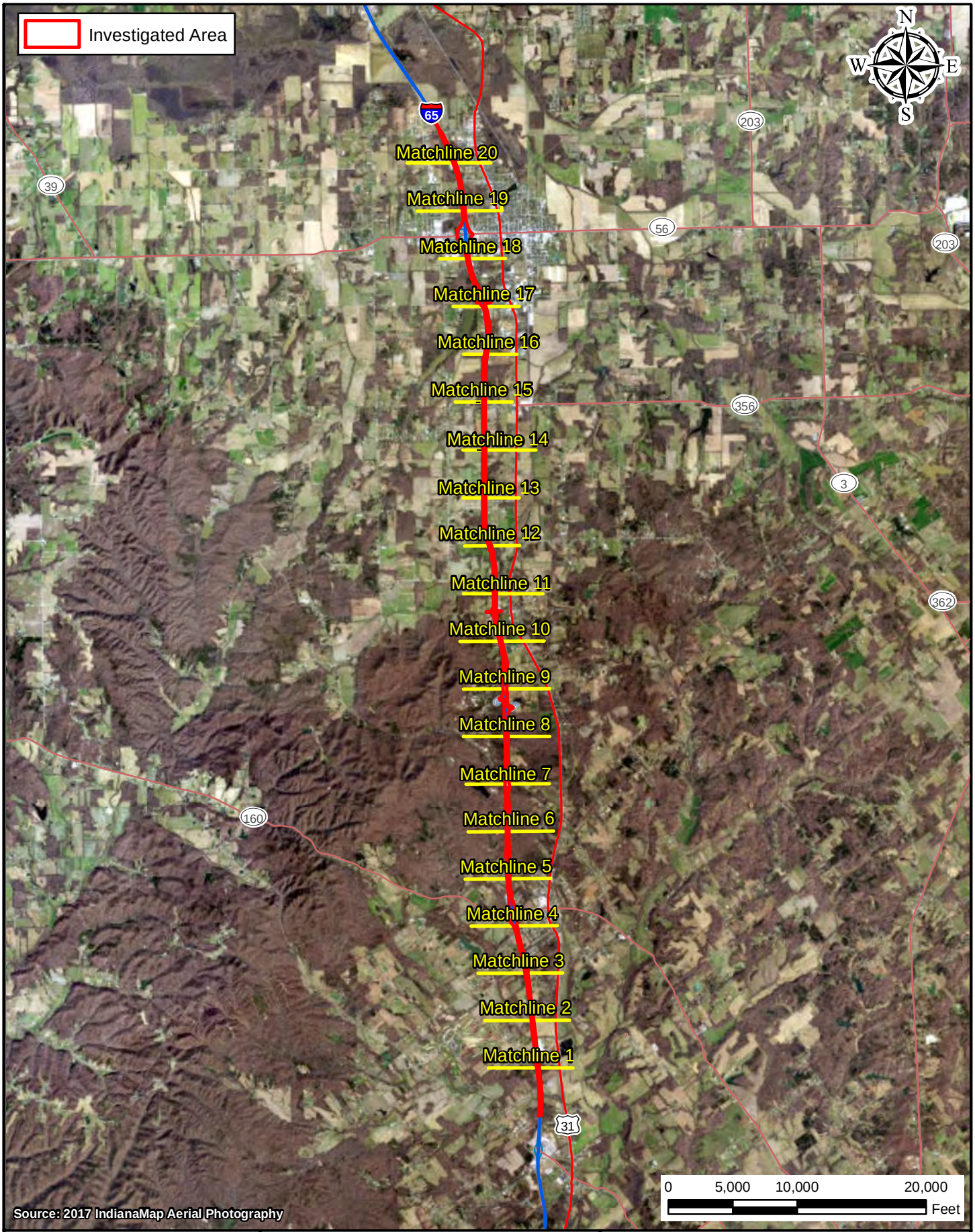
Figure 1: State Location Map

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg & Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Date: 11/11/2020 State: Indiana

Appendix D

Path: P:\2019\00172\D. Drawings\Environmental\I65 ATL\Exhibits\Waters Report\Combined Maps\2019.00172.EV.2020.11.11.map.STATE.njk.mxd Date:11/12/2020 User:nkrahn



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Matchline Key for Figures 3, 4, & 5

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Date: 11/12/2020 State: Indiana

Appendix D

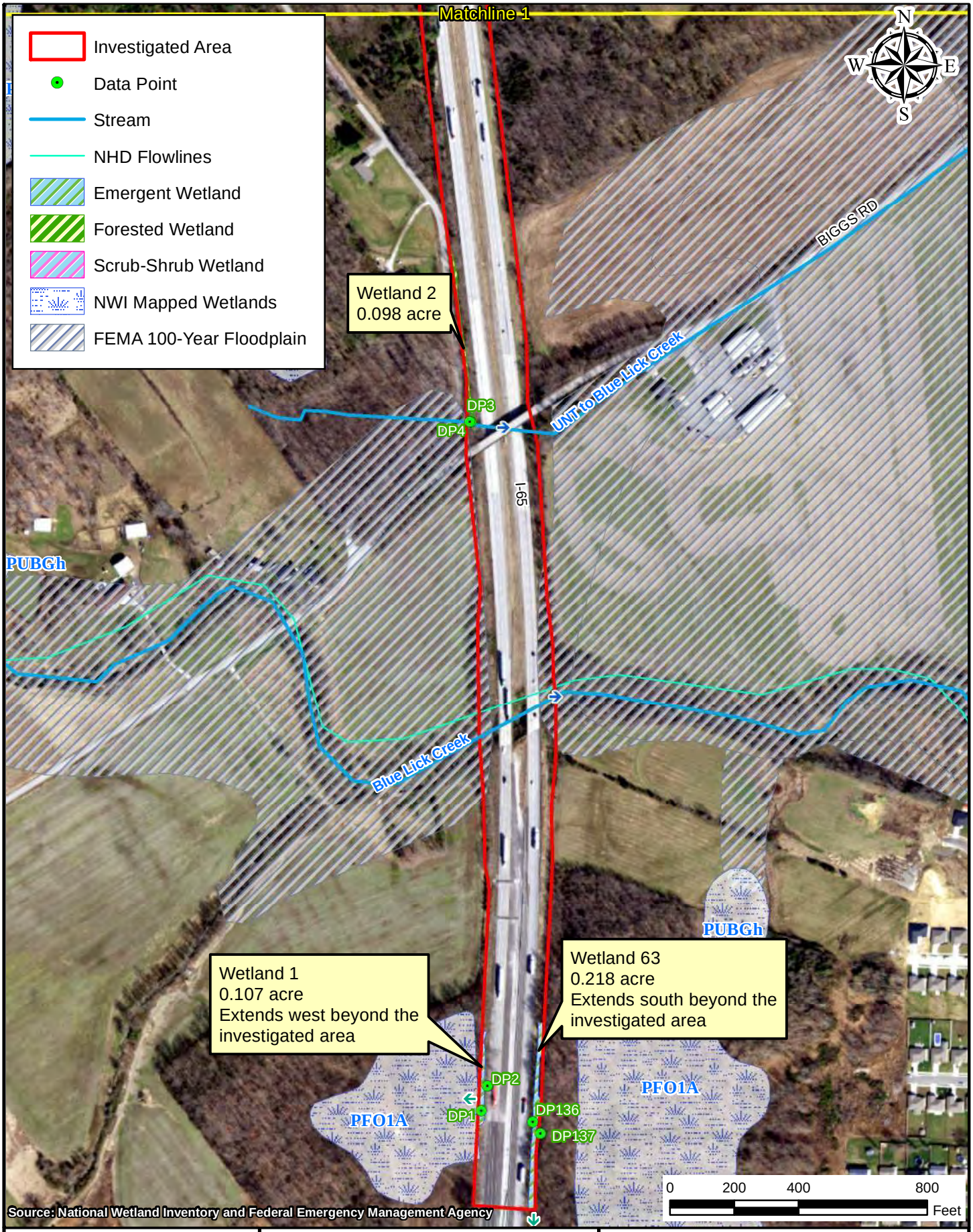

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 1 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Location: Scottsburg and Henryville
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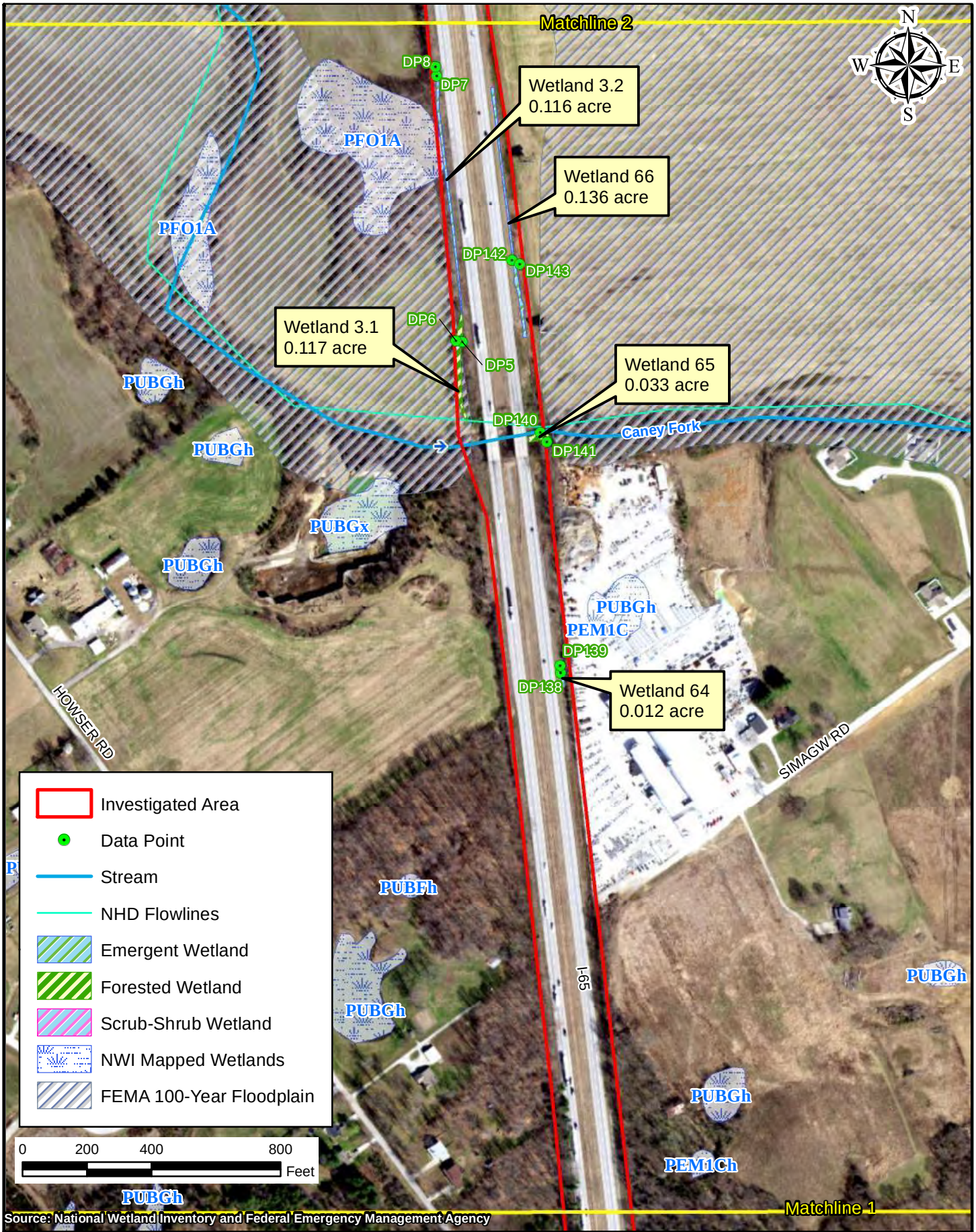
Appendix D



Source: National Wetland Inventory and Federal Emergency Management Agency

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 2 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties Appendix D
Date: 11/12/2020 State: Indiana

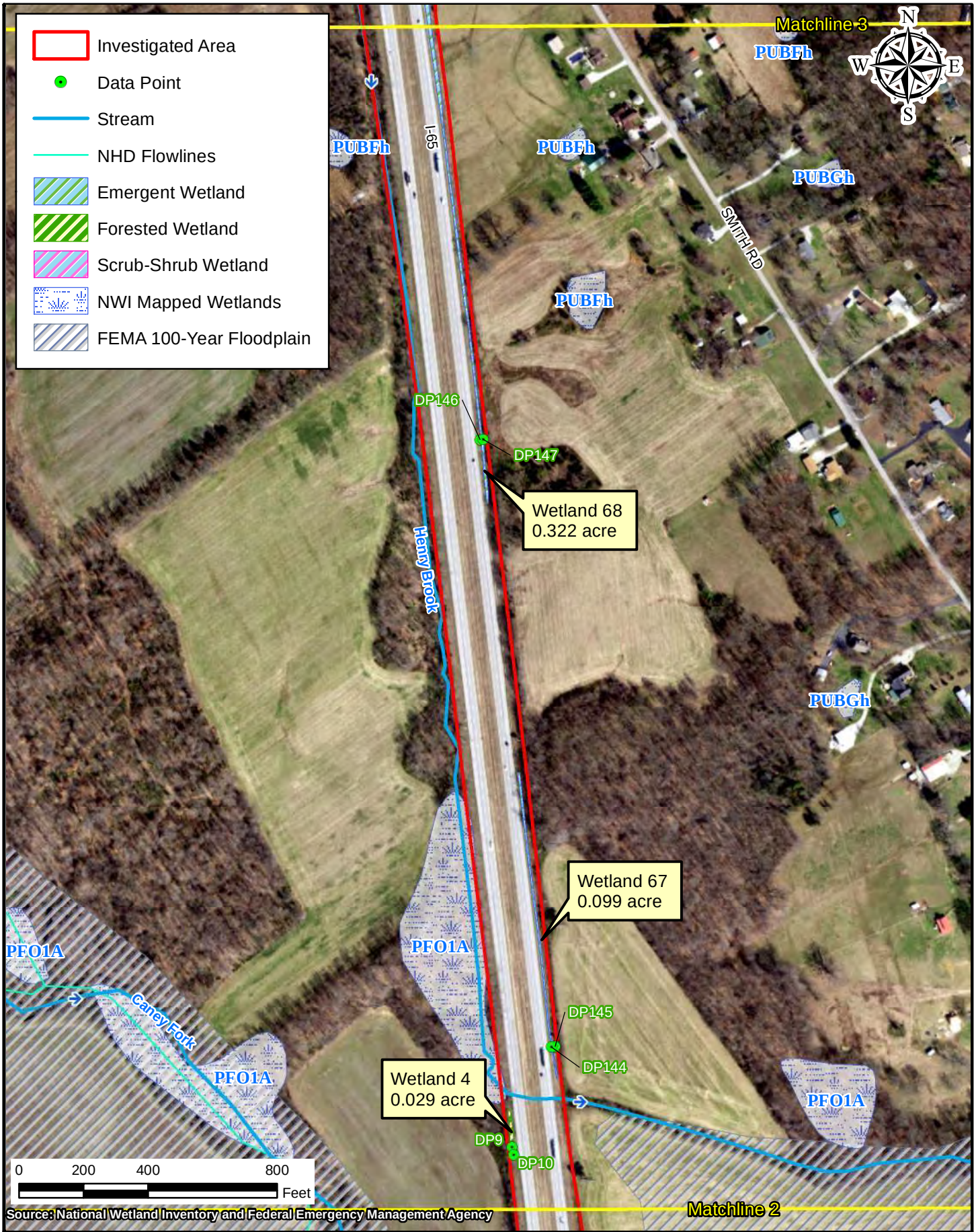

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 3 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
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Location: Scottsburg and Henryville
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County: Clark and Scott Counties
Appendix D
Date: 11/12/2020 State: Indiana

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 4 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
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Date: 11/12/2020 State: Indiana

Appendix D

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 5 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties Appendix D
Date: 11/12/2020 State: Indiana

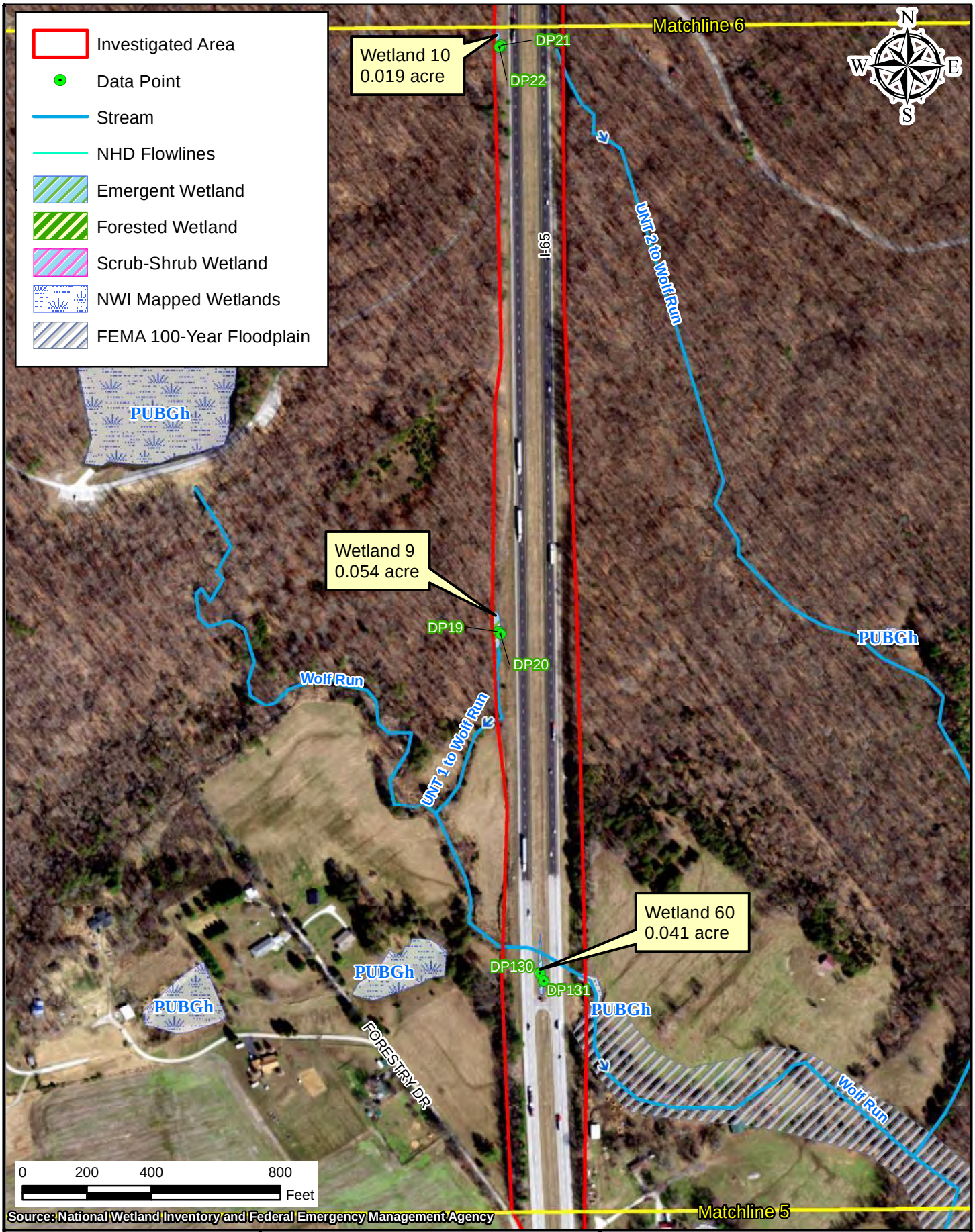

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 6 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Appendix D
Date: 11/12/2020 State: Indiana

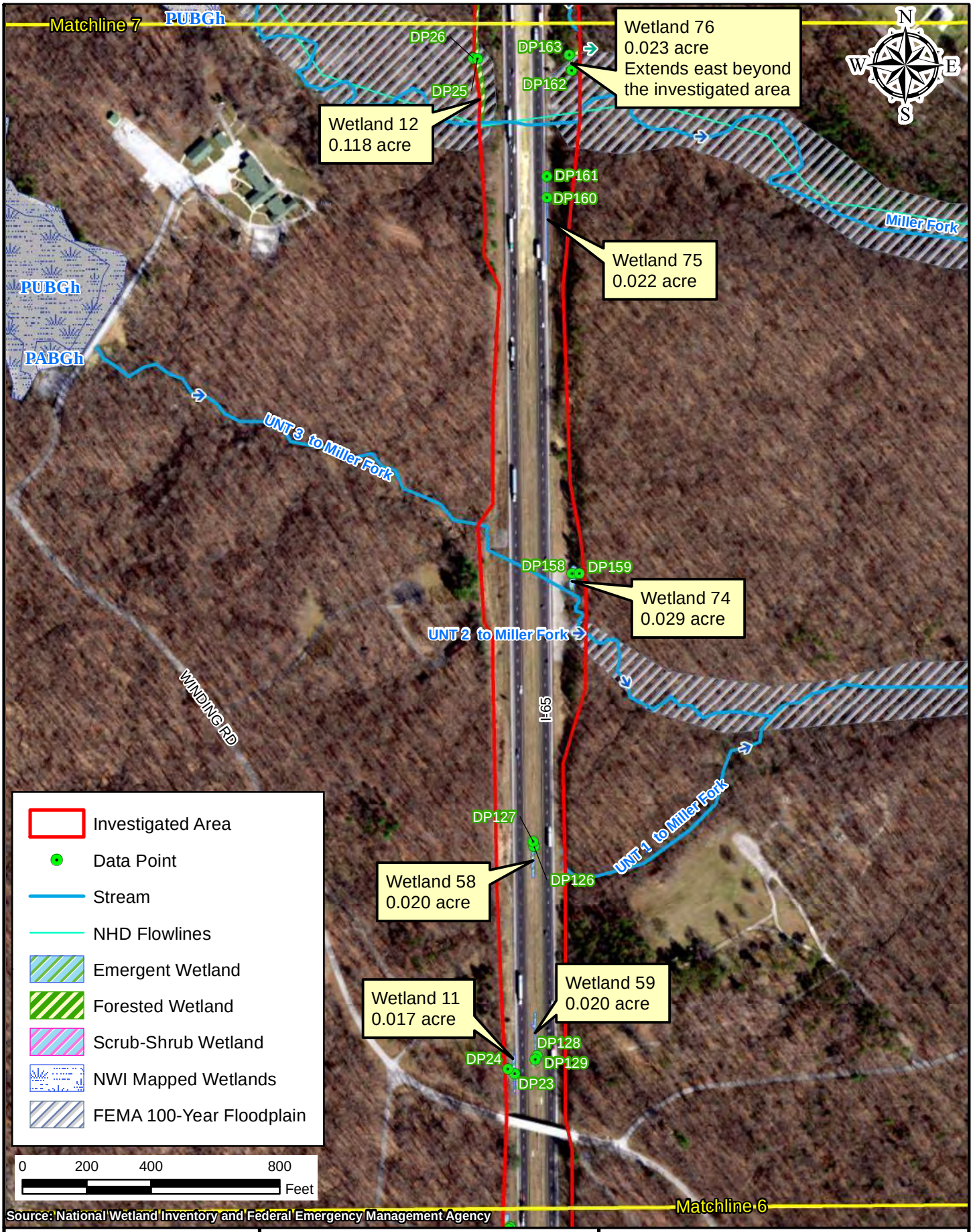

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 7 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Appendix D
Date: 11/12/2020 State: Indiana

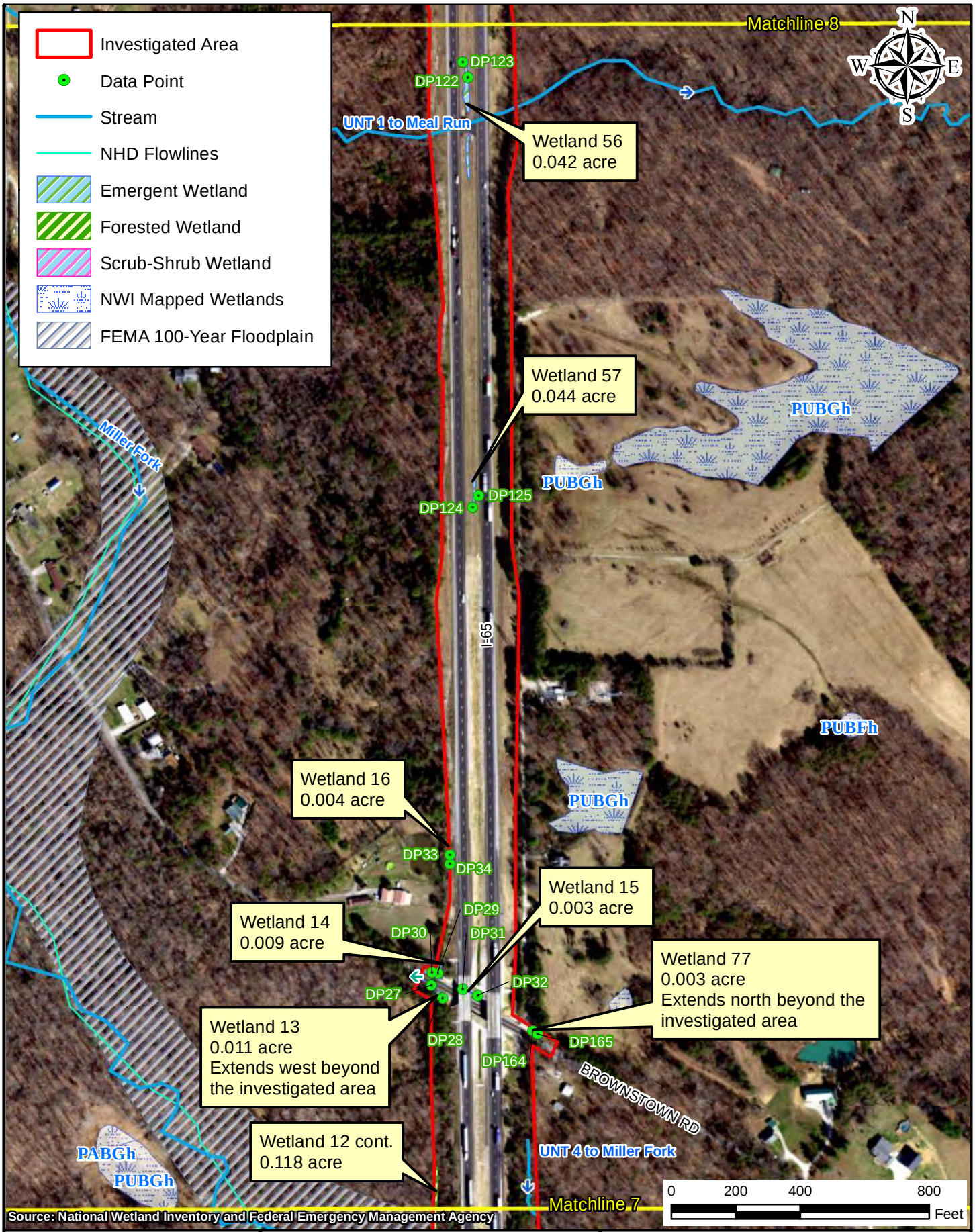

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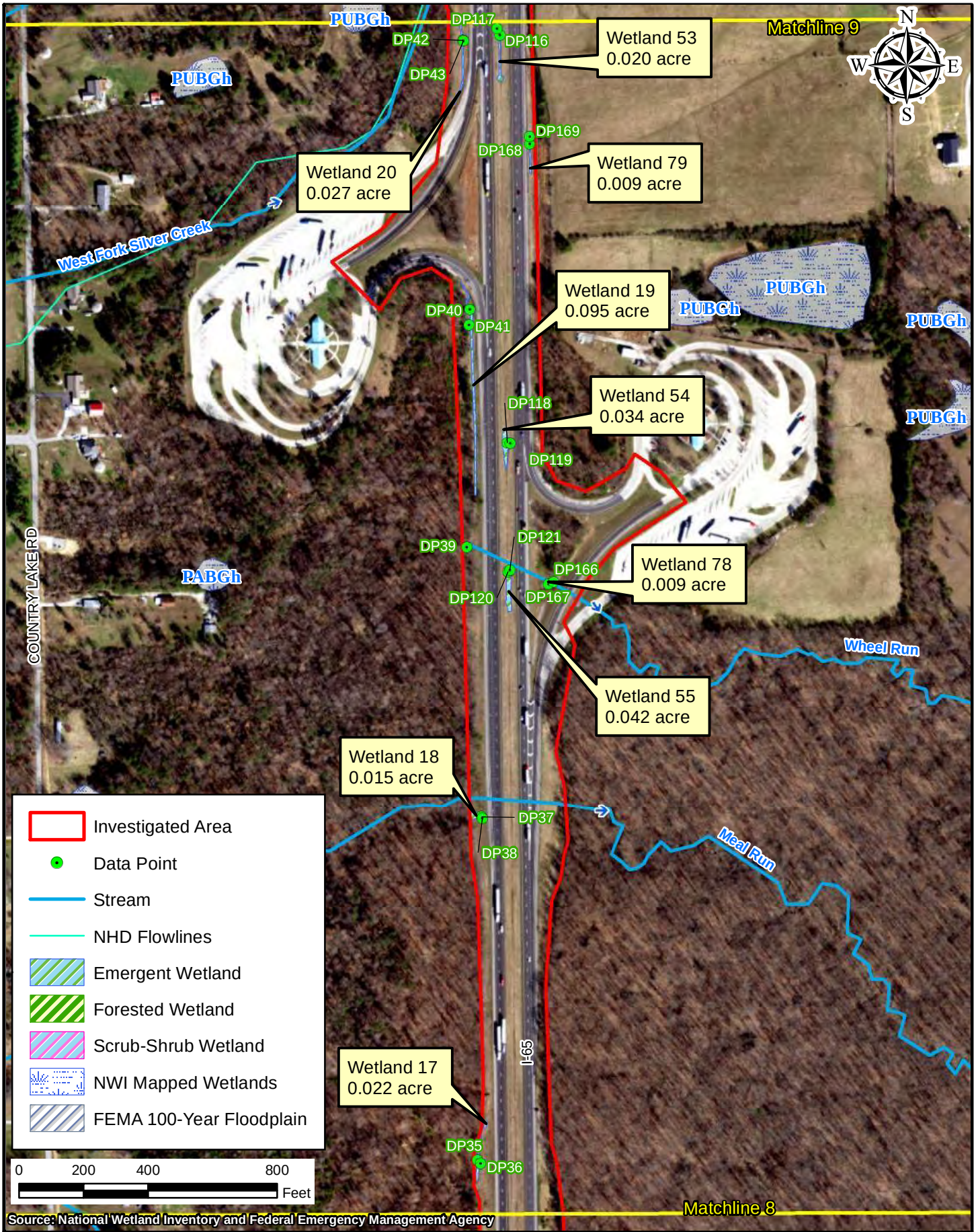
Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 8 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Date: 11/12/2020 State: Indiana

