U.S. COAST GUARD

FINDING OF NO SIGNIFICANT IMPACT

FOR

PROPOSED REPLACEMENT BRIDGE ACROSS THE GULF INTRACOSTAL WATERWAY, MILE 113.0, ON S.R. 679, (PINELLAS BAYWAY STRUCTURE E) AT TIERRA VERDE, PINELLAS COUNTY, FLORIDA

This project has been thoroughly reviewed by the Coast Guard, and it has been determined, by the undersigned, that this project will have no significant effect on the human environment.

This Finding of No Significant Impact is based on the attached applicant prepared Environmental Assessment, which has been independently evaluated by the Coast Guard and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project and provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The Coast Guard takes full responsibility for the accuracy, scope and content of the attached Environmental Assessment.

1/23/2009	Randall D. Overton	Bridge Management Specialist
Date	Environmental Reviewer	Title/Position

I have considered the information contained in the EA, which is the basis for this FONSI. Based on the information in the EA and this FONSI document, I agree that the proposed action as described above, and in the EA, will have no significant impact on the environment.

2/3/2009	Jennifer A Ketchum	Chief, Bridge Branch
Date	Responsible Official	Title/Position

The United States Coast Guard (USCG) has determined that this project will have no significant effect on the human environment. The Finding of No Significant Impact (FONSI) is based on the attached applicant prepared Environmental Assessment (EA), which has been independently evaluated by the USCG and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The USCG takes full responsibility for the accuracy, scope, and content of the attached EA. This Finding is also based upon careful review of public comments received in response to said environmental document.

The location of the proposed action is a section of S.R. 679 (Pinellas Bayway Structure E) over the Gulf Intracoastal Waterway in Pinellas County, Florida. The study limits of the proposed action extend from south of Madonna Boulevard (milepost 8.366) in Tierra Verde (Pinellas County) to south of S.R. 682 (milepost 9.454), in St. Petersburg, a distance of 1.088 miles (mi). Structure E (Bridge Number 150049), known locally as the Tierra Verde Bridge, is a two-lane low-level double-leaf bascule structure that was originally constructed in 1961. Structure E provides a 90-foot (ft) horizontal clearance between fenders and a 21.5-ft vertical navigational clearance (when closed) over the Intracoastal Waterway.

S.R. 679 is functionally classified as an urban minor arterial. In addition, S.R. 679 is a designated hurricane evacuation route. Routine bridge inspections have identified safety and structural problems associated with the age of the existing bridge, including concrete delaminations, spalls, cracks, and other deficiencies. At present, Structure E is not posted for any weight restrictions. Structure E is functionally obsolete and has a scour vulnerability rating of "scour critical." As with all bascule bridges, it also contains fracture critical elements, meaning that members are subject to tension such that failure could result in collapse of bridge spans. The remaining service life under normal maintenance conditions is estimated to be six years, meaning that under the current normal maintenance program, the bridge will need to be rehabilitated or replaced by year 2011.

The Recommended Alternative (Alternative 5A) includes replacing the existing two-lane double-leaf bascule bridge with a high-level fixed bridge structure providing 65-ft vertical clearance over the existing channel. The Village at Tierra Verde (The Village) driveway will be relocated to align with Madonna Boulevard. Based on the data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of the waterway users that currently use the channel to safely navigate under the proposed structure.

The proposed bridge replacement typical section includes one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path. The overall width of the fixed-span is 65 ft.

South of the bridge the typical section transitions from a four-lane divided urban roadway with turn lanes to the undivided two-lane bridge. The proposed roadway typical section approaching the north end of the bridge is similar to the proposed bridge except it is elevated

on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5 ft high pedestrian/bicycle railing will be provided on the outside. Pedestrian hand railings are required on the sidewalks when the grades exceed 5 percent. The proposed roadway at grade north of the bridge is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 45 miles per hour (mph).

The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. All superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue via the existing northern set of turnouts. Vehicles could then travel along the causeway on either side to reach the beach area at the southern end of the causeway. Unlike the existing condition, the proposed bridge (north side only) could accommodate vehicular traffic under the bridge from one side of the causeway to the other.

The proposed bridge structure is anticipated to accommodate a stormwater management facility (SMF) under both the north and south end of the bridge to meet treatment requirements for the Recommended Alternative. These proposed pond configurations will also accommodate a potential future S.R. 679 widening to four-lanes without modification, if warranted.

Since the proposed project involves the improvement of an existing facility with no right-of-way (ROW) acquisition, no splitting or isolation of neighborhoods will occur. The project is not anticipated to harm elderly persons, handicapped individuals, non-drivers and transit-dependent individuals, or minorities. The project improvements will not affect community cohesiveness. This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968, and in accordance with Executive Order 12898, issued on February 11, 1994.

The construction of the Recommended Alternative, with the relocation of The Village at Tierra Verde driveway to align with Madonna Boulevard, is not expected to cause any relocations or ROW acquisition needs.

The USCG, in compliance with Section 106 of the National Historic Preservation Act and in consultation with the State Historic Preservation Officer (SHPO), has determined the proposed action will have no effect upon any properties protected under Section 106. The SHPO concurrence letter is dated March 17, 2006.

The USCG is no longer part of the United States Department of Transportation (USDOT); therefore, Section 4(f) of the Department of Transportation Act of 1966 does not apply to USCG projects.

In accordance with the Clean Air Act (CAA) Amendments of 1990 and Part 2, Chapter 16 of the Florida Department of Transportation's (FDOT) *Project Development and Environment Manual*, an Air Quality Screening Test was conducted for this project utilizing the FDOT carbon monoxide (CO) screening model, CO Florida 2004 (released September 7, 2004). The roadway intersection forecasted to have the highest total volume was S.R. 679 at Madonna Boulevard. Based on the results of the screening model, the highest project-related CO levels are not predicted to meet or exceed the National Ambient Air Quality Standard (NAAQS) for the pollutant with either the No-Build or Build alternatives. As such, the project "passes" the screening model. The project is located in an area that has been designated as Attainment for the 8-hour NAAQS for ozone under the criteria provided in the CAA and therefore, the CAA conformity requirements do not apply to the project.

An assessment of noise impacts has been conducted for the proposed project. For the Recommended Alternative, noise levels are not predicted to approach or exceed the Noise Abatement Criteria (NAC), nor are any noise sensitive sites predicted to experience a substantial increase in traffic noise compared to existing conditions.

In accordance with Executive Order 11990 "Protection of Wetlands" (May 1977), the proposed project was evaluated for potential impacts to wetlands. The anticipated involvement from the Recommended Alternative with wetlands and surface waters is 2.59 acres (ac), with 0.06 ac attributable to wetlands (Florida Land Use, Cover and Forms Classification System [FLUCCS] 612, 642, 652), 0.15 ac attributable to Submerged Aquatic Vegetation (SAV) (FLUCCS 911), and 2.38 ac attributable to surface waters (FLUCCS 540). It should be noted that the involvement with surface waters (FLUCCS 540) includes the entire area of the bay/estuary under the proposed bridge deck although all of that area may not be directly impacted.

For the Recommended Alternative, it has been determined that there are no practicable alternatives to construction in wetlands. All practicable measures will be used to reduce harm to wetlands during subsequent project phases. Short-term construction- related impacts will be minimized. Mitigation will be required for wetland involvement that results from the construction. To further minimize wetland involvement and affects to local water quality, specific measures will be implemented during construction. A full range of mitigation options were considered in developing this project to avoid long-term and short-term adverse involvement with wetland resources and to avoid new construction in wetlands wherever there is a practicable alternative. Mitigation policies have been established by the United States Army Corps of Engineers (USACE), the Florida Department of Environmental Protection (FDEP), and the water management districts. Options for mitigating the loss of wetlands include mitigation banking, upland and/or wetland preservation, wetland restoration, enhancement, and creation.

Wetland involvement resulting from the construction of this project are anticipated to be mitigated pursuant to Section 373.4137 F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 United States Code 1344. Under Section 373.4137 FS, mitigation of FDOT wetland impacts will be implemented by the Southwest Florida Water Management District (SWFWMD). The project is currently listed on the FDOT's wetland mitigation inventory, which is provided to the SWFWMD on an annual basis. It is anticipated that

FDOT will provide funding to the SWFWMD for implementation of wetland mitigation required for this project.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures that minimize harm to wetlands which may result from such use. Wetland involvement is considered to be minimal.

An *Essential Fish Habitat* (EFH) *Assessment* was conducted under the provisions of the Magnuson Fishery Conservation and Management Act of 1976, as amended through 1998 and currently regarded as the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Interagency coordination between FDOT and the National Marine Fisheries Service (NMFS) resulted in a list of Major EFH categories for managed species in the Gulf of Mexico. With the construction of the Recommended Alternative, impacts to the unconsolidated bottom portions of the bay are considered to be temporary in nature and not anticipated to have a significant impact to EFH.

Further consultation will be necessary to determine the most effective mitigation measures for the proposed impacts during the design and permitting phase of the project when more detailed information is available. The proposed project will potentially impact sparse beds of SAV, tidal marshes, mangroves communities and shoreline. With the Recommended Alternative, involvement with the wetland and SAV communities (FLUCCS codes 612, 642, 652, and 911) will be approximately 0.21 ac, with 0.15 attributed to seagrass impacts (FLUCCS code 911). The potential for shellfish harvesting was also evaluated. The project is within a prohibited zone for shellfish harvesting; therefore, there will be no involvement with the shellfish fishery.

Seagrass involvement is looked at carefully by the NMFS, and mitigation will have to fully compensate for the loss of the seagrass areas in the project area. During the development of the mitigation plan to be provided through SWFWMD, in accordance with Section 373.4137 F.S., the NMFS will be a part of the interagency team that reviews any plans proposed by SWFWMD as mitigation. With appropriate mitigation provided, this project is not anticipated to adversely affect EFH.

This project has been evaluated for potential affects to threatened and endangered species in accordance with Section 7(c) of the Endangered Species Act of 1973, as amended. The project was determined to have a "may affect, not likely to adversely affect" on the following federally protected species: smalltooth sawfish, Atlantic loggerhead turtle, Atlantic green turtle, Atlantic hawksbill turtle, leatherback turtle, Kemp's Ridley turtle, piping plover, wood stork, and the West Indian manatee.

The Department will implement the "Manatee and Sea Turtle Watch Program Guidelines" and the "Marine Wildlife Safety Plan" and the "Sea Turtle Construction Conditions" for protection of the five species of marine turtles (green turtle, leatherback turtle, hawksbill turtle, Kemp's Ridley turtle, loggerhead turtle) and the West Indian Manatee potentially occurring in the area. Note that no suitable nesting beaches are found in the project area and protective measures are for turtles in open water only. Through implementation of the

protection measures affects to these species will be avoided. Although the smalltooth sawfish was not observed in the area and the data as to its occurrence in the area are inconclusive, specific construction guidelines will be followed during the project for this species. With these guidelines in place, the project "may affect, not likely to adversely affect" the smalltooth sawfish. Potential foraging habitat for the piping plover exists in the project vicinity along the shoreline of the causeway associated with the northern portion of the study area. Critical Habitat for winter migration has been designated by the United States Fish and Wildlife Service (USFWS) for this species. However, the project is not within a Critical Habitat area for this species. No nesting or roosting habitat will be affected and impacts to potential foraging areas are minimal. Mitigation will be provided for unavoidable habitat losses resulting from the proposed project. Therefore, this project "may affect, not likely to adversely affect" this species. No colonies or wood stork roosts were identified within the study area during the field evaluations. The Florida Fish and Wildlife Conservation Commission (FFWCC) maintains a colony location database, which identifies two active wood stork colonies within 18.6 mi of the project corridor. The colony identification numbers are 615113 (17.82 mi away) and 615336 (18.5 mi away). Wetlands supporting the proper hydrologic regime for foraging purposes may be affected throughout the study area. It is also noted that impacts to foraging areas are estimated at less than 0.2 ac. If it is concluded that suitable wetlands are impacted, FDOT will coordinate with the USFWS to propose mitigation to offset effects to the wood stork colonies. It is anticipated that with this effort, the proposed project "may affect, not likely to adversely affect" the wood stork or its habitat.

The *Wetland Evaluation and Biological Assessment Report* (WEBAR) was submitted to agencies for review and determination of affect for the proposed improvements. On February 12, 2007, USFWS concurred that the proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act.

The submerged lands of Boca Ciega Bay are also sovereign State lands, requiring a public easement from the FDEP Board of Trustees of the Internal Improvement Trust Fund (TIITF). Although this is a proprietary issue rather than a regulatory matter, the approval of the easement has been linked to the Environmental Resource Permit (ERP) process and may impact permitting schedules.

The project is located within the Boca Ciega Bay Aquatic Preserve. Every effort will be made to maximize the treatment of stormwater runoff from the proposed structure. Coordination with FDEP and SWFWMD was initiated during the Efficient Transportation Decision Making (ETDM) process. To minimize impacts and effects to local water quality, specific measures will be implemented during construction. Short term construction related impacts will be minimized by adherence to FDOT's *Standard Specifications for Road and Bridge Construction*. Through these efforts, there will be minimal effect to the Boca Ciega Bay Aquatic Preserve.

Involvement with wetlands and surface waters due to the construction of the Recommended Alternative are estimated at 2.59 ac. Of those, 0.21 ac is attributable to wetlands and SAV, the remainder being to surface waters. The SWFWMD/FDEP requires an ERP when

construction of any project results in the creation of a water management system or in impacts to waters of the State. The ERP required for this project may be elevated to an Individual level by SWFWMD as the project is located within an Aquatic Preserve and an Outstanding Florida Water (OFW) and/or has seagrass impacts.

Boca Ciega Bay is classified as an OFW. The proposed storm water facility design will include, at a minimum, the water quality requirements for water quality impacts as required by the SWFWMD in Chapter 40D-40, F.A.C. and the United States Environmental Protection Agency (EPA).

In accordance with FDOT requirements, a contamination screening evaluation was performed to evaluate potential involvement with contaminated sites to the project. A Level I assessment was conducted to identify and evaluate sites containing hazardous materials, petroleum products, or other sources of potential environmental contamination along the S.R. 679 project area. A total of five sites were identified through the database search and field review. Three sites were given a ranking of medium risk and two sites were given a ranking of high risk. These sites have the potential to involve petroleum contamination or hazardous materials. At the three sites ranked medium and the two sites ranked high, additional contamination assessment activities (Level 2) may be warranted. For the Tierra Verde Bridge (Structure E, Bridge Number 150049) an asbestos and lead paint survey, along with the standard Level 2 contamination impact assessment will be conducted by FDOT during design. At known contamination sites, estimated areas of contamination will be marked on design drawings. Prior to construction, any necessary cleanup plans will be developed. Actual cleanup will take place prior to or during construction.

In accordance with Executive Order 11988, "Floodplain Management," USDOT Order 5650.2, "Floodplain Management and Protection," and Chapter 23, Code of Federal Regulations, Part 650A, encroachment to floodplains from the construction of the proposed project were considered. The Recommended Alternative falls within Federal Emergency Management Agency (FEMA) 100 year floodplain Zone AE, an area of 100-year flood where the base flood elevation has been determined (ranges from 9 ft to 12 ft) and flood hazard factors have been determined. These were determined based on tidal influences. The entire project is located within the 100-year storm surge floodplain; however, since it is tidally influenced, no floodplain mitigation is required. As a result, this project will not affect flood heights or floodplain limits. In addition, this project will not have any impacts on human life, transportation facilities, and natural and beneficial floodplains. Therefore, it has been determined that this encroachment is not significant.

The Department of Community Affairs (DCA) has determined, through the Advance Notification process, that this project is consistent with the Florida Coastal Zone Management Plan (FCZMP). The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent reviews. Final concurrence with the project will be determined during the environmental permitting stage (letter dated September 21, 2005).

Through coordination with the Natural Resources Conservation Service it has been determined that the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

The existing Tierra Verde Bridge (Structure E, Bridge Number 150049) is a low-level bascule structure that spans over the Intracoastal Waterway, a marked federal navigational channel. A USCG Bridge Permit will be required for the Recommended Alternative. The USCG guide clearances have been established for the Intracoastal Waterway. They are 21-ft vertical clearance at mean high water (MHW) for drawbridges and 65-ft vertical clearance at MHW for fixed bridges. The horizontal guide clearance is 100 ft between fenders. In comments received during the ETDM process, effects to navigation resources, the USCG has established that these clearances will apply to this reach of waterway. The existing horizontal clearance between fenders is 90 ft and the existing vertical clearance when the bridge is closed is 21.5 ft.

A Public Involvement Plan was conducted during the course of this study (see Section 5.0 of the EA). The EA was approved by the USCG for public availability on January 25, 2007. A Public Hearing was conducted on March 28, 2007. Alternative 6B: High-Level Fixed-Bridge over a Relocated Channel with Madonna Boulevard intersection Option B (relocate Madonna Boulevard to align with The Village driveway) was displayed as the Recommended Alternative at the Public Hearing. All comments and questions have been addressed and are part of the Public Hearing transcripts and Comments and Coordination Report.

Subsequent to the Public Hearing, coordination with the USACE continued in 2008. Meetings were held on January 25, 2008 and March 6, 2008. Through this coordination process, it was determined that the relocation of the Intracoastal Waterway would involve significant agency coordination between FDOT, USACE, USCG, Pinellas County as the local sponsor of the waterway, and the federal reviewing agencies. Issues to be resolved would include funding for the USACE to review the document, initial dredging, if required, maintenance dredging responsibilities, sediment transport, seagrass impacts, navigational markings, a new channel easement, and water quality.

Due to the additional required coordination, additional cost and impacts, potential liabilities, and delay to the schedule estimated at a year or more, the Recommended Alternative was changed to Alternative 5, the high-level fixed-bridge over the existing channel with realignment of The Village driveway. Alternative 5 was previously evaluated and presented at the public workshop. The proposed horizontal alignment and typical section did not change, except for the addition of handrails on the sidewalks to meet ADA requirements for grades over 5 percent. Alternative 5 was refined slightly to become Alternative 5A with the following details:

- The Village driveway will be realigned to form a four-leg signalized intersection with S.R. 679 with a single median opening at the existing Madonna Boulevard. This was previously evaluated as intersection Option A. This will result in no business relocations instead of 3 and save approximately $10 million in estimated ROW costs.

- The design speed on the proposed bridge was reduced from 50 mph to 45 mph. The posted speed will remain at 45 mph. The purpose of this change is to reduce the geometric sight-distance requirements at the crest curve on the bridge. This accommodates a vertical profile which minimizes the bridge length, thereby reducing the length of the proposed bridge.

- The grade from the top of the proposed bridge toward the north was reduced from the 6 percent to 5 percent. This is the maximum grade possible without triggering ADA requirements for flat landings on the sidewalks. It will be easier for pedestrians and bicyclists. The grade from Tierra Verde northward up to the crest of the bridge still needs to be 6 percent in order to clear the required 65-ft vertical navigational clearance over the existing channel without increasing the grade significantly at the Madonna Boulevard intersection.

- Realigning The Village driveway and reconstructing the guard gate would result in substantial cost savings. Internal circulation issues were addressed by including an egress gate from the internal drive, allowing vehicles to exit directly to the driveway, bypassing the guard gate. A presentation is planned to present the revised Recommended Alternative to The Village condominium Board of Directors following the USCG approval of this FONSI. The board will need to allow FDOT to construct a new driveway and guard house within a construction easement on The Village common area, and then return the area to The Village for maintenance.

- The median width of S.R. 679 through the Madonna Boulevard intersection was reduced to better accommodate pedestrians utilizing the crosswalks.

The EA was approved for public availability on January 25, 2007, and addresses all of the viable alternatives that were studied during project development. The environmental effects of all alternatives under consideration were evaluated when preparing the assessment. Even though the document was made available to the public before the Public Hearing, the FONSI was made after the consideration of all comments received as a result of the public availability and the Public Hearing.

In light of these considerations, and in consultation with FDOT, the USCG has found that the project constitutes a federal action which will not significantly affect the quality of the human or natural environment. The finding has been substantiated by in-depth analyses of the anticipated social, economic, and environmental impacts of the proposed action. The following individuals may be contacted for further information.

Mr. Randall Overton
Federal Permitting Agent
U.S. Coast Guard
909 SE 1st Avenue (Suite 432)
Miami, Florida 33131
(305) 415-6749
randall.d.overton@uscg.mil

Mr. Kirk Bogen
District Project Development Engineer
Florida Department of Transportation
District Seven, M.S. 7-500
11201 N. McKinley Drive
Tampa, Florida 33612
(813) 975-6448
kirk.bogen@dot.state.fl.us

FINAL
ENVIRONMENTAL ASSESSMENT

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Project Development and Environment Study
Pinellas County, Florida

Work Program Item Segment No: 410755 1

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

Prepared by:

PBS&J®

January 2007
Revised June 2008

SUMMARY OF EA UPDATES

A Listing of Items Updated Since the Signing of the EA

Since the EA was signed and approved for public availability on January 25, 2007, some events have occurred and some refinements have been made. In order to make it easier to find the new information in the EA, this section has been added. It references all of the updated items in the EA in bullet format, with each item referenced by topic, section number, and page number. In general, the text was changed to past tense where appropriate throughout the document. In addition, appendices were given new letters where appropriate after the USFWS letter was added in.

- **Project Location Map** **Section 1.0** **Page 1-2**

  Replaced with new Project Location Map which has more features identified.

- **Project Description** **Section 1.1** **Page 1-3**

  Changed project begin and end mileposts, total project distance, and some other text to match Final Preliminary Engineering Report (PER).

- **Proposed Improvements** **Section 1.2** **Page 1-4**

  Revised text for new Recommended Alternative and to match text in Final PER.

- **Figure 1-2** **Section 1.2** **Page 1-5**

  Replaced with Typical Section showing new Recommended Alternative (High-Level Fixed Bridge Existing Channel).

- **Structural Deficiencies** **Section 2.3** **Page 2-1**

  Added Sufficiency Ratings from 2006 and 2007 Bridge Inspection Reports to match text in Final PER.

- **Alternative 1 – Rehabilitation** **Section 3.1** **Page 3-3**

  Revised advantages and disadvantages to match text in Final PER.

- **Alternative 2 – Rehabilitation with Widening** **Section 3.2** **Page 3-9**

  Revised advantages and disadvantages to match text in Final PER.

- **Alternative 4 – Mid-Level Bascule Bridge Over Existing Channel**
  Section 3.4.2 Page 3-24

  Revised disadvantages to match text in Final PER.

- **Alternative 5 – High-Level Fixed-Bridge Over Existing Channel**
  Section 3.4.3 Pages 3-25, 3-28 & 3-29

  Revised text slightly, including advantages and disadvantages, to match text in Final PER.

- **Alternative 6 – High-Level Fixed-Bridge Over Relocated Channel**
  Section 3.4.4 Pages 3-29, 3-30 & 3-31

  Revised text slightly, including advantages and disadvantages, to match text in Final PER.

- **Public Sentiment Section 3.6.3 Page 3-37**

  Revised text slightly to match text in Final PER.

- **Selection of the Recommended Alternative Section 3.7 Page 3-37**

  Added "Initial" to section title. Revised text slightly and added final bullet for rationale behind the selection of the Recommended Alternative to match text in the Final PER.

- **Refinement of the Recommended Alternative Section 3.8 Page 3-38**

  Added "Initial" to section title. Added ROW to the construction cost and changed the date from August 2006 to January 2007. Revised text slightly to match text in Final PER.

- **Table 3-5 Recommended Alternative Evaluation Matrix Section 3.8 Page 3-39**

  Added "Initial" to the title. Added information for Surface water and updated data for wetlands and seagrass. Added ROW cost to the total alternative cost and changed the present value date from August 2006 to January 2007. Also clarified some descriptions to match Final PER.

- **Change of the Recommended Alternative Section 3.9 Pages 3-40 & 3-41**

  Added new section to explain how and why the Recommended Alternative was changed after the Public Hearing.

- **Refinement of the Revised Recommended Alternative Section 3.10 Pages 3-41 & 3-42**

  Added new section to explain how and why the revised Recommended Alternative was refined after the Public Hearing.

- **Table 3-6 Refined Recommended Alternative Evaluation Matrix Section 3.10 Page 3-43**

  New table which is an update of Table 3-5 to include the new refined Recommended Alternative and costs provided in April 2008 dollars.

- **Community Cohesion Section 4.1.2 Page 4-1**

  Revised text to indicate there will be no right-of-way acquisition.

- **Relocations Section 4.1.6 Page 4-7**

  Revised text to indicate that the new Recommended Alternative has no relocations.

- **Pedestrian and Bicycle Facilities Section 4.3.1 Pages 4-8 & 4-9**

  Added text pertaining to pedestrian hand railings to match text in Final PER.

- **Visual and Aesthetic Features Section 4.3.2 Page 4-9**

  Revised text to match text in Final PER.

- **Air Quality Section 4.3.3 Pages 4-9 & 4-10**

  Revised text slightly to match text in the Final PER.

- **Noise Section 4.3.4 Page 4-10**

  Revised text in the Future Traffic Noise Levels subsection to reflect data for the new Recommended Alternative and to match text in the Final PER.

- **Wetlands and Table 4-2 Section 4.3.5 Pages 4-11 & 4-13**

  Revised text and data in the table to reflect information for the new Recommended Alternative and to match the Final PER. Deleted reference to a relocated channel.

- **Essential Fish Habitat Section 4.3.6 Page 4-14**

  Deleted reference to a relocated channel and revised data to reflect information for the new Recommended Alternative and to match the Final PER.

- **Wildlife and Habitat** **Section 4.3.7 Page 4-15**

  The U.S. Fish and Wildlife Service concurrence letter has been received, and referenced in the text. The letter is included in Appendix D.

- **Aquatic Preserves** **Section 4.3.9 Page 4-18**

  Deleted reference to a relocated channel and revised data to reflect information for the new Recommended Alternative and to match the Final PER.

- **Outstanding Florida Water** **Section 4.3.11 Page 4-20**

  Revised text to include State Aquatic Preserve.

- **Contamination** **Section 4.3.12 Page 4-21**

  Revised text slightly to match text in the Final PER.

- **Navigation** **Section 4.3.18 Page 4-22**

  Revised text to reflect new Recommended Alternative (5A) and deleted reference to a relocated channel.

- **Construction** **Section 4.3.19 Pages 4-22 & 4-23**

  Deleted reference to a relocated channel and added text in the last paragraph (regarding West Indian manatee) to match text in the Final PER. Revised text throughout section to match text in the Final PER.

- **References** **Section 4.4 Page 4-24**

  Updated PD&E Study support documents with new revised dates, as applicable.

- **Efficient Transportation Decision Making** **Section 5.2 Page 5-1**

  Revised text slightly to match text in the Final PER.

- **Advance Notification** **Section 5.3 Page 5-2**

  Revised text slightly to match text in Final PER.

- **Interagency Coordination** **Section 5.4** **Page 5-2**

  Added coordination with USCG for review of the Draft EA and approval for public availability. Added four local agency meetings to Table 5-1 which were held after the Draft EA was approved. Added to the USACE coordination text.

- **Alternatives Public Workshop** **Section 5.5** **Pages 5-3 & 5-4**

  Fixed some wording and added last bullet item in the summary list of written comments under "other concerns."

- **Public Hearing** **Section 5.6** **Page 5-5 & 5-6**

  Details of the public hearing have been included in Section 5.6, which was blank in the Draft EA. This section now includes the date of the hearing and a summary of the comments obtained.

- **Other Public Outreach Activities** **Section 5.7** **Page 5-7**

  This section was updated to include additional public outreach activities related to the public hearing.

- **Newsletters** **Section 5.7.2** **Page 5-8**

  An additional newsletter was mailed to announce the public hearing.

- **Local Publications** **Section 5.7.4** **Page 5-8**

  Project-related information was also posted on local publication and private homeowner websites.

- **Commitments and Recommendations** **Section 6.0** **Page 6-1**

  Commitments and Recommendations have been included in Sections 6.1 and 6.2 respectively. These sections were blank in the Draft EA.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

LIST OF FIGURES

Section 1.0
DESCRIPTION OF THE PROPOSED ACTION

The proposed action involves replacement of the existing two-lane double-leaf bascule bridge (Pinellas Bayway Structure E). The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study for bridge and roadway improvement alternatives along S.R. 679 (Pinellas Bayway Structure E) at the Gulf Intracoastal Waterway, hereafter referred to as the Intracoastal Waterway. The project location map (Figure 1-1) illustrates the location and limits of the PD&E Study.

Purpose

The purpose of the PD&E Study was to provide documented environmental and engineering analyses to assist FDOT and the United States Coast Guard (USCG), the lead federal agency, in reaching a decision as to the type, location, and conceptual design of roadway and bridge improvements to the S.R. 679 (Pinellas Bayway Structure E) crossing of the Intracoastal Waterway. The PD&E Study also satisfies the requirements of the National Environmental Policy Act (NEPA) and other state and federal regulations.

The PD&E Study documents the need for the improvements, and presents the procedures that FDOT utilized to develop and evaluate various improvement alternatives including rehabilitation and replacement of the existing double-leaf bascule bridge (Bridge Number 150049) known locally as the Tierra Verde Bridge. FDOT collected information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions. FDOT then established design criteria and developed preliminary alternatives. The comparison of alternatives is based on a variety of parameters utilizing a matrix format. This process identified the alternative which would have the least impact, while providing the necessary improvements. The study also solicited input from the community and users of the facility. The design year for the analysis is 2030.

1.1 INTRODUCTION

Existing Conditions

S.R. 679 is functionally classified as an urban minor arterial. In addition, S.R. 679 is a designated hurricane evacuation route.

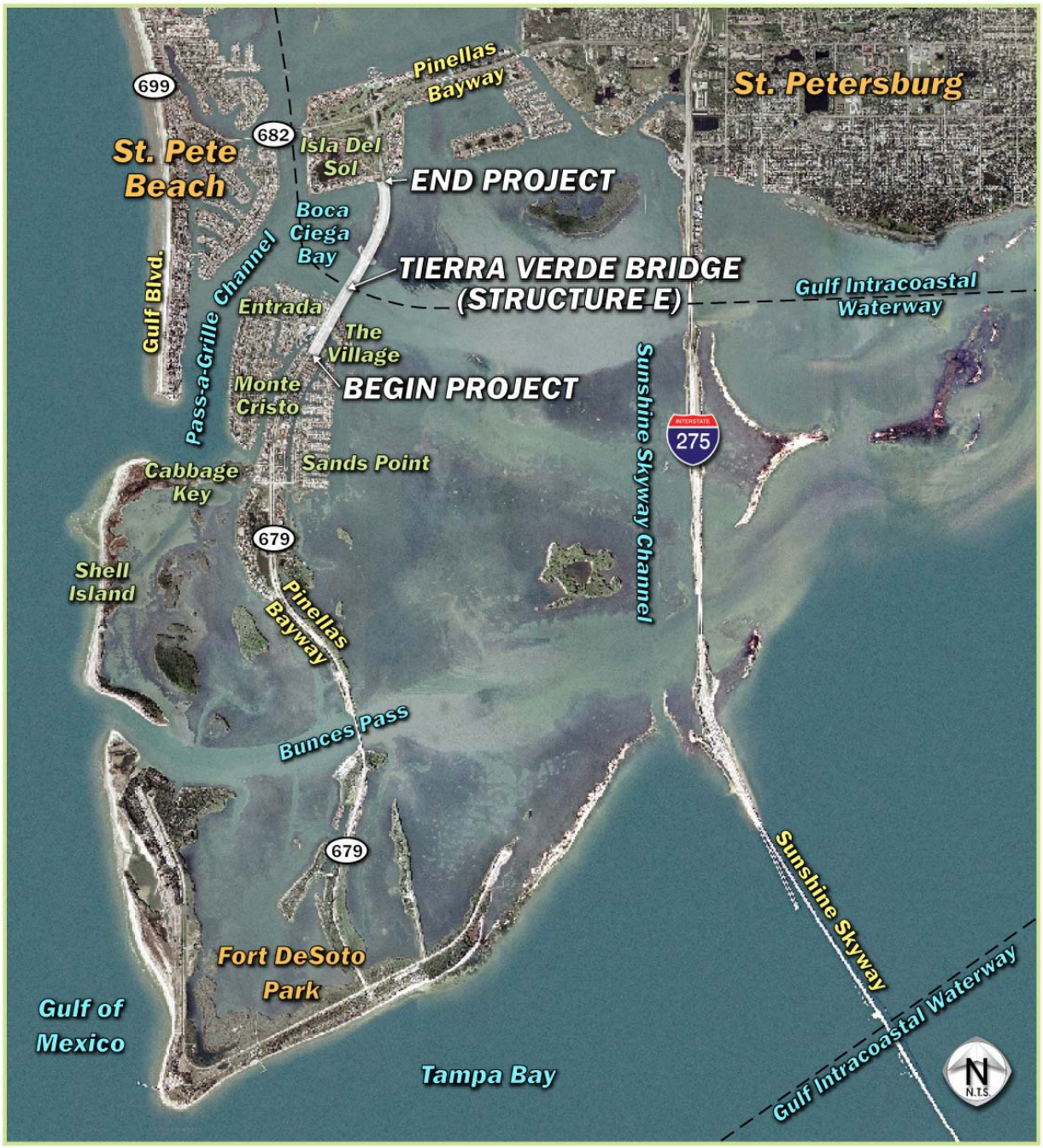
The existing roadway south of Structure E features a four-lane divided typical section with 12-foot (ft) travel lanes and a 64-ft landscaped median which includes unpaved 8-ft inside shoulders. A delineated and signed 4-ft bicycle lane is provided in each direction, separated from the travel lanes by a striped 8-ft paved area. Type F curb and gutter is provided on the outside. Sidewalks, 5 ft wide, are provided within each border. The existing right-of-way (ROW) width is 200 ft. The posted speed limit is 45 miles per hour (mph).

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

WPI Segment No : 410755-1

PROJECT LOCATION MAP

Figure 1-1



The existing roadway along the causeway north of Structure E features a two-lane, undivided, rural typical section with lanes varying in width from approximately 11 to 12 ft, 10-ft shoulders with 5-ft paved as a delineated and signed bicycle lane, guardrail and open drainage on both sides. Turnouts are provided at three locations for access to the water along the causeway. The existing ROW width is 1000 ft. The posted speed limit is 45 mph.

The existing two-lane bridge consists of 22 approach spans flanking a low-level double-leaf trunnion bascule span. Structure E was originally constructed in 1961. The existing bridge includes two similar typical sections, one for the approach spans, and another for the bascule span. The concrete deck on the approach spans is crowned in the center, while the open steel grid decking of the bascule span deck is level. Stormwater is discharged into the bay through scuppers spaced along the curb line. The bridge typical sections are symmetrical, providing 26 ft between curbs, and the deck is striped to provide one 12-ft wide traffic lane in each direction. There are pedestrian sidewalks along each fascia. The approach span sidewalks are each only about 3 ft wide, as measured between the reinforced concrete bridge railings at the fascias and the rear faces of the metal guardrail posts that flank the 1-ft-7 in (inch) wide concrete curbs. The bascule span sidewalks are each nearly 4 ft wide, and they are flanked by metal bridge railings at the fascias and 11.25-in wide metal curbs. The overall width between bridge copings is 37 ft, 9 in for the approach spans and 35 ft, 10 in for the bascule span. The causeway and bridge are located within a band of existing ROW of 1000 ft wide. The posted speed limit is 45 mph. Structure E provides a 90-ft horizontal clearance between fenders and a 21.5-ft vertical navigational clearance (when closed) over the Intracoastal Waterway.

At present, Structure E is not posted for any weight restrictions. Structure E is functionally obsolete and has a scour vulnerability rating of "scour critical." As with all bascule bridges, it also contains fracture critical elements, meaning that members are subject to tension such that failure could result in collapse of bridge spans.

Project Description

The PD&E Study limits encompass the portion of S.R. 679 from south of Madonna Boulevard (milepost 8.366) in Tierra Verde to south of S.R. 682 (milepost 9.454) in St. Petersburg, Florida, a distance of 1.088 miles (mi). The project is located within Sections 8, 17, and 20, Township 32 South, Range 16 East, and within the Pass-A-Grille Beach United States Geological Survey (USGS) quad map (quad Number 3022). Structure E is a low-level bascule structure that spans the Intracoastal Waterway, a marked federal navigational channel which generally runs between the mainland and the nearly contiguous barrier islands along the Gulf of Mexico. S.R. 679 is not part of the National Highway System (NHS), the Florida Intrastate Highway System (FIHS), or the Strategic Intermodal System (SIS); however, the Intracoastal Waterway within the PD&E Study area is on the SIS. In addition, both S.R. 682 and S.R. 679 are designated hurricane evacuation routes by the Florida State Emergency Response Team (SERT).

S.R. 679 was originally constructed in 1961 to join the man-made islands of Tierra Verde with Isla Del Sol in St. Petersburg in Pinellas County. S.R. 679 is a north-south urban minor arterial that provides the only vehicular access to the islands of Tierra Verde and Mullet Key, where Fort Desoto Park is located. S.R. 679 is part of the Pinellas Bayway toll system, which also includes S.R. 682.

Routine bridge inspections have identified safety and structural problems associated with the age of the existing bridge, including concrete delaminations, spalls, cracks, and other deficiencies. Structure E is functionally obsolete and is rated "scour critical." It also contains fracture critical elements, meaning that members are subject to tension such that failure could result in collapse of the bridge. The remaining service life under normal maintenance conditions is estimated to be 6 years, meaning that under the current normal maintenance program, the bridge will need to be rehabilitated or replaced by year 2011. Improvement alternatives considered for this facility include rehabilitation, rehabilitation (with widening), and replacement with a low-level bascule bridge, a mid-level bascule bridge, or a high-level fixed-bridge.

1.2 PROPOSED IMPROVEMENTS

The proposed improvements will include replacing the existing two-lane double-leaf bascule bridge with a high-level fixed-bridge structure providing 65-ft vertical navigational clearance over the existing channel. The Village at Tierra Verde (The Village) driveway will be relocated to align with Madonna Boulevard (Option A), as shown in Appendix A. Based on the data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of the waterway users that currently use the channel to safely navigate under the proposed structure.

The proposed bridge replacement typical section, shown in Figure 1-2, includes one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path. The overall width of the fixed-span is 65 ft.

South of the bridge, the typical section transitions between a four-lane divided urban roadway with turn lanes and the undivided two-lane bridge. Lane, shoulder and sidewalk widths will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge is shown in Figure 1-3. It is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. Pedestrian hand railings are required on the sidewalks when the grades exceed 5 percent. Figure 1-4 shows the proposed roadway at grade, which is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 45 mph.

