

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
WATER QUALITY IMPACT EVALUATION CHECKLIST

650-050-37
ENVIRONMENTAL
MANAGEMENT
08/24

PART 1: PROJECT INFORMATION

Project Name:	CR 887 (Old US 41) from US 41 to Lee County Line & from Collier County Line to Bonita Beach Road
County:	Lee & Collier
FM Number:	435110-1-22-01 & 435347-1-22-01
Federal Aid Project No:	D119-028-B & D119-027-B
Brief Project Description:	The proposed roadway improvements on Old 41 include potential widening of the roadway up to four lanes, as well as safety considerations for bicyclists and pedestrians, such as marked bicycle lanes, sidewalks, and a shared-use path. Additional improvements include a new quadrant roadway through the former Naples-Fort Myers Greyhound Track property between Old 41 and Race Track Road at the north end of the study area.

PART 2: DETERMINATION OF WQIE SCOPE

Does project discharge to surface or ground water? ☒ Yes ☐ No

Does project alter the drainage system? ☒ Yes ☐ No

Is the project located within a permitted MS4? ☒ Yes ☐ No

Name: Collier County (FLR04E037), City of Bonita Springs (FLS000035)

If the answers to the questions above are no, complete the applicable sections of Part 3 and 4, and then check Box A in Part 5.

PART 3: PROJECT BASIN AND RECEIVING WATER CHARACTERISTICS

Surface Water

Receiving water names: Gulf of Mexico (via Cocohatchee River and Dunruss Creek at project S. end and via Oak Creek at project N. end)

Water Management District: South Florida

Coordination meeting date: 1/27/2021
Attach meeting minutes/notes to the checklist.

Water Control District Name(s) (list all that apply): N/A

Groundwater

Sole Source Aquifer (SSA)? ☐ Yes ☒ No
Name _____

If yes, complete Part 5, D and the [EPA Region 4 Sole Source Aquifer Project Review Form](#)

Other Aquifer? ☐ Yes ☒ No
Name _____

Springs vents? ☐ Yes ☒ No
Name _____

Well head protection area? ☐ Yes ☒ No
Name _____

Groundwater recharge? ☐ Yes ☒ No
Name _____

Notify District Drainage Engineer if karst conditions are expected or if a higher level of treatment may be needed due to a project being located within a WBID verified as Impaired in accordance with Chapter 62-303, F.A.C.

Date of notification: N/A

PART 4: WATER QUALITY CRITERIA

List all WBIDs and all parameters for which a WBID has been verified impaired, or has a TMDL in [Table 1](#). This information should be updated during each re-evaluation as required.

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed. Attach notes or minutes from all coordination meetings identified in [Table 2](#).

EST recommendations confirmed with agencies? ☒ Yes ☐ No

BMAP Stakeholders contacted? ☐ Yes ☒ No
No BMAPs within project limits

TMDL program contacted? ☐ Yes ☒ No

RAP Stakeholders contacted? ☐ Yes ☒ No
No RAP

Regional water quality projects identified in through coordination or the WATERSS process? ☐ Yes ☒ No

If yes, describe:
None Identified

Potential direct effects associated with project construction and/or operation identified? ☒ Yes ☐ No
If yes, describe:

Temporary water quality impacts may occur during project construction. These potential impacts will be avoided and minimized to the greatest extent practicable through the implementation of a Stormwater Runoff Control Concept (SRCC), as well as adherence to resource-agency issued permits/permit conditions and the FDOT's Standard Specifications for Road and Bridge Construction.

Discuss any other relevant information related to water quality including Regulatory Agency Water Quality Requirements.

Refer to meeting minutes attached.

PART 5: WQIE DOCUMENTATION

- ☐ A. No involvement with water quality
- ☐ B. No water quality regulatory requirements apply.
- ☒ C. Water quality regulatory requirements apply to this project (provide Evaluator's information below). Water quality and stormwater issues will be mitigated through compliance with the design requirements of authorized regulatory agencies.
- ☐ D. EPA Ground/Drinking Water Branch review required. ☐ Yes ☐ No
Concurrence received? ☐ Yes ☐ No
If Yes, Date of EPA Concurrence: [Click here to enter a date..](#)
Attach the concurrence letter

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration and FDOT.

Evaluator Name (print): Brett Berube

Title: Environmental Scientist

Signature: 

Date: 8/15/2025

Table 1: Water Quality Criteria

Receiving Waterbody Name (list all that apply)	FDEP Group Number / Name	WBID(s) Numbers	Classification (I,II,III,IIIL,IV,V)	Special Designations*	NNC limits**	Verified Impaired (Y/N)	TMDL (Y/N)	Pollutants of concern	BMAP, RA Plan or SSAC
Cocohatchee (Inland)	1/Everglades West Coast	3278D	III F	N/A	N/A	Yes	No	Bacteria; DO;	No
Oak Creek	1/Everglades West Coast	3258F	III F	Special OFW (approx. 980 ft. North of project limits)(	N/A	Yes	No	Bacteria; DO	No

* ONRW, OFW, Aquatic Preserve, Wild and Scenic River, Special Water, SWIM Area, Local Comp Plan, MS4 Area, Other

** Lakes, Spring vents, Streams, Estuaries

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed.

ATTACHMENT 1

435110-1-22-01 & 435347-1-22-01

**CR 887 (Old US 41) from US 41 to Lee County Line
& from Collier County Line to Bonita Beach Road**

AGENCY COORDINATION

CR 887 (Old US 41) PD&E Study

From US 41 to Lee County Line & From Collier County Line to Bonita
Beach Road
FPIDs 435110-1-22-01 & 435347-1-22-01
Lee and Collier Counties

1/27/2021

10:00 AM

Teams Meeting (Virtual)

Meeting called by: Steven Andrews, FDOT

Type of meeting: SFWMD Pre-App

Facilitator: Nicole Monies, FDOT

Note taker: Matt Dockins, RK&K

Attendees: Melissa Roberts, SFWMD
Laura Layman, SFWMD
Jonathon Wadas, SFWMD
Jewelene Harris, SFWMD
Angelica Hoffert, SFWMD
Kim Fikoski, SFWMD
Andy Tilton, Johnson Engineering

Richard "OJ" Oujevolk, FDOT
Brent Setchell, FDOT
Matt Feeney, Bonita Springs
Trinity Scott, Collier County
Matt Dockins, RK&K PM
Joe Baan, RK&K Drainage
Gordon Mullen, RK&K Env.

Attachments: Presentation

Minutes

Summary:

1. Existing Conditions

Joe Baan summarized the project location and scope. The Old US 41 corridor is constrained in Collier County with an existing 2-lane undivided rural typical section and a large canal on the west side of the road. The canal is for conveyance only. It does not provide any formal stormwater treatment and has no in-line weirs or control structures. Old US 41 is less constrained in Lee County because the right-of-way (ROW) has no canal.

2. Future Conditions

The intent of this meeting is to ascertain design assumptions for a PD&E project. The PD&E analyzes potential improvements to Old US 41 including widening to a 4-lane divided typical section south of the Racetrack driveway and a quadrant roadway north of the Racetrack driveway. Multimodal improvements are included in the typical section.

3. Stormwater Management

The project is anticipated to widen Old US 41 from a 2-lane undivided roadway to a 4-lane divided roadway in the Collier County segment. Approximately 21 parcels including 23 residences and 13 businesses would be partially or completely impacted to widen the roadway and leave the existing canal in its existing location. Alternatively, replacing the canal with a closed drainage system would allow proposed improvements to be located above the existing canal and eliminate property impacts associated with the roadway itself. The closed system is the recommended alternative. The canal will remain open wherever possible, but preliminary analysis only showed one 700-ft long area where that could be possible. Brent Setchell asked how the large offsite areas would be routed into the closed system. Joe explained that most of the stormwater discharges into the canal at several well-defined

points where an inlet could be proposed. SFWMD staff were supportive of the idea to close the canal because it reduces potential impacts to adjacent conservation easements. SFWMD cautioned that tailwater conditions should not be impacted for adjacent developments. Joe stated that the conceptual model of the closed system shows that peak stage increases can be avoided, which should preserve tailwater conditions. SFWMD requested analysis of the 5-yr, 25-yr, and 100-yr storm events for the proposed closing of the canal. Jewelene Harris asked if Tarpon Creek Bypass was an existing channel. Joe responded that it is an existing channel with vegetated slopes. Jewelene requested cross sections of the channel for the design phase permit submittal. SFWMD also recommended coordinating with FDEP on the potential for sovereign submerged lands.

Joe summarized the three pond alternatives for Basin 1 in Collier County. This basin discharges south to the Cocohatchee River via Dunruss Creek. All properties along this basin are either conservation easement, future roadway corridor, or developed land. He explained that SMF 1A (Extra Space Storage) is the most desirable because it only impacts one business. It will provide compensatory treatment of the new impervious area and allow areas south of Collier Center Way to discharge directly into the canal, as they do in the existing condition. Jonathon Wadas was agreeable to this concept. Jon identified that WBID 3278C may be impaired for nutrients. Basins with roadway-related impairments will be analyzed with nutrient loading calculations while basins without roadway-related impairments will use SFWMD presumptive criteria.

