

Section 4.0 COMPARATIVE EVALUATIONS OF ALTERNATIVES/APPARENT LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE (LEDPA)

4.1 Introduction

The purpose of Section 4.0 is to describe and analyze alternatives for USACE 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.

As requested by the Corps, Pasco County evaluated 17 alternatives including the No Action Alternative with data presented in the Summary Data Table 1-1 and discussed in detail in Section 3.0. At the end of this section, Table 4-1, Alternatives Comparison Matrix for Practicability, presents a summary of the practicability factors and states how each of the alternatives meets or does not meet each criteria. Each alternative found to be practicable was further evaluated using environmental parameters to identify an apparent least environmentally damaging practicable alternative (LEDPA). The findings for the environmental analysis are presented in Table 4-2, Environmental Factors Matrix.

In accordance with 40CFR 230.10(a), a comparative discussion of the proposed project along with identified alternatives is discussed including availability of alternatives to the applicant, meeting overall Project Purpose, cost and logistics to identify practicable alternatives.

The overall Project Purpose as defined by the USACE on March 4, 2013 is as follows:

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.

Two essential criteria that must be met for an alternative to “Substantially Meet Project Purpose” are substantial improved mobility and a substantial reduction in time to evacuate population from the coastal area in case of hurricane or other weather related events as compared to other alternatives.

Practicability factors that are critical to the County are: availability of right of way for acquisition; likelihood of receiving an FDOT permit to construct; total project cost; cost related to improving mobility; cost related to reducing evacuation times; consistency with the Long Range Transportation Plan (LRTP); and, safety.

4.2 Practicability Factors

4.2.1 Availability

Two Practicability Factors were utilized to determine Availability: Available for Acquisition and Likely to Receive an FDOT Permit. The factor, Available for Acquisition, addresses whether the right of way is available to the applicant either by purchase, donation or other means of obtaining the right to construct within the alignment.

The second factor, likely to receive an FDOT Permit, pertains to those alternatives that would require an FDOT permit prior to construction in order to use the FDOT rights of way. SR 52 and SR 54 are both owned and maintained by the FDOT. Any construction within FDOT right of way by an entity other than FDOT requires a right of way use permit be issued by the FDOT District within which the improvements are to be made.

Pasco County is within FDOT District 7 headquartered in Tampa. Eight of the 17 alternatives would include improvements within FDOT right of way and would require approvals from the FDOT to provide for implementation of the improvements.

In a letter to Pasco County dated August 27, 2013, FDOT District 7 Secretary Paul Steinman, P.E., reiterates the FDOT’s position on the RRE alternatives that was first stated in a letter from the previous District Secretary in 2010, as follows: “the Department does not support any improvements inconsistent with the Pasco County Metropolitan Planning Organization (MPO) LRTP”. The LRTP shows SR 54 as having six general use lanes from US 19 to I-75. Secretary Steinman also stated that the Department seldom widens an arterial to 8 lanes or beyond as “research consistently shows a network of roads and a grid system increases capacity and mobility through a region; whereas traffic focused on a limited number of wider corridors results in operational, safety, bicycle, and pedestrian issues.” Both SR 52 and SR 54 are arterials with 6 general use at grade lanes.

Of the eight alternatives requiring an FDOT permit, only one, Alternative 11, is consistent with the LRTP. The other seven propose to add general use lanes to SR 52 and/or SR 54 in excess of the six maximum established in the LRTP.

Based on these criteria, Alternatives 8, 9, 12, 13 14, 16 and 17 received “No” on the Practicability Matrix, because those alternatives are not available for acquisition and not likely to receive a FDOT Permit. Remaining alternatives 2-7, 10, 11 and 15 were given “Yes”, Available and Likely to Receive a FDOT Permit or a FDOT permit is not required.

4.2.2 Cost

Three Practicability factors were utilized to evaluate cost for each alternative. These include: Total Costs Reasonable; Costs Reasonable for Improvement in Mobility; and, Costs Reasonable for Improvement in Evacuation.

Project costs that exceeded the County’s ability to fund are unreasonably expensive to the Applicant and were given a No for Total Project Costs Reasonable. These included Alternatives 6, 7, 8, 9, 11, 12, 13 14, 15, 16 and 17.

Alternative 10 is within the County’s ability to fund; however, this Alternative provides minimal improvement to mobility and/or evacuation times such that the outcome is not worth the cost of the Alternative to the applicant at any price and was given a No for both of those factors.

Alternatives that would achieve a meaningful improvement in mobility and evacuation times and had a total project cost that is fundable by the Applicant included Alternatives 2, 3, 4, and 5.

The basis for a determination of whether the County was able to fund an Alternative or not is provided below in an overview of Pasco County’s Transportation Planning and Budgeting Process.

Overview of Pasco County Transportation Planning Process

Federal Planning Requirements

Federal regulations implementing Federal transportation law (Moving Ahead for Progress in the 21st Century Act (MAP-21)) require the County to develop needs and cost affordable transportation plans for the 20-year planning horizon. The Long Range Transportation Plan (LRTP) developed under the Federal/State established Pasco County Metropolitan Planning Organization (MPO) meets these requirements and reinforces the local vision, goals and policies of the County. The LRTP “Needs Plan” identifies the blueprint for long term multi-modal transportation needs and considers policy constraints such as community and environmental impacts. The LRTP Needs Plan requires regional coordination and is not constrained by available funding. The LRTP Needs Plan is then developed into a Cost Affordable Plan. The selection of multi-modal projects requires input from the Public, input from the Project Team and MPO Committees. The road and transit projects are then prioritized and coordinated within the region. The Adopted LRTP Cost Affordable Plan includes the estimated cost of projects and anticipated revenues through 2040. The LRTP is updated every 5 years and must be adopted

by the MPO, which includes the members of the Board of County Commissioners, as well as representatives from the municipalities.

