

4. **Location of Activity:** The proposed Stumphole Revetment Improvements are located along the Gulf of Mexico and are bordered by parcels owned by Gulf County, the State of Florida, and Eglin Air Force Base. The parcel map is shown in the attached topographic/bathymetric drawings (Attachment "F") and the property owners are listed in Attachment "C".
5. **Proposed Activity:** The proposed Stumphole Revetment Improvements consist of reconstructing the existing revetment (3,300 feet) with a suitable sized armor stone to raise the level of storm protection offered to State Road-30E, the sole vehicular access and hurricane evacuation route to St. Joseph Peninsula. The proposed improvements consist of augmenting the existing revetment with properly sized armor stone that would remain stable during a 30- to 50-year storm event, including wave overtopping during peak conditions. The improvements would include raising the elevation of the existing structure to a constant +12 feet, NAVD 1988 along the "apex" of the structure (R-106) and +10 feet, NAVD 1988 along the northern and southern returns and re-grading the existing structure to provide a proper base layer and toe elevation to resist undermining due to scour.
7. **Purpose and Need of Activity:** In 1995, Hurricane Opal adversely impacted the beaches along St. Joseph Peninsula displacing thousands of cubic yards of sand and severely damaging the Stumphole Revetment, resulting in the washing out of State Road 30E and the removal of utilities within this area. Between 1995 and the present time, repetitive damaging storms have continued to erode the already depleted beaches and further damage the Stumphole Revetment, resulting in numerous repairs to both the revetment and SR-30E.

Given the continued erosion and the damaging 2004-2005 hurricane seasons, the revetment and SR-30E were both severely damaged due to improperly sized rock and overtopping of the structure. Furthermore, the shoreline erosion along the central portion of the structure has left portions of the revetment constantly exposed to wave attack. Since the latest reconstruction effort, the revetment has experienced mild levels of damage from recent (2007-2008) winter storm events and currently is quite unstable in some areas due to failure along the seaward face, resulting from toe instabilities and under-sized armor stone.

An analysis was performed to assess the level of storm protection currently offered by the existing structure and is included in Attachment "L" – Design Document. Upon inspection of the revetment, the stone material is primarily granite with an average diameter of approximately 1.5 feet, placed on a 1:2 (V:H) slope, however, portions of the revetment are currently at a much steeper grade, most likely due to toe failures. Using these parameters, an empirical model was employed to assess the existing capacity of the structure. The analysis predicted the revetment would remain stable for an approximate 5-10 year storm event, producing storm surge and wave heights on the order of 3 feet and 4 feet, respectively. Higher magnitude storm events would begin to overtop the structure and cause increasing levels of failure along both the seaward face and the crest. It is believed the primary causes for the low level of protection offered by the existing structure are the under-sized armor stone and the increasing water depths offshore of the structure (due to localized scour and profile retreat) causing slope instabilities.

Due to the relatively low level of storm protection currently offered by the existing revetment structure, there is a significant need to improve the existing revetment structure in order to provide a higher level of storm protection to both the SR-30E hurricane evacuation route and the utilities infrastructure.

9. **SSL Authorization Requested:** This application requests a Public Easement for the Stumphole Revetment Improvements (Chapter 18-21.005(1)(f), F.A.C.). Details of the proposed construction limits along with a survey and legal description are included in the attached topographic/bathymetric and SLL drawings (Attachment "F").

10. **Permits Issued:** Joint Coastal Permit numbers 0266819-001-JC and 0266819-002-EV have been issued for the St. Joseph Peninsula Erosion Control Project. The project began construction in late March and is anticipated to be completed in December, 2008 (terminating at DEP Reference Monument R-105.5).
11. **State Division of Historic Resources:** A recent historical resources survey titled, "*A submerged Cultural Resource Remote Sensing Survey of Sand Borrow Areas, Pipeline Alignments, and Shoreline and Target Testing off Cape San Blas and St. Joseph Peninsula, Gulf County, Florida*" (FDHR 1A-32 Permit Number 0607-60) was completed in the summer of 2007 in which the offshore survey along the beach extended into a portion of the revetments' proposed boundaries (southern end of the survey boundaries). The results of that survey found that the nearshore area was littered with numerous small targets that were found to be associated with modern debris likely from past storm events and not that of shipwrecks or other significant submerged cultural resources.

