



# SR 40 BLACK BEAR TRAIL CORRIDOR PLANNING STUDY EXISTING CONDITIONS REPORT



FPID # 436360-1  
**August 2018**

Florida Department of Transportation  
District Five  
719 South Woodland Boulevard  
DeLand, FL 32720-6834

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### 1. REPORT PURPOSE

This report documents the analysis of the existing conditions and planned future engineering, and environmental conditions for the State Road 40 (S.R. 40) Black Bear Trail Corridor from Levy Hammock Road to U.S. 17. These conditions were evaluated by performing a review of existing plans and documents, coordination with regulatory agencies, and field reconnaissance. The following report provides a description of the existing roadway and bridge conditions, in addition to the social and environmental characteristics for the study area.

#### 1.1. PROJECT BACKGROUND AND PURPOSE

The Florida Department of Transportation (FDOT) District Five is conducting a Corridor Planning Study to assess alternative alignments for a multi-use trail along S.R. 40 from Levy Hammock Road to U.S. 17. The 27-mile study area includes Eastern Marion County, Northern Lake County, and Northwest Volusia County. The study area is in the Ocala/Marion Transportation Planning Organization, the Lake~Sumter Metropolitan Planning Organization, and the River to Sea Transportation Planning Organization. The purpose of the study is to identify reasonable alternatives to carry forward towards a preferred trail alignment.

The S.R. 40 Black Bear Trail, also referred to as the Planned Black Bear Scenic Trail, is set to fill the largest gap within the Heart of Florida Loop. The Heart of Florida Loop (Figure 3) is a network of trails spanning ten Central Florida counties and encompassing 250 miles, linking existing trails. The trail intersects the communities of Silver Springs, Astor, Pierson, and Barberville as well as natural landmarks such as the Ocala National Forest and the St. Johns River.

The entirety of the Black Bear Trail corridor is located within the Black Bear Scenic Byway. The Florida Black Bear Scenic Byway Corridor Management Entity (CME) is a group of volunteer citizens that provide support for the corridor. The CME holds monthly meetings at locations along the byway and all are welcome to attend to learn more about the corridor.

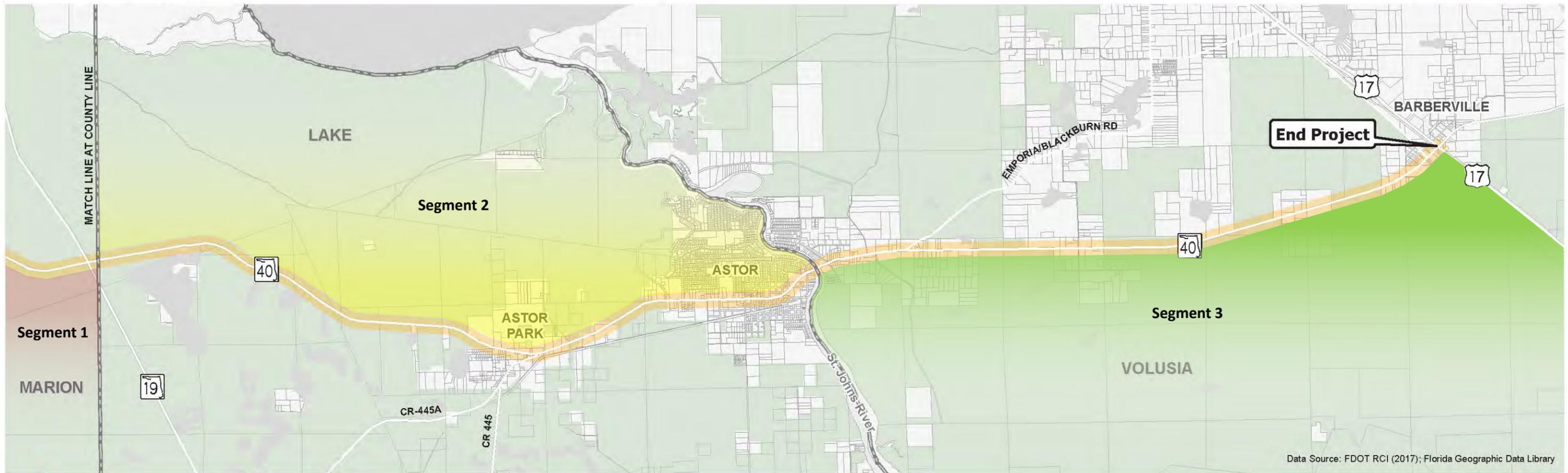
#### 1.2. PROJECT DESCRIPTION

The S.R. 40 Black Bear Trail Corridor Planning Study will analyze alternatives to identify a preferred multi-use trail alignment from Levy Hammock Road to U.S. 17, connecting three counties over a 27-mile corridor. The project will begin at Levy Hammock Road in a small neighborhood community, and then follow the S.R. 40 alignment towards Astor Park and Astor. The project will end in the community of Barberville at the intersection with U.S. 17. The trail alignment may branch off from S.R. 40 in select locations and follow existing power line easements, in order to create a varied trail experience that allows bicyclists and pedestrians the opportunity to see more of the natural landscape. The trail will also connect with the North Lake Trail Phase 3, either at the intersection of S.R. 19 or at C.R. 445A in Astor, contingent upon the selected North Lake Trail alignment.

The potential trail corridor would create a new pathway for Florida residents and visitors to experience Central Florida. It would link the Ocala National Forest to the Lake George State Forest, through the local communities of Astor Park, Astor and Barberville and provide connections to other trails in the area, such as the Florida National Scenic Trail.

### 1.3. PROJECT LOCATION MAP

The project location map is shown in Figure 1.



Data Source: FDOT RCI (2017); Florida Geographic Data Library



- Conservation Area
- Study Corridor(s)

**Study Area**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 1**

### 1.4. PROJECT SEGMENTATION

The study area is divided into three general segments based on changing characteristics in corridor and adjacent land uses. These segments are referred to as follows:

- Segment 1 – Levy Hammock Road to Lake County Line in Marion County
- Segment 2 – Marion/Lake County Line to Volusia County Line in Lake County
- Segment 3 – Lake County Line to U.S. 17 in Volusia County

## 2. SUMMARY OF TRANSPORTATION PLANS

### 2.1. LOCATION IN LOCAL PLANS

A review of local transportation plans was performed to demonstrate the consistency of this project with regional and local transportation planning efforts, as summarized in Appendix A and Appendix B. The Florida Department of Environmental Protection (FDEP) Office of Greenways and Trails (OGT) supports this project based on the OGT *2018 Priority List*. Additional support is found in the Lake~Sumter Metropolitan Planning Organization (Lake~Sumter MPO) *Transportation Improvement Program 2017/2018 – 2021/2022* as part of the Bicycle/Pedestrian and Trails (Lake~Sumter MPO, 2017/2018, p. 6-44). The Ocala/Marion Transportation Planning Organization (Ocala/Marion TPO) supports this project based on information provided in the *Transportation Improvement Program 2017/2018 – 2021/2022* (Ocala/Marion TPO, 2017/2018, p. 4-11). Lastly, the River to Sea Transportation Planning Organization (R2CTPO) supports this project based on information provided in the *Transportation Improvement Program 2017/2018 – 2021/2022* within the Bicycle, Pedestrian & Enhancement Projects section (R2CTPO, 2017/2018, p. 176).

While the Marion and Volusia County Comprehensive Plans do not specifically identify the S.R. 40 Black Bear Trail, the *Lake County Trails Master Plan* (2008) identified the S.R. 40 Black Bear Trail as a future project (Lake County, 2008). *The Lake County 2030 Comprehensive Plan Planning Horizon 2030* also recommends adding non-invasive amenities to scenic roads, such as sidewalks and bike paths (Lake County, 2008).

### 2.2. FUNDING AND SOURCES

Upon review of local transportation plans, several of the agencies also provided funding information. This information is provided by the Metropolitan Planning Organizations (MPOs) and Transportation Planning Organizations (TPOs) within the study area, in which the organizations reference funding from Surface Transportation Program Any Area (SA). SA funds are set aside for the Project Development & Environment (PD&E) phase in 2020.

### 2.3. PREVIOUS / ONGOING PLANNING STUDIES

#### 2.3.1. S.R. 40 ENVIRONMENTAL ASSESSMENT

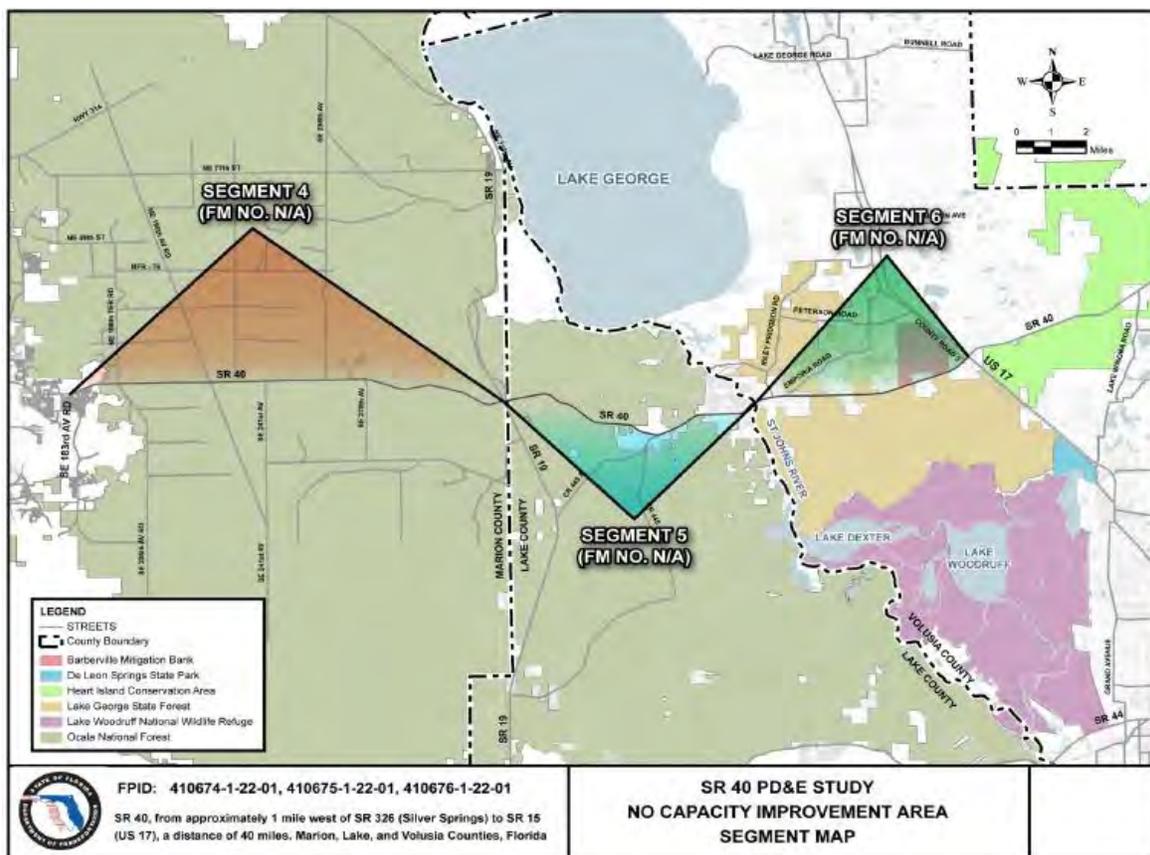
The S.R. 40 Environmental Assessment (EA), a type of PD&E study, was performed for FDOT District Five in 2013 from one mile west of S.R. 326 (outside the study area) to U.S. 17 along

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S.R. 40. A PD&E study is an environmental and engineering process to determine social, economic, natural and physical environmental impacts associated with a proposed transportation improvement impact. The EA performed assessed environmental consequences in order to move forward with a study/project. This EA study focused primarily on the safety of the corridor.

S.R. 40 was originally divided into six evaluation segments, but near the end of the process, the last three segments ranging from Levy Hammock Road to U.S. 17 (as shown in Figure 2) were removed from future analysis. Thus, the S.R. 40 EA analysis is based on the original six segments while final recommendations and costs are based on three work program segments, outside of the proposed Black Bear Trail study area. Overall recommendations to the corridor included adding wildlife crossings, widening S.R. 40 from two lanes to four lanes in most sections, widening to three lanes in select locations, and improved pavement markings. Improvements to other safety features like guardrails were also suggested. Segments 4, 5, and 6 improvements are part of a recommended no-build alternative.

**Figure 2 | S.R. 40 Environmental Assessment, Project Segments 4, 5, and 6**



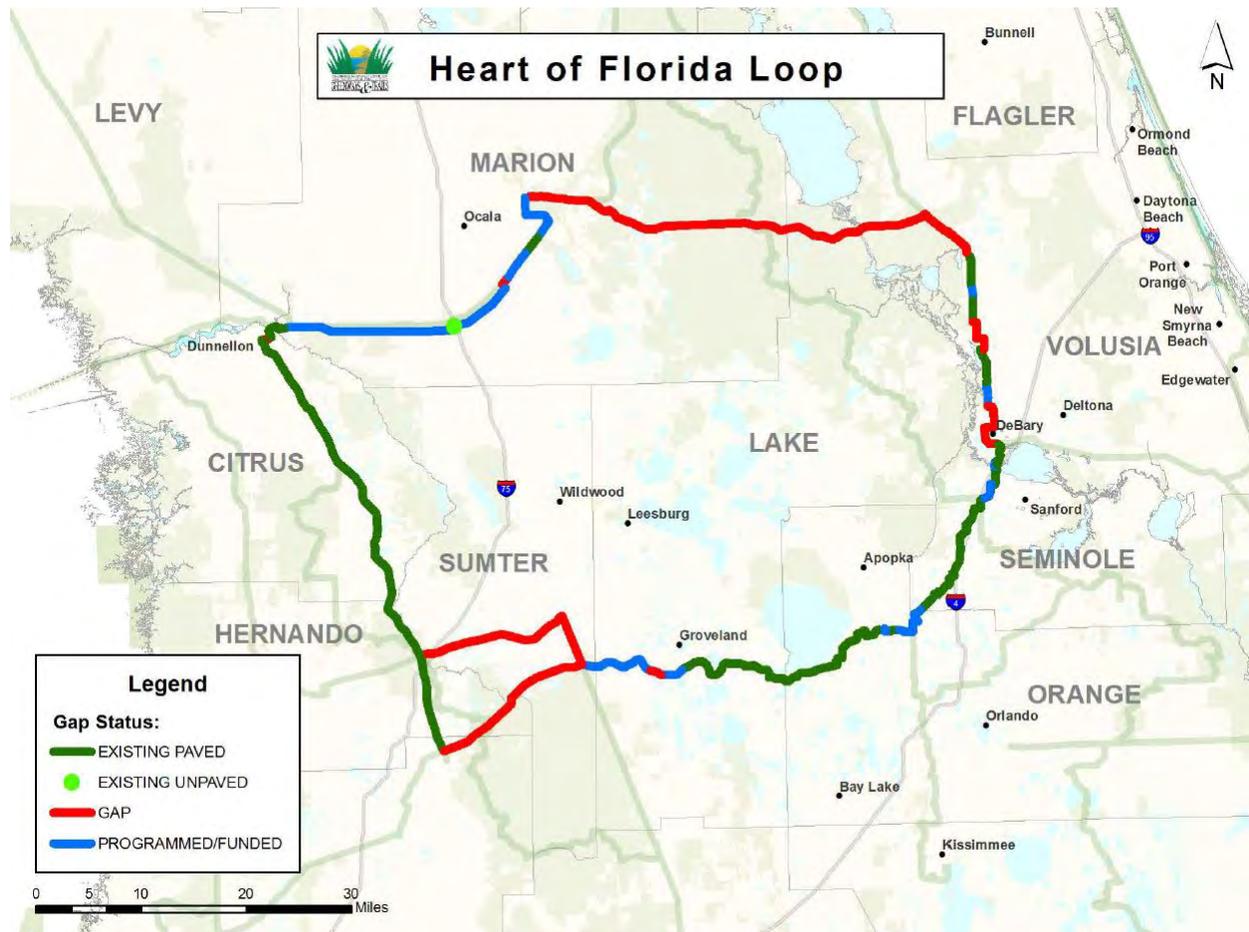
Source: S.R. 40 Environmental Assessment

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## 2.3.2. HEART OF FLORIDA LOOP

The Heart of Florida Loop is a series of interconnected mixed-use trails that will create a loop through eight counties in Central Florida, as identified by the Florida Department of Environmental Protection (FDEP) Office of Greenways and Trails (OGT). As shown in Figure 3, several large gaps exist within the trail network. The largest of which is along S.R. 40, where a combined 36.4-mile gap is present from U.S. 17 to approximately S.R. 35. OGT has identified the trail along S.R. 40 as a priority and as part of a land trail opportunity, as shown in Appendix B.

