
Old Dixie Trail Project Development and Environment Study

Final Feasibility Study Report

June 2018

Project Limits:

Auburndale Trailhead on the Auburndale TECO Trail and
Haines City Trailhead on the Haines City Trail
Polk County, Florida

Financial Project ID: 435391-1-22-01

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LIST OF ACRONYMS

CFR	Code of Federal Regulations
CR	County Road
CRAS	Cultural Resource Assessment Report
DOT	Department of Transportation
EFH	Essential Fish Habitat
EJ	Environmental Justice
ERP	Environmental Resource Permit
FAC	Florida Administrative Code
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FLUCFCS	Florida Land Use Cover and Forms Classification System
FOC	Fiber Optic Cable
FPC	Floodplain Compensation
FWC	Florida Fish and Wildlife Conservation Commission
HDPE	High Density Polyethelene
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PD&E	Project Development and Environment
RCRA	Resource Conservation and Recovery Act
SHGWT	Seasonal High Groundwater Table
SHPO	State Historic Preservation Office
SR	State Road
SUPER Act	State Underground Petroleum Environmental Response Act
SWFWMD	Southwest Florida Water Management District
TAC	Technical Advisory Committee
TPO	Transportation Planning Organization
UAO	Utility Agency Owners
UAR	Utility Assessment Report
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

As part of the Florida Department of Transportation's (FDOT) commitment to providing multimodal facilities and connectivity throughout the state, they have embarked on a two-phase process to determine feasibility for a multi-use trail from Auburndale to Haines City. Phase 1 of the project is a Feasibility Study in which existing conditions data were collected and analyzed for the project study area (see **Figure 1**) in an effort to identify end-to-end trail alternatives that best meet the project's goals and objectives of providing regional connectivity, contributing to safe multimodal access to community and recreational destinations, enhancing quality of life, and fostering economic development in the area. Phase 2 of the project is the Project Development and Environment (PD&E) Study in which the trail alignments identified in Phase 1 will be further analyzed to select a preferred alternative for the multi-use trail connecting the Auburndale TECO trailhead in Auburndale to the Haines City trailhead in Haines City.

A **Segment Evaluation Memorandum** (December 2017) prepared under a separate cover, evaluated 20 project trail segments which analyzed existing conditions data within the project study area based on a desktop-level analysis. Following the public meeting held on December 5, 2017, a total of twelve segments were removed from further evaluation based on the criteria outlined in the Segment Evaluation Memorandum and feedback from the public.

As part of this Feasibility Study Report, a desktop-level and preliminary field analyses have been completed to assess the potential impact for the remaining segments (see **Figure 2**) on the social, economic, cultural, natural, and physical environment. The engineering findings are contained in this report. Public involvement was integral to reaching this point in the study and the steps taken to involve the public and the stakeholders are outlined herein.

Figure 1:
Study Area Map

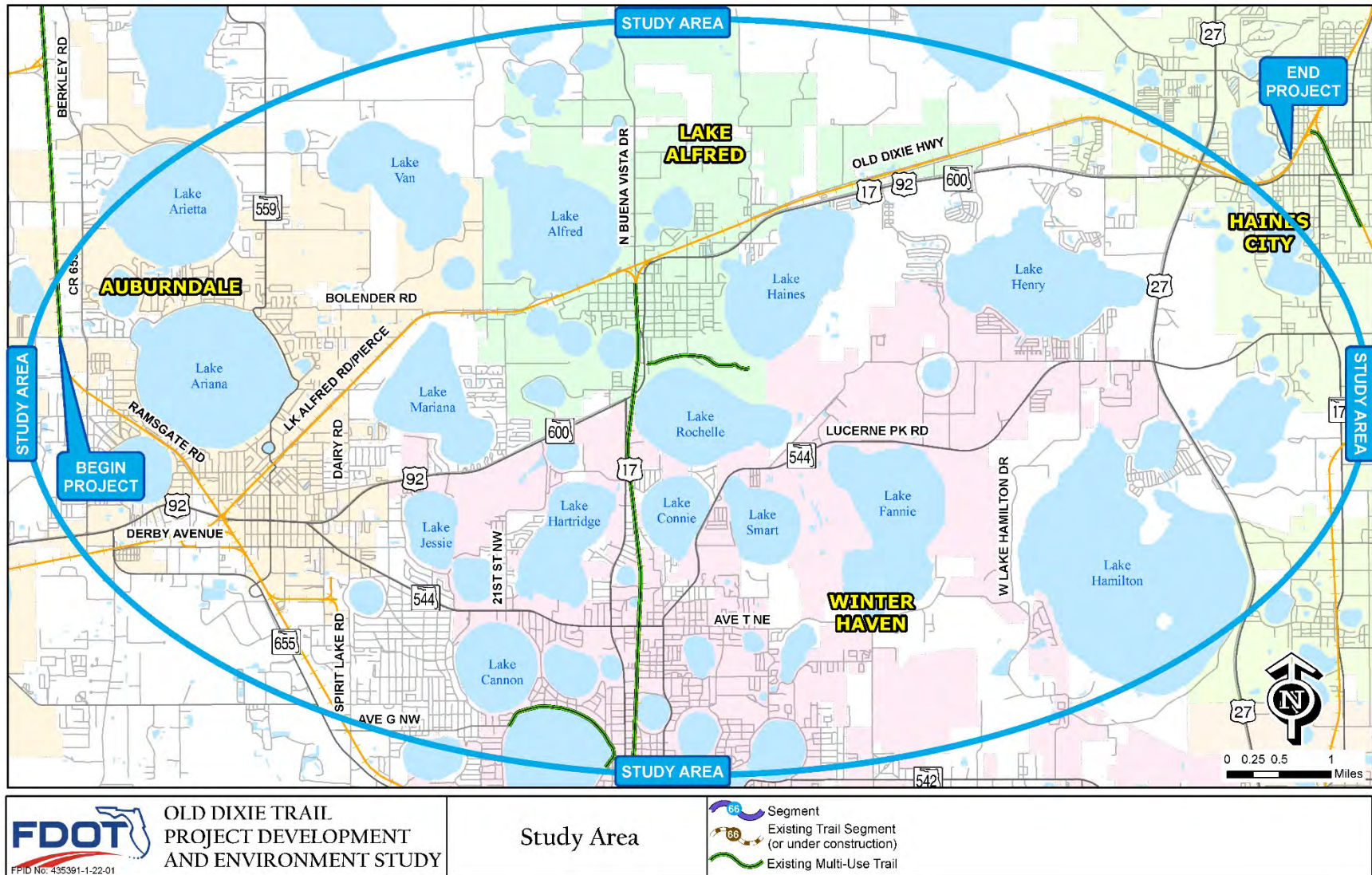
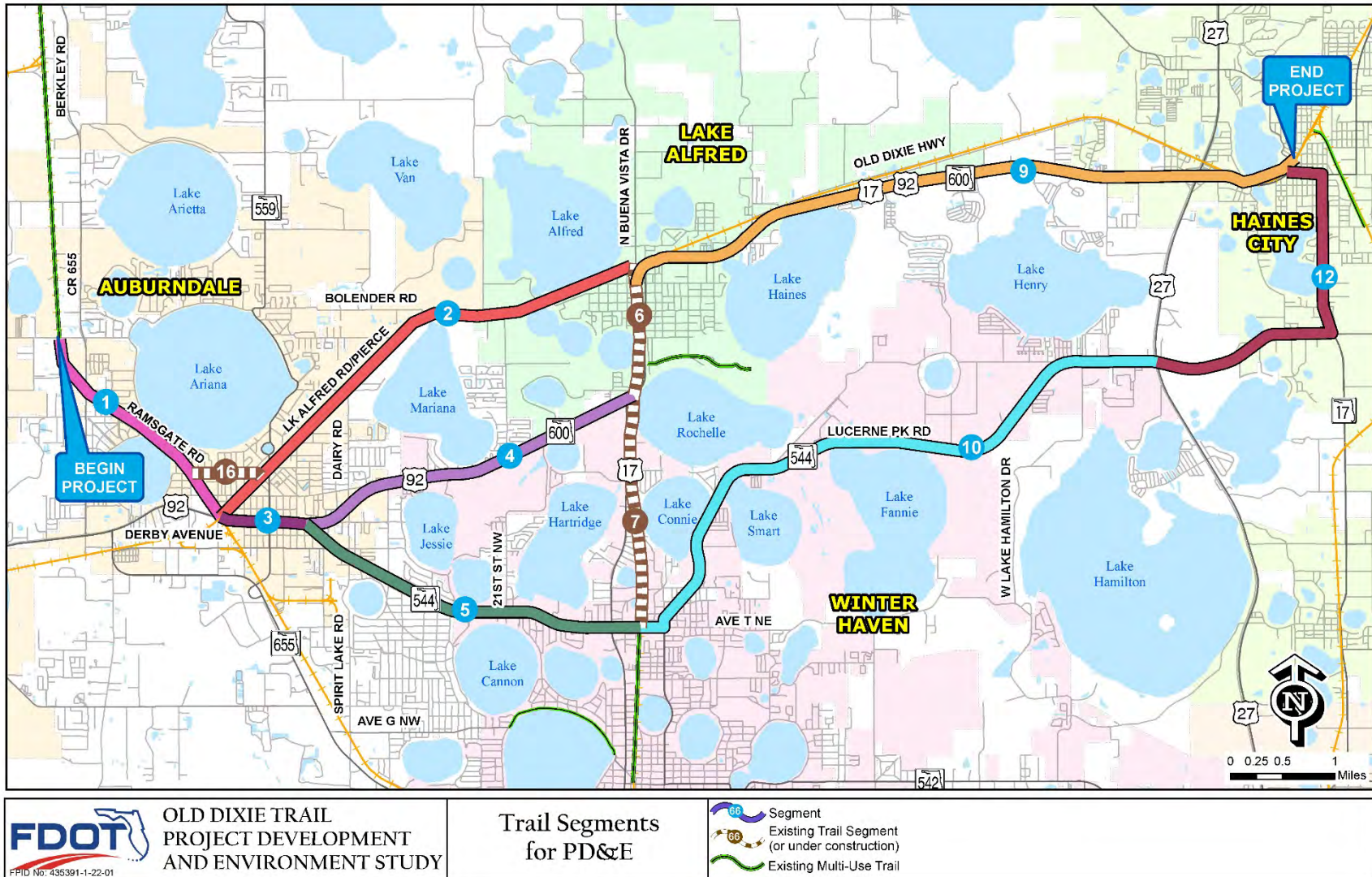


Figure 2:
Segments



1.1 Project Description

The primary purpose of the Old Dixie Trail Feasibility Study is to evaluate the feasibility of 12-foot wide trail segments for a proposed approximately 12-mile trail that will connect two existing trailheads in Auburndale and Haines City in Polk County, Florida. The Old Dixie Trail will provide regional connectivity, contribute to safe multimodal access to community and recreational destinations, enhance quality of life and foster economic development in the area. Additionally, the proposed trail segments will consider the environmental, wildlife, and aesthetic values of the trail system.

1.2 Purpose and Need

A purpose and need statement was developed to align with the stated project objectives and stakeholder desires and values identified through public interaction. The project purpose and need statement and the supporting primary and secondary need are provided below.

PURPOSE AND NEED

The Old Dixie Trail project is intended to address a need for a safe, viable, non-motorized travel option for commuters and recreational trail users between trailheads in Auburndale and Haines City. It aims to improve multimodal accessibility to employment, services and community destinations. The need for the proposed trail project is based on the following:

PRIMARY NEED

Area Wide Network / System Linkage: Regional Bicycle and Pedestrian Connectivity

The proposed project is in line with the stated goals of Polk County to create a connected multimodal transportation system. The Old Dixie Trail project addresses the need for a connected bicycle and pedestrian network in Polk County and bridges a trail network gap between Auburndale and Haines City. The project also links to existing trails such as the Haines City Trail, Chain of Lakes / Lake Alfred Trail, and Auburndale Trail / Van Fleet Trail.

SECONDARY NEED

Safety: Provide Safe Multimodal Access to Destinations

The proposed project will link communities between trailheads in Auburndale and Haines City to the region's schools, parks, cultural amenities, employment centers, recreational facilities, conservation view sheds and other destinations in the area. Improved accessibility to area destinations addresses the latent demand for increased bicycle and pedestrian activity, supporting economic productivity and enhanced quality of life.

Safety: Provide a Safe Pathway for Commuters and Recreational Trail Users

There are high concentrations of bicycle and pedestrian crashes along corridors with commercial land uses and community facilities within the study area indicating a need for safe, multimodal access to residential, employment and recreational destinations. The project would provide a high-quality trail connection separated from area roadways to minimize conflicts between non-motorized travel modes and vehicles creating safer travel conditions for both trail users and vehicular traffic on area roadways.

Social and Economic Demand: Enhance Quality of Life and Foster Economic Development

There are numerous residential areas, schools, parks, cultural amenities, employment centers, recreational facilities, conservation view sheds, and other destinations in the area between Auburndale and Haines City indicating a need for improved travel options and multimodal accessibility to these destinations. The proposed trail supports economic productivity for area businesses and enhances the quality of life for Polk County residents. Additionally, the proposed trail incentivizes new businesses to the area by providing linkages to areas of high population and employment concentrations. U.S. Census Block data projected to 2040 indicates continued population and job growth in the area between Auburndale and Haines City.

1.3 Planning Linkage

The Florida Department of Transportation may adopt this planning product into the environmental review process, pursuant to Title 23 USC § 168(4)(d) or the state project development process.

2.0 METHODOLOGY

Within the project study area, initial trail segments (see **Figure 3**) were identified by the Polk Transportation Planning Organization (TPO), local planning agencies and other planning professionals to expand the existing regional trail network to connect communities and provide new recreational and commuter modal options within the County. The first part of this feasibility study was to conduct a desktop-level analysis and collaborative engagement with stakeholders, including one-on-one meetings and group meetings to evaluate the viability of the initial trail segments.

On June 28, 2017, a stakeholder outreach meeting was held at the Winter Haven Municipal Airport. The purpose of the workshop was to provide a project overview, confirm the project objectives, discuss issues related to the trail's potential alignments, and gain an understanding of stakeholder perspectives and desires. Following the stakeholder outreach meeting, new trail opportunities were defined. The meeting was attended by representatives from municipalities local agency partners, residents, and residential developers within the study area including Polk County Tourism and Sports Marketing/Visit Central Florida, Polk Transportation Planning Organization, Inc., Florida Trail Association (Heartland Chapter), and Gapway Groves (large parcel owner). The full range of identified trail segments were organized into 20 segments, as shown on **Figure 4**, to provide the framework for a comparative evaluation to fulfill the project's purpose and need. The *Segment Evaluation Memorandum* summarized the existing conditions of the 20 trail segments based on a desktop-level analysis of social, economic, cultural, natural and physical environment, as well as engineering data and ranked the segments "good", "fair" or "poor". Following the desktop analysis and evaluation, a public workshop was held on Tuesday December 5, 2017 from 5 p.m. to 7 p.m. at the Lake Alfred Lions Club. Elected Officials, agencies, stakeholders, and the public were invited to discuss eliminating segments from further consideration. The workshop was attended by 20 members of the public and staff from municipalities within the study area. Display boards were available for attendees to view and a handout and a comment sheet were provided to attendees upon arrival. Following the public workshop a total of 12 segments were removed from further consideration. The segments within this feasibility report include trail Segments 1, 2, 3, 4, 5, 9, 10, and 12. Although not analyzed, three existing trail segments (6, 7, and 16) are shown on segment maps because these existing trails can be utilized to develop end-to-end trail alternatives within the PD&E Study (see **Figure 2**).

Following the segment elimination, detailed desktop analyses and preliminary field reviews were conducted on the remaining segments. Literature reviews and database searches of the study area and proposed trail segments were conducted. Literature review and analysis consisted of the following information sources:

- Efficient Transportation Decision Making, Environmental Screening Tool databases

-
- 2017 U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Polk County Soil Survey
 - 2007 Hydric Soils of Florida Handbook, Fourth Edition
 - U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)
 - 1979 USFWS Classification System of Wetlands and Deepwater Habitats of the United States (Cowardin, et al.)
 - 2011 Southwest Florida Water Management District, Florida Land Use, Cover and Forms Classification System (FLUCFCS)
 - Florida Fish and Wildlife Conservation Commission (FWC) May 2017 Florida's Endangered and Threatened Species List
 - FWC Bald Eagle Nest Locator Database
 - USFWS Consultation Areas
 - USFWS Wood Stork Rookeries and Core Foraging Areas
 - National Marine Fisheries Service Essential Fish Habitat (EFH) database
 - National Register of Historic Places (NRHP) eligible and potentially eligible site locations
 - Florida Site File Structures and Resource Groups
 - Department of Environmental Protection listed potential contamination sites
 - U.S. Environmental Protection Agency (USEPA) listed potential contamination sites
 - Florida Geographic Data Library
 - University of Florida Geoplan, 2011-2016 Signal Four Crash data
 - U.S. Census Bureau Census data
 - Florida Department of Transportation, Transportation data
 - University of Florida Geoplan, Aviation Transportation data
 - Federal Emergency Management Agency (FEMA) Flood Zones

Figure 3:
Initial Trail Segments

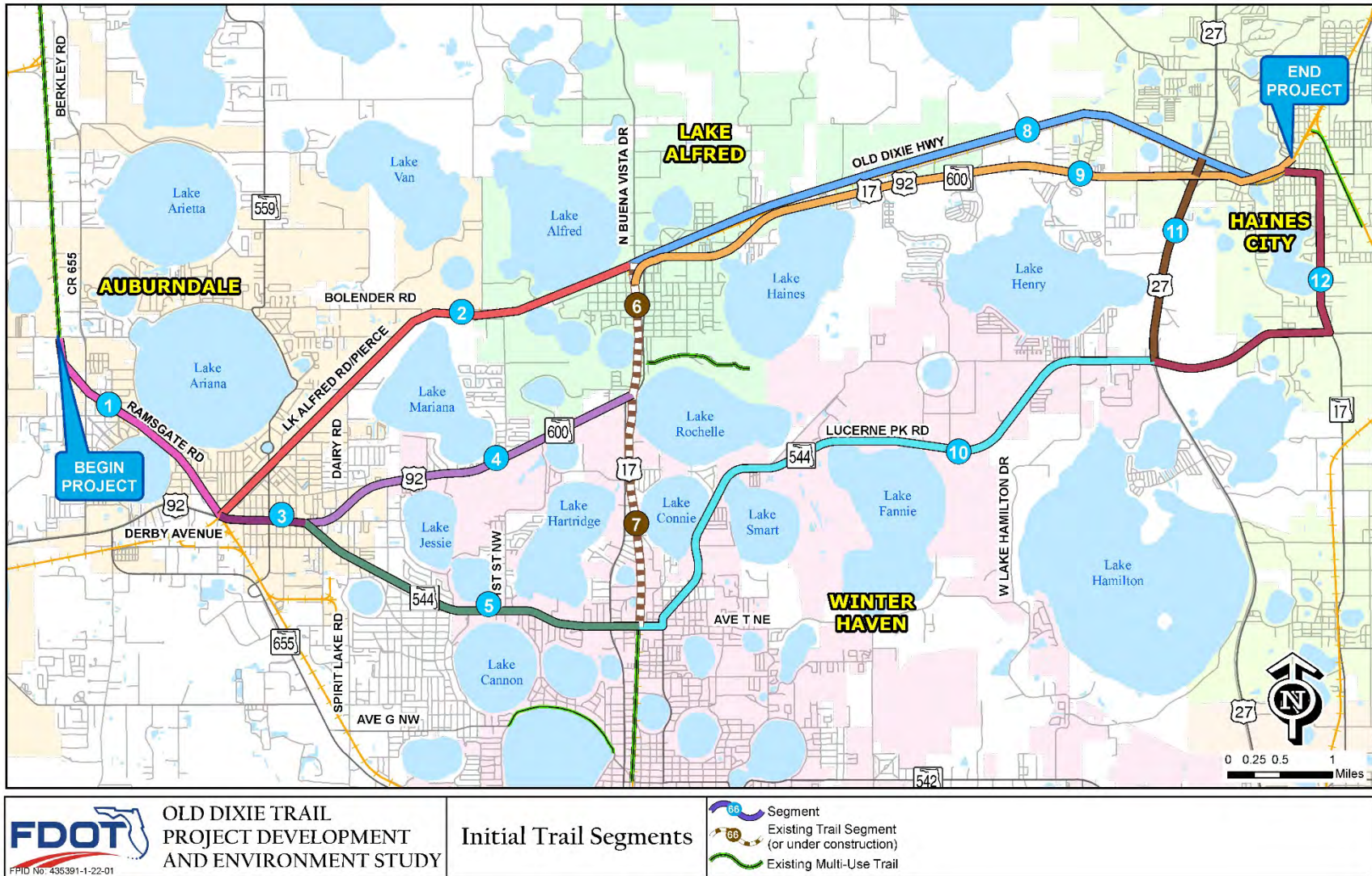
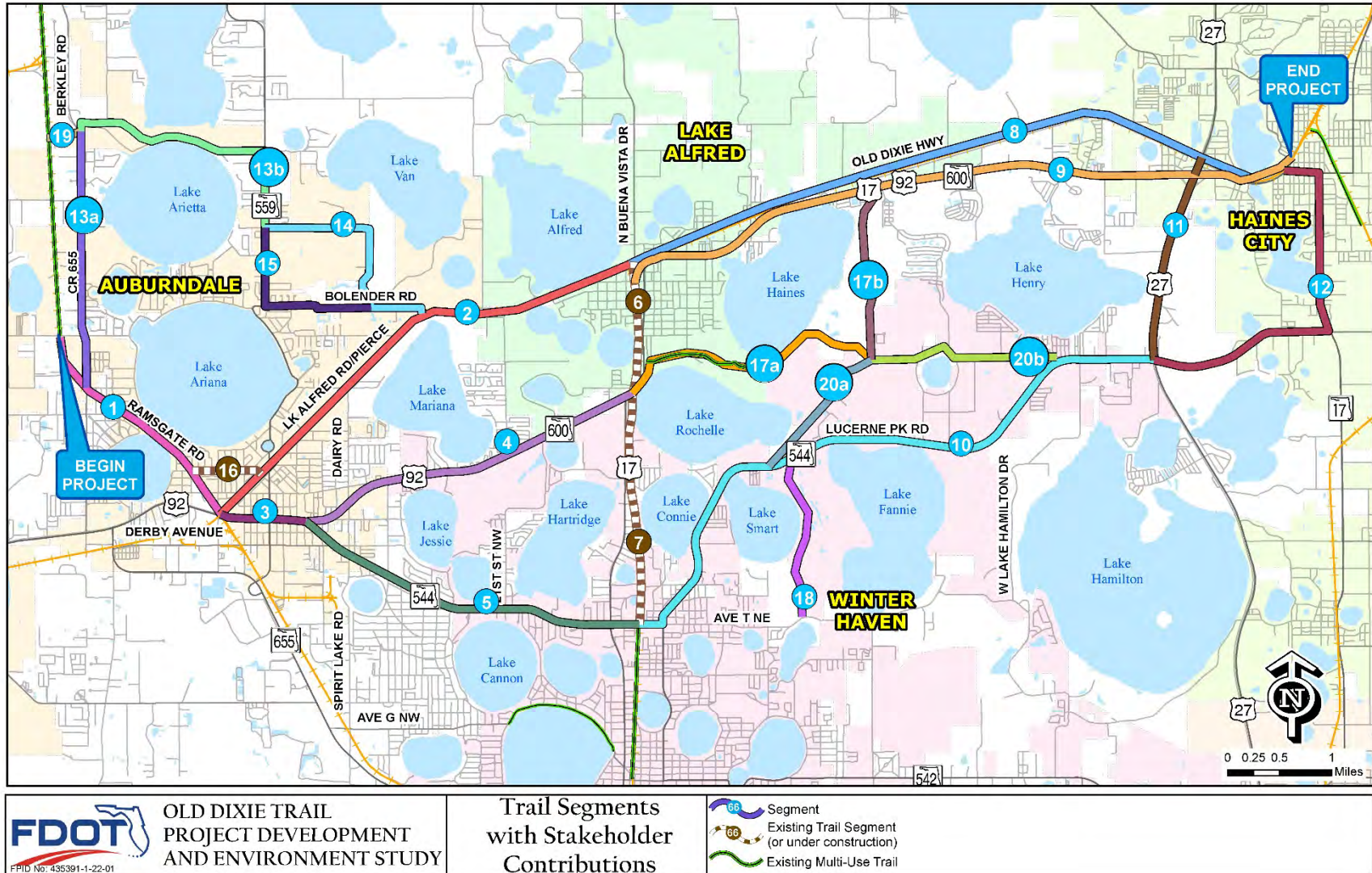


Figure 4:
Recommended Trail Segments Following June 2017 Stakeholder Meeting



3.0 STUDY AREA EXISTING CONDITIONS

The project study area was evaluated using a combination of desktop-level and field reviews to assess the existing conditions.

3.1 Transportation Network

The study area contains numerous transportation options and services including roadways, airports, existing multi-use trails, transit and rail (see **Figure 5**). Each transportation network within the study area is described below.

Roadways

The project study area is bisected by numerous federal, state, county, and local facilities. Roadways along the state highway system include: US 92/US 17, which runs west to east from Auburndale to Lake Alfred to Haines City; US 17/Lake Alfred Road, which traverses north to south, from Lake Alfred to Winter Haven; US 27, which tracks north-south between Winter Haven and Haines City in the eastern part of the study area; State Road (SR) 17, a north/south corridor in Haines City; SR 544/Havendale Boulevard/Lucerne Park Road, which traverses the southern portion of the study area in Winter Haven; US 17/SR 555 runs north/south from Winter Haven to Lake Alfred; SR 559 in Auburndale; and US 92/SR 600, an east/west corridor through Auburndale.

Roadways under Polk County jurisdiction include County Road (CR) CR 17/Old Polk City Road, CR 557/N Buena Vista Drive, and CR 655/Berkley Road. **Table 1** outlines the existing roadway characteristics adjacent to the proposed trail segments.

Table 1:
Roadway Characteristics

Trail Segment	Roadway Speed Limit (posted)	Traffic Lanes		Median	Shoulder	Border Type	
		Westbound	Eastbound		Paved	Roadside Ditch	Curb and Gutter
1	40 mph	1	1	n/a	n/a	Yes	-
2	45 mph	1	1	n/a	n/a	Yes	-
3	45 mph	3	3	Raised/ Grassy Ditch	n/a	-	Yes
4	45 mph	2	2	Grass	Yes	Yes	-
5	45 mph	3	3	Raised	n/a	-	Yes
9	35 mph to 55 mph	2	2	Raised	n/a	-	Yes
10	35 mph to 50 mph	1 to 2	1 to 2	Raised/ Channelized	Yes	Yes	Yes
12	35 mph to 55 mph	1 to 2	1 to 2	Channelized	Yes	Yes	Yes

Between 2012 and 2016, over 2,500 crashes were reported along segment roadways in the study area (see **Figure 6**).

Airports

The region is served by one public airport, Winter Haven Municipal Airport – Gilbert Field, located along US 92 in Winter Haven. The Federal Aviation Administration classifies the facility as a Regional General Aviation Airport due to regional economic support. The facility also has expansion plans for the airfield and related facilities and businesses identified in their 2017 Master Plan update. The plan is divided into short, mid, and long-term projects, all of which are tentatively slated to be completed by 2035. Short-term project suggestions include runway lighting, fencing, taxiway design and construction, and a new terminal access road. The area is also home to a few private seaplane bases and heliports.

Multi-Use Facilities

The study area is rich with multi-use trail options including the Auburndale TECO Trail which extends north-south, from Polk City and to the study area's western boundary, west of Auburndale. The Lake Alfred Trail begins in Lake Alfred and parallels US 17, connecting with the Chain of Lakes Trail to terminate in Winter Haven. The Lake Alfred-Polk City Connector is planned to link Lake Alfred to the north. The Swamp to Ridge Connector is a planned trail, northwest of Haines City, that would connect the Old Dixie Highway to the north. In the eastern part of the study area is the shorter Haines City Trail that passes around the east side of the city. In the future, it will connect to the planned Ridge Scenic Highway/SR 17 Corridor Trail that would extend south to Dundee. The Auburndale TECO Trail and the Lake Alfred Trail are part of the Shared-Use Nonmotorized (SUN) Trail Network. The SUN Trail Program was created under several Florida statutes in 2015 and authorizes FDOT to develop a statewide system of paved, non-motorized trails as a component of the Florida Greenways and Trails System by the Florida Department of Environmental Protection. Proposed trail segments 1 and 2 are identified as a priority trail for the SUN Trail Network by the Polk County TPO. SUN Trail eligibility for Segments 1 and 2 as well as the remaining segments identified within this feasibility report will be addressed during the PD&E Study.

Transit

The Winter Haven Transit Terminal is located just south of the central portion of the study area, just east of the exiting trail Segment 7 (along US 17). Transfer points are in Auburndale, Winter Haven and Haines City. Citrus Connection provides service connecting Winter Haven to Haines City through the study area on US 17 and SR 92 by Route 15. Route 50 covers much of the western portion of the study area from the Winter Haven Transit Terminal north through Auburndale. Route 12 provides service from the transit terminal north to Auburndale and continues west to Lakeland. Service in the northeast of Winter Haven is provided by Route 60. Just south of the study area, Route 40 and Route 44 service much of south Winter Haven. Routes 22XW and 25 connect Winter Haven to Bartow and Fort Meade. From Winter Haven, Route 30 connects to US 27 and CR 17, south of Dundee. From Haines City, service is provided by Route 427 to Four Corners and Route 416 to Poinciana. None of the routes currently extend to Lake Alfred.

Railroads

Amtrak operates a commuter train service on the “A line” which runs from Tampa to Orlando, through Auburndale, Lake Alfred and Haines City, near Segments 2, 8, 9, 11 and 12. Two passenger trains are scheduled per day. Amtrak also offers the Silver Service/Palmetto which reaches this area from New York City, Washington DC, Charleston, Savannah, Jacksonville and Orlando. From the connection in Auburndale, the train can continue west to Tampa or south through Winter Haven to West Palm Beach and inland of Miami, near Segments 3, 4, and 5.

