

# Appendix F: Farmland, Soils, and Floodplain Analysis Technical Memorandum

## **State Route (SR) 170**

From SR-62 Interchange to SR-9 (US-25W), Anderson County,  
Tennessee

Tennessee Department of Transportation

**TDOT PIN 124121.00**

August 2025

TDOT Environmental Division  
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# 1. Introduction

The Tennessee Department of Transportation (TDOT) in cooperation with the Federal Highway Administration (FHWA) has initiated an Environmental Assessment (EA) for the proposed State Route (SR)-170 widening and realignment project in Anderson County, Tennessee (see Figure 1). The proposed improvements would widen the existing two to three-lane typical section into a four to five-lane section with two lanes in each direction with additional improvements that include sidewalks, a shared use path, and turn lanes at strategic intersections.

## 1.1 Alternatives Under Consideration

A No-Build Alternative and one Build Alternative are being evaluated in the EA. Each alternative is described in the subsequent text below.

### 1.1.1 No-Build Alternative

The No-Build Alternative would retain the existing SR-170 and roadway configuration throughout the project area except for those modifications to the roadway network that have been programmed and approved for implementation, as identified in TDOT's 25-Year Long Range Transportation Policy Plan,<sup>1</sup> State Transportation Improvement Program (STIP),<sup>2</sup> and the TDOT 10-Year Project Plan and would allow for routine maintenance and safety upgrades.<sup>3</sup>

### 1.1.2 Build Alternative

The Build Alternative would include widening the existing two to three-lane typical section to a four-lane typical section (two 12-foot travel lanes in each direction) with a variable median and eight-foot shoulders west of Walnut Valley Road, and a five-lane section (two 12-foot travel lanes in each direction and a center 12-foot two-way left turn lane [TWLTL]) with eight-foot shoulders east of Walnut Valley Road. The project would also include curb and gutter, a five-foot sidewalk to the north, a 10-foot shared-use path to the south, and guardrails as needed. Proposed improvements would also include adding turn lanes at strategic intersections, realigning and reconfiguring several intersections along the corridor, and replacing the existing two-lane bridge over the Clinch River with a four-lane bridge with a painted median.

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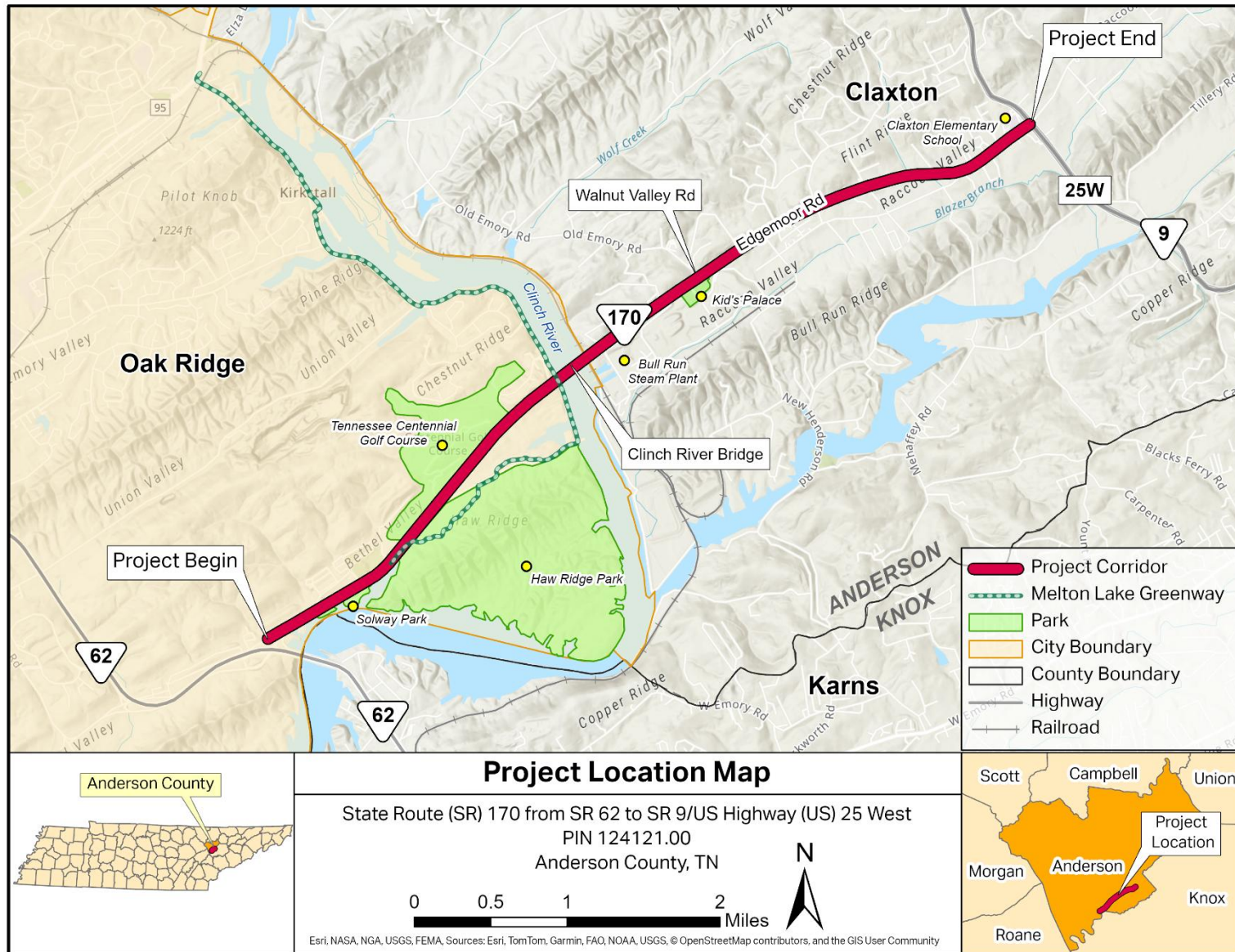
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<sup>1</sup> TDOT's 25-Year Long Range Transportation Policy Plan, <https://www.tn.gov/tdot/long-range-planning-home/25-year-transportation-policy-plan.html> (accessed 6/6/2015)

<sup>2</sup> State Transportation Improvement Program (STIP), [https://www.tn.gov/content/dam/tn/tdot/programdevelopment/2023-2026-stip-draft/Tennessee%20STIP%202023-2026%20Final\\_R.pdf](https://www.tn.gov/content/dam/tn/tdot/programdevelopment/2023-2026-stip-draft/Tennessee%20STIP%202023-2026%20Final_R.pdf) (accessed 6/6/2025)

<sup>3</sup> TDOT's 10-Year Project Plan, <https://www.tn.gov/content/dam/tn/tdot/professional-services-/plans-and-programs/Final%2010yp%20FY-26%202025.pdf> (accessed 6/18/2025)

**Figure 1: Project Location Map**



## 2. Focus of this Technical Memorandum

This technical memorandum identifies farmland, soils and geology, and floodplains in the vicinity of the proposed SR-170 project and provides an estimated impact determination for both the No-Build and Build Alternatives.

Because the improvements associated with the Build Alternative will be along the existing SR-170 alignment, and impacts to soils associated with farming will only affect soils within the proposed right-of-way (ROW) for the project, the farmland study area for this technical memo will be defined by the proposed ROW and easements as shown on the Line and Grade Plans (dated March 4, 2025 [124121.01] and February 9, 2025 [124121.02]).<sup>4</sup> However some data related to farming (including Census data) and floodplains are only available at larger scales, and are also included in the discussion.