Joe summarized the three pond alternatives for Basin 2 in Bonita Springs. This basin discharges north via a channel beside the railroad and a channel on the racetrack property to Oak Creek. Plenty of options exist on the racetrack property to locate a pond outside of existing wetlands. The quadrant roadway will require a segment of road through the racetrack property. If this segment is located in existing impervious areas, it will be allowed to discharge where it does in the existing condition. If it is located in existing pervious area then it will need it's own stormwater management pond discharging to the existing outfall. Jon pointed out that the existing racetrack permit includes a stormwater pond discharging north.

4. Floodplain Compensation

Joe pointed out that most of the existing Old US 41 in Collier County is within 100-yr floodplain. Most of the property adjacent to the corridor is either within 100-yr floodplain or preservation lands making it difficult to site floodplain compensation (FPC) sites. Five FPC sites were identified at or above the 100-yr floodplain that could achieve conventional cup-for-cup floodplain compensation. However, these FPC sites impact 8 property owners, several businesses, and are estimated to cost \$36 million in ROW alone. RK&K identified an innovative alternative to slightly improve conveyance along Dunruss Creek, which will maintain or slightly improve 100-yr peak stages along Old US 41. This alternative involves adding riprap along the FDOT canal west of US 41 to Wiggins Pass Road, a new 48-in cross drain under Wiggins Pass Road, and an overflow structure/pipe along West Lane. This alternative will increase the 100-yr peak stage south of West Lane by approximately 0.5 ft. However, the 100-yr riverine peak stage is still estimated to be below 4 ft elevation and within the banks of the downstream channel. The manmade canal west of US 41 is within an FDOT easement. SFWMD was agreeable to the second alternative as a way to avoid substantial property impacts. SFWMD requested consideration of erosion protection at the south end of West Lane. This could include a spreader swale or an excavated permanent pool. SFWMD pointed out that improvements to the canal west of US 41 could be considered wetland impacts but Brent pointed out that it is a manmade canal. After a question from SFWMD, Joe clarified that the analysis was done for riverine floodplain impacts.

5. Regional Stormwater Management

Opportunities for regional stormwater management were discussed. Brent asked about the property west of the Tarpon Cove development. This area is already permitted as a proposed Cocohatchee PUD. Brent asked about the forested area west of West Lane. RK&K will conduct a preliminary analysis of a potential regional stormwater management facility on the parcel west of West Lane and on the parcels owned by Collier County at the south end of West Lane.

6. Environmental

Gordon emphasized the preliminary nature of this project with the alignment and typical section development in process. He discussed the local SFWMD conservation easements along the project limits. Coordination with SFWMD did not identify any Section 4(f) recreational uses. The design will avoid impacts as much as feasible but impacts near the Veterans Memorial Blvd. intersection are possible. If impacts are unavoidable, FDOT will coordinate with SFWMD to discuss legal requirements for lifting easements and replacement of prior wetland mitigative functions as part of future mitigation. Melissa emphasized SFWMD's request that conservation easements be avoided at all costs and stated that the District's governing board is generally not in favor of releasing easements. Ample lead time is needed if unavoidable impacts are expected, so begin coordination early.

Gordon provided an overview of the preliminary wetland and surface water impacts calculated to date. These are approximately 2.94 acres and 5.4 acres, respectively. These impacts do not include any discussion of Floodplain Compensation Option 2 (i.e., potential drainage conveyance and storage improvements west of the US 41/Old US 41 (CR 887) intersection at the project's southern terminus or south of Wiggins Pass Road). The UMAM functional loss for these impacts has not yet been calculated. Gordon discussed that the project is within the geographic service areas of several mitigation banks for compensatory mitigation of wetland and species habitat impacts. The project's federal Clean Water Act Section 404 permitting is expected to be completed by the FDEP (provided the project continues not to impact any federally "retained" waters).

Potential involvement with approximately 14 federal and 50 state-protected species or their habitat is being evaluated for this project. Gopher tortoise and state-listed plants are most notable due to confirmed observations. Wetland impacts and mitigation along with protected species involvement will be discussed in the PD&E-phase Natural Resource Evaluation Report to be submitted by FDOT to the applicable federal and state resource/permitting agencies.

Jewelene Harris had no questions on environmental items. She commented it appears to be pretty straightforward. Laura Layman reiterated the project should avoid impacting conservation easements. She supports closing the canal to avoid conservation easement impacts.

Action items	Person responsible	Deadline
Check if WBID 3278C is impaired for roadway-related impairments. If so, PD&E will include nutrient loading calculations.	Joe Baan	
Check with DEP on sovereign submerged land limits.	Gordon Mullen	
Regional pond options – Look into options to west of Tarpon Cove Canal (may be under development now). Look into providing treatment to the west of West Lane in County property.	Joe Baan	

CR 887 (Old US 41) PD&E Study

From US 41 to Lee County Line & From Collier County Line to Bonita Beach Road
FPIDs 435110-1-22-01 & 435347-1-22-01
Lee and Collier Counties

1/22/2020

10:30 AM

FDOT SWAO

Meeting called by:	Matt Dockins	Type of meeting:	Environmental Look Around Meeting 1
Facilitator:	Matt Dockins	Note taker:	Matt Dockins
Attendees:	Lauren Peters, FDOT Env. Project Manager (phone) Victoria Peters, FDOT SWAO (phone) Michael Tisch, FDOT SWAO Lorraine Lantz, Collier County Planning Richard Orth, Collier County Stormwater		Matt Dockins, RK&K Project Manager Joe Baan, RK&K Drainage Gordon Mullen, RK&K Environmental Matt Feeney, Bonita Springs Public Works
Attachments:	Agenda, Presentation, and Sign-in sheet		

Minutes

Summary:

- Matt Dockins presented a brief project overview and explained that the purpose of the meeting was to review regional drainage opportunities.
- Gordon explained the anticipated permits.
- Joe discussed the existing drainage conditions.
- Matt Dockins noted that SFWMD is not at this meeting, but we will continue to coordinate with them. The SFWMD contact (Brian Rose) is no longer at the District; no replacement has been named yet and his supervisor in West Palm is handling his work at the moment. Gordon explained that we have other contacts we will be working with as well.
- Discussion of potential pond sites:
 - In line pond in Old US 41 ROW
 - Collier County thinks it could work from a ROW perspective
 - Collier County still owns a strip of property from the original Old US 41 to the south of the roadway (behind shopping center) and has an easement further south to US 41. The property they own is used for parking/storage for the adjacent residential development. Easement area is currently under construction by Caribbean Naples.
 - Richard Orth will send the PD&E team information on the easement
 - Proposed Veterans Memorial Blvd (VMB) Extension sites. RFP is out for design/build.
 - RWA doing the preliminary stormwater design (Keisha Westbrook, PE 239-597-0575). PD&E team to setup teleconference; include Collier County and FDOT.
 - Marlene Messam is a contact at TECM (Transportation Engineering Construction Management) for the County management team
 - VMB drainage divide at railroad. They identified three ponds between Old US 41 and US 41 (Ponds 3, 4, and 5). Richard provided plans.
 - Pond 3 is on a SFWMD conservation easement
 - Pond 4 is on a SFWMD conservation easement
 - Pond 5 has a very high concentration of gopher tortoises. County not sure what the local relocation options are.

- Mercedes dealership pond has an easement on it to allow use for Veterans. Richard will get that language for PD&E team.
- Sterling Oaks Wetland
 - Collier County skeptical about SFWMD buying off on this idea. SFWMD will most likely not allow treatment in a wetland conservation area; attenuation only may be accepted. Richard believes that any stormwater discharged to the Sterling Oaks Wetland would have to be treated before being discharged to the wetland.
 - Collier County open to maintaining pretreatment (i.e. stormsepor or baffle box)
- Richard recalls a choke point in the outfall south of Wiggins Pass Road inside the preserve.
 - Choke point at the south end of West Lane between the developments. County owns the vacant lot at the end of the roadway.
 - Two outfalls south of Wiggins Pass Road
 - One on the west side of the development off of Pan Am Ave to the south in a pipe
 - One east of the development in the natural channel
- Richard brought up the ERP for vacant area/new development on Wiggins Pass Rd west of Tarpon Cove Dr. PD&E team to look into ERP to determine off-site flows.
- Joe pointed out that most of the project area is in the floodplain.
- Matt Feeney mentioned that the RR crossing was recently repaved.
- The canal that runs adjacent to Old 41 was discussed:
 - Richard: let cost/TTC dictate but consider maintenance. County has no clear preference on box culvert vs walls. It is of low ecological value.
- It was agreed that Cordova at Spanish Wells has additional capacity for roadway widening and that it should be used.
- Greyhound Track development was discussed:
 - Constructing a cardroom in the NE corner of their property near Racetrack Rd. No active plans for other redevelopment.
 - Existing track/building will be demolished in 1 to 2 years.
 - Developer agreement with city to allow a roadway across their property from Old 41 to Racetrack Rd. No alignment set; City/PD&E to do that. Width of easement is “collector” ROW as defined in the City’s standards.
- Collier and Bonita Springs believe basin delineations shown in presentation are correct.
- A spring exists just west of Old US 41 about 1600 ft north of Bonita Beach Road.
- Caprock has been an issue in the area just north of Bonita Beach Road during development of a new apartment community.
- Matt Dockins gave an update on the project schedule:
 - Planning to have more details on alternatives in March 2020 to discuss with City/County staff.
 - Tentatively, public meeting in Fall 2020 and public hearing in Spring of 2021. City/County to determine what is in-season for this area.