Figure 3 | Office of Greenways and Trails – Heart of Florida Loop



Source: Florida Department of Environmental Protection Office of Greenways and Trails

### 3. STUDY AREA DESCRIPTION

#### 3.1. EXISTING LAND USE

The proposed S.R. 40 Black Bear Trail would traverse through Marion, Lake, and Volusia Counties. The local communities of Astor Park, Astor, and Barberville between Levy Hammock Road and U.S. 17 are in the trails path. The existing land use maps and aerials of these areas were reviewed to determine the existing uses adjacent to the study corridor. The corridor crosses through both the Ocala National Forest and the Lake George State Forest. An overview of the existing land uses across the study area is shown in Figure 4.

##### 3.1.1. MARION COUNTY (SEGMENT 1)

Unincorporated Marion County land uses along S.R. 40 from Levy Hammock Road to the eastern Marion County Line are vastly public lands within the Ocala National Forest. Near Levy Hammock Road, there is a small residential community with a few commercial businesses adjacent to the S.R. 40 corridor.

##### 3.1.2. LAKE COUNTY (SEGMENT 2)

Existing land uses in unincorporated Lake County on S.R. 40 from the western county line to the eastern county line at the St. Johns River are largely conservation lands within the Ocala National Forest. Astor Park, located near the intersection of S.R. 40 with C.R. 445A, contains a small area of rural residential and one area of public service facility and infrastructure land immediately adjacent to the Wild Woods Campground.

###### 3.1.2.1. Astor Park

The community of Astor Park is located within unincorporated Lake County, and generally extends along both sides of S.R. 40 near the intersection of S.R. 40 with C.R. 445A. Existing land uses within the community are largely rural residential with a public service facility nearby, all of which is bordered by conservation land within the Ocala National Forest.

###### 3.1.2.2. Astor

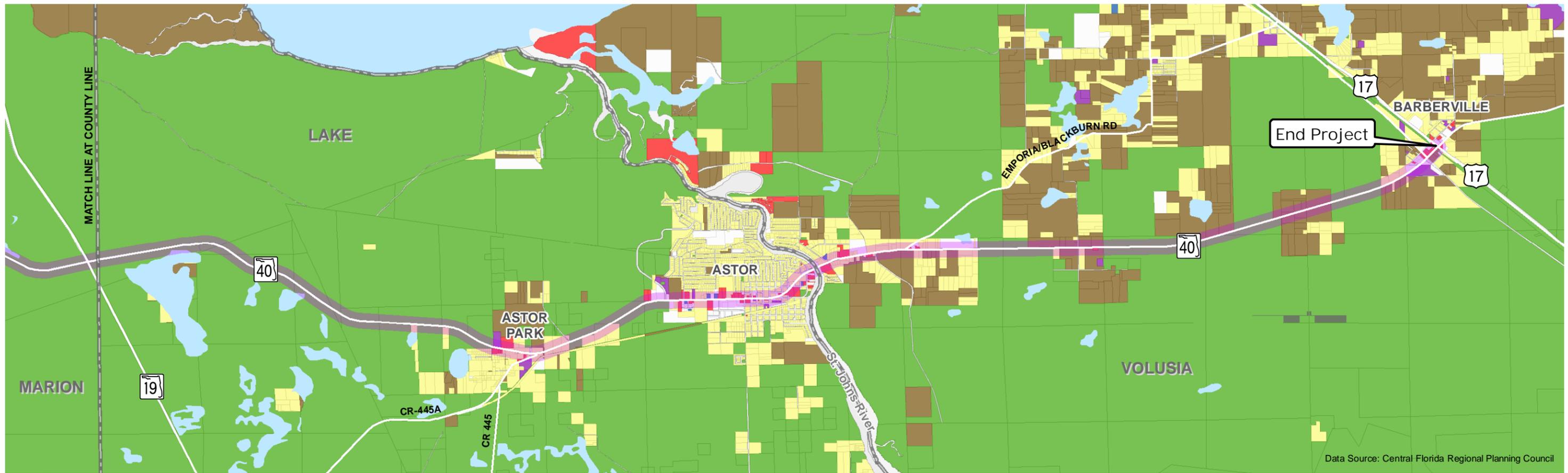
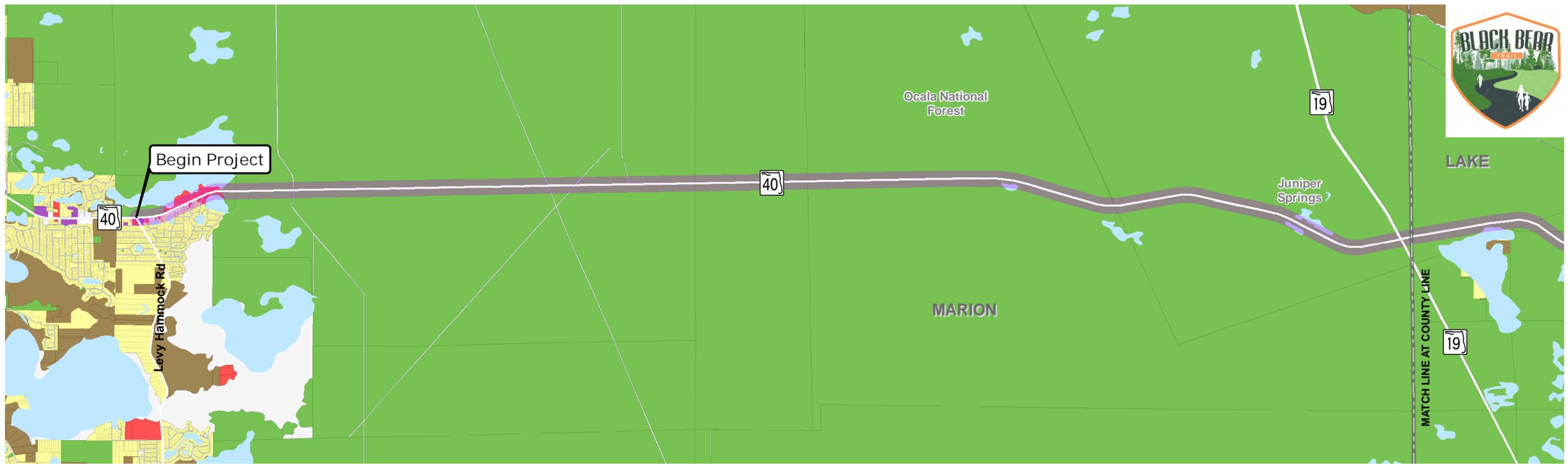
Astor generally extends along both sides of S.R. 40 from Veterans Drive to the St. Johns River, and is located within unincorporated Lake County. Existing land uses along the corridor are largely low density residential with some commercial areas located adjacent to S.R. 40.

##### 3.1.3. VOLUSIA COUNTY (SEGMENT 3)

Current land uses in unincorporated Volusia County on S.R. 40 from the St. Johns River (Western Volusia County Line) to U.S. 17 are a combination of rural communities and environmentally protected lands within the Lake George State Forest.

### *3.1.3.1. Barberville*

Barberville is located within unincorporated Volusia County, and generally extends along both sides of S.R. 40 around the intersection with U.S. 17. At the intersection with U.S. 17, there is a small collection of businesses in a rural setting.



Data Source: Central Florida Regional Planning Council



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<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> Agricultural	<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Industrial	<span style="display:inline-block; width:15px; height:15px; background-color:magenta; border:1px solid black;"></span> Institutional	<span style="display:inline-block; width:15px; height:15px; border:1px solid black;"></span> Other/No Data	

**Existing Land Use**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 4**

### 3.2. FUTURE LAND USE

The adopted Future Land Use Maps (FLUMs), as shown in Appendix C, and aerials of these areas were reviewed to determine the potential future uses adjacent to the study corridor. An overview of the future land uses across the study area is shown in Figure 5.

The communities of Astor Park, Astor, and Barberville are located within unincorporated Lake County and Volusia County, and therefore are not independently analyzed from the County FLUM.

#### 3.2.1. MARION COUNTY

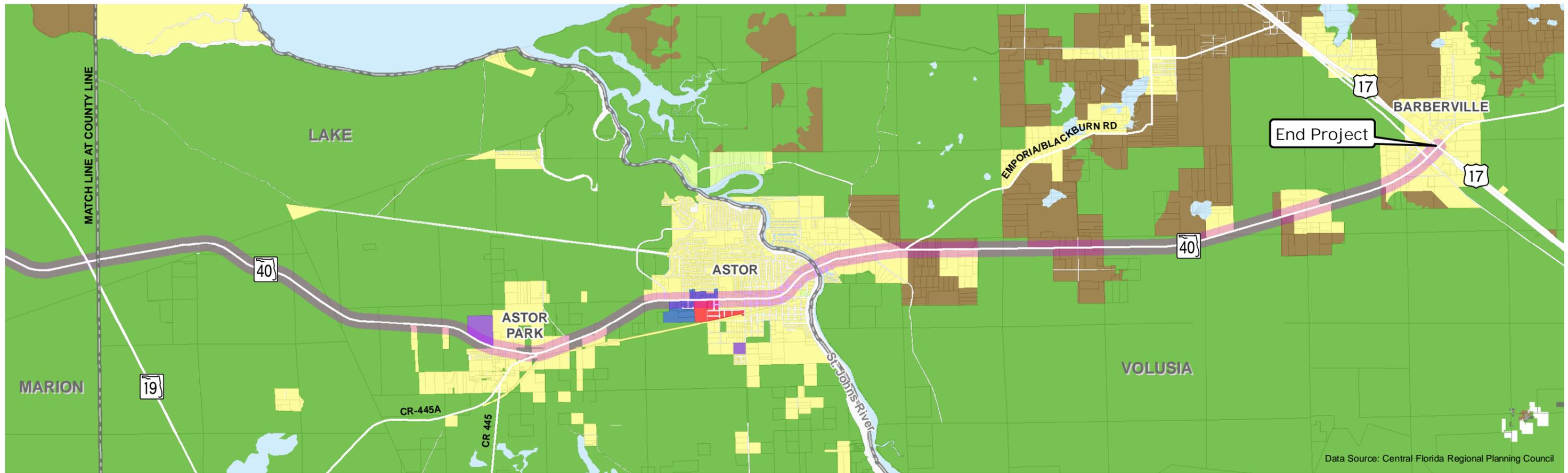
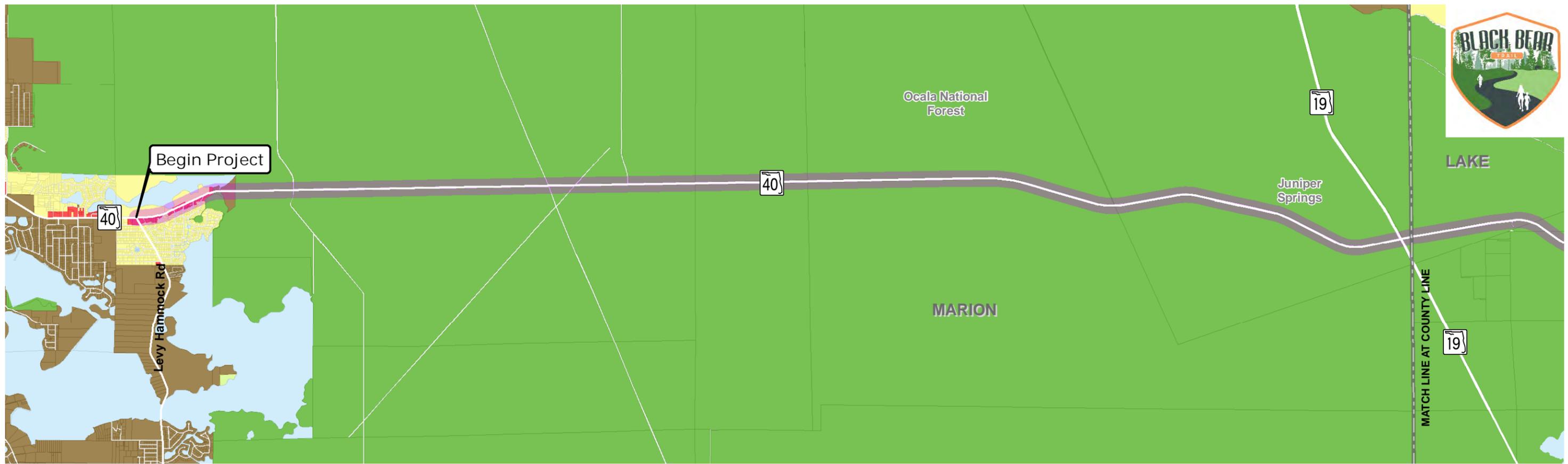
The adopted Marion County FLUM was used to identify future land uses. The future land use designations adjacent to S.R. 40 near Levy Hammock Road are a mix of medium and low density residential with few locations zoned for commercial use. Following S.R. 40 east to the Marion County Line, the land is zoned for public use, located within the Ocala National Forest. The main difference between the future and existing land use in Marion County is that the future land use sees some commercial and public land change into residential land to the north of S.R. 40 from Levy Hammock Road to approximately 0.7 miles west of Forest Road 79.

#### 3.2.2. LAKE COUNTY

According to the adopted FLUM, uses along S.R. 40 within Lake County are mostly conservation. A small area of rural residential and public lands in Astor Park exists, as well as urban low density residential and commercial within the Astor community. The main difference between the future and existing land use in Lake County is that the future land use sees most agricultural land within Astor Park and Astor change to residential land use. There is also a shift in Astor where some residential areas in the southwestern portion of the community become commercial and industrial land.

#### 3.2.3. VOLUSIA COUNTY

The adopted Volusia County FLUM designates most of the corridor as conservation, environmental systems corridor, and forestry resource, as these locations are within the Lake George State Forest. Much of the remaining areas are designated as agricultural along with rural residential. The remainder of the corridor to the east at Barberville is designated as a rural community. The main difference between the future and existing land use in Volusia County is that the future land use sees small portions of agricultural land along S.R. 40 change to residential land.



- |   |  |  |  |   |
|---|--|--|--|---|
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| <span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> Agricultural | <span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Industrial         | <span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> Institutional / Public | <span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> Recreational |   |

**Future Land Use**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 5**

### 3.3. PLANNED ROADWAY AND DEVELOPMENT PROJECTS

Other transportation and development projects currently planned or in process within or adjacent to the S.R. 40 Black Bear Trail Corridor Planning Study include:

- **S.R. 15 (U.S. 17) Widening** – De Leon Springs to S.R. 40 - Volusia County
  - Via *Volusia County Transportation Improvement Program* - <http://volusia.dtstiptool.com/report/temp/bVqgDCTWkp.pdf>
- **Armelli Planned Unit Development** (Mixed Use - 17 acres - Volusia County)
- **Volusian Forest Planned Unit Development** (Residential - 672 acres and 1331 acres - Volusia County)
- **Heritage Heating and Air Inc. Planned Unit Development** (Business - one acre - Volusia County)
- **Pine Island South Residential Planned Unit Development** (Residential - 16 acres - Volusia County)
- **Pine Island North Residential Planned Unit Development** (Residential two acres - Volusia County)
- **Reveille Farms Planned Unit Development** (162 acres - Volusia County)
- **San Jose Mission Planned Unit Development** (Mixed Use – 22 acres - Volusia County)

### 3.4. SOCIOECONOMIC DATA

The study area of the S.R. 40 Black Bear Trail is defined as 0.5 miles from the centerline of the SR 40 corridor and has a population of approximately 1,200 people and over 475 households based on 2016 American Community Survey (ACS) data for census block groups intersecting the study area. The population is 91.0% Caucasian, on the corridor compared to Marion County (81.8%), Lake County (83.5%), and Volusia County (83.4%). However, there are small pockets of minority identified populations located on the western edges of Astor, north of S.R. 40 following Emporia Road, and within Barberville. The majority of the population speaks English, while approximately 5% either do not speak English well or do not speak English at all.

The dominant age groups are ages 50-64 at 23.3% and age 65 and over at 31.1%. The median age is 52 years old. The median household income is \$33,891 (2016 ACS) compared to Marion County (\$40,295), Lake County (\$47,141), and Volusia County (\$42,240). Also 24.6% of households are below the poverty level. As a comparison Marion, Lake and Volusia counties overall percentages of households below the poverty level are 15.7%, 12.8%, and 15.2% respectively. High school graduates (or higher) make up 76.6% of the population.

### 4. SUMMARY OF EXISTING FACILITY

Several data sources were utilized to evaluate the existing facilities within the study area, including as-built plan sets, right of way (R/W) maps, and datasets from several different environmental agencies. A complete list of data sources is included in Appendix A. As-built plan sets are included in Appendix D and summarized in Table 1. R/W maps are included in Appendix E.

**Table 1 | As-Built Plan Sets Summary**

Contract Number	Year	From:	Construction Limits To:
<b>11140-3504</b>	1975,1977	Butler Street	West Side of SR 40 Bridge
<b>79100-3508</b>	1975,1977	West Side of SR 40 Bridge	East Side of SR 40 Bridge
<b>11140-3506</b>	1977	Appx. 300' East of 5 <sup>th</sup> Street	Butler Street
<b>79100-3510</b>	1977	East Side of SR 40 Bridge	Appx. 900' East of Alice Drive
<b>36080-3518</b>	1983	CR 314A	Marion County/Lake County Line
<b>11140-3507</b>	1986	Appx. 500' west of River Road	3 <sup>rd</sup> Street
<b>11140-3514</b>	1994	Marion County/Lake County Line	River Road

Source: Florida Department of Transportation

#### 4.1. TYPICAL SECTIONS

##### 4.1.1. SEGMENT 1: LEVY HAMMOCK ROAD TO LAKE COUNTY LINE IN MARION COUNTY

Figure 6 illustrates the typical section of S.R. 40 from Levy Hammock Road to the Marion/Lake County Line. The typical section consists of a two-lane typical section including one 12-foot travel lane in each direction and in some locations a 12-foot center passing lane. One stretch includes additional brief passing lanes for the eastbound and westbound traffic. Each side of the roadway has 4-foot paved shoulders with 8 to 10-foot total shoulder widths. Bicyclists are accommodated on the existing paved shoulders. Typically, drainage is conveyed through an open swale system. See Section 4.8 Drainage Features for additional information for the study area.