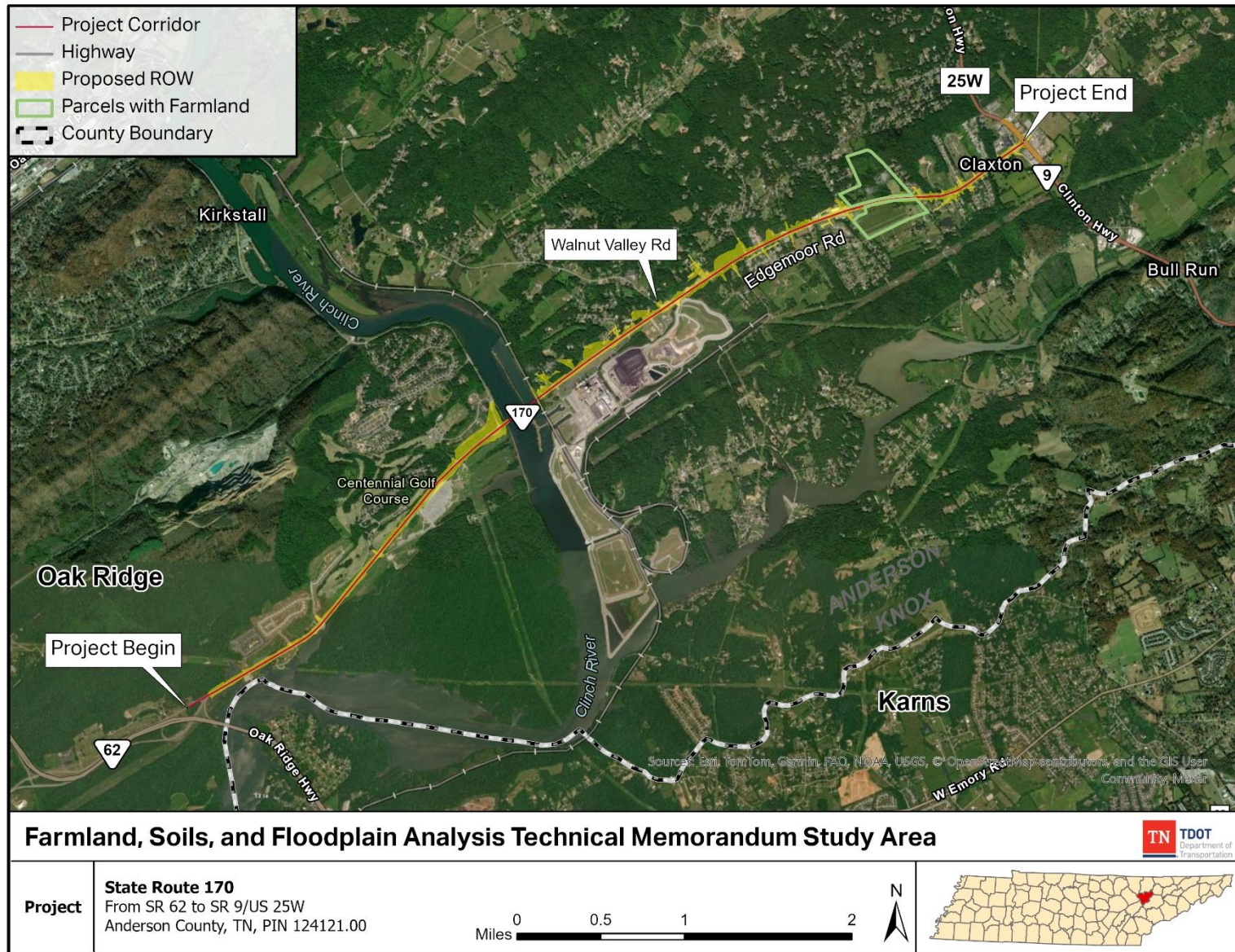
Figure 2 shows the farmland study area boundary.

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<sup>4</sup> Source: Line and Grade Plans (dated March 4, 2025 (124121.01) and February 9, 2025 (124121.02)), included in **Appendix G** of the EA.

**Figure 2: Farmland Study Area**



### 3. Farmland

The Farmland Protection Policy Act (FPPA), 7 USC § 4201-420950<sup>5</sup>, was enacted in 1994 to protect farmland and combat the effects of urban sprawl. Additionally, the FPPA was established to minimize the impact federal programs have on the irreversible conversion of farmland soils classified as either prime farmland, unique farmland or farmland of statewide or local importance (see Table 1) to non-agricultural use.

**Table 1: Farmland Soils Defined**

Farmland Type	NRCS Farmland Definition <sup>6</sup>
Prime Farmland	Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage.
Unique Farmland	Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods.
Statewide or Locally Important Farmland	Statewide or locally important farmland is land that is of state or local importance for the production of food, feed, fiber, forage, and oilseed crops. Generally, farmlands of statewide or local importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods.

#### 3.1 Existing Farmland Conditions

Based on aerial imagery (see Figure 2), there are two parcels within the project area that are actively conducting farming operations, both of which are located east of the Clinch River bridge between Dogwood Road and Old Edgemoor Lane. The total area of the farming operations is approximately 35 acres, all of which is located on the south side of SR-170.

A review of the data contained in the U.S. Census of Agriculture, which is conducted every five years, provides a picture of Anderson County’s farmland trends. The U.S. Census of Agriculture defines a farm as any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. The most recent U.S. Census of Agriculture data available is from 2022. Table 2 summarizes the numbers of farms in Anderson County by size, while Table 3 summarizes the acreage of farmland by type of agriculture.<sup>7</sup>

<sup>5</sup> 7 U.S. Code Chapter 73- FARMLAND Protection Policy, <https://www.law.cornell.edu/uscode/text/7/chapter-73> (accessed 6/18/2025)

<sup>6</sup> USDA Farmland Protection Policy Act. Available: [https://www.nrcs.usda.gov/sites/default/files/2022-06/FPPA\\_Law.pdf](https://www.nrcs.usda.gov/sites/default/files/2022-06/FPPA_Law.pdf)

<sup>7</sup> U.S. Census of Agriculture (2022), <https://www.nass.usda.gov/Publications/AqCensus/2022/> (accessed 6/18/2025)

**Table 2: Number of Farms by Size in Anderson County (2022)**

Size	Number	Percent of Total
1 to 9 acres	43	9%
10 to 49 acres	245	53%
50 to 179 acres	129	28%
180 to 499 acres	33	7%
500 to 999 acres	12	3%
1,000+ acres	-	-
<b>Total Farms</b>	<b>462</b>	-

**Table 3: Acreage of Farmland by Type of Agriculture in Anderson County (2022)**

Land Type	Acreage
Cropland	14,799
Pastureland	8,926
Woodland	9,795
Other	2,432

The employment presented in the Table 4 is based on annual employment data derived from five-year estimates provided by the U.S. Census Bureau American Community Survey (ACS) (Table S2405).<sup>8</sup> The ACS began releasing data in 2005, and the first five-year estimates were available in 2010. Farmland employment data is only available in a grouped category “agricultural, forestry, fishing and hunting, and mining” from the U.S. Census Bureau. Table 4 presents changes in agricultural, forestry, fishing and hunting, and mining employment in Anderson County, beginning with the initial ACS data release in 2010, and then for the same years that the Census of Agriculture was conducted between 2012 to 2022.

**Table 4: Agricultural, Forestry, Fishing and Hunting, and Mining Employment**

Employment	2010	2012	2017	2022
Total Employment - Anderson County	31,546	31,568	32,213	32,947
Total Agricultural, forestry, fishing and hunting, and Mining Employment	202	99	151	149
Percent Agricultural, forestry, fishing and hunting, and Mining Employment in Anderson County	0.6%	0.3%	0.5%	0.5%

Source: ACS 5-year Estimates: Table S2405

Data Limitations: ACS data not available prior to 2010

While there have been minor fluctuations in total employment within this grouped category (agricultural, forestry, fishing and hunting, and mining) from 2010 to 2022, the percentage of the total employment for the county has remained relatively stable. It is important to note that any apparent increases or decreases in the grouped farmland employment over time may be attributable to changes in any of the underlying sectors (agricultural, forestry, fishing and hunting, and mining), and not necessarily farming alone. Given the concurrent decline in farms in Anderson County (see Table 5), the stability of this employment category does not directly reflect trends in agricultural employment specifically.

<sup>8</sup> U.S. Census American Community Survey, (2008-2012) and (2018-2022), Table: S2405: Estimates for Industry by Occupation 5-Year Estimates Data, <https://data.census.gov/> (accessed 6/18/2025)

Table 5 summarizes the trends in the county’s farmland between 1992 and 2022<sup>9</sup>. Over the past 30 years, the number of farms in Anderson County had a net increase of about five percent, but the average size of farms in the county had shrunk by nearly 18 percent.

**Table 5: Farmland in Anderson County from 1992 to 2022**

Year	1992	1997	2002	2007	2012	2017	2022	(Pct Change 1992-2022)
Number of Farms	441	462	596	538	441	538	462	4.8%
Total Land in Farms in Anderson County (acres)	41,899	40,928	47,849	40,135	35,845	43,462	35,958	-14.2%
Average Size of Farm (acres)	95	89	80	75	81	81	78	-17.9%

Over the 30-year review period (1992-2022), the net number of farms and land in farms has increased slightly in Anderson County; however, the average farm size in Anderson County has decreased. The agricultural industry has not served as the predominant source of employment for the labor force in Anderson County over the 10-year review period (2012 through 2022) and consistently ranked in the bottom half of employment sectors for total numbers of persons employed. Although agricultural employment has grown over the 10-year period (2012-2022), it remains less than one percent of the overall employment in the county.

### 3.2 Century Farms

The Tennessee Century Farms Program was created in 1975 by the Tennessee Department of Agriculture with the focus of continuing to honor and recognize the dedication and contributions of families who have owned and farmed the same land for at least 100 years. There are eight Century Farms within Anderson County,<sup>10</sup> however, none of them are located within the proposed ROW or easements for this project.

### 3.3 Prime, Unique, and/or Statewide or Locally Important Farmlands

The Natural Resource Conservation Service (NRCS) identifies areas of prime, unique, and/or statewide or locally important farmland (see Table 1, above) based on soil data available through the Web Soil Survey.<sup>11</sup> Based on coordination with the NRCS (see below), there are approximately 4.9 acres of prime, unique, and/or statewide or locally important farmland within the project limits of the Line and Grade Plans for the Build Alternative.

<sup>9</sup> US Census of Agriculture (1992, 1997, 2002, 2007, 2012, 2017 and 2022), <https://www.nass.usda.gov/AgCensus/> (accessed 6/18/2025)

<sup>10</sup> Tennessee Century Farms, <https://www.tncenturyfarms.org/anderson-county/> (accessed 6/18/2025)

<sup>11</sup> United States Department of Agriculture Natural Resources Conservation Service, <https://www.nrcs.usda.gov/> (accessed 6/18/2025)

### **3.3.1 Farmland Policy Protection Act: NRCS Coordination**

Federal programs that may convert prime, unique, and/or statewide or locally important farmlands to non-agricultural uses are subject to the requirements of the FPPA noted in Section 3 above. In accordance with the FPPA, TDOT's standard practice is to coordinate with the NRCS to determine a farmland conversion impact rating score for the Build Alternative. As part of the development of the EA, TDOT distributed an Early Coordination Request to the NRCS on April 9, 2025. NRCS responded on April 11, 2025, requesting NRCS-CPA-106 form.