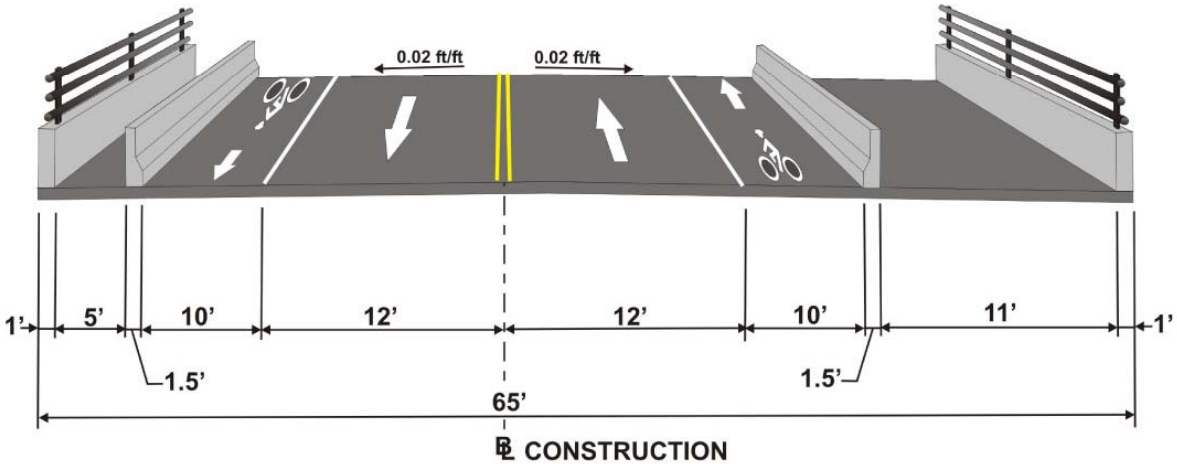
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bridge Typical Section

Recommended Alternative High-Level Fixed Bridge Existing Channel

WPI Segment No : 410755-1

Figure 1-2



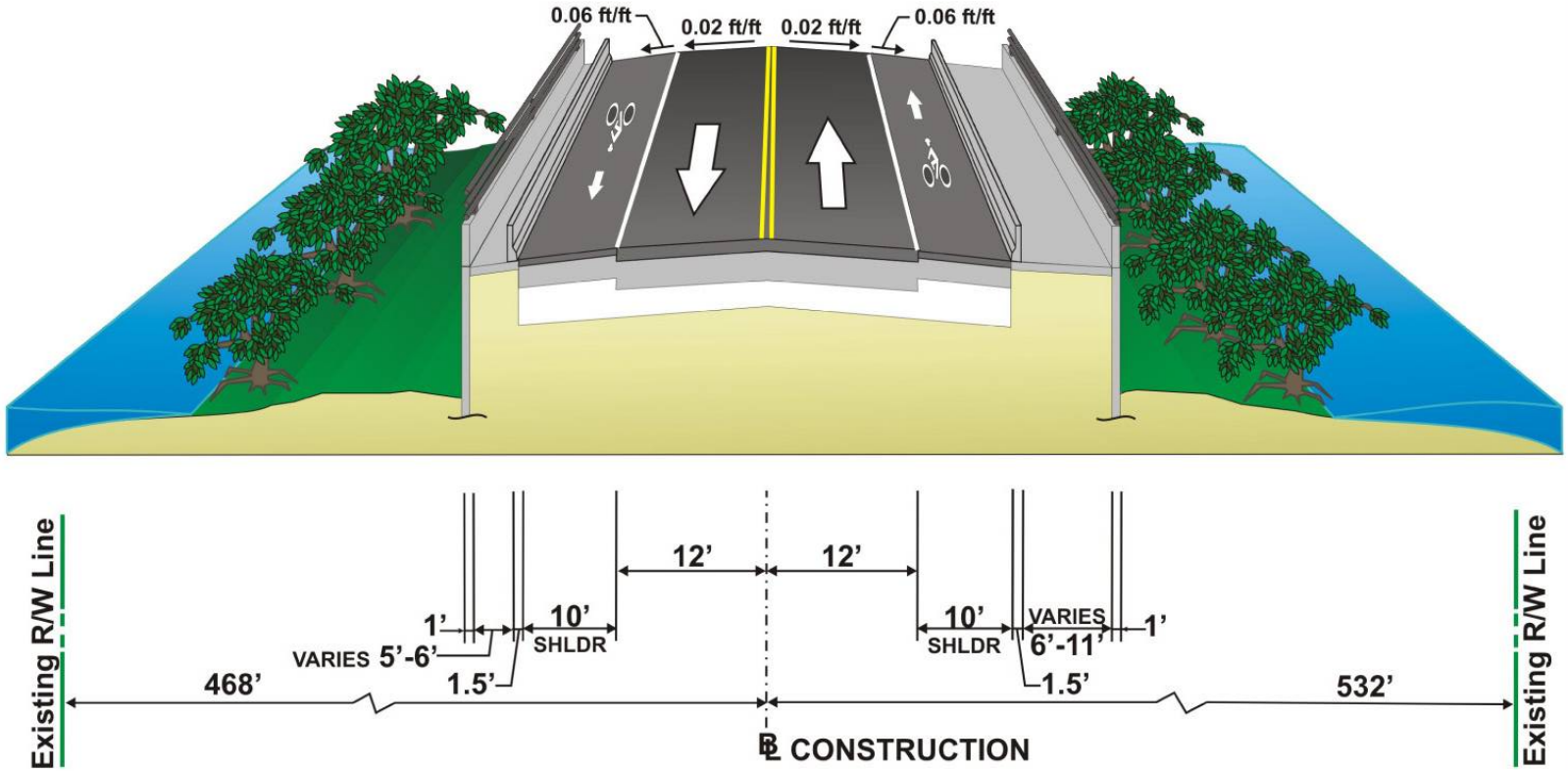
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Roadway Typical Section

Recommended Alternative Northern Approach to Structure E

WPI Segment No: 410755-1

Figure 1-3



P:\Projects\SR 679-100679\Graphics\Typicals\Fig 8-6 Final.ai

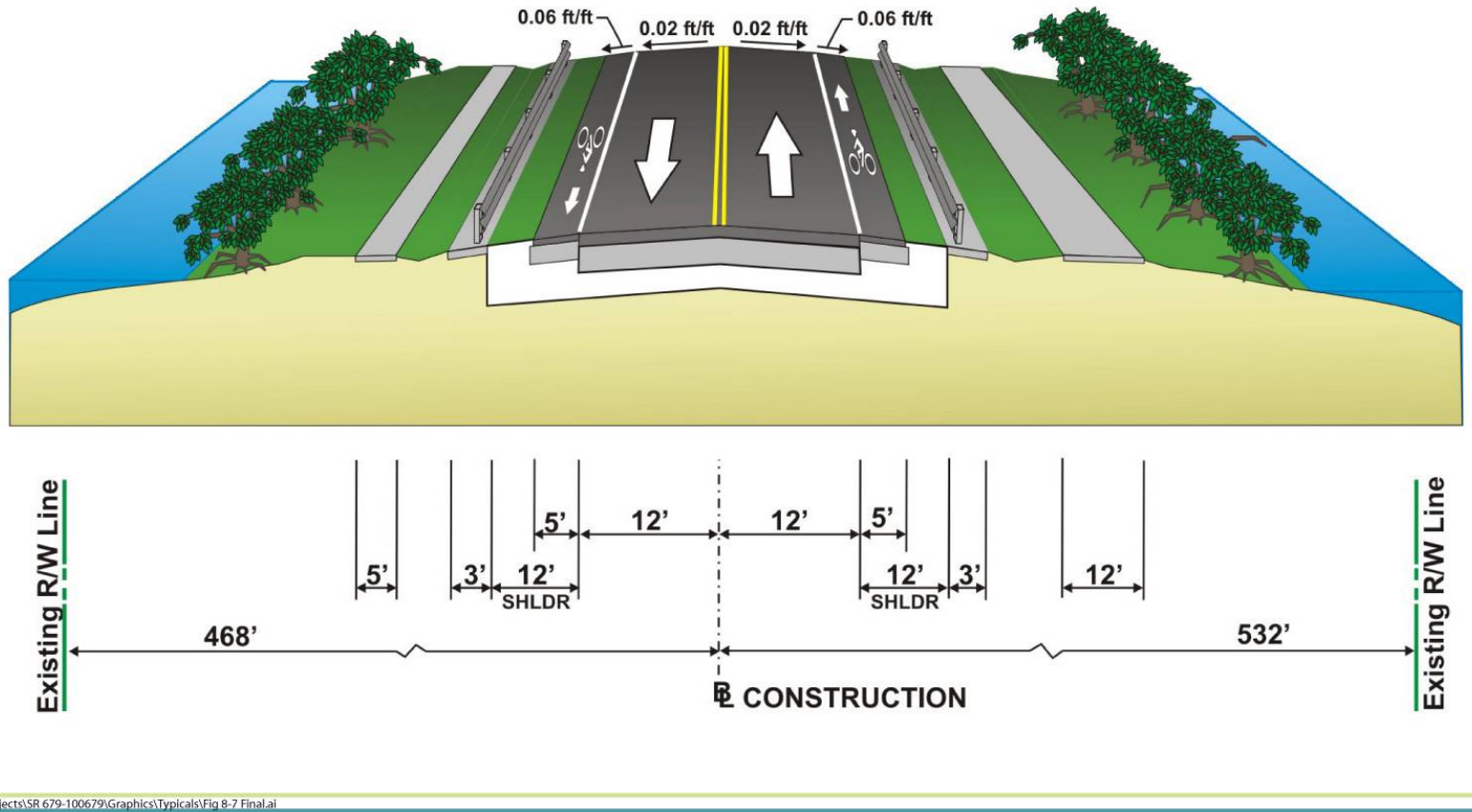
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Roadway Typical Section

Recommended Alternative North of Structure E

WPI Segment No: 410755-1

Figure 1-4



P:\Projects\SR 679-100679\Graphics\Typicals\Fig 8-7 Final.ai

The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. All superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue via the existing northern set of turnouts. Vehicles could then travel along the causeway on either side to reach the beach area at the southern end of the causeway. Unlike the existing condition, the proposed bridge (north side only) could accommodate vehicular traffic under the bridge from one side of the causeway to the other.

The proposed bridge structure is anticipated to accommodate a stormwater management facility (SMF) under both the north and south ends of the bridge to meet treatment requirements for the Recommended Alternative. These proposed pond configurations will also accommodate a potential future S.R. 679 widening to four-lane without modification, if warranted.

Section 2.0
PURPOSE AND NEED

The purpose of the Project Development and Environment (PD&E) Study was to provide documented environmental and engineering analyses to assist the Florida Department of Transportation (FDOT) and the United States Coast Guard (USCG), the lead federal agency, in reaching a decision as to the type, location, and conceptual design of roadway and bridge improvements to the S.R. 679 crossing of the Intracoastal Waterway (Bridge Number 150049) known locally as the Tierra Verde Bridge and hereinafter referred to as Structure E. The PD&E Study also documented the need for the improvements, and presented the procedures that FDOT utilized to develop and evaluate various improvement alternatives including rehabilitation and replacement of the existing double-leaf bascule bridge, Structure E. The project's purpose and need were established through documentation of the planning basis for the proposed improvement as well as an evaluation of the current and projected travel demand and available capacity and safety in the project corridor.

2.1 REGIONAL CONNECTIVITY

Structure E on S.R. 679 over the Intracoastal Waterway is the only bridge and roadway that provides vehicular access between the mainland and the islands of Tierra Verde and Mullet Key (Fort De Soto Park). S.R. 679 connects to S.R. 682 which runs east-west between Interstate 275 and S.R. 699 (Gulf Boulevard). S.R. 679 is functionally classified as an urban minor arterial. In addition, S.R. 679 is a designated hurricane evacuation route.

2.2 TRANSPORTATION DEMAND

Less than 7 percent of the land area in Pinellas County is currently vacant property suitable for development. This indicates that future growth in the county is expected to be redevelopment and infill development activities. On that basis, the forecasted growth for the barrier islands of Tierra Verde and Mullet Key is expected to be minimal since the community is currently approaching the build-out condition. However, overall county population increases may result in increased usage of the Fort De Soto Park and its recreational facilities, such as the campground and boat ramps. Weekend Average Daily Traffic (WADT) volumes are expected to increase from the existing 2005 WADT volume of 19,300 to the 2030 WADT volume of 23,600. This represents a minimal traffic growth rate, as the islands of Tierra Verde are substantially built-out. Therefore, the need for bridge improvements is not based on capacity needs. The need is based on the structural deficiencies associated with the age of the existing bridge, the functional obsolescence of the bridge, and its scour critical rating.

2.3 STRUCTURAL DEFICIENCIES

FDOT, through routine bridge inspections, identified safety and structural problems associated with the age of the existing bridge, Structure E. The structure has numerous cracks

and spalls. Severe spalling is located in the deck overhangs and concrete pedestrian railing. Many pile jackets installed during the life of the bridge also show signs of failure. The seawall bulkheads have many spalls and there has been some backfill leakage. The sidewalks and shoulders widths are sub-standard. The guardrails separating the roadway from pedestrians, the concrete post and beam barriers on the fixed-spans and the traffic barriers on the bascule spans are all not considered crash-tested barriers and do not meet current structural design standards. The rehabilitation and replacement alternatives for improvements should address these safety and structural issues.

The condition of Structure E has been formally documented in annual bridge inspection reports. The bridge inspection reports prepared by FDOT include a Sufficiency Rating for each bridge. Since the early 1970s, the Federal Highway Administration (FHWA) has used this rating to classify bridges according to their safety, serviceability, and essentiality for public use. As referenced in the *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*[1], the Sufficiency Rating rates each bridge on a scale of 0 (worst) to 100 (best); considering structural adequacy and safety, serviceability, functional obsolescence, detour length, and essentiality for public use. The Sufficiency Rating is a method of evaluating highway bridge data to obtain a numeric value that is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and 0 percent would represent an entirely insufficient or deficient bridge. Although used by FHWA primarily to establish funding eligibility for bridge rehabilitation or replacement, it also provides a comparative basis for similar bridge structures throughout the United States. The 2003, 2004, 2005, 2006 and 2007 Structure E *Bridge Inspection Reports*[2] indicate Sufficiency Ratings of 51.0, 49.3, 50.0, 48.3 and 49.3 respectively. These ratings reflect, in part, the sub-standard geometric conditions, bridge width, lack of shoulders, etc., as well as the structural condition of the substructure, superstructure, and deck. More information on the condition of the bridge is included in Section 4 of the *Final Preliminary Engineering Report*[3].

Scour was also identified as a significant concern for this structure. A *Phase 1 Scour Evaluation Report*[4] was completed for FDOT in 1998 which rated Structure E as "Scour Susceptible, High Priority, Known Foundation Rating" and recommended a Phase 2 evaluation. An interim plan of action was recommended which included the following actions:

- Inspections of increased frequency and following severe storm events.
- Bridge and channel inspections every 3 to 6 months. Indications of recurring scour may require temporary countermeasures.
- Preparation of contingency plans should the bridge require closure during storm events until countermeasures can be installed.
- Prepare a schedule for bridge replacement or installation of permanent countermeasures.

The *Phase 2 Scour Evaluation Report*[5] was completed in 2002, which also rated the structure "Scour Susceptible, High Priority, Known Foundation Rating." A Phase 3 analysis was recommended based on the predicted undermining at trunnion pier 12 and piers 13, 14, and 15 and the minimal predicted embedment at pier 11 and bents 4, 16, and 17. A geotechnical investigation was recommended to determine the depth to the underlying erosion-resistant strata and to assess the stability of the structure based on the predicted remaining foundation embedment.

The *Phase 3 Scour Evaluation Report*[6] was completed in 2004 resulting in a rating of "Scour Critical." The evaluation consisted of geotechnical and structural load analyses to determine the vertical and lateral load capacities and the critical scour depth for the critical bent under the 100-year storm scour conditions. In summary, a new revised critical scour elevation was established at -24.3 feet (ft) North American Vertical Datum (NAVD), which is 7.22 ft above the average pile tip elevation at pier 6. Scour beyond the critical scour elevation will result in bridge foundation instability. A Phase 4 analysis was recommended based on the scour vulnerability rating of "Scour Critical" and the instability of the bridge foundation resulting from the calculated scoured bed conditions. The Phase 3 report includes recommendations consisting of the following:

- Increased frequency of inspections, not exceeding a 12-month interval, including after all severe storm events and tidal surges, with a report filed after each inspection.

- Conduct a detailed inspection to determine scour depths at each bent and pier. Compare channel depth to the critical scour elevation for each inspection and report results to the structures engineer.

- Prepare contingency plans should the bridge require closure during severe storm events until countermeasures are installed.

- Prepare a schedule for bridge replacement or installation of permanent countermeasures.

The *Phase 4 Scour Evaluation Report*[7] (Draft) was completed on December 7, 2004. The structure was evaluated for two alternative permanent solutions to correct the scour problem. Evaluation factors included cost, constructability, and traffic impacts. Alternative 1 consisted of adding channel armoring with an articulated concrete block system or grout filled mat at trunnion pier 12 and piers 13, 14, and 15. Fixed-instrument and portable sonar scour monitoring systems were also proposed. Alternative 2 consisted of the complete replacement of the bridge. The recommended plan of action included performing increased inspections (annual and post storm), preparing contingency plans should the bridge require closure during severe storm events until countermeasures are installed, and scheduling the design and construction of the permanent scour countermeasures or bridge replacement.

2.4 SAFETY

2.4.1 VEHICLE CRASHES

Review of the vehicle crash data presented in the *Final Preliminary Engineering Report* reveals that the intersection of S.R. 679 with Madonna Boulevard as well as Structure E itself are considered high crash locations since the safety ratio exceeds 1.0 for one or more of the last six years.

2.4.2 NAVIGATIONAL SAFETY

Types of vessels that pass frequently under Structure E include towboats, recreational pleasure and fishing boats, commercial boats, power boats, and sailboats. In addition, the Starlight Princess paddle wheeler and Starlight Majesty make frequent passes carrying passengers for lunch and dinner cruises. Occasionally, USCG cutters and tug boats with barges also pass through the channel. A review of data logs provided by the bridge tenders did not indicate a history of boats impacting the bridge or frequent navigational accidents near the bridge.

The USCG guide clearances have been established for the Intracoastal Waterway. They are 21-ft vertical clearance at mean high water (MHW) for drawbridges and 65-ft vertical clearance at MHW for fixed-bridges. The horizontal guide clearance is 100 ft between fenders.

In the Efficient Transportation Decision Making (ETDM) Process, effects to navigation resources, USCG established that these clearances will apply to this reach of waterway. The existing horizontal clearance between fenders is 90 ft and the existing vertical clearance when the bridge is closed is 21.5 ft.

2.5 CONSISTENCY WITH TRANSPORTATION PLANS

There are no capacity improvements identified for S.R. 679, including Structure E, in the Pinellas County Metropolitan Planning Organization (MPO) *2025 Long Range Transportation Plan*[8] (2025 LRTP) completed in December 2004 or the *Pinellas County Comprehensive Plan*[9], which was adopted February 17, 1998, and last amended on December 21, 2004. The PD&E Study is being conducted due to the structural deterioration of the bridge and potential safety problems. This study is not being conducted to increase capacity; therefore, the proposed project is consistent with both the MPO and Pinellas County plans.

The 2025 LRTP shows a future designation for S.R. 679 as part of the Pinellas Trail Extension (a multi-use path) linking the existing Pinellas Trail to the Fort De Soto Park Trail.

2.6 MODAL INTERRELATIONSHIPS

S.R. 679 is not designated as a truck route in the 2025 LRTP and does not provide access to any intermodal facilities or freight activity centers; however, the Intracoastal Waterway within the PD&E Study area is on the Strategic Intermodal System (SIS).

As explained above, Pinellas County is planning a multi-use path along S.R. 679, which would accommodate pedestrians and bicyclists.

There is currently no bus or fixed-route transit service along S.R. 679. The closest existing bus route is Route 90, which travels along 54th Avenue South / S.R. 682 from east St. Petersburg to St. Pete Beach. The Pinellas County MPO 2025 LRTP indicates that there are no plans to implement transit (bus, rail, trolley, etc.) along S.R. 679.

Coordination with Port Manatee, the Port of Tampa and the Port of St. Petersburg indicated that commercial vessel traffic bound to or from these ports does not use the Intracoastal Waterway at this location.

2.7 HURRICANE EVACUATION

S.R. 679 is designated as a hurricane evacuation route for the residential, commercial, and recreation areas south of the project. Structure E is the only bridge linking the Tierra Verde and Mullet Key areas to the mainland. These areas lie within Evacuation Level A, which is evacuated in the event of a Category 1 hurricane. According to the Pinellas County *Public Works Preparedness and Recovery Plans and Procedures Hurricane Manual*[10], "S.R. 679 is considered a priority to maintain uninterrupted flow of traffic upon notice of an evacuation. Emergency repairs to the roadway and bridge will be made in conjunction with removal of debris causing any restrictions in the flow of evacuating traffic."

While Structure E currently accommodates hurricane evacuation and recovery activities, the evacuation time, reliability, and efficiency of the evacuation activities can be improved with rehabilitation or replacement of the bridge. Furthermore, the addition of shoulders on a replacement structure provides an area for inoperable vehicles to be removed from the traffic stream during an emergency.

2.8 TRANSIT

Currently, no fixed route service exists or is planned within the PD&E Study area and no transit improvements are proposed as a part of this project.

2.9 SOCIAL AND ECONOMIC DEMANDS

Pinellas County, with 279.9 square miles (sq mi) of land area, is the second smallest and the most densely populated county in Florida. Population and socio-economic information for Pinellas County is included in Table 2-1. As Pinellas County moves toward build-out, conflicts between land uses have the potential to increase as development activity shifts to redevelopment and infill urban development.

According to the Census 2000 Demographic Profile for Tierra Verde (Census Tract 201.03, Block Groups 2 and 3) listed in the *U.S. Census Bureau website*[11], Tierra Verde's population was 3,574, which represents a 63.5 percent increase over the 1990 population of 2,186. As with Pinellas County, Tierra Verde is moving toward a build-out capacity. This and other socio-economic information for Tierra Verde is presented in Table 2-2.

Table 2-1
Pinellas County Socio-Economic Information

Statistic	Value
Population - 1990	851,659
Population - 2000	921,495
Projected population - 2030	1,089,300
% increase in population - 1990-2000	8.2%
% increase in population - 2000-2030	18.2%
Median age (2004 projection)	44.2
% 65 and older	21.9%
% agricultural	0.008%
Average Persons per household	2.16
Average House purchase price (2005)	$271,313
Per capita income (2003)	$33,316

Source: *2005 Florida Statistical Abstract*[12]
1998 Pinellas County Comprehensive Plan, Amended 2004
1997 Census of Agriculture: State and County Data, Florida[13]

Table 2-2
Tierra Verde Socio-Economic Information

Statistic	Value
Population - 1990	2,186
Population - 2000	3,574
% increase in population - 1990-2000	63.5%
Median age	47.9
% 65 and older	14.4 %
Average Persons per household	2.15
Average House median value (2000)	$256,200
Per capita income (1999)	$48,259

Source: *2000 Census Demographic Profile*

2.10 REFERENCES

1. *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges;* U.S. Department of Transportation, Federal Highway Administration, Office of Engineering, Bridge Division; December 1995.

2. *Bridge Inspection Reports (Bridge Number 150049);* prepared for the Florida Department of Transportation, District Seven; Tampa, Florida; 2003, 2004, 2005, 2006 and 2007.

3. *Final Preliminary Engineering Report (PER)*; PBS&J, Tampa, Florida, July 2007, revised June 2008.

4. *Phase 1 Scour Evaluation Report*; prepared by Pitman-Hartenstein and Associates, Inc. for the Florida Department of Transportation, District Seven; Tampa, Florida; September 14, 1998.

5. *Phase 2 Scour Evaluation Report*; prepared by Pitman-Hartenstein and Associates, Inc. for the Florida Department of Transportation, District Seven; Tampa, Florida; July 30, 2002.

6. *Phase 3 Scour Evaluation Report*; prepared by Pitman-Hartenstein and Associates, Inc. for the Florida Department of Transportation, District Seven; Tampa, Florida; June 29, 2004.

7. *Phase 4 Scour Evaluation Report (Draft)*; prepared by Pitman-Hartenstein and Associates, Inc. for the Florida Department of Transportation, District Seven; Tampa, Florida; December 7, 2004.

8. *2025 Long Range Transportation Plan*; Pinellas County Metropolitan Planning Organization; Clearwater, Florida; December 2004.

9. *Pinellas County Comprehensive Plan;* Pinellas County Planning Department; Clearwater, Florida; February 1998, Amended December 2004.

10. *Public Works Preparedness and Recovery Plans and Procedures Hurricane Manual;* Pinellas County Public Works Engineering; Clearwater, Florida; September 25, 2002.

11. *2000 Census Demographic Profile*; U.S. Census Bureau; http://factfinder.census.gov; October, 2005.

12. *2005 Florida Statistical Abstract*; Bureau of Economic and Business Research; University of Florida College of Business Administration; Gainesville, Florida; 2005.

13. *1997 Census of Agriculture: State and County Data, Florida;* U.S. Department of Commerce, Bureau of the Census; March 1999.

Section 3.0
ALTERNATIVES CONSIDERED

To develop an improved roadway facility for S.R. 679 that is in the best overall public interest, engineering, environmental, and economic factors as well as urban development conditions must be taken into consideration. The improved facility should be designed to safely and efficiently accommodate the projected design year vehicular traffic as well as multi-modal traffic. The design and alignment of the improved facility must consider environmental conditions, public recreation areas, as well as sites potentially contaminated with hazardous and/or petroleum materials. The alignment should be placed so as to optimize the possibility for construction staging and traffic control. Access control techniques to promote safe and efficient operations should be used. All of these criteria have a direct bearing on the selection of the preferred design concept.

Improvement alternatives considered for this facility include:

- Alternative 1 – Rehabilitation
- Alternative 2 – Rehabilitation with Widening
- Alternative 3 – Low-Level Bascule Bridge replacement
- Alternative 4 – Mid-Level Bascule Bridge replacement
- Alternative 5 – High-Level Fixed-Bridge replacement, and
- Alternative 6 – High-Level Fixed-Bridge replacement over a relocated channel

Included in the following sections are descriptions of each alternative and the evaluation methods used to compare the alternatives. These descriptions are followed by a presentation of the advantages and disadvantages of each alternative.

3.1 ALTERNATIVE 1 – REHABILITATION

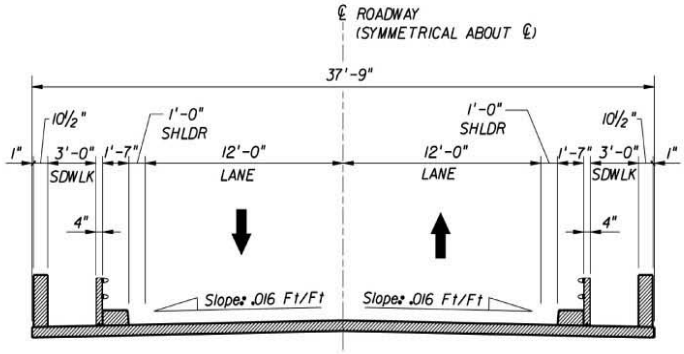
The Rehabilitation Alternative is the repair and rehabilitation of the existing bridge in its existing design configuration to keep the bridge operating in a safe condition, maintaining the existing typical section as shown in Figure 3-1. This alternative includes two full rehabilitation programs of the existing fixed and moveable structure components, the first completed by 2011, the second by 2061, in order to extend the service life of the bridge for 75 years until 2086, the same service life of a replacement bridge. In order for vehicular traffic to be maintained at all times during construction activities, a temporary bridge is required on the east side of the existing bridge for both the 2011 and 2061 rehabilitation operations, to be removed upon completion of the rehabilitation activities. Temporary roadway approaches would also be constructed and removed.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

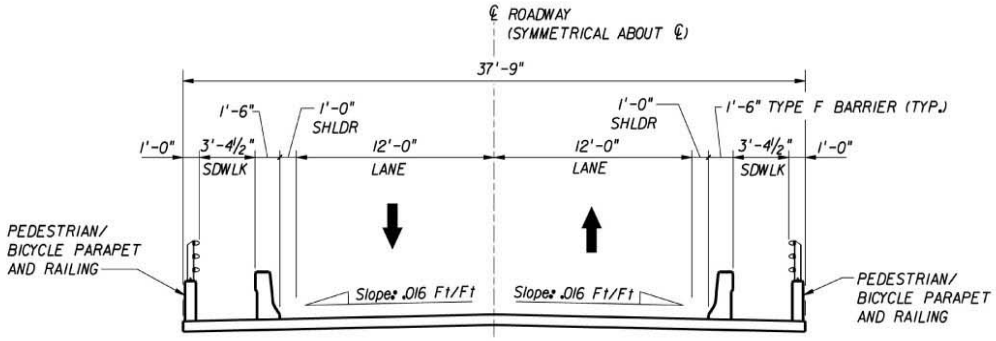
Proposed Bridge Typical Section
Alternative 1 - Rehabilitation

WPI Segment No : 410755-1

Figure 3-1



EXISTING (REMOVAL CROSS-HATCHED)



NEW CONSTRUCTION

NOTES:

1. APPROACH SPAN SUPERSTRUCTURE VARIES (SUPERSTRUCTURE NOT SHOWN).
2. BASCULE SPAN SECTION REMAINS THE SAME, EXCEPT OPEN STEEL AND CONCRETE FILLED GRID DECKS ARE REPLACED (SEE FIGURE 3).

The *Bridge Rehabilitation Alternatives Report*[1] explains the repairs in detail. Table 3-1 details the repair measures, their timing, and their costs in 2006 dollars. Bridge railings, traffic curbs and guardrails, concrete deck and steel grid decking would be replaced by 2011 to provide improved safety features. Permanent scour countermeasures in the form of crutch bents and a grout-filled mat system will be installed. Concrete spalls would be repaired in the prestressed concrete girders, piles, pier columns and struts, bascule piers, pier footings, bents and end caps. Portions of the bulkheads will be reconstructed. Steel components will be cleaned and painted. All of the moveable bridge mechanical and hydraulic items will be cleaned, lubricated, repaired, replaced, and/or rehabilitated. In addition, the entire electrical system will be replaced. A temporary bridge and extended navigational fenders would be constructed to maintain vehicular and boat traffic during the deck replacement. By 2061, the structural, mechanical, and electrical components and systems will again be 50 years old and need to be replaced or rehabilitated, so the entire rehabilitation program will be essentially repeated. A temporary bridge will again be constructed to maintain traffic during the construction work. An economic analysis was conducted for this rehabilitation program. The discussion of the economic analysis occurs in the later sections of this report.

Alternative 1 does not require stormwater management facilities (SMF) since the existing bridge will remain while no additional travel lanes are proposed.

Certain advantages would be associated with the implementation of Alternative 1 - Rehabilitation, including:

- No acquisition of residential, business, or recreational property

The potential disadvantages of the Rehabilitation Alternative include:

- Potential effects on the natural environment resulting from the temporary bridge
- An undesirable functional deficiency for the 75-year life of the structure
- Continued and increasing operation, maintenance and repair costs
- Continued safety concerns associated with the absence of shoulders
- Continued safety concerns associated with vessels impacting the structure
- Continued concern for effective and reliable hurricane evacuation and recovery
- No improvement in water quality in Boca Ciega Bay since stormwater will not be treated
- Continued vehicular delay caused by the bascule bridge openings
- Disruption to vehicular and vessel traffic during both rehabilitation programs
- Three-foot (ft) sidewalks in each direction do not accommodate a planned multi-use path

Alternative 1 is considered the no-build alternative and will remain under consideration throughout the alternatives analysis and evaluation process.

Table 3-1
Alternative 1 - Rehabilitation Construction Cost Summary

YEAR	REHABILITATION ELEMENT	COST
2007	Replace bridge rails with exposed reinforcement for safety considerations	$3,125
	Repair spalls in associated concrete posts	$15,000
	Clean and paint the utility pull box and meter head. Clean and pain the junction boxes and conduits throughout the bridge structure	$18,000
	Adjust the digital ammeters to read the proper operating motor currents, and repair the alphanumeric display to communicate with the PLC	$6,000
	Repair/replace gong on the far side oncoming warning gate; clean corrosion at flasher terminals of far side oncoming gate and coat with rust inhibitor	$2,400
	Clean and paint generator; replace housing with fiberglass enclosure	$30,000
	Loosen packing glands on input shafts of all speed reducers	$3,600
	Replace fluid in opposite side center lock hydraulic power unit	$1,200
	Repair all leaks in hydraulic piping system	$1,200
	Tighten loose fastener at adjacent side center lock forward guide	$3,600
	Replace timing belts between trunnions and position transmitters	$1,200
	Check tightness of all machinery fasteners. Check and adjust the balance of the movable spans	$12,000
2008	Grout filled mat system for Bascule Pier 12	$120,000
	Crutch bents on 25% Bents ➔ $200L x 5 bents	$1,000,000
2011	Temporary bridge for maintenance of traffic during construction	$9,900,000
	Replace deck slabs on the approach spans and Bascule Piers 11 & 12`	$2,100,000
	Replace the bridge railings along the approach spans and bascule piers	$260,000
	Replace the guardrails and the curbs on the approach spans	$218,750
	Repair spalls in the prestressed concrete girders	$7,500
	Repair spalls in the prestressed concrete piles	$7,500
	Repair spalls in the reinforced concrete pier columns and struts	$40,625
	Repair spalls in the reinforced concrete bascule piers	$15,000
	Repair spalls in the reinforced concrete pier footings	$56,250
	Repair spalls in the reinforced concrete bent and pier caps	$22,500
	Reconstruct portion of the north bulkhead cap	$85,000
	Replace the 5”deep open steel grid decking	$322,000
	Replace the 3” deep concrete-filled grid decking	$136,850
	Clean and paint all structural steel	$396,000
	Complete mechanical system rehabilitation and minor hydraulic rehab	$600,000
2018	Replace the entire prestressed concrete pile/timber fender system	$312,500

Table 3-1 (Cont.)
Alternative 1 - Rehabilitation Construction Cost Summary

2026	Minor mechanical system rehabilitation and minor hydraulic rehabilitation	$240,000
	Complete electrical system replacement (no changes in current operation)	$4,200,000
2032	Repair spalls in the reinforced and prestressed concrete elements	$187,500
	Repair/replace a portion of the scour protection grout-filled mat system	$120,000
	Crutch bents on 50% bents ➔ $200K x 10	$2,000,000
2037	Reconstruct or remediate portions of the bulkheads	$87,500
	Clean and paint steel, and perform repairs or replacements	$675,000
2038	Minor hydraulic rehabilitation	$36,000
2051	Complete mechanical system rehabilitation and minor hydraulic rehabilitation	$600,000
2052	Repair spalls in reinforced and prestressed concrete elements	$281,250
2056	Complete electrical system replacement (no changes in current operation)	$4,200,000
2058	Replace the entire prestressed concrete pile/timber fender system	$312,500
	Repair/replace bascule pier 12 of the scour protection grout-filled mat system	$120,000
2062	Temporary bridge for maintenance of traffic	$9,900,000
	Replace the deck slabs on the approach spans and Bascule Piers 11 & 12	$2,100,000
	Replace bridge railings along the approach spans and bascule piers	$260,000
	Replace the Type F traffic railing barriers on the approach spans	$218,750
	Replace the 5” deep open steel grid decking	$322,000
	Replace the 3” deep concrete-filled grid decking	$136,850
	Reconstruct or remediate portions of the bulkheads	$87,500
	Clean and paint the steel, and perform repairs or replacements	$594,000
2066	Minor mechanical system rehabilitation and minor hydraulic rehabilitation	$240,000
2072	Repair spalls in the reinforced and prestressed concrete elements	$500,000
2081	Minor hydraulic rehabilitation, to extend reliable operation until 2086	$360,000
2083	Repair/replace Bascule Pier 12 of the scour protection grout-filled mat system	$120,000
TOTAL		**$47,596,650**

3.2 ALTERNATIVE 2 –REHABILITATION WITH WIDENING

The Rehabilitation with Widening Alternative includes repair, rehabilitation and widening of the existing bridge to the east to accommodate a cross section that meets current Florida Department of Transportation (FDOT) geometric design requirements and standards. The proposed typical sections are shown in Figures 3-2, 3-3 and 3-4 for the approach spans, bascule span, and bascule pier, respectively. The widened structure features two 12-ft lanes separated by a 4-ft striped median, two 10-ft shoulders, and two 5-ft (minimum) sidewalks separated from the shoulder by a barrier wall.

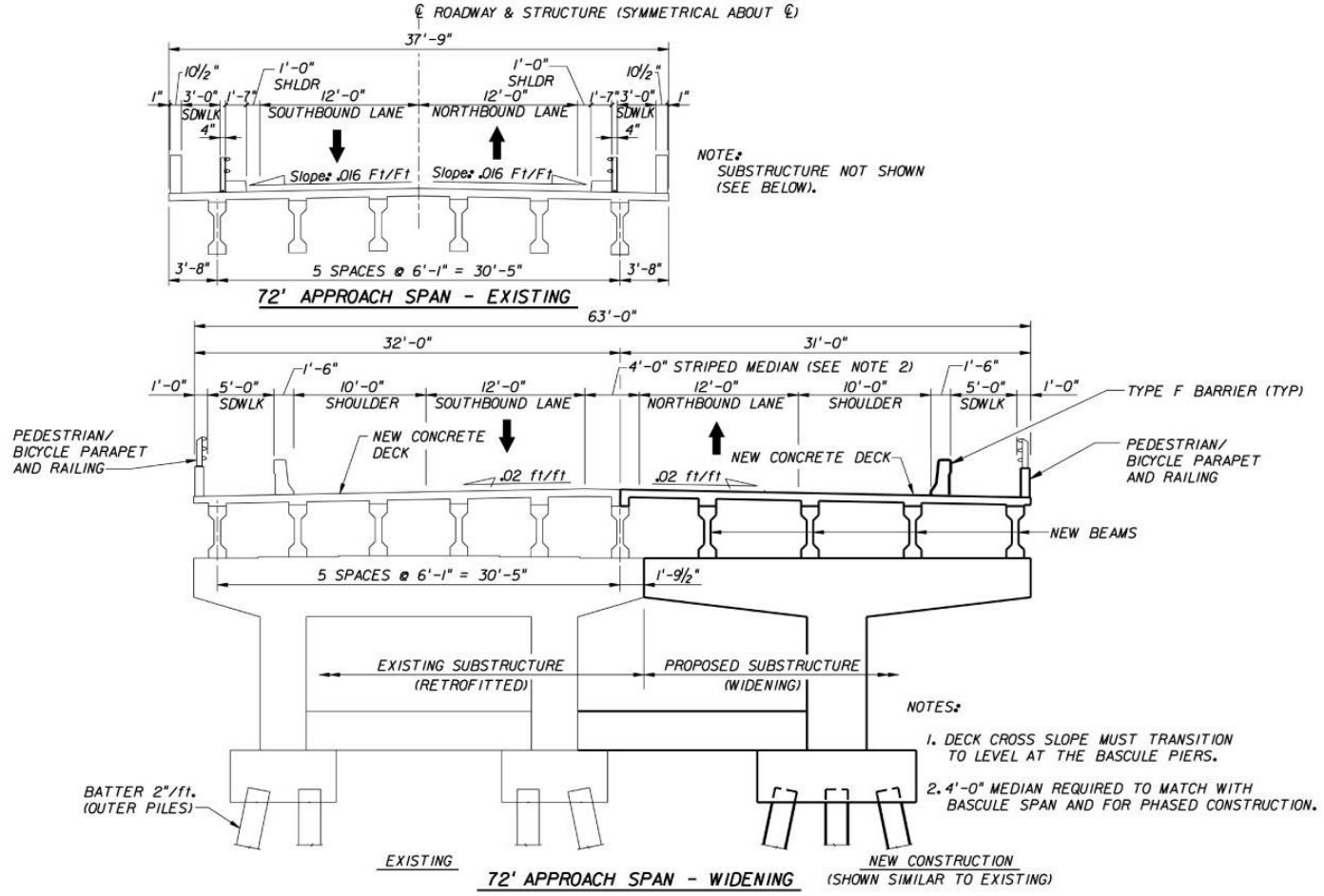
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Approach Span Typical Section

Alternative 2 - Rehabilitation with Widening

WPI Segment No: 410755-1

Figure 3-2



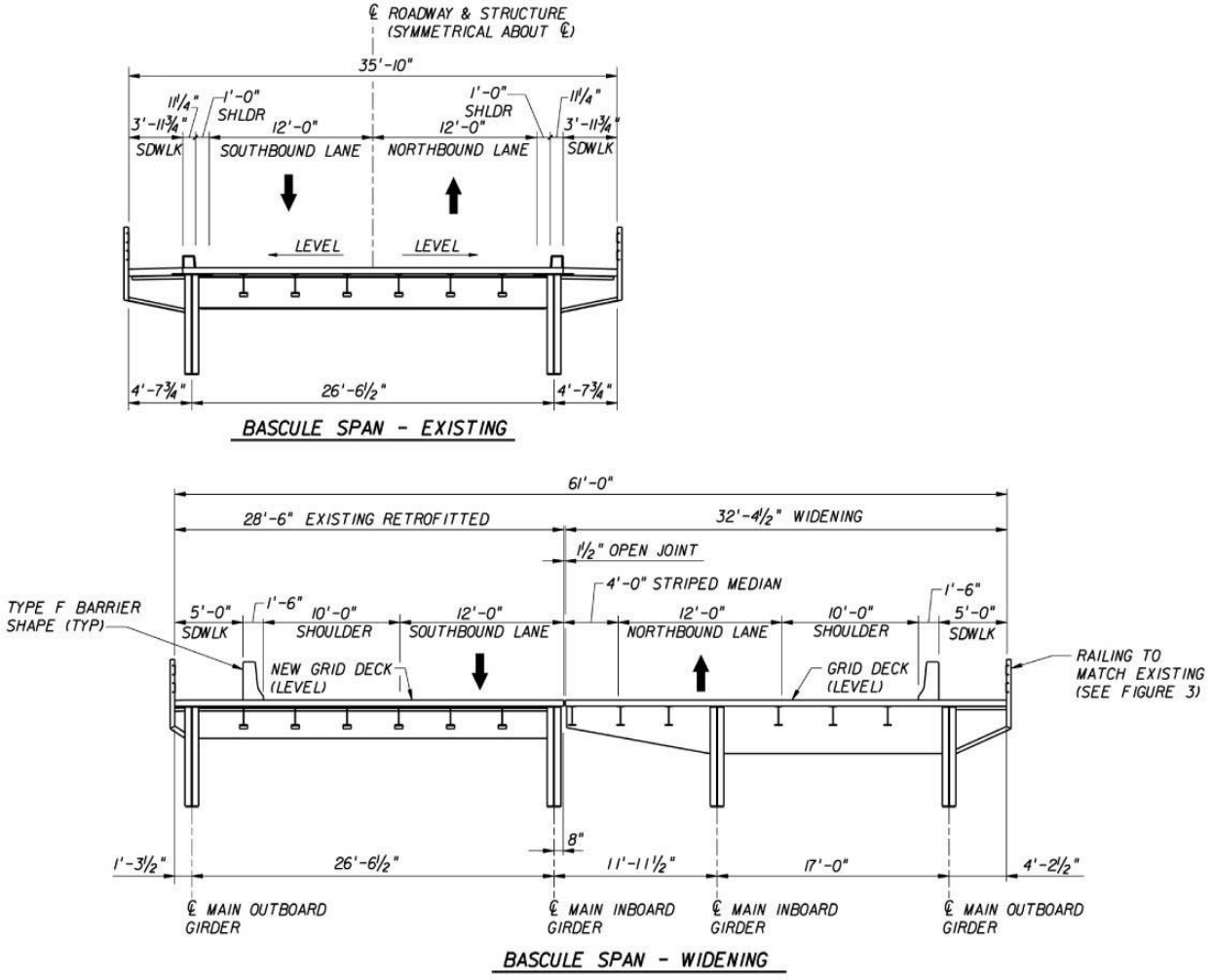
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bascule Span Typical Section

Alternative 2 - Rehabilitation with Widening

WPI Segment No: 410755-1

Figure 3-3



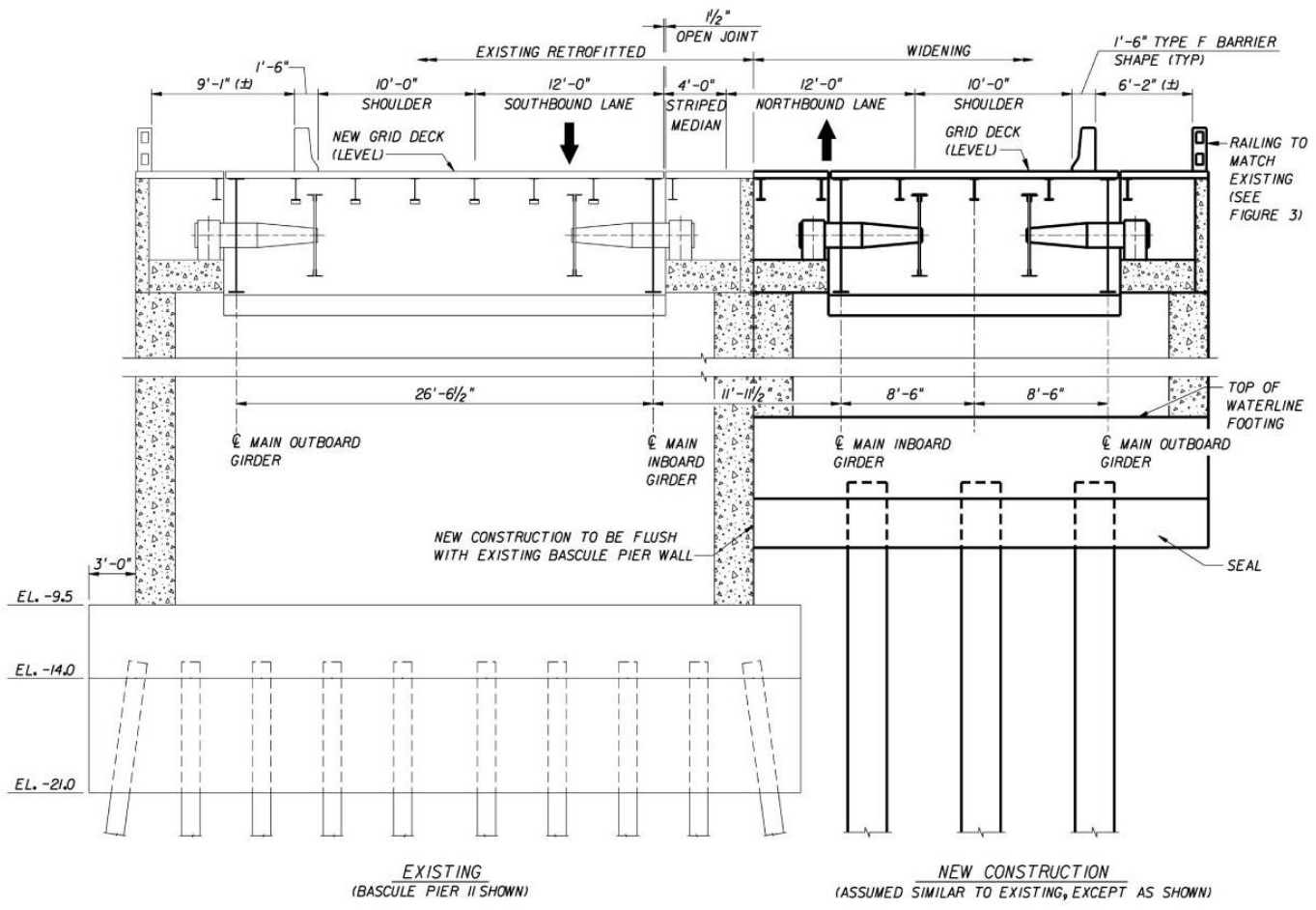
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bascule Pier Typical Section

Alternative 2 - Rehabilitation with Widening

WPI Segment No: 410755-1

Figure 3-4



In essence, the widening consists of construction of a separate new bascule bridge, with its own separate mechanical and electrical systems, immediately adjacent to the existing bridge. The striped median would be incorporated into the cross section to move the northbound vehicular outboard wheel line off the longitudinal joint associated with the tail of each new leaf.

