

Final Location Hydraulics Report

US 301 (SR 39)

**From South of CR 54 (Eiland Boulevard)
to US 98 Bypass (SR 533)
Pasco County, Florida**

**Work Program Item No: 408075-1
Federal Aid Project No: 3112-020-P**

Prepared For:



**Florida Department of Transportation
District Seven
11201 North Malcolm McKinley Drive
Tampa, Florida 33612**

March 2010

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Prepared For:



Florida Department of Transportation

Prepared By:

HDR Engineering, Inc.
5426 Bay Center Drive, Suite 400
Tampa, FL 33609

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate improvements to US 301 (SR 39) in eastern Pasco County. The project limits are from south of CR 54 (Eiland Boulevard) to the US 98 Bypass (SR 533). The length of the study is 7.6 miles. The objective of the PD&E Study was to provide documented environmental and engineering analyses, which would help the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, conceptual design and location of the necessary improvements within the US 301 PD&E Study limits to accommodate future transportation needs in a safe and efficient manner. This Location Hydraulics Report (LHR) was prepared as part of the PD&E Study. The objective of this LHR was to document the evaluation of existing cross drain structures as well as potential floodplain involvement within the study area.

Originally, the PD&E Study evaluated the proposed widening of US 301 to a six-lane divided roadway from south of CR 54 to the US 98 Bypass for two Build Alternatives representing three separate typical sections: Build Alternative 1 - High Speed Urban typical section for Segments A through D; and Build Alternative 2 - Low Speed Urban typical section for Segments A and D and Rural typical section for Segments B and C. A summary of the impacts that could occur if either Build Alternative were to be implemented for each of the study segments was presented at the Alternatives Public Workshop held on June 3, 2009.

The purpose of the Alternatives Public Workshop was to solicit public input regarding the proposed Build Alternatives and the No-Build Alternative for the proposed project. On July 16, 2009 the FDOT determined a recommended Build Alternative would be presented at the Study's Public Hearing in addition to the No Build Alternative. The recommended Build Alternative determination was based on the results of the Build Alternative's impact evaluation, public feedback received during the public involvement process, and consistency with current transportation plans.

As a result of this determination, the Recommended Build Alternative presented at the Public Hearing on November 4, 2009 consisted of widening US 301 to a six-lane roadway facility in Segment A only (from south of CR 54 to north of Kossik Road) and maintaining the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to the US 98 Bypass). The recommended typical section for the six-lane widening was a low-speed urban typical section. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes into the existing four-lane roadway. To minimize traffic congestion and improve safety north of Kossik Road,

Transportation System Management (TSM) improvements were also recommended. The TSM improvements could include, but not be limited to, median modifications on US 301 from north of Kossik Road to US 98 Bypass and turn lane improvements at four signalized intersections: Centennial Road, CR 52A (Clinton Avenue), Morningside Drive, and US 98 Bypass.

The Recommended Build Alternative developed for the US 301 PD&E Study is required to be consistent with the Pasco County Metropolitan Planning Organization's (MPO) Cost Affordable Roadway Long Range Transportation Plan (LRTP). The Recommended Build Alternative presented at the Study's Public Hearing on November 4, 2009 was consistent with the Pasco MPO 2025 Cost Affordable LRTP. Subsequent to the Public Hearing, the Pasco County MPO adopted their 2035 LRTP on December 10, 2009. The adopted 2035 Cost Affordable Roadway Plan contains an additional roadway segment on US 301 between US 98 (SR 700) and CR 52A where six-lanes are proposed in addition to the six-lane roadway section on US 301 from south of CR 54 to Kossik Road.

Therefore, the Recommended Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes in Segment A into the existing four-lane roadway. Within the portion of Segment C from south of US 98 (SR 700) to CR 52A, the section of US 301 from north of Musselman Road to US 98 will be used to transition the proposed six-lanes in Segment C into the existing four-lane roadway. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The recommended typical section for the six-lane widening is a low-speed urban typical section within Segment A, and a rural typical section within the portion of Segment C from US 98 to CR 52A. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. The previously recommended TSM improvements at CR 52A would be constructed as part of the widening in the portion of Segment C. A summary of the evaluation of noise impacts related to the revised Recommended Build Alternative is provided below.

This project involves the replacement or extension of existing drainage structures that will result in an insignificant change in their capacity to carry floodwater. Existing cross drains will remain in

Segments B through D at locations that are not affected by the TSM improvements. Replacements and extensions would not cause any appreciable increase in flood heights or flood limits and not result in any adverse impacts on the natural and beneficial floodplain values or significant change in flood risks or damage. There would not be a significant change in the potential for interruption or termination of emergency service routes. Therefore, it has been determined that encroachment on the base floodplain would be minimal. The analysis of the cross drains will be performed in the design phase in accordance with the department's drainage standards and procedures.

Within the project limits, the existing roadway represents a transverse encroachment upon the base 100-year floodplain (Flood Zone AH) in a few locations. There are no regulated floodways within the project limits.

TABLE OF CONTENTS

Section	Title	Page
LIST OF TABLES.....		v
LIST OF FIGURES.....		v
SECTION 1 INTRODUCTION		1-1
SECTION 2 PROPOSED IMPROVEMENTS.....		2-1
2.1	Project Description	2-1
2.2	Purpose and need.....	2-1
2.3	Project Segmentation.....	2-2
2.4	Build Alternative Selection	2-2
SECTION 3 FLOOD ZONE DESIGNATIONS.....		3-1
SECTION 4 EXISTING CONDITIONS.....		4-1
SECTION 5 FLOODPLAIN ENCROACHMENT		5-1
SECTION 6 CONCLUSION.....		6-1
 APPENDICES		
APPENDIX A – EXISTING TYPICAL SECTIONS		
APPENDIX B – PROPOSED TYPICAL SECTIONS		
APPENDIX C – CORRESPONDENCE		
APPENDIX D – FEMA FIRMETTES		
APPENDIX E – SUPPORTING DOCUMENTS		

LIST OF TABLES

Table	Title	Page
Table 4-1	Cross Drain Information	4-2

LIST OF FIGURES

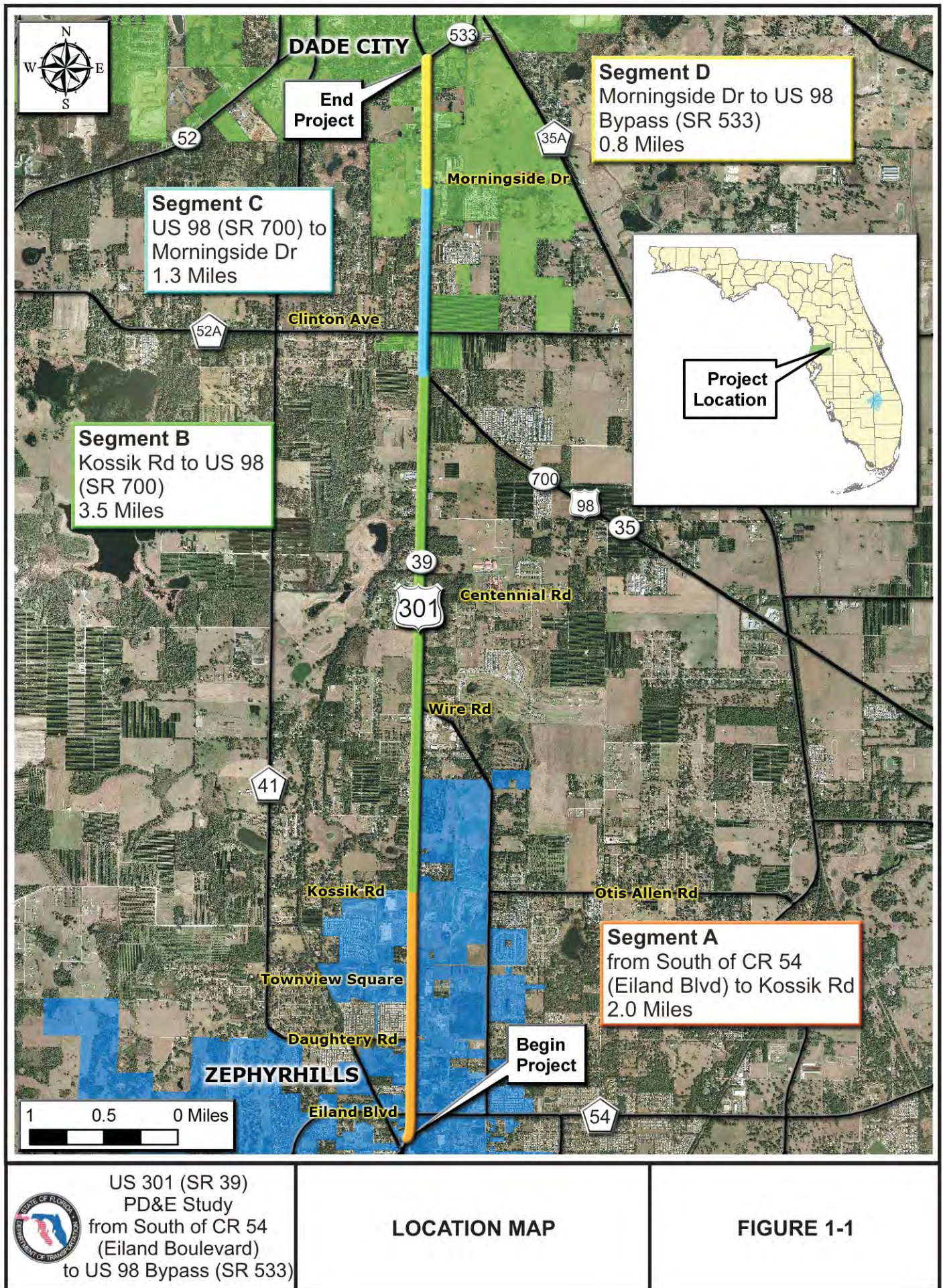
Figure	Title	Page
Figure 1-1	Location Map.....	1-2
Figure 2-1	Roadway Typical from South of CR 54 (Eiland Boulevard) to North of Kossik Road Segment A - Recommended Alternative.....	2-5
Figure 2-2	Roadway Typical from US 98 (SR 700) to CR 52A (Clinton Avenue)	2-6
Figure 3-1	FEMA Floodplain Map.....	3-2

SECTION 1

INTRODUCTION

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate improvements to US 301 (SR 39) in eastern Pasco County. The project location is illustrated on **Figure 1-1**. The limits of the study corridor are from south of CR 54 (Eiland Boulevard) to the US 98 Bypass (SR 533), a project length of 7.6 miles.

The objective of the PD&E Study was to provide documented environmental and engineering analyses, which would assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, conceptual design and location of the necessary improvements within the US 301 PD&E study limits to accommodate future transportation needs in a safe and efficient manner. This Location Hydraulics Report (LHR) was prepared as part of the PD&E Study.



SECTION 2

PROPOSED IMPROVEMENTS

2.1 PROJECT DESCRIPTION

US 301 is a four-lane divided north-south arterial that connects the cities of Zephyrhills and Dade City. The US 301 roadway provides an important connection to the regional and statewide transportation network linking the Tampa Bay region to the remainder of the state and nation. US 301 is identified as a regional roadway by the West Central Florida Metropolitan Planning Organization's (MPO's) Chairs Coordinating Committee (CCC) and is included in the Regional Roadway Network.

US 301 is designated as an emergency evacuation route and currently operates as an existing truck route. The 2035 Cost Affordable Roadway Plan of the Pasco County MPO Long Range Transportation Plan (LRTP) identifies the need to widen US 301 to six lanes from south of CR 54 to Kossik Road and from south of US 98 (SR 700) to CR 52A (Clinton Avenue). This PD&E study evaluated the physical, social, cultural, environmental and economic impacts of providing alternative improvements to US 301 that included, but were not limited to, a No-Build Alternative, Build Alternatives that consider the widening of US 301 to six lanes from south of CR 54 to US 98 Bypass, Transportation System Management (TSM) improvements and median modifications to improve safety and mobility throughout the limits of the PD&E study.

2.2 PURPOSE AND NEED

Motorists in Pasco County are faced with increased traffic congestion and delays as demand from the County's growth continues to place pressure on the existing transportation system. To assess the effects of continued growth along US 301, the FDOT initiated a PD&E Study that evaluates the impacts of providing alternative roadway capacity improvements to the facility. The purpose of this PD&E Study is to develop a plan to accommodate future growth in an organized manner and to maintain mobility along a regionally significant transportation corridor. The need for improvements along US 301 within the study limits was developed based on the evaluation of the following criteria:

- Existing and future quality of traffic operations along US 301 assuming the existing roadway conditions.
- traffic safety conditions for the time period between the years 2003 and 2007,

- consistency with local government plans, and
- projected future socioeconomic growth of Pasco County.

2.3 PROJECT SEGMENTATION

The project was divided in segments to effectively assess and compare the impacts of each alternative within the different geographical areas of the study corridor. After considering the existing right-of-way (ROW) along US 301, existing traffic volumes and land use patterns, and the locations of cross streets, the project was divided into four study segments. These segments are illustrated on **Figure 1-1** and can be described as follows:

- Segment A: South of CR 54 to Kossik Road, a distance of 2.0 miles,
- Segment B: Kossik Road to US 98, a distance of 3.5 miles,
- Segment C: US 98 to Morningside Drive, a distance of 1.3 miles, and
- Segment D: Morningside Drive to US 98 Bypass, a distance of 0.8 miles.

The Location Hydraulics evaluations were based on these study segments.

2.4 BUILD ALTERNATIVE SELECTION

An Alternatives Public Workshop was held on June 3, 2009. The purpose of the workshop was to solicit public input regarding the proposed alternatives for the project. On July 16, 2009 the FDOT determined that the recommended alternative, a Build Alternative, would be presented at the Study's Public Hearing (in addition to the No Build Alternative). The recommended alternative selection was based on the results of the project's impact evaluation, public feedback received during the public involvement process, and a need to be consistent with area transportation plans.

The Recommended Build Alternative presented at the Public Hearing on November 3, 2009 consisted of the six-lane widening of US 301 in Segment A only (south of CR 54 to north of Kossik Road). The analysis indicated that the projected traffic volumes do not support the need to widen US 301 to six lanes in Segments B and C. In Segment D, the six-lane widening is not planned to be implemented for the following reasons: 1) Segment D is a relatively short segment (0.8 miles) with acute ROW constraints (only 100 feet of ROW) thus making the required ROW acquisition costs high; 2) the proposed six-lane widening is currently not identified in the 2035 Cost Affordable Roadway Plan of the Pasco County LRTP, 3) and there are capacity constrained routes at the northern terminus of the

Study limits that are not planned for improvement in any current transportation plans. Therefore, these routes would be unable to accommodate the additional lanes.

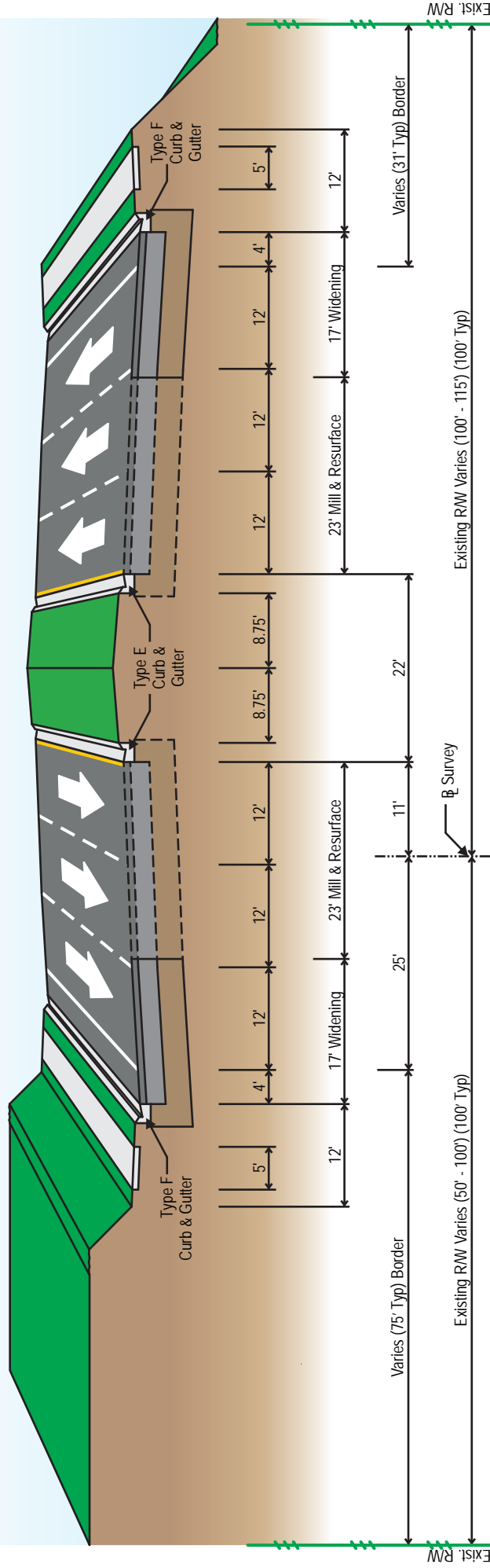
The typical section that was recommended for Segment A of the project corridor is described as a low speed urban typical section. This typical section was selected as the recommended Build Alternative because it would minimize the overall ROW acquisition cost associated with implementing the project. The recommended typical section for Segment A is illustrated on **Figure 2-1**.