The assessment criteria on the NRCS-CPA-106 form evaluate various important factors beyond the agricultural value of land. The 12 criteria used for transportation and other projects consider not only the land currently being farmed, but also the suitability of soils for farming. Soils may be designated as farmland soils (including prime, unique, statewide important, or locally important categories as identified in the FPPA) or they may be non-farmland soils that don't meet the criteria presented in Table 1. Additionally, the criteria consider the land use around the project area, whether it is urban, non-urban, or in transition. Each factor is assigned a score based on its importance.

Corridors that receive a total assessment score of less than 160 points are given minimal consideration for protection. Conversely, corridors with a score of 160 points or more require the consideration of alternative project alignments that would achieve the proposed purpose while converting fewer acres of farmland or converting farmland with relatively lower value.

TDOT submitted the NRCS-CPA-106 form for the proposed project to the NRCS on May 21, 2025. The NRCS completed and sent back its section of the form on May 22, 2025, indicating that the Build Alternative would impact approximately 4.9 acres of prime and unique farmland, and would have no impacts to any statewide or locally important farmland. Based on this information, TDOT calculated a Farmland Conversion Impact Rating of 109 points for the proposed Build Alternative. The completed CPA-106 form was submitted to NRCS on June 10, 2025 (see Attachment F.1).

## **3.4 Impacts to Farmland**

### **3.4.1 No-Build Alternative**

The No-Build Alternative would not make changes to the existing roadway network. Therefore, no direct impacts to farmland would occur.

### **3.4.2 Build Alternative**

The Build Alternative would convert approximately 4.9 acres of prime and unique farmlands, and no statewide or locally important farmland to transportation use. This amount of impacts farmland amounts to approximately 0.03 percent of available farmland in Anderson County (see NRCS-CPA-106 form in Attachment F.1).

Converting this small portion of available farmland in Anderson County to transportation use reduces the overall amount of available farmland and could reduce the need for agricultural industry employees around the project area. However, the agricultural industry is not a predominant source of employment in Anderson County. Additionally, the amount of farmland to be converted to transportation use may be minimized as the proposed project moves through the project development process. Therefore, impacts on farm size and agricultural employment as a result of the Build Alternative are anticipated to be minimal.

### ***3.4.2.1 Impacts Under the Farmland Policy Protection Act***

Impacts to farmland were assessed according to the FPPA outlined in 7 CFR 658.<sup>12</sup> The NRCS, in an email dated July 7, 2025 concurred with the CPA-106 total assessment score for the Build Alternative (i.e. 109 points; 55 points for relative value of farmland and 54 points for total corridor assessment). Because the score is less than 160, no further coordination is required. A copy of the completed NRCS-CPA-106 form is Attachment F.1.

## **3.5 Minimization/Mitigation Measures to Address Impacts**

As the project advances through design development, the proposed ROW and easement needs for the Build Alternative may be further reduced, potentially minimizing impacts to prime, unique, or important farmland.

Currently, all FPPA requirements for the Build Alternative have been met, and no additional minimization or mitigation is necessary

# **4. Soil and Geology**

## **4.1 Soils**

Soils within the SR-170 ETSA are classified primarily as clay and loam, predominantly silt loam (Armchuee, Capshaw, Chenneby, Collegedale, Dewey, Hamblen, Minvale, and Townley series), (See NRCS: Web Soil Survey Map in Attachment F.2).

## **4.2 Topography and Geology**

The topography of the greater Oak Ridge area is characteristic of the Ridge and Valley Province, defined by a series of subparallel ridges and valleys that trend in a northeast-southwest direction. This landscape reflects the underlying geologic structure, which consists of southeast-dipping strata. Variations in lithology among the rock formations lead to differing rates of weathering and erosion, shaping the region's distinctive terrain.

The ridge-forming units in the Oak Ridge area include the Rome Formation, Knox Group, Rockwood Formation, and Fort Payne Chert. In contrast, most of the valleys are formed in areas where the bedrock consists of the more easily eroded Conasauga Group and Chickamauga Limestone.

Please note that TDOT is likely to prepare a geotechnical study for the proposed SR-170 project as the project moves through the project development process.

## **4.3 Impacts to Soil and Geology**

### ***4.3.1 No-Build Alternative***

The No-Build Alternative would not make changes to existing roadway network. Therefore, no direct impacts to soils and geology would occur.

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<sup>12</sup> 7 U.S. Code Chapter 73- FARMLAND Protection Policy, <https://www.law.cornell.edu/uscode/text/7/chapter-73> (accessed 6/18/2025)

### **4.3.2 Build Alternative**

Construction of the Build Alternative may result in minor impacts to soils and geology, such as impacts to drainage, ground, and slope instability.

## **4.4 Minimization/Mitigation Measures to Address Impacts**

As per TDOT standard practice, TDOT would likely conduct a subsurface investigation during subsequent phases of project development and develop a project-specific design to address any geotechnical or geological concerns that are identified at that time.

# **5. Floodplains**

Floodplains are low-lying areas located adjacent to the channel of a river, stream, or other type of water body. These areas are subject to periodic flooding during heavy rains and/or long periods of wet weather. Protection of floodways and floodplains is required under [23 CFR 650A](#),<sup>13</sup> [Executive Order \(EO\) 11988, Floodplain Management](#),<sup>14</sup> and the [U.S. Department of Transportation \(USDOT\) Order 5650.2, Floodplain Management and Protection](#).<sup>15</sup> The intention of these directives is to avoid, or minimize, highway encroachments within the 100-year (base) floodplains or regulatory floodway, where practicable, and to avoid supporting land use development that is incompatible with floodplain values. In accordance with these directives, an assessment of impacts to the floodplains associated with the SR-170 project area streams was conducted.

This section of the technical memorandum identifies the floodplains within the limits of the SR-170 project area as well as providing an estimated impact determination for both the No-Build and Build Alternatives.

## **5.1 Existing Conditions**

The SR-170 project area is located on the following Federal Emergency Management Area (FEMA) Flood Insurance Rate Maps (FIRMs) for Anderson County (see Attachment F.3):

- Panel 302 of 350, Map Number 47001C0302F (Accessed on 05/21/2025)
- Panel 310 of 350, Map Number 47001C0310F (Accessed on 05/21/2025)
- Panel 245 of 350, Map Number 47001C0245G (Accessed on 05/21/2025)
- Panel 265 of 350, Map Number 47001C0265F (Accessed on 05/21/2025)

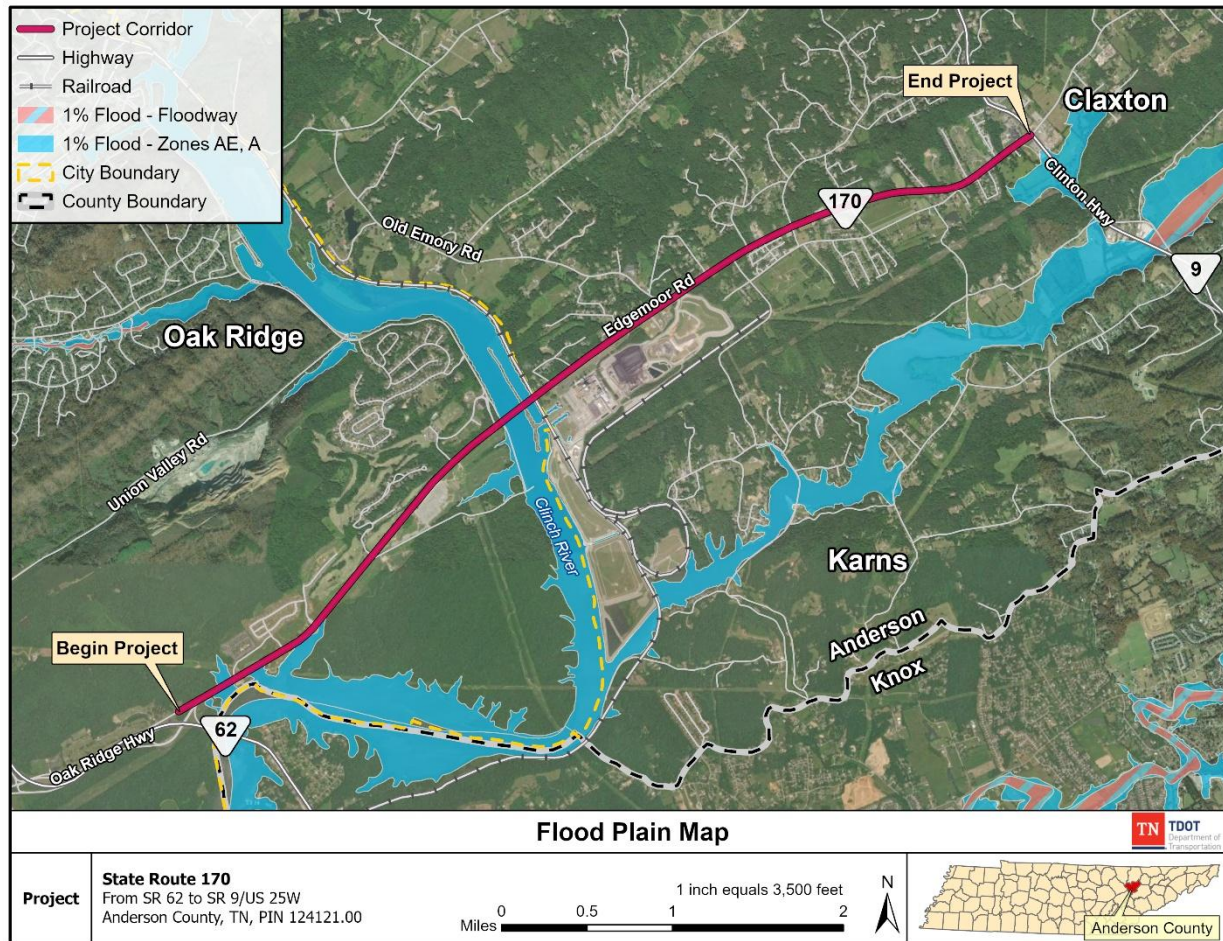
There is one floodplain within the project limits, located at the western end of the project near Melton Lake and as well as under the Clinch River bridge. The floodplain is designated as Zone AE (see Figure 3). Portions of this project impact a FEMA defined floodplain where Base Flood Elevations (BFEs) have been determined however there is no floodway defined. The design of the roadway system will be consistent with the Memorandum of Understanding (MOU) between FHWA and FEMA and with the floodplain management criteria set forth in the National Flood Insurance Regulations of 44 CFR. It will be consistent with the requirements of floodplain management guidelines for implementing Executive Order 11988 and FHWA guidelines 23 CFR 650A.