Complete rehabilitation of all the same components and systems of the existing bridge is also included. Vehicular traffic can be maintained at all times during construction activities without a temporary bridge by using the extra width of the widened bridge. As with the Rehabilitation Alternative 1, the initial concrete repairs, mechanical and electrical system replacement, scour countermeasures and all new construction would be completed by 2011.

In addition to widening of the initial bridge, this alternative includes two full rehabilitation programs of the existing fixed and moveable structure components, the first completed by 2011, the second completed by 2061, in order to extend the service life of the bridge for 75 years until 2086, the same service life of a replacement bridge. The *Bridge Rehabilitation Alternatives Report* explains the repairs in detail. Table 3-2 summarizes the bridge widening and repair measures, their timing, and their costs in 2006 dollars.

As with Alternative 1, Alternative 2 does not require SMFs since the existing bridge will remain and be widened, but no additional travel lanes are proposed.

Certain advantages would be associated with the implementation of Alternative 2 Rehabilitation with Widening, including:

- No acquisition of residential, business, or recreational property

The potential disadvantages of Alternative 2 include:

- Bridge widening requires a United States Coast Guard (USCG) permit
- Continued and increasing operation, maintenance and repair costs
- Continued safety concerns associated with vessels impacting the structure
- Continued vehicular delay caused by the bascule bridge openings
- Disruption to vehicular and vessel traffic during both rehabilitation programs
- Potential effects on the natural environment
- Highest construction cost
- Five-ft sidewalks in each direction do not accommodate a planned multi-use path
- No improvement in water quality in Boca Ciega Bay since stormwater will not be treated

Table 3-2
Alternative 2 - Rehabilitation with Widening Construction Cost Summary

Year	Rehabilitation Element	Cost
2007	Replace bridge rails with exposed reinforcement for safety considerations	$3,125
	Repair spalls in associated concrete posts	$15,000
	Loosen packing glands on input shafts of all speed reducers	$3,600
	Replace fluid in opposite side center lock hydraulic power unit	$1,200
	Repair all leaks in hydraulic piping system	$1,200
	Tighten loose fastener at adjacent side center lock forward guide	$3,600
	Replace timing belts between trunnions and position transmitters	$1,200
	Check tightness of all machinery fasteners. Check and adjust the balance of the movable spans	$12,000
2008	Grout-filled mat system for Bascule Pier 12	$120,000
	Crutch bents on 25% Bents ➔ $200K x 5 bents	$1,000,000
2011	Repair spalls in the prestressed concrete girders	$7,500
	Repair spalls in the prestressed concrete piles	$7,500
	Repair spalls in the reinforced concrete pier columns and struts	$40,625
	Repair spalls in the reinforced concrete bascule piers	$15,000
	Repair spalls in the reinforced concrete pier footings	$56,250
	Repair spalls in the reinforced concrete bent and pier caps	$22,500
	Reconstruct portion of the north bulkhead cap	$85,000
	Clean and paint all structural steel for the existing bridge	$414,000
	Replace the deck slabs on approach spans and Bascule Piers 11 & 12	$2,310,000
	Replace the bridge railings along the approach spans and bascule piers	$130,000
	Replace guardrails and curbs on approach spans	$109,375
	Replace the 5” deep open steel grid decking	$322,000
	Replace the 3” deep concrete-filled grid decking	$183,425
	Replace the entire prestressed concrete pile/timber fender system	$375,000
	Strengthen the P/S Beams in the 72-ft long approach spans	$300,000
	Strengthen the Bascule Span Main Girders	$575,000
	Widening of the Bascule span	$12,190,000
	Widening of the approach spans	$6,000,000
	Reconstruct approach roadways to meet widened bridge	$975,000
	Construct permanent retaining wall for north approach roadway	$312,500
	Total electrical system including replacement of existing systems	$5,400,000
	Install complete new machinery system on new movable span	$3,000,000
	Complete mechanical system rehabilitation and minor hydraulic rehabilitation of the existing machinery	$600,000

Table 3-2 (Cont.)
Alternative 2 - Rehabilitation with Widening Construction Cost Summary

2026	Minor mechanical system rehabilitation and minor hydraulic rehabilitation	$480,000
2032	Repair spalls in the reinforced and prestressed concrete elements	$187,500
	Repair/replace Bascule Pier 12 of the scour protection grout-filled mat system	$120,000
	Crutch bents on 50% bents ➔ $200K x10	$2,000,000
2037	Reconstruct/ remediate portions of the bulkheads and permanent wall	$131,250
	Clean and paint the steel, and perform repairs or replacements	$828,000
2038	Minor hydraulic rehabilitations	$72,000
2042	Complete electrical system replacement	$5,400,000
2051	Complete mechanical system rehabilitation and minor hydraulic rehabilitation	$1,200,000
2052	Repair spalls in reinforced and prestressed concrete elements	$281,250
	Replace the entire prestressed concrete pile/timber fender system	$375,000
2058	Repair/replace bascule pier 12 of the scour protection grout filled mat system	$120,000
	Crutch Bents on 100% Bents ➔ $200K x 20	$4,000,000
2062	Replace the deck slabs on approach spans and Bascule Piers 11 & 12	$3,500,000
	Replace the bridge railings along approach spans and bascule piers	$260,000
	Replace type F traffic railing barriers on approach spans	$218,750
	Replace the 5” deep open steel grid decking	$561,200
	Replace the 3” deep concrete-filled grid decking	$225,400
	Repair spalls in new concrete elements associated with widening	$150,000
	Reconstruct/remediate portions of the bulkhead and permanent wall	$131,250
	Clean and paint the steel, and perform repairs or replacements	$1,035,000
2066	Minor mechanical system rehabilitation and minor hydraulic rehabilitation	$480,000
2072	Repair spalls in the reinforced and prestressed concrete elements	$500,000
	Complete electrical system replacement #3	$5,400,000
2081	Minor mechanical system rehabilitation (with possible major items), minor hydraulic rehabilitation to extend reliable operation until 2086	$720,000
2083	Repair/replace Bascule Pier 12 of the scour protection grout-filled mat system	$120,000
TOTAL		**$63,088,200**

3.3 BRIDGE REPLACEMENT CONSIDERATIONS

The USCG guide clearances have been established for the Intracoastal Waterway. They are 21-ft vertical clearance at mean high water (MHW) for new drawbridges and 65-ft vertical clearance at MHW for new fixed bridges. The horizontal guide clearance for all bridge replacement alternatives is 100 ft between fenders, a 10-ft increase over the existing condition.

Three general bridge replacement alternatives were evaluated for this Project Development and Environment (PD&E) Study:

- **Alternative 3 - Low-Level Bascule:** This concept proposes building a new bascule bridge with a minimum vertical navigational clearance of 21.5 ft above the fenders when the bridge is closed. This is the same vertical clearance as the existing bridge.

- **Alternative 4 - Mid-Level Bascule:** This concept proposes a replacement bascule bridge with a navigation clearance of 45 ft. Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow approximately 45 percent of the waterway users that currently require the bridge to open to pass without an opening.

- **Alternative 5 – High-Level Fixed-Span over Existing Channel:** This concept proposes a high-level fixed-span replacement bridge over the existing Intracoastal Waterway navigation channel. The vertical navigational clearance will be 65 ft. Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of waterway users to pass under the bridge.

- **Alternative 6 – High-Level Fixed-Span over Relocated Channel:** This concept proposes a high level fixed-span replacement bridge over the Intracoastal Waterway navigation channel relocated 400 ft to the north. The vertical navigational clearance will be 65 ft. Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of waterway users to pass under the bridge.

More information on specific alternatives is provided in the following sections.

3.3.1 MADONNA BOULEVARD INTERSECTION

Madonna Boulevard is a two-lane residential collector roadway that intersects S.R. 679 at a three-leg intersection (T-intersection). The Village at Tierra Verde (The Village) driveway is also a two-lane divided roadway, which connects to S.R. 679 approximately 100 ft north of the Madonna Boulevard intersection. As described previously, the existing combined intersection of Madonna Boulevard and The Village driveway is considered a high crash location since the safety ratio is greater than 1.0 for two of the five years evaluated. This is caused by a number of driveways and median openings that do not meet Access Class 3

spacing criteria. There are two existing median openings along S.R. 679 near Madonna Boulevard located within 100 ft of each other. The southern median opening serves Madonna Boulevard. The northern median opening serves driveway access to The Village at Tierra Verde condominium community on the east and the Tierra Verde Marina and shopping center on the west. In addition, there is a second driveway to the north which accommodates right-in/right-out Marina access. There are also two driveways south of Madonna Boulevard serving right-in/right-out access to the businesses. Furthermore, there are additional existing median openings and driveways along Madonna Boulevard.

Conflict points are locations along a roadway where two vehicle's paths can legally cross. Each conflict point is a location where a crash can occur. A basic principal of access management is to limit the number of conflict points along a roadway by limiting the number of driveways and median openings and restricting certain movements. Drivers can be overwhelmed by conflict points in proximity to one another, increasing the potential for crashes. Good access management practice strives to separate conflict points by providing a reasonable distance between driveways and between median openings. Not only does an abundance of conflict points lead to crashes, but it also negatively affects the roadway's capacity to handle traffic. The existing configuration involves 51 conflict points. For these reasons, the replacement bridge alternatives (Alternatives 3 through 6) all result in a reduction in conflict points. This is accomplished by combining the two median openings into a single median opening serving both Madonna Boulevard and the driveway to The Village. In addition, for Alternatives 4, 5, and 6, both driveways north of Madonna Boulevard are closed. There are three options to accomplish the reconfiguration of the intersection:

- Option A includes the realignment of The Village driveway to align with existing Madonna Boulevard. This would impact the guard house and the internal circulation and parking for The Village. The existing northern median opening would be closed.

- Option B includes the realignment of Madonna Boulevard to align with the existing The Village driveway. This would impact the Tierra Verde Marina shopping center parking lot. The existing southern median opening would be closed.

- Option C includes the realignment of both The Village driveway and Madonna Boulevard to meet in the middle. This would impact both properties, but keep impacts to each property to a minimum.

The proposed intersection improvements, either Option A, B, or C, including the signalization, will reduce the maximum number of potential concurrent conflict points from 51 to a maximum of 10. This will result in fewer driver decision points, fewer accidents, increased capacity, and therefore improved operations through the intersection.

3.3.2 SPLASH ZONE

One possible reason for the deterioration of the existing structure is its location in vertical proximity to the saltwater. According to the FDOT *Structures Design Guidelines*[2], for

concrete superstructures located where a significant corrosion potential exists, the desirable minimum vertical clearance standard is a minimum of 4.0 meters (12 ft) above MHW, which is at elevation 1.87 ft. This is referred to as the splash zone. This will significantly protect the structure from the effects of corrosion since the bridge superstructure will be less susceptible to salt water spray which can be absorbed into the concrete and cause corrosion of the reinforcing steel. All new structure concepts considered for this project would be constructed above the splash zone. After accounting for 8 ft of beam and deck, this would result in the approximate minimum deck elevation at or above elevation 21 ft over the water. In addition, the proposed minimum deck elevation will raise the deck above the 18-ft storm surge elevation estimated for a 100-year storm (Category 1 hurricane).

3.3.3 HORIZONTAL ALIGNMENTS

The evaluation of all bridge replacement alternatives included an evaluation of a west alignment, a center alignment, and an east alignment within the existing right-of-way (ROW).

West Alignment

The existing bridge is offset toward the west within the existing 200-ft ROW such that the centerline is 68 ft from the western ROW line. The existing bridge is generally aligned with the southbound lanes of the divided roadway south of the bridge. A new bridge constructed further to the west would require acquisition of additional ROW from the Tierra Verde Marina and Shopping Plaza resulting in impacts to the parking area and thus causing business damages. Impacts to the driveway access to the shopping plaza would occur. North of the bridge, minor impacts to the mangroves along the causeway would result. Therefore, the west alignment was dropped from further consideration.

Center Alignment

A centered alignment would conflict with the existing bridge, and therefore, is not desirable. It would require a complicated and more costly construction phasing plan, possibly requiring a temporary bridge (estimated construction cost of $9 million) to maintain traffic. It also limits flexibility for a second two-lane bridge, if one is ever warranted in the future. Therefore, the centered alignment was also dropped from further consideration.

East Alignment

The east alignment appears to be the best suited for a replacement bridge. There is ample room available within existing ROW to construct a new bridge without conflicting with the existing bridge. The new bridge would be generally aligned with the northbound lanes of the divided roadway south of the bridge. Once the new bridge is constructed, the existing bridge can be removed, leaving space on the west of the new bridge to easily accommodate a second two-lane bridge in the future, if warranted.

Impacts to the shopping center and The Village ROW could be avoided. North of the bridge, the new alignment would tie to the existing alignment well south of the Bahia Del Mar

Boulevard/Palma Del Mar Boulevard/S.R. 679 intersection at Isla Del Sol. As with the west alignment, minor impacts to the mangroves along the causeway would result.

Therefore, the eastern alignment was selected for further evaluation with all of the bridge replacement alternatives.

The proposed eastern alignment allows a 10-ft separation between the old and new bridge structures. This allows room for construction and demolition activities to occur without disrupting traffic. Locations of the beginning and end of the bridge as well as the touchdown points where each concept ties back to the existing roadway will vary based on the alternative profiles and alignments.

3.3.4 STORMWATER MANAGEMENT FACILITIES

Boca Ciega Bay is an Outstanding Florida Water (OFW) and an aquatic preserve, therefore an additional 50 percent of the runoff volume is required to be treated before discharge back to the bay. Alternative SMF sites were evaluated for the Recommended Alternative, which will require SMFs since the existing bridge is proposed to be completely replaced, changing the geometry.

Several aspects were explored in the analysis of each SMF alternative. These aspects include environmental impacts, construction costs, ROW needs, and hydraulics – the ease/difficulty in conveying the stormwater runoff to the SMF. This aspect takes into account Seasonal High Water Table (SHWT) elevations, treatment, and/or attenuation- depths. All SMFs within the study area will have one ultimate outfall: Boca Ciega Bay, which is a tidally influenced waterway. Attenuation will not be required in areas with unrestricted discharges to these outfalls.

Recommended SMF sites for each bridge are located under the bridge; one under the north approach and one under the south approach. The Recommended SMFs are shown in the Recommended Alternative concept plans in Appendix A. Construction and ROW costs for the recommended pond alternatives are included in the Evaluation Matrix.

Additional details, including pond sizes, are described in the *Final Alternative Stormwater Management Facility Report*[3] prepared for this project.

3.3.5 REMOVAL OF EXISTING BRIDGE

All bridge replacement alternatives include the removal of the existing bridge once traffic has been shifted to the new bridge. There are currently no plans to leave any portions of the existing bridge intact for use as a fishing pier.

3.4 PROPOSED BRIDGE REPLACEMENT ALTERNATIVE

As stated previously, four bridge replacement concepts were evaluated for Structure E:

- Alternative 3 - Low-Level Bascule over the Existing Channel
- Alternative 4 - Mid-Level Bascule over the Existing Channel
- Alternative 5 - High-Level Fixed-Span over the Existing Channel
- Alternative 6 – High-Level Fixed-Span over a Relocated Channel

The proposed design features for each alternative are described in the following sections.

3.4.1 ALTERNATIVE 3 – LOW-LEVEL BASCULE BRIDGE OVER EXISTING CHANNEL

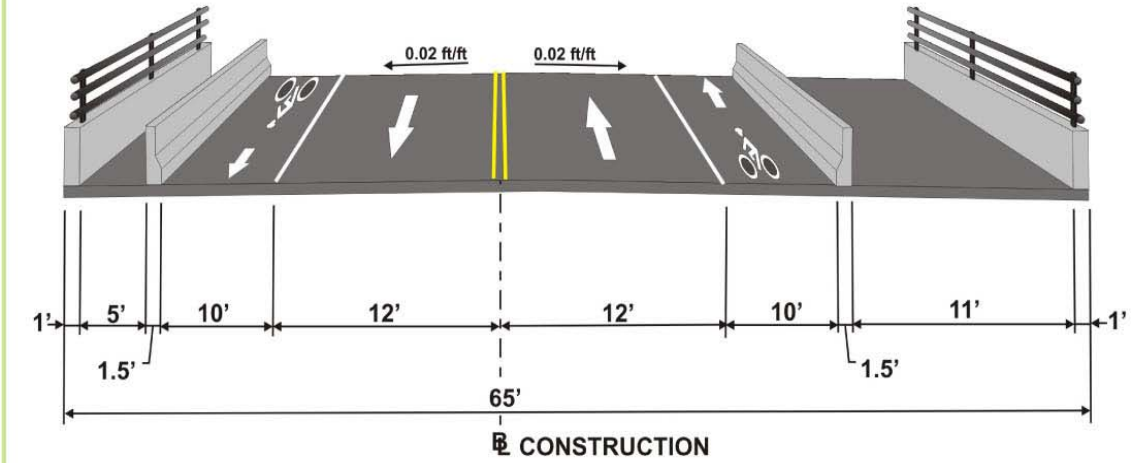
Alternative 3 proposes to replace the existing Structure E with a new low-level bascule structure similar to the existing structure. All of the Build Alternatives would require roadway improvements along the approaches to the new bridge to transition from the new alignment back to the existing alignment. Also, the proposed improvements to roadway sections will transition to match the existing roadway typical sections shown in Figures 3-1 and 3-2.

The proposed typical sections for the bascule bridge and fixed approaches to the replacement bascule bridge, as shown in Figure 3-5, include one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. The fixed-span typical section applies to the fixed approaches to the bascule span. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. The overall width of the fixed-span is 65 ft, while the bascule bridge width is 63 ft-8 inches (in). The proposed design speed is 50 miles per hour (mph).

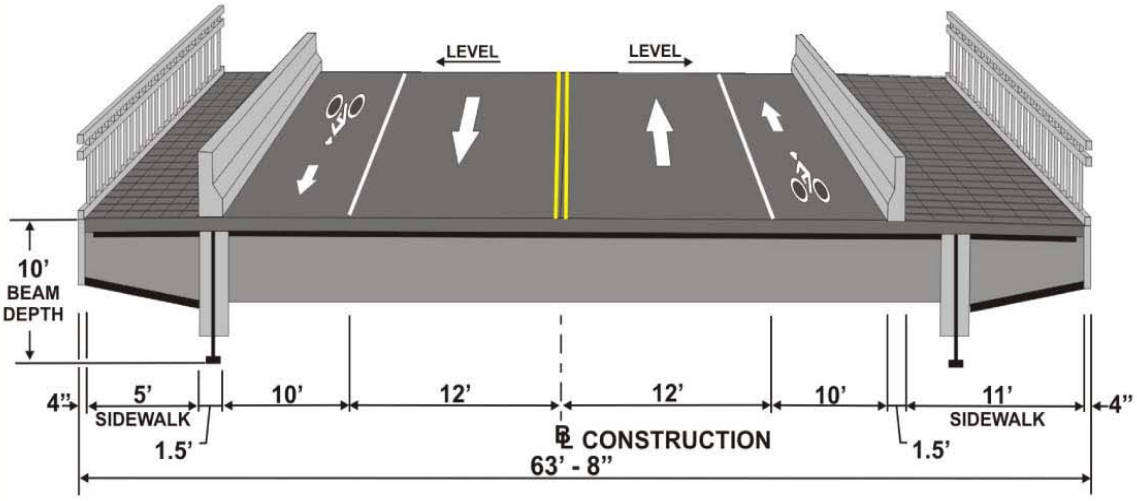
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bridge Typical Sections

WPI Segment No : 410755-1 **Alternative 3 - Low Level Bascule** Figure 3-5



Fixed Spans



Bascule Span

P:\Projects\SR 679-100679\Graphics\Typicals\Fig 8-5 Final.ai

South of the bridge the typical section transitions between a four-lane divided urban roadway with turn lanes and the undivided two-lane bridge. Therefore, a typical section for the southern approach is not provided since the number of lanes and median width will vary. However, lane, shoulder and sidewalk widths will be consistent with the proposed bridge replacement. The proposed roadway typical section approaching the north end of the bridge is shown in Figure 3-6. It is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. Figure 3-7 shows the proposed roadway at grade, which is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 50 mph.

Taking into account the MHW elevation of 1.87 ft, the proposed profile accommodates a minimum 21.5-ft vertical navigational clearance over the existing Intracoastal Waterway, identical to the existing clearance. Maximum grades of 3.25 percent are joined by a 1,100-ft cresting vertical curve through the bascule portion of the structure. The fixed approaches to the bascule bridge accommodate an 8-ft beam depth, while the bascule span beam depth is assumed to be 10 ft.

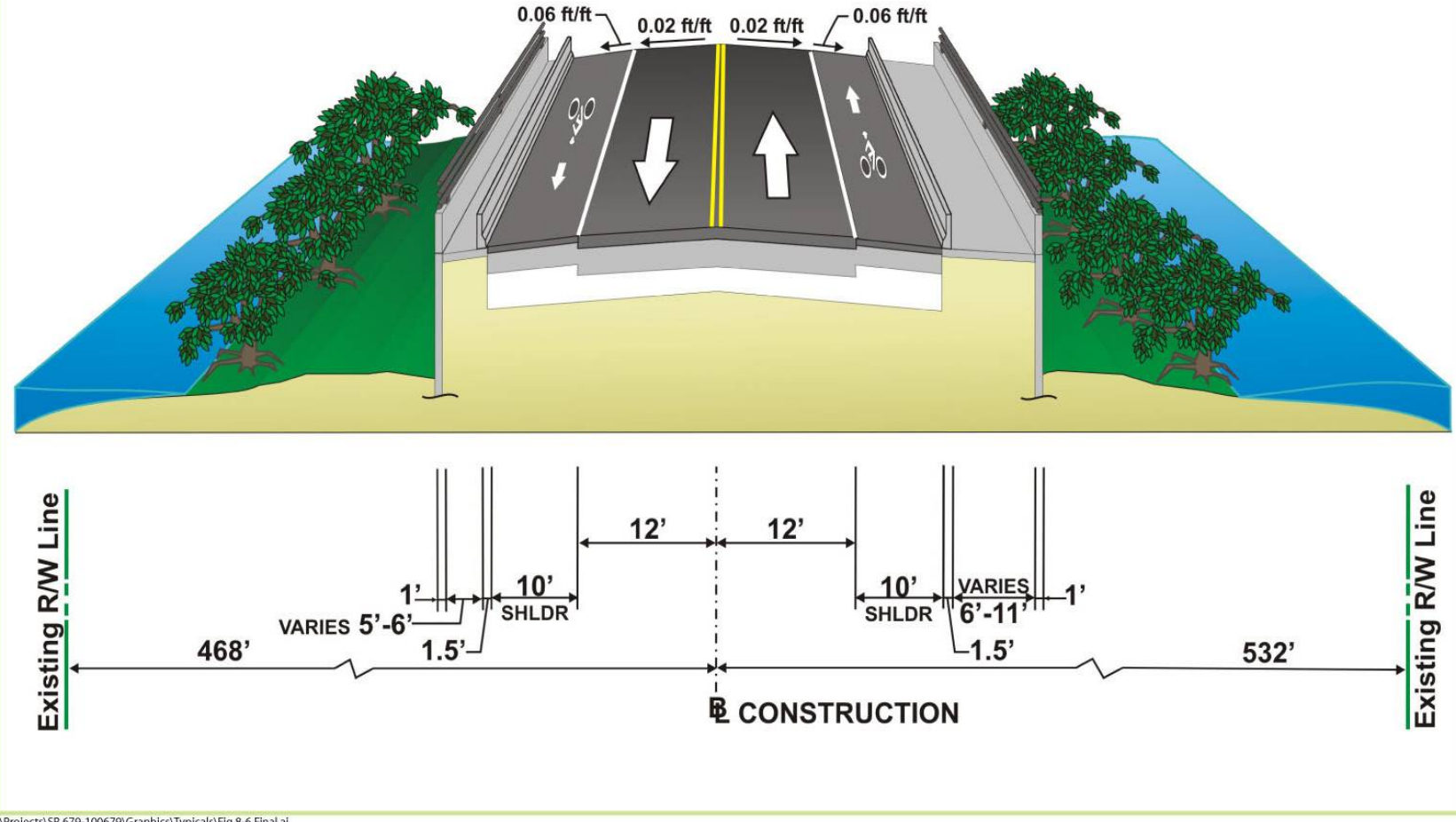
The bascule portion would consist of two bascule leaves forming a 145-ft span. The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. As previously explained, all superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue similar to existing conditions via two turnout locations. As with the existing condition, the proposed bridge will not accommodate vehicular traffic under the bridge from one side of the causeway to the other.

As explained previously, the Madonna Boulevard/The Village Driveway intersections would be combined into one four-leg intersection utilizing a single median opening. All driveways along Madonna Boulevard remain open. However, intersection Options B and C require the closure of the southernmost driveway on S.R. 679 north of Madonna Boulevard. This intersection reconstruction can be accomplished with any one of the three intersection improvement options discussed in Section 3.3.1.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida
Proposed Roadway Typical Section
Alternatives 3, 4, 5, & 6 - Northern Approach to Structure E

WPI Segment No: 410755-1

Figure 3-6



P:\Projects\SR 679-100679\Graphics\Typicals\Fig 8-6 Final.ai

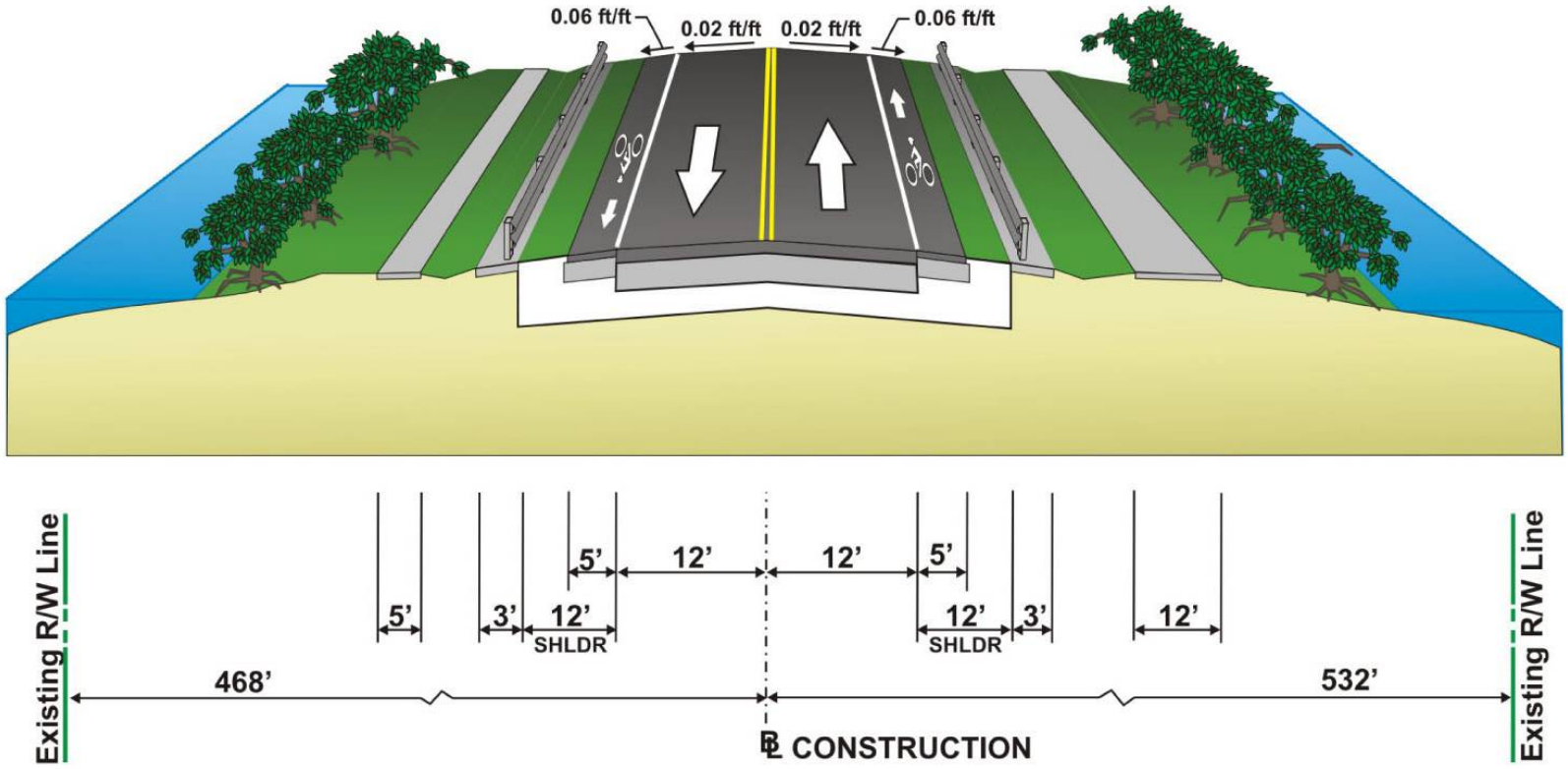
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Roadway Typical Section

WPI Segment No: 410755-1

Alternatives 3, 4, 5, & 6 - North of Structure E

Figure 3-7



Certain advantages would be associated with the implementation of Alternative 3 – Low-Level Bascule, including:

- Vertical navigational height is unlimited when the bridge is open
- Improved operation and safety of the Madonna Boulevard intersection
- Improvement in water quality in Boca Ciega Bay due to treatment of stormwater runoff
- Improved safety and functional adequacy of the facility due to added shoulders and intersection improvements
- Increased horizontal distance between fenders will accommodate safer navigation
- Maximum grades of 3.25 percent do not require flat landings on the sidewalk
- Eleven-ft sidewalk on east side accommodates a planned multi-use path

The potential disadvantages of Alternative 3 include:

- Potential impacts to The Village and/or the marina and business north of Madonna Boulevard due to the reconfigured intersection
- Reduction of access points to the marina and businesses north of Madonna Boulevard with the closure of one driveway north of Madonna Boulevard (intersection Options B and C only)
- Continued vehicular delay caused by the bascule bridge openings
- Continued operating costs due to the need for a bridge tender
- Potential effects on the natural environment

3.4.2 ALTERNATIVE 4 – MID-LEVEL BASCULE BRIDGE OVER EXISTING CHANNEL

The Mid-Level Bascule Bridge Alternative proposes to replace the existing Structure E with a new mid-level bascule structure similar to the existing structure, but providing more vertical clearance over the Intracoastal Waterway. All of the Build Alternatives would require roadway improvements along the approaches to the new bridge to transition from the new alignment back to the existing alignment. Also, the proposed improvements to roadway sections will transition to match the existing roadway typical sections shown in Figures 3-1 and 3-2.

The proposed bridge replacement typical sections for Alternative 4, shown in Figure 3-8 for fixed-span and bascule bridge alternatives, include one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. In an effort to keep the maximum grades to 6.0 percent yet still match existing grade at the Madonna Boulevard intersection and provide the desired 45-ft vertical navigational clearance, a concept known as the "through-girder" was evaluated. With this concept, a good portion of the main support beams protrude through and above the deck, covered (or protected) with a metal traffic barrier on the roadway side, thereby reducing the depth between the surface of the deck and the bottom of the beam from 10 ft to 4.5 ft. However, the bascule bridge typical section must be symmetrical, and the sidewalks are both limited in width to 6 ft, which does not accommodate Pinellas County's planned multi-use path. The fixed-span typical section applies to the fixed approaches to the bascule span, and also includes two 6-ft sidewalks. As with Alternative 3, the sidewalks are separated from the shoulder by a concrete barrier wall. The overall width of the fixed-span is 61 ft, while the bascule bridge width is 59 ft-8 in. The proposed design speed is 50 mph.

South of the bridge the typical section transitions between a four-lane divided urban roadway with turn lanes and the undivided two-lane bridge. Therefore, the southern approach is not provided as a typical section since the number of lanes and median width will vary. However, lane, shoulder and sidewalk widths will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge is shown in Figure 3-6. It is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. The Americans with Disabilities Act (ADA) requires that sidewalks on grades steeper than 5.0 percent include a flat landing, 5 ft in length, for every 30 inch rise (every 40 ft for a 6.0 percent grade). Figure 3-7 shows the proposed roadway at grade, which is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 50 mph.

The proposed profile accommodates a minimum 45-ft vertical navigational clearance over the existing channel. Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow approximately 45 percent of the waterway users that currently require the bridge to open to pass without an opening. Maximum grades of 6.0 percent are joined by a 1,640-ft cresting vertical curve through the bascule portion of the structure.

The bascule portion would consist of two bascule leaves forming a 145-ft span. The fixed approaches to the bascule bridge accommodate an 8-ft beam depth. As explained previously, due to the proximity of the Madonna Boulevard intersection to the navigation channel, a reduced superstructure depth is required to meet a 45-ft navigational clearance.

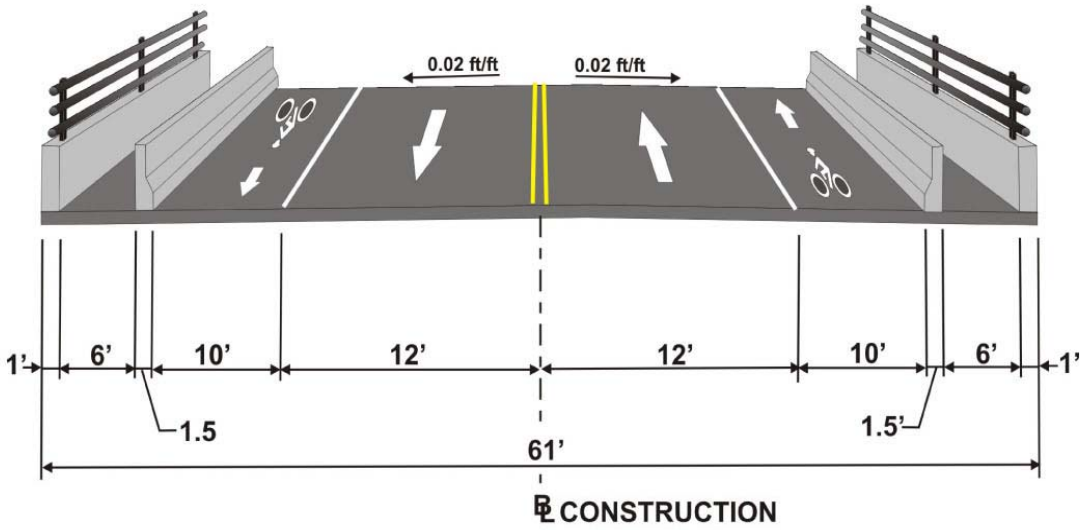
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bridge Typical Sections

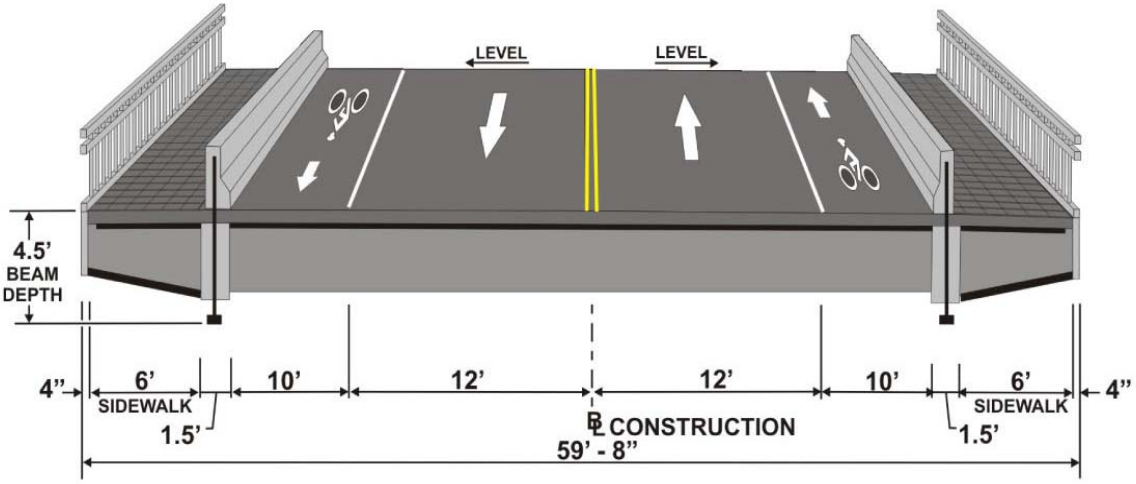
WPI Segment No : 410755-1

Alternative 4 - Mid-Level Bascule Bridge

Figure 3-8



Fixed Spans



Bascule Span (Through-Girder)

Therefore, this alternative evaluated a "through-girder" concept in the bascule span. As shown in Figure 3-8, this is a method whereby the main support beams for the bascule leaves are incorporated into the deck and traffic barriers in order to reduce the distance the beam extends under the deck. This is required to keep the maximum grade to 6.0 percent to meet design criteria, and still meet the existing grade at the intersection. The "through-girder" concept reduces the bascule beam depth from 10 ft to 4.5 ft. The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. As previously explained, all superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue similar to existing conditions via two turnout locations. As with the existing condition, the proposed bridge will not accommodate vehicular traffic under the bridge from one side of the causeway to the other.

As with Alternative 3, the Madonna Boulevard/The Village Driveway intersections would be combined into one four-leg intersection utilizing a single median opening. This can be accomplished with any one of the three intersection improvement options. Due to the increased navigational clearance and steeper grade, the profile grade elevation above the existing ground north of Madonna Boulevard is higher than the existing condition. Therefore, both driveways north of Madonna Boulevard would be closed.

Certain advantages would be associated with the implementation of Alternative 4 – Mid-Level Bascule, including:

- Improved safety and functional adequacy of the facility due to added shoulders, wider sidewalks, and intersection improvements
- Potentially reduced travel delay due to possibility of fewer bridge openings
- Increased horizontal distance between fenders will accommodate safer navigation
- Improved operation and safety of the Madonna Boulevard intersection

The potential disadvantages of Alternative 4 include:

- Potential effects on the natural environment
- Continued vehicular delay caused by the bascule bridge openings
- Undesirable 6.0 percent grade approaching the Madonna Boulevard intersection
- Reduction of access points to the marina and businesses north of Madonna Boulevard with the closure of all driveways north of Madonna Boulevard.
- Impacts to The Village and/or the marina and business north of Madonna Boulevard due to the reconfigured intersection
- Continued operating costs due to the need for a bridge tender
- Six percent grades require flat landings on the sidewalk (cost and constructability issues)
- Six-ft sidewalks in each direction do not accommodate a planned multi-use path

3.4.3 ALTERNATIVE 5 – HIGH-LEVEL FIXED-BRIDGE OVER EXISTING CHANNEL

The High-Level Fixed-Bridge (Existing Channel) Alternative proposes to replace the existing Structure E with a new high-level fixed structure. The proposed profile accommodates a minimum 65-ft vertical navigational clearance over the existing channel. Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of the waterway users that currently use the channel to safely navigate under the proposed structure. Vessels taller than 65 ft will be required to navigate around Tierra Verde and Fort De Soto via the Intracoastal Waterway east of the bridge or the Pass-a-Grille channel west of the bridge. Maximum grades of 6.0 percent are joined by a 1,650-ft cresting vertical curve.

The proposed bridge replacement typical section for Alternative 5, shown in Figure 3-9, includes one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. A 5- ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path. The overall width of the fixed-span is 65 ft. The proposed design speed is 50 mph.

South of the bridge the typical section transitions between a four-lane divided urban roadway with turn lanes and the undivided two-lane bridge. Therefore, the southern approach is not provided as a typical section since the number of lanes and median width will vary. However, lane, shoulder and sidewalk widths will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge is shown in Figure 3-6. It is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. ADA requires that sidewalks on grades steeper than 5.0 percent include a flat landing, 5 ft in length, for every every 30 inch rise (every 40 feet for a 6.0 percent grade). Figure 3-7 shows the proposed roadway at grade, which is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 50 mph.

As with the other alternatives, the fixed-spans approaching the navigation channel accommodate an 8-ft beam depth. In an effort to minimize the grades, bridge height and cost, a three-span variable-depth, haunched continuous unit may be utilized over the channel, as illustrated in Figure 3-10. The flanking spans are 150 ft long, and the main span is 200 ft long. The girder depth in the flanking spans varies from 8 ft to approximately 12 ft over the piers. The girder depth in the main span varies from 5 ft directly over the channel to a maximum depth of approximately 12 ft over the main piers. The haunched length is approximately 50 ft long. The superstructure will be made as a three span continuous unit over the channel to comply with Structures Design Guideline (SDG) requirements for deflections and expansion joints.