	Action items	Person responsible	Deadline
✓	Provide information on easement south of Old 41	Richard Orth	ASAP
✓	Set up call with VMB team, Collier County, and FDOT on pond sites	Joe Baan/Matt Dockins	Mid-Feb
✓	Provide information on Mercedes dealership pond.	Richard Orth	ASAP
✓	Research ERP for new develop west on Wiggins Pass Rd to determine off-site flows.	Joe Baan	Mid-Feb
✓	Provide in-season public meeting months for this area	Matt Feeney/Lorraine Lantz	ASAP



**CR 887 (Old US 41) PD&E Study
From US 41 to Lee County Line and
from Collier County Line to Bonita Beach Rd
Lee and Collier Counties
FPIDs 435110-1-22-01 & 435347-1-22-01**



**Environmental Look Around Meeting
1/22/2020**

1. Introductions
2. Project Scope and Description
3. Summary of Environmental Permits Anticipated
4. Drainage Concerns
 - a. Flooding problems
 - b. Available parcels
5. Regional Approach
 - a. Cordova at Spanish Wells
 - b. Treatment in Sterling Oaks Wetland
 - c. Wiggins Pass Road Cross Drains
 - d. Greyhound Track Development
 - e. Veterans Extension
 - f. Discussion of other regional stormwater solutions
6. Discussion of wetlands/mitigation
7. Discussion of SFWMD Conservation Easements
8. Discussion of listed/protected species
9. Action Items



CR 887 (Old US 41) PD&E Study

From US 41 to Bonita Beach
Road in Collier & Lee Counties

FPIDs: 435110-1-22-01 & 435347-1-22-01

***Environmental Look Around
Meeting 1
1/22/2020***



Study Area



- 2.73 Miles
 - Collier County: 1.53 Miles
 - Lee County/City of Bonita Springs: 1.20 Miles
- Major Urban Collector
- Two-Lane Undivided
 - Numerous Turn Lanes
- Right-of-Way (ROW)
 - Collier County: 150'
 - Lee County/City of Bonita Springs: 100' Typical (62' Minimum)
- Two Signalized Intersections
- Freight Activity Center
- Residential
- Cut Through to I-75

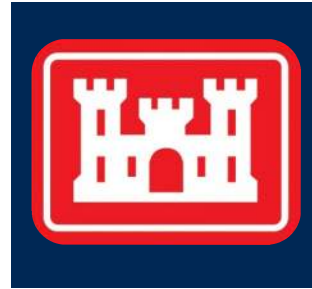




Environmental Permits



SFWMD ERP



USACE CWA
Section 404



FDEP NPDES



FWC Gopher
Tortoise Relocation



Drainage Overview



- Water Body IDs
 - Cocohatchee Golf Course (3278C): No Impairments
 - Imperial River (3258EB): Fecal Coliform & Iron
 - Oak Creek (3258F): Fecal Coliform
 - Cocohatchee Inland (3278D): Fecal Coliform, Nutrients & Biochemical Oxygen Demand (BOD)
- Outstanding Florida Waters (OFW)
 - Oak Creek (Estero Bay Tributary)
 - Wiggins Pass & Cocohatchee River System
- Everglades West Coast Basin Management Action Plan (BMAP) (3258EA)
 - Total Nitrogen
- Municipal Separate Storm Sewer System (MS4) Permits
 - Collier County (FLR04E037)
 - Lee County (FLS000035)
- **Shallow Water Table**

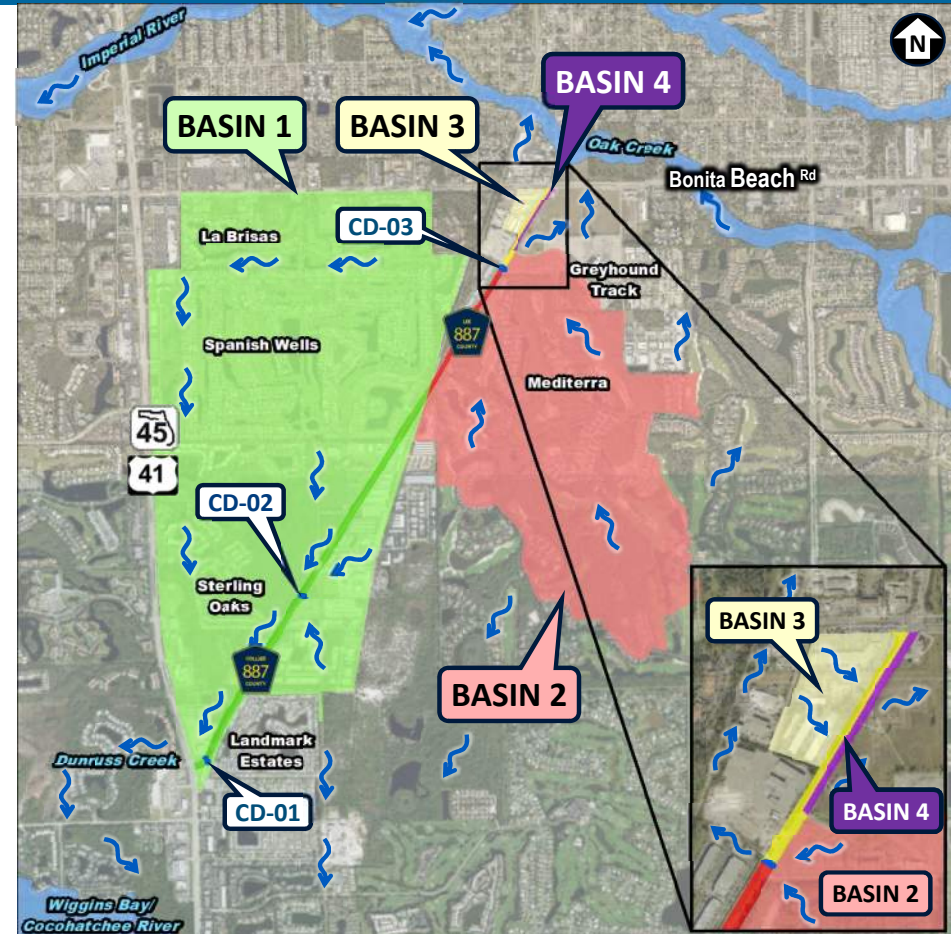




Drainage Overview



- **Basin 1**
 - 30± Acres Onsite
 - 1250± Acres Offsite
 - Draining South to Wiggins Bay
- **Basin 2**
 - 10± Acres of Onsite
 - 690± Acres of Offsite
 - Draining North to Oak Creek
- **Basin 3**
 - 3± Acres Onsite
 - 11± Acres Offsite
 - Draining North to Oak Creek
- **Basin 4**
 - 2± Acres Onsite
 - No Offsite
 - Draining North to Oak Creek





Drainage – Basin 1



- Large Drainage Canal in ROW
- Development, Conservation, Wetland & Floodplains Makes Pond Siting Difficult & Potentially Expensive
- Environmental Look Around