<sup>13</sup> <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-G/part-650/subpart-A>

<sup>14</sup> <https://www.archives.gov/federal-register/codification/executive-order/11988.html>

<sup>15</sup> <https://www.fhwa.dot.gov/engineering/hydraulics/policymemo/order56502.pdf>

**Figure 3: Floodplain Map**



## 5.2 Impacts to Floodplains

### 5.2.1 No-Build Alternative

The No-Build Alternative would not make changes to the existing roadway network. Therefore, the No-Build Alternative would not impact floodplains.

### 5.2.2 Build Alternative

Portions of the Build Alternative are located in or near a FEMA defined floodplain where BFEs have been determined; however, there is no floodway defined. Specifically, approximately 2.20 acres of the 100-year floodplain associated with the Clinch River and Melton Hill Lake are located within the limits of the Build Alternative.

## 5.3 Minimization/Mitigation Measures to Address Impacts

The design of the Build Alternative would be consistent with the Memorandum of Understanding (MOU) between the FHWA and FEMA and with the floodplain management criteria set forth in the National Flood Insurance Regulations of [Title 44 of the Code of Federal Regulations \(CFR\)](#).<sup>16</sup> It will be consistent with the requirements of floodplain management guidelines for implementing [Executive Order 11988](#) and FHWA guidelines [23 CFR § 650A](#).<sup>17</sup> A portion of the FEMA FIRM is included in Attachment F.3.

<sup>16</sup> <https://www.ecfr.gov/current/title-44>

<sup>17</sup> <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-G/part-650/subpart-A>

# Attachments

- F.1 Farmland Coordination
- F.2 Soil Data
- F.3 FIRM Maps

## **F.1 Farmland Coordination**

**From:** Fedenko, Jennifer - FPAC-NRCS, TN <Jennifer.Fedenko@usda.gov>  
**Sent:** Monday, July 7, 2025 1:13 PM  
**To:** Magsanoc, Ray <ray.magsanoc@aecom.com>  
**Cc:** Erick Hunt-Hawkins <erick.hunt-hawkins@tn.gov>; Rachel Head <rachel.head@tn.gov>; Ortiz, Linda - FPAC-NRCS, TN <linda.ortiz@usda.gov>; Dawood, Laura <Laura.Dawood@aecom.com>; Choudhry, Abdul <Abdul.Choudhry@aecom.com>  
**Subject:** RE: TDOT SR-170 Anderson -

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[Report Suspicious](#)

Hi Ray,

Thank you for your email, we have no additional questions for you. We received your completed copy of the CPA-106 form and saved for our records.

Best,

Jennifer Fedenko  
State Resource Soil Scientist  
Natural Resources Conservation Service | Soils Staff  
Tennessee State Office

 **U.S. DEPARTMENT OF AGRICULTURE**  
Natural Resources Conservation Service  
801 Broadway, 675 U.S. Courthouse, Nashville, TN 37203  
p: (615) 277-2578 | c: (615) 856-2765

---

**From:** Magsanoc, Ray <[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)>  
**Sent:** Tuesday, July 1, 2025 6:48 AM  
**To:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Cc:** Erick Hunt-Hawkins <[erick.hunt-hawkins@tn.gov](mailto:erick.hunt-hawkins@tn.gov)>; Rachel Head <[rachel.head@tn.gov](mailto:rachel.head@tn.gov)>; Ortiz, Linda - FPAC-NRCS, TN <[linda.ortiz@usda.gov](mailto:linda.ortiz@usda.gov)>; Dawood, Laura <[Laura.Dawood@aecom.com](mailto:Laura.Dawood@aecom.com)>; Choudhry, Abdul <[Abdul.Choudhry@aecom.com](mailto:Abdul.Choudhry@aecom.com)>  
**Subject:** RE: TDOT SR-170 Anderson -

Hi Jennifer,

Hope you are doing well. Just following up on Form CPA-106 and if you have any questions or need more information from us.

Thanks

**Ray Magsanoc**  
Senior Environmental Planner – Lead  
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**From:** Magsanoc, Ray  
**Sent:** Tuesday, June 10, 2025 2:58 PM  
**To:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Cc:** Erick Hunt-Hawkins <[erick.hunt-hawkins@tn.gov](mailto:erick.hunt-hawkins@tn.gov)>; Rachel Head <[rachel.head@tn.gov](mailto:rachel.head@tn.gov)>; Ortiz, Linda - FPAC-NRCS, TN <[linda.ortiz@usda.gov](mailto:linda.ortiz@usda.gov)>; Dawood, Laura <[Laura.Dawood@aecom.com](mailto:Laura.Dawood@aecom.com)>; Choudhry, Abdul <[Abdul.Choudhry@aecom.com](mailto:Abdul.Choudhry@aecom.com)>  
**Subject:** RE: TDOT SR-170 Anderson -

Hi Jennifer,

We have completed parts VI and VII on Form CPA-106 and it is ready for your review.

Please let me know if you have any questions.

Thanks

**Ray Magsanoc**  
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[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)

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**From:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Sent:** Thursday, May 22, 2025 8:00 AM  
**To:** Magsanoc, Ray <[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)>  
**Cc:** Erick Hunt-Hawkins <[erick.hunt-hawkins@tn.gov](mailto:erick.hunt-hawkins@tn.gov)>; Rachel Head <[rachel.head@tn.gov](mailto:rachel.head@tn.gov)>; Ortiz, Linda - FPAC-NRCS, TN <[linda.ortiz@usda.gov](mailto:linda.ortiz@usda.gov)>  
**Subject:** RE: TDOT SR-170 Anderson -

Hi Ray,

Thanks for sending that shapefile over, worked for me.

The attached CPA-106 form was processed through Part V per Code of Federal Regulations 7 CFR 657.

Please let me know if you have any questions.

Best,

Jennifer Fedenko  
State Resource Soil Scientist  
Natural Resources Conservation Service | Soils Staff  
Tennessee State Office



**U.S. DEPARTMENT OF AGRICULTURE**

Natural Resources Conservation Service  
801 Broadway, 675 U.S. Courthouse, Nashville, TN 37203  
p: (615) 277-2578 | c: (615) 856-2765

---

**From:** Magsanoc, Ray <[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)>  
**Sent:** Wednesday, May 21, 2025 12:46 PM  
**To:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Subject:** RE: TDOT SR-170 Anderson -

Hi Jennifer,

Please try the attached zip file that includes a shapefile that has been dissolved down to proposed ROW and easements. Let me know if this works.

Thanks

**Ray Magsanoc**  
Senior Environmental Planner – Lead  
C +1-919-561-1292  
[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)

---

**From:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Sent:** Wednesday, May 21, 2025 1:08 PM  
**To:** Magsanoc, Ray <[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)>  
**Subject:** RE: TDOT SR-170 Anderson -

Hi Ray,

Thanks for sending this request.

Our software has a 100-record limit when importing shapefiles. Can you send the proposed project area (easement expansion areas) shapefile as one polygon? The shapefile you sent over has 155 different records/polygons.

Thank you,

Jennifer Fedenko  
State Resource Soil Scientist  
Natural Resources Conservation Service | Soils Staff

 **U.S. DEPARTMENT OF AGRICULTURE**  
Natural Resources Conservation Service  
801 Broadway, 675 U.S. Courthouse, Nashville, TN 37203  
p: (615) 277-2578 | c: (615) 856-2765

---

**From:** Magsanoc, Ray <[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)>  
**Sent:** Wednesday, May 21, 2025 9:33 AM  
**To:** Fedenko, Jennifer - FPAC-NRCS, TN <[Jennifer.Fedenko@usda.gov](mailto:Jennifer.Fedenko@usda.gov)>  
**Cc:** Erick Hunt-Hawkins <[erick.hunt-hawkins@tn.gov](mailto:erick.hunt-hawkins@tn.gov)>; Rachel Head <[rachel.head@tn.gov](mailto:rachel.head@tn.gov)>  
**Subject:** TDOT SR-170 Anderson -

Hi Jennifer,

We have started farmland assessment and completed Form CPA-106 for your review and completion. Please see attached:

- Transmittal letter
- Form CPA-106
- Project GIS shapefiles and KMZ

Let me know if you have any questions.

