

FLORIDA GULF OF MEXICO RESTORATION

PROJECT SUBMITTAL FORM

Form Purpose and Instructions:

- To assist the project proposal and review process, please complete this Submittal Form. Completion of the Form will contribute to the appropriate information being completely and accurately submitted for each project.
- Take as much space as needed for each question, but please keep responses as focused as possible. It may assist you to review all the questions before addressing any one question.
- Please submit one Form per project, if you have multiple projects - please submit one Form for each project.
- Please submit completed Forms to Restoration.Projects@dep.state.fl.us. Once your Form is successfully submitted, you will receive a confirmation email from the Florida Department of Environmental Protection.

Project Name:

Contact Information *(Include at least one name, phone number, email address, and organization name if applicable):*

Project Location *(Include a map, if possible, and the city, county, longitude/latitude, and watershed):*

Project Description *(Describe all aspects of the project):*

Estimated Project Costs *(Describe the estimated costs of the project, including any assumptions for contingency and ongoing operations/maintenance. Identify other secured funding sources such as matching funds, in-kind contributions or state/federal dollars. In addition, if possible, complete and submit the Cost Appendix Sheet associated with this Form):*

Other Funding *(Indicate if the project is submitted for any potential funding or if it may be used to leverage additional funding, if so please describe the funding source [e.g. State/Federal Grants]):*

Technical Feasibility *(Describe the technologies involved and any relevant past experience or proven success with similar projects):*

Environmental Benefits *(Describe the nature, magnitude, and timing of any environmental benefits attributable to the project. If possible, describe potential environmental performance measures [e.g. pollutant reduction]. Please address any potential environmental impacts associated with implementing or maintaining the project [e.g. loss of a habitat or conversion of habitat from one type to another during implementation]):*

Economic and Social Benefits *(Describe the economic and social benefits including those related to the project's improved ecosystem services and any estimates on jobs created or preserved):*

Community Resilience *(Describe if the project assists Florida's ability to anticipate, withstand, or recover from hazards or threats [e.g. hurricane preparedness, establishing living shorelines]):*

Conflicts or Complements to Existing Efforts *(Describe any ongoing activities in the project implementation area, if the project is part of another plan, and why the project does or does not interfere with that work. Please consider how the project may complement existing local, regional, and state efforts/plans/objectives):*

Complies with Federal, State, Local, and Tribal Laws/Regulations *(Describe any concerns or potential conflicts):*

Readiness for Implementation *(Describe if the project has had any design or permitting work started or completed [attach permits or design work]. Please address any issues that may delay start or finish of the project):*

Public Acceptance *(Describe any known or potential public approval or opposition to the project):*

Additional Information you wish to provide *(Please include any maps, designs, drawings, photos, or background resources that may assist in completely and accurately understanding the project):*

Cost Appendix Sheet	
Cost Item	Cost Estimate
Planning	
Planning Subtotal:	
Construction	
Construction Subtotal:	
Monitoring	
Monitoring Subtotal:	
Project Cost	
Subtotal:	
TOTAL:	

Estimated Costs by Year	
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	

TABLE 1**ENGINEERS OPINION OF PROBABLE COST TO ADDRESS DRAINAGE ISSUES**

No.	Description	Unit	Quantity	Unit Price	Total Price
1	Mobilization	LS	1	9%	\$ 178,004.07
2	Maintenance of traffic, includes costs to provide concrete barricades, warning signs, temp. barricades, crash cushions, gravel for driveways and relocation and maintaining mailboxes and signs until replaced with new ones.	LS	1	6%	\$ 118,669.38
3	Clearing, Grubbing, demolition, other relative misc. items (1 AC)	LS	1	5%	\$ 98,891.15
4	Synthetic Bale	LS	1	2%	\$ 39,556.46
5	Silt Fence Staked (Type III)	LS	1	2%	\$ 39,556.46
6	Table 2 Existing Pipes/Upgrades			\$ 337,307.34	\$ 337,307.34
7	Table 3 Basins needing outlets			\$ 256,011.84	\$ 256,011.84
8	Table 4 Additional Improvements Needed			\$ 267,283.80	\$ 267,283.80
9	Table 5 Proposed Pond Treatments			\$ 1,067,220.00	\$ 1,067,220.00
10	Unforeseen Pipe & Structure Relocation/Replacement	LS	1.0	\$ 50,000.00	\$ 50,000.00
11	Contingency	LS	1.0	15%	\$ 296,673.45
	<u>TOTAL ESTIMATED PROJECT COST</u>				<u>\$ 2,749,173.95</u>