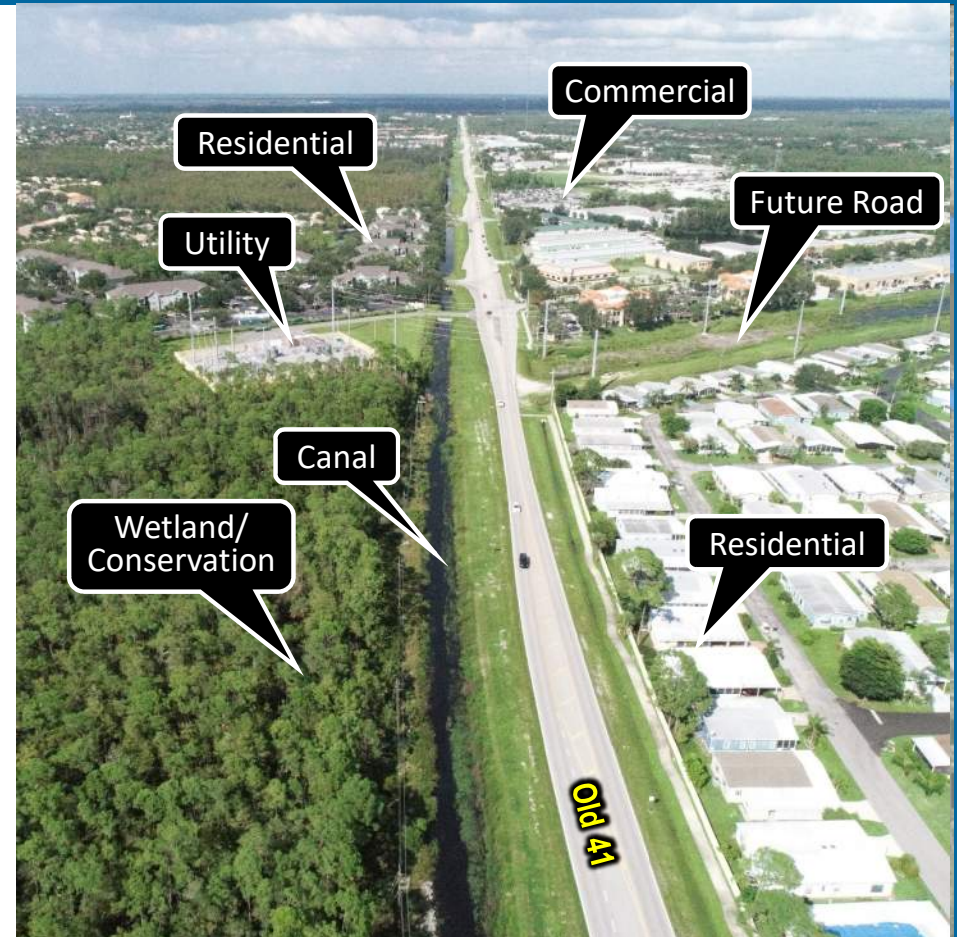


Drainage – Basin 1



- Large Drainage Canal in ROW
- Development, Conservation, Wetland & Floodplains Makes Pond Siting Difficult & Potentially Expensive
- Environmental Look Around

Time to Get Creative!





Drainage – Basin 1



- Construct Veterans Memorial Boulevard West of Old 41
- Close Old 41 North of Landmark Estates Driveway
- 3-Acre Pond
- Treatment Volume for Basin 1
- Requires Separate Attenuation





Drainage – Basin 1



- Construct Veterans Memorial Boulevard West of Old 41
- Close Old 41 North of Landmark Estates Driveway
- 3-Acre Pond
- Treatment Volume for Basin 1
- Requires Separate Attenuation
- Compensatory for Veterans Memorial Boulevard/Private Pond Impact





Drainage – Basin 1



- Sterling Oaks Wetland
 - SFWMD Permitted Wetland with Weir
 - Drains to Dunruss Creek
 - Raise Peak Stage by 1" & Provide Stormwater Management for All Improvements in Basin One
 - **SFWMD Open to This Approach**





Drainage – Basin 1



- Cordova at Spanish Wells
 - 7.5-Acre Existing Pond
 - **Already Sized for Old 41 Four-Laning Along Frontage**
- But Wait, There's More!
 - Raise Peak Stage 0.25'
 - **Capacity for Additional ½ Mile of Old 41**

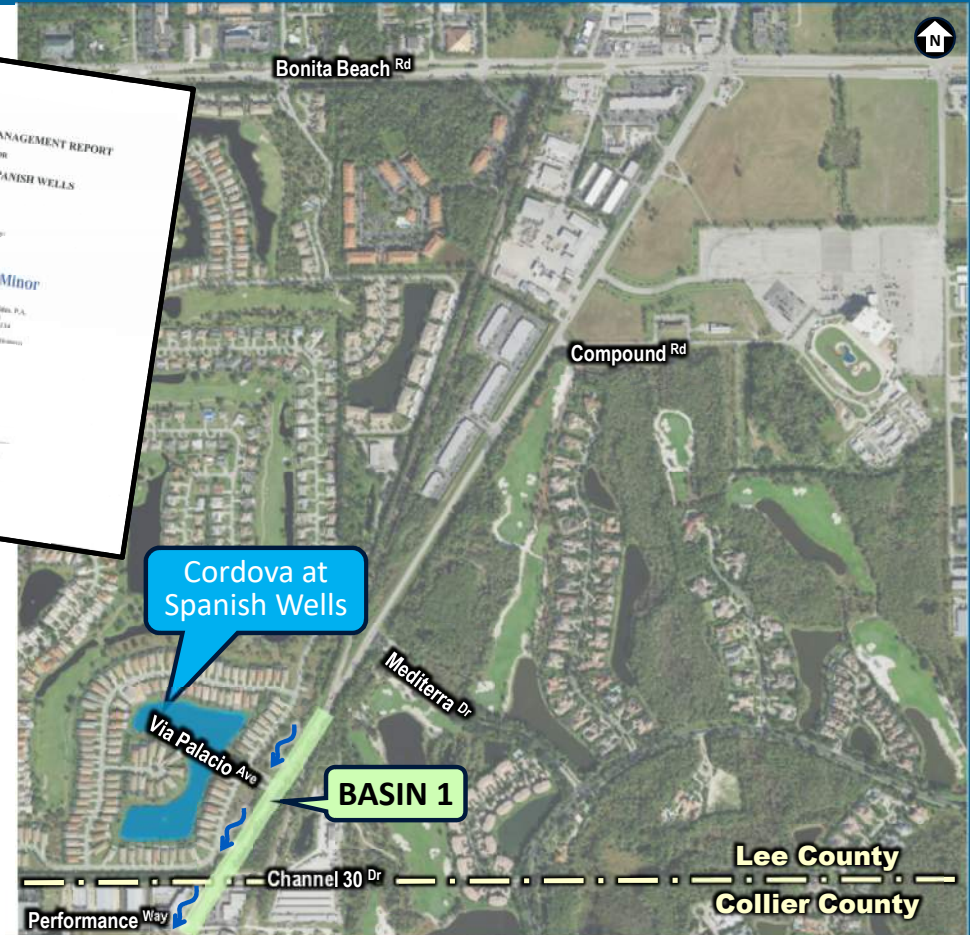


PROPOSED PROJECT

The development site plan, lake area, number of lots, roadway layout, preserve areas, etc. did not change from the previous permitted modification. The only change is the addition of 3.10 acres of Old 41 Road R/W into the water management system.

The specific changes to the previously approved permit are:

1. We are conceptually adding 3.10 acres (2.48 ac impervious) of offsite right-of-way into Basin L2 of the project. The City of Bonita Springs has long range plans to widen Old 41 Road from 2 lanes to 4 lanes with a divided median. At the request of the City, the developer has agreed to accept this area into the water management system for Valencia. The on-site drainage collection system has been modified to provide pipe stubouts to Old 41 Road at the project entrance for the future drainage connection.





Drainage – Basins 2-4



- Coordinate Pond Locations with City
- Combine Basins to Reduce ROW Costs
- Five Acres Needed for Ponds
- Opportunities to Support BMAP
 - Exfiltration (Water Table)
 - Bioswales



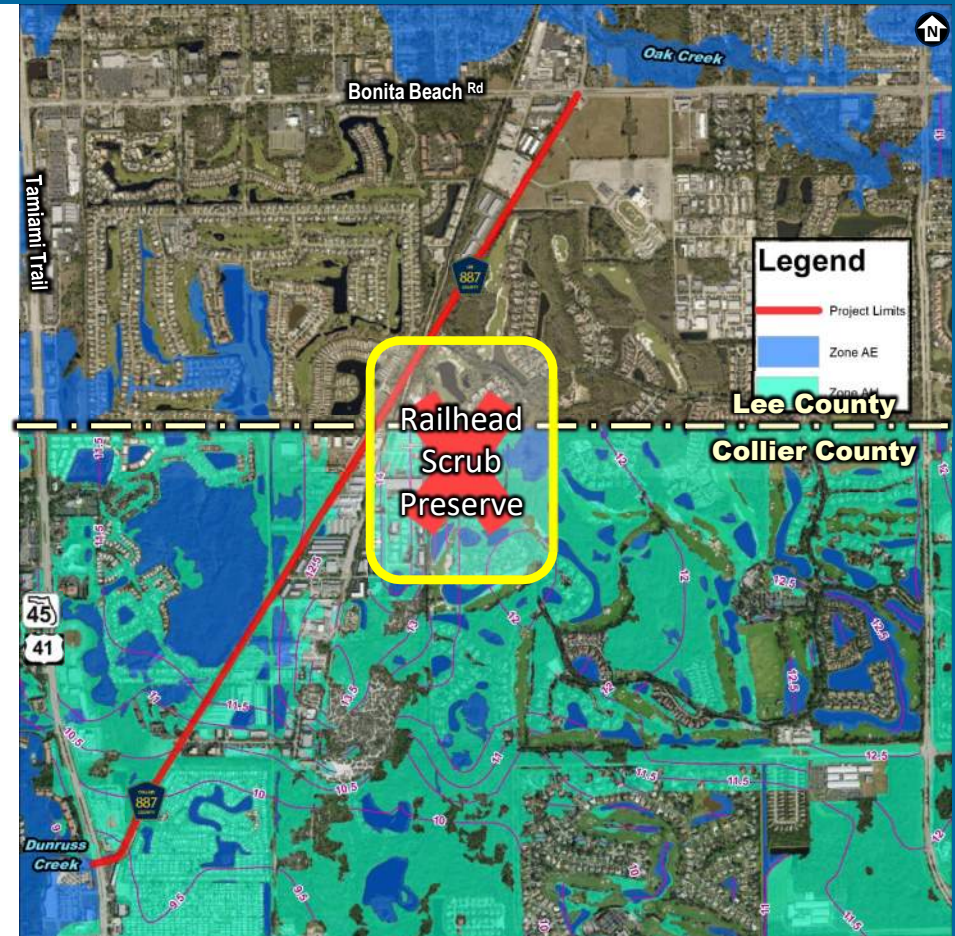


Drainage – Floodplains



- No FEMA Floodways
- Lee County
 - Mapped in 2008
 - No Impacts Based on FEMA FIRM Maps
 - Update Scheduled in 2020
- Collier County
 - Mapped in 2012
 - Zone AE & AH Impacts
 - Lack of Conventional Cup-for-Cup Options

Time to Get Creative!