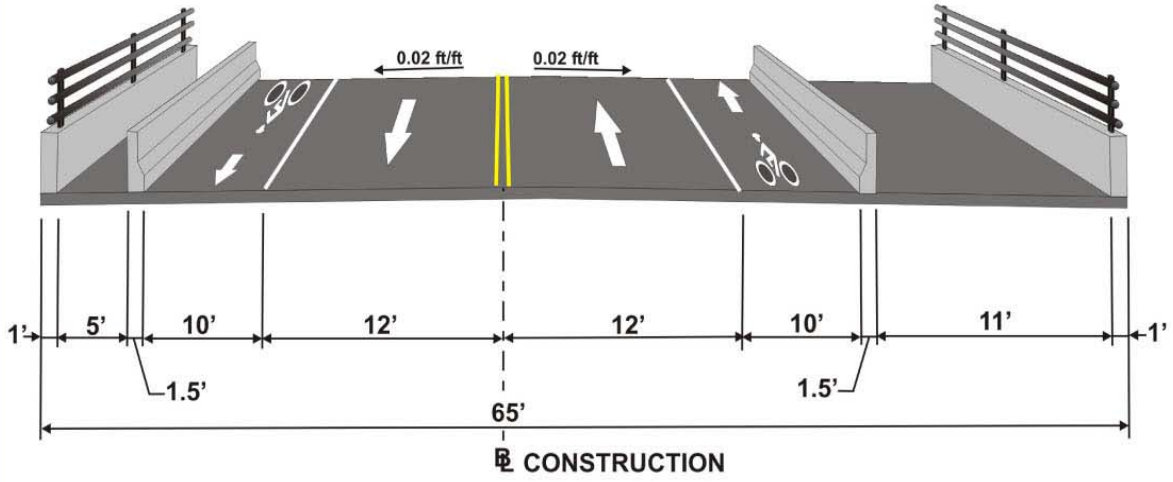
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bridge Typical Sections

Alternative 5 - High-Level Fixed Bridge Over Existing Channel
and Alternative 6 - High-Level Fixed Bridge Over Relocated Channel

WPI Segment No : 410755-1

Figure 3-9

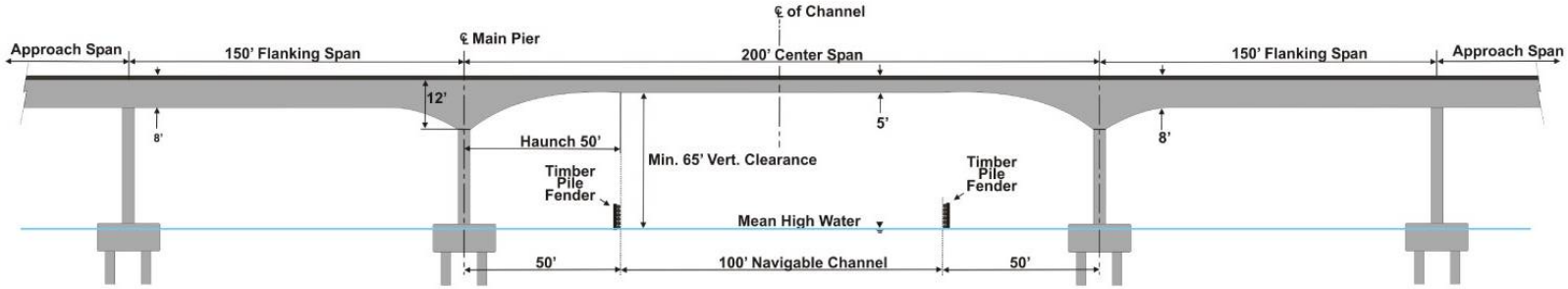


S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida
Main Spans

Alternative 5 - High-Level Fixed Bridge Over Existing Channel and Alternative 6 - High-Level Fixed Bridge Over Relocated Channel

WPI Segment No: 410755-1

Figure 3-10



It is important to note that the maximum allowable profile grade for this facility is 6.0 percent. Even with the reduced depth of the main span, in order for the profile to be near existing grade through the Madonna Boulevard intersection, the profile crest must be located to the north of the channel. Therefore, while the navigational clearance through the channel is 65 ft, the maximum height of the profile crest is 96.5 ft.

The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. As previously explained, all superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue via the existing northern set of turnouts. Vehicles could then travel along the causeway on either side to reach the beach area at the southern end of the causeway. Unlike the existing condition, the proposed bridge could accommodate vehicular traffic under the bridge (on the north side only) from one side of the causeway to the other.

This alternative also proposes the removal of the existing seawall and the embankment retained within the seawall at the northern bridge approach since it conflicts with the proposed bridge piers. This will increase the overall distance between shorelines by approximately 400 ft.

As with Alternatives 3 and 4, the Madonna Boulevard/The Village Driveway intersections would be combined into one four-leg intersection utilizing a single median opening. This can be accomplished with any one of the three intersection improvement options. Due to the increased navigational clearance and steeper grade of the fixed-bridge alternative, the profile grade elevation above the existing ground north of Madonna Boulevard is higher than the existing condition. Therefore, all driveways north of Madonna Boulevard would be closed.

It is recommended that the proposed span arrangement be developed during the design phase to accommodate the existing channel so that the proposed bridge piers do not conflict with vessel traffic. During the construction phase, the existing fender system will need to be extended to protect the replacement bridge piers. The vertical navigational clearance through the existing channel will be limited to approximately 46 ft once the replacement bridge is constructed over the existing channel. Construction can be phased so that the span over the existing channel is constructed last to maintain unlimited vertical clearance for as long as possible. Once the vehicular traffic is routed to the replacement bridge, the existing bridge spans across the relocated channel should be removed first to allow passage of vessels over 46 ft. Channel markers or buoys will need to be relocated to the new channel location. This construction phasing will minimize disruption to the vessel traffic; however, an approximately 10-mile detour route through the Pass-A-Grille Channel, around Fort De Soto is always available.

Certain advantages would be associated with the implementation of Alternative 5 – High-Level Fixed-Bridge over Existing Channel, including:

- Improved operation and safety of the Madonna Boulevard intersection
- Improvement in water quality in Boca Ciega Bay due to treatment of stormwater runoff
- Improved safety and functional adequacy of the facility due to added shoulders and intersection improvements
- Significant operational improvements and reduced vehicular delay due to lack of bridge openings
- Eleven-ft sidewalk on east side accommodates a planned multi-use path

The potential disadvantages of the Alternative 5 include:

- Potential effects on the natural environment
- Reduction of access points to the marina and businesses north of Madonna Boulevard with the closure of all driveways north of Madonna Boulevard
- Maximum bridge height of 95 ft results in a less efficient design, needing approximately 20 ft of additional bridge height (compared to Alternative 6) to accommodate the required 65-ft vertical navigational clearance.
- Undesirable 6.0 percent grade approaching Madonna Boulevard intersection
- Six percent grades require flat landings on sidewalk (cost and constructability issues)

3.4.4 ALTERNATIVE 6 – HIGH-LEVEL FIXED-BRIDGE OVER RELOCATED CHANNEL

The High-Level Fixed-Bridge (Relocated Channel) Alternative proposes to replace the existing Structure E with a new high-level fixed structure providing 65-ft vertical navigational clearance over a relocated channel. The proximity of the Madonna Boulevard intersection immediately at the bottom of a 6.0 percent grade is not a desirable situation, especially in an area with a high number of recreational vehicles in the traffic mix. In an effort to reduce or flatten the grade, the relocation of the channel 400 ft to the north was evaluated, allowing maximum grades of 5.0 percent joined by a 1,650-ft cresting vertical curve. In this alternative, the profile crest can be located above the relocated channel. Therefore, while the navigational clearance through the channel is 65 ft, the maximum height of the profile crest is 75.55 ft (see profile sheet in Appendix A). Based on data provided by the bridge tender at Structure E and allowing for tidal fluctuations, the proposed 65 ft vertical navigational clearance would allow over 99 percent of the waterway users that currently use the channel to safely navigate under the proposed structure.

The proposed bridge replacement typical section for Alternative 6, shown in Figure 3-9, includes one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path. The overall width of the fixed-span is 65 ft. The proposed design speed is 50 mph.

South of the bridge the typical section transitions from a four-lane divided urban roadway with turn lanes to the undivided two-lane bridge. Therefore, the southern approach is not provided as a typical section since the number of lanes and median width will vary. However, lane, shoulder and sidewalk widths will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge is shown in Figure 3-6. It is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. Figure 3-7 shows the proposed roadway at grade, which is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 50 mph.

As with the other alternatives, the fixed-spans approaching the navigation channel accommodate an 8-ft beam depth. In an effort to minimize the grades, bridge height and cost, a three-span variable-depth, haunched continuous unit may be utilized over the channel, as illustrated in Figure 3-10. The flanking spans are 150 ft long, and the main span is 200 ft long. The girder depth in the flanking spans varies from 8 ft to approximately 12 ft over the piers. The girder depth in the main span varies from 5 ft directly over the channel to a maximum depth of approximately 12 ft over the main piers. The haunched length is approximately 50 ft long. The superstructure will be made as a three span continuous unit over the channel to comply with SDG requirements for deflections and expansion joints.

The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. As previously explained, all superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue via the existing northern set of turnouts. Vehicles could then travel along the causeway on either side to reach the beach area at the southern end of the causeway. Unlike the existing condition, the proposed bridge could accommodate vehicular traffic under the bridge from one side of the causeway to the other.

This alternative also proposes the removal of the existing seawall and the embankment retained within the seawall at the northern bridge approach since it conflicts with the proposed bridge piers. This will increase the overall distance between shorelines by approximately 400 ft.

Certain advantages would be associated with the implementation of Alternative 6 – High-Level Fixed-Bridge over Relocated Channel, including:

- Lowest construction cost
- Improved operation and safety of the Madonna Boulevard intersection
- Improvement in water quality in Boca Ciega Bay due to treatment of stormwater runoff
- Improved safety and functional adequacy of the facility due to added shoulders and intersection improvements
- Significant operational improvements and reduced vehicular delay due to lack of bridge openings
- Grade of 5.0 percent approaching the Madonna Boulevard intersection
- Five percent grades do not require flat landings on the sidewalk
- Eleven-ft sidewalk on east side accommodates a planned multi-use path
- A more efficient design (compared to Alternative 5) with lower overall maximum bridge height of 75.55 ft needed to accommodate the required 65-ft vertical navigational clearance.

The potential disadvantages of Alternative 6 include:

- Reduction of access points to the marina and businesses north of Madonna Boulevard with the closure of all driveways north of Madonna Boulevard
- Requires relocation of the Intracoastal Waterway navigational channel
- Vertical navigational height will be limited though the existing channel for a period of time during construction of the replacement bridge
- Potential effects on the natural environment

3.5 LIFE CYCLE COST EVALUATION

An evaluation of life cycle costs was performed to compare the total costs of each alternative over the life of the improvements. Included in the analysis were the initial and future capital costs for construction of the proposed improvements, the annual maintenance costs, and annual operation costs. The *Final Preliminary Engineering Report (PER)*[4] includes spreadsheets illustrating each year from 2006 through 2086, and the respective annual capital, operation, and maintenance costs. None of the costs utilized in this evaluation were inflated; all costs are presented in 2006 dollars.

The annual costs for each alternative include operational and normal maintenance costs. Operational costs are associated with the bridge tender to operate the bascule span so that marine traffic can pass through the channel. Therefore, operational costs are applicable to each alternative that includes a bascule bridge and do not apply to the fixed-bridge alternatives. Normal maintenance costs include minor and periodic work for upkeep of the structural, mechanical, and electrical systems of the bridge.

These costs are relatively fixed and will rise incrementally throughout the life of the bridge as the bridge ages. Discussions with the contractor currently managing this work indicate that the yearly operational cost is $125,000. Annual maintenance costs for rehabilitation Alternative 1 is estimated to begin at $25,000 and double every 25 years until year 75. Annual maintenance costs for rehabilitation Alternative 2 is estimated to begin at $50,000 and increase by $25,000 every 25 years. Each of the new bridge replacement alternatives will have an annual maintenance cost of 25 percent of Alternative 2. The initial annual cost will be approximately $12,500. All alternatives include annual maintenance of $25,000 to maintain the existing bridge from 2007 through 2011 when the rehabilitation or bridge replacement occurs. The *PER* contains a detailed schedule of construction, operation, and maintenance costs for each alternative.

The Net Present Value (NPV) of the sum of the costs over the life of the improvements was calculated and the results are shown in Table 3-3. For each discount rate, the best economic investment is highlighted for both the rehabilitation and bridge replacement alternatives. As shown, of the two rehabilitation alternatives, Alternative 1 is the best investment. When comparing only the bridge replacement alternatives, Alternative 6 is the best investment.

When making a decision as to the preferred alternative, it is helpful to compare the economics of the six alternatives throughout their service lives by calculating the Net Present Value of each investment. However, it must be realized that each alternative provides different advantages and disadvantages from a safety, structural, aesthetics, functionality, efficiency, reliability, and traffic operations standpoint.

Table 3-3
Net Present Value

	REHABILITATION ALTERNATIVES		BRIDGE REPLACEMENT ALTERNATIVES			
Discount Rate	**Alternative 1 Rehabilitation**	**Alternative 2 Rehabilitation with Widening**	**Alternative 3 Low-Level Bascule**	**Alternative 4 Mid-Level Bascule**	**Alternative 5 Fixed Existing Channel**	**Alternative 6 Fixed Relocated Channel**
0.00%	$62,096,650	$78,838,200	$45,886,569	$51,577,916	$39,864,674	**$37,595,642**
1.00%	$44,731,876	$61,024,508	$40,557,088	$45,972,209	$37,493,105	**$35,334,199**
2.00%	$34,084,903	$49,903,754	$36,789,946	$41,944,774	$35,448,075	**$33,392,942**
3.00%	$27,311,562	$42,609,285	$33,932,718	$38,842,124	$33,622,504	$31,665,217
4.00%	$22,823,949	$37,567,679	$31,634,270	$36,312,143	$31,957,332	$30,092,353
5.00%	$19,719,273	$33,895,667	$29,699,342	$34,158,661	$30,418,214	$28,640,368
6.00%	$17,474,528	$31,085,573	$28,015,346	$32,268,252	$28,983,885	$27,288,333
7.00%	$15,780,696	$28,838,296	$26,514,740	$30,572,592	$27,640,231	$26,022,443
8.00%	$14,451,323	$26,972,991	$25,155,236	$29,028,672	$26,377,203	$24,832,938
9.00%	$13,371,353	$25,377,319	$23,909,150	$27,608,135	$25,187,164	$23,712,449
10.00%	$12,468,046	$23,979,512	$22,757,515	$26,291,394	$24,063,988	$22,655,098

3.6 EVALUATION PROCESS

3.6.1 QUANTIFIABLE CRITERIA

In order to evaluate the study alternatives, the evaluation matrix shown in Table 3-4 was prepared using quantifiable criteria from a multitude of categories including socioeconomic, environmental, cultural, potential hazardous material/petroleum contamination, and costs (engineering, ROW and construction). The matrix data was developed utilizing raster-based aerial photography and depicts the proposed ROW needs for each alternative. Note that the matrix data is shown for the Madonna Boulevard Option C (realign both Madonna Boulevard and The Village driveway to meet in the middle). A brief description of the quantifiable evaluation criteria follows.

- **Business Relocations:** The number of businesses estimated to be relocated by each of the Build Alternatives was identified using raster-based aerial photography and field verification. Other business effects expected to be sustained by businesses which will not require relocation, such as parking losses, etc., were considered in the ROW acquisition cost estimates.

- **Residential Relocations:** The number of existing residences estimated to be relocated by the Build Alternatives was assessed by determining the number of residences that exist within the proposed ROW, and which residences will have to be relocated if the non-rehabilitation Build Alternative is implemented.

- **Community Facilities:** The project involvement with existing community facilities such as churches, schools, child care facilities, nursing homes, hospitals, cemeteries, fire stations, etc. were assessed.

Table 3-4
Alternatives Impact Evaluation Matrix

EVALUATION FACTORS	ALTERNATIVES					
	Alternative 1 **Rehabilitation**	**Alternative 2** **Rehabilitation with Widening**	**Alternative 3** **Low-Level Bascule**	**Alternative 4** **Mid-Level Bascule**	**Alternative 5** **High-Level Fixed** **Existing Channel**	**Alternative 6** **High-Level Fixed** **Relocated Channel**
PROJECT LENGTH (miles)	0.262	0.438	0.780	0.780	0.926	0.863
POTENTIAL BUSINESS AND RESIDENTIAL RELOCATIONS [(1)]						
Number of businesses estimated to be relocated Option A / Option B / Option C	0/0/0	0/0/0	0/3/1	0/3/1	0/3/1	0/3/1
Number of residences estimated to be relocated	0	0	0	0	0	0
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)						
Number of churches, schools, child care, nursing homes, hospitals, cemeteries, other services affected	0	0	0	0	0	0
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT						
Number of historic sites/structures	0	0	0	0	0	0
Number of public parks adjacent to ROW	0	0	0	0	0	0
NATURAL ENVIRONMENTAL INVOLVEMENT (ac)						
Wetlands	0.000	0.861	3.343	3.343	2.433	2.433
Seagrass	0.000	0.000	0.595	0.595	0.147	0.147
PHYSICAL ENVIRONMENT INVOLVEMENT						
Estimated number of noise sensitive sites	0	0	0	0	0	0
Number of potential petroleum and hazardous materials contaminated sites (medium and high)	1	3	5	5	5	5
ESTIMATED CONSTRUCTION COSTS (Present Value January 2006 Dollars)						
Roadway and Bridge Structure	$72,216,809	$95,647,778	$68,159,360	$78,271,030	$60,697,877	$56,248,958
Madonna Boulevard	$0	$0	$2,892,669	$2,585,547	$2,608,494	$2,839,002
CONSTRUCTION COST TOTAL	**$72,216,809**	**$95,647,778**	**$71,052,029**	**$80,856,577**	**$63,306,371**	**$59,087,961**
ROW Acquisition – Option A	N/A–Intersection not included	N/A–Intersection not included	$5,628,800	$5,628,800	$5,628,800	$5,628,800
ROW Acquisition – Option B	N/A–Intersection not included	N/A–Intersection not included	$15,601,000	$15,601,000	$15,601,000	$15,601,000
ROW Acquisition – Option C	N/A–Intersection not included	N/A–Intersection not included	$12,976,800	$18,419,500	$18,419,500	$18,419,500
Engineering Design (15%)	$10,832,521	$14,347,167	$10,657,804	$12,128,486	$9,495,956	$8,863,194
Construction Engineering & Inspection (15%)	$10,832,521	$14,347,167	$10,657,804	$12,128,486	$9,495,956	$8,863,194
TOTAL ALTERNATIVE COST	**$93,881,851**	**$124,342,111**	**$98.0 - $108.0 Million**	**$110.7 - $123.5 Million**	**$87.9 - $100.7 Million**	**$82.4 - $95.2 Million**

- **Cultural/Historic Resources and Public Parks Involvement:** A thorough investigation was undertaken to determine if there are any National Register of Historic Places (NRHP)-listed or eligible historic sites and structures along the project. Project involvement with existing or proposed public parks was also assessed.

- **Natural Environment Involvement:** Affects of the proposed construction and ROW on the natural environment include involvement with bays (open water), mangroves, saltwater marshes, shorelines and seagrasses.

- **Potential Hazardous Material or Petroleum Pollutant Contaminated Sites:** The number of potentially hazardous material and/or petroleum contaminated sites ranked medium or high along the project.

- **Total Estimated Project Costs:** Preliminary cost estimates were prepared for all Alternatives, including ROW acquisition, maintenance of traffic, mobilization, engineering/final design, construction, Construction Engineering Inspection (CEI) costs and contingencies. These project costs shown in the matrices were generated using 2006 dollars. Maintenance of traffic (MOT) and mobilization costs are each estimated at 10 percent of the construction cost. The Engineering Design and Construction Engineering Inspection (CEI) costs are each estimated to be 15 percent based on current per-mile costs for Design and CEI for other similar roadway facilities.

  The ROW acquisition cost in 2006 dollars, includes the cost of business relocations, private property purchase, and reimbursement cost for miscellaneous business damages. The construction cost includes structures, roadway, drainage system and pond construction, signing and marking, signalization adjustments, and scour protection. Utility adjustments, landscaping, and wetland mitigation are not included in this estimate.

3.6.2 ADDITIONAL QUANTIFIABLE CRITERIA

- **Travel Delay:** Travel delay is discussed in the *Final Preliminary Engineering Report*. Delay on the fixed-bridge alternatives (Alternatives 5 and 6) are zero seconds per vehicle (sec/veh) compared to 39 to 46 sec/veh for bascule alternatives. Delay during the 2030 PM peak hour at the Madonna Boulevard intersection is reduced from over 500 sec/veh with the bascule alternatives to 144 sec/veh for the fixed-bridge alternatives, a reduction of over 70 percent. In addition, delay for vessels in the Intracoastal Waterway can be reduced from 15 - 20 minutes with the bascule bridge alternatives to zero with a fixed-bridge alternative. The travel delay evaluation demonstrates that the fixed-bridge alternative handles traffic more efficiently than the bascule bridge alternatives.

3.6.3 NON-QUANTIFIABLE CRITERIA

Another consideration in the evaluation process was factors that are qualitative, non-quantifiable, such as consistency with local transportation plans, user benefits, safety, aesthetics, public sentiment, and access considerations. Non-quantifiable factors consider a variety of factors instead of a numerical count.

- **Consistency with Long Range Transportation Plan:** None of the proposed bridge improvement alternatives are identified in the Pinellas County Metropolitan Planning Organization (MPO) *2025 Long Range Transportation Plan*[5] (2025 LRTP) completed in December 2004 or the *Pinellas County Comprehensive Plan*[6] which was adopted February 17, 1998, and last amended on December 21, 2004. The PD&E study is being conducted due to the structural deterioration of the bridge and potential safety problems.

  The 2025 LRTP does show a future designation for S.R. 679 as part of the Pinellas Trail Extension linking the existing Pinellas Trail to the Fort De Soto Park Trail, therefore, Alternatives 1, 2, and 4 would be inconsistent with the LRTP, since these alternatives do not accommodate a wide sidewalk or multi-use path.

- **Aesthetics:** Aesthetics are an important consideration in any transportation project. The rehabilitation alternatives provide little opportunity to improve aesthetics, other than repair concrete spalls and add fresh paint. Crutch bents are included in the rehabilitation program as a permanent scour countermeasure. Crutch bents consist of supplemental piles driven on each side of the pile cap, with supplemental supports under the pile cap. The short span lengths and multiple piles supporting the existing bridge and crutch bents clutter the views under the bridge. Any of the bridge replacement alternatives can be designed with longer spans on a single pier instead of a group of piles. The result would be views from ground level under the bridge will appear more open.

- **Evacuation:** Since fixed-bridges do not have bascule leaves and the machinery that operates them, there is no chance for evacuation delays due to machinery malfunctions. Bridge replacement alternatives with an increased vertical navigational clearance also decrease impacts to navigation when the bascule spans are locked down during an evacuation.

- **Traffic Operations:** Build Alternatives that increase the vertical navigational clearance on Structure E would be desirable from a traffic operations standpoint. Since fewer or no bridge openings would be required, both vehicular and navigational traffic operations would be improved, resulting in benefits such as improved levels of service, reduced delay, reduced emissions and lower user costs.

- **Safety:** For any of the bridge replacement alternatives and the widening alternative, sufficient shoulders would be provided to accommodate inoperable vehicles, allowing other vehicles to pass. The addition of barrier walls that meet current

standards, wider navigational clearance, larger pile dimensions to resist ship impact, and greater pile embedment to resist scour all would contribute to a safer facility.

- **Ship Impact:** All of the replacement bridge alternatives include piers that are designed to better withstand ship impact. The existing bridge was not designed to withstand ship impact, and therefore, the rehabilitation alternatives will not have that extra safety feature.

- **Public Sentiment:** FDOT has received numerous public comments regarding the bridge alternatives, Madonna Boulevard intersection options, and other related items. The majority of public comments favored Alternative 6, the High-Level Fixed-Bridge over a Relocated Channel. In addition, the public comments indicated a preference for Madonna Boulevard intersection Option B, relocating Madonna Boulevard to align with The Village driveway. Numerous comments also requested a traffic signal at the Madonna Boulevard intersection and consideration of a four-lane alternative.

- **Utilities:** The location of existing and planned utilities was considered in the evaluation of utilities. Relocation of aerial or buried utilities may be required. However, utilities can be connected to a fixed-bridge, whereas, a bascule bridge requires utility lines to be buried under the channel (sub-aqueous).

3.7 SELECTION OF THE INITIAL RECOMMENDED ALTERNATIVE

Initially, the Recommended Alternative was Alternative 6: High-Level Fixed-Bridge over a Relocated Channel with Madonna Boulevard intersection Option B (relocate Madonna Boulevard to align with The Village driveway). The initial selection of a Recommended Alternative was based upon the impact evaluation matrix, other quantifiable factors such as travel delay, and consideration of non-quantifiable factors such as public sentiment. The following bullets explain the rationale behind the selection of Alternative 6 as the Recommended Alternative:

- There are no operating costs with the fixed-span alternatives.

- The total cost of Alternative 6 with Madonna Boulevard intersection Option B is the lowest of all the alternatives at $92.4 million (2006 dollars).

- Compared to Alternative 5, the 5.0 percent grades for Alternative 6 are desirable to the 6.0 percent grades for Alternative 5.

- There is public support for Alternative 6 with Madonna Boulevard intersection Option B.

- Compared to bascule bridge replacement or rehabilitation alternatives, the fixed-span alternatives result in the smallest average travel delay in both the noon and PM peak hours.

- Compared to bascule bridge replacement or rehabilitation alternatives, the fixed-span alternatives result in improved aesthetics since span lengths can be longer and no crutch bents are required, opening up the views underneath the proposed bridge.

- The fixed-span alternatives accommodate pedestrians and bicyclists on the planned multi-use path. The rehabilitation alternatives do not accommodate the planned multi-use path.

- The Madonna Boulevard intersection Option B has no impact to The Village property.

- Improvement in water quality in Boca Ciega Bay due to treatment of stormwater runoff.

3.8 REFINEMENT OF THE INITIAL RECOMMENDED ALTERNATIVE

The following refinements were made to the initial Recommended Alternative:

- Recommended Stormwater Management Facility (SMF) sites were added to the Recommended Alternative concept plans. The proposed bridge structure is anticipated to accommodate a SMF under both the north and south end of the bridge to meet treatment requirements for the Recommended Alternative. These proposed pond configurations will also accommodate potential future four-lane widening of S.R. 679 without modification, when warranted.

- The median opening along Madonna Boulevard, used to access the 7-Eleven gas station was initially closed due to its proximity to S.R. 679 intersection. However, at the request of 7-Eleven, the median opening was restored since the median opening is needed for fuel tanker trucks to service the fuel tanks.

- Sidewalks at the northern terminus of the project will transition to meet the proposed shoulder, rather than end abruptly. In addition, these sidewalks were moved away from the unimproved dirt access road that runs along each side of the causeway.

The effects to the natural and man-made environment due to the Recommended Alternative are shown in Table 3-5. The ROW and construction costs for the Recommended Alternative were updated in January 2007, as shown in Table 3-5. Alternative 6 was displayed as the Recommended Alternative at a Public Hearing on March 28, 2007.

Table 3-5
Initial Recommended Alternative Evaluation Matrix

EVALUATION FACTORS	RECOMMENDED ALTERNATIVE Alternative 6 High-Level Fixed Relocated Channel
PROJECT LENGTH (miles)	0.863
POTENTIAL BUSINESS AND RESIDENTIAL RELOCATIONS	
Number of businesses estimated to be relocated - Madonna Boulevard intersection Option B	3
Number of residences estimated to be relocated	0
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)	
Number of churches, schools, child care, nursing homes, hospitals, cemeteries, other services affected	0
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT	
Number of historic sites/structures	0
Number of public parks adjacent to ROW	0
NATURAL ENVIRONMENTAL INVOLVEMENT (ac)	
Surface Water	2.38
Wetlands	0.05
Seagrass	0.15
PHYSICAL ENVIRONMENT INVOLVEMENT	
Estimated number of noise sensitive sites approaching or exceeding the NAC	0
Number of potential petroleum and hazardous materials contaminated sites (medium and high)	5
ESTIMATED CONSTRUCTION COSTS (Present Value January 2007 Dollars)	
Roadway and Bridge Structure	$72,612,833
Madonna Boulevard	$2,094,814
CONSTRUCTION COST TOTAL	**$74,707,646**
ROW Acquisition – Madonna Boulevard intersection Option B	$15,601,000
Engineering Design (15%)	$11,206,147
Construction Engineering & Inspection (15%)	$11,206,147
TOTAL ALTERNATIVE COST	**$112,720,940**

3.9 CHANGE OF THE RECOMMENDED ALTERNATIVE

Subsequent to the Public Hearing, coordination with the US Army Corps of Engineers (USACE) continued. A meeting was held on January 25, 2008. Meeting minutes are included in Appendix F. Major points determined at this meeting were:

- The FDOT will be responsible in perpetuity for any and all maintenance activities required in the future for the proposed channel or liabilities associated with the relocation.
- Approval from the local sponsor of the navigational channel is required. It was later determined that the local maintenance authority, or sponsor, is Pinellas County. Should Pinellas County oppose the channel relocation, the USACE could not approve the request.
- The design depth was established at -9 feet mean lower low water (mllw) with an additional -2 feet for dredging error. If the substrate being dredged is rock, the USACE will require an additional foot.
- A Maintenance Agreement between the FDOT and the local maintaining authority(ies) needs to be executed stating that the FDOT will be responsible for all future costs associated with the channel and establish criteria for future monitoring and maintenance of the channel as well as the disposal of dredge material. This would be subsequently reviewed by the USACE during their approval process for the relocation of the federal channel.
- The potential for effects to cultural resources would have to be coordinated with SHPO for the proposed channel relocation. It was anticipated that a magnetometer survey would be required for the proposed channel to determine potential archeological sites or artifacts.
- Sea grass impacts from sedimentation could be a concern. A sediment transport study had already been initiated by FDOT to address this issue.
- The project would require a USACE regulatory permit, which is dependent on the standard Water Quality Certification and feedback from the commenting agencies (US Fish and Wildlife Service, National Marine Fisheries).

Another meeting was held on March 6, 2008, with the USACE to present the proposed project to Pinellas County Department of Environmental Management (local channel sponsor). Meeting minutes are included in Appendix F. The intent of this meeting was to obtain feedback from the USACE and the County regarding the proposed channel realignment including the design, process for obtaining approval and any required agreements. Several proposed alternative channel alignments were presented. The USACE representative indicated that the USACE would prefer a “straight shot” channel alignment for marine safety and recommended that FDOT look at a single reach alignment (which would not be perpendicular to the bridge).

Through this coordination process, it was determined that the relocation of the Intracoastal Waterway would involve significant agency coordination between FDOT, USACE, USCG, Pinellas County as the local sponsor of the waterway, and the federal reviewing agencies.

Issues to be resolved would include funding for the USACE to review the document, initial dredging, if required, maintenance dredging responsibilities, sediment transport, seagrass impacts, navigational markings, a new channel easement, and water quality. While it was determined that although no initial dredging was needed, a dredging disposal site should be identified up front and maintenance dredging costs would be the responsibility of FDOT in perpetuity. This cost could not be calculated with certainty since sediment transport is dependent on many variables including storms and water currents. In addition, potential sediment transport due to the relocated channel posed liability issues for FDOT related to the potential reduction in water depths at the Tierra Verde Marina. Furthermore, any dredging would be highly scrutinized since this is an OFW.

Due to the additional required coordination, additional cost and impacts, potential liabilities, and delay to the schedule estimated at a year or more, the Recommended Alternative was changed to Alternative 5, the high-level fixed-bridge over the existing channel with realignment of The Village driveway.

3.10 REFINEMENT OF THE REVISED RECOMMENDED ALTERNATIVE

Alternative 5 was previously evaluated and presented at the public workshop. Alternative 5 includes a high-level fixed bridge over the existing channel. The proposed horizontal alignment and typical section did not change, except for the addition of handrails on the sidewalks to meet ADA requirements for grades over 5.0 percent. However, Alternative 5 was refined slightly to become Alternative 5A with the following details:

- It was determined that realigning The Village driveway is preferred over realigning Madonna Boulevard. The Village driveway will be realigned to form a four-leg signalized intersection with S.R. 679 with a single median opening at the existing Madonna Boulevard. This was previously evaluated as intersection Option A. This will result in no business relocations instead of 3 and save approximately $10 million in estimated ROW costs.

- The design speed on the proposed bridge was reduced from 50 mph to 45 mph. The posted speed will remain at 45 mph. The purpose of this change is to reduce the geometric sight-distance requirements at the crest curve on the bridge. This accommodates a vertical profile which minimizes the bridge length, thereby reducing the length of the proposed bridge.

- The grade from the top of the proposed bridge toward the north was reduced from the 6.0 percent to 5.0 percent. This is the maximum grade possible without triggering ADA requirements for flat landings on the sidewalks. It will be easier for pedestrians and bicyclists. The grade from Tierra Verde northward up to the crest of the bridge still needs to be 6.0 percent in order to clear the required 65-ft vertical navigational clearance over the existing channel without increasing the grade significantly at the Madonna Boulevard intersection.

- In addition, the decision to realign Madonna Boulevard was revisited. It was determined that realigning The Village driveway and reconstructing the guard gate would result in substantial cost savings. Internal circulation issues were addressed by including an egress gate from the internal drive, allowing vehicles to exit directly to the driveway, bypassing the guard gate. A presentation is planned to present the revised Recommended Alternative to The Village condominium Board of Directors. The board will need to allow FDOT to construct a new driveway and guard house within a construction easement on The Village common area, and then return the area to The Village for maintenance.

- The median width of S.R. 679 through the Madonna Boulevard intersection was reduced to better accommodate pedestrians utilizing the crosswalks.

The effects on the natural and man-made environment due to the Recommended Alternative 5A were updated and are shown in Table 3-6. The ROW and construction costs for the Refined Recommended Alternative were updated in April 2008, as shown in Table 3-6. Revised concept plan and profile sheets for the Recommended Alternative 5A are provided in Appendix A.

Table 3-6
Refined Recommended Alternative Evaluation Matrix

EVALUATION FACTORS	RECOMMENDED ALTERNATIVE Alternative 5A High-Level Fixed Existing Channel
PROJECT LENGTH (miles)	0.984
POTENTIAL BUSINESS AND RESIDENTIAL RELOCATIONS	
Number of businesses estimated to be relocated – Madonna Boulevard intersection Option A	0
Number of residences estimated to be relocated	0
COMMUNITY FACILITY EFFECTS (Community effects within ROW)	
Number of churches, schools, child care, nursing homes, hospitals, cemeteries, other services affected	0
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT	
Number of historic sites/structures	0
Number of public parks adjacent to ROW	0
NATURAL ENVIRONMENTAL INVOLVEMENT (ac)	
Surface Water	2.38
Wetlands	0.06
Seagrass	0.15
PHYSICAL ENVIRONMENT INVOLVEMENT	
Estimated number of noise sensitive sites approaching or exceeding the NAC	0
Number of potential petroleum and hazardous materials contaminated sites (medium and high)	5
ESTIMATED CONSTRUCTION COSTS (Present Value April 2008 Dollars)	
Roadway and Bridge Structure	$66,170,354
The Village Driveway	$454,500
CONSTRUCTION COST TOTAL	**$66,624,854**
ROW Acquisition – Madonna Boulevard intersection Option A	$0
Engineering Design (15%)	$9,993,728
Construction Engineering & Inspection (15%)	$9,993,728
TOTAL ALTERNATIVE COST	**$86,612,310**

3.11 REFERENCES

1. *Bridge Rehabilitation Alternatives Report;* Prepared for Florida Department of Transportation, District Seven, by Parsons Brinckerhoff Quade & Douglas; Tampa, Florida; June 2005.

2. *Structures Design Guidelines*, Florida Department of Transportation; Tallahassee, Florida; January 1, 2000.

3. *Final Alternative Stormwater Management Facility Report*; PBS&J, Tampa, Florida; June 2008.

4. *Final Preliminary Engineering Report (PER)*; PBS&J; Tampa, Florida; July 2007, revised June 2008.

5. *2025 Long Range Transportation Plan*; Pinellas County Metropolitan Planning Organization; Clearwater, Florida; December 2004.

6. *Pinellas County Comprehensive Plan*; Pinellas County Planning Department; Clearwater, Florida; February 1998, Amended December 2004.

Section 4.0
ENVIRONMENTAL IMPACTS

4.1 SOCIAL AND ECONOMIC IMPACTS

4.1.1 COMMUNITY SERVICES

There are no cemeteries, schools, medical and emergency treatments facilities, or public buildings and facilities located within the project study area. Community service facilities that are located along or near the project study area are discussed below and shown on Figure 4-1. There is one fire station located in Tierra Verde at 1420 Pinellas Bayway South and one church, The Island Chapel located at 1271 Pinellas Bayway South. There will not be any effects to these facilities from the proposed improvements.

The Recommended Alternative will have beneficial results for the community by providing enhanced access for emergency services to and from the mainland and Tierra Verde and Mullet Key (Fort De Soto Park) since the traffic will not be stopped periodically for the bascule bridge to open. This will decrease response times for police and medical services (there is a fire station on Tierra Verde) and aid in emergency evacuation.

4.1.2 COMMUNITY COHESION

Since the proposed project involves the improvement of an existing facility with no right-of-way (ROW) acquisition, no splitting or isolation of neighborhoods will occur. The project is not anticipated to harm elderly persons, handicapped individuals, non-drivers and transit-dependent individuals, or minorities. It is anticipated that the project improvements will not affect community cohesiveness. Therefore, this project has been developed to comply with Executive Order 12898, Environmental Justice, issued on February 11, 1994.

4.1.3 ENVIRONMENTAL JUSTICE AND TITLE VI AND TITLE VIII CONSIDERATIONS

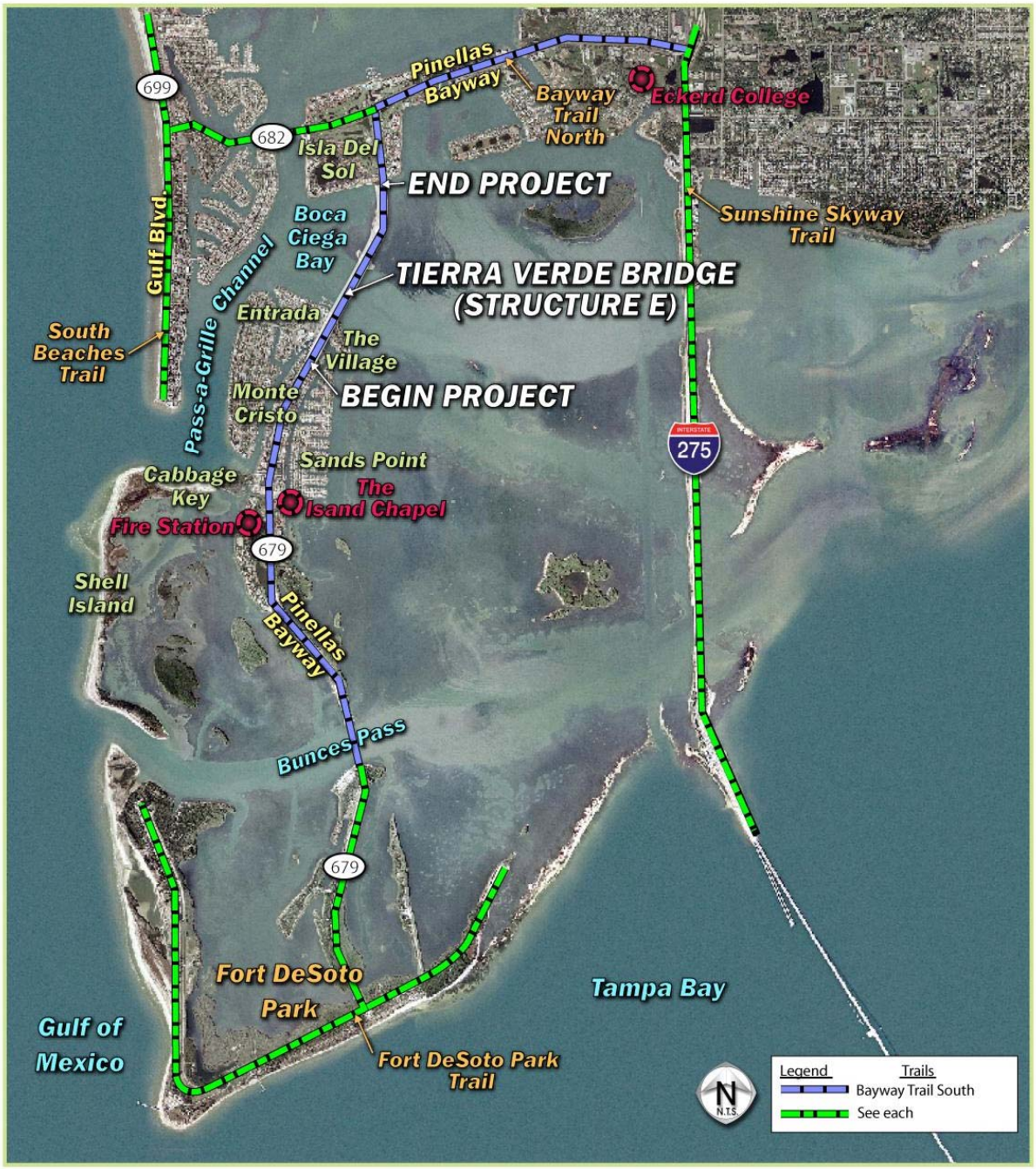
In February 1994, the President of the United States issued Executive Order 12898 (Environmental Justice) requiring federal agencies to analyze and address, as appropriate, disproportionately high adverse human health and environmental effects of federal actions on ethnic and cultural minority populations and low income populations, when such analysis is required by the National Environmental Policy Act (NEPA) of 1969. An adverse effect on minority and/or low-income populations occurs when: (1) The adverse effect occurs primarily to a minority and/or low income population; or, (2) The adverse effect suffered by the minority and/or low-income population is more severe or greater in magnitude than the adverse effect suffered by the non-minority and/or non-low-income populations.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

WPI Segment No : 410755-1

COMMUNITY SERVICES MAP

Figure 4-1



An evaluation of environmental, public health, and interrelated social and economic effects of the proposed projects on minority and/or low-income populations is required. All proposed projects should include measures to avoid, minimize, and/or mitigate disproportionately high and adverse impacts and provide offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by these activities.

The 17 environmental justice criteria identified in Executive Order 12898 are: (1) air pollution; (2) noise; (3) water pollution; (4) soil contamination; (5) destruction of manmade resources; (6) destruction of natural resources; (7) diminution of aesthetic values; (8) detriment to community cohesion; (9) diminution of economic viability; (10) detriment to facilities access - public and private; (11) detriment to services access - public and private; (12) vibration; (13) diminution of employment opportunities; (14) displacement; (15) traffic congestion and impairment to mobility; (16) exclusion, isolation, or separation; and (17) diminution of Department of Transportation (DOT) benefits.

In addition to compliance with Executive Order 12898, any proposed federal project must comply with the provisions of Title VI of the Civil Rights Act of 1964, as amended by Title VIII of the Civil Rights Act of 1968. Title VI of the 1964 Civil Rights Act provides that no person will, on the grounds of race, color, religion, sex, national origin, marital status, disability, or family composition be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program of the federal, State, or local government. Title VIII of the 1968 Civil Rights Act guarantees each person equal opportunity in housing.

This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968, and in accordance with Executive Order 12898. The proposed project will not result in any disproportionate adverse effects to any distinct minority, ethnic, elderly or handicapped groups and/or low-income households. Title VI information was made available at the Public Hearing.