Fifteen-Year Transportation Capital Improvement Program

Pasco County develops and balances a 15-Year Transportation Capital Improvement Program (TCIP) based on the LRTP Cost Affordable Plan:

<http://pascocountyfl.net/DocumentCenter/View/16865>. The revenues are estimated for the 15-year horizon and prioritized projects from the LRTP are included in the program based on funds availability. The 15-Year TCIP incorporates the Five-Year Capital Improvement Plan (CIP) and includes project phases that need to be funded outside of the 5-Year CIP. The CIP Balance Sheet for FY15-29 summarizes a very complex process, which utilizes databases and multiple spreadsheets, analyzing the multiple revenue sources and the phases of the planned projects.

Five-Year Capital Improvement Plan

The 5-Year Capital Improvement Plan (CIP) is the primary tool for programming and allocating funding for the County's capital projects. The CIP includes estimates and projections of revenue over a five-year period and identifies Project Details, Project Phases and Estimated Project Costs. The 5-Year CIP is adopted annually as part of the budget process. Section A of the Pasco County FY 2015-2019 Capital Improvement Plan summarizes the County's approach to capital budgeting and describes the funding sources available to the County. Section E of the 5-Year CIP provides an overview of the CIP balancing process and provides a project detail sheet for every project that receives a portion of funding in the 5-Year CIP. Some of the projects also have phases funded outside the 5-Year plan, but those phases are funded in the 15-Year TCIP. The first three years of the 5-Year CIP are considered committed. The 5-Year CIP and the Annual Operating Budget are available on the County website at <http://www.pascocountyfl.net/index.aspx?NID=319>.

Pasco County's 5-Year CIP is also the basis for the Capital Improvement Element of the Comprehensive Plan developed in accordance with Florida Statutes, which requires local governments to demonstrate that "the levels of service adopted can be reasonably met. Infrastructure needed to ensure that adopted level-of-service standards are achieved and maintained for the 5-year period of the capital improvement schedule must be identified pursuant to the requirements of s. 163.3177(3). The comprehensive plan must include principles, guidelines, standards, and strategies for the establishment of a concurrency management system."

Revenues Used for Transportation Capital Improvement Projects

The 5-Year CIP is balanced annually in coordination with the development of the Annual Budget. During the annual budget process, revenue estimates are updated and fund balances are calculated. The County typically uses a pay-as-you-go approach for all transportation capital projects. The impact fees for each type of infrastructure can only be used for new

capacity of the type for which they were collected. This means that funds must be accumulated in the appropriate fund account before they can be expended. As shown on the CIP Balance Sheet FY15-29, the County uses five major funding sources for transportation projects.

Transportation Impact Fees (TIF) are collected from new development at the time of issuance of a building permit. Florida Statutes Section 163.31801 identifies impact fees as “an important source of revenue for a local government to use in funding the infrastructure necessitated by new growth.” Impact fees are adopted by ordinance, require calculation based on the most recent and localized data, and require accounting of the revenues and expenditures of such impact fee in a separate accounting fund. The TIF is calculated based on the TIF Study Updated in 2007. The TIF Schedule is available at:

<http://www.pascocountyfl.net/documentcenter/view/305>. Pasco County collected fees in three separate zones (west, central, and east). The TIF funds must be spent within the zone they are collected. TIF is a declining revenue source as this revenue source was replaced by Mobility Fees in July of 2011. Only those developments entitled prior to that date are still paying TIF for new building permits. TIF in all 3 zones are only expected to generate approximately \$1.2 million in FY15. TIF in the west and central zone are committed to the Ridge Road Extension project and available for construction in FY16 and FY17, which will significantly deplete the fund balance in those accounts.

Mobility Fees are also collected from new development at the time of issuance of a building permit. Pasco County originally adopted mobility fees in 2011. These fees were studied and re-evaluated in 2014. The most recent schedule is available at:

<http://www.pascocountyfl.net/documentcenter/view/1958>. Pursuant to Section 1302.2.G.1.a. of the Pasco County Land Development Code:

<http://www.pascocountyfl.net/DocumentCenter/Home/View/3835>, mobility fees will be earmarked to separate mobility fee funds for use within the Collection/Benefit Districts (west, central and east) in which the mobility fees are collected. Section 1302.2.G.2.a. states that the fee must be used in the benefit district in which it is collected, unless the County Administrator makes a written determination that the proposed improvement will benefit the district from which the fees were collected. Mobility fees are among the highest in Florida and are expected to generate \$8.8 million within all three districts in FY15.

Local Option Gas Tax includes the first local option six cents, 80% of the two-cent constitutional gas tax and the ninth cent. These funds are used primarily for maintenance of roads and bridges and traffic operations. In September of 2014, Pasco County adopted the second local option five cents for capital improvement projects which is the maximum that can be collected. These funds can be used countywide and are not constrained by zone. They are typically used to balance a project being funded by growth (TIF and Mobility Fees). The Gas Tax is forecast to generate \$7.8 million on FY15.

Penny for Pasco is a local option sales surtax passed by local voters in 2004. The original Penny proceeds were shared 45% to Pasco Schools, 10% to municipalities, and 45% to Pasco County. Pasco County’s 45% share of the first Penny allocated 50% for transportation

improvements to include intersection improvements, sidewalks and pedestrian safety projects. The Penny is not used for capacity projects that are funded by TIF and Mobility Fees. In 2012, the voters authorized renewal of the Penny with 40% of Pasco's 45% going to transportation improvements. The Penny is forecast to generate \$9.2 million in FY15. A specific list of projects was approved by the voters with the Penny renewal and those funds are earmarked for those projects and cannot be used for other projects.

Multi-Modal Tax Increment was created in 2011 when Mobility Fees were adopted. The tax increment is collected on 33.3% of the new taxable value created in the unincorporated areas of Pasco County. The tax increment is used to subsidize employment generating uses which are being incentivized to locate in Pasco County. The tax increment can be used for mass transit, sidewalks and road improvements countywide. The tax increment is forecast to generate \$2.7 million in FY15.