**TABLE 2
EXISTING STORM ANALYSIS FOR 10YR 24 HR STORM EVENT**

Drainage Basin	Flows to Basin	Flows Under	Existing Pipe Size (in)	Approximate Length (LF)	Area in Basin (Ac.)	Approximate Slope of Pipe (S)	Q (cfs)	D needed (ft)	Pipe Size is Adequate	Comments	Total Cost	Priority Order
A	N	SR 10	36	70	18.3	0.025	40.1	2.14	Yes	There are no historical drainage issues associated with this structure.	\$0.00	
B	O	SR 10	24	70	28.8	0.025	63.1	2.53	Yes, due to the amount of natural storage in the area		\$0.00	
C *	Q	SR 10	42	230	221.6	0.026	326.9	4.66	No, the pipe needs to be upgraded to a Dbl. 42"	There is historical issues with this culvert being unable to handle the flows and overtopping SR 10.	\$68,673.18	Y-C
E ₁	E ₂	Cemetery	36	64	41.5	0.025	90.9	2.91	Yes		\$0.00	
F	E ₂	Third Ave.	20	30	26	0.030	56.9	2.36	No, needs to be upgraded to a 30"	Basin F flows to Basin E2 until bypass occurs, then flows to Basin J	\$7,928.32	B-E
E ₂	S	SR 10	Dbl. 42	90	113.5	0.026	248.6	4.22	Yes	To Remain as is	\$0.00	
J	T	SR 10	30	90	25.5	0.025	55.8	2.42	Yes	To Remain as is	\$0.00	
L	M	Legion Rd.	Dbl. 24	96	30.2	0.025	66.1	2.58	Yes	To Remain as is	\$0.00	
M	W	SR 10	24	90	107.8	0.001	236.1	7.52	Yes	Due to the amount of manmade storage in the area, the pipe is adequately sized so that SR 10 is not overtopped.	\$0.00	
N	McKeown Mill Box	Old Spanish Tr.	24	66	48	0.023	105.1	3.11	No, needs to be upgraded to a 36"	Existing Pipe size is inadequate. This pipe connects to a 30" pipe approximately 5' downstream which will need to be upsized as well.	\$21,626.59	P-B
P	McKeown Mill Box	Old Spanish Tr.	24 & 36	42	10.6	0.017	23.2	1.88	Yes	To Remain as is	\$0.00	
Q	McKeown Mill Box	Old Spanish Tr.	Trip. 48	60	262.9	0.023	575.8	5.88	Yes	To Remain as is	\$0.00	
S *	U	Church St.	Dbl. 36	32	128.3	0.025	208.5	3.97	Yes	To Remain as is	\$0.00	
U *	X	Third Ave. & Old Spanish Trail	8'x3.1'cbc	62	144.4	0.022	234.7	4.25	Yes	To Remain as is	\$0.00	
V *	X	Old Spanish Tr.	3'x2' cbc	40	27.6	0.025	62.8	2.53	Yes	Due to the minimal size of the downstream pipe under R/R, this pipe backflows into the surrounding homes. A pond was dug by the City to help attenuate this flow, however, as shown in the photos, the pond filled up and still flooded the near by homes.	\$0.00	
X *	Y/Hunter Dr. Pipe	R/R	24 & 30	40	175.6	0.007	342.4	6.11	No, needs a 7' x 5' cbc or equivalent steel casing pipes allowed by the R/R	These pipes are extremely undersized and the cause of homes being flooded. There should also be some ditch armoring for erosion protection.	\$105,840.00	B-D
Y/Hunter Dr. Pipe	Ham Pond	Hunter Drive	48	68	194.4	0.008	379.1	6.22	No, needs a 7' x 5' cbc	This pipe needs to be upgraded when the pipe upstream is upgraded.	\$61,233.13	B-C

**TABLE 2
EXISTING STORM ANALYSIS FOR 10YR 24 HR STORM EVENT**

Drainage Basin	Flows to Basin	Flows Under	Existing Pipe Size (in)	Approximate Length (LF)	Area in Basin (Ac.)	Approximate Slope of Pipe (S)	Q (cfs)	D needed (ft)	Pipe Size is Adequate	Comments	Total Cost	Priority Order
McKeown Mill Box	Ham Pond	McKeown Mill Rd.	4'x8' cbc	68	321.5	0.025	704.1	6.26	No, needs the equivalent upstream pipe of 8'x8' cbc	There is a larger area flowing to this pipe than shown in the table. Due to a large amount of natural storage, more detailed analysis needs to be performed. However, there is documented drainage issues with this cbc, but the upstream 8'x8' cbc appears adequate.	\$72,006.13	P/Y-B
Total											\$337,307.34	

$C_{avg} = 0.25$ Rainfall Intensity for a 10yr 24 hr storm event
 $L = 8.76$ C/A Flow rates for storm event using the Rational Method
 $Q =$ Manning roughness coefficient (if pipe material unknown, 0.014 assumed)
 $n =$ 1.33 (nQ/S)^{3/8} Diameter of pipe needed
 $D =$ Note: *In the larger basins, a time of concentration was figured using the critical flow path. This reduced the rainfall intensity used in the flow rate calculation.