As stated above, the Recommended Build Alternative would widen US 301 to a six-lane roadway in Segment A (from south of CR 54 to north of Kossik Road) only and maintain the existing four-lanes on US 301 in Segments B through D (from north of Kossik Road to US 98 Bypass). Notably, the section of US 301 between Kossik Road and Wire Road will be used to transition the recommended six-lanes into the existing four-lane roadway. Further, to minimize traffic congestion and improve safety north of Kossik Road, TSM improvements were also recommended. The TSM improvements could include, but not be limited to, median modifications on US 301 from north of Kossik Road to US 98 Bypass and turn lane improvements at four signalized intersections: Centennial Road, CR 52A, Morningside Drive and US 98 Bypass.

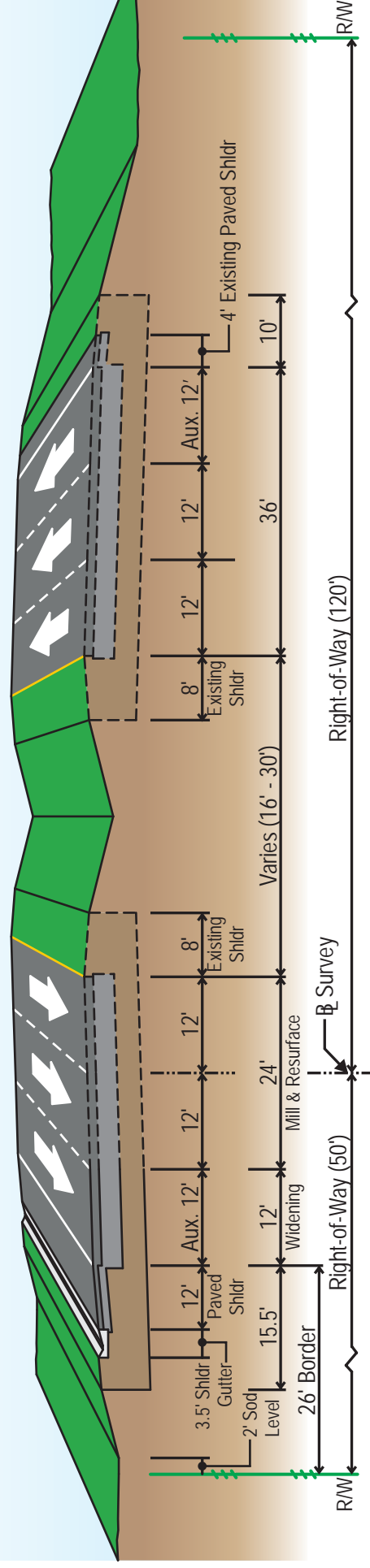
The Recommended Build Alternative developed for the US 301 PD&E Study is required to be consistent with the Pasco County Metropolitan Planning Organization's (MPO) Cost Affordable Roadway Long Range Transportation Plan (LRTP). The Recommended Build Alternative presented at the Study's Public Hearing on November 4, 2009 was consistent with the Pasco MPO 2025 Cost Affordable LRTP. Subsequent to the Public Hearing, the Pasco County MPO adopted their 2035 LRTP on December 10, 2009. The adopted 2035 Cost Affordable Roadway Plan contains an additional roadway segment on US 301 between US 98 and CR 52A where six-lanes are proposed in addition to the six-lane roadway section on US 301 from south of CR 54 to Kossik Road.

Therefore, the Recommended Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The recommended typical section for the six-lane widening is a low-speed urban typical section within Segment A (shown in **Figure 2-1**), and a rural typical section within the portion of Segment C between US 98 to and CR 52A (shown in **Figure 2-2**). To minimize traffic

congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. The previously recommended TSM improvements at CR 52A would be constructed as part of the widening in the portion of Segment C. A summary of the evaluation of existing cross drain structures as well as potential floodplain involvement within the study area related to the revised Recommended Build Alternative is provided in the following sections.



Design Speed = 45 mph



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

**RECOMMENDED ROADWAY TYPICAL SECTION
FROM US 98 (SR 700) TO CR 52A (CLINTON AVENUE)**

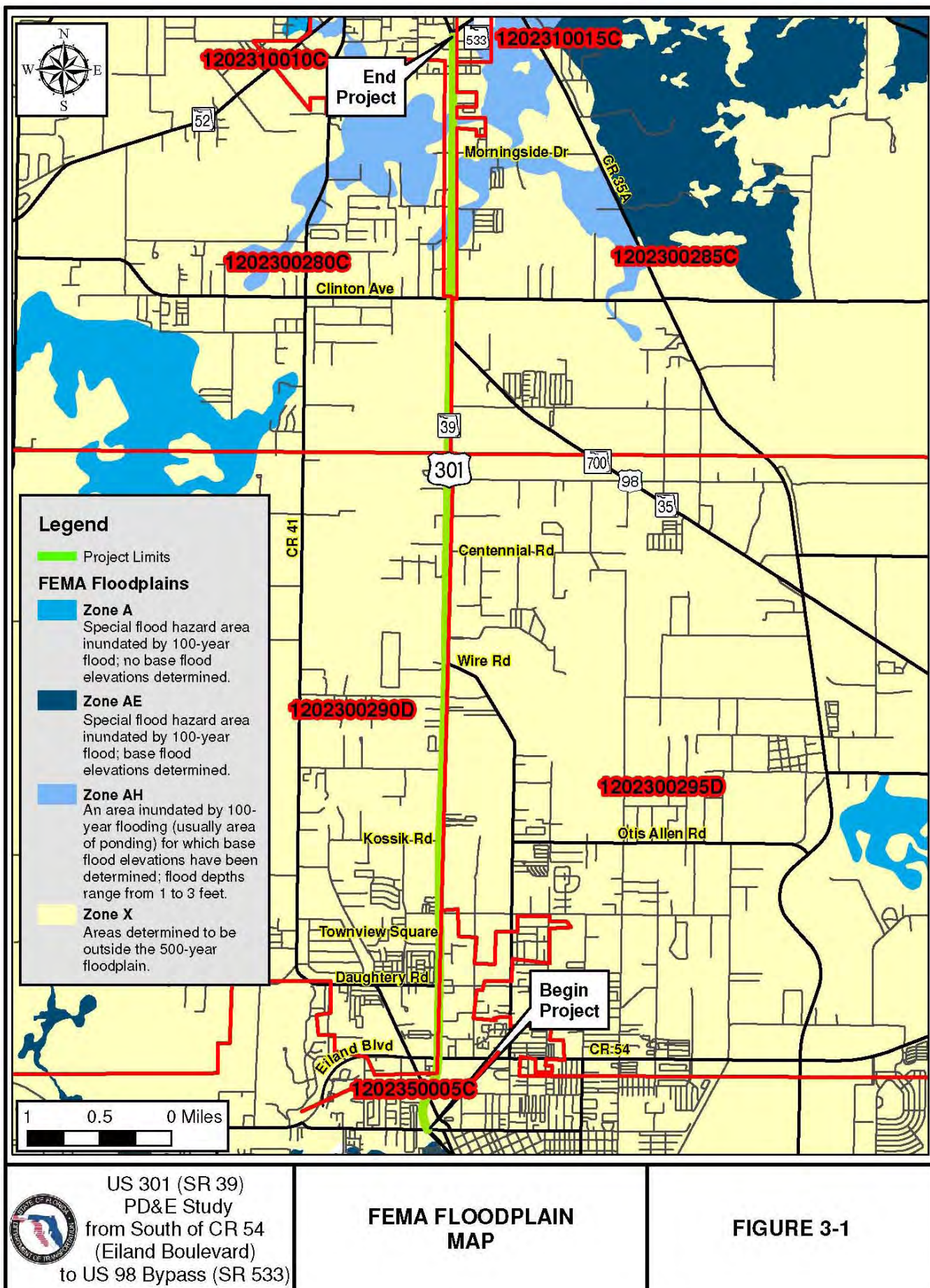
SECTION 3

FLOOD ZONE DESIGNATIONS

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and Firmettes were reviewed for this project (see Appendix D). This included existing maps only. Pasco County is working together with the Southwest Florida Water Management District (SWFWMD) to update the maps. These updated maps are not yet available. The existing maps were used to determine the amount of floodplain involvement. The existing boundaries and community panel numbers are shown on **Figure 3-1**. The project runs through the following proposed FEMA map numbers:

- 1202300285C Effective March 15, 1984
- 1202300280C Effective March 15, 1984
- 1202300290D Effective September 30, 1992
- 1202300295D Effective September 30, 1992
- 1202310010C Effective August 17, 1981
- 1202310015C Effective August 17, 1981
- 1202350005C Effective December 17, 1991

FEMA zones AH, C, and X are involved along this project and are discussed further in the following section.



SECTION 4

EXISTING CONDITIONS

Existing drainage structures along the project include cross drains, side drains, and storm drains. Existing storm drains and side drains will be replaced with new storm drains and side drains to new ditches and proposed ponds. Cross drains will be replaced with hydraulically equivalent structures. These structures will have hydraulic analysis performed during the design phase and will be required to have no increase in base flood elevations in order to receive approval from SWFWMD.

Information on flooding history along the project was obtained from the Florida Department of Transportation – Brooksville Maintenance Department and was documented in Telephone Reports (Appendix C). Five locations of flooding were noted. A blocked outlet downstream of our project was discussed and may have already been resolved by the Maintenance Department. The second area of flooding was just north of CR 54 between the Golden Corral and the car wash. When the frontage road was constructed, the outfall was blocked. Since then, it has been cleared but high outfall velocities are causing erosion and exposing tree roots. Another location of flooding was just north of Kossick Road at the Scotland Yard Golf Course and Mobile Home Park. Flooding at the cross drain between Beth Street and Morningside Drive was discussed. This area was reviewed during a site visit on February 9, 2009. A 6-foot by 4-foot box culvert at this location drains into an existing pond on the east side of the SR 39 (US 301) project. This pond has a control structure with a 15-inch pipe that discharges to another pond to the south, which does not have a positive outfall. The last flooding location discussed was the Tank Lake Outfall crossing under SR 39 (US 301). The water has never overtopped the roadway or even come close, but the property downstream has been known to flood in heavy rains.

The size and location of the cross-drains are listed in Table 4-1, along with the associated tributary and flood zone designation. Stations refer to the baseline established for the PD&E Study. The Noncontributing basin and Zephyrhills Airport Run basin are both part of the East Zephyrhills basin as identified in Pasco County's Land Development Code Section 605.7 (see Appendix C).

The cross drains will need to be analyzed during the design phase of the project to determine whether they should be extended or replaced. The cross drains are shown to be replaced in this report because they are connected to upstream ditches or pipes that extend outside of our right-of-way. In these cases, the SWFWMD will not allow any increase in stages on property owned by others without their written consent.

**Table 4-1
Cross Drain Information**

Station	Size	PD&E Segment	Tributary	Flood Zone Designation	Disposition
400+09.82	34" x 53"	A	East Zephyrhills Basin	X	Replace
408+59.53	(2) 30"	A	East Zephyrhills Basin	X	Replace
446+08.96	(2) 30"	A	East Zephyrhills Basin	X	Replace
480+09.66	(2) 8' x 4'	B	East Zephyrhills Basin	X	Extend/Replace *
529+60.01	(2) 44"	B	East Zephyrhills Basin	X	Remain
583+59.49	24"	B	East Zephyrhills Basin	X	Remain
599+40.00	42"	B	East Zephyrhills Basin	X	Remain
620+89.56	30"	B	East Zephyrhills Basin	X	Remain
637+11.14	36"	B	East Zephyrhills Basin	X	Remain
694+10.64	48"	C	Tank Lake Outfall Basin	AH	Remain
715+11.95	6' x 4'	C	Tank Lake Outfall Basin	C	Replace
730+83.54	8' x 4'	D	Tank Lake Outfall Basin	AH	Remain

* The cross drain at station 480+09.66 is located near the end of the recommended transition to existing northbound lanes. The cross drain will need a minor extension to the east to locate the endwall outside of the clear zone.

The Flood Insurance Rate Maps provide the following definitions for the Flood Zone Designations:

Zone AH Area of 100-year shallow flooding where depths are between one and three feet; base flood elevations are shown, but no flood hazard factors are determined.

Zone C Areas of minimal flooding. (No shading)

Zone X Areas determined to be outside the 500-year floodplain.

SECTION 5

FLOODPLAIN ENCROACHMENT

The proposed road widening will cause transverse encroachments by placing fill material for the additional lanes. These encroachments will be along the Tank Lake Outfall basin. The TSM improvements include widening to add and extend right turn lanes on the approaches to Morningside Drive within this floodplain. Floodplain compensation sites will be provided to offset the encroachments.

The project will involve the replacement of existing cross-drains, some of which are located in heavily urbanized floodplains. These structures will be replaced with hydraulically equivalent structures. The cross drains in segments A and B, of the PD&E study, are not located directly in areas with recorded flooding problems placing them in Category 4. Segments C and D have some record of nearby flooding along the Tank Lake Outfall placing them in Category 5.

Category 4 is described as:

“The proposed structure will perform hydraulically in a manner equal to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values. There will be no significant change in flood risk, and there will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.”

Category 5 is described as:

“Replacement drainage structures for this project are limited to hydraulically equivalent structures. The limitations to hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of design, existing development, cost feasibility, or practicability. An alternative encroachment location is not considered in this category since it defeats the project purpose or is economically unfeasible. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources, and there is no practical alternative to totally eradicate flood impacts or even reduce them in any significant amount, existing flooding will continue, but not be increased. The proposed structure will be hydraulically equivalent to or greater

than the existing structure, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased adverse environmental impacts. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.”

SECTION 6

CONCLUSION

The proposed project would involve the widening of US 301 from 4 lanes to 6 lanes to improve future capacity needs. Replacement of drainage structures will result in an insignificant change to improve their capacity to carry floodwater. The proposed improvements will not have any new or increased environmental impacts. In addition, there will be no significant change in the potential for interruption or termination of emergency services or evacuation routes. This project would involve Category 4 and Category 5 floodplain encroachments. These characteristics classify the project as having minimal encroachments on the base floodplain.