Programming and Balancing the 15-Year Transportation Capital Improvement Program

As shown on the CIP Balance Sheet FY 15-29, every fiscal year shows the forecasted revenue by source and the expenditures programmed for design, right-of-way acquisition, construction, and other miscellaneous expenditures for all projects programmed in the 15-Year Transportation Capital Improvement Program (TCIP). As shown on Page E-3 of the 5-Year CIP, after balancing, one project was moved out of the 15-Year TCIP due to insufficient funds. 16 projects have been identified as new needed projects that are unfunded. On page E-5, 25 projects are listed that were removed from the 15-Year TCIP last fiscal year due to insufficient revenue. Pasco County now has a backlog of 42 unfunded projects that were identified in the LRTP. Any increase in project costs, potentially causes another project to be removed from the CIP, due to the requirement for Pasco County to balance based on revenues. Although it appears that there are funds available, those funds are being accumulated for future projects because Pasco County must have all funds available in the revenue account, before a project bid is awarded.

Ridge Road Extension Funding Options

The Ridge Road Extension (RRE) is currently planned to be constructed in two phases. Alternative 5 is currently programmed in the 5-Year CIP. Phase 1 of the RRE is in both TIF Zone 1 (West) and TIF Zone 2 (Central). \$10.8 million has been spent to date for design and permitting and land acquisition for mitigation purposes. \$5.4 million is budgeted in FY15 for additional permitting, analysis, design and mitigation work. A total of \$42.2 million is budgeted for construction of Phase 1 (from Moon Lake Road to the Suncoast Parkway) in FY16. \$21.1 million is budgeted in TIF Zone 1 and \$21.1 million is funded in TIF Zone 2.

Phase 2 of the RRE (from Suncoast Parkway to US 41) is shown in the CIP to be "funded by others" at an estimated cost of \$23 million. Under the concurrency concept authorized in Florida Statutes, developments of regional impact (DRIs) used to be required to calculate their impacts and pay the proportionate share of their impact. In most cases, developers would opt

to construct an improvement as a developer pipeline. Phase 2 was assumed to be constructed as a developer pipeline. The Growth Management Act of 2011, changed this process and concurrency was eliminated in Pasco County in 2012.

Pasco County does not have funds budgeted for construction of Phase 2. In order to fund construction of Phase 2, another project or projects in the 15-Year TCIP will have to be eliminated from the program. If construction costs are increased due to the selection of a different alternative, additional projects will have to be removed from the 15-Year TCIP. As described previously, the 15-Year TCIP is a subset of the LRTP Cost Affordable Plan. The Cost Affordable Plan is a subset of the total Needs Plan. Pasco County currently has a backlog of 42 unfunded projects that have been identified as needed in the LRTP.

Pasco County has a funding shortfall of \$34.4 million for Alternative 5 (\$76.6 million minus \$42.2 million). If a more expensive alternative is chosen, the shortfall will increase. Alternatives for funding the shortfall include deleting other critical projects from the 5 and 15 Year Capital Improvement Projects. The 15-Year TCIP contains very few large capital projects which could be deleted in order to fund the shortfall. Pasco County is already collecting the maximum justifiable mobility fees. Transportation Impact Fees are a declining revenue source and can only be spent in the zone where they are collected. Pasco County is collecting the maximum gas tax allowed by Florida Statute, but those funds may be spent Countywide. The Penny for Pasco is a specific allocation which was dedicated to pre-identified safety improvements. The Tax Increment can be used countywide, but is only forecast to generate \$203 million over the next 15 years and \$190 million is already allocated to other projects.

The Pasco County Capital Improvement Plan (CIP) for Fiscal Year (FY) 2015-2019 (See Appendix B-6 of Attachment B) includes a total budgeted amount for road improvements of \$184 million (CIP page E-14). The CIP also shows there are many other new/unfunded transportation projects with over \$300 million in estimated construction costs (CIP page E-3). The County's roadway improvement needs clearly exceed the available funds for the foreseeable future. Project priorities will have to be re-evaluated and additional projects delayed to fund the Ridge Road Extension. The County is willing to do this to the extent possible due to the proposed project's importance to public safety.

4.2.3 Logistics/Obstacles to Construction

Four Practicability factors were identified under the Logistics/Obstacles to Construction category and are described below:

1) Consistent with LRTP? - The preparation of a LRTP by Metropolitan Planning Organizations (MPOs) is required under federal and state laws and regulations. The Florida Department of Transportation has developed a MPO Program Management handbook to provide guidance on the preparation of LRTPs (see Attachment E, Appendix E-1). LRTPs must have a planning horizon of no less than 20 years. Pasco County MPO's currently adopted plan is the 2040 LRTP; however, at the commencement of this alternatives analysis the 2035 LRTP was the

current adopted version and with agreement of the USACE has been used for determination of consistency herein (see Attachment E, Appendix E-2 for excerpts). As part of the planning process both a Needs Plan and a Cost Affordable Plan (CAP) are developed. The CAP recognizes that all needs cannot be met due to the limitations in available funding and focuses on higher priority projects. References herein to improvements recommended in the 2035 LRTP refer to the CAP. Alternatives 8, 9, 12, 13, 14, 16 and 17 are not included in the Cost Affordable Plan and are, therefore, inconsistent with the LRTP.

2) Are safety concerns acceptably low to the County? - As stated in Section 4.2 above, correspondence from FDOT District 7 Secretary, Paul Steinman, stated that the Department seldom widens an arterial to 8 lanes or beyond as “research consistently shows that traffic focused on a limited number of wider corridors results in operational, safety, bicycle, and pedestrian issues.” The LRTP reflects this concern for safety through a policy which sets a maximum of 6 general use at grade lanes as allowable in Pasco County. Research related to the number of lanes and the safety of a facility is provided in Attachment E. Examples of "managed lanes" discussed in Attachment E include high-occupancy vehicle lanes, truck only lanes, bus rapid transit lanes, reversible lanes and express lanes either tolled or un-tolled.

Those alternatives that proposed constructing in excess of 6 general use, at grade lanes, and would, therefore, create safety concerns that are not acceptably low to the County include Alternatives 8, 9, 12, 13, 14, 16, and 17.