##### 4.1.2. SEGMENT 2: MARION/LAKE COUNTY LINE TO VOLUSIA COUNTY LINE IN LAKE COUNTY

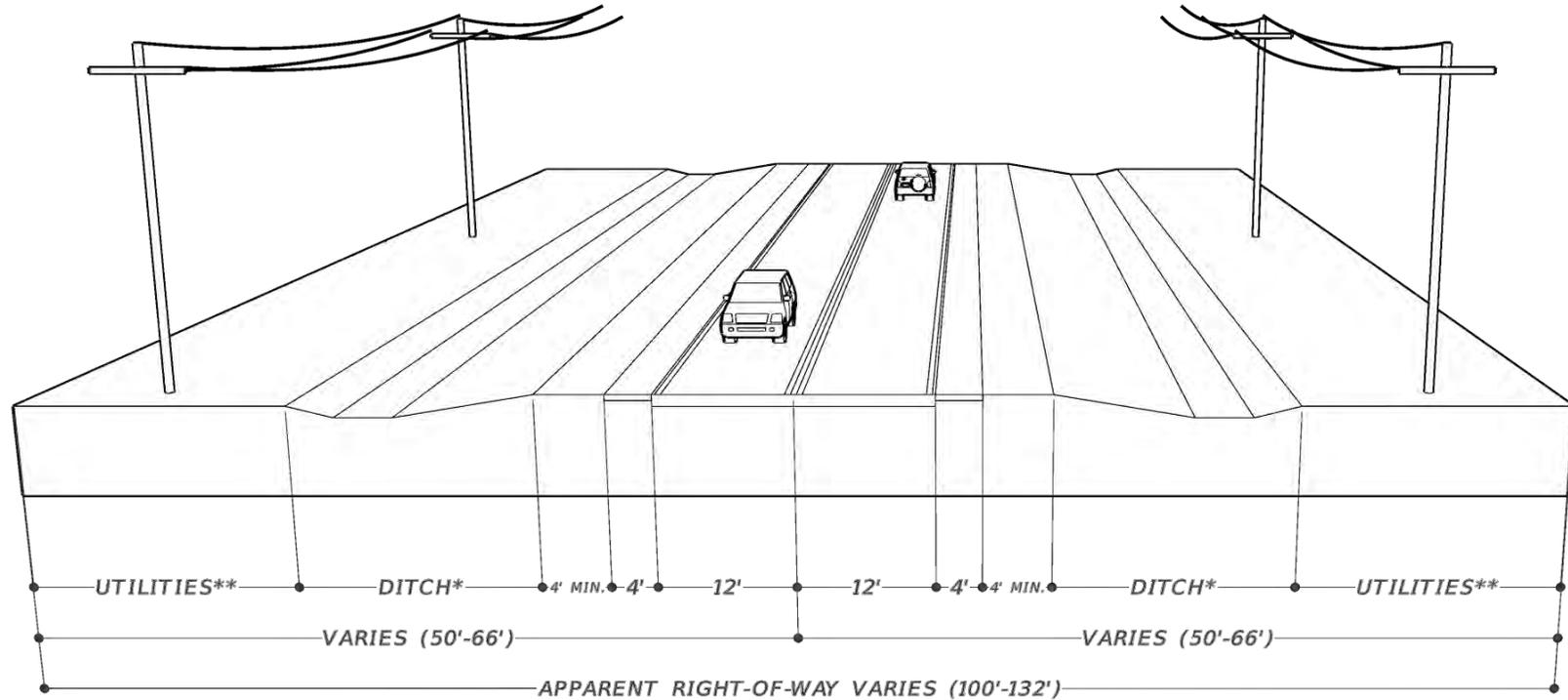
Figure 7 depicts the typical section of S.R. 40 from the Marion/Lake County Line to the Lake/Volusia County Line which consists of one 12-foot travel lane in each direction and in some locations a 12-foot center left turn lane. Each side of the roadway has 4-foot paved shoulders with 8 to 10-foot total shoulder widths. Bicyclists are accommodated on the existing paved shoulders. The easternmost end is at the Astor Bridge over the St. Johns River. Typically, drainage is conveyed through an open swale system. See Section 4.8 Drainage Features for additional information for the study area.

### 4.1.3. SEGMENT 3: LAKE COUNTY LINE TO U.S. 17 IN VOLUSIA COUNTY

S.R. 40 from the Lake/Volusia County Line to U.S. 17 consists of a two-lane typical section, shown in Figure 8, including one 12-foot travel lane in each direction and in some locations a 12-foot center left turn lane. Each side of the roadway has a ten-foot shoulder with five feet paved. Bicyclists are accommodated on the existing paved shoulders. The westernmost edge begins at the Astor Bridge over the St. Johns River and the easternmost edge crosses the CSX "S" Line railway. Typically, drainage is conveyed through an open swale system. See Section 4.8 Drainage Features for additional information for the study area.

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

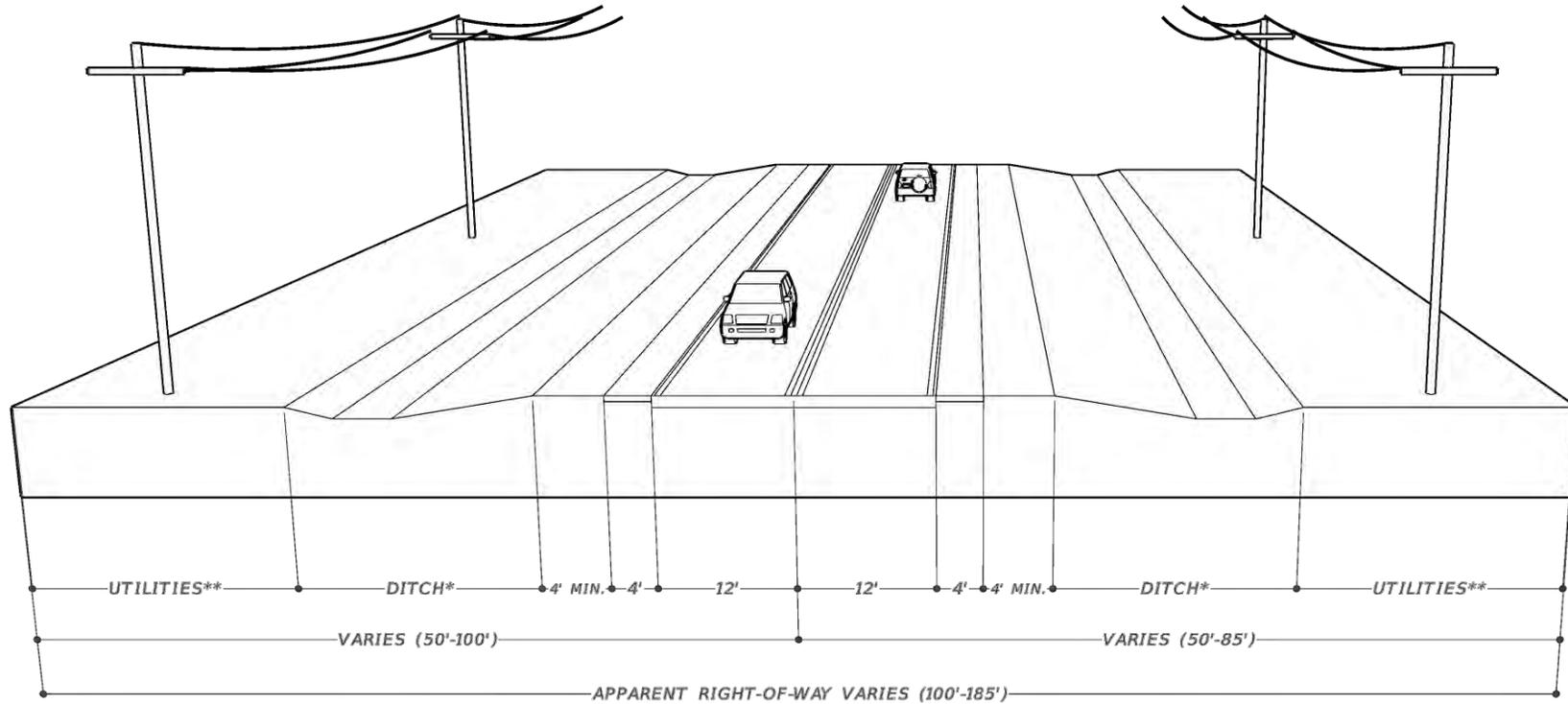
Figure 6 | Segment 1 - Existing Typical Section: Levy Hammock Road to Lake County in Marion County



\* DITCH LOCATION, DEPTH, AND WIDTH VARIES  
\*\* PRESENCE AND LOCATION OF UTILITIES VARIES

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

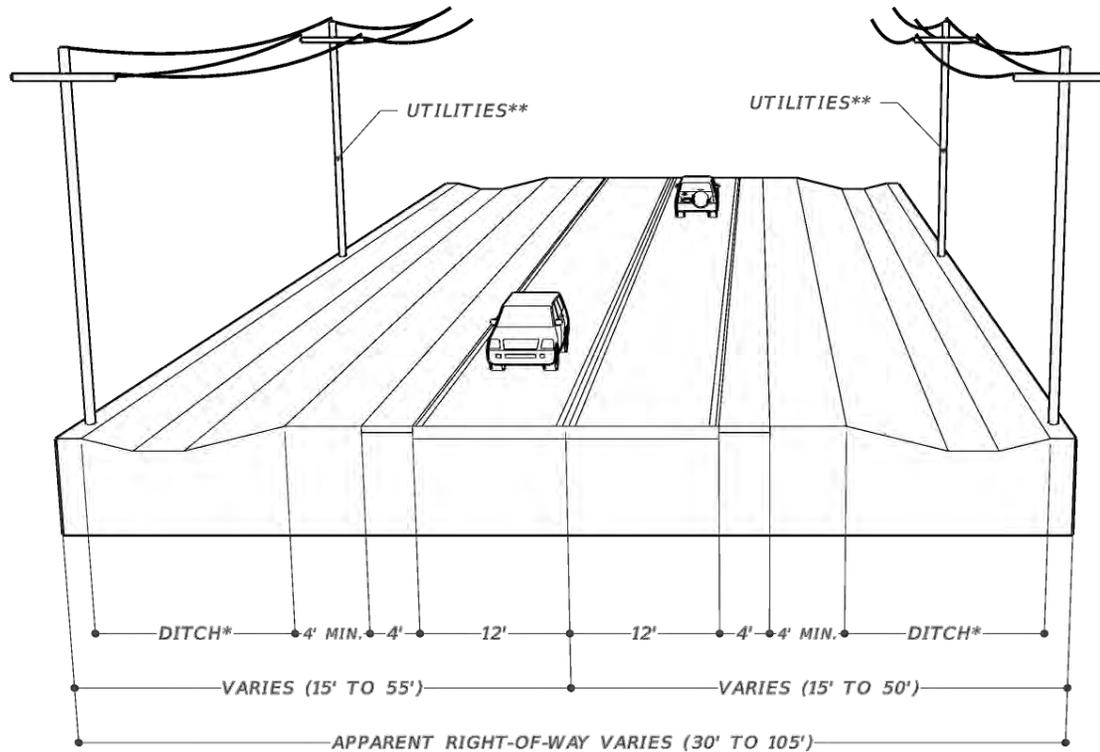
Figure 7 | Segment 2 - Existing Typical Section: Marion County Line to Volusia County Line in Lake County



\* DITCH LOCATION, DEPTH, AND WIDTH VARIES  
\*\* PRESENCE AND LOCATION OF UTILITIES VARIES

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

Figure 8 | Segment 3 - Existing Typical Section: Lake County Line to U.S. 17 in Volusia County



\* DITCH LOCATION, DEPTH, AND WIDTH VARIES  
\*\* PRESENCE AND LOCATION OF UTILITIES VARIES

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

## 4.2. MULTI-MODAL / BICYCLE AND PEDESTRIAN FEATURES

There are no existing sidewalks or marked bicycle lanes on the S.R. 40 corridor.

## 4.3. POSTED SPEED

The posted speed limit varies depending on the segment of the roadway. The following list denotes the posted speed by roadway segment:

- 55 MPH: Levy Hammock Road to Veterans Drive
- 45 MPH: Veterans Drive to Riley Pridgeon Road
- 55 MPH Riley Pridgeon Road to Lemmon Road
- 45 MPH: Lemmon Road to C.R. 3
- 40 MPH: C.R. 3 to U.S. 17

The posted speed limits above per segment are shown in Figure 9.

## 4.4. CONTEXT CLASSIFICATION

The FDOT context classification system labels roadways based on local roadway transportation characteristics and user experience. Upon evaluation of the study corridor, the context classification determinations identified by FDOT are shown in Table 2. A map of the context classifications is included as Figure 10.

**Table 2 | Provisional Context Classification Determination**

Mile Post (MP)	Provisional Context Classification Determination
<b>Roadway Section Number: 36080000 (S.R. 40)</b>	
19.299 to 20.121	C2 - Rural
20.121 to 32.206	C1 - Natural
<b>Roadway Section Number: 11140000 (S.R. 40)</b>	
0.000 to 3.381	C1 – Natural
3.381 to 5.465	C2 – Rural
5.465 to 5.923	C1 – Natural
5.923 to 6.261	C2 – Rural
6.261 to 7.796	C3C – Suburban Commercial
<b>Roadway Section Number: 36090000 (S.R. 40)</b>	
0.000 to 0.100	C3C – Suburban Commercial
0.100 to 2.833	C2 – Rural
2.833 to 4.564	C1 – Natural
4.564 to 5.172	C2 – Rural
5.172 to 5.695	C1 – Natural
5.695 to 6.426	C2 – Rural

Source: Florida Department of Transportation Planning and Environmental Management Office

### 4.5. FUNCTIONAL CLASSIFICATION

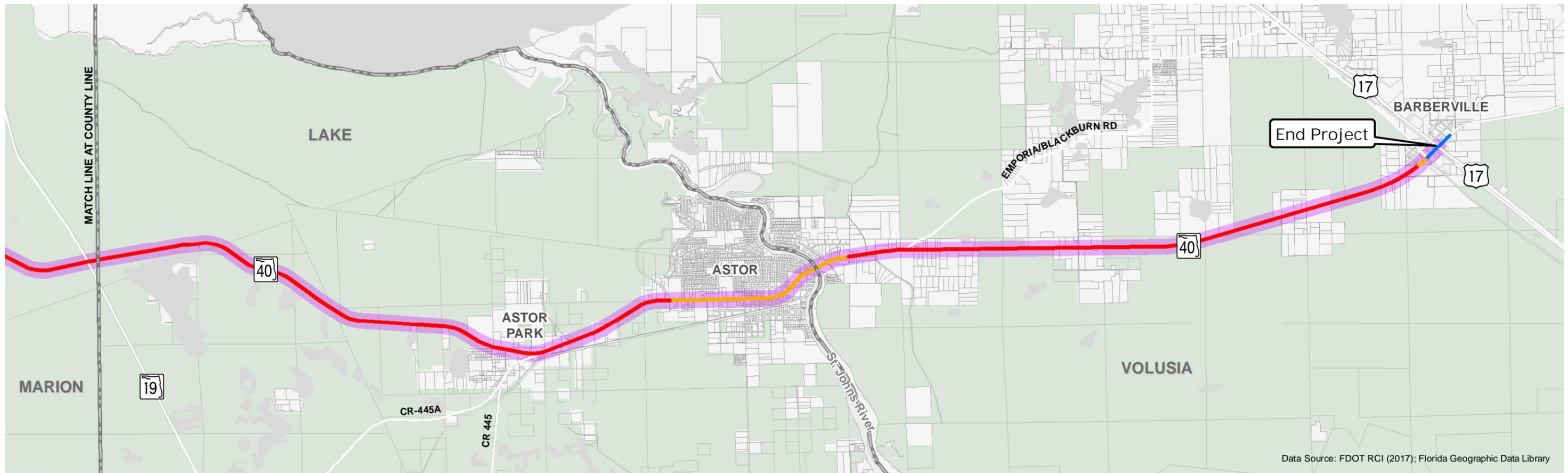
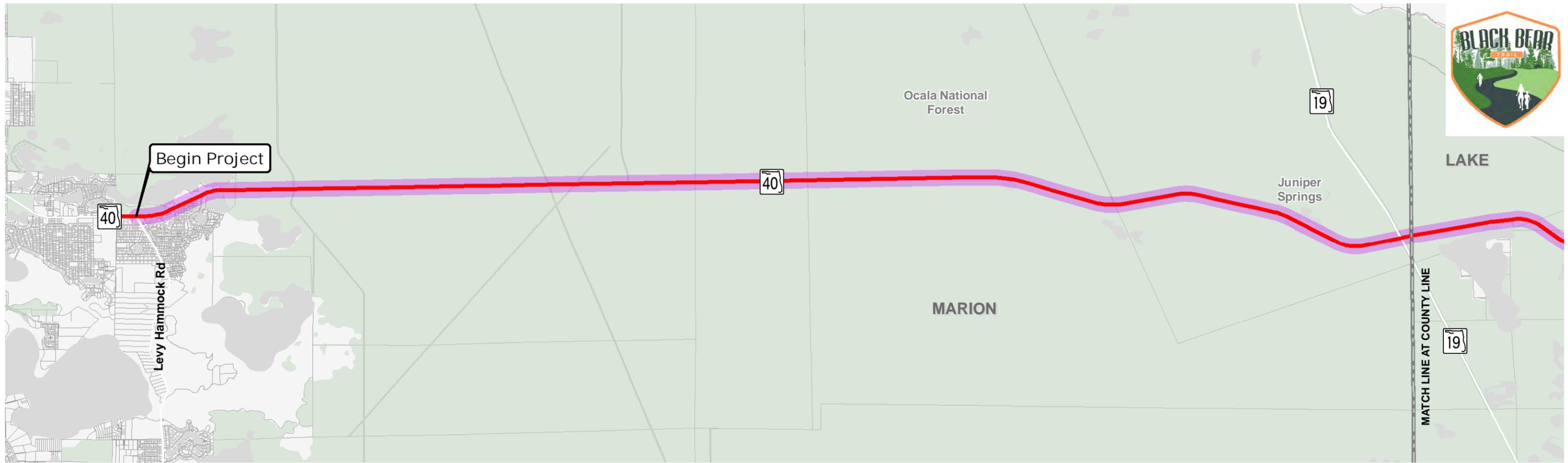
This section of S.R. 40 is classified by FDOT as a principal arterial in a rural area.