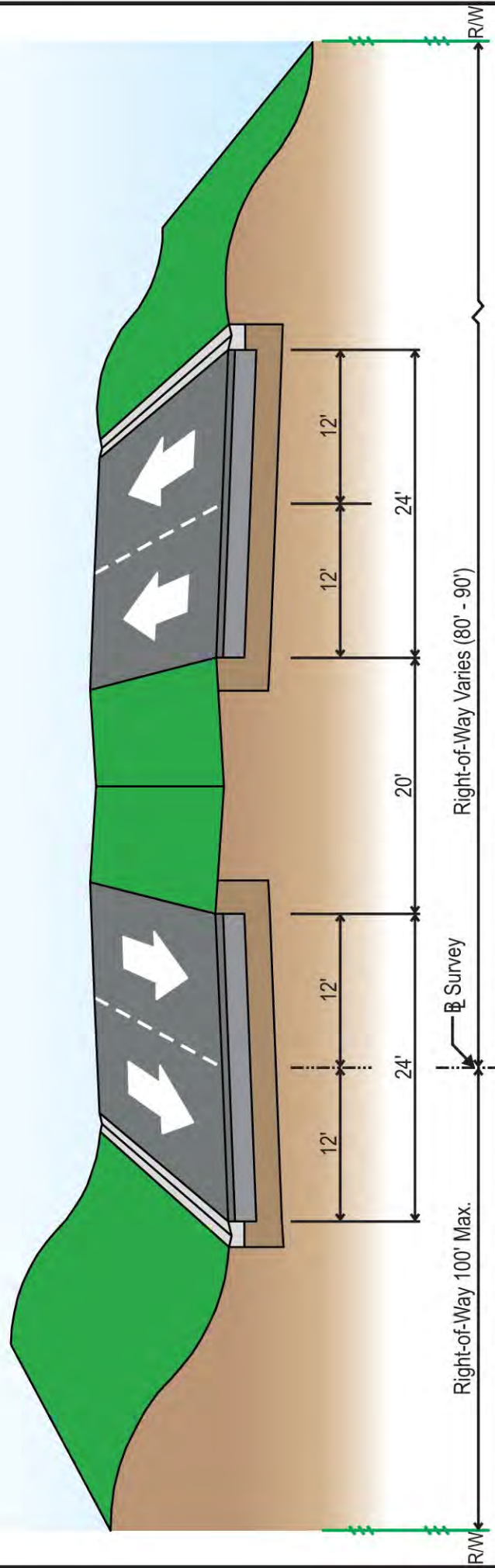
APPENDIX A
EXISTING TYPICAL SECTIONS



EXISTING TYPICAL FROM
CR 54 (EILAND BOULEVARD) TO NORTH OF WIRE ROAD AND
FROM NORTH OF CENTENNIAL ROAD TO NORTH OF
COUNTRYSIDE PLACE

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)



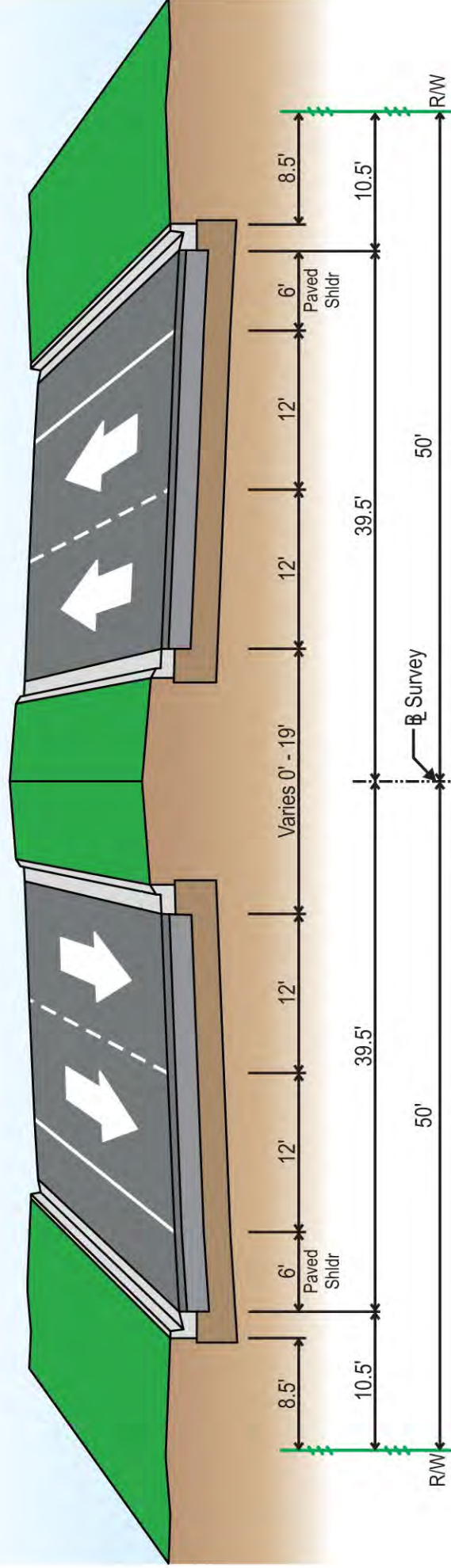


Design Speed = 50 - 60 mph

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)

EXISTING TYPICAL FROM
NORTH OF WIRE ROAD TO NORTH OF CENTENNIAL ROAD

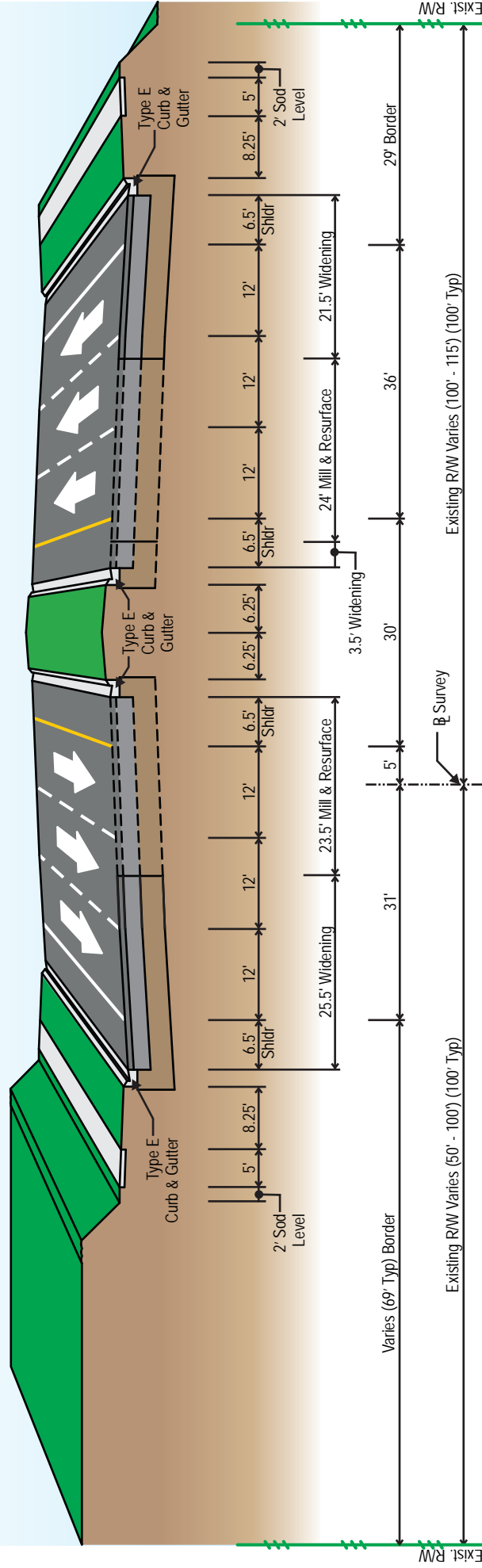
FIGURE 4-2



Design Speed = 40 - 50 mph

APPENDIX B

PROPOSED TYPICAL SECTIONS



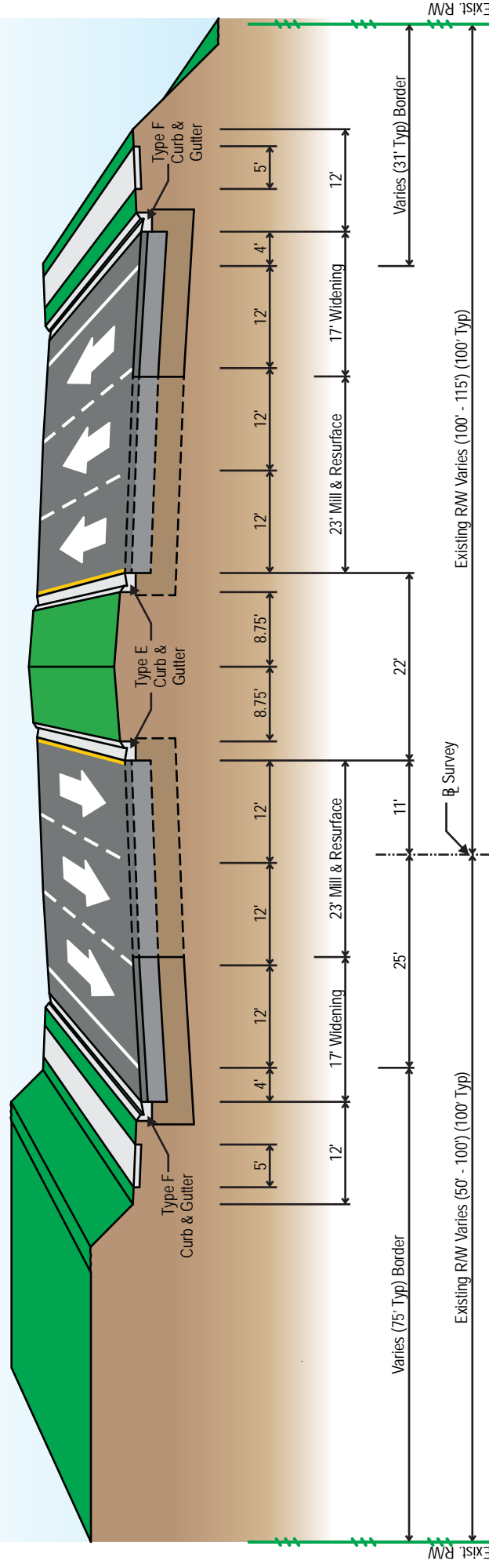
Design Speed = 50 mph

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)



**PROPOSED ROADWAY TYPICAL FROM
CR 54 (EILAND BOULEVARD) TO KOSSIK ROAD
SEGMENT A - ALTERNATIVE 1
(HIGH-SPEED URBAN ALTERNATIVE)**

FIGURE 8-1



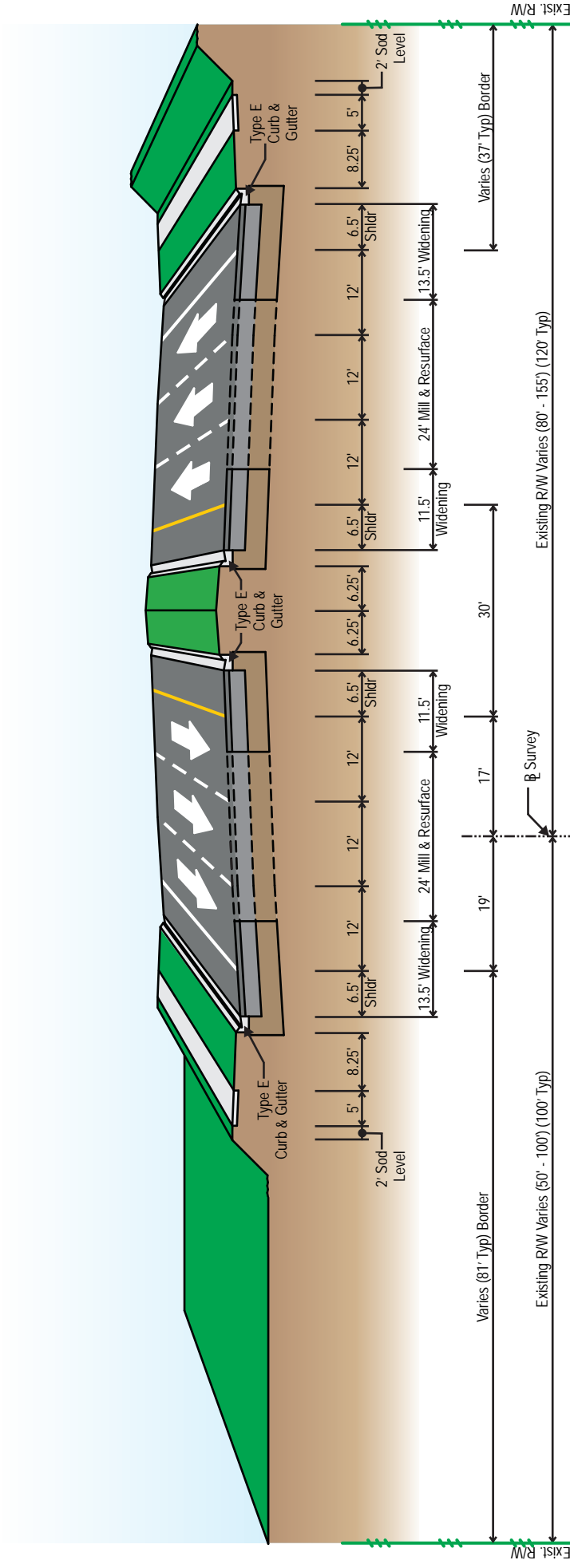
Design Speed = 45 mph

FIGURE 8-2

**PROPOSED ROADWAY TYPICAL FROM
CR 54 (EILAND BOULEVARD) TO KOSSIK ROAD
SEGMENT A - ALTERNATIVE 2
(LOW-SPEED URBAN ALTERNATIVE)**

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)





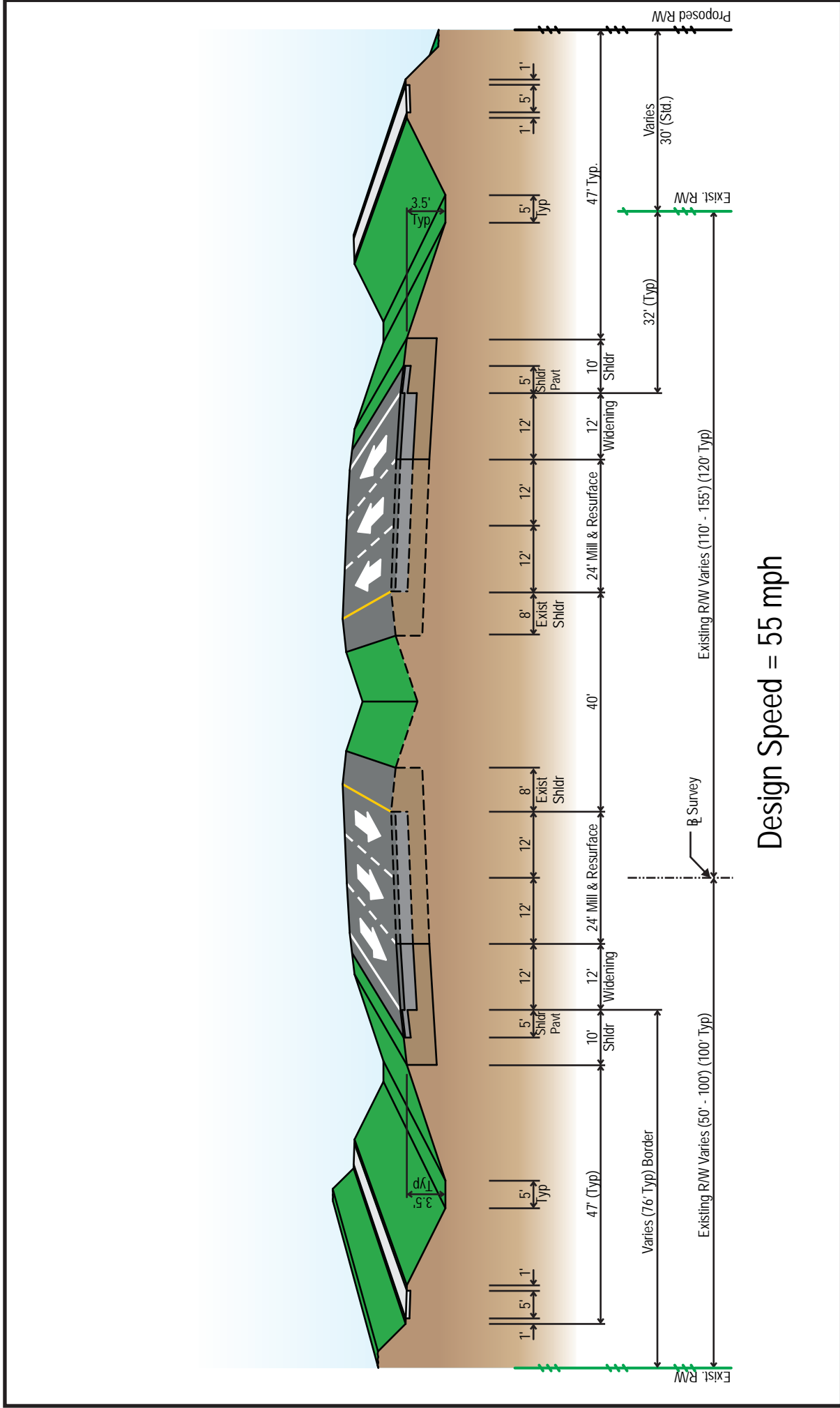
Design Speed = 50 mph

FIGURE 8-3

**PROPOSED ROADWAY TYPICAL FROM
KOSSIK ROAD TO MORNINGSIDE DRIVE
SEGMENT B & C - ALTERNATIVE 1
(HIGH-SPEED URBAN ALTERNATIVE)**

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)





PROPOSED ROADWAY TYPICAL SECTION
FROM NORTH OF KOSSIK ROAD TO NORTH OF WIRE ROAD AND
FROM NORTH OF CENTENNIAL ROAD TO MORNINGSIDE DRIVE
SEGMENT B & C - ALTERNATIVE 2 (RURAL ALTERNATIVE)

SR 39 (US 301)
 PD&E Study
 from CR 54
 (Eiland Boulevard)
 to SR 533 (US 98 Bypass)