3) Are impacts to residences and businesses acceptably low to the County? - The County considers the social implications including changes in community cohesion associated with impacting or relocating homes, families, and businesses. Cost associated with relocations is accounted for in the cost analysis; however, the acquisition of right of way is completed in strict compliance with the Pasco County Real Estate Division's Right of Way Acquisition Process which includes the various state regulations that must be followed including the same federal laws/regulations which govern state/federally funded projects. Although both the federal and state laws acknowledge the need for acquisitions of private property for public projects and provide procedures that ensure just compensation for any loss of real or personal property, the federal and state laws do not encourage the acquisition of private property when there are alternatives that do not take private property.

While the County avoids the taking of private property and disruption of community cohesion where alternatives exist and while some of the alternatives being considered result in none to minor impacts, the importance of the proposed project to public safety is such that the County is willing to accept a reasonable impact to residences and businesses that would require acquisition and relocation. Alternatives that result in a taking of ten or more properties (residential and/or business) are considered excessive and not acceptably low to the County. In addition to the raw number of residential and business acquisitions, the County considers impacts to community cohesion of the remaining residences or businesses. Alternatives 2, 4, 8, 10, 12, 13, 14 and 15 would have impacts to residences and businesses that are not acceptably low to the County. Alternatives 2, 10, 12 and 14 are considered particularly unacceptable

because of serious community cohesion disruption in addition to the number of residences that would be taken.

4) Available as additional evacuation route? - Pasco County currently has two evacuation routes, SR 52 and SR 54, which are between 8 and 10 miles apart. Of the 250,000 people who live in coastal Pasco County, approximately 180,000 live within 2 miles of the existing Ridge Road between its current terminus at Moon Lake Road and west to the Gulf of Mexico. When an evacuation order is given for coastal Pasco County, these residents must go either north to SR 52 or south to SR 54 for evacuation. Taking Ridge Road to Moon Lake and DeCubellis Road is not a reasonable option because both of these north and south roadways are two lane roads that would not provide efficient evacuation capacity. Further, dramatic flooding has been documented on SR 54 which makes this evacuation route potentially unavailable to coastal Pasco residents as well as Pinellas County residents evacuating north through Pasco with the intent of utilizing SR 54. The extent and scope of this flooding is documented in Appendix E. The importance of having a third evacuation route is discussed in correspondence from FDOT District 7 Secretary, Paul Steinman, who states, “an additional route,...,would be necessary to fully accommodate the Pasco residents in the coastal communities” for both mobility and evacuation. The alternatives that include the Ridge Road Extension (2-7, 15, 16, and 17) and Tower Road (10, 12, 14, and 15) provide an additional evacuation route.

4.2.4 Other Summary Factors for Alternatives

Does alternative substantially meet overall Project Purpose? - To meet the overall Project Purpose as provided in the Introduction to Section 4.0 requires the selected alternative to improve east-west capacity and enhance overall mobility within the Study Area. Further the selected alternative must improve routing away from coastal hazard areas and improve hurricane evacuation clearance times.

Improved mobility was compared to the No Action Alternative and measured by analyzing improvements to vehicle miles of travel, vehicle hours of travel, speed, volume to capacity ratios on roadways, and crash rates within the Study Area. The results of this analysis are provided in Attachment C. With the exception of improving crash rates, all of the alternatives that were analyzed showed some improvements to mobility. However, some of the alternatives showed only minimal improvement. The alternatives with minimal improvement in mobility did not substantially meet the project purpose including Alternatives 10 and 14.

An analysis of time required to evacuate the coastal population was also conducted and evacuation times compared to the No Action alternative. This analysis is provided in Attachment D. Of the 17 alternatives analyzed, two showed only minimal improvement in evacuation time (Alternatives 10 and 14) and therefore, these alternatives do not substantially meet the project purpose. Three alternatives showed an increase in evacuation time (Alternatives 11, 12, and 16), which was related to those alternatives attracting evacuating traffic that then overwhelmed element of the roadway capacity associated with these alternatives.

Considering both mobility and evacuation times, Alternatives 10, 11, 12, 14 and 16 did not substantially meet the Project Purpose.

4.3 Alternatives Determined to be Practicable

Three of the 17 alternatives analyzed were determined to be practicable based on the practicability factors discussed above. These are Alternatives 3, 4, and 5. The criteria which were the most important in making the determination of practicability included: Availability; Likelihood of receiving an FDOT permit; Consistency with the LRTP; Total project cost; Cost related to improvement in mobility; Cost related to improvement of evacuation from the coastal area; and, Safety. The three alternatives are practicable to the County based on the County's ability to fund using all reasonable revenue sources. How each of these was determined to be practicable is described below.

Alternatives 2, 7, 10 and 15 were not determined to be practicable; however, they met most but not all of the practicability factors. They too are described below in Section 4.3.4.

4.3.1 Alternative 3

Alternative 3, a 4-lane extension of Ridge Road, meets the Project Purpose to improve mobility and reduce time required to evacuate the coastal population.

Compared to the No Action Alternative, this alternative reduces time to evacuate the coastal population by 6.6 hours which is a 42.5% improvement compared to the No Action Alternative. Approximately 180,000 people live within 2 miles of existing Ridge Road between its current terminus at Moon Lake Road and west to the Gulf of Mexico. When an evacuation order is given for this portion of the County, these residents must go either north to SR 52 or south to SR 54 to allow for evacuation away from the coast. Taking existing Ridge Road to Moon Lake Road and DeCubellis Road is not a reasonable option because both are two lane north and south. Two lane roads have less ability to accommodate incidents, should such occur. Ridge Road Extension, Alternative 3 would provide a logical and much needed missing link to the County's east-west arterial network that would substantially improve hurricane evacuation in the coastal area of west central Pasco County.

Compared to the No Action Alternative, Alternative 3 improves mobility by increasing Average Travel Speed by 10%; increasing Vehicle Miles of Travel by 8%; reducing Vehicle Hours of Travel by 2.0%; reducing the Volume to Capacity Ratio (congestion level) by 7% and improving Safety by reducing crashes 2% per day a reduction of 62 crashes per year within the Study Area. Extending Ridge Road to the east from its current terminus to intersect with the Suncoast Parkway and US 41 has been a part of Pasco County's Long Range Transportation plan since 1995. This extension would reduce travel time and distance caused by the current configuration of a four lane east-west roadway ending at the intersection with two lane north-south roadways that result in north-south travel of about 5 miles or more to get to the nearest east-west arterial to be able to continue east-west travel within the County. Extending Ridge Road to US 41

would, therefore, provide substantially improved east-west mobility in Pasco County by providing another arterial between the existing SR 52 and SR 54 arterials which are between 8 and 10 miles apart.

