



# RESTORE Act Interest Form

Please fill out the form below to express your interest in funding a project or proposal from the RESTORE Act.  
(Additional pages may be used, if needed.) Completion of this form does not guarantee funding.

Project Name: **North Belle Meade Spreader Swale**  
Project Sponsor: **Collier County Natural Resources**  
Contact Person: **Jerry Kurtz**  
Address: **2800 N. Horseshoe Dr., Naples, FL 34104**  
Phone: **(239) 252-5860**

Email: **GeraldKurtz@colliergov.net**

Project Type according to the **Allowable Uses** for RESTORE Act Funds:

- *Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region*
- *Mitigation of damage to fish, wildlife, and natural resources*
- *Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring*
- *Workforce development and job creation*
- *Improvements to or on State parks located in coastal areas affected by the Deepwater Horizon oil spill*
- *Infrastructure projects benefitting the economy or ecological resources, including port infrastructure*
- *Coastal flood protection and related infrastructure*
- *Activities to promote tourism and seafood in the Gulf coast region*

The Board of County Commissioners has adopted **Guiding Principles** relating to project proposals:

1. *Projects provide positive environmental and economic benefits, including job creation.*
2. *Projects are consistent with local government comprehensive plans and community priorities.*
3. *Projects incorporate other funding partners to fully leverage grant resources.*
4. *Projects meet the funding criteria set forth in the RESTORE Act.*
5. *Projects selected will be diverse and address all our community's eligible needs, including coastal and ecosystem restoration and development, flood protection, and tourism promotion.*

Project location (attach map if applicable):

Project Description (describe how the proposal applies to an **Allowable Use** & a **Guiding Principle**)

Total Cost: Additional Funding Partners or sources of matching funding if available (RESTORE Act funds):

Suggested implementation timeline:

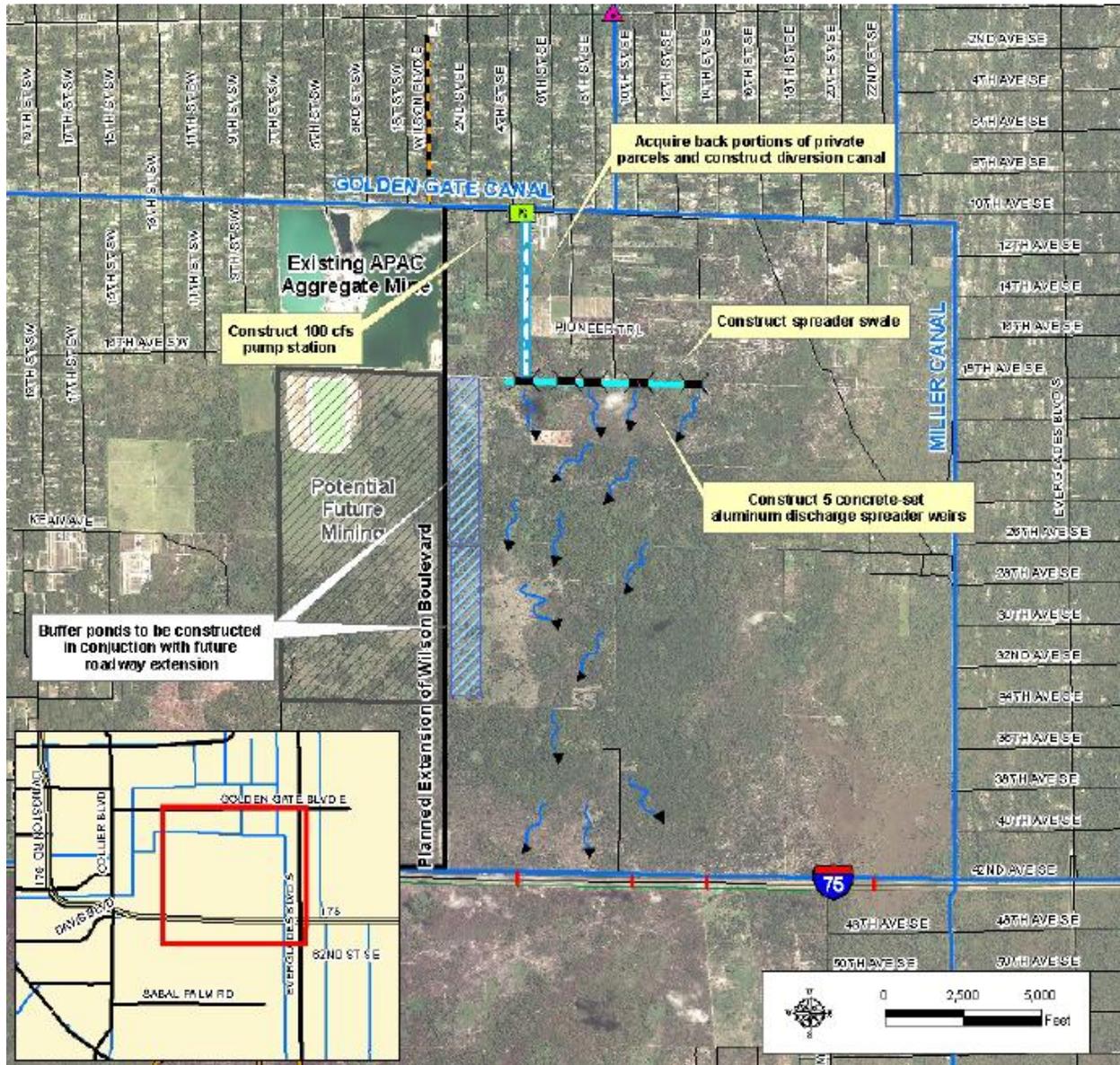
Mail completed form to:

William Lorenz, Director  
Natural Resources Department  
2800 North Horseshoe Drive  
Naples, FL 34104

For additional information please call 239-252-2951 or 239-252-8113

## PROJECT LOCATION:

The North Belle Meade area is the area generally surrounded by Golden Gate Estates to the north, east, and west and I-75 to the south. To the north is the Golden Gate Main Canal and Golden Gate Boulevard. To the east is the Miller Canal and Miller Boulevard. To the south is I-75 and the adjacent borrow ditches or canals on both the north and south sides. To the west is some Estates area and some open area eventually bounded six miles to the west by Collier Boulevard.



## PROJECT DESCRIPTION:

Over the past 50 years, the Naples Bay watershed has experienced significant development which has altered not only the direct shorelines and natural resources within the bay, but also the entire watershed through dredge-and-fill operations and channelization projects. These projects have expanded the watershed of Naples Bay from what was once about 10 square miles to about 120 square miles today. As a result, both Naples Bay and Rookery Bay estuaries are currently threatened by seasonal variability in freshwater discharges. (**Allowable Use #2**)

The North Belle Meade Spreader Swale project (AKA North Belle Meade Rehydration) includes planning, design and construction of appropriate infrastructure to divert up to 1,000 cubic feet per second (cfs) of surface water flow from the Golden Gate Main canal south into the Northern Belle Meade area (graphic above - incorrectly indicates a 100 cfs diversion). Different flow diversion amounts will be considered and could be phased in over time. This facility would be used primarily during the rainy season to reduce flow in the Golden Gate Main Canal currently going west to the Gordon River and Naples Bay. Diverted surface water would flow south through the Northern Belle Meade area toward South Belle Meade and Rookery Bay. Project considerations are still being conceptually evaluated. Possible scenarios to be considered include a pump station to assist the diversion, a spreader swale, an overland flowway, and conveyance through existing and future quarry mining lakes. (**Allowable Use #6**)

In Naples Bay, the reduction in freshwater flow will improve habitat for sea grasses, improve salinity and reduce nutrient levels in the freshwater flowing from the Golden Gate Canal. These improvements will be enhanced in proportion to the freshwater flow reduction of 10 percent and will provide treatment of the diverted water in the wetland systems. Attachment A is an estimated pollutant loading reduction calculation. Rookery Bay has experienced similar impacts to natural resources resulting in this case from the dry-season deficit of freshwater discharge. This diversion project will result in similar improvements to coastal/marine resources resulting from the increase of freshwater flow by about 19 percent. Furthermore, as estuaries and sea grass beds provide habitat for a variety of fish and invertebrate species, the diversion of freshwater discharge will in turn result in marine life habitat improvements in both bay systems. (**Allowable Use #1, Guiding Principles #1 & 5**)

This project has been conceptually designed by several partners including the SFWMD and in the Collier County Watershed Management Plan. (**Guiding Principles #2 & 3**)

The spreader swale project requires additional design and the construction of a pump station, swale, and weirs, all of which will support Collier County's existing workforce or result in new job creation. (**Allowable Use #4**)

This project falls within eligible activities listed in the RESTORE Act which incorporated as "allowable uses" by Collier County. This project was also determined to meet RESTORE Act funding criteria during the National Estuary Programs' Southwest Florida Regional Ecosystem Restoration Plan project ranking process. (**Guiding Principle #4**)

#### **TOTAL COST:**

The total cost of this project has been estimated to be between \$7 to \$14 million dollars. These estimates are based on conceptual level project evaluation and development. Cost considerations for land acquisition which may be necessary to ultimately construct this project have not been included in these estimates. Future development of project concepts will refine project estimated costs and necessary land requirements.

#### **SUGGESTED IMPLEMENTATION TIMELINE:**

Should Restore Act funding be appropriated to this project the next effort would be further development of the conceptual plans. This will include input from project stakeholders. Once the best alternative has been selected, construction level drawings, permitting and land acquisition will be completed. The estimated timeframe for this process through construction completion is currently 3 to 5 years.

# Attachment A

## Belle Meade Rehydration Pollutant Load Reduction Calculations

Source: Collier County Watershed Management Plan Technical Documents, Dec. 2011

Water Quality (Losses portion)	GGCAT951 (Median "wet season") Pollutant Loading (mg/L)	Complete Removal Removal Efficiency	Flow before losses Flow volume (ft <sup>3</sup> /yr)	From GG Canal Load Removed (lbs/yr)
Pollutant loadings to the wetland				
	N 0.73	50%	725,760,000	16533
	P 0.031	50%	725,760,000	702
	TSS 2	50%	725,760,000	45296
<b>Water Quality (Wetland Treatment Portion)</b>				
Detention Time = Shallow Concentrated TC				
Flow length = 18000 ft				
Total hydraulic drop = 2.5 ft (11.0 to 8.5)				
TC = 26.29 hrs (1.1 days)				
Detention Time / 14 Days * Wet Detention Removal = Efficiency				
	N 0.73	0.024	725,760,000	779
	P 0.031	0.051	725,760,000	72
	TSS 2	0.063	725,760,000	5694