FIGURE 8-4

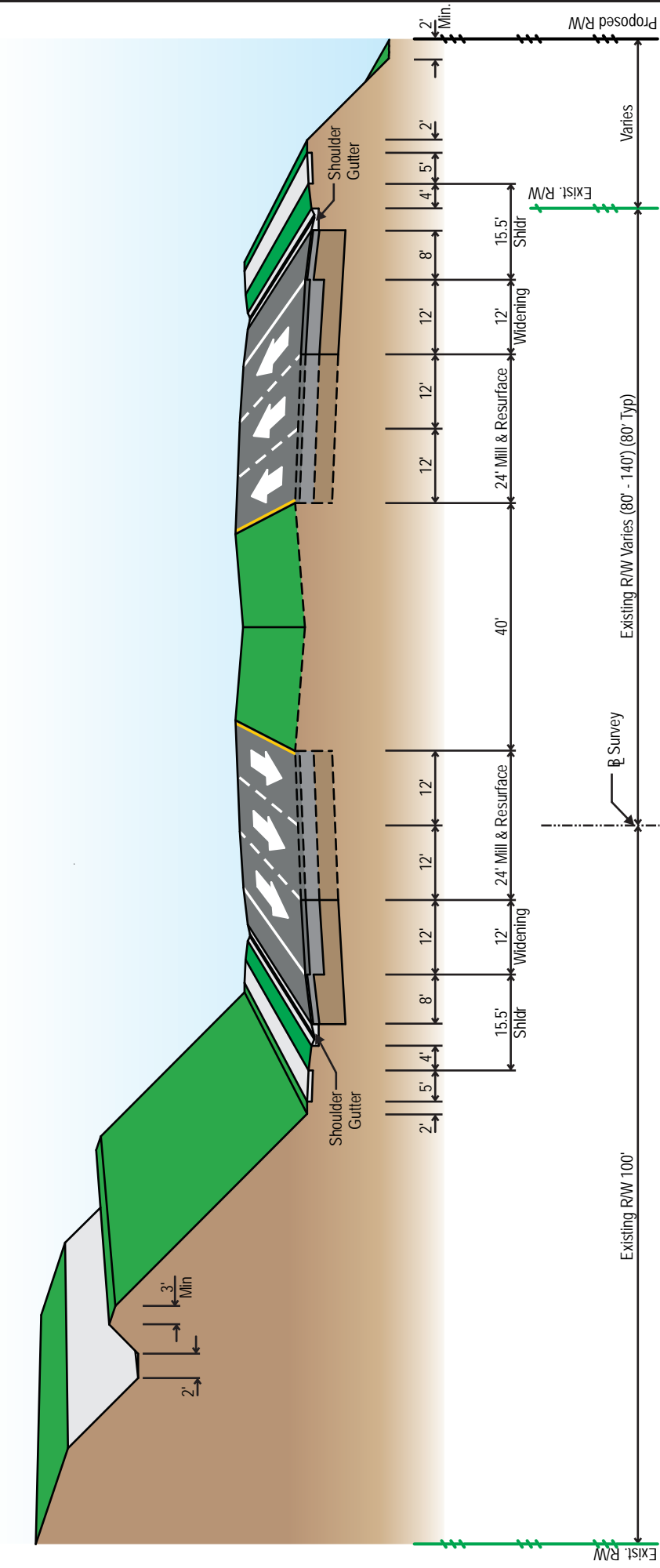


FIGURE 8-5

**PROPOSED ROADWAY TYPICAL SECTION
FROM NORTH OF WIRE ROAD TO NORTH OF CENTENNIAL ROAD
SEGMENT B - ALTERNATIVE 2A
(RURAL ALTERNATIVE - SHOULDER GUTTER SECTION)**

SR 39 (US 301)
PD&E Study
from CR 54
(Eiland Boulevard)
to SR 533 (US 98 Bypass)



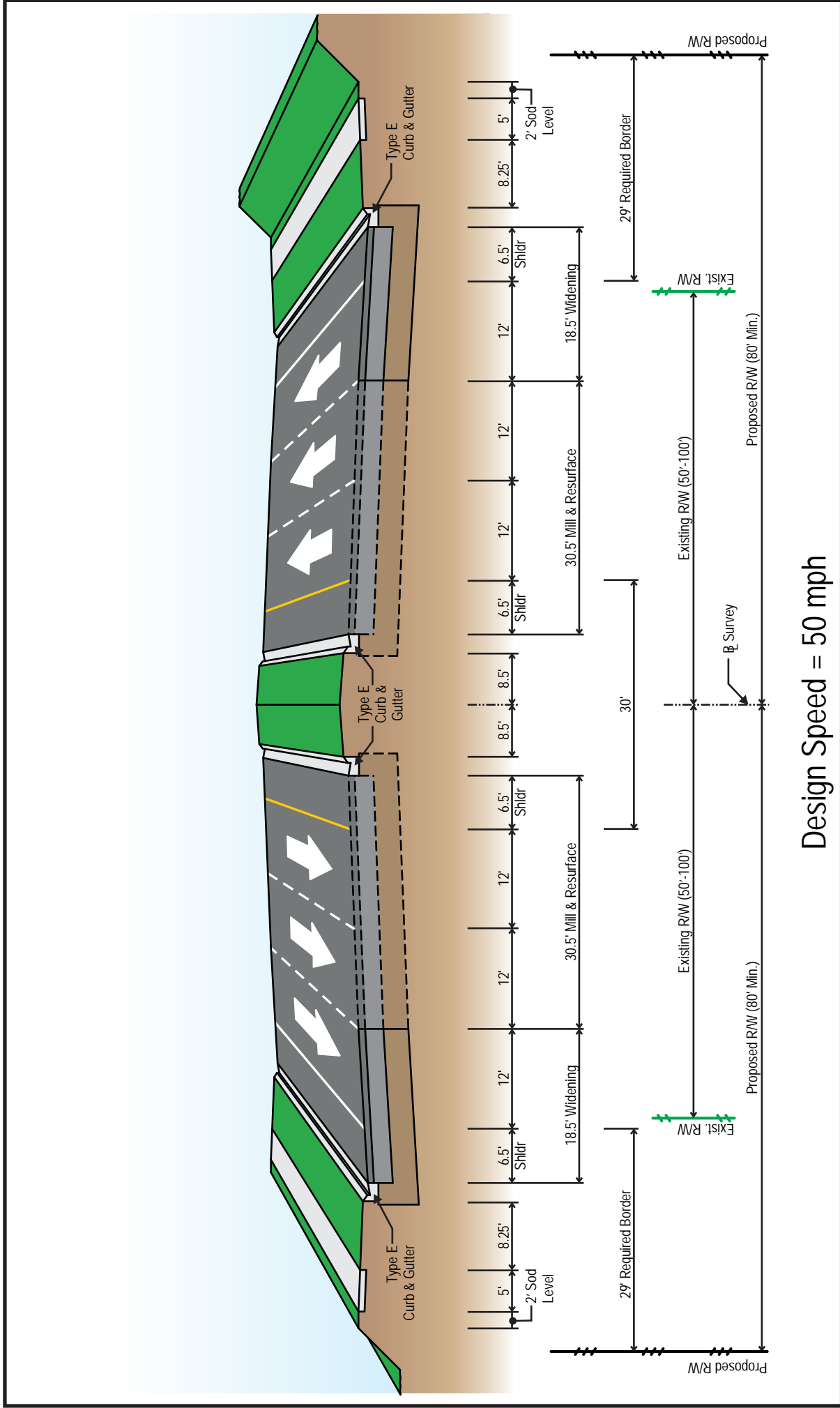


FIGURE 8-6

PROPOSED ROADWAY TYPICAL SECTION
FROM MORNINGSIDE DRIVE TO SR 533 (US 98 BYPASS)
SEGMENT D - ALTERNATIVE 1
(HIGH-SPEED URBAN ALTERNATIVE)

SR 39 (US 301)
 PD&E Study
 from CR 54
 (Eiland Boulevard)
 to SR 533 (US 98 Bypass)

APPENDIX C
CORRESPONDENCE

To: Brad Carver	
From: Abbie Wilson	Project: US 301 PD&E
CC:	
Date: 2/19/09	Job No: 088721

RE: Phone Conversation with Brooksville Maintenance Department (FDOT D-7)

Jon Kilkenny
Brooksville Maintenance Department
352-797-5700 (Brooksville Main Line)

On Wednesday, February 18, 2009, I spoke with Jon Kilkenny of the FDOT Brooksville Maintenance Department to talk about past flooding issues and drainage patterns in the area of U.S. 301 from C.R. 54 to the South Dade City Bypass.

The area to the south of Dade City, between Beth St. and Morningside Dr., there is an outfall at McDonald. This area often has flooding problems.

The second area with flooding problems is just to the North of C.R. 54 between Golden Corral and the car wash. The city of Zephyrhills constructed a frontage road and in the process apparently blocked an outfall. The DOT went in and cleared out the drain but now when it rains, the velocities are so high it is causing erosion. The tree roots are getting exposed as well.

North of Kossick Road, on the east side of U.S. 301, Scotland Yard Golf Course and Mobile Home Park often experience flooding. This area is located in a closed basin.

Lastly, the area across the street from Wal-Mart which is being developed into Zephyr Commons, has a cross-drain that connects to a closed drainage system. Zephyr Commons built a vault to handle all the DOT Drainage from U.S. 301 to keep it separate from the site development drainage. Beside the construction site is a "huge abyss." It used to be a cow pasture but it has been shaved down and the dirt used for building.

Jon said that he would pass along my question to the assistant drainage person, Joellen, to look up any more flooding complaints or concerns in the area. She is supposed to call me back when she finds anything more out. I am awaiting the call.

Project: U.S. 301 PD&E	Project No: 088721
Date: 2/26/09	Subject:
Call to: Joellen, Brooksville Maintenance Department (FDOT D-7)	Phone No: 352-797-5700 (Brooksville Main Line)
Call from: Abbie Wilson	Phone No: 813-282-2447

Discussion, Agreement and/or Action:

On Wednesday, February 25, 2009 I spoke with Joellen at the Brooksville Maintenance Office about possible flooding problems and drainage patterns in the area of U.S. 301 from C.R. 54 to the South Dade City Bypass. She knew of two locations that have flooding issues but was going to do a little research to see what she could find.

On February 26, 2009, Joellen returned my call to discuss drainage issues in the area of our project. The first problem that she mentioned is at the intersection of U.S. 301 and C.R. 54. There are 4-inlets, one at each corner that flood pretty regularly. There used to be a railroad track that ran on the east side of U.S. 301 years ago. When it was demolished, the outfall and cross-drain for the intersection drainage system was plugged with cement. Due to the lack of outfall, this system has no where to flow. After countless flooding complaints, the maintenance department went in and drilled holes in the bottom of each inlet so that water could seep out. Nothing more has been done to correct this issue.

Another problem occurs on the west side of Bailyhill Road. Due to the road not being paved, sediment gets washed into the sump. The maintenance department cleans it out 3-4 times a year.

The last place that Joellen and I discussed was the Tank Lake Outfall that crosses U.S. 301. She did not recall the water ever overtopping the road or even getting up near the road. The outfall used to flow directly east from U.S. 301. A developer bought the property and modified the outfall to go around his property. The area has been known to flood in very heavy rains.

Subject: U.S 301 PD&E Pre-Application Meeting	
Client: FDOT	
Project: U.S 301 PD&E	Project No: 088721
Meeting Date: 3/10/09	Meeting Location: SWFWMD Brooksville Office
Notes by: Abbie Wilson	

Attendees:

Monte Ritter, SWFWMD Employee
Len Bartos, SWFWMD Employee
Brad Carver
Betsy Davis
Matt Wey
Abbie Wilson

Topics Discussed:

Project Description: Approximately 7 miles of Road Expansion (4 lanes to 6 lanes) from CR 54 to SR 533.

The new potential stormwater rule has been shelved for now but will most likely go into affect before this project is up for design. This rule will require us to meet the 2007 TMDL Calculations and compare pre-developed (before the original road was ever constructed) versus the post-developed conditions. The Harvey Harper Report should be used.

Tank Lake Basin is a Basin of Special Concern but not within our project limits.

The Non-contributing basin, also known as Zephyrhills Basin, will need to meet the 100-year/10-day storm event. We will be required to retain all the runoff from this event. If we can totally retain the runoff without a discharge, Monte Ritter stated that SWFWMD will have no requirements for recovery time. (Brad thinks we will only need to retain the difference between pre vs. post)

History of Flooding:

- Tank Lake has an old abandoned railroad track running through it on the west side of US 301. The area just to the west of the railroad tracks is known for flooding.
- Lake Dorothea is also known for flooding. It spills over onto the old Gores Dairy Property.
- The 1998 monochrome aerial image shows the extent of flooding north of Cypress Commons and Tank Lake. This image can be found on the Pasco County Property Appraiser's webpage.

There are no Outstanding Florida Waters within our project limits.

There are no impaired waters within our project limits.

If we do a total reconstruction of the roadway for any segment we will need to treat the entire roadway.

Floodplain Compensation Sites will have to be independent. They are too large to piggy back onto a pond site.

There are very minor environmental impacts for the proposed expansion. Total impacts should be less than one acre.

Action/Notes:

There is a 2' bust in old benchmark around Lake Dorothea.

THIS SPACE IS FORMATTED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING AND PROVIDE NOTE TAKING SPACE. A SUPPLEMENTAL "PROMPT LIST" OF DISCUSSION ITEMS IS ATTACHED, WHICH SHOULD BE EXAMINED BY THE APPLICANT PARTIES PRIOR TO THE MEETING TO IDENTIFY TOPICS FOR DISCUSSION.



Southwest Florida Water Management District
Resource Regulation Division
ERP Pre-Application Meeting NOTES

FILE No.

Date: 3/10/09

Time: 9:30

Project Name: US 301 PD/E STUDY

Attendees: BRAD CARVER ABBEY WILSON
MOM WEY
BETSY DAVIS

County: PASCO

S/T/R: 2:3/26/21

Total Land acreage:

Project acreage:

Prior Onsite/Offsite Permit activity:

Project Overview: 7 MILES OF ROAD EXPANSION (4 LONG TO 6 LONG)
FROM CR 54 TO SR 533

Site Information Discussion: (Site Topography, SHW Levels, Flood plain Elevations, Conveyance and Storage, Tailwater Conditions, Adjacent Offsite Contributing Sources, Receiving Waterbody, Karst Formations, Existing Wells, Contaminated Sites / Coordination w/ FDEP, etc.)

REFER TO DISTRICT'S WATERSHED STUDY'S FOR DATA TO ESTABLISH
100 YEAR FLOOD STAGES: DISCUSSING.

Environmental Discussion: (Wetlands Onsite, Wetlands On Adjacent Properties, Site Visit, Delineation, Permanent/Temporary Impacts, SHWL, Wetland Hydrology, Drawdown Issues, Alternatives Analysis, Elimination/Reduction, Secondary and Cumulative Impacts, T&E species, Conservation Easements, Buffers, Mitigation Options, Mitigation Costs, OFW, Aquatic Preserve, etc.)

YES - A COMB OF SMALL AREAS - NOT SENS OF ANY
IMPACTS
- WILL PROBABLY USE DOT MIT. BILL

Sovereign Lands Discussion: (Title Determination, Delegated Authority, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP, etc.)

NONE

Water Quantity Discussion: (Basin Description, Design Storm Event, Pre/Post Volume, Pre/Post Discharge, Local Requirements, Other)

CLOSED & OPEN BASIN - CLOSED BASIN (PASCO COUNTY BASIN OF SPECIAL CONCERN)

DISTRICT REQUIREMENT: ~~RETAIN~~ INCREASE IN RUNOFF FROM 100 YR/24 HR STORM (CLOSED BASIN)
ATTENDERS PEAK DISCHARGE RATE FROM 25 YR/24 HR STORM (OPEN BASIN)

Water Quality Discussion: (Type of Stormwater Treatment, Technical Characteristics, Non-presumptive Alternatives, Construction Phase Water Management and Erosion Control, Contaminated Sites, Ground Water Protection, etc.)

MAY NEED TO COMPLY WITH NEW STORMWATER RULE (DEPENDS ON WHEN
APPLICATION IS SUBMITTED AND WHEN RULE IS IMPLEMENTED.

Operation And Maintenance, Legal Information: (Ownership or Perpetual Control, Eminent Domain, Work on District Property, Inspections During Const., O&M Entity, System O&M Instructions, Homeowner Association Documents, Coastal Zone Requirements, Public Safety, etc.)

• *NOT DISCUSSED*

Application Type And Fee Required: (40D-4.041 Permits Required, 40D-1.607 Fee Schedule, etc.)

• *1/*

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits - WUP, WOD, Well Construction, etc.)