The total cost for Alternative 3 is \$80,289,000 which is \$3,630,000 more than the cost of the Applicant's originally proposed project, Alternative 5. This increased cost is due primarily to increased construction costs. Alternative 3 is practicable based purely on a total cost factor. This alternative is not unreasonably expensive to the applicant and is not unreasonable in terms of overall scope/cost and importance of the proposed project.

Alternative 3 is practicable because it does not have logistical or technical factors that make it unavailable or unobtainable by the applicant. This alternative is consistent with the Long Range Transportation Plan and is supported by the FDOT. Based on cost, technical and logistical factors, and in light of overall Project Purposes, Alternative 3 is practicable.

4.3.2 Alternative 4

Alternative 4, a 4-lane extension of Ridge Road, meets the Project Purpose to improve mobility and reduce time required to evacuate the coastal population.

Compared to the No Action Alternative, this alternative reduces time to evacuate the coastal population by 6.6 hours which is a 42.5% improvement compared to the No Action Alternative. Approximately 180,000 people live within 2 miles of existing Ridge Road between its current terminus at Moon Lake Road and west to the Gulf of Mexico. When an evacuation order is given for this portion of the County, these residents must go either north to SR 52 or south to SR 54 to allow for evacuation away from the coast. Taking existing Ridge Road to Moon Lake Road and DeCubellis Road is not a reasonable option because both are two lane north and south. Two lane roads have less ability to accommodate incidents, should such occur. Ridge Road Extension, Alternative 4 would provide a logical and much needed missing link to the County's east-west arterial network that would substantially improve hurricane evacuation in the coastal area of west central Pasco County.

Compared to the No Action Alternative, Alternative 4 improves mobility by increasing Average Travel Speed by 10%; increasing Vehicle Miles of Travel by 8%; reducing Vehicle Hours of Travel by 2.0%; reducing the Volume to Capacity Ratio (congestion level) by 7% and improving Safety by reducing crashes 2% per day a reduction of 62 crashes per year within the Study Area. Extending Ridge Road to the east from its current terminus to intersect with the Suncoast Parkway and US 41 has been a part of Pasco County's Long Range Transportation plan since 1995. This extension would reduce travel time and distance caused by the current configuration of a four lane east-west roadway ending at the intersection with two lane north-south roadways that result in north-south travel of about 5 miles or more to get to the nearest east-west arterial to be able to continue east-west travel within the County. Extending Ridge Road to US 41 would, therefore, provide substantially improved east-west mobility in Pasco County by providing another arterial between the existing SR 52 and SR 54 which are 8 to 10 miles apart.

The total cost for Alternative 4 is \$87,974,000 which is \$11,315,000 more than the cost of the Applicant's originally proposed project, Alternative 5. This increased cost is due primarily to construction costs and the cost to acquire right-of-way, none of which has been acquired east of the Suncoast Parkway, and the cost to impact 5 residences, acquire 11 homes and relocate families. Alternative 4 is practicable based purely on a total cost factor. This alternative is not unreasonably expensive to the applicant and is not unreasonable in terms of overall scope/cost and importance of the proposed project.

Alternative 4 is practicable because it does not have logistical or technical factors that make it unavailable or unobtainable by the applicant. This alternative is consistent with the Long Range Transportation Plan and is supported by the FDOT. Alternative 4 would, however, result in impacts to 5 homes, acquisition of 11 homes and the relocation of the families occupying these homes. No impacts to businesses are anticipated.

Based on cost, technical and logistical factors, and in light of overall Project Purposes, Alternative 4 is practicable.

4.3.3 Alternative 5

Alternative 5, a 4-lane extension of Ridge Road and the Applicant's originally Proposed Project, meets the Project Purpose to improve mobility and reduce time required to evacuate the coastal population.

Compared to the No Action Alternative, this alternative reduces time to evacuate the coastal population by 6.6 hours which is a 42.5% improvement compared to the No Action Alternative. Approximately 180,000 people live within 2 miles of existing Ridge Road between its current terminus at Moon Lake Road and west to the Gulf of Mexico. When an evacuation order is given for this portion of the County, these residents must go either north to SR 52 or south to SR 54 to allow for evacuation away from the coast. Taking existing Ridge Road to Moon Lake Road and DeCubellis Road is not a reasonable option because both are two lane north and south. Two lane roads have less ability to accommodate incidents, should such occur. Ridge Road Extension, Alternative 5 would provide a logical and much needed missing link to the County's east-west arterial network that would substantially improve hurricane evacuation in the coastal area of west central Pasco County.

Compared to the No Action Alternative, Alternative 5 improves mobility by increasing Average Travel Speed by 10%; increasing Vehicle Miles of Travel by 8%; reducing Vehicle Hours of Travel by 2.0%; reducing the Volume to Capacity Ratio (congestion level) by 7% and improving Safety by reducing crashes 2% per day a reduction of 62 crashes per year within the Study Area. Extending Ridge Road to the east from its current terminus to intersect with the Suncoast Parkway and US 41 has been a part of Pasco County's Long Range Transportation plan since 1995. This extension would reduce travel time and distance caused by the current configuration of a four lane east-west roadway ending at the intersection with two lane north-south roadways

that result in north-south travel of about 5 miles or more to get to the nearest east-west arterial to be able to continue east-west travel within the County. Extending Ridge Road to US 41 would, therefore, provide substantially improved east-west mobility in Pasco County by providing another arterial between the existing SR 52 and SR 54 which are 8 to 10 miles apart.

The total cost for Alternative 5 is \$76,659,000. This cost is due primarily to construction and mitigation costs. Alternative 5 is practicable based purely on a total cost factor. This alternative is not unreasonably expensive to the applicant and is not unreasonable in terms of overall scope/cost and importance of the proposed project.