The entire 27-mile study area has two additional classifications through the FDOT Strategic Intermodal System (SIS) and the FDOT Office of Florida Scenic Highway. The first designation is the Emerging SIS Highway Corridor, which indicates that the corridor is “emerging” in importance to the state’s economy, which is typically evidenced by growing levels of truck or commercial vehicle traffic. The strategically identified roadway also promotes interregional connectivity, intermodal connectivity, and economic development.

The second designation for the study area is a scenic highway, and is included as part of the Florida Black Bear National Scenic Byway. This scenic byway has a total length of 116 miles and traverses a network of scenic roads and interpretive trails. S.R. 40 also crosses the River of Lakes Heritage Corridor, which includes S.R. 3 and U.S. 17, as shown in Figure 11.

### 4.6. ACCESS CLASSIFICATION

The access management classification of S.R. 40 from Levy Hammock Road to U.S. 17 is Class 3. The access management classifications and standards were obtained from the *FDOT 2014 Median Opening Handbook* and are defined in Table 3.



Data Source: FDOT RCI (2017); Florida Geographic Data Library



**Posted Speed Limit**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 9**

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

Figure 10 | Context Classification Map

## Context Classification Map

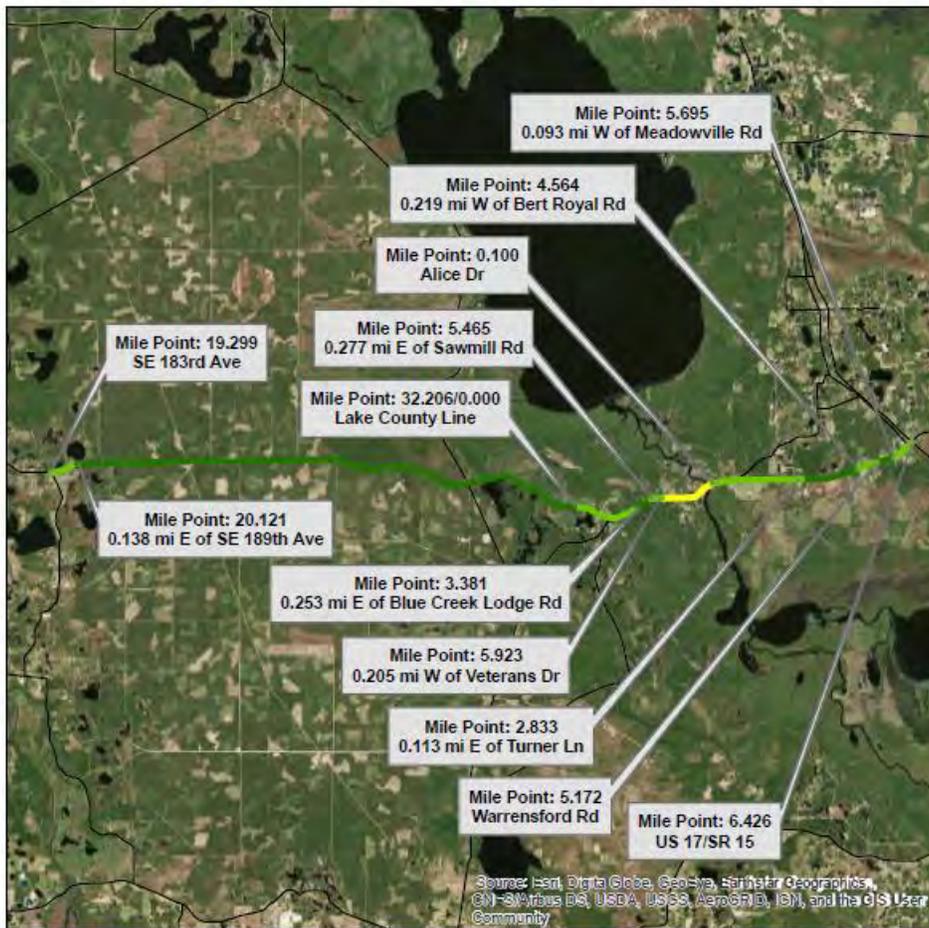
SR 40

Silver Springs, Astor, Pierson, Barberville

Marion, Lake, Volusia Counties

Begin Mile Point: 19.299, 0.000, 0.000

End Mile Point: 32.206, 7.796, 6.426



### Legend

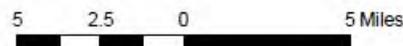
#### CSCCLASS

C1

C2

C3C

— FDOT District 5 Roads



Map Created: 7/16/18

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

Table 3 | Arterial Access Management Classifications and Standards

Access Class	Medians	Connection Spacing (ft)		Median Opening Spacing		Signal Spacing (ft)
		> 45 MPH	(ft) ≤ 45 MPH	Directional	Full	
3	Restrictive*	660	440	1,320	2,640	2,640

Source: Straight-Line Diagrams; \*Restrictive – physically prevent vehicle crossing

Figure 11 | River of Lakes Heritage Corridor – Scenic Highway



Source: River of Lakes Heritage Corridor

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1

## CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

### 4.7. RIGHT OF WAY

The existing R/W width along S.R. 40 varies between 30 and 185 feet. The R/W width per segment was determined using FDOT R/W maps and plats of the study area and the widths are summarized in Table 4. See Appendix E for all R/W maps. Straight-Line diagrams and highway easement deeds were used to assist with the R/W locations, and they are located in Appendix F and Appendix G respectively.

**Table 4 | Right of Way Width**

Mile Post on S.R. 40	R/W Width (ft)	R/W Left from Centerline(ft)	R/W Right from Centerline (ft)
<b>Marion County</b>			
19.299 to 19.617	132	66	66
19.617 to 20.279	100	50	50
20.279 to 32.206	132	66	66
<b>Lake County</b>			
0.000 to 0.757	132	66	66
0.757 to 2.586	132	66	66
2.586 to 2.670	100	50	50
2.670 to 2.765	110	50	60
2.765 to 2.822	100	50	50
2.822 to 2.878	110	50	60
2.878 to 5.132	100	50	50
5.132 to 5.270	132	66	66
5.270 to 5.316	100	50	50
5.316 to 5.404	132	66	66
5.404 to 5.591	100	50	50
5.591 to 6.041	132	66	66
6.041 to 6.123	116	50	66
6.123 to 6.249	132	66	66
6.249 to 6.372	100	50	50
6.372 to 6.496	116	66	50
6.496 to 7.215	100	50	50
7.215 to 7.278	145	60	85
7.278 to 7.373	160	75	85
7.373 to 7.464	150	75	75
7.464 to 7.566	160	85	75
7.566 to 7.758	185	100	85
7.758 to 7.796	100	50	50
<b>Volusia County</b>			
0.000 to 0.224	100	50	50
0.224 to 0.257	105	55	50

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

**Table 4 | Right of Way Width (Cont.)**

Mile Post on S.R. 40	R/W Width (ft)	R/W Left from Centerline(ft)	R/W Right from Centerline (ft)
0.257 to 0.324	100	50	50
0.324 to 0.673	66	33	33
0.673 to 0.748	80	40	40
0.748 to 0.899	96	40	Range from 40 to 56 to 50
0.899 to 0.984	83	33	Range from 50 to 40
0.984 to 1.032	66	33	33
1.032 to 1.677	80	40	40
1.677 to 2.112	66	33	33
2.112 to 2.302	80	40	40
2.302 to 2.851	66	33	33
2.851 to 3.306	80	40	40
3.306 to 3.875	66	33	33
3.875 to 4.461	80	40	40
4.461 to 5.181	66	33	33
5.181 to 5.352	80	40	40
5.352 to 6.279	66	33	33
6.279 to 6.347	30	15	15
6.347 to 6.426	80	40	40

Source: Florida Department of Transportation Right of Way Maps

## 4.8. DRAINAGE FEATURES

The proposed trail alignment is located within two separate hydrologic basins, as shown in Figure 12 where sub-basins are included. The west section between Levy Hammock Road and NG 86-G road is within the Oklawaha Basin, and the east section is located within the Upper St. Johns Basin. Both basins flow to the Lower St. Johns River with a confluence at Palatka. Each of these two basins is broken down into several sub-basins, which include (from west to east): Ham Dam Lake, Halfmoon Lake, Juniper Creek, Morman Branch, Jumping Gully, Blue Creek, St. Johns River, Stone Pond Outfall, and two unnamed branches. Storm runoff from the trail site drains to these branches through sheet flow in the existing condition. The topographic map of the study area is provided in Figure 13. Existing culverts are listed in Table 5.

**Table 5 | Existing Culverts and Cross Drains**

Mile Post (MP)	Structure Type	Number of Structures/Barrels	Diameter (in)	Width (ft)	Height (ft)	Length (ft)
<b>Marion County</b>						
20.183	Concrete Pipe	2	24			66
27.913	Concrete Pipe	1	24			60

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

**Table 5 | Existing Culverts and Cross Drains (Cont.)**

Mile Post (MP)	Structure Type	Number of Structures/Barrels	Diameter (in)	Width (ft)	Height (ft)	Length (ft)
29.731	Concrete Pipe	2	24			66
<b>Lake County</b>						
0.255	Concrete Pipe	1	24			100
1.046	Concrete Pipe	1	24			89
1.364	Concrete Pipe	1	24			111
2.237	Concrete Pipe	1	36			95
3.074	Concrete Pipe	1	24			81
3.379	Concrete Pipe	1	24			85
4.906	Concrete Box Culvert	2		4	6	75
5.988	Concrete Pipe	1	30			82
6.887	Concrete Pipe	1	24			78
7.219	Concrete Pipe	1	30			112
7.318	Concrete Pipe	1	24			96
<b>Volusia County</b>						
0.703	Concrete Pipe	2	24			66
1.095	Concrete Pipe	1	30			66
1.949	Concrete Box Culvert	1		8	2	66
3.248 (begin) 3.254 (end)	Box Culvert greater than 20 ft	1				31.7
4.285	Concrete Box Culvert	2		8	2	60
5.263 (begin) 5.273 (end)	Box Culvert greater than 20 ft	1				52.8

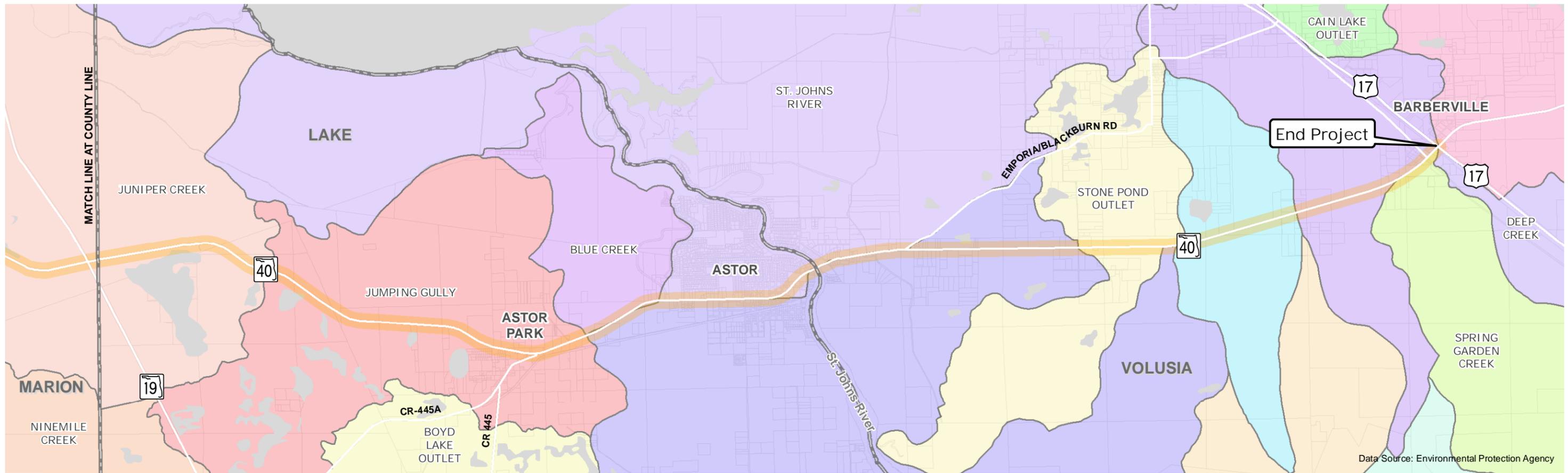
Source: Straight Line Diagrams

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1

## CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

In order to accommodate a trail along the S.R. 40 alignment, the crossing culverts under S.R. 40 are anticipated to be extended. In locations where culverts cannot be extended, a new culvert will be installed for the trail itself at the existing culvert location. Major culverts are located at Juniper Creek, Jumping Gully, Stone Pond Outfall, and two unnamed branches. The trail will also cross over the St. Johns River in Astor.

The trail will also cross numerous floodplains, particularly the segment between S.R. 19 and the St. Johns River, according to the Florida Emergency Management Agency (FEMA) Flood Maps. Most of the floodplains are designated as Zone A, which indicates 100-year flood elevation is not determined. The floodplains associated with Halfmoon Lake and the St. Johns River are classified as Zone AE with a known flood elevation.

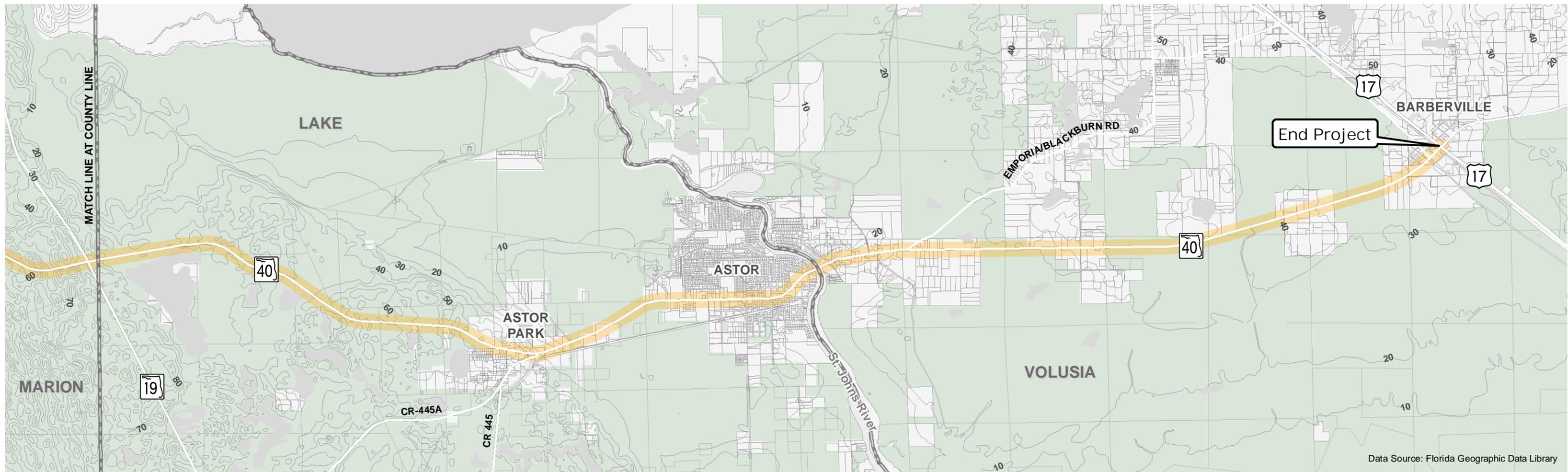


Data Source: Environmental Protection Agency



- Drainage Basin (each basin represented by a different color)
- Watershed
- Study Corridor(s)

**Corridor Drainage Basins**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 12**



Data Source: Florida Geographic Data Library



- 10 Foot Contour
- Study Corridor(s)
- Conservation Area

**Topographic Map**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 13**

### 4.9. STRUCTURES

One existing structure is located within the study area, the S.R. 40 Bridge over the St. Johns River (Bridge No. 110077). The S.R. 40 Bridge over the St. Johns River was built in 1980. The bridge is owned by the State of Florida and is not programmed for rehabilitation (repairs) or replacement.