CSX operates eight freight trains per day on the “A line” from Tampa to Orlando.

Figure 5:
Transportation Network

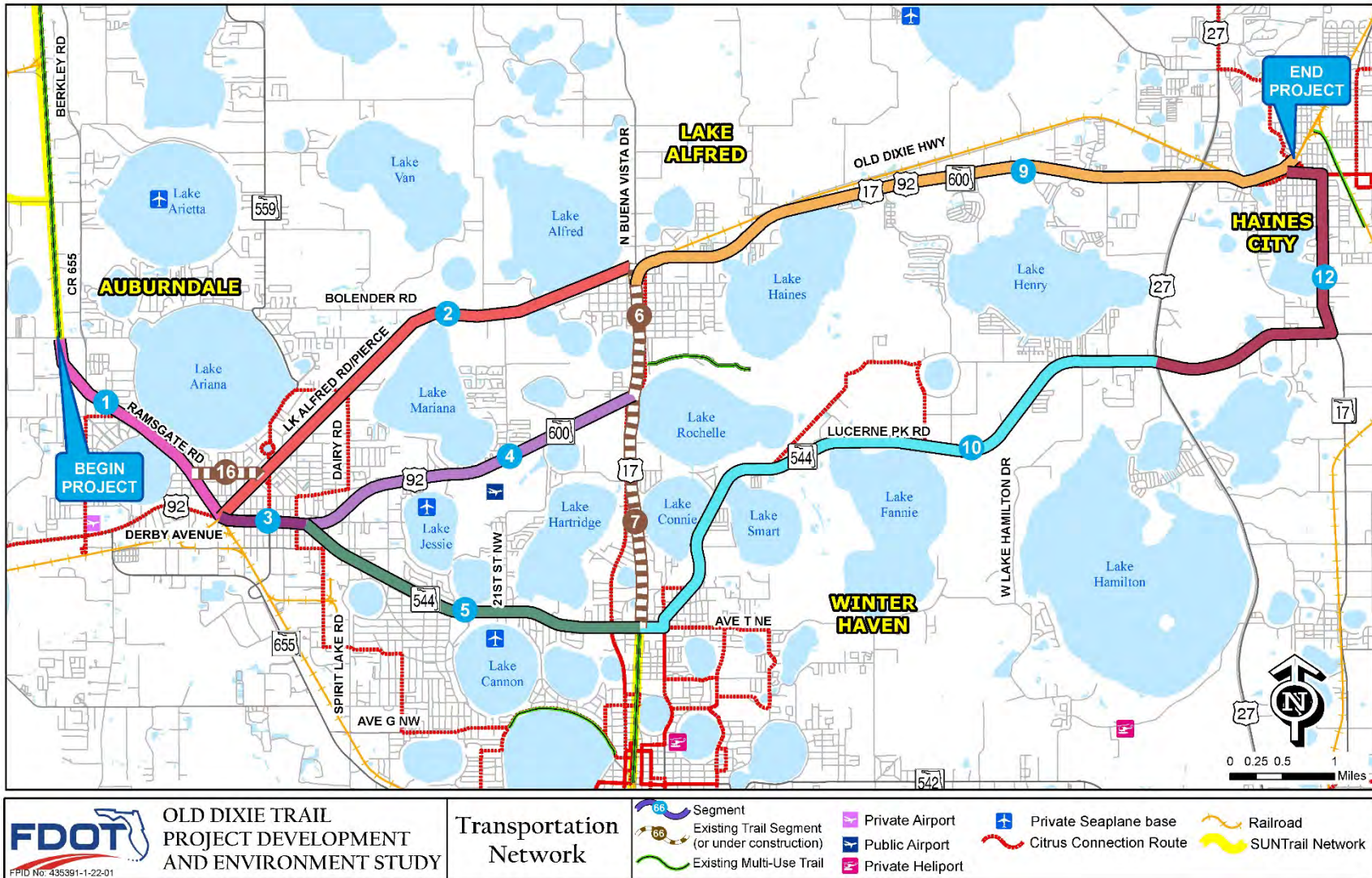
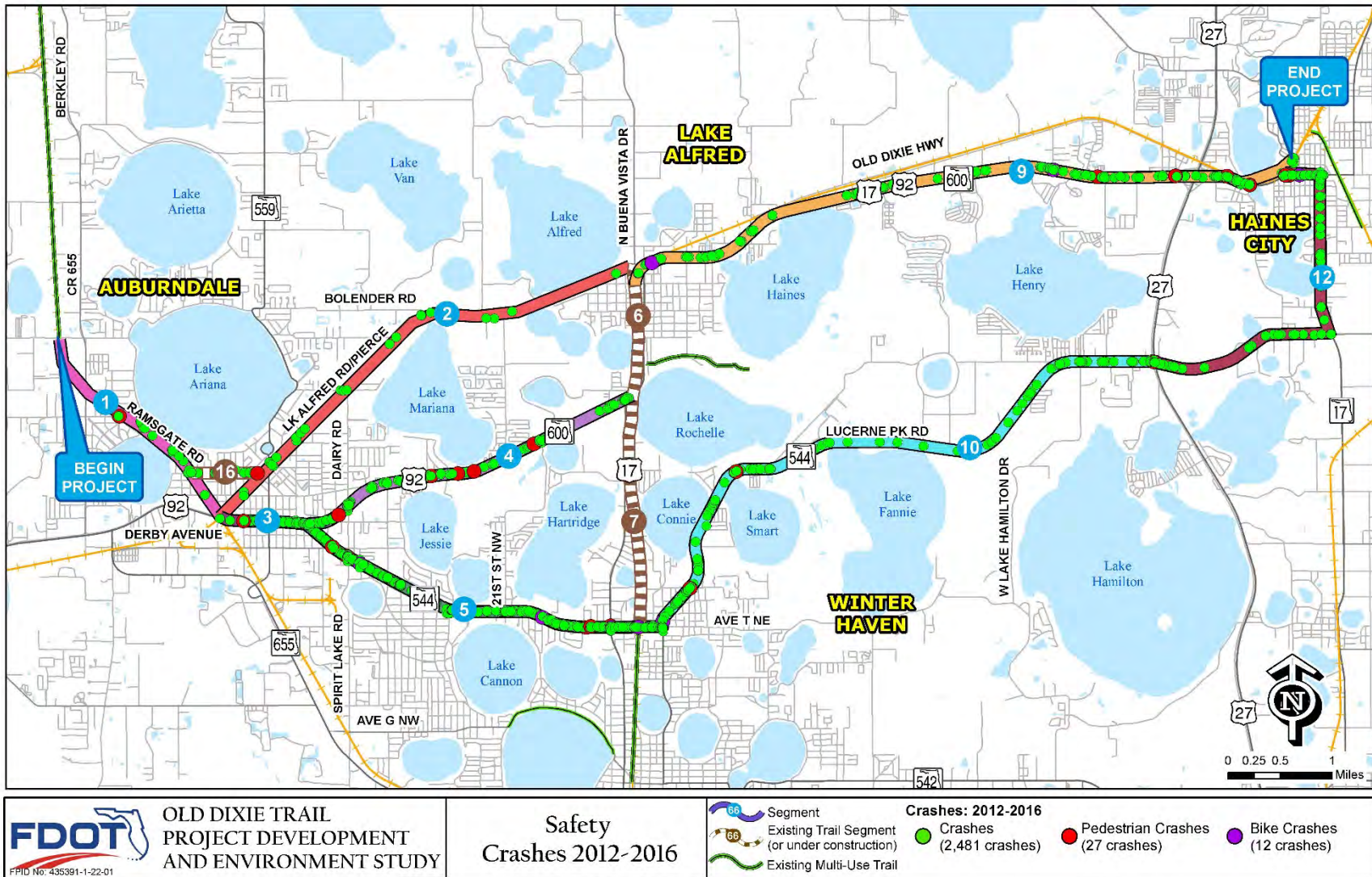


Figure 6:
Safety - Crashes 2012-2014



3.2 Sociocultural Data

According to the Federal Highway Administration (FHWA), Environmental Justice (EJ) is defined as “identifying and addressing disproportionately high and adverse effects of the agency’s programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens”.

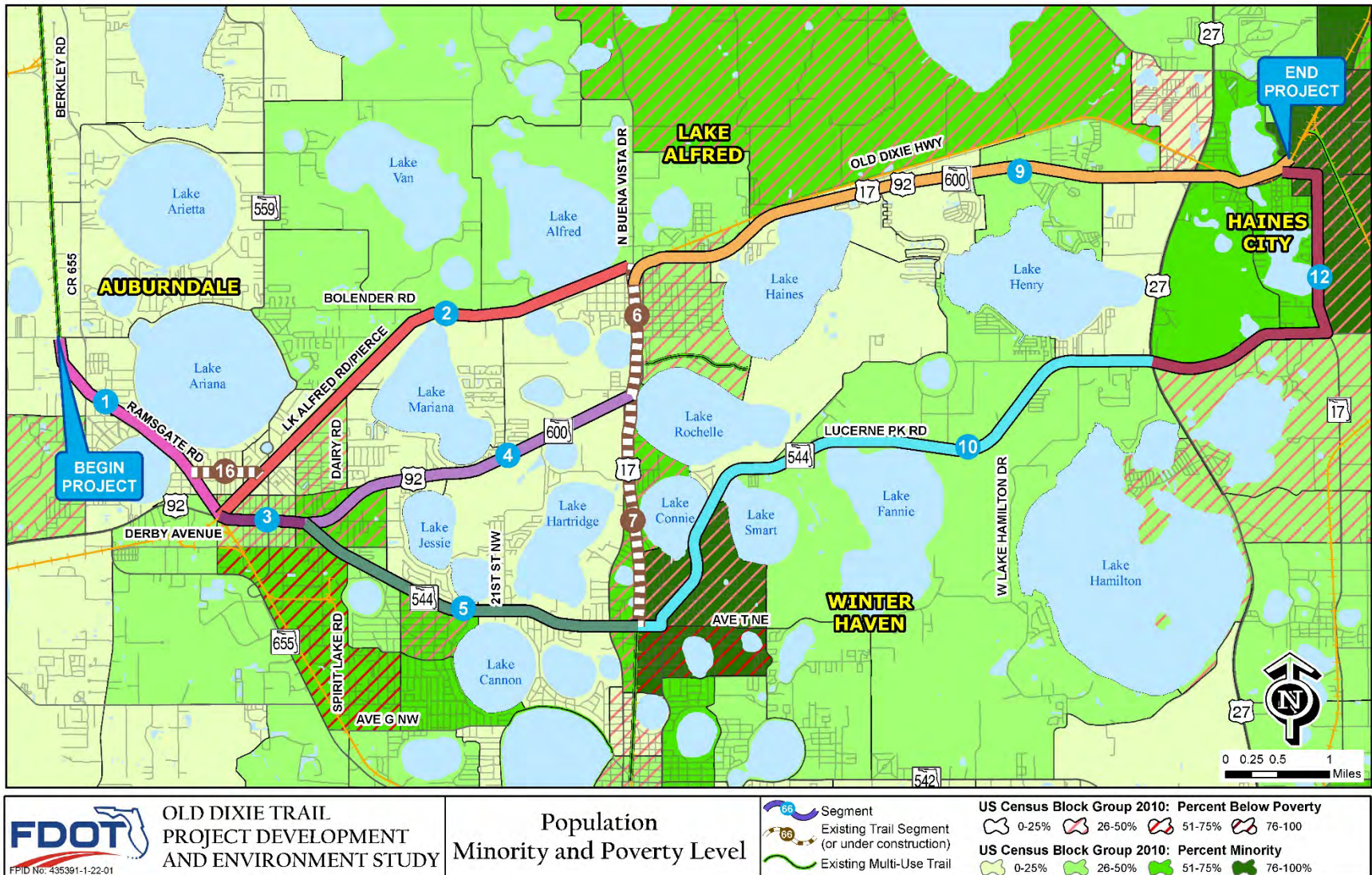
Forty-one Census Block Groups, based on the 2010 US Census, are within 300 feet of the segments. These demographic geographies include nearly 70,000 residents of whom approximately 41% identify as minority via the Census forms, see **Table 2** and **Figure 7**.

Table 2:
Demographic Data

Total Population	White	Black	Hispanic	Minority	Below Poverty Level
66,702	46,078	14,097	11,702	27,185	13,433

Source: US Census Bureau, 2010

Figure 7:
Socioeconomic Breakdown



3.3 Land Use

The study area represents a variety of land uses. Four municipalities span the area including the cities of Auburndale, Lake Alfred, Winter Haven, and Haines City. Primarily, the cities are comprised of a mix of land uses, reflecting a typical urbanized environment. The jurisdictions are also home to commercial districts in the downtown areas and along major thoroughfares. The surrounding areas lie in unincorporated Polk County and are generally agricultural and residential (see **Figure 8**). Major uses within the study area include the Winter Haven Municipal Airport, institutes of higher learning, and mobile home parks.

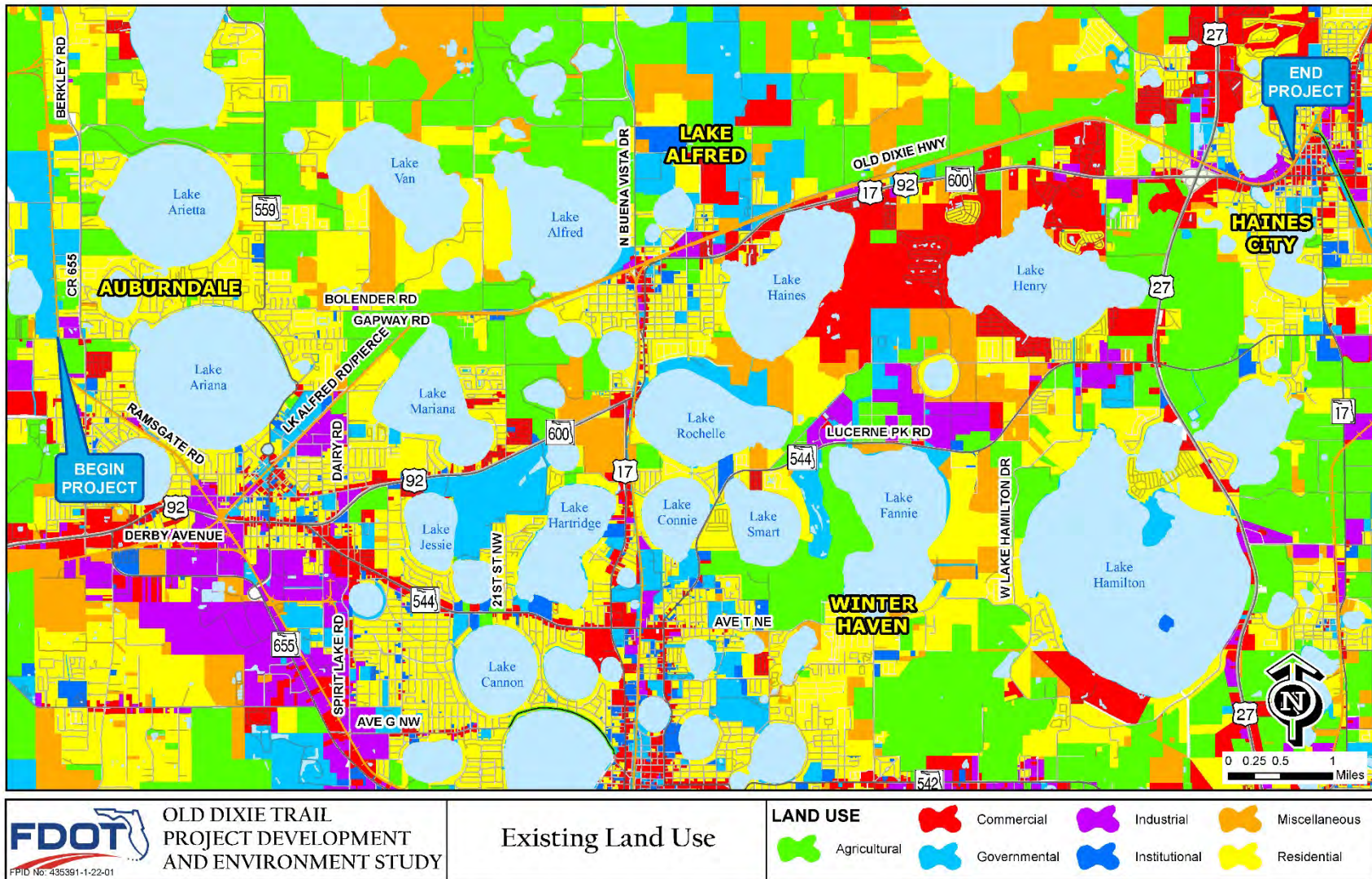
Table 3 summarizes all land uses within ½-mile of the segments. Nearly a third of the approximately 40 square miles of area are currently used for residential purposes. However, some commercial land uses are leased mobile home parks, which depicts a clearer representation of true residential uses.

Table 3:
Land Use within Half-Mile of All Segments (acres)

Agriculture	Commercial	Governmental	Industrial	Institutional	Miscellaneous	Residential	TOTAL
3,592 (14%)	3,365 (13%)	5,344 (21%)	2,049 (8%)	636 (2%)	3,553 (14%)	7,121 (28%)	25,660

Source: Polk County Property Appraiser data, 2017

Figure 8:
Existing Land Use



3.4 Environmental Characteristics

3.4.1 Upland Habitats and Wetland Communities

Land use data was reviewed within the study area. The existing land use was determined using SWFWMD land use data (2011). Land use boundaries were referenced using true color aerial imagery in ArcGIS 10.4 software. For the environmental characteristics section, only SWFWMD classified upland and wetland land uses are shown for the study area.

The existing land use within the overall study area consists of low to high density residential development, commercial and services, industrial, reclaimed land, institutional, recreational, open land, agricultural lands, rangelands, upland forests, water/surface waters, wetlands, barren land, transportation, communications, and utilities. Undeveloped upland habitats and wetland communities within 300 feet of the proposed trail segments are outlined in the following sections.

3.4.1.1 Upland Habitats

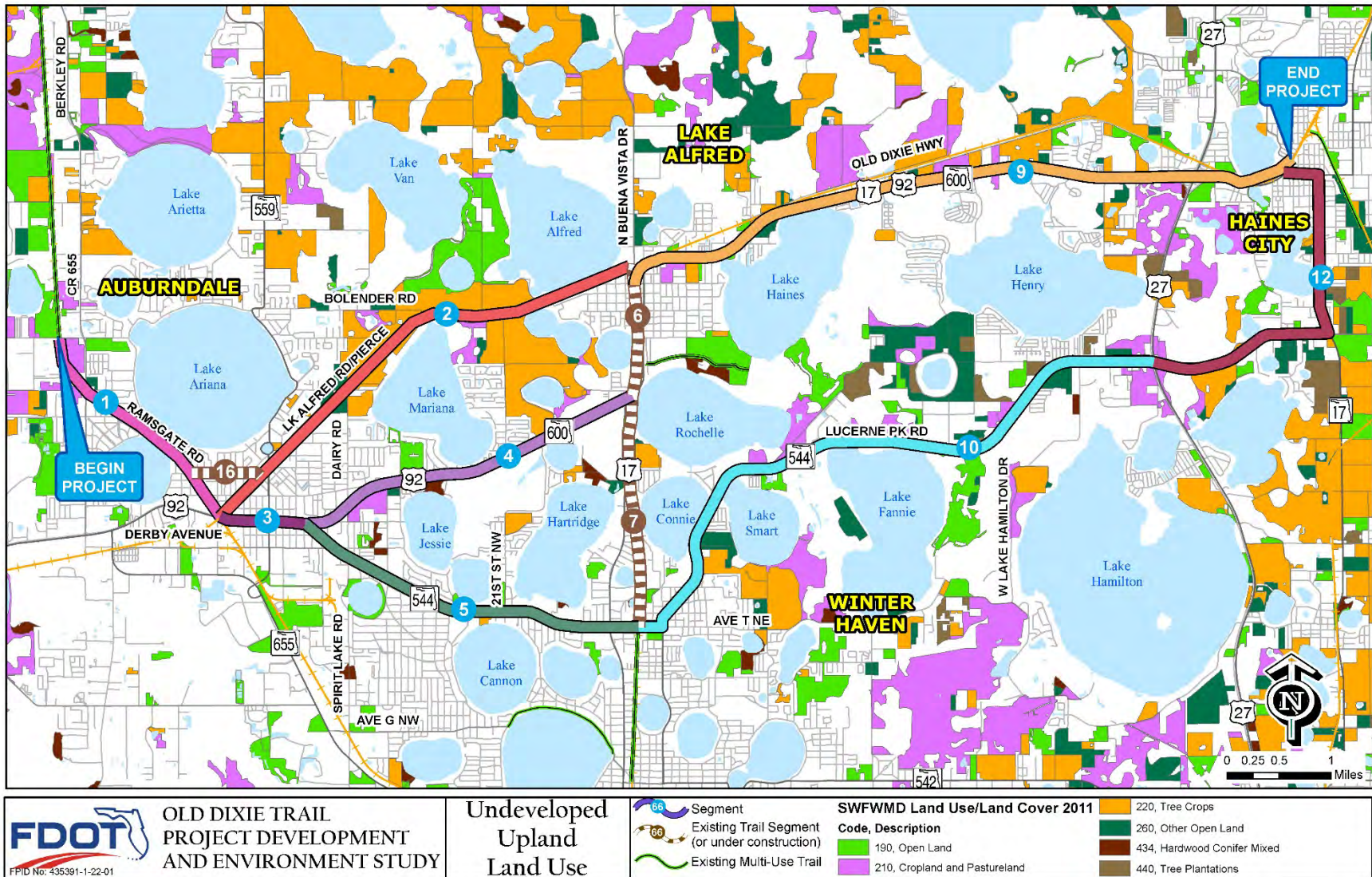
Upland habitats were reviewed using SWFWMD land use data (2011). The undeveloped upland land use types that are within 300 feet or any portion of the land use polygon that falls within 300 feet of the proposed trail segments are presented in **Table 4** and are shown in **Figure 9**. These undeveloped upland land use types have the potential to provide suitable habitat for protected species.

Table 4:
Undeveloped upland land use types within 300 feet of all segments

Undeveloped Upland Land Use Type	Description
FLUCFCS 190 Open Land	This land use is categorized as undeveloped, inactive land that has no current intended use. These areas are surrounded by urban development and may be developed in the future. These areas may contain suitable habitat for several federally and state protected species.
FLUCFCS 210 Cropland and Pastureland	These areas include agricultural land that is used to produce field crops as well as improved, unimproved, and woodland pastures. These areas may provide suitable habitat for several federally and state listed species.
FLUCFCS 220 Tree Crops	These areas include orchards and groves. These areas may provide suitable habitat for several federally and state listed species.

Undeveloped Upland Land Use Type	Description
FLUCFCS 260 Other Open Lands	These areas include agricultural lands whose usage cannot be determined. These areas may provide suitable habitat for several federally and state protected species.
FLUCFCS 434 Hardwood – Conifer Mixed	This land use described upland wooded areas that have a mixture of upland conifers and hardwood tree species where neither is predominant. These areas may provide suitable habitat, foraging and cover for protected plant and animal species.
FLUCFCS 440 Tree Plantations	This land use includes area that are used for timber production. While the species of tree may vary, these areas can be small or encompass large areas and can provide suitable habitat for protected plant and animal species.

Figure 9:
Undeveloped Upland Land Use



3.4.1.2 Wetlands and Surface Water Communities

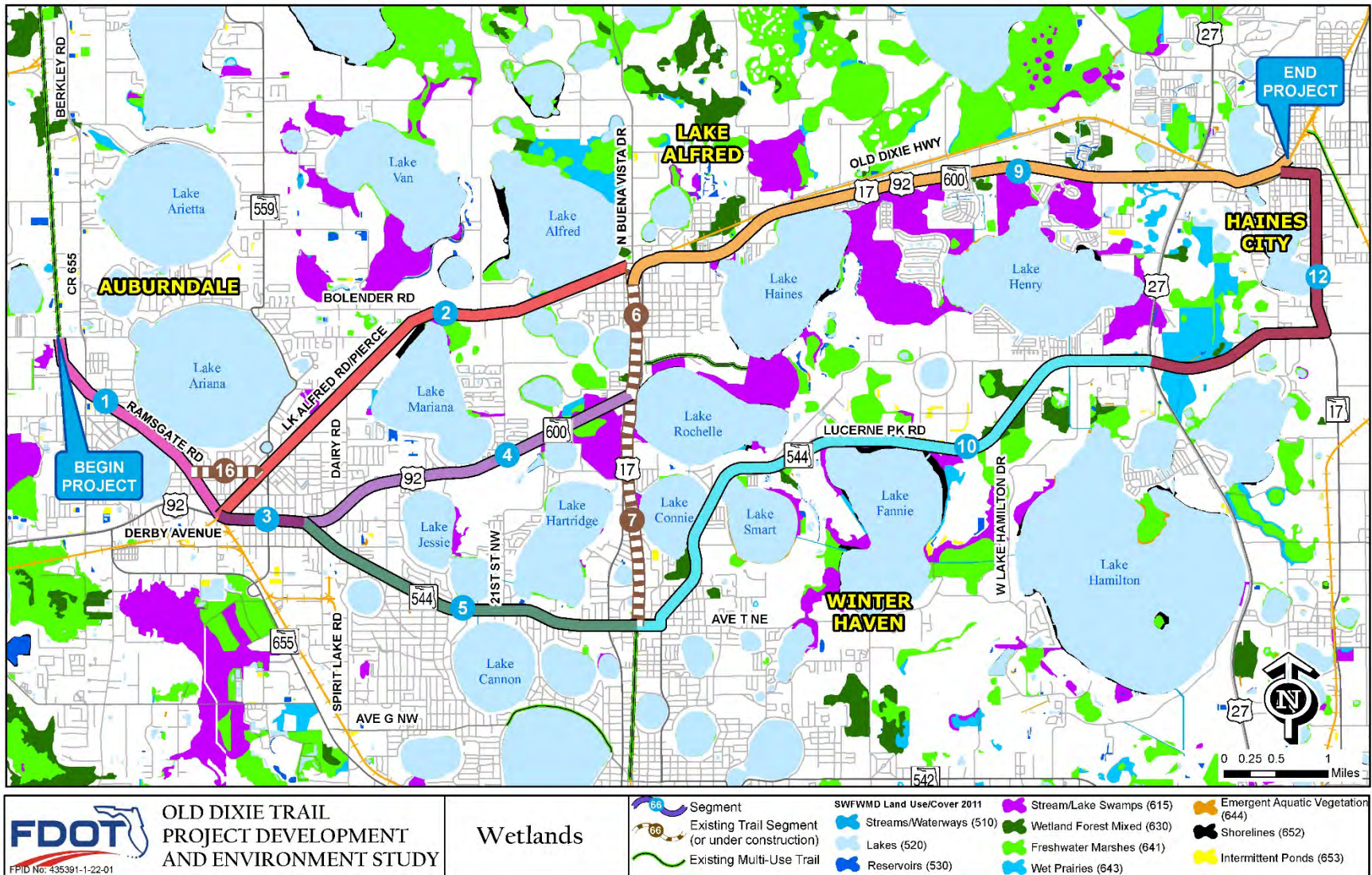
A preliminary desktop environmental review was performed for jurisdictional wetlands and surface waters within the study area. A more detailed review in accordance with the *USFWS Classification Systems of Wetlands and Deepwater Habitats of the United States* (Cowardin, et al 1979), FLUCFCS, Chapter 62-340 Florida Administrative Code, the Corps of Engineers Wetland Delineation Manual (TR T-87-1), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (TR-10-20) will be needed to determine wetland boundaries. The wetlands identified in this report have not been field verified and were not formally approved by the Southwest Florida Water Management District (SWFWMD) or the U.S. Army Corps of Engineers (USACE). Wetland and surface water communities were documented through SWFWMD Land Use Data (2011). National Wetland Inventory (NWI)-classified wetland types were also reviewed and generally consist of Freshwater Emergent Wetlands, Freshwater Forested/ Shrub Wetlands, Freshwater Ponds, Lakes, and Riverine Systems. SWFWMD-classified wetlands and surface water communities are described in **Table 5** and are shown in **Figure 10**.

Table 5:
SWFWMD-classified wetlands and surface water communities

Classified Wetlands and Surface Water Communities	Description
FLUCFCS 510 Streams and Waterways	This land use includes rivers, creeks, canals and other linear waterbodies and can provide habitat as well as foraging for protected species.
FLUCFCS 520 Lakes	This land use includes large inland water bodies as well as large reservoirs. These systems can provide habitat as well as foraging for protected species.
FLUCFCS 530 Reservoirs	These man-made systems are intended for water retention and flood control. These areas may contain little to no emergent aquatic vegetation and likely provide little habitat and foraging areas for wildlife.
FLUCFCS 615 Streams and Lake Swamps (Bottomland)	These predominately hardwood systems are usually found within flood plains of rivers, creeks, or lakes and are sometimes referred to as stream hardwoods. These areas provide suitable foraging and habitat for wildlife.

Classified Wetlands and Surface Water Communities	Description
FLUCFCS 630 Wetland Forested Mixed	This land use described mixed wetland forest communities that have a mixture of conifer and hardwood tree species where neither is predominant. These areas may provide suitable habitat, foraging and cover for protected plant and animal species.
FLUCFCS 641 Freshwater Marshes	These wetlands are vegetated, non-forested systems. Dominant vegetation within these systems usually consists of sawgrass, cattail, arrowhead, buttonbush, etc.
FLUCFCS 643 Wet Prairies	These wetlands are vegetated, non-forested systems that contain mainly grassy vegetation. These areas tend to have less water than marshes and shorter vegetation.
FLUCFCS 644 Emergent Aquatic Vegetation	These non-forested systems are distinguished by the presence of floating vegetation and full or partial emergent vegetation.
FLUCFCS 652 Shorelines	These systems are defined by locations where water meets land in which wave action transports beach materials and sediments. The project area has many large lakes with these shoreline systems.
FLUCFCS 653 Intermittent Ponds	These man-made features are intended for water retention and flood control during rainy seasons. These areas are seasonally flooded and may provide foraging for protected species during some parts of the year.