Alternative 5 is practicable because it does not have logistical or technical factors that make it unavailable or unobtainable by the applicant. This alternative is consistent with the Long Range Transportation Plan and is supported by the FDOT.

Based on cost, technical and logistical factors, and in light of overall Project Purposes, Alternative 5 is practicable.

4.3.4 Other Alternatives

Considering the factors for practicability, four other alternatives (2, 7, 10 and 15) met most but not all of the criteria.

Alternative 2

Alternative 2 is a 4 lane extension of Ridge Road that meets the Project Purpose to improve mobility and reduce time required to evacuate the coastal population.

Compared to the No Action Alternative, this alternative reduces time to evacuate the coastal population by 6.6 hours which is a 42.5% improvement. Approximately 180,000 people live within 2 miles of existing Ridge Road between its current terminus at Moon Lake Road and west to the Gulf of Mexico. When an evacuation order is given for this portion of the County, these residents must go either north to SR 52 or south to SR 54 to allow for evacuation away from the coast. Taking existing Ridge Road to Moon Lake Road and DeCubellis Road is not a reasonable option because both are two lane north and south. Two lane roads have less ability to accommodate incidents, should such occur. Ridge Road Extension, Alternative 2 would provide a logical and much needed missing link to the County's east-west arterial network that would substantially improve hurricane evacuation in the coastal area of west central Pasco County.

Compared to the No Action Alternative, Alternative 2 improves mobility by increasing Average Travel Speed by 10%; increasing Vehicle Miles of Travel by 8%; reducing Vehicle Hours of Travel by 2.0%; reducing the weighted Volume to Capacity Ratio (congestion level) by 7% and improving Safety by reducing crashes 2% per day, a reduction of 62 crashes per year, within the Study Area. Extending Ridge Road to US 41 would, therefore, provide substantially improved

east-west mobility in Pasco County by providing another arterial between the existing SR 52 and SR 54 which are 8 to 10 miles apart.

The total cost for Alternative 2 is \$102,451,000 which is \$25,792,000 more than the cost of the Applicant's originally proposed project, Alternative 5. This increased cost is due primarily to the cost to acquire right-of-way, none of which has been acquired east of the Suncoast Parkway. Alternative 2 is practicable based purely on a total cost factor. This alternative is not unreasonably expensive to the applicant and is not unreasonable in terms of overall scope/cost and importance of the proposed project. Alternative 2 is consistent with the Long Range Transportation Plan and is supported by the FDOT.

However, Alternative 2 received a No for a logistical factor that makes it unavailable or unobtainable by the applicant. Specifically, the impacts to residences and businesses and community cohesion are unacceptably high to the County.

The assessment of impacts to residences and businesses can be found in Attachment E. Alternative 2 was shown to result in the acquisition of twenty two (22) residences and relocation of the families living there. These homes are located in a subdivision just to the west of US 41. This subdivision did not exist at the time that permitting began. In addition to the relocation of the existing homes, 85 vacant lots would be taken. This alignment would go through the middle of this platted neighborhood, bisecting internal residential roadways, and substantially disrupting community cohesion. Because Alternative 2 is a limited access facility, access for much of this subdivision would have to be replaced by constructing an overpass over the RRE. This required cost was not included in the construction cost estimate for Alternative 2.

This estimate of impacts is extremely conservative and only takes into account the right-of-ways impact touching 22 developed residential lots and 85 undeveloped lots in the subdivision. Even though the roads in the subdivision which would be impacted are dedicated to the public, the individual homeowners also have a private easement in the roadways separate from the rights of the public. Florida courts recognize that this private easement is a property right which the owner cannot be deprived of under due process of law. It is probable that many additional residents in the subdivision would sue for injunction to prevent interference with their private property right demanding initiation of condemnation action or seeking compensation for loss of this easement through inverse condemnation.

Based on the extreme community impact, Alternative 2 is not practicable to the County.

Alternative 7

Alternative 7, a partially elevated Ridge Road Extension, was available, consistent with the LRTP, had no safety concerns, no impacts to residences and businesses, and substantially met the Project Purpose of substantially improving both evacuation time and mobility. Alternative 7 is, however, not practicable based solely on the County's inability to fund the total project cost,

\$135,665,000, which is \$59,006,000 more than the Applicant's originally proposed Project, Alternative 5.

Alternative 10

Alternative 10, a 4-lane at grade Tower Road, was available, consistent with the LRTP, had no safety concerns, and was affordable to the County. However, an estimated project cost of \$100,907,000 is unreasonably expensive to the applicant based on minimal improvements to mobility and evacuation times. This cost is \$24,248,000 more than the Applicant's originally Proposed Project, Alternative 5. Because this alternative had only minimal improvements to mobility and evacuation times, is unreasonably expensive to the applicant based on that minimal improvement and did not substantially meet the Project Purpose, Alternative 10 is not practicable.

Compared to the No Action Alternative, this alternative only minimally reduces time to evacuate the coastal population by 1.6 hours, which is a 14% improvement compared to the No Action Alternative. Compared to the No Action Alternative, Alternative 10 improves mobility by increasing Average Travel Speed by 4%; increasing Vehicle Miles of Travel by 1%; reducing Vehicle Hours of Travel by 2%; reducing the Volume to Capacity Ratio (congestion level) by 5% and reduces Safety by increasing the crash rate 2% per day, an increase of 80 crashes per year within the Study Area.

However, Alternative 10 received a No for logistical factor that makes it unavailable or unobtainable by the applicant. Specifically, the impacts to residences and businesses and community cohesion are unacceptably high to the County. Alternative 10 was shown to result in the acquisition of twenty-two (22) residences and relocation of the families living there. This alternative would also have serious community cohesion impacts by changing a loop road into two cul-de-sacs. The roadway serving the neighborhood, Wisteria Loop, would be severed substantially disrupting community cohesion. Access would have to be replaced by providing connections to the new Tower Road.

Because this alternative had only minimal improvements to mobility and evacuation time, has a substantial increase in crashes over the No Action Alternative, has serious and unacceptable impacts to residents and community cohesion, is unreasonably expensive to the applicant based on that minimal improvement, and did not substantially meet the Project Purpose, Alternative 10 is not practicable.