Appendix D



Source: National Wetland Inventory and Federal Emergency Management Agency

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 9 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
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Appendix D
Date: 11/12/2020 State: Indiana

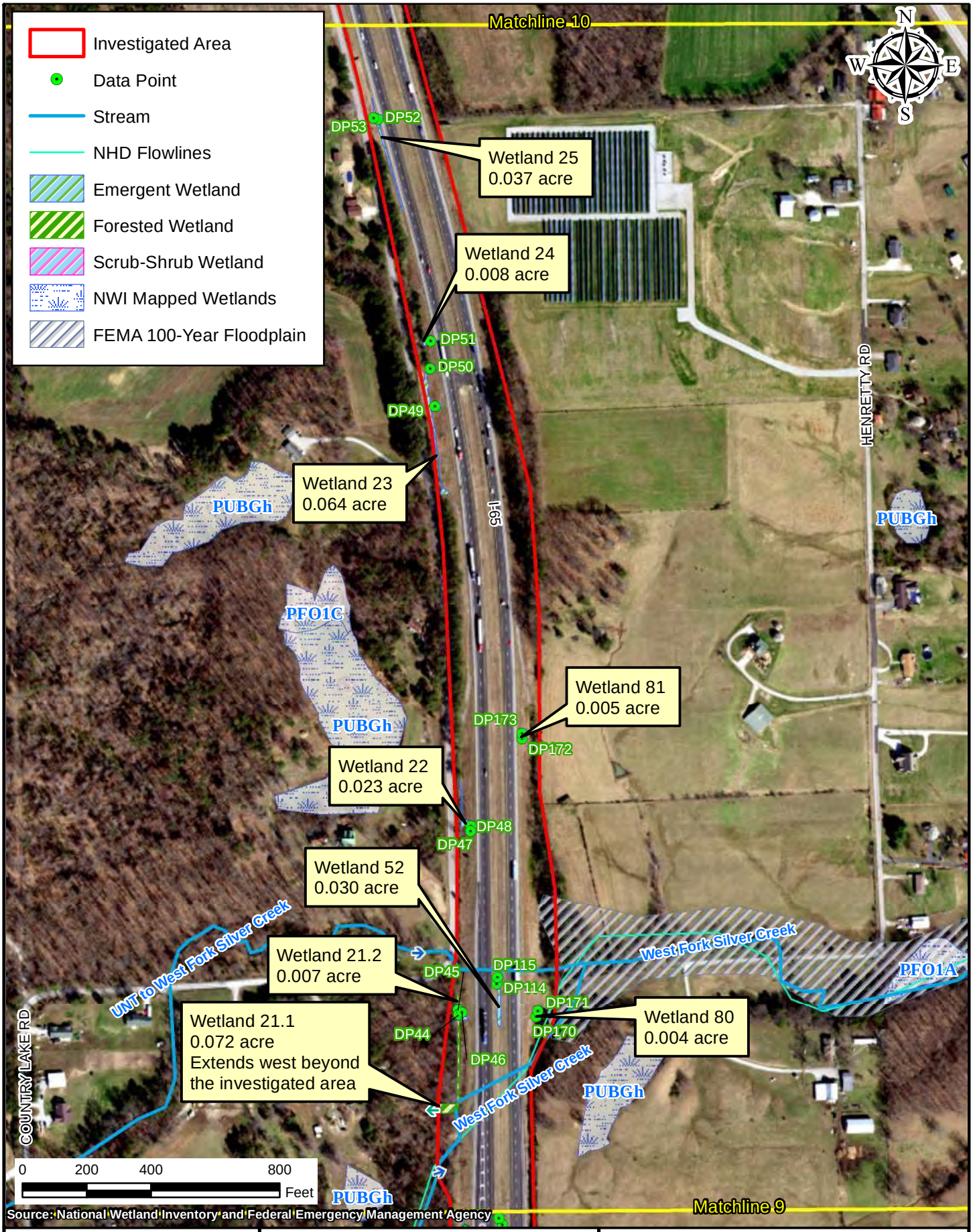

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 10 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties Appendix D
Date: 11/12/2020 State: Indiana

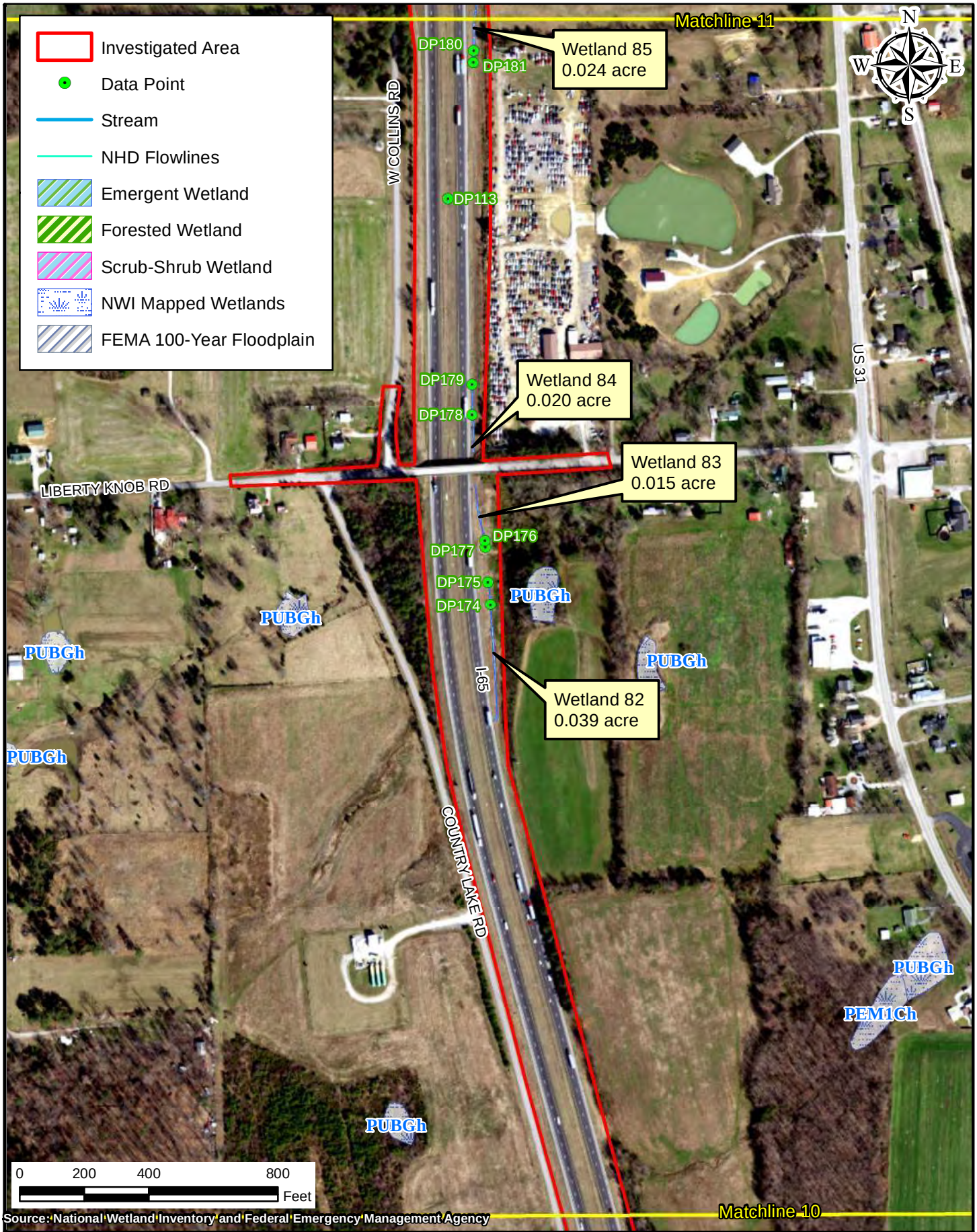

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 11 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Location: Scottsburg and Henryville
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Date: 11/12/2020 State: Indiana

Appendix D

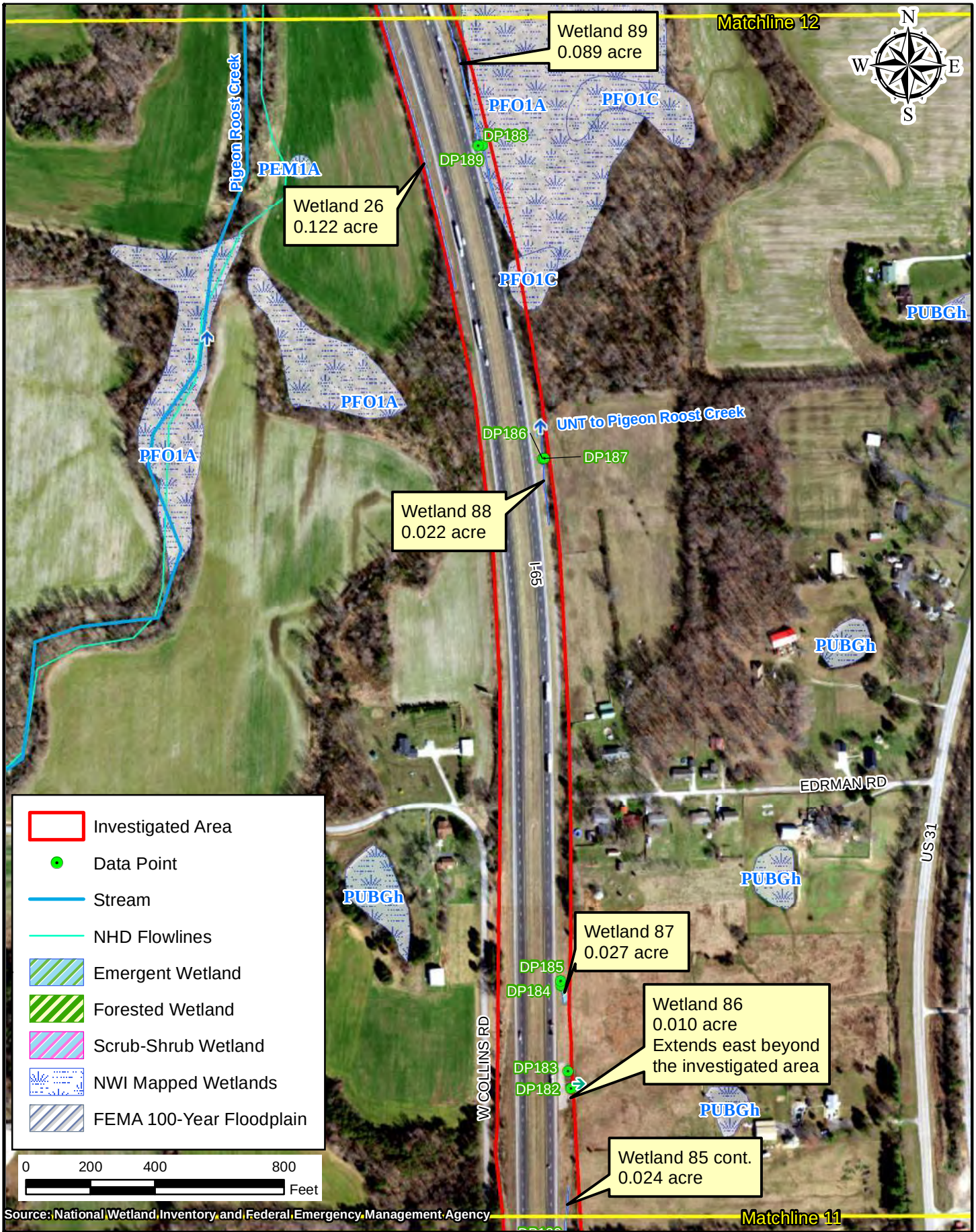

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 12 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
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Appendix D

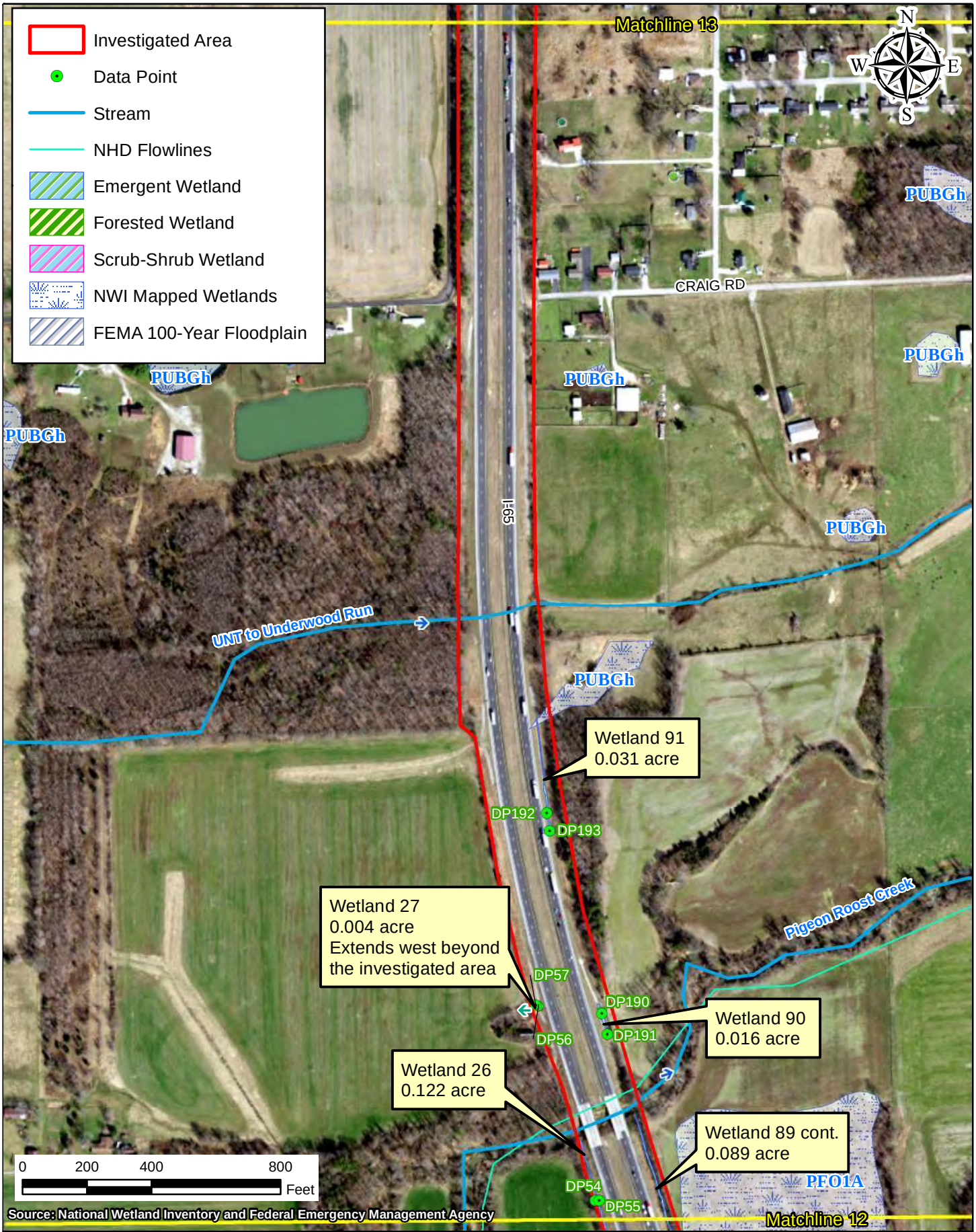

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 13 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Location: Scottsburg and Henryville
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Appendix D

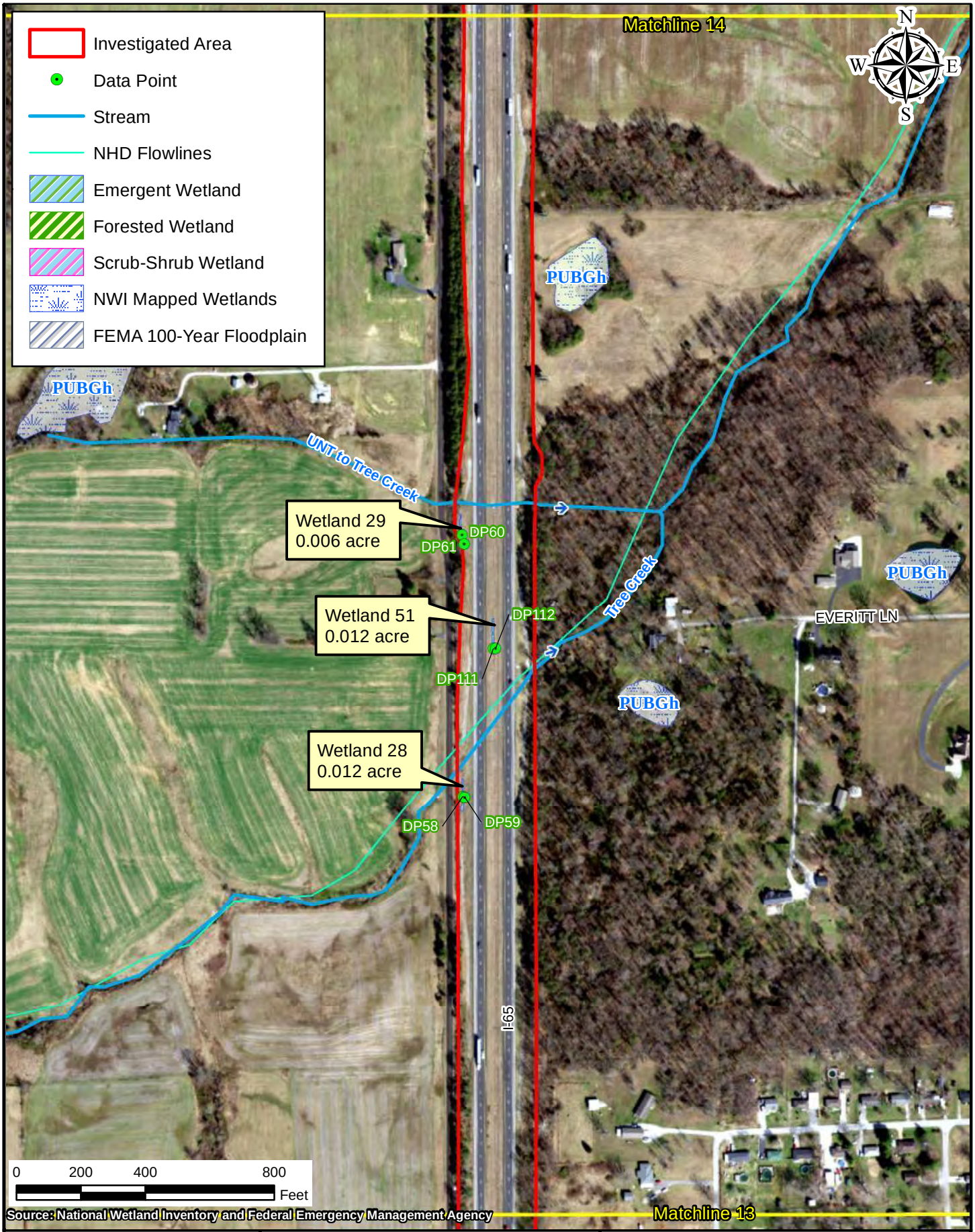

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 14 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Location: Scottsburg and Henryville
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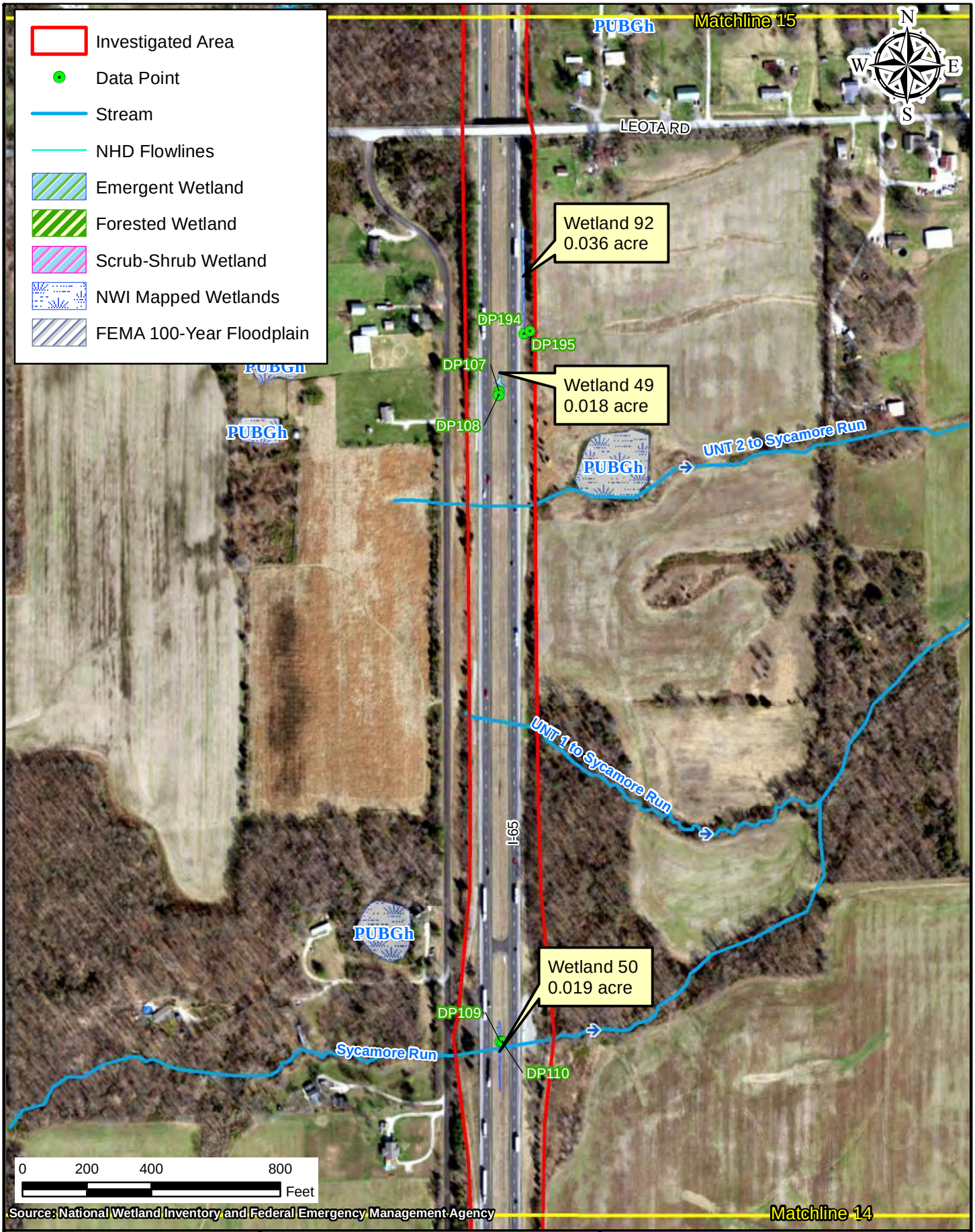

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 15 of 21

INDOT Seymour District
185 Agrico Lane
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Location: Scottsburg and Henryville
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Date: 11/12/2020 State: Indiana

Appendix D

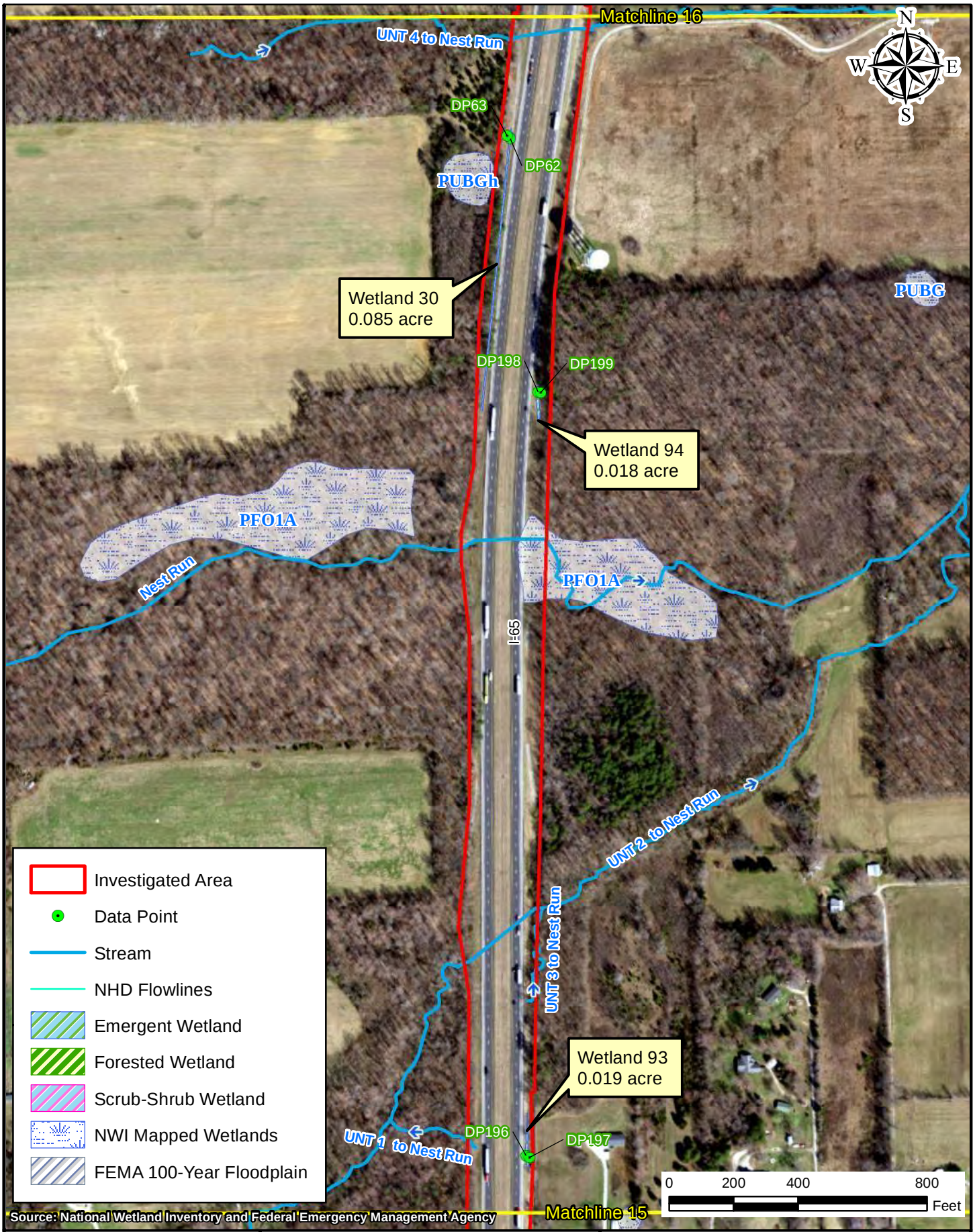

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 16 of 21

INDOT Seymour District
185 Agrico Lane
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Appendix D

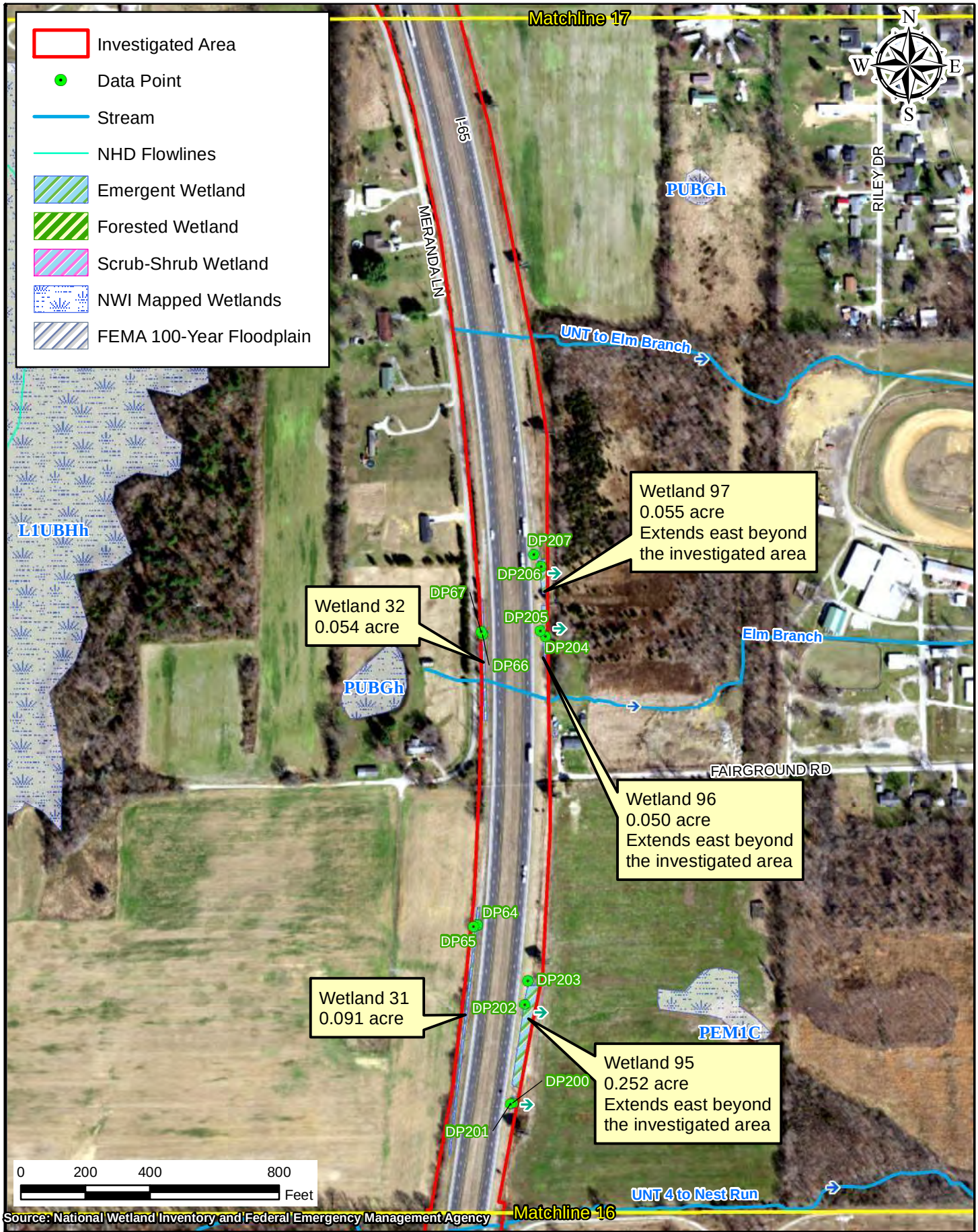

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 17 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Appendix D
Date: 11/12/2020 State: Indiana