Due to the relatively small impact associated with the improvements to the revetment, which will further protect a necessary hurricane evacuation route for the residents of St. Joseph Peninsula, a concurrency letter has been requested from the State Division of Historical Resources stating the improvements to the existing revetment will not harm or disturb existing cultural resources located in the vicinity of the existing revetment (Attachment "D"). SHPO has agreed with our opinion that the improvements to the existing Stumphole Revetment will not detriment or harm existing natural resources (Personal Communication, Laura Kammerer (7/7/2008)). The approval letter has been received and is attached in Attachment – "D"..

12. **Erosion Control Line (ECL):** An ECL was documented from FDEP Reference monument R-67 to R-105.5 for the St. Joseph Peninsula Erosion Control Project. The ECL extends into the northern limits of the proposed project and is shown in the attached permit drawings and topographic/bathymetric survey (Attachments "B" and "F").
13. **Sovereign Submerged Lands:** A title determination conducted by the Division of State Lands has been requested and is attached (Attachment "E"). From the title determination, it has been determined that "all lands lying below the mean high water line at the project site are state owned."

This application requests a Public Easement for the Stumphole Revetment Improvements (Chapter 18-21.005(1)(f), F.A.C.). Details of the proposed construction limits along with a survey and legal description are included in the attached Submerged Land Lease drawing (Attachment "F").

14. **Title to Riparian Upland Property:** The construction limits of the proposed revetment improvements begin along the northern (upland) portion of Parcel 06268-360R, owned by the State of Florida DOT and extend south into Parcel 06268-400R, owned by Gulf County, FL and Parcel 06268-401R, owned by the State of Florida. The remaining portion of the project extends along sovereign submerged lands of the state, with no upland riparian ownership, into Parcel 06283-000R, owned by the U.S. Government. The parcels are shown in the attached topographic survey (Attachment "F").
15. **Existing and Proposed Upland Uses and Activities:** The project area where the revetment improvements will be constructed consists of State and County owned public lands. There are no proposed changes to the currently existing upland uses or activities.
16. **Property Owners:** Attachment "C" contains a list of names and addresses of all riparian property owners within 1,000 feet and a 500 foot radius of the proposed activity. Also included is list of adjacent property owners.
17. **Legal Description:** Attachment "F" contains a signed and sealed survey including a legal property description and acreage of the proposed public easement. The proposed easement consists of

the area seaward of the existing Mean High Water Line (MHWL) to 20 feet beyond the limits of the proposed construction (toe of revetment).

19. **Local Comprehensive Plan:** Gulf County is the local government having jurisdiction over this proposed activity. Attachment "G" contains a Letter of Comprehensive Plan Consistency from Gulf County.
20. **Topographic and Bathymetric Survey:** Two copies of the topographic and bathymetric survey drawing of the proposed project site in accordance with Rule 62B-41.007(1)(h), F.A.C. are found in Attachment "F".
21. **Wetland Boundaries.** A wetland delineation was performed by Garlick Environmental Associates, Inc in June, 2008 to determine any probable impacts due to the construction or staging of equipment. The attached report, *Stumphole Ecological Services*, (Attachment "I"), documents the findings of the survey and includes a description of how the wetland boundaries were determined.
22. **Existing Structures:** Although there are no existing structures or utilities within the footprint of the proposed revetment improvements, existing structures and utilities immediately north and east of the project limits are shown in the attached Topographic and Bathymetric Survey - Attachment "F".
23. **Construction Plans (24" by 36") and Specifications:**
 - a) **Plan View:** Attachment "H" contains 24" by 36" construction drawings depicting the project in planview superimposed on 2007 Labins aerials at 1" = 50' scale. There are no significant geographical features or natural communities within the footprint of the proposed activity.
 - b) **Cross-Sectional Views:** Attachment "H" contains 24" by 36" construction drawings depicting the March 2008 (existing) profiles, proposed construction template, and mean high water line (MHWL). There are no significant geographical features or natural communities within the footprint of the proposed activity.
 - c) **Construction Details:** The methods used to construct this project will highly depend on the material transportation methodology as well as contractor preferences. With the completion of the St. Joseph Peninsula Erosion Control Project, it is anticipated a significant portion of the project may be constructed from the dry beach, immediately seaward of the existing revetment structure.