Disclosure: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a complete permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

The following person was present and authored these ERP Pre-Application Meeting NOTES on behalf of the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT:

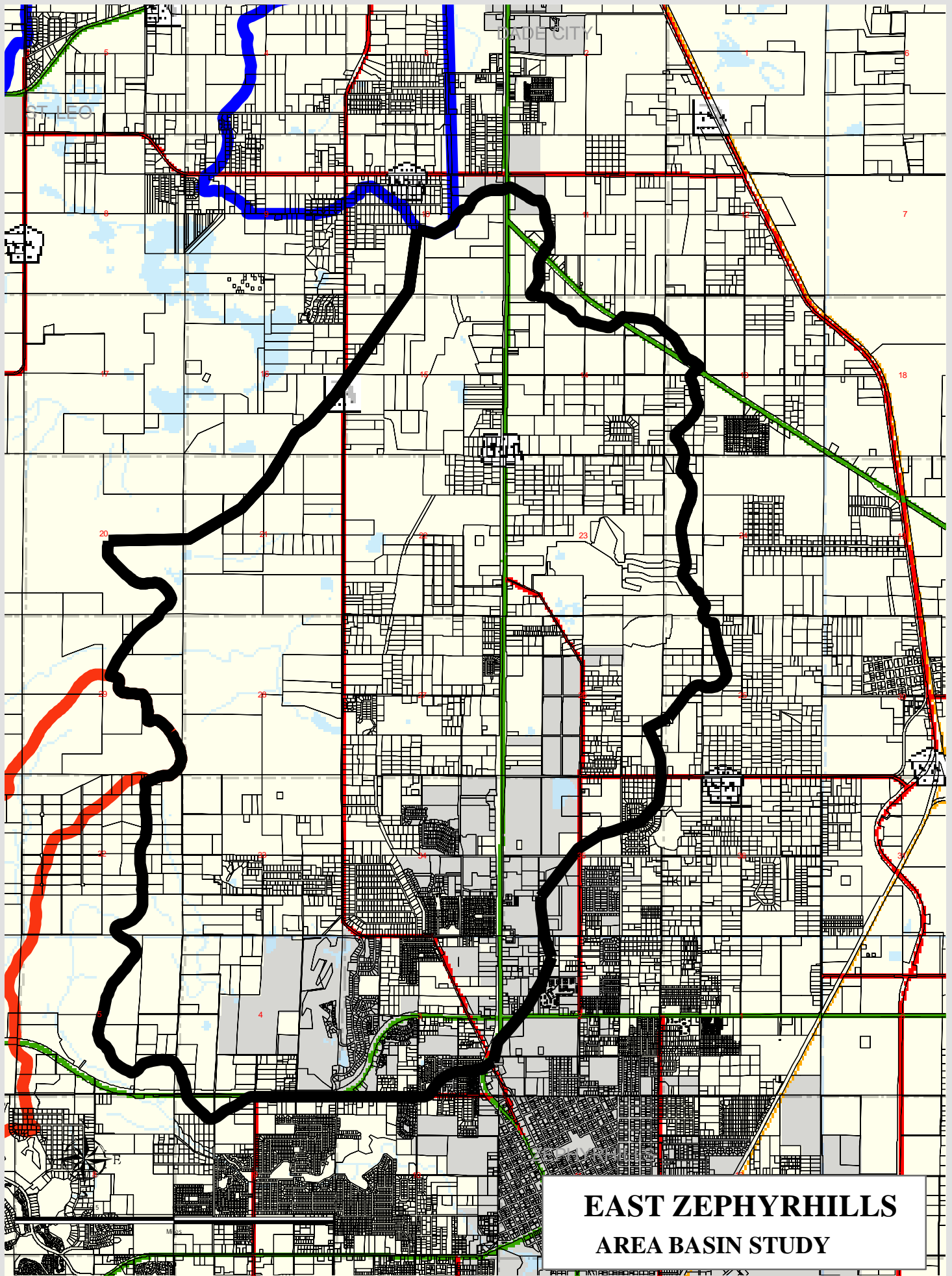
LRB HOMB NITEL
District Staff Representative

Name and Title

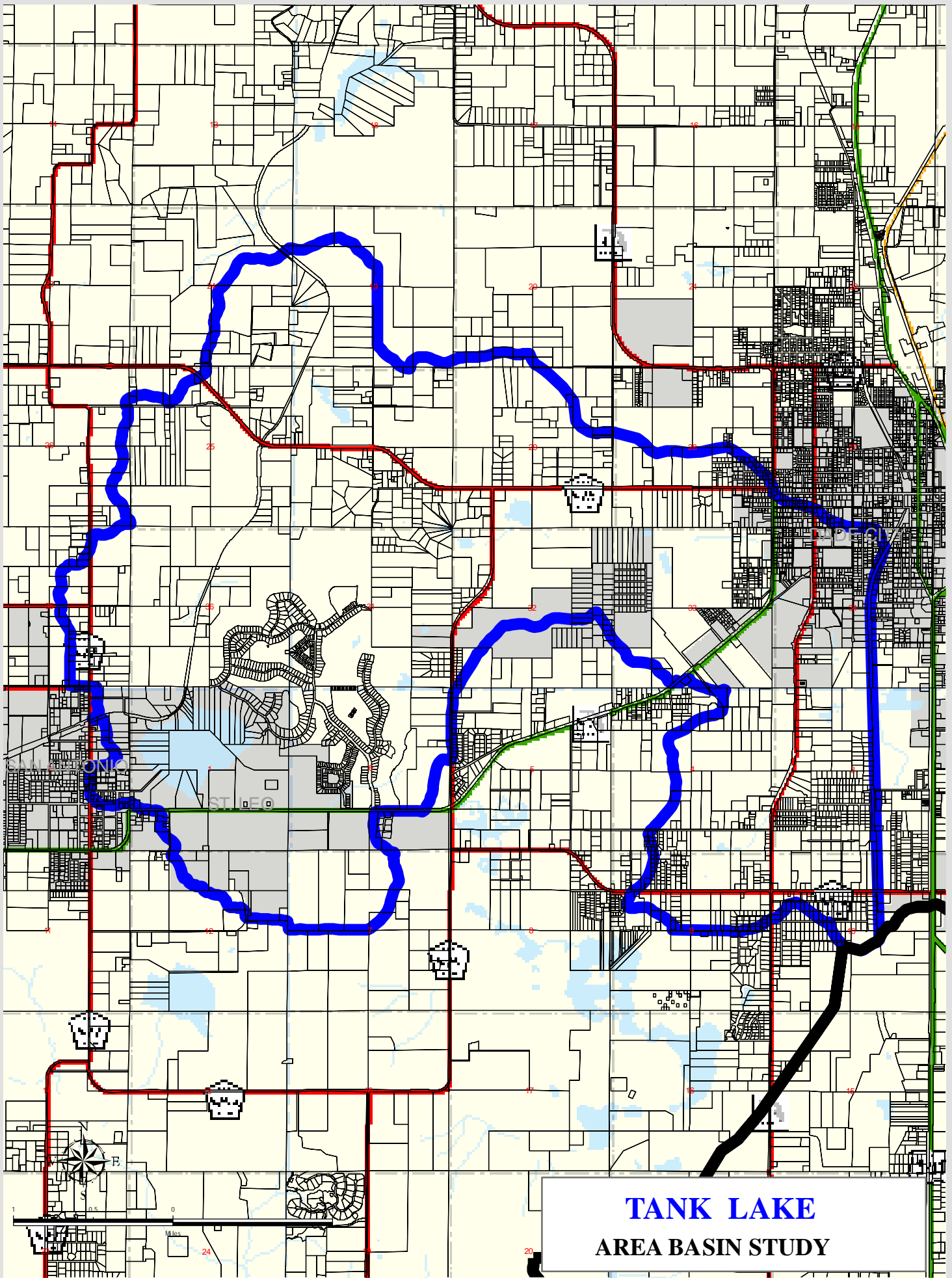
[Signature]
Signed

Date

3/10/09

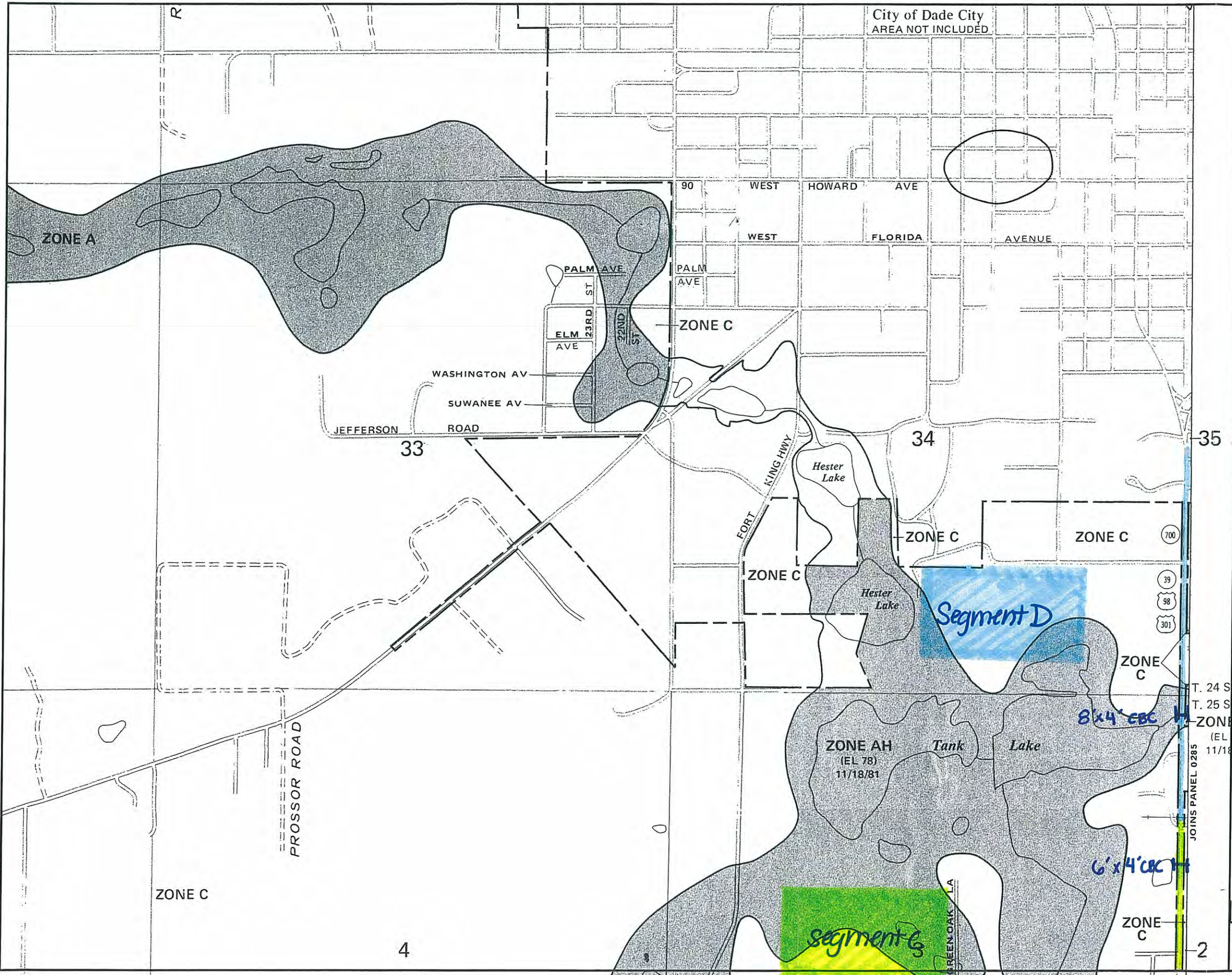


EAST ZEPHYRHILLS AREA BASIN STUDY



TANK LAKE
AREA BASIN STUDY

APPENDIX D
FEMA FIRMETTES



APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

**PASCO COUNTY,
FLORIDA**
(UNINCORPORATED AREAS)

PANEL 280 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

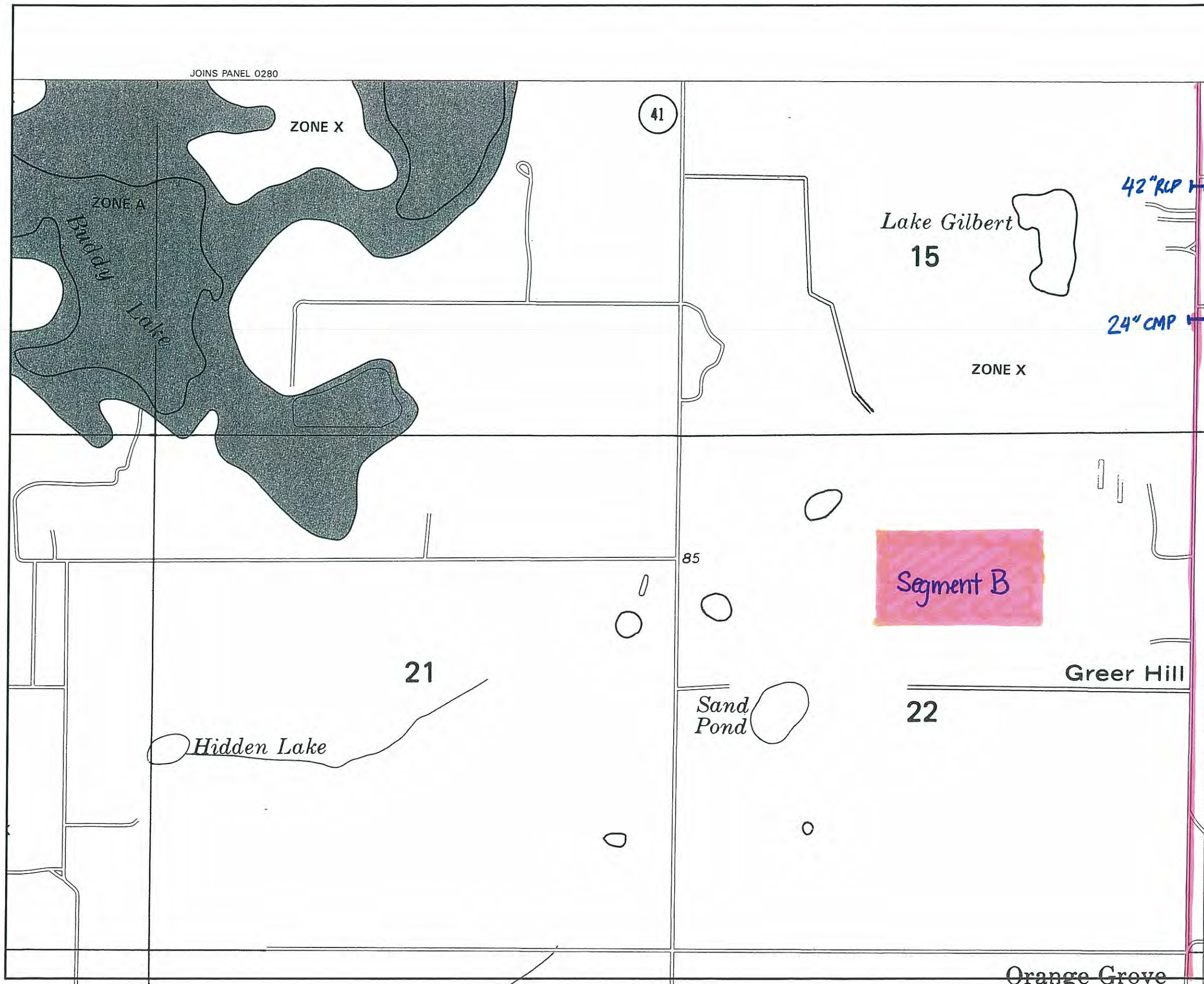
COMMUNITY-PANEL NUMBER
120230 0280 C

MAP REVISED:
MARCH 15, 1984



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

PASCO COUNTY,
FLORIDA
(UNINCORPORATED AREAS)