Figure 10:
Wetland Map



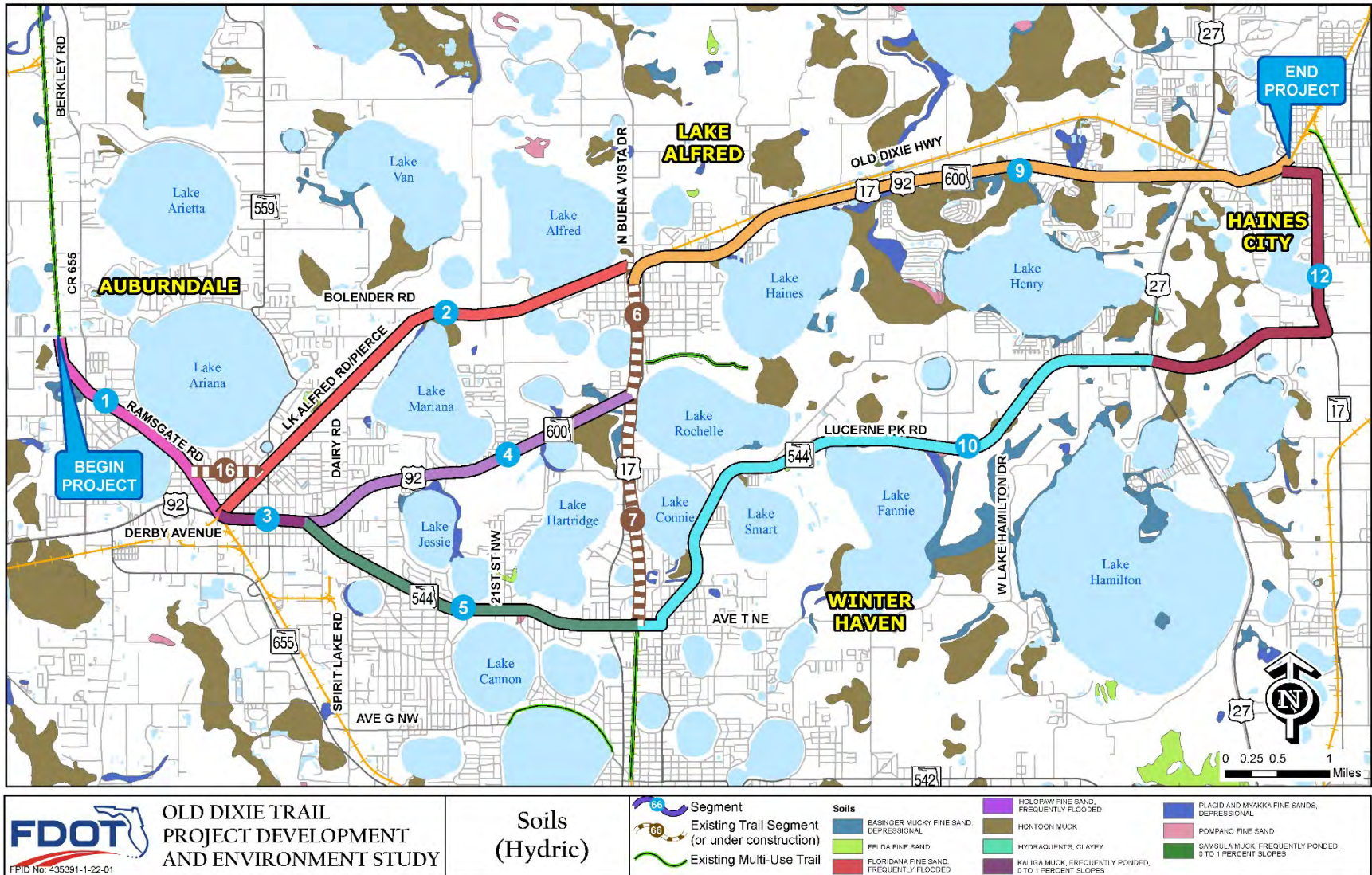
3.4.1.3 Soils

A review of the US Department of Agriculture (USDA) NRCS soils survey for Polk County, Florida identified 45 different soil types within the study area. Per the Florida Association of Environmental Soil Scientists 2007 Hydric Soils of Florida Handbook and USDA NRCS soil survey there are ten soil types within the study area that are listed as hydric. Although a soil may be listed as hydric based on hydric soil criteria, nullifying factors include the inclusion of other non-hydric soil types, drainage activities and landscape position. **Table 6** itemizes the hydric soil types found within the study area (see **Figure 11**).

Table 6:
Soils

Soil Number	Soil Name	Hydric
8	Hydraquents, clayey	Yes
13	Samsula muck, frequently ponded, 0 to 1 percent slopes	Yes
19	Floridana mucky fine sand, frequently ponded, 0 to 1 percent slopes	Yes
25	Placid and Myakka fine sands, depressional	Yes
30	Pompano fine sand	Yes
32	Kaliga muck, frequently ponded, 0 to 1 percent slopes	Yes
33	Holopaw fine sand, frequently ponded, 0 to 1 percent slopes	Yes
35	Hontoon muck, frequently ponded, 0 to 1 percent slopes	Yes
36	Basinger mucky fine sand, depressional	Yes
42	Felda fine sand	Yes

Figure 11:
Soils



3.4.2 Protected Species

While a formal wildlife and plant survey was not conducted, a desktop environmental analysis of the study area was conducted for the presence of federal and/or state protected species and their suitable habitat in accordance with 50 Code of Federal Regulation (CFR) Part 402 of the Endangered Species Act of 1973, as amended, Chapters 5B-40: *Preservation of Native Flora of Florida* and 68A-27 Florida Administrative Code *Rules Relating to Endangered or Threatened Species* and Part 2, Chapter 16 – *Protected Species and Habitat* of the FDOT PD&E Manual.

Literature reviews and agency database searches were conducted to document state and federally protected species presence, their habitat and/or critical habitat occurring or potentially occurring within the study area. Eight federally protected species, seven state protected species and two protected, non-listed species were determined to be present or have a likelihood for utilization of habitats within or adjacent to the proposed trail segments. A field review was not conducted to verify these initial findings and the information contained herein does not constitute an effects determination for the following species. See **Figure 12** for documented species occurrences and protected habitat within the study area.

3.4.2.1 Protected Species

Table 7:
Protected Species

Category	Common Name	Scientific Name	Federal Listing ¹	State Listing ²	Habitat Preference
Reptiles	Blue-tailed mole skink	<i>Eumeces egregius lividus</i>	T	FT	Florida's central ridge at elevations at 82 feet or above sea level. Found in pine and oak scrub, scrubby flatwoods, and turkey oak ridges with well or moderately drained soils.
	Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	FT	Range of habitats from scrub and sandhill to mesic flatwoods. Gopher tortoise commensal species, often wintering in gopher tortoise burrows.
	Gopher tortoise	<i>Gopherus polyphemus</i>	C	ST	Typically found in dry upland habitats, including sandhills, scrub, xeric oak hammock, and dry pine flatwoods. Commonly uses disturbed habitats such as pastures, old fields, and road shoulders.
	Sand skink	<i>Plestiodon reynoldsi</i>	T	FT	Florida's central ridge at elevations at 82 feet or above sea level. Found in pine and oak scrub, scrubby flatwoods, and turkey oak ridges with well or moderately drained soils.
Birds	Audubon's crested caracara	<i>Caracara cheriway audubonii</i>	T	FT	Found in open grasslands with a low density of herbaceous groundcover and sparse cabbage palms.

Category	Common Name	Scientific Name	Federal Listing ¹	State Listing ²	Habitat Preference
Birds (cont.)	Bald eagle	<i>Haliaeetus leucocephalus</i>	NL	NL	Commonly coastal areas, bays, rivers, lakes or other food sources (forages near bodies of water). Nests in tall trees.
	Everglades snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E	FE	Found inland on freshwater marshes and on the edge of shallow lakes with a low vegetation profile containing apple snails.
	Florida burrowing owl	<i>Althene cunicularia floridana</i>	NL	ST	Open prairies with short grasses or bare ground. Can occupy burrows dug by other ground-dwelling species or excavate their own.
	Florida grasshopper sparrow	<i>Ammodramus savannarum floridanaus</i>	E	FE	Large areas of dry prairie dominated with bunch grasses and open patches maintained by frequent burns.
	Florida scrub-jay	<i>Aphelocoma coerulescens</i>	T	FT	Restricted to Florida scrub dominated by scrub oaks rarely exceeding 7 feet and saw palmetto.
	Little blue heron	<i>Egretta caerulea</i>	NL	ST	Freshwater, brackish and saltwater habitats. Forages in freshwater lakes, marshes, swamps and streams.
	Reddish egret	<i>Egretta rufescens</i>	NL	ST	Coastal tidal flats, salt marshes, shores, and lagoons.
	Roseate Spoonbill	<i>Platalea ajaja</i>	NL	T	Nests on coastal mangrove islands or in Brazilian pepper on man-made dredge spoil. Occasionally nests in willow heads at freshwater sites. Forages in shallow water of variable salinity, including marine tidal flats and ponds, coastal marshes, mangrove-dominated inlets and pools, and freshwater sloughs and marshes.
	Tricolored heron	<i>Egretta tricolor</i>	NL	ST	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, and pond and river margins.
	Wood stork	<i>Mycteria americana</i>	T	FT	Marshes, floodplain lakes, swamps.
Mammals	Florida black bear	<i>Ursus americanus floridanus</i>	NL	NL	Mixed hardwood pine, cabbage palm hammock, upland oak scrub, and forested wetlands, such as cypress and riverine.
	Sherman's fox squirrel	<i>Sciurus niger shermani</i>	NL	SSC	Sandhills (high pine), pine flatwoods, and pastures and other open, ruderal habitats with scattered pines and oaks.

¹ NL - Not listed; C - Candidate for listing; T - Threatened; E - Endangered

² NL - Not listed; SSC - Species of Special Concern; ST - State Threatened; SE - State Endangered

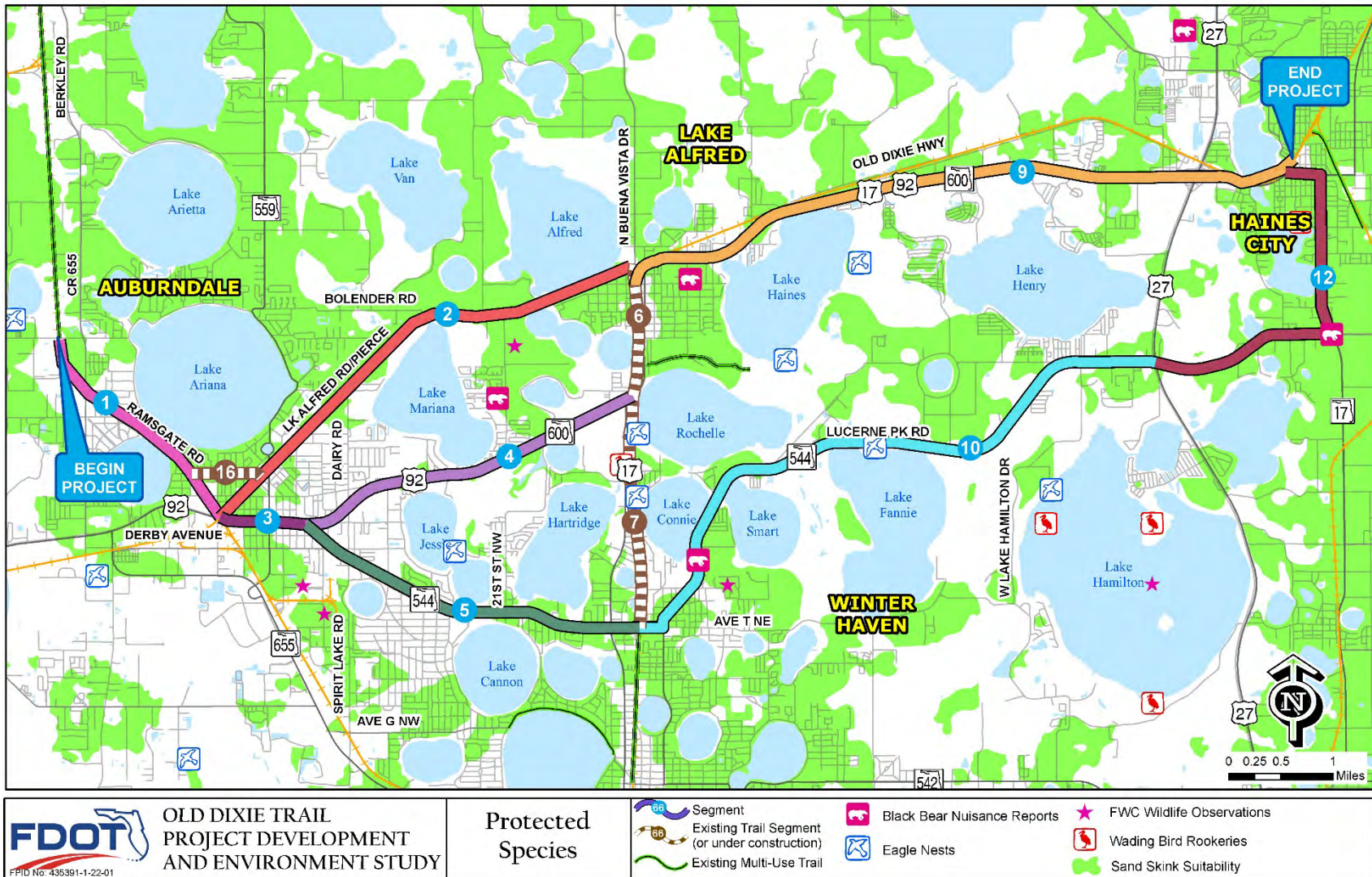
3.4.2.2 Critical Habitat

The study area was evaluated for the potential occurrence of Critical Habitat as defined by 17 CFR 35.1532. The USFWS is the authority as a federal agency to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of the listed species. No Critical Habitat is present within the study area.

3.4.2.3 Essential Fish Habitat

A review of the National Marine Fisheries Service Essential Fish Habitat (EFH) database revealed no EFH is located within the study area.

Figure 12:
Protected Species Map



3.4.3 Archaeological and Historic Sites

A Cultural Resources Assessment Survey (CRAS) will be completed for the project during the PD&E Study. GIS data were analyzed to determine the presence of cultural resources within the study area. The National Historic Preservation Act of 1966 (as amended) defines cultural resources, or historic properties, as any prehistoric or historic district, site, building, structure or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). Archaeological sites represent the locations of prehistoric or historic activities. Historic structures are those features which are at least fifty years old.

Within the study area there are numerous recordings of Florida Site File Listed Historic Structures, some of which may be listed or eligible for listing within the NRHP. There are also Florida Site File cemeteries and resource groups within the proximity of proposed trail segments. **Table 8** is a list of resources which are NRHP listed, eligible for listing, not-evaluated by the State Historic Preservation Office (SHPO), or resources with insufficient information within 300 feet of the proposed trail segments. These resources (as well as resources that are determined to be ineligible for listing in the NRHP) in relation to the proposed trail segments are depicted on **Figure 13**. While proximity to these sites does not necessarily represent a potential impact, a CRAS will be completed to determine the level of involvement the trail may have.

An archeological assessment will be completed during the PD&E, and testing may be required for areas of land acquisition outside of existing right-of-way.

Table 8:
Historic Resources

Site ID	Site Name	Survey Status
PO01013	State Bank of Auburndale Building	Eligible for NRHP
PO02877	613-21 Ingraham Avenue	Eligible for NRHP
PO02882	Music Ranch	Eligible for NRHP
PO02886	ACL Passenger Station	Eligible for NRHP
PO02905	Polk Hotel	Eligible for NRHP
PO03016	Van Rook Inn	Eligible for NRHP
PO03020	138 S 1st Street	Eligible for NRHP
PO03077	2208 Peninsular Drive	Eligible for NRHP
PO03078	316 Scenic Highway	Eligible for NRHP
PO03087	1690 10th Street	Eligible for NRHP
PO03097	802 S 10th Street	Eligible for NRHP
PO04819	Baynard Building	Eligible for NRHP
PO04820	Baynard Store	Eligible for NRHP
PO04829	Paul Smith Hotel	Eligible for NRHP
PO04840	First Presbyterian Church	Eligible for NRHP
PO04909	Exchange Packing Company	Eligible for NRHP
PO04716	L A Citrus Growers Assn Packing House	Eligible for NRHP
PO04718	Anderson House	Eligible for NRHP
PO04728	Lake Alfred Water Tower	Eligible for NRHP
PO04770	Florida Fruitlands Company Office	Eligible for NRHP
PO05163	Old Auburndale City Cemetery	Not evaluated by SHPO
PO05363	Auburndale Citrus Growers Assoc. Pack.	Eligible for NRHP
PO04995	Seaboard Airline	Eligible for NRHP
PO05737	Todhunter International	Eligible for NRHP
PO06075	Auburndale CSX Railroad Station	Not evaluated by SHPO
PO06108	Old Bartow Road Railroad Bed (Linear Resource)	Insufficient Information
PO06743	Hartridge To Conine Canal (Linear Resource)	Not evaluated by SHPO

3.4.4 Recreational Section 4(f)

Section 4(f) is part of the Department of Transportation (DOT) Act of 1966 which limits the use of publicly owned lands (e.g.: public park, recreation area, or wildlife and waterfowl refuge) of national, state, or local significance. The study area was evaluated to determine if recreational Section 4(f) resources are potentially located within the project using a variety of data sources including Florida Management Lands, SWFWMD Lands, and public parks. Below is a list of potential Section 4(f) resources within 1000 feet of the proposed trail segments, which are also shown in **Figure 14**.

- Aldors Park
- Auburndale City Park
- Auburndale Trail
- Bennett Street Practice Fields
- Bruce Canova Stadium
- Chain of Lakes Trail
- Cindy Hummel Tennis Center
- Echo Park
- Gardener Park
- Henry Lake Canal and Structure
- Inman Park
- Lake Alfred Tennis Courts
- Lake Ariana Park
- Lake Ariana Park Public Boat Ramp
- Lake Connie Boat Ramp
- Lake Fannie Public Boat Ramp
- Lake Hartridge Park & Boat Ramp
- Lake Rochelle Boat Ramp
- Lake Tracy Boat Ramp
- Lions Park & Boat Ramp
- Mackay Gardens and Lakeside Preserve
- Railroad Park
- Spivey Little League Complex
- Twin Lakes Park & Lake Swoope Boat Ramp (#171)
- Sportsmans Park
- Willowbrook Golf Course
- Winter Haven to Lake Alfred Trail

3.4.5 Contamination

Numerous regulated contamination datasets were used to determine potential contamination within the study areas for the proposed trail segments. Resources that were used include: active State Underground Petroleum Environmental Response (SUPER) Act Wells, Storage tank Contamination Monitoring sites, SUPER Act Risk Sources, US Environmental Protection Agency (USEPA) Toxic Release Inventory sites, USEPA Superfund sites, USEPA Resource Conservation and Recovery Act (RCRA) sites, Petroleum Contamination Monitoring sites, Solid Waste Facilities, Railroads, National Priority List sites, and Brownfields. These potential contamination locations are depicted in **Figure 15**. A Contamination Technical Memorandum (see Appendix B) summarized potential contamination sites located within the right-of-way of the potential trail segments. It should be noted that while there are many data points, not all the points represent actual contamination, further review of these resources will be done during the project PD&E.

Figure 14:
Recreational Section 4(f) Resources

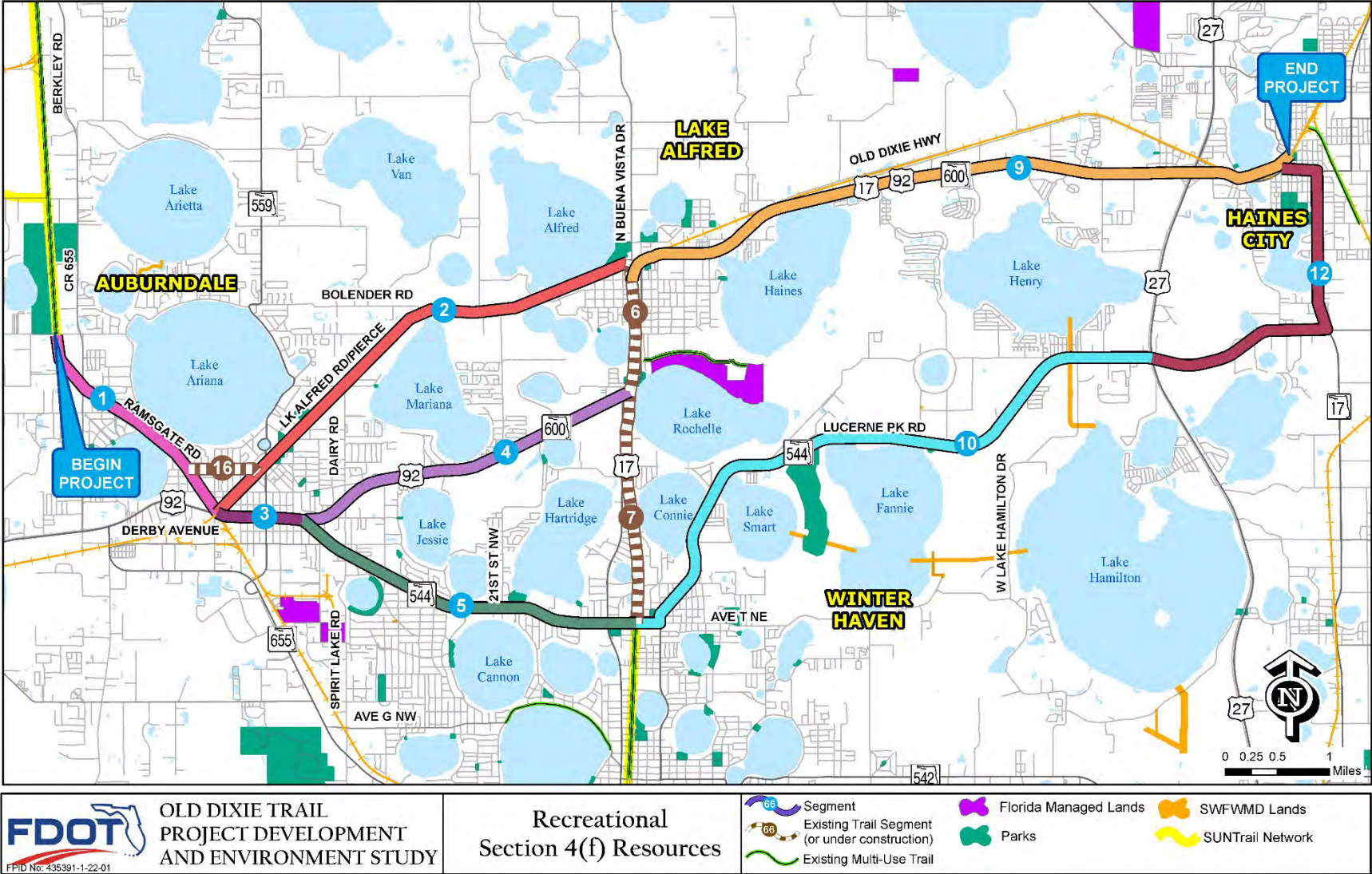
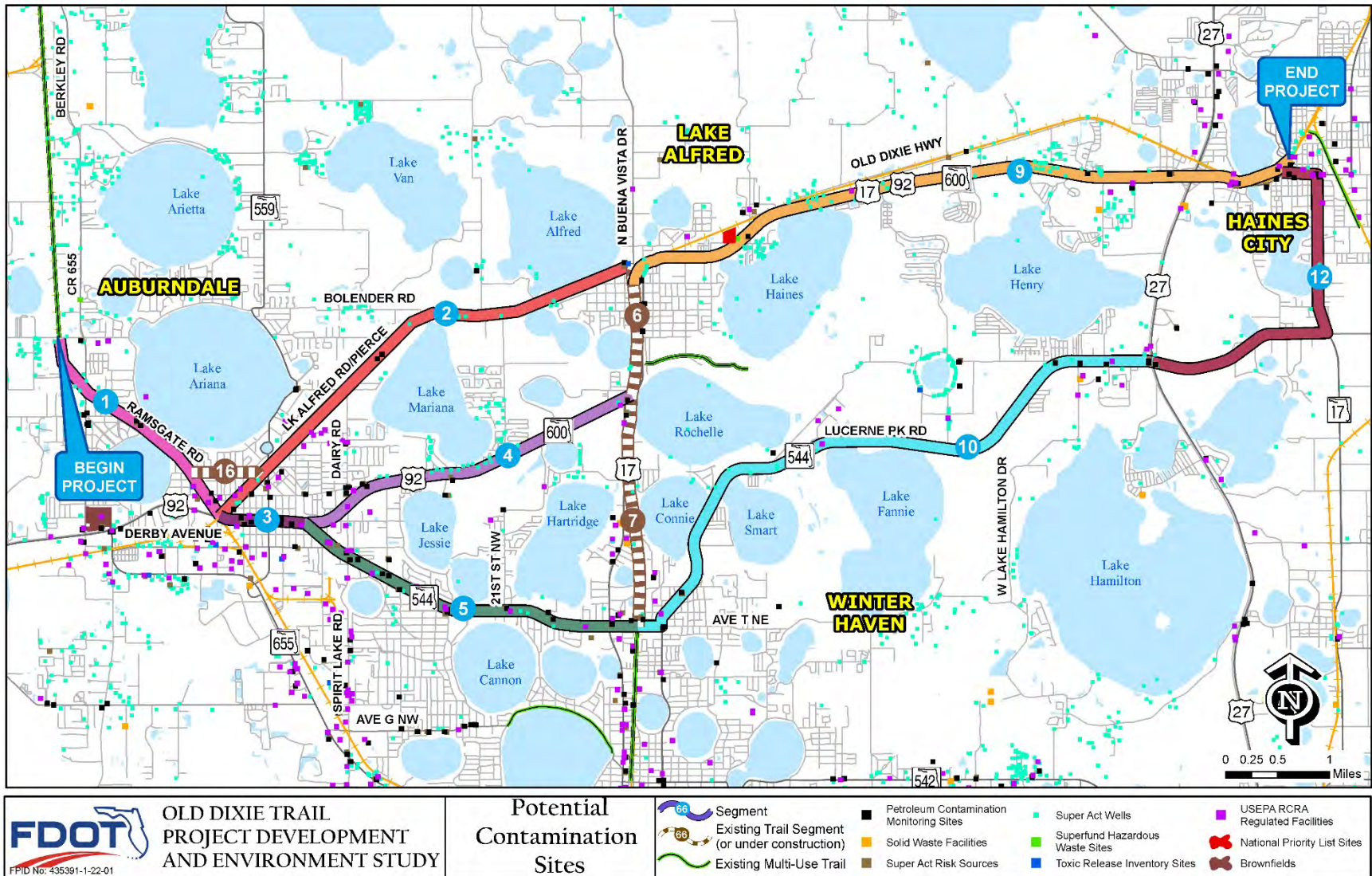


Figure 15:
Potential Contamination Map



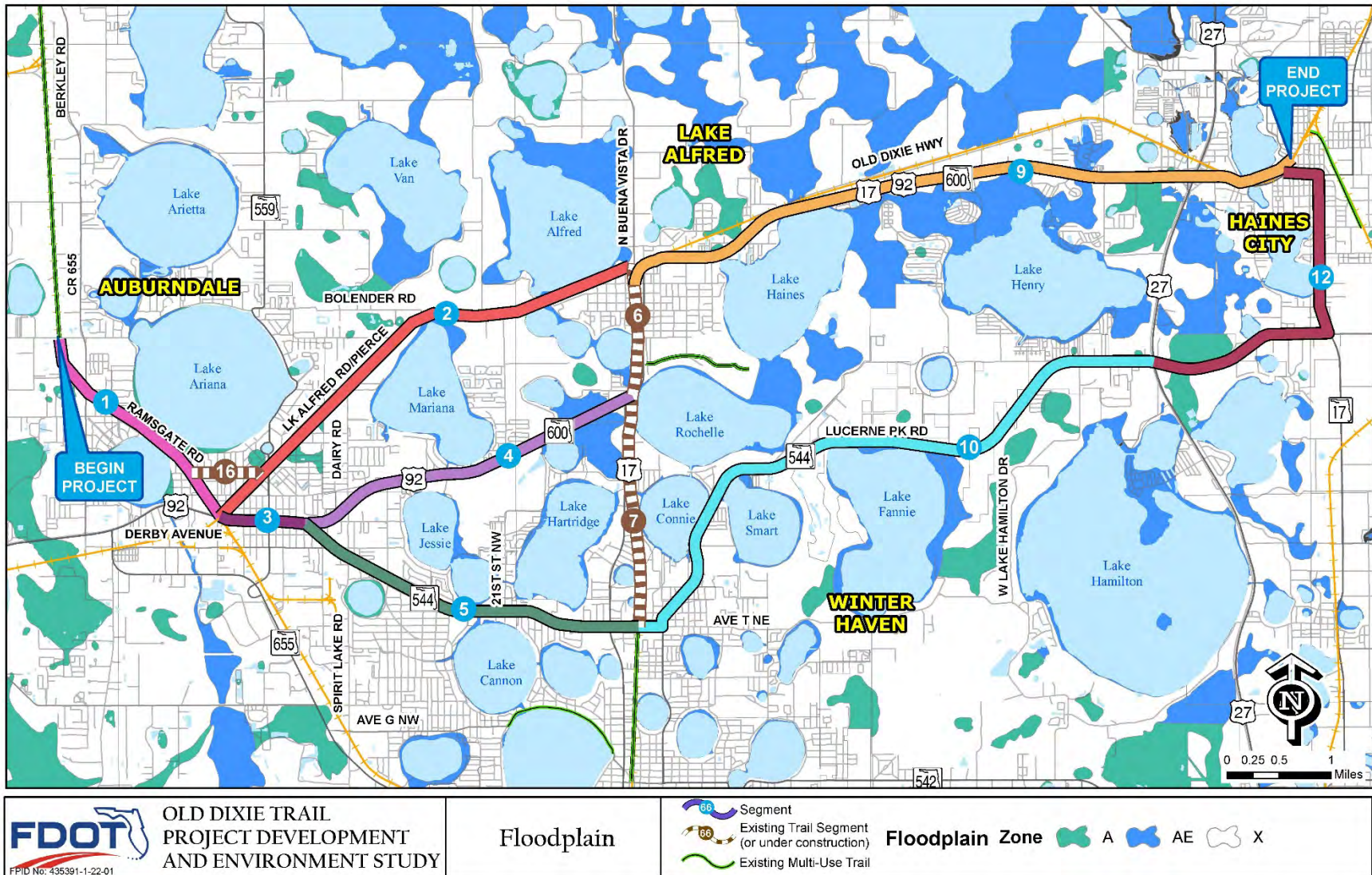
3.4.6 Floodplains

The study limits are located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) 12105C0330G, 12105C0335G, 12105C0345G, 12105C0355G, 12105C0356G, 12105C0357G, 12105C0358G, 12105C0359G, 12105C0365G and 12105C0380G, effective December 22, 2016. In general, Flood Zones A (100-year flood, no Base Flood Elevation determined), AE (100-year flood, Base Flood Elevation determined), and X (areas outside of the 100-year flood) have been identified within limits of the study area (see **Figure 16**). In addition, Segment 8 traverses FEMA Regulatory Floodway. Further detail regarding the existing floodplains as they pertain to the individual segments is provided in Section 4 of this document. The FEMA FIRM floodplain limits with respect to the study area and complete FEMA FIRMs are provided in Appendix AC.