It is assumed grading of the existing profile to the proposed conditions and placement of rock will be carried out with a long-arm excavator with a bucket and/or a crane with grapple. If the equipment will be water-based (from a barge), it is most likely that the rock and construction equipment will all be contained within the barge(s). If work is carried out from land, it is assumed the rock will be scheduled to be placed along the seaward face of the revetment or along the eastern side of the roadway. If rock is placed along the eastern side of the road, proper setbacks, construction fencing and erosion control measures will be placed along any wetland boundaries. Furthermore, if barge equipment is utilized, scheduling and lighting plans will be provided.
24. **Construction Plans (8-1/2" by 11") and Specifications:** Attachment "B" contains 8-1/2" by 11" permit drawings. The 8-1/2" by 11" construction drawings will be forward to DEP once the construction drawings have been finalized.

25. **Project Aerials:** Attachment “K” contains aerial maps of a scale of 1" = 200' depicting the project boundaries, DEP Reference Monuments, major landmarks, natural communities, and special aquatic sites within the project boundary and a minimum of 1/4 mile in both shore parallel directions of the project limits. The images are 2007 Aerials obtained from Labins.org.
26. **Construction Schedule:** Project bidding is anticipated to begin in October 2008 in order to have a contractor selected and under contract by November 2008. Construction is proposed to begin in November 2008, after turtle nesting season, and be completed by March, 2009. The start date may vary based on the compilation and analysis of sea turtle nesting and shore bird surveys which will document the spatial and temporal distribution of these species. No phasing is proposed at this time
27. **Geotechnical Assessment:** Not Applicable. There will be no net sediment removal or placement within the project limits.
28. **Natural Communities:** Refer to Attachment “I” which contains an Environmental Assessment of the proposed activity prepared by Garlick Environmental Associates, Inc. The report contains a discussion of the Natural Communities as categorized by the Florida Natural Areas Inventory (FNAI). The Environmental Assessment prepared for the St. Joseph Peninsula Erosion Control Project is also included in Attachment “J”.
29. **Threatened and Endangered Species:** Refer to Attachment “I” which contains an Environmental Assessment of the proposed activity prepared by Garlick Environmental Associates, Inc. The report contains a discussion of occurrence, density, and location of threatened and endangered species. Also referred to Item 31 below.
30. **Wildlife Surveys:** Refer to Attachment “I” which contains an Environmental Assessment of the proposed activity prepared by Garlick Environmental Associates, Inc. A Biological Opinion and Environmental Assessment for the St. Joseph Peninsula Erosion Control Project was also prepared by the U.S. Fish and Wildlife Service May, 2007 and is included in Attachment “J” The Aquatic Preserve staff is currently conducting shore bird surveys, the Park Service is conducting beach mice surveys, and sea turtle nesting monitoring along the entire peninsula is ongoing. The results of the Shorebird surveys have been posted to the following location: <http://ebird.org/content/ebird>.
31. **Biological Opinion:** A Biological Opinion has been prepared by U.S. Fish and Wildlife Services for the St. Joseph Peninsula Erosion Control Project, and includes the entire project limits for the beach nourishment plus the northern extent of St. Joseph Peninsula State Park and additional habitat areas for nesting birds and turtles along Cape San Blas. The Biological Opinion is included in Attachment “J” along with the Environmental Assessment prepared for the Erosion Control Project.
32. **Fisheries, Diving and Recreational Uses:** The project area is utilized for recreational surf fishing and beach use, including snorkeling. And except for the temporary displacement of these uses during construction, there would be no long-term negative impacts to recreational fishing or snorkeling. No commercial fishing occurs within the nearshore area and would not be impacted by this project. The Environmental Assessment (Attachment “I” and “J”) as well as the Biological Opinion (Attachment “J”) provide a summary of the Marine Life, Benthic Communities, and Essential Fish Habitat within the project area. It should also be noted that the addition of the rock will provide additional habitat to existing fisheries and benthic communities and any benthic communities displaced during construction are expected to rebound within a relatively short period of time within the project area and upon the newly placed rock.