Thanks

**Ray Magsanoc**  
Senior Environmental Planner – Lead  
C +1-919-561-1292  
[ray.magsanoc@aecom.com](mailto:ray.magsanoc@aecom.com)

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**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>	3. Date of Land Evaluation Request	4. Sheet 1 of _____
---	------------------------------------	---------------------

1. Name of Project	5. Federal Agency Involved
--------------------	----------------------------

2. Type of Project	6. County and State
--------------------	---------------------

<b>PART II (To be completed by NRCS)</b>	1. Date Request Received by NRCS	2. Person Completing Form
--	----------------------------------	---------------------------

3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input type="checkbox"/>	4. Acres Irrigated   Average Farm Size
---	--

5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %	7. Amount of Farmland As Defined in FPPA Acres: _____ %
------------------	---	--

8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS
--	---	---

<b>PART III (To be completed by Federal Agency)</b>	<b>Alternative Corridor For Segment</b>			
---	---	--	--	--

	Corridor A	Corridor B	Corridor C	Corridor D
--	------------	------------	------------	------------

A. Total Acres To Be Converted Directly				
---	--	--	--	--

B. Total Acres To Be Converted Indirectly, Or To Receive Services				
---	--	--	--	--

C. Total Acres In Corridor				
----------------------------	--	--	--	--

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>				
--	--	--	--	--

A. Total Acres Prime And Unique Farmland				
--	--	--	--	--

B. Total Acres Statewide And Local Important Farmland				
---	--	--	--	--

C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
---	--	--	--	--

D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
--	--	--	--	--

<b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b>				
--	--	--	--	--

<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	<b>Maximum Points</b>			
--	-----------------------	--	--	--

1. Area in Nonurban Use	15			
-------------------------	----	--	--	--

2. Perimeter in Nonurban Use	10			
------------------------------	----	--	--	--

3. Percent Of Corridor Being Farmed	20			
-------------------------------------	----	--	--	--

4. Protection Provided By State And Local Government	20			
--	----	--	--	--

5. Size of Present Farm Unit Compared To Average	10			
--	----	--	--	--

6. Creation Of Nonfarmable Farmland	25			
-------------------------------------	----	--	--	--

7. Availability Of Farm Support Services	5			
--	---	--	--	--

8. On-Farm Investments	20			
------------------------	----	--	--	--

9. Effects Of Conversion On Farm Support Services	25			
---	----	--	--	--

10. Compatibility With Existing Agricultural Use	10			
--	----	--	--	--

TOTAL CORRIDOR ASSESSMENT POINTS	160			
----------------------------------	-----	--	--	--

<b>PART VII (To be completed by Federal Agency)</b>				
---	--	--	--	--

Relative Value Of Farmland (From Part V)	100			
--	-----	--	--	--

Total Corridor Assessment (From Part VI above or a local site assessment)	160			
---	-----	--	--	--

<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>			
--	------------	--	--	--

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?  YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:
--------------------------

Signature of Person Completing this Part: <i>Abdul R. Choudhry</i>	DATE
--	------

**NOTE: Complete a form for each segment with more than one Alternate Corridor**

## CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent - 15 points  
90 to 20 percent - 14 to 1 point(s)  
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent - 10 points  
90 to 20 percent - 9 to 1 point(s)  
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

More than 90 percent - 20 points  
90 to 20 percent - 19 to 1 point(s)  
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected - 20 points  
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

(Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)  
As large or larger - 10 points  
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points  
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)  
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available - 5 points  
Some required services are available - 4 to 1 point(s)  
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment - 20 points  
Moderate amount of on-farm investment - 19 to 1 point(s)  
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted - 25 points  
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)  
No significant reduction in demand for support services if the site is converted - 0 points

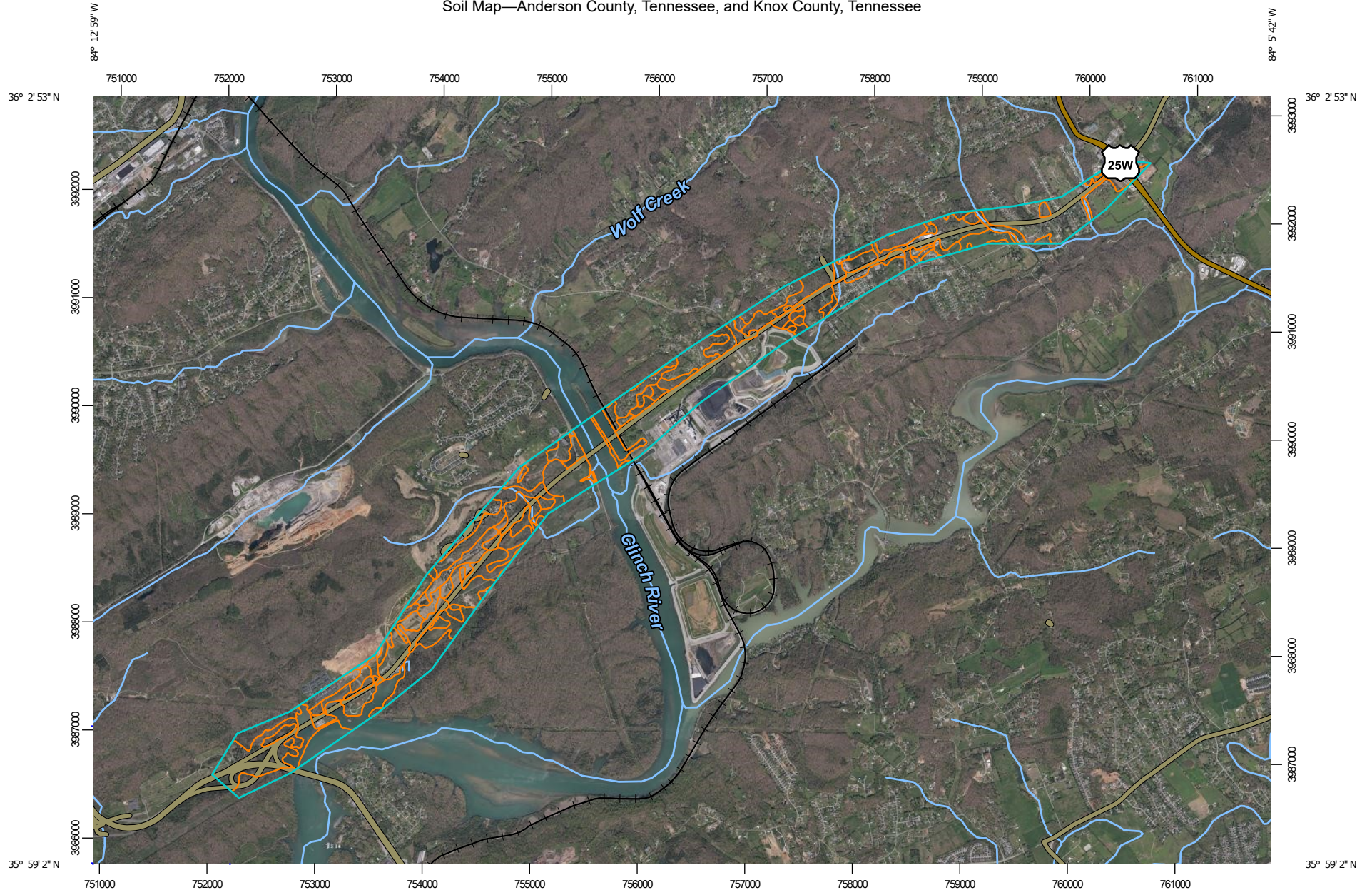
(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points  
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)  
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

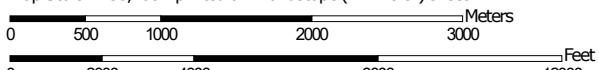
---

## **F.2 Soil Data**

Soil Map—Anderson County, Tennessee, and Knox County, Tennessee



Map Scale: 1:50,100 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Anderson County, Tennessee