3.4.7 Environmental Resource Permits

There are numerous existing Environmental Resource Permits (ERPs) within the study limits that may be impacted by the proposed project. The existing ERPs have been identified within each segment of the study. Further detail regarding the existing ERPs as they pertain to the individual segments, as well as preliminary permitting requirements, are provided in Section 4 of this document.

Figure 16:
Floodplains



4.0 TRAIL SEGMENT ANALYSIS

An in-depth analysis of the proposed trail segments was conducted. The purpose of this analysis is to connect proposed trail segments to identify 12-mile, end-to-end trail alternatives that can advance to the PD&E Study for further evaluation.

Below is a summary of the characteristics, benefits, and potential challenges of the trail segments following the desktop-level analyses and preliminary field reviews.

4.1 Trail Segment Descriptions

Segment 1

Segment 1 begins at the Auburndale TECO trailhead at Denton Avenue and continues southeast along Ramsgate Road to the intersection of Magnolia Avenue.



Beginning of Segment 1 at the Auburndale TECO trailhead, along Denton Avenue.



Right-of-way along Ramsgate Road



End of Segment 1 at Magnolia Avenue overpass

Segment 2

Segment 2 begins at the end-point of Segment 1, at the Magnolia Avenue overpass and continues northeast along the CSX right-of-way through downtown Auburndale. Segment 2 follows along Stadium Road/Old Lake Alfred Road and ends at the intersection of SR 557/W. Pomelo Street.



Beginning of Segment 2, Magnolia Avenue



Right-of-way along Stadium Road



Right-of-way along Old Lake Alfred Road



End of Segment 2 at SR 557/W. Pomelo Street

Segment 3

Segment 3 begins at the Magnolia Avenue bridge over the CSX railroad and continues east along Magnolia Avenue to the intersection of Havendale Boulevard.



Segment 3 along Magnolia Avenue

Segment 4

Segment 4 begins at the intersection of US 92 and Havendale Boulevard and continues northeast along US 92 to the Chain of Lakes Trail bridge that traverses over US 92.



Right-of-way along US 92



Right-of-way along US 92, adjacent to Winter Haven Municipal Airport



End of Segment 4 at the Chain of Lakes Trail bridge

Segment 5

Segment 5 begins at the intersection of Havendale Boulevard and US 92 and continues in a southeast/east direction along Havendale Boulevard to the US 17 intersection.



Right-of-way along Havendale Boulevard.

Segment 9

Segment 9 begins at the intersection of US 17/92 (Shinn Boulevard) and W. Haines Boulevard, in the vicinity of the existing trail along US 17/92 (Segment 6). This segment continues north/northeast along US 17/92 to the Haines City trailhead.



Beginning of Segment 9 in the vicinity of the existing trail along US 17/92 (Segment 6)



Right-of-way along US 17/92



Right-of-way along US 17/92



End of Segment 9 at Haines City trailhead

Segment 10

Segment 10 begins at the intersection of US 17 and Avenue T NW and continues east along Avenue T NW to 1st Street N. Segment 10 then continues northeast along SR 544/Lucerne Park Road to the intersection of US 27.



Beginning of Segment 10 at Avenue T NW



Right-of-way along SR 544/Lucerne Park Road



Right-of-way along SR 544/Lucerne Park Road



End of Segment 10 at US 27

Segment 12

Segment 12 begins at the intersection of SR 544/Lucerne Park Road and US 27 and continues east along SR 544/Lucerne Park Road to S. 10th Street. Segment 12 then makes a northerly turn along S. 10th Street and terminates at the Haines City trailhead.



Right-of-way along SR 544/Lucerne Park Road



Right-of-way along S. 10th Street

4.2 Land Use

Existing land use within ½-mile of each segment was summarized using the parcel codes from the Florida Department of Revenue, see **Table 9**.

Segment 1

Segment 1 generally bisects a primarily residential area within Auburndale. Some commercial and industrial uses exist near the southern end of the segment near the intersection with US 92.

Segment 2

Segment 2 lies mostly in Auburndale, with its east portion extending into Lake Alfred. Most of the segment is bordered by general urban uses on the western and eastern ends; however, agricultural uses are

predominant in the central portion of the segment near Bolender Road. The segment also traverses downtown Auburndale, specifically siding Downtown City Park, and Auburndale Senior High School.

Segment 3

Segment 3 is wholly within the City of Auburndale and is bound by traditional urban uses, with mainly commercial businesses fronting the corridor such as fast-food, automotive uses, and convenience stores.

Segment 4

A small section on the western end of the segment is within Auburndale; however, most of the segment lies within the City of Winter Haven. Commercial uses, notably the Winter Haven Municipal Airport, line the segment, with agricultural and mixed uses anchoring the eastern end of the segment.

Segment 5

This segment lies in Auburndale, unincorporated Polk County, and Winter Haven. Commercial uses, supplemented by several shopping plazas, affront the corridor, with residential uses immediately behind. Other uses along the corridor include governmental and institutional uses, such as the US Social Security Administration offices and places of worship.

Segment 9

The longest segment, Segment 9, traverses US 17/92 between Lake Alfred and Haines City. The vast majority of land uses are various commercial uses, including leased/rented mobile home parks in unincorporated Polk County. Notable developments are Swiss Golf and Tennis Club, Sweetwater Community Golf and Tennis Club, Royal Palm Village, and Haines City's commercial corridor on US 17, east of US 27.

Segment 10

Segment 10, along SR 544/Lucerne Park Road, is the most varied of segments in terms of land use. Residential, industrial, agricultural, and institutional uses bordering the segment including warehousing, parks, a technical college, and residential developments. Most notable uses are Willowbrook Golf Course, Ridge Technical College (just off SR 544), and industrial parks.

Segment 12

Segment 12 traverses agricultural and residential areas along the east-west section of this segment, before entering the urbanized setting of Haines City along SR 17/S. 10th Street, passing a variety of land uses.

Table 9:
Trail Segments: Existing Land Use (in acres)

	Agriculture	Commercial	Governmental	Industrial	Institutional	Miscellaneous	Residential	TOTAL
1	134.8	155.5	369.5	259.8	31.3	224.2	630.1	1,805.2
2	761.4	134.2	479.9	288.8	63.8	561.2	948.7	3,238.2
3	7.4	144.8	51.6	291.6	38.8	38.6	269.6	842.4
4	227.1	608.4	840.4	89.9	53.3	302.1	640.6	2,761.9
5	37.5	355.5	644.5	199.6	115.5	171.5	838.1	2,362.2
6	134.1	69.4	285.0	21.7	18.7	220.9	378.0	1,127.8
7	84.1	210.9	698.3	53.1	47.1	213.7	447.1	1,754.2
9	797.5	1025.0	400.9	175.1	55.7	822.7	1010.5	4,287.4
10	702.3	349.9	1129.3	434.5	83.0	551.2	1016.5	4,266.7
12	705.5	232.5	259.7	153.9	102.9	323.3	657.7	2,435.6
16	0.0	79.3	184.9	80.9	25.6	123.4	284.3	778.4

Source: Polk County Property Appraiser data, 2017.

4.3 Environmental Assessment

The following environmental resources were analyzed to identify their presence and location along trail segments: upland and wetland communities, protected species, archaeological and historic sites, recreational Section (f) resources, contamination, and floodplains.

4.3.1 Upland and Wetland Communities

4.3.1.1 Upland Communities

As shown in **Figure 9**, with the exception of Segment 3, all of the proposed trail segments have some level of adjacent undeveloped upland habitat. Segments 2, 9, and 10 have the largest proportion of undeveloped land use in proximity to proposed trail segments. The predominant upland communities along these segments include tree crops, crop and pasturelands, and other open lands (mixed use, undeveloped lands). These undeveloped areas may provide the trail user with a scenic trail experience;

however, there is potential for these habitats to be used by protected wildlife species. A detailed assessment of the trail placement within the study area will be completed during the PD&E Study.

4.3.1.2 Wetlands Communities

As shown in **Figure 10**, all of the proposed trail segments, except for Segments 3 and 5, are abutting or are near natural wetland communities. Wetlands provide various benefits to the ecosystem including water quality, water quantity, and habitat and food-web support for wildlife. Wetlands remove excess nutrients (stemming from surrounding surface water runoff) from the water column through vegetation uptake; provide much needed regional water storage to alleviate flooding; and serve as habitat and a food source for numerous wildlife species. Having wetlands near or adjacent to the proposed trail segments offer scenic and visual benefits for the trail user. Wetlands and surface waters are protected by state and federal regulations; therefore, if wetland impacts result from the proposed trail segments, coordination with state and federal agencies would be required and compensatory wetland mitigation may be needed. A detailed analysis of the trail placement within the study area will be completed during the PD&E Study.

4.3.2 Protected Species

As shown in **Figure 12**, all of the proposed trail segments have the potential for involvement with some of the protected species outlined in section 3.4.2. Of the protected species found within the project study area, the bald eagle, Eastern indigo snake, Everglades snail kite, gopher tortoise, sand and blue-tailed mole skinks, wetland dependent avian species, and wood storks have the highest probability of occurring along the proposed trail segments. While all segments have the potential for protected species involvement, some of the segments have more potential for involvement than others. A detailed analysis on the placement of the trail segments along each corridor will be conducted during the PD&E Study to determine if any trail segment will actually impact protected species. Segments that may have a higher probability of species involvement are outlined below in **Table 10**.

Table 10:
Protected Species Location

Trail Segment	Habitat	Bald Eagle	Wood Stork	Wetland Dependent Species	Everglades Snail Kite	Eastern Indigo Snake	Gopher Tortoise	Sand and Blue-tail Mole Skink
1	Undeveloped upland habitat, adjacent wetland communities, abandoned rail line, and mapped within suitable soils for sand and blue-tailed mole skink		X	X	X	X	X	X

Trail Segment	Habitat	Bald Eagle	Wood Stork	Wetland Dependent Species	Everglades Snail Kite	Eastern Indigo Snake	Gopher Tortoise	Sand and Blue-tail Mole Skink
2	Undeveloped upland habitat, adjacent wetland communities, and mapped within suitable soils for sand and blue-tailed mole skink					X	X	X
3	Undeveloped upland habitat and mapped within suitable soils for sand and blue-tailed mole skink					X	X	X
4	Undeveloped upland habitat, adjacent wetland communities, and mapped within suitable soils for sand and blue-tailed mole skink. Adjacent to airport.		X	X	X	X	X	X
5	Undeveloped upland habitat and mapped within suitable soils for sand and blue-tailed mole skink		X	X	X	X	X	X
7	Existing trail along US 17 with two previously documented bald eagle nests with activity in the past five years, and one listed wading bird rookery	X	X	X				
9	Undeveloped upland habitat, and mapped within suitable soils for sand and blue-tailed mole skink					X	X	X
10	Undeveloped upland habitat, one previously documented bald eagle nest with activity in the past five years, and mapped within suitable soils for sand and blue-tailed mole skink	X				X	X	X
12	Undeveloped upland habitat and mapped within suitable soils for sand and blue-tailed mole skink					X	X	X

4.3.3 Archaeological and Historic Sites

As shown in **Figure 13**, all of the proposed trail segments have the potential for involvement with archaeological and/or historic resources. Within the study area, there are numerous recordings of Florida Site File Listed Historic Structures, some of which may be listed or eligible for listing within the NRHP, not-evaluated, or resources with insufficient information. A CRAS will be completed during the PD&E Study to evaluate all of the documented archaeological and/or resources adjacent to the proposed trail segments, as well as potential new resources. While all of the proposed trail segments have resources adjacent, some of the segments may have more potential for involvement than others. Clusters of potential archaeological and/or historic resources are found along parts of Segments 1, 2, 3, 6, 9, 12, and 16. Segments that may have a highest probability of historic resource involvement are outlined below.

Segment 2

Portions of Segment 2 are located within the downtown area of Auburndale that contains several previously identified NRHP listed resources adjacent to the segment. These NRHP listed properties will need to be reviewed for potential involvement.

Segment 6

While Segment 6 is an existing trail, portions of the segment are located within the downtown area of Lake Alfred. The northern limits of this existing trail are adjacent to several NRHP eligible and potentially eligible resources. If improvements are proposed to the existing trail, these NRHP eligible and potentially eligible resources will need to be reviewed for potential involvement.

Segment 9

Portions of Segment 9 are located within the downtown area of Lake Alfred and the downtown area of Haines City. The western limits of this proposed trail segment are adjacent to several NRHP eligible and potentially eligible resources. These NRHP listed properties will need to be reviewed for potential involvement.

Segment 12

Portions of Segment 12 are located within the downtown area of Haines City that contains several previously identified NRHP listed resources adjacent to the segment. These NRHP listed properties will need to be reviewed for potential involvement.

4.3.4 Recreational Section 4(f)

As shown in **Figure 14**, all proposed trail segments are adjacent to potential recreational Section 4(f) properties with the exception of Segment 3, Segment 4, and existing trail Segment 7. The potential Section 4(f) resources located adjacent to the proposed trail segments include the following:

- Segment 1 connects to the Auburndale TECO trailhead at the beginning of the segment
- Segment 2 traverses through the center of Downtown City Park, is located north of the Miss Auburndale Softball field and Auburndale Tennis Courts; and is located south of Lions Park near the end of the segment
- Segment 5 is located north of Inman Park
- Segment 6 is located east of McKay Gardens
- Segment 9 connect to the Haines City trailhead near the end of the segment
- Segment 10 is located north of Winter Haven’s municipal golf course, Willowbrook
- Segment 12 is located east of the City Haines City Lake Eva Community Park and connects to the Haines City trailhead near the end terminus

Although connecting a multi-use trail to existing recreational facilities is a benefit to the community, Section 4(f) resources are regulated by FHWA under the Department of Transportation Act of 1966. Therefore, Section 4(f) involvement with the proposed trail segments will be reviewed further during PD&E Study to determine the anticipated level of use and potential impact or enhancement to these resources.

4.3.5 Contamination

As shown in **Figure 15**, all proposed trail segments have the potential for contamination involvement. The information presented in this figure does not confirm areas of contamination, but instead identifies areas that have the potential for contamination and the need for further analysis. A Contamination Technical Memorandum (Appendix B) was completed for this Feasibility Study to identify potential contamination involvement within the right-of-way of the proposed trail segments. Contamination risk ratings were given to each site identified. Sites that were assigned a “High” risk rating and the corresponding Segments are outlined in **Table 11**.

The trail placement along each of the proposed trail segments will determine the amount of contamination that may be present. Contamination concerns will be reviewed in more detail during the PD&E Study.

Table 11:
Potential Contamination Sites with "High" Risk Rating

Segment	High Risk Rating Sites	Site Notes
1	Ariana Discount Beverage	This facility is associated with discharges of unleaded gasoline on April 6, 1993 and December 22, 1994. The cleanup tasks have not been resolved and therefore this facility is assigned a risk rating of "High."
2	Johnson Property	A discharge of an unknown amount of leaded gasoline was reported for this facility on November 22, 1996. The cleanup has not been completed to date and therefore this facility is assigned a risk rating of "High."
	Universal Forest Products Eastern Division	This facility is listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a discharge has occurred, and cleanup will be facilitated using owner financing. Based on the nature of the listing, this facility is assigned a risk rating of "High."
3	Barrineau Tire Center	Two discharges have been reported for this facility from Leaking Underground Storage Tanks: December 19, 1988 (unknown material/gallons) and March 31, 1991 (gasoline, unknown volume). The 1988 discharge has been resolved and a "Site Rehabilitation Completion Order" was issued on March 26, 2009. The 1991 discharge has not been remediated to date. Based on the incomplete nature of the cleanup for the 1991 discharge, this facility is assigned a risk rating of "High."
	Stop N Go #14	Two discharges have been reported for this facility from Leaking Underground Storage Tanks: September 7, 1994 (unleaded gasoline/unknown volume) and August 21, 1996 (unknown product/unknown volume). The 1994 discharge did not require cleanup. The 1996 discharge has not been resolved to date and therefore this facility is assigned a risk rating of "High."
4	Aircraft Propeller Works Facility	This facility is listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a discharge has occurred, and cleanup will be facilitated using owner financing. Based on the nature of the listing, this facility is assigned a risk rating of "High."
	Trugreen	This facility is listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a discharge has occurred, and cleanup will be facilitated using owner financing. Based on the nature of the listing, this facility is assigned a risk rating of "High."
	Commercial Carrier Corp, Comcar Maintenance Services, Inc.	This facility is listed as an inactive waste tire collector and is also associated with two discharges of diesel fuel on November 20, 1986 and March 4, 1994. The discharges are eligible for cleanup funding but have not reached active status yet and therefore assigned a risk rating of "High."

Segment	High Risk Rating Sites	Site Notes
4	Bridger Truck Stop	Three discharges have been reported for this facility from Leaking Underground Storage Tanks: October 8, 1996 (kerosene/unknown volume), August 8, 2008 (diesel fuel/unknown volume), and another on August 8, 2008 (diesel fuel/unknown volume). A "Site Rehabilitation Completion Order" was issued for the 1996 discharge on December 10, 2007. One of the 2008 discharges do not require cleanup. The other 2008 discharge has not been resolved to date and therefore this facility is assigned a risk rating of "High."
	Unisul Inc.	An unknown volume of diesel fuel was discharged at this facility on September 8, 1992. The discharge is eligible for cleanup funding but has not reached active status yet and therefore assigned a risk rating of "High."
	Robert H. Hart & Sons, Inc.	An unknown volume of unleaded gasoline was discharged at this facility on December 16, 1988. The discharge is eligible for cleanup funding but has not reached active status yet and therefore assigned a risk rating of "High."
	Speedway #9830 - Former	Three discharges have been reported for this facility from Leaking Underground Storage Tanks: May 11, 1988 (unknown product/unknown volume), January 5, 1992 (fuel oil/unknown volume), and June 3, 1992 (fuel oil/unknown volume). A "No Further Action" status was issued for the 1988 discharge on August 16, 2017. The two discharges from 1992 have not been resolved to date and therefore this facility is assigned a risk rating of "High."
	Superior Dry Cleaning	The site is listed in the Dry Cleaners database. Those facilities in the database have applied for cleanup funding assistance for a discharge of dry cleaning solvents. Recognizing that a discharge of dry cleaning solvent is necessary to qualify for funding assistance, this facility is assigned a risk rating of "High."
5	Crown Cleaners	This facility is listed in the Dry Cleaners database. Those facilities in the database have applied for cleanup funding assistance for a discharge of dry cleaning solvents. Recognizing that a discharge is necessary to qualify for funding assistance, this facility is assigned a risk rating of "High."
	Texaco #703	Two discharges have been reported for this facility from Leaking Underground Storage Tanks: December 19, 1988 (non-regulated product/unknown volume) and October 2, 1996 (unleaded gasoline/unknown volume). The 1988 discharge is eligible for cleanup funding but has not reached active status yet. The 1996 discharge does not require cleanup. This facility is assigned a risk rating of "High."

Segmen	High Risk Rating Sites	Site Notes
9	E-Z Foods #9, Shufat Inc.	Two discharges have been reported for this facility from Leaking Underground Storage Tanks: March 26, 1997 (unleaded gasoline/unknown volume) and August 18, 2011 (unknown product/unknown volume). The 1997 discharge is eligible for cleanup funding but has not reached active status yet. The 2011 discharge has not been resolved to date. Based on the unresolved nature of both discharges, this facility is assigned a risk rating of "High."
	IFAS Citrus Rec – Lake Alfred AOC, 01-AOC 10, IFAS Citrus Rec – Lake Alfred, Univ of FI-IFAS Citrus Research – Main Campus	Three discharges have been reported for this facility from Leaking Underground Storage Tanks: June 7, 1983 (gasoline/unknown volume), December 16, 1988 (unknown product/unknown volume), and October 31, 1990 (diesel/200 gallons). All three discharges were granted "Site Rehabilitation Completion Orders." This facility is also listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a non-petroleum discharge has occurred, and cleanup will be facilitated using owner financing. Based on the nature of the listing, this facility is assigned a risk rating of "High."
	One Stop	A discharge of unleaded gasoline (unknown volume) was reported for this facility on October 15, 1996. The site is eligible for cleanup funding but has not been completed to date. This facility is still active. Based on the unresolved nature of the 1996 discharge, this facility is assigned a risk rating of "High."
	Ron's RV Sales	A discharge of an unknown volume of "other non-regulated" product was reported for this facility on December 28, 1988. The cleanup is eligible for cleanup funding, but the site has not reached active status yet. Based on the unresolved nature of the discharge, this facility is assigned a risk rating of "High."
	Haines City Quality Cleaners, Inc.	Site #105 is listed in the Dry Cleaners database. Those facilities on the database have applied for cleanup funding assistance for a discharge of dry cleaning solvents. Recognizing that a discharge of dry cleaning solvent is necessary to qualify for funding assistance; this facility is assigned a risk rating of "High."
	Haines City Quality Cleaners, Inc.	Site #106 is listed in the Dry Cleaners database. Those facilities on the database have applied for cleanup funding assistance for a discharge of dry cleaning solvents. Recognizing that a discharge of dry cleaning solvent is necessary to qualify for funding assistance; this facility is assigned a risk rating of "High."

Segment	High Risk Rating Sites	Site Notes
9	Shell-Hoppys	Three discharges have been reported for this closed retail gas station: January 7, 1987 (leaded gasoline/unknown volume), August 15, 1990 (gasoline/unknown volume), and December 3, 2001 (waste oil/unknown volume). The 1987 and 1990 discharges were combined for cleanup purposes and are eligible for cleanup funding; however, they have not been resolved to date. A "Site Rehabilitation Completion Order" was issued on April 29, 2002 for the 2001 discharge. Based on the unresolved nature of the 1987 and 1990 combined discharges, this facility is assigned a risk rating of "High."
10	Former Burger King	A discharge of leaded gasoline (unknown volume) was reported for this facility on July 3, 2003. The cleanup has not been completed to date and therefore this facility is assigned a risk rating of "High."
	Washington Property	This facility is listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a discharge has occurred, and cleanup will be facilitated using owner financing. The EDM report notes that the contaminants include Total Recoverable Petroleum Hydrocarbons (TRPH) in the soil. Based on the nature of the listing, this facility is assigned a risk rating of "High."
	Big M Mart	Two discharges have been reported for this facility from Leaking Underground Storage Tanks: December 28, 1988 (unleaded gasoline/unknown volume) and October 18, 2010. The 1988 discharge is eligible for cleanup funding but has not yet reached active status. The 2010 discharge has not been resolved to date. This facility is still an active retail fuel facility. Based on the unresolved nature of the discharges and the active status of the facility, a risk rating of "High" is assigned.
	Blackwelder NCNB	This facility is listed in the "Voluntary Cleanup" database, which includes Brownfield or Waste Cleanup sites. The listing is suggestive that a discharge has occurred, and cleanup will be facilitated using owner financing. Based on the nature of the listing, this facility is assigned a risk rating of "High."
	Giant Oil #121	Three discharges have been reported for this facility: October 28, 1993 (fuel oil/unknown volume), January 12, 1995 (unknown product/unknown volume), and June 19, 2009 (unleaded gasoline/unknown volume). A "Site Rehabilitation Completion Order" was issued for the 1993 discharge on April 1, 2011. No cleanup was required for the 1995 discharge. The 2009 discharge has not been resolved to date. Additionally, this facility remains open. Therefore, this facility is assigned a risk rating of "High."

Segment	High Risk Rating Sites	Site Notes
10	Marathon-Lucern #136	This facility is associated with two discharges: July 19, 1995 (unleaded gasoline/unknown volume) and September 3, 2008 (unleaded gasoline/unknown volume). The site is eligible for cleanup funding and is currently in the remediation phase. Neither discharge has been resolved to date. Additionally, this facility is operational. Based on the unresolved nature of the discharges, this facility is assigned a risk rating of "High."
	Racetrac #2343	Three discharges have been reported for this operational retail gas station: December 23, 1988 (diesel/unknown volume), January 6, 2004 (gasoline/unknown volume), and December 8, 2014 (gasoline/42 gallons). "No Further Action" status was issued for the 1988 and 2004 discharges on April 18, 2000 and April 19, 2006, respectively. The 2014 discharge has not been resolved to date and therefore a risk rating of "High" is assigned.
12	Marathon-Lucern #136	This facility is associated with two discharges: July 19, 1995 (unleaded gasoline/unknown volume) and September 3, 2008 (unleaded gasoline/unknown volume). The site is eligible for cleanup funding and is currently in the remediation phase. Neither discharge has been resolved to date. Additionally, this facility is operational. Based on the unresolved nature of the discharges, this facility is assigned a risk rating of "High."
	Racetrac #2343	Three discharges have been reported for this operational retail gas station: December 23, 1988 (diesel/unknown volume), January 6, 2004 (gasoline/unknown volume), and December 8, 2014 (gasoline/42 gallons). "No Further Action" status was issued for the 1988 and 2004 discharges on April 18, 2000 and April 19, 2006, respectively. The 2014 discharge has not been resolved to date and therefore a risk rating of "High" is assigned.
	Bacons Cleaners & Laundry Service, Bacons Drive-In Cleaners	This site is listed in the Dry Cleaners database. Those facilities on the database have applied for cleanup funding assistance for a discharge of dry cleaning solvents. Recognizing that a discharge of dry cleaning solvent is necessary to qualify for funding assistance; this facility is assigned a risk rating of "High."

4.3.6 Floodplains

Flood Zones A, AE and X have been identified within limits of the study area. Based on the currently effective FEMA FIRMs, all segments except for Segment 3 carry potential for impacts to the 100-year floodplain. Since the exact location of the trail within each segment has not been identified, a total 100-year floodplain area within the existing right-of-way of each segment has been estimated and summarized in **Table 12**.

Table 12:
Segment Floodplains

Segment	Flood Zones	Applicable FIRM Panels	Floodplain Area Within Right-of-Way (ac)
1	AE, X	12105C0330G, 12105C0335G, 12105C0345G	1.34
2	AE, X	12105C0335G, 12105C0345G, 12105C0355G	3.76
3	X	12105C0345G	0.00
4	AE, X	12105C0335G, 12105C0345G, 12105C0355G	6.46
5	AE, X	12105C0345G, 12105C0365G	0.17
9	Regulatory Floodway, A, AE, X	12105C0355G, 12105C0356G, 12105C0357G	5.33
10	A, AE, X	12105C0355G, 12105C0365G, 12105C0358G, 12105C0359G	13.50
12	AE, X	12105C0357G, 12105C0359G, 12105C0380G	1.02

During the PD&E phase, a Location Hydraulics Report will be required to further evaluate the 100-year event floodplain impacts associated with each trail alternative. Floodplain impact compensation that cannot be accomplished within the existing right-of-way limits will require Floodplain Compensation sites (FPCs) which will need to be evaluated during the Pond Siting Analysis.

4.3.7 Permitting

There are numerous existing ERPs within the study limits that may be impacted by the proposed project. Existing permit information was gathered from SWFWMD, primarily through their online GIS system. **Table 13** identifies the existing permits within the study limits that may be impacted.

Table 13:
Environmental Resource Permits

Segment	SWFWMD Permit Number	Project Name	Permit Type
1	9455.001	Polk Co.-Jones Road Paving & Drainage	Standard General
	31455.000	Polk Co CR655 - Old Dixie Hwy to Pace Rd	Individual
	31455.002	Berkley Road - Old Dixie Hwy To Pace Rd	Standard General
2	34457.001	CSXT Auburndale Siding Addition	Standard General
3	31198.000	DOT - SR 559 From SR 544A Derby Ave To US92	Standard General
	34457.001	CSXT Auburndale Siding Addition	Standard General
4	33080.000	FDOT SR 600 From US 17/92 to Dakota Rd	Standard General
5	2188.000	DOT-US 17 Winter Haven-Ave. G	MSSW General Permit
	2188.001	DOT - S.R. 555/U.S. 17 Winter Haven	MSSW General Permit
9	23431.000	DOT - US 27- SR 25 - SR 544/Blue Heron Bay	Individual
	26693.001	Polk Co-Lake Lowery Outfall Project	Standard General
	33080.000	FDOT SR 600 From US 17/92 to Dakota Rd	Standard General
10	2188.000	DOT-US 17 Winter Haven-Ave. G	MSSW General Permit
	2188.001	DOT - S.R. 555/U.S. 17 Winter Haven	MSSW General Permit
	13706.000	Winter Haven, City Of-S.R. 544/Lucerne	MSSW General Permit
	23431.000	DOT - US 27- SR 25 - SR 544/Blue Heron Bay	Individual
	23431.006	US 27 SR 25 From SR 544 To Blue Heron	Standard General
12	10159.004	SR 544 at US 27	Individual
	23431.000	DOT - US 27- SR 25 - SR 544/Blue Heron Bay	Individual
	23431.006	US 27 SR 25 From SR 544 To Blue Heron	Standard General
	40900.000	FDOT - FDIP 425251-1-52-01, SR 17 from SR 544 to US 17/92	Standard General

Note: The above table does not include Exemptions, General Permits (former Noticed General Permits) and other adjacent permits located outside of the Right-of-Way.