Although diving is popular in this region, the nearshore area is not typically used by divers. The nearshore area is generally too shallow and the surf rough at times.

33. Impacts to the Coastal Systems Analysis:

- a) Attachment "L" – Stumphole Revetment Improvements Design Document, includes performance objectives of the proposed project, design parameters and assumptions, relevant computations and data used in the design of the proposed revetment structure.

From the updated sediment budget analysis presented in the "*St. Joseph Peninsula Erosion Control Project, Preliminary Design Document*" (MRD, 2006), a littoral transport nodal point is predicted to occur in the vicinity of the proposed project limits. The recent topographic and bathymetric survey (shown in the permit drawings) shows shoreline recession immediately north and south of the existing revetment. A localized scour hole is located near the apex of the revetment with a slightly deepened area extending to the north. This downdrift impact is most likely a direct effect of the offshore extent of the existing revetment and southerly incident wave energy from recent storms shifting the transport nodal point to the south. This nodal point will migrate seasonally as well as annually and is a direct function of the incident wave energy. The current offshore extent of the existing structure may also have an effect to increase the cross shore and longshore transport potential (due to the structure protruding into the littoral zone) within this localized area.

Given the relatively small increase in the proposed footprint and seaward extension of the MHW line of the proposed improvements beyond the existing conditions, it is anticipated the proposed project will have minimal impact beyond the existing coastal conditions. Although the toe of the proposed revetment will extend approximately 20 to 30 feet beyond the existing revetment limits (near the northern extent of the revetment), it will be placed below existing grade such that the seaward face of the structure is generally the same distance offshore.

Furthermore, upon the completion of the St. Joseph Peninsula Erosion Control Project, it is anticipated the structure's seaward face and toe will become partially or completely buried due to the spreading of the beach fill. It is also anticipated that the offshore bar system will become replenished which may increase the longshore transport bypassing within the vicinity of the revetment. The nourishment is anticipated to terminate near the northern limits of the proposed improvements (Reference monument R-105.5), and will extend the beach berm approximately 225 to 250 feet within the vicinity of the revetment.

- b) Not Applicable.
- c) Not applicable. There is not a tidal inlet within the influence of this project.
- d) Given the relatively small footprint of the proposed project extending beyond the existing revetment, it is assumed the existing benthic habitat within this area will rebound within a relatively short period of time. Furthermore, the rock will provide additional habitat for the benthic communities. There are no SAV within the proposed project limits or within this general area of St. Joseph Peninsula.

The preferred material for the proposed improvements is a high-density granite or limestone rock which will be required to be washed and free of debris prior to placement

below the MHWL to reduce the potential for increased levels of turbidity. Furthermore, given the rough sea conditions within the vicinity of the proposed improvements, it is anticipated the sediment that will be re-graded within the project limits is all clean, well sorted sand and will not result in increased turbidity levels.

e) Not applicable. There is not a tidal inlet within the influence of this project.