4.1.4 LAND USE

Existing Land Use

The existing land uses in the area adjacent to and surrounding S.R. 679 consist of residential, commercial, marinas/docks, recreational, and preservation. An overview of the existing land use is shown in Figure 4-2.

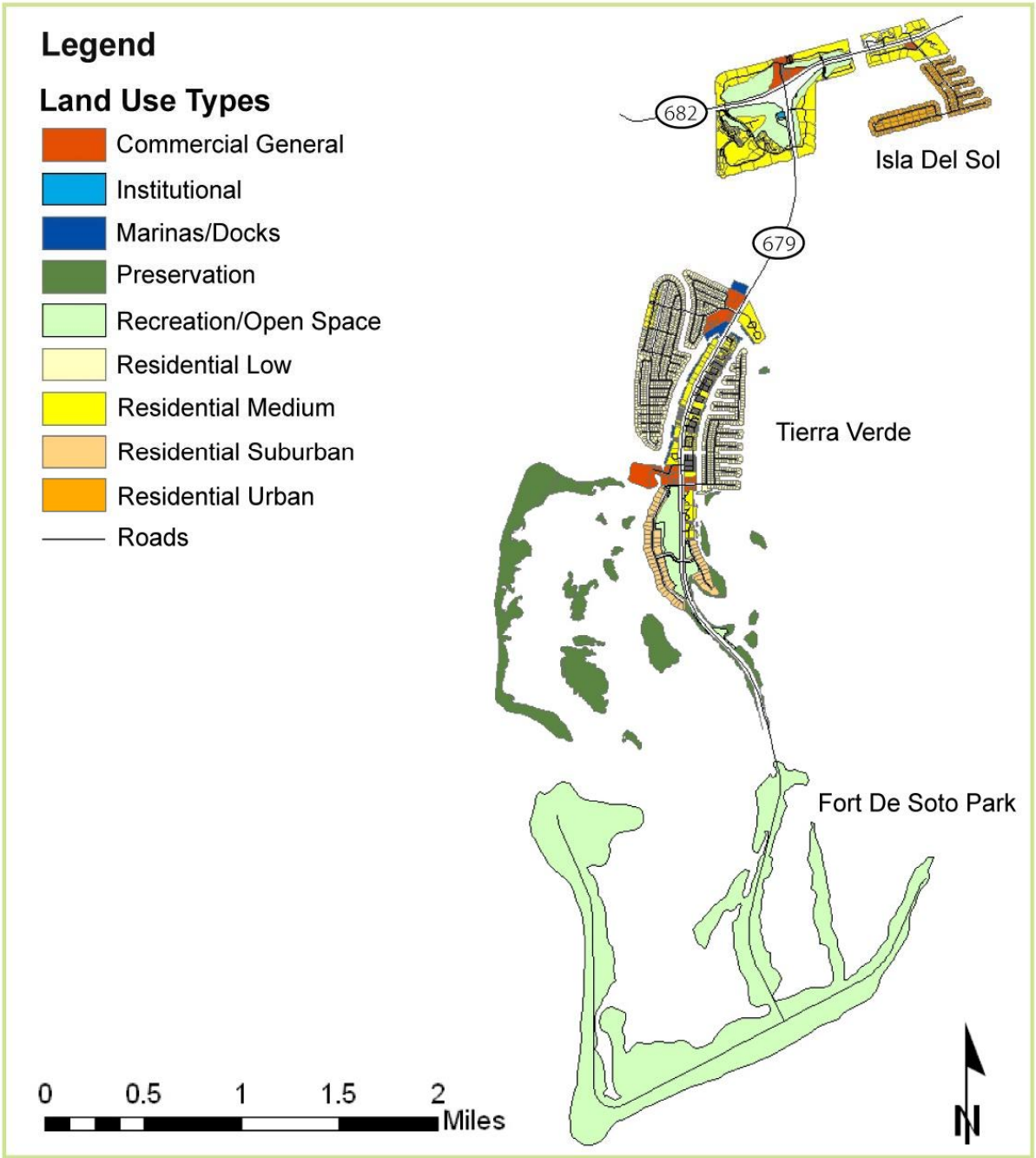
Residential developments adjacent to S.R. 679 are Bahia Del Mar and Palma Del Mar located north of the causeway and The Village at Tierra Verde (The Village), The Yacht Club, and Anchor Cove to the south of the bridge. Commercial uses south of the bridge on the west side of S.R. 679 surrounding Madonna Boulevard include Tierra Verde Marina Shopping Plaza, 7-Eleven, and other small businesses. The Tierra Verde Hi and Dry and Tierra Verde Resort Marina are southwest of the bridge. Fort De Soto Park is located 5 mi south of the project area, south of Bunces Pass.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Existing Land Use Map

WPI Segment No : 410755-1

Figure 4-2



Future Land Use

The designated land uses on *The Updated Countywide Plan For Pinellas County*[1] Future Land Use Map (FLUM) indicates that future land uses conform to the existing land uses. Future land use designations include residential low, residential medium, residential suburban, and commercial general as shown in Figure 4-3. Future recreational uses include Fort De Soto Park located south of the project area and Bunces Pass and the proposed Bayway Trail South, a recreational trail that would be located adjacent to S.R. 679 and link the mainland to Fort De Soto Park.

4.1.5 UTILITIES AND RAILROADS

In order to evaluate potential aerial, surface, and subsurface utility conflicts associated with the project, information was requested from utility companies pertaining to the type, location, and ownership of the existing utilities within the project area. All information received from the various utility companies is in the project file. The utilities within the project limits include:

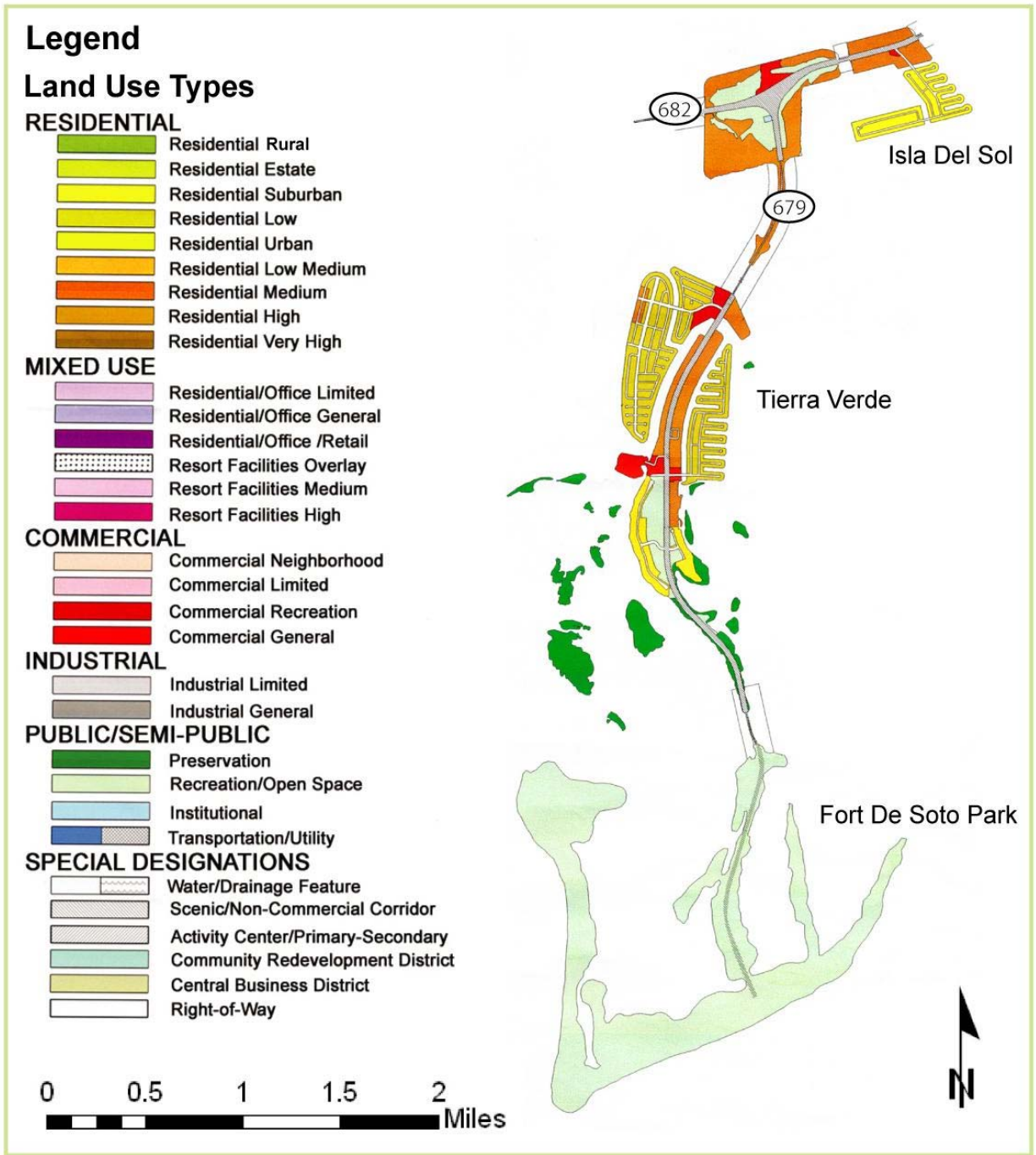
- Knology Broadband of Florida
- Bright House Networks
- City of St. Petersburg
- Progress Energy Distribution
- Tierra Verde Utilities
- Pinellas County Utilities

Since the project will require the relocation of some utilities, the project is expected to have minimal involvement with utilities. There are not active railroad crossings within the project limits. Therefore, no involvement with railroads is anticipated. Coordination with all affected utilities will be completed during final design.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida
Future Land Use Map

WPI Segment No : 410755-1

Figure 4-3



4.1.6 RELOCATIONS

The construction of the Recommended Alternative, with the relocation of The Village driveway to align with Madonna Boulevard, is not expected to cause relocations.

4.2 CULTURAL AND HISTORICAL RESOURCES

Cultural resources include archaeological and historical resources and recreational facilities. The cultural resources associated with the project are discussed in the following sections.

4.2.1 ARCHEOLOGICAL AND HISTORICAL RESOURCES

In accordance with procedures contained in Chapter 36 Code of Federal Regulations (CFR) Part 800 (revised May 1999), a *Final Cultural Resource Assessment Survey (CRAS)*[3], including literature review and field survey, has been performed for the proposed project. The survey has been completed in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (Public Law 89-665); Executive Order 11593; and the implementing regulations, as well as the provisions contained within the revised Chapter 267, F.S. All work was carried out in conformity with Part 2, Chapter 12 ("Archaeological and Historical Resources") of FDOT's *Project Development and Environment Manual*[4], and the standards contained in the *Cultural Resource Management Standards and Operational Manual*[5].

The purpose of the CRAS was to locate, identify, and bound any prehistoric and historic period archaeological sites and historic structures within the project Area of Potential Effects (APE) and to assess the significance of these resources in terms of eligibility for listing in the *National Register of Historic Places* (*NRHP*)[6] according to the criteria set forth in 36 CFR 60.4. The historical/architectural and archaeological surveys were conducted in September 2005. Field surveys were preceded by background research. Such work served to provide an informed set of expectations concerning the kinds of cultural resources that might be anticipated to occur within the project APE, as well as a basis for evaluating any new sites discovered.

Background research, including a review of the *Florida Master Site File (FMSF)*[7] and the *NRHP*, indicated an absence of previously recorded archaeological sites and historic resources. As a result of field survey, no new archaeological sites or historic structures were identified within the project APE. Thus, no significant cultural resources, including archaeological sites and historic resources that are listed, determined eligible, or considered potentially eligible for listing in the *NRHP* will be effected by this project. No further work is recommended.

The *CRAS* was submitted to the State Historic Preservation Officer (SHPO). The SHPO has determined that no resources listed or eligible for listing in the NHRP would be affected. The SHPO concurrence letter, dated March 17, 2006, is included as Appendix B.

4.2.2 PARKS AND RECREATION

There are no parks within or adjacent to the project area; however, recreational activities along S.R. 679 and the surrounding waters include fishing and boating. The closest park is Fort De Soto Park, located approximately 5 miles (mi) south of the project area and Bunces Pass. Fort De Soto Park is a Pinellas County park which offers many amenities including camping, canoeing, swimming, fishing, boating, Fort De Soto Park Trail, a paw playground (dog park), and a historic fort. Fort De Soto Park is the largest and most active park in the county, hosting more than 2.7 million visitors each year, most of which access the park via automobile.

A proposed recreational trail, the Bayway Trail South, is planned for this portion of the Pinellas Bayway that would be located adjacent to S.R. 679 and link the mainland to Fort De Soto Park. The proposed trail would also connect the Fort De Soto Trail with the South Beaches Trail and the proposed Bayway Trail North that connects with the Pinellas Trail to the north and the Sunshine Skyway Trail to the south. Each of these trails is depicted on Figure 4-1 and are included in the *Pinellas County Metropolitan Planning Organization Cost Feasible Trailways Projects for 2010-2015*[8].

The proposed Bayway Trail South was considered in the evaluation and development of bridge alternatives. The Recommended Alternative has been developed to include a multi-use path that will accommodate the planned trail. The Recommended Alternative will also provide enhanced vehicular and pedestrian/bicycle access to Fort De Soto Park since the traffic will not be stopped periodically for the bascule bridge to open. Therefore, this project will have no effect on parks or recreational facilities.

4.2.3 SECTION 4(f)

The United States Coast Guard (USCG) is no longer part of the United States Department of Transportation (USDOT); therefore, Section 4(f) of the Department of Transportation Act of 1966 does not apply to USCG projects.

4.3 NATURAL AND PHYSICAL ENVIRONMENT

4.3.1 PEDESTRIAN AND BICYCLE FACILITIES

The existing conditions include sidewalks in both directions on Tierra Verde south of Structure E and across the bridge. No sidewalks are provided north of the bridge. However, pedestrians commonly utilize the causeway for recreational purposes. The sidewalks on the bridge are also used for fishing. Designated bicycle lanes, 4 feet (ft) in width, are provided south of Madonna Boulevard and are also designated north of the bridge on 5-ft wide shoulders. However, there are no bicycle lanes on the bridge itself.

The Recommended Alternative typical section includes a 10-ft shoulder in each direction at the bridge (see Figure 1-2) which can accommodate bicyclists. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path, the Bayway Trail South. South of the bridge, the typical section shoulder and sidewalk widths

will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge includes a 5-ft sidewalk on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate the planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. Pedestrian hand railings are required on the sidewalks when the grades exceed 5 percent. The proposed roadway at grade is also consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft (see Figures 1-3 and 1-4).

4.3.2 VISUAL AND AESTHETIC FEATURES

Aesthetics are an important consideration in any transportation project. The Recommended Alternative can be designed with longer spans on a single pier instead of a group of piles. The result would provide more open, spacious views for both water and nearby land uses. The Recommended Alternative, a high-level fixed-bridge, would result in improved aesthetics, as compared to the bascule bridge replacement or rehabilitation alternatives, since span lengths can be longer and no crutch bents are required. There are no provisions or commitments made regarding special aesthetic features, such as landscaping or hardscaping for this section of S.R. 679.

4.3.3 AIR QUALITY

In accordance with the Clean Air Act Amendments of 1990 and Part 2, Chapter 16 of the FDOT's *Project Development and Environment Manual*, an Air Quality Screening Test was conducted for this project utilizing the FDOT carbon monoxide (CO) screening model, CO Florida 2004 (released September 7, 2004). This computer program makes a number of conservative worst-case assumptions about the project (site conditions, meteorology and traffic) and indicates whether the project needs a more detailed computer analysis. The roadway intersection forecasted to have the highest total volume was S.R. 679 at Madonna Boulevard. The Build and No-Build scenarios for both the opening year (2010) and the design year (2030) were modeled.

Estimates of CO were predicted for the default receptors which are located 10 ft to 150 ft from the edge of the roadway. Based on the results of the screening model, the highest project-related CO levels are not predicted to meet or exceed the National Ambient Air Quality Standard (NAAQS) for the pollutant with either the No-Build or Build alternatives. As such, the project "passes" the screening model.

The project is located in an area that has been designated as Attainment for the 8-hour NAAQS for ozone under the criteria provided in the Clean Air Act (CAA) and therefore, the Clean Air Act (CAA) conformity requirements do not apply to the project.

Construction activities may cause minor short-term air quality effects. These effects will be minimized by adherence to the latest edition of the FDOT *Standard Specifications for Road and Bridge Construction*[9].

4.3.4 NOISE

A traffic noise study was performed using methodology established by the FDOT in the PD&E Manual, Part 2, Chapter 17 (October 2003). Predicted noise levels were produced using the Federal Highway Administration (FHWA) traffic noise model (TNM), version 2.5, and are expressed in decibels (dB) using an "A"-scale (dBA) weighting.

A *Final Noise Study Report*[10] was prepared for this project to identify noise sensitive sites adjacent to the project corridor, to evaluate the significance of existing and future traffic noise levels at the sites with the improvements, and to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the evaluation of construction noise and vibration impacts and the identification of noise level "contours" adjacent to the corridor. Contours are the distances from the roadway that traffic noise levels are predicted to approach or exceed the FDOT's Noise Abatement Criteria (NAC).

A noise sensitive site is any property (owner occupied, rented or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. Noise sensitive areas along S.R. 679 within the project limits include residential and recreational land uses. Noise sensitive sites will be considered for abatement when predicted noise levels approach or exceed the NAC or when a substantial increase in traffic noise will occur as a direct result of the transportation project. The FDOT defines a substantial increase as 15 or more decibels above existing conditions.

The NAC, summarized in Table 4-1, vary by activity category with primary consideration given to exterior areas. All of the noise sensitive sites within the project limits are in Activity Category B. FDOT defines approaching the NAC as meaning within one dB (1 dBA). Therefore, noise sensitive sites will be considered for abatement when predicted noise levels are 66.0 dBA or greater.

Table 4-1
Noise Abatement Criteria

Activity Category	Leq (h)*	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped Lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Florida Statutes Chapter 335.17 (F.S. 335.17)[11]

** Note: Leq is the level equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period. Leq(h) is the hourly value of Leq.*

The existing predicted noise levels were established for a two-lane, undivided roadway using traffic volumes reflecting year 2005 site conditions. Similarly, the future predicted noise levels were established for the Recommended Alternative (two-lane, high-level fixed-bridge) using traffic volumes reflecting year 2030 conditions. Traffic data used to establish the existing and future noise levels is documented in a NSR prepared separately for this project.

Noise Sensitive Sites

Twenty noise sensitive sites (including 2 single family homes, 3 tennis courts, and 15 condominiums) were evaluated (Activity Category "B"). None of the sites approached or exceeded the NAC with the proposed project.

Future Traffic Noise Levels

For the Recommended Alternative, a two-lane high level fixed-bridge over the existing channel, the modeling analysis indicates that traffic noise levels would range from 48.0 to 65.4 dBA. Noise levels are not predicted to approach or exceed the NAC. In addition, noise levels for the 20 sites modeled are predicted to change between 0.0 and 1.2 dBA with the project.

To reduce the potential for additional noise sensitive sites to be located within an area with incompatible traffic noise, noise level contours were developed for the future improved roadway. The results of the analysis indicate that a level of 66 dBA (approaching the FDOT's NAC) would extend approximately 85 feet from the closest travel lane of the 2-lane roadway.

Based on the results of the analysis, it is not necessary for the FDOT to consider abatement measures because noise levels are not predicted to approach or exceed the FDOT's NAC, nor are any noise sensitive sites predicted to experience a substantial increase in traffic noise compared to existing conditions.

4.3.5 WETLANDS

In accordance with Executive Order 11990 "Protection of Wetlands" (May 1977), the proposed project was evaluated for potential impacts to wetlands. Wetland and surface water systems receive federal protection through provisions in the Clean Water Act (CWA) (1972) and the Section 10 of the Rivers and Harbors Act (1899). The State of Florida also provides protection to wetlands (Chapter 373 F.S.). Detailed information about the biotic communities as well as the analysis conducted for each alternative concept is contained in the *Final Wetland Evaluation and Biological Assessment Report*[12] (WEBAR) prepared separately.

In order to determine the areal extent of wetland area affected by the proposed project, extensive evaluations of existing data and field reviews were performed by a qualified biologist in the winter of 2005/2006 and the spring of 2006.

In order to determine the approximate locations and boundaries of existing wetland communities within the project study area, available site-specific data were collected, reviewed and analyzed using the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Maps, U.S. Geological Survey (USGS) Topographic Quadrangle maps, Southwest Florida Water Management District (SWFWMD) Land Use Maps based on the FDOT Florida Land Use Cover and Forms Classification System (FLUCCS), Natural Resource Service County Soil Survey, USFWS Classification of Wetlands and Deepwater Habitats of the United States, aerial photography and ground-truthing.

Using the above information, the approximate boundaries of wetland communities were mapped on black and white aerials. Since both the SWFWMD and NWI mapping are conducted at a relatively coarse level of spatial accuracy (1:24,000 scale), more accurate wetland maps were created based on field reviews and aerial photointerpretation using 1:100 scale photography. Each wetland community was then labeled using the FLUCCS and NWI classification systems. Ground-truthing of wetland boundaries was accomplished by implementing the State of Florida wetland delineation methodology (F.A.C. 62-340) and the U.S. Army Corps of Engineers (USACE) methodology (Corps of Engineers Wetlands Delineation Manual).

A list of land use types was developed using the FLUCCS codes. Five wetland and surface water system types were identified in the project area. These areas were mapped onto the Concept Plans and evaluated for ecological quality. As this is a bridge project, the majority of impacts were to surface waters identified as Bays/Estuary (FLUCCS 540). Mangrove swamps (FLUCCS 612), shoreline (FLUCCS 652), salt marsh (FLUCCS 642), and seagrass (FLUCCS 911) are the wetland or submerged aquatic vegetation (SAV) communities identified in the project area. A total of 6.9 acres (ac) of wetland exist within the project area. Seagrass beds are located within the project corridor, but their total acreage is not included in this estimate. Detailed seagrass surveys are recommended during design to more accurately locate and quantify the amount of seagrass in the area.

The majority of the wetland systems are located on the northern causeway of the bridge. Due to the presence of wetlands and submerged aquatic vegetation (SAV) immediately adjacent

to the bridge approaches, particularly at the north end of the project, impacts to wetlands and SAV will be unavoidable. However, the alignment of the proposed widening of the bridge to the east side of the existing bridge will minimize impacts, particularly to SAV.

Wetland functionality (i.e., quality) was evaluated using the Uniform Mitigation Assessment Method (UMAM). The assessment areas included all wetland area within the Study Area. UMAM provides a measurement of wetland functionality through identifying wetland impacts as units of functional loss caused by the proposed project Therefore, UMAM values represented in this study represent impacts to wetlands only (i.e., functional loss). UMAMs were performed on representative seagrass beds and on representative mangrove swamps within the project area. Wetland functional values were 0.8 for the seagrass beds and 0.5 for the mangrove fringe.

The anticipated involvement from the Recommended Alternative with wetlands and surface waters is 2.59 ac, with 0.06 ac attributable to wetlands (FLUCCS 612, 642, 652), 0.15 ac attributable to SAV (FLUCCS 911), and 2.38 ac attributable to surface waters (FLUCCS 540) (Table 4-2). It should be noted that the involvement with surface waters (FLUCCS 540) includes the entire area of the bay/estuary under the proposed bridge deck although all of that area may not be directly impacted.

For the Recommended Alternative, it has been determined that there are no practicable alternatives to construction in wetlands. All practicable measures will be used to reduce harm to wetlands during subsequent project phases. Short-term construction- related impacts will be minimized. Mitigation will be required for wetland involvement that results from the construction. To further minimize wetland involvement and affects to local water quality, specific measures will be implemented during construction, as stated in Section 4.3.16 of this document.

Table 4-2
Wetland and Surface Water Impacts for Recommended Alternative

ALT No.	FLUCCS CODE					Total Impact Acreage
	540	612	642	652	911	
5A(RA)	2.38 ac	0.004 ac	0.04 ac	0.02 ac	0.15 ac	2.59 ac

**RA=Recommended Alternative*

A full range of mitigation options were considered in developing this project to avoid long-term and short-term adverse involvement with wetland resources and to avoid new construction in wetlands wherever there is a practicable alternative. Mitigation policies have been established by the USACE, the Florida Department of Environmental Protection (FDEP), and the water management districts. Options for mitigating the loss of wetlands include mitigation banking, upland and/or wetland preservation, and wetland restoration, enhancement, and creation.

Wetland involvement resulting from the construction of this project are anticipated to be mitigated pursuant to Section 373.4137 F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 United States Code 1344. Under Section 373.4137 FS, mitigation of FDOT wetland impacts will be implemented by the SWFWMD. The project is currently listed on the FDOT's wetland mitigation inventory, which is provided to the SWFWMD on an annual basis. It is anticipated that FDOT will provide funding to the SWFWMD for implementation of wetland mitigation required for this project.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures the minimize harm to wetlands which may result from such use. Wetland involvement is considered to be minimal.

4.3.6 ESSENTIAL FISH HABITAT

An Essential Fish Habitat (EFH) Assessment was conducted under the provisions of the Magnuson Fishery Conservation and Management Act of 1976, as amended through 1998 and currently regarded as the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). EFH is defined as the water and substrate necessary for fish spawning, breeding, feeding, and growth to maturity. The MSFCMA established standards for fishery conservation and management and created eight regional Fishery Management Councils (FMC) to apply those national standards in fishery management plans (FMP). The National Marine Fisheries Service (NMFS), a service of the United Stated Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), is responsible for implementing this mandate. Consultation with the NMFS is required as part of this process. A discussion of affects on EFH within the project study has been provided in the WEBAR. The potential affects must be evaluated individually and cumulatively. The NMFS provide comments and recommendations to the responsible federal permitting agency.

Interagency coordination between the FDOT and the NMFS resulted in a list of Major Essential Fish Habitat categories for managed species in the Gulf of Mexico. Table 4-3 contains a list of the species considered to potentially utilize the project area.

Table 4-3
Managed Fisheries Species Anticipated to Occur in Pinellas County and Potentially Occurring Within the Project Study Area

Management Plan	Scientific Name	Common Name
Shrimp Fishery Management Plan	*Penaeus aztecus*	brown shrimp
	Pandalus jordani	pink shrimp
	Pleoticus robustus	royal red shrimp
	Penaeus setiferus	white shrimp
Red Drum Fishery Management Plan	*Sciaenops ocellatus*	red drum
Reef Fish Fishery Management Plan	*Mycteroperca bonaci*	black grouper
	Mycteroperca microlepis	gag grouper
	Lutjanus griseus	gray snapper
	Balistes capriscus	gray triggerfish
Stone Crab Fishery Management Plan	*Menippe mercenaria*	stone crab
Spiny Lobster Fishery Management Plan	*Panulirus* spp.	spiny lobster

With the construction of the Recommended Alternative, impacts to the unconsolidated bottom portions of the bay are considered to be temporary in nature and not anticipated to have a significant impact to EFH for most of the alternatives. Further consultation will be necessary to determine the most effective mitigation measures for the proposed impacts during the design and permitting phase of the project when more detailed information is available. The proposed project will potentially impact sparse beds of SAV, tidal marshes, mangroves communities and shoreline. With the Recommended Alternative, involvement with the wetland and SAV communities (FLUCCS codes 612, 642, 652 and 911) will be approximately 0.21 ac, with 0.15 attributed to seagrass impacts (FLUCCS code 911). The potential for shellfish harvesting was also evaluated. The project is within a prohibited zone for shellfish harvesting; therefore, there will be no involvement with the shellfish fishery. Seagrass involvement is looked at carefully by the NMFS, and mitigation will have to fully compensate for the loss of the seagrass areas in the project area. During the development of the mitigation plan to be provided through SWFWMD, in accordance with Section 373.4137 F.S., the NMFS will be a part of the interagency team that reviews any plans proposed by SWFWMD as mitigation. With appropriate mitigation provided, this project is not anticipated to adversely affect EFH.

4.3.7 WILDLIFE AND HABITAT

This project has been evaluated for potential affects to threatened and endangered species in accordance with Section 7(c) of the Endangered Species Act of 1973 as amended by Rules 39-25.002, 39-27.002, and 39-27.011 of the Wildlife Code of the State of Florida (Chapter 39, F.A.C.). Literature reviews and habitat evaluations were conducted to identify protected species that may inhabit the study area. Coordination and consultation has been initiated with all regulatory and governing agencies, including the USFWS, Florida Fish and Wildlife Conservation Commission (FFWCC), and NMFS.

Several data sources were reviewed to determine occurrence and potential occurrence of state and federally protected plant and animal species within the study area: USFWS NWI Maps, USGS Topographic Quadrangle maps, Natural Resource Service County Soil Survey, and aerial photography.

To determine the occurrence of protected species, the study area was evaluated for suitable habitat for federally protected species by qualified FDOT environmental scientists. Surveys were then conducted in each habitat type for species known to occur or utilize those habitats. The surveys were performed in the winter of 2005/2006 and the spring of 2006. In addition, random surveys were performed along the corridor for the duration of the study to obtain data on resident and transient species. During these surveys, any evidence of protected species found or direct observations of protected species were recorded. The protected animal species identified to potentially occur in the project area along with their status designation are listed in Table 4-4 below. However, no federally protected plant species were observed or are known to occur within the project corridor.

Twenty-two animal species and no plant species protected by the USFWS, FFWCC, or the Florida Department of Agriculture and Community Services (state protected plants) were determined to potentially occur. The following federally protected species were identified as potentially occurring within the project area: Gulf sturgeon, smalltooth sawfish, loggerhead turtle, green turtle, leatherback turtle, hawksbill turtle, Kemp's Ridley turtle, piping plover, bald eagle, wood stork and the West Indian manatee. In addition to the federally protected

Table 4-4
Protected Species Known To Occur In Pinellas County And Potentially Occurring Within The Project Study Area

Scientific Name	Common Name	Federal Status	State Status
FISH			
Acipenser oxyrinchus	Gulf sturgeon	T	SSC
Pristis pectinata	smalltooth sawfish	E	
REPTILES			
Caretta caretta	loggerhead turtle	T	T
Chelonia mydas	green turtle	E	E
Dermochelys coriacea	leatherback turtle	E	E
Eretmochelys imbricate	hawksbill turtle	E	E
Lepidochelys kempii	Kemp's Ridley turtle	E	E
BIRDS			
Ajaia ajaja	roseate spoonbill		SSC
Charadrius melodus	piping plover	T	T
Charadrius alexandrinus	snowy plover		T
Rynchops niger	black skimmer		SSC
Egretta caerulea *	little blue heron		SSC
Egretta rufescens	reddish egret		SSC
Egretta thula *	snowy egret		SSC
*Egretta tricolor**	tricolored heron		SSC
*Eudocimus albus**	white ibis		SSC
Haematopus palliatus	American oystercatcher		SSC
Haliaeetus leucocephalus	southern bald eagle	T	T
Mycteria americana	wood stork	E	E
Pelecanus occidentalis *	brown pelican		SSC
*Sterna antillarum**	least tern		T
MAMMALS			
Trichechus manatus *	West Indian manatee	E	E

FEDERAL STATUS
E Endangered: species in danger of extinction throughout all or a significant portion of its range.
T Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
STATE STATUS
E Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
T Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
SSC Species of Special Concern is a species, subspecies, or isolated population that is facing a moderate risk of extinction in the future.
* Observed in project area.

species, state-only protected species were also identified. These included state-protected wading birds, such as the roseate spoonbill, little blue heron, reddish egret, snowy egret, tricolored heron, and white ibis. The state protected brown pelican, least tern, American oystercatcher, snowy plover, and black skimmer were also identified as potentially occurring in the project area.

The project is anticipated to have "no effect" on the bald eagle and the gulf sturgeon. Bald eagle nests were not identified in the database for the project area or observed in the field. The gulf sturgeon rarely occurs in the area and spawning activities, the primary concern for its recovery, are within coastal rivers, not bays and estuaries. Due to the minimal and temporary effect to the foraging areas and the lack of suitable nesting areas for the least tern, black skimmer, brown pelican, and American oystercatcher, the project is also anticipated to have no effect on these species.

The project was determined to have a "may affect, not likely to adversely affect" on the following federally protected species: smalltooth sawfish, Atlantic loggerhead turtle, Atlantic green turtle, Atlantic hawksbill turtle, leatherback turtle, Kemp's Ridley turtle, piping plover, wood stork, and the West Indian manatee.

The Department will implement the "Manatee and Sea Turtle Watch Program Guidelines" and the "Marine Wildlife Safety Plan" and "Sea Turtle Construction Conditions" for protection of the five species of marine turtles (green turtle, leatherback turtle, hawksbill turtle, Kemp's Ridley turtle, loggerhead turtle) and the West Indian manatee potentially occurring in the area (see Appendix C). Note that no suitable nesting beaches are found in the project area and protective measures are for turtles in open water only. Through implementation of the protection measures affects to these species will be avoided.

The NMFS (NOAA Fisheries) listed the smalltooth sawfish as an endangered species in 2003. The smalltooth sawfish inhabit shallow coastal waters of tropical seas and estuaries throughout the world. They are typically found in shallow waters close to shore over muddy or sandy bottoms. Historically, the population was common throughout the Gulf of Mexico from Texas to Florida. However, currently, they are found mostly in the Everglades region of south Florida. Although the smalltooth sawfish was not observed in the area and the data as to its occurrence in the area are inconclusive, specific construction guidelines will be followed during the project for this species. With these guidelines in place, the project "may affect, not likely to adversely affect" the smalltooth sawfish.

Potential foraging habitat for the piping plover exists in the project vicinity along the shoreline of the causeway associated with the northern portion of the bridge. Critical Habitat for winter migration has been designated by the USFWS for this species. However, the project is not within a Critical Habitat area for this species. No nesting or roosting habitat will be affected and impacts to potential foraging areas are minimal.

Mitigation will be provided for unavoidable habitat losses resulting from the proposed project. Therefore, this project "may affect, not likely to adversely affect" this species.

No colonies or wood stork roosts were identified within the study area during the field evaluations. The FFWCC maintains a colony location database, which identifies two active

wood stork colonies within 18.6 mi of the project corridor. The colony identification numbers are 615113 (17.82 mi away) and 615336 (18.5 mi away). Wetlands supporting the proper hydrologic regime for foraging purposes may be affected throughout the study area. It is also noted that impacts to foraging areas are estimated at less than 0.2 ac. If it is concluded that suitable wetlands are impacted, the FDOT will coordinate with the USFWS to propose mitigation to offset effects to the wood stork colonies. It is anticipated that with this effort, the proposed project "may affect, not likely to adversely affect" the wood stork or its habitat.

The FFWCC database was reviewed for potential bald eagle nests in the area. The closest nest was more than four mi away from the project site. No nests were observed in the project area during field reviews. Since nest locations can change over time, the FDOT will resurvey the project corridor and review existing databases during all design/permitting phases of this project. These surveys will identify any changes to current nest information, which will then result in modification of construction activities, as necessary, to reduce or eliminate any effects to this species. However, since no eagle nests currently occur within 660 ft of the study area, the bald eagle will receive "no effect" from the proposed project.

State protected wading birds (i.e., snowy egret, little blue heron, roseate spoonbill, reddish egret, tricolored heron and white ibis) will not be adversely affected. Forage areas may be lost due to construction of the bridge approaches. Mitigation will be provided for unavoidable habitat losses resulting from the proposed project.

Additionally, the FFWCC maintains a statewide database of known wading bird colonies. This database was reviewed to determine the proximity and potential effects the project may have on colonies. Several colonies occur within Pinellas County; however, the closest is more than one half mile from the study area. Due to its distance, wading bird colonies will not be affected by the proposed project.

The WEBAR was submitted to agencies for review and determination of affect for the proposed improvements. On February 12, 2007, the USFWS concurred that the proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act. The letter is included as Appendix D.

4.3.8 SOVEREIGN SUBMERGED LANDS

The submerged lands of Boca Ciega Bay are also sovereign State lands, requiring a public easement from the FDEP Board of Trustees of the Internal Improvement Trust Fund (TIITF). Although this is a proprietary issue rather than a regulatory matter, the approval of the easement has been linked to the ERP process and may impact permitting schedules.

4.3.9 AQUATIC PRESERVES

The project is located within the Boca Ciega Bay Aquatic Preserve. Aquatic Preserves are designated as such, in order to maintain an area in an essentially natural or existing condition so that their aesthetic, biological and scientific values may endure for the enjoyment of

future generations (Section 258.36, F.S.). Every effort will be made to maximize the treatment of stormwater runoff from the proposed structure. Coordination with the FDEP and the Southwest Florida Water Management District (SWFWMD) was initiated during the Efficient Transportation Decision Making (ETDM) process.

To minimize impacts and effects to local water quality, specific measures will be implemented during construction. Short term construction related impacts will be minimized by adherence to FDOT's *Standard Specifications for Road and Bridge Construction*. These specifications include measures known as Best Management Practices (BMP) which include the use of siltation barriers, dewatering structures, and containment devices that will be implemented for controlling turbid water discharges outside of construction limits. Through these efforts there will be minimal effect to the Boca Ciega Bay Aquatic Preserve.

Involvement with wetlands and surface waters due to the construction of the Recommended Alternative are estimated at 2.59 ac. Of those, 0.21 ac is attributable to wetlands and SAV, the remainder being to surface waters. The SWFWMD/FDEP requires an Environmental Resource Permit (ERP) when construction of any project results in the creation of a water management system or in impacts to waters of the State. The ERP required for this project may be elevated to an Individual level by SWFWMD as the project is located within an Aquatic Preserve and an Outstanding Florida Water (OFW) and/or has seagrass impacts.

4.3.10 WATER QUALITY

The proposed storm water facility design will include, at a minimum, the water quality requirements for water quality impacts as required by the SWFWMD in Chapter 40D-40, F.A.C. and the Environmental Protection Agency (EPA). Therefore, no further water quality mitigation measures will be needed.

4.3.11 OUTSTANDING FLORIDA WATER

Boca Ciega Bay is classified as an OFW and State Aquatic Preserve. See information regarding proposed stormwater treatment and permits in Section 4.3.10 above.

4.3.12 CONTAMINATION

In accordance with the FDOT requirements, a contamination screening evaluation has been performed to evaluate potential involvement with contaminated sites to the project. A *Final Contamination Screening Evaluation Report*[13] (*CSER*) has been prepared pursuant to the FDOT *Project Development and Environment Manual* Part 2, Chapter 22. A Level I assessment was conducted to identify and evaluate sites containing hazardous materials, petroleum products, or other sources of potential environmental contamination along the S.R. 679 project area. Risk rankings were assigned after reviewing data obtained from on-site reviews of the parcels, a review of historical land use, review of aerial photos, hazardous petroleum regulatory site lists, and other pertinent information.

A total of five sites were identified through the database search and field review, as shown in Table 4-5 and on the Recommended Alternative concept plans included as Appendix A.

Three sites were given a ranking of medium risk and two sites were given a ranking of high risk. These sites have the potential to involve petroleum contamination or hazardous

Table 4-5
Potential Contamination Sites

Site No.	Rank	Site Name and Address	Activity	Comment	Distance from Proposed Center Line (ft)	Approximate Station
1	Med	Tierra Verde Resort & Marina 200 Madonna Boulevard (FDEP Facility ID No. 528945262)	Registered UST Site, Open	No discharge reported. Recent notices of violation reported by Pinellas County	95	268+50
2	High	7-Eleven Food Store #29301 150 Pinellas Bayway South (FDEP Facility ID No. 528736151)	Registered UST Site, Leaking UST, Open	2 reported petroleum discharges, 2nd discharge eligible for funding, No cleanup activities due to low score	145	270+50
3	Med	Deltona Corporation Pinellas Boulevard and Madonna Boulevard	Registered UST Site, Closed	No discharge reported, Facility closed, Closure report unavailable	180	278+00
4	Med	Texaco-Tierra Verde Marina/BP Station 100 Pinellas Bayway (FDEP Facility ID. No. 528630856)	Registered UST Site, Leaking UST Site, Open	2 Discharges: 1990 and 1993 No Further Action Order issued 11/19/1993	95	278+00, 273+00
5	High	Tierra Verde Bridge (Structure E, Bridge Number 150049)	Rehabilitation and/or Replacement	PCBs, lead paint, and asbestos concerns associated with disposal	60	285+00

Notes: No. = Number
FDEP = Florida Department of Environmental Protection
ID = identification
Med = Medium
UST = Underground storage tank
PCB = polychlorinated biphenyl's

materials. These rankings may be adjusted depending upon the final alignment of roadway expansion and ROW requirements. As the process moves forward, a more complete investigation of these sites as well as a revisiting of the regulatory files may be warranted.

The 7-Eleven Food Store #29301 and the Tierra Verde Bridge (Structure E, Bridge Number 150049) located within the project corridor were assigned a high risk. The 7-Eleven Food Store #29301 has documented petroleum contamination and the Tierra Verde Bridge has potential lead paint, polychlorinated biphenyl (PCBs) and asbestos contamination that need to be further addressed if disposal and/or improvements are considered. The sites receiving a

medium risk ranking are located on the project corridor and had historical petroleum underground storage tanks on-site. The Deltona Corporation Site was assigned a medium risk because no tank closure report was available for review to indicate whether or not petroleum impacted soil and/or groundwater was encountered during removal of the tanks. The Texaco-Tierra Verde Marina/BP Station site had documented petroleum discharges, for which a No Further Action Order was issued. However, due to the ongoing presence of petroleum use on the site a medium risk ranking was assigned. Similarly, due to the ongoing use of petroleum at the Tierra Verde Resort and Marina and recent Underground Storage Tank (UST) compliance violations, a medium risk ranking was assigned.

At the three sites ranked medium and the two sites ranked high, additional contamination assessment activities (Level 2) may be warranted. Investigative work may include visual inspection, monitoring of ongoing cleanups and possible subsurface investigations. For the Tierra Verde Bridge (Structure E, Bridge Number 150049) an asbestos and lead paint survey, along with the standard Level 2 contamination impact assessment will be conducted by FDOT during design. At known contamination sites, estimated areas of contamination will be marked on design drawings. Prior to construction, any necessary cleanup plans will be developed. Actual cleanup will take place prior to or during construction.

4.3.13 WILD AND SCENIC RIVERS

There are no rivers within the project area listed in the National Park Service Southeastern Rivers Inventory; therefore, the coordination requirement for the Wild and Scenic Rivers Act does not apply to this project.

4.3.14 FLOODPLAINS

In accordance with Executive Order 11988, "Floodplain Management," United States USDOT Order 5650.2, "Floodplain Management and Protection," and Chapter 23, Code of Federal Regulations, Part 650A, encroachment to floodplains from the construction of the proposed project were considered. A section of the *Final Alternative Stormwater Management Facility Report*[14] served as the PD&E Location Hydraulic Report requirements that comply with 23 CFR 650 and 23 CFR 771. The flood risk associated with encroachment to floodplains was analyzed and was identified as minimal encroachment. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel numbers 12103C 0278G and 12103C 0279G dated September 3, 2003 shows the Pinellas Bayway Structure E location. FEMA FIRM maps are included in the *Final Alternative Stormwater Management Facility Report*, published separately.