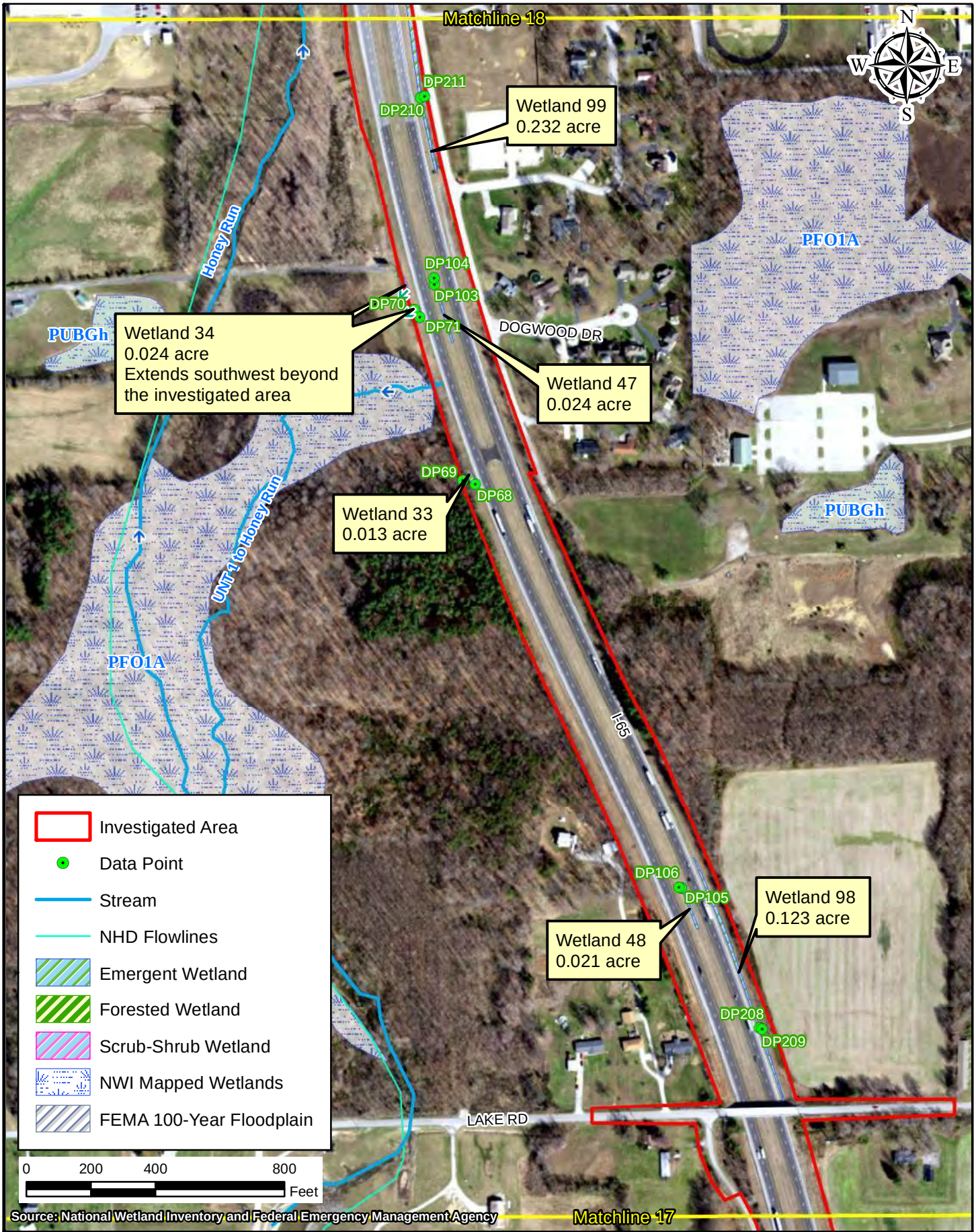

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 18 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Location: Scottsburg and Henryville
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Date: 11/12/2020 State: Indiana

Appendix D

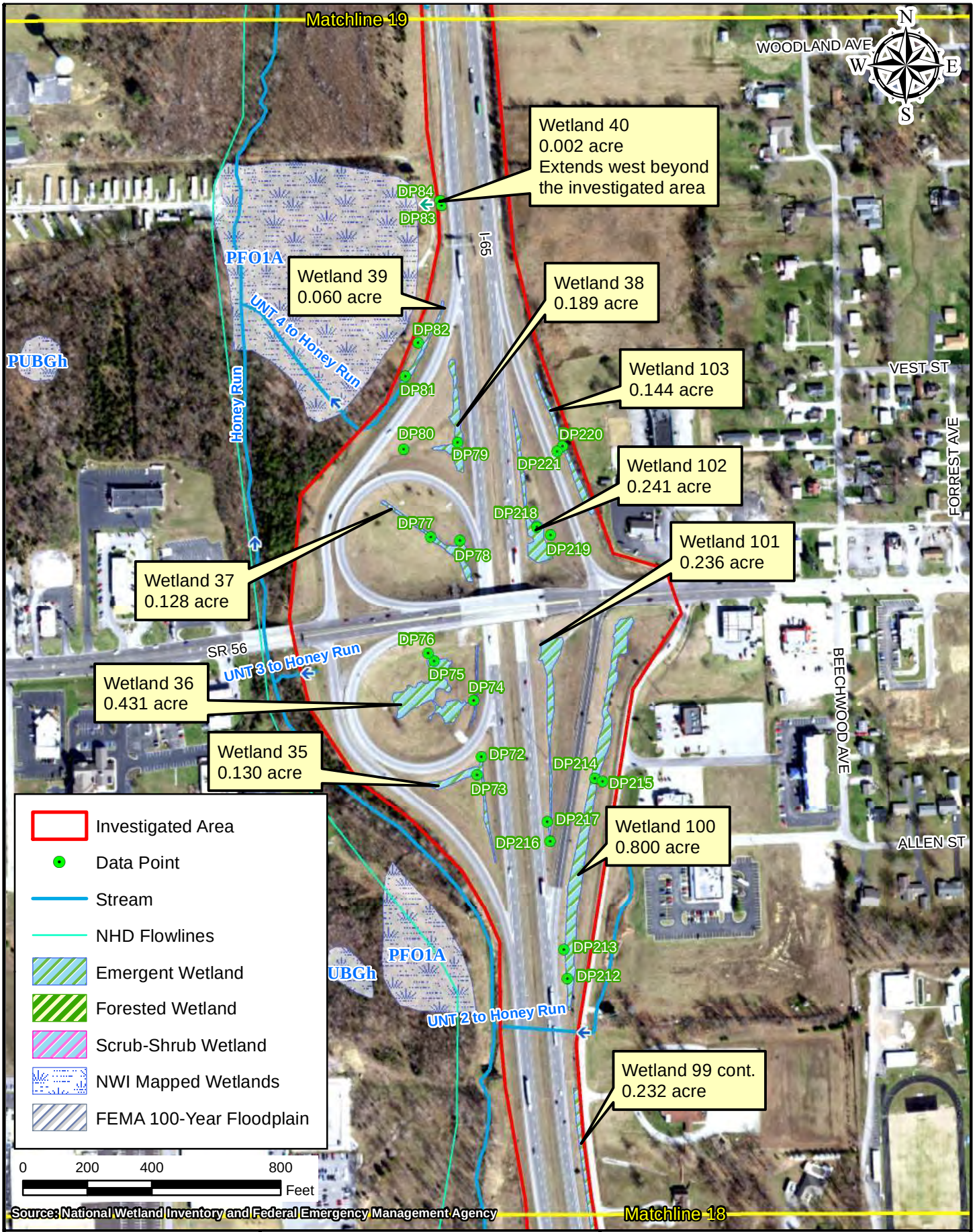

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 19 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Appendix D

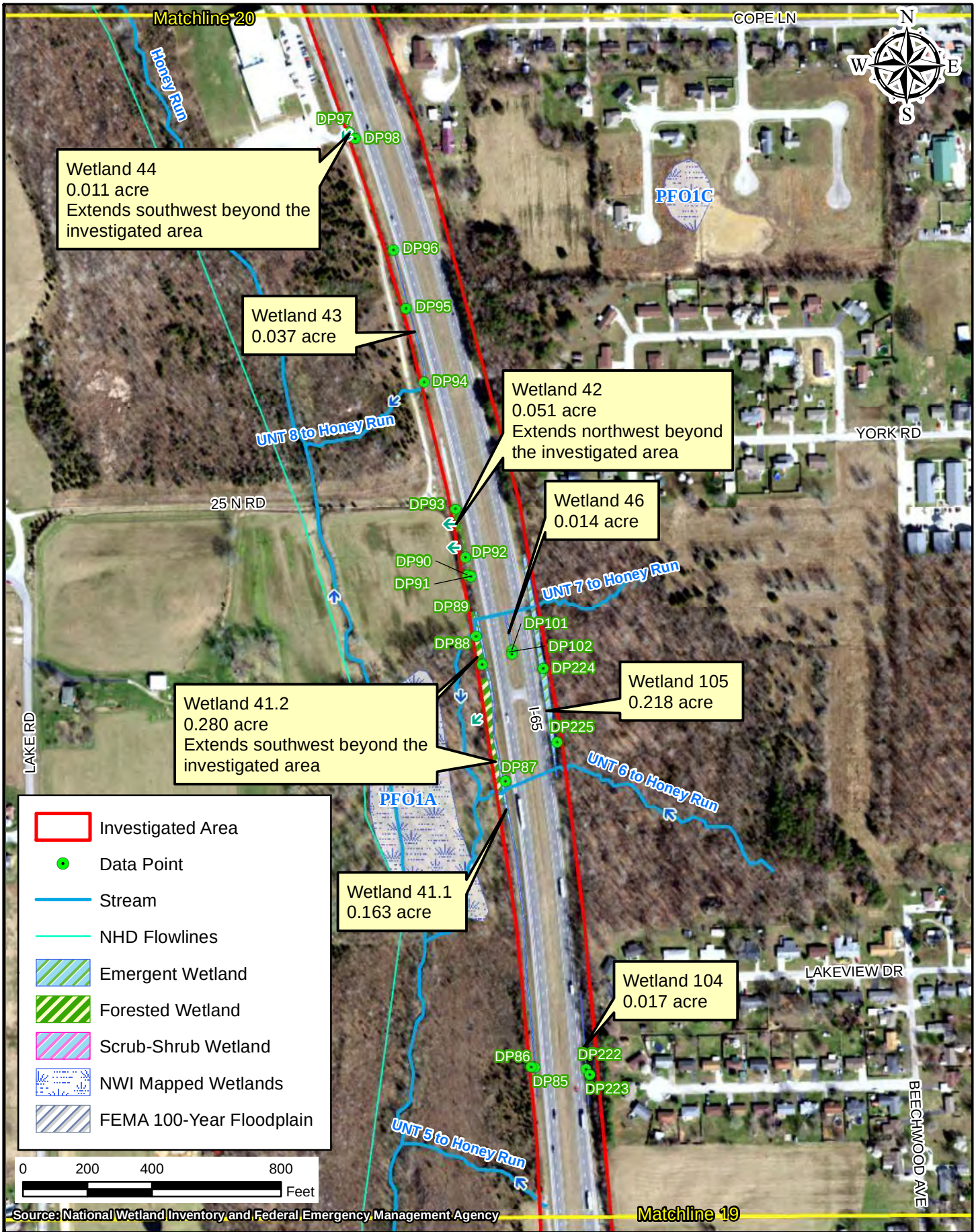

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 20 of 21

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
County: Clark and Scott Counties
Date: 11/12/2020 State: Indiana

Appendix D

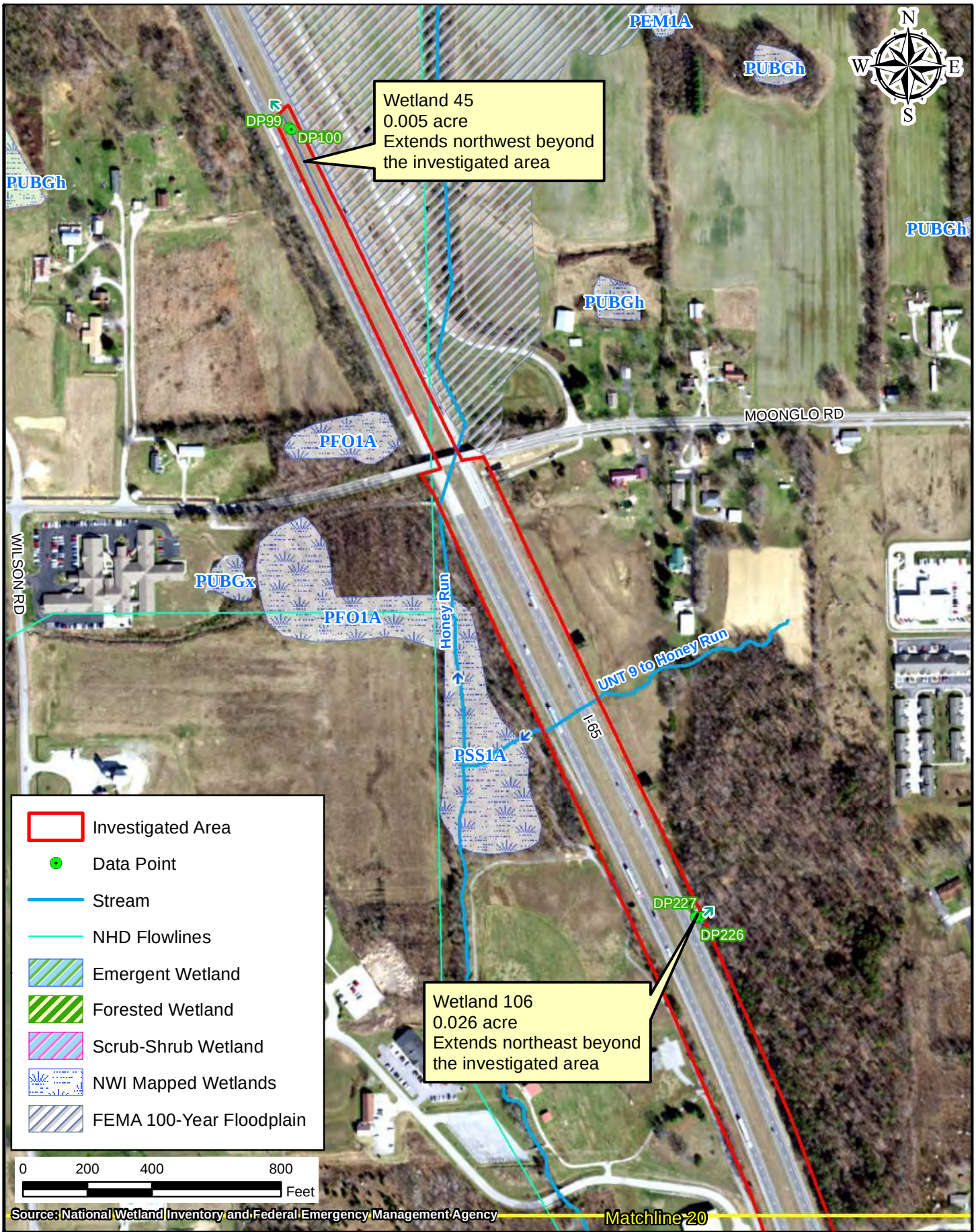

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Figure 4: NWI Wetland & FEMA 100-Year Floodplain - Map 21 of 21

INDOT Seymour District
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Appendix D

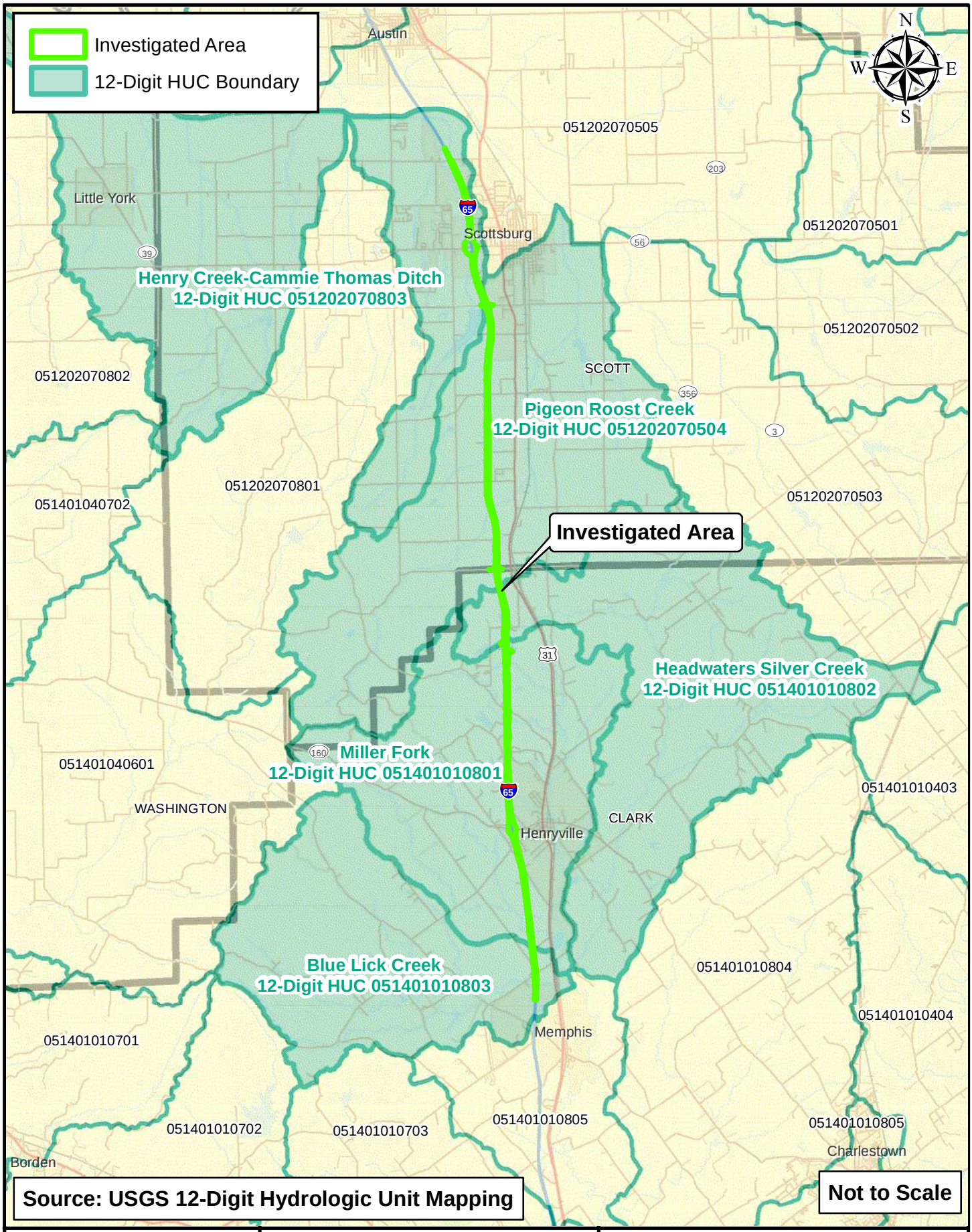

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Figure 6: 12-Digit HUC Map

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 1.5 miles north of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Township: Union, Monroe, and Vienna
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Date: 11/12/2020 State: Indiana

Appendix D

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOUISVILLE DISTRICT
INDIANAPOLIS REGULATORY OFFICE
8902 OTIS AVENUE, SUITE S106B
INDIANAPOLIS, IN 46216

March 18, 2021

Regulatory Division
North Branch
ID No. LRL-2021-85-dds

Ms. Li Kang
Indiana Department of Transportation
100 North Senate Avenue, Room N642
Indianapolis, IN 46204

Dear Ms. Kang:

This is in regard to the wetland delineation dated December 9, 2020, requesting a jurisdictional determination on I65 right-of-way property between 0.5 mile north of Blue Lick Road and 1.5 miles north of SR 56 in Scottsburg and Henryville, Clark and Scott Counties, Indiana (Des. No. 1700135). The proposed project is located at Latitude 40.1985°N, Longitude 86.12815°W. A location map is enclosed.

The U.S. Army Corps of Engineers exercises regulatory authority under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344) for certain activities in "waters of the United States (U.S.)." These waters include all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce.

Based on our review of the submitted information, we have determined that Blue Lick Creek, Caney Fork, Wolf Run, Miller Fork, and Pigeon Roost Creek are jurisdictional perennial streams under Section 404 of the Clean Water Act (CWA). In addition, and Unnamed Tributary (UNT) Blue Lick Creek, Henry Brook, Ville Run, UNTs 1, 3, 4 Miller Fork, UNT Caney Fork, UNT 2 Wolf Run, Meal Run, UNT 1 Meal Run, Wheel Run, West Fork Silver Creek, UNT West Fork Silver Creek, UNT Underwood Run, Tree Creek, UNT Tree Creek, Sycamore Run, UNT 1 Sycamore Run, Nest Run, UNTs 2, 3, and 4 Nest Run, Elm Branch, UNT Elm Branch, UNTs 2, 4, 6, 7, and 8 Honey Run are jurisdictional intermittent streams and Wetlands 3.1, 12, 65, 69, and 86 are jurisdictional wetlands under Section 404 CWA.

We have determined that UNT 1 Wolf Run, UNT 2 Miller Fork, UNT Pigeon Roost Creek, UNT 2 Sycamore Run, UNT 1 Nest Run, UNTs 1, 3, 5, and 9 Honey Run, UNT to Blue Lick Creek CV, Henry Brook CVs 1 and 2, Ville Run CV, Wolf Run CV, UNT 3 to Miller Fork CV, Miller Fork CV, UNT 1 to Meal Run CV, Meal Run CV, Wheel Run CVs 1 and 2, West Fork Silver Creek CV, UNT to West Fork Silver Creek CV, UNT to Underwood Run CV, Tree Creek CV, UNT to Tree Creek CV, Sycamore Run CV, UNTs 1 and 2 to Sycamore Run CV, UNTs 2 and 4 to Nest Run CV, Nest Run CV, Elm Branch CV, UNT to Elm Branch CV, UNT 2 to Honey Run CV, UNT 7 to Honey Run CV, UNT 9 to Honey Run CV, UNT 6 to Honey Run CV are excluded from regulation under Section 404 CWA.

We have also determined that Wetlands 1, 2, 3.2, 4 through 11, 13 through 20, 21.1, 21.2, 22 through 40, 41.1, 41.2, 42 through 64, 66, 67, 68, 70 through 85, and 87through 106 are excluded from regulations under Section 404 CWA.

However, this determination does not relieve you of the responsibility to comply with applicable State law. We urge you to contact the Indiana Department of Environmental Management (IDEM), Office of Water Quality, Section 401 Water Quality Certification Program; 100 North Senate Avenue, MC 65-40; Indianapolis, Indiana 46204-2251; to determine the applicability of State law to the excluded waters mentioned above.

This letter contains an approved jurisdictional determination (JD) for your site. If you object to this JD, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this JD you must submit a completed RFA form to the Lakes and Rivers Division Office at the following address:

U.S. Army Engineer Division,
ATTN: Regulatory Appeal Review Officer, CELRD-PD-REG
550 Main Street - Room 10-714
Cincinnati, Ohio 45202-3222

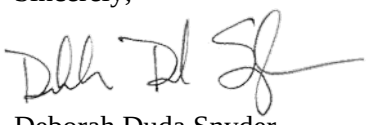
In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **May 16, 2021**. It is not necessary to submit an RFA form to the Division office if you do not object to the JD in this letter.

This jurisdictional determination is valid for a period of five years from the date of this letter unless new information warrants revision of the determination before the expiration date. Our comments on this project are limited to only those effects which may fall within our area of jurisdiction and thus does not obviate the need to obtain other permits from state or local agencies. Lack of comments on other environmental aspects should not be construed as either concurrence or nonconcurrence with stated environmental effects.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center prior to starting work.

If we can be of any further assistance, please contact me by writing to the above address, call (317)543-9424. Any correspondence should reference our assigned Identification Number LRL-2021-85-dds.

Sincerely,



Deborah Duda Snyder
Project Manager
Indianapolis Regulatory Office

Enclosure

Copy Furnished: IDEM (Turner)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Indiana Department of Transportation	File Number: LRL-2021-85	Date: 03/18/2021
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
Ms. Deborah Duda Snyder
U.S. Army Corps of Engineers
Indianapolis Regulatory Office
8902 Otis Avenue, Suite S106B
Indianapolis, IN 46216
(317) 543 - 9424

If you only have questions regarding the appeal process you may also contact:
U.S. Army Corps of Engineers
Regulatory Appeals Review Officer
CELRD-PD-REG
550 Main Street, Room 10714
Cincinnati, OH 45202-3222
TEL (513) 684-2699; FAX (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 3/15/2021
ORM Number: LRL-2021-85
Associated JDs: N/A
Review Area Location[1]: State/Territory: Indiana City: N/A County/Parish/Borough: Clark and Scott
Center Coordinates of Review Area: Latitude 38.604767 Longitude -85.781478

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- ☒ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)[2]

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters):[3]				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
Blue Lick Creek, Caney Fork, Wolf Run, Miller Fork, Pigeon Roost Creek	787	linear feet	(a)(2) Perennial tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	Blue Lick Creek and Miller Fork are perennial streams that flow to Silver Creek, which is a designated Section 10 water for a portion of its length. Caney Fork and Wolf Run are perennial streams that flow to Miller Fork, which flows to Silver Creek, which is a designated Section 10 water for a portion of its length. Pigeon Roost Creek to Stucker Ditch to Muscatatuck, which flows to the East Fork White

[1] Map(s)/figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
				River, which is a designated Section 10 water
UNT Blue Lick Creek, Henry Brook, Ville Run, UNTs 1, 3, 4 Miller Fork, UNT Caney Fork, UNT 2 Wolf Run, Meal Run, UNT 1 Meal Run, Wheel Run, West Fork Silver Creek, UNT West Fork Silver Creek, UNT Underwood Run, Tree Creek, UNT Tree Creek, UNT 1 Sycamore Run, Sycamore Run, Nest Run, UNTs 2, 3, and 4 Nest Run, Elm Branch, UNT Elm Branch, UNTs 2, 4, 6, 7, and 8 Honey Run	4,306	linear feet	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	UNT Blue Lick Creek flows to Blue Lick Creek, which flows to Silver Creek; Henry Brook and Ville Run and UNTs 1, 3, and 4 Miller Fork flow to Miller Fork, which flows to Silver Creek, which is a designated Section 10 water for a portion of its length; UNT Caney Fork flows to Caney Fork, which flows to Miller Fork, which flows to Silver Creek; UNT 2 Wolf Run flows to Wolf Run, which flows to Miller Fork, which flows to Silver Creek; UNT 1 to Meal Run flows to Meal Run, Meal Run flows to Mill Branch, which flows to Miller Fork, which flows to Silver Creek; Wheel Run flows to Mill Branch, which flows to Miller Fork, which flows to Silver Creek; UNT to West Fork Silver Creek flows to West Fork Silver Creek, West Fork Silver Creek flows to Silver Creek; UNT Underwood Run flows to Underwood Run, which flows to Silver Creek; Tree Creek flows to Pigeon Roost Creek, which flows to Stucker Ditch, which flows to the Muscatatuck River, which flows to East Fork White River, a designated Section 10 water; UNT 1 Sycamore Run flows to Sycamore Run, Sycamore Run and Nest Run flow to Tree Creek, which flows to Pigeon Roost Creek, which flows to Stucker Ditch, which flows to the Muscatatuck River, which flows to East Fork White River; UNTs 2, 3, and 4 Nest Run flow to Nest Run, Nest Run flows to Tree Creek, which flows to Pigeon Roost Creek, which flows to Stucker Ditch, which flows to the Muscatatuck River, which flows to the East Fork White River; UNT Elm Branch flows to Elm Branch, Elm Branch flows to Maple Run, which flows to Pigeon Roost Creek, which flows to Stucker Ditch, which flows to the East Fork White River UNTs 2, 4, 6, 7, and 8 Honey Run flows to Honey Run, which flows to Ox Creek, which flows to Stucker Ditch, which flows to the Muscatatuck River, which flows to East Fork White River

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
Wetlands 3.1, 12, 65, 69, and 86	0.326	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	Wetlands 3.1 and 65 abut Caney Fork, Wetland 12 abuts Miller Fork, Wetland 69 abuts Henry Brook, and Wetland 86 abuts an intermittent UNT Underwood Run that is outside of the I65 right-of-way. The wetlands all directly abut an (a)(2) water.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
UNT 1 Wolf Run, UNT 2 Miller Fork, UNT Pigeon Roost Creek, UNT 2 Sycamore Run, UNT 1 Nest Run, UNTs 1, 3, 5, and 9 Honey Run	521	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Based on the physical conditions of the streams and observations by consultant, these are ephemeral features. The stream flows only in response to rain events. The channel had a defined bed and bank and OHW mark. The streams had very little flow after a rainfall event in the dry season. See III.B. Typical Year Assessment
UNT to Blue Lick Creek CV, Henry Brook CVs 1 and 2, Ville Run CV, Wolf Run CV, UNT 3 to Miller Fork CV, Miller Fork CV, UNT 1 to Meal Run CV, Meal Run CV, Wheel Run CVs 1 and 2, West Fork Silver Creek CV, UNT to West Fork Silver Creek CV, UNT to Underwood Run CV, Tree Creek CV, UNT	6,089	linear feet	(b)(1) Water or water feature that is not identified in (a)(1)-(a)(4) and does not meet the other (b)(1) subcategories.	Culverts are artificial features

[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
to Tree Creek CV, Sycamore Run CV, UNTs 1 and 2 to Sycamore Run CV, UNTs 2 and 4 to Nest Run CV, Nest Run CV, Elm Branch CV, UNT to Elm Branch CV, UNT 2 to Honey Run CV, UNT 7 to Honey Run CV, UNT 9 to Honey Run CV, UNT 6 to Honey Run CV				
Wetlands 2, 3.2, 4, 5, 6, 7, 8, 11, 13, 14, 15, 16, 17, 19, 20, 21.2, 22, 23, 25, 26, 28, 29, 30, 31, 32, 33, 39, 41.1, 43, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 66, 67, 68, 70, 71, 72, 73, 74, 75, 77, 79, 82, 83, 84, 85, 87, 88, 89, 90, 91, 92, 93, 94, 96, 97, 98, 99, 103, 104, and 105	4	acre(s)	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1).	These features are ditches parallel to the road that were excavated as stormwater features
Wetlands 1, 9, 10, 18, 21.1, 24, 27, 34, 35, 36, 37, 38, 40, 41.2, 42, 44, 49, 63, 76, 78, 80, 81, 95, 100, 101, 102, and 106	3.36	acre(s)	(b)(1) Non-adjacent wetland.	Wetland neither abuts nor is inundated by floodwater in a typical year from an (a)(1) – (a)(3)water.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

☒ Information submitted by, or on behalf of, the applicant/consultant: Wetland Delineation and Waters Repot I-65 Added Travel Lanes from 0.5 mile North of Blue Lick Road to 1.5 miles North of SR 56, Des. No. 1700135, Scottsburg and Henryville, Clark and Scott Counties, Indiana

This information is and is not sufficient for purposes of this AJD.