Alternative 15

Alternative 15, a 2-lane Ridge Road Extension and a 2-lane Tower Road, was available, consistent with the LRTP, had no safety concerns, and substantially met the Project Purpose. However, the County is unable to fund the total project cost for this alternative, \$121,199,000, which is \$44,540,000 more than the cost of the Applicant's originally Proposed Project, Alternative 5. This alternative also has substantial impacts on an existing neighborhood,

impacting a total of 20 residences of which 12 would require acquisition and relocation of those families. The roadway serving the neighborhood, Wisteria Loop, would be severed substantially disrupting community cohesion. Access would have to be replaced by providing connections to the new Tower Road.

Based on the County's ability to fund the project and substantial community impacts, Alternative 15 is not practicable.

4.3.5 Modified Partially Elevated Alternative 7

As discussed above, original Alternative 7, a partially elevated Ridge Road Extension, is not practicable based on the County's inability to fund the project.

In an effort to maximize wetland avoidance at a cost that is affordable to the County, the County is considering a Modified Alternative 7 that would include elevated sections of the Ridge Road Extension through the Serenova Preserve, but less extensive roadway elevation and at a substantially lower cost than original Alternative 7. By reducing the amount of bridging, the Modified Alternative 7 would result in a total project cost of \$101,818,000 which is \$25,159,000 more than the cost of Alternative 5, the Applicant's originally Proposed Project, Alternative 5. All of this substantial increase in cost is within Phase 1 between Moon Lake Road and the Suncoast Parkway based on increased bridging resulting in an immediate need to reprioritize transportation funding to allow this Modified Alternative 7. Based on the extreme importance of this project to public safety, the County is willing to fund this alternative and avoid wetland impacts similar to, but less than one acre more than the original Alternative 7.

In order to provide the USACE with all of the data necessary to complete a full Alternatives Analysis for Modified Alternative 7, the Applicant has expanded Table 1-1 to include data for the additional alternative and attached it hereto as Table 4-1. Other information and analyses are included in Attachment K, Technical Data for Modified Alternative 7. Table 4-2 presents the Practicability analysis for Modified Alternative 7.

4.4 Environmental Impacts of Practicable Alternatives

Using the outline and instructions provided by the Corps in Step 4 of its June 2014 guidance, the County has focused its comparison of environmental impacts on the remaining practicable alternatives. With the addition of Modified Alternative 7, the analysis has identified four practicable alternatives to evaluate and compare for environmental impacts. The remaining four practicable alternatives (Alternatives 3, 4, 5, and Modified 7) are shown on the Environmental Factors Matrix, Table 4-3.

Direct wetland impacts range from a high of 27.9 acres for Alternative 5 to a low of 22.6 acres for Modified Alternative 7. Through the use of bridging, Modified Alternative 7 reduces impacts to the Serenova Tract of the Serenova Preserve by restricting most impacts to herbaceous

fringes of wetlands, preserving the wetland cores, and preserving connectivity of the few large wetlands that cannot be avoided by bridging. Modified Alternative 7 wetland impacts total 1.8 acres within the Serenova Tract (this includes the 1.0 acre of wetland impact for all of the central alternatives required to construct the interchange at the Suncoast Parkway), whereas Alternatives 3-5 each total 7.0 acres within Serenova. Modified Alternative 7 only has an additional 0.8 acres of wetland impact within the Serenova Preserve when compared to Alternative 7, which is far more expensive.

The quality of the wetlands to be impacted for all of the practicable alternatives is highly similar, and the highest quality wetlands are within the Serenova Tract. Because it impacts less acreage in the Serenova Tract, Modified Alternative 7 has less impact to high quality wetlands than any of the Alternatives 3-5. The great majority of the wetland impacts along each of these practicable alternatives are to palustrine forested wetlands with Alternatives 3, 5, and Modified 7 having between 78 and 79 percent forested and Alternative 4 having 75 percent forested.

Direct impacts to wildlife habitat range from 86.1 acres for Modified Alternative 7 to 88.3 acres for Alternative 3. Within Serenova, Alternatives 3-5 each impact 49.1 acres of natural upland wildlife habitat. Modified Alternative 7 impacts 48.0 acres of natural upland wildlife habitat. Wildlife impacts are very similar for all of the practicable alternatives with Modified Alternative 7 potentially having slightly less impact. Impacts to Cultural Resources range from a low of 13.1 acres of impact on archeological and historic sites for Alternatives 5 and Modified Alternative 7 to a high of 18.9 for Alternative 4.

Modified Alternative 7 would have 5.3 acres less direct wetland impacts within the Serenova Preserve than the Applicant's originally proposed project, Alternative 5. Also, Modified Alternative 7 would have 1.2 acres less impact to natural upland habitat than Alternative 5. The additional bridging in Modified Alternative 7 would establish more unimpeded wildlife corridors for movement under the bridges. Impacts to wildlife species in Modified Alternative 7 are the lowest of the practicable alternatives. All of the practicable alternatives have No Impact to 5 species and Medium Impact to 5 species. Alternatives 3, 4, and 5 have Very Low impacts to 6 species while Modified Alternative 7 has Very Low impacts to 7 species. Impacts to Historic and Archaeological sites, 13.1 acres, are the same for Modified Alternative 7 as Alternative 5 and are the lowest of the practicable alternatives.

4.5 Apparent LEDPA

Even though the USACE determines the LEDPA at the time it makes the permit decision, the June 2014 guidance instructs the applicant to conclude the alternatives analysis with a description of the alternative proposed to be the LEDPA.

While the County believes any of the practicable alternatives would meet the Project Purpose, it believes, based on the foregoing data, that Modified Alternative 7 is the apparent LEDPA.

The County believes Modified Alternative 7 is the apparent LEDPA because compared to the other practicable alternatives, Modified Alternative 7 results in less direct wetland impacts, particularly within the Serenova Preserve, has less direct impact to Natural Upland Habitat, has less impact to listed species, establishes the greatest wildlife corridors by bridging, and has the least direct impact to archaeological sites.