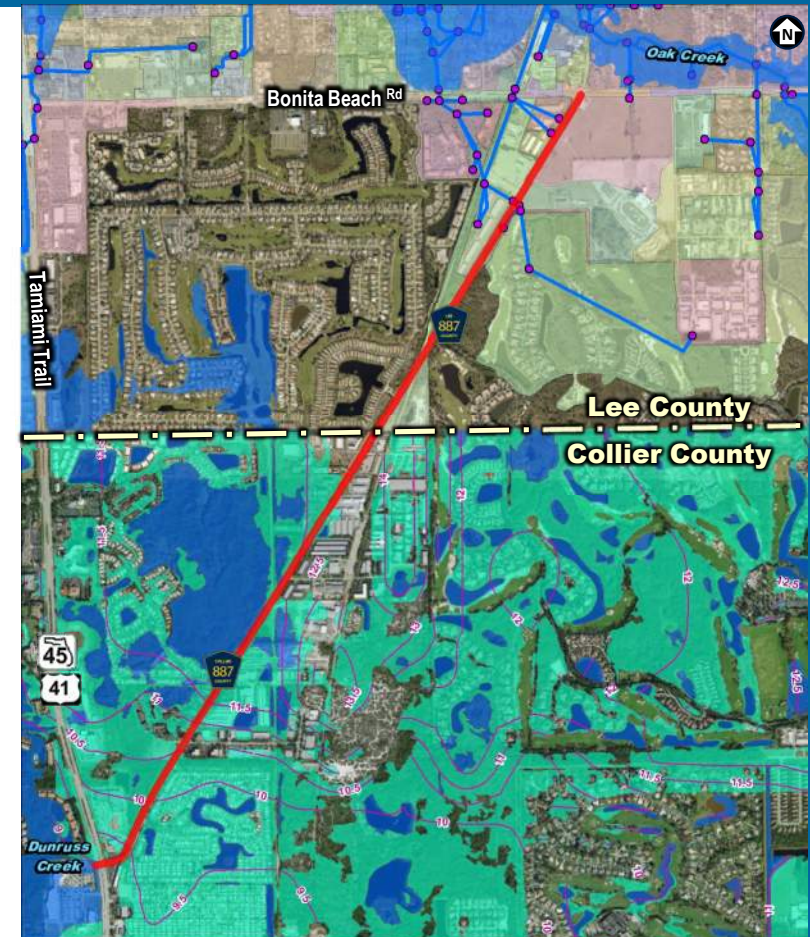




Drainage – Watershed Models



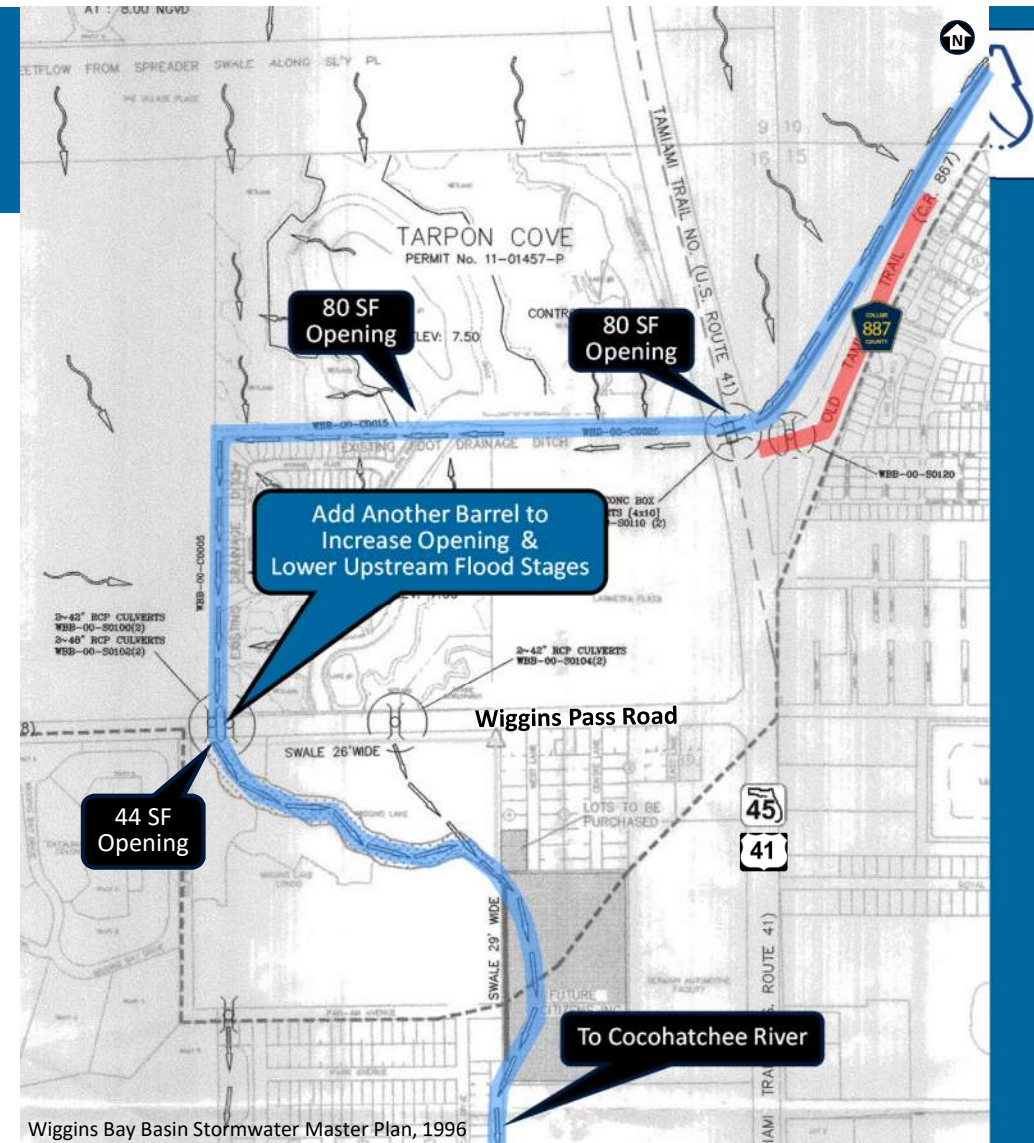
- City of Bonita Springs Stormwater Master Plan Update, 2010
 - Good for Floodplain Modelling
 - **No Floodplain Impacts in Lee County**
- Collier County Watershed Model Update & Plan Development, 2011
 - MIKE SHE MIKE 11 Model with 2D Groundwater Simulation
 - **Not for Floodplain Modeling**





Drainage – Floodplains

- Alternative to Expensive & Complicated Conventional Floodplain Compensation
 - Identify Choke Points Downstream
 - Add Extra Cross Drain Under Wiggins Pass Road
 - Lower Upstream Flood Stages
 - **Preliminary ICPR Model Indicates this Works!**





Stormwater Management Standards



Criteria	Florida Greenbook	SFWMD	Collier County	Lee County	Bonita Springs
Pond Design Frequency	-	25-yr 3-day	CCWMMP	25-yr 3-day	-
Treatment Volume ^{1, 2}	-	1 in. off project 2.5 in. off imper.	-	-	-
Open Channel Design Frequency	10-yr	-	CCWMMP	-	-
Storm Drain Design Frequency	3-yr	-	CCWMMP	-	-
Cross Drain Design Frequency	25-yr	-	CCWMMP	-	-
Minimum Pond Area	-	0.5 acres	-	-	-
Maximum Pond Side Slopes	-	1:4	-	1:6	1:4
Minimum Maintenance Berm	-	20 ft wide 1:4 max slope	-	-	-
Base Clearance	-	-	-	-	-
Spread Criteria	½ lane clear	-	-	-	-