Rationale: The Corps has determined that some of the streams that were reported as ephemeral in the Waters Report were intermittent. See Section III.C.

☐ Data sheets prepared by the Corps: Title(s) and/or date(s).

☒ Photographs: Aerial and Other: from Water Report

☒ Corps site visit(s) conducted on: March 11, 2021

☐ Previous Jurisdictional Determinations (AJDs or PJDs): ORM Number(s) and date(s).

☒ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B*.

☒ USDA NRCS Soil Survey: Web Soil Survey

☒ USFWS NWI maps: Henryville, Scottsburg, and Speed, Indiana quadrangles

☒ USGS topographic maps: Henryville, Scottsburg, and Speed, Indiana quadrangles

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): The photographs in the Waters Reports were taken between August 31 and September 3, 2020. The results of the Antecedent Precipitation Tool show that the photos were taken in the dry season in conditions wetter than normal with a drought index of mild wetness. In addition, there was a rain event during the site investigations. UNT 1 Wolf Run, UNT 2, UNT Pigeon Roost Creek, UNT 2 Sycamore Run, UNT 1 Nest Run, and UNTs 1, 3, 5, and 9 Honey Run had very little or no water in the photos and were determined to be ephemeral streams.

C. Additional comments to support AJD: The determination that some of the waters reported as ephemeral were actually intermittent was based on a review of the photos in the waters report and observations made in the field by a Corps employee on March 11, 2021. The report photos of some of the ephemeral streams had as much water, or more, than the photos of the intermittent streams. The day that the Corps site visit was conducted was two weeks after the last precipitation event and some of the streams that were questioned had water. Based on this information, the Corps determined that 9 streams that had been called ephemeral were in fact intermittent.

Appendix G:

Air Quality

Project Name	Secondary Identifier	Description	Project Purpose	Primary Contact Agency	
I- 65 Road Reconstruction		Upgraded to added travel lanes I-65 from RP 19+0.995 to RP 28+0.883 is a composite pavement section, and is exhibiting severe stripping in the HMA layers beneath the surface. During the last construction contract (RS-37549), the centerline and edgelines were patched to the top of concrete to mitigate severe joint deterioration. Unfortunately, these partial depth patches effectively created a dam in the stripped layers, forcing water to come up through the new surface under traffic loading. 71 wet spots have been inventoried and are creating a safety hazard, especially during the winter months, when the water turns to ice. Additionally, questionable subgrade conditions were discovered under the last contract on the southern portion of the job from 16+0.417 to RP 19+0.995 (R-33813) demonstrating yet another water issue. Given these observations, it is likely that the existing underdrains are not performing as intended. 3 pavement drains were installed as experimental features on October 26, 2017 in the driving lane between Scottsburg and Henryville. These consisted of 2.5" wide trenches that were milled to the top of the underlying concrete (approx. 8" depth) and backfilled with permeable concrete. 1" PVC drains were also installed at the HMA/ concrete interface to facilitate drainage. During the installation of the drains, stripped aggregate was observed beneath the surface and water flowed out of the HMA layers at a fairly substantial rate. These drains were considered a success, at least temporarily, since the water that was permeating to the surface was eliminated. Thus, the safety was improved especially during the winter months when freezing occurs. However, during this field work, the concerns of stripping were validated leaving the element of time as the unknown variable before substantial pavement distress occurs. Traffic will be maintained utilizing a 3/1 configuration to maintain 2 lanes in each direction throughout construction, with all ramps remaining open. Restricting the length allowed between crossovers is being considered. Project length is 7.25 miles in Clark County.	The purpose of this project is to address the safety concern of the wet spots, remove the stripped HMA pavement, replace the existing underdrain system, and improve the subgrade beneath the pavement and construct added travel lanes in this portion of I-65.	INDOT	
I- 65 St. Joe Road Bridge Deck Overlay		Bridge rehabilitation project consisting of a bridge deck overlay on I-65, 01.12 miles north of IN 311 under St. Joe Road.	Bridge deck overlay	INDOT	
I-265		Bridge deck replacement on I-265, 02.50 miles east of IN 311 EB ramp/65 NB and I-65.	Bridge deck replacement.	INDOT	
I-265*		HMA overlay on I-265 from I-64 to 0.36 miles west of I-65.	District pavement project on I-265.	INDOT	

	KIPDA ID #	State ID #	Parent Project	Group ID	Phase	Year	Federal	Other	Total	Federal Funding Category	Estimated Completion
	2616	1700135			PE	2020	$2,700,000	$300,000	$3,000,000	IM	2024
					PE	2023	$1,350,000	$150,000	$1,500,000	IM	
					C	2023	$89,769,088	$9,974,343	$99,743,431	IM	
							$93,819,088	$10,424,343	$104,243,431		
	2516	1800811		2676	PE	2020	$54,707	$6,078	$60,785	NHPP	2021
					C	2021	$575,290	$63,921	$639,211	NHPP	
							$629,997	$69,999	$699,996		
	2500	1701094		2676	C	2020	$1,088,350	$120,928	$1,209,278	IM	2022
							$1,088,350	$120,928	$1,209,278		
	2718	1900668		2676	PE	2020	$90,000	$10,000	$100,000	NHPP	2020
					C	2020	$5,850,000	$650,000	$6,500,000	NHPP	
							$5,940,000	$660,000	$6,600,000		

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-Executive Office
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

Eric Holcomb, Governor
Michael Smith, Commissioner

April 26, 2022

Mr. Jermaine R. Hannon, Division Administrator
FHWA Indiana Division
575 North Pennsylvania St., Room 254
Indianapolis, IN 46204

Ms. Kelley Brookins, Regional Administrator
FTA Region 5
200 West Adams St.
Suite 320
Chicago, IL 60606-5253

Dear Mr. Hannon /Ms. Brookins:

The Indiana Department of Transportation is pleased to submit its Draft FY 2022-2026 Statewide Transportation Improvement Program (STIP) for review and comment by your offices.

Included in the final submitted document is a listing of the state's expansion/preservation and local small urban and rural and rural transit projects. The following Metropolitan Planning Organization TIP's will be included in the FY 2022-2026 STIP by reference, pending FHWA approval in May 2022.

Area Plan Commission of Tippecanoe County (APCTC)	FY 2022-2026
• *Version 3/10/2022*	
Bloomington-Monroe County Metropolitan Planning Organization (BMCMPO)	FY 2022-2026
• *Version 3/11/2022*	
Columbus Area Metropolitan Planning Organization (CAMPO)	FY 2022-2026
• *Version 3/22/2021*	
Delaware-Muncie Metropolitan Plan Commission (DMMPC)	FY 2022-2025
• *Version 12/15/2021*	
Evansville Metropolitan Planning Organization (EMPO)	FY 2022-2026
• *Version 3/10/2022*	
Kokomo-Howard County Governmental Coordinating Council (KHCGCC)	FY 2022-2026
• *Version 3/10/2022*	
Kentuckiana Regional Planning and Development Agency (KIPDA)	FY 2020-2025
• *Version 3/29/2022*	
Indianapolis Metropolitan Planning Organization (IMPO)	FY 2022-2025
• *Version 8/18/2021*	
Michiana Area Council of Governments (MACOG)	FY 2022-2026
• *Version 3/09/2022*	

Madison County Council of Governments (MCCOG) FY 2022-2026
- *Version 7/13/2021*

Northeastern Indiana Regional Coordinating Council (NIRCC) FY 2022-2026
- *Version 3/28/2022*

Northwestern Indiana Regional Planning Commission (NIRPC) FY 2022-2026
- *Version 3/17/2022*

Ohio-Kentucky-Indiana Regional Council of Governments (OKI) FY 2020-2023
- *Version 03/10/2022*

Terre Haute Area Metropolitan Planning Organization (THAMPO) FY 2020-2024
- *Version 08/26/2021*

In addition, INDOT has expanded our public involvement process by taking advantage of virtual meeting techniques and allowing accessibility to online documents, materials, virtual meeting registration, recorded virtual meetings, and comment forms. INDOT also leveraged our planning partner contacts (MPOs, RPOs, LTAP), social media, and notifications sent to local libraries, housing authorities, senior aging centers, and local newspapers across the state.

We greatly appreciate FHWA/FTA support in the development of the STIP 2022-2026 and look forward to working together to achieve our mutual goals. Should you have any questions pertaining to this amendment, please contact Michael McNeil, STIP Specialist at 317-232-0223 or at mmcneil@indot.in.gov.

Sincerely,

Michael Smith, Commissioner
Indiana Department of Transportation

cc: (w/enclosure): FTA
Michelle Allen, FHWA
Jeffrey Brooks, INDOT
Kristin Brier, INDOT
Kathy Eaton-McKalip, INDOT
Louis Feagans, INDOT
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Federal Transit Administration
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U.S. Department
of Transportation

Federal Highway Administration
Indiana Division
575 N. Pennsylvania St., Rm 254
Indianapolis, IN 46204-1576

June 17, 2022

Mr. Michael Smith
Commissioner
Indiana Department of Transportation
100 N Senate Ave. N955
Indianapolis, IN 46204

SUBJECT: Indiana FY2022-2026 STIP Approval and Associated Federal Planning Finding

Dear Mr. Smith:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the FY2022-2026 Indiana Statewide Transportation Improvement Program (INSTIP), which was submitted by the INDOT request letter dated April 27, 2022.

Based on our review of the information provided, certifications of the Statewide and Metropolitan transportation planning processes for and within the state of Indiana, and our participation in those transportation planning processes (including planning certification reviews conducted in Transportation Management Areas), FHWA and FTA are jointly approving the FY2022-2026 STIP, including the Metropolitan Planning Organization (MPO) Transportation Improvement Programs (TIPs) directly incorporated into the STIP, subject to the corrective actions identified in the attached Federal Planning Finding (FPF) report. FHWA and FTA consider the projects in the 5th year for informational purposes only, and our approval does not exceed four years per 23 CFR 450.220(c).

FHWA and FTA are required under 23 CFR 450.220(b) to document and issue an FPF in conjunction with the approval of the FY2022-2026 STIP. At a minimum, the FPF verifies that the development of the STIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements. FHWA and FTA find that the Indiana FY2022-2026 STIP substantially meets the transportation planning requirements and are approving the STIP subject to the corrective actions outlined in the FPF. This approval is effective June 17, 2022, and is given with the understanding that an eligibility determination of individual projects for funding must be met, and INDOT must ensure the satisfaction of all administrative and statutory requirements, as well as address the corrective actions outlined in the attached report. FHWA and FTA will continue to partner with INDOT to ensure the previously developed action plan (attached) is implemented to address the corrective actions. If progress is not made in addressing the corrective actions, future amendments to the FY2022-2026 STIP, or adoption of the FY2024-2028 STIP, may not be approved by USDOT.

If you have questions or need additional information concerning our approval and the FPF, please contact Ms. Michelle Allen of the FHWA Indiana Division at (317) 226-7344, or by email at michelle.allen@dot.gov, or Mr. Jason Ciavarella of the FTA Region 5 Office at (312) 353-1653, or by email at jason.ciavarella@dot.gov.

Sincerely,

KELLEY BROOKINS Digitally signed by KELLEY BROOKINS Date: 2022.06.13 10:08:34 -05'00'

Kelley Brookins
Regional Administrator
FTA Region V

Sincerely,

JERMAINE R HANNON Digitally signed by JERMAINE R HANNON Date: 2022.06.13 15:57:46 -04'00'

Jermaine R. Hannon
Division Administrator
FHWA Indiana Division

cc: (transmitted by e-mail)
Louis Feagans, INDOT
Roy Nunnally, INDOT
Karen Hicks, INDOT

Attachments have been removed for the purposes of this NEPA document.

KIPDA FY20 - 25 TIP through Admin Mod 28
Indiana Project Listings as of March 29, 2022

State	KIPDA ID #	State ID #	Primary Contact Agency	Project Name	Secondary Identifier	Description	County/ Counties	Open to Public	Ongoing Project	Project Purpose	Parent Project	Group ID	Phase	Year	Federal	State/Local	Total	Federal Funding Category	Project Status	TIP
Indiana	2592	1800298	INDOT	US 150 Pavement Replacement		District pavement project, with pavement replacement on US 150, 4.9 miles east of IN 135 to 5.1 miles east of IN 135.	Floyd	2023	FALSE	Pavement replacement on US 150 in Floyd County.		2676 - Roadway & Bridge Preservation & Rehabilitation - Indiana	PE	2020	$64,000.00	$16,000.00	$80,000.00	STBG-ST	Active	TRUE
Indiana	2592	1800298	INDOT	US 150 Pavement Replacement		District pavement project, with pavement replacement on US 150, 4.9 miles east of IN 135 to 5.1 miles east of IN 135.	Floyd	2023	FALSE	Pavement replacement on US 150 in Floyd County.		2676 - Roadway & Bridge Preservation & Rehabilitation - Indiana	C	2023	$409,150.00	$102,288.00	$511,438.00	STBG-ST	Active	TRUE
Indiana	2595	1801948	INDOT	Various Locations in Seymour District		Bridge maintenance and repair work under a new IDIQ contract (Indefinite Delivery, Indefinite Quantity).	Clark, Floyd	2020	FALSE	Bridge maintenance and repair work at various locations throughout the Seymour District. Locations will be determined on an as needed basis.		2676 - Roadway & Bridge Preservation & Rehabilitation - Indiana	C	2020	$800,000.00	$200,000.00	$1,000,000.00	STBG-ST	Active	TRUE
Indiana	2616	1700135	INDOT	Widening of I-65		Widen I-65 from 4 to 6 lanes from 0.25 miles south of Biggs Road (RP 16+42) in Clark County to Scottsburg (RP 28.88).	Clark	2024	FALSE	The purpose of this project is to address the safety concern of the wet spots, remove the stripped HMA pavement, replace the existing underdrain system, and improve the subgrade beneath the pavement and construct added travel lanes in this portion of I-65.			PE	2020	$2,700,000.00	$300,000.00	$3,000,000.00	IM	Active	TRUE
Indiana	2616	1700135	INDOT	Widening of I-65		Widen I-65 from 4 to 6 lanes from 0.25 miles south of Biggs Road (RP 16+42) in Clark County to Scottsburg (RP 28.88).	Clark	2024	FALSE	The purpose of this project is to address the safety concern of the wet spots, remove the stripped HMA pavement, replace the existing underdrain system, and improve the subgrade beneath the pavement and construct added travel lanes in this portion of I-65.			PE	2023	$1,350,000.00	$150,000.00	$1,500,000.00	IM	Active	TRUE
Indiana	2616	1700135	INDOT	Widening of I-65		Widen I-65 from 4 to 6 lanes from 0.25 miles south of Biggs Road (RP 16+42) in Clark County to Scottsburg (RP 28.88).	Clark	2024	FALSE	The purpose of this project is to address the safety concern of the wet spots, remove the stripped HMA pavement, replace the existing underdrain system, and improve the subgrade beneath the pavement and construct added travel lanes in this portion of I-65.			C	2023	$89,769,088.00	$9,974,343.00	$99,743,431.00	IM	Active	TRUE

Appendix H:

Additional Studies

Land and Water Conservation Fund (LWCF) County Property List for Clark County, Indiana

Project Number	Sub Project Code	County	Property
1800014	1800014	Clark	Henry Lansden Park
1800029	1800029	Clark	Northaven Park (Connie Sellmer)
1800029.1	1800029.1	Clark	Highland Park
1800041	1800041	Clark	Moser Park
1800053	1800053	Clark	Vissing Park
1800075	1800075	Clark	Henry Lansden Park
1800123	1800123	Clark	Deam Lake State Recreation Area
1800124	1800124	Clark	Lapping Park, Wooded View Golf Course
1800154	1800154	Clark	Deam Lake State Recreation Area
1800166	1800166	Clark	Deam Lake State Recreation Area
1800171	1800171AA	Clark	Deam Lake State Recreation Area
1800205	1800205	Clark	Lapping Park, Wooded View Golf Course
1800216	1800216	Clark	Vissing Park
1800248	1800248	Clark	Henry Lansden Park
1800305	1800305B	Clark	Deam Lake State Recreation Area
1800342	1800342	Clark	Lapping Park, Wooded View Golf Course
1800363	1800363E	Clark	Clark State Forest
1800363	1800363G	Clark	Deam Lake State Recreation Area
1800446	1800446	Clark	Clark State Forest
1800616	1800616	Clark	Borden Community Park

Land and Water Conservation Fund (LWCF) County Property List for Scott County, Indiana

Project Number	Sub Project Code	County	Property
1800163	1800163	Scott	Hardy Lake SRA, Sunnyside Beach
1800192	1800192	Scott	Hardy Lake SRA, Sunnyside Beach
1800363	1800363J	Scott	Hardy Lake
1800486	1800486	Scott	Beechwood Park
1800507	1800507	Scott	Lake Iola Park

FINAL NOISE ANALYSIS REPORT

INTERSTATE 65 ADDED TRAVEL LANES
CLARK AND SCOTT COUNTY, INDIANA

LEAD DES. NO. 1700135

Prepared for:

INDIANA DEPARTMENT OF TRANSPORTATION

Prepared by:

AMERICAN STRUCTUREPOINT, INC.
9025 RIVER ROAD, SUITE 200
INDIANAPOLIS, INDIANA 46240

MONICA DEL REAL, SENIOR ENVIRONMENTAL SPECIALIST

JULY 2, 2021

AMERICAN STRUCTUREPOINT INC.

TABLE OF CONTENTS

Executive Summary **1**

1.0 Introduction **2**

1.1 Purpose of Analysis 2

1.2 Project Description 2

2.0 Existing Noise Environments **2**

2.1 Common Noise Environments 3

2.2 Field Measurements and Validation 6

3.0 Methodology and Assumptions **6**

3.1 Noise Abatement Criteria 7

3.2 Traffic Volumes 7

3.3 Model Assumptions 8

4.0 Impact Assessment **8**

5.0 Noise Abatement **9**

5.1 Traffic Noise Barriers 9

5.2 Additional Noise Abatement Measures 12

6.0 Construction Noise **12**

7.0 Coordination with Local Officials **13**

8.0 Public Involvement **13**

9.0 Statement of Likelihood **13**

10.0 Conclusion **14**

11.0 References **15**

Appendix A – Project Mapping
Appendix B – Field Measurement Data Sheets
Appendix C – Sound Level Meter Calibration Certificates
Appendix D – Predicted Noise Levels
Appendix E – Noise Barrier Analysis and Optimization
Appendix F – Traffic Data
Appendix G – Public Involvement Materials and Responses

Executive Summary

This analysis was developed to determine the traffic noise levels and traffic noise impacts associated with the proposed construction of additional travel lanes along Interstate 65 (I-65) between the Blue Lick Road interchange and State Road (SR) 56 interchange, in Clark and Scott County. The proposed project occurs along the existing I-65 roadway. The proposed project begins approximately 0.5 mile north of the Blue Lick Road interchange and continues north to approximately 0.5 mile south of the SR 56 interchange. The total length of the project is approximately 12.5 miles.

The proposed project is considered a Type I Project as it involves the addition of through lanes. This noise analysis was prepared in accordance with the Federal Highway Administration's (FHWA's) Highway *Traffic Noise: Analysis and Abatement Guidance (December 2011),* and the Indiana Department of Transportation's (INDOT's) *Traffic Noise Analysis Procedure (July 1, 2017)*.

The existing year (2021) noise levels, as well as the design year (2043) noise levels were predicted using FHWA'S approved noise predicting program, *Traffic Noise Model, Version 2.5 (TNM 2.5)*. To validate the model, short-term (15 minute) field measurements were taken at 10 sites within the analysis area; all applicable sites were validated.

A total of 216 receptors were identified within the noise analysis area, representing three different noise abatement criteria (NAC) land use activity categories, Activity Categories B, C, and D. Of the 216 receptors analyzed, 206 are classified as single family residential units (Activity Category B), 8 are Activity Category C, and 2 are Activity Category D. The analysis area also includes agricultural, industrial, and undeveloped land that, at the time of this analysis, was not permitted for future development (i.e., new subdivision or commercial building that has been platted). These areas are considered to be Activity Category F and Activity Category G land use types for which there is no NAC criteria. While receptors were not placed in these areas, an approximate contour representing the area likely to experience noise exposure levels of 66 dBA has been defined (Appendix A, Page A-18 to A-27). This will assist City and County planning officials responsible for the permitting of future development in ensuring incompatible land use types do not encroach upon this contour.

The results of this analysis identified 109 receptors as approaching/exceeding the NAC in the design year (2043). Twenty-two noise barrier locations were modeled within the analysis area. Based on the studies completed to date, it has been determined that noise abatement is likely, but not guaranteed, at one of these locations; east of I-65 northbound lanes approximately 0.5 mile south of SR 160 (Noise Barrier 3). A re-evaluation of the noise analysis will occur during final design. If during final design it is determined that conditions have changed such that noise abatement is not feasible and reasonable, the abatement measures might not be provided.

The viewpoints of the benefited residents and property owners were sought and were considered in determining the reasonableness of noise abatement measures for the proposed highway construction project. INDOT will incorporate highway traffic noise consideration in on-going activities for public involvement. The final decision on the installation of noise abatement measures will be made after completion of the project's final design and the public involvement process.

1.0 Introduction

The INDOT is advancing a federal-aid project to construct additional travel lanes along I-65 between the Blue Lick Road interchange and SR 56 interchange, in Clark and Scott County (Des. No. 1700135). The proposed project begins approximately 0.5 mile north of the Blue Lick Road interchange and continues north to approximately 0.5 mile south of the SR 56 interchange. The total length of the project is approximately 12.5 miles. Additional Des. Nos. associated with this project include Des. Nos. 1600729, 1600733, 1600744, 1600750, 2001600, 2001601, 2001603, 2001604, 2001605, 2001607, 2001593, 2001594, 2001595, 2001596, 2001597, 2001598, and 2001599 for bridge and drainage structure work.

1.1 Purpose of Analysis

The purpose of this noise analysis is to assess existing and future traffic noise levels associated with the I-65 Added Travel Lanes project, identify impacted receptors within common noise environments (CNEs), and evaluate potential abatement solutions for feasibility and reasonableness if impacted receptors are present. The analysis was performed in accordance with the current INDOT's *Traffic Noise Analysis Procedure (July 1, 2017)*.

1.2 Project Description

The proposed project area is located near Henryville and Scottsburg, on the Henryville, Scottsburg, and Speed USGS Topographic Quadrangles in Section 25, Township 3 North, and Range 5 East; Section 26, Township 1 North, Range 5 East; Section 27, Township 4 North, Range 5 East; Section 30, Township 3 North, Range 6 East; Section 20, Township 1 North, Range 6 East; Section 10, Township 2 North, Range 5 East; Sections 15, 20, 27, and 36, Township 2 North, Range 6 East; Sections 28 and 32, Township 3 North, Range 5 East; Sections 13, 23, 27, and 34, Township 3 North, Range 6 East; and Tract Numbers 220, 238, 240, 250, 265 and 268. (Appendix A, A-2 to A-6)

1.2.1 Existing Road Conditions

This section of I-65 is currently a four lane *Interstate*. The existing typical cross section of I-65 consists of two 12-foot travel lanes bordered by a 10-foot paved outside shoulder and a 4-foot paved inside shoulder in each direction. An approximately 50-foot-wide grassed median separates the northbound lanes and southbound lanes for a majority of the project area. A six lane section of I-65 is present at the southern extent of the project corridor. The surrounding land use is primarily residential and agricultural uses, with some scattered industrial and maintenance facilities. The project area bisects Clark State Forest.

1.2.2 Proposed Road Improvements

The current project proposes the addition of travel lanes (one in each direction) along I-65 within the roadway median from approximately 0.5 mile north of Blue Lick Road interchange to approximately 2.2 miles south of the SR 56 interchange. The additional travel lanes will follow the existing grade. The existing lanes of I-65 will undergo a mill and resurface. The project proposes to maintain the existing typical cross section of I-65 from 2.2 miles to 0.5 mile south of the SR 56 interchange with a mill and resurface.

2.0 Existing Noise Environments

In accordance with the INDOT *Traffic Noise Analysis Procedure (July 1, 2017)*, potential receptors were identified within the analysis area, which is roughly defined as the area 500 feet off the proposed edge of pavement. A total of 216 receptors were identified within the analysis area and evaluated as part of this noise impact analysis. Of the 216 receptors analyzed, 206 are classified as single family residential units (Activity Category B), 8 are Activity Category C, and 2 are Activity Category D. **Section 2.1** below provides a more comprehensive description of each modeled receptor and its associated activity category.

2.1 Common Noise Environments

The overall land use within the analysis area is primarily residential and agricultural uses, with some scattered industrial and maintenance facilities. The project area bisects Clark State Forest. The analysis area defined for this project is divided into six Common Noise Environments (CNEs) and discussed further below (Appendix A, Page A-18 to A-27). **Table 2-1** identifies the composition of receptors within each CNE.

TABLE 2-1 - RECEPTOR COMPOSITION WITHIN CNE'S

CNE	Activity Category B	Activity Category C (ERUs)	Activity Category D	Total DU / ERU
CNE 1	57	0	0	57
CNE 2	1	0	0	1
CNE 3	84	24	2	110
CNE 4	40	18	0	58
CNE 5	0	0	0	0
CNE 6	24	2	0	26
Total DUs[1]	***206***		***2***	***252***
Total ERUs[2]		***44***		

1 – DU = dwelling unit. Each single family residence or business with an exterior use is considered to represent one DU. One apartment would represent 1 DU.

2 – ERU =equivalent residential unit. Special use lands, such as recreational facilities, require a conversion to ERUs. This conversion is accomplished using an algorithm that factors usage, area of resource within the noise analysis area and seasonal / daily usage.

2.1.1 Common Noise Environment 1

CNE 1 is comprised of agricultural, residential, and industrial land uses east of I-65 northbound, south of SR 160. Recent development of a residential neighborhood has begun at the southern extent of the project area and within the existing development approximately 0.5 mile south of SR 160. Residential receptors have been placed based upon the established lots which have been purchased by home owners based upon the Clark County GIS webpage (https://clarkin.elevatemaps.io/). The surrounding topography is gently rolling with elevations ranging between 479 to 578 feet above mean sea level (MSL). The main traffic noise source for this CNE is I-65.

2.1.2 Common Noise Environment 2

CNE 2 is comprised of residential and industrial land uses east of I-65 northbound, along SR 160. The surrounding topography generally slopes downward from I-65 with elevations of 562 to 581 feet above MSL. The main traffic noise sources for this CNE are I-65 and SR 160.

2.1.3 Common Noise Environment 3

CNE 3 is comprised of agricultural, residential, forested, religious, commercial, and industrial land uses east of I-65 northbound, north of SR 160. The surrounding topography is gently rolling with general elevations of 515 to 653 feet above MSL. The main traffic noise source for this CNE is I-65.

Three Activity Category C receptors, two at Clark State Forest and one at the I-65 northbound rest area picnic area, are located within this CNE. Since these amenities do not contain any dwelling units, the use of an algorithm to convert usage data into an appropriate number of receptors, or equivalent residential units (ERUs), was required. The standard INDOT algorithm for converting special use lands into ERUs is as follows:

Daily No. of Users / 2.52 people on average per household	X	Percentage of property within 500 ft.	=	Number of Receptors (Rounded Up)

Based upon the Indiana State Parks reservation webpage (https://indianastateparks.reserveamerica.com/), the shelter at the location of R214 has a maximum seating capacity of 50. In addition, other factors added to the algorithm included the average available usage time per day, and the average months over the course of a year the shelter area is likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 5. The algorithm below was utilized to determine the appropriate ERUs.

				Avg. Usage Time / Day		Avg. Months of Usability		
50 (estimated daily users) / 2.52	X	0.3 ac. (within 500 ft.) / 0.3 ac. (total size)	X	8 hrs. / 24 hrs./day	X	9 mo. / 12 mo./yr.	=	**5 Total ERUs**

Based upon the Indiana State Parks reservation webpage (https://indianastateparks.reserveamerica.com/), there are 38 camping sites at the location of R86. Therefore an estimated 76 daily users (two occupants per site), was utilized. In addition, other factors added to the algorithm included the average months over the course of a year the camp sites are likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 14. The algorithm below was utilized to determine the appropriate ERUs.

				Avg. Months of Usability		
76 (estimated daily campers) / 2.52	X	1.5 ac. (within 500 ft.) / 2.5 ac. (total size)	X	9 mo. / 12 mo./yr.	=	**14 Total ERUs**

Based upon the available traffic data (Appendix F), approximately 1,063 vehicles per day utilize the I-65 northbound rest area (R89). Additional factors added to the algorithm included the average usage time per day, and the average months over the course of a year the outdoor rest area picnic area is likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 5. The algorithm below was utilized to determine the appropriate ERUs.

				Avg. Usage Time / Day		Avg. Months of Usability		
1,063 (estimated daily users) / 2.52	X	0.7 ac. (within 500 ft.) / 1 ac. (total size)	X	0.5 hrs. / 24 hrs./day	X	9 mo. / 12 mo./yr.	=	**5 Total ERUs**

2.1.4 Common Noise Environment 4

CNE 4 is comprised of agricultural, industrial, residential, and forested land uses west of I-65 southbound, north of SR 160. The surrounding topography is gently rolling with elevations ranging between 525 to 658 feet above MSL. The main traffic noise source for this CNE is I-65.

Three Activity Category C receptors, two at Clark State Forest and one at the I-65 southbound rest area picnic area, are located within this CNE. Since these amenities do not contain any dwelling units, the use of an algorithm to convert usage data into an appropriate number of receptors, or ERUs, was required.