Basin Groups
 P- Pink R- Red B- Blue Y- Yellow PU- Purple

**TABLE 3
BASINS WITH NO OUTLET**

Drainage Basin	Area in Basin (Ac.)	With Additional Contributing Basin Area (Ac.)	Comments	Recommend	Impacts to Downstream	Cost	Priority Order
D	2.2		This is a low area within Basin C that holds water. It is a residence.	Needs 600' of 15" pipe, a Type C DBI and a MH to daylight the drainage to the City ditches.	The additional 2.2 acres of runoff will have minimal impact on Basin C and not affect the proposed design.	\$ 39,690.00	After Y-C
G	207.6		Basin G flows to a low area on the Easterly side of Legion Road. An attenuation pond has been constructed to help with the flooding problem.	No action is needed.		\$ -	
G (a)	3		This is a sub basin of Basin G with no outfall for the area. It is stopped up by the roadway.	Construct 80' of 15" CD pipe under Pope Street to drain area closed in by the roadway.	Minimal impact to the attenuation pond constructed.	\$ 4,536.00	Pu-A
H	22.9		Basin H flows to the low residential area shown. There is no cross drain under Hawley Street. During a storm event, water was observed overtopping Hawley Street to one of the two low areas in Basin I.	Construct 50' of 18" CD pipe under Hawley Street.	Basin H area will be added to Basin I. Drainage issue will need to be addressed in Basin I before corrective action is taken.	\$ 3,465.00	After B-G 5th
I	9.9		Basin I has three low areas. The first is on Adams Street where it was measured staging up 4" on the road. The second and third are residences. One residence has experienced flooding in their home.	Construct 382' of drainage ditch to convey the stormwater to a proposed drainage structure under Adams Street that will then be utilized 620' of 18" storm sewer to outfall to the 30" Pipe under SR 10.	Basin I area will be added to Basin T. The 30" CD under SR 10 will need to be upgraded to a 36" pipe and Basin T drainage issues will need to be addressed prior to Basin I proposed drainage fix.	\$ 48,963.60	After B-G 4th
K	11		The stormwater in Basin K flows down to a tiny ditch area and then backs up into residential areas. There is no outfall structure under Hawley Street to convey the stormwater further south.	Construct 857' of ditch along Hawley then south along Oak Ave. and then east towards Legion Road. This will require 50' of 18" CD under Hawley and approximately 105' of residential SD's.	This will increase the impacts to Basin M and Basin W. Drainage improvements for Basin W should be performed prior to improvements to Basin K.	\$ 20,997.90	After R-B
O	2.1	30.9	Currently there are no known issues with Basin O. The stormwater from Basin B appears to be captured in a natural pond.	No action is needed at this time.		\$ -	
R	4.3		Currently there are no known issues with Basin R. The stormwater from Basin R appears to be captured in a natural pond.	No action is needed at this time.		\$ -	
T	1.3	26.8	The stormwater from Basin J flows to Basin T. It is a low area within Basin V. There is a residence and the Old Skate Town which have experienced flooding in the buildings. The FDOT constructed three swales on the northerly side of SR 10 in 2007 to help with this issue, but not completely alleviate the problem.	Needs 780' of 36" pipe, to help with drainage issues in the area, and to support additional flows that could potentially flow to it from Basin H and Basin I if those areas are fixed.	Basin T is located within Basin V which currently has extreme flooding issues due to the insufficient capacity of the pipes under the R/R. Basin V issues should be addressed prior to any improvements made upstream.	\$ 65,268.00	After B-G 1st
W	112.7	220.5	This Basin has extreme flooding issues that have been documented over many years. There is no outfall pipe under the R/R to let the 220.5 Ac. outfall into Ham Pond. There is also no pipe under Old Spanish Trail located directly south of Basin M's outfall pipe. This location fills up with water and overtops Old Spanish Trail. It then stages up in the basin.	Construct 680' of drainage ditch to convey the stormwater to the R/R. Construct 56' of 24" CD pipe under Old Spanish Trail. Construct multiple 15" steel cased pipes that will be jack and bored under the R/R to relieve the basin. And also construct 1080' of drainage ditch to convey the stormwater to Ham Pond.	Will outfall to Ham Pond if corrective action is taken.	\$ 73,091.34	R-B
Total						\$ 256,011.84	

Note: For these new conveyance systems, drainage easements will need to be acquired.