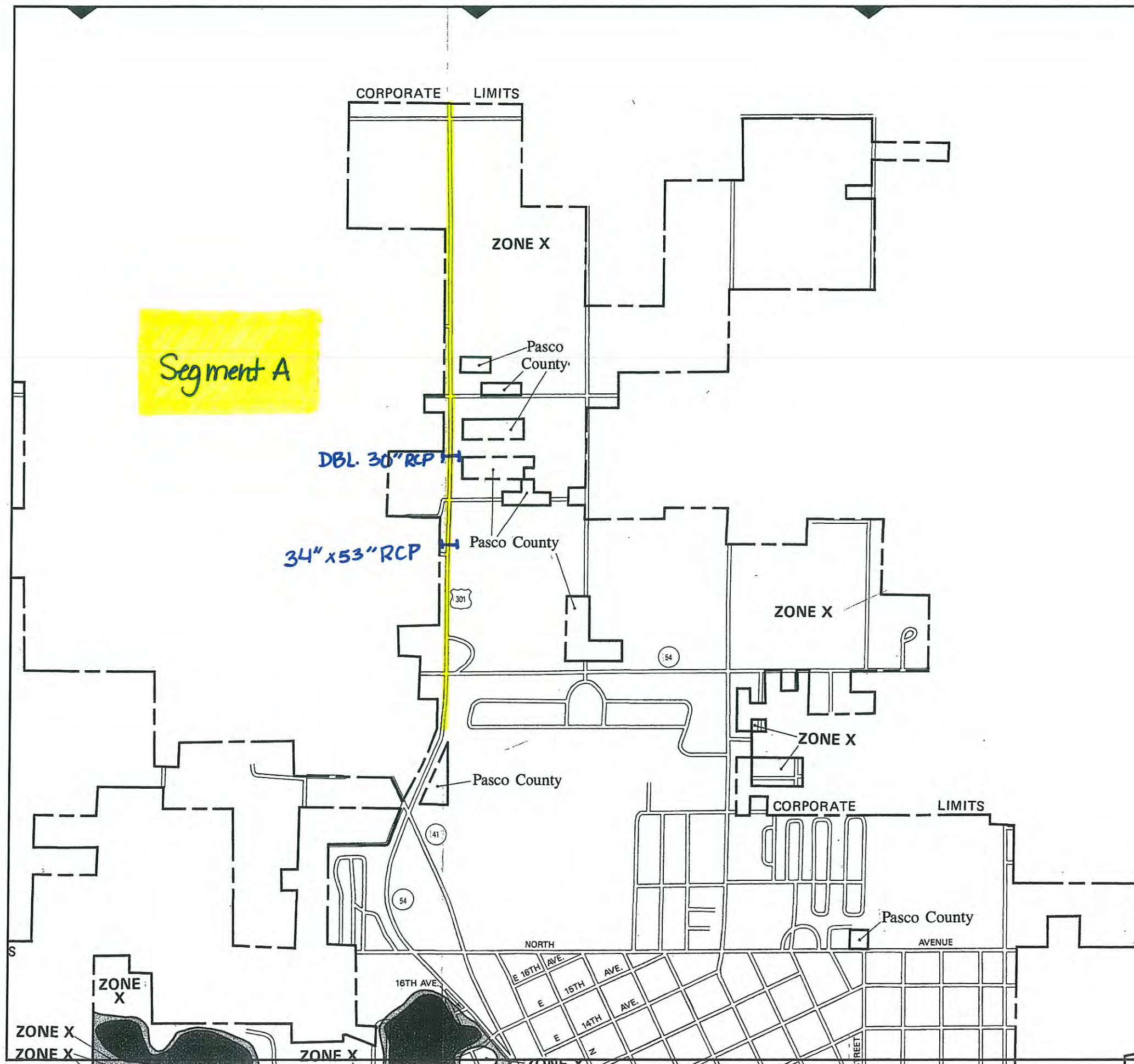
PANEL 290 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY—PANEL NUMBER:
120230 0290 D
MAP REVISED:
SEPTEMBER 30, 1992

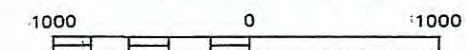


Federal Emergency Management Agency

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APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

CITY OF
ZEPHYRHILLS,
FLORIDA
PASCO COUNTY

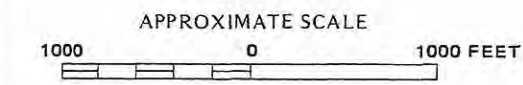
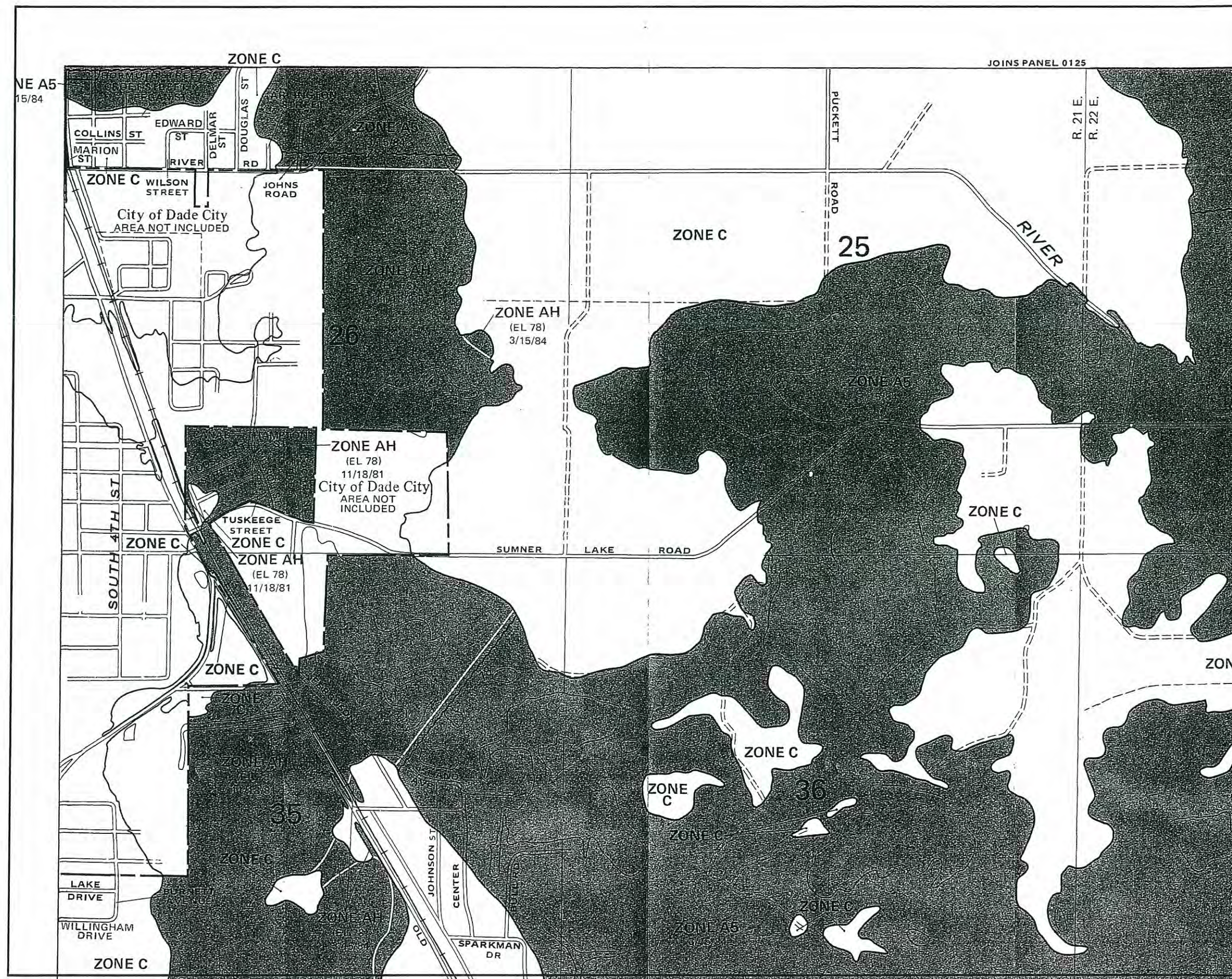
(ONLY PANEL PRINTED)

COMMUNITY—PANEL NUMBER:
120235 0005 C
MAP REVISED:
DECEMBER 17, 1991



Federal Emergency Management Agency

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NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**PASCO COUNTY,
FLORIDA**
(UNINCORPORATED AREAS)

PANEL 285 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

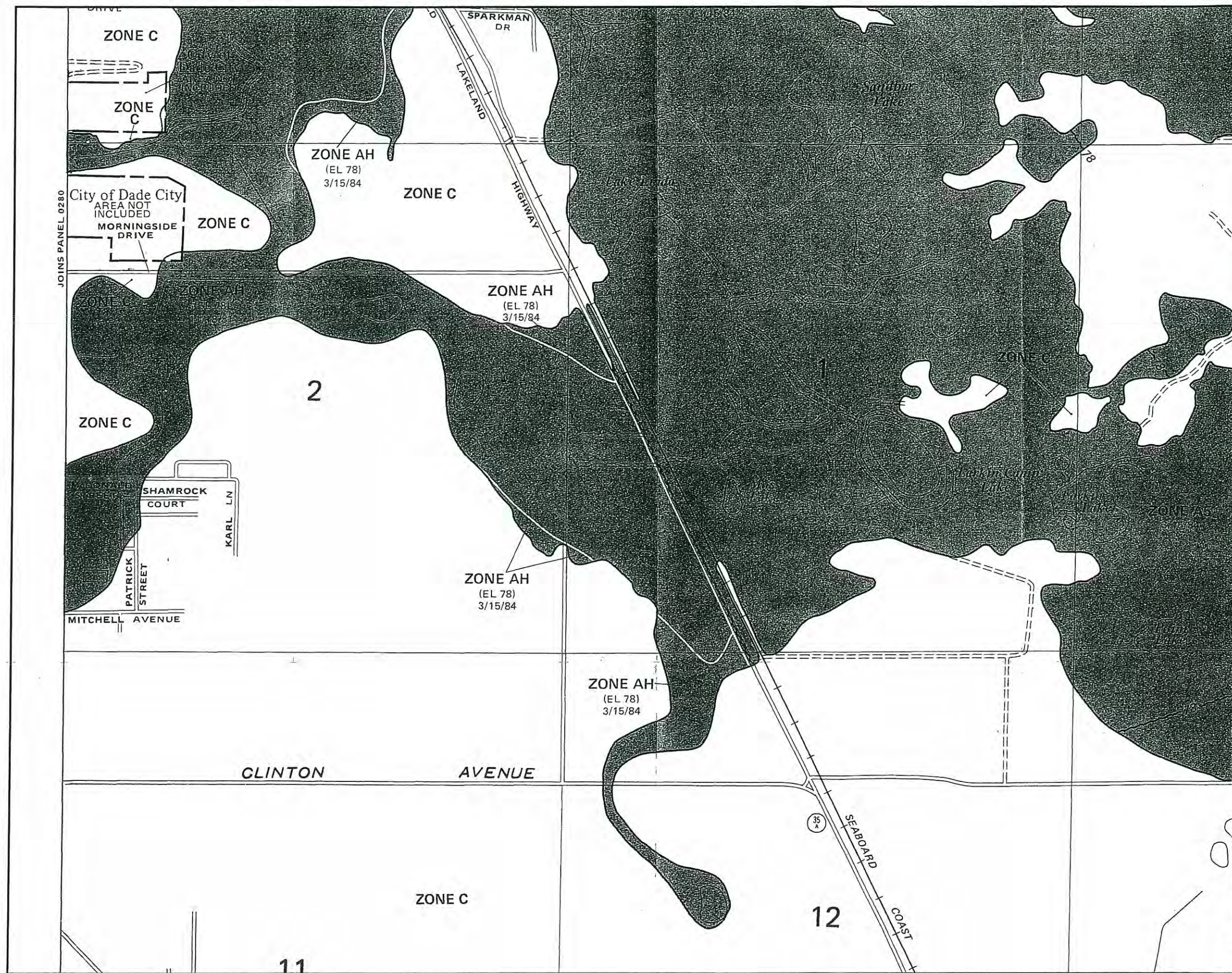
COMMUNITY-PANEL NUMBER
120230 0285 C

MAP REVISED:
MARCH 15, 1984



Federal Emergency Management Agency

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APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**PASCO COUNTY,
FLORIDA**
(UNINCORPORATED AREAS)

PANEL 285 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

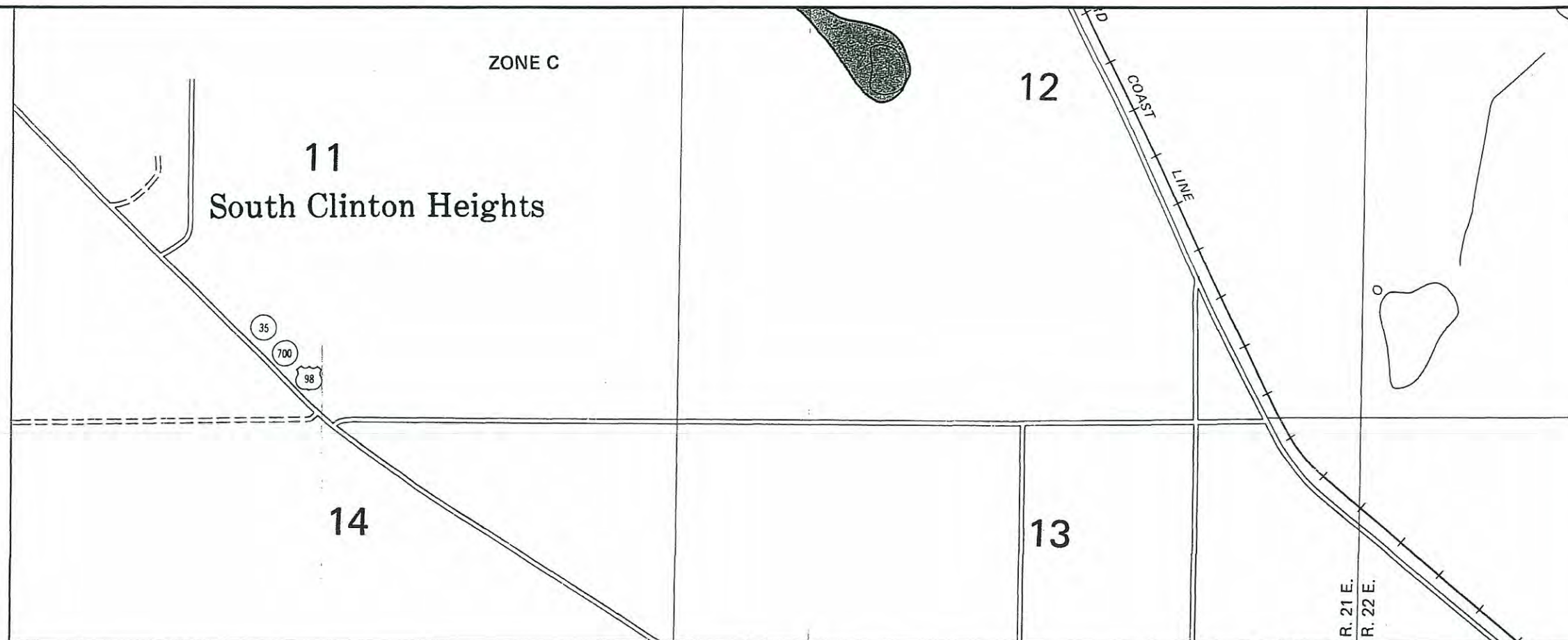
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MAP REVISED:
MARCH 15, 1984



Federal Emergency Management Agency

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APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**PASCO COUNTY,
FLORIDA**
(UNINCORPORATED AREAS)

PANEL 285 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
120230 0285 C

MAP REVISED:
MARCH 15, 1984

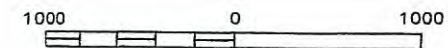


Federal Emergency Management Agency

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APPROXIMATE SCALE IN FEET



JOINS PANEL 0285

ZONE X

14

13



700

24

23

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

PASCO COUNTY,
FLORIDA
(UNINCORPORATED AREAS)

PANEL 295 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY—PANEL NUMBER:
120230 0295 D

MAP REVISED:
SEPTEMBER 30, 1992



Federal Emergency Management Agency

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JOINS PANEL 0290

26

ROAD

WIRE

35

OLD

City of Zephyrhills
AREA NOT INCLUDED

ALLEN

Pretty
Pond

ZONE X

ZONE X

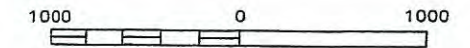
25

ROAD

36



APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

PASCO COUNTY,
FLORIDA
(UNINCORPORATED AREAS)