Based upon the Indiana State Parks reservation webpage (https://indianastateparks.reserveamerica.com/), the shelter at the location of R186 has a maximum seating capacity of 40. In addition, other factors added to the algorithm included the average available usage time per day, and the average months over the course of a year the shelter area is likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 4. The algorithm below was utilized to determine the appropriate ERUs.

$$\frac{\text{40 (estimated daily users)}}{\text{2.52}} \times \frac{\text{0.4 ac. (within 500 ft.)}}{\text{0.4 ac. (total size)}} \times \frac{\text{8 hrs.}}{\text{24 hrs./day}} \times \frac{\text{9 mo.}}{\text{12 mo./yr.}} = \textbf{4 Total ERUs}$$

(Avg. Usage Time / Day; Avg. Months of Usability)

Based upon the Indiana State Parks reservation webpage (https://indianastateparks.reserveamerica.com/), the shelter at the location of R215 has a maximum seating capacity of 75. In addition, other factors added to the algorithm included the average available usage time per day, and the average months over the course of a year the shelter area is likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 8. The algorithm below was utilized to determine the appropriate ERUs.

$$\frac{\text{75 (estimated daily users)}}{\text{2.52}} \times \frac{\text{0.3 ac. (within 500 ft.)}}{\text{0.3 ac. (total size)}} \times \frac{\text{8 hrs.}}{\text{24 hrs./day}} \times \frac{\text{9 mo.}}{\text{12 mo./yr.}} = \textbf{8 Total ERUs}$$

(Avg. Usage Time / Day; Avg. Months of Usability)

Based upon the available traffic data (Appendix F), approximately 1,057 vehicles per day utilize the I-65 southbound rest area (R183). Additional factors added to the algorithm included the average usage time per day, and the average months over the course of a year the outdoor rest area picnic area is likely to be used (i.e., spring, summer and fall). The total ERU's determined to be appropriate for modeling purposes was 6. The algorithm below was utilized to determine the appropriate ERUs.

$$\frac{\text{1,057 (estimated daily users)}}{\text{2.52}} \times \frac{\text{0.9 ac. (within 500 ft.)}}{\text{1 ac. (total size)}} \times \frac{\text{0.5 hrs.}}{\text{24 hrs./day}} \times \frac{\text{9 mo.}}{\text{12 mo./yr.}} = \textbf{6 Total ERUs}$$

(Avg. Daylight / Day; Avg. Months of Usability)

2.1.5 Common Noise Environment 5

CNE 5 is comprised of forested and agricultural land uses west of I-65 southbound, along SR 160. The surrounding topography is generally flat with elevations ranging between 544 to 578 feet above MSL. The main traffic noise sources for this CNE are I-65 and SR 160.

2.1.6 Common Noise Environment 6

CNE 6 is comprised of agricultural, residential, and forested land uses west of I-65 southbound, south of SR 160. The surrounding topography is gently rolling with elevations ranging between 478 to 580 feet above MSL. The main traffic noise source for this CNE is I-65.

Two Activity Category C receptors associated with cemeteries (R191 and R192) are located within this CNE. Since the cemeteries do not function as prolonged recreational facilities, these amenities were applied one ERU each.

2.2 Field Measurements and Validation

For this analysis a Larson Davis Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 was used to obtain short-term field measurements of ambient noise levels at representative receptors in the analysis area. The field measurements were taken by personnel of American Structurepoint on June 3 and August 3, 2020. Short term measurements were collected for a duration of 15 minutes at 10 sites. The field data sheets for each measurement taken are included in Appendix B of this analysis. Prior to use, the SLM was calibrated to 94 dBA and 114 dBA using the appropriate calibrator for this model. The Certificate of Calibration for this SLM is included in Appendix C. During the sampling time atmospheric conditions and any unanticipated noise events were noted.

Short-term field measurements are typically collected and used to validate the constructed *TNM 2.5* model prepared for the existing conditions. In such cases, existing noise levels are generated from a baseline condition model, where field observed traffic counts over the 15 minute sampling period are multiplied times four for a Leq(h) volume equivalent and entered into the model. Sites are considered to be validated when the field measured reading is found to be within 3 dBA (+/-) of the modeled reading. The results of the validation effort are illustrated in Table 2-4 below.

TABLE 2-4 – MODEL VALIDATION

Site No.	CNE No.	Measured Level (dBA)	Modeled Level (dBA)	Difference	Validated
FM 1	6	68.7	71.2	-2.5	Yes
FM 2	1	68.2	67.7	0.5	Yes
FM 3	3	64.8	67.4	-2.6	Yes
FM 4	3	65.7	68.3	-2.6	Yes
FM 5	4	67.4	70.0	-2.6	Yes
FM 6	4	58.1	59.5	-1.4	Yes
FM 7	3	63.7	66.7	-3.0	Yes
FM 8	3	60.6	62.9	-2.3	Yes
FM 9	3	61.1	60.9	0.2	Yes
FM 10	3	72.1	71.4	0.7	Yes

As noted in Table 2-4, all 10 of the sites modeled were validated. Therefore the noise models developed for this analysis are considered to be valid.

3.0 Methodology and Assumptions

This noise analysis is developed as part of the National Environmental Policy Act (NEPA) environmental documentation for the project. In accordance with 23 Code of Federal Regulations (CFR) Part 772, FHWAs Highway *Traffic Noise: Analysis and Abatement Guidance (December 2011)* and the INDOT *Traffic Noise Analysis Procedure*

(July 1, 2017), design year (2043) noise exposure levels were predicted using FHWAs approved noise modeling software, *TNM 2.5*.

3.1 Noise Abatement Criteria

The FHWA has developed NAC that INDOT has adopted in their *Traffic Noise Analysis Procedure* (Table 3-1). These criteria define when noise impacts occur for specific types of land uses. Because Part 772 of 23 CFR defines potential impacts in terms of noise levels approaching or exceeding the NAC and INDOT's *Traffic Noise Analysis Procedure* defines approaching as one decibel (dBA), the effective value for impact analysis in Indiana is one dBA less than the FHWA criteria.

TABLE 3-1 - Noise Abatement Criteria

Activity Category	FHWA Activity Criteria Leq(h)	INDOT Approach Criteria Leq(h)	Evaluation Location	Activity Description
A	57 dBA	56 dBA	Exterior	Land uses on which serenity and quiet are of extraordinary significance and serve an important public need. The preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dBA	66 dBA	Exterior	Residential
C	67 dBA	66 dBA	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 dBA	51 dBA	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 dBA	71 dBA	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	--	--	Undeveloped lands that are not permitted.

Source: FHWA Highway *Traffic Noise: Analysis and Abatement Guidance (December 2011)* and INDOT *Traffic Noise Analysis Procedure (2017)*

For this analysis, Activity Categories B, C, D, F, and G land uses were identified within the analysis area.

3.2 Traffic Volumes

Traffic volumes were taken from the *April 29, 2020 Project Traffic Forecast Report DES No.: 1700135* – by INDOT, Office of Traffic Statistics for I-65. Base Year (2016 to 2018) AADT volumes were obtained from the INDOT Traffic Count Database System and used to determine volumes on appropriate cross streets. The volumes are illustrated in Appendix F of this report.

3.3 Model Assumptions

The following TNM 2.5 model assumptions were incorporated into the analysis of this project:

- Traffic volumes were assigned to the appropriate TNM vehicle classifications. For the purposes of this analysis, automobiles and heavy trucks were designated the appropriate vehicle classifications for 2021 and 2043 projections. Assignments were not made to the medium truck, motorcycle or bus classifications.
- The percent heavy vehicles used and vehicle speeds can be found in Appendix F.
- Traffic volumes were not included along the remainder of auxiliary roadways due to the low traffic volumes and utilization as residential access.
- Terrain lines and building rows were included within the model. The default ground zone was lawn.
- Noise Reduction Coefficient (NRC) values of 0.7 were utilized for noise barriers with receptors present on the opposite side of the roadway.

4.0 Impact Assessment

The analysis of the proposed I-65 Added Travel Lanes project was completed using the FHWA's approved model for predicting noise levels associated with highway projects, *TNM 2.5*. TNM generated noise emission levels for the project, which are reported in dBA, and compared against the NAC thresholds identified in **Table 3-1** to determine whether a receptor is impacted. As defined in the INDOT *Traffic Noise Analysis Procedures (2017)*, a traffic noise impact occurs if one of the following criteria is found to be true:

- Predicted dBA levels approach (within at least 1 dBA) or exceed the NAC identified in **Table 3-1**, or
- Predicted dBA levels substantially exceed the existing ambient levels (at least 15 dBA above the existing conditions).

FHWA assesses noise impacts based upon the Leq(h). That is, a receptors cumulative noise exposure from all events over a one hour period. The one hour period used for highway projects is identified as the peak travel hour, or busiest hour of the day. To evaluate interior noise levels the exterior level was modeled and a reduction factor applied (Table 4-1). Based upon the completed analysis, 109 receptors were identified as approaching or exceeding the NAC. No receptors were identified as having predicted levels substantially exceeding the existing ambient levels. The noise level at the 109 impacted receptors range from 66.0 to 75.8 dBA. A breakdown of impacted receptors per CNE is provided in Table 4-2 below.

TABLE 4-1 - Category D Noise Levels

Receptor	Description	Exterior Noise Level (dBA)	Noise Reduction due to Structural Criteria (dBA)	Interior Noise (dBA)	Interior Criteria (dBA)	Impact
R145	Church	68.1	25	43.1	51.0	No
R147	Church	67.3	25	42.3	51.0	No

TABLE 4-2 - Impacted Receptors by CNE

	Number of Impacted Receptors
CNE 1	26
CNE 2	0
CNE 3	39
CNE 4	29
CNE 5	0
CNE 6	15

5.0 Noise Abatement

Consideration of measures to mitigate or abate traffic noise impacts must be afforded if impacted receptors have been identified in the analysis area. In order for abatement to be considered and implemented into the project it must undergo scrutiny to determine if it is both feasible and reasonable to construct. The definition of feasible and reasonable is identified in the INDOT *Traffic Noise Analysis Procedures (2017)*, but is summarized below.

Noise abatement is **feasible** if it meets all of the following conditions:

Engineering Feasibility:

- Engineering considerations to determine if a particular form of abatement can actually have an effect on the traffic noise levels at a receptor. These considerations include topography, drainage, barrier height, utilities, safety and access / maintenance needs control.

Acoustic Feasibility:

- A majority (greater than 50%) of the impacted receptors achieve a 5 dBA reduction in noise.

The **reasonableness** of noise abatement is based on a measured design goal for noise abatement, cost effectiveness and views of impacted receptors:

Design Goal:

- A majority of the impacted first row receptors achieve at least a 7 dBA reduction in noise.

Cost Effectiveness:

- The estimated cost of constructing a noise barrier does not exceed $25,000 per benefited receptor. In those cases where a majority of the development (more than 50%) was in place prior to construction of the highway in its current functional classification, a barrier is considered cost effective if the estimated cost does not exceed $30,000 per benefited receptor.

Views of the Impacted and/or Benefited Receptors:

- A survey will be mailed to each benefited receptor to consider the views of residents and property owners. The concerns and opinions of the property owners and residents will be balanced with other considerations in determining whether a barrier is appropriate for a given location.

5.1 Traffic Noise Barriers

The construction of noise barriers is often viewed as an effective way to shield or deflect the noise exposure path between the source (i.e., road) and the impacted receptors. Traditionally, constructed noise barriers are a post and precast panel system. With the post and precast panel wall, steel posts are driven into the ground followed by the installation of several noise absorbing panels between the posts. Several factors weigh into determining

the feasibility of a barrier. Both barrier types need to be allowed to extend uninterrupted (i.e., no drive access points, utility crossings) the length of area it is intended to shield. Additionally, the barrier length needs to extend at either end approximately four times the distance between the noise source and receptor to adequately deflect noise that spills around the end of the barrier. The barrier should also avoid interference with the line of sight at intersections, which could affect a driver's ability to see approaching traffic and create an unsafe condition to enter roadway. The inability to address these factors weighs heavily in the consideration of barrier abatement as a feasible measure of mitigation.

Noise barriers were modeled at twenty-two locations within the study area. Noise Barrier (NB) 2 and 6 were conducted as representative isolated receptors (R12 and R88). Because it was determined at these locations that a noise barrier is not cost effective for an isolated receptor, noise barriers were not analyzed at the remaining isolated receptors within the project area (R87, R122, R146, R148, R158, R168, R177, and R184). Due to the inability to construct uninterrupted segments of noise barriers due to access and line of sight requirements, a noise barrier was not evaluated for R89. The analyzed barriers are described below:

- NB 1: NB 1 is located along the east side of I-65 northbound lanes, south of the Biggs Road overpass in CNE 1. This noise barrier location analyzes impacts to receivers R1 to R11.
- NB 2: NB 2 is located along the east side of I-65 northbound lanes and is bisected by Biggs Road in CNE 1. NB 2 was modeled as two segments, NB 2a and NB 2b. This noise barrier location analyzes impacts to receiver R12.
- NB 3: NB 3 is located along the east side of I-65 northbound lanes, north of Biggs Road and south of SR 160 in CNE 1. This noise barrier location analyzes impacts to receivers R15 to R45.
- NB 4: NB 4 is located along the east side of I-65 northbound lanes, just south of SR 160 in CNE 1. This noise barrier location analyzes impacts to receivers R46 to R57.
- NB 5: NB 5 is located along the east side of I-65 northbound lanes, just north of SR 160 in CNE 3. This noise barrier location analyzes impacts to receiver R72 to R85.
- NB 6: NB 6 is located along the east side of I-65 northbound lanes, just north of Brownstown Road in CNE 3. This noise barrier location analyzes impacts to receiver R88.
- NB 7: NB 7 is located along the east side of I-65 northbound lanes, approximately 0.5 mile north of CR 600 S in CNE 3. This noise barrier location analyzes impacts to receivers R94 to R101.
- NB 8: NB 8 is located along the east side of I-65 northbound lanes, approximately 1 mile south of Leota Road in CNE 3. This noise barrier location analyzes impacts to receivers R102 to R115.
- NB 9: NB 9 is located along the east side of I-65 northbound lanes and is bisected by Leota Road in CNE 3. This noise barrier location analyzes impacts to receivers R117 to R121.
- NB 10: NB 10 is located along the east side of I-65 northbound lanes, north of Lake Road and south of SR 56 in CNE 3. This noise barrier location analyzes impacts to receivers R126 to R145.
- NB 11 NB 11 is located along the west side of I-65 southbound lanes and is bisected by Lake Road in CNE 4. NB 11 was modeled as two segments, NB 11a and NB 11b.This noise barrier location analyzes impacts to receivers R149 to R152.
- NB 12: NB 12 is located along the west side of I-65 southbound lanes, just south of Lake Road in CNE 4. This noise barrier location analyzes impacts to receivers R153 to R157.
- NB 13: NB 13 is located along the west side of I-65 southbound lanes, just south of Leota Road in CNE 4. This noise barrier location analyzes impacts to receivers R159 to 161.
- NB 14: NB 14 is located along the west side of I-65 southbound lanes, approximately 0.5 mile south of Leota Road in CNE 4. This noise barrier location analyzes impacts to receivers R162 to R167 and R216.
- NB 15: NB 15 is located along the west side of I-65 southbound lanes, approximately 0.5 mile north of CR 600 N in CNE 4. This noise barrier location analyzes impacts to receivers R170 to R171.

- NB 16: NB 16 is located along the west side of I-65 southbound lanes, approximately 0.2 mile north of CR 600 N in CNE 4. This noise barrier location analyzes impacts to receivers R172 to R173.
- NB 17: NB 17 is located along the west side of I-65 southbound lanes, approximately 1 mile south of CR 600 N in CNE 4. This noise barrier location analyzes impacts to receivers R178 to R182.
- NB 18: NB 18 is located along the west side of I-65 southbound lanes, approximately 0.2 mile north of Winding Road in CNE 4. This noise barrier location analyzes impacts to receiver R215.
- NB 19: NB 19 is located along the west side of I-65 southbound lanes, just north of Winding Road in CNE 4. This noise barrier location analyzes impacts to receiver R186.
- NB 20: NB 20 is located along the west side of I-65 southbound lanes, just south of SR 160 in CNE 6. This noise barrier location analyzes impacts to receivers R191 to R199.
- NB 21: NB 21 is located along the west side of I-65 southbound lanes, approximately 0.7 mile south of SR 160 in CNE 6. This noise barrier location analyzes impacts to receivers R200 to R204.
- NB 22: NB 22 is located along the west side of I-65 southbound lanes, approximately 2 miles south of SR 160 in CNE 6. This noise barrier location analyzes impacts to receivers R207 to R212.

Of the twenty-two noise barriers modeled, one meets the INDOT's feasible and reasonable criteria. NB 3 was determined to meet feasible and reasonable criteria. NB 1 and NB 4 through NB 22 were determined to meet feasible criteria but not meet cost effectiveness criteria to be considered reasonable. NB 2 was determined to not meet feasible or reasonable criteria. The results of the noise barrier analysis are summarized in Table 5-1 below. Maps showing the noise barrier locations and noise receptors are located in Appendix A, Page A-18 to A-27. Tables showing the optimization and analysis of the noise barriers are located in Appendix E, Page E-1 to E-22.

TABLE 5-1 – Noise Barrier Analysis Summary

Proposed Barrier	CNE	Length (feet)	Average Height (feet)	Benefited Receptors*	Feasibility Criteria Met	Design Goal Met	Cost of Barrier (assuming $30/sq ft)	Cost per Benefited Receptor	Cost Effective Threshold**	Cost Reasonable Criteria Met
NB 1	1	975	13.54	5	Yes	Yes	$ 395,860.00	$ 79,172.00	$25,000	No
NB 2	1	1,025	22.00	0	No	No	N/A	N/A	$25,000	No
NB 3	1	1,485	13.80	25	Yes	Yes	$ 614,786.00	$ 24,591.44	$25,000	Yes
NB 4	1	990	15.09	5	Yes	Yes	$ 448,125.00	$ 89,625.00	$30,000	No
NB 5	3	1,969	13.62	12	Yes	Yes	$ 804,511.00	$ 67,042.58	$25,000	No
NB 6	3	743	17.39	1	Yes	Yes	$ 347,470.00	$ 347,470.00	$25,000	No
NB 7	3	982	15.49	4	Yes	Yes	$ 456,390.00	$ 114,097.50	$30,000	No
NB 8	3	1,350	14.22	12	Yes	Yes	$ 575,982.00	$ 47,998.50	$30,000	No
NB 9	3	975	14.46	3	Yes	Yes	$ 422,991.00	$ 40,997.00	$25,000	No
NB 10	3	1,826	19.75	15	Yes	Yes	$ 1,082,194.00	$ 72,146.27	$25,000	No
NB 11	4	1,506	16.18	4	Yes	Yes	$ 730,882.00	$ 182,720.50	$25,000	No
NB 12	4	911	12.52	3	Yes	Yes	$ 342,062.00	$ 114,020.67	$25,000	No

Proposed Barrier	CNE	Length (feet)	Average Height (feet)	Benefited Receptors*	Feasibility Criteria Met	Design Goal Met	Cost of Barrier (assuming $30/sq ft)	Cost per Benefited Receptor	Cost Effective Threshold**	Cost Reasonable Criteria Met
NB 13	4	975	15.54	2	Yes	Yes	$ 454,489.00	$ 227,244.50	$25,000	No
NB 14	4	2,700	14.59	6	Yes	Yes	$ 1,181,940.00	$ 196,990.00	$25,000	No
NB 15	4	999	15.85	2	Yes	Yes	$ 475,097.00	$ 237,548.50	$25,000	No
NB 16	4	838	18.39	2	Yes	Yes	$ 462,366.00	$ 231,183.00	$25,000	No
NB 17	4	1,682	15.73	3	Yes	Yes	$ 793,976.00	$ 264,658.67	$25,000	No
NB 18	4	756	13.97	8	Yes	Yes	$ 316,874.00	$ 39,609.25	$30,000	No
NB 19	4	614	20.24	4	Yes	Yes	$ 372,901.00	$ 93,225.25	$30,000	No
NB 20	6	1,886	14.00	8	Yes	Yes	$ 792,027.00	$ 99,003.38	$25,000	No
NB 21	6	1,453	20.66	4	Yes	Yes	$ 900,534.00	$ 225,133.50	$25,000	No
NB 22	6	2,062	14.98	6	Yes	Yes	$ 791,820.00	$ 131,978.67	$25,000	No

**ERUs were utilized for this value on appropriate receptors discussed in Section 2.1 above*

***A cost effective threshold of $30,000 was utilized where a majority of receptors were constructed prior to I-65 in its current functional classification. A cost effective threshold of $25,000 was utilized where a majority of receptors were constructed after I-65 in its current functional classification.*

5.2 Additional Noise Abatement Measures

Additional noise abatement measures considered for this project include the restriction or prohibiting of truck traffic, altering of the horizontal and vertical alignments, acquisition of property for construction of berms, and acquisition of buffer zones to prevent development that could be adversely impacted.

The restriction or prohibiting of trucks traffic along I-65 is beyond the scope of this project and would require changes in legislation. Alteration of the horizontal and vertical alignment within the current right-of-way and design criteria would not provide sufficient changes in the traffic noise levels to the abutting properties. The current project proposes to maintain the existing alignment along I-65 and add the additional travel lanes to the median, away from abutting properties. Acquisition of property for construction of berms or as a buffer zone was not considered reasonable as it would require a substantial amount of additional right-of-way.

6.0 Construction Noise

The identified receptors will be affected by the noise generated from power-operated equipment utilized during construction. This equipment will be operated intermittently and will likely produce noise in the range of 70-98 dBA, with louder experiences occurring at those receptors closest to the construction limits. To minimize these impacts, construction equipment should be operated in compliance with all applicable local noise ordinances and regulations pertaining to construction noise for Clark County, Scott County, Henryville, and Scottsburg. Also, restricting construction activities to daytime working hours may help minimize construction noise impacts during

nighttime hours. The project plans and specifications should include provisions requiring the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and maintenance of muffler systems. If such measures are applied, the temporary effects to the nearby receptors should be minimized.

7.0 Coordination with Local Officials

Conflicts with future development along the proposed corridor are able to be minimized with appropriate noise compatible planning. This effort starts with knowledge about a project's specific noise impacts being shared with those local officials having the decision-making authority over the planning and zoning status of land within the analysis area. In accordance with the *INDOT Traffic Noise Analysis Procedure (July 1, 2017) and 23 CFR 772.15* this report will be provided to the City of Scottsburg and Clark County Area Planning Organizations following the completion of the environmental document. This is typically done to allow the local government planning branches to protect incompatible land use types, such as Activity Categories B and C, from developing within the approximate 66 dBA contour.

The 66 dBA contour is an estimation of the future receptor impact zone following construction of the project. The 66 dBA contour for the proposed project is estimated to occur 340 feet from the I-65 edge of pavement south of SR 160 and 285 feet from the I-65 edge of pavement north of SR 160, varying slightly depending on topography (Appendix A, Page A-18 to A-27).

8.0 Public Involvement

In accordance with the 2017 *INDOT Traffic Noise Analysis Procedure*, the viewpoints of benefited residents and property owners (i.e., receptors) are required to be sought and considered in the determination of the reasonableness of highway traffic noise abatement measures for the proposed project. To obtain the viewpoints of residents and property owners, a noise barrier survey (survey) was mailed to each resident and property owner who would be benefited by the proposed noise barrier. The addresses of the benefited residents were compiled using data from the Clark County Assessor's Office. The survey was mailed to 25 residences. The survey included a letter with a brief description of the project; a graphic of the noise barrier location under consideration; project specific noise information; general traffic noise information; and a pre-stamped, self-addressed return survey postcard. A copy of the noise barrier survey mailing packet can be found in Appendix G, G-1 to G-7.

Surveys were mailed to benefited receptors on May 20, 2021, with a response deadline of June 20, 2021. To date, more than 50 percent (14 out of 25) of the benefited receptors have responded to the survey. Based on the responses received, 100 percent (14 out of 14) of the responses received are in favor of the noise barrier. A copy of the survey responses can be found in Appendix G, G-8 to G-20. As a result of the survey, the noise barrier is recommended for construction.

9.0 Statement of Likelihood

Based upon the analysis completed to date, 109 impacted receptors have been identified and it has been determined that noise abatement is likely, but not guaranteed, at one location. Noise abatement at this location is based on preliminary design costs and criteria. Noise abatement at this location has been estimated at $614,786. A re-evaluation of the noise analysis will occur during final design. If during final design it is determined the

conditions have changed such that noise abatement is not feasible and reasonable, the abatement measures might not be provided.

The final decision on the installation of any abatement measures will be made upon the completion of the project's final design and public involvement process.

10.0 Conclusion

A total of 109 receptors were identified within the noise analysis area as approaching/exceeding the NAC in the 2043 design year. Twenty-two noise barrier locations were evaluated within the noise analysis area. One noise barrier location (NB 3) was determined to be feasible and reasonable; located along the east side of I-65 northbound lanes, approximately 0.5 mile south of SR 160. Noise abatement at this location is based upon preliminary estimated costs and design criteria. Noise abatement is likely, but not guaranteed at this location. Additional information regarding the evaluated noise barriers is provided in Appendix E.

11.0 References

Environmental Protection Agency Publication EPAPB 206717, December 1971, *Noise from Construction Equipment and Operations.*

Federal Highway Program Manual, Volume 7, Section 3, August 9, 1982.

23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, July 13, 2010.

FHWA *Highway Traffic Noise: Analysis and Abatement Guidance,* December 2011.

Federal Highway Administration, *Federal Lands Highway Project Development and Design Manual*, February 8, 2008.

INDOT *Traffic Noise Analysis Procedure*, July 1, 2017.

Appendix A – Project Mapping

Note: Topographic Map and
Aerial Photographs Removed

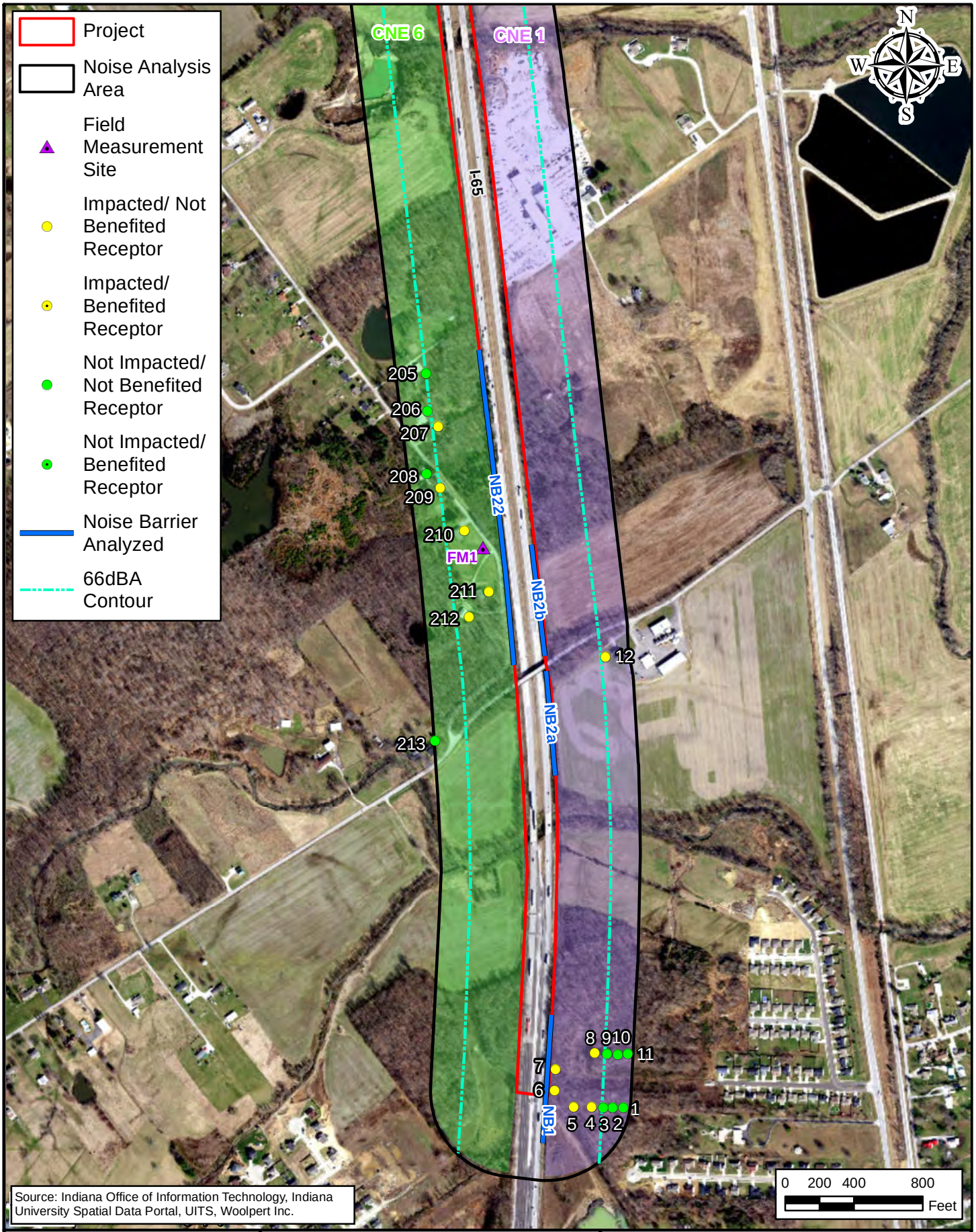

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Figure 4: Noise Map 1 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

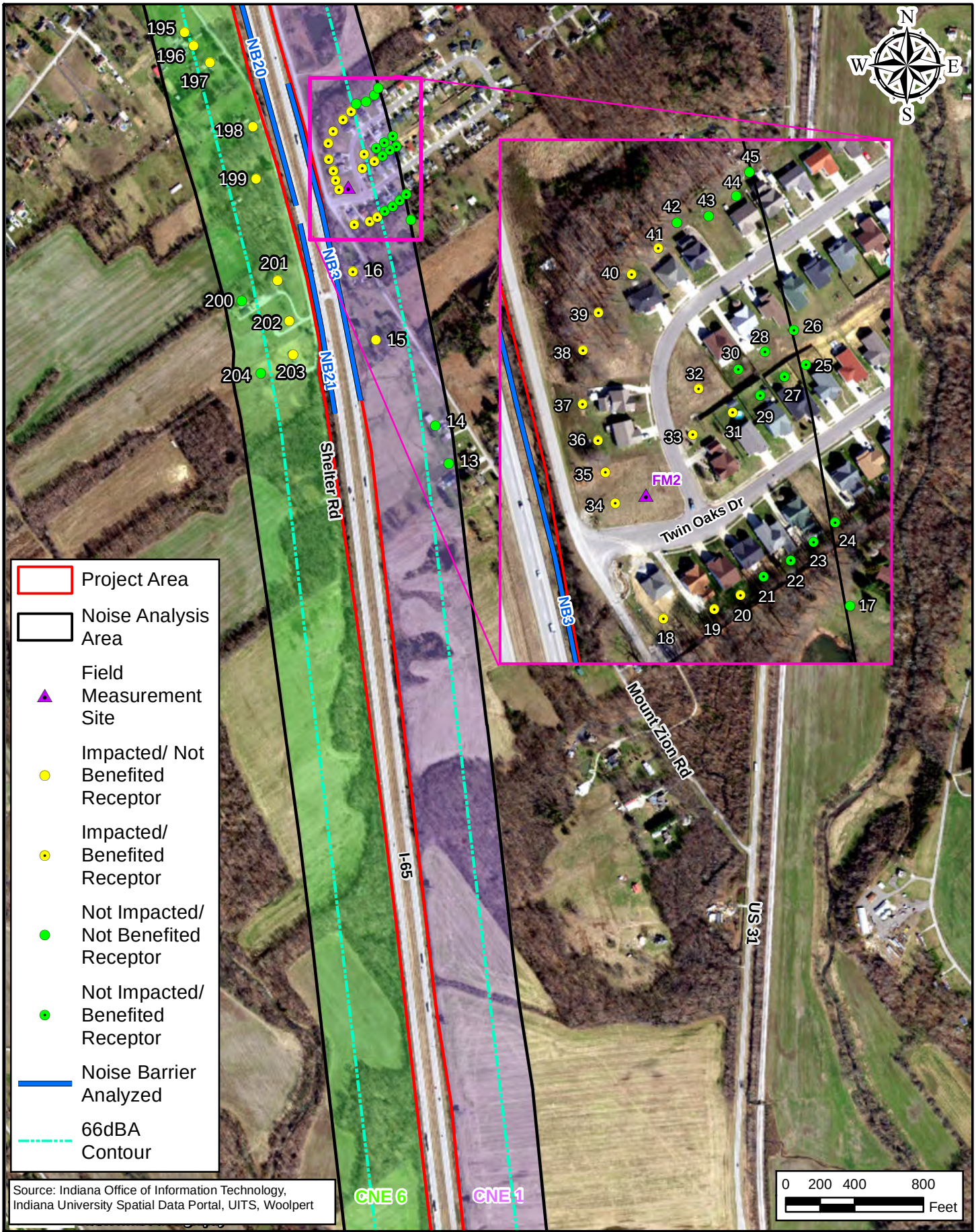

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Figure 4: Noise Map 2 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