A preliminary permitting approach discussion has been initiated with the SWFWMD. SWFWMD has concurred with the following general permitting approach:

- In general, trail projects are exempt from permitting pursuant to Rule 62.330.051(10) of the Florida Administrative Code as long as:
 - They are not located in, on, or over wetlands or other surface waters.
 - Have a width of eight feet or less for pedestrian paths, and 14 feet or less for multi-use recreational paths.

-
- Are not intended for use by motorized vehicles powered by internal combustion engines or electric-powered roadway vehicles, except when needed for maintenance or emergency purposes.
 - If a trail project would not qualify for an exemption due to wetland or other surface water impacts, an Individual Permit would be required. The trail impervious area would be still exempt from the treatment and attenuation requirements. However, floodplain, conveyance and wetland impacts would need to be addressed.
 - If a trail project impacts previously permitted stormwater management system, a separate modification of the associated permit would be required.

The correspondence with SWFWMD regarding the permitting approach is provided in Appendix BD.

In addition to compliance with state permitting regulations for stormwater management systems and work in, on, or over wetlands and surface waters, compliance with federal regulations for projects involving work within Waters of the US is also required. The USACE regulates actions within Waters of the US (jurisdictional wetlands and surface waters). Any work proposing to impact Waters of the US requires coordination with the USACE.

4.4 Physical Inventory and Assessment

All study segments carry a variety of location-specific challenges. The most critical have been summarized by segment. These segment assessments also contain summary information from the preliminary Utility Assessment Report (UAR) (found in Appendix E) and preliminary Geotechnical Technical Memorandum (found in Appendix F).

Segment 1

The CSX railroad runs north and south within portions of Segment 1. There are areas with right-of-way pinch-points along Segment 1; therefore, there is a potential for right-of-way acquisition or narrowing the footprint of the multi-use trail from the proposed 12-foot trail. Placement of the trail within the CSX railroad right-of-way, if needed, would require coordination with CSX.

Existing power poles along Ramsgate Road may require relocation in the event of placing the multi-use trail flush with the road. Additionally, some roadside ditches would need to be regraded and replaced. Fiber line posts and gas line flags are visible along this segment, especially along Ramsgate Road and Pilaklakah Avenue respectively.

Segment 2

This segment transects downtown Auburndale, with historic areas on the south side of the segment, and transitions into a more rural area along Lake Alfred Road.

According to the National Pipeline Mapping System webpage, there is an existing major transmission gas line that crosses north to south near the Dairy Road/Old Lake Alfred Road intersection at Stadium Road. It is anticipated that there should be sufficient vertical clearance to avoid utility conflict. Additionally, a petroleum line is located at the Bobby Green Plaza intersection with E. Park Street.

The CSX rail line is located along Segment 2, south of Stadium Road. The railroad profile elevations fluctuate in many areas along Segment 2; these changes in elevation within the profiles would imply a more difficult tie-in condition for a proposed multi-use trail and the potential for a wider construction envelope.

In order to minimize potential conflicts with the CSX rail line and the petroleum pipeline, the multi-use trail would be best placed parallel to Stadium Road and Old Lake Alfred Road between the existing roadway and railroad envelope.

Segment 3

This urban, commercial segment has multiple businesses present on both sides of Magnolia Avenue. This urban environment may create a hazardous situation for a multi-use trail due the continuous commercial

driveways. In addition, as shown in **Figure 6**, there is a high number of vehicular, bicycle, and pedestrian crashes in this area. The number of crashes in this area could potentially increase with the addition of the multi-use trail.

It is also noted that the existing right-of-way envelope in this area is constricted and would more likely require acquisition in lieu of replacing an existing sidewalk. By accommodating a multi-use trail on any side of the road, utilities may be impacted due to the numerous light poles present. Further analysis is required to determine the impact to likely right-of-way needs and their impact to existing businesses.

Also, if a multi-use trail is placed next to the cemetery located at the intersection of SR 544/Havendale Boulevard and Magnolia Avenue, a gravity wall may be required in order to maintain the existing light poles.

Segment 4

This segment is rural in contrast to Segment 3. The roadway in this area has a grassy median and roadside ditches.

Most of the existing ground utilities are located on the north side of the road. In some instances, such as north of Lynchburg Road or between E. Bridgers Avenue and Lake Marianna Drive, the light poles and/or power poles may have to be relocated to accommodate a multi-use trail and still maintain a minimum of 4-foot minimum horizontal obstruction clearance. Although most of this relocation could be avoided by placing the multi-use trail on the south side of the eastbound traffic direction, there are wetlands north of the Winter Haven Municipal Airport in between Lake Pansy and Lake Alfred Road (US 17) that may require shifting the trail from the south to the north to avoid impacting the wetlands area, see **Figure 10**.

In addition, according to the National Pipeline Mapping System webpage, the same major transmission gas line described in Segment 2 also crosses Dairy Road and US 92.

Segment 5

This segment is very commercial, like Segment 3, and will present the same safety challenges due the high number of commercial driveways that may affect the continuity of a multi-use trail.

The right-of-way envelope may be a constraint in some areas, such as in front of Gardner Elementary School. On either side of the existing road, light poles may have to be relocated. The presence of roadside ditches would likely require regrading or construction of an underground storm sewer system due to a potential right-of-way impact of approximately 10 feet for construction of a multi-use trail.

In addition, it is noted that there is a small existing bridge along SR 544/Havendale Boulevard that is located north of Boys Club Road. The bridge is located over the channel connection of Lake Idylwild and

Lake Cannon to the south. There is insufficient space on the existing bridge structure to accommodate a multi-use trail; therefore, the construction of a separate structure may be required or the footprint of the multi-use trail can be reduced to a sidewalk at this location. A multi-use trail along the eastbound side of the road would avoid major utilities such as the existing water main system.

Segment 9

This segment is a mix of commercial, residential, and rural land uses. Even though the right-of-way appears wider than other segments within the project study area, the presence of ground utilities and roadside ditches could present challenges along Segment 9. There are small segments of sidewalk near the beginning and end of Segment 9 only.

Gardner Park, a Polk County-owned facility, fronts Segment 9 near the begin terminus at the intersection of US 17/92 and N. Seminole Avenue. A 6-foot wide sidewalk is located around the perimeter of this park. Widening the sidewalk at this location to a multi-use trail may require right-of-way from the park if the proposed trail is located on the south side of US 17/92.

Existing light poles may be impacted in the event of placing a multi-use trail adjacent to eastbound direction of US 17/92. In contrast, power poles may be impacted if the multi-use trail is placed adjacent to the westbound travel lane. Along the eastern end of this segment the power lines shift location to be along the eastbound direction. A more detailed analysis will be required during the PD&E Study to determine which side of road would be preferred with the addition of a multi-use trail. Numerous utility posts were observed along the westbound direction of US 17/92 at Lake Elsie Drive near the end terminus of the segment.

The interchange of US 17/92 with US 27 poses a challenge for pedestrians. The interchange consists of a four-leg cloverleaf interchange. Therefore, a trail path would have to cross over two entrance ramps and two exit ramps on either the westbound or eastbound direction. Even though existing conditions require some level of acceleration and deceleration for vehicles while ingressing or egressing US 17/92, introducing pedestrians to this condition is not ideal, given the current high number of traffic accidents recorded at this intersection and north of it, see **Figure 6**. One alternative to mitigate the risk of additional accidents will be to create an elevated, third level multi-use trail structure that will bypass this interchange. Another alternative to mitigate accident risks could be to make the multi-use trail shift to the north or south of the interchange. This change would avoid crossing over ramps and/or avoid the construction of new structure. On the north side of the interchange there is a CSX Railroad envelope near Lefoley Avenue that could be an option to accommodate a multi-use trail at ground level. In addition, on the south side of the interchange, there is additional area to accommodate a structure that will not require a third level bridge.

There is a major right-of-way constraint along the south side of US 17/92 at the Lake Elsie location, east of the US 27 intersection. A proposed multi-use trail at this location will not allow a proper tie down before the edge of the lake; therefore, potential solutions would be to locate the trail to the north side of the road between the CSX rail line and US 17/92, right-of-way acquisition which may result in wetland impacts to the lake fringe, obtaining a design exception, or reducing the footprint of the multi-use trail at this location to 10-feet or less to accommodate the tie down.

Segment 10

This segment is rural in nature with some parts urban, such as at the beginning of the segment on Avenue T, where the roadway also presents a curb and gutter typical section.

Some right-of-way acquisition may be required within the urban area of this segment. Further north the right-of-way envelope gets wider, allowing more room to accommodate a future multi-use trail. Additionally, some regrading of roadside ditches is anticipated in the rural areas of this segment. Also, there is an area along the eastbound side of the road that has very limited right-of-way between 5th Street and Unity Way. Like Segment 3 and Segment 5, a factor in deciding the side of the road where a multi-use trail would be placed should be based on minimizing the number of business driveways it crosses.

The westbound side of road has major power line system in place beginning around 2nd Street. Even though a multi-use trail location on the eastbound direction may avoid potential power pole impacts, there is a narrow border further north to Lake Smart. There is an existing small bridge segment located 4,000-feet south of the intersection of SR 544 and US 27 that overpass the channel that connects Lake Henry with Lake Hamilton. It appears that the bridge may have sufficient shoulders to accommodate a share used path with an introduction of a safety barrier. However, a shoulder width variation will be required.

Segment 12

This segment is generally urban and very commercial on the north end. This segment shares similar existing conditions regarding commercial driveways as detailed for Segment 3, 5 and 10. Further analysis will be required to determine how to minimize the crossing of the business driveways. Six-foot sidewalks flushed with the curb are located along the west and east side of S. 10th Street. The west side S. 10th Street has overhead power lines running parallel to the roadway. In contrast, the east side has aesthetic light poles. At Alta Vista Drive and closer to the intersection with SR 544, the power poles and light poles locations switch sides.

At the north end of Segment 12, where S. 10th Street intersects with E. Hinson Avenue, right-of-way within this commercial area appears limited. Buildings like the Landmark Baptist College, Rent King on the westbound side, and Wells Fargo on the eastbound side are close to the road and the right-of-way

requirements to accommodate a multi-use trail in front of them is limited. Additional constraints are seen along 10th Street at Lake Eva location where, along the westside of S. 10th Street, a 6-foot sidewalk is present with a barrier wall and handrail. If the proposed multi-use trail is placed on the westside of S. 10th Street, the road will need to be widened at this location to accommodate the trail.

4.4.1 Utility

High-Profile Utility Agency Owners (UAOs) were contacted to provide the location of their utilities, any special conditions or concerns, obtain easement documents, and cost estimates if the UAOs are affected. The Utility Assessment Report can be found in Appendix E.

The following High-Profile UAOs were contacted:

- AT&T Transmission
- FL Public Utilities
- Kinder Morgan/Central FL Pipeline (Jet Fuel Line)
- Level 3 Communications
- Verizon Business (Formerly MCI)

Table 14:
UAO Summary

Segment	AT&T Transmission	FL Public Utilities	Kinder Morgan/Central FL Pipeline (Jet Fuel Line)	Level 3 Communications	Verizon Business (Formerly MCI)
1	None	Unknown	Close to 10-inch steel jet fuel line	None	Fiber Optic Cable within CSX ROW and one direct buried
2	None	Unknown	Close to 10-inch steel gas main within CSX ROW	Underground facilities along segment	Fiber Optic Cable within CSX ROW and two direct buried
3	None	Unknown	None	Aerial facilities along segment	None
4	One 4-inch HDPE pipe east of Dairy Rd. to west of Dairy Rd, along US 92; One 4-inch HDPE that crosses US 92 at US 17	Unknown	None	Underground facilities along segment	None

Segment	AT&T Transmission	FL Public Utilities	Kinder Morgan/Central FL Pipeline (Jet Fuel Line)	Level 3 Communications	Verizon Business (Formerly MCI)
5	One 4-inch HDPE pipe 1500-feet east of the south side of SR 544 and continues north	Unknown	None	None	None
9	One 4-inch HDPE duct crosses on Shinn Blvd	Unknown	Close to 10-inch steel jet fuel line	None	None
10	None	Unknown	None	Underground facilities near begin terminus	None
12	None	Unknown	Close to 10-inch steel jet fuel line	None	None

4.4.2 Geotechnical

The preliminary ***Geotechnical Technical Memorandum*** (February 2018) was prepared under a separate cover. A summary of the memorandum can be found below.

Based upon the USDA-NRCS Soil Survey for Polk County, sandy soils underlain by clayey soils are reported along the majority of the proposed trail segments to depths of 80 inches below the natural ground surface. In general, the sandy soils are suitable for supporting proposed trail construction/embankments after proper subgrade preparation and removal of unsuitable materials.

Areas along the trail segments where muck and/or groundwater conditions may impact the project are detailed below.

Shallow Groundwater

The Seasonal High Ground Water Table (SHGWT) for the soil units within the study area is reported to range from at or above the predevelopment natural grade to depths of greater than 6 feet below the predevelopment natural grade.

The base to groundwater clearance will need to be evaluated prior to design and construction of the trail to ensure that minimum separation between the base and the SHGWT is maintained or to determine if additional measures are required (e.g., blackbase, underdrains, etc.). In areas where the existing SHGWT is above grade, biological indicators will be established and surveyed to determine the SHGWT.

Near Surface Clayey Soils

The following soil mapping unit noted plastic/clayey soils at reported depths within 24 inches of natural grades:

- Felda Fine Sand (Unit 42)

Plastic soils have limitations related to base clearance and are also poorly drained. Separation between plastic clayey soils and the trail pavement sections should be in accordance with FDOT Standard Plans requirements. As the project progresses beyond the PD&E Study, additional geotechnical services should be performed to determine the impact these materials will have to the proposed design.

Organic Soils

Organic soils are reported at several areas along Segments 2, 4, 9, 10, 12 and 61 according to the USDA Soil Survey. The following soil mapping units noted organic/muck soils within 0 to 75 inches below the ground surface:

- Samsula Muck (Unit 13)
- Kaliga Muck (Unit 32)
- Hontoon Muck (Unit 35)
- Argents, organic substratum-Urban Land (Unit 61)

Organic/muck soil, if encountered during construction, should be removed and replaced with backfill in accordance with FDOT Standard Plans requirements. As the project progresses beyond the PD&E Study, delineation of the locations identified by the USDA Soil Survey as potentially containing organic soils will be required to determine the impact of the organic soils on the proposed design. Additional geotechnical services should be performed to identify the vertical and horizontal limits of the organic soils within the project limits.

4.4.2.1 Trail Construction

Site preparation should consist of normal clearing and grubbing followed by compaction of subgrade soils. Subgrade preparation should include the removal of plastic soils, top-soils and organic soils. in accordance with FDOT Standard Plans requirements. Backfill embankment materials should consist of materials conforming to FDOT Standard Plans requirements. Clearing and grubbing and compaction should be accomplished in accordance with the latest FDOT Standard Specifications.

The overall site preparation and mechanical densification work for the construction of the proposed trail improvements should be in accordance with the FDOT Standard Specifications and Standard Plans requirements.

In general, the existing subsurface soils appear capable of supporting the construction of the proposed trail improvements subject to the above geotechnical considerations and after proper subgrade preparation.

4.5 Typical Sections

Typical sections of the proposed trail segments were developed based on the surrounding environment, including rural and urban typical sections (see **Figure 17** and **Figure 18**). A pedestrian overpass typical section (see **Figure 19**) was developed as well.

Figure 17:
Typical Section - Rural

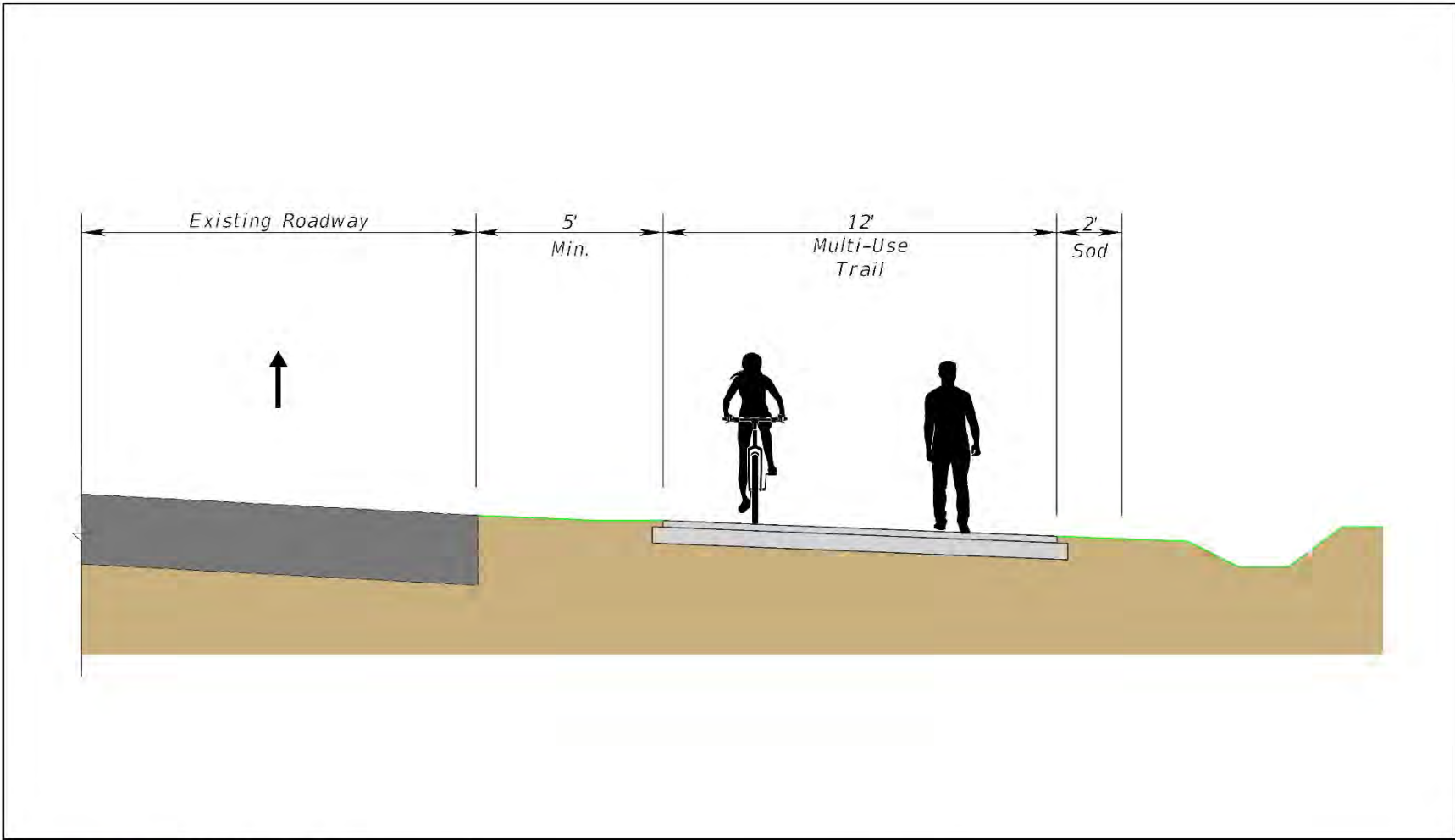


Figure 18:
Typical Section - Urban

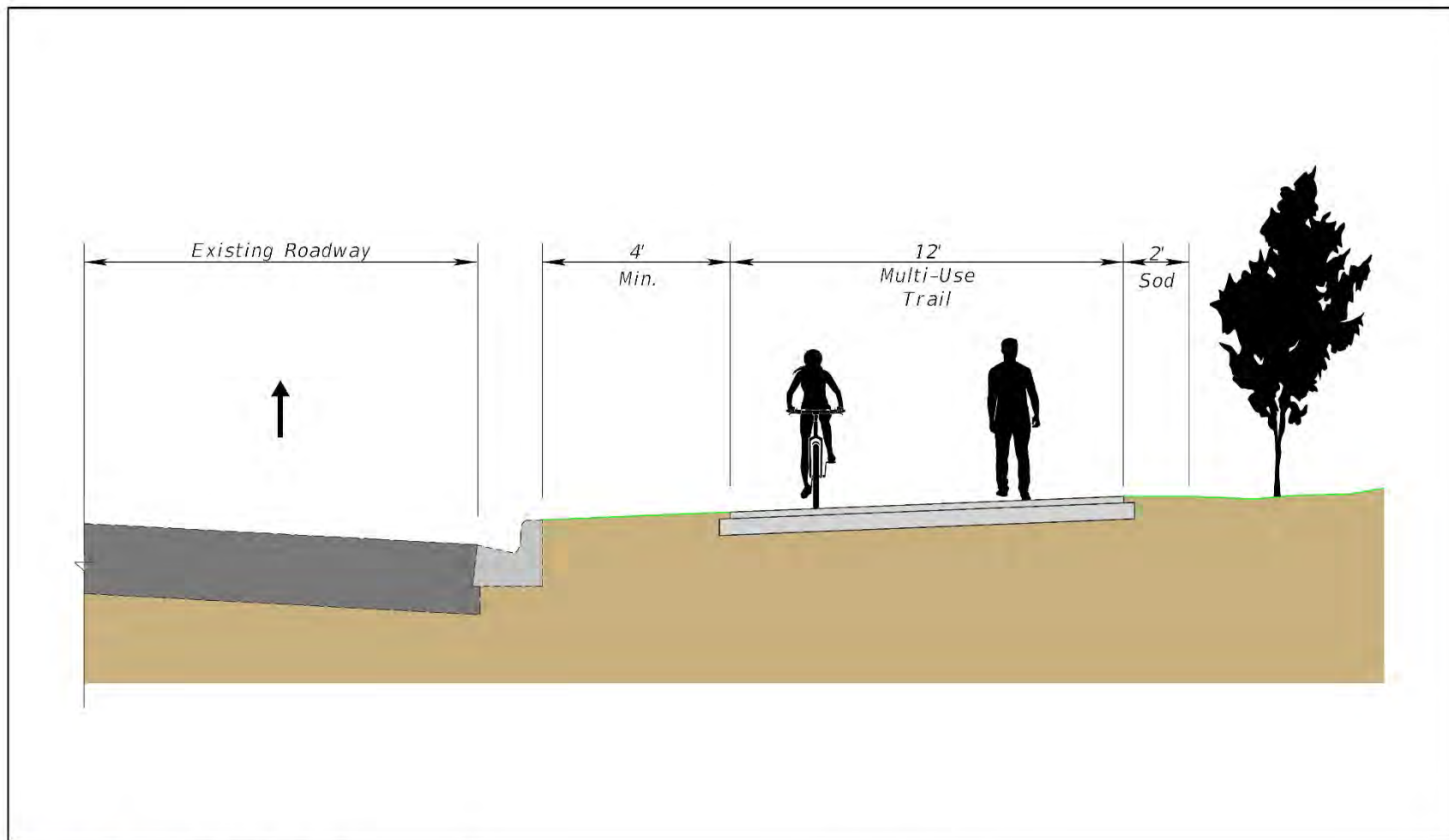
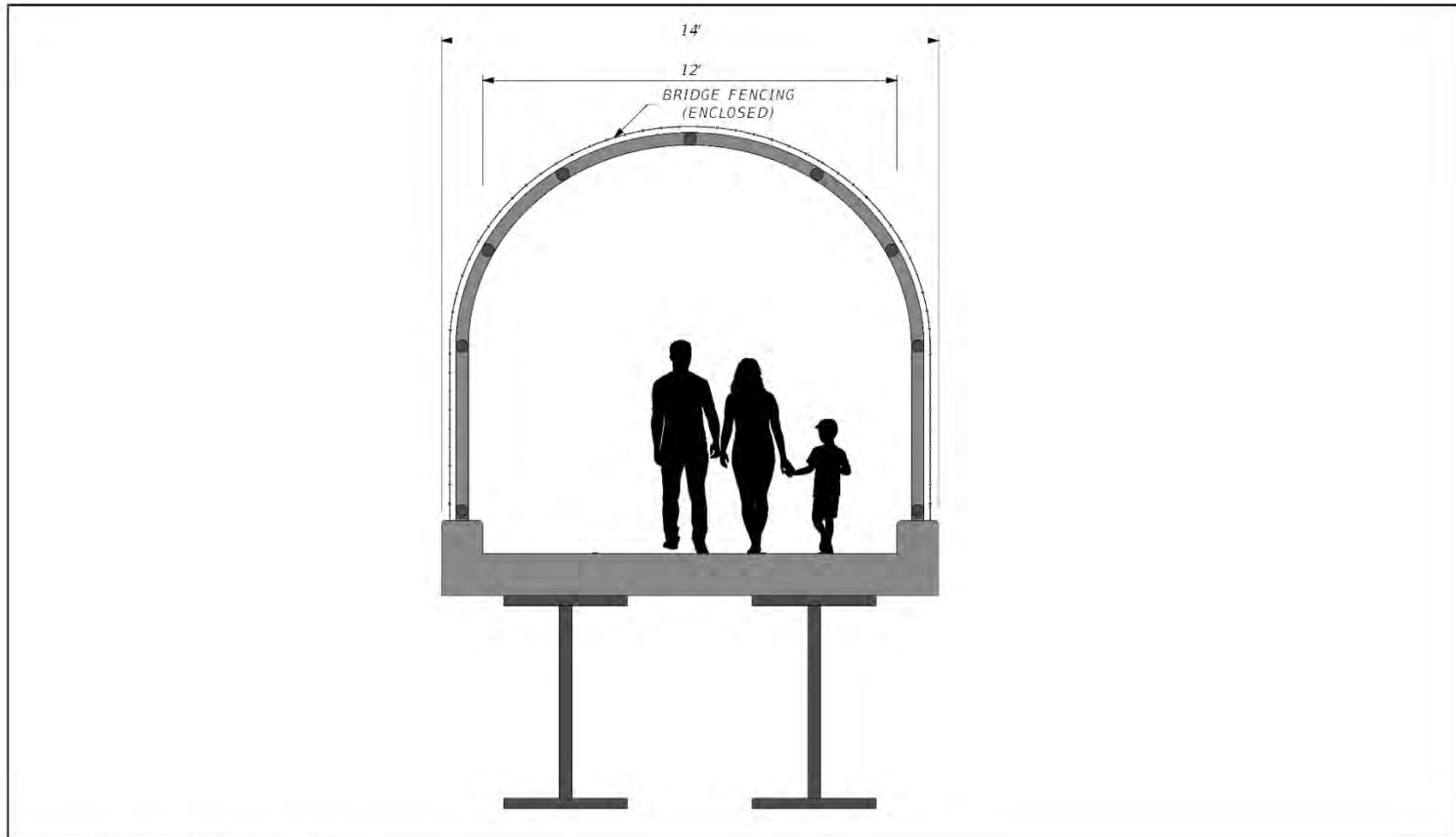


Figure 19:
Typical Section - Pedestrian Overpass



OLD DIXIE TRAIL
PROJECT DEVELOPMENT
AND ENVIRONMENT STUDY

Typical Section
Pedestrian Overpass

5.0 PUBLIC INVOLVEMENT

The project team, along with project stakeholders, defined project goals and objectives for the study to support the development and refinement of the project's purpose and need. Individual stakeholders were engaged to define the project's desires and concerns, confirm project objectives and to identify screening criteria that was considered for the project. Stakeholders assisted in determining the local context, community's needs and establishing a baseline of public opinion.

A comprehensive **Public Involvement Program** (August 2017) was prepared under a separate cover and is an integral component of the Old Dixie Trail project. Public involvement included stakeholder coordination, coordination with local agency representatives, project newsletters and a public meeting. A project website is also available at www.swflroads.com/trails/odt.

5.1 Outreach Methods

5.1.1 Stakeholder Coordination

At the onset of the project, stakeholders were identified in and adjacent to the study area, including governmental agencies, advocacy groups, businesses, and residential communities. The stakeholders represent a well-diversified group essential to the community. Initial stakeholder interviews were held in May 2017 with the City of Auburndale, City of Haines City, City of Winter Haven, Polk County Tourism and Sports Marketing/Visit Central Florida, Polk Transportation Planning Organization, Bike Florida, Inc., Florida Trail Association (Heartland Chapter), Winter Haven Municipal Airport and The Bike Shop of Winter Haven. These interviews assisted with formulating the study's goals and objectives, and continue to provide ideas and guidance, and advise the study team on issues, concerns, improvement concepts, and other topics within the community. **Table 15** itemizes the stakeholder interviews.

Table 15:
Stakeholder Interviews

Date	Stakeholder	Summarized Comments
May 2, 2017	City of Auburndale	SR 544 has lots of activity but would be good. Could connect to Winter Haven Trail Bridge. Connections to parks are important. Lake Alfred Road is also a good option. Intersection at SR 544 is a challenge but may be good when a complete street in the future.
May 2, 2017	City of Haines City	Safe Routes to Schools are a priority. Needs to provide recreation and mobility options. Trail needs to be farther north to connect with downtown and urban. Economic development should be a driving factor.
May 5, 2017	City of Winter Haven	Trails are moving from recreation only to mobility uses. SR 544 has redevelopment options and could be a good choice. Airport on SR 92 segment and people may like to fly in and rent a bike. SR 544 as a complete street would be good. Users may not like proximity to CSX.
May 5, 2017	Polk County Tourism and Sports Marketing/Visit Central Florida	More trails so visitors stay longer. Needs to connect to downtown and could be a Coast-to-Coast offshoot. Trails promote economic development. Airport could be a good feature on trail. Could make US 19/SR 544 loop in future. SR 17 could be more interesting to users. US 27 is busy.
May 9, 2017	Polk Transportation Planning Organization	Maintenance concerns with trail. SR 544 could connect or extend existing trails. Need a good connection to downtown.