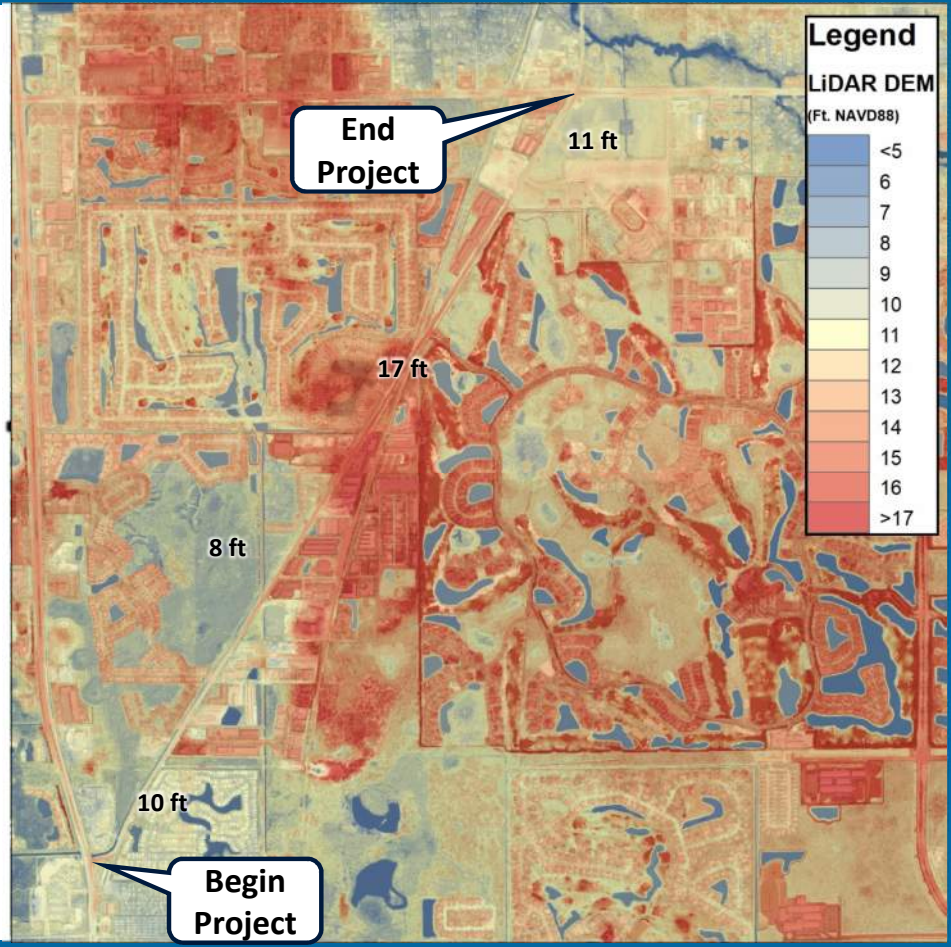
1: Assumes wet detention, based on site conditions.

2: Basins discharging directly to OFW or impaired water bodies increase presumptive treatment volume 50% and/or provide nutrient loading calculations

CCWMMP: Collier County Water Management Master Plan



Drainage





Natural Resources – Habitats



- Jurisdictional Canal & Ditches
- Ponds
- Forested Wetlands & Marshes
- Undeveloped Grasslands
- Upland Forests
- Remnant Scrub Areas

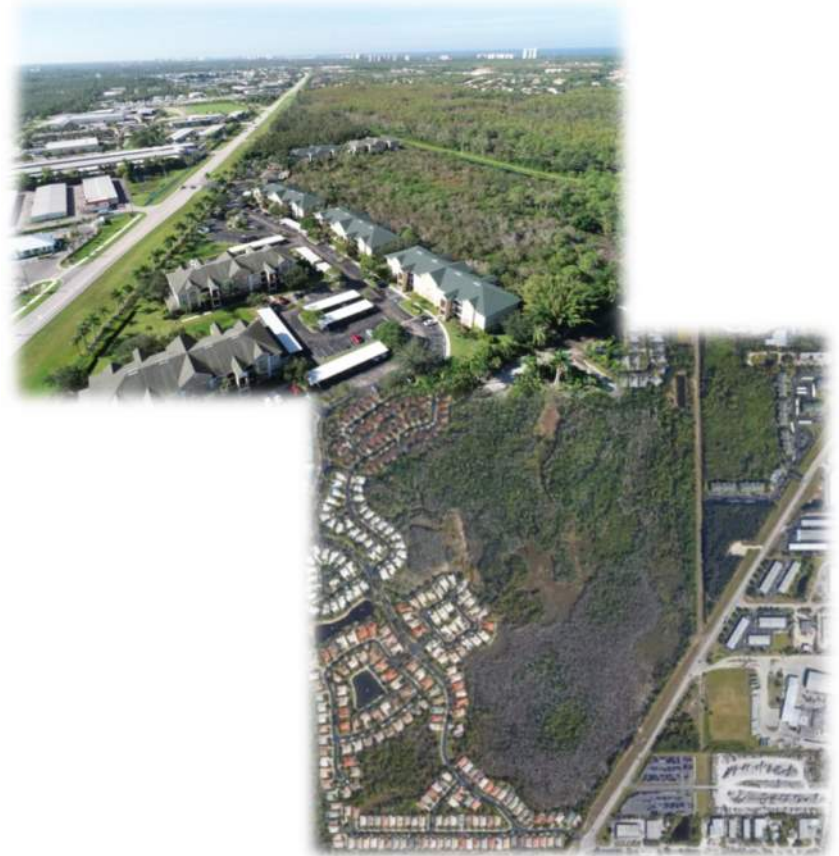




Wetlands

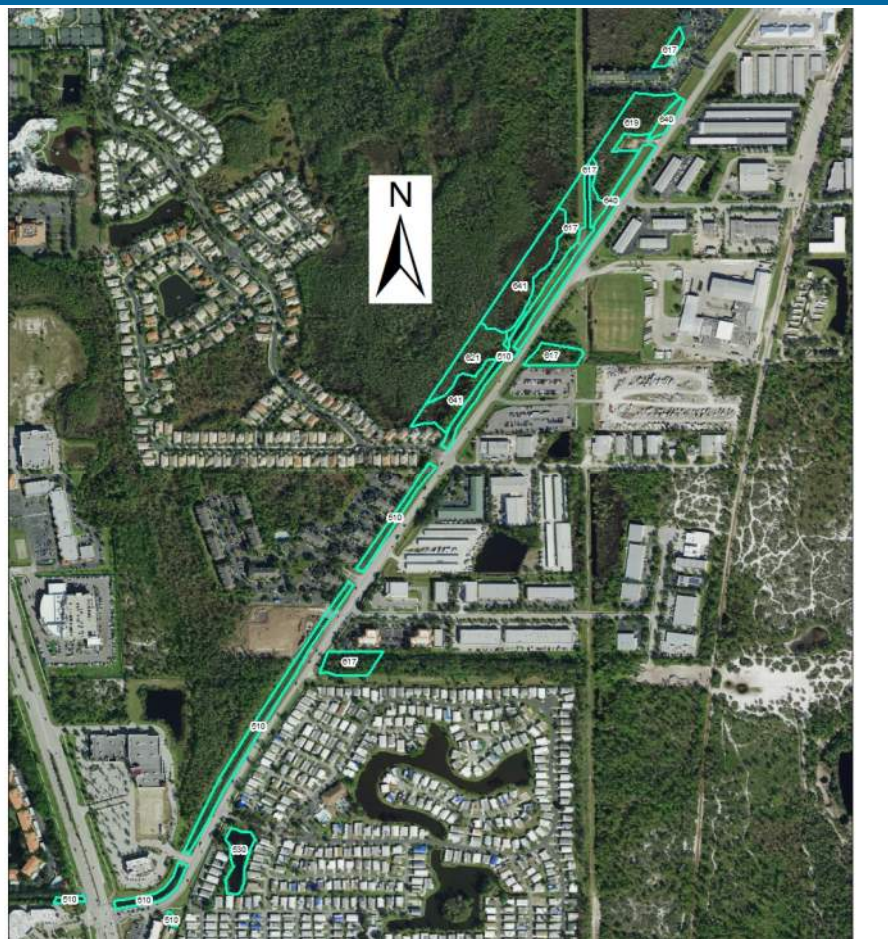
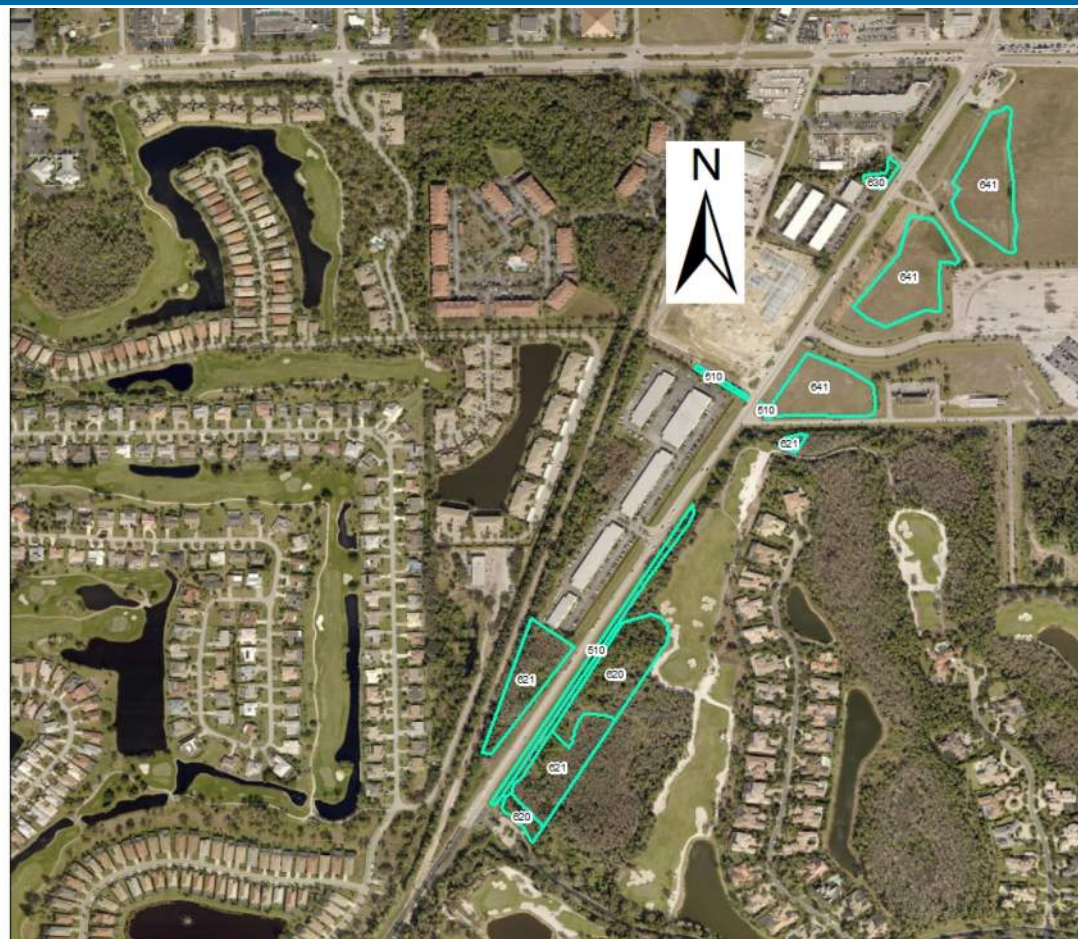