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Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

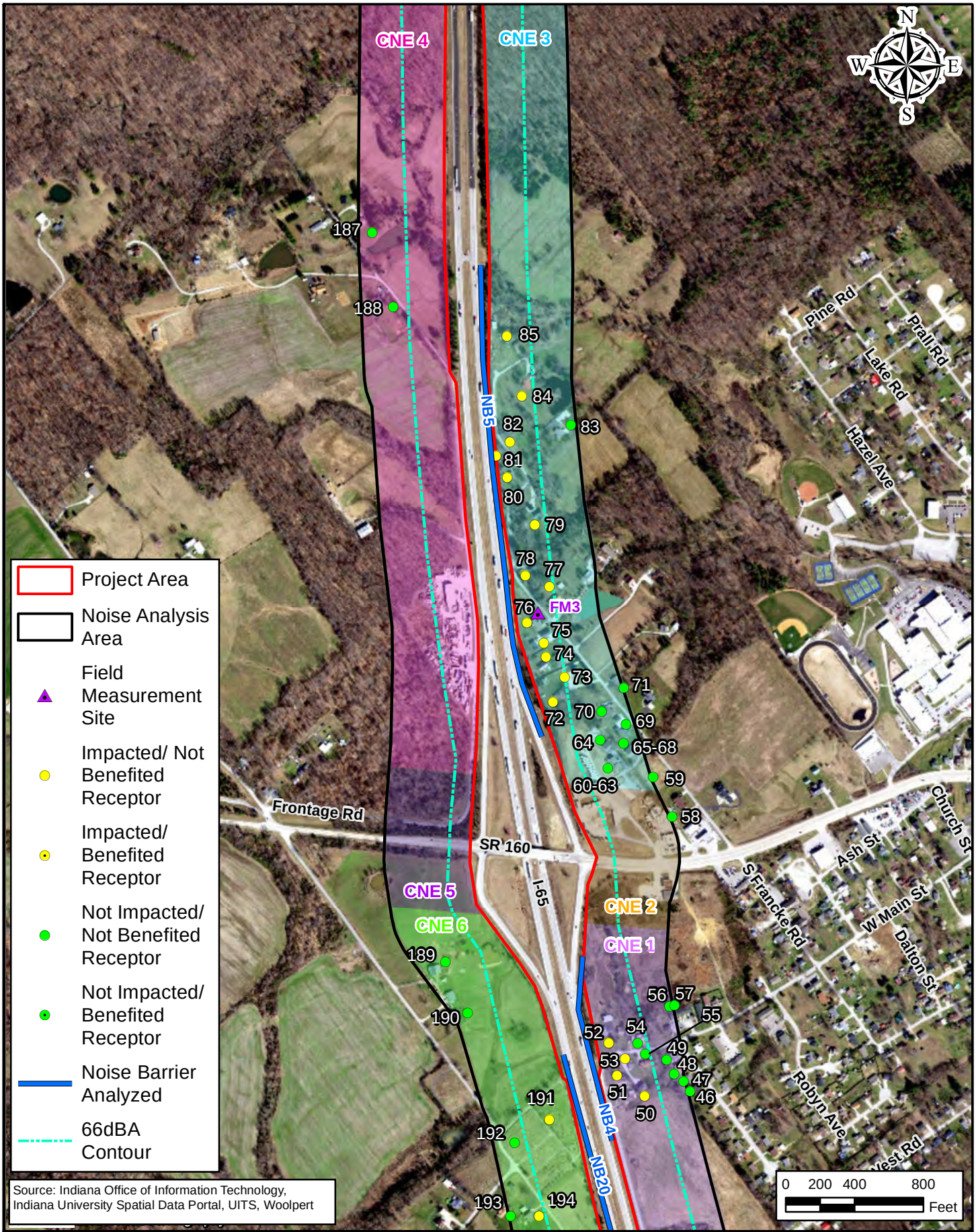

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Figure 4: Noise Map 3 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

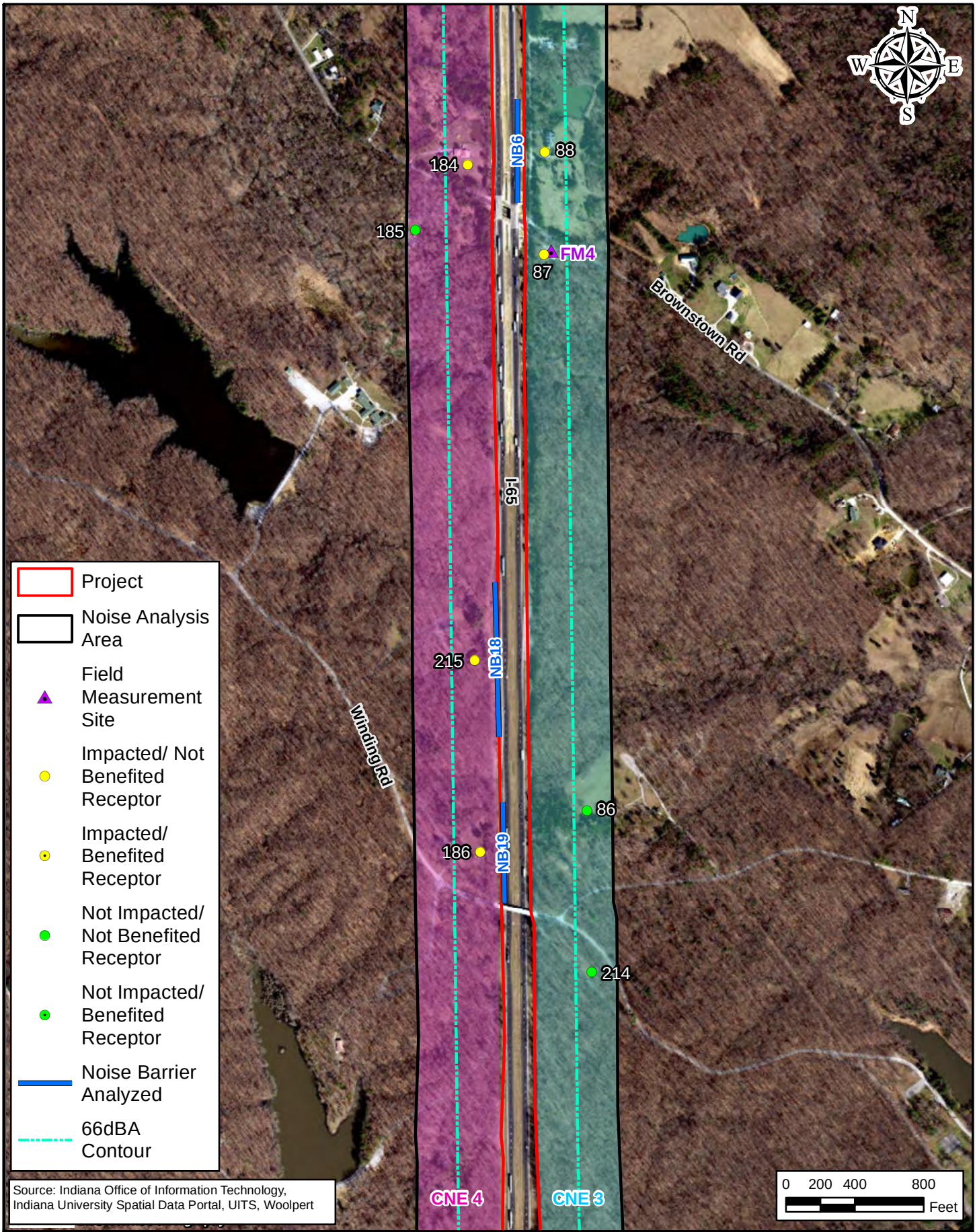

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Figure 4: Noise Map 4 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

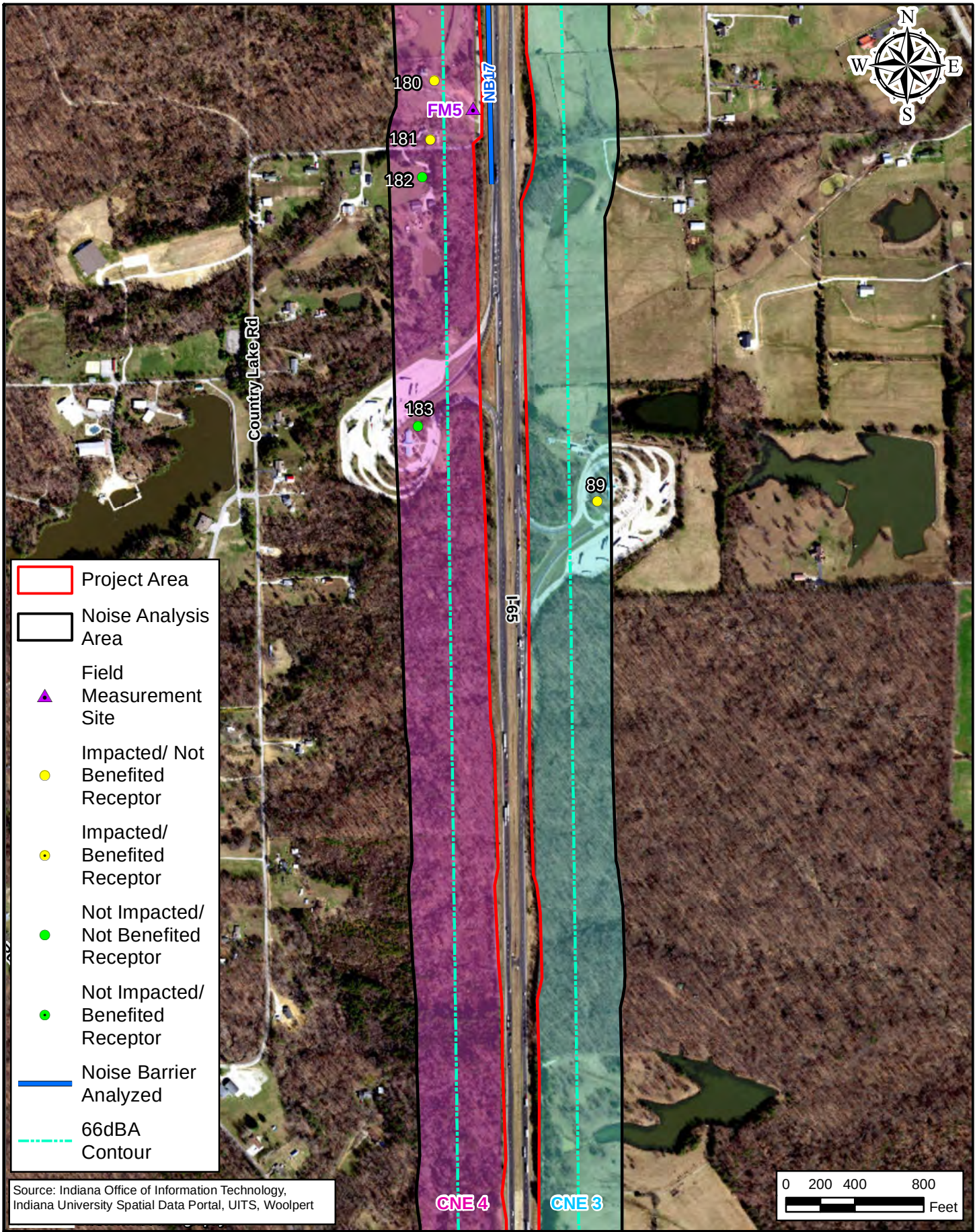

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Figure 4: Noise Map 5 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

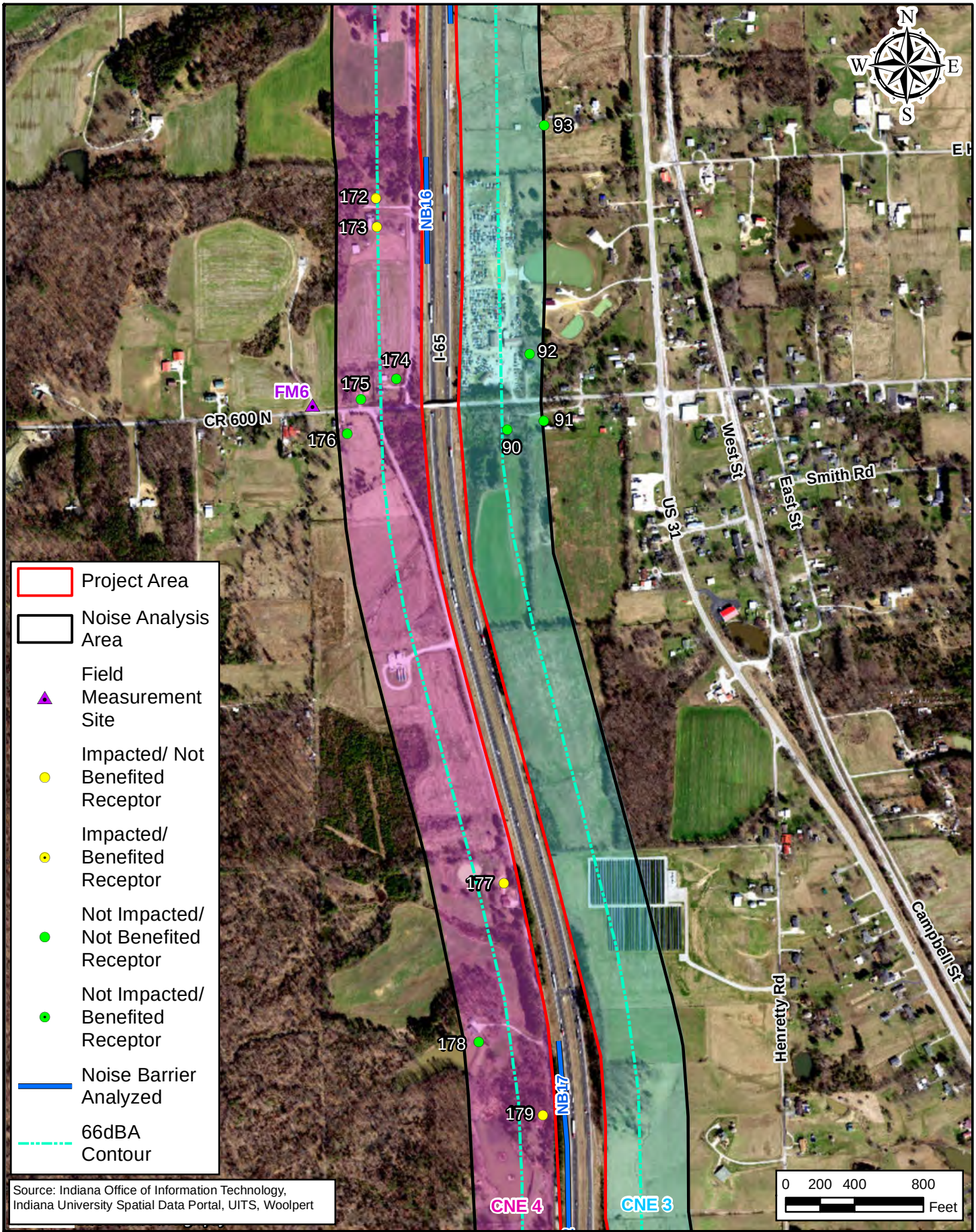

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Figure 4: Noise Map 6 of 10

INDOT Seymour District
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Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

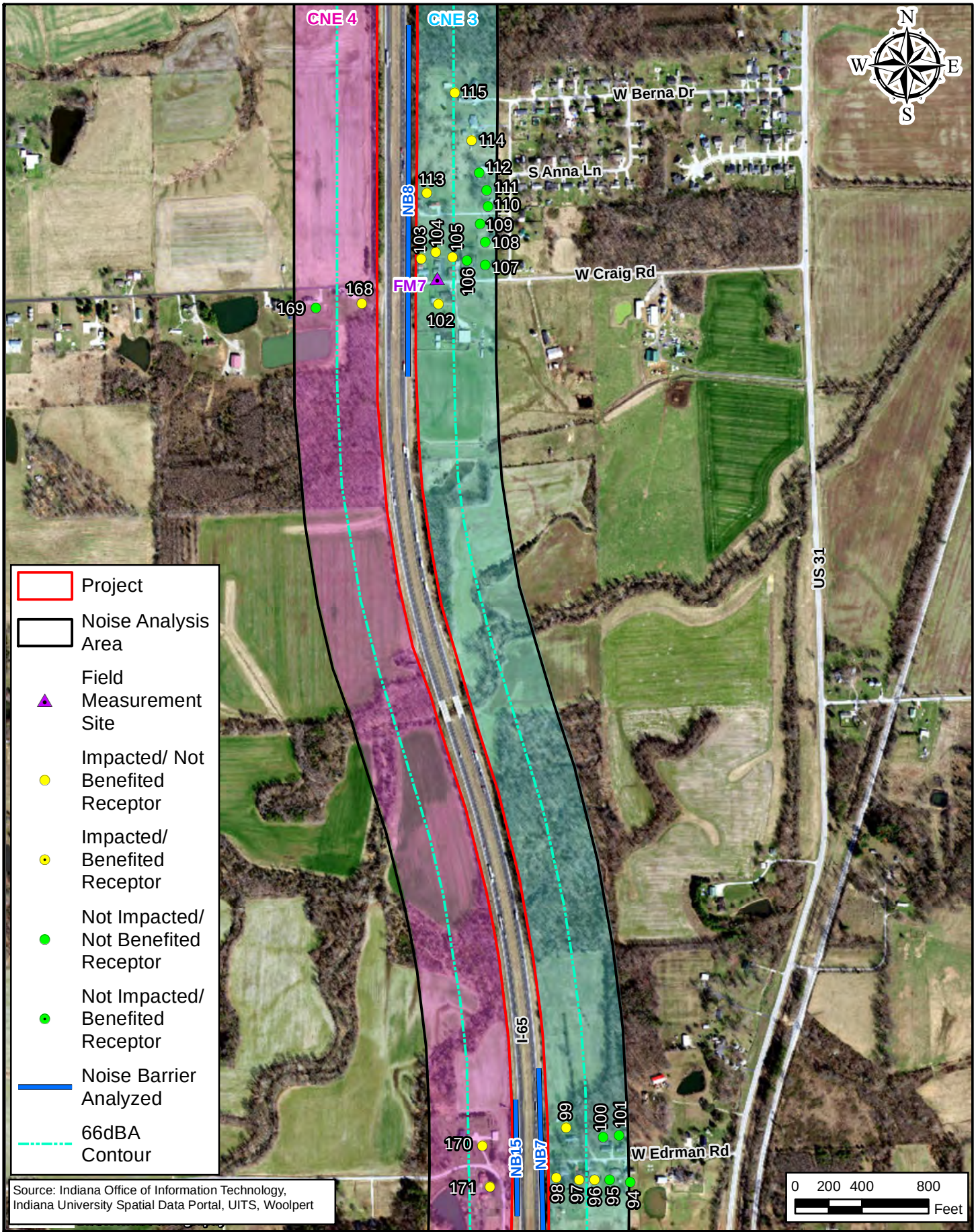

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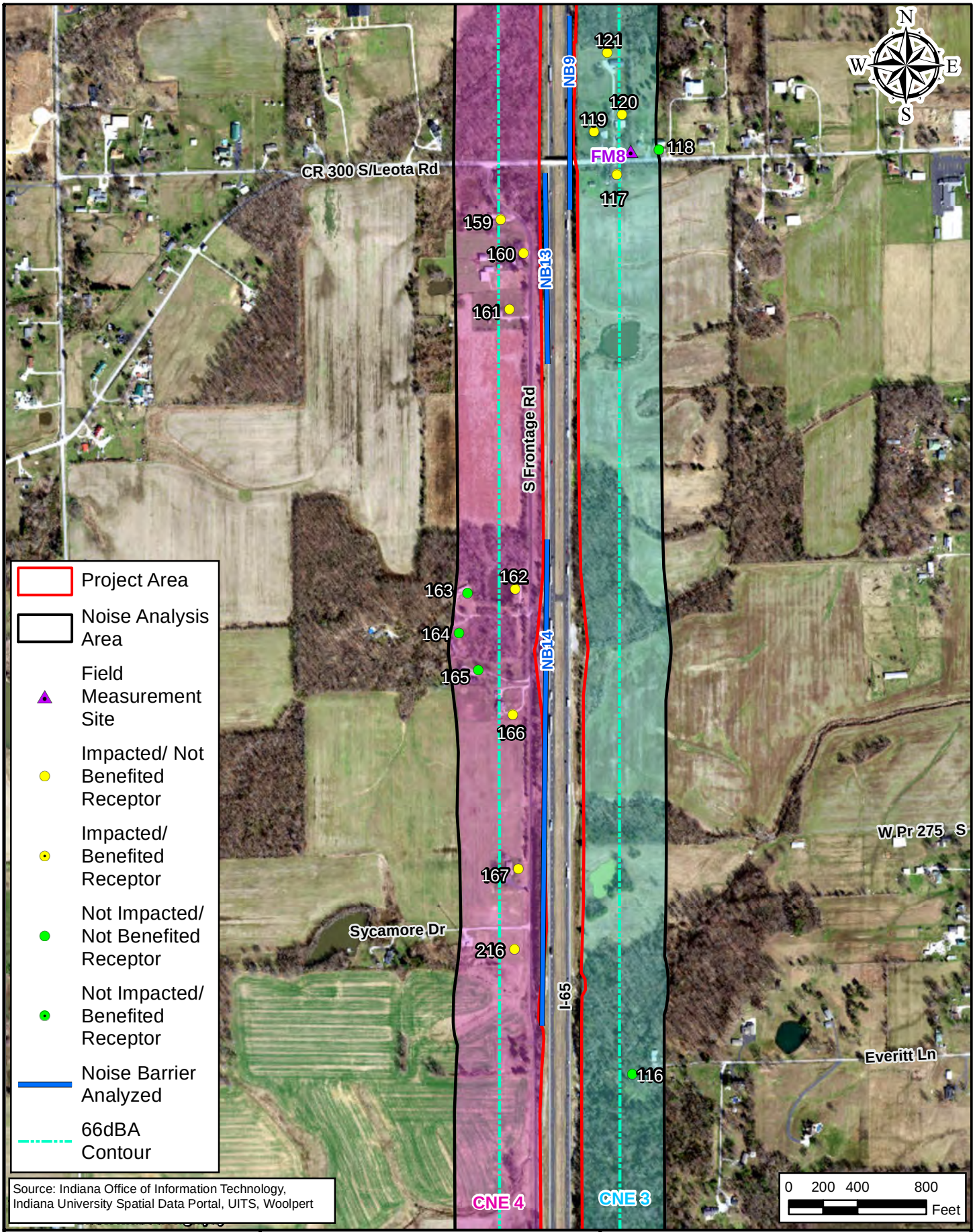
Figure 4: Noise Map 7 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana



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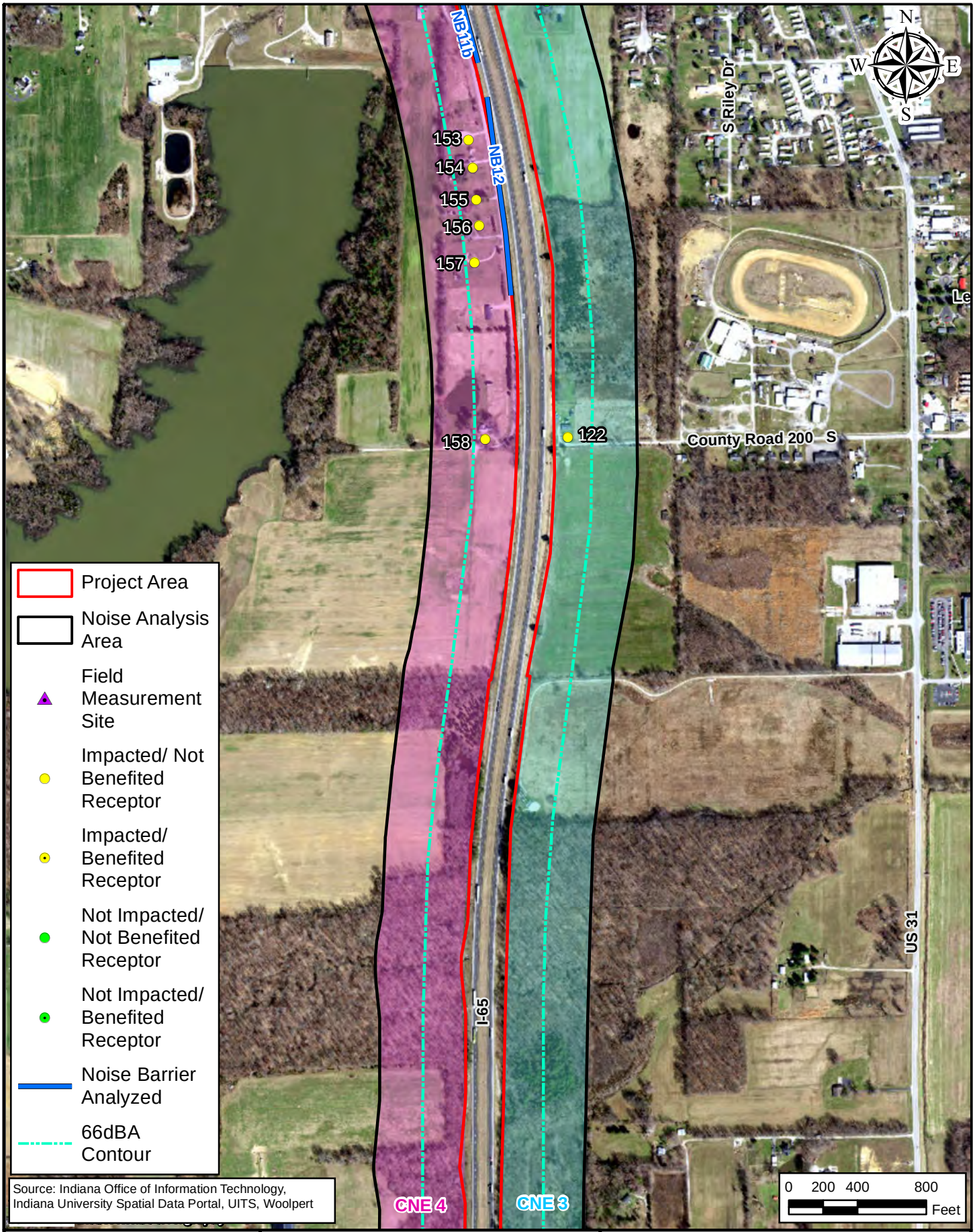
AMERICAN STRUCTUREPOINT INC.

Figure 4: Noise Map 8 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana



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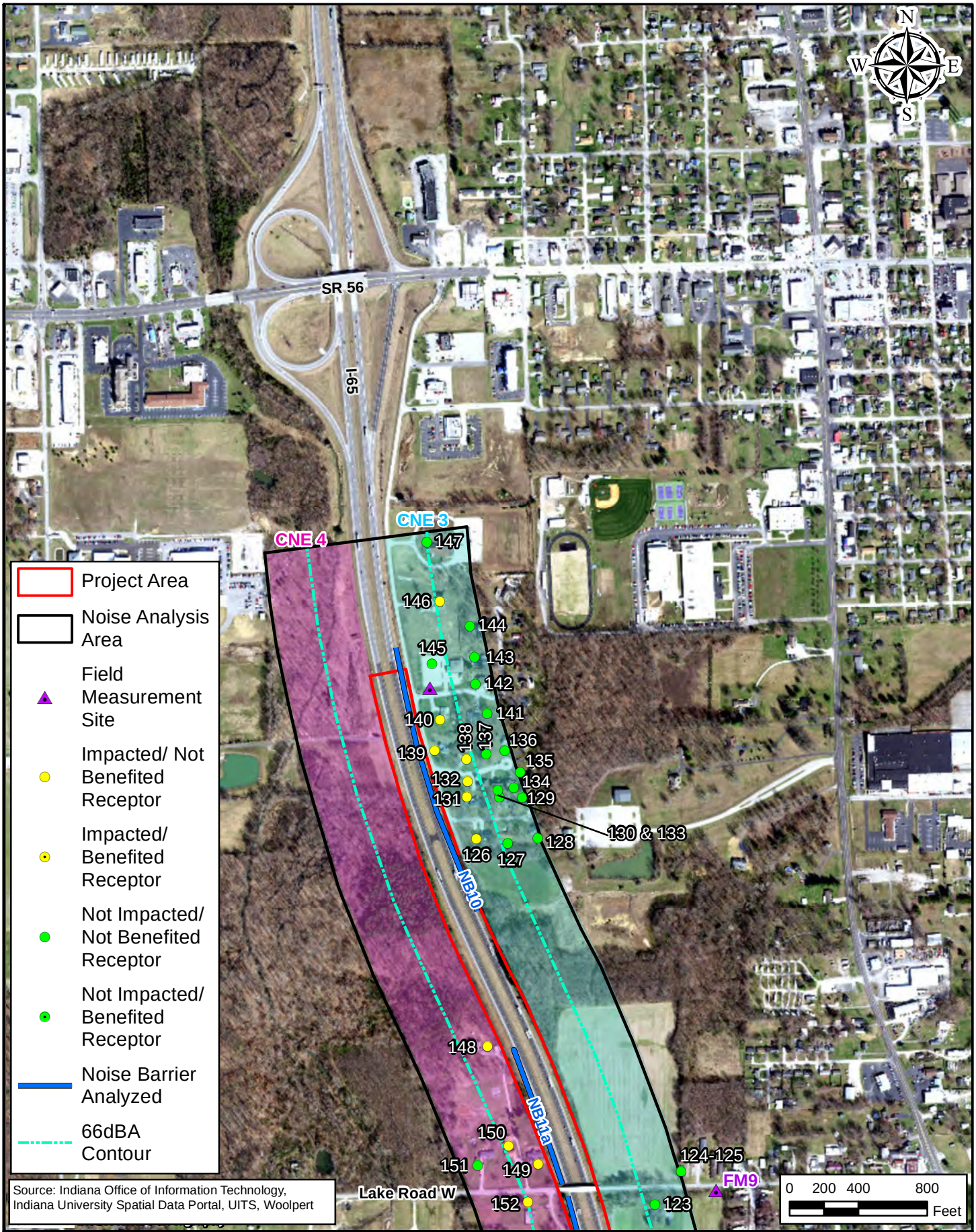
AMERICAN STRUCTUREPOINT INC.