Date	Stakeholder	Summarized Comments
May 19, 2017	Bike Florida, Inc	It is 100% critical to connect to other trails. Users may not like trail next to train unless no other option. Good to have trail next to developments. Maximum offset please. Safe Routes to Schools are priority. Scenic views are nice. Balance driveway/street crossings with other side of corridor. SR 544 good because it is next to lakes and downtown. Lake Minihaha would be a good feature.
May 23, 2017	Florida Trail Association, Heartland Chapter	East-West connectivity is important. Stay off of US 27. SR 544 has too much traffic. Users want rural corridors with trees and wildlife. Lighting not necessary because dawn to dusk trails. Could have feeder spurs to residential developments. Supportive of Safe Routes to Schools. Overpasses would be needed at US 27 and US 92/SR 544.
May 23, 2017	Winter Haven Municipal Airport	Supportive of trail in front of airport, on south side of corridor. Would be “welcoming”. Supportive of Safe Routes to Schools. Avenue T has intense development – schools, homes, businesses. Overpass would be needed at US 27
May 23, 2017	The Bike Shop of Winter Haven	Need to be cognizant of loose animals/pets in rural areas. Keep in mind access to amenities and food/drink. Also remember there are various types of users on trails. Driveways and cross streets need to be considered.

5.1.2 Meetings and Presentations

A Stakeholders Kick-off Meeting was held on Thursday, June 28, from 9 a.m. to 12 p.m. at the Winter Haven Municipal Airport conference room. At this meeting, project information was presented and input

from participants was obtained. The purpose of the meeting was to provide an overview of the project, present the project objectives, discuss issues related to the trail segments, and gain input from the stakeholders on their perspective and desires for the trail. Attendees consisted of 17 stakeholders from local agencies. Attendees were provided with a handout upon arrival.

At this meeting Stakeholders determined their top measures for proposed trail segment evaluation to be safety, connectivity, economic development, recreation and aesthetics. Stakeholders ranked the northern segments as the most desirable with Segment 6 (81%), Segment 2 (77%) and Segment 1 (76%) being the most favored. The proposed trail segments that stakeholders ranked the lowest were Segment 5 (0%), Segment 11 (13%) and Segment 4 (18%).

A public workshop was held on Tuesday, December 5, 2017 from 5 p.m. to 7 p.m. at the Lake Alfred Lions Club. A press release was sent to local media and an advertisement was placed in the Florida Administrative Register to publicize the workshop. Email notifications were distributed to elected officials and agencies to notify them of the workshop. The workshop details were also listed on the project's website. The workshop was attended by 20 members of the public and staff from municipalities within the study area. Display boards were available for attendees to view. A handout and a comment sheet were provided to attendees upon arrival. One comment form and two comment emails were received following the workshop. The written comment supported elimination of proposed trail segments 8, 11, 13, 14, 15, 17, 18, 19 and 20. They were concerned with having to give up right-of-way for trail segment 8. These comments will be addressed and made a part of the formal project record.

An overview of the project was presented to the Polk County TPO Technical Advisory Committee (TAC) on January 25, 2018 and at the Polk County TPO February board meeting on February 1, 2018. Following the presentation to the TAC, one comment was emailed to FDOT on behalf of the City of Lake Alfred, see Appendix G.

6.0 RECOMMENDATIONS

Desktop-level analysis, preliminary field reviews, and a public involvement program were used to evaluate the proposed trail Segments 1, 2, 3, 4, 5, 9, 10, and 12 as well as existing trail Segments 6, 7, and 16 within the study area. Based on the analysis, the proposed trail segments have been linked to create end-to-end alternatives. Five trail alternatives are recommended for inclusion in the PD&E Study. **Figure 20** depicts the five alternatives connecting the Auburndale TECO trailhead to the Haines City trailhead.

6.1 Alternatives

Alternative 1 connects Segments 1, 16, 2, and 9 to create an approximately 13-mile multi-use trail along the north side of the study area. Alternative 1 will connect the cities of Auburndale, Lake Alfred, and Haines City. This alternative will service several destinations, including the historic area of downtown Auburndale and the commercial areas of Lake Alfred and Haines City. Alternative 1 offers both scenic/rural vistas along portions of Segments 1, 2, and 9, as well as access to urban areas. This alternative is located adjacent to existing recreational facilities, including parks and the existing trail located along US 17 (Segments 6 and 7) which will provide access to the southern portion of the study area. The CSX rail line is found within the limits of Segments 1 and 2 and coordination with CSX will be required if the proposed trail encroaches into the CSX right-of-way.

Alternative 2 connects Segments 1, 3, 4, 6, and 9 to create an approximately 14-mile multi-use trail that services the north and central portion of the study area. This alternative will connect the same cities as Alternative 1 as well as service a portion of Winter Haven. Unlike Alternative 1, Alternative 2 will not service downtown Auburndale; however, this alternative traverses past the Winter Haven Municipal Airport. Alternative 2 will service several commercial areas, is located adjacent to existing recreational facilities including parks and the exiting trail located along US 17 (Segment 7) which will provide access to Winter Haven and the southern portion of the study area, offers scenic/rural vistas via Segments 1 and 9, and utilizes an existing trail. The CSX rail line is found within the limits of Segment 1 and coordination with CSX will be required if the proposed trail encroaches into the CSX right-of-way. Segment 6 is proposed as a priority trail for the SUN Trail Network by the Polk County TPO. The remainder of the segments within this alternative will be evaluated for inclusion within the SUN Trail Network during the PD&E Study.

Alternative 3 connects Segments 1, 3, 5, 7, 6, and 9 to create an approximately 16-mile multi-use trail that services the north and central portion of the study area. This alternative is similar to Alternative 2 in the cities in which it services; however, Alternative 3 includes a larger portion of Winter Haven within its footprint. Alternative 3 utilizes the existing trails along US 17 (Segments 6 and 7) and provides a more urban experience to the trail user than the other alternatives; however, Alternative 3 covers more of the study area than Alternatives 1 or 2. Alternative 3 will service several commercial areas, is located adjacent to existing recreational facilities, offers scenic/rural vistas via Segments 1 and 9, and utilizes an existing

trail. The CSX rail line is found within the limits of Segment 1 and coordination with CSX will be required if the proposed trail encroaches into the CSX right-of-way. Segment 6 and Segment 7 are proposed priority trails for the SUN Trail Network by the Polk County TPO. The remainder of the segments within this alternative will be evaluated for inclusion within the SUN Trail Network during the PD&E Study.

Alternative 4 connects Segments 1, 3, 5, 10, and 12 creating an approximately 16-mile multi-use trail. Alternative 4 services the northwest, south, and eastern portion of the study area. This alternative traverses Auburndale, Winter Haven, Haines City. The unique feature to Alternative 4 is that although this alternative does not directly service Lake Alfred and the northern portion of the study area, it is connected to the existing trail along US 17 (Segments 6 and 7) which provides a direct link to the northern portion of the study area. Alternative 4 provides a mix of an urban and scenic/rural trail experience because this alternative services several commercial areas and has access to several recreational facilities like Willowbrook Municipal Golf Course south of SR 544/Lucerne Park Road. The CSX rail line is found within the limits of Segment 1 and coordination with CSX will be required if the proposed trail encroaches into the CSX right-of-way.

One consideration for Alternative 4 is that the widening of SR 544/Lucerne Park Road (Segment 10) is funded within the FDOT Work Program for a PD&E Study. At this time, only the PD&E Study for SR 544/Lucerne Park Road is funded and no future phases (design or construction) are currently funded. A detailed right-of-way assessment will be completed as part of the Old Dixie Trail PD&E Study; however, right-of-way widths vary along Segment 10 and there are areas where right-of-way acquisition may be needed to accommodate the multi-use trail. Consideration of the SR 544 PD&E Study will be evaluated as part of the Old Dixie Trail PD&E Study when we evaluate Alternative 5.

Alternative 5 connects Segments 1, 3, 4, 7, 10, and 12 creating an approximately 19-mile multi-use trail. Alternative 5 services Auburndale, Lake Alfred, Winter Haven, and Haines City. This alternative offers a mix of commercial land uses and destinations including the Winter Haven Municipal Airport, Willowbrook Municipal Golf Course, and Lake Eva Community Park. The CSX rail line is found within the limits of Segment 1 and coordination with CSX will be required if the proposed trail encroaches into the CSX right-of-way. Segment 7 is proposed as a priority trail for the SUN Trail network by the Polk County TPO. The remainder of the segments within this alternative will be evaluated for inclusion within the SUN Trail Network during the PD&E Study.

One consideration for Alternative 5 is that the widening of SR 544/Lucerne Park Road (Segment 10) is funded within the FDOT Work Program for a PD&E Study. At this time, only the PD&E Study for SR 544/Lucerne Park Road is funded and no future phases (design or construction) are currently funded. A detailed right-of-way assessment will be completed as part of the Old Dixie Trail PD&E Study; however, right-of-way widths vary along Segment 10 and there are areas where right-of-way acquisition may be

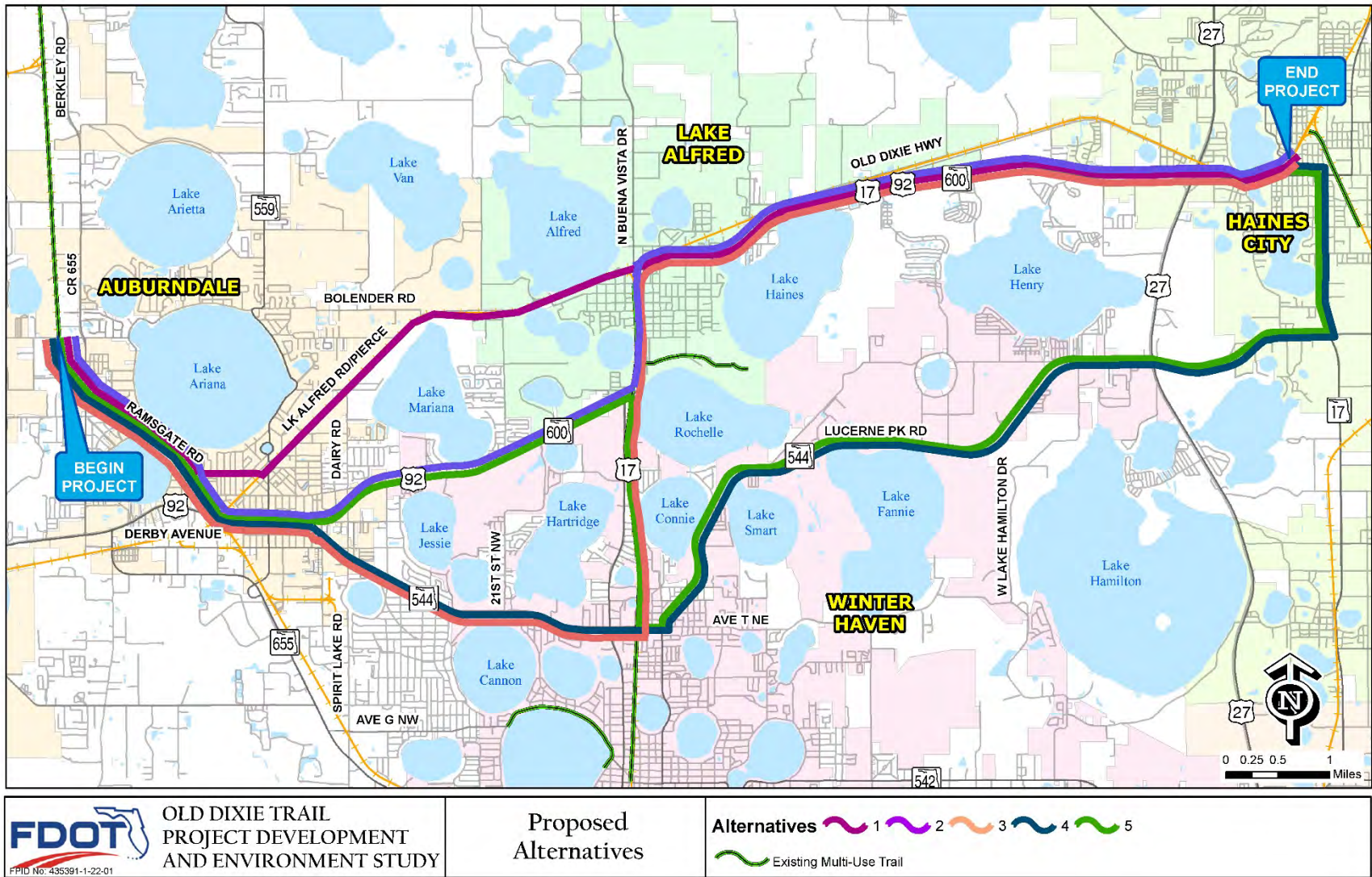
needed to accommodate the multi-use trail. Consideration of the SR 544 PD&E Study will be evaluated as part of the Old Dixie Trail PD&E Study when we evaluate Alternative 5.

7.0 CONCLUSION

The intent of this Feasibility Study is to identify end-to-end trail alternatives that best meet the project's goals and objective of providing regional connectivity, contributing to safe multimodal access to community and recreational destinations, enhancing quality of life, and fostering economic development in the area. Phase 2 of the project is the PD&E Study in which the proposed trail alternatives identified in Phase 1 will be further analyzed to select a preferred alternative for the multi-use trail connecting the Auburndale TECO trailhead in Auburndale to the Haines City trailhead in Haines City.

The Old Dixie Trail PD&E Study will build upon the data collected in the feasibility phase and provide a more in-depth evaluation of the proposed alternatives.

Figure 20:
PD&E Study Recommended Alternatives



APPENDICES

**Appendix A:
FEMA FIRM Panels**

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

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Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community, as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the MapService Center (MSC) website at <http://www.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information Exchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/infp>.

DATUM INFORMATION

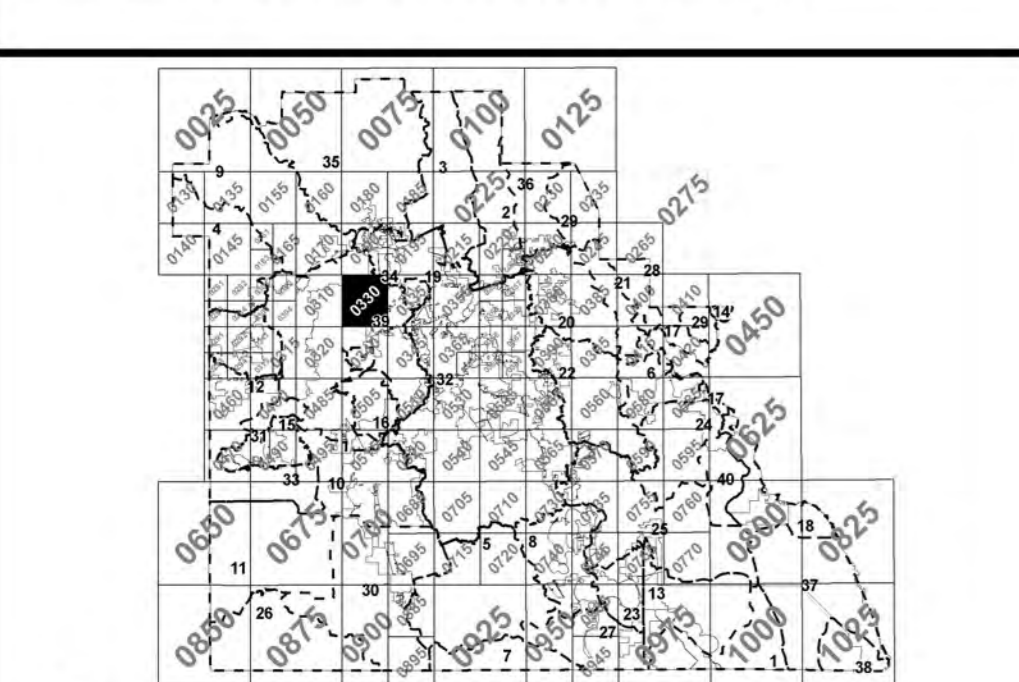
The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSM-C, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Example Datum Offset Calculation
using datum offset table below
NAVD88 = NGVD29 + (datum offset value)

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov>.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	10.0	YES	11/19/03
2. Big Creek East	-0.96	Historical Delineation				
3. Big Creek West	-0.96	Historical Delineation				
4. Blackwater Creek	-0.96	Redelineation				
5. Bowlegs Creek	-0.96	Redelineation				
6. Cattan Creek	-1.0	Historical Delineation	11.0	11.0	YES	11/19/03
7. Chain Creek	-0.96	Historical Delineation				
8. Crooked Lake	-0.96	Redelineation				
9. Gator Creek	-0.96	Historical Delineation				
10. Homeland	-0.96	Redelineation				
11. Hookers Prairie/South Alafia	-0.96	Historical Delineation				
12. Intocadesassa Creek	-0.96	Redelineation				
13. Lake Arbutus	-1.0	Historical Delineation	11.0	11.0	YES	11/19/03
14. Lake Cypress	-1.0	Historical Delineation				
15. Lake Drain	-0.96	Redelineation	10.3	16.0	YES	04/03/13
16. Lake Hancock Area	-0.87	Detailed	11.0	11.0	YES	11/19/03
17. Lake Hatchieha	-1.0	Redelineation	11.0	11.0	YES	11/19/03
18. Lake Kissimmee	-1.0	Redelineation	11.0	11.0	NO	09/12/12
19. Lake Van	-0.96	Detailed	10.0	16.0	NO	09/12/12
20. Lake Marion	-1.0	Redelineation	11.0	11.0	YES	11/19/03
21. Lake Van	-0.96	Detailed	11.0	11.0	YES	11/23/09
22. Lake Platte	-1.0	Redelineation	11.0	11.0	YES	11/19/03
23. Lake Reedy	-1.0	Redelineation	11.0	11.0	NO	11/19/03
24. Lake Roubidoux	-1.0	Redelineation	11.0	11.0	YES	11/19/03
25. Lake Weehyaka	-1.0	Redelineation	11.0	11.0	YES	11/19/03
26. Little Payne Creek	-0.96	Historical Delineation				
27. Livingston Creek	-1.0	Historical Delineation	11.0	11.0	NO	11/19/03
28. London Creek	-1.0	Limited Detailed				
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	11.0	YES	11/23/09
30. McCullough Creek	-0.96	Redelineation	10.5	16.0	NO	12/16/10
31. Mulberry (aka Christina)	-1.1	Detailed	9.0	16.0	YES	10/23/13
32. Peace Creek	-0.91	Detailed				
33. Polk Creek/North Alafia	-0.96	Redelineation	10.0	16.0	NO	09/12/12
34. Polk City	-0.96	Detailed				
35. Pony Creek	-0.96	Historical Delineation				
36. S-55A	-1.0	Historical Delineation	11.0	11.0	YES	11/19/03
37. S-65C	-0.96	Historical Delineation	11.0	11.0	YES	11/19/03
38. Saddle Creek	-0.96	Redelineation				
40. Tiger Lake	-1.0	Historical Delineation	11.0	11.0	YES	11/19/03

* All Polk County watersheds listed.
** Multi-day event used only in specific sub-basins, refer to FIS report.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Base Flood Elevation line and value; elevation in feet*
Bench mark (see explanation in Notes to Users section of this FIRM panel)
M 1.5
222128
7NX1000

* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0330G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 330 OF 1025
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AUBURNDALE, CITY OF	120262	0330	G
LAKELAND, CITY OF	120267	0330	G
POLK COUNTY	120261	0330	G

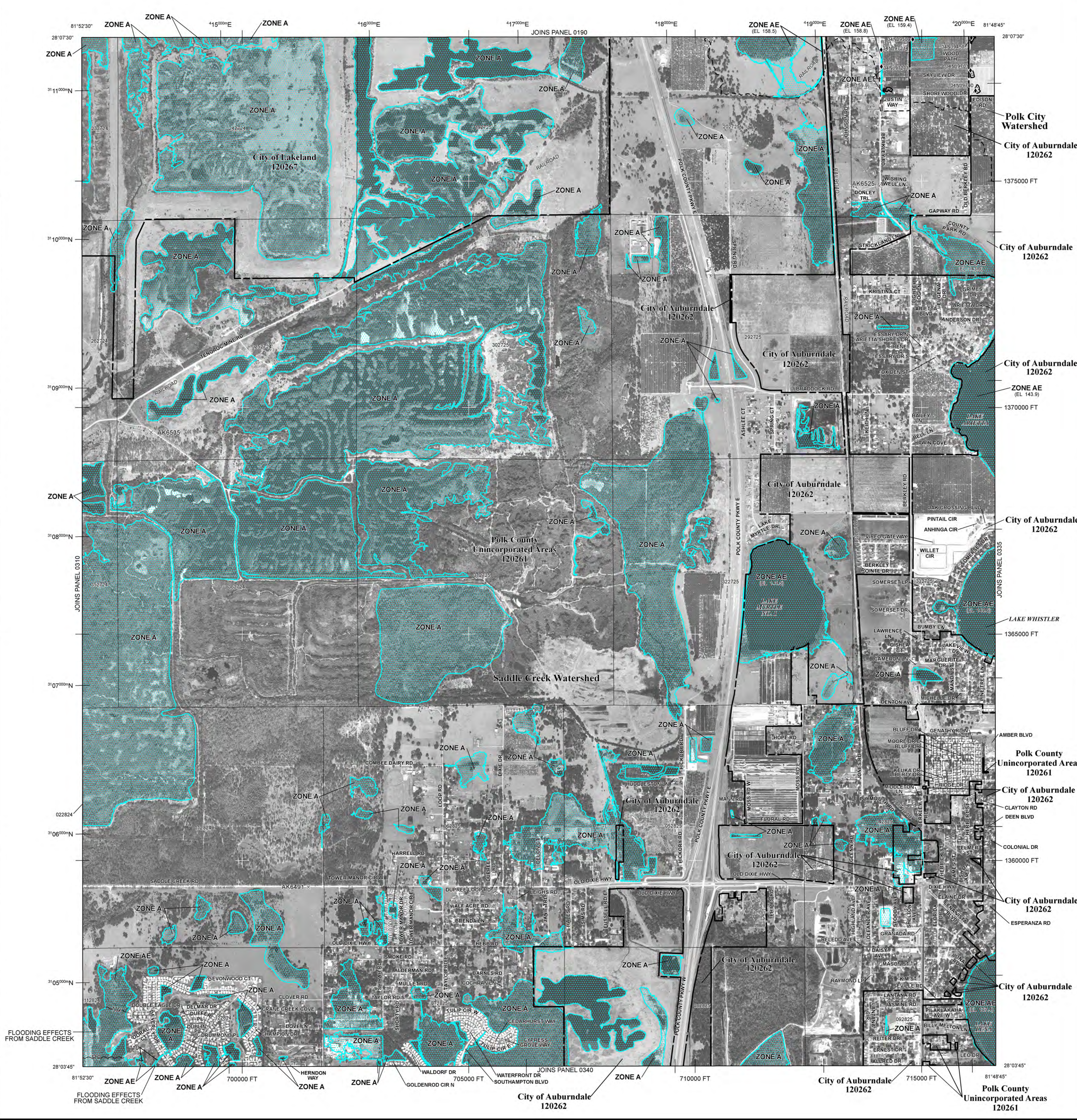
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0330G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Florida Emergency Management Agency (FEMA), and the associated communities within Polk County.



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If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information Exchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/infp>.

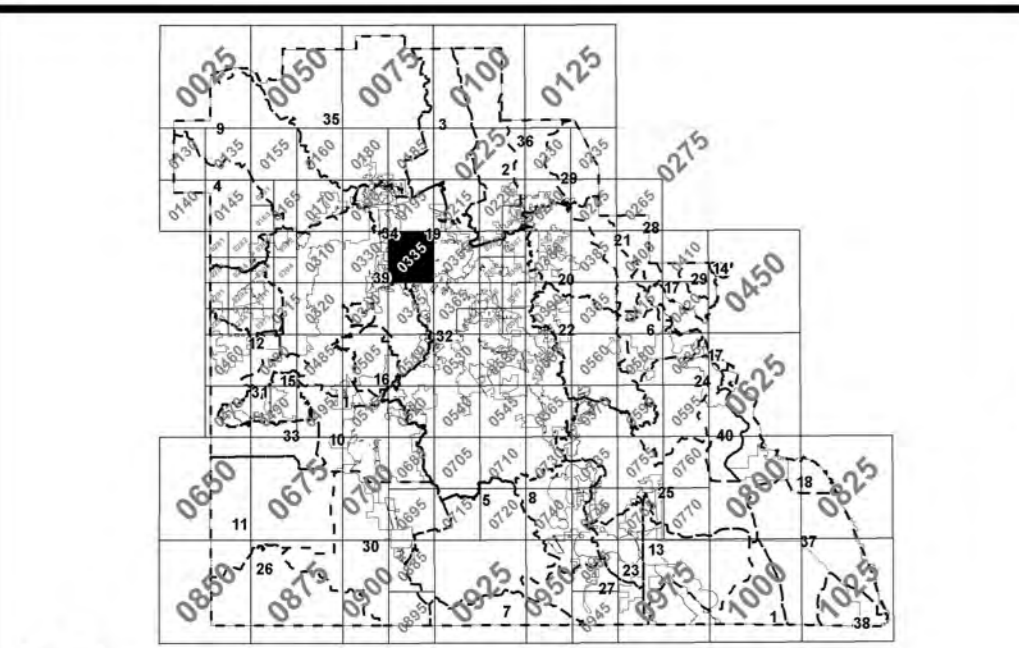
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSM-C #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Atibuckee Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.95	Historical Delineation		YES	11/19/03	
3. Big Creek West	-0.95	Historical Delineation		YES	11/19/03	
4. Blackwater Creek	-0.95	Redelineation		YES	09/13/12	
5. Bonkys Creek	-0.95	Redelineation		YES	11/19/03	
6. Catfish Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Chain Creek	-0.95	Historical Delineation		YES	11/19/03	
8. Crooked Lake	-0.95	Redelineation		YES	11/19/03	
9. Gator Creek	-0.95	Historical Delineation		YES	11/19/03	
10. Homeland	-0.95	Redelineation		YES	11/19/03	
11. Hookers Prairie/South Alafia	-0.95	Historical Delineation		YES	11/19/03	
12. Inopachassasas Creek	-0.95	Redelineation		YES	11/19/03	
13. Lake Atibuckee	-1.0	Historical Delineation	11.0	YES	11/19/03	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03	
15. Lake Drain	-0.95	Redelineation		YES	04/03/13	
16. Lake Hancock Area	-0.87	Detailed	10.5	15.0	YES	11/19/03
17. Lake Hatchoche	-1.0	Redelineation	11.0	YES	11/19/03	
18. Lake Kasiemee	-1.0	Redelineation	11.0	YES	11/19/03	
19. Lake Van	-0.95	Detailed	10.0	15.0	NO	09/13/12
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed		YES	11/23/09	
22. Lake Pierce	-1.0	Redelineation	11.0	YES	11/19/03	
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03	
24. Lake Rosalie	-1.0	Redelineation	11.0	YES	11/19/03	
25. Lake Wechakappa	-1.0	Redelineation	11.0	YES	11/19/03	
26. Little Payne Creek	-0.95	Historical Delineation		YES	11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed		YES	11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCullough Creek	-0.95	Redelineation		YES	11/19/03	
31. Military (aka Christina)	-1.1	Detailed	10.5	15.0	NO	12/16/10
32. Peace Creek	-0.91	Detailed	9.0	15.0	YES	10/23/13
33. Poley Creek/North Alafia	-0.95	Redelineation		YES	11/19/03	
34. Polk City	-0.95	Historical Delineation	10.0	15.0	NO	09/13/12
35. Pony Creek	-0.95	Historical Delineation		YES	11/19/03	
36. Reedy Creek	-0.95	Historical Delineation		YES	11/19/03	
37. S-65A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-65C	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.95	Redelineation		YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.

**Polk County
Unincorporated Areas
120261**



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

Benchmark

Base Flood Elevation line and value; elevation in feet*

Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

Cross section line

Transsect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FIRM report)

River Mile

Section - Township - Range

Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary junctions, without an associated floodplain, are also shown).

Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES

Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

0 500 1000 1500 2000 FEET

0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0335G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 335 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AUBURNDALE, CITY OF	120262	0335	G
LAKE ALFRED, CITY OF	120667	0335	G
POLK COUNTY	120261	0335	G
WINTER HAVEN, CITY OF	120271	0335	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0335G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodway Areas have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was prepared in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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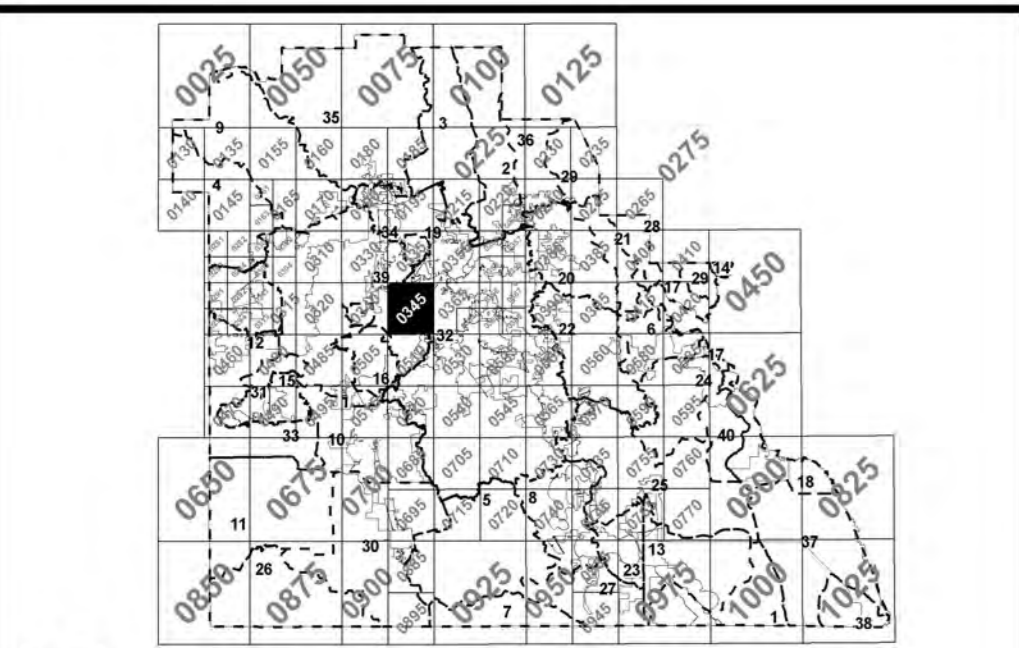
DATUM INFORMATION

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National Geodetic Survey, NOAA
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SSM-C, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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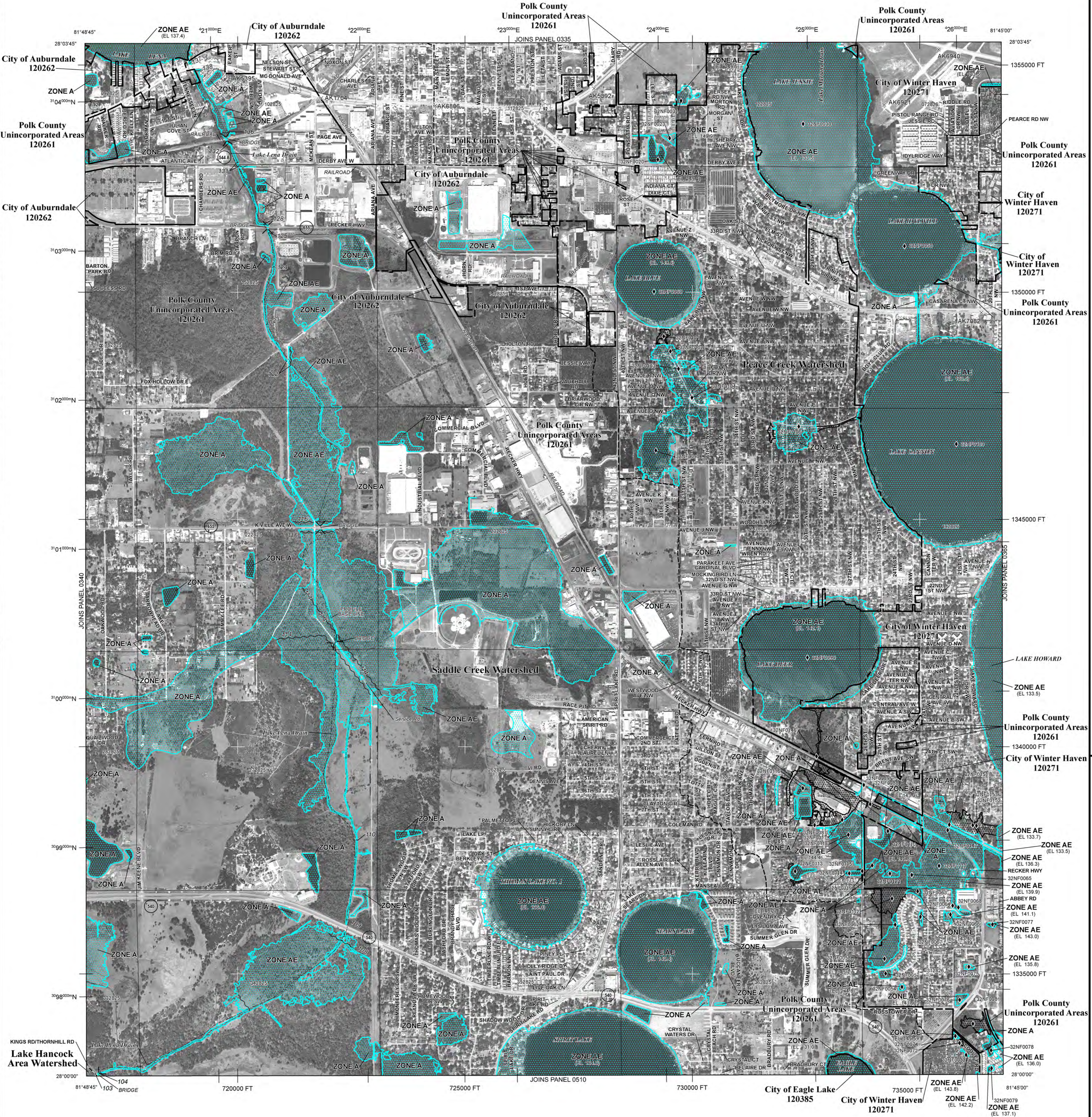


Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Atburck Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.95	Historical Delineation	11.0	YES	11/19/03	
3. Big Creek West	-0.95	Historical Delineation	11.0	YES	11/19/03	
4. Blackwater Creek	-0.95	Redelineation	11.0	YES	11/19/03	
5. Bonwigs Creek	-0.95	Redelineation	11.0	YES	11/19/03	
6. Catfish Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Charles Creek	-0.95	Historical Delineation	11.0	YES	11/19/03	
8. Crooked Lake	-0.95	Redelineation	11.0	YES	11/19/03	
9. Gator Creek	-0.95	Historical Delineation	11.0	YES	11/19/03	
10. Homeland	-0.95	Redelineation	11.0	YES	11/19/03	
11. Hoopers Prairie/South Alafia	-0.95	Historical Delineation	11.0	YES	11/19/03	
12. Inopacassasas Creek	-0.95	Redelineation	11.0	YES	11/19/03	
13. Lake Atburck	-1.0	Historical Delineation	11.0	YES	11/19/03	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03	
15. Lake Drain	-0.95	Redelineation	11.0	YES	04/03/13	
16. Lake Hancock Area	-0.87	Detailed	10.5	15.0	YES	11/19/03
17. Lake Hatchie	-1.0	Redelineation	11.0	YES	11/19/03	
18. Lake Kissimmee	-1.0	Redelineation	11.0	YES	09/13/12	
19. Lake Van	-0.85	Detailed	10.5	15.0	NO	09/13/12
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/23/09	
22. Lake Pierce	-1.0	Redelineation	11.0	YES	11/19/03	
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03	
24. Lake Royal	-1.0	Redelineation	11.0	YES	11/19/03	
25. Lake Weechykapka	-1.0	Redelineation	11.0	YES	11/19/03	
26. Little Payne Creek	-0.95	Historical Delineation	11.0	YES	11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed	11.0	YES	11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCullough Creek	-0.91	Redelineation	10.5	15.0	NO	12/16/10
31. Military (aka Christina)	-1.1	Detailed	9.0	15.0	YES	10/23/13
32. Peace Creek	-0.91	Detailed	9.0	15.0	NO	09/13/12
33. Poley Creek/North Alafia	-0.95	Redelineation	10.0	15.0	NO	09/13/12
34. Polk City	-0.95	Detailed	10.0	15.0	NO	09/13/12
35. Pony Creek	-0.95	Historical Delineation	11.0	YES	11/19/03	
36. Reedy Creek	-0.95	Historical Delineation	11.0	YES	11/19/03	
37. S-65A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-65B	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.95	Redelineation	11.0	YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM report)
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0345G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 345 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AUBURNDALE, CITY OF	120262	0345	G
EAGLE LAKE, CITY OF	120385	0345	G
POLK COUNTY	120261	0345	G
WINTER HAVEN, CITY OF	120271	0345	G

NOTE TO USER: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0345G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

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Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography from January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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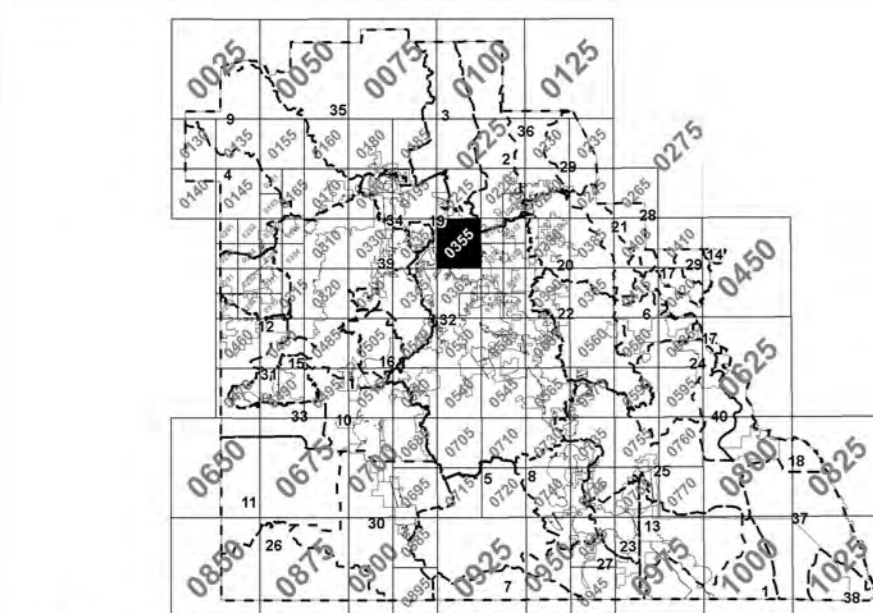
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSMCA, #9202
1315 East-West Highway
Silver Spring, Maryland 20913-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at www.ngs.noaa.gov.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)		Date of Model
			1 Day	5 Day Multi-Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
2. Big Creek East	-0.6	Historical Delineation	11.0	YES	11/19/03
3. Big Creek West	-0.6	Historical Delineation	11.0	YES	11/19/03
4. Blackwater Creek	-0.6	Redelineation	11.0	YES	11/19/03
5. Bowlegs Creek	-0.6	Redelineation	11.0	YES	11/19/03
6. Cattan Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
7. Chain Creek	-0.6	Historical Delineation	11.0	YES	11/19/03
8. Crooked Lake	-0.6	Redelineation	11.0	YES	11/19/03
9. Gator Creek	-0.6	Historical Delineation	11.0	YES	11/19/03
10. Homeland	-0.6	Redelineation	11.0	YES	11/19/03
11. Hookers Prairie/South Alafia	-0.6	Historical Delineation	11.0	YES	11/19/03
12. Intocadesseas Creek	-0.6	Redelineation	11.0	YES	11/19/03
13. Lake Arbuckle	-1.0	Historical Delineation	11.0	YES	11/19/03
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03
15. Lake Drain	-0.6	Redelineation	10.3 16.0	YES	04/03/13
16. Lake Hancock Area	-0.7	Detailed	11.0	YES	11/19/03
17. Lake Hatchie	-1.0	Redelineation	11.0	YES	11/19/03
18. Lake Kasimbe	-1.0	Redelineation	11.0 16.0	NO	09/13/12
19. Lake Van	-0.6	Detailed	11.0	YES	11/19/03
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/19/03
22. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03
24. Lake Roubidoux	-1.0	Redelineation	11.0	YES	11/19/03
25. Lake Weehyaka	-1.0	Redelineation	11.0	YES	11/19/03
26. Little Payne Creek	-0.6	Historical Delineation	11.0	YES	11/19/03
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03
28. London Creek	-1.0	Limited Detailed	11.0	YES	11/23/09
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
30. McCullough Creek	-0.6	Redelineation	10.5 16.0	NO	12/16/10
31. Mulberry (aka Christina)	-1.1	Detailed	9.0 16.0	YES	10/23/13
32. Peace Creek	-0.6	Detailed	11.0	YES	11/19/03
33. Polk Creek/North Alafia	-0.6	Redelineation	10.0 16.0	NO	09/13/12
34. Polk City	-0.6	Detailed	11.0	YES	11/19/03
35. Pony Creek	-0.6	Historical Delineation	11.0	YES	11/19/03
36. Roubidoux Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03
38. S-55B	-1.0	Historical Delineation	11.0	YES	11/19/03
39. Saddle Creek	-0.6	Redelineation	11.0	YES	11/19/03
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03

* All Polk County watersheds listed.
** Multi-day event used only in specific sub-basins, refer to FIS report.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

Zone A boundary

Base Flood Elevation line and value; elevation in feet*

Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

Cross section line

Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection

Benchmark (see explanation in Notes to Users section of this FIRM report)

DX5510

M 1.5

222128

7NX1000

Section - Township - Range

Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).

Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES

Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 500 1000 1500 2000 FEET

300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0355G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 355 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

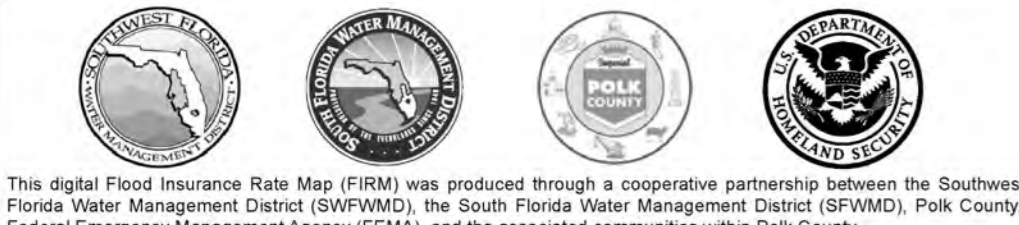
COMMUNITY	NUMBER	PANEL	SUFFIX
LAKE ALFRED, CITY OF	120967	0355 G	
POLK COUNTY	120281	0355 G	
WINTER HAVEN, CITY OF	120271	0355 G	

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0355G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, and the Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the MapService Center (MSC) website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FIMX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/infp>.

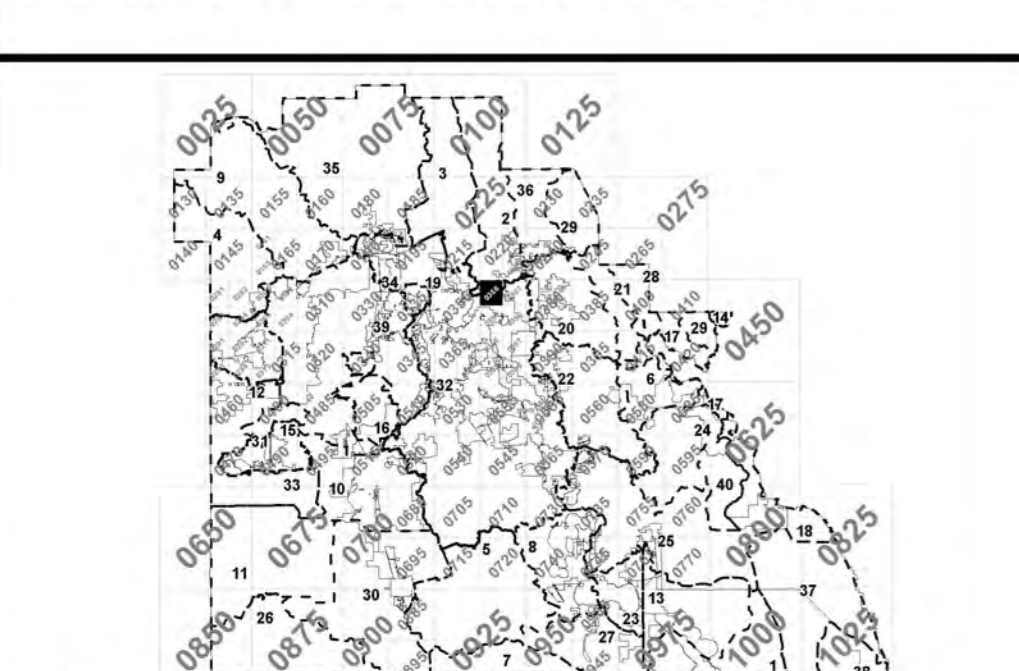
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSMCS, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.



Watershed Boundary

Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.96	Historical Delineation	11.0	YES	11/19/03	
3. Big Creek West	-0.96	Historical Delineation	11.0	YES	11/19/03	
4. Blackwater Creek	-0.96	Redelineation	11.0	NO	09/13/12	
5. Bowlegs Creek	-0.96	Redelineation	11.0	YES	11/19/03	
6. Cattah Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Chase Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
8. Crooked Lake	-0.96	Redelineation	11.0	NO	11/19/03	
9. Gator Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
10. Homeland	-0.96	Redelineation	11.0	YES	11/19/03	
11. Hookers Prairie/South Alafia	-0.96	Historical Delineation	11.0	YES	11/19/03	
12. Inopadesseas Creek	-0.96	Redelineation	11.0	YES	11/19/03	
13. Lake Arbutus	-1.0	Historical Delineation	11.0	YES	04/03/13	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03	
15. Lake Drain	-0.96	Redelineation	10.0, 16.0	YES	09/13/12	
16. Lake Hancock Area	-0.87	Detailed	11.0	YES	11/19/03	
17. Lake Hatchieha	-1.0	Redelineation	11.0	YES	11/19/03	
18. Lake Kissimmee	-1.0	Redelineation	11.0	NO	09/13/12	
19. Lake Van	-0.96	Detailed	10.0, 16.0	NO	09/13/12	
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/19/03	
22. Lake Pierce	-1.0	Redelineation	11.0	NO	11/19/03	
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03	
24. Lake Roubidoux	-1.0	Redelineation	11.0	YES	11/19/03	
25. Lake Weohyakappa	-1.0	Redelineation	11.0	YES	11/19/03	
26. Little Payne Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed	11.0	YES	11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCullough Creek	-0.96	Redelineation	11.0	YES	11/19/03	
31. Mulberry (aka Christina)	-1.1	Detailed	10.0, 16.0	NO	12/16/10	
32. Peace Creek	-0.91	Detailed	9.0, 16.0	YES	10/23/13	
33. Polk Creek/North Alafia	-0.96	Redelineation	11.0	NO	09/13/12	
34. Polk City	-0.96	Detailed	10.0, 16.0	NO	09/13/12	
35. Pony Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
36. Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-55B	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.96	Redelineation	11.0	YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Bench mark (see explanation in Notes to Users section of this FIRM panel)
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction number represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6626.

MAP SCALE 1" = 500'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0356G

FIRM
FLOOD INSURANCE RATE MAP
POLK COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 356 OF 1025
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HAINES CITY, CITY OF	120266	0356	G
LAKE ALFRED, CITY OF	120667	0356	G
POLK COUNTY	120261	0356	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12105C0356G

MAP REVISED
DECEMBER 22, 2016

Federal Emergency Management Agency

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Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

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Base map information shown on this FIRM was prepared in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography from January - March 2005.

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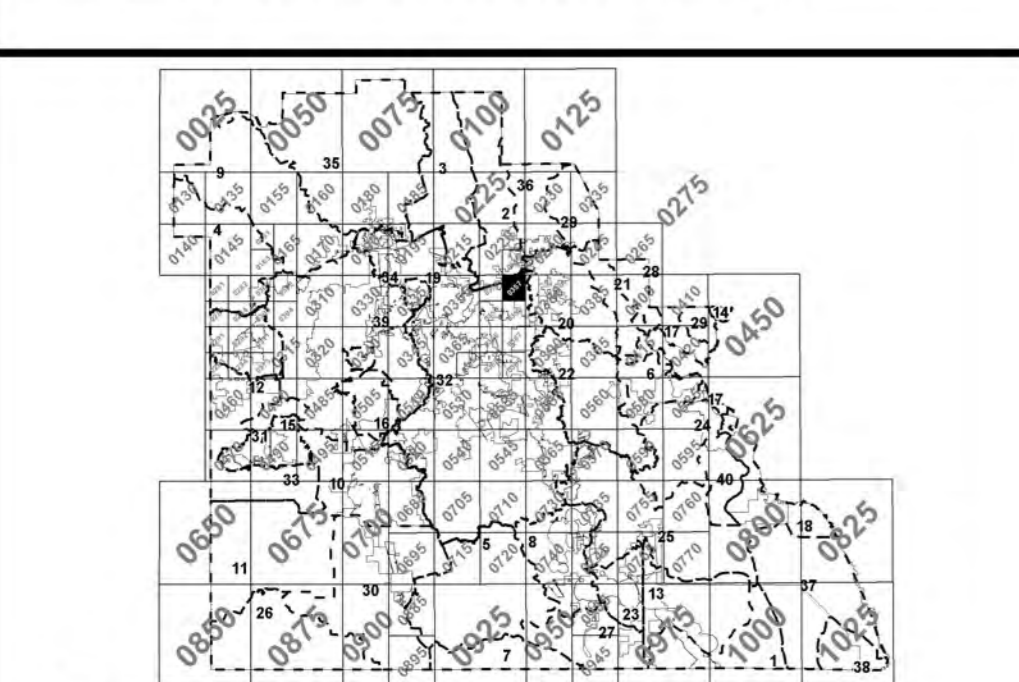
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSM-C-49202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Arbuckle Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.66	Historical Delineation		YES	11/19/03	
3. Big Creek West	-0.66	Historical Delineation		YES	11/19/03	
4. Blackwater Creek	-0.66	Redetermination		NO	09/12/12	
5. Bowlegs Creek	-0.66	Redetermination		NO	11/19/03	
6. Catfish Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Chain Creek	-0.66	Historical Delineation		YES	11/19/03	
8. Crooked Lake	-0.66	Redetermination		NO	11/19/03	
9. Gator Creek	-0.66	Historical Delineation		YES	11/19/03	
10. Homeland	-0.66	Redetermination		NO	11/19/03	
11. Hookers Prairie/South Aiala	-0.66	Historical Delineation		YES	11/19/03	
12. Inopadesseas Creek	-0.66	Redetermination		YES	11/19/03	
13. Lake Arbuckle	-1.0	Historical Delineation	11.0	YES	04/03/13	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03	
15. Lake Drain	-0.66	Redetermination	10.0	YES	04/03/13	
16. Lake Hancock Area	-0.66	Detailed	10.0	YES	11/19/03	
17. Lake Hatchieha	-1.0	Redetermination	11.0	YES	11/19/03	
18. Lake Kasimime	-1.0	Redetermination	11.0	YES	11/19/03	
19. Lake Van	-0.66	Detailed	10.0	NO	09/12/12	
20. Lake Marion	-1.0	Redetermination	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/23/09	
22. Lake Plator	-1.0	Redetermination	11.0	YES	11/19/03	
23. Lake Reedy	-1.0	Redetermination	11.0	NO	11/19/03	
24. Lake Roanoke	-1.0	Redetermination	11.0	YES	11/19/03	
25. Lake Venohyaka	-1.0	Redetermination	11.0	NO	11/19/03	
26. Little Payne Creek	-0.66	Historical Delineation		YES	11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed		YES	11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCulloch Creek	-0.66	Redetermination		NO	12/16/10	
31. Mulberry (aka Christina)	-1.1	Detailed	10.0	NO	10/23/13	
32. Peace Creek	-0.91	Detailed	9.0	NO	09/12/12	
33. Polk Creek/North Aiala	-0.66	Redetermination		NO	09/12/12	
34. Polk City	-0.66	Detailed	10.0	NO	09/12/12	
35. Pony Creek	-0.66	Historical Delineation		YES	11/19/03	
36. Reedy Creek	-0.66	Historical Delineation		YES	11/19/03	
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-55B	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.66	Redetermination		YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelict. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map collar locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.

For community map repository history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6626.

MAP SCALE 1" = 500'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0357G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 357 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HAINES CITY CITY OF	120266	0357	G
POLK COUNTY	120261	0357	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0357G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the MapService Center (MSC) website at <http://www.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fmifp>.

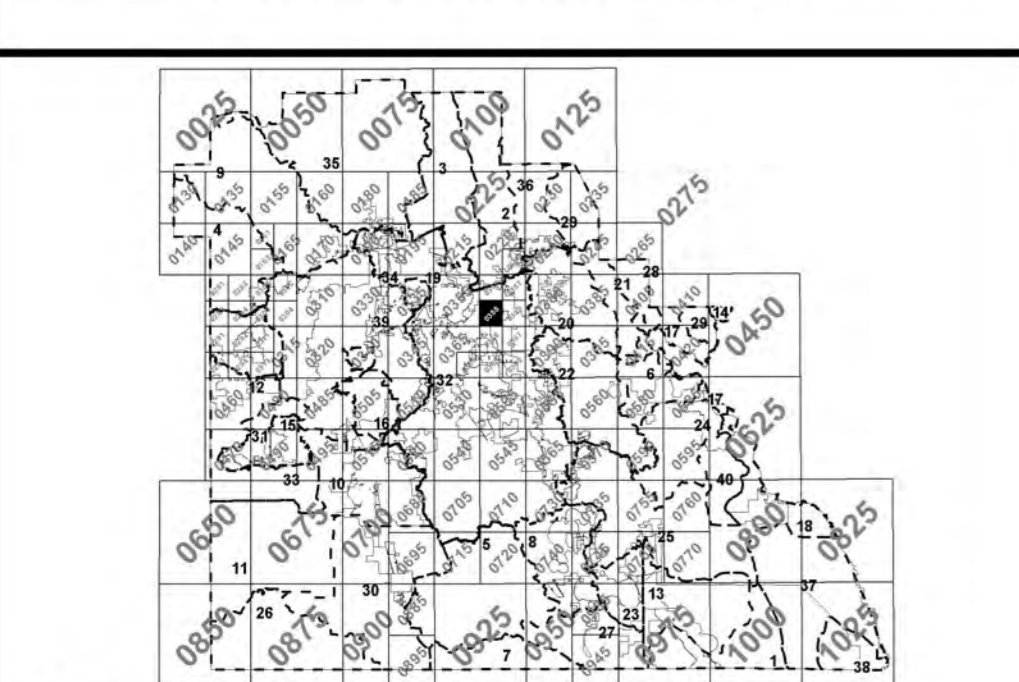
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSM&C, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)	Date of Model	
			1 Day 5 Day 100yr 100yr Multi-Day		
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
2. Big Creek East	-0.96	Historical Delineation		YES	11/19/03
3. Big Creek West	-0.96	Historical Delineation		YES	11/19/03
4. Blackwater Creek	-0.96	Redelineation		NO	09/13/12
5. Bowlegs Creek	-0.99	Redelineation		NO	09/13/12
6. Catfish Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
7. Charlie Creek	-0.96	Historical Delineation		YES	11/19/03
8. Crooked Lake	-0.96	Redelineation		NO	11/19/03
9. Gator Creek	-0.96	Historical Delineation		YES	11/19/03
10. Homeland	-0.99	Redelineation		NO	11/19/03
11. Hookers Prairie/South Alafia	-0.96	Historical Delineation		NO	11/19/03
12. Intopadesassa Creek	-0.96	Redelineation		YES	11/19/03
13. Lake Arbutus	-1.0	Historical Delineation	11.0	YES	11/19/03
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03
15. Lake Drain	-0.96	Redelineation		YES	04/03/13
16. Lake Hancock Area	-0.87	Detailed	10.3 16.0	YES	11/19/03
17. Lake Hatchinaha	-1.0	Redelineation	11.0	YES	11/19/03
18. Lake Kissimmee	-1.0	Redelineation	11.0	NO	11/19/03
19. Lake Van	-0.96	Detailed	10.0 16.0	NO	09/13/12
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03
21. Lake Marion Creek	-1.0	Detailed		YES	11/23/09
22. Lake Platte	-1.0	Redelineation	11.0	YES	11/19/03
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03
24. Lake Royal	-1.0	Redelineation	11.0	YES	11/19/03
25. Lake Weohypaskapa	-1.0	Redelineation	11.0	YES	11/19/03
26. Little Payne Creek	-0.96	Historical Delineation		NO	11/19/03
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03
28. London Creek	-1.0	Limited Detailed		YES	11/23/09
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
30. McCullough Creek	-0.96	Redelineation		NO	12/16/10
31. Mulberry (aka Christina)	-1.1	Detailed	10.5 16.0	NO	10/23/13
32. Peace Creek	-0.91	Detailed	9.0 16.0	YES	10/23/13
33. Polky Creek/North Alafia	-0.96	Redelineation		NO	09/13/12
34. Polk City	-0.96	Detailed	10.0 16.0	NO	09/13/12
35. Pony Creek	-0.96	Historical Delineation		YES	11/19/03
36. Reedy Creek	-0.96	Historical Delineation		YES	11/19/03
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03
38. S-65C	-1.0	Historical Delineation	11.0	YES	11/19/03
39. Saddle Creek	-0.96	Redelineation		YES	11/19/03
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Bench mark (see explanation in Notes to Users section of this FIRM panel)
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
97°07'30" 32°22'30"
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
47°50'00"E
6000000 FT
DX5510
M1.5
222218
7NX1000
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map collar locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6626.

MAP SCALE 1" = 500'

250 0 250 500 1,000
150 0 150 300
FEET
METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0358G

FIRM

FLOOD INSURANCE RATE MAP

POLK COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 358 OF 1025

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

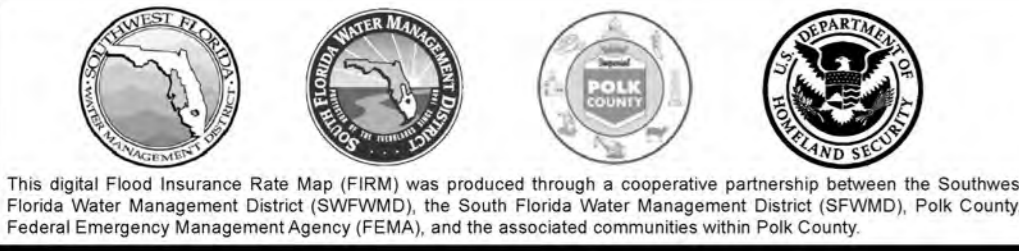
COMMUNITY	NUMBER	PANEL	SUFFIX
POLK COUNTY	120261	0358	G
WINTER HAVEN, CITY OF	120271	0358	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0358G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency



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NOTES TO USERS

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Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

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If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information Exchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/infp>.