The Recommended Alternative falls within Zone AE, an area of 100-year flood where the base flood elevation has been determined (ranges from 9 ft to 12 ft) and flood hazard factors have been determined. These were determined based on tidal influences. The entire project is located within the 100-year storm surge floodplain; however, since it is tidally influenced, no floodplain mitigation is required. As a result, this project will not affect flood heights or floodplain limits. In addition, this project will not have any impacts on human life, transportation facilities, and natural and beneficial floodplains. Therefore, it has been determined that this encroachment is not significant.

4.3.15 COASTAL ZONE CONSISTENCY

The Department of Community Affairs (DCA) has determined that this project is consistent with the Florida Coastal Zone Management Plan (FCZMP). The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent reviews. Final concurrence with the project will be determined during the environmental permitting stage. (See Advance Notification agency response letter dated September 21, 2005 letter in Appendix E.)

4.3.16 COASTAL BARRIER ISLAND RESOURCE

This project is not located in the vicinity of or within a coastal barrier resource unit as defined by the Governor's Executive Order 8 1-105 and the Federal Coastal Barrier Resources Reauthorization Act of 1999.

4.3.17 FARMLANDS

Through coordination with the Natural Resources Conservation Service it has been determined that the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

4.3.18 NAVIGATION

The existing Tierra Verde Bridge (Structure E, Bridge Number 150049) is a low-level bascule structure that spans over the Intracoastal Waterway, a marked federal navigational channel. A USCG Bridge Permit will be required for the Recommended Alternative (Alternative 5A: High-Level Fixed-Bridge over Existing Channel) which proposes to replace the existing Structure E with a new high-level fixed structure providing 65-ft vertical navigational clearance over the existing channel.

The USCG guide clearances have been established for the Intracoastal Waterway. They are 21-ft vertical clearance at mean high water (MHW) for drawbridges and 65-ft vertical clearance at MHW for fixed bridges. The horizontal guide clearance is 100 ft between fenders. In comments received during the ETDM process, effects to navigation resources, the USCG has established that these clearances will apply to this reach of waterway. The existing horizontal clearance between fenders is 90 ft and the existing vertical clearance when the bridge is closed is 21.5 ft.

4.3.19 CONSTRUCTION

Construction activities for the project may have short-term air, noise, vibration, water quality, traffic flow, and visual effects for those residents and travelers within the immediate vicinity of the project.

The air quality effect will be temporary and will primarily be in the form of emissions from diesel-powered construction equipment and dust from construction activities. Air pollution associated with the creation of airborne particles will be effectively controlled through the

use of watering or the application of other controlled materials in accordance with FDOT's *Standard Specifications for Road and Bridge Construction*.

Noise and vibration effects will be from the heavy equipment movement and construction activities, such as pile driving and vibratory compaction of embankments. Noise control measures will include those contained in FDOT's *Standard Specifications for Road and Bridge Construction*. Specific noise level problems that may arise during construction of the project will be addressed by the Construction Engineer.

Water quality effects resulting from erosion and sedimentation during construction will be controlled in accordance with FDOT's *Standard Specifications for Road and Bridge Construction* and through the use of BMPs.

Short term construction related wetland impacts will be minimized by adherence to FDOT's *Standard Specificiations for Road and Bridge Construction*. These specifications include measures known as BMPs, which include the use of siltation barriers, dewatering structures, and containment devices that will be implemented for controlling turbid water discharges outside of construction limits.

Maintenance of traffic and sequence of construction will be planned and scheduled to minimize traffic delays throughout the project. Signs will be used to provide notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of construction-related activities so that motorists, residents, and business persons can make accommodations. All provisions of the FDOT's *Standard Specifications for Road and Bridge Construction* will be followed.

Construction of the roadway and bridge may require excavation of unsuitable material (muck), placement of embankments, and use of materials, such as limerock, asphaltic concrete, and portland cement concrete. Demucking will be controlled by Section 120 of the FDOT's *Standard Specifications for Road and Bridge Construction*. The removal of structures and debris will be in accordance with state regulatory agencies permitting this operation. The contractor is responsible for his methods of controlling pollution on haul roads and in areas used for disposal of waste materials from the project. Temporary erosion control features, as specified in the FDOT's *Standard Specifications for Road and Bridge Construction*, could consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.

Blasting may be required for the demolition of the existing structure. If blasting is necessary, the Marine Wildlife Safety Plan (MWP) or an update to the Plan provided in Appendix C will be implemented to assure the protection of protected marine wildlife species, including the West Indian manatee and the five marine turtles potentially occurring in the project area.

4.4 REFERENCES

1. *The Updated Countywide Plan for Pinellas County*; Pinellas Planning Council; Clearwater, Florida; May 3, 2005.

2. *Right-of-Way Procedures Manual*, Florida Department of Transportation; Tallahassee, Florida..

3. *Final Cultural Resource Assessment Survey Report (CRAS)*; Archaeological Consultants, Inc.; Sarasota, Florida; February 2006, revised June 2008.

4. *Project Development and Environment Manual;* Florida Department of Transportation; Tallahassee, Florida; revised January 1999.

5. *Cultural Resource Management Standards and Operational Manual*; Florida Department of State, Division of Historical Resources; Tallahassee, Florida; 2002.

6. *National Register of Historic Places*; U.S. Department of the Interior, National Park Service; Washington, D.C.

7. *Florida Master Site File (database)*; Florida Department of State, Division of Historical Resources; Tallahassee, Florida.

8. *Pinellas County Metropolitan Planning Organization Cost Feasible Trailways Projects for 2010-2015*.

9. *Standard Specifications for Road and Bridge Construction*; Florida Department of Transportation, 2004.

10. *Final Noise Study Report*; Florida Department of Transportation, District Seven; Tampa, Florida; July 2007, revised June 2008.

11. Florida Statute 335.17, *State highway construction; means of noise abatement*; 1989.

12. *Final Wetland Evaluation and Biological Assessment Report*; PBS&J; Tampa, Florida; June 2007, revised June 2008.

13. *Final Contamination Screening Evaluation Report*; Nodarse & Associates, Inc.; June 2007, revised June 2008.

14. *Final Alternative Stormwater Management Facility Report*; PBS&J; Tampa, Florida; June 2007, revised June 2008.

Section 5.0
COMMENTS AND COORDINATION

5.1 INTRODUCTION

Coordination with other agencies and the public is an important element in the Project Development and Environment (PD&E) Study process. Section 5.0 includes references to the agency coordination which occurred through the Efficient Transportation Decision Making (ETDM) process, the Advance Notification (AN) process, and the public involvement efforts. A *Comments and Coordination Report*[1] was prepared separately for this project.

5.2 EFFICIENT TRANSPORTATION DECISION MAKING

In an attempt to streamline procedures for planning transportation projects, conducting environmental reviews, and developing and permitting projects, the Florida Department of Transportation (FDOT) has recently established the ETDM process. This streamlining was in response to the provisions contained within the Transportation Equity Act for the 21st Century (TEA-21), which the U.S. Congress passed in July 1999. Additional information regarding the ETDM System or project-related ETDM comments is available on the ETDM website at: http://etdmpub.fla-etat.org/. The premises for ETDM include:

- Early and continuous agency involvement
- Good data upon which to base decisions
- Better transportation decisions

Each of FDOT's seven geographic regions has identified an Environmental Technical Advisory Team (ETAT) consisting of representatives from agencies which have statutory responsibility for issuing permits or conducting consultation under the National Environmental Policy Act (NEPA) of 1969. The ETAT is responsible for interacting with the FDOT and Metropolitan Planning Organizations (MPO) throughout the ETDM process. Early in a project's process, the ETAT reviewed the purpose and need, reviewed direct impacts, recommended avoidance and minimization, suggested mitigation strategies, provided secondary and cumulative effects commentary, assessed degree of effect, and coordinated to reduce conflicts.

The S.R. 679 PD&E Study was submitted to the ETAT via the programming screen of the ETDM process in May 2004. The comment period lasted for a total of 45 days ending in July 2004. From the close of the comment period, FDOT had 60 days to submit a response to each comment. The Programming Screen Summary Report was finalized on December 7, 2004. FDOT anticipates that this process will eventually supplement the AN process for early agency coordination.

5.3 ADVANCE NOTIFICATION

The FDOT, through the AN process, informed a number of federal, state, regional, and local agencies of this project and its scope of anticipated activities. The AN Package was distributed to the Florida State Clearinghouse on July 25, 2005 for distribution. A copy of this package, along with the agency comments, is included in Appendix E.

The majority of comments requested further coordination throughout the project, especially in regards to wetlands, essential fish habitat, and threatened and endangered species. The comments and corresponding responses are included in the *Comments and Coordination Report*[1].

5.4 INTERAGENCY COORDINATION

On August 1, 2005, the FDOT Public Information Officer (PIO) distributed an electronic notification to elected officials to inform the recipients of the initiation of the S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway PD&E Study. The notification consisted of a brief project description, overview of the project approach, and contact information. The project fact sheet served as an attachment to the kick-off notice. The notification was sent to representatives of the following governmental organizations:

- U.S. Senators
- U.S. Representatives (applicable districts)
- Florida State Senators (applicable districts)
- Florida House of Representatives (applicable districts)
- Pinellas County Board of Commissioners
- Pinellas County Administrator
- Mayor of:
  - City of St. Pete Beach
  - City of St. Petersburg

The lead federal agency for this project is the United States Coast Guard (USCG). Throughout the duration of the PD&E Study, FDOT coordinated with the USCG (Miami, Florida office) via phone and email. In addition to participating in the public workshop (April 2006), the USCG provided guidance on the vertical clearance of the structure, navigation issues, coastal engineering, and permitting. FDOT submitted the *Draft Environmental Assessment (EA)* and back-up documentation to USCG for approval prior to the Public Hearing. The USCG signed the Draft EA for public availability on January 25, 2007.

In addition to the ETDM and the AN processes, FDOT initiated coordination with the U.S. Army Corps of Engineers (USACE). FDOT sent a letter dated April 3, 2006 to the USACE District Engineer regarding the process, feasibility, requirements, and responsibilities of relocating the channel near the structure's crossing of the Intracoastal Waterway.

On June 21, 2006, the USACE responded via email indicating that the required depth of the Intracoastal Waterway appears to be 9 feet (ft), and that a formal response from the USACE District Office should be forthcoming. No additional response was received. On September 25, 2006, the FDOT sent a letter to the USCG asking if the USACE should be a Cooperating Agency as part of the ongoing process. On October 10, 2006, the USCG indicated in a letter to FDOT and copied to USACE, that it is appropriate and advantageous that the USACE be a Cooperating Agency. Further coordination with the USACE continued in 2008. (See Appendix F for correspondence and meeting minutes.)

In addition to the ETDM and AN processes, FDOT held meetings with local government agencies with jurisdictions in the project area, as listed in Table 5-1. FDOT staff presented project graphics and reports, provided project updates, and obtained feedback from the organizations.

Table 5-1
Local Agency Meetings

DATE	ORGANIZATION	LOCATION
June 14, 2005	City of St. Petersburg Transportation and Parking Division	City of St. Petersburg
April 26, 2006	Southwest Florida Water Management District	Southwest Florida Water Management District
March 14, 2007	Pinellas County Metropolitan Planning Organization Board	Pinellas County Court House
January 25, 2008	USACE	Jacksonville, FL
March 6, 2008	USACE & Pinellas County Department of Environmental Management	FDOT District Seven, Tampa, FL
May 1, 2008	USCG	Phone Conference

5.5 ALTERNATIVES PUBLIC WORKSHOP

In coordination with the USCG, the FDOT held an Alternatives Public Workshop on April 6, 2006 from 5:00 p.m. to 7:00 p.m. at the Island Chapel, 1271 South Pinellas Bayway, Tierra Verde, Florida. The purpose of the meeting was to solicit input from the public regarding the location, design, social, economic, and environmental effects of the proposed alternatives. The proposed alternatives included:

- Alternative 1- Bridge Rehabilitation
- Alternative 2- Bridge Rehabilitation with Widening
- Alternative 3-Low-Level Bascule Bridge Replacement
- Alternative 4-Mid-Level Bascule Bridge Replacement

- Alternative 5-High-Level Fixed-Bridge Replacement
- Alternative 6-High-Level Fixed-Bridge Replacement with Channel Relocation

Various roadway improvement options were also proposed for the reconfiguration of the Madonna Boulevard/Pinellas Bayway intersection. The options included: relocating the Village at Tierra Verde driveway to line up with Madonna Boulevard (Option A); relocating Madonna Boulevard to line up with The Village at Tierra Verde (The Village) driveway (Option B); and slightly relocating both to "meet in the middle" (Option C). No capacity enhancements were proposed at this time.

The workshop was conducted in an informal format with no formal presentation. Each participant received a handout package, which included the newsletter, matrix, and a comment form. The participants were also encouraged to review the audiovisual presentation, which was continuously looped, before visiting the project display area. The project display area featured project graphics illustrating the proposed alternatives, estimated costs, environmental effects, schedule, and an opportunity for public comment. FDOT representatives were available to answer questions and discuss the project and individuals who desired to make formal comments were encouraged to do so.

Approximately 96 citizens participated in the Alternatives Public Workshop. Approximately 37 individuals submitted written comments at the workshop; 28 individuals mailed comments after the workshop; and 4 individuals submitted comments by email. A summary of the written comments is provided in the following bulleted list (the number of comments received is included in parenthesis):

- 46 of the 69 comments favored Alternative 6
- 17 of the 69 comments favored Intersection Option B
- Stated the need for a traffic signal at the Madonna Boulevard/Pinellas Bayway intersection (24)
- Requested consideration of a four-lane alternative (11)
- Identified a preference for a high-fixed-bridge (8)
- Requested a decrease in bridge openings (4)
- Expressed concern that Intersection Option A would affect ability for emergency vehicles to access the Village Building #1 (10)
- Requested quick solution to intersection issues (4)
- Requested consideration of bridge aesthetics (3)
- Expressed preference for bascule bridge (3)
- Expressed concerns regarding the loss of recreation use at the northern bridge approach. (3)
- Identified preference for 2-lane alternative (2)

- Requested project website (2)
- Expressed funding concerns (2)
- Other concerns included:
    - Impacts to adjacent businesses
    - Construction timeframe
    - Environmental impacts of channel relocation
    - Noise
    - Design of Madonna Boulevard/Pinellas Bayway intersection

5.6 PUBLIC HEARING

In coordination with the USCG, the FDOT held a Public Hearing on March 28, 2007, from 4:30 p.m. to 7:00 p.m. at the Tampa Bay Watch Community Center, 3000 South Pinellas Bayway, Tierra Verde, Florida. The purpose of the meeting was to solicit input from the public regarding the location, design, social, economic, and environmental effects of the Recommended Alternative. The proposed alternatives include:

- Recommended Alternative (Alternative 6-High-Level Fixed-Bridge Replacement with Channel Relocation) (This was the initial Recommended Alternative)
- No Build Alternative (Alternative 1- Rehabilitation)

The initial Recommended Alternative included the reconfiguration of the Madonna Boulevard/Pinellas Bayway intersection. The recommended intersection option would relocate Madonna Boulevard to line up with The Village driveway (Option B). No capacity enhancements were proposed at this time.

The hearing was conducted in an informal format with a formal opportunity for public testimony. Each participant received a handout package, which included the newsletter, insert, comment form and speaking card. The participants were also encouraged to review the audiovisual presentation, which was continuously looped, before visiting the project display area. The project display area featured project graphics illustrating the proposed alternatives, estimated costs, environmental effects, schedule, and an opportunity for public comment. FDOT also provided a table for study documentation. FDOT representatives were available to answer questions and discuss the project and individuals who desired to make formal comments were encouraged to do so.

Approximately 164 individuals participated in the Public Hearing, along with 21 project team members. The hearing sign-in sheets are included in the transcript. A total of 52 comments were received during the Public Hearing comment period. At the hearing, 2 individuals provided verbal comments during the formal portion, 22 individuals spoke their opinions to the court reporter during the informal portion, and 21 individuals submitted written comments in the comment boxes. The court reporter recorded all verbal comments and prepared a verbatim public hearing transcript. All written comments postmarked by

April 9, 2007, were included in the transcript, as well. A summary of the comments is provided in the following bulleted list:

- 37 of the 52 comments identified a preference for a high-fixed-bridge
- 9 of the 52 comments expressed preference for bascule bridge
- 12 of the 52 comments did not state any preference, but pointed out concerns
- Stated the need for a traffic signal at the Madonna Boulevard/Pinellas Bayway intersection (12)
- Expressed funding concerns (8)
- Requested quick solution to intersection issues (6)
- Supported toll increase to help funding (5)
- Expressed concerns about island's emergency vehicle access\evacuation (5)
- Expressed no need for a traffic signal at the Madonna Boulevard/Pinellas Bayway intersection (4)
- Requested consideration to extend the bridge further north (4)
- Expressed concern about the bridge being too steep for traffic, pedestrian and\or bicycle use (3)
- Requested consideration of a four-lane alternative (2)
- Requested to raise reminder of causeway road to safer level (2)
- Expressed concern about losing parking in the business along Madonna (2)
- Expressed concern about who will maintain the depth of channel and pay for it? (2)
- Other concerns included:
    - Impacts to adjacent businesses and recreation areas.
    - Construction timeframe
    - Environmental impacts of channel relocation
    - Noise
    - Design of Madonna Boulevard/Pinellas Bayway intersection
    - Bridge aesthetics
    - Having enough clearance for high mast boats
    - Need for a traffic signal at Sands Point Drive intersection with the Pinellas Bayway
    - Need for a traffic signal at Bahia Del Mar Boulevard/Palma Del Mar Boulevard intersection with the Pinellas Bayway

5.7 OTHER PUBLIC OUTREACH ACTIVITIES

In addition to extensive agency coordination, public workshop, and the public hearing, FDOT also utilized other techniques to disseminate information and obtain feedback from the public. These efforts began early and continued throughout the PD&E Study.

FDOT utilized numerous methods in an effort to invite the public to the April 2006 Alternatives Public Workshop and the March 2007 Public Hearing, many of which are described below. These methods included: email notification from FDOT to the applicable state and local government elected officials which provided a brief synopsis of the project and an attached project newsletter; distribution of newsletters as noted below; legal advertisement published in the *St. Petersburg Times*, the *Island Reporter*, *Paradise News*, and *Tropical Views*; and flyers distributed and posted at the Village at Tierra Verde, the business complex adjacent to the bridge's southern approach, marinas, Fort De Soto Park, and other miscellaneous locations. At their request, FDOT also sent 2,000 flyers to the Tierra Verde Community Association (TVCA) for distribution to their members, inviting them to the Public Hearing. FDOT also published a notice of public availability and Public Hearing advertisement in the *Florida Administrative Weekly* on March 2, 2007. Project documents were available for public review at St. Pete Beach Library, 365 73rd Ave, St Pete Beach from March 6, 2007, to April 9, 2007. Project documents were also available at the hearing and at FDOT District Office, 11201 N. McKinley Drive, Tampa.

5.7.1 SMALL GROUP MEETINGS

The Tierra Verde community has numerous residential units, in addition to a small business community. Almost all of the residents are members of the TVCA; therefore, it was very effective to distribute information through this organization. The TVCA holds monthly board meetings and quarterly public meetings and distributes information to members through an extensive electronic mail distribution and an active website. As indicated in Table 5-2, FDOT presented information to the TVCA Board and residents on several occasions. In addition, FDOT conducted a meeting at the Village at Tierra Verde, which is the residential community adjacent to the bridge's southern approach on the east side. A presentation was also made to the Friends of Tierra Verde.

FDOT also recognized the need to communicate with the Tierra Verde business community. They made several attempts to contact the Tierra Verde Chamber of Commerce, but the organization was non-responsive. FDOT conducted a meeting with the business owners adjacent to the bridge's southern approach on the west side.

Table 5-2
Small Group Meetings

DATE	ORGANIZATION	LOCATION
September 12, 2005	TVCA Monthly Board Meeting	TVCA Board Room
November 17, 2005	TVCA 4th Quarter Public Meeting	TVCA Board Room
March 8, 2006	The Village at Tierra Verde	The Village at Tierra Verde Clubhouse
March 13, 2006	Tierra Verde Business Owners (Adjacent to Bridge)	TVCA Board Room
October 10, 2006	Friends of Tierra Verde	Island Chapel, 1271 South Pinellas Bayway, Tierra Verde

5.7.2 NEWSLETTERS

Two newsletters were distributed for this project to provide project updates, graphics, and FDOT contact information. The first newsletter was distributed in March/April 2006 and explained the study alternatives and served as the invitation to the Alternatives Public Workshop. The second newsletter, distributed in March 2007, identified the Recommended Alternative and announced the Public Hearing. The newsletters were distributed to all property owners within 300 ft of the centerline of the alternatives. The newsletters were also distributed to federal, State, and local government agencies, civic organizations, including each of the community/homeowner associations on Tierra Verde and Isla del Sol, and other interested parties. Upon approval of the final environmental document, FDOT will distribute a final newsletter which will inform the public of the change in the Preferred Alternative from Alternative 6 – High-Level Fixed-Span over a Relocated Channel to Alternative 5A – High-Level Fixed-Span over the Existing Channel.

5.7.3 FACT SHEET

The District PIO utilized the fact sheet to communicate with elected officials having jurisdiction in the project area. The fact sheet is a brief status report consisting of a brief project description, schedule, and contact information. The project fact sheet was typically distributed on-demand and at major project milestones.

5.7.4 LOCAL PUBLICATIONS

In addition to the *St. Petersburg Times*, the Tierra Verde community has three local publications that circulate regularly on the island. FDOT used *The Island Reporter*, *Paradise News*, and *Tropical Views* to post project updates and inform the public of upcoming meetings. These publications are free to all residents on the island and are distributed bi-monthly or quarterly. In addition, several of these publications and homeowner associations, posted project–related information on their private websites.

5.8 REFERENCES

1. *Final Comments and Coordination Report*; PBS&J, Tampa, Florida, June 2007, revised June 2008.

Section 6.0 COMMITMENTS AND RECOMMENDATIONS

6.1 COMMITMENTS

The Florida Department of Transportation (FDOT) is committed to the following measures:

1. During the design phase, FDOT will evaluate traffic signal warrants at the realigned Madonna Boulevard/Pinellas Bayway intersection to determine if a traffic signal is warranted.

2. The replacement bridge and roadway improvements on the northern causeway will not preclude capacity improvements in the future, if needed.

3. FDOT will implement the "Manatee and Sea Turtle Watch Program Guidelines" and "Sea Turtle and Smalltooth Sawfish Construction Conditions" for protection of the five species of marine turtles (green turtle, leatherback turtle, hawksbill turtle, Kemp's Ridley turtle, loggerhead turtle) potentially occurring in the area. Note that no suitable nesting beaches are found in the project area and protective measures are for turtles in open water only.

6.2 RECOMMENDATIONS

This section summarizes the design recommendations for the recommended construction alternative. A more detailed analysis of the engineering and environmental issues associated with the recommended alternative is presented in Section 9.0 of the *Final Preliminary Engineering Report (PER)*[1].

The Recommended Alternative is Alternative 5A, replacing the existing two-lane double-leaf bascule bridge (Pinellas Bayway Structure E) with a two-lane high-level fixed-bridge structure providing 65-ft vertical navigational clearance over the existing channel. The Village at Tierra Verde (The Village) driveway will be relocated to align with Madonna Boulevard (Option A), as shown in Appendix A. Based on the data provided by the bridge tender at Structure E and allowing for tidal fluctuations, this height would allow over 99 percent of the waterway users that currently use the channel to safely navigate under the proposed structure.

The proposed bridge replacement typical section includes one 12-ft lane and a 10-ft shoulder in each direction. The shoulders can accommodate bicyclists and disabled vehicles. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate Pinellas County's planned multi-use path. The overall width of the fixed-span is 65 ft.

South of the bridge the typical section transitions between a four-lane divided urban roadway with turn lanes and the undivided two-lane bridge. Lane, shoulder and sidewalk widths will be consistent with the proposed bridge. The proposed roadway typical section approaching the north end of the bridge is similar to the proposed bridge except it is elevated on embankment with a retaining wall on each side. The retaining wall will minimize the amount of fill needed to be placed on the causeway and into Boca Ciega Bay and prevent the type of erosion evident in the existing sloped embankment. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. A 4.5-ft high pedestrian/bicycle railing will be provided on the outside. Pedestrian hand railings are required on the sidewalks when the grades exceed 5 percent. The proposed roadway at grade north of the bridge is consistent with the bridge typical section except that the eastern sidewalk is increased in width to 12 ft. The proposed design speed for all proposed typical sections is 45 miles per hour (mph).

The northern and southern roadway approaches to the bridge structure would be placed on an earthen fill section with a retaining wall. All superstructure components would be located above the splash zone. Access from S.R. 679 to the causeway beaches north of the bridge could continue via the existing northern set of turnouts. Vehicles could then travel along the causeway on either side to reach the beach area at the southern end of the causeway. Unlike the existing condition, the proposed bridge could accommodate vehicular traffic under the bridge (north side only) from one side of the causeway to the other.

The proposed bridge structure is anticipated to accommodate a stormwater management facility (SMF) under both the north and south end of the bridge to meet treatment requirements for the Recommended Alternative. These proposed pond configurations will also accommodate the potential future four-lane widening of S.R. 679 without modification, if warranted.

6.3 REFERENCES

1. *Final Preliminary Engineering Report (PER)*; PBS&J, Tampa, Florida, July 2007, revised June 2008.

APPENDICES

Appendix A:	***Recommended Alternative Concept Plans***
Appendix B:	***SHPO Letter***
Appendix C:	***"Manatee and Sea Turtle Watch Program Guidelines"; and "Sea Turtle and Smalltooth Sawfish Construction Conditions"; and "Marine Wildlife Safety Plan"***
Appendix D:	***U.S. Fish and Wildlife Service Letter***
Appendix E:	***Advance Notification Package and Agency Comment Letters***
Appendix F:	***Coordination with USCG and USACE***

APPENDIX A
RECOMMENDED ALTERNATIVE CONCEPT PLANS

PRELIMINARY

FLIGHT DATE: MAY 7, 2005

RECOMMENDED ALTERNATIVE 5A: HIGH-LEVEL FIXED BRIDGE OVER EXISTING CHANNEL WITH RELOCATED VILLAGE DRIVEWAY

300 BASELINE SURVEY/ CENTERLINE OF CONSTRUCTION	PROPOSED BRIDGE	RECOMMENDED ALTERNATIVE POND SITES
PARCEL LINES	PROPOSED BARRIER/RETAINING WALL	POTENTIAL CONTAMINATION SITE
EXISTING EDGE OF PAVEMENT	PROPOSED SIDEWALK	PROPOSED TRAFFIC SIGNAL
EXISTING RIGHT-OF-WAY	612 FLUCFC CODES	
PROPOSED RIGHT-OF-WAY	WETLANDS	
PROPOSED EDGE OF PAVEMENT	SEAGRASS	

PBS&J
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
(813) 282-7275

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 679	PINELLAS	410755-1-22-01

S.R. 679 (PINELLAS BAYWAY STRUCTURE E) AT INTRACOASTAL WATERWAY
CONCEPT PLANS

SHEET NO. 1

USER: i5309 06/02/2008 12:43:48 PM P:\Pro\eds\FDOT\07\SR 679-100679\CADD\Plan_ReAlt_01.dgn

PRELIMINARY

FLIGHT DATE: MAY 7, 2005

EXISTING GULF INTRACOASTAL WATERWAY

BOCA CIEGA BAY

540

911

0 40 200
Feet

642

612

642

652

540

CONSTRUCT PROPOSED SEAWALL

90' EXIST.

5

280 285 290 295 300 305

679

SMF A-2

PC STA. 302+07.85

END WALL
BEGIN SIDEWALK

540

612

612

642

612

612 612 612

540

END BRIDGE
BEGIN WALL

642

642

652

642

642

180' PROP.

540

BOCA CIEGA BAY

911

RECOMMENDED ALTERNATIVE 5A: HIGH-LEVEL FIXED BRIDGE OVER EXISTING CHANNEL WITH RELOCATED VILLAGE DRIVEWAY

300 BASELINE SURVEY/ CENTERLINE OF CONSTRUCTION
PARCEL LINES
EXISTING EDGE OF PAVEMENT
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
PROPOSED EDGE OF PAVEMENT

PROPOSED BRIDGE
PROPOSED BARRIER/RETAINING WALL
PROPOSED SIDEWALK
612 FLUCFC CODES
WETLANDS
SEAGRASS

SMF A-2 RECOMMENDED ALTERNATIVE POND SITES
POTENTIAL CONTAMINATION SITE
PROPOSED TRAFFIC SIGNAL

PBS&J
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
(813) 282-7275

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 679	PINELLAS	410755-1-22-01

S.R. 679 (PINELLAS BAYWAY STRUCTURE E) AT INTRACOASTAL WATERWAY

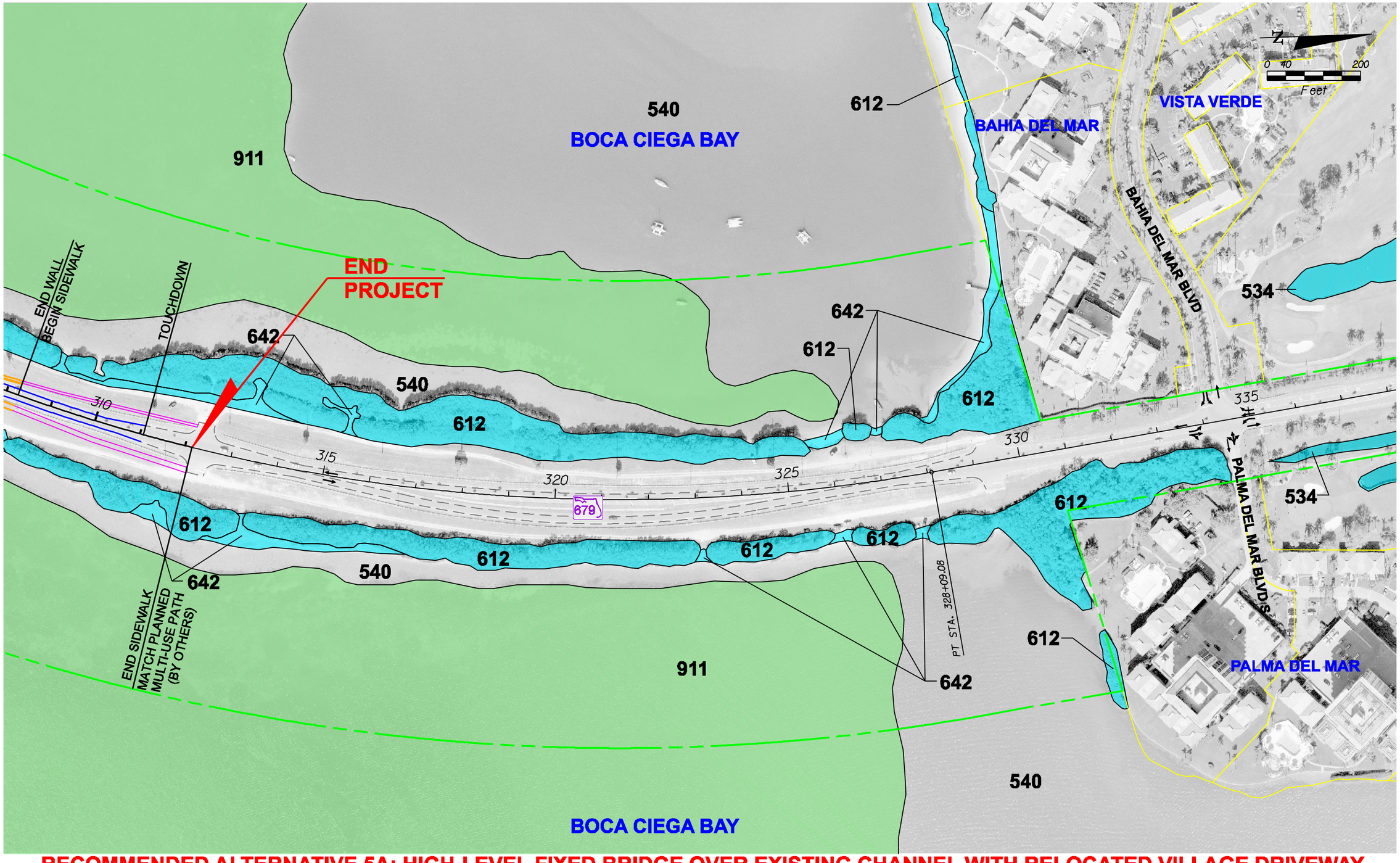
CONCEPT PLANS

SHEET NO. 2

USER: 5309 06/02/2008 12:44:48 PM F:\Projects\FDOT\07\SR 679-100679\CADD\Plan_ReAlt_02.dgn

PRELIMINARY

FLIGHT DATE: MAY 7, 2005



RECOMMENDED ALTERNATIVE 5A: HIGH-LEVEL FIXED BRIDGE OVER EXISTING CHANNEL WITH RELOCATED VILLAGE DRIVEWAY

300 BASELINE SURVEY/ CENTERLINE OF CONSTRUCTION
PARCEL LINES
EXISTING EDGE OF PAVEMENT
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
PROPOSED EDGE OF PAVEMENT

PROPOSED BRIDGE
PROPOSED BARRIER/RETAINING WALL
PROPOSED SIDEWALK
612 FLUCFC CODES
WETLANDS
SEAGRASS

SMF A-2 RECOMMENDED ALTERNATIVE POND SITES
POTENTIAL CONTAMINATION SITE
PROPOSED TRAFFIC SIGNAL

PBS&J
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
(813) 282-7275

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 679	PINELLAS	410755-1-22-01

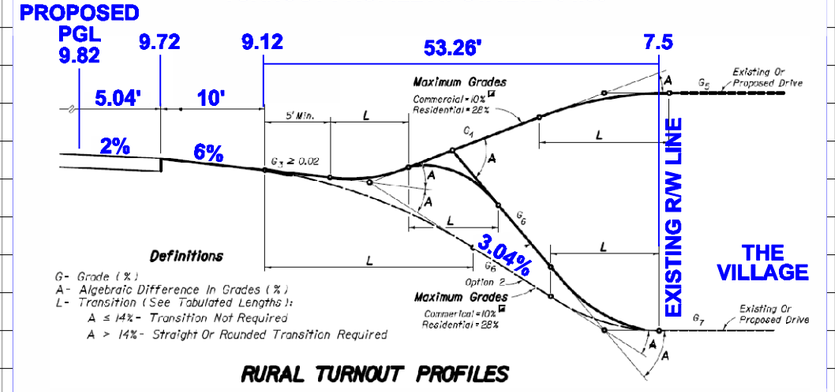
S.R. 679 (PINELLAS BAYWAY STRUCTURE E)
AT INTRACOASTAL WATERWAY
CONCEPT PLANS

SHEET NO. 3

PRELIMINARY

GRADE UP	GRADE DOWN	MAX. ELEV.	BRIDGE LENGTH
6%	5%	90.05'	2889.11'

TURNOUT PROFILE AT STA 272+54.50



RURAL TURNOUT PROFILES
STANDARD INDEX 515

RECOMMENDED ALTERNATIVE 5A: HIGH-LEVEL FIXED BRIDGE OVER EXISTING CHANNEL WITH RELOCATED VILLAGE DRIVEWAY

LEGEND
- EXISTING PROFILE
- PROPOSED PROFILE
- RETAINING WALL

PBS&J
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
(813) 282-7275

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 679	PINELLAS	410755-1-22-01

S.R. 679 (PINELLAS BAYWAY STRUCTURE E)
AT INTRACOASTAL WATERWAY
HIGH-LEVEL FIXED BRIDGE PROFILE
EXISTING CHANNEL

SHEET NO. 4

APPENDIX B
SHPO LETTER

FLORIDA DEPARTMENT OF STATE
Sue M. Cobb
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Kirk Bogen
Florida Department of Transportation
11201 N. McKinley Drive
Tampa, FL 33612

March 17, 2006

RE: DHR Project File Number: 2006-2097
Received by DHR: March 17, 2006
Project: *Final Cultural Resource Assessment Survey Report SR 679 (Pinellas Bayway Structure E) at Intracoastal Waterway Project Development and Environmental Study Pinellas County*

Dear Mr. Bogen:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966* as amended and *36 CFR Part 800: Protection of Historic Properties*, and Chapter 267, *Florida Statutes*. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, Federal and State agencies in carrying out their historic preservation responsibilities; to cooperate with Federal and State agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate Federal agencies in accordance with the *National Historic Preservation Act of 1966*, as amended, on Federal undertakings that may affect historic properties and the content and sufficiency of any plans developed to protect, manage, or to reduce or mitigate harm to such properties.

Archaeological Consultants, Inc. conducted a cultural resources survey and did not identify any historic resources within the project's area of potential effect. As a result, the Florida Department of Transportation concluded that no historic properties will be affected by the undertaking. Based on the information provided, our office finds the submitted report complete and sufficient and concurs with the findings.

If you have any questions, please contact Duane Denfeld, Architectural Historian, Transportation Compliance Review Program, by email *dhdenfeld@dos.state.fl.us* or at 850-245-6430.

Sincerely,

Frederick P. Gaske, Director, and
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office (850) 245-6300 • FAX: 245-6435
☐ Archaeological Research (850) 245-6444 • FAX: 245-6452
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437
☐ Historical Museums (850) 245-6400 • FAX: 245-6433
☐ Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
☐ St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
☐ Tampa Regional Office (813) 272-3843 • FAX: 272-2340

APPENDIX C
"MANATEE AND SEA TURTLE WATCH PROGRAM GUIDELINES"; AND "SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS"; AND "MARINE WILDLIFE SAFETY PLAN"

MANATEE AND SEA TURTLE WATCH PROGRAM GUIDELINES
U.S. Fish and Wildlife Service

The contractor and subcontractors shall ensure that care is taken to conduct all construction and related activities with caution relative to any endangered or threatened species protected by the Federal Endangered Species Act of 1973, the Florida Manatee Act, and the Federal Marine Mammal Protection Act of 1972, as amended. All construction personnel shall be advised of the potential presence of these species, of their endangered or threatened status, of their federal or state protection, and of the need to refrain from any action that would jeopardize the well-being of these species.

To minimize the potential impacts of bridge construction on manatees and sea turtles, a continuous Manatee and Sea Turtle Watch Program (MWP) will be established. The following conditions constitute the MWP and shall be included as special provisions; no blasting or demolition activities are required.

1. Seven days prior to the first bridge-related construction event, the contractors will provide the U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC), Bureau of Protected Species Management a list of the chief and primary observers for the MWP and their qualifications. An outline of the MWP will also be submitted seven days prior to the first such event.

The outline will include time tables for any dredging, or construction watercraft activity; time tables for the MWP (start times for aerial survey as hereinafter required, and other survey positions); observer positions; a copy of the MWP log sheet; and map to record manatee sightings.

2. A formal MWP coordination meeting will be held at least two days prior to the first bridge-related construction event. Attendees will include the MWP chief and primary observers, construction contractors, FDOT, USFWS, FWC and other interested parties, such as the U.S. Coast Guard. All will be informed about the possible presence of manatees/sea turtles in the area, and that civil or criminal penalties can result from intentional or negligent annoyance, disturbance, harassment, molestation, capture, collection, injury and/or death of an endangered species or any part thereof. The construction contractors, and primary observer will present the protocol and logistics of bridge-related construction activities and the outline specified in condition No. 1.

3. All observers will follow the protocol established for the MWP and will conduct the watch in good faith and to the best of their ability.

4. Each observer will be equipped with a two-way radio that will be dedicated exclusively to the MWP. Observers will also be equipped with polarized sunglasses, binoculars, a red flag for a backup visual communication system, and a sighting log with a map to record sightings at the bridge construction site and vicinity.

5. Any problems encountered during bridge construction events will be evaluated by the observers and contractors and logistical solutions will be presented to the USFWS and FWC. Corrections to the MWP will be made prior to the next event.

6. If an injured or dead manatee/sea turtle is sighted during construction, an observer will contact the Florida Fish and Wildlife Conservation Commission, Division of Law Enforcement, Tampa Office (813) 272-2516. In any such case, an observer will also call the USFWS Jacksonville Field Office at (904) 232-2580. The observer will act according to the situation and will maintain contact with the injured or dead manatee/sea turtle. The foregoing telephone numbers shall be posted at all on-site telephones.

7. If an injured or dead manatee/sea turtle is rescued/recovered within three miles up or down the waterway from the bridge site during construction or if the injury/death of any manatee/sea turtle in the vicinity is documented to be caused by construction activity, that activity will be postponed until cause of injury or mortality can be determined by FWC and USFWS. If injuries are substantially documented, all contributing construction activities will be suspended and the principle parties will meet to determine a better way to conduct the activity.

8. Operators of watercraft will be responsible for any collisions with manatees/sea turtles. Vessels associated with the project should operate at slow (no wake) speed while in shallow water, especially where the draft of the boat provides less than 3 feet of clearance with the bottom. Workboats should load and off-load at designated sites. Vessels used to transport personnel shall be shallow-draft vessels of the light displacement category, and shall follow routes of deep water to the maximum extent possible where navigational safety permits.

9. When turbidity barriers are used to prevent or minimize degradation of water quality, the barriers shall be of appropriate dimension to restrict the animals' access to the work area and to allow egress of any manatees/sea turtles that may enter the work area. Under such conditions, the barriers should use tangle-resistant or hemp rope when anchoring, or employ surface anchors to prevent entangling manatees. Continuous surveillance will be maintained in order to free animals that may become trapped in silt or turbidity barriers.

10. Construction debris shall not be discarded into the water.

11. Signs will be posted on-site warning of the presence of manatees/sea turtles, their endangered status, and precautions needed.

12. Within two weeks (14 days) after completion of all bridge-related construction, the chief observer will submit a report to the USFWS and FWC providing the names of the observers and their positions during the event, number and location of manatees/sea turtles seen and what actions were taken.

13. If any one of the above conditions is not met prior to or during the applicable activity, the chief observer of the MWP will have the authority to terminate the activity.

Any liability for a violation of the above protective measures will be assumed by the construction contractors.

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS – National Marine Fisheries Service

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

MARINE WILDLIFE SAFETY PLAN

INTRODUCTION

To address the potential demolition (blasting) activities that may be associated with the S.R. 679 (Pinellas Bayway Structure E) project, this Marine Wildlife Safety Plan is proposed. The intent of this plan is to assure the safety of protected marine species within an established zone of influence in the event blasting activities are required for demolition of existing structures.

The blasting plan includes a number of blast procedures that will be implemented to provide protection for marine mammals and turtles. The specific detonation sequence is outlined in the main body of the blasting plan.