Survey Area Data: Version 17, Sep 12, 2024

Soil Survey Area: Knox County, Tennessee

Survey Area Data: Version 20, Sep 12, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2020—Apr 4, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AkC	Armuchee silt loam, 5 to 12 percent slopes	2.4	0.2%
CbB	Capshaw silt loam, 2 to 5 percent slopes	24.2	2.1%
Cd	Cedarbluff loam, 0 to 3 percent slopes, occasionally flooded	1.7	0.1%
Ce	Chenneby silt loam, frequently flooded	0.1	0.0%
CfD	Colbert-Lyerly-Rock outcrop complex, 5 to 20 percent slopes	171.7	14.7%
CgB	Collegedale silt loam, 2 to 5 percent slopes	29.2	2.5%
CgC	Collegedale silt loam, 5 to 12 percent slopes	278.3	23.8%
CgD	Collegedale silt loam, 12 to 20 percent slopes	92.9	7.9%
ChC3	Collegedale clay, 5 to 12 percent slopes, severely eroded	28.4	2.4%
ChD3	Collegedale clay, 12 to 20 percent slopes, severely eroded	6.6	0.6%
CkE	Collegedale-Rock outcrop complex, 20 to 35 percent slopes	12.1	1.0%
DwC	Dewey silt loam, 5 to 12 percent slopes	2.8	0.2%
DwD	Dewey silt loam, 12 to 20 percent slopes	0.1	0.0%
DwE	Dewey silt loam, 20 to 35 percent slopes	1.4	0.1%
FoC	Fullerton-Pailo complex, 5 to 12 percent slopes	74.9	6.4%
FoD	Fullerton-Pailo complex, 12 to 20 percent slopes	85.7	7.3%
FoE	Fullerton-Pailo complex, 20 to 35 percent slopes	93.5	8.0%
Hb	Hamblen silt loam, 0 to 2 percent slopes, occasionally flooded, hydric minor component	9.3	0.8%
MnC	Minvale silt loam, 5 to 12 percent slopes	6.8	0.6%
SwB	Swafford loam, 2 to 5 percent slopes	3.2	0.3%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
TbB	Tasso loam, 2 to 5 percent slopes	8.9	0.8%
TnD	Townley silt loam, 12 to 20 percent slopes	3.2	0.3%
UaD	Udorthents, 0 to 25 percent slopes	121.2	10.4%
W	Water	92.2	7.9%
<b>Subtotals for Soil Survey Area</b>		<b>1,150.7</b>	<b>98.4%</b>
<b>Totals for Area of Interest</b>		<b>1,169.5</b>	<b>100.0%</b>

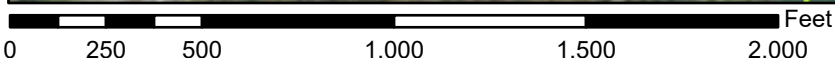
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
W	Water	18.8	1.6%
<b>Subtotals for Soil Survey Area</b>		<b>18.8</b>	<b>1.6%</b>
<b>Totals for Area of Interest</b>		<b>1,169.5</b>	<b>100.0%</b>

## **F.3 Firm Maps**

# National Flood Hazard Layer FIRMMette



84°12'5"W 35°59'56"N



1:6,000

84°11'27"W 35°59'27"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

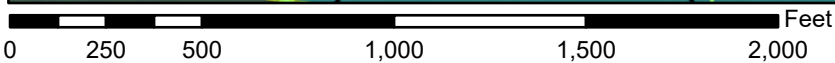
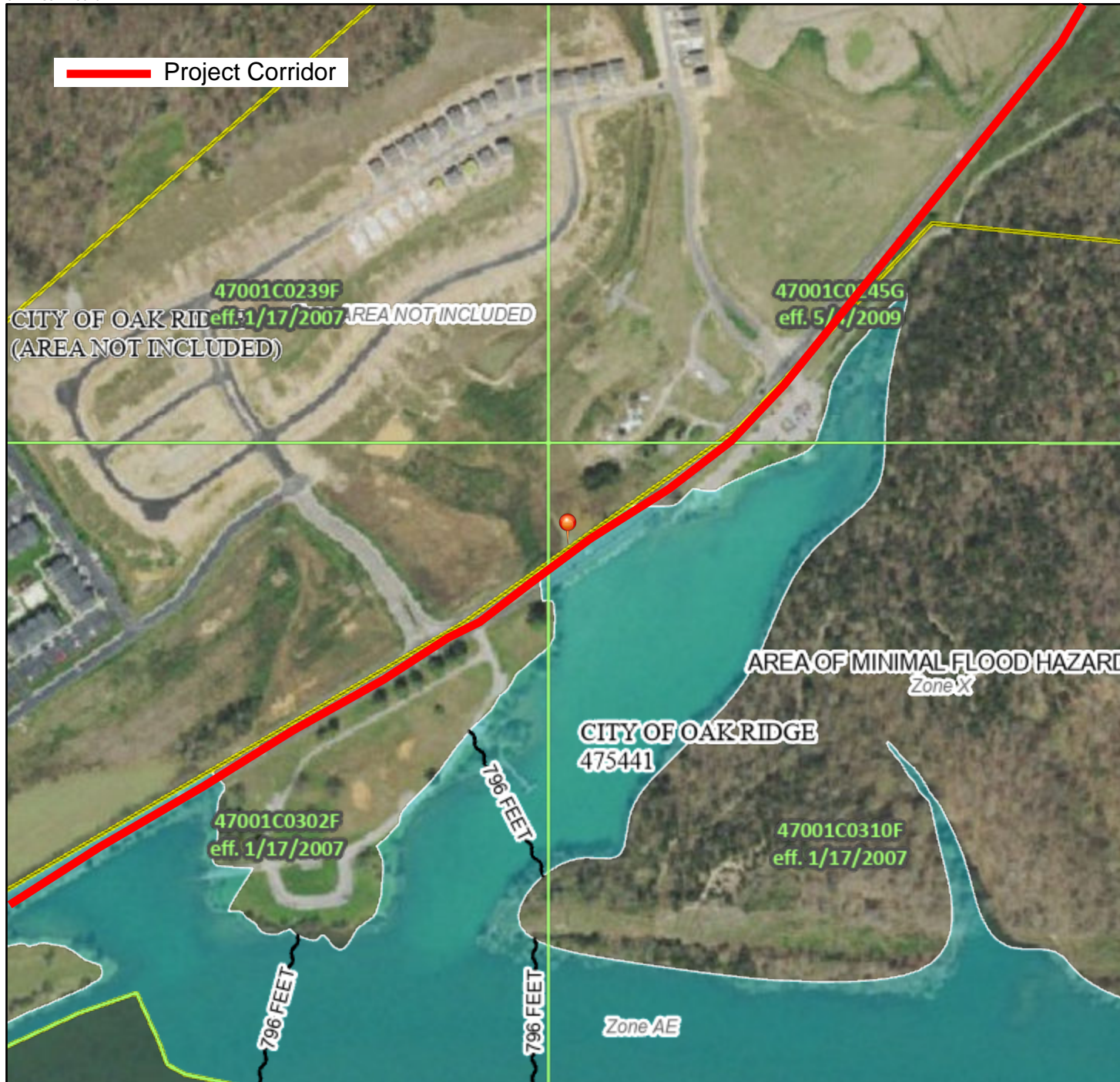
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/28/2025 at 3:00 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette



84°11'33"W 36°0'12"N



1:6,000

84°10'56"W 35°59'43"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

<b>SPECIAL FLOOD HAZARD AREAS</b>		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
<b>OTHER AREAS OF FLOOD HAZARD</b>		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
<b>OTHER AREAS</b>		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
<b>GENERAL STRUCTURES</b>		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
<b>OTHER FEATURES</b>		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
<b>MAP PANELS</b>		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/28/2025 at 3:01 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMMette



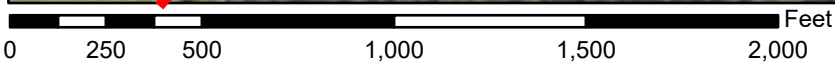
84°11'7"W 36°0'35"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