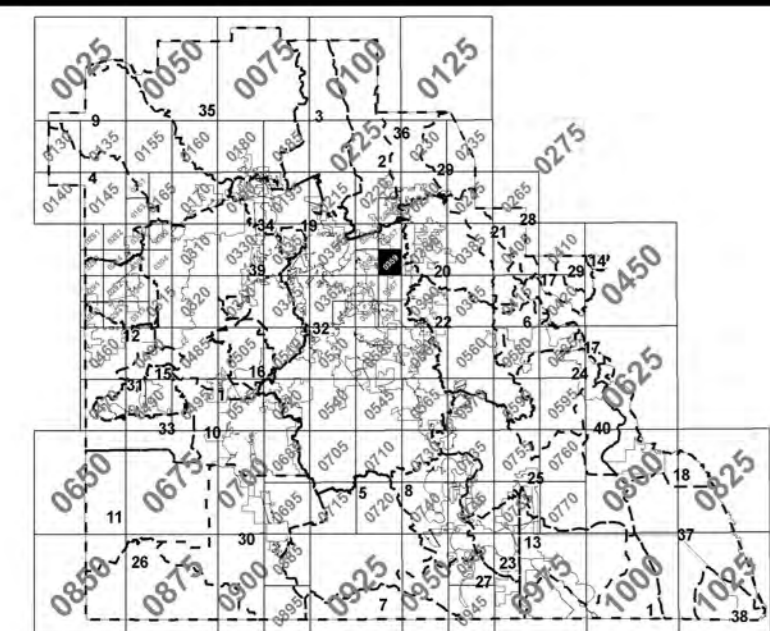
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

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NGS Information Services
National Geodetic Survey, NOAA
NNGS12 Example Datum Offset Calculation
using datum offset table below
SSMCA #9202 NAVD88 = NGVD29 + (datum offset value)
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.



Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)		Date of Model
			1 Day	5 Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
2. Big Creek East	-0.96	Historical Delineation	11.0	YES	11/19/03
3. Big Creek West	-0.96	Historical Delineation	11.0	YES	11/19/03
4. Blackwater Creek	-0.96	Redelineation	11.0	YES	11/19/03
5. Bowlegs Creek	-0.96	Redelineation	11.0	YES	11/19/03
6. Cattail Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
7. Chain Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
8. Crooked Lake	-0.96	Redelineation	11.0	YES	11/19/03
9. Gator Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
10. Homeland	-0.96	Redelineation	11.0	YES	11/19/03
11. Hookers Prairie/South Alafia	-0.96	Historical Delineation	11.0	YES	11/19/03
12. Inopadesseas Creek	-0.96	Redelineation	11.0	YES	11/19/03
13. Lake Arbutus	-1.0	Historical Delineation	11.0	YES	11/19/03
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03
15. Lake Drain	-0.96	Redelineation	10.0	NO	06/03/13
16. Lake Hancock Area	-0.87	Detailed	10.0	NO	11/19/03
17. Lake Hatchie	-1.0	Redelineation	11.0	YES	11/19/03
18. Lake Kissimmee	-1.0	Redelineation	11.0	YES	11/19/03
19. Lake Van	-0.96	Detailed	10.0	NO	09/13/12
20. Lake Marion	-1.0	Redelineation	11.0	YES	11/19/03
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/19/03
22. Lake Pierce	-1.0	Redelineation	11.0	YES	11/19/03
23. Lake Reedy	-1.0	Redelineation	11.0	NO	11/19/03
24. Lake Royal	-1.0	Redelineation	11.0	YES	11/19/03
25. Lake Weohyakapka	-1.0	Redelineation	11.0	YES	11/19/03
26. Little Payne Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03
28. London Creek	-1.0	Limited Detailed	11.0	YES	11/23/09
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03
30. McCullough Creek	-0.96	Redelineation	10.0	NO	12/16/10
31. Mulberry (aka Christina)	-1.1	Detailed	9.0	NO	10/23/13
32. Peace Creek	-0.91	Detailed	10.0	NO	09/13/12
33. Polky Creek/North Alafia	-0.96	Redelineation	10.0	NO	09/13/12
34. Polk City	-0.96	Detailed	10.0	NO	09/13/12
35. Pony Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
36. Reedy Creek	-0.96	Historical Delineation	11.0	YES	11/19/03
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03
38. S-65B	-1.0	Historical Delineation	11.0	YES	11/19/03
39. Saddle Creek	-0.96	Redelineation	11.0	YES	11/19/03
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

PANEL 0359G

FIRM
FLOOD INSURANCE RATE MAP
POLK COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 359 OF 1025
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

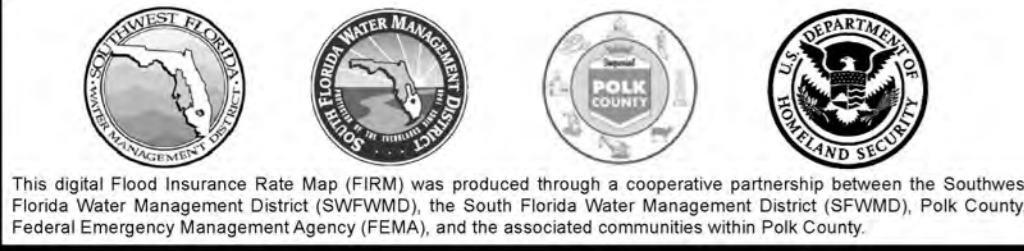
COMMUNITY	NUMBER	PANEL	SUFFIX
HANES CITY, CITY OF	120266	0359	G
LAKE HAMILTON, TOWN OF	120414	0359	G
POLK COUNTY	120281	0359	G
WINTER HAVEN, CITY OF	120271	0359	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12105C0359G

MAP REVISED
DECEMBER 22, 2016

Federal Emergency Management Agency



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 100' from photography flown January - March 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the MapService Center (MSC) website at <http://www.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information Exchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/infp>.

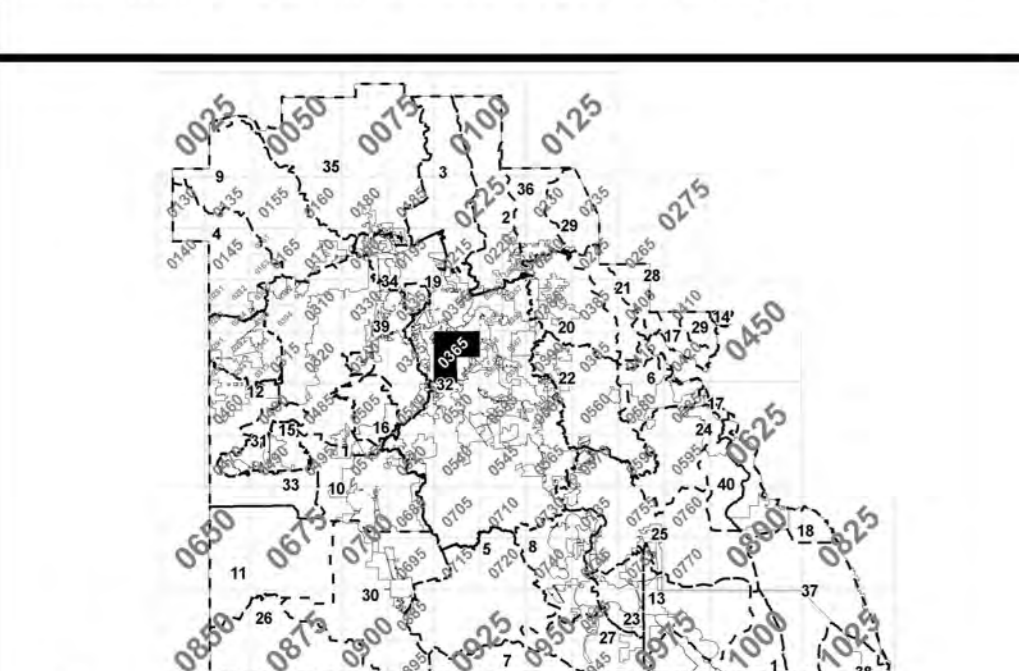
DATUM INFORMATION

The projection used in the preparation of this map was State Plane Florida West. The horizontal datum was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
National Geodetic Survey, NOAA,
NNGS12
SSMCS-#9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov>.

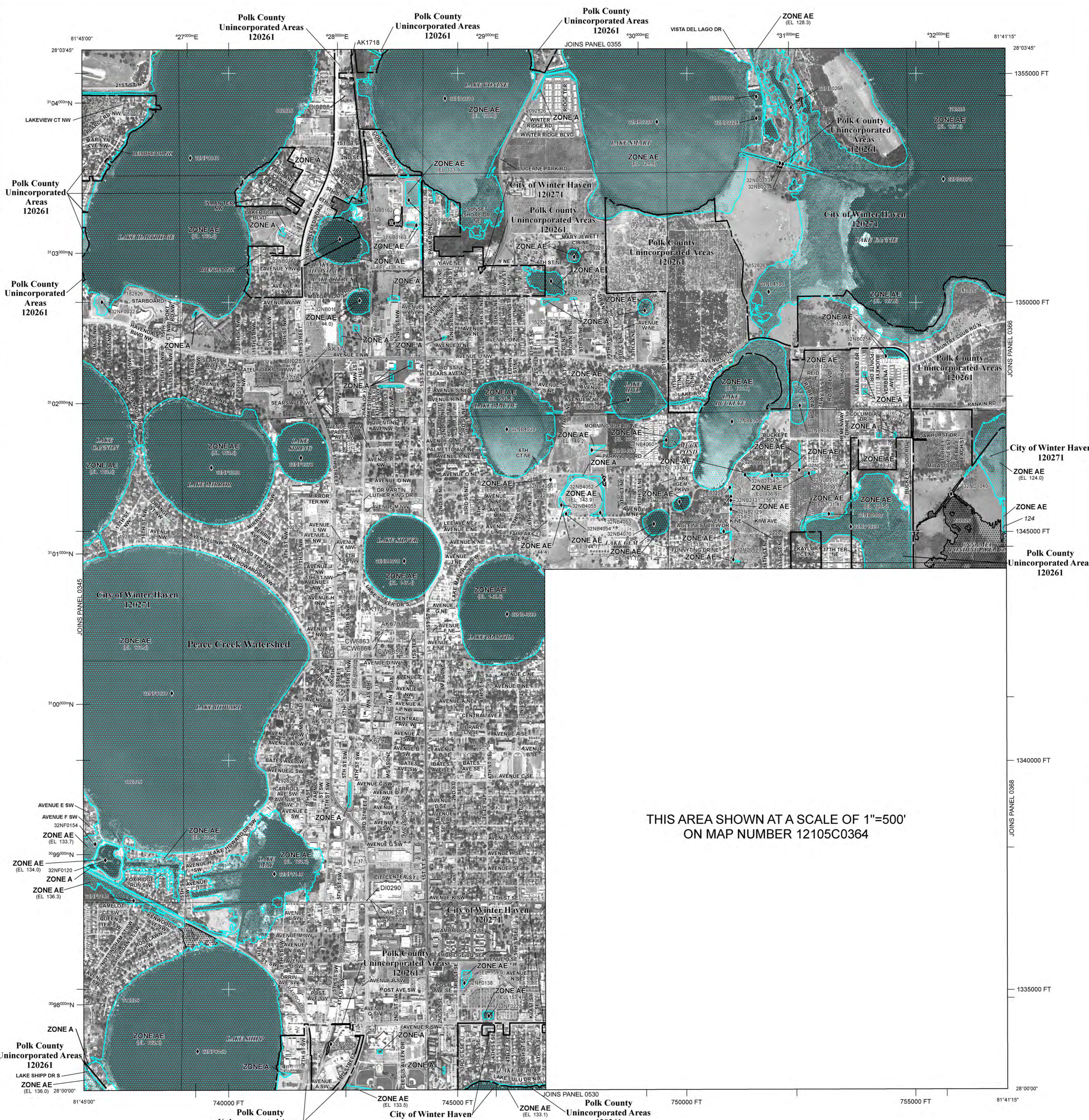


Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.96	Historical Delineation	11.0	YES	11/19/03	
3. Big Creek West	-0.96	Historical Delineation	11.0	YES	11/19/03	
4. Blackwater Creek	-0.96	Redetermination	11.0	NO	09/13/12	
5. Bowlegs Creek	-0.96	Redetermination	11.0	NO	09/13/12	
6. Catfish Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Chain Creek	-0.96	Redetermination	11.0	NO	09/13/12	
8. Crooked Lake	-0.96	Redetermination	11.0	NO	09/13/12	
9. Gator Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
10. Homeland	-0.96	Redetermination	11.0	NO	09/13/12	
11. Hookers Prairie/South Aiala	-0.96	Historical Delineation	11.0	NO	11/19/03	
12. Inopadesseas Creek	-0.96	Redetermination	11.0	YES	11/19/03	
13. Lake Arbutus	-1.0	Historical Delineation	11.0	YES	11/19/03	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	11/19/03	
15. Lake Drain	-0.96	Redetermination	10.3 16.0	YES	04/03/13	
16. Lake Hancock Area	-0.87	Detailed	11.0	YES	11/19/03	
17. Lake Hatchieha	-1.0	Redetermination	11.0	YES	11/19/03	
18. Lake Kissimmee	-1.0	Redetermination	11.0	NO	09/13/12	
19. Lake Van	-0.96	Detailed	10.0 16.0	NO	09/13/12	
20. Lake Marion	-1.0	Redetermination	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/23/09	
22. Lake Platte	-1.0	Redetermination	11.0	YES	11/19/03	
23. Lake Reedy	-1.0	Redetermination	11.0	NO	11/19/03	
24. Lake Roadside	-1.0	Redetermination	11.0	YES	11/19/03	
25. Lake Weohypaakpa	-1.0	Redetermination	11.0	YES	11/19/03	
26. Little Payne Creek	-0.96	Historical Delineation	11.0	NO	11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed	11.0	YES	11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCullough Creek	-0.96	Redetermination	11.0	NO	11/19/03	
31. Mulberry (aka Christina)	-1.1	Detailed	10.5 16.0	NO	12/16/10	
32. Peace Creek	-0.91	Detailed	9.0 16.0	NO	10/23/13	
33. Polky Creek/North Aiala	-0.96	Redetermination	11.0	NO	09/13/12	
34. Polk City	-0.96	Detailed	10.0 16.0	NO	09/13/12	
35. Pony Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
36. Reedy Creek	-0.96	Historical Delineation	11.0	YES	11/19/03	
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-55B	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.96	Redetermination	11.0	YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds listed.
** Multi-Day event used only in specific sub-basins, refer to FIS report.



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), the South Florida Water Management District (SFWMD), Polk County, Federal Emergency Management Agency (FEMA), and the associated communities within Polk County.



THIS AREA SHOWN AT A SCALE OF 1"=500' ON MAP NUMBER 12105C0364

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Bench mark (see explanation in Notes to Users section of this FIRM panel)
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988

Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile
Section - Township - Range
Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map color locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
December 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
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MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0365G

FIRM FLOOD INSURANCE RATE MAP POLK COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 365 OF 1025
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
POLK COUNTY	120261	0365	G
WINTER HAVEN, CITY OF	120271	0365	G

MAP NUMBER 12105C0365G
MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

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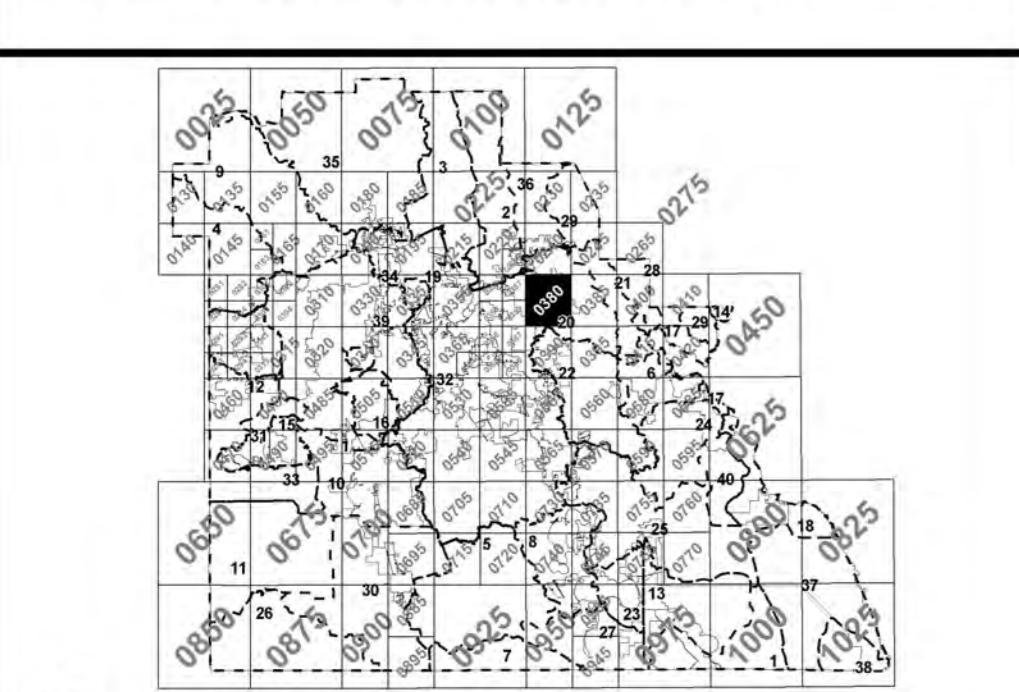
DATUM INFORMATION

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NGS Information Services
National Geodetic Survey, NOAA
NNGS12
SSM-C, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

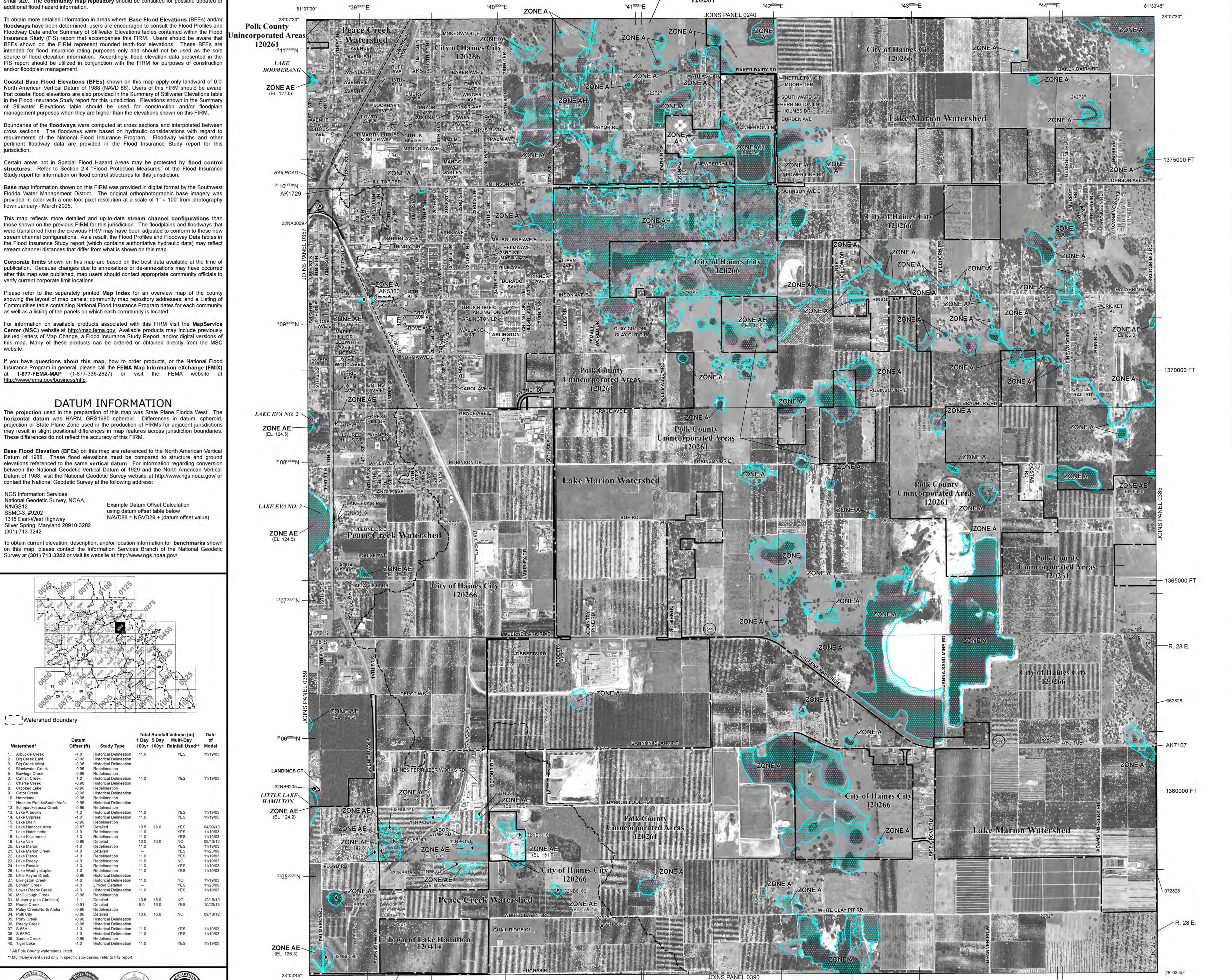
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Watershed*	Datum Offset (ft)	Study Type	Total Rainfall Volume (in)			Date of Model
			1 Day	5 Day	Multi-Day	
1. Arbutus Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
2. Big Creek East	-0.96	Historical Delineation			11/19/03	
3. Big Creek West	-0.96	Historical Delineation			11/19/03	
4. Blackwater Creek	-0.96	Redetermination			11/19/03	
5. Bowlegs Creek	-0.99	Redetermination			11/19/03	
6. Cattan Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
7. Chase Creek	-0.96	Redetermination			11/19/03	
8. Crooked Lake	-0.96	Redetermination			11/19/03	
9. Gator Creek	-0.96	Historical Delineation			11/19/03	
10. Homeland	-0.99	Redetermination			11/19/03	
11. Hookers Prairie/South Alafia	-0.96	Historical Delineation			11/19/03	
12. Inopadesseas Creek	-0.96	Redetermination			11/19/03	
13. Lake Arbutus	-1.0	Historical Delineation	11.0	YES	11/19/03	
14. Lake Cypress	-1.0	Historical Delineation	11.0	YES	04/03/13	
15. Lake Drain	-0.96	Redetermination	10.0	YES	11/19/03	
16. Lake Hancock Area	-0.87	Detailed	10.0	NO	11/19/03	
17. Lake Hatchie	-1.0	Redetermination	11.0	YES	11/19/03	
18. Lake Kissimmee	-1.0	Redetermination	11.0	NO	11/19/03	
19. Lake Van	-0.96	Detailed	10.0	NO	11/19/03	
20. Lake Marion	-1.0	Redetermination	11.0	YES	11/19/03	
21. Lake Marion Creek	-1.0	Detailed	11.0	YES	11/23/09	
22. Lake Pierce	-1.0	Redetermination	11.0	YES	11/19/03	
23. Lake Reedy	-1.0	Redetermination	11.0	NO	11/19/03	
24. Lake Rooker	-1.0	Redetermination	11.0	YES	11/19/03	
25. Lake Venohyaka	-1.0	Redetermination	11.0	YES	11/19/03	
26. Little Payne Creek	-0.96	Historical Delineation			11/19/03	
27. Livingston Creek	-1.0	Historical Delineation	11.0	NO	11/19/03	
28. London Creek	-1.0	Limited Detailed			11/23/09	
29. Lower Reedy Creek	-1.0	Historical Delineation	11.0	YES	11/19/03	
30. McCullough Creek	-0.96	Redetermination	10.0	NO	12/16/10	
31. Midway (aka Christina)	-1.1	Detailed	9.0	NO	10/23/13	
32. Peace Creek	-0.91	Detailed	10.0	NO	09/13/12	
33. Polky Creek/North Alafia	-0.96	Redetermination	10.0	NO	09/13/12	
34. Polk City	-0.96	Historical Delineation			11/19/03	
35. Pony Creek	-0.96	Historical Delineation			11/19/03	
36. Roney Creek	-0.96	Historical Delineation			11/19/03	
37. S-55A	-1.0	Historical Delineation	11.0	YES	11/19/03	
38. S-55B	-1.0	Historical Delineation	11.0	YES	11/19/03	
39. Saddle Creek	-0.96	Redetermination	11.0	YES	11/19/03	
40. Tiger Lake	-1.0	Historical Delineation	11.0	YES	11/19/03	

* All Polk County watersheds.
** Multi-day event used only in specific sub-basins, refer to FIS report.

Polk County Unincorporated Areas 120261



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
 - ZONE A No Base Flood Elevations determined.
 - ZONE AE Base Flood Elevations determined.
 - ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
 - ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
 - ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
 - ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
 - ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
 - The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
 - ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood.
 - ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
 - CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- BOUNDARIES**
 - 1% annual chance floodplain boundary
 - 0.2% annual chance floodplain boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- BENCHMARKS**
 - 513 (EL 987) Base Flood Elevation line and value; elevation in feet*
 - Base Flood Elevation value where uniform within zone; elevation in feet*
- CROSS SECTION LINE**
 - 97°07'30" 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
 - 475000E 6000000 FT 1000-meter Universal Transverse Mercator grid ticks, zone 17
 - 5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
 - Bench mark (see explanation in Notes to Users section of this FIRM panel)
 - M1.5 River Mile
 - 222218 Section - Township - Range
 - 7NX1000 Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map collar locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
- MAP REPOSITORIES**
 - Refer to Map Repositories List on Map Index
 - EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: December 20, 2000
 - EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL: December 22, 2016 - for reasons of revision, refer to the Notice to Flood Insurance Users contained within the Flood Insurance Study (FIS) report that accompanies this FIRM.
 - For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 - To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.
- MAP SCALE 1" = 1000'**

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0380G

FIRM FLOOD INSURANCE RATE MAP POLK COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 380 OF 1025
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HAINES CITY, CITY OF	120266	0380	G
LAKE HAMILTON, TOWN OF	120414	0380	G
POLK COUNTY	120261	0380	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 12105C0380G

MAP REVISED DECEMBER 22, 2016

Federal Emergency Management Agency

Appendix B:
SWFWMD Permitting Correspondence

From: [Dave Kramer](#)
To: [Przemyslaw Kuzlo](#)
Cc: [Michelle Rutishauser](#)
Subject: RE: Old Dixie Trail - Permitting Requirements
Date: Thursday, October 12, 2017 2:35:43 PM
Attachments: [image003.png](#)

Hey Chris,

My apologies for the delayed response. I agree with everything you've stated below. Thanks.

Dave

David Kramer, P.E.
ERP Evaluation Manager
Environmental Resource Permit Bureau
Regulation Division
Southwest Florida Water Management District
(800) 836-0797 or (813) 985-7481, ext. 2009
dave.kramer@watermatters.org

Introducing **ERP eCompliance** Online Permit Condition Reporting at



From: Przemyslaw Kuzlo [mailto:pkuzlo@HNTB.com]
Sent: Thursday, October 12, 2017 8:43 AM
To: Dave Kramer <dave.kramer@swfwmd.state.fl.us>
Cc: Michelle Rutishauser <mrutishauser@HNTB.com>
Subject: Old Dixie Trail - Permitting Requirements

Good Morning Dave,

As discussed over the phone yesterday, HNTB is preparing a preliminary feasibility study for the Old Dixie Trail in Polk County. I wanted to confirm with you general permitting requirements for trail projects:

- 1) In general, trail projects are exempt from permitting pursuant to Rule 62.330.051(10) of the Florida Administrative Code so long as:
 - a. They are not located in, on, or over wetlands or other surface waters.
 - b. Have a width of eight feet or less for pedestrian paths, and 14 feet or less for multi-use recreational paths.
 - c. Are not intended for use by motorized vehicles powered by internal combustion

engines or electric-powered roadway vehicles, except when needed for maintenance or emergency purposes.

- 2) If a trail project would not qualify for an exemption due to wetland or other surface water impacts, an Individual Permit would be required. The trail impervious area would be still exempt from the treatment and attenuation requirements. However, floodplain, conveyance and wetland impacts would need to be addressed.

- 3) If a trail project impacts previously permitted stormwater management system, a separate modification of the associated permit would be required.

Please let me know if I misunderstood anything.

Thank you,

Przemyslaw "Chris" Kuzlo, P.E.

Stormwater Engineer

Tel (813) 402-4150 [Ext. 85116] Direct (813) 498-5116 Fax (813) 402-4245

HNTB CORPORATION

201 N. Franklin Street, Suite 1200, Tampa, FL 33602 | www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are NOT the intended recipient and receive this communication, please delete this message and any attachments. Thank you.

Appendix C:
Polk County Technical Advisory Committee Presentation Comments

From: [Andrews, Steven](#)
To: [Ben Walker](#); [Michelle Rutishauser](#)
Subject: FW: Old Dixie Trail
Date: Friday, January 26, 2018 12:14:36 PM
Attachments: [image002.png](#)
[image003.wmz](#)
[image004.png](#)

FYI.....sa

STEVEN A. ANDREWS

*Florida Department of Transportation
Project Manager, Environmental Management
District One, MS-1-40
Office: 863-519-2270
Fax: 863-519-2892
steven.andrews@dot.state.fl.us*

From: Amee N. Bailey [mailto:ABailey@mylakealfred.com]
Sent: Friday, January 26, 2018 11:25 AM
To: Andrews, Steven <Steven.Andrews@dot.state.fl.us>
Subject: Old Dixie Trail

Steven,

I was asked to send you comments on behalf of the City.

Our general thought is that the 4-lane highways can easily accommodate adult bikers, but it is not the best option for pedestrians and young bikers, unless you are providing a facility like the Fort Frasier trail with a significant buffer.

The City's preferred route would be 1, 16, 2, 6, 7, 10, 12. For the trail this creates a strong connection to all three cities, utilizes existing trails, and provides good exposure for Lake Alfred and additional trails within the City.

If between segment 9 or 10, then 10. On the elimination of Segment 8 – Although we understand the ROW associated with segment 9 may be easier to use/acquire, however Segment 8 would provide a more enjoyable and relaxing path rather than proceeding along the 4 lane divided highway.

Regarding the path from Auburndale to Lake Alfred, Segment 2 is the most scenic and not along a highway. It could also provide a safer route for students walking to Auburndale High School. In addition, as Residential development occurs on Lake Alfred Rd, the use of the stretch between Oak View and Pierce will increase.

Segment 4 would be a second choice, because it is associated with a 4 lane divided highway.

Segments 4 and 9 could serve as immediate loops for bikers if the trail is developed on segments 2 and 10.

Please let me know if you have any questions.

Ameé N. Bailey, **GISP, CMC**
Community Development Director
Lake Alfred City Clerk



City of Lake Alfred
120 East Pomelo Street
Lake Alfred, FL 33850
(863) 291-5748