34. Erosion, Sediment and Turbidity Controls: It is not anticipated State water quality standards will be violated for the following reasons:

1. The placed rock will be required to be high density (low absorption) rock which will be washed and free of dirt and debris prior to placement.
2. The material to be excavated is anticipated to be clean, well sorted sands given the high energy wave climate.
3. The construction will commence immediately after the on-going beach nourishment project is completed, which will allow the majority of the work to be completed "in the dry." During the "dry" construction, turbidity screens will be placed near the shoreline or in the immediate vicinity of the excavation site to ensure turbidity levels are not exceeded.
4. Turbidity screens will not be effective during mild to high sea conditions. Furthermore, high velocity currents are present along the Stumphole area and would further dissipate any probable turbidity. If calm sea conditions persist, turbidity screens will be placed along the construction limits.

Erosion control measures and construction fencing will be placed along the wetland boundaries on the east side of SR-30E should the area be used for construction staging, material storage, etc.

35. Protection of Threatened and Endangered Species: Currently there is not an existing beach suitable for sustaining endangered species (i.e. sea turtles, shorebirds) within the proposed limits of construction. The toe of the existing revetment is consistently inundated.

36. Necessity and Justification: The primary goal of the proposed Stumphole Revetment Improvement Project is to provide an increased level of protection to State Road-30E, the sole vehicular access and hurricane evacuation route to St. Joseph Peninsula. As a secondary goal, the revetment is designed to remain stable during severe storm events, reducing the reconstruction and maintenance efforts for both the revetment structure and the roadway. Once completed, it is anticipated the existing benthic communities will recolonize in a relatively short period and the rock structure will serve as a significant habitat area for numerous fisheries species and benthic communities.

37. Mitigation Plans: No mitigation is anticipated for this project. At this time, the staging areas and construction access to the beach will be over and thru sandy areas void of vegetation. After completion of the project, these areas will be restored to pre-project conditions that will be similar or in more pristine state. There are no natural communities within the influence of the project area such as sea grass beds, hard bottom or coral reefs, thus no impacts requiring mitigation.

38. Analysis of Alternatives: The report entitled, "Hurricane Evacuation Route and Beach Management Plan on St. Joseph Peninsula," prepared by Coastal Tech, Inc. and Preble-Rish, Inc., November, 1998, outlined 4 alternatives to provide protection to SR-30E. The alternatives that were assessed are:

Alternative 1: "No Action."

Alternative 2: Road Relocation. Relocation of the existing roadway away from the shoreline, into the aquatic preserve.

Alternative 3: Road Enhancement. The existing roadway would be raised and the armoring along the seaward boundary would be enhanced.

Alternative 4: Road Replacement with a Bridge. Replacement of the seaward-most portion of SR-30E with a concrete bridge

Section 3.6. of the report provides a summary of these Alternatives. In general, it was determined that both Alternative 2 and 3 would provide a higher level of storm protection, however the shoreline would continue to erode and the road would once again become vulnerable to severe storm events. Alternative 4 was shown to potentially provide the highest level of storm protection, however, would include significant environmental impacts and resulted in the highest initial cost. From Section 6.4 of the report, it was recommended that the existing rock along the revetment be augmented with suitable armor stone as a short-term solution and relocation of the roadway and/or incorporation a bridge section be pursued as a long-term goal.

Due to the damage to the roadway and revetment from recent storm events, additional forums and meetings have been held between the local government and FDOT further discussing these options. It has been determined that building a bridge across the aquatic preserve was cost-prohibitive and FDOT has allocated funding to augment the existing revetment with suitable armor stone such that the revetment provides an increased level of protection to the roadway and shall remain stable during severe storm events.

- 39. Permit Fee:** Gulf County is applying for a fee reduction based on fiscal hardship. Attachment "M" includes a letter from Gulf County outlining the requirements as set forth in Chapter 218.075, F.S.