#### 4.9.1. TYPICAL SECTION

The existing bridge typical section, as shown in Figure 14, consists of two approximately ten-foot travel lanes and ten-foot outside shoulders with concrete traffic railings along both sides of the structure. The right side also contains a five-foot sidewalk. The overall bridge width is 52 feet.

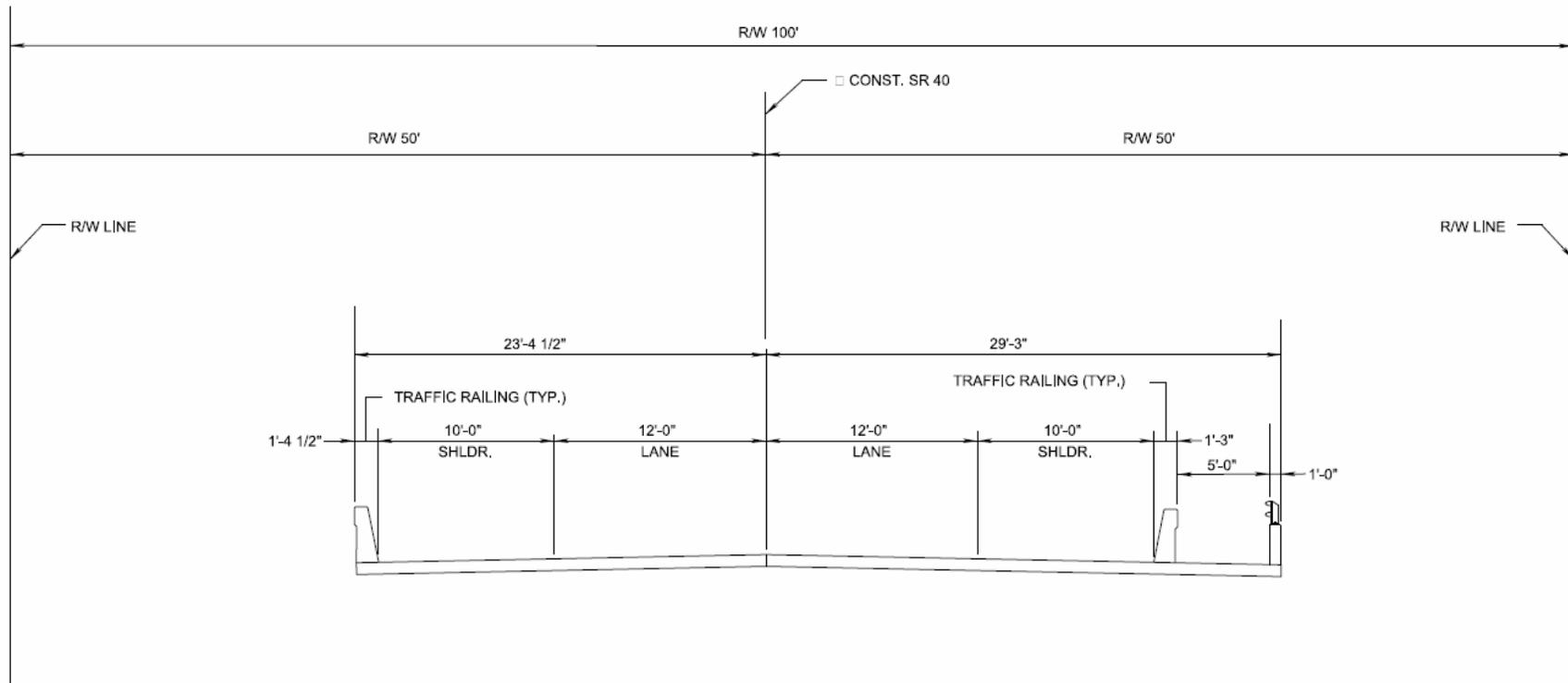
#### 4.9.2. HISTORICAL SIGNIFICANCE

A review of the National Register of Historic Places (NRHP) indicated that the bridge is not historic, and is exempt from Section 106 evaluation under the 2012 Program Comment for Common Post-1945 Concrete and Steel Bridges.



*St. Johns River Bridge in Astor, FL*

Figure 14 | S.R. 40 Bridge Typical Section



TYPICAL SECTION  
SR 40 OVER ST. JOHNS RIVER

Source: Florida Department of Transportation As-Built Plan Sets

### 4.10. LIGHTING

Lighting is present at two locations along S.R. 40. The first location with lighting is the intersection of S.R. 40 with S.R. 19. The light poles are spaced approximately 114 feet apart for nearly 0.10 miles. The second location is the S.R. 40 Bridge over the St. Johns River. The light poles are spaced approximately 114 feet apart for nearly 0.7 miles.



*S.R. 40 and S.R. 19 Lighting*

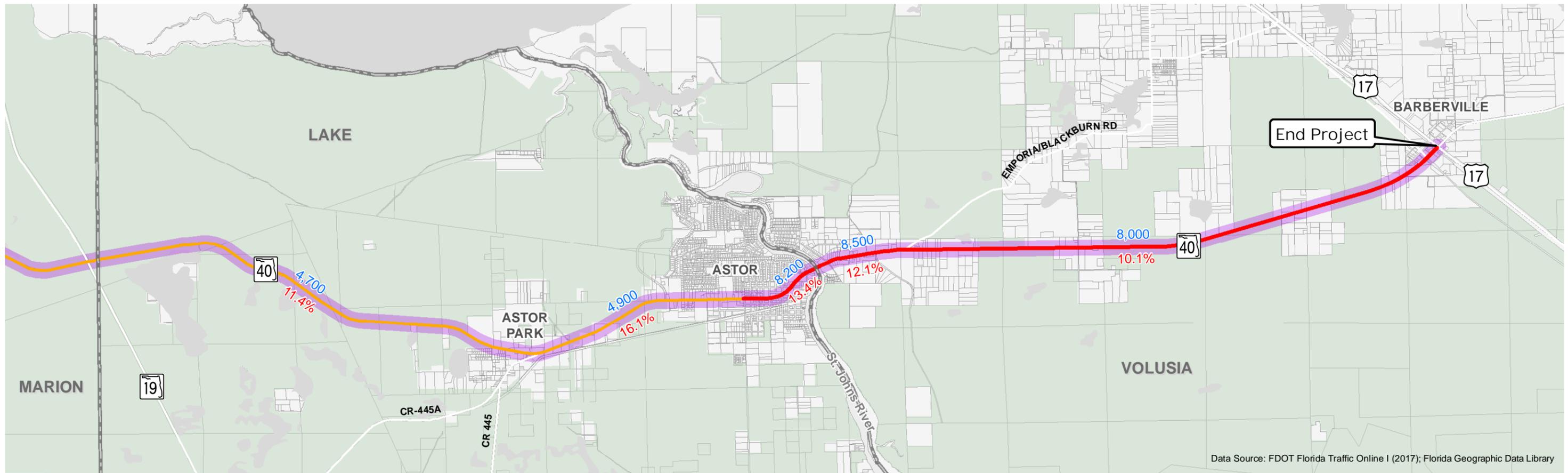


*S.R. 40 over St. Johns River Bridge Lighting*

### 4.11. EXISTING TRAFFIC DATA AND CHARACTERISTICS

The S.R. 40 corridor is a two lane principal arterial in a rural area. The corridor is also considered by the FDOT as an Emerging SIS Corridor, which designates roadways that are growing in importance to the state economy. Part of this designation comes from the high volume of truck and commercial vehicular traffic on the corridor.

The S.R. 40 corridor traffic characteristics can be broken into various segments, as shown in Figure 15. The first is from Levy Hammock Road to S.R. 19, where Annual Average Daily Traffic (AADT) was approximately 4,900 vehicles. This means that on the average day, the road segment experiences this amount of vehicular traffic in both directions of travel combined. The second segment is from S.R. 19 to C.R. 445A, where the AADT slightly decreased to approximately 4,700 vehicles in 2017. From C.R. 445A to Alco Road, the AADT experienced increased back to 4,900 vehicles. Lastly, the S.R. 19 segment from Alco Road to U.S. 17 ranges between 8,000 vehicles to 8,500 vehicles. Truck and heavy vehicle traffic ranges from 8.6% near Levy Hammock Road to just over 16% in Astor. The truck percentage decreases slightly traveling west on S.R. 40, reducing to 12.1% near Emporia Road, and then reducing further to 10.1% in Barberville.



Data Source: FDOT Florida Traffic Online I (2017); Florida Geographic Data Library



- 0 - 1,000
- 2,001 - 5,000
- 1,001 - 2,000
- 5,001 - 10,000
- 850 AADT Count
- 9.5% Truck Percentage
- Study Corridor(s)
- Conservation Area

**Annual Average Daily Traffic (AADT)**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 15**

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

Pedestrian counts on S.R. 40 are available for the intersections with C.R. 3 and U.S. 17 (S.R. 15). The pedestrian counts at C.R. 3 are for a combined eight hours on a Tuesday in August 2013. During this data collection effort, one pedestrian was observed crossing east-west along S.R. 40 and no pedestrians were observed crossing north-south in either direction on C.R. 3. The pedestrian counts at U.S. 17 are for a combined eight hours on a Thursday in March 2016. Four pedestrians were observed crossing north-south along U.S. 17, and three pedestrians were observed crossing along S.R. 15 (east-west). No bicycle counts have been conducted along the corridor. During the field review, some cyclists were observed along S.R. 40, concentrated mostly along local streets in Astor.



*Cyclist on S.R. 40*



*Cyclist on Local Streets in Astor*

## 4.12. EXISTING OPERATIONAL ANALYSIS

The Level of Service (LOS) measures the travel delay of vehicles and provides a “grade” based on the delay. As shown in Figure 16, an “A” grade represents free flowing traffic, while “F” is considered failing and highly congested. The LOS for S.R. 40 were obtained from the FDOT Roadway Characteristics Inventory (RCI). In 2017, the LOS was LOS B from Levy Hammock Road to S.R. 19. From S.R. 19 to U.S. 17, the roadway operates under LOS C, as illustrated in Figure 17.

**Figure 16 | Level of Service Examples**



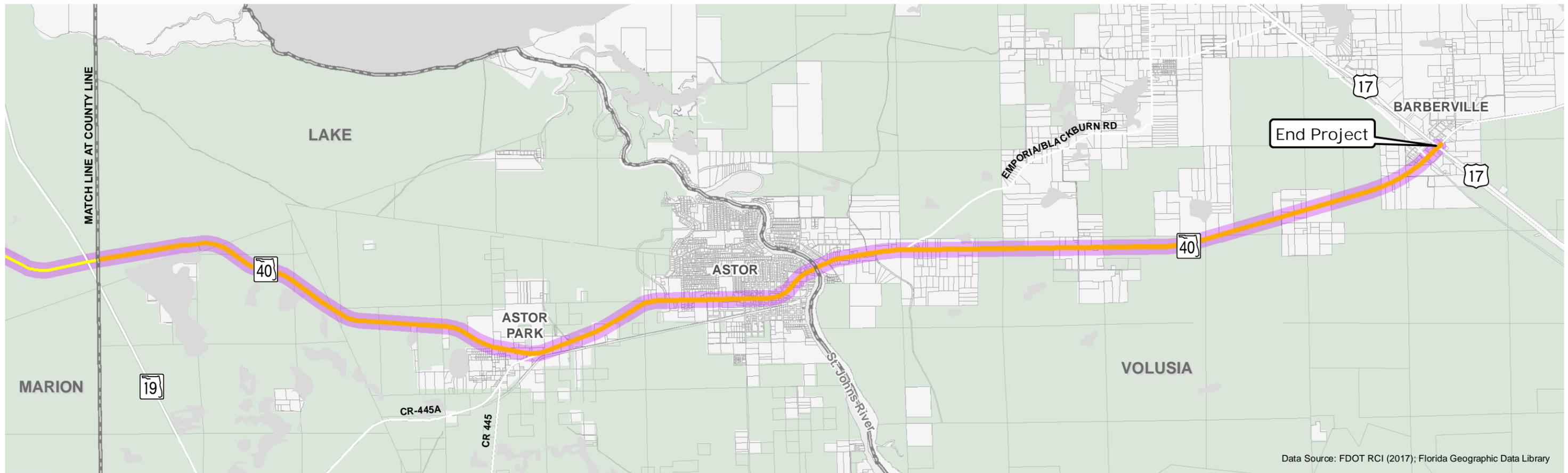
**A/B**



**C/D**



**E/F**



Data Source: FDOT RCI (2017); Florida Geographic Data Library



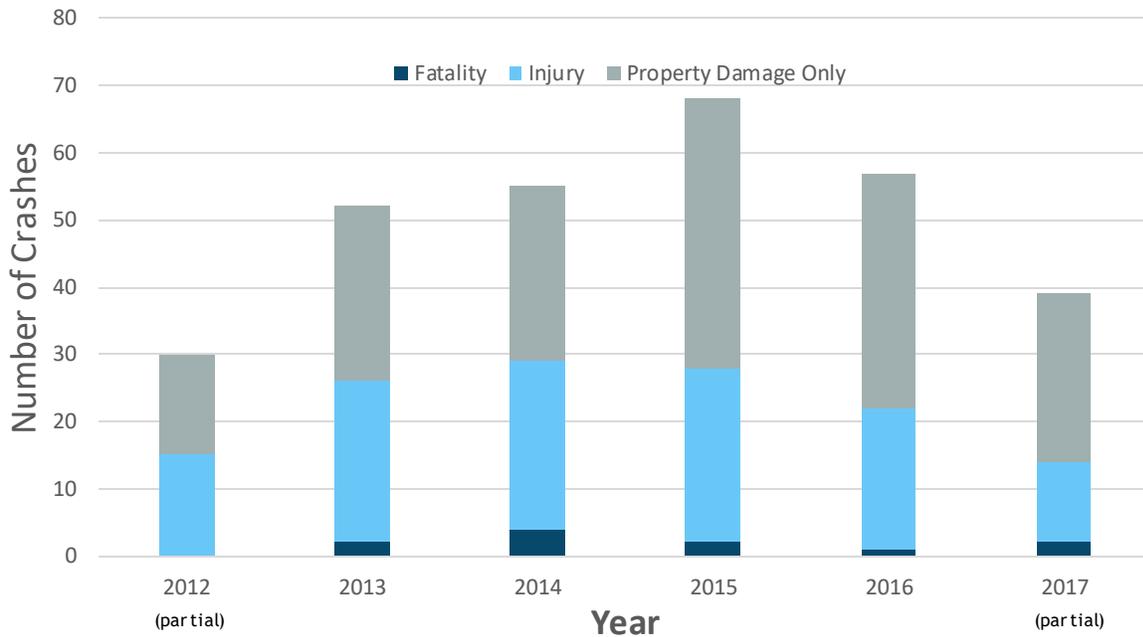
- B
- C
- Conservation Area
- Study Corridor(s)

**Corridor Level of Service (LOS)**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 17**

## 4.13. CRASH DATA

Crash data was collected for S.R. 40 from Levy Hammock Road to U.S. 17 for the most recent five years using Signal Four Analytics. This section summarizes crash statistics and analyzes data for high frequency crash locations within the study corridor. Figure 18 summarizes crash frequency and crash type by year from 2012 to 2017. Both 2012 and 2017 are partial data sets.