- Various Freshwater Wetlands Occur Adjacent to Project Including:
 - Mixed Wetland Hardwoods (FLUCFCS 617)
 - Wet Melaleuca (FLUCFCS 619)
 - Wetland Coniferous Forests (FLUCFCS 620)
 - Cypress (FLUCFCS 621)
 - Wetland Forested Mixed (FLUCFCS 630)
 - Vegetated Non-Forested Wetlands (FLUCFCS 640)
 - Freshwater Marsh (FLUCFCS 641)





Wetlands and Surface Waters



CR 887 (Old US 41) PD&E Study from US 41 to Bonita Beach Road | Collier & Lee Counties



Wetlands – Mitigation



- CWA Section 404(b)(1)
 - Least Environmentally Damaging Practicable Alternative
 - Requires Identifying Impact Avoidance & Minimization Strategies Prior to Mitigation for Unavoidable Wetland Impacts
- Various Mitigation Banks have Geographical Service Area Limits which Include Project
 - Big Cypress
 - Panther Island/Panther Island Expansion
 - Corkscrew Regional
 - Little Pine Island
- No Essential Fish Habitat Involvement



NATURAL RESOURCES EVALUATION

Florida Department of Transportation

District One

CR 887/Old US 41 PD&E Study

from US 41 to Bonita Beach Road

Collier and Lee Counties, Florida

Financial Project IDs: 435110-1-22-01 & 435347-1-22-01

Federal Aid Project No.: TBD

ETDM No.: 10563

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

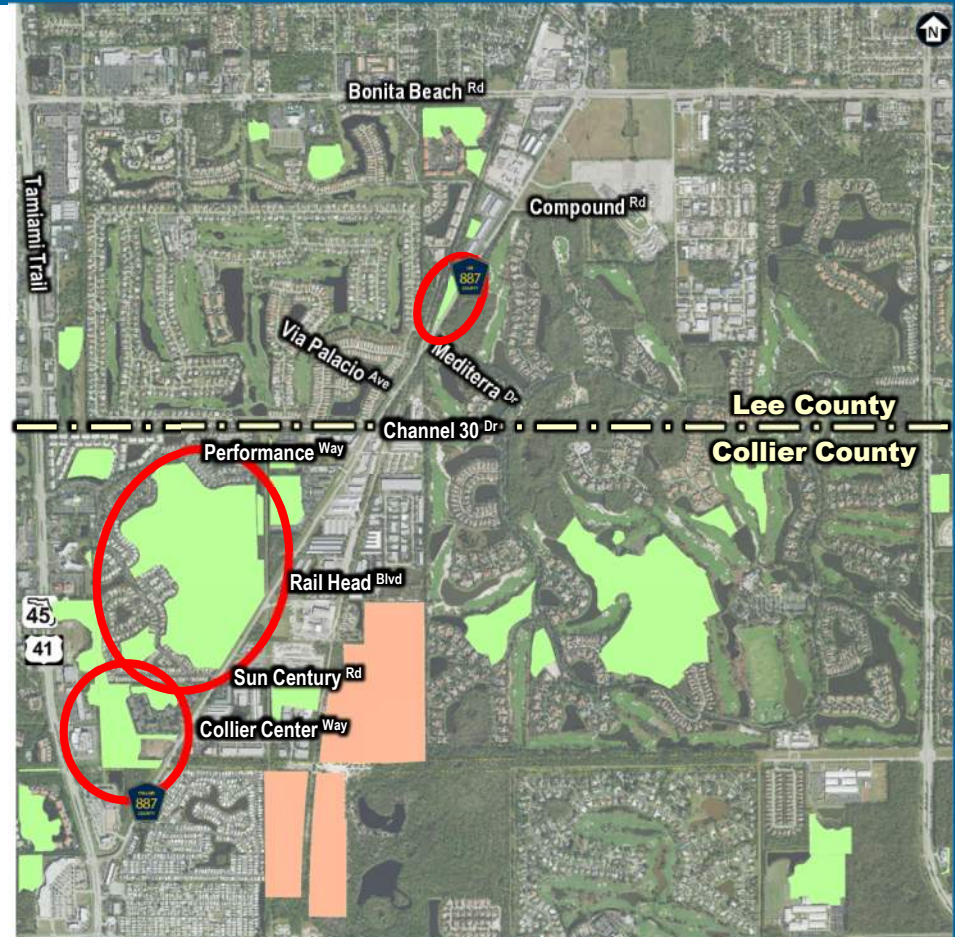
December 2020



Natural Resources – Conservation Easements



- Three Conservation Easements Adjacent to Project
 - Privately Owned
 - Mitigation for Developments
 - SFWMD is Grantee & Confirmed No Public Use/Access
 - **Section 4(f) Would Not Apply**
 - **Any Use Requires Owner Approval(s), Permit Modification(s), Additional/Replacement Mitigation & SFWMD Governing Board Approval**
 - Difficult
 - Time-Consuming
 - Expensive

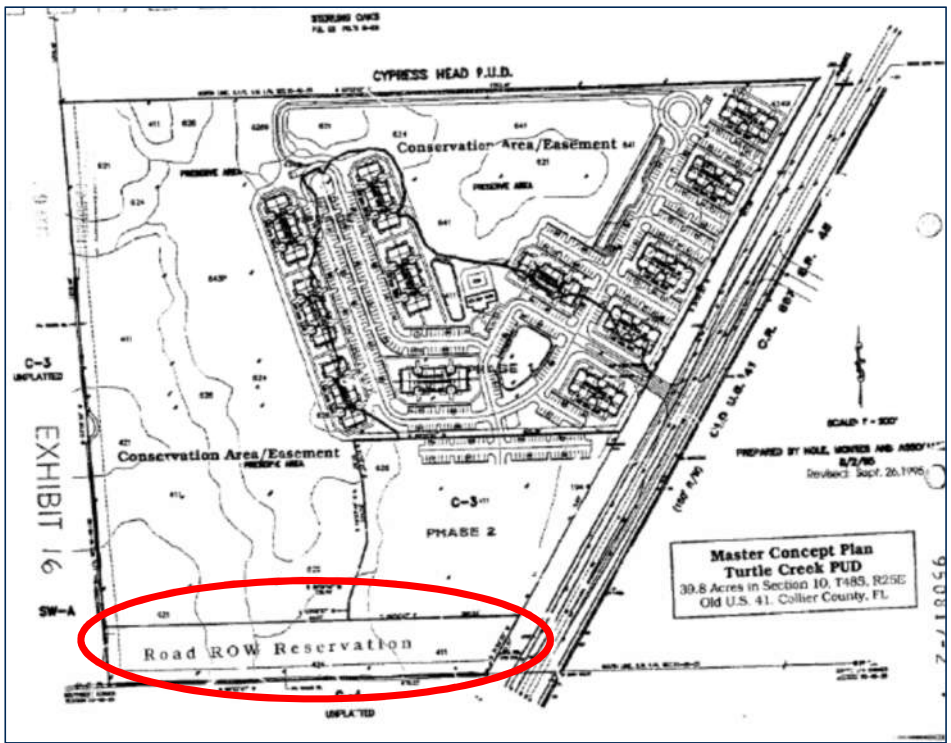
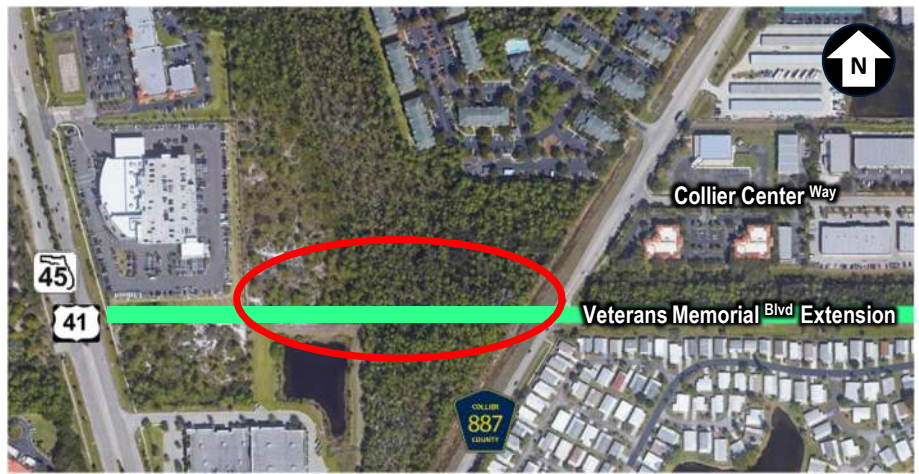