New guidelines are being developed by National Marine Fisheries Service. For this project, the four different zones are defined as follows:

- Injury Zone – the distance beyond which mortality is not expected;
- Harassment Zone – the distance beyond which the potential for injury is not expected;
- Impact Zone – the distance beyond which no potential for adverse effects is expected; and
- Watch Zone – an additional buffer that may be monitored to detect animals that are heading toward the impact zone.

IMPACT ZONE

The impact zone is the distance beyond which no potential for adverse effects is expected. Distance-wise, this is really the same as the limit of the harassment zone since it is defined as the injury zone plus the harassment zone.

The impact zone will be calculated using the following formula:

$R = 560(W)^{⅓}$

Where:

R=impact zone radius (in feet)
W=maximum weight of explosive in pounds per delay

The limits of the harassment zone and injury zone will be clearly identified with two separate buoy colors.

Preceding the blast, all communication equipment will be tested to ensure it is functioning correctly.

MARINE WILDLIFE WATCH PROGRAM

To minimize the potential impact to marine wildlife during demolition activities that may be required for the existing S.R. 679 (Pinellas Bayway Structure E), a continuous Marine Wildlife Watch Program (MWP) will be established for all blasting events. The following conditions outline the MWP and are a part of the blasting plan:

1. A formal MWP coordination meeting will be held at least one week prior to the first blast event. Attendees will include the MWP observers, general contractor, demolition subcontractors, Florida Department of Transportation (FDOT), U.S. Fish and Wildlife Service (USFWS), FWC, and/or the U.S. Coast Guard. All will be informed about the possible presence of manatees, dolphins, marine turtles, or other marine life in the area and that civil or criminal penalty can result for harassment, injury, and/or death of a protected species. The scope of work, protocol, and logistics of the blast day events will also be addressed at this time.

2. The observers shall have previous experience and shall be included in the Florida Fish and Wildlife Conservation Commission (FWC) Manatee Watch Observer List. A total of four (4) observers will be utilized for above water blasts. A total of five (5) observers shall be utilized for submerged blasts. The additional person shall be an aerial observer in a helicopter.

3. The observers will be placed on the adjacent bridge or an appropriate location with clear line-of-sight of the water.

4. An MWP log sheet shall be utilized to map and record all sightings of protected species.

5. Observers will follow the protocol established for the MWP and will conduct the watch in good faith and to the best of their ability.

6. Each observer will be equipped with a two-way radio that will be dedicated exclusively to the MWP. Observers will also be equipped with polarized sunglasses, binoculars, a red flag for a backup visual communication system, and a manatee/marine wildlife sighting log with a map to record sightings at the blasting site and vicinity.

7. All blasting events will be weather dependent. Conditions must be suitable for optimal viewing. Conditions that may prohibit optimal viewing may include wind speeds in excess of 7 knots, fog, and heavy rain. The chief observer will make the decision on the presence of optimum observing conditions to initiate the survey for each blast event. All blasting will occur during daylight hours.

8. For the above water blasts, a continuous survey of the area will be conducted for a period of 30 minutes prior to the blast and 30 minutes afterwards. For the below water blasts, a continuous survey of the area will be conducted for a period of 60 minutes prior to the blast and 60 minutes afterwards.

9. All of the observers will be in close communication with the blasting subcontractor in order to halt the detonation. The event will be halted if any protected species is spotted within the established Watch Zone. The blasting event will be immediately halted upon the request of the primary observers. The blast will not take place until the animal(s) move away from the area under their own volition. Manatees shall not be herded away or harassed into leaving. If the protected species is sighted outside of the watch zone a second time, the observation period will resume. If the protected species is not sighted a second time, the observation period will restart.

10. Blasting shall not commence without an "all clear" signal from the chief observer. At any time before the blast occurs, any observer or authorized personnel may abort the blast.

11. The observers, contractor, and subcontractors will evaluate any problems encountered during any of the blasting events and logistical solutions will be presented to USFWS and FWC. Corrections to the MWP will be made prior to the next blasting event.

12. If an injured or dead manatee is sighted after the blast event, the manatee watch observers will contact FWC through the Florida Marine Patrol Hotline at (888) 404-FWCC and contact the Bureau of Protected Species Management at (850) 922-4330. The watch will act accordingly to the situation and maintain contact with the injured or dead manatee.

13. If any injured or dead manatee is rescued/recovered within the project area during the blasting period or if the injury/death of any manatee in the reasonable vicinity of the project is documented to be caused by blasting, blasting will be postponed until cause of injury or mortality can be determined by the FWC or USFWS. If blasting injuries are substantially documented, all underwater blasting will be suspended until a revised plan can be agreed upon.

14. Within two weeks (14 days) after completion of all blasting events, the chief observer will submit a report to the USFWS and FWC (Bureau of Protected Species Management, Mail Station OES-BPSM, 620 South Meridian Street, Tallahassee, Florida 32399-1600), providing the names of the observers and their position during the event, number and location of manatees seen, and what actions were taken when manatees were seen.

15. If any one of the aforementioned conditions is not met prior to or during the blasting, the chief observer of the MWP will have the authority to terminate the blasting events.

APPENDIX D
U.S. FISH AND WILDLIFE SERVICE LETTER

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

11201 N.
Tampa, I

FWS Log No 41910-2007-I-0267

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding fulfills the requirements of the Act.

David L. Hankla
Field Supervisor

2/12/07
Date

February 6, 2007

Mr. Todd Mecklenborg
U.S. Fish and Wildlife Service
9720 Executive Center Drive, Suite 101
St. Petersburg, Florida 33701

RE: Draft Wetland Evaluation and Biological Assessment Report
SR 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
PD&E Study
WPI Segment No: 410755 1
Pinellas County, Florida

Dear Mr. Mecklenborg:

The Florida Department of Transportation (Department) is conducting a Project Development and Environment (PD&E) Study to address proposed improvements to SR 679 (Pinellas Bayway Structure E) at Intracoastal Waterway.

As part of the National Environmental Policy Act (NEPA) the Department is initiating informal consultation with the U.S. Fish and Wildlife Service. In order to fulfill the requirements of the NEPA process, the Department solicits comments from federal, state, and local agencies. A Wetland Evaluation and Biological Assessment Report (WEBAR) has been prepared for the study.

This proposed project has been evaluated for impacts on federally protected, threatened and endangered species. Based on the results of the literature review and field surveys conducted, the Department has determined that the proposed project may affect, but not likely to adversely affect the West Indian Manatee and five species of marine turtles with the Manatee and Sea Turtle Watch Program Guidelines and the Marine Wildlife Safety Plan implemented during construction. With the implementation of the Sea Turtle and Smalltooth Sawfish Construction Conditions the project may affect, but not likely to adversely affect these species. Finally, with mitigation provided in accordance with the requirements of the permitting agencies, the proposed project may affect, not likely to adversely affect the wood stork or piping plover. Based on the findings of the WEBAR, the proposed project will not likely have an adverse affect or jeopardize the existence of any federally protected species, even though they are known or expected to occur in the study area. Furthermore, the proposed project is not located in an area designated as Critical Habitat by the U.S. Department of the Interior.

If your office concurs with this determination, please respond to the Department by February 20, 2007. Please feel free to call me at (813) 975-6448 if you have any questions.

Sincerely,

Kirk R. Bogen, P.E.
Project Development Engineer

cc: Doug J. Reed, P.E., PBS&J
File

APPENDIX E
ADVANCE NOTIFICATION PACKAGE AND AGENCY COMMENT LETTERS

11201 N. McKinley Drive Tampa, FL 33612-6456 (813) 975-6077 1-800-226-7220
Modal Planning and Development MS 7-500

July 25, 2005

Ms. Lauren P. Milligan, Environmental Consultant
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399-3000

SUBJECT: Advance Notification
S.R. 679 (Pinellas Bayway) at Intracoastal Waterway
Project Development and Environment Study
Financial Project No.: 410755-1-22-01
Pinellas County, Florida

Dear Ms. Milligan:

The attached Advance Notification (AN) package is to inform you of the initiation of the S.R. 679 (Pinellas Bayway) at Intracoastal Waterway Project Development and Environment (PD&E) Study in Pinellas County. This information is forwarded to your office for processing to the appropriate state agencies in accordance with *Executive Order 95-359*. Distribution to local and Federal agencies is being made as noted.

Although more specific comments may be solicited during the permit coordination process, we request that permitting and permit reviewing agencies review the attached information and furnish us with whatever comments they consider pertinent at this time.

This is a non-Federal-aid action and the Florida Department of Transportation (FDOT), in consultation with the United States Coast Guard (USCG), will determine what degree of environmental documentation will be necessary. The determination will be based upon in-house environmental evaluations and comments received through coordination with other agencies. It is anticipated that an Environmental Assessment will be prepared. A consistency review for this project in accordance with the State's Coastal Zone Management Program and *15 CFR 930* is not required, because no Federal funds are involved.

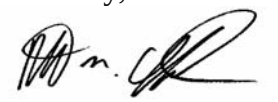
In addition, please review the proposed improvement's consistency, to the maximum extent feasible, with the approved Comprehensive Plan of the local government jurisdiction(s) pursuant to *Chapter 163, Florida Statutes*.

We are looking forward to receiving your comments on the project within 60 days. Should additional review time be required, a written request for an extension of time must be submitted to our office within the initial 60-day comment period. Your comments should be addressed to:

Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, FL 33612-6456

Your expeditious handling of this notice will be appreciated.

Sincerely,



Robert M. Clifford, AICP
Modal Planning and Development Manager

RC/AJP/rm
Attachments

MAILING LIST:

cc:

U.S. Coast Guard - Seventh District

Federal Emergency Management Agency - Region IV, Director

U.S. Department of Commerce - National Marine and Fisheries Service

U.S. Department of Commerce - National Oceanic and Atmospheric Administration

U.S. Army Corps of Engineers - Regulatory Branch, District Engineer

U.S. Department of Agriculture - Natural Resources Conservation Service

U.S. Department of Health and Human Services - National Center for Environmental Health and Injury Control, Director

U.S. Department of Interior - Bureau of Indian Affairs - Office of Trust Responsibilities, Director

U.S. Department of Interior - National Park Service

U.S. Department of Interior - U.S. Geological Survey - Environmental Affairs Program, Review Unit Chief

U.S. Department of Interior - U.S. Fish and Wildlife Service - South Florida Office, Field Supervisor

U.S. Environmental Protection Agency - Region IV, Regional Administrator

Florida Department of Community Affairs

Florida Department of Environmental Protection - Southwest District Office, District Director

Florida Fish and Wildlife Conservation Commission - Office of Environmental Services, Director

Florida Department of Transportation - Environmental Management Office, Manager (MS 37)

Florida Department of Agriculture

Florida Department of State, Division of Historical Resources

Florida Transportation Commission, Chairman

Tampa Bay Regional Planning Council, Executive Director

Southwest Florida Water Management District, Executive Director

Miccosukee Tribe of Indians of Florida, Chairperson

Muscogee (Creek) Nation of Oklahoma, Principal Chief

Poarch Band of Creek Indians of Alabama, Tribal Chairman

Seminole Nation of Oklahoma, Principal Chief

Seminole Tribe of Florida, Chairman Vice-President

Pinellas County

City of St. Petersburg

City of St. Pete Beach

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ADVANCE NOTIFICATION FACT SHEET

In an attempt to streamline procedures for planning transportation projects, conducting environmental reviews, and developing and permitting projects, the Florida Department of Transportation (FDOT)-Central Environmental Management Office has recently established the Efficient Transportation Decision Making (ETDM) process. Each district has identified an Environmental Technical Advisory Team (ETAT) consisting of representatives from agencies which have statutory responsibility for issuing permits or conducting consultation under the *National Environmental Policy Act* (NEPA). FDOT District Seven submitted the S.R. 679 (Pinellas Bayway) at Intracoastal Waterway (ICW) project into the ETDM system in May 2004. The FDOT District Seven ETAT reviewed the purpose and need, assessed direct impacts, recommended avoidance and minimization, suggested mitigation strategies, and issued degrees of effect. Interested persons can retrieve a summary of the project and resulting ETAT comments by accessing the ETDM website at: http://etdmpub.fla-etat.org/.

1. Need for Project:

The purpose of this Project Development and Environment (PD&E) study is to evaluate and document rehabilitation and replacement alternatives for the Bayway bascule bridge over the ICW. This bridge is currently listed as functionally obsolete on the June 2003 FDOT Bridge Inspection Report with a sufficiency rating of 51.0 (100.0 scale). Bridges are assigned a status of structurally deficient once its rating has reached below 50.0. Due to its current condition of deterioration and potential safety problems, the bridge will require replacement or rehabilitation to comply with current bridge/roadway safety and transportation standards. Other reasons that support the purpose and need for the project is its significance to the state transportation system and the public it serves, including regional connectivity, emergency evacuation, marine navigation, future traffic, safety, and bikeways and sidewalks.

Although there are no improvements identified for S.R. 679, including Structure E, in the *Pinellas County Metropolitan Planning Organization (MPO) 2025 Long Range Transportation Plan* completed in December 2001 or the *Pinellas County Comprehensive Plan*, which was adopted February 17, 1998 and last amended on December 21, 2004 a PD&E study was initiated in March 2005. The PD&E study phase, as well as subsequent project phases (e.g. design, right-of-way, and construction) will be referenced in both the Pinellas County MPO 2025 LRTP and the Pinellas County Comprehensive Plan, once the PD&E study is completed and subsequent project phases are funded.

2. Description of the Project:

The purpose of the S.R. 679 (Pinellas Bayway) at ICW PD&E Study is to evaluate and document rehabilitation and replacement alternatives for the Bayway bascule bridge over the ICW. Bridge No. 150049 of S.R. 679 (Pinellas Bayway) at the ICW is commonly known as Bayway Structure ‘E’. This bascule bridge carries S.R. 679 on a tangent on a north-south

alignment over Boca Ciega Bay in Pinellas County. The ICW is perpendicular to the bridge centerline. Built in 1961, the existing structure is a 23-span bascule bridge with an overall length of 1,380 feet (ft.). The main span over the ICW is a double leaf bascule span. The bridge is considered a critical structure because it provides the only vehicular access and hurricane evacuation route between the Pinellas County mainland and the islands of Tierra Verde with over 3,500 residents, and Fort De Soto Park, with over 1,100 acres of recreational area.

The project limits are from south of Madonna Boulevard to south of S.R. 682 (Pinellas Bayway). The project is located within Sections 8, 17, and 20, Township 32 South, Range 16 East and within the Pass-A-Grille US Geological Survey (USGS) quad map (quad Number 3022). S.R. 679 is not part of the National Highway System, the Florida Intrastate Highway System, or the Strategic Intermodal System; however, the Intracoastal Waterway within the study area is on the Strategic Intermodal System.

This study will consider a No-Build alternative in addition to a rehabilitation alternative. Bridge replacement alternatives include low-level bascule, mid-level bascule, and high-level fixed-span bridges. This study will also consider access management and intersection improvements near the Madonna Boulevard intersection, as well as explore the use of offsite compensatory treatment ponds. The high-level fixed bridge alternative may require the relocation of the ICW channel to the north in order to accommodate a reasonable grade along the approach to Tierra Verde. An intensive community involvement plan is anticipated, with many small group meetings, extensive agency coordination, an Alternatives Public Workshop, and a Public Hearing.

The United States Coast Guard (USCG) will serve as the lead agency in this study. USCG has determined that the appropriate level of environmental documentation is an Environmental Assessement (EA).

3. Environmental Information:

a. Land Uses: The project study area is primarily residential, but also contains commercial land uses. In addition, institutional, recreational, and conservation land uses are directly adjacent to the project study area. The FDOT concurs with the comments from the Florida Department of Community Affairs during the ETAT review and on the Degree of Effect of Minimal to None for the three alternatives. The FDOT will consider potential impacts to all land uses and roadway access during the PD&E study.

b. Wetlands: The FDOT acknowledges comments and recommendations from the US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and US Army Corps of Engineers (USACE) during the ETAT review. The FDOT concurs with the NMFS that effects to wetlands and fisheries habitat may be considered Substantial. In addition, FDOT is aware of issues pertaining to potential

sovereign submerged lands in the project area. This issue is further discussed in Section (o.).

The ETAT review and field inspection by NMFS of the project area revealed that within the vicinity of the project occurred Submerged Aquatic Vegetation (SAV), mangrove wetlands, and un-vegetated sand, shell, and rock substrates that may be affected by the three build alternatives. FDOT is committed to avoidance and minimization of impacts to listed species and fisheries habitat. An evaluation of the wetlands for the entire project area will be conducted and FDOT will explore methods during the PD&E study to avoid and minimize affect to wetlands. A wetland evaluation report will be prepared during the PD&E study to address these issues. Coordination with the appropriate regulatory agencies will be conducted, including the Southwest Florida Water Management District (SWFWMD), Florida Department of Environmental Protection (DEP), USACE, NMFS, and local government agencies.

c. **Floodplains and Water Quality:** S.R. 679 (Pinellas Bayway) at ICW spans over the Pass-a-Grille Channel, a navigable waterway. There is 693 ft. of coastline within the 100 ft. buffer area, 1193 ft. within the 200 ft. buffer area, and 3058 ft. within the 500 ft. buffer area. Six acres (59.3%) of the proposed project, within the 100-ft. buffer area, are classified as an aquatic preserve (Boca Ciega Bay Aquatic Preserve). The FDOT did not receive comments from any agencies concerning floodplains; although there are Special Flood Hazard Area designations within the project area. Impacts to wetlands and floodplains will be identified and incorporated into project commitments in project development; therefore, FDOT recommended a Degree of Effect of Minimal to None.

The FDOT concurs with the DEP comments from the ETAT review and on the Degree of Effect of Moderate. The proposed project is located within the boundaries of the Boca Ciega Bay Aquatic Preserve and there are some discontinuous and continuous seagrasses. During the PD&E study, various alternatives for rehabilitating or replacing the existing bridge will be evaluated. The FDOT acknowledges, and will include in the PD&E study, an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities including retro-fitting of stormwater conveyance systems. If necessary, the FDOT will utilize a Hydrographics Engineer to determine the need for a hydrographic assessment of the bay and the proposed alternatives.

d. **Wildlife and Habitat:** Upon the ETAT's review, the FDOT concurs with comments from USFWS and the Degree of Effect of Moderate for the three build alternatives. The FDOT acknowledges the comments received from the USFWS and will conduct an evaluation of threatened and endangered species and their support habitat, including Essential Fish Habitat (EFH), during the PD&E study. Coordination with the Florida Fish and Wildlife Conservation Commission (FFWCC), Florida Natural

Areas Inventory (FNAI), NMFS and USFWS will also be conducted for the study area.

The proposed project is located within the boundaries of the Boca Ciega Bay Aquatic Preserve. The entire project area is within the Greater Tampa Bay Ecosystem Management Area. Over 72 percent of the project, within the 100-ft. buffer area, is also listed as a Greenways Project: Priority Ecological Area. Based on identified habitat types and information provided by the regulatory agencies, protected species surveys will be conducted during the PD&E study. Field surveys for protected species that potentially occur near the study area will be conducted following established survey protocols and guidance provided by the regulatory agencies. FDOT will assess potential effects on wildlife/protected species and develop appropriate commitments to avoid and/or minimize harm to the potentially affected species. Also, as requested by DEP, the FDOT will obtain the most recent and proposed shellfish harvesting maps and add this information to the site maps from Division of Aquaculture (DACS).

e. **Outstanding Florida Waters:** The S.R. 679 (Pinellas Bayway) Bridge spans the Boca Ciega Bay which is designated Class II waters, as well as Outstanding Florida Waters, and is an Aquatic Preserve under section 62-302.700, F.A.C., which affords a high level of protection under sections 62-4.242(2) and 62-302.700, F.A.C. The PD&E study will evaluate any potential impacts and document necessary water quality protection measures, in accordance with Part 2, Chapter 21 of the *FDOT PD&E Manual*.

f. **Aquatic Preserves:** The proposed project is located within the boundaries of the Boca Ciega Bay Aquatic Preserve. The project area will be evaluated for potential impacts during the PD&E study, in accordance with Part 2, Chapter 19 of the *FDOT PD&E Manual*.

g. **Coastal Zone Consistency:** This project is located within the boundaries of the Boca Ciega Bay and will be evaluated for Coastal Zone Consistency, as determined by *15 CFR 930*.

h. **Cultural Resources:** Upon the ETAT review, FDOT agrees with the Florida Department of State's recommendations for a Degree of Effect of Minimal to None for all alternatives. There are no resources recorded within the 500-ft. buffer distance; therefore, no significant resources are likely to be affected by the proposed project.

i. **Coastal Barrier Resources:** This project is not located in the vicinity of or within a coastal barrier resource unit as defined by the Governor's *Executive Order 8 1-105* and the *Federal Coastal Barrier Resources Act*.

j. **Contamination:** The FDOT recommends a Degree of Effect of Minimal to None for the three build alternatives. A Contamination Screening Evaluation of the area will be conducted during the PD&E study. If sites listed as medium or high are found within the project area, further analysis will be conducted.

k. **Sole Source Aquifer:** Based on a review of the EPA website for Region IV, there are no sole source aquifers shown in Pinellas County.

l. **Noise:** A detailed noise evaluation will be conducted during the PD&E study. Within the vicinity of the project there are noise sensitive areas in the Tierra Verde community.

m. **Essential Fish Habitat:** The FDOT recognizes that there is a substantial amount of wetlands that include EFH. The FDOT will employ avoidance and minimization of impacts during project development. The FDOT acknowledges NMFS's preference that the proposed bridge widening occur east of S.R. 679, immediately north of the existing structure, to avoid impacts to SAV and related estuarine habitats. The FDOT will evaluate this alignment alternative in project development. To further avoid impacts to these resources during project development, the FDOT will conduct close coordination with the NMFS.

n. **Section 4 (f) Properties:** N/A

o. **Other:** FDOT is aware that authorization is required for any construction on or use of sovereign submerged lands owned by the State of Florida. This includes activities such as dredging and filling. The Board of Trustees of the Internal Improvement Trust Fund serves as the proprietor of these State-owned lands and determines how the public's interests may best be served. The largest projects are reviewed by the Board, while staff of the Department and the water management districts have been delegated the authority to take action on most authorizations in accordance with Chapter 18-21 F.A.C. FDOT will coordinate any issues pertaining to sovereign submerged lands with the appropriate agencies as necessary during the PD&E study.

4. Navigable Waterway Crossings:

The S.R. 679 (Pinellas Bayway) Bridge spans over the ICW, a navigable waterway, connecting Boca Ciega Bay to the Gulf of Mexico. It provides a horizontal clearance between fenders of 89 ft. The water depth in the channel under the bridge at Mean Lower Low Water (MLLW) is approximately 20 ft. and the vertical clearance is 25 ft. at center.

The S.R. 679 (Pinellas Bayway) Bridge is manned 10 hours a day 7 days a week. The bridge is currently opened from 9 a.m. to 7 p.m. every 20 minutes. There are alternative routes for vessels traveling to and from Boca Ciega Bay. Smaller vessels, traveling from the Gulf of Mexico, can access Boca Ciega Bay using Bunces Pass. All other vessels can access these

areas by traveling south around Mullet Key. Also, within the 200-ft. buffer area is a boat marina.

A USCG Bridge Permit will be required for any replacement of the S.R. 679 (Pinellas Bayway) Bridge, under *23 CFR 650, Subpart H, Section 650.805*. Also, any improvements to the existing structure may need to meet USCG established guide clearances for bridges along the ICW. The navigational guide clearances established for this reach of waterway are:

- 100 ft. horizontal clearance between face of fendering system for either a movable span bridge or a fixed bridge
- 21 ft. vertical clearance at mean high water (MHW) throughout the 100 ft. horizontal clearance for a movable span bridge in the closed position -- in the open position vertical clearance would be unlimited
- 65 ft. vertical clearance at MHW throughout the 100 ft. horizontal clearance for a high-level fixed bridge

5. Permits Required:

Subsequent to the PD&E study and prior to construction, various permits would be obtained. Agencies which may have an interest from a permitting standpoint include, but may not be limited to, the following (actual permits required will be determined during subsequent project development activities):

- USCG Bridge Permit
- SWFWMD - Environmental Resource Permit
- FDEP-Generic Permit for Stormwater Discharge from Large or Small Construction Activities and sovereignty submerged lands authorization, pursuant to 18-21, F.A.C
- USACE - Dredge and Fill Permit

S.R. 679 (Pinellas Bayway) at Intracoastal Waterway
Bridge No.: 150049
Pinellas County, Florida

DISTRICT 7

WPI Segment No. : 410755-1

PROJECT LOCATION MAP

Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

September 21, 2005

Mr. Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Department of Transportation
11201 North McKinley Drive, MS 7-500
Tampa, FL 33612-6456

RE: Department of Transportation – Advance Notification – SR 679 (Pinellas Bayway) at Intracoastal Waterway PD&E Study, Financial Project No. 410755-1-22-01 – Pinellas County, Florida.
SAI # FL200507271326C

Dear Mr. Clifford:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the referenced advance notification.

Southwest Florida Water Management District (SWFWMD) staff notes that Tampa Bay is the agency's highest priority Surface Water Improvement and Management (SWIM) waterbody. The goals of the Tampa Bay SWIM Plan include seeking to "increase and preserve the quantity, quality, and diversity of seagrass communities" and "restore an optimum balance of wetland habitats for fish and wildlife while protecting and enhancing existing habitats." Staff has identified a substantial continuous seagrass bed and additional areas of patchy seagrass surrounding the project area. Therefore, coordination with federal, state, and local resource agencies is strongly encouraged. The regulatory requirements of the SWFWMD will need to be addressed as the project is developed. Please refer to the enclosed SWFWMD letter.

The Florida Department of Environmental Protection (DEP) advises that rehabilitation of the existing bridge structure may qualify for a Noticed General Environmental Resource Permit (ERP) pursuant to Rule 40D-400.443, *Florida Administrative Code* (*F.A.C.*). Bridge replacement will require a Standard General or Individual ERP from the SWFWMD. Staff has expressed concerns regarding the potential impacts of bridge replacement activities on the extensive mangrove, seagrass, and bay bottom areas of Boca Ciega Bay – designated an Aquatic Preserve, Outstanding Florida Waters (OFW), Class II waters, and a SWIM priority waterbody. The designations thus reflected in Chapters 253, 258, 373, and 403, *Florida Statutes* (*F.S.*), afford the highest level of state protection to Boca Ciega Bay. Please be advised that the applicant will be required to minimize adverse impacts to wetland and other surface water functions and demonstrate that the proposed stormwater management system meets the design and performance criteria established for the treatment and attenuation of discharges to OFWs, pursuant to Rule 40D-4, *F.A.C.*, and the SWFWMD *Basis of Review for ERP Applications*. In addition, the

applicant should implement best management practices (BMPs) throughout the proposed construction activities. Please see the enclosed DEP memorandum for additional information.

The Florida Fish and Wildlife Conservation Commission (FWC) recommends project alternatives that confine the proposed bridge improvements to the currently impacted transportation corridor due to the number and variety of listed species that have been observed or that potentially occur in the surrounding area. Staff advises FDOT to evaluate the potential benefits and impacts of various structural alternatives and construction activities on fish and wildlife species. The FWC looks forward to working with the FDOT to resolve the issues identified in the enclosed letter and ensure that the project minimizes impacts to fish and wildlife resources consistent with Chapters 370 and 372, *F.S.* Please refer to the enclosed FWC letter for further details and recommendations.

The Pinellas County Planning Department indicates that County staff supports the study; however, Environmental Management staff recommends that the 100-year base flood elevation (12' NAVD88) on the adjacent causeways be taken into consideration during the redesign. Sufficient elevation should be provided, if it has not already, to allow for evacuation of the residents of Tierra Verde in an emergency hurricane/flooding situation. Please refer to the enclosed Pinellas County letter for further information.

Based on the information contained in the application for federal assistance and the enclosed state agency comments, the state has no objections to allocation of federal funds for the subject project and, therefore, the funding award is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the concerns identified by the reviewing agencies prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. If you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Sincerely,

Sally B. Mann

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm
Enclosures

cc: Brenda Arnold, DEP, Southwest District
Rand Frahm, SWFWMD
Mary Ann Poole, FWC
John Meyer, TBRPC

Project Information	
Project:	FL200507271326C
Comments Due:	08/26/2005
Letter Due:	09/25/2005
Description:	DEPARTMENT OF TRANSPORTATION - ADVANCE NOTIFICATION - SR 679 (PINELLAS BAYWAY) AT INTRACOASTAL WATERWAY PD&E STUDY, FINANCIAL PROJECT NO. 410755-1-22-01 - PINELLAS COUNTY, FLORIDA.
Keywords:	DOT - SR 679 (PINELLAS BAYWAY) AT INTRACOASTAL WATERWAY - PINELLAS CO.
CFDA #:	20.205

Agency Comments:

TAMPA BAY RPC - TAMPA BAY REGIONAL PLANNING COUNCIL

This project is considered to have met the local requirements of the Intergovernmental Coordination and Review process and no further review will be required by the TBRPC.

PINELLAS - PINELLAS COUNTY

The Pinellas County Planning Department notes that County staff supports the study; however, Environmental Management staff recommended that the 100-year base flood elevation (12' NAVD88) on the adjacent causeways be taken into consideration during the redesign. Sufficient elevation should be provided, if it has not already, to allow for evacuation of the residents of Tierra Verde in an emergency hurricane/flooding situation.

COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

The study of the bridge replacement would not be inconsistent with Chapters 370 or 372, Florida Statutes; however, because of the number and variety of listed species that have been observed or that potentially occur in the surrounding, we recommend alternatives that confine the project to the currently impacted transportation corridor. We look forward to cooperating with the FDOT in development of the PD&E and to resolve the issues that we have identified in this letter in order to ensure consistency with the Coastal Zone Management Act/Florida Coastal Management Program and to ensure that this project proceeds in a fashion that minimized impacts to fish and wildlife resources and is consistent with statute.

STATE - FLORIDA DEPARTMENT OF STATE

No Comment

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP) advises that rehabilitation of the existing bridge structure may qualify for a Noticed General Environmental Resource Permit (ERP) pursuant to Rule 40D-400.443, F.A.C. Bridge replacement will require a Standard General or Individual ERP from the SWFWMD. Staff has expressed concerns regarding the potential impacts of bridge replacement activities on the extensive mangrove, seagrass, and bay bottom areas of Boca Ciega Bay ¿ designated an Aquatic Preserve, Outstanding Florida Waters (OFW), Class II waters, and a SWIM priority waterbody. The designations thus reflected in Chapters 253, 258, 373, and 403, F.S., afford the highest level of state protection to Boca Ciega Bay. Please be advised that the applicant will be required to minimize adverse impacts to wetland and other surface water functions and demonstrate that the proposed stormwater management system meets the design and performance criteria established for the treatment and attenuation of discharges to OFWs, pursuant to Rule 40D-4, F.A.C., and the SWFWMD Basis of Review for ERP Applications. In addition, the applicant should implement best management practices (BMPs) throughout the proposed construction activities.

SOUTHWEST FLORIDA WMD - SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

SWFWMD staff notes that the goals of the Tampa Bay SWIM Plan include seeking to "increase and preserve the quantity, quality, and diversity of seagrass communities" and "restore an optimum balance of wetland habitats for fish and wildlife while protecting and enhancing existing habitats." Staff has identified a substantial continuous seagrass bed and additional areas of patchy seagrass surrounding the project area. Coordination with federal, state, and local resource agencies is strongly encouraged. The regulatory requirements of the SWFWMD will need to be addressed as the project is developed.

Southwest Florida
Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)
SUNCOM 572-6200

Lecanto Service Office
Suite 226
3600 West Sovereign Path
Lecanto, Florida 34461-8070
(352) 527-8131
SUNCOM 667-3271

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)
SUNCOM 531-6900

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)
SUNCOM 578-2070

August 19, 2005

Lauren P. Milligan
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399-3000

Subject: DEPARTMENT OF TRANSPORTATION – ADVANCE NOTIFICATION – SR679 (PINELLAS BAYWAY) AT INTRACOASTAL WATERWAY PD&E STUDY, FINANCIAL PROJECT NO. 410755-1-22-01, PINELLAS COUNTY, FLORIDA.

SAI#:FL200507271326C

Dear Ms. Milligan:

The staff of the Southwest Florida Water Management District (District) has conducted a consistency evaluation for the project referenced above. Consistency findings are divided into four categories and are based solely on the information provided in the subject application.

FINDING	CATEGORY
	Consistent/No Comment
	Consistent/Comments Attached
	Inconsistent/Comments Attached
X	Consistency Cannot be Determined Without an Environmental Assessment Report/Comments Attached

Tampa Bay was recognized by the Florida Legislature in the Surface Water Improvement and Management (SWIM) Act of 1987 as the Southwest Florida Water Management District's (District) highest priority water body. The Tampa Bay SWIM Plan addresses the legislative charge of the SWIM Program to improve or protect water quality and natural systems. SWIM Plan goals for the water body include seeking to "increase and preserve the quantity, quality, and diversity of seagrass communities." Another goal is to "restore an optimum balance of wetland habitats for fish and wildlife while protecting and enhancing existing habitats." In keeping with the findings of the ETAT review, the District's 2004 Seagrass Mapping Effort (available upon request from the SWIM Program) identifies a substantial continuous seagrass bed and additional areas of patchy seagrass surrounding the project area. Interagency coordination with state and local entities, similar to that proposed with the

NMFS, is strongly encouraged. The regulatory requirements of the District will have to be addressed as the project is developed.

This review does not constitute permit approval under Chapter 373, Florida Statutes, or any rules promulgated thereunder, nor does it stand in lieu of normal permitting procedures in accordance with Florida Statutes and District rules.

If you have any questions or if I can be of further assistance, please contact me in the District's Planning Department at extension 4423.

Sincerely,

Lori H. Belangia

Lori H. Belangia
Government Planning Coordinator

Florida Department of
Environmental Protection

Memorandum

To: Lauren Milligan, Office of Intergovernmental Programs

From: Brenda Arnold, Southwest District

Date: July 29, 2005

Subject: State Clearinghouse Comments

SAI #: FL05-1326C – FDOT, SR 679 (Pinellas Bayway) at Intracoastal Waterway PD&E Study – Pinellas County.

The Southwest District has reviewed the above referenced project, and offers the following comments:

Wetland and Permitting Review:

The project entails the rehabilitation or replacement of the SR 679 bascule bridge over the ICW in Boca Ciega Bay. Options are to rehabilitate the existing bridge or replace it with a low, medium, or high fixed span structure.

An environmental resource permit (ERP) will be required for the proposed project. Pursuant to the existing Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, *F.A.C.*, the Southwest Florida Water Management District is responsible for reviewing and taking final agency action on this activity.

The recommended alternative, from an agency environmental perspective, would be to rehabilitate the existing structure. Depending on the scope and conduct of such activity, an ERP Noticed General Permit, pursuant to Chapter 40D-400.443, *F.A.C.*, "General Permit to The Florida DOT, Counties & Municipalities, for Minor Bridge Alteration, Replacement, Maintenance, and Operation" would probably suffice.

Bridge replacement, on the other hand, would impact extensive mangrove, seagrass, and bay bottom areas outside the existing bridge foot print. This would result from the necessity to construct a replacement bridge adjacent to the existing structure, impacting new areas of Boca Ciega Bay, Pinellas County Aquatic Preserve. It is also likely that the environmental impacts of such construction would exceed the maximum 0.50 acre impact allowed in the Noticed General Permit. A Standard General ERP, or possibly an Individual ERP, would be required for such construction.

Additional concerns include the potential relocation of the ICW channel to the north to maintain a reasonable grade along the approach to Tierra Verde, if a high level fixed bridge is constructed. Also, the existing unrestricted navigation from Boca Ciega Bay to the Gulf of Mexico would be threatened by a fixed span bridge, for which even the highest span would only allow approximately 85% passage based on expert testimony in previous similar cases.

Every effort should be made to employ designs which will minimize wetland impacts as well as implementing best management practices (BMPs), throughout the construction. Based on the limited information provided, it appears that the above proposed construction project could be consistent with our authorities in the Coastal Zone Management Program, depending on its permittability and final design, and provided all necessary environmental permits are obtained, wetland impacts adequately mitigated, and BMPs scrupulously applied throughout the construction.

We appreciate the opportunity to comment on this project as part of the State Clearinghouse process. Any comments provided previously and those above are not necessarily the final position of the District and may be subject to revision pursuant to additional information and further review. These comments and those previously made do not preclude or deem exempt the applicant from any permitting responsibilities that are required by the FDEP or other applicable agencies. If I can be of further assistance, please do not hesitate to contact me at (813) 744-6100, ext. 440.

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

MARY ANN POOLE, DIRECTOR
OFFICE OF POLICY AND STAKEHOLDER COORDINATION
(850)488-6661 TDD (850)488-9542
FAX (850)922-5679

September 9, 2005

Ms. Lauren P. Milligan
Florida State Clearinghouse
Department of Environmental Protection
3900 Commonwealth Boulevard, Mail Station 47
Tallahassee, Florida 32399-3000

SEP 12 2005

Re: FL200507271326C, SR 679 (Pinellas Bayway) at Intercoastal Waterway PD&E Study, Pinellas County

Dear Ms. Milligan:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated a review of the referenced project and, in accordance with the Coastal Zone Management Act/Florida Coastal Management Program (15 CFR 930, Subpart F), we are providing the following comments and recommendations.

Background

The purpose of this Project Development and Environment (PD&E) study is to evaluate and document rehabilitation and replacement alternatives for the Bayway bascule bridge over the Intercoastal Waterway (ICW). This bridge is currently listed as functionally obsolete on the June 2003, Florida Department of Transportation (FDOT) Bridge Inspection Report with a sufficiency rating of 51.0 (100.0 scale). A bridge is assigned a status of structurally deficient once its rating has reached below 50.0. Due to its current condition of deterioration and potential safety problems, the bridge will require replacement or rehabilitation to comply with current bridge/roadway safety and transportation standards.

This bascule bridge carries State Road (SR) 679 on a north-south alignment over Boca Ciega Bay in Pinellas County. The ICW is perpendicular to the bridge centerline. Built in 1961, the existing structure is a 23-span bascule bridge with an overall length of 1,380 feet. The main span over the ICW is a double leaf bascule span. The bridge is considered a critical structure because it provides the only vehicular access and hurricane evacuation route between the Pinellas County mainland and the islands of Tierra Verde with over 3,500 residents, and Fort De Soto Park, with over 1,100 acres of recreational area. The project limits are from south of Madonna Boulevard

to south of SR 682 (Pinellas Bayway). The project is located within Sections 8, 17, and 20, Township 32 South, Range 16 East. This study will consider a no-build alternative in addition to a rehabilitation alternative. Bridge replacement alternatives include low-level bascule, mid-level bascule, and high-level fixed-span bridges. This study will also consider access management and intersection improvements near the Madonna Boulevard intersection, as well as the use of off-site compensatory treatment ponds. The high-level fixed bridge alternative may require the relocation of the ICW channel to the north in order to accommodate a reasonable grade along the approach to Terra Verde. The United States Coast Guard (USCG) will serve as the lead agency in this study. USCG has determined that the appropriate level of environmental documentation is an Environmental Assessment (EA).

Description of Area Resources and Conditions

The project study area uplands consist primarily of urban residential and commercial land uses. Institutional, recreational, and conservation land uses are directly adjacent to the project study area. The bridge spans the Boca Ciega Bay, a Class II Outstanding Florida Waters within the Boca Ciega Bay Aquatic Preserve. Adjacent aquatic habitats include Submerged Aquatic Vegetation (SAV), including sea grasses and algae, unvegetated sand, shell and rock substrates, and mangrove wetlands.

Based upon wildlife surveys performed in the past by FWC staff in the project area and geographic information system databases of wildlife occurrences in the project roadway vicinity, the following listed species occur or have the potential to occur in the project vicinity: West Indian manatee *(Trichechus manatus*; endangered - E), peregrine falcon *(Falco peregrinus*; E), Atlantic green turtle *(Chelonia mydas mydas*; E), Kemp's ridley turtle *(Lepidochelys kempi*; E), least tern *(Sterna antillarum;* threatened - T), roseate tern *(Sterna dougallii*; T), piping plover *(Charadrius melodus*; T), southeastern snowy plover *(Charadrius alexandrinus tenuirostris*; T), Atlantic loggerhead turtle *(Caretta caretta caretta*; T), roseate spoonbill *(Ajaia ajaja*; species of special concern – SSC), little blue heron *(Egretta caerulea*; SSC), reddish egret *(Egretta rufescens*; SSC), snowy egret *(Egretta thula*; SSC), tricolored heron *(Egretta tricolor*; SSC), white ibis *(Eudocimus albus*; SSC), brown pelican *(Pelicanus occidentalis*; SSC), American oystercatcher *(Haematopus palliates*; SSC), and black skimmer *(Rhynchops niger*; SSC).

Boca Ciega Bay, Shell Island, and Fort DeSoto Park are regionally significant fish and wildlife habitats, and a major nature-based recreation and sports-fishing area for the Tampa Bay region. The south Pinellas Bay ecosystem contains Strategic Habitat Conservation Areas (SHCA) for little blue heron, snowy egret, tricolored heron, white ibis, roseate spoonbill, reddish egret and, on Sand Key, least tern and snowy plover, as identified by Cox et al. (1994). Cox et al. (1994) also identifies SHCA for black-crowned night herons *(Nycticorax nycticorax)*, yellow-crowned night herons *(Nyctinassa violacea)*, Wilson's plover *(Charadrius wilsonia)*, and the black-whiskered vireo *(Vireo altiloquus)* in the preserves of the area.

Potential Effects and Opportunities

The original construction of Pinellas Bayway linked a series of mangrove and barrier islands to the Pinellas County mainland. Subsequent dredge and fill development urbanized this area of Boca Ciega Bay north of Bunces Pass and significantly altered the mangrove wetlands, the SAV and the hydrology of Boca Ciega Bay. The proposed project has the potential for direct and indirect effects that would potentially benefit or adversely impact any of the above species, depending upon the design of the proposed road improvements. Project impacts may include direct loss and degradation of wetland, transitional, and upland habitats in and around the Boca Ciega Bay region from bridge construction. It is unclear from the submitted materials if the road crossing at Boca Ciega Bay will fully bridge the wetland jurisdictional limits of this regionally significant fish and wildlife habitat. Properly reconstructed bridging of Boca Ciega Bay could reduce some of the impacts to fish and wildlife habitats created by the old causeway.

Issues and Recommendations

Issue: This project has the potential to address limitations in the current design, and includes the opportunity to remove old roadway causeway and restore estuarine habitats.

Recommendation: We recommend that the FDOT analyze the extent to which removing existing fill structures would benefit fish and wildlife. Actions that should be taken under consideration include examination of culverting or eliminating the existing fill causeways.

Issue: Bat colonies have been known to establish in cavities in old bridges in urban areas.