Figure 4: Noise Map 9 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana



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AMERICAN STRUCTUREPOINT INC.

Figure 4: Noise Map 10 of 10

INDOT Seymour District
185 Agrico Lane
Seymour, IN 47274

I-65 Added Travel Lanes from 0.5 mile north of Blue Lick Road to 0.5 mile south of SR 56
Des. No. 1700135
Location: Scottsburg and Henryville
Townships: Union, Monroe, and Vienna
Counties: Clark and Scott County
Date:01/12/2021 State: Indiana

Appendix B – Field Measurement Data Sheets

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 1
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Henryville/Clark County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	68 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated:	☑ 94 dBA ☑ 114 dBA		Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	74%
Receptors Represented:	Field Measurement Site 1 (FM 1)					Avg. Windspd.:	5 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Howser Road					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Mai nt./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	10	N/A	N/A	30

Test Time	Start: 7:15		Finish: 7:30	
Measured dBA	68.7 L_{Aeq}		91.4 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	NB	SB
Cars	113	252	3	1
Med. Trucks	8	9		
Heavy Trucks	54	76		
Buses				
Motorcycles				

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 2
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Henryville/Clark County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	68 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	74%
Receptors Represented:	Field Measurement Site 2 (FM 2)					Avg. Windspd.:	5 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Mt. Zion Road					Other Observations:	
Tertiary Source:	Twin Oaks Drive						
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Maint./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	10	N/A	30	30
Tertiary Road:	2	15	N/A	N/A	20

Test Time	Start: 7:50		Finish: 8:05			
Measured dBA	68.2 L_{Aeq}		92 L_{max}			
Unexpected Events						
Traffic Volumes	Primary Road (I-65)		Secondary Road		Tertiary Road	
	NB	SB	NB	SB	EB	WB
Cars	124	108	2	5	3	6
Med. Trucks	20	19	1			
Heavy Trucks	111	75				
Buses						
Motorcycles						

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 3
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Henryville/Clark County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	71 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	68%
Receptors Represented:	Field Measurement Site 3 (FM 3)					Avg. Windspd.:	6 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Franke Road					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Mai nt./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	15	N/A	20	20

Test Time	Start: 8:30		Finish: 8:45	
Measured dBA	64.8 L_{Aeq}		91.4 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	NB	SB
Cars	118	124		
Med. Trucks	14	20		
Heavy Trucks	85	111		
Buses				
Motorcycles				

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 4
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Henryville/Clark County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	76 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	57%
Receptors Represented:	Field Measurement Site 4 (FM 4)					Avg. Windspd.:	3 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Brownstown Road					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Mai nt./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	7	N/A	30	30

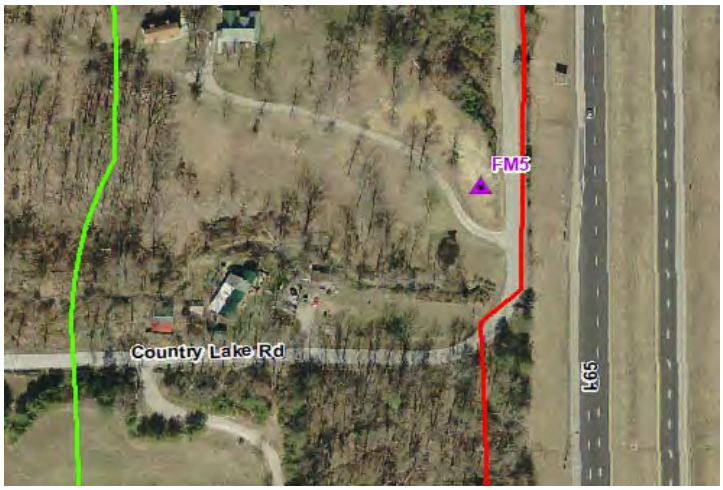
Test Time	Start: 9:20		Finish: 9:35	
Measured dBA	65.7 L_{Aeq}		102.5 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	117	130	1	19
Med. Trucks	8	32		2
Heavy Trucks	79	84		
Buses				
Motorcycles				

NOISE FIELD MEASUREMENT DATA SHEET

							AM / PM	Site: FM 5
Job No.:	2019.00172	Des. No.:	1700135	Location (City / County):	Henryville/Clark County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes						Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831						Temp:	80 degrees
Calibrator:	Model CAL200 Calibrator			Calibrated:	☑ 94 dBA ☑ 114 dBA		Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn						Relative Humidity:	51%
Receptors Represented:	Field Measurement Site 5 (FM 5)						Avg. Windspd.:	4 mph
Major Noise Source:	I-65						Pavement:	Dry
Secondary Source:	Country Lake Road						Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Mai nt./Retail	G - NA Undev. Land Not Permit.		

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	7	N/A	N/A	N/A

Test Time	Start:	9:57	Finish:	10:12
Measured dBA	67.4 L_{Aeq}		93.9 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	147	163		
Med. Trucks	11	19		
Heavy Trucks	65	91		
Buses				
Motorcycles				



NOISE FIELD MEASUREMENT DATA SHEET

						AM / **PM**	Site: FM 6
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Underwood/Clark County		Date:	9/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	81 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	cloudy
Completed By:	Monica Del Real, Leah Perry, and Nakayla Krahn					Relative Humidity:	80%
Receptors Represented:	Field Measurement Site 6 (FM 6)					Avg. Windspd.:	6 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	CR 600 S					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Maint./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	10	N/A	35	35

Test Time	Start: 14:56		Finish: 15:11	
Measured dBA	58.1 L_{Aeq}		91 L_{max}	
Unexpected Events	Birds Chirping			
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	256	324	6	2
Med. Trucks	24	24		1
Heavy Trucks	115	125		
Buses	1			
Motorcycles		1	1	

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 7
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County): Scottsburg/Scott County			Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	83 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	47%
Receptors Represented:	Field Measurement Site 7 (FM 7)					Avg. Windspd.:	4 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Craig Rd					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Maint./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	N/A	N/A	N/A	N/A	N/A

Test Time	Start: 11:32		Finish: 11:47	
Measured dBA	63.7 L_{Aeq}		89.4 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	121	125		
Med. Trucks	12	19		
Heavy Trucks	61	91		
Buses				
Motorcycles	1	2		

NOISE FIELD MEASUREMENT DATA SHEET

						AM / **PM**	Site: FM 8
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Scottsburg/Scott County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	83 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	47%
Receptors Represented:	Field Measurement Site 8 (FM 8)					Avg. Windspd.:	4 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Leota Road					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Mai nt./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	12	N/A	35	40

Test Time	Start: 12:00		Finish: 12:15	
Measured dBA	60.6 L_{Aeq}		92.6 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	153	150	5	13
Med. Trucks	8	17	1	
Heavy Trucks	108	83		
Buses				
Motorcycles		1		

NOISE FIELD MEASUREMENT DATA SHEET

						AM / PM	Site: FM 9
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County):	Scottsburg/Scott County		Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	85 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	45%
Receptors Represented:	Field Measurement Site 9 (FM 9)					Avg. Windspd.:	4 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Lake Road West					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Maint./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	12	N/A	30	30

Test Time	Start: 1:35		Finish: 1:50	
Measured dBA	61.1 L_{Aeq}		89.6 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	EB	WB
Cars	195	155	16	23
Med. Trucks	29	21	1	
Heavy Trucks	122	87		
Buses				
Motorcycles				

NOISE FIELD MEASUREMENT DATA SHEET

						AM / **PM**	Site: FM 10
Job No.:	2019.00172	Des. No.: 1700135	Location (City / County): Scottsburg/Scott County			Date:	6/3/2020
Project:	I-65 Added Travel Lanes					Atmospheric Cond.	
Instrument:	Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831					Temp:	86 degrees
Calibrator:	Model CAL200 Calibrator		Calibrated: ☑ 94 dBA ☑ 114 dBA			Weather:	sunny
Completed By:	Monica Del Real, Kaitlynn Walker, and Nakayla Krahn					Relative Humidity:	45%
Receptors Represented:	Field Measurement Site 10 (FM 10)					Avg. Windspd.:	4 mph
Major Noise Source:	I-65					Pavement:	Dry
Secondary Source:	Honeyrun Parkway					Other Observations:	
Land Use Cat. (*Select All Applicable*)	A - 57 dBA Serene Areas	B - 67 dBA Residential	C - 67 dBA Hosp/Parks/Schls/Church/ Cem/Trail/Historic/Day Care	E - 72 dBA Hotels/Offices /Rest.	F - N/A Ag/Manuf/Maint./Retail	G - NA Undev. Land Not Permit.	

Road Config.:	# of Lanes	Lane Width (ft.)	Median Width (ft.)	Posted Speed	Observed Speed
Primary Road:	4	12	60	70	70
Secondary Road:	2	10	N/A	N/A	25

Test Time	Start: 2:03		Finish: 2:18	
Measured dBA	72.1 L_{Aeq}		91.9 L_{max}	
Unexpected Events				
Traffic Volumes	Primary Road (I-65)		Secondary Road	
	NB	SB	NB	SB
Cars	205	153	1	1
Med. Trucks	24	21		
Heavy Trucks	106	92		
Buses				
Motorcycles	2	1		

Appendix C – Sound Level Meter Calibration Certificates

Certificate of Calibration and Conformance

This document certifies that the instrument referenced below meets published specifications per Procedure PRD-P263; ANSI S1.4-1983 (R 2006) Type 1; S1.4A-1985; S1.43-1997 Type 1; S1.11-2004 Octave Band Class 0; S1.25-1991; IEC 61672-2002 Class 1; 60651-2001 Type 1; 60804-2000 Type 1; 61260-2001 Class 0; 61252-2002.

Manufacturer:	Larson Davis	Temperature:	72.4	°F
Model Number:	831		22.44	°C
Serial Number:	3174	Rel. Humidity:	38.8	%
Customer:	TMS Rental	Pressure:	992.4	mbars
Description:	Sound Level Meter		992.4	hPa
Note:	As Found/As Left: In Tolerance			

Upon receipt for testing, this instrument was found to be:

Within the stated tolerance of the manufacturer's specification.

Calibration Date: 11-Mar-20 Calibration Due:

Calibration Standards Used:

Manufacturer	Model	Serial Number	Cal Due
Stanford Research Systems	DS360	123270	5/6/2020

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at The Modal Shop and/or Larson Davis Corporate Headquarters. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. Calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of The Modal Shop.

Technician: Bradly Haarmeyer Signature:

THE MODAL SHOP
A PCB GROUP CO.

3149 East Kemper Road
Cincinnati, OH. 45241
Phone: (513) 351-9919
(800) 860-4867
www.modalshop.com

~ Certificate of Calibration and Compliance ~

Microphone Model: 377B02 Serial Number: 316493 Manufacturer: PCB

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Reference Equipment

Manufacturer	Model #	Serial #	PCB Control #	Cal Date	Due Date
National Instruments	PCIe-6351	1896F08	CA1918	10/19/18	10/18/19
Larson Davis	PRM915	131	CA1205	1/11/19	1/10/20
Larson Davis	PRM902	4627	CA1551	3/21/19	3/20/20
Larson Davis	PRM916	131	CA1203	3/20/19	3/20/20
Larson Davis	CAL250	4147	LD018	4/15/19	4/15/20
Larson Davis	2201	151	CA2073	4/15/19	4/15/20
PCB	4192	2764626	CA1636	8/20/19	8/21/20
Larson Davis	GPRM902	4162	CA1088	3/21/19	3/20/20
Newport	iTHX-SD/N	1080002	CA1511	2/8/19	2/7/20
Larson Davis	PRA951-4	234	CA1154	10/24/18	10/24/19
Larson Davis	PRM915	124	CA1024	1/11/19	1/10/20
PCB	68510-02	N/A	CA2672	12/21/18	12/20/19
0	0	0	0	not required	not required
0	0	0	0	not required	not required
0	0	0	0	not required	not required

Frequency sweep performed with B&K UA0033 electrostatic actuator.

Condition of Unit

As Found: n/a

As Left: New Unit, In Tolerance

Notes

1. Calibration of reference equipment is traceable to one or more of the following National Labs; NIST, PTB or DFM.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 10012-1, ANSI/NCSL Z540.3 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Open Circuit Sensitivity is measured using the insertion voltage method following procedure AT603-5.
6. Measurement uncertainty (95% confidence level with coverage factor of 2) for sensitivity is +/-0.20 dB.
7. Unit calibrated per ACS-20.

Technician: Leonard Lukasik LL Date: September 19, 2019

ilac-MRA ACCREDITED

CALIBRATION CERT #1862.01

PCB PIEZOTRONICS VIBRATION DIVISION

3425 Walden Avenue, Depew, New York, 14043

TEL: 888-684-0013 FAX: 716-685-3886 www.pcb.com

IO:CAL112-365173305 4.572+0

~ Calibration Report ~

Microphone Model: 377B02 Serial Number: 316493 Description: 1/2" Free-Field Microphone

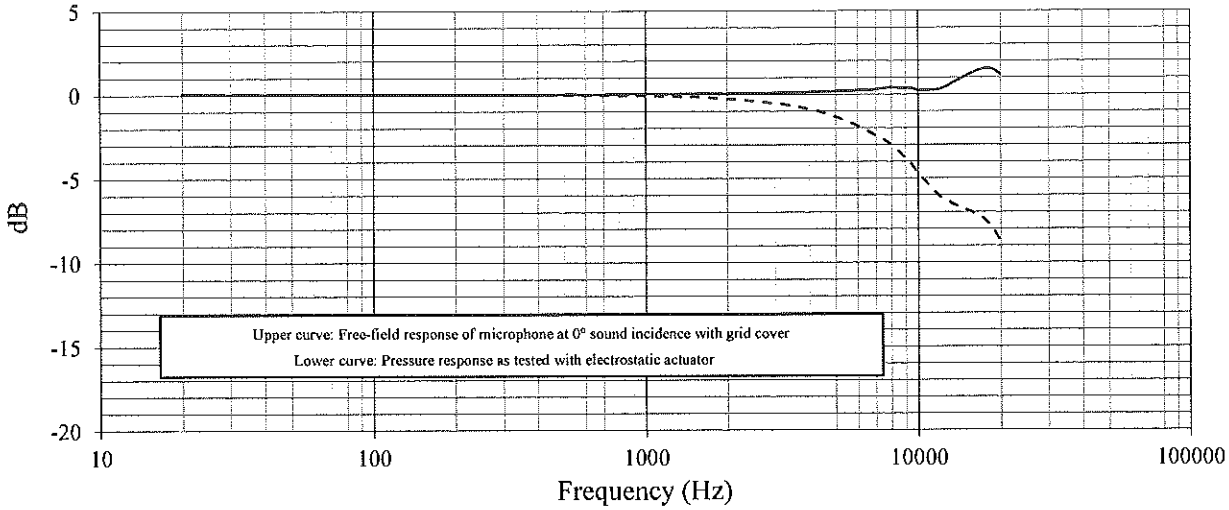
Calibration Data

Open Circuit Sensitivity @ 251.2 Hz: 45.46 mV/Pa
-26.85 dB re 1V/Pa

Polarization Voltage, External: 0 V
Capacitance: 12.4 pF

Temperature: 69 °F (20°C) Ambient Pressure: 998 mbar Relative Humidity: 39 %

Frequency Response (0 dB @ 251.2 Hz)



Freq (Hz)	Lower (dB)	Upper (dB)	Freq (Hz)	Lower (dB)	Upper (dB)	Freq (Hz)	Lower (dB)	Upper (dB)	Freq (Hz)	Lower (dB)	Upper (dB)
20.0	0.08	0.08	1679	-0.16	0.07	7499	-2.71	0.36	-	-	-
25.1	0.05	0.05	1778	-0.21	0.04	7943	-2.97	0.42	-	-	-
31.6	0.06	0.06	1884	-0.24	0.04	8414	-3.35	0.38	-	-	-
39.8	0.06	0.06	1995	-0.26	0.05	8913	-3.75	0.36	-	-	-
50.1	0.06	0.06	2114	-0.27	0.07	9441	-4.16	0.36	-	-	-
63.1	0.04	0.04	2239	-0.30	0.07	10000	-4.70	0.25	-	-	-
79.4	0.04	0.04	2371	-0.35	0.06	10593	-5.15	0.25	-	-	-
100.0	0.03	0.03	2512	-0.39	0.07	11220	-5.61	0.26	-	-	-
125.9	0.02	0.02	2661	-0.43	0.08	11885	-6.02	0.30	-	-	-
158.5	0.02	0.02	2818	-0.48	0.08	12589	-6.32	0.45	-	-	-
199.5	0.01	0.01	2985	-0.52	0.10	13335	-6.51	0.68	-	-	-
251.2	0.00	0.00	3162	-0.57	0.11	14125	-6.70	0.89	-	-	-
316.2	0.00	0.01	3350	-0.63	0.12	14962	-6.87	1.11	-	-	-
398.1	-0.01	-0.01	3548	-0.69	0.13	15849	-7.05	1.30	-	-	-
501.2	-0.02	0.03	3758	-0.78	0.12	16788	-7.26	1.47	-	-	-
631.0	-0.03	0.01	3981	-0.86	0.14	17783	-7.57	1.54	-	-	-
794.3	-0.06	0.03	4217	-0.96	0.15	18837	-8.03	1.48	-	-	-
1000.0	-0.06	0.06	4467	-1.07	0.16	19953	-8.74	1.19	-	-	-
1059.3	-0.08	0.05	4732	-1.20	0.17	-	-	-	-	-	-
1122.0	-0.10	0.04	5012	-1.34	0.19	-	-	-	-	-	-
1188.5	-0.11	0.04	5309	-1.49	0.21	-	-	-	-	-	-
1258.9	-0.10	0.06	5623	-1.67	0.21	-	-	-	-	-	-
1333.5	-0.13	0.06	5957	-1.83	0.24	-	-	-	-	-	-
1412.5	-0.14	0.05	6310	-2.03	0.26	-	-	-	-	-	-
1496.2	-0.15	0.05	6683	-2.28	0.25	-	-	-	-	-	-
1584.9	-0.15	0.06	7080	-2.47	0.31	-	-	-	-	-	-

Technician: Leonard Lukasik Date: September 19, 2019

ilac-MRA A2LA ACCREDITED
CALIBRATION CERT #1662.01

PCB PIEZOTRONICS VIBRATION DIVISION
3425 Walden Avenue, Depew, New York, 14043
TEL: 888-684-0013 FAX: 716-685-3886 www.pcb.com

ID.CAL112-3651733054.572+0

Page 2 of 2

Calibration Certificate

Certificate Number 2019012342

Customer:
The Modal Shop
3149 East Kemper Road
Cincinnati, OH 45241, United States

Model Number	CAL200	***Procedure Number***	D0001.8386		
Serial Number	17283	***Technician***	Scott Montgomery		
Test Results	**Pass**	***Calibration Date***	3 Oct 2019		
Initial Condition	As Manufactured	***Calibration Due***			
		Temperature	24	°C	± 0.3 °C
Description	Larson Davis CAL200 Acoustic Calibrator	***Humidity***	26	%RH	± 3 %RH
		Static Pressure	101.2	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	08/15/2019	08/15/2020	001021
Larson Davis Model 2900 Real Time Analyzer	04/02/2019	04/02/2020	001051
Microphone Calibration System	03/04/2019	03/04/2020	005446
1/2" Preamplifier	09/17/2019	09/17/2020	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/06/2019	08/06/2020	006507
1/2 inch Microphone - RI - 200V	11/12/2018	11/12/2019	006511
Pressure Transducer	06/24/2019	06/24/2020	007310

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.3	114.00	113.80	114.20	0.14	Pass
94	101.2	93.97	93.80	94.20	0.14	Pass

-- End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.3	1,000.30	990.00	1,010.00	0.20	Pass
94	101.2	1,000.33	990.00	1,010.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.3	0.32	0.00	2.00	0.25 ‡	Pass
94	101.2	0.37	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 °C, 31 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04 ‡	Pass
101.3	101.4	0.00	-0.30	0.30	0.04 ‡	Pass
92.0	91.8	0.02	-0.30	0.30	0.04 ‡	Pass
83.0	83.0	0.01	-0.30	0.30	0.04 ‡	Pass
74.0	74.1	-0.02	-0.30	0.30	0.04 ‡	Pass
65.0	65.3	-0.09	-0.30	0.30	0.04 ‡	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 °C, 31 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.4	0.00	-10.00	10.00	0.20 ‡	Pass
92.0	91.8	0.00	-10.00	10.00	0.20 ‡	Pass
83.0	83.0	-0.01	-10.00	10.00	0.20 ‡	Pass
74.0	74.1	-0.01	-10.00	10.00	0.20 ‡	Pass
65.0	65.3	-0.02	-10.00	10.00	0.20 ‡	Pass

-- End of measurement results--

Certificate Number 2019012342

Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 23 °C, 31 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.32	0.00	2.00	0.25 ‡	Pass
101.3	101.4	0.32	0.00	2.00	0.25 ‡	Pass
92.0	91.8	0.31	0.00	2.00	0.25 ‡	Pass
83.0	83.0	0.31	0.00	2.00	0.25 ‡	Pass
74.0	74.1	0.32	0.00	2.00	0.25 ‡	Pass
65.0	65.3	0.33	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Signatory: *Scott Montgomery*

LARSON DAVIS - A PCB PIEZOTRONICS DIV.
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED Cert. #3622.01

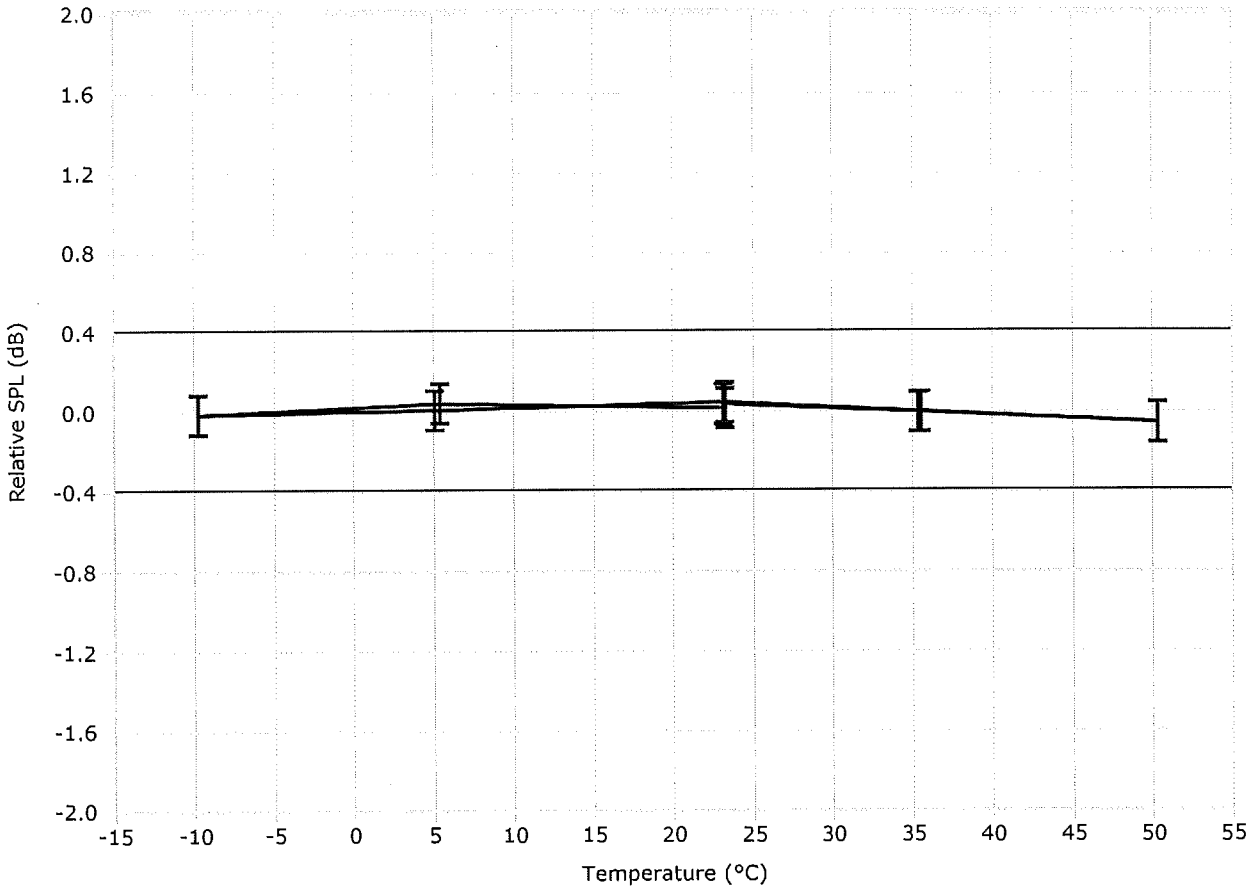
LARSON DAVIS
A PCB PIEZOTRONICS DIV.

Model CAL200 Relative SPL vs. Temperature

Larson Davis Model CAL200 Serial Number: 17283

Model CAL200 Relative SPL vs. Temperature at 50% RH.
A 2559 Mic (SN: 2997) with a PRM901 Preamp (SN: 0201), station 21 was used to check the levels.

Test Date: 17 Sep 2019 5:26:04 PM



0.1dB expanded uncertainty at ~95% confidence level (k=2)

Sequence File: CAL200.SEQ

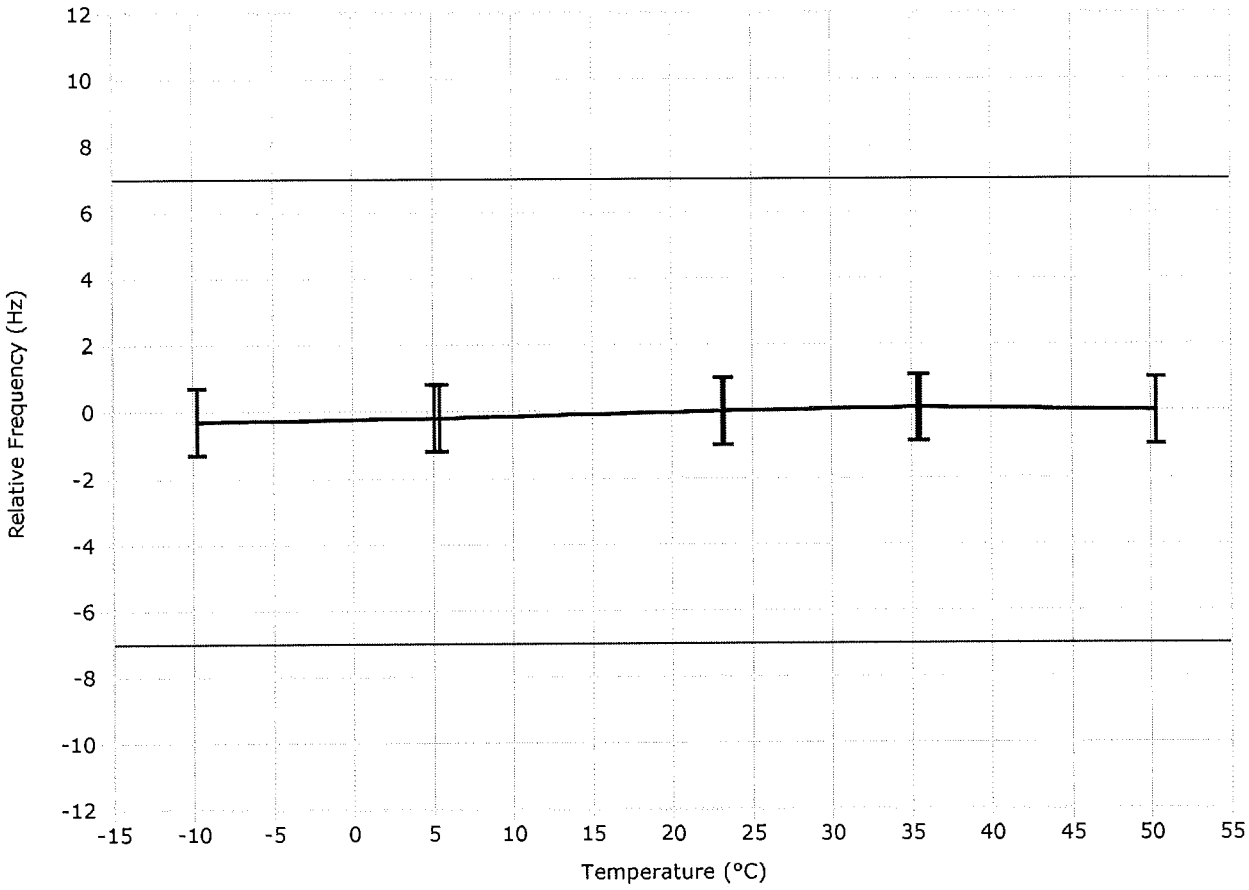
Test Location: Larson Davis, a division of PCB Piezotronics, Inc.
1681 West 820 North, Provo, Utah 84601
Tel: 716 684-0001 www.LarsonDavis.com

Model CAL200 Relative Frequency vs. Temperature

Larson Davis Model CAL200 Serial Number: 17283

Model CAL200 Relative Frequency vs. Temperature at 50% RH.
A 2559 Mic (SN: 2997) with a PRM901 Preamp (SN: 0201), station 21 was used to check the levels.