TABLE 4
Additional Drainage Improvements Needed

Drainage Basin	Road	Issue	Recommend	Impacts to Downstream	Cost	Priority Order
F	Third Ave.	The ditch on the westerly side of Third are inadequate. The slopes at the top of the Basin are very steep and the flow velocity is at speeds that indicate ditch armoring is needed. Third Avenue gets enundated with water during a significant storm event. On the easterly side, the ditch is eroding closer to the roadway and will soon start undermining the roadway. The side drain under Hawley St. also appears to be undersized.	Regrade the ditch on the westerly side of Third Street and add concrete ditch pavement. An inlet is needed as well as side drain pipe with MES. The easterly side should have ditch armoring as well in the steep section to help with the erosion issue. The pipe under Hawley Street should be upsized.	No negative impacts anticipated.	\$ 139,159.44	B-F
Just south of N	Keever Rd.	Ponding between Keever Rd. and Old Spanish Trail and ultimately overtopping Old Spanish Trail.	Grade out the ditch to the 15" pipe 135'.	No negative impacts anticipated.	\$ 2,116.80	P-D
N	Keever Rd.	Two side drain pipes are undersized, backing up the water in the ditch from Basin A and N. The stormwater was observed within inches of overtopping Old Spanish Trail.	Upgrade the two side drain pipes to allow the stormwater to drain to the crossdrain pipe.	These two side drains flow to a 24" cross drain pipe that is already undersized. The downstream pipes should be addressed prior to upsizing the sidedrains.	\$ 7,358.40	P-C
G/H	Pope St.	Ditch grading need for stormwater conveyance. There is some evidence of road settlement.	Grade out the ditch 465' on both sides of Pope Street.	No negative impacts anticipated.	\$ 12,600.00	Pu-B
H	Gorrie Ave.	There are currently side drains and a tiny ditch, however, the slopes are slight and downstream the side drains and ditch end. The stormwater backs up and pops off into residential yards.	Grading the ditch for positive drainage, add a side drain to continue the conveyance system. Add a cross drain under Gorrie Avenue to allow the water to be conveyed towards SR 10.	Currently this stormwater is remaining in Basin H. With these improvements, the stormwater will be conveyed towards Basin T. Basin T outfall issue need to be addressed prior to these improvements.	\$ 14,696.64	After B-G 3rd
J	Adams St.	There is no cross drain pipe under Adams Street at the intersection of Gorrie Ave.	Add 48' of 18" cross drain pipe.	No negative impacts anticipated.	\$ 4,379.76	After B-G 2nd
E1	Pope St.	There are steep slopes and ditch erosion.	Construct 225' of concrete ditch pavement.	No negative impacts anticipated.	\$ 11,340.00	B-H
Eugenia	Eugenia St.	There is no drainage conveyance system in this area.	Construct 560' of valley gutter on both sides of the road. On the northerly side add an inlet and 64' of cross drain and then grade out the ditch 472' for positive drainage.	No negative impacts anticipated.	\$ 47,912.76	B-G
Hunter Dr.	Hunter Dr.	When upsizings the upstream culverts to handle the stormwater that is being conveyed to this area, the capacity of the current ditch will not be sufficient.	Widen the current ditch for approximately 1,750'.	These improvements will convey the stormwater to Ham Pond at a much faster rate than it does currently.	\$ 27,720.00	B-B
Total					\$ 267,283.80	

Note: There is also a potential for drainage easements when addressing existing roadside ditches with what appears to be limited right of way.

TABLE 5
Pond Runoff Treatment

Proposed Pond	Drainage Basins	Area (Ac.)	Pond Size Available (Ac.)	Cost	Priority Order
1	A, N, 71.4ac.	119.4	1.2	\$ 182,700.00	P-A
2	C, D, P, Q, 48ac.	329	2	\$ 283,500.00	Y-A
3	E1, E2, F, H, I, J, K, L, M, S, T, U, V, W, X, Y	485.5	4.4	\$ 585,900.00	B/R-A
Ham Pond Drainage Easement			209 exist 233 new	\$ 15,120.00	R-A
Total				\$ 1,067,220.00	

Note: Areas and basins shown include the upgraded improvement areas.