Table 4-1. Pasco County Ridge Road Extension
Expanded 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
Mod Alt. 7	4-Lane RRE Partially Elevated ⁶	1.032	20.79	16.8	\$97,920,000	\$508,000	\$3,390,000	\$101,818,000	Yes	0	0	0	13.1	43.3	22.6	208.9	618	86.1	5	4	6	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	1	8	0.9	3.8	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.

Table 4-2. Alternatives Comparison Matrix for Practicability

Category	Alt. 5	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 6	Alt. 7	Modified Alt. 7	Alt. 8	Alt. 9	Alt. 10	Alt. 11	Alt. 12	Alt. 13	Alt. 14	Alt. 15	Alt. 16	Alt. 17	
Practicability Factors	Alt. 5 4-Lane RRE Yes	Alt. 1 No Action N/A	Alt. 2 4-Lane RRE Yes	Alt. 3 4-Lane RRE Yes	Alt. 4 4-Lane RRE Elevated ¹ Yes	Alt. 6 4-Lane RRE Elevated ¹ Yes	Alt. 7 4-Lane RRE Partially Elevated ¹ Yes	Modified Alt. 7 4-Lane RRE Partially Elevated ¹ Yes	Alt. 8 SR 52 Add 4-Lanes No	Alt. 9 SR 54 Add 4-Lanes No	Alt. 10 4-Lane Tower Rd Yes	Alt. 11 SR 54 4-Lane Elevated Yes	Alt. 12 2-Lane Tower Rd Add 2-Lanes No	Alt. 13 SR 52 Add 2-Lanes Add 2-Lanes No	Alt. 14 2-Lane Tower Rd Add 2-Lanes No	Alt. 15 2-Lane RRE 2-Lane Tower Rd Yes	Alt. 16 2-Lane RRE SR 54 Add 2-Lanes No	Alt. 17 2-Lane RRE SR 54 Add 2-Lanes No	
Availability	Available for acquisition? Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FDOT does not own ROW No	FDOT does not own ROW No	Yes	Yes	FDOT owns ROW No	FDOT owns ROW No	FDOT owns ROW No	FDOT owns ROW No	FDOT does not own ROW No	FDOT does not own ROW No	
Availability	Likely to receive FDOT permit? Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FDOT does not own ROW No	FDOT does not own ROW No	N/A	Yes	FDOT does not own ROW No	FDOT does not own ROW No	N/A	FDOT does not own ROW No	FDOT does not own ROW No	FDOT does not own ROW No	
	Total project costs reasonable? Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Yes	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Exceeds County's ability to fund No	Exceeds County's ability to fund No	
Cost	Costs reasonable for improvement in mobility? Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	Exceeds County's ability to fund; Mobility improvements minimal No	
	Costs reasonable for improvement in evacuation from coastal area? Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	Exceeds County's ability to fund; Increases evacuation time No	
Logistics	Consistent with LRPPP? Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	Yes	Yes	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	Not an adopted project; Exceeds 6 general use lane policy. No	
	Are safety concerns acceptably low to the County? Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	Yes	Yes	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	More than 6 general use lanes considered less safe by FDOT No	
Logistics	Are impacts to residences and businesses acceptably low to the County? Yes	N/A	No	Acquisition of 22 residences Yes	Impacts to 5 residences; Acquisition of 11 residences Yes	Yes	Yes	Yes	Impacts to 10 residences; Acquisition of 10 residences; Impacts to 6 businesses No	Impacts to 3 residences; Impacts to 17 businesses; Acquisition of 2 businesses Yes	No	Impacts to 2 residences; Impacts to 8 businesses; Acquisition of 2 businesses Yes	Impacts to 10 residences; Acquisition of 12 residences; Impacts to 13 businesses; Acquisition of 1 business No	Impacts to 13 residences; Acquisition of 9 residences; Impacts to 16 businesses; Acquisition of 1 business No	Impacts to 19 residences; Acquisition of 21 residences; Impacts to 6 businesses No	Impacts to 8 residences; Acquisition of 12 residences; Impacts to 1 business No	Impacts to 11 residences; Acquisition of 9 residences; Impacts to 5 businesses Yes	Impacts to 2 residences; Impacts to 11 businesses; Acquisition of 1 business Yes	
	Available as additional evacuation route? Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	SR 54 already an evacuation route No	SR 54 already an evacuation route No	Yes	No	Tower Rd must be accessed by existing evacuation route SR 54 Yes	SR 52 already an evacuation route Yes	SR 54 already an evacuation route Yes	SR 54 already an evacuation route Yes	SR 54 already an evacuation route Yes	SR 54 already an evacuation route Yes	
Other Summary Factors for Alternatives	Does alternative substantially meet overall project purpose? Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	Increases evacuation time from coastal area No	
	Supported by discussions in sections 3 & 4? Yes	N/A	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Practicable	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No

1. Elevated or partially elevated only within limits of Serranovs Preserve.

Table 4-3. Environmental Factors Matrix

Environmental Factors	Alt. 3 4-Lane RRE	Alt. 4 4-Lane RRE	Applicant's Original Proposed Project Alt. 5 4-Lane RRE	Modified Alt. 7 4-Lane RRE Partially Elevated ¹
Direct Wetland Impacts (Acres)	27.1	27.2	27.9	22.6
Direct Habitat Impacts to Natural Uplands (Acres)²	88.3	87.6	87.3	86.1
Impacts to Wildlife Species³	No-- 5 Very Low-- 4 Low-- 6 Medium-- 5	No-- 5 Very Low-- 4 Low-- 6 Medium-- 5	No-- 5 Very Low-- 4 Low-- 6 Medium-- 5	No-- 5 Very Low-- 4 Low-- 6 Medium-- 5
Direct Impacts to Archaeological and Historic Sites (Acres)	17.7	18.9	13.1	13.1

1. Elevated or partially elevated only within limits of Serenova Preserve.
2. Natural Uplands include flatwoods, oak scrub, sand pine scrub, hardwood hammock, and sandhill.
3. See Table I-2 in Attachment I for selected wildlife species evaluated.

Prepared 3-20-15