PANEL 295 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

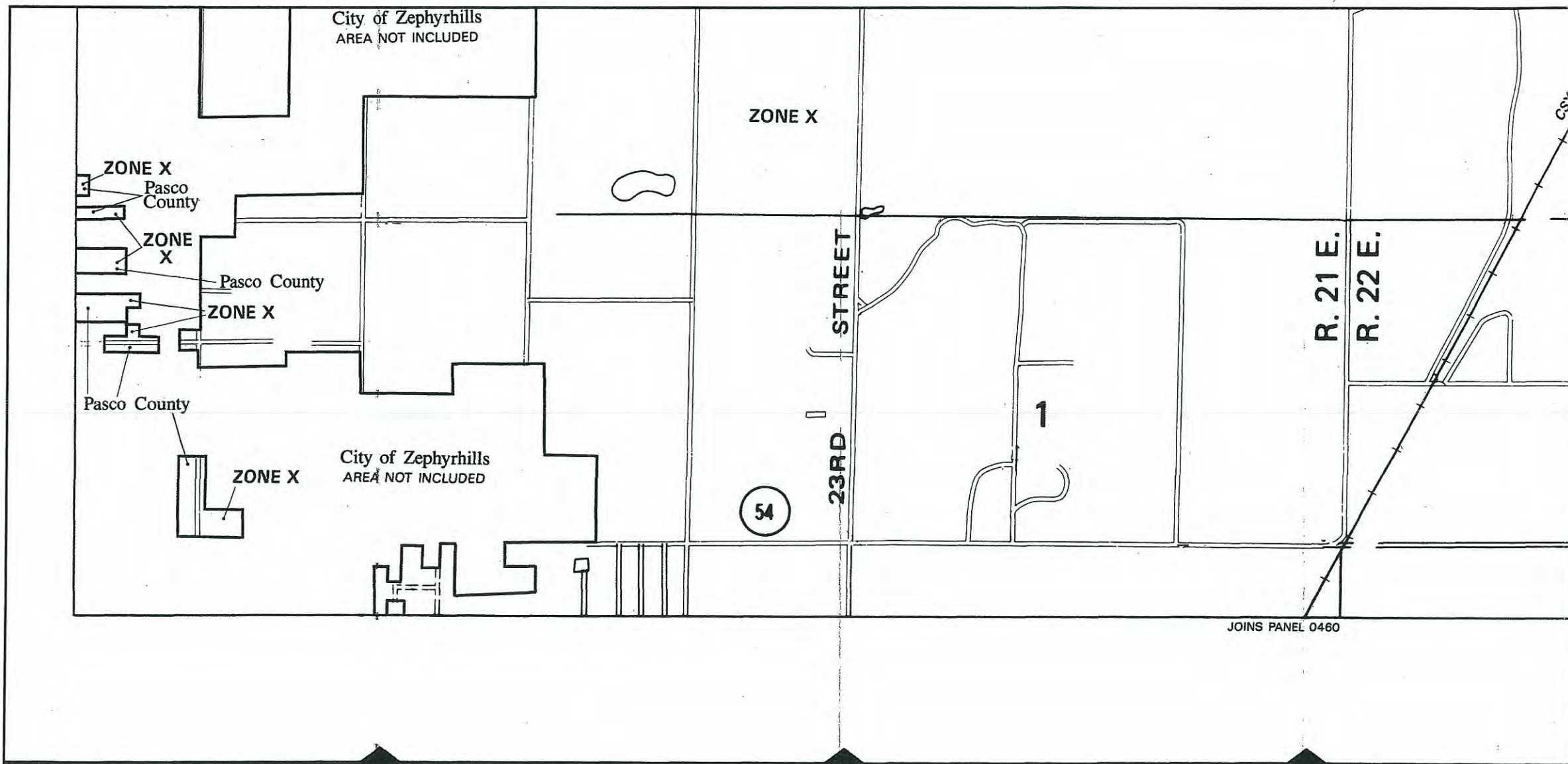
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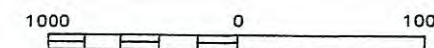


Federal Emergency Management Agency

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APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

PASCO COUNTY,
FLORIDA
(UNINCORPORATED AREAS)

PANEL 295 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

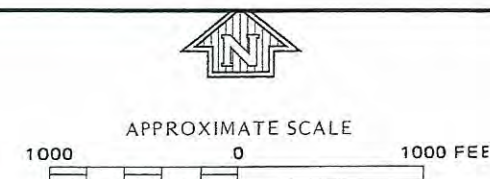
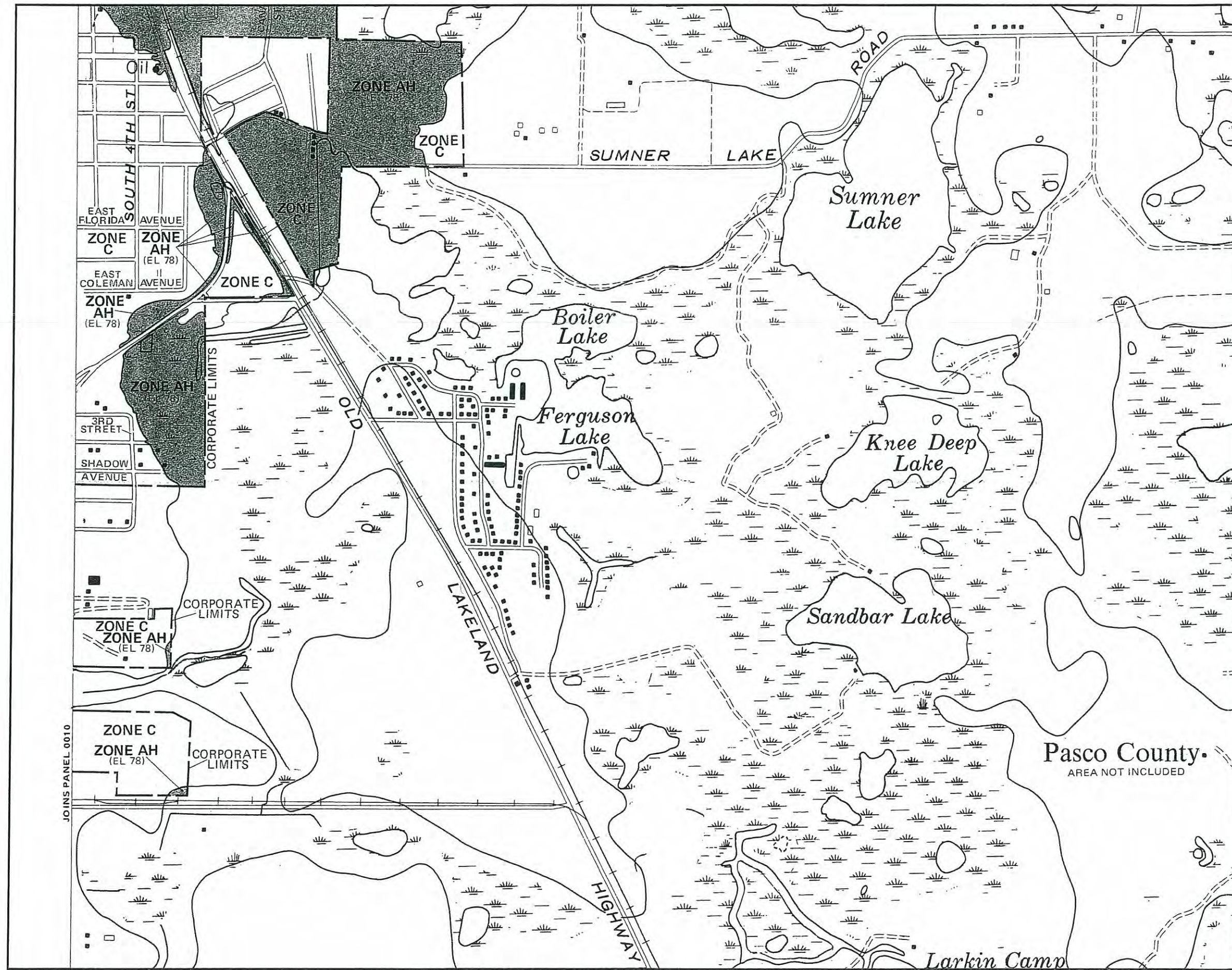
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120230 0295 D

MAP REVISED:
SEPTEMBER 30, 1992



Federal Emergency Management Agency

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NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

CITY OF
DADE CITY, FLORIDA
PASCO COUNTY

PANEL 15 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

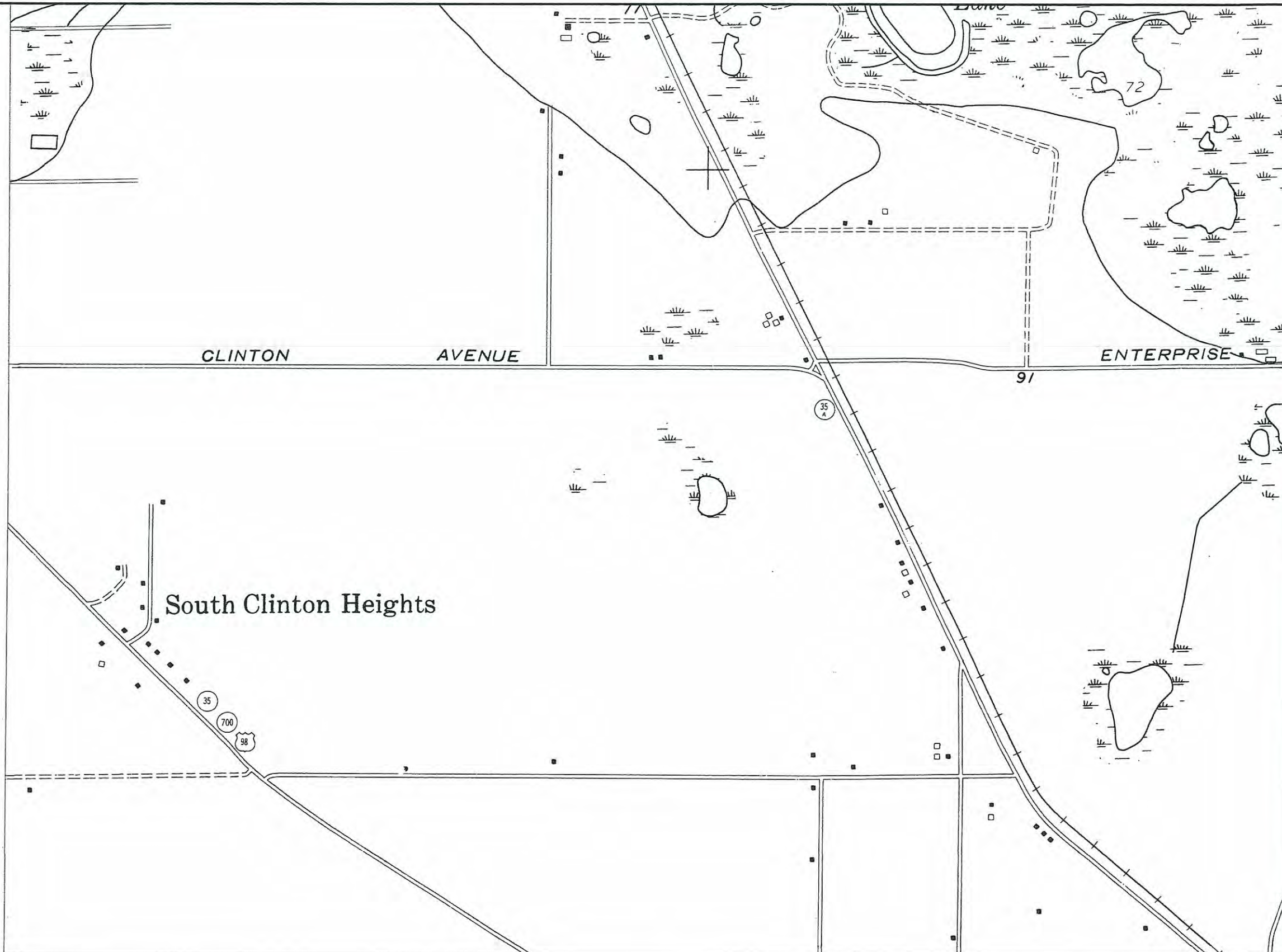
COMMUNITY-PANEL NUMBER
120231 0015 C

EFFECTIVE DATE:
AUGUST 17, 1981



federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
DADE CITY, FLORIDA
PASCO COUNTY

PANEL 15 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

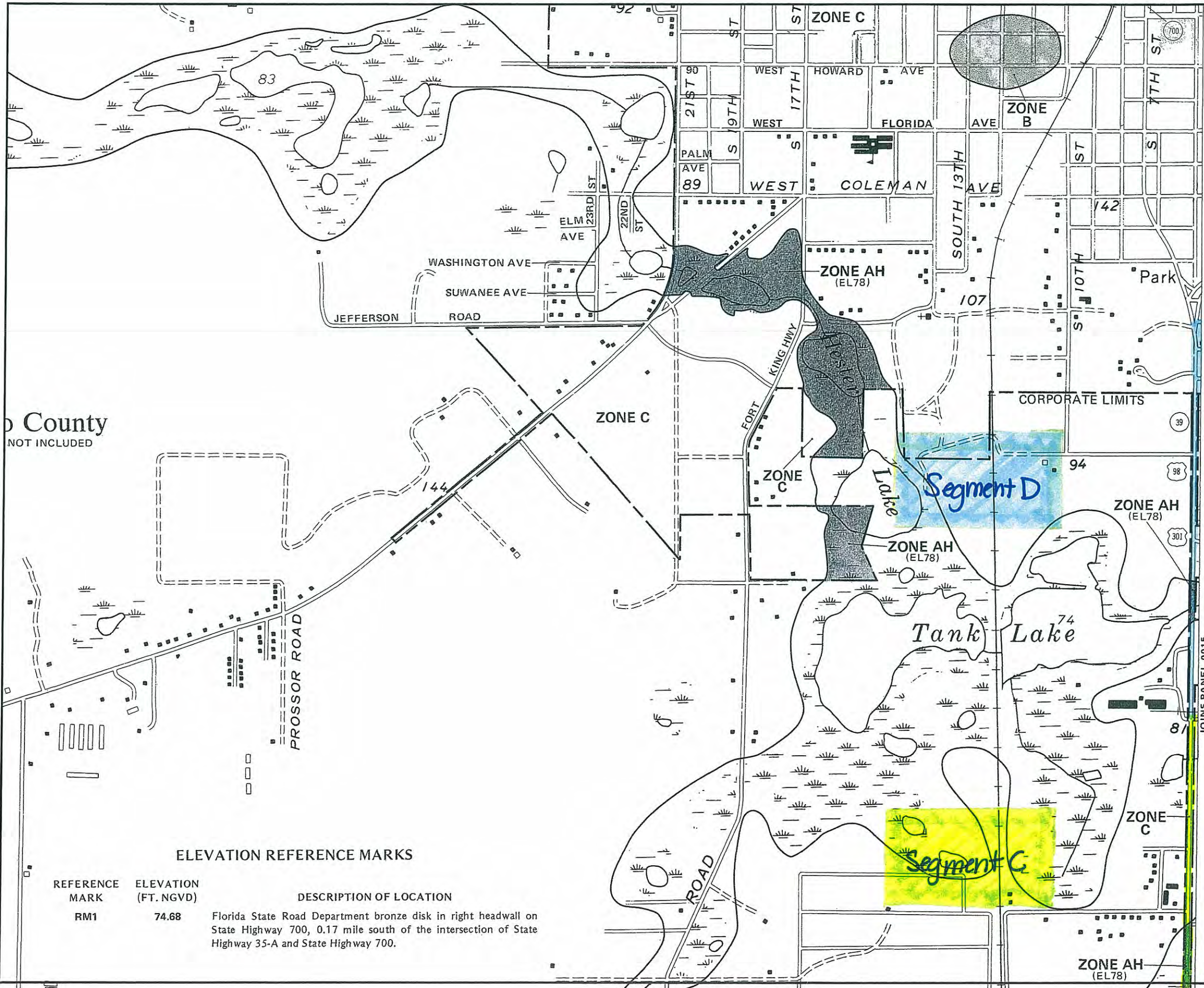
COMMUNITY-PANEL NUMBER
120231 0015 C

EFFECTIVE DATE:
AUGUST 17, 1981



federal emergency management agency
federal insurance administration

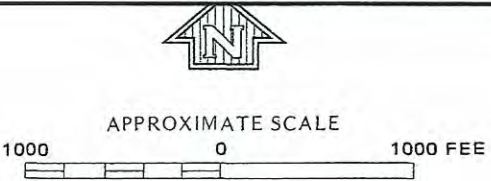
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



County
NOT INCLUDED

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM1	74.68	Florida State Road Department bronze disk in right headwall on State Highway 700, 0.17 mile south of the intersection of State Highway 35-A and State Highway 700.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
DADE CITY, FLORIDA
PASCO COUNTY