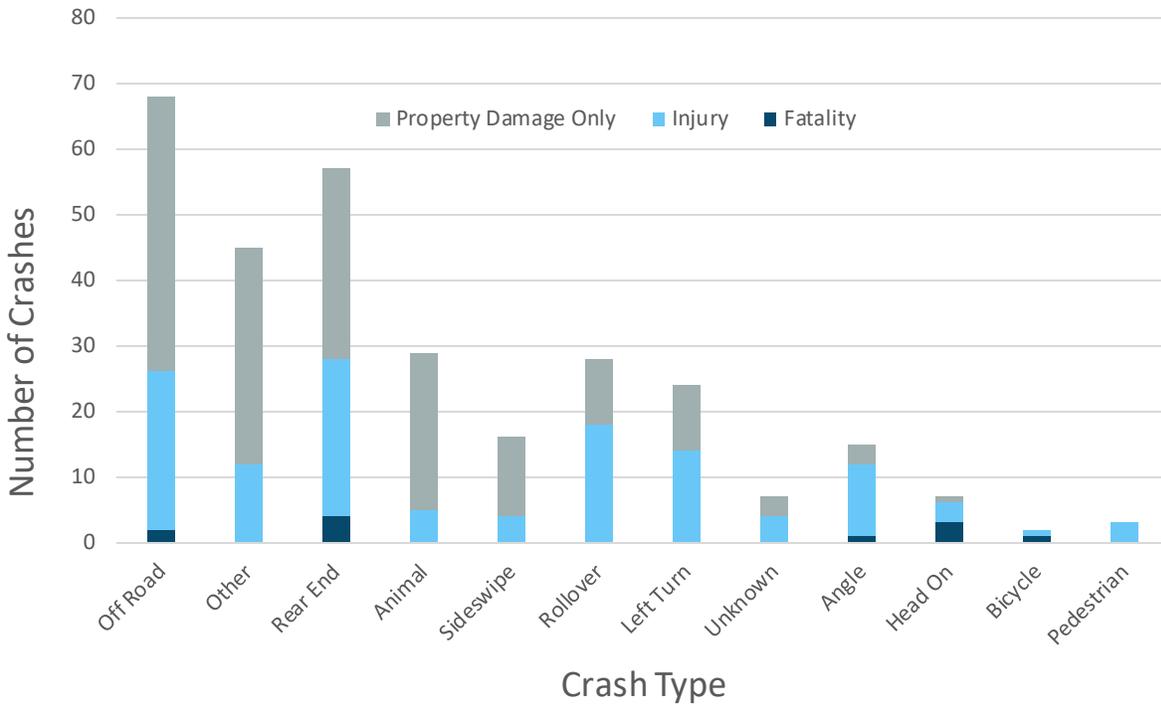
**Figure 18 | Crashes by Year and Severity (2012 - 2017)**



Source: Signal Four Analytics

The crashes per year remain relatively stable with the exception of 2015. The corridor wide crashes for the five year study are displayed in Figure 19 broken down by type and severity.

**Figure 19 | Crashes by Type and Severity (2012 - 2017)**



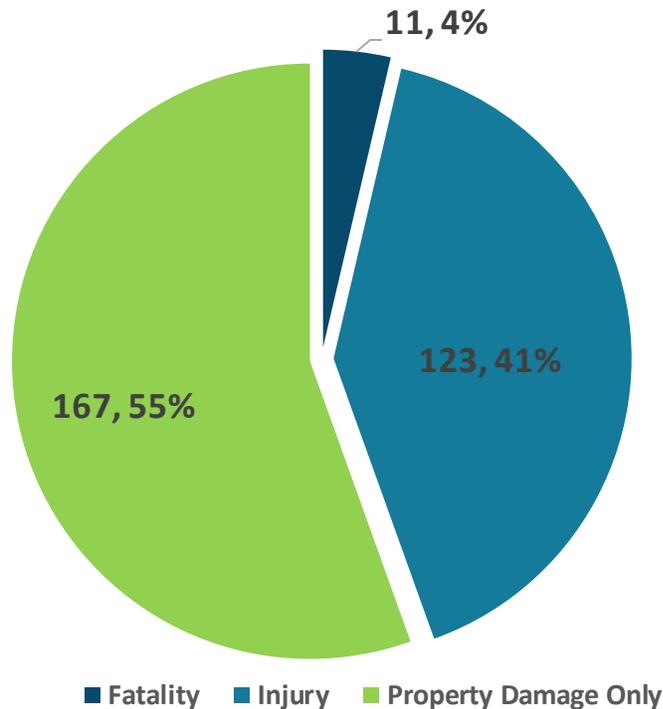
Source: Signal Four Analytics

The most common types of crashes on S.R. 40 are off road at 23%, rear end at 19%, and other at 15%. Animal involved crashes account for 10% of all accidents. Pedestrian and bicyclist accidents each account for 1% of all accidents. The locations where pedestrian and bicyclist accidents occurred are the following:

- **Pedestrian:** S.R. 40 and St. Johns River Road (700 feet offset east at 10:20 pm)
- **Pedestrian:** S.R. 40 and SE 177<sup>th</sup> Ave (50 feet offset east at 8:00 pm) (outside study)
- **Pedestrian:** S.R. 40 and Warrensford Road (2,100 feet offset east at 11:50 am) (construction zone)
- **Bicyclist:** S.R. 40 and Alco Road (fatality – at intersection at 9:30 pm)
- **Bicyclist:** S.R. 40 and River Road (50 feet offset west at 8:30 pm)

These pedestrian and bicyclist accidents all occurred within areas of high crash rates. The corridor crash severity is broken down in Figure 20 by total accidents and percentage.

Figure 20 | Number and Percentage of Crashes Classified by Severity (2012 - 2017)

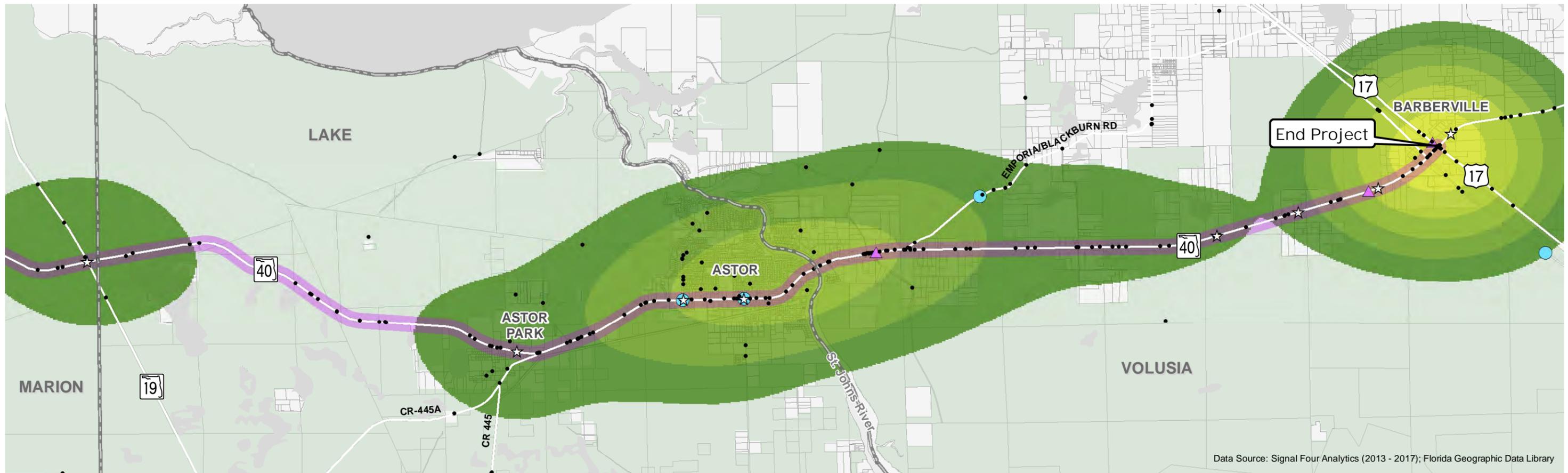


Source: Signal Four Analytics

Additional significant findings include the following:

- Daylight is when a majority of crashes occur at 57% followed by at night without lighting at 31%
- Wet surface conditions accounted for 16% of all crashes versus dry surface conditions accounting for 84% of all crashes

A heat map of the S.R. 40 segment is shown in Figure 21. There are three segments on S.R. 40 within the study area where crashes are most common. Beginning from the west, these are Levy Hammock Road to SE 13<sup>th</sup> Lane near Forest Corners, Veterans Drive to St. Johns River Road in Astor, and Lemmon Road to U.S. 17 in Barberville.



Data Source: Signal Four Analytics (2013 - 2017); Florida Geographic Data Library



- |               |  |      |  |                |  |                  |  |                   |
|---------------|--|------|--|----------------|--|------------------|--|-------------------|
| Crash Density |  | High |  | Vehicle Crash  |  | Bicycle Crash    |  | Conservation Area |
|               |  | Low  |  | Fatality Crash |  | Pedestrian Crash |  | Study Corridor(s) |

**Crash Density Heat Map: 2013-2017**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 21**

### 4.14. UTILITIES / RAILROADS

The St. Johns and Lake Eustis railway corridor is abandoned. The corridor is located south of S.R. 40 from beginning in Astor at the St. Johns River. The abandoned railway corridor travels parallel to S.R. 40, heading west to C.R. 445. After crossing C.R. 445, the rail corridor merges with C.R. 445A, and then travels south, becoming a Railroad Grade Road.

The railroad corridor was originally 120 feet in width. Near Astor, 20 feet of the corridor was acquired by the St. Johns River Utility (formerly Astor Water Association). The remainder of the railroad corridor through C.R. 445A has been sold to private owners.



*Abandoned Railway Corridor near Astor*

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

Several utility services are also located within the study area, summarized in Table 6.

**Table 6 | Study Area Utilities**

Service Area Name	Utility Type
<b>Marion County</b>	
CLAY ELECTRIC SALT SPRINGS DISTRICT	ELECTRIC
CITY OF OCALA TELECOMMUNICATIONS	FIBER
CITY OF OCALA, WATER AND SEWER DEPARTMENT	WATER AND SEWER
COX CABLE - MARION	CABLE TV
CHARTER COMMUNICATIONS	CABLE TV
FLA. GAS TRANS.-SILVER SPRINGS	GAS PIPELINE
MARION COUNTY UTILITIES	
OPTICALTEL	CABLE TV
DUKE ENERGY	FIBER
SUNSHINE UTILITIES OF CENTRAL FLORIDA, INC.	WATER
CENTURYLINE - OCALA	PHONE AND FIBER OPTIC
TECO PEOPLES GAS	GAS PIPELINE
<b>Lake County</b>	
CLAY ELECTRIC SALT SPRINGS DISTRICT	ELECTRIC
OPTICALTEL	CATV
DUKE ENERGY	ELECTRIC
FGUA-HOLIDAY HAVEN	UNKNOWN
ST JOHNS RIVER UTILITY INC	SEWER AND WATER
CENTURYLINK-OCALA	PHONE AND FIBER OPTIC
<b>Volusia County</b>	
CLAY ELECTRIC SALT SPRINGS DISTRICT	ELECTRIC
OPTICALTEL	CATV
DUKE ENERGY	ELECTRIC
LEVEL 3 COMMUNICATIONS	FIBER OPTIC
MCI	COMMUNICATIONS/FIBER OPTIC
CROWN CASTLE NG	FIBER OPTIC
AT&T/DISTRIBUTION	TELEPHONE
ST JOHNS RIVER UTILITY INC	SEWER & WATER
TOWER CLOUD, INC	FIBER OPTIC
CHARTER COMMUNICATIONS	COAXIAL/FIBER OPTIC CATV

Source: Sunshine OneCall (Sunshine 811)

### 4.15. TRANSIT DATA / ROUTES

There are no transit routes in operation or planned along S.R. 40 within the study area. In Volusia County, Votran operates a bus route along U.S. 17, abutting the eastern study limit. The bus route is Route 24 and runs along U.S. 17 from Northgate Shopping Center to the Putnam County line. The bus stop name is U.S. 17 and S.R. 40 24 outbound (or inbound) and stops three times per day, Monday to Saturday. The bus stop is located near the intersection of U.S. 17 and S.R. 40.



*U.S. 17 Northbound Bus Stop*



*U.S. 17 Southbound Bus Stop*

### 4.16. EXISTING / PLANNED TRAILS

Figure 22 illustrates the existing trails and trailheads within the study area, while the following sections describe several of the most well-known trails. Detailed trail maps for most of the existing trails and are located in Appendix H.

#### 4.16.1. FLORIDA NATIONAL SCENIC TRAIL

The Florida National Scenic Trail is a congressionally designated National Scenic Trail spanning 1,300 miles across the State of Florida. Part of the trail runs through the Ocala National Forest.



*Florida National Scenic Trail*

#### 4.16.2. OCALA ADVENTURE TRAIL

The Ocala Adventure Trail, also known as the Centennial Trail, is a 45-mile loop surrounding the Pinecastle Naval Range to the south of S.R. 40 and allows the use of off highway vehicles (OHV).

### 4.16.3. NATURE TRAIL AT JUNIPER SPRINGS

The Nature Trail at Juniper Springs is an approximately one mile round trip trail along Juniper Springs Creek off of S.R. 40.

### 4.16.4. HEART OF FLORIDA LOOP

The Heart of Florida Loop is a series of interconnected multi-use trails that create a loop through eight counties in Central Florida, as identified by FDEP OGT. The S.R. 40 Black Bear Trail is a significant component of the Heart of Florida Loop.

### 4.16.5. OCALA NATIONAL FOREST TRAILS

The existing hiking trails in the Ocala National Forest, outside of the recreation areas, are primarily part of the Florida National Scenic Trail.

## 4.17. FIELD REVIEW

Field reviews were performed on February 12, 2018 and March 19, 2018. Data collected during the field reviews, including photos of key features, are included in Appendix I.

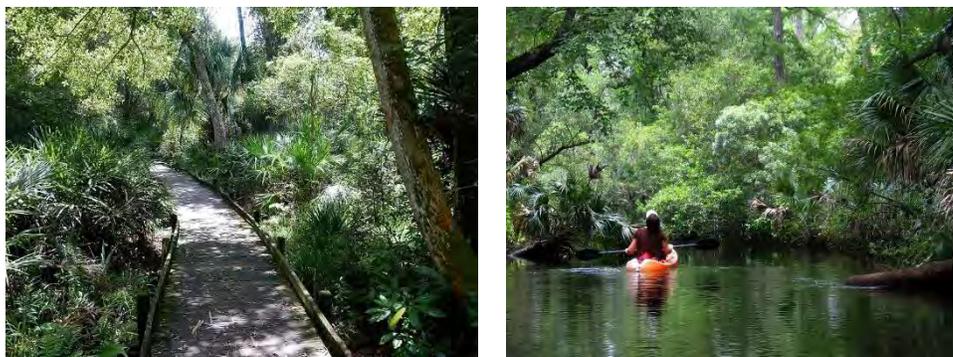
## 5. ENVIRONMENTAL SETTING

The existing environmental setting is comprised of natural, cultural, social, and physical resources. The features identified within each of these four categories are described in the following sections.

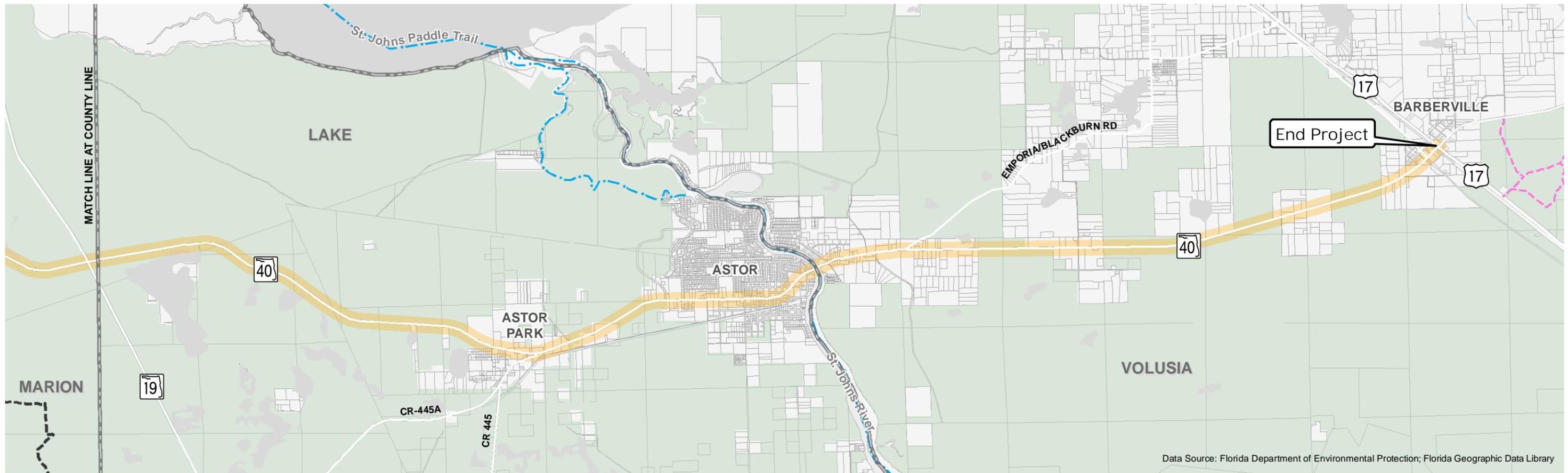
### 5.1. NATURAL RESOURCES

#### 5.1.1. WETLANDS AND FLOODPLAINS

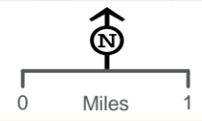
Several rivers, creeks, lakes, and natural springs are located within the study area, which increases the occurrence of wetlands and floodplains. The wetlands and floodplains analyses were performed in GIS using FEMA and National Wetlands Inventory (NWI) data, and the resulting map is shown in Figure 23.