Recommendation: Prior to removal, the existing bridge decks should be inspected for the presence of bat colonies, with particular attention to the Brazilian free-tailed bat, a known urban colonizer. If bats are found, please coordinate with FWC concerning the process of relocation. Relocation of bats should only be conducted outside of the maternity season (April - August), so project managers need to plan accordingly.

Issue: In-water construction and demolition may pose direct impacts to the West Indian manatee, and possibly marine turtles and dolphins.

Recommendation: The use of explosives to demolish the old structure should be avoided. The standard manatee construction conditions (revised 2005) should be followed whenever in-water work is being performed, including movement of barges or work vessels.

Conclusion

The study of the bridge replacement would not be inconsistent with Chapters 370 or 372, Florida Statutes; however, because of the number and variety of listed species that have been observed or that potentially occur in the surrounding, we recommend alternatives that confine the project to the currently impacted transportation corridor. We look forward to cooperating with the FDOT

in development of the PD&E and to resolve the issues that we have identified in this letter in order to ensure consistency with the Coastal Zone Management Act/Florida Coastal Management Program and to ensure that this project proceeds in a fashion that minimized impacts to fish and wildlife resources and is consistent with statute. If you or your staff would like to coordinate further on the recommendations contained in this report, please contact me at 850-488-6661, or email me at maryann.poole@MyFWC.com, and I will be glad to help make the necessary arrangements. If your staff has any specific questions regarding our comments, I encourage them to contact Mr. Jim Beever at our office in Punta Gorda (941-575-5784; email james.beever@MyFWC.com).

Sincerely,

Mary Ann Poole

Mary Ann Poole, Director
Office of Policy and Stakeholder Coord.

map/jwb
ENV 1-3-2
FL200507271326C.doc

Citations:

Cox, J., R. Kautz, M. MacLaughlin and T. Gilbert, 1994. Closing the Gaps in Florida's Wildlife Habitat Conservation System. Florida Game and Fresh Water Fish Commission.

cc: Mr. Robert M. Clifford, P.E.
Planning Manager
Florida Department of Transportation
District Seven
11201 N. Malcolm McKinley Drive, MS 7-500
Tampa, Florida 33612-6403

Mr. David Hankla
U.S. Fish and Wildlife Service
6620 Southpoint Drive South, Suite 310
Jacksonville, Florida 32216-0912

Tampa Bay Regional Planning Council

Chair
Commissioner Jane von Hahmann

Vice-Chair
Robert Kersteen

Secretary/Treasurer
Jill Collins

Executive Director
Manny Pumariega

August 4, 2005

Mr. Robert Clifford,
Modal Planning and Development Manager
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, FL 33612-6456

Subject: *IC&R #235-05, S.R. 679 (Pinellas Bayway) PD&E Study, Pinellas County*

Dear Mr. Clifford:

The Tampa Bay Regional Planning Council recently received a copy of your application for processing under the Intergovernmental Coordination and review program from the FDEP's Office of Intergovernmental Programs.

While our agency **does** find the proposal to be regionally significant, initial in-house review does not indicate the necessity for specific action by our Council. All member local governments of the Tampa Bay Regional Planning Council's (TBRPC) Clearinghouse Review Committee and/or TBRPC's full policy board will be notified of your application. You will be contacted if any local concerns are identified.

In accordance with the State's delegated IC&R review requirements, this project is considered to have met the local requirements of the IC&R process and no further review will be required by our Agency. This letter constitutes compliance with IC&R only and does not preclude the applicant from complying with ***other*** applicable requirements or regulations.

If deemed necessary, please forward a copy of this letter to the federal funding agency to verify compliance with the required Intergovernmental Coordination and Review procedures.

If you have any questions, please do not hesitate to contact me (ext. 29).

Sincerely,

John M. Meyer
IC&R Coordinator

cc: Ms. Lauren Milligan, FSC

4000 Gateway Centre Boulevard, Suite 100 · Pinellas Park, FL 33782
Phone: 727-570-5151 · Fax: 727-570-5118 · State Number: 513-5066 · www.tbrpc.org

Pinellas County PLANNING

September 2, 2005

Mr. John M. Meyer
Tampa Bay Regional Planning Council
4000 Gateway Centre Blvd., Suite 100
Pinellas Park, FL 33782

Subject: SAI# FL200507271326C – Department of Transportation – Advance Notification SR 679 (Pinellas Bayway) at Intracoastal Waterway PD&E Study, Financial Project No. 410755-1-22-01 - Pinellas County, Florida.

Dear Mr. Meyer:

The Pinellas County Planning Department is in receipt of the referenced study and appreciates the opportunity to review the provided information, which we also forwarded to the Pinellas County Metropolitan Planning Organization (MPO) and the Pinellas County Department of Environmental Management. Staff from the MPO and the Department of Environmental Management supports the study. However, Environmental Management staff recommended that the 100-year base flood elevation (12' NAVD88) on the adjacent causeways be taken into consideration during the redesign. Sufficient elevation should be provided, if it is not already, to allow for evacuation of the residents of Tierra Verde in an emergency hurricane/flooding situation.

The Pinellas County Planning Department supports the project development study as it supports and implements the following objectives of the Comprehensive Plan:

TRANSPORTATION ELEMENT

1.9. Objective: Pinellas County's transportation system should provide for safety and efficiency in the movement of people and goods.

1.10. Objective: Pinellas County shall coordinate its transportation planning with transportation planning at the local, regional and state level.

PLEASE ADDRESS REPLY TO:
600 Cleveland Street
Suite 750
Clearwater, Florida 33756
Phone: (727) 464-8200
Fax: (727) 464-8201
Website: www.pinellascounty.org

Should you have any questions regarding the comments above, please contact Nicole Elko, Coastal Coordinator, with the Pinellas County Environmental Management Department at (727) 464-4761 or me at (727) 464-8200. Thank you for the opportunity to review the project development study.

Sincerely,

Brian K. Smith, Director
Pinellas County Planning Department

cc: Al Bartolotta, Pinellas County Planning Department
Nicole Elko, Pinellas County Environmental Management Department

AP

CITY OF ST. PETERSBURG

POST OFFICE BOX 2842, ST. PETERSBURG, FLORIDA 33731-2842

WEB SITE: www.stpete.org CHANNEL 35 WSPF-TV

TELEPHONE: 727 893-7171

September 21, 2005

Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Department of Transportation, District 7
11201 N. Mc Kinley Drive MS 7-500
Tampa, FL 33612-6456

Dear Mr. Clifford:

Re: Advanced Notifications
S.R. 679 (Pinellas Bayway) at Intracoastal Waterway
FPID: 410755-1-22-01 - PD&E Study
Pinellas County, Florida

Thank you for your PD&E study plan submittal dated July 25, 2005 for the above project. The City of St. Petersburg has the following comments.

1) City staff requests that plans for the project be presented to the Isla del Sol Owners Association for review and comment as part of the FDOT planning process.

2) The existing bridge has a 5-foot wide on-street bicycle lane. Please incorporate the lane into the typical section for the proposed bridge. Attached is a copy of the City's On-road Facilities Map 5 Master Plan.

3) City staff requests that the construction of FPID 410755-1-22-01 (S.R. 679 Bayway Intracoastal) be delayed until the construction of the replacement Pinellas Bayway bridge on SR 682 (FPID 256903-1-52-02 is completed.

4) Attached is a copy of the As–built Drawing No. 8847 showing the alignment of the City's 12-inch subaqueous crossing of the intracoastal water way on the east side of the existing bridge. Also attached is a GIS plan showing all the City's facilities within the project limits.

Thank you for the opportunity to review and comment on the preliminary plans. If you have any questions on these comments, please call me at (727) 892-5381.

Sincerely,

Brendan Lynch

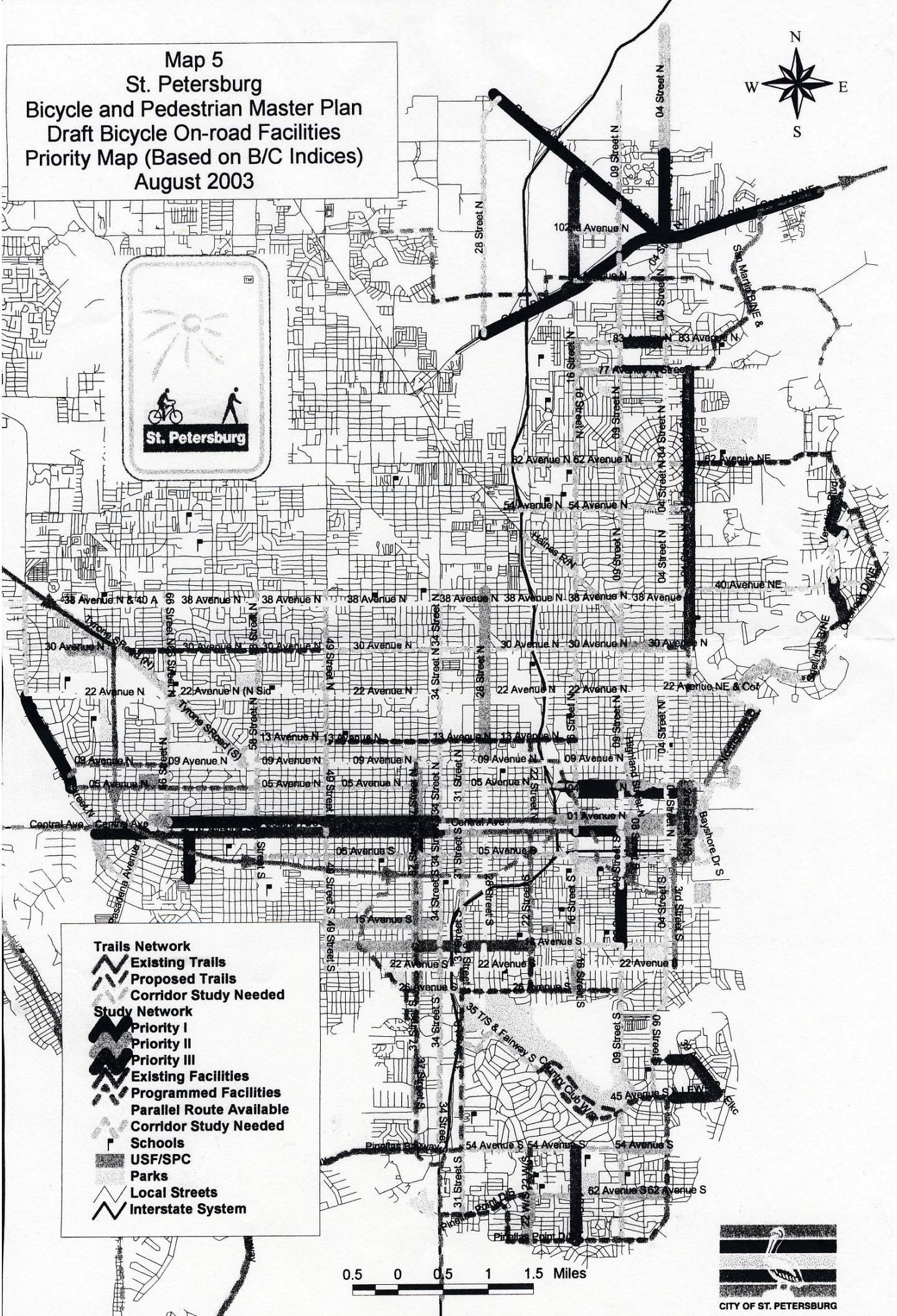
Brendan Lynch, Project Manager
Engineering Department

BFL/iw

Encs: On-road Facilities Map 5 Master Plan
As–built Drawing No. 8847
GIS plan

cc w/encs: Douglas J. Reed, P.E., PBS&J

cc wo/encs: Michael Frederick, Transportation Planning
John Parks, Water Resources
Lane Longley, Water Resources
Michael Connors, Internal Services Administrator
Thomas Gibson, Engineering
Steven Leavitt, Engineering
Project File No. 05025-000


Map 5
St. Petersburg
Bicycle and Pedestrian Master Plan
Draft Bicycle On-road Facilities
Priority Map (Based on B/C Indices)
August 2003
N
W
E
S
St. Petersburg
Trails Network
Existing Trails
Proposed Trails
Corridor Study Needed
Study Network
Priority I
Priority II
Priority III
Existing Facilities
Programmed Facilities
Parallel Route Available
Corridor Study Needed
Schools
USF/SPC
Parks
Local Streets
Interstate System
0.5 0 0.5 1 1.5 Miles
CITY OF ST. PETERSBURG

CITY OF ST. PETERSBURG

POST OFFICE BOX 2842, ST. PETERSBURG, FLORIDA 33731-2842

WEB SITE: www.stpete.org Channel 35 WSPF • TV

TELEPHONE: 727 893-7171

August 2, 2005

Mr. Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, Florida 33612-6456

Re: Advance Notification for S.R. 679 (Pinellas Bayway), PD&E Study

Dr. Bob:

We received a copy of the Advanced Notification package that was prepared by FDOT for the S.R. 679 (Pinellas Bayway) at Intracoastal Waterway Project Development and Environment (PD&E) Study in Pinellas County. The northern section of this project is located in the City of St. Petersburg, so we appreciate the opportunity to provide comments early in the PD&E process.

It is mentioned in the "Bikeways and Sidewalks" section of the Efficient Transportation Decision Making (ETDM) website that: "The bridge currently has no shoulders and 3-foot sidewalks on the outside separated from the travel lanes by a concrete curb and guardrail. If the bridge is replaced, the new typical section is expected to include 10-foot outside shoulders and 6-foot sidewalks. The 2025 LRTP shows a future designation for SR 679 as part of the Pinellas Trail Extension linking the existing Pinellas Trail to the Fort De Soto Park Trail." The City of St. Petersburg's Bicycle and Pedestrian Master Plan also shows a trail facility along the S.R. 679 corridor, and strongly supports any improvements that can be made within the project limits for bicyclists and pedestrians.

As mentioned in the "Plan Consistency" section of the ETDM website, this project is not currently listed in the Pinellas County's 2025 Long Range Transportation Plan or the County's Comprehensive Plan. The project is also not listed in the City of St. Petersburg's Comprehensive Plan. However, the City will begin updating its Comprehensive Plan in early 2006 and will include any projects that are planned, programmed or under construction for S.R. 679.

We do not have any comments at this time as to whether the existing bridge should be left alone, rehabilitated or replaced by a low-level bascule, mid-level bascule or high-level fixed-span bridge. As mentioned in the Advance Notification Fact Sheet, an intensive community involvement plan will be needed to ensure that affected residents in the S.R. 679 corridor and review agencies have an opportunity to examine the advantages

and disadvantages of each alternative. If you have any questions about our comments, please call me at (727) 892-5274.

Sincerely,

Joe Kubicki, Director
Department of Transportation and Parking

cc: Tom Whalen, Planner III, Transportation and Parking

(copy is in the file)

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5317; FAX 824-5300
http://sero.nmfs.noaa.gov

August 30, 2005 F/SER46:DR/dc

Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, Florida 33612-6456

SUBJECT: Advance Notification
SR 679 (Pinellas Bayway) at Intracoastal Waterway
Project Development and Environment (PD&E) Study
Financial Project Number: 410755-1-22-01
Pinellas County, Florida

Dear Mr. Clifford:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the subject Advance Notification, dated July 25, 2005. The Florida Department of Transportation proposes the replacement or rehabilitation of the current low-level, two-lane bascule bridge on SR 679 (Pinellas Bayway), which crosses the Intracoastal Waterway in Pinellas County, Florida (Bridge No. 150049 or Bayway Structure "E"). Bridge replacement alternatives being considered include low-level bascule, mid-level bascule, or high-level fixed span bridges.

In 2004, the bridge replacement was considered under the Efficient Transportation Decision Making process (ETDM) by the Environmental Technical Advisory Team (ETAT). The project was reviewed under ETDM No. 3430 by NMFS and other members of the ETAT. Certain estuarine habitats within the project area are designated as essential fish habitat (EFH) and these habitats and potential impacts to them were identified by NMFS at that time. NMFS requested an EFH assessment and outlined the issues that the assessment should cover.

In response to the additional information in the above referenced Advance Notification, NMFS staff conducted a site inspection of the project area on August 19, 2005, to assess potential concerns related to living marine resources within Clearwater Harbor. Because of the distribution of seagrasses and other EFH resources, NMFS staff recommends that any bridge widening occur to the east of the existing alignment, rather than to the west, to minimize impacts

to EFH. The Advance Notification states that, "The high-level fixed span bridge alternative may require the relocation of the ICW [Intracoastal Waterway] channel to the north...". NMFS requests that the PD&E study assess the impacts of channel relocation on seagrass beds adjacent to the bridge. The relocation will likely alter tidal flow and scouring patterns and may adversely impact the existing seagrass beds. Additionally, shading impacts as they relate to seagrasses should be considered for the three different bridge configurations.

Consultation with the NMFS Protected Resources Division (PRD) may also be necessary pursuant to the Endangered Species Act of 1973 (ESA). The project area could potentially be inhabited by several sea turtle species and smalltooth sawfish. If you have any questions about ESA consultation for this project, please contact PRD staff at (727) 824-5312.

If you have questions regarding our views on this project, please contact Dr. Dave Rydene in our St. Petersburg, Florida office. Dr. Rydene may be reached at the letterhead address or by calling (727) 824-5379.

Sincerely,

W. Mark Thompson

for Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER4
F/SER46 - Rydene

410755 1.18

SEMINOLE TRIBE OF FLORIDA

◊ TRIBAL HISTORIC PRESERVATION OFFICE ◊

Tribal Historic Preservation Office:

TINA M. OSCEOLA
Executive Director

WILLARD S. STEELE
Tribal Historic Preservation Officer

JAMES P. PEPE
Deputy Tribal Historic Preservation Officer

16-Aug-05

Robert M. Clifford, AICP
Modal Planning and Development Manager
Florida Dept. of Transportation
11201 N. McKinley Dr./ MS 7-500
Tampa, FL 33612-6456

Dear Mr. Clifford:

This letter is in reference to the **Financial Project No. 410755-1-22-01 the S.R. 679 (Pinellas Byway) at Intracoastal Waterway Project Development and Environment (PD&E) Study in Pinellas County.**

The Seminole Tribe of Florida has no comment at this time. We would, however, ask that FDOT send any cultural resource/archaeological survey reports that have been or will be done as the project progresses.

Any correspondence should be sent to the following address:

Willard Steele
Tribal Historic Preservation Officer
Ah-Tah-Thi-Ki Museum
HC 61 Box 21-A
Clewiston, FL 33440

Thank you for your time and consideration!

Sincerely,

Bill Steele

rtt
cc:file

4107551.18

Tampa Bay Regional Planning Council

August 4, 2005

Mr. Robert Clifford,
Modal Planning and Development Manager
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, FL 33612-6456

Subject: *IC&R #235-05, S.R. 679 (Pinellas Bayway) PD&E Study, Pinellas County*

Dear Mr. Clifford:

The Tampa Bay Regional Planning Council recently received a copy of your application for processing under the Intergovernmental Coordination and review program from the FDEP's Office of Intergovernmental Programs.

While our agency **does** find the proposal to be regionally significant, initial in-house review does not indicate the necessity for specific action by our Council. All member local governments of the Tampa Bay Regional Planning Council's (TBRPC) Clearinghouse Review Committee and/or TBRPC's full policy board will be notified of your application. You will be contacted if any local concerns are identified.

In accordance with the State's delegated IC&R review requirements, this project is considered to have met the local requirements of the IC&R process and no further review will be required by our Agency. This letter constitutes compliance with IC&R only and does not preclude the applicant from complying with ***other*** applicable requirements or regulations.

If deemed necessary, please forward a copy of this letter to the federal funding agency to verify compliance with the required Intergovernmental Coordination and Review procedures.

If you have any questions, please do not hesitate to contact me (ext. 29).

Sincerely,

John M. Meyer
IC&R Coordinator

RECEIVED
PLANNING DIV.
2005 AUG -8 AM 9:08

cc: Ms. Lauren Milligan, FSC

4000 Gateway Centre Boulevard, Suite 100 · Pinellas Park, FL 33782
Phone: 727-570-5151 · Fax: 727-570-5118 · State Number: 513-5066 · www.tbrpc.org

APPENDIX F
COORDINATION WITH USCG AND USACE

100679 (5B)

Florida Department of Transportation

JEB BUSH
GOVERNOR

11201 N. McKinley Drive • Tampa, FL 33612-6456
Phone (813) 975-6000 • 1-800-226-7220

DENVER J. STUTLER, JR.
SECRETARY

April 3, 2006

District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232
Attention: CO - OM

Subject: SR 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
PD&E Study/ WPI Segment No: 410755 1/ Pinellas County, Florida

Dear District Engineer:

The Florida Department of Transportation (FDOT-District Seven) is conducting a Project Development and Environment (PD&E) Study for bridge and roadway improvement alternatives along S.R. 679 (Pinellas Bayway Structure E) at the Gulf Intracoastal Waterway.

Structure E is currently a low-level double-leaf bascule structure that spans the Gulf Intracoastal Waterway. S.R. 679 is not part of the National Highway System, the Florida Intrastate Highway System, or the Strategic Intermodal System (SIS); however, the Intracoastal Waterway within the study area is on the SIS. In addition, both S.R. 682 and S.R. 679 are designated hurricane evacuation routes. S.R. 679 was originally constructed in 1961 to join the man-made islands of Tierra Verde with Isla Del Sol in St. Petersburg in Pinellas County. S.R. 679 is a north-south urban minor arterial that provides the only vehicular access to the islands of Tierra Verde and Mullet Key, where Fort Desoto Park is located. S.R. 679 is part of the Pinellas Bayway toll system, which also includes S.R. 682. Please see the attached Project Location Map in Figure 1.

Routine bridge inspections have identified safety and structural problems associated with the age of the existing bridge, including concrete delaminations, spalls, cracks, and other deficiencies. Structure E is functionally obsolete and is rated 'scour critical'. The service life under normal maintenance conditions is estimated to be six years, meaning that under the current normal maintenance program, the bridge will need to be rehabilitated or replaced by year 2011. Improvement alternatives considered for this facility include minor rehabilitation, major rehabilitation (with widening), and replacement with a low-level bascule bridge, a mid-level bascule bridge, or a high-level fixed bridge.

Though the option of a high-level fixed bridge is a feasible alternative, its likely profile over the existing channel is causing some concerns which can be alleviated by relocating the channel 400 feet north of its existing location, as shown in the attached Figure 2. Due to the proximity of the S.R. 679/Madonna Boulevard intersection to the existing channel, a six percent grade is required

in order to accommodate the 65 foot vertical navigational clearance required by the U.S. Coast Guard (see attached profiles in Figure 3). Although the six percent grade meets current FDOT design standards, it is undesirable with an intersection immediately at the bottom of the grade, especially with a heavy volume of recreational vehicles in the traffic mix. In addition, the profile crest must be located to the north of the channel. Therefore, while the navigational clearance through the existing channel is 65 feet, the maximum height of the profile crest is 96.5 feet.

Moving the channel 400 feet to the north allows the grade to be reduced to five percent, at the same time accommodating a profile crest located directly above the relocated channel. Therefore, while the navigational clearance through the relocated channel is 65 feet, the maximum height of the profile crest is 75.6 feet. In addition, the relocated channel accommodates a structure that would be 400 feet shorter than one over the existing channel. This will result in substantial structural cost savings to the Department.

Through this letter, FDOT requests your assistance in providing information regarding the process, feasibility, requirements and responsibilities of relocating this federal navigational channel. We request that you help us understand this process. Your help and guidance would be greatly appreciated. If you have any questions about the requested information, please contact me by phone at (813)975-6448/ (800) 226-7220 ext. 27805 or by email at kirk.bogen@dot.state.fl.us.

Sincerely,

Kirk R. Bogen, P.E.
District Project Development Engineer

jcl
Enclosures

cc: Douglas J. Reed, P.E., PBS&J

Florida Department of Transportation

JEB BUSH
GOVERNOR

11201 N. McKinley Drive • Tampa, FL 33612-6456
Phone (813) 975-6000 • 1-800-226-7220

DENVER J. STUTLER, JR.
SECRETARY

September 25, 2006

Mr. Randall Overton
U.S. Coast Guard
Seventh Coast Guard District
909 SE First Avenue
Miami, FL 33131-3050

Subject: **SR 679 (Pinellas Bayway Structure E) at Intracoastal Waterway PD&E Study**
WPI Segment No: 410755 1 / Pinellas County, Florida
Request to Add USACE as Cooperating Agency

Dear Mr. Overton:

As you are aware, the Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for SR 679 (Pinellas Bayway) at the Intracoastal Waterway. Due to its functional obsolescence and the deteriorating structural condition of the bascule bridge #150049 (Structure E) over the Intracoastal Waterway, this study evaluated six improvement alternatives for the bridge.

Improvement alternatives include:

- Alternative 1: Rehabilitation (rehab existing bridge)
- Alternative 2: Rehabilitation plus widening
- Alternative 3: Low-level (21.5 foot) bascule bridge replacement
- Alternative 4: Mid-level (45 foot) bascule bridge replacement
- Alternative 5: High-level (65 foot) fixed-span replacement bridge over the existing Intracoastal Waterway channel
- Alternative 6: High-level (65 foot) fixed-span replacement bridge over a channel relocated 400 feet to the north.

After engineering, environmental, operational, and financial evaluations, and after receiving public support, Alternative 6 has been selected as the Recommended Alternative to be presented at a Public Hearing planned for early 2007.

For your information, coordination with the U.S. Army Corps of Engineers (USACE) was initiated earlier this year (see attached letter) to obtain their permitting and procedural guidance on the proposed channel relocation. The USACE provided a partial response via email regarding the relocated channel depth requirements and indicated further details were forthcoming. As a result of this initial coordination with the Corps, the Department is seeking your agency's determination of whether the USACE should be a Cooperating Agency as part of the ongoing NEPA documentation process.

We would appreciate your prompt consideration of this matter so we can finalize a Draft Environmental Assessment that reflects the results of your determination. If you have any questions, please do not hesitate to call me at (813) 975-6448.

Sincerely,

Kirk Bogen, P.E.
Project Development Engineer
kirk.bogen@dot.state.fl.us

Enclosures
cc: File, Gabor Farkasfalvy, Sharon Phillips

U.S. Department of Homeland Security

United States Coast Guard

Commander(dpb)
Seventh Coast Guard District

909 SE 1st Ave (Suite 432)
Miami, FL 33131-3028
Staff Symbol: dpb
Phone: 305-415-6749
Fax: 305-415-6763
Email: randall.d.overton@uscg.mil

16590
1525
October 10, 2006

Kirk Bogen, P.E.
Florida Department of Transportation (District 7)
11201 N. McKinley Drive
Tampa, FL 33612-7220

Dear Mr. Bogen:

In reply to your September 25, 2006 letter requesting the Coast Guard's determination of whether the USACE should be a Cooperating Agency for NEPA purposes for the SR 679 (Pinellas Bayway Structure E) bridge replacement/rehabilitation project, I do believe it appropriate and advantageous for the USACE to be a Cooperating Agency.

If you have any questions concerning this correspondence please do not hesitate to call or email me at 305-415-6749, randall.d.overton@uscg.mil.

Sincerely,

RANDALL D OVERTON
Federal Permitting Agent
U.S. Coast Guard

Copy: US Army Corps of Engineers Jacksonville, FL

M E M O R A N D U M

FLORIDA DEPARTMENT OF TRANSPORTATION
District Environmental Permit & Utilities Office, MS 7-820

DATE: January 27, 2008

TO: Katasha Cornwell, Assistant District Environmental Permit Administrator

FROM: Melanie A. Calvo, Sr. Scientist (PBS&J)

COPIES: Meeting Attendees

SUBJECT: Minutes for Meeting with the US Army Corps of Engineers (USACE) Regarding Federal Channel Relocation for Bayway Structure E FM 4107551

Attendees from the FDOT: Kirk Bogen (District Project Development Engineer), Megan Arasteh (District Drainage Engineer), Rick Adair (District Environmental Administrator), Katasha Cornwell (Assistant District Environmental Permits Administrator), Melanie Calvo (PBSJ/GEC Environmental Permits Administration), Mark Gosselin (OEA)

BY PHONE: Amy Neidringhaus (Design Project Manager), Jose Danon (Structures), Steve Levine (District Right-of-Way Mapping Engineer) Lonnie Wittmeyer (Property Management)

Attendees from the USACE: L. Renee Perez (Sr. Project Manager), Dan Beasley (Construction-Operations Division, Operations Branch), Brian Hughes (Engineering Division, Design Branch), John Fellows (Tampa, Regulatory Branch), Richard Powell (Planning Section)

MAJOR POINTS OF THE MEETING:

* The FDOT will be responsible in perpetuity for any and all maintenance activities required in the future for the proposed channel or liabilities associated with the relocation.
* Approval from the local sponsor, the West Coast Inland Navigation District (WCIND) is required. A meeting with Chuck Listowski should be coordinated immediately.
* A Maintenance Agreement between the FDOT and the local maintaining authority(ies) needs to be executed. This would be subsequently reviewed by the USACE during their approval process for the relocation of the federal channel. This agreement will establish criteria for future monitoring and maintenance of the channel as well as the disposal of dredge material.

Minutes

A meeting was held on Friday, January 25, 2008 at the ACOE's Jacksonville office to discuss their approval process for the relocation of the federal channel proposed for the Bayway Structure E project.

After the introductions of persons in attendance, Kirk Bogen opened the meeting with a general overview of the project, including general location information and alternatives explored during the PD&E process (including no build, rehabilitation, and replacement alternatives). The US Coast Guard is the lead agency during the PD&E Study process although the USACE is being asked to be a cooperating agency. The recommended alternative for this project is a high level fixed bridge over a channel relocated approximately 400 feet northwards of the existing channel. Mr. Bogen explained that the primary reason for the relocation of the channel is that in order to have the 65' clearance at the channel required by the US Coast Guard (USCG) and to maintain the touchdown point at Madonna Blvd, a 6% grade would be necessary rather than the preferred grade of 5% if the bridge remained in its current location. The steeper grade is not preferable as the bridge has much RV and boat trailering traffic that would have to stop at the end of the steeper slope at the intersection. It was also noted that the bridge will also be used by pedestrians/cyclists. A profile of the proposed bridge with the relocated channel was shown. The FDOT will build this project through a design/build contract.

Megan Arasteh and Mark Gosselin (OEA) then presented the information from the recent bathymetric survey and pointed out the areas which would require dredging. The total length of the proposed relocated channel is 6000 feet. However, only 1400 feet would require dredging (12,000 cy). The existing channel is -20 feet mean lower low water (mllw). The proposed depth of the new channel would be -11 feet mllw.

Mr. Perez clarified that the required depth for the channel would be the design depth of -9 feet mllw with an additional -2 feet for dredging error. If the substrate being dredged is rock, the USACE will require an additional foot. Therefore, if the bottom is sandy, the required depth will be -11 feet mllw; if rocky, the required depth will be -12 feet mllw. He also caution that the angles of turns within the channel and where the proposed relocated channel would re-intersect existing channels should be no greater than the current angles and must meet engineering standards for navigational channels.

Mr. Beasley discussed that currently the existing channel is self-maintaining at its 20 foot depth. The USACE typically locates their channels in the deepest portions of water to reduce future maintenance needs. The USACE will require that any and all additional cost from relocating the channel to the proposed location will be the responsibility of the FDOT in perpetuity. Typically, the costs of the maintenance dredging would be established by the local sponsor and FDOT would provide funding to them (the USACE cannot accept funding from the FDOT). Normally that cost includes preliminary engineering as well as construction costs with a 15% contingency.

Mr. Perez stated that the FDOT would have to execute a maintenance agreement with the local sponsor stating that the FDOT will be responsible for all future costs associated with the channel. This agreement would be required even if the Sediment Transport Study indicated no future dredging would be needed. It was also noted that a post dredging survey is likely to be a requirement of the maintenance agreement. The proposed channel relocation would have to be presented to the West Coast Inland Navigation District (WCIND) and to the Pinellas County Public Works Department. If the either entity opposes the project, the USACE will not approve the relocation. Mr. Perez will be willing to attend a meeting with the WCIND to help us present the information. He strongly recommended that a meeting with WCIND be set up as soon as possible. Any agreement with the WCIND or Pinellas County may impact the existing Project Operation Agreement that the USACE currently has with WCIND. Mr. Perez indicated he would provide us with a copy of that agreement.

Dr. Gosselin (OEA) explained that the proposed Sediment Transport study would take the existing condition model and modify it to model the proposed channel. The model will run for two months to establish a sedimentation rate. Storm surges (50, 100, and 200 year events) will also be included in the model. He asked for clarification if monitoring of the channel would be a requirement of the maintenance agreement. Mr. Perez said that it would likely be incorporated into the agreement as USACE survey teams are not in that area frequently.

A disposal site for the dredge material could potentially be coordinated with WCIND. Most USACE dredge spoil sites are publicly owned.

Mr. Beasley clarified that the USACE would not review the Sediment Transport Study for approval of the channel (although the regulatory staff may require it for sea grass impact concerns). He will require an exact layout of the proposed channel and the perpetual agreement. He cautioned that we should also be aware of utilities that may be in the channel. The USACE will update their maps according to the information submitted. The USACE anticipates that the USCG will move the navigational channel markers, possibly charging FDOT for associated costs.

Mr. Hughes indicated that the potential for cultural resources would have to be coordinated with SHPO for the proposed channel relocation. He anticipated that a magnetometer survey would be required for the channel for potential archeological sites or artifacts.

Mr. Fellows indicated that from a regulatory standpoint the project would be similar to others except that there would be an extra layer of coordination with the USACE staff reviewing the relocation and that sea grass impacts from sedimentation could be a concern. Benthic communities could be an issue depending on what is found in the biological survey. He stressed that the alternative analysis should be clearly explained in the application. As per the USACE, sovereign submerged lands will be handled during

the permitting for the dredging activities. The USACE regulatory permit is not dependent on any other entity aside from the standard Water Quality Certification and feedback from the commenting agencies (US Fish and Wildlife Service, National Marine Fisheries).

The meeting adjourned. Mr. Perez will continue to assist us with coordination of the channel relocation.

ATTENDEES:

Name	Organization/Title/ Division	Email	Phone Number
Melanie Calvo	PBS&J/FDOT GEC for Enviromental Permitting	macalvo@pbsj.com	813-215-3532
Katasha Cornwell	FDOT/Assistant District Permits Administrator	katasha.cornwell@ dot.state.fl.us	813-975-6784
John Fellows	USACE/Tampa/Regulatory/ Biologist	john.p.fellows@ usace.army.mil	813-769-7067
Dan Beasley	USACE/Con-Ops/Navigation	dan.w.beasley@ usace.army.mil	904-232-2021
Luis R. Perez	USACE/Project Management	luis.r.perez@ usace.army.mil	904-232-1597
Rick Adair	FDOT/Environmental Administrator	rick.adair@ dot.state.fl.us	813-975-6447
Kirk Bogen	FDOT/District Project Development Engineer	kirk.bogen@ dot.state.fl.us	813-975-6448
Mark Gosselin	OEA/Coastal Engineer	mark@oea-inc.com	352-377-9524, Extension 105
Megan Arasteh	FDOT/District Drainage Engineer	megan.arasteh@ dot.state.fl.us	813-975-6162
Richard Powell	USACE/Planning	richard.b.powell@ usace.army.mil	904-232-1694
Brian Hughes	USACE/EN-Design	brian.n.hughes@ usace.army.mil	904-232-2520

Structure E Channel Relocations 1-25-08

Name	Organization/Title	email	phone
Melanie Calve	PBSJ/ECC FDOT/Sr Scientist		813 2153532
Katasha Cornwell	FDOT/Env Permit Coord	katasha.cornwell@dot.state.fl.us	813 975 6784
John Fellows	USACE - Regulatory/Biologist	john.p.fellows@usace.army.mil	813 769- 7067
Dan Beasley	COE/Con-ops/Navigation	dan.w.beasley@usace.army.mil	904-232-2287
Luis R. Perez	COE/PROJECT MANAGEMENT	LUIS.R.PEREZ@USACE.ARMY.MIL	904-232-1597
Rick Adam	FDOT/ENV. ADM.	Rick.Adam@dot.state.fl.us	813-975-6402
Kirk Bogen	FDOT/PTO Eng.	kirk.bogen@dot.state.fl.us	850 [illegible] x105
Mark Gosselin	OEA	mark@oea-inc.com	
Megan Arastehi	FDOT/District Design	megan.arastehi@DoT.State.fl.us	813-975-6162
RICHARD POWELL	USACE/PLANNING	Richard.B.Powell@usace.army.mil	904-232-1694
Brian Hughes	USACE/EN-DESIGN	brian.n.hughes@usace.army.mil	904 232-2520

M E M O R A N D U M

FLORIDA DEPARTMENT OF TRANSPORTATION
District Environmental Permit & Utilities Office, MS 7-820

DATE: March 7, 2008

TO: Attendees

FROM: Katasha Cornwell, Asst. District Environmental Permit Admin.

COPIES: Scott Collister, Scott Arnold, Tom Waits, Doug Reed, Sally Prescott

SUBJECT: Minutes for Meeting Regarding Federal Channel Relocation for Bayway Structure E (FM 4107551) March 6, 2008 at 10:00

Attendees: Katasha Cornwell, Duane Milk, Melanie Calvo, Amy Neidringhaus, Kirk Bogen, Tim Folsom, Megan Arasteh, Gabor Farkasfalvy, Mark Gosselin (OEA), Rene Perez (COE), Nicole Elko (Pinellas County) (Sign In Sheet attached)

A meeting was held on March 6, 2008 to follow up from the recent meeting with the US Army Corps of Engineers (USACE) held on January 25, 2008 and to present the proposed project to Pinellas County Department of Environmental Management (project sponsor). The intent of the meeting was to obtain feedback from the USACE and the County regarding the proposed channel realignment including the design, process for obtaining approval and any required agreements.

Kirk opened the meeting by explaining the recommended alternative from the PD&E report (shift the channel 400' north with a bridge at 5% grade) and the currently proposed alternative (shift the channel 175' north so that there is no "initial dredging" with a bridge at 5.6% grade). The bridge will have a 65' vertical navigational clearance and a 100' horizontal clearance. Kirk also explained the possibility of removing a section of the north causeway.

Kirk, Megan and Mark presented the currently proposed channel alignment with the four alternatives on the west end to tie back into the existing channel at Cut P-4 (see below). Again, it was stated that the intent is to have no "initial dredging". Megan explained that the preferred alternative would be Alt 4 which would start bringing the proposed channel back to the existing Cut P-4 (after the 1000' perpendicular alignment) without having to "touch" the other cuts. Rene indicated that the USACE would not likely look favorably on this alternative because it is more preferable to have a "straight shot" for marine safety and he recommended that the Department look at coming from the intersection of Cut P-4 and the existing channel and going straight across to the existing channel on the east side of the bridge (which would not be perpendicular to the bridge).

Rene discussed the review process with the Department. He stated that at a minimum, the Department's final report (which should be a "complete" submittal, showing our

preferred channel alignment) would have to be reviewed by Planning, Engineering, Real Estate, Operations and Legal. Once all offices agreed, then the USACE could approve the relocation. Rene also stated that in order to have any office review and provide comments on alternatives prior to the Department's "final report" the Department would be required to provide funding to the USACE, through the County, due to very tight budget constraints. Depending on the amount of review the Department requested, it might be anywhere from $10,000 to $15,000. Nicole indicated that she had no concerns with entering into a JPA for this funding. Once the funding is in place, Rene said that staff could then be assigned to review and provide guidance on various manuals and design criteria. Kirk asked about the possibility of using ETDM funding, but Rene did not think that funding would cover anything outside of the Regulatory (i.e. permitting) office.

Rene also suggested that the final report provide all of the angles in the channel calculated based on the appropriate design vessel. Rene will provide Megan with the design vessel and will let her know if the channel accommodates one way or two way traffic. Megan will send Rene a reminder e-mail per his request.

Mark provided the status of the sediment transport study. Models have been developed and storm surge runs have been done. They are working on the "wave climate" analysis. This information will be included in the study. Nicole discussed that the new bridge and the removal of the causeway would have some affect on the current condition, but that overall it may be positive.

Katasha requested clarification regarding the elevation that should be used if no "initial dredging" is required. Rene confirmed that an elevation of -11 mean lower low water would be appropriate if no dredging was necessary. The depth of the channel should not be bordered by steep drop-offs. The slope to elevations less than -11 feet should be gradual, per Rene. Rene stated that he would require a pre/post dredge survey to verify the channel elevations.

Duane discussed the "canal easement" that Survey and Mapping has found for the area. Rene stated that any existing easements would have to be replaced in-kind (or modified) until the existing easements are intersected (i.e. same width on each side of the new center line). A meeting with FDEP may be required.

Duane also asked whether or not a disposal site would be required now if no "initial dredging" was proposed. Rene indicated that the Department could state that a disposal site would be provided at the time dredging is required, but that the USACE would not likely look favorably on that and it would be in the Department's best interest to have a disposal site that could be referenced in the final report. The size and design of the disposal site may also need to be researched. No testing of sediment is required until dredging takes place.

Nicole reiterated that the channel is in Outstanding Florida Waters and an Aquatic Preserve and reminded the Department that any dredging would be highly scrutinized. The County does not have any disposal sites (they typically use geotubes and transport

the material off site). Also, due to the limited quantity of potential dredged material, Nicole said that the County would not entertain the idea of allowing sediment to be deposited at Egmont Key or Ft Desoto for beach nourishment. The Tampa Port Authority apparently does have a disposal site, but it may be cost prohibitive to transport sediment to that location. The Department will look into options.

Finally, the types of agreements and the order that the agreements would be written was discussed. Rene reiterated that whatever part of the channel(s) the Department relocates will be the Department's to maintain in perpetuity. The Department acknowledged that responsibility. Rene stated that the USACE and Pinellas County already have an agreement in place. Rene did not anticipate that this agreement would have to be modified, but he indicated that his Legal staff thought that an MOA specifically for this channel may be required. Rene stated that once the channel relocation was approved, then the USACE and the County could begin working on their MOA. An agreement between the Department and the County will also be required as the USACE cannot accept funds for dredging from the Department. Rene cautioned Nicole that she should not start drafting an agreement until the MOA with the USACE was completed. Nicole stated that she would like language in the agreement with the Department that will leave an option open for the Department to do the dredging (instead of the USACE) if necessary (i.e. if the USACE does not have funding or proposed work in the area).

ACTION REQUIRED:

1) **Megan to send Rene a reminder e-mail regarding the design vessel. DONE.**
2) **Amy to coordinate with Survey and Mapping and Tampa Port Authority regarding potential disposal sites. IN PROCESS (Steve Levine also investigating).**
3) **Kirk to follow up with Nicole regarding agreements she indicated she would provide to the Department. DONE (but no response back).**
4) **Katasha to update David Pelham and Terry Puckett regarding soil boring and sediment testing (i.e. not needed right now) for channel relocation. DONE.**

Bayway Structure E // FM 4107551
Alternatives for channel “tie in”.