Natural Resources – Conservation Easements



- Turtle Creek Conservation Easement
 - Road ROW Reservation for Veterans Memorial Boulevard Extension Recognized by County
 - SFWMD “Unaware” of ROW Reservation





Federal Species – Consultation Areas/Ranges



- **Florida bonneted bat (E)**
 - Acoustic Survey in Design
 - **Florida scrub jay (T)**
 - Coordinate Early with USFWS to Determine Survey Need
 - **Wood stork (T) – One Colony Documented**
 - Red-cockaded woodpecker (E)
 - American crocodile (T)
 - Eastern indigo snake (E)
 - Bartram's hairstreak butterfly (E)
 - Florida leafwing butterfly (E)
- No Designated Critical Habitats**
- Bald eagle (NL/BGEPA)
 - No Nests Documented within 660'





State Species



- Florida pine snake (T)
- Southeastern American kestrel (T)
- Florida burrowing owl (T)
- Florida sandhill crane (T)
- Little blue heron (T)
- Tri-colored heron (T)
- **Gopher tortoise (T/FC)**
- Big Cypress fox squirrel (T)

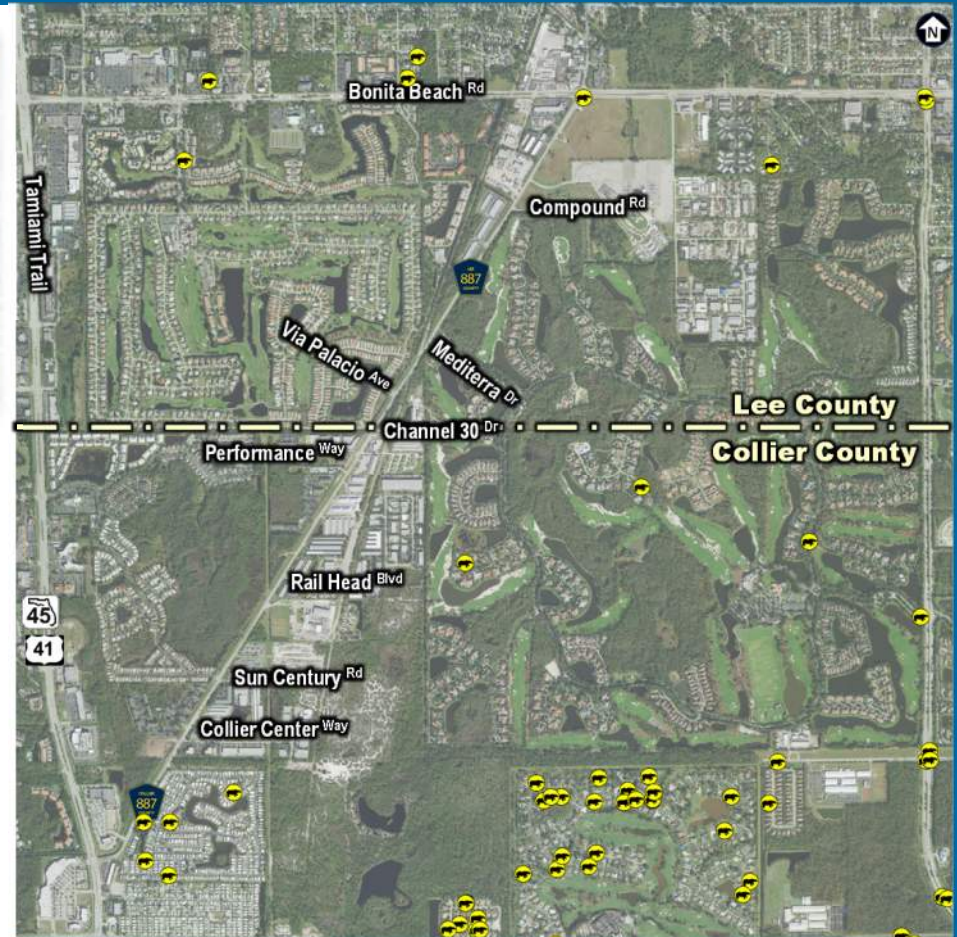




Other Species – Black Bear & Florida Panther



- Florida Black Bear (NL)
 - Big Cypress Population
 - Numerous Black Bear Nuisance Reports
 - 30 Occurrences 2002-2016
 - 35 Occurrences in 2017
 - No Black Bear/Vehicle Crashes
 - Standard Specification SP0070104-1 Implemented During Construction
- Florida Panther (FE/SE)
 - No Panther Issues
- No Crossing Features Warranted





Natural Resources – Listed Plant Surveys



Scientific Name	Common Name	Federal Listing Status	State Listing Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Asclepias curtissi</i>	Curtiss' Milkweed	N/A	E						■	■	■				
<i>Chamaesyce cumulicola</i>	Sand-dune Spurge	N/A	E	■	■	■	■	■	■	■	■	■	■	■	■
<i>Chamaesyce garberi</i>	Garber's Spurge	T	E	■	■	■	■	■	■	■	■	■	■	■	■
<i>Dalea carthagenensis</i>	Florida Prairie-clover	E	E	■	■	■	■	■	■	■	■	■	■	■	■
<i>Deeringothamnus pulchellus</i>	Beautiful Pawpaw	E	E		■	■	■	■							
<i>Harrisella filiformis</i>	Needleroot Airplant Orchid	N/A	T								■	■			
<i>Harrisia aboriginum</i>	Aboriginal Prickly-apple	E	E			■	■	■	■	■	■				
<i>Lechea cernua</i>	Nodding Pinweed	N/A	T			■	■	■							
<i>Lilium catesbaei</i>	Catesby's Lily	N/A	T							■	■	■	■		
<i>Stylisma abdita</i>	Showy Dawnflower	N/A	E			■	■	■	■	■	■				
<i>Tillandsia balbisiana</i>	Reflexed Wild-pine	N/A	T			■	■	■	■	■	■				
<i>Tillandsia fasciculata</i> var. <i>densispica</i>	Stiff-leaved Wild-pine	N/A	E			■	■	■	■	■	■				
<i>Tillandsia flexuosa</i>	Banded Wild-pine	N/A	T						■	■	■				
<i>Tillandsia utriculata</i>	Giant Wild-Pine	N/A	E						■	■	■	■			



E = Endangered, T = Threatened, N/A = Not Applicable
 April & August – Recommended Survey Periods for Listed Plants



CR 887 (Old US 41) PD&E Study

From US 41 to Lee County Line and from Collier County Line to Bonita Beach Rd

Lee and Collier Counties

FPIDs 435110-1-22-01 & 435347-1-22-01



ELA Meeting 1

1/22/19

Name (Please initial)	Company/Role	Email Address
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Victoria Peters <i>VP</i>	FDOT SWAO – Liaison	Victoria.Peters@dot.state.fl.us
Michael Tisch <i>MT</i>	FDOT SWAO – Liaison	Michael.Tisch@dot.state.fl.us
Zachary Burch	FDOT SWAO – Communications Manager	Zachary.Burch@dot.state.fl.us
Trinity Scott	Collier County – Transportation Planning Manager	TrinityScott@colliergov.net
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Richard Orth <i>RO</i>	Collier County – Stormwater	richard.orth@colliercountyfl.gov
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Matt Dockins <i>MD</i>	RK&K Project Manager	mdockins@rkk.com
Gordon Mullen <i>GM</i>	RK&K Environmental	gmullen@rkk.com



From US 41 to Lee County Line and from Collier County Line to Bonita Beach Rd

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1/22/19

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