*Juniper Springs Trail and Creek*

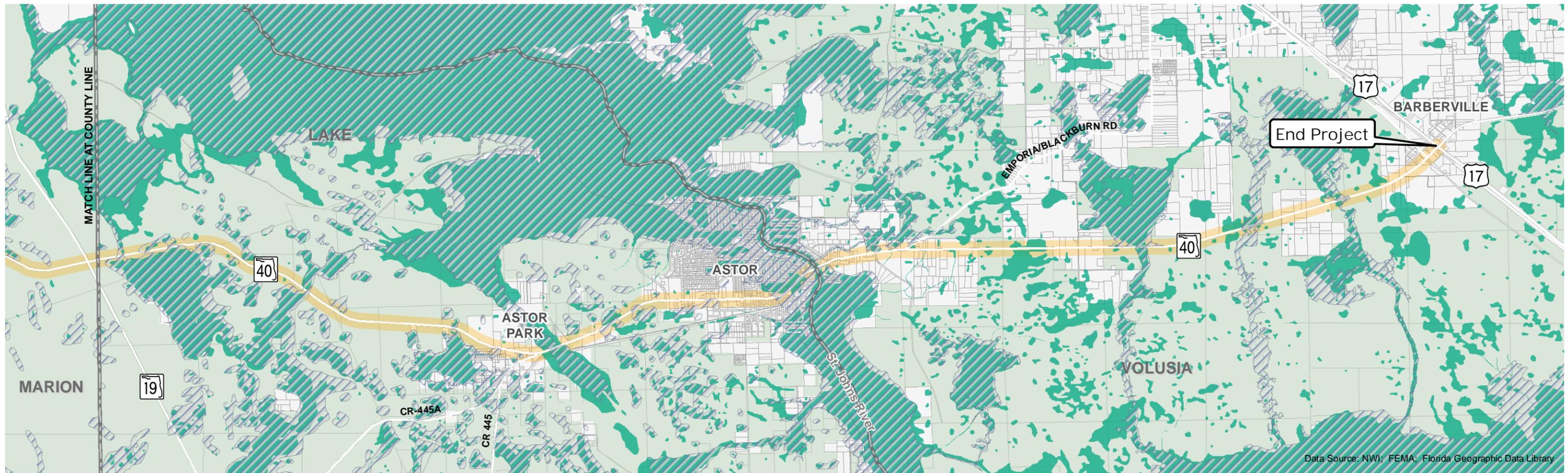


Data Source: Florida Department of Environmental Protection; Florida Geographic Data Library



- |                |           |            |                          |                   |
|----------------|-----------|------------|--------------------------|-------------------|
| Unpaved Biking | Multi-Use | Equestrian | Non-Motorized Trail Head | Conservation Area |
| Hiking         | Paddling  | Motorized  | Motorized Trail Head     | Study Corridor(s) |

**Existing Trails**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 22**



Data Source: NWI; FEMA; Florida Geographic Data Library



- Floodplain
- Conservation Area
- Wetland
- Study Corridor(s)

**Wetlands & Floodplains**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 23**

### 5.1.2. HABITAT

The study area predominantly consists of conservation lands within the Ocala National Forest, which creates a higher potential for occurrence of protected wildlife and plant species.

The aquatic areas of Lake George, Lake Dexter, Lake Woodruff, and the St. Johns River are classified as critical habitats for the West Indian Manatee, as shown in Figure 24. Consultation areas for the following wildlife and plant species are located throughout the study area:

- Lake wales ridge plants (from western project limit to C.R. 445A)
- Red cockaded woodpecker (entire study area)
- Sand skink (from western project limit to approximately one mile east of the S.R. 19 intersection)
- Florida scrub-jay (entire study area)
- Snail kite (from eastern project limit to approximately 1.5 miles west of S.R. 19 intersection)

Information regarding the primary species with a potential for occurrence are included in the following series of tables, determined through a preliminary environmental screening utilizing the FDOT Environmental Screening Tool (EST). However, it should be noted that these items should not be considered comprehensive. The protection status for each of the animal and plant species were obtained from the Florida Fish & Wildlife Conservation Commission (FWC) and the U.S. Environmental Protection Agency (EPA). There are no occurrences of essential fish habitats within the study area.



*Florida scrub-jay  
Observed During Field Review*

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

**Table 7 | Wildlife Species with a Potential for Occurrence**

Wildlife Species Common Name	Scientific Name	Federal or State Listing	Protection Status
Atlantic sale marsh snake	<i>Nerodia clarkii</i>	Federal	Threatened
Bald eagle	<i>Haliaeetus leucocephalus</i>	Federal	Managed
Blue purse-web spider	<i>Sphodros abboti</i>	-	-
Eastern indigo snake	<i>Drymarchon couperi</i>	Both	Threatened
Everglade snail kite	<i>Rostrhamus sociabilis</i>	Both	Endangered
Florida black bear	<i>Ursus americanus floridanus</i>	State	Managed
Florida pine snake	<i>Pituophis melanoleucus</i>	State	Threatened
Florida scrub lizard	<i>Sceloporus woodi</i>	-	-
Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Both	Threatened
Gopher tortoise	<i>Gopherus polyphemus</i>	State	Threatened
Green sea turtle	<i>Chelonia mydas</i>	Federal	Threatened
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Federal	Endangered
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Federal	Endangered
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Federal	Endangered
Loggerhead sea turtle	<i>Caretta caretta</i>	Federal	Threatened
Long-tailed weasel	<i>Mustela frenata</i>	-	-
Piping plover	<i>Charadrius melodus</i>	Federal	Threatened
Red widow spider	<i>Latrodectus bishopi</i>	-	-
Red-cockade woodpecker	<i>Picoides borealis</i>	Both	Endangered
Rosemary grasshopper	<i>Schistocerca ceratiola</i>	-	-
Sand pine scrub ataenius beetle	<i>Ataenius saramari</i>	-	-
Sand skink	<i>Neoseps reynoldsi</i>	Federal	Threatened
Short-tailed hawk	<i>Lampropeltis extenuata</i>	-	-
Snail kite	<i>Rostrhamus sociabilis</i>	Both	Endangered
Striped newt	<i>Notophthalmus perstriatus</i>	Federal	Managed
Swallow-tailed kite	<i>Elanoides forficatus</i>	-	-
West Indian manatee	<i>Trichechus manatus</i>	Federal	Threatened
Wood stork	<i>Mycteria americana</i>	Both	Threatened

Source: Florida Department of Transportation Environmental Screening Tool

# SR 40 BLACK BEAR TRAIL - FPID # 436360-1 CORRIDOR PLANNING STUDY - EXISTING CONDITIONS REPORT

**Table 8 | Plant Species with a Potential for Occurrence**

Plant Species	Scientific Name	Federal or State Listing	Protection Status
Ashe's savory	<i>Calamintha ashei</i>	-	-
Britton's beargrass	<i>Nolina brittoniana</i>	Federal	Endangered
Florida bonamia	<i>Bonamia grandiflora</i>	Federal	Threatened
Lewton's polygala	<i>Polygala lewtonii</i>	Federal	Endangered
Longspurred mint	<i>Dicerandra cornutissima</i>	Federal	Endangered
Okeechobee gourd	<i>Cucurbita okeechobeensis</i>	Federal	Endangered
Papery whitlow-wort	<i>Paronychia chartacea</i>	Federal	Threatened
Pigeon wings	<i>Clitoria ternatea</i>	Federal	Threatened
Pygmy fringe-tree	<i>Chionanthus pygmaeus</i>	Federal	Endangered
Rugel's pawpaw	<i>Deeringothamnus rugelii</i>	Federal	Endangered
Scrub plum	<i>Prunus geniculata</i>	Federal	Endangered
Scrub wild buckwheat	<i>Eriogonum longifolium</i>	Federal	Threatened
Wide-leaf warea	<i>Warea amplexifolia</i>	Federal	Endangered

Source: Florida Department of Transportation Environmental Screening Tool

Bald eagles have the potential to occur within the study area, and are listed as a federally managed species by the Bald and Golden Eagle Protection Act. Several bald eagle nests are located within the Ocala National Forest and surrounding areas, as illustrated in Figure 24, however no known nesting sites are within a half-mile buffer of the study area. No direct impacts to the nesting sites are anticipated.

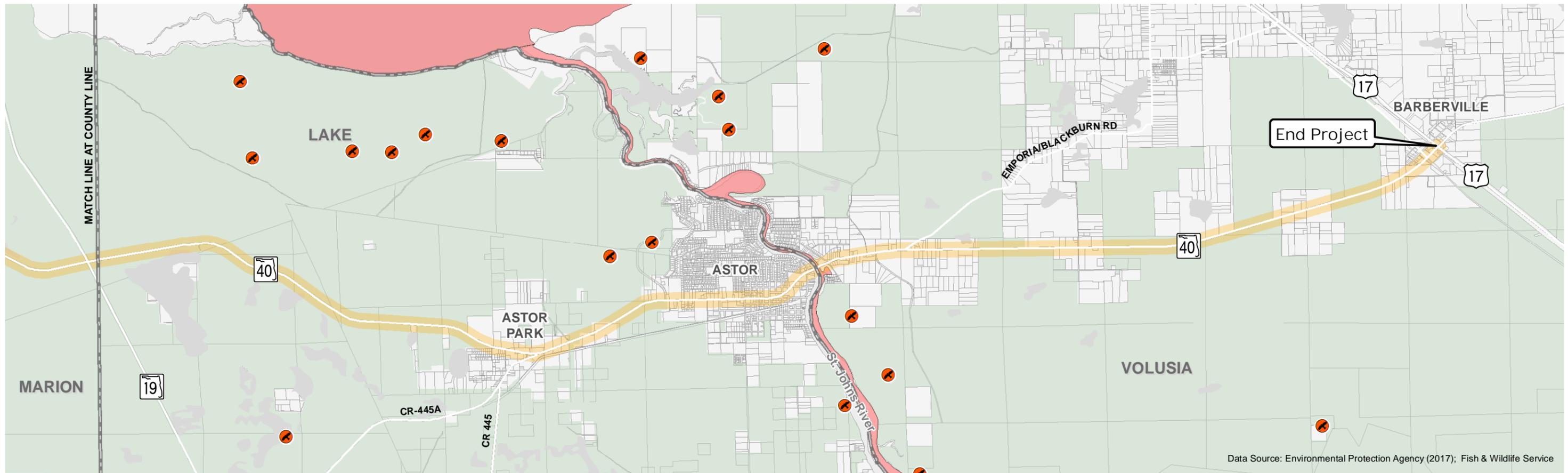
### 5.1.3. AQUATIC PRESERVES / OUTSTANDING FLORIDA WATERS

The study has no involvement with Florida's aquatic preserves. The following water bodies, as shown in Figure 25 have been classified as Outstanding Florida Waters by the U.S. EPA:

- Juniper Creek
- Alexander Springs Creek
- Lake Dexter
- Lake Woodruff
- Lake Disston

### 5.1.4. WILD AND SCENIC RIVERS

Juniper Springs Creek is classified as a Wild and Scenic River by the U.S. Department of Agriculture Forestry Service. The creek is located on the north side of S.R. 40 to the east of Forest Road 33 within Marion County.

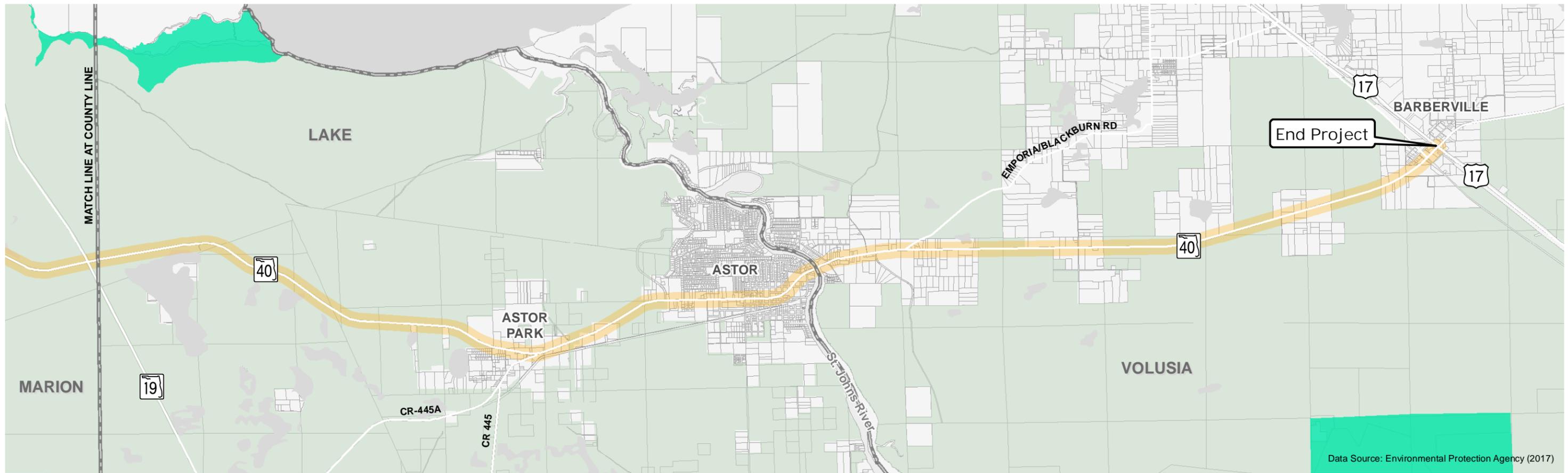


Data Source: Environmental Protection Agency (2017); Fish & Wildlife Service



- Critical Habitat
- Conservation Area
- Bald Eagles Nest
- Study Corridor(s)

**Critical Habitats and Bald Eagle Nests**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 24**



Data Source: Environmental Protection Agency (2017)



- Outstanding Florida Water Body
- Study Corridor(s)
- Conservation Area

**Outstanding Florida Waters**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 25**

## 5.1.5. COASTAL ZONE CONSISTENCY/ COASTAL BARRIER RESOURCES

According to, and administrated by the National Oceanic and Atmospheric Administration (NOAA), the National Coastal Zone Management Program is a voluntary partnership between the federal government and coastal states and territories that works to address some of today's more pressing coastal issues. Neither Lake nor Marion Counties are subject to the National Coastal Zone Management program. Volusia County is subject to the National Coastal Zone Management program, but the managed locations are outside of the study area.

## 5.2. CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) requires that historic and archaeological resources be considered in project planning for federally funded or permitted projects. Cultural resources or historic properties include any, “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP).”

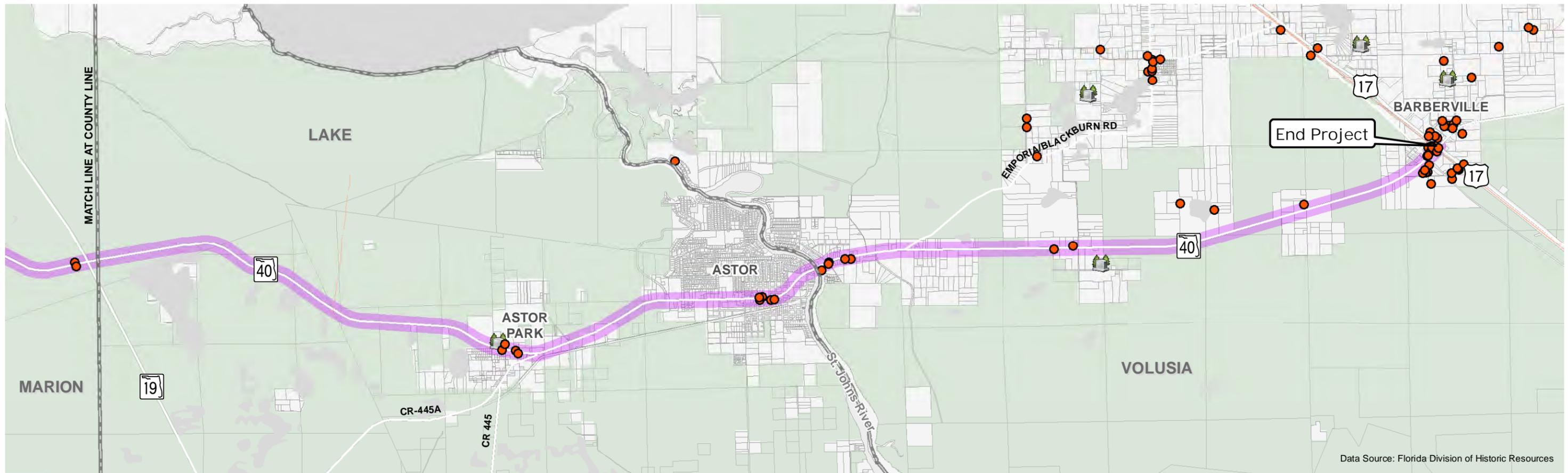
Any historic resources or archaeological sites that have been identified within the study area by the Florida Division of Historic Resources, obtained through the use of the FDOT Environmental Screening Tool (EST), are shown in Figure 26 and summarized in Table 9.

The highest concentrations of historic structures are seen in Astor Park, the east side of the St. Johns River, and Barberville. Of the 190 historic structures shown in Figure 26, 17 are considered eligible or potentially eligible for listing in the NRHP. Historic sites include historic districts and historic landscapes, four of which have been classified as eligible for listing in the NRHP as identified by the Florida Division of Historic Resources.

