

1.0 INTRODUCTION

This document has been prepared in support of the U.S. Army Corps of Engineers (USACE) Permit Application SAJ-2011-00551 (IP-TEH). Pasco County and the Turnpike Authority have submitted the application requesting a permit to construct an extension of existing Ridge Road in central and western Pasco County. The Starkey Wilderness Preserve has several components, including the Serenova Tract. This alternatives analysis uses the term Serenova or Serenova Preserve because the discussion relates to that portion of the Starkey Wilderness Preserve. The attachments use both Serenova and Starkey Wilderness for the same geographic area and should be considered synonymous.

The overall Project Purpose as defined by the USACE on March 4, 2013, and as restated in an August 8, 2013 letter from the USACE to the applicants, Page 2, Footnote 1, is provided below:

To improve east-west roadway capacity and enhance overall mobility within the area bounded by SR-52 to the north, SR-54 to the south, US-41 to the east, and Moon Lake Road, DeCubellis Road, Starkey Boulevard to the west in accordance with the County's current Comprehensive Plan and the Metropolitan Planning Organization's Long Range Transportation Plan. The project will also provide additional roadway capacity and improved routing away from coastal hazard areas and improve hurricane evacuation clearance times in the event of a hurricane or other major weather-related occurrence in accordance with State of Florida requirements and the County's current Comprehensive Plan.

After reviewing previous submittals, the USACE requested that the Applicant conduct a revised Alternatives Analysis of 17 alternatives including the County's Proposed Project. This document contains the requested Alternatives Analysis.

Attached Table 1-1 provides a list of the alternatives analyzed which are described in detail in Attachment A and the criteria which have been utilized to evaluate the alternatives. Table 1-1 also presents summary data for each of the alternatives. Data for each of the criteria show conditions within the Study Area defined by the USACE. This Study Area runs from SR 52 south to SR 54, and from Starkey/Moon Lake Road on the west to US 41 on the east.

The criteria include:

1. Average Travel Speed (mph) within the study area as an indication of whether an alternative Improves mobility within the Study Area. This is a criteria used by state and regional planning organizations to evaluate mobility improvements. Other traffic criteria include Vehicles Miles Traveled (VMT), Vehicle Hours of Travel (VHT), Volume to Capacity Ratios (V:C), and number of crashes per million VMT.

2. The reduction in hours required to evacuate the population within the Coastal Evacuation Area to safer areas outside the evacuation zones.
3. Total Costs for each alternative including estimated Construction, Right-of-Way and Mitigation costs.
4. An identification of whether there are availability limitations or logistical obstacles to construction related to each alternative. The various availability and logistical criteria are discussed in Sections 3 and 4 of this analysis and arrayed in a practicability matrix in Section 4 that is consistent with the Section 404(b)(1) Guidelines and the Corps guidance dated June 2014 that provides information on preparation of alternatives analyses in a practicability matrix in Section 4. If any such criteria exist for a particular alternative, these will be described in the text and may include:
 - Availability;
 - The likelihood of receiving a permit from the FDOT;
 - Consistency with the Long Range Transportation Plan (LRTP); and
 - Impacts to Residences and Businesses.
5. The number of acres of direct wetland impacts and indirect wetland impacts within a 300' area on both sides of the alignments.
6. The impacts to streams measured in linear feet.
7. Other environmental impacts will be identified and discussed as relevant to each alternative. These are impacts other than the aquatic impacts the Corps is evaluating, and include wildlife species and wildlife habitat, non-aquatic wildlife and plant species, and ecologically important upland habitat.
8. Acres of impacts to archaeological/historic sites both within the right-of-way for each alternative and indirect impacts within a 300' area on either side of the right-of-way.

Detailed analyses were conducted for each of the criteria listed above. These are provided in Attachments A through K which are appended to this document. The attachments describe in detail the methodology utilized and the findings for each analysis. Section 2.0 of this report provides a Summary of these Methodologies.

Section 3.0 contains a Summary Narrative for each of the 17 alternatives providing detail supporting discussion and elaborating on the information on Table 1-1.

Finally, Section 4.0 describes and analyzes alternatives for practicability in accordance with guidance published by the Jacksonville District Regulatory Division, June 2014. This guidance provides suggested steps for applicants to follow in providing the necessary information for the Corps to consider when it determines compliance with the Section 404(b)(1) Guidelines. Step 3 of this guidance addresses alternatives and determines which are practicable and which are not. Step 4 provides an outline and instructions to assist the Applicant in identifying the apparent LEDPA.

Criteria used to determine practicability include:

- Availability (Available for Acquisition? Likely to Receive FDOT Permit?)
- Cost (Total Project Costs Reasonable? Costs Reasonable for Improvement in mobility? Costs reasonable for improvement in evacuation from coastal area?)
- Logistics (Consistent with LRTP? Are safety concerns acceptably low to the County? Are impacts to residences and businesses acceptably low to the County? Available as an additional evacuation route?)
- Other Summary Factors for Alternatives (Does alternative substantially meet overall Project Purpose?)

Based on these criteria a determination of practicability was made for each of the alternatives. Practicable alternatives were then evaluated as to environmental impacts and an apparent Least Environmentally Damaging Practicable Alternative (LEDPA) was recommended for the USACE's consideration.