1:6,000

84°10'29"W 36°0'6"N

Basemap Imagery Source: USGS National Map 2023

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

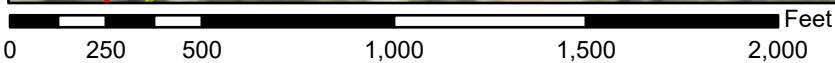
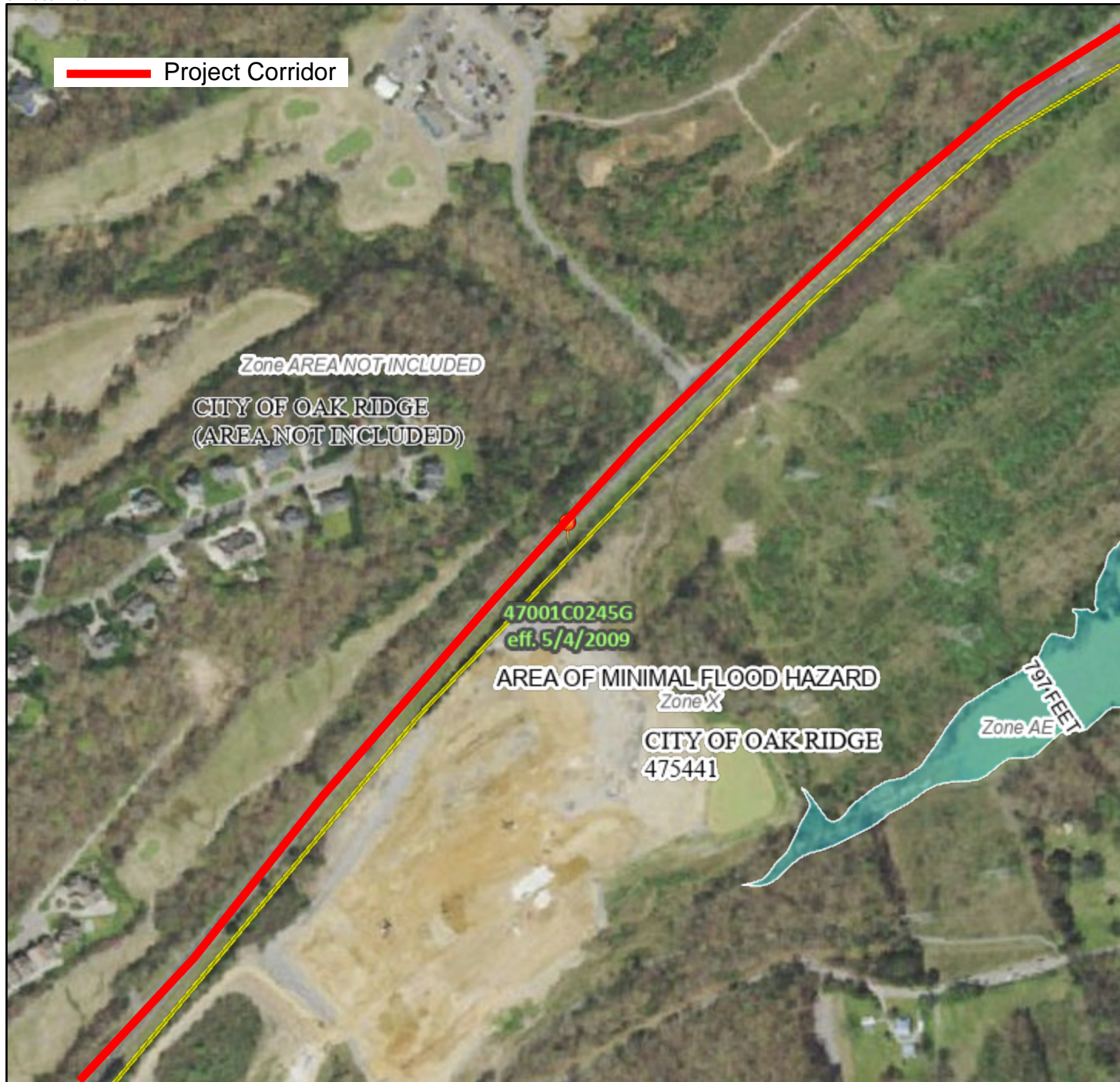
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 4:58 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette



84°10'38"W 36°1'2"N



1:6,000

84°10'1"W 36°0'33"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                                    |   |
|------------------------------------|---|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: cyan; border: 1px solid black; margin-right: 5px;"></span> Without Base Flood Elevation (BFE)<br/><i>Zone A, V, A99</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: cyan; border: 1px solid black; margin-right: 5px;"></span> With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, red 2px, red 4px); border: 1px solid black; margin-right: 5px;"></span> Regulatory Floodway</li> </ul>   |
| <b>OTHER AREAS OF FLOOD HAZARD</b> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, gray 2px, gray 4px); border: 1px solid black; margin-right: 5px;"></span> Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, orange 2px, orange 4px); border: 1px solid black; margin-right: 5px;"></span> Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, yellow 2px, yellow 4px); border: 1px solid black; margin-right: 5px;"></span> Area with Flood Risk due to Levee <i>Zone D</i></li> </ul>  |
| <b>OTHER AREAS</b>                 | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: white; border: 1px solid black; margin-right: 5px;"></span> NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i></li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: white; border: 2px solid blue; margin-right: 5px;"></span> Effective LOMRs</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Area of Undetermined Flood Hazard <i>Zone D</i></li> </ul>   |
| <b>GENERAL STRUCTURES</b>          | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Channel, Culvert, or Storm Sewer</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px dashed gray; margin-right: 5px;"></span> Levee, Dike, or Floodwall</li> </ul>  |
| <b>OTHER FEATURES</b>              | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; border-bottom: 2px solid black; margin-right: 5px;"></span> <span style="font-size: 0.8em; vertical-align: middle;">B</span> 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px dashed black; margin-right: 5px;"></span> 17.5 Coastal Transect</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px dashed gray; margin-right: 5px;"></span> Base Flood Elevation Line (BFE)</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px solid red; margin-right: 5px;"></span> Limit of Study</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px solid yellow; margin-right: 5px;"></span> Jurisdiction Boundary</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Coastal Transect Baseline</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Profile Baseline</li> <li><span style="display: inline-block; width: 20px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Hydrographic Feature</li> </ul> |
| <b>MAP PANELS</b>                  | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: white; border: 1px solid black; border-style: dashed; margin-right: 5px;"></span> Digital Data Available</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: white; border: 1px solid black; margin-right: 5px;"></span> No Digital Data Available</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: white; border: 1px solid black; border-style: dotted; margin-right: 5px;"></span> Unmapped</li> </ul>  |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

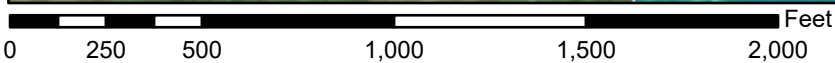
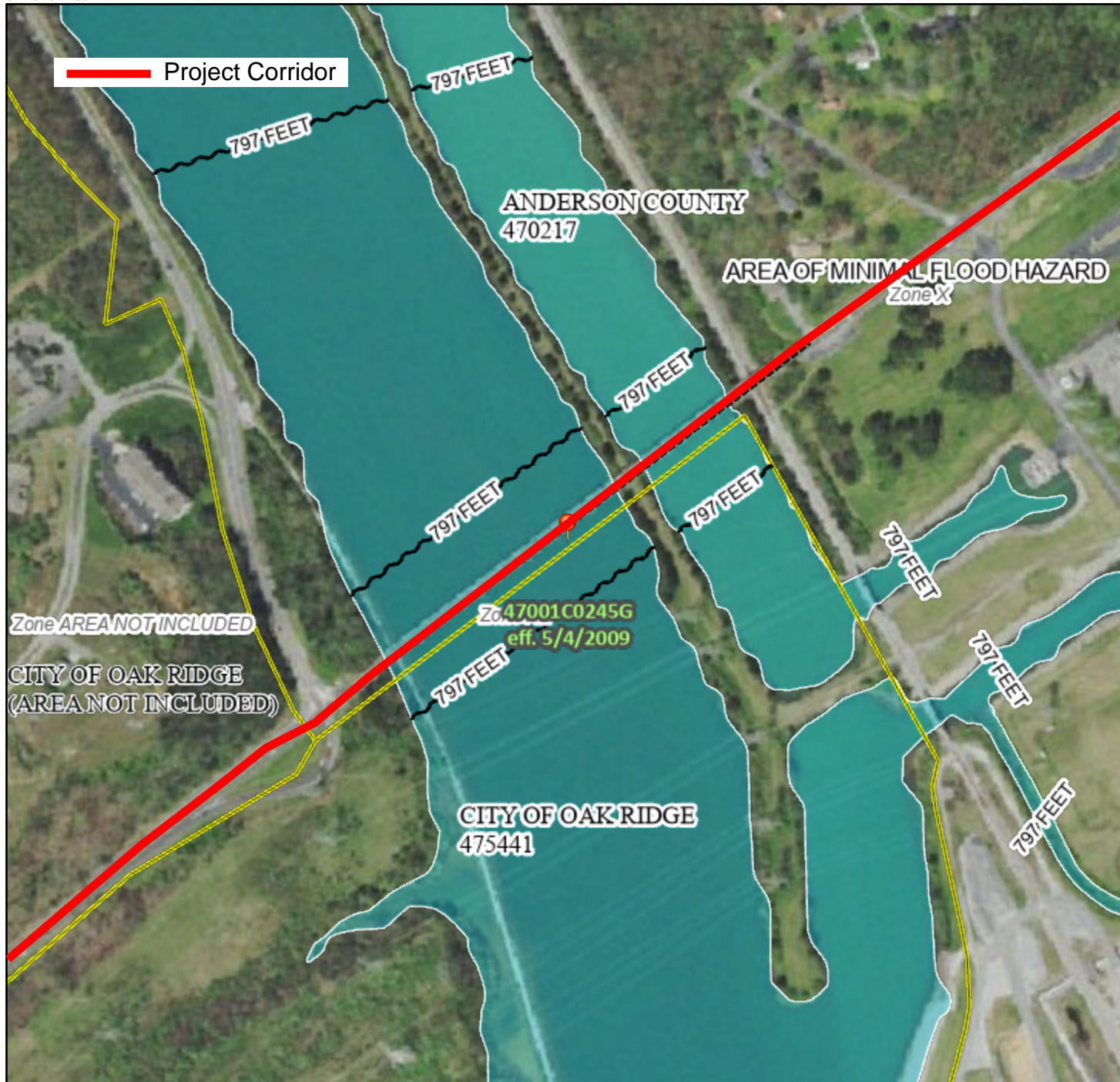
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 4:59 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMMette



84°10'10"W 36°1'22"N



1:6,000

84°9'32"W 36°0'53"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

<b>SPECIAL FLOOD HAZARD AREAS</b>			Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
			With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
			Regulatory Floodway
<b>OTHER AREAS OF FLOOD HAZARD</b>			0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
			Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
			Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
			Area with Flood Risk due to Levee <i>Zone D</i>
<b>OTHER AREAS</b>			NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
			Effective LOMRs
			Area of Undetermined Flood Hazard <i>Zone D</i>
<b>GENERAL STRUCTURES</b>			Channel, Culvert, or Storm Sewer
			Levee, Dike, or Floodwall
<b>OTHER FEATURES</b>			20.2 Cross Sections with 1% Annual Chance Water Surface Elevation 17.5
			Coastal Transect
			Base Flood Elevation Line (BFE)
			Limit of Study
			Jurisdiction Boundary
			Coastal Transect Baseline
			Profile Baseline
			Hydrographic Feature
<b>MAP PANELS</b>			Digital Data Available
			No Digital Data Available
			Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/28/2025 at 3:02 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMMette



84°9'26"W 36°1'49"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

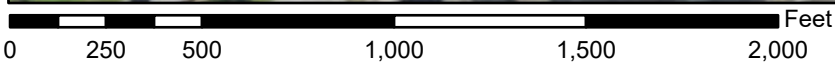
- |                                    |  |  |
|------------------------------------|--|--|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  |  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>  |
|                                    |  | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>   |
|                                    |  | Regulatory Floodway  |
| <b>OTHER AREAS OF FLOOD HAZARD</b> |  | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                                    |  | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>  |
|                                    |  | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>  |
|                                    |  | Area with Flood Risk due to Levee <i>Zone D</i>  |
| <b>OTHER AREAS</b>                 |  | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>   |
|                                    |  | Effective LOMRs  |
| <b>GENERAL STRUCTURES</b>          |  | Area of Undetermined Flood Hazard <i>Zone D</i>  |
|                                    |  | Channel, Culvert, or Storm Sewer   |
|                                    |  | Levee, Dike, or Floodwall  |
| <b>OTHER FEATURES</b>              |  | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation<br>17.5  |
|                                    |  | Coastal Transect   |
|                                    |  | Base Flood Elevation Line (BFE)  |
|                                    |  | Limit of Study   |
|                                    |  | Jurisdiction Boundary  |
| <b>MAP PANELS</b>                  |  | Coastal Transect Baseline  |
|                                    |  | Profile Baseline   |
|                                    |  | Hydrographic Feature   |
|                                    |  | Digital Data Available   |
|                                    |  | No Digital Data Available  |
|                                    |  | Unmapped   |
|                                    |  | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.                                     |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 5:02 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



1:6,000

84°8'49"W 36°1'19"N

Basemap Imagery Source: USGS National Map 2023

# National Flood Hazard Layer FIRMMette



84°8'49"W 36°2'9"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

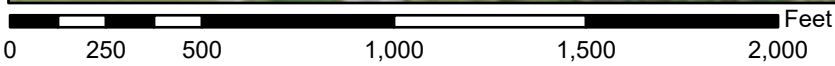
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 5:02 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



1:6,000

84°8'11"W 36°1'40"N

Basemap Imagery Source: USGS National Map 2023

# National Flood Hazard Layer FIRMette



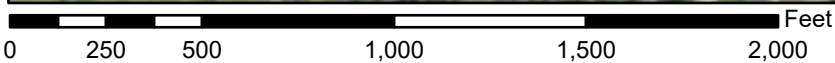
84°8'7"W 36°2'25"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



1:6,000

84°7'30"W 36°1'55"N

Basemap Imagery Source: USGS National Map 2023

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

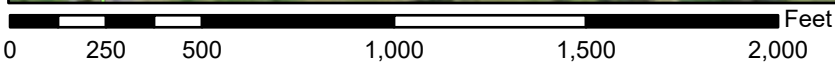
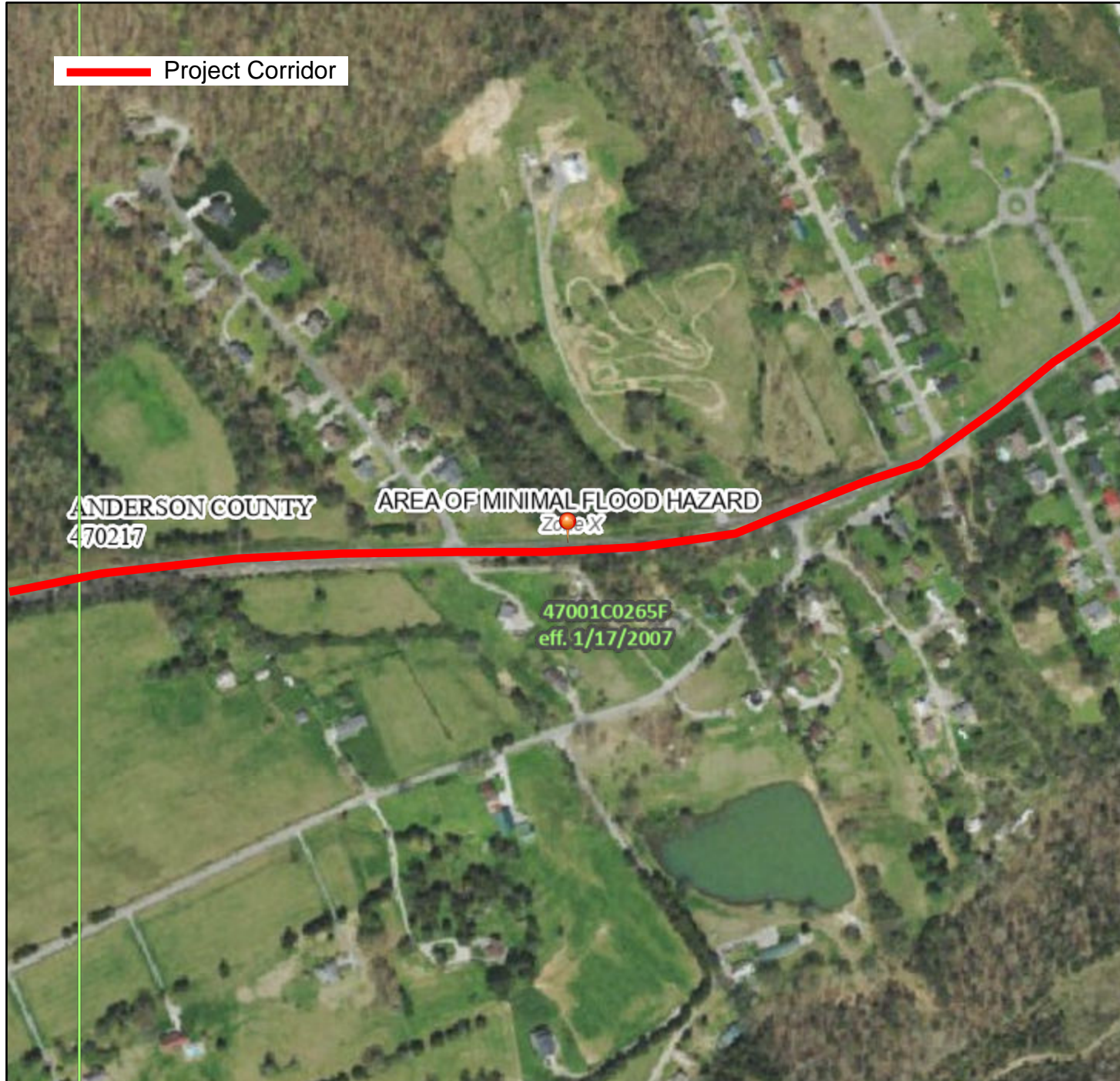
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/31/2025 at 5:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMMette



84°7'32"W 36°2'30"N



1:6,000

84°6'55"W 36°2'1"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                                    |  |  |
|------------------------------------|--|--|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  |  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>  |
|                                    |  | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i><br>Regulatory Floodway  |
| <b>OTHER AREAS OF FLOOD HAZARD</b> |  | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                                    |  | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>  |
|                                    |  | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>  |
|                                    |  | Area with Flood Risk due to Levee <i>Zone D</i>  |
| <b>OTHER AREAS</b>                 |  | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>   |
|                                    |  | Effective LOMRs  |
| <b>GENERAL STRUCTURES</b>          |  | Area of Undetermined Flood Hazard <i>Zone D</i>  |
|                                    |  | Channel, Culvert, or Storm Sewer   |
| <b>OTHER FEATURES</b>              |  | Levee, Dike, or Floodwall  |
|                                    |  | 20.2 Cross Sections with 1% Annual Chance  |
| <b>MAP PANELS</b>                  |  | 17.5 Water Surface Elevation   |
|                                    |  | Coastal Transect   |
|                                    |  | Base Flood Elevation Line (BFE)  |
|                                    |  | Limit of Study   |
|                                    |  | Jurisdiction Boundary  |
|                                    |  | Coastal Transect Baseline  |
|                                    |  | Profile Baseline   |
|                                    | Hydrographic Feature   |  |
| <b>MAP PANELS</b>                  |  | Digital Data Available   |
|                                    |  | No Digital Data Available  |
|                                    |  | Unmapped   |
|                                    | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |  |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 5:04 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMMette



84°7'3"W 36°2'43"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X

OTHER AREAS OF FLOOD HAZARD		Area with Flood Risk due to Levee Zone D
		NO SCREEN Area of Minimal Flood Hazard Zone X

OTHER AREAS		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study

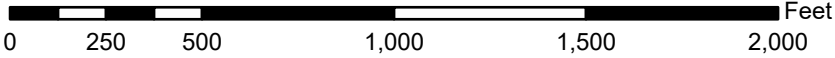
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/31/2025 at 5:04 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



1:6,000

84°6'26"W 36°2'14"N

Basemap Imagery Source: USGS National Map 2023