PANEL 10 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
120231 0010 C

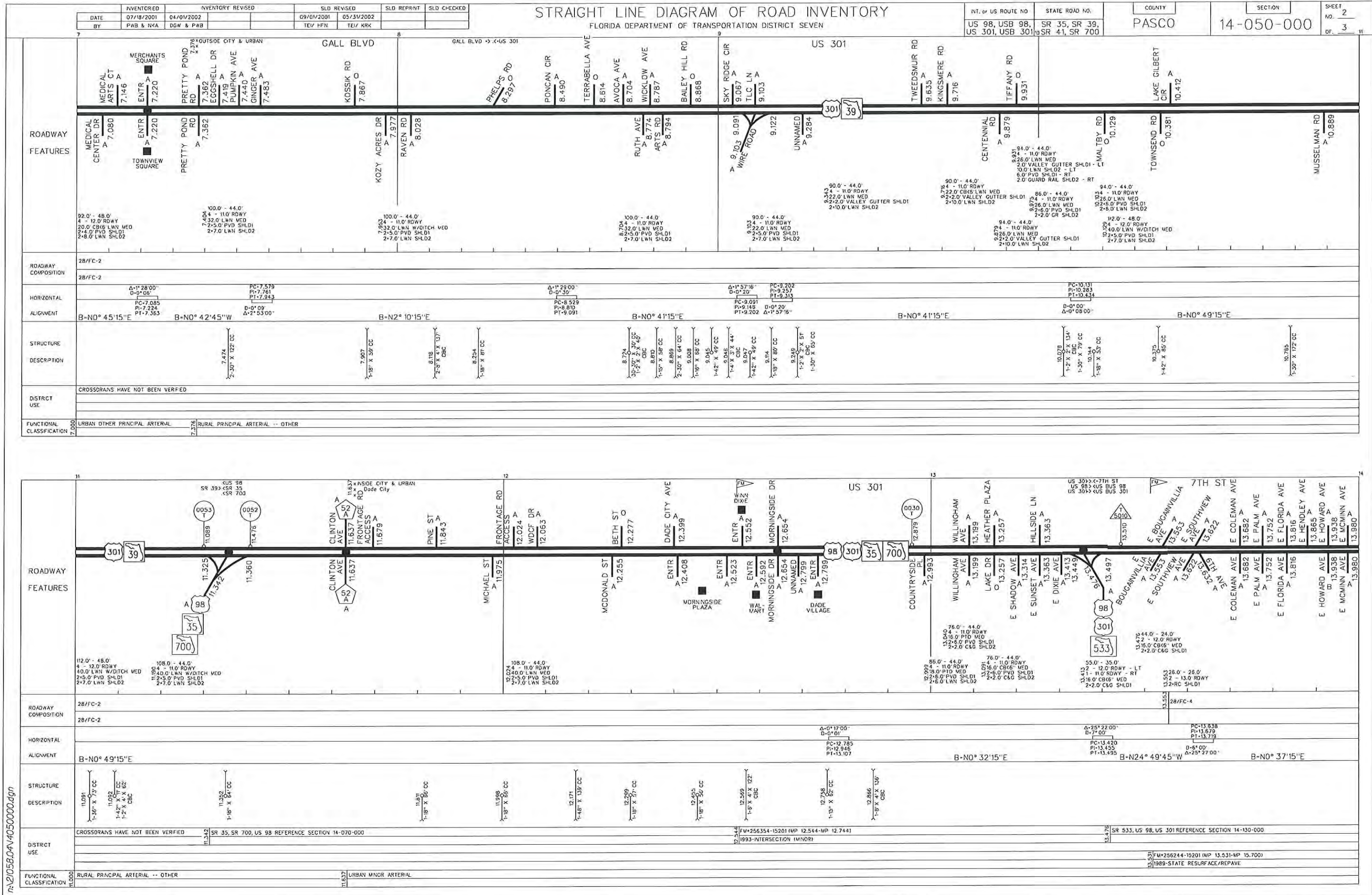
EFFECTIVE DATE:
AUGUST 17, 1981



federal emergency management agency
federal insurance administration

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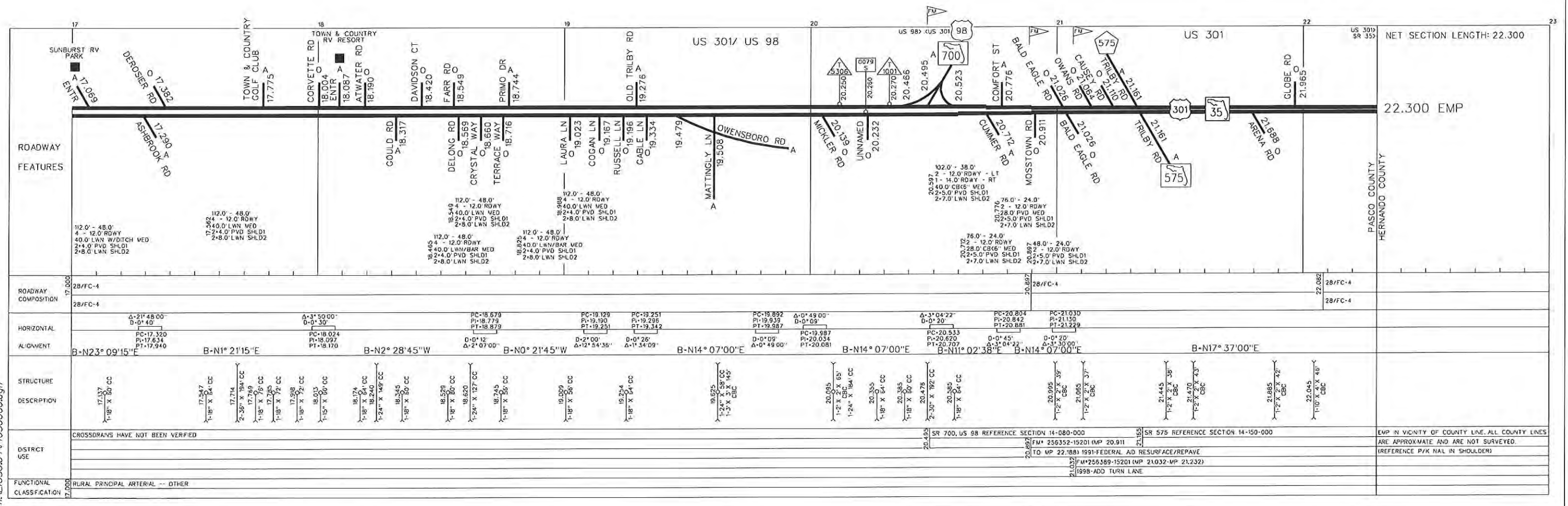
APPENDIX E
SUPPORTING DOCUMENTS



PASCO

14-050-000

SHEET
 3
 3 17



STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT SEVEN

COUNTY	SECTION
PASCO	14-050-000A

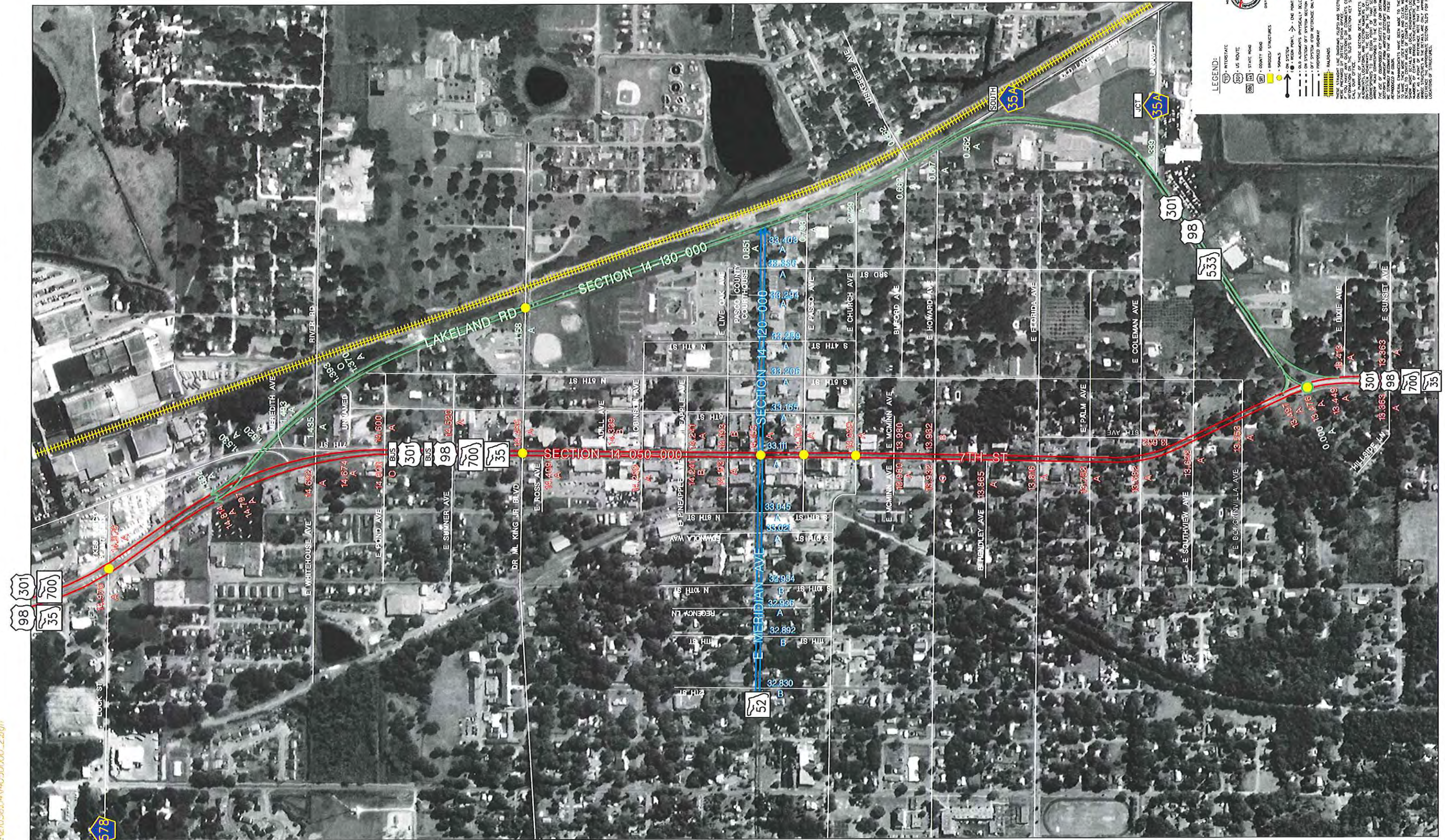
$$n: \sqrt{21058.04 \sqrt{4050000} \cdot 1.49n}$$


STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT SEVEN

THE AERIAL IMAGES USED IN THIS
INTERSECTION ARE DATED 1999.
REFER TO THE SLD MAIN SHEETS
AND THE RCI DATABASE FOR MORE
INFORMATION.

SEE SECTION 14-050-000 SHEETS 2, 3
SEE SECTION 14-120-000 SHEET 6
SEE SECTION 14-130-000 SHEET 1



n:\21058.04\4050000_2.dgn

DATE	09/01/2001
BY	TE/ HFN

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

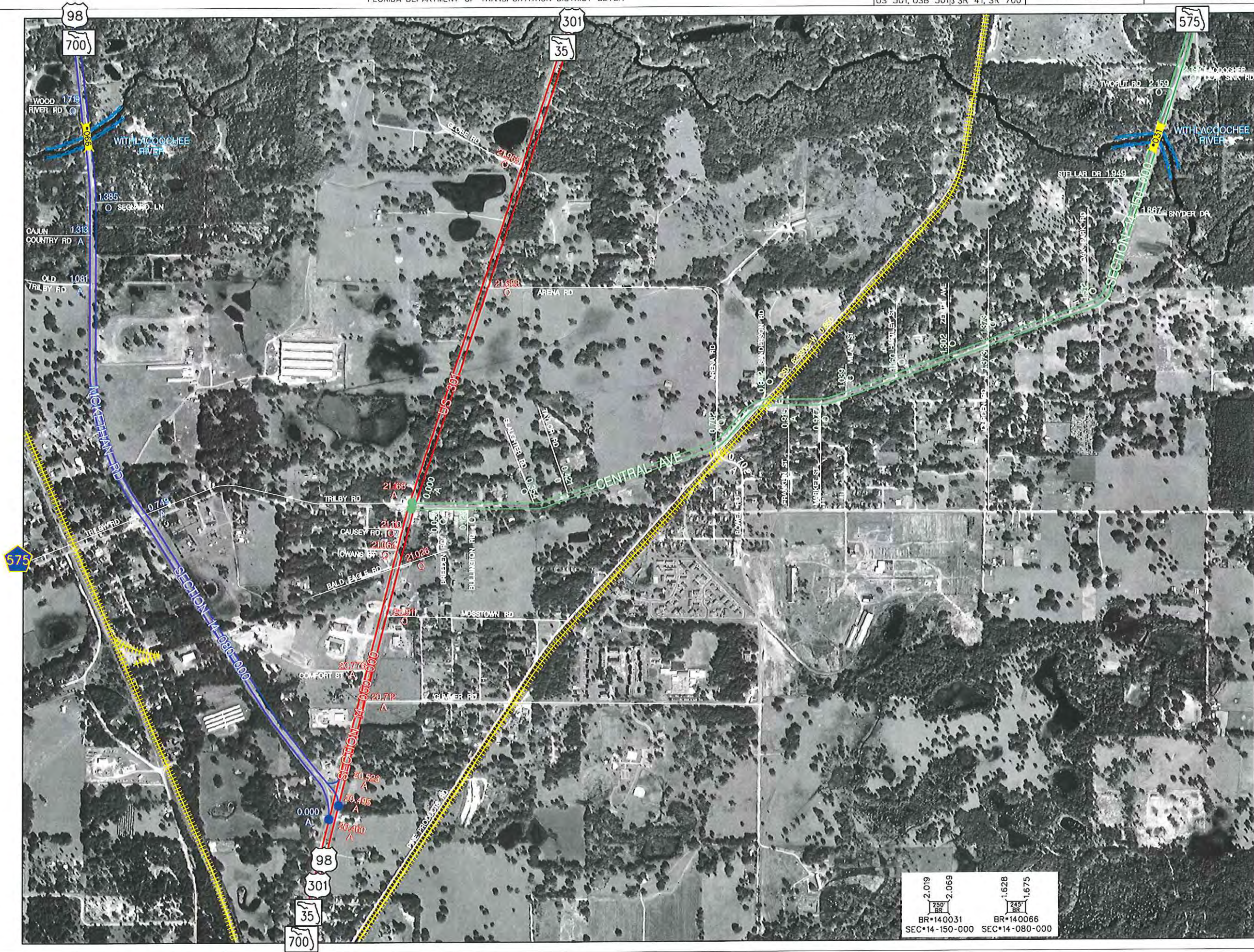
FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT SEVEN

INT. or US ROUTE NO.	STATE ROAD NO.
US 98, USB 98, US 301, USB 301	SR 35, SR 39, SR 41, SR 700

COUNTY
PASCO

SECTION
14-050-000C

NOTE:
THE AERIAL IMAGES USED IN THIS INTERSECTION ARE DATED 1999. REFER TO THE SLD MAIN SHEETS AND THE RCI DATABASE FOR MORE INFORMATION.
SEE SECTION 14-050-000 SHEET 4
SEE SECTION 14-080-000 SHEET 1
SEE SECTION 14-150-000 SHEET 1



LEGEND:

- INTERSTATE
- US ROUTE
- STATE ROAD
- COUNTY ROAD
- BRIDGES/ STRUCTURES
- SIGNALS
- ON SYSTEM
- BEGIN POINT, END POINT
- OLD ALIGNMENTS (PHYSICALLY DELETED)
- ON SYSTEM/ OFF SYSTEM SECTION EXCEPTIONS
- OFF SYSTEM (FOR REFERENCE ONLY)
- PROPOSED ROADWAY
- RAILROADS



THESE STRAIGHT LINE DIAGRAMS (SLD) AND SECTION DETAIL SHEETS WERE PREPARED BY DISTRICT SEVEN OFFICE. IF YOU HAVE ANY QUESTIONS OR COMMENTS CONCERNING ANY INFORMATION ON THE SLD'S OR SECTION KEY SHEETS, PLEASE CALL OUR OFFICE.

THE PURPOSE OF THESE SECTION DETAIL SHEETS IS TO SHOW THE ALIGNMENTS, LOCATIONS, AND SECTION NUMBERS OF DISTRICT SEVEN ON-SYSTEM ROADWAYS. THE DOT ON THE SECTION ALIGNMENTS CORRESPONDS TO THE BEGIN POINT OF THAT SECTION AND THE ARROW HEAD CORRESPONDS TO THE END POINT OF THAT SECTION. THE USE OF COLORED KEY SHEETS IS FOR DISTINGUISHING ONE SECTION'S ALIGNMENT FROM ANOTHER SECTION'S ALIGNMENT. THEREFORE, WE STRONGLY RECOMMEND THAT ALL COPIES OF THESE KEY SHEETS BE REPRODUCED IN COLOR.

SEVERAL ENHANCEMENTS HAVE BEEN MADE TO THESE DETAIL SHEETS TO MAKE THEM MORE USER FRIENDLY AND CLEAR. WE HAVE INCLUDED DETAILS TO COVER AREAS OF COMPLEX SECTION ALIGNMENTS WHICH SHOW MORE DETAILS AND LOCAL ROADWAYS. LOCATIONS AND BRIDGE NUMBERS OF CERTAIN BRIDGE STRUCTURES WERE SHOWN IN THE DETAILS ONLY AS A POINT OF REFERENCE. NOTE THAT THE LOCATIONS OF THESE BRIDGE STRUCTURES IN THE DETAILS ARE ONLY APPROXIMATIONS. PLEASE REFERENCE THE APPROPRIATE SECTION SLD'S FOR PRECISE MILEPOST LOCATIONS OF STRUCTURES.

2.019	2.069	1.628	1.675
BR*140031	BR*140066		
SEC*14-150-000	SEC*14-080-000		

n:\2058.04\4050000_3.dgn