Table 1-1. Pasco County Ridge Road Extension
Summary Data¹ - Alternatives Analysis

Alternative No.	Criteria Description	Improves Mobility		Evacuation Time	Costs				Logistics		Cultural Resources				Wetland Impacts		Stream Impacts (Linear Feet)	Direct Habitat Impacts to Natural Uplands (Acres) ⁴	Impacts to Wildlife Species ⁵ (Number of Species by Level of Impact)			
		V/C Ratio ²	Average Travel Speed (mph)	Out of Coastal Evacuation Area (Hours)	Construction Costs (Dollars)	ROW Costs (Dollars)	Mitigation Costs (Dollars)	Total Costs (Dollars)	Policy Consistency/ Approval ³ (Yes/No)	Impacts to Residences & Business (Total Number)	Historic Structures (Each)		Archaeological/ Historic Sites (Acres)		Direct (Acres)	Indirect (Acres)			No	Very Low	Low	Moderate
											Direct	Indirect	Direct	Indirect								
1	No Action	1.110	18.90	23.4	\$0	\$0	\$0	\$0	No	0	0	0	0	0	0	0	0	0	0	0	0	0
2	4-Lane RRE	1.032	20.79	16.8	\$76,806,000	\$22,405,000	\$3,240,000	\$102,451,000	Yes	22	0	0	31.6	42.8	21.6	192.9	148	87.3	5	4	6	5
3	4-Lane RRE	1.032	20.79	16.8	\$75,713,000	\$511,000	\$4,065,000	\$80,289,000	Yes	0	0	0	17.7	32.5	27.1	206.6	618	88.3	5	4	6	5
4	4-Lane RRE	1.032	20.79	16.8	\$75,062,000	\$8,832,000	\$4,080,000	\$87,974,000	Yes	16	0	0	18.9	33.1	27.2	204.3	426	87.6	5	4	6	5
5	4-Lane RRE	1.032	20.79	16.8	\$71,966,000	\$508,000	\$4,185,000	\$76,659,000	Yes	0	0	0	13.1	43.3	27.9	204.5	618	87.3	5	4	6	5
6	4-Lane RRE Elevated ⁶	1.032	20.79	16.8	\$192,785,000	\$508,000	\$3,270,000	\$196,563,000	Yes	0	0	0	13.1	43.3	21.8	199.1	618	51.8	5	10	5	0
7	4-Lane RRE Partially Elevated ⁶	1.032	20.79	16.8	\$131,887,000	\$508,000	\$3,270,000	\$135,665,000	Yes	0	0	0	13.1	43.3	21.8	207.0	618	74.2	5	7	3	5
8	SR 52 Add 4-Lanes	1.072	19.88	19.5	\$129,463,000	\$7,169,000	\$390,000	\$137,022,000	No	26	0	0	13.1	43.3	2.6	112.0	120	9.2	5	5	8	2
9	SR 54 Add 4-Lanes	1.005	21.81	17.1	\$205,780,000	\$7,785,000	\$225,000	\$213,790,000	No	22	0	4	6.2	17.5	1.5	155.8	0	1.2	6	12	2	0
10	4-Lane Tower Rd	1.059	19.63	21.8	\$90,169,000	\$7,408,000	\$3,330,000	\$100,907,000	Yes	21	0	2	23.4	24.3	22.2	171.7	212	18.4	6	10	2	2
11	SR 54 4-Lane Elevated	0.924	22.12	25.8	\$1,365,268,000	\$3,854,000	\$30,000	\$1,369,152,000	Yes	12	0	3	4.1	18.1	0.2	134.0	0	0.2	14	6	0	0
12	2-Lane Tower Rd SR 54 Add 2-Lanes	1.033	20.62	26.0	\$186,414,000	\$8,615,000	\$2,010,000	\$197,039,000	No	36	0	6	13.2	37.7	13.4	265.2	120	12.2	6	9	3	2
13	SR 52 Add 2-Lanes SR 54 Add 2-Lanes	1.048	20.80	20.4	\$183,664,000	\$8,547,000	\$210,000	\$192,421,000	No	39	1	12	2.0	8.0	1.4	208.0	120	6.9	4	6	9	1
14	2-Lane Tower Rd SR 52 Add 2-Lanes	1.060	19.95	22.7	\$141,492,000	\$11,542,000	\$2,145,000	\$155,179,000	No	46	1	10	14.6	37.4	14.3	269.2	240	18.8	4	6	8	2
15	2-Lane RRE 2-Lane Tower Rd	1.042	20.67	19.3	\$111,060,000	\$6,164,000	\$3,975,000	\$121,199,000	Yes	21	0	2	22.5	79.8	26.5	342.7	399	60.3	5	4	6	5
16	2-Lane RRE SR 52 Add 2-Lanes	1.052	20.63	26.0	\$134,661,000	\$6,097,000	\$2,010,000	\$142,768,000	No	25	1	8	9.2	47.9	13.4	286.7	399	48.3	4	5	5	6
17	2-Lane RRE SR 54 Add 2-Lanes	1.025	21.68	15.8	\$174,524,000	\$2,868,000	\$2,055,000	\$179,447,000	No	14	0	4	10.0	48.2	13.7	281.6	279	48.4	5	4	6	5

1. Additional and more detailed information is presented in Sections 3 and 4 and in the Attachments to this document.
2. Weighted Volume to Capacity ratio over the study area roadways.
3. Consistent with LRTP; FDOT approval likely; Availability and Safety.
4. Natural uplands include flatwoods, oak scrub, sand pine scrub, hardwood hammock, and sandhill.
5. See Table I-2 in Attachment I for selected wildlife species evaluated.
6. Elevated or partially elevated only within limits of Serenova Preserve.