**Table 9 | Summary of Study Area Cultural Resources**

Cultural Resources	Within Study Area	Eligible or Potentially Eligible for Listing in the NRHP
State Historic Preservation Office Structures	190	17
State Historic Preservation Office Bridges	0	0
State Historic Preservation Office Cemeteries	13	0
State Historic Preservation Office Sites	11	6

Source: Florida Division of Historical Resources



Data Source: Florida Division of Historic Resources



- Historic Cemetery
- Historic or Archaeological Resource Site
- Historic Structures
- Conservation Area
- Study Corridor(s)

**Historic & Archaeological Sites**  
 SR 40 Black Bear Trail Corridor Planning Study  
 Figure 26

### 5.3. SOCIAL RESOURCES

The locations of the community services and social resources within the study area are displayed in Figure 27, as described throughout the remainder of this section. Figure 28 identifies areas of public and privately owned lands.

#### 5.3.1. PARKS AND RECREATIONAL FACILITIES

Parks and recreational facilities in the area consist of:

- Astor Lions Community Park; 54905 Alco Road, Astor, FL 32102
- Wildcat Lake Park and Boat Ramp; S.R. 40, Astor, FL 32102
- Pearl Street Boat Ramp; Pearl St, Astor, FL 32102
- Ocala National Forest; 40929 S.R. 19, Umatilla, FL 32784
- Lake George State Forest; 5458 U.S. 17, De Leon Springs, FL 32130

The Ocala National Forest and the Lake George State Forest comprise a large majority of the study area. Each described in more detail in the following sub-sections.

##### 5.3.1.1. OCALA NATIONAL FOREST

The Ocala National Forest is home to more than 600 lakes, rivers, and springs across 387,000 acres of conservation land. Activities in the forest include recreational, scenic, and historic areas. Recreational activities include canoeing, swimming, camping, horseback riding, hiking, bicycling, four-wheeling, and hunting. Trails for many of these activities were previously described in the Existing / Planned Trails section. An active naval bombing range is located within the forest, a few miles south of S.R. 40.

Licensed hunting within the Ocala National Forest is permitted throughout the property *except* within Wildlife Management Areas. Lands surrounding Alexander Springs, Alexander Springs Creek, and Juniper Springs are closed to hunting.

##### 5.3.1.2. LAKE GEORGE STATE FOREST

Lake George State Forest is located between the St. Johns River and U.S. 17 from Lake Dexter to Lake George, totaling 21,175 acres of conservation land. The forest has many recreational opportunities, including camping, hiking, bicycling, equestrian, and hunting, among other activities. Hikers, bicyclists, and equestrians are permitted to use forest roads, designated trails, and permanent fire lines to traverse the area. These trails were previously described in the section Existing / Planned Trails.

Licensed hunting within the Lake George State Forest is permitted throughout the property *except* within Wildlife Management Areas. Small areas surrounding Lake George, north of S.R. 40, are closed to hunting.

### 5.3.2. SCHOOLS

No schools are present within the study area.

### 5.3.3. CHURCHES AND RELIGIOUS INSTITUTIONS

Churches and religious institutions within the study area include:

- First Baptist Church Of Astor; 24731 Ann Street, Astor, FL 32102
- Forest Evangelical Lutheran Church; 1663 SE 183rd Avenue Road, Silver Springs, FL 34488
- Jehovah's Witnesses Church; 18081 SE 17th Street, Silver Springs, FL 34488

### 5.3.4. FIRE AND POLICE

The following fire station and law enforcement facilities are located within the study area:

- Lake County Sheriff's Office; 23939 State Road 40, Astor, FL 32102
- Lake County Sheriff Substation; 55420 Front Street, Astor, FL 32102
- Lake County Fire Department and Rescue Station 10; 23023 State Road 40, Astor, FL 32102

### 5.3.5. MEDICAL AND EMERGENCY OPERATION FACILITIES

One medical facility is located within the study area: Astor Medical Care; 24239 S.R. 40, Unit 3, Astor, FL 32102.

### 5.3.6. OTHER PUBLIC BUILDINGS AND FACILITIES

Two U.S. Post Office locations are within the study area:

- U.S. Post Office; 1680 Railroad Ave, Barberville, FL 32180
- U.S. Post Office; 24433 State Road 40, Astor, FL 32102

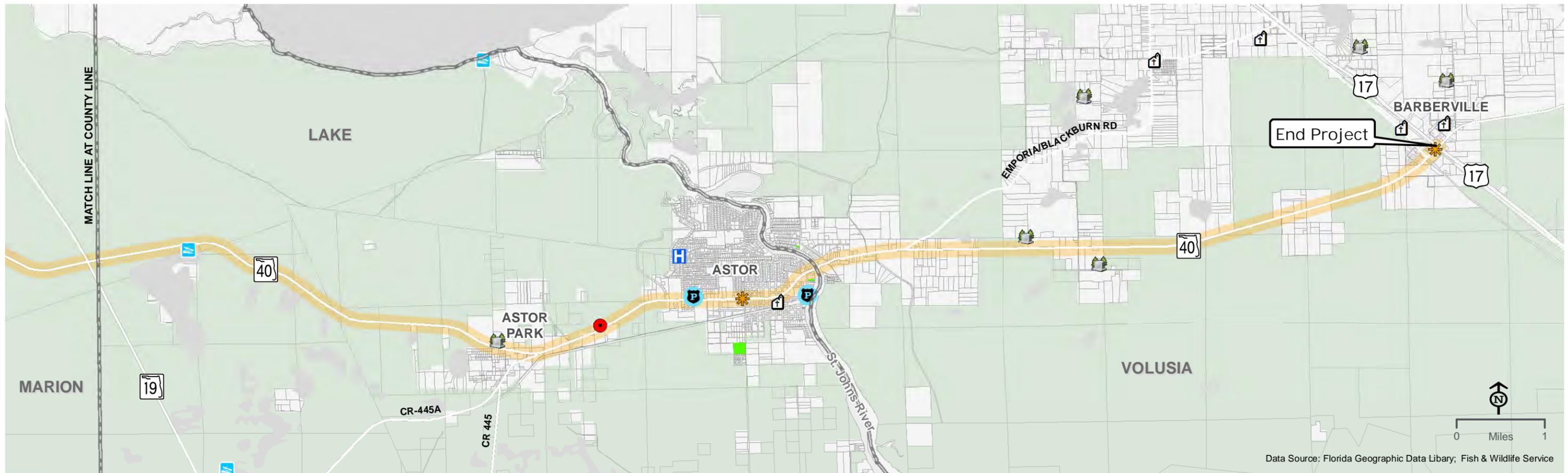
### 5.3.7. OTHER SIGNIFICANT LOCATIONS

Additional noteworthy locations within the study area include:

- Pioneer Settlement For The Creative Arts; 1776 Lightfoot Ln, Barberville, FL 32105
- Mill Dam Lake Resort; 18975 E Hwy 40, Silver Springs, FL 34488
- Riverview North Mobile Home Park; 25130 Blackwater Ln, Astor, FL 32102
- Astor Park Cemetery; 21931 S.R. 40, Astor, FL 32102
- Lungren Cemetery (Pierson Cemetery); 1945 Turner Lane, Astor, FL 32180
- Dillard Cemetery; 1814 Ronda Lane, Pierson, FL 32180

### 5.3.8. EVACUATION ROUTES AND EMERGENCY SERVICES FACILITIES

S.R. 40 is classified as a primary emergency evacuation route in Lake, Marion, and Volusia Counties, according to the Florida Division of Emergency Management. Excerpts of the local evacuation route maps are provided in Appendix J.

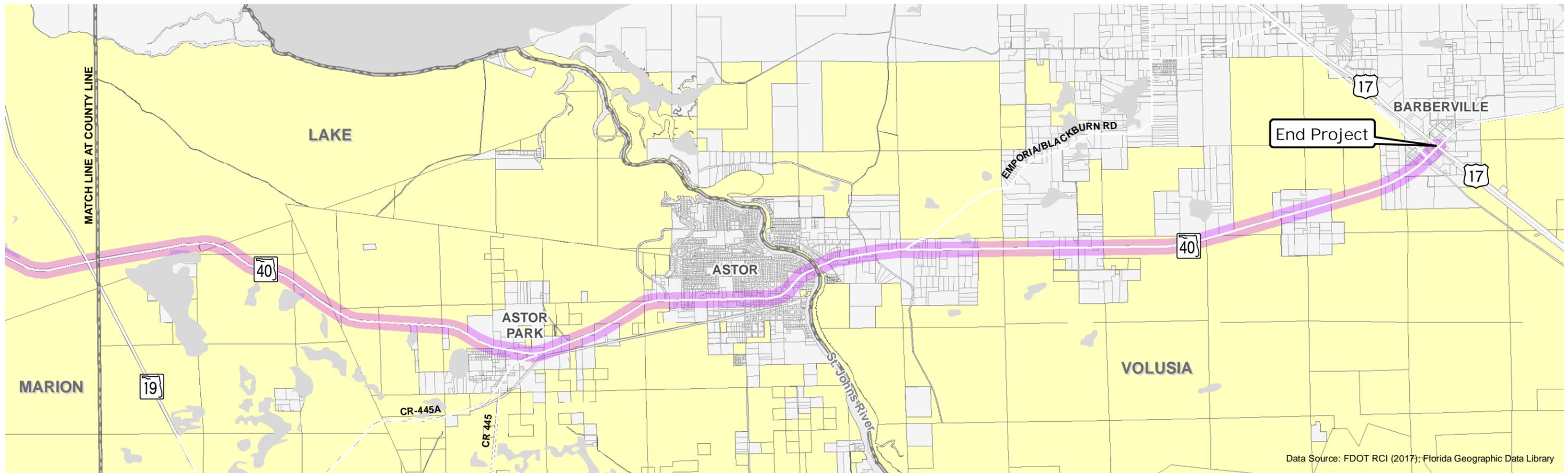


Data Source: Florida Geographic Data Library; Fish & Wildlife Service



- |                |              |                 |                          |                     |                      |                   |
|----------------|--------------|-----------------|--------------------------|---------------------|----------------------|-------------------|
| Visitor Center | Cemetery     | Health Facility | Law Enforcement Facility | Government Building | Shooting Range       | Conservation Area |
| Campground     | Fire Station | School          | Religious Facility       | Boat Ramp/Launch    | Park/Recreation Area | Study Corridor(s) |

**Social Resources**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 27**



Data Source: FDOT RCI (2017); Florida Geographic Data Library



- Publicly Owned Parcel
- Study Corridor(s)
- Privately Owned Parcel

**Publicly Owned Land**  
**SR 40 Black Bear Trail Corridor Planning Study**  
**Figure 28**

## 5.4. PHYSICAL RESOURCES

### 5.4.1. AIR QUALITY

Lake, Marion, and Volusia Counties are currently designated as being in attainment for the following Clean Air Act National Ambient Air Quality Standards (NAAQS): ozone, nitrogen oxide, particulate matter (2.5 microns in size and ten microns in size), sulfur dioxide, carbon monoxide, and lead.

### 5.4.2. CONTAMINATION

Known contaminated locations within the study area were identified using Environmental Protection Agency (EPA) data. Table 10 summarizes the types of known contamination sites, while Figure 29 identifies the known contaminated locations.

**Table 10 | Study Area Known Contamination Sites**

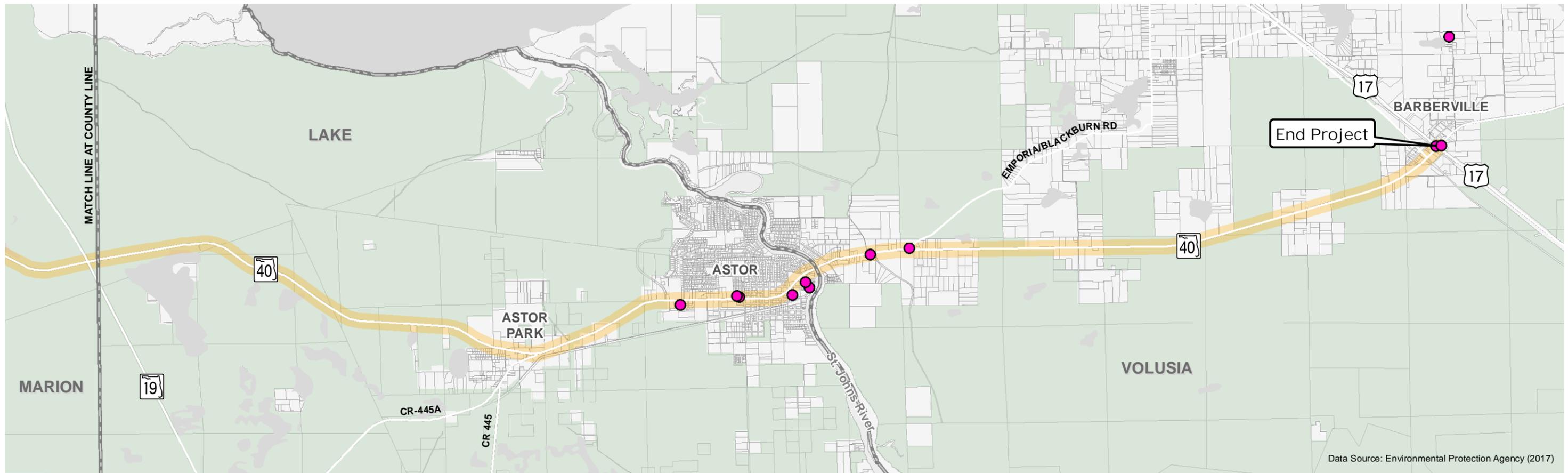
Facility Type	Known Sites within Study Area
Marine/Coastal Fuel Storage	1
Retail Station	8
Fuel User (Non-Retail)	2
Agricultural	1
<b>Total</b>	<b>12</b>

Source: Environmental Protection Agency and Florida Department of Environmental Protection

Six of these locations are pending or active petroleum cleanup locations through FDEP. There are no brownfield, superfund, or other waste cleanups either active or in progress.

### 5.4.3. SOIL TYPES

The S.R. 40 corridor consists of the soil types shown in Figure 30. These are predominantly sandy soils with high permeability, though locations with muck soils are present along S.R. 40 east of S.R. 19, and along the section between Astor and Barberville.

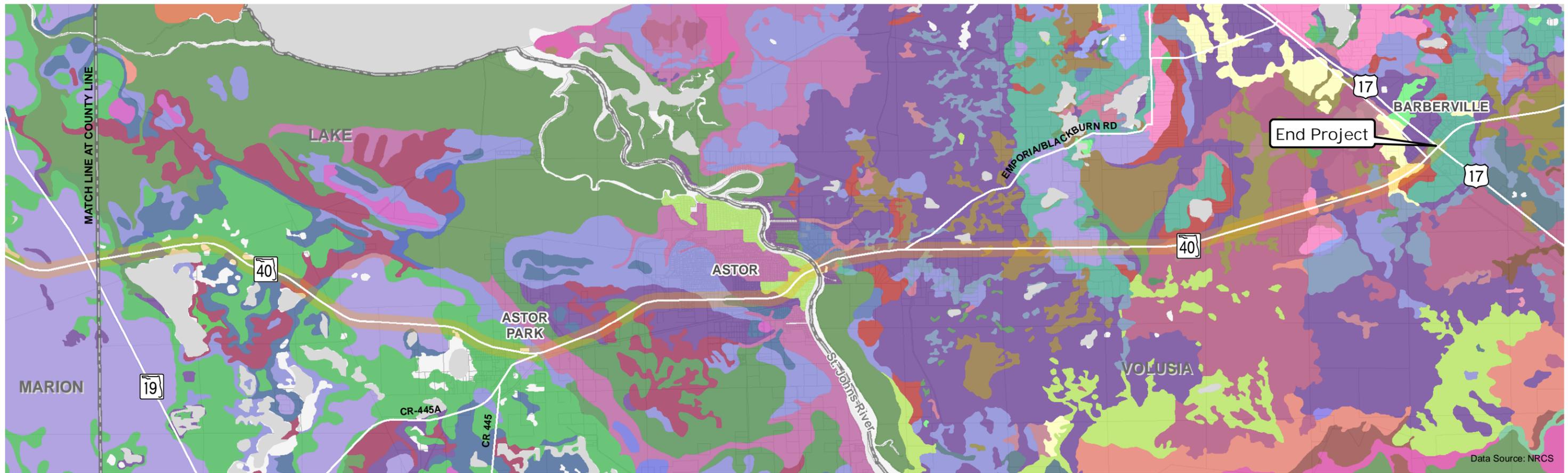


Data Source: Environmental Protection Agency (2017)



- Contaminated Site
- Study Corridor(s)
- Conservation Area

**Contamination Sites**  
SR 40 Black Bear Trail Corridor Planning Study  
Figure 29



Data Source: NRCS



	Astatula		Hontoon		Myakka		Pineda		Quartzsammets		Smyrna		Water		Study Corridor(s)
	Astor		Immokalee		Orsino		Pomello		Samsula		St. Johns		Wauchula		
	Deland		Made Land		Paola		Pomona		Sellers		Tavares				

Natural Resource Conservation Service (NRCS) Soils  
SR 40 Black Bear Trail Corridor Planning Study

Figure 30