Test Date: 17 Sep 2019 5:26:04 PM



1.0 Hz expanded uncertainty at ~95% confidence level (k=2)

Sequence File: CAL200.SEQ

Test Location: Larson Davis, a division of PCB Piezotronics, Inc.
1681 West 820 North, Provo, Utah 84601
Tel: 716 684-0001 www.LarsonDavis.com

Appendix D – Predicted Noise Levels

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 1
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	8	1	60.7	61.4	66	0.7	15	----	61.4	0.0	7	-7.0
R2	9	1	61.9	62.5	66	0.6	15	----	62.5	0.0	7	-7.0
R3	10	1	63.4	63.9	66	0.5	15	----	63.9	0.0	7	-7.0
R4	11	1	65.1	66.0	66	0.9	15	Snd Lvl	66.0	0.0	7	-7.0
R5	12	1	68.3	69.4	66	1.1	15	Snd Lvl	69.4	0.0	7	-7.0
R6	13	1	74.7	75.1	66	0.4	15	Snd Lvl	75.1	0.0	7	-7.0
R7	14	1	75.0	75.6	66	0.6	15	Snd Lvl	75.6	0.0	7	-7.0
R8	15	1	65.6	66.9	66	1.3	15	Snd Lvl	66.9	0.0	7	-7.0
R9	16	1	63.5	64.8	66	1.3	15	----	64.8	0.0	7	-7.0
R10	17	1	61.7	63.2	66	1.5	15	----	63.2	0.0	7	-7.0
R11	18	1	60.5	62.0	66	1.5	15	----	62.0	0.0	7	-7.0
R12	19	1	64.8	66.0	66	1.2	15	Snd Lvl	66.0	0.0	7	-7.0
R205	20	1	64.5	65.3	66	0.8	15	----	65.3	0.0	7	-7.0
R206	21	1	64.4	65.3	66	0.9	15	----	65.3	0.0	7	-7.0
R207	22	1	65.6	66.5	66	0.9	15	Snd Lvl	66.5	0.0	7	-7.0
R208	23	1	62.2	63.3	66	1.1	15	----	63.3	0.0	7	-7.0
R209	24	1	65.3	66.4	66	1.1	15	Snd Lvl	66.4	0.0	7	-7.0
R210	25	1	67.1	67.9	66	0.8	15	Snd Lvl	67.9	0.0	7	-7.0
R211	26	1	72.7	73.4	66	0.7	15	Snd Lvl	73.4	0.0	7	-7.0
R212	27	1	68.7	69.8	66	1.1	15	Snd Lvl	69.8	0.0	7	-7.0
R213	28	1	63.6	64.1	66	0.5	15	----	64.1	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max

*2021 predicted noise level
**2045 predicted noise level

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		11	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 2
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R13	8	1	62.9	63.7	66	0.8	15	----	63.7	0.0	7	-7.0
R14	9	1	63.3	64.2	66	0.9	15	----	64.2	0.0	7	-7.0
R15	10	1	71.3	72.3	66	1.0	15	Snd Lvl	72.3	0.0	7	-7.0
R16	11	1	72.0	73.0	66	1.0	15	Snd Lvl	73.0	0.0	7	-7.0
R17	12	1	63.5	64.7	66	1.2	15	----	64.7	0.0	7	-7.0
R18	13	1	69.2	70.4	66	1.2	15	Snd Lvl	70.4	0.0	7	-7.0
R19-20	14	2	66.5	68.0	66	1.5	15	Snd Lvl	68.0	0.0	7	-7.0
R21-22	16	2	63.8	65.1	66	1.3	15	----	65.1	0.0	7	-7.0
R23-24	18	2	61.9	63.1	66	1.2	15	----	63.1	0.0	7	-7.0
R25-26	21	2	62.6	63.9	66	1.3	15	----	63.9	0.0	7	-7.0
R27-28	23	2	63.2	64.5	66	1.3	15	----	64.5	0.0	7	-7.0
R29-30	25	2	64.0	65.5	66	1.5	15	----	65.5	0.0	7	-7.0
R31-32	27	2	65.2	66.6	66	1.4	15	Snd Lvl	66.6	0.0	7	-7.0
R33	29	1	66.4	67.8	66	1.4	15	Snd Lvl	67.8	0.0	7	-7.0
R34-35	30	2	72.5	73.4	66	0.9	15	Snd Lvl	73.4	0.0	7	-7.0
R36-37	32	2	73.0	73.8	66	0.8	15	Snd Lvl	73.8	0.0	7	-7.0
R38-39	34	2	71.2	72.1	66	0.9	15	Snd Lvl	72.1	0.0	7	-7.0
R40-41	36	2	66.4	67.7	66	1.3	15	Snd Lvl	67.7	0.0	7	-7.0
R42-43	38	2	63.4	64.4	66	1.0	15	----	64.4	0.0	7	-7.0
R44-45	40	2	61.3	62.4	66	1.1	15	----	62.4	0.0	7	-7.0
R46-47	43	2	60.7	61.7	66	1.0	15	----	61.7	0.0	7	-7.0
R48-49	44	2	61.7	62.5	66	0.8	15	----	62.5	0.0	7	-7.0
R50	45	1	65.9	66.9	66	1.0	15	Snd Lvl	66.9	0.0	7	-7.0
R51	46	1	70.7	71.9	66	1.2	15	Snd Lvl	71.9	0.0	7	-7.0

*2021 predicted noise level
**2045 predicted noise level

R52	47	1	73.1	73.6	66	0.5	15	Snd Lvl	73.6	0.0	7	-7.0
R53	48	1	65.9	66.8	66	0.9	15	Snd Lvl	66.8	0.0	7	-7.0
R54	49	1	65.0	65.9	66	0.9	15	----	65.9	0.0	7	-7.0
R55	50	1	64.0	64.9	66	0.9	15	----	64.9	0.0	7	-7.0
R56-57	51	2	61.2	62.4	66	1.2	15	----	62.4	0.0	7	-7.0
R58	52	1	60.4	61.0	66	0.6	15	----	61.0	0.0	7	-7.0
R59	53	1	59.4	60.2	66	0.8	15	----	60.2	0.0	7	-7.0
R60-63	54	4	61.2	61.9	66	0.7	15	----	61.9	0.0	7	-7.0
R64	55	1	62.0	62.8	66	0.8	15	----	62.8	0.0	7	-7.0
R65-68	56	4	59.4	60.2	66	0.8	15	----	60.2	0.0	7	-7.0
R69	57	1	59.9	60.8	66	0.9	15	----	60.8	0.0	7	-7.0
R70	58	1	61.2	62.1	66	0.9	15	----	62.1	0.0	7	-7.0
R71	59	1	60.9	61.6	66	0.7	15	----	61.6	0.0	7	-7.0
R72	60	1	68.3	69.1	66	0.8	15	Snd Lvl	69.1	0.0	7	-7.0
R73	61	1	65.1	66.0	66	0.9	15	Snd Lvl	66.0	0.0	7	-7.0
R74-75	62	2	68.9	69.8	66	0.9	15	Snd Lvl	69.8	0.0	7	-7.0
R76	63	1	71.7	71.8	66	0.1	15	Snd Lvl	71.8	0.0	7	-7.0
R77	64	1	67.8	68.2	66	0.4	15	Snd Lvl	68.2	0.0	7	-7.0
R78	65	1	70.1	70.6	66	0.5	15	Snd Lvl	70.6	0.0	7	-7.0
R79	66	1	66.2	66.6	66	0.4	15	Snd Lvl	66.6	0.0	7	-7.0
R80	67	1	73.9	74.4	66	0.5	15	Snd Lvl	74.4	0.0	7	-7.0
R81	68	1	75.3	75.8	66	0.5	15	Snd Lvl	75.8	0.0	7	-7.0
R82	69	1	70.3	71.3	66	1.0	15	Snd Lvl	71.3	0.0	7	-7.0
R83	70	1	62.9	64.0	66	1.1	15	----	64.0	0.0	7	-7.0
R84	71	1	67.0	68.3	66	1.3	15	Snd Lvl	68.3	0.0	7	-7.0
R85	72	1	70.5	71.6	66	1.1	15	Snd Lvl	71.6	0.0	7	-7.0
R187	75	1	61.8	63.1	66	1.3	15	----	63.1	0.0	7	-7.0
R188	76	1	63.1	64.3	66	1.2	15	----	64.3	0.0	7	-7.0
R189	78	1	61.1	62.1	66	1.0	15	----	62.1	0.0	7	-7.0
R190	79	1	61.4	62.4	66	1.0	15	----	62.4	0.0	7	-7.0
R191	80	1	70.8	71.8	66	1.0	15	Snd Lvl	71.8	0.0	7	-7.0
R192	81	1	63.0	64.2	66	1.2	15	----	64.2	0.0	7	-7.0
R193	82	1	61.8	62.9	66	1.1	15	----	62.9	0.0	7	-7.0
R194	83	1	66.1	67.3	66	1.2	15	Snd Lvl	67.3	0.0	7	-7.0
R195-196	84	2	66.6	67.5	66	0.9	15	Snd Lvl	67.5	0.0	7	-7.0
R197	85	1	68.3	68.9	66	0.6	15	Snd Lvl	68.9	0.0	7	-7.0
R198	86	1	70.8	71.4	66	0.6	15	Snd Lvl	71.4	0.0	7	-7.0
R199	87	1	69.9	71.0	66	1.1	15	Snd Lvl	71.0	0.0	7	-7.0
R200	88	1	62.3	63.2	66	0.9	15	----	63.2	0.0	7	-7.0
R201	89	1	70.2	71.4	66	1.2	15	Snd Lvl	71.4	0.0	7	-7.0
R202	90	1	72.2	72.8	66	0.6	15	Snd Lvl	72.8	0.0	7	-7.0

R203	91	1	70.4	71.4	66	1.0	15	Snd Lvl	71.4	0.0	7	-7.0
R204	92	1	62.5	63.3	66	0.8	15	----	63.3	0.0	7	-7.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	91	0.0	0.0	0.0
All Impacted	43	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 3
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R86	8	1	64.2	65.2	66	1.0	15	----	65.2	0.0	7	-7.0
R87	9	1	70.2	70.5	66	0.3	15	Snd Lvl	70.5	0.0	7	-7.0
R88	10	1	70.4	71.2	66	0.8	15	Snd Lvl	71.2	0.0	7	-7.0
R184	11	1	70.4	71.3	66	0.9	15	Snd Lvl	71.3	0.0	7	-7.0
R185	12	1	71.1	72.0	66	0.9	15	Snd Lvl	72.0	0.0	7	-7.0
R186	14	1	60.8	61.4	66	0.6	15	----	61.4	0.0	7	-7.0
R214	16	1	64.7	65.7	66	1.0	15	----	65.7	0.0	7	-7.0
R215	19	1	70.1	71.5	66	1.4	15	Snd Lvl	71.5	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	5	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

*2021 predicted noise level
**2045 predicted noise level

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 4
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R89	9	1	65.2	66.0	66	0.8	15	Snd Lvl	66.0	0.0	7	-7.0
R177	10	1	72.1	73.1	66	1.0	15	Snd Lvl	73.1	0.0	7	-7.0
R178	11	1	63.7	64.5	66	0.8	15	----	64.5	0.0	7	-7.0
R179	12	1	68.8	69.5	66	0.7	15	Snd Lvl	69.5	0.0	7	-7.0
R180	13	1	66.3	67.7	66	1.4	15	Snd Lvl	67.7	0.0	7	-7.0
R181	14	1	65.7	66.9	66	1.2	15	Snd Lvl	66.9	0.0	7	-7.0
R182	15	1	64.5	65.7	66	1.2	15	----	65.7	0.0	7	-7.0
R183	16	1	64.3	65.1	66	0.8	15	----	65.1	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	5	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

*2021 predicted noise level
**2045 predicted noise level

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 5
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R90	9	1	64.1	64.7	66	0.6	15	----	64.7	0.0	7	-7.0
R91	10	1	61.7	62.7	66	1.0	15	----	62.7	0.0	7	-7.0
R92	11	1	62.3	63.0	66	0.7	15	----	63.0	0.0	7	-7.0
R93	12	1	61.9	62.7	66	0.8	15	----	62.7	0.0	7	-7.0
R94-95	13	2	62.1	63.6	66	1.5	15	----	63.6	0.0	7	-7.0
R96-97	14	2	65.6	66.8	66	1.2	15	Snd Lvl	66.8	0.0	7	-7.0
R98	15	1	74.4	75.1	66	0.7	15	Snd Lvl	75.1	0.0	7	-7.0
R99	16	1	70.7	71.9	66	1.2	15	Snd Lvl	71.9	0.0	7	-7.0
R100-101	17	2	62.5	64.0	66	1.5	15	----	64.0	0.0	7	-7.0
R170	18	1	65.9	67.1	66	1.2	15	Snd Lvl	67.1	0.0	7	-7.0
R171	19	1	69.6	70.7	66	1.1	15	Snd Lvl	70.7	0.0	7	-7.0
R172-173	20	2	66.8	68.0	66	1.2	15	Snd Lvl	68.0	0.0	7	-7.0
R174	21	1	63.7	64.4	66	0.7	15	----	64.4	0.0	7	-7.0
R175	22	1	61.1	62.0	66	0.9	15	----	62.0	0.0	7	-7.0
R176	23	1	61.2	62.4	66	1.2	15	----	62.4	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0
All Impacted	8	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

*2021 predicted noise level
**2045 predicted noise level

American Structurepoint, Inc. 25 March 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 6
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R102	9	1	70.7	71.6	66	0.9	15	Snd Lvl	71.6	0.0	7	-7.0
R103	10	1	73.6	74.5	66	0.9	15	Snd Lvl	74.5	0.0	7	-7.0
R104	11	1	69.0	69.9	66	0.9	15	Snd Lvl	69.9	0.0	7	-7.0
R105	12	1	66.3	67.1	66	0.8	15	Snd Lvl	67.1	0.0	7	-7.0
R106	13	1	64.6	65.4	66	0.8	15	----	65.4	0.0	7	-7.0
R107-108	14	2	62.8	63.5	66	0.7	15	----	63.5	0.0	7	-7.0
R109-R110	15	2	63.0	63.5	66	0.5	15	----	63.5	0.0	7	-7.0
R111-112	16	2	63.0	63.8	66	0.8	15	----	63.8	0.0	7	-7.0
R113	18	1	71.9	73.0	66	1.1	15	Snd Lvl	73.0	0.0	7	-7.0
R114	19	1	65.0	66.2	66	1.2	15	Snd Lvl	66.2	0.0	7	-7.0
R115	20	1	66.5	67.8	66	1.3	15	Snd Lvl	67.8	0.0	7	-7.0
R116	21	1	63.8	65.0	66	1.2	15	----	65.0	0.0	7	-7.0
R162	23	1	72.3	73.1	66	0.8	15	Snd Lvl	73.1	0.0	7	-7.0
R163	24	1	63.8	65.1	66	1.3	15	----	65.1	0.0	7	-7.0
R164	25	1	63.0	64.2	66	1.2	15	----	64.2	0.0	7	-7.0
R165	26	1	64.4	65.0	66	0.6	15	----	65.0	0.0	7	-7.0
R166	27	1	66.8	67.6	66	0.8	15	Snd Lvl	67.6	0.0	7	-7.0
R167	28	1	70.2	71.5	66	1.3	15	Snd Lvl	71.5	0.0	7	-7.0
R168	29	1	70.7	71.8	66	1.1	15	Snd Lvl	71.8	0.0	7	-7.0
R169	30	1	62.1	63.2	66	1.1	15	----	63.2	0.0	7	-7.0
R216	32	1	71.8	72.6	66	0.8	15	Snd Lvl	72.6	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max

*2021 predicted noise level
**2045 predicted noise level

			dB	dB	dB							
All Selected		24	0.0	0.0	0.0							
All Impacted		12	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 7
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R117	9	1	66.1	67.2	66	1.1	15	Snd Lvl	67.2	0.0	7	-7.0
R118	10	1	62.7	63.9	66	1.2	15	----	63.9	0.0	7	-7.0
R119	11	1	68.4	69.2	66	0.8	15	Snd Lvl	69.2	0.0	7	-7.0
R120	12	1	65.4	66.4	66	1.0	15	Snd Lvl	66.4	0.0	7	-7.0
R121	13	1	70.2	71.0	66	0.8	15	Snd Lvl	71.0	0.0	7	-7.0
R159	14	1	65.1	66.4	66	1.3	15	Snd Lvl	66.4	0.0	7	-7.0
R160	15	1	69.3	71.0	66	1.7	15	Snd Lvl	71.0	0.0	7	-7.0
R161	16	1	66.4	67.6	66	1.2	15	Snd Lvl	67.6	0.0	7	-7.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

*2021 predicted noise level
**2045 predicted noise level

American Structurepoint, Inc. 20 January 2021
Monica Del Real TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: I-65 ATL Scott/Clark Counties
RUN: I-65 Build - Seg 8
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing* LAeq1h	No Barrier LAeq1h Calculated**	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R122	9	1	71.7	72.1	66	0.4	15	Snd Lvl	72.1	0.0	7	-7.0
R123	10	1	64.3	64.7	66	0.4	15	----	64.7	0.0	7	-7.0
R124-125	11	2	61.0	61.5	66	0.5	15	----	61.5	0.0	7	-7.0
R126	13	1	68.7	69.2	66	0.5	15	Snd Lvl	69.2	0.0	7	-7.0
R127	14	1	64.8	65.2	66	0.4	15	----	65.2	0.0	7	-7.0
R128	15	1	61.7	62.2	66	0.5	15	----	62.2	0.0	7	-7.0
R131-132	16	2	63.7	66.1	66	2.4	15	Snd Lvl	66.1	0.0	7	-7.0
R130-133	17	4	61.3	61.9	66	0.6	15	----	61.9	0.0	7	-7.0
R129-134	18	5	59.0	59.5	66	0.5	15	----	59.5	0.0	7	-7.0
R135	19	1	58.5	59.0	66	0.5	15	----	59.0	0.0	7	-7.0
R136	20	1	59.4	59.9	66	0.5	15	----	59.9	0.0	7	-7.0
R137	21	1	62.2	62.7	66	0.5	15	----	62.7	0.0	7	-7.0
R138	22	1	66.0	66.5	66	0.5	15	Snd Lvl	66.5	0.0	7	-7.0
R139	23	1	71.4	71.9	66	0.5	15	Snd Lvl	71.9	0.0	7	-7.0
R140	24	1	68.9	69.4	66	0.5	15	Snd Lvl	69.4	0.0	7	-7.0
R141	25	1	63.5	64.0	66	0.5	15	----	64.0	0.0	7	-7.0
R142-143	26	2	63.1	63.6	66	0.5	15	----	63.6	0.0	7	-7.0
R144	27	1	62.5	62.9	66	0.4	15	----	62.9	0.0	7	-7.0
R145	28	1	67.2	67.7	77	0.5	15	----	67.7	0.0	7	-7.0
R146	29	1	69.5	70.0	66	0.5	15	Snd Lvl	70.0	0.0	7	-7.0
R147	30	1	66.3	66.8	77	0.5	15	----	66.8	0.0	7	-7.0
R148	31	1	70.9	71.4	66	0.5	15	Snd Lvl	71.4	0.0	7	-7.0
R149	32	1	72.3	72.8	66	0.5	15	Snd Lvl	72.8	0.0	7	-7.0
R150	33	1	68.6	69.1	66	0.5	15	Snd Lvl	69.1	0.0	7	-7.0

*2021 predicted noise level
**2045 predicted noise level

R151	34	1	63.7	64.2	66	0.5	15	----	64.2	0.0	7	-7.0
R152	35	1	67.9	68.4	66	0.5	15	Snd Lvl	68.4	0.0	7	-7.0
R153	36	1	69.8	70.3	66	0.5	15	Snd Lvl	70.3	0.0	7	-7.0
R154	37	1	69.7	70.2	66	0.5	15	Snd Lvl	70.2	0.0	7	-7.0
R155	38	1	69.1	69.6	66	0.5	15	Snd Lvl	69.6	0.0	7	-7.0
R156	39	1	68.4	68.8	66	0.4	15	Snd Lvl	68.8	0.0	7	-7.0
R157	40	1	66.6	67.1	66	0.5	15	Snd Lvl	67.1	0.0	7	-7.0
R158	41	1	68.0	68.5	66	0.5	15	Snd Lvl	68.5	0.0	7	-7.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	42	0.0	0.0	0.0
All Impacted	18	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Appendix E – Noise Barrier Analysis and Optimization

Noise Barrier Optimization - Noise Barrier 1 (NB1)			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	5	5	5
Impacted Receptors Receiving 5 dBA Decrease	5	5	3
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	60%
Total Number of 1st Row Receptors	2	2	2
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	5	6	3
Total Barrier Cost	$ 395,860.00	$ 481,337.00	$ 310,420.00
Cost per Benefitted Receptor	$ 79,172.00	$ 80,222.83	$ 103,473.33

Noise Barrier Optimization - NB2	
	Analysis 1.0
Total Number of Impacted Receptors	1
Impacted Receptors Receiving 5 dBA Decrease	0
% Impacted Receptors Receiving 5dBA Decrease	0%
Total Number of 1st Row Receptors	1
First Row Receptors Receiving 7dBA Decrease	0
% First Row Receptors Meeting 7dBA Decrease	0%
Total Number of Benefited Receptors	0
Total Barrier Cost	N/A
Cost per Benefitted Receptor	N/A

Noise Barrier Optimization - NB3			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	16	16	16
Impacted Receptors Receiving 5 dBA Decrease	15	16	14
% Impacted Receptors Receiving 5dBA Decrease	94%	100%	88%
Total Number of 1st Row Receptors	9	9	9
First Row Receptors Receiving 7dBA Decrease	7	7	6
% First Row Receptors Meeting 7dBA Decrease	78%	78%	67%
Total Number of Benefited Receptors	25	26	22
Total Barrier Cost	$ 614,786.00	$ 767,667.00	$ 560,586.00
Cost per Benefitted Receptor	$ 24,591.44	$ 29,525.65	$ 25,481.18

Due to cost reasonable criteria of $25,000 per benefited receptor, benefit was not determined feasible and reasonable for R15

Noise Barrier Optimization - NB4			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	4	4	4
Impacted Receptors Receiving 5 dBA Decrease	4	4	4
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	2	2	2
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	4	5	5
Total Barrier Cost	$ 447,141.00	$ 448,125.00	$ 449,986.00
Cost per Benefitted Receptor	$ 111,785.25	$ 89,625.00	$ 89,997.20

Noise Barrier Optimization - NB5			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	13	13	13
Impacted Receptors Receiving 5 dBA Decrease	13	11	11
% Impacted Receptors Receiving 5dBA Decrease	100%	85%	85%
Total Number of 1st Row Receptors	8	8	8
First Row Receptors Receiving 7dBA Decrease	7	5	5
% First Row Receptors Meeting 7dBA Decrease	88%	63%	63%
Total Number of Benefited Receptors	14	12	12
Total Barrier Cost	$ 1,083,809.00	$ 804,511.00	$ 877,666.00
Cost per Benefitted Receptor	$ 77,414.93	$ 67,042.58	$ 73,138.83

Noise Barrier Optimization - NB6		
	Analysis 1.0	Analysis 2.0
Total Number of Impacted Receptors	1	1
Impacted Receptors Receiving 5 dBA Decrease	1	1
% Impacted Receptors Receiving 5dBA Decrease	100%	100%
Total Number of 1st Row Receptors	1	1
First Row Receptors Receiving 7dBA Decrease	1	1
% First Row Receptors Meeting 7dBA Decrease	100%	100%
Total Number of Benefited Receptors	1	1
Total Barrier Cost	$ 441,471.00	$ 347,470.00
Cost per Benefitted Receptor	$ 441,471.00	$ 347,470.00

Noise Barrier Optimization - NB7			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	4	4	4
Impacted Receptors Receiving 5 dBA Decrease	4	4	4
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	2	2	2
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	4	4	4
Total Barrier Cost	$ 507,405.00	$ 465,396.00	$ 456,390.00
Cost per Benefitted Receptor	$ 126,851.25	$ 116,349.00	$ 114,097.50

Noise Barrier Optimization - NB8			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	7	7	7
Impacted Receptors Receiving 5 dBA Decrease	7	7	5
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	71%
Total Number of 1st Row Receptors	4	4	4
First Row Receptors Receiving 7dBA Decrease	3	2	2
% First Row Receptors Meeting 7dBA Decrease	75%	50%	50%
Total Number of Benefited Receptors	14	14	12
Total Barrier Cost	$ 1,007,964.00	$ 782,975.00	$ 575,982.00
Cost per Benefitted Receptor	$ 71,997.43	$ 55,926.79	$ 47,998.50

Noise Barrier Optimization - NB9			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	4	4	4
Impacted Receptors Receiving 5 dBA Decrease	3	3	4
% Impacted Receptors Receiving 5dBA Decrease	75%	75%	100%
Total Number of 1st Row Receptors	3	3	3
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	67%	67%	67%
Total Number of Benefited Receptors	3	3	4
Total Barrier Cost	$ 552,543.00	$ 422,991.00	$ 602,416.00
Cost per Benefitted Receptor	$ 184,181.00	$ 140,997.00	$ 150,604.00

Noise Barrier Optimization - NB10			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	4	4	4
Impacted Receptors Receiving 5 dBA Decrease	4	4	4
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	5	5	5
First Row Receptors Receiving 7dBA Decrease	3	3	3
% First Row Receptors Meeting 7dBA Decrease	60%	60%	60%
Total Number of Benefited Receptors	11	11	15
Total Barrier Cost	$ 986,221.00	$ 951,242.00	$ 1,082,194.00
Cost per Benefitted Receptor	$ 89,656.45	$ 86,476.55	$ 72,146.27

Noise Barrier Optimization - NB11			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	3	3	3
Impacted Receptors Receiving 5 dBA Decrease	2	3	2
% Impacted Receptors Receiving 5dBA Decrease	67%	100%	67%
Total Number of 1st Row Receptors	3	3	3
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	67%	67%	67%
Total Number of Benefited Receptors	2	4	3
Total Barrier Cost	$ 632,734.00	$ 730,882.00	$ 690,694.00
Cost per Benefitted Receptor	$ 316,367.00	$ 182,720.50	$ 230,231.33

Noise Barrier Optimization - NB12			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	5	5	5
Impacted Receptors Receiving 5 dBA Decrease	5	5	4
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	80%
Total Number of 1st Row Receptors	5	5	5
First Row Receptors Receiving 7dBA Decrease	4	3	2
% First Row Receptors Meeting 7dBA Decrease	80%	60%	40%
Total Number of Benefited Receptors	4	4	3
Total Barrier Cost	$ 640,078.00	$ 513,986.00	$ 342,062.00
Cost per Benefitted Receptor	$ 160,019.50	$ 128,496.50	$ 114,020.67

Noise Barrier Optimization - NB13			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	3	3	3
Impacted Receptors Receiving 5 dBA Decrease	2	2	2
% Impacted Receptors Receiving 5dBA Decrease	67%	67%	67%
Total Number of 1st Row Receptors	1	1	1
First Row Receptors Receiving 7dBA Decrease	1	1	1
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	2	2	2
Total Barrier Cost	$ 574,168.00	$ 454,489.00	$ 467,984.00
Cost per Benefitted Receptor	$ 287,084.00	$ 227,244.50	$ 233,992.00

Noise Barrier Optimization - NB14			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	4	4	4
Impacted Receptors Receiving 5 dBA Decrease	4	3	3
% Impacted Receptors Receiving 5dBA Decrease	100%	75%	75%
Total Number of 1st Row Receptors	4	4	4
First Row Receptors Receiving 7dBA Decrease	3	3	3
% First Row Receptors Meeting 7dBA Decrease	75%	75%	75%
Total Number of Benefited Receptors	7	6	6
Total Barrier Cost	$ 1,382,975.00	$ 1,211,940.00	$ 1,181,940.00
Cost per Benefitted Receptor	$ 197,567.86	$ 201,990.00	$ 196,990.00

Noise Barrier Optimization - NB15			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	2	2	2
Impacted Receptors Receiving 5 dBA Decrease	2	2	2
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	1	1	1
First Row Receptors Receiving 7dBA Decrease	1	1	1
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	2	2	2
Total Barrier Cost	$ 518,266.00	$ 475,097.00	$ 484,834.00
Cost per Benefitted Receptor	$ 259,133.00	$ 237,548.50	$ 242,417.00

Noise Barrier Optimization - NB16			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	2	2	2
Impacted Receptors Receiving 5 dBA Decrease	2	2	2
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	2	2	2
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	2	2	2
Total Barrier Cost	$ 554,760.00	$ 470,580.00	$ 462,366.00
Cost per Benefitted Receptor	$ 277,380.00	$ 235,290.00	$ 231,183.00

Noise Barrier Optimization - NB17			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	3	3	3
Impacted Receptors Receiving 5 dBA Decrease	3	3	3
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	3	3	3
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	67%	67%	67%
Total Number of Benefited Receptors	3	3	3
Total Barrier Cost	$ 884,598.00	$ 793,976.00	$ 827,411.00
Cost per Benefitted Receptor	$ 294,866.00	$ 264,658.67	$ 275,803.67

Noise Barrier Optimization - NB18			
	Analysis 1.0	**Analysis 2.0**	**Analysis 3.0**
Total Number of Impacted Receptors	1	1	1
Impacted Receptors Receiving 5 dBA Decrease	1	1	1
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	1	1	1
First Row Receptors Receiving 7dBA Decrease	1	1	1
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors*	8	8	8
Total Barrier Cost	$ 380,627.00	$ 344,252.00	$ 316,874.00
Cost per Benefitted Receptor	$ 47,578.38	$ 43,031.50	$ 39,609.25

*ERUs equivalent utilized

Noise Barrier Optimization - NB19			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	1	1	1
Impacted Receptors Receiving 5 dBA Decrease	1	1	1
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	1	1	1
First Row Receptors Receiving 7dBA Decrease	1	1	1
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors*	4	4	4
Total Barrier Cost	$ 462,995.00	$ 377,401.00	$ 372,901.00
Cost per Benefitted Receptor	$ 115,748.75	$ 94,350.25	$ 93,225.25

*ERUs equivalent utilized

Noise Barrier Optimization - NB20			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	7	7	7
Impacted Receptors Receiving 5 dBA Decrease	6	6	6
% Impacted Receptors Receiving 5dBA Decrease	86%	86%	86%
Total Number of 1st Row Receptors	3	3	3
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	67%	67%	67%
Total Number of Benefited Receptors	8	7	8
Total Barrier Cost	$ 792,027.00	$ 1,032,043.00	$ 1,023,044.00
Cost per Benefitted Receptor	$ 99,003.38	$ 147,434.71	$ 127,880.50

Noise Barrier Optimization - NB21		
	Analysis 1.0	**Analysis 2.0**
Total Number of Impacted Receptors	3	3
Impacted Receptors Receiving 5 dBA Decrease	3	3
% Impacted Receptors Receiving 5dBA Decrease	100%	100%
Total Number of 1st Row Receptors	3	3
First Row Receptors Receiving 7dBA Decrease	2	2
% First Row Receptors Meeting 7dBA Decrease	67%	67%
Total Number of Benefited Receptors	4	4
Total Barrier Cost	$ 959,147.00	$ 900,534.00
Cost per Benefitted Receptor	$ 239,786.75	$ 225,133.50

Noise Barrier Optimization - NB22			
	Analysis 1.0	Analysis 2.0	Analysis 3.0
Total Number of Impacted Receptors	5	5	5
Impacted Receptors Receiving 5 dBA Decrease	5	5	5
% Impacted Receptors Receiving 5dBA Decrease	100%	100%	100%
Total Number of 1st Row Receptors	2	2	2
First Row Receptors Receiving 7dBA Decrease	2	2	2
% First Row Receptors Meeting 7dBA Decrease	100%	100%	100%
Total Number of Benefited Receptors	5	5	6
Total Barrier Cost	$ 866,068.00	$ 753,624.00	$ 791,872.00
Cost per Benefitted Receptor	$ 173,213.60	$ 150,724.